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OF THE

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VOLUME CLX.

NOVEMBER,

1910.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1910

ERRATA.

974,296, page 72, in heading, assignment, for "Assignors to Deutsche Gasglühlicht Aktein Gesellchaft, (Auergesellschaft,) Berlin, Germany, a Corporation," read *assignors, by mesne assignments, to General Electric Company, a Corporation of New York.*

974,768, page 241, in heading, assignment, name of last-mentioned assignee, for "C. M. Gerhart" read *Mrs. C. M. Gerhart.*

976,207, page 804, fourth claim, line 4, for the word "about" read *above.*

Commissioner's Decisions, page 1038, second column, line 36, for the date "November 19, 1910," read *November 19, 1909.*

CONTENTS.

	Page.
PATENTS AND DESIGNS GRANTED, November 1, 8, 15, 22, 29	3, 265, 501, 781, 1045
TRADE-MARKS PUBLISHED AND REGISTERED, November 1, 8, 15, 22, 29	245, 481, 763, 1025, 1257
LABELS AND PRINTS REGISTERED, November 1, 8, 15, 22, 29	256, 491, 771, 1035, 1269
DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS, November 1, 8, 15, 22, 29	257, 493, 773, 1037, 1271
INDEX TO THE DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS	1277
ALPHABETICAL LIST OF PATENTEES AND INVENTIONS	1

ANNOUNCEMENTS.

	Page.
APPLICATIONS—	
Access to pending	264
Condition of pending	2, 264, 500, 780, 1044
CHANGES IN CLASSIFICATION—	
Order 1889	1275
COURT OF APPEALS OF THE DISTRICT OF COLUMBIA—	
Amendment to rules of	499, 779
DRAWINGS—	
Instructions relative to preparation and mailing of	263
FOREIGN PATENTS—	
Rule 29, Rules of Practice of the United States Patent Office	1043
INTERFERENCE NOTICES—	
Amman Iron Co	262, 498
Blauvelt, James E	262, 498
Brinkerhoff, Samuel J. and George D	262, 498
Brooks, Charles C	262, 498
Donaldson, Edward A	261, 497, 778, 1042
Dunn, John	777, 1041, 1276
Hall, Frederick M	261, 497, 778, 1041, 1276
Henry Werner & Company	497, 778, 1042, 1276
Knox, George A	262, 498
Newell Coal Company	262, 498
Richmond, Samuel A	777, 1041, 1276
Russell, Harry W	262, 498
Sharpless Bros	1041, 1276
Steinfeld, Kerngood and Co	1041, 1276
Union Tubing Company	261, 498, 778, 1042
MAIL-MATTER—	
Regulations relative thereto	1
OFFICIAL GAZETTE—	
Decision leaflets, price of	2, 500
Subscription price of	1043
Trade-mark portion, price of	1, 780, 1044
PATENTS—	
List of adjudicated	261, 496, 777, 1040, 1275

Patents Nos. 974,107 to 974,771.

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CONTENTS.

	Page.
ISSUE OF NOVEMBER 1, 1910	1
REGULATIONS IN RELATION TO MAIL-MATTER	1
TRADE-MARKS	1
APPLICATIONS UNDER EXAMINATION	2
NOTICE	2
PATENTS GRANTED	3
REISSUES	242
DESIGNS	243
TRADE-MARKS—REGISTRATION APPLIED FOR	245
TRADE-MARKS—REGISTERED	253
LABELS AND PRINTS	256
COMMISSIONER'S DECISIONS—	
In re Standard Adding Machine Company	257
P. J Bowlin Liquor Co. v. J. & J. Eager Co	258
Whitman v. King	259
DECISIONS OF THE U. S. COURTS—	
Whitman v. King	260
ADJUDICATED PATENTS	261
INTERFERENCE NOTICES	261

ISSUE OF NOVEMBER 1, 1910.

Patents	665	No. 974,107 to No. 974,771, inclusive.
Designs	9	No. 40,959 to No. 40,967, inclusive.
Trade-Marks	85	No. 80,015 to No. 80,099, inclusive.
Labels	6	No. 15,376 to No. 15,381, inclusive.
Prints	7	No. 2,654 to No. 2,660, inclusive.
Reissues	1	No. 13,163.
Total	773	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	2	.....	North Carolina	4	1
Arkansas	1	.....	North Dakota	3	.....
California	36	5	Ohio	53	2
Colorado	10	1	Oklahoma	3	.....
Connecticut	16	1	Oregon	3	1
Delaware	.....	.....	Pennsylvania	50	11
Florida	2	.....	Rhode Island	10	.....
Georgia	3	.....	South Carolina	4	.....
Idaho	5	.....	South Dakota	1	.....
Illinois	51	9	Tennessee	.....	.....
Indiana	14	.....	Texas	14	1
Iowa	7	.....	Utah	3	.....
Kansas	7	2	Vermont	5	.....
Kentucky	3	.....	Virginia	3	1
Louisiana	2	1	Washington	4	1
Maine	2	3	West Virginia	4	.....
Maryland	6	.....	Wisconsin	18	1
Massachusetts	42	7	Wyoming	1	.....
Michigan	16	1			
Minnesota	7	3	Alaska, District of	1	.....
Mississippi	1	.....	Arizona Territory	2	.....
Missouri	21	2	District of Columbia	3	1
Montana	1	.....	New Mexico Ter't'y	.....	.....
Nebraska	9	5	Philippine Islands	.....	1
Nevada	.....	.....			
New Hampshire	7	.....	Total to citizens of the United States	617	83
New Jersey	28	3			
New York	104	19			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina	.....	.....	Netherlands	1	.....
Austria-Hungary	3	2	Newfoundland	.....	.....
Belgium	2	.....	New South Wales	.....	.....
Brazil	.....	.....	New Zealand	.....	.....
Canada	8	.....	Norway	.....	.....
Chile	.....	.....	Persia	.....	.....
China	.....	.....	Russia	2	1
Costa Rica	.....	.....	Scotland	1	.....
Cuba	.....	.....	South Australia	.....	.....
Denmark	.....	.....	Spain	.....	5
Ecuador	.....	.....	Sweden	1	.....
England	12	2	Switzerland	1	.....
France	3	4	Tasmania	.....	.....
Germany	19	1	Transvaal, South Africa	.....	.....
Guatemala	.....	.....	Turkey	.....	.....
Ireland	.....	.....	Victoria	1	.....
Isle of Man	.....	.....	Western Australia	.....	.....
Italy	1	.....			
Japan	.....	.....	Total to citizens of foreign countries	56	15
Luxemburg	.....	.....			
Mexico	1	.....			

Regulations in Relation to Mail-Matter.

In order to insure the ready identification of the division from which mail-matter emanating from this Office was sent, and the prepayment of any foreign postage thereon, as well as to prevent the retention for general delivery in the post-office of the city of any wrongly-addressed letter when this Office could supply a fuller or more accurate address, it is directed that the following regulations be observed with reference to all mail-matter forwarded from this Office:

Each envelop forwarded from any division will be stamped or marked in the upper left-hand corner with the division number or letter, as the case may be.

Each envelop addressed to a foreign country must be forwarded to the mail-room and the proper stamps affixed thereto before mailing.

Such mail as is to be delivered in this city shall be directed "Washington D. C." If a letter addressed to a person in this city and not marked for general delivery be returned to this Office, it will be promptly remailed with an accurate and full local address supplied, if possible. In remailing, the envelop should be marked or stamped "Hold in General Delivery," but no envelop should be thus marked until the address thereon is as full and accurate as the Office can supply. A letter to a person in this city will not be filed "Undelivered" until it is returned to this Office in an envelop thus addressed and marked.

Trade-Marks.

Extra copies of the trade-mark portion of the GAZETTE, which will be sold separately, may be obtained single or in quantities for five cents each. Coupons will be taken in payment thereof.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business October 26, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		New.	Amended	
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Sept. 14	Sept. 10	387
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Sept. 2	Sept. 22	190
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Sept. 26	Oct. 12	214
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Sept. 10	Sept. 8	455
167	5. Bookbinding; Harvesters; Jewelry; Music.	Aug. 3	July 18	534
318	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	Sept. 3	Aug. 30	360
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	Sept. 6	Aug. 26	563
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Sept. 8	Sept. 8	375
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	Aug. 10	Sept. 6	367
235	10. Carriages and Wagons	Aug. 22	Aug. 24	606
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	Aug. 31	Sept. 1	378
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	Aug. 26	Aug. 25	688
320	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	Aug. 2	Aug. 30	549
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire-Working.	Aug. 23	Sept. 19	305
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	Sept. 1	Sept. 1	646
109	16. Telegraphy; Telephony	July 11	Aug. 15	245
303	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Sept. 20	Sept. 26	207
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	Sept. 17	Sept. 9	249
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	Aug. 26	Sept. 10	336
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Sept. 17	Sept. 14	288
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	Aug. 18	Aug. 22	420
249	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	Aug. 1	July 20	644
379	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	Sept. 10	Sept. 6	390

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		New.	Amended	
144	24. Apparel; Apparel Apparatus; Sewing-Machines.	July 25	Aug. 18	494
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Sept. 26	Sept. 26	189
106	26. Electricity, Generation; Motive Power.	Sept. 6	Sept. 10	310
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Sept. 26	Sept. 26	329
65	28. Internal-Combustion Engines	Aug. 24	Aug. 26	392
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Wood-working; Woodworking-Tools.	Aug. 9	Sept. 19	308
182	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	Aug. 23	Sept. 22	377
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Sept. 21	Sept. 26	225
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	Sept. 2	Sept. 23	34
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	Sept. 8	Sept. 10	378
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	Aug. 27	Sept. 2	331
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Sept. 19	Sept. 29	543
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	Aug. 29	Aug. 27	608
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	Aug. 17	Aug. 22	530
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	Sept. 1	Sept. 7	489
321	39. Water Distribution	Aug. 22	Aug. 1	428
280	40. Baggage: Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Sept. 6	Sept. 26	477
125	41. Railway Draft Appliances; Resilient Tires and Wheels.	July 25	July 23	642
279	42. Electric Railways; Electric Signaling; Electricity, Medical and Surgical; Railway Signaling; Signals; Surgery.	July 29	July 30	607
332	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	Aug. 6	Aug. 11	329

Oldest new case, July 11; oldest amended, July 18.

Total number of applications awaiting action..... 18,129

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	Sept. 14	Oct. 11	724
	Designs	Oct. 1	Oct. 4	105
	Labels and Prints	Oct. 22	Oct. 24	11

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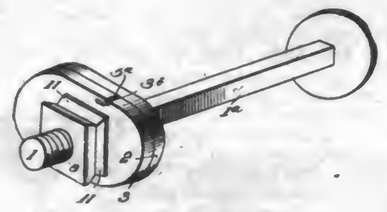
Single numbers..... 5 cents

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PATENTS

GRANTED NOVEMBER 1, 1910.

974,107. NUT-LOCK. ROBERT L. ARMSTEAD, Sprague, W. Va. Filed Nov. 17, 1909. Serial No. 528,503.



1. The combination with a bolt, and a nut adapted to screw thereon, the nut being formed in its inner face with teeth, of washers mounted on the bolt back of the nut and held from turning on the bolt, said washers being formed in opposing faces with registering recesses, and the outer washer being formed with an eye in said recess, a spring rod mounted in the recess of the outer washer and passing through said eye and held at one end thereby, the other end of the spring rod being turned outwardly to and beyond the outer face of the outer washer, said washer being formed with an aperture leading from its recess to the outer face of said washer, and a pawl secured on said locking rod and protruding out through the aperture into locking engagement with the teeth of the nut.

2. The combination with a bolt, and a nut adapted to screw thereon, the nut being formed in its inner face with teeth, of washers mounted on the bolt back of the nut and held from turning on the bolt, said washers being formed in opposing faces with registering recesses, and the outer washer being formed with an eye in said recess, a spring rod mounted in the recess of the outer washer and passing through said eye and held at one end thereby, the other end of the spring rod being turned outwardly to and beyond the outer face of the outer washer, said washer being formed with an aperture leading from its recess to the outer face of said washer, and a pawl secured on said locking rod and protruding out through the aperture into locking engagement with the teeth of the nut, said pawl being formed with an opening by which it is slipped on the rod.

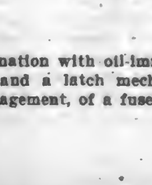
974,108. TURBINE-NOZZLE. THOMAS BELL, Clydebank, Scotland, assignor to General Electric Company, a Corporation of New York. Filed Apr. 15, 1910. Serial No. 555,755.

1. In a turbine, the combination with a nozzle, of a support containing a nozzle-receiving opening which is of greater width radially than said nozzle, and is provided with an undercut groove for an edge of said nozzle.

2. In a turbine, the combination with a nozzle, of a support containing a nozzle-receiving opening which is of greater width radially than said nozzle, and a bead along the ends and one side of said opening containing an undercut groove for an edge of said nozzle.

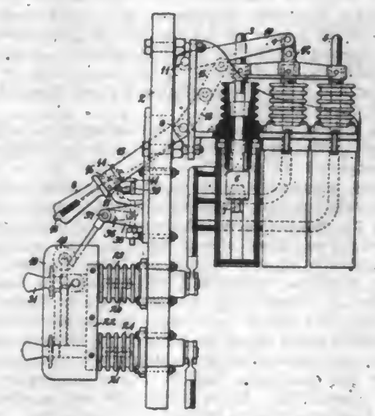
3. In a turbine, the combination with a nozzle provided with a flange having a beveled edge, of a support containing an opening for said nozzle, a bead adjacent to said opening having an undercut groove for an edge of said flange.

4. In a turbine, the combination with a nozzle provided with a flange having a beveled edge, of a support containing an opening for said nozzle, a bead adjacent to said opening having an undercut groove for an edge of said flange, and means for retaining said flange engaged with said groove.



5. In a turbine, the combination with a nozzle provided with a flange having a beveled edge, of a diaphragm containing a nozzle-receiving opening of greater radial width than said nozzle and an undercut groove along the ends and one side of said opening to receive an edge of said flange, and screws passing through said flange into said diaphragm along the other side of said opening.

974,109. CIRCUIT-INTERRUPTER. CARL B. AUEL, Wilkinsburg, Pa., and JOHN R. SPURRIER, Manchester, England, assignors to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Sept. 4, 1906. Serial No. 333,131.



1. The combination with oil-immersed coöperating contact members, and a latch mechanism for holding the members in engagement, of a fuse in series with the con-

tact members, and means for successively shunting the fuse and separating the contact members when the fuse is ruptured.

2. The combination with a circuit interrupter, a latch mechanism for holding the contact members in engagement with each other, and a tripping device for releasing the latch mechanism, of a fuse connected in series with the contact members, and means for successively shunting the fuse and separating the contact members when the fuse is ruptured.

3. The combination with coöperating stationary and movable contact members, and a latch mechanism for holding the members in engagement with each other, of a tripping device comprising a longitudinally movable hammer rod, an operating lever, a spring for actuating said lever, and a fuse electrically connected in series with the contact members and arranged to normally restrain the actuating spring and to release the same when it is ruptured.

4. The combination with coöperating stationary and movable contact members, and a latch mechanism for holding the contact members in engagement with each other, of a tripping device for releasing the latch, said device comprising a longitudinally movable hammer rod, an actuating spring, and a fuse electrically connected in series with the contact members and arranged to mechanically restrain the actuating spring.

5. A circuit interrupter comprising stationary socket terminals, an insulating block, a pair of contact plugs mounted in said block and engaging said socket terminals, coöperating stationary and movable main contact members, a latch mechanism for holding said main contact members in engagement with each other, a release mechanism, a fuse interposed between said contact plugs, and means for actuating the tripping mechanism when the fuse is ruptured.

[Claims 6 to 12 not printed in the Gazette.]

974,110. TELEPHONE APPARATUS. GARRISON BABCOCK, Rochester, N. Y., assignor to Simplex Telephone Equipment Company, Rochester, N. Y., a Corporation of New York. Filed May 8, 1908. Serial No. 431,578.



1. In a telephone transmitter, the combination with a casing and a vibratory diaphragm, of a rigid electrode member secured to one of the parts, a flexible electrode member disposed in front of the rigid member, a post connecting said flexible electrode to the other part of the transmitter and a current modifying medium situated between the electrode members.

2. In a telephone transmitter, the combination with a casing and a vibratory diaphragm, of a pair of electrodes rigidly supported at one side of the plane of the diaphragm and adapted to be covered by a suitable current modifying medium, an insulated electrode member supported on the diaphragm which is capable of flexing independent of the movement of said diaphragm for producing varying pressures on said current modifying medium.

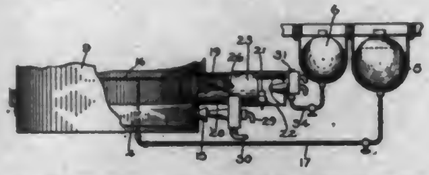
3. In a telephone transmitter, the combination with a support and a vibratory diaphragm located in juxtaposition thereto, of a pair of electrode members one of which is rigid and is mounted on the support, the other member possessing the capability of yielding and being so attached to the diaphragm that it may yield during the vibratory movements of the diaphragm and a current modifying medium located between said electrodes.

4. In a telephone transmitter, the combination with a casing having an insulated support therein and a pair of of electrode members spaced apart and mounted on said support at one side of the diaphragm, of a plate secured to one side of the latter and having an edge extending away from the diaphragm into proximity with the support and forming a receptacle in conjunction with the support and a current modifying medium located in the receptacle.

5. In a telephone transmitter, the combination with a cup shaped casing having a rim, an insulated support therein and separate electrode plates arranged on the support, of a diaphragm supported on the rim of casing, an electrode member lying between the diaphragm and support and having a flanged edge extending into proximity with said support and forming a receptacle in conjunction therewith, a post connecting the member and diaphragm and a current modifying medium located in the receptacle.

[Claims 6 to 13 not printed in the Gazette.]

974,111. STARTING DEVICE FOR BURNERS. AUGUSTUS A. BALL, Jr., Lynn, Mass., assignor, by mesne assignments, to General Electric Company, a Corporation of New York. Filed Jan. 24, 1902. Serial No. 91,018.



1. In combination, a burner having a mixing chamber, a casing for the burner, a nozzle adjacent the periphery of the burner casing which discharges fuel into said chamber, a main vaporiser arranged above the burner within the casing, an auxiliary vaporizer having a casing secured to the burner casing and opening into it above said burner and adjacent the main vaporizer, a helical coil within the auxiliary vaporizer casing, a starting nozzle axially arranged adjacent the outer end of the coil and connected therewith which discharges its flame along said coil into the interior of the burner casing where it impinges on the main vaporizer, a conduit connecting the discharge end of the main vaporizer with the inlet end of said coil, a branch conduit leading from said conduit to the main burner nozzle, a valve controlling the flow through said branch, and a valve controlling the flow through the conduit from the main to the auxiliary vaporizer.

2. In combination, a burner, a nozzle for supplying fuel to the burner under service conditions, a starting device for the burner comprising a vaporizer for liquid fuel, a nozzle connected therewith, a permanently inclosing casing, a nozzle closely adjacent but independent of the vaporizer nozzle for delivering a supply of air under pressure to atomize the liquid fuel passing from the vaporizer through its nozzle to form a flame for initially heating said vaporizer, means for shutting off the air supply to stop the atomizing action after the vaporizer has been heated to supply vapor through its nozzle to sustain the starting flame, and a starting cup arranged in the casing for igniting the flame.

3. In combination, a burner, a main vaporizer arranged above the burner, a main nozzle receiving vapor from the vaporizer to heat the burner under service conditions, a starting device for the burner comprising a vaporizing coil for liquid fuel and a nozzle connected therewith which directs its flame over the coil, an inclosure for the vaporizer coil and nozzle which is fixed relative to the burner and the main vaporizer, means closely adjacent the starting nozzle for delivering a jet of air under pressure to atomize the liquid fuel from the nozzle to form a flame for initially heating the starting vaporiser, a valve for shutting off the air supply to stop the atomizing action after the coil has been heated to supply vapor to the starting nozzle to sustain the starting flame, and a starting cup arranged in coöperative relation to the nozzle of the starting device to ignite its flame.

4. In combination, a burner having a number of fuel openings, a main vaporizer comprising a coiled pipe situated above the fuel openings, an inclosing casing for the burner and vaporizer, a nozzle for delivering fuel from the main vaporizer to the burner, an auxiliary vaporizer including a helical coil of piping, a cylindrical casing for the auxiliary vaporizer and its coil which is attached at one end to the burner casing and opens into the region occupied by the main vaporizer, an auxiliary nozzle axially arranged in the outer end of the auxiliary vaporizer casing which directs its flame along the coil into the burner casing and upon the main vaporizer, a conduit connecting the discharge end of the main vaporizer with the inlet end of the auxiliary vaporizer, a valve for controlling the flow from said conduit to the auxiliary vaporizer, a branch conduit leading to the main burner nozzle from a point in said conduit between the end of the main vaporizer and said valve, and a valve for controlling the flow from the auxiliary vaporizer to its nozzle.

5. In combination, a burner having a mixing chamber, a casing for the burner, a nozzle adjacent the periphery of the burner casing which discharges fuel into said chamber, a main vaporizer comprising a pipe coiled above the burner with one end projecting outward through the casing, an auxiliary vaporizer comprising a cylindrical casing attached at one end to the burner casing and opening into the region occupied by the main vaporizer, a helical coil within the auxiliary vaporizer casing, a starting nozzle axially arranged in the outer end of the casing adjacent the coil and connected therewith which discharges its flame along said coil to the interior of the burner casing and upon the main vaporizer, a nozzle structure comprising a vertical member having a conduit connected at its upper end with the projecting end of the main vaporizer coil and at its lower end with the auxiliary vaporizer coil, a horizontal member projecting from the vertical member intermediate its ends and forming the nozzle proper which receives fuel from said conduit and delivers it to the burner, a valve for said nozzle, a valve controlling the flow from the lower end of the conduit to the auxiliary vaporizer, a valve for controlling the flow from the auxiliary vaporiser to the starting nozzle, and an igniting device arranged in the auxiliary vaporizer casing adjacent the end of the starting nozzle.

[Claims 6 to 16 not printed in the Gazette.]

974,112. CIRCUIT-CONTROLLING MECHANISM. FERDINAND BECHOFF, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Dec. 16, 1908. Serial No. 467,881.



1. The combination with two independently operable switches, of a movable indicator actuated by one of said switches, and means coöperating with said indicator and with said other switch to lock one switch closed when the other is open and thereby prevent simultaneous closing of said switches.

2. The combination with two independently operable switches, of a movable indicator actuated by one of said switches, and a member actuated by the other switch and mounted to move in a path intersecting the path of said indicator, whereby simultaneous closing of said switches is prevented.

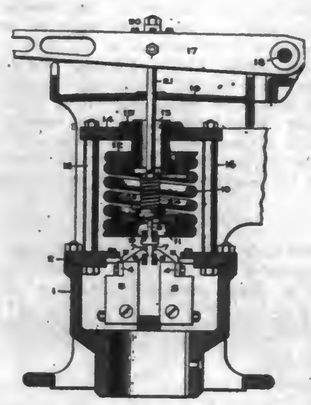
3. The combination with two independently operable switches, of two indicators mounted to move in intersecting paths, and means coöperating with said indicators and said switches to render their movements mutually dependent and thereby enable said indicators to prevent simultaneous operation of said switches.

4. The combination with two independently operable switches and a wall having a window therein, of two indicators mounted to move successively into registry with said window and to lie side by side in the same plane and means whereby either switch in closing moves its indicator into registry with said window and thereby blocks the other indicator and prevents the closing of the other switch.

5. The combination with two independently rotatable switch actuators, of two members mounted to move in intersecting arcs to enable one member when in a predetermined position to block the movement of the other and means whereby either of said actuators when rotating moves a corresponding member to said predetermined position and thereby blocks the other member and prevents rotation of the other actuator.

[Claims 6 and 7 not printed in the Gazette.]

974,113. TURBINE-GOVERNOR. FREDERICK W. BENTLEY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 27, 1909. Serial No. 480,312.



1. In a centrifugal governor, the combination of weights, spring means opposing the action of the weights as they are revolved, a fixed abutment attached to one end of the spring means, a movable abutment attached to the other end, a connection between the movable abutment and the weights, a governor rod, a pin located between one end of the rod and the movable abutment, and a spring which holds the pin in contact with said abutment.

2. In a centrifugal governor, the combination of weights, a spring opposing the outward movements of the weights as they are revolved, a fixed abutment attached to one end of the spring, a movable abutment attached to the other end of the spring, a connection between the movable abutment and the weights, a governor rod, a means that engages one end of the rod, a socket in the movable abutment in which the said means rests, and a spring independent of the first named spring which holds the means in engagement with the rod and the socket.

3. In a centrifugal governor, the combination with the weights and the hanger from which they are suspended, of the governor rod, and a universal joint between said rod and said hanger including a pin and a socket in which one end of said pin is stepped.

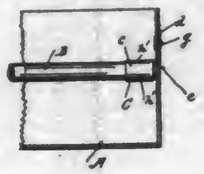
4. In a centrifugal governor, the combination with the weights and the hanger from which they are suspended, of the governor rod, and a universal joint between said rod and said hanger comprising a pin, a socket in which

said pin is stepped, and means for retaining said pin in said socket with freedom of lateral movement.

5. In a centrifugal governor, the combination with the weights and the hanger from which they are suspended, of the governor rod, and a universal joint between said rod and said hanger comprising a pin, a socket in which said pin is stepped, and resilient means for urging said pin toward said socket.

[Claims 6 to 11 not printed in the Gazette.]

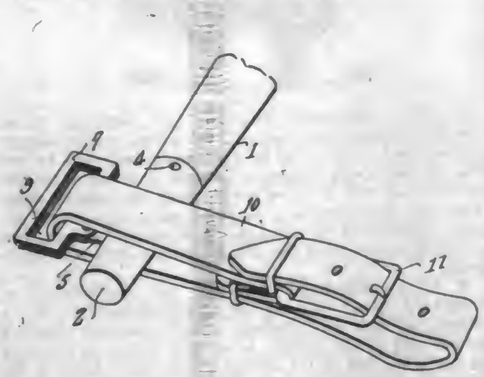
974,114. FLOWER-HOLDER. ARTHUR J. BINLEY, Glens Falls, N. Y. Filed Feb. 2, 1910. Serial No. 541,653.



1. The combination, with a packing-box for flowers, of a crossbar for retaining the flowers in position, and end pieces of thin sheet metal, comprising tubular sockets which encircle the end portions of the crossbar and flat tongues which project from the ends of the sockets and which are adapted to be secured to the sides of the box.

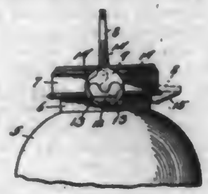
2. The combination, with a packing-box for flowers, of a crossbar for retaining the flowers in position, and end pieces of thin sheet metal, comprising tubular sockets which encircle the end portions of the crossbar and flat tongues which project from the sockets and which are provided with pointed ends and laterally projecting middle portions for engaging with slits in the sides of the box.

974,115. NECK-YOKE. DOCTOR C. BOWERS, Chelsea, Okla., assignor of one-half to Ira I. Iliff, Chelsea, Okla. Filed Sept. 9, 1909. Serial No. 516,876.



In a device of the class described, a cap having a lug; a keeper fashioned from a single piece of material having openings therethrough, the keeper being bent sharply upon itself to aline the openings; an annular member fitting closely in the bend of the keeper and constituting a form to define the bend in the keeper and to dispose the ends of the keeper in parallel relation for the reception of the lug; and a pivot element connecting the ends of the keeper with the lug; the annular member being spaced from the lug and spaced from the periphery of the opening.

974,116. MILK-CAN. RICHARD BRAY, Arlington Heights, Ill., assignor to Bray & Kates, Arlington Heights, Ill., a Firm. Filed June 18, 1910. Serial No. 567,653.



1. In a milk-can, the combination with a can-neck and a pin projecting from the outer surface thereof, of a cover fitting upon said neck, and a member pivoted to said cover, said member being enlarged below its point of attachment to the cover to form a head, at each side of the lower central portion of which head is a cam surface, with either of which cam surfaces said pin is adapted to coöperate to force down said cover.

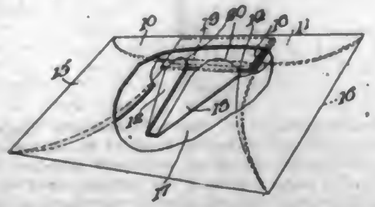
2. In a milk-can, the combination with a can-neck and a pin projecting from the outer surface thereof, of a cover fitting upon said neck, and a member pivoted to said cover, said member being enlarged below its point of attachment to the cover to form a head, in the lower edge of which head is a notch through which said pin can pass and at each side of said notch there being a cam surface with either of which said pin is adapted to coöperate to force down said cover.

3. In a milk-can, the combination with a can-neck and oppositely-located pins projecting from the outer surface of the neck, of a cover fitting upon said neck, and a bail pivotally attached to the cover, each end of said bail terminating in a head that is provided with two cam surfaces in its lower portion, with either of which cam surfaces one of said pins is adapted to coact according to the direction in which said bail is turned.

4. In a milk-can, the combination with a can-neck and oppositely-located pins projecting from the outer surface of the neck, of a cover fitting upon said neck, and a bail pivotally attached to the cover, each end of said bail terminating in a head that is provided with two cam surfaces in its lower portion, with either of which cam surfaces one of said pins is adapted to coact according to the direction in which said bail is turned, and each of said cam surfaces terminating in a depression or recess.

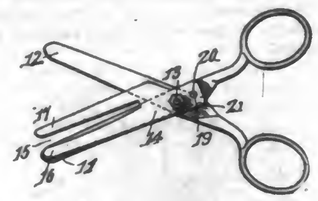
5. In a milk-can, the combination with a can-neck and oppositely-located pins projecting from the outer surface of the neck, of a cover fitting upon said neck, and a bail pivotally attached to the cover, each ends of the bail terminating in a head provided with a notch in its lower central portion through which one of said pins is adapted to pass and a cam surface at each side of said notch.

974,117. ENVELOP. WILLIAM SWAIN BROWN, Pardoe, Pa. Filed Aug. 24, 1909. Serial No. 514,418.



An envelop formed of an integral blank having a front, a back, ends on the front for overlapping engagement against the inner face of the back, the end of the back being turned inwardly to form a locking strip and being held in position between the back and the ends, the back having a slot therein spaced above the lower edge of the locking strip, and a tongue formed on said front and bent inwardly and diagonally to form flaps having shoulders to engage against the locking strip upon the insertion of said tongue into the slot.

974,118. BUTTON-REMOVER. STEPHEN E. BURKE, Hamilton, Ind. Filed Apr. 27, 1910. Serial No. 558,063.



1. In a button remover, the combination with pivoted cutting blades, a plate detachably secured to the outer face of one of said blades and extending longitudinally thereof, said plate being mounted on the pivot of the blades and slotted longitudinally, said slot being open at the outer end of the plate and serving to guide the button when the cutting blades are brought into cutting relation.

2. In a button remover, the combination with pivoted shear blades, of a slotted plate detachably secured to the outer face of one of the blades, the securing means comprising openings in the inner end of said plate, one of said openings being adapted to coöperate with a pin carried by said shear blade, the other opening receiving the fulcrum pin of the shear blades, and a flange on said plate adjacent said openings, said flange contacting with the outer edge of said shear blade.

3. In a button remover, the combination of a pair of pivoted shear members, of a guide plate detachably secured to the outer face of one of said blades and extending longitudinally thereof, said plate being slotted longitudinally and forming tines on each side, the rear end of the plate and the front end of one tine resting on the same shear member leaving the other member free.

4. In a button remover, the combination of a pair of pivoted cutting blades, a plate detachably secured at its rear or inner end to one of the blades and extending longitudinally thereof, said plate being mounted on the pivot of the blades and slotted longitudinally thereof and defining tines on each side, the outer end of one tine and the inner end of the plate resting on the same blade leaving the other blade free.

5. In a button remover, the combination of a pair of pivoted cutting blades, of a guide plate detachably secured at its rear or inner end to the outer face of one of said blades and extending longitudinally thereof, said plate being fixed with relation to one of said blades and slotted longitudinally, said slot defining tines on each side thereof, said tines being bowed longitudinally and serving to elevate the button from the cutting blades during the cutting operation, the rear or inner end of the plate and the outer end of one tine resting on the same blade leaving the other blade free.

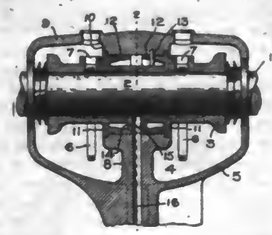
[Claim 6 not printed in the Gazette.]

974,119. SHAFT-BEARING. JOHN G. CALLAN, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Apr. 29, 1905. Serial No. 258,042.

1. In a journal bearing, the combination with a pillow block, of a lining provided with flanges supported in said pillow block, said flanges extending toward the center of the suppofting portion of the pillow block from each side thereof.

2. In a journal bearing, the combination with a pillow block having a seat, of a lining having flanges extending toward each other and fitting said seat.

3. In a journal bearing, the combination with a pillow block having a seat, of a lining having an enlarged middle portion provided with flanges extending toward each other and fitting said seat.

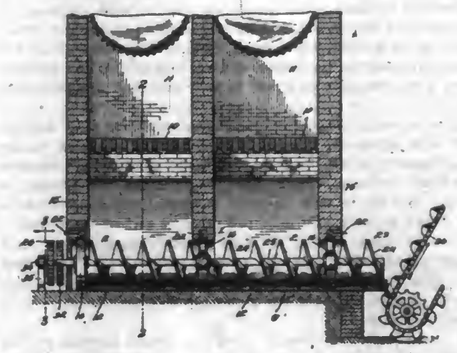


4. In a journal bearing, the combination with a pillow block having a seat, of a lining having an enlarged middle portion provided with flanges extending from the ends thereof toward the center and fitting said seat.

5. In a journal bearing, the combination with a pillow block having a seat, of a lining having spaced circumferential ribs, and an overhanging flange extending from each rib toward the center of the seat and having its outer surface fitted to said seat.

[Claims 6 to 11 not printed in the Gazette.]

974,120. FURNACE. EBER C. CARTER, Carrollton, Ill. Filed Dec. 10, 1909. Serial No. 532,407.



1. A furnace including an ash pit, relatively inclined plates arranged in said pit, and a trough connecting the adjacent edges of said plates to said trough being made up of a series of duplicate sections and heads interposed between the sections, said heads and sections being formed with offset projections designed to be alined when the parts are assembled, and rods passed through the alined projections of the sections and heads to secure the parts together.

2. A furnace including an ash pit, relatively inclined plates arranged in said pit, a trough connecting the adjacent edges of said plates to said trough being made up of a series of duplicate sections and heads interposed between the sections, said heads and sections being formed with offset projections designed to be alined when the parts are assembled, rods passed through the alined projections of the sections and heads to secure the parts together, each of said heads including a central bearing and being formed beyond the bearing with an opening corresponding in sectional area to and designed to aline with the trough opening, a trunnion rotatably mounted in each bearing, a conveyer made up of a series of sections including a rectangular shaft, the shaft terminals of the respective sections being seated in endwise alinement in openings formed in the trunnion, and means engaging the bearings and trunnions and adapted for removable connection with the shaft terminals.

974,121. WRENCH. WILLIAM W. CASH, Knowles, Cal. Filed Sept. 22, 1909. Serial No. 519,054.



1. A wrench including a shank, a locking member positioned longitudinally in said shank, for reciprocation therein, a vibrator engaged against the rear end of said locking member and transversely positioned through said shank, a cam face formed on said vibrator to advance the locking member, a spring mounted about said locking member and engaged with said shank to normally retract said locking member, a spring positioned upon the outer face of said shank and connected to said vibrator to actuate the same, a rotary head mounted in said shank and teeth formed on said rotary head for engagement with said locking member.

2. A wrench including a handle, a shank carried by said handle, having an elongated channel formed therein, a sliding bolt located in the channel, said channel being enlarged intermediately of its ends, a spring engaged about said bolt and contacting with the end wall of the enlarged portion of the channel, a shoulder formed adjacent the rear end of said bolt, for engagement with the opposite end of said spring, a beveled face formed on the inner end of said bolt, a vibrator engaged through one side of said shank, and with said bolt, a cam face formed on said vibrator for engagement with the beveled face of said bolt, means for normally extending said vibrator outwardly, a projection formed upon the inner end of said vibrator to engage with the end of said bolt to limit the outward movement of said vibrator, a rack carried by said bolt and a head mounted in the outer end of said shank for engagement with the rack at times to lock the head against rotation.

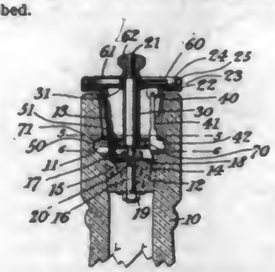
3. A wrench including a shank having a ring formed upon the outer end thereof, a rotary head engaged in the ring having teeth in its periphery, a locking member mounted in said shank for longitudinal movement, a spring carried by the locking member and connected to the shank to normally hold the member out of engagement with said head, and a vibrator slidably mounted in said shank against said locking member and having a cam face to engage against said locking member, and means connected to said vibrator for normally holding the same in a raised position.

4. A wrench including a handle, a shank carried by the handle and having a bore extending practically the entire length thereof, a locking member mounted in the bore for reciprocation therein, a spring carried on the locking member and engaged with said shank to normally retract said member, a vibrator engaged through one side of said shank and having a cam face for engagement against the end of said locking member, a leaf spring secured to the side of said shank and connected to said vibrator for normally holding the same in an outward position, and a head mounted in the outer end of said shank for interlocking engagement with said locking member.

5. A wrench including a shank, a ratchet head mounted in the outer end of said shank, a locking member mounted for reciprocation within the shank to engage the head, a vibrator positioned in one side of the shank, a spring carried by the shank for normally holding the vibrator in an outward position, a cam face formed upon the inner end of the vibrator to engage the locking member to move the same at times, and means connected to the locking member for normally retracting the same.

974,122. BOTTLE-STOPPER. EDMUND S. CHURCH, Dayton, Ohio, assignor to The Hayner Distilling Company, a Corporation of Ohio. Filed Feb. 4, 1909. Serial No. 475,961.

1. In a bottle stopper of the kind described, the combination with a resilient cork, of a shell seated thereon and formed with prongs projecting downwardly into said cork; means for holding the shell seated upon said cork; a central operating stud revolving in a socket at its lower end within said shell; a dial and a dial-back closing the upper end of said shell and through which the said stud projects; hangers extending downwardly from said dial-back within said shell; a latch pivoted to said hangers and formed with a projection extending through a recess in said shell to engage a locking recess in the bottle; and tumbler disk devices positioned by said operating stud to engage said latch and force it into locking position or to permit the same to retreat to unlocking position, substantially as described.



2. In a bottle stopper of the kind described, the combination with a resilient cork, of a shell seated thereon; a clamping bolt passing through said cork and formed with a head engaging the base of said shell, said bolt-head being formed with a socket therein; interprojecting means between said cork and said shell for preventing relative rotation of the cork and shell; a central operating stud journaled at its lower end in said socket in said bolt; a dial and a dial-back closing the upper end of said shell and through which the said stud projects; hangers extending downwardly from said dial-back within said shell; a latch pivoted to said hangers and formed with a projection extending through a recess in said shell to engage a locking recess in the bottle; and tumbler disk devices positioned by said operating stud to engage said latch and force it into locking position or to permit the same to retreat to unlocking position, substantially as described.

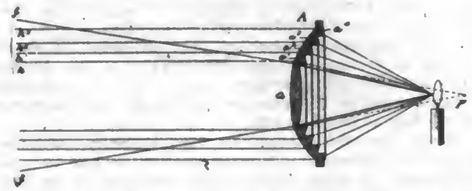
3. In a bottle stopper of the kind described, the combination with a resilient cork, of a shell seated thereon, a clamping bolt passing through said cork and formed with a head engaging the base of said shell and secured to said cork by a nut at the other end thereof; a central operating stud journaled at its lower end in said socket in said bolt; a dial and a dial-back closing the upper end of said shell and through which said stud projects; hangers extending downwardly from said dial-back within said shell; a latch pivoted to said hangers and formed with a projection extending through a recess in said shell to engage a locking recess in the bottle; a tumbler disk device positioned by said operating stud to engage the latch and force it into locking position or to permit the same to retreat to unlocking position; and a pointer attached to said operating stud to indicate on the dial the position of said tumbler device, substantially as described.

4. In a bottle stopper of the kind described, the combination with a resilient cork, of a shell seated thereon and means for fastening the cork and shell together; a central operating stud journaled at its lower end in a socket in the base of said shell; an end plate closing the other end of said shell and through which said central stud projects; a sleeve surrounding said central stud and rotating thereon, also projecting through said end plate; a latch pivotally hanging from said end plate and formed with a projection extending through a recess in said shell to engage a locking recess in the bottle; and tumbler disks attached respectively to said operating stud and said sleeve, said disks being formed with notches and coöperating with said latch to force the same into locking position or permitting the same to swing into unlocking position.

5. In a bottle stopper of the kind described, the combination with a resilient cork, of a shell seated thereon and means for fastening the cork and shell together; a central operating stud journaled at its lower end in a socket in the base of said shell; an end plate closing the other end of said shell and through which said central stud projects; a sleeve surrounding said central stud and rotating thereon, also projecting through said end plate; a latch pivotally hanging from said end plate and formed with a projection extending through a recess in said shell to engage a locking recess in the bottle; a tumbler disk device positioned by said operating stud to engage said latch and force it into locking position or to permit the same to retreat to unlocking position; and tumbler disks attached respectively to said operating stud and said sleeve, said disks being formed with notches and coöperating with said latch to force the same into locking position or to permit the same to swing into unlocking position; and lugs projecting respectively from the tumbler disk of the operating stud and the tumbler disk of the said sleeve, said lugs being positioned to engage each other during the rotary movement of said disks whereby the rotation of one disk may rotate the other disk through the medium of said lugs.

[Claims 6 and 7 not printed in the Gazette.]

974,123. SIGNALING-LENS. WILLIAM CHURCHILL, Corning, N. Y., assignor to Corning Glass Works, Corning, N. Y., a Corporation of New York. Filed Nov. 26, 1907. Serial No. 403,980.



1. The combination with a Fresnel lens, having different parts thereof focusing on different planes and a source of illumination located between the lens and the focal point of a part of the lens.

2. A Fresnel lens having the central part thereof of greater focal length than the zones.

3. The combination with a Fresnel lens having different parts thereof focusing on different planes and a source of illumination located intermediate of the said planes.

4. The combination with a Fresnel lens, having the central part thereof of greater focal length than the zones, and a source of illumination located intermediate of the several foci.

5. A lens consisting of a central bull's eye and concentric zones, the central bull's eye having a greater focal length than the zones.

[Claim 6 not printed in the Gazette.]

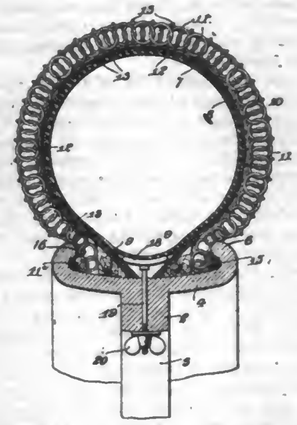
974,124. TIRE FOR VEHICLES. ALEXANDER CROWE and JOHN E. KINZEL, Youngstown, Ohio. Filed Apr. 2, 1909. Serial No. 487,388.

1. A vehicle tire having an outer armor of interlinked outstanding rings, the plane of each ring extending transversely to the axis of the tire.

2. A vehicle tire having an outer armor composed of a multiplicity of series of interlinked metallic outstanding rings, the plane of each ring of each series extending transversely across the face of the tire, and the rings of each series being in contact with the rings of the next adjacent series on either side, and longitudinal wires extending around the tire, said wires passing on the inside of some of the rings and over the outside of the other rings, and being thereby interwoven therewith.

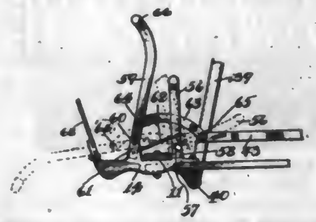
3. A vehicle tire having an outer armor composed of a multiplicity of series of interlinked metallic outstanding rings, the rings of each series extending transversely across the face of the tire and being in contact with the rings of the next adjacent series, and a plurality of strands extending longitudinally of the tire and each of said strands extending across the outer face of a plurality of rings and being at intervals depressed beneath one of said rings, thereby being interwoven with said rings.

4. A vehicle tire having an outer armor composed of a multiplicity of series of interlinked metallic outstanding rings, the rings of each series extending transversely across the face of the tire and being in contact with the rings of the next adjacent series and the rings of one series being in staggered relation to the rings of the next adjacent series, and a plurality of longitudinal wires extending around the tire and interwoven at intervals with the several series of rings.



5. In a vehicle tire, the combination with a pneumati tire, of a lining of textile material adapted to surroun the exterior of the pneumatic tire and having its margin provided with longitudinally extending annular strips, a outer armor composed of a plurality of series of inter linked metallic outstanding rings secured to the outer fac of the inner lining and annular rods around which th inner margins of the metallic fabric formed by said ring are folded, thereby forming an annular enlargement o either side of the tire adapted to be engaged with the in wardly turned flanges of a clencher rim.

974,125. HAY-RAKE. JOSEPH DAIN, Ottumwa, Iow Filed Apr. 16, 1904. Serial No. 203,893.



1. In a rake, the combination of a main frame, a ra head pivotally mounted at the forward portion thereof, pair of pivotally-mounted levers carried at the rear said frame, means connecting said levers at the same si of the pivots thereof, and means connecting said leve with said rake-head, whereby movement of said levers the same direction similarly moves the points of the ra teeth, a third lever, and means connecting said third le with the rake-head in such manner that movement of sa lever oppositely to the other levers will effect simil movement of the rake-teeth, substantially as described.

2. In a rake, the combination of a main frame, a ra head pivotally mounted at the forward portion thereof hand-lever for vertically adjusting the points of the ra teeth, a foot-lever pivotally mounted back of said ha lever, means connecting said levers together above pivots thereof, a second foot-lever mounted forward said first foot-lever, and connecting-means connected w

the second foot-lever above its pivot and with the first foot-lever below its pivot, whereby said foot-levers move simultaneously in opposite directions, substantially as described.

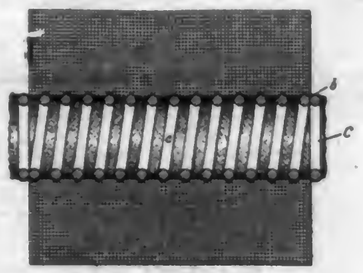
3. In a rake, the combination of a main frame, a rake-head arranged transversely of said frame and pivotally mounted at the forward portion thereof, a pivotally-mounted lever at the rear portion of said frame, said lever being connected with said rake-head and operating when moved forward to lift the points of the rake-teeth, a locking-lever pivotally mounted back of said first-mentioned lever, and means operated by backward movement of said locking-lever for locking said rake-head in carrying-position, substantially as described.

4. In a rake, the combination of a main frame, a rake-head pivotally mounted at the forward portion thereof, a pivotally-mounted lever at the rear portion of said frame and connected with said rake-head, a locking-lever pivotally mounted back of said first-mentioned lever, and a curved connection between said levers, said connection being pivotally connected to said locking-lever, so that the pivot thereof may be thrown back of the pivot of said locking-lever, thereby locking the rake-head in carrying-position, substantially as described.

5. In a rake, the combination of a main frame, a rake-head pivotally mounted at the forward portion thereof, a pivotally-mounted lever at the rear portion of said frame and connected with said rake-head, a locking-lever pivotally mounted back of said first-mentioned lever, means operated by backward movement of said locking-lever for locking said rake-head in carrying-position, and means connected with said locking-lever below the pivot thereof for unlocking said rake-head, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

974,126. COP-TUBE. FREDERICK H. DANIELL, Franklin, N. H.; Mary B. Daniell executrix of said Frederick H. Daniell, deceased. Filed Feb. 24, 1908. Serial No. 417,419.



1. In a cop tube for dyeing, or similar purposes, the combination with a sleeve of reticulated fabric, of means for supporting the fabric in tubular form, comprising a helical coil of wire arranged within the sleeve.

2. In a cop tube for dyeing, or similar purposes, the combination of a sleeve of porous fabric, and coils of stiffening material, arranged within the sleeve to distend it in tubular form.

3. In a cop tube, the combination of a helically coiled metallic rib and a flexible, porous sleeve surrounding said rib.

4. In a cop tube, the combination with a flexible, porous sleeve of fabric, of means to support the sleeve in tubular form and to allow it to contract longitudinally of its axis.

5. In a cop tube, the combination with a flexible, porous sleeve of fabric, of a skeleton frame-work supporting the sleeve in tubular form and to allow it to contract longitudinally of its axis.

[Claims 6 to 15 not printed in the Gazette.]

974,127. PACKAGING YARN FOR DYEING. FREDERICK H. DANIELL, Franklin, N. H., and JOHN C. HEBDEN, Providence, R. I.; Mary B. Daniell executrix of said Frederick H. Daniell, deceased. Filed Sept. 14, 1908. Serial No. 452,960.



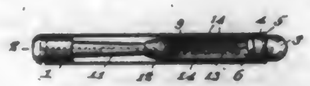
1. A cop tube adapted to carry cops of yarn which consists of a spirally wound and perforated band capable of being longitudinally compressed and with its walls pervious to the flow of liquid or gas.

2. An improved support for yarn packages for use in dyeing or similar processes consisting of a tube formed of a spirally wrapped band, adapted to be compressed longitudinally of its axis and having its walls pervious to the flow of liquid or gas.

3. An improved support for yarn packages consisting of a tube comprising correlated sections adapted to move in relation to each other to allow the tube to be compressed longitudinally of its axis, and having its walls pervious to the flow of liquid or gas.

4. A cop tube adapted to carry cops of yarn comprising perforated resilient material, the portions of which are movable with relation to each other, whereby the tube is adapted to be compressed longitudinally of its axis and has its walls pervious to the flow of liquid or gas.

974,128. RECEPTACLE FOR CIGARETTE-HOLDERS. JAMES C. DARST, Roanoke, Va. Filed Nov. 15, 1909. Serial No. 528,066.



1. A receptacle having a form and size adapting it for containing a holder for cigars or cigarettes, said receptacle having one end permanently closed and its mouth closed by a removable cover provided with a cleaning-device, the latter consisting of a core secured to the interior of the cover and extending into the receptacle and having a plurality of radially extending bristles arranged along its length.

2. A receptacle having a form and size adapting it for containing a holder for cigars or cigarettes, said receptacle having a closed bottom and removable cover, the latter having a cylindrical brush extending therefrom and adapted to enter the receptacle or a holder therein.

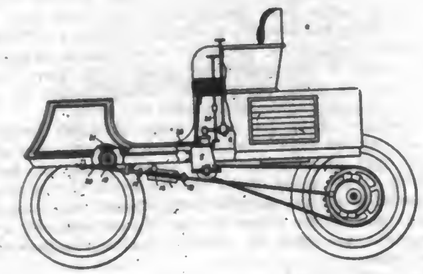
3. A receptacle having a form and size adapting it for containing a holder for cigars or cigarettes, said receptacle having a closed bottom and removable cover, the latter having a brush extending therefrom and adapted to enter the receptacle or a holder therein, and the core of which brush is extended beyond the brush proper, so as to enter the stem of the holder when the receptacle is closed.

4. A receptacle for the purposes described, composed of a cylindrical body of substantially uniform diameter from end to end, said body having a cover provided with a frictional portion for entering the mouth of the body, and said cover having a cylindrical brush extending centrally therefrom beyond the frictional portion, said brush entering the body of the holder contained therein for cleaning the latter.

5. A receptacle having a form and size adapting it for containing a holder for cigars or cigarettes, a removable cover for said receptacle, said cover having a central teat, a core fixed to said teat, and radial bristles extending from said core.

[Claims 6 and 7 not printed in the Gazette.]

974,129. STEAM-GENERATING APPARATUS FOR AUTOMOBILES. ALBERT G. DAVIS, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 16, 1904. Serial No. 212,782.



1. In a steam generating system, the combination of a boiler, a burner therefor, automatic variable stroke pumps for supplying water to the boiler and fuel to the burner at constant pressures, and separate controllers for the pumps whereby the pressure of their deliveries may be varied.

2. In a steam generating system, the combination of a boiler, a burner for heating the boiler, pumps for supplying water to the boiler and liquid fuel to the burner at pressures suitable for generating steam at the pressure necessary to meet a given condition of operation of a driven device, motors for driving the pumps, and separate controllers for regulating the action of the motors to vary the pressures at which the water and fuel are delivered to the boiler and burner to thereby generate steam at other pressures suitable for different operating conditions.

3. In a steam generating system, the combination of a boiler, a burner for heating the boiler, pumps for supplying water and liquid fuel to the boiler and burner respectively, driving motors for the pumps, connections between the motors and pumps for actuating them on their suction and discharge strokes, automatic regulators forming part of the motors which are responsive to the pressure of the discharged fluids and cause the pumps to deliver fluid at a constant pressure, and devices for manually controlling the regulators by which said regulators can be adjusted during the operation of the pumps to cause them to deliver fluid at any arbitrary pressure, said pressure being maintained by the regulators at a constant value during any given adjustment.

4. In a steam generating system, the combination of a boiler, a burner for heating the boiler, pumps for supplying water and liquid fuel to the boiler and burner respectively, means for actuating the pumps in one direction, a device for actuating them in the opposite direction to deliver fluid at substantially constant pressure, which device also controls the effective discharge of the pumps and decreases said discharge when the pressure against which they work reaches a predetermined amount, and manually controllable means for adjusting said device during the operation of the pumps to vary the maximum pressures at which the pumps discharge.

5. In a steam generating system for automobiles, the combination of a boiler, a burner for heating the boiler, water and fuel pumps for supplying the boiler and burner respectively, connections between the pumps and the boiler and burner, adjustable means for driving the pumps which of itself tends to operate the pumps to automatically supply fluid to said boiler and burner at substantially constant pressure for any given adjustment, and controller mechanism that can be operated from the vehicle seat for adjusting said means to supply said fluids at constant pressures the value of which can be varied by said adjustment.

[Claim 6 not printed in the Gazette.]

974,130. METHOD OF MAKING HEDDLES. WILLIAM FEHR and JACOB KAUFMANN, Philadelphia, Pa., assignors to Steel Heddle Manufacturing Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed July 23, 1908. Serial No. 444,875.



1. The method of making heddles which consists in cutting slits in a thin flat strip of metal, then expanding the slits to form mortises and subjecting the metal at the ends of the mortises to the action of a rotating pin to thereby form integral lateral extensions of curvilinear or arched shape outline.

2. The method of making heddles which consists in cutting slits in a thin flat strip of metal, then expanding the slits by swaging the metal adjacent the ends of the slits to form mortises having fins of swaged metal, and then subjecting the metal of the fins to the action of a rotating pin to thereby form integral lateral extensions.

3. The method of making heddles which consists in cutting slits in a thin flat strip of metal, and thereafter subjecting the metal at the ends of the slits to the action of a rotating pin to thereby form integral lateral extensions.

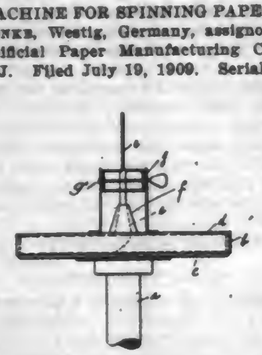
974,131. GELATIN COMPOSITION. EDUARD FR. FISING, Munich, Germany, assignor to Maria Wilhelmi Felsing. Filed Oct. 15, 1909. Serial No. 522,759.

1. A new composition of matter for the purpose herein set forth, consisting of a solution of gelatin, a hardening substance, and a solution of a uranium salt, substantially as described.

2. A new composition of matter for the purpose herein set forth, consisting of a solution of gelatin, a hardening substance, a coloring material and a solution of a uranium salt, substantially as described.

3. A composition of matter for the purpose herein set forth, comprising the following substances:—(1) one hundred grams of hard gelatin dissolved in one thousand cubic centimeters of water and then melted in hot water of not more than 38° C.; (2) approximately five grams of alcohol; (3) approximately twenty grams of a coloring medium; (4) and between twenty five and thirty cubic centimeters of a solution consisting of five grams of uranium acetate dissolved in one hundred cubic centimeters of distilled water and ten cubic centimeters of 50% acetic acid, substantially as described.

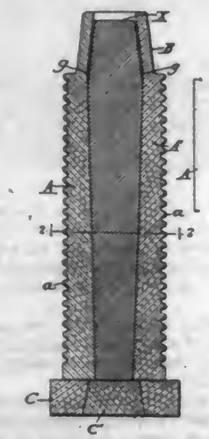
974,132. MACHINE FOR SPINNING PAPER THREADS. ANTON FUNKE, Westig, Germany, assignor to The Papyrus Artificial Paper Manufacturing Company, Hoboken, N. J. Filed July 19, 1909. Serial No. 508,378.



1. In a machine for spinning paper thread, the combination with a spindle provided with a dish-shaped receptacle which carries the paper roll, of a hollow body open at both ends, upwardly narrowed, which is rigidly connected with the said receptacle and adapted to crinkle or fold longitudinally the paper strip, and an adjustable body supported upon and connected with the said receptacle and adapted to engage the strip above the said hollow body, so as to diverge the strip from its normal direction and thereby cause the twisting thereof after it has been crinkled or folded.

2. In a machine for spinning paper thread, the combination with a spindle provided with a dish-shaped receptacle which carries the paper roll, of a hollow body open at both ends and upwardly narrowed which is rigidly connected with the said receptacle and adapted to crinkle or fold longitudinally the paper strip, and a grate shaped adjustable body connected with the spindle and adapted to engage the strip above the said hollow body, so as to diverge the strip from its normal direction and thereby cause the twisting thereof after it has been crinkled or folded and according to the adjustment of which the strip or thread can be more or less stretched.

974,133. INGOT-MOLD. EMIL GATHMANN, New York, N. Y. Filed June 30, 1910. Serial No. 569,731.



1. An ingot mold the upper part or neck of which retards the radiation of heat from the ingot to a greater extent than the lower part and the inner walls of which forming and defining the ingot chamber, taper upwardly and outwardly from its base, and then upwardly and inwardly toward its top, the material forming said inner walls of the mold being metallic both for the outwardly and inwardly tapered portions.

2. A longitudinally divided metal ingot mold the upper part or neck of which retards the radiation of heat from the ingot to a greater extent than the lower part and the inner walls of which forming and defining the ingot chamber taper upwardly and outwardly from its lower portion, and then upwardly and inwardly toward its upper portion, the said outwardly and inwardly tapered portions of the mold walls being integrally formed.

3. An upright metal ingot mold the upper part or neck of which retards the radiation of heat from the ingot to a greater extent than the lower part the inner walls of which forming and defining the ingot chamber taper upwardly and outwardly in its lower part and then upwardly and inwardly at its upper part, the taper of the said upwardly and inwardly inclined part being more than three times as great per unit of vertical height as the taper of the said lower inclining walls.

4. An upright metallic ingot mold the upper part or neck of which retards the radiation of heat from the ingot to a greater extent than the lower part the inner walls of which forming and defining the ingot chamber are formed by tapering side walls, the taper of the upper inwardly inclined part of the said inner walls being more than three times as great per unit of vertical height as the taper of the lower upwardly inclined side walls.

5. An ingot mold, the inner walls of which forming and defining the ingot chamber taper upwardly and outwardly from its base and then upwardly and inwardly relatively to the taper of the lower portion of the chamber, the walls of said chamber being thinner at the upper portion than at the lower portion thereof whereby said upper walls are made to expand more readily than the lower walls.

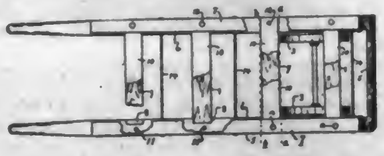
[Claims 6 to 12 not printed in the Gazette.]

974,134. TIRE-HEALING COMPOUND. HENRY S. GRISWOLD, Phoenix, Ariz. Filed July 16, 1910. Serial No. 572,380.

1. A tire healing compound comprising water, flour of slippery elm, a glutinous material, and an antiseptic preservative.

2. A tire healing compound comprising water, flour of slippery elm, gum tragacanth, and an antiseptic preservative.

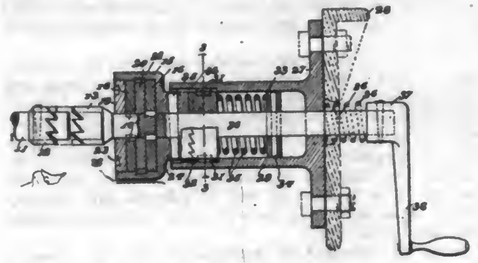
974,135. HAND-TRUCK. CHARLES G. GROSS, Omaha, Nebr. Filed Mar. 31, 1910. Serial No. 552,493.



1. A wheel truck, comprising, in combination with side-members having recesses formed at longitudinal intervals to open upon the inner sides and upper faces and provided with apertures intermediate said recesses and their outer sides; supporting bars disposed transversely of the side-members and having their ends seated in said recesses; metallic bearing-plates seated upon the supporting-bars and having apertures formed near their ends; bolts traversing the apertures of the bearing-plates and side-members; and an integral bearing-frame comprising a nose-piece and adjacent arms, said frame being secured upon the truck with its arms disposed upon and forming longitudinal bearing portions projecting above the metallic bearing-plates.

2. A wheel truck comprising, in combination with side-members formed rectangular in cross-section and having recesses formed at longitudinal intervals opening upon their inner sides and upper faces; cross-pieces having their ends seated in said recesses; metallic bearing-plates disposed substantially parallel with and seated upon the cross-pieces and having their ends disposed and countersunk upon the upper face of the side-members; a plurality of keepers traversing said bearing-plates and side-members adjacent to and outwardly of said recesses and cross-pieces; and a metallic, substantially U-shaped bearing-frame having arms disposed longitudinally of the truck upon the side-members, said arms forming adjacent portions projecting above the transverse bearing-plates and side-members.

974,136. CRANKING DEVICE FOR INTERNAL-COMBUSTION ENGINES. CHARLES R. HALL, Monroeton, Pa., assignor of one-fourth to Robert F. Hall, Monroeton, Pa. Filed Sept. 22, 1909. Serial No. 519,052.



1. In a cranking mechanism the combination with an internal combustion engine having a crank shaft and a ratchet sleeve mounted thereon, of a stud shaft disposed adjacent said crank shaft, a second ratchet sleeve carried by said stub shaft for interlocking engagement with said first ratchet sleeve, a plurality of disks disposed in spaced relation upon said stub shaft, a drum concentrically disposed about said stub shaft, a plurality of disks disposed in spaced relation in said drum for alternate engagement between said disks on said stub shaft, an operating shaft rigidly carried by said drum, a cylinder disposed about said operating shaft, a collar slidably disposed within said cylinder, keys carried by said collar for retaining the same from rotation, teeth disposed upon said collar, teeth mounted on said drum for engagement with the teeth on said collar, and means disposed in said cylinder for yieldably holding said collar against said drum.

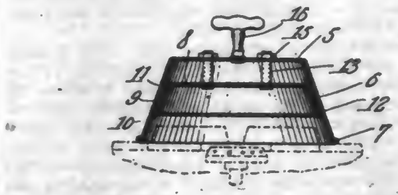
2. The combination with an internal combustion engine having a crank shaft, of a stub shaft disposed in longitudinal alinement adjacent said crank shaft, ratchet sleeves carried by said crank shaft and said stub shaft for interlocking engagement, a plurality of disks carried by said stub shaft, an operating shaft arranged in longitudinal alinement adjacent said stub shaft, a drum rigidly carried by said operating shaft and located about said stub shaft, pluralities of disks disposed in alternate arrangement within said drum and carried by said drum and said stub shaft, a neck formed on said drum, a cylinder loosely disposed about said neck, a collar slidably mounted in said cylinder about said operating shaft, series of teeth mounted in the adjacent faces of said neck and said collar, an abutment formed on said operating shaft, and a spring located between said abutment and said collar for retaining said collar against said drum.

3. A cranking mechanism including a crank shaft, a stub shaft disposed in interlocking relation with said crank shaft, disks carried by said stub shaft, an operating shaft disposed adjacent said stub shaft, disks carried by said operating shaft for frictional alternate engagement between said disks on said stub shaft, and means carried by said operating shaft for locking the same upon the reverse rotation thereof.

4. A cranking mechanism including a crank shaft, a stub shaft mounted adjacent said crank shaft, interlocking ratchet sleeves carried by said shafts, an operating shaft located in longitudinal alinement with said stub shaft, a drum carried by said operating shaft, interfitting disks carried by said stub shaft and said drum for frictional engagement with one another, a collar disposed about said operating shaft, a cylinder located about said operating shaft and said collar, keys carried by said collar for engagement with said cylinder to retain said collar against rotation, a spring carried by said operating shaft for engagement with the collar to abut the same with said drum, teeth carried by said collar and said drum for interlocking engagement, and a crank arm mounted upon the inner end of said operating shaft for imparting rotation to the same.

5. In a cranking mechanism, the combination with an internal combustion engine having a crank-shaft, of a stub shaft arranged in alinement with said crank-shaft, intermeshing ratchet sleeves on said shafts, a drum concentrically disposed about said stub shaft, disks mounted about said stub shaft in said drum and being alternately keyed to said stub shaft and to said drum, an operating shaft rigidly carried by said drum, a cylinder engaged about said operating shaft, a collar loosely disposed about said operating shaft and keyed to said cylinder, interlocking teeth formed upon said drum and said collar, and a spring carried in said cylinder and against said collar to press said collar against said drum.

974,137. FLAT-IRON HEATER. SARAH A. HARING, Chicago, Ill. Filed Sept. 22, 1909. Serial No. 518,933.



1. A heater consisting of a casing adapted to rest upon a burner grid and contain a sad iron, a baffle plate spaced from the top wall of the casing and having a peripheral flange adapted to direct the heat upon the sad iron, and ventilating tubes opening through the opposed walls of the casing and baffle plate to permit of the escape of heat from below the baffle plate.

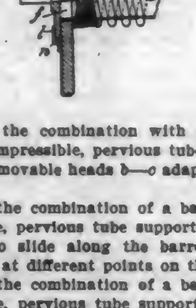
2. A heater consisting of a casing adapted to rest upon the burner grid and contain a sad iron, a baffle plate within the casing and having a downwardly inclined peripheral flange to direct the heat upon the sad iron, ventilating tubes carried by the baffle plate and opening through the top walls of the casing for permitting the escape of heat from below the baffle plate, and means upon the tubes for adjusting the baffle plate within the casing whereby to maintain the marginal edges of its flange in contact with the walls of the casing and form an insulating air chamber between the casing and baffle plate.

3. A heater consisting of a casing adapted to rest upon a burner grid and contain a sad iron, a baffle plate adjustably mounted within the casing and having a downwardly inclined peripheral flange to direct the heat upon the sad iron, ventilating tubes carried by the baffle plate and projecting through the casing to permit of the escape of heat from below the baffle plate, and adjusting nuts upon the extremities of said tubes for adjusting the baffle plate and maintaining the rim of its flange in contact with the walls of the casing whereby to form an insulated air chamber between the casing and baffle plate.

974,138. METHOD OF FACILITATING AND ACCELERATING THE HARDENING OF HYDRAULIC CEMENTS. LUDWIG HATSCHEK, Vocklabruck, Austria-Hungary. Filed Dec. 17, 1909. Serial No. 533,575.

The method of facilitating and accelerating the hardening of hydraulic cement products, which consists in placing them, after pressing and still moist, in a close chamber or vessel, allowing them there to hold their own heat and present the requisite moisture, and keeping them at the proper temperature until hard, substantially as described.

974,139. JACK-SPOOL. JOHN C. HEBDEN, Providence, R. I., and FREDERICK H. DANIELL, Franklin, N. H.; Mary B. Daniell executrix of said Frederick H. Daniell, deceased. Filed July 28, 1909. Serial No. 510,072.



1. In a spool the combination with a barrel a, of a longitudinally compressible, pervious tube B supported on the barrel and removable heads b—c adapted to be secured to the barrel.

2. In a spool the combination of a barrel, a longitudinally contractible, pervious tube supported on the barrel, heads adapted to slide along the barrel and means to secure the heads at different points on the barrel.

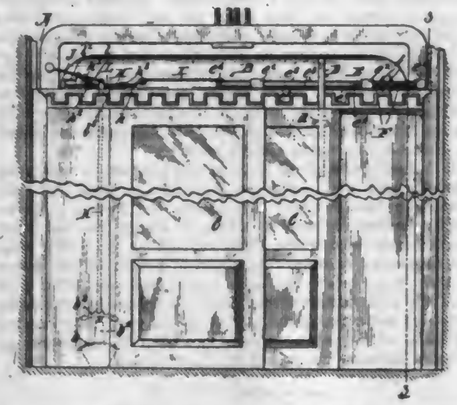
3. In a spool the combination of a barrel, a longitudinally contractible, pervious tube supported on the barrel and heads adjustable along the barrel.

4. In a jack-spool the combination of a barrel, a longitudinally contractible, pervious tube supported on the barrel, heads slidable on the barrel, means to secure the heads at the ends of the barrel, and separate means to secure the heads at points in from the ends of the barrel.

5. In a jack-spool the combination of a barrel, a longitudinally contractible, pervious tube supported on the barrel, flanges removably fastened to the ends of the barrel, heads adapted to be secured to the flanges, and clamps adapted to be clamped to the barrel and arranged to secure the heads at different points along the barrel.

[Claims 6 to 8 not printed in the Gazette.]

974,140. SAFETY DEVICE FOR ELEVATORS. AUGUSTUS W. HENGERER and ROBERT J. KIENDL, Buffalo, N. Y. Filed Nov. 9, 1908. Serial No. 461,720.



1. In an elevator, the combination with an elevator-shaft having a door-opening, and a door for closing said door-opening, of an elevator car equipped with controlling-mechanism to control the operation thereof, coöperating-means on the door and the elevator-car including two independently-pivoted spring-controlled trip-dogs on one part of said coöperating means, and locking-mechanism actuated by said coöperating means and adapted to lock said controlling-mechanism when the door of the elevator-shaft is open.

2. In an elevator, the combination with an elevator-shaft having a door-opening and a door for closing said opening, of an elevator-car equipped with controlling-mechanism to control the operation thereof, means co-operating with said controlling-mechanism embodying opposed independently movable trip-dogs, and a trip-device adapted to engage said trip-dogs for causing actuation of said means.

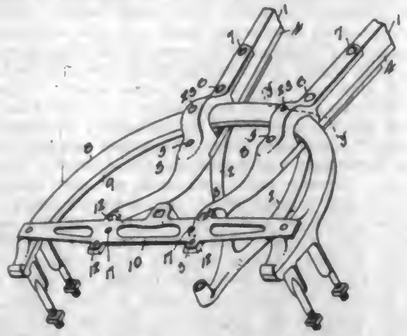
3. In an elevator, the combination with an elevator-shaft having a door-opening, and a door for closing said door-opening, of an elevator-car equipped with controlling-mechanism to control the operation thereof, locking-mechanism adapted to lock said controlling-mechanism against actuation, a trip-device on the door of the elevator-shaft, and mechanism for actuating said locking-mechanism including two opposed independently-pivoted spring-controlled trip-dogs adapted to be engaged by said trip-device.

4. In an elevator, the combination with an elevator-shaft having a door-opening, and a door for closing said door-opening, of an elevator-car equipped with controlling-mechanism to control the operation thereof, locking-means to prevent the operation of said controlling-mechanism, a trip-device on said door, and a shifting-device including two opposed independently-movable trip-dogs adapted to be engaged by said trip-device, said shifting-device being interposed between said locking-mechanism and said trip-device.

5. In an elevator, the combination with an elevator-shaft having a door-opening, and a door for closing said door-opening, of an elevator-car equipped with controlling-mechanism to control the operation thereof, locking-mechanism adapted to coöperate with said controlling-mechanism, a shifting-bar on said car, actuating-mechanism operatively connected with said shifting-bar and having connection with said locking-mechanism, a trip-device secured on the door, and two oppositely disposed spring-controlled trip-dogs independently-movable on said shifting-bar and adapted to act as a means of coöperation between said shifting-bar and said trip-device.

[Claims 6 to 22 not printed in the Gazette.]

974,141. VEHICLE-GEAR. LESTER E. HICKOK, Cleveland, Ohio, assignor of one-half to The Cleveland Hardware Company, Cleveland, Ohio. Filed Oct. 2, 1909. Serial No. 520,638.



1. The combination with a head block plate and an upper fifth wheel member, of two reach irons; said parts being separately forged; and metallic means with the metal upset rigidly uniting the reach irons to the head block plate and the upper fifth wheel member.

2. The combination with a head block plate and an upper fifth wheel member, of two reach irons; said parts being separately forged; metallic means with the metal upset rigidly uniting the ends of the reach irons to the head block plate; and rivets rigidly uniting the reach irons to the upper fifth wheel member.

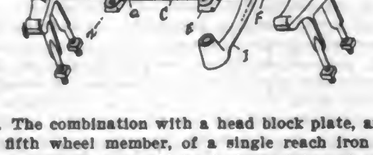
3. The combination with an upper fifth wheel member, of two reach irons, said parts being separately forged and each reach iron at its opposite ends being adapted for attachment to a head block plate and to a reach, and metallic means with the metal upset rigidly uniting the two reach irons to the upper fifth wheel member.

4. The combination with an upper fifth wheel member, of two reach irons, said parts being separately forged and each reach iron at its opposite ends being adapted for attachment to a head block plate and to a reach, and rivets rigidly uniting the two reach irons to the upper fifth wheel member.

5. The combination with an upper fifth wheel member, of two reach irons, each provided with a seat at its under surface to receive the upper fifth wheel member, and means adjacent the seats rigidly uniting the two reach irons to the upper fifth wheel member.

[Claims 6 to 10 not printed in the Gazette.]

974,142. VEHICLE-GEAR. LESTER E. HICKOK, Cleveland, Ohio, assignor of one-half to The Cleveland Hardware Company, Cleveland, Ohio. Filed Oct. 2, 1909. Serial No. 520,639.



1. The combination with a head block plate, and an upper fifth wheel member, of a single reach iron centrally disposed relative to said head block plate and upper fifth wheel member, said parts being separately forged, and metallic means with the metal upset rigidly uniting the reach iron to the upper fifth wheel member and the head block plate.

2. The combination with a head block plate, and an upper fifth wheel member, of a single reach iron centrally disposed relative to the head block plate and upper fifth wheel member, said parts being separately forged, and means consisting of lugs and rivets rigidly uniting the front end of the reach iron to the head block plate and the part of the reach iron intermediate its ends to the upper fifth wheel member.

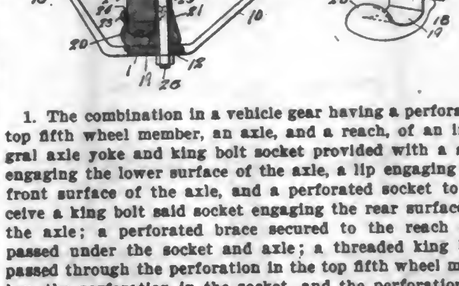
3. The combination with an upper fifth wheel member, of a head block plate, a single reach iron said iron being centrally disposed relative to the upper fifth wheel member and its front end provided with means for attachment to the head block plate, said parts being separately forged, and metallic means with the metal upset rigidly uniting the reach iron to the upper fifth wheel member.

4. The combination with an upper fifth wheel member, of a head block plate, a single reach iron said iron being centrally disposed relative to the upper fifth wheel member and its front end provided with means for attachment to the head block plate, said parts being separately forged, and a rivet rigidly uniting the reach iron to the upper fifth wheel member.

5. The combination with an upper fifth wheel member, of a single reach iron having a seat at its under surface to receive the upper fifth wheel member, said reach iron being centrally disposed relative to the upper fifth wheel member, and means in connection with the seat rigidly uniting the reach iron to the upper fifth wheel member.

[Claims 6 to 8 not printed in the Gazette.]

974,143. VEHICLE-GEAR. LESTER E. HICKOK, Cleveland, Ohio, assignor of one-half to The Cleveland Hardware Company, Cleveland, Ohio. Filed Oct. 2, 1909. Serial No. 520,640.



1. The combination in a vehicle gear having a perforate top fifth wheel member, an axle, and a reach, of an integral axle yoke and king bolt socket provided with a seat engaging the lower surface of the axle, a lip engaging the front surface of the axle, and a perforated socket to receive a king bolt said socket engaging the rear surface of the axle; a perforated brace secured to the reach and passed under the socket and axle; a threaded king bolt passed through the perforation in the top fifth wheel member, the perforation in the socket, and the perforation in the brace; and a nut on the king bolt.

2. The combination in a vehicle gear having a perforate top fifth wheel member, an axle, a reach, and an axle bed of an integral axle yoke and king bolt socket having a seat engaging the lower surface of the axle, a lip engaging the front surface of the axle, a perforated socket to receive a king bolt, and two perforated wings; a perforated brace secured to the reach and passed under the socket and axle, bolts passed through the wings of the socket and the axle bed; and a king bolt passed through the perforation in the top fifth wheel member, the socket, and the brace and provided with a nut, thus uniting the parts.

3. The combination in a vehicle gear, of fifth-wheel members each having a perforated lug at its rear edge; a perforated brace; an integral yoke and socket having a seat engaging the lower surface of the axle, a flange or lip engaging the front lower surface of the axle and a perforated socket with its top end passed through the perforations in the lugs of the fifth-wheel members; and a king bolt and nut, said king bolt passing through the perforations in the lugs of the fifth wheel members, the socket and the brace.

4. The combination in a vehicle gear, of fifth-wheel members each having a perforated lug; a perforated brace; an integral yoke and socket having a seat, a flange or lip, two perforated wings or lugs, and a perforated socket with its top end passed through the perforations in the lugs of the fifth-wheel members; and a king bolt uniting the several parts; the said integral yoke and socket being applied so the seat therein engages the lower surface of the axle and the lip engages the front lower surface of the axle.

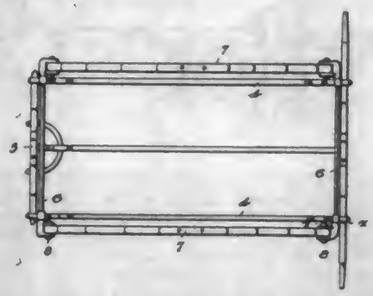
974,144. MEANS FOR DETACHABLY SUPPORTING VEHICLE EQUALIZER-BARS. LESTER E. HICKOK, Cleveland, Ohio, assignor of one-half to The Cleveland Hardware Company, Cleveland, Ohio. Filed Oct. 2, 1909. Serial No. 520,641.

1. The combination with a vehicle having a head block axle or axle and bed, and reaches connecting the same, the following three elements located at each of the four points where the reaches join the axle or axle and bed and the head block, to wit: a stay 9, a yoke 14, and a removable socket clip 18; and means for securing the said elements in their proper relative positions.

2. The combination with a reach and axle or axle and bed, of a stay plate 9, a yoke 14, a removable socket clip 18, and means for securing the said parts to the reach and axle or axle and bed; the stay plate engaging the reach the yoke engaging the reach and axle, and the clip engaging the plate and yoke.

3. An equalizer socket and means for its attachment

comprising a perforated stay or plate with a seat; a perforated yoke; and a socket clip having a bearing surface to match the seat in the stay, and a threaded end; said stay or plate being adapted to engage a reach, the yoke adapted to engage the lower surfaces of a reach and axle, and the threaded clip end of the socket clip adapted to engage the perforated yoke.

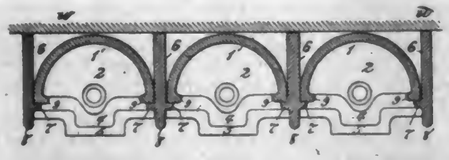


4. An equalizer socket and means for its attachment, comprising a perforated stay or plate with a seat and a projecting end; a perforated yoke with a perforated heel; and a socket clip having a curved bearing surface to match the seat in the stay, a recess to match the end of the stay, and a threaded clip end.

5. An equalizer socket comprising a separable stay and socket clip with a bearing for an equalizer bar, part of the bearing being in the stay and part in the socket clip, said socket clip being threaded at one end only, and a perforated yoke adapted to engage an axle and to be engaged by the threaded end of the socket clip.

[Claim 6 not printed in the Gazette.]

974,145. URINAL-STALL. WINFIELD E. HINSDALE, New York, N. Y. Filed Nov. 10, 1908. Serial No. 461,985.



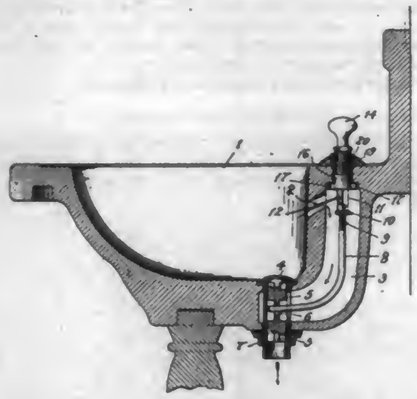
1. A urinal stall embracing a body, a top, and a receptor in one integral piece and two end plates each constructed of a single piece of material and having lateral top and side ledges adapted when in place to extend over the top, the side faces and front edges of the stall, substantially as described.

2. A battery of urinal stalls embracing a plurality of individual stalls each having a body, a top and a receptor formed in one integral piece in combination with one or more partitions each constructed of a single piece of material and having laterally extending top and side ledges adapted to overlap the tops, the side faces and front edges of adjoining stalls, substantially as described.

3. A battery of urinal stalls embracing a plurality of individual stalls formed each of one integral piece; a plurality of partitions and two end plates, said partitions having each two laterally extending top and side ledges adapted to overlap the tops and outer edges of adjoining stalls; the end plates having each one a similar lateral ledge, said ledges being adapted to cover the outer faces of the end stalls and the outer and top edges thereof, the aforesaid partitions and end-plates being each constructed of a single piece of material, substantially as described.

4. A battery of urinal stalls embracing a plurality of individual stalls having each a body, a top, a receptor, a drip-lip and an extending ledge below the floor level of the receptor; in combination with a plurality of partitions having each two laterally extending top and side ledges adapted to overlap the top and front edges of adjoining stalls and two end plates having each one a similar ledge adapted to inclose the outside faces of the end stalls, the aforesaid partitions and end-plates being each constructed of a single piece of material, substantially as described.

974,146. BASIN WASTE AND OVERFLOW. WINFIELD E. HINSDALE, New York, N. Y. Filed Sept. 20, 1909. Serial No. 518,603.



1. A controlling appliance for the valve of a lavatory basin, embracing a pull-stem, a surrounding sleeve therefor, and a friction device located between the two, said sleeve being provided with a lock-nut at one end and with one or more lugs at the other end; in combination with a curvilinear valve operating rod secured to the pull-stem and an escutcheon adapted, when in position, to surround said pull-stem above the lock-nut and conceal the latter.

2. A controlling appliance for the valve of a lavatory basin, embracing an adjustable valve rod, a pull-stem, a supporting sleeve therefor, and a yielding friction device between the stem and the sleeve; in combination with a lock-nut at the upper end of the sleeve, and additional locking means at the lower end thereof for securing all the parts directly to the basin top.

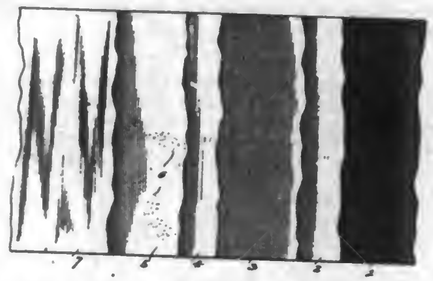
3. A controlling appliance for the valve of a lavatory basin, embracing a vertically disposed pull-stem adjustably connected to a valve rod; in combination with a spring and sleeve adapted to slidably hold said pull-stem; together with a plurality of lugs at the lower end of the sleeve and a lock-nut at the upper end thereof adapted to secure the sleeve to the basin top.

4. A lavatory basin constructed in one integral piece having a vertically disposed over-flow passage and an over-flow opening extending through one side of the bowl into said passage; in combination with a valve seated in the bottom of the basin and operatively connected with a valve rod extending upward through the over-flow passage and the top of the basin, and to a pull-stem frictionally and slidably held in a sleeve secured in turn directly in the top of the basin.

5. A controlling appliance for the valve of a lavatory basin, embracing a valve rod, a pull-stem connected thereto, a sleeve slidably surrounding said stem, a spring between the sleeve and pull-stem, lugs at one end of the sleeve, and a nut at the other adapted to detachably and adjustably secure the parts in the top of the basin.

974,147. PROCESS OF VENEERING. EMORY C. HISCOCK, Chicago, Ill. Filed Aug. 1, 1910. Serial No. 575,026.

1. The process of manufacturing veneered structures which consists in cementing a binder to the body-board, rubbing into the veneer from its inner side a plastic filler, cementing said veneer to the binder and finishing the outer side of the veneer.

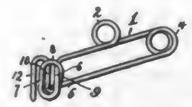


2. The process of manufacturing veneered structures which consists in cementing a binder to the body-board, rubbing into the veneer from its inner side a plastic filler, cementing said veneer to the binder, and then, without washing, subjecting the outer surface of the veneer to the usual finishing operations.

3. The process of manufacturing veneered structures which consists in subjecting a grainless fibrous binder to an acid bath, cementing said binder to the body-board, rubbing into the veneer from its inner side a solid filling material rendered plastic by mixture with a volatile vehicle, cementing said veneer to the binder, and finishing the outer side of the veneer.

4. The herein described process of manufacturing veneered structures which consists in subjecting a binder of vulcanized fiber to an acid bath, cementing said binder to the body-board, rubbing into the veneer from its inner side a white lead filler rendered plastic by mixture with a volatile vehicle, cementing said veneer to the binder, allowing the structure to dry at atmospheric temperatures, and then, without washing, subjecting the outer surface of the veneer to the usual finishing operations.

974,148. CRAVAT-HOLDER. JEWET GILBERT HOMET, Scranton, Pa. Filed July 2, 1908. Serial No. 441,600.



A device of the character described comprising a body having one end terminating in a pin and having its opposite end bent at substantially a right angle to the pin and again bent outwardly to form a guard member substantially parallel with the aforesaid bent portion and continued backwardly and directed downwardly over and crossing the first mentioned bent portion to form a jaw, then bent to form another jaw for coöperation with the aforesaid jaw to receive the free end of said pin, one of said jaws being inclined, said body being finally bent to form a second guard member for coöperation with the aforesaid guard member, said body portion having a coil intermediate its ends, said inclined jaw coöperating with the companion jaw to provide an open throat to receive the pin, the first mentioned bent portion lying adjacent the upper part of said inclined jaw and partly closing said throat.

974,149. PRUNING IMPLEMENT. JOHN B. HOWARD, St. John, Kans. Filed Oct. 16, 1909. Serial No. 523,047.

1. A pruning implement comprising a handle member and a hook member in sliding engagement therewith, a knife operatively pivoted upon said hook member, a sleeve slidably mounted upon said handle member, an operating connection between said sleeve and knife, and a spring operatively connected between said sleeve and hook member and arranged to be stretched by the outward movement of said hook member in a cutting operation or by the rearward movement of said sleeve to operate said knife.



2. A pruning implement comprising a handle member and a hook member in sliding engagement therewith, a knife operatively pivoted upon said hook member, a sleeve slidably mounted upon said handle member, an operating handle for said sleeve, a forward stop for said sleeve upon said handle member, an operating connection between said sleeve and knife, and a spring connected between said sleeve and hook member so as to be stretched by the outward movement of said hook member or by the rearward movement of said sleeve from said stop.

3. A pruning implement comprising a handle member, a hook member formed with a hook and having a shank in sliding connection with said handle member, a knife pivoted to said hook member adjacent said hook, an operating member slidably mounted on said handle member, an operating rod connected to said knife and said operating member, and a tension spring operatively connected between said operating member and hook member so as to be stretched by the outward movement of said hook member or by the rearward movement of said operating member.

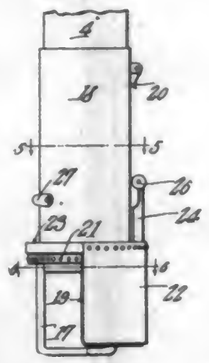
4. A handle member for pruning implements comprising an open ended sheet metal hollow body portion formed at one side of the open end with a connecting lug bent around and secured to the body portion, and on the other side with a lug underlying said connecting lug and having ends bent outwardly and over said connecting lug.

5. A pruning implement comprising an open ended sheet metal hollow handle member formed at one side of the open end with a connecting lug bent around and secured to the handle member, and on the other side with a lug lying adjacent said connecting lug and having its ends bent over the edges thereof, a hook member having a shank extending within said handle member and in sliding engagement therewith, and a knife operatively mounted upon said hook member.

974,150. HYDRAULIC DREDGE. WILLIAM F. HUNTER, Arcata, Cal., assignor of one-half to Thomas Bair, Arcata, Cal. Filed Mar. 12, 1910. Serial No. 548,834.

1. The combination with a suction pipe having a cage on its inlet end, of a mouth piece for said pipe having a portion partly covering the side of the cage to provide a side intake opening, said mouth piece being rotatably mounted on a suction pipe, and a gate carried by the mouth piece for controlling the aforesaid intake opening.

2. The combination with a suction pipe having a cage on its inlet end, of a mouth piece for said pipe having a portion partly covering the side of the cage to provide a side intake opening, and a gate carried by the mouth piece for controlling said intake opening, the mouth piece being rotatable and slidably mounted on the suction pipe.



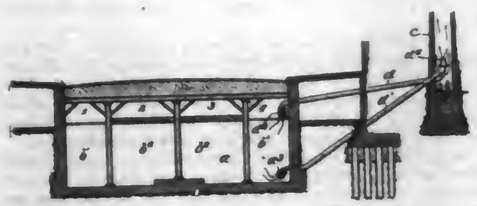
3. The combination with a suction pipe, of a mouth piece rotatably mounted thereon, said mouth piece having a side intake opening, and a gate carried by the mouth piece and adjustable over said intake opening.

4. The combination with a suction pipe, of a mouth piece slidably mounted thereon, and having a side intake opening, and a gate carried by said mouth piece for controlling said opening.

5. The combination with a suction pipe, of a mouth piece mounted thereon, and having a side intake opening, a gate carried by the mouth piece, and adjustable over said opening, handles on the mouth piece and on the gate, said handles coming together and serving as stops for one position of the gate, and a lug on the mouth piece engageable by one of the handles to determine the other position of the gate.

[Claims 6 to 8 not printed in the Gazette.]

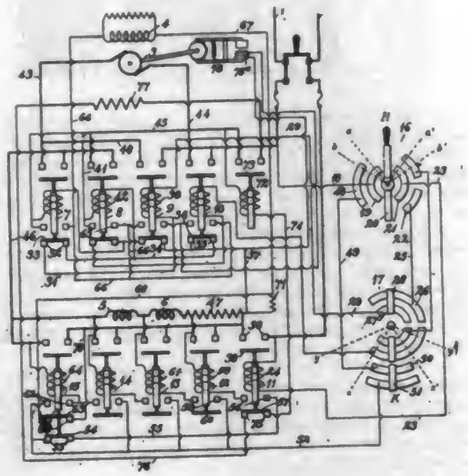
974,151. SUBWAY-VENTILATOR. GEORGE W. JACKSON, Chicago, Ill. Filed Apr. 30, 1906. Serial No. 314,437.



1. In combination, an underground subway, a chimney at one side and a little above the same, said chimney having a provision in the bottom thereof for a fire, an upwardly directed nozzle within the chimney above said fire, two conduits connected to discharge through said nozzle, one of said conduits leading from a point near the bottom of the subway and the other conduit leading from a point near the top of the subway, and respective valves on said conduits at the points where they terminate within the subway.

2. In combination, an underground subway, a chimney at one side and a little above the same, said chimney having a provision in the bottom thereof for a fire, an upwardly directed nozzle within the chimney above said fire, two conduits connected to discharge through said nozzle, one of said conduits leading from a point near the bottom of the subway and the other conduit leading from a point near the top of the subway, both of said conduits opening into the subway by downwardly directed openings, and respective valves on said conduits at the points where they terminate within the subway.

974,152. ELECTRIC-MOTOR CONTROL. HENRY D. JAMES, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Mar. 4, 1907. Serial No. 360,512.



1. In a control system for electric motors, the combination with a series of independently operated switches, actuating magnet windings for each switch, and means for so energizing the windings as to close the switches in a predetermined order, of means for causing the switches to automatically open in the order in which they are closed.

2. In a system of electric motor control, the combination with a series of electrically governed switches that are adapted to close in a predetermined sequence, and independent means for operating each switch, of means for automatically opening the switches in the same sequence.

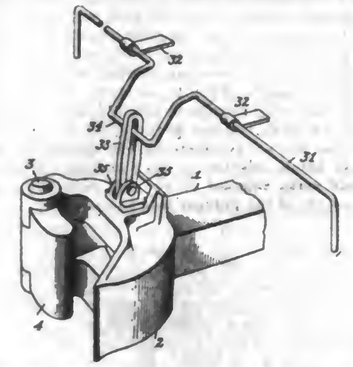
3. In a system of electric motor control, the combination with a plurality of electrically governed accelerating switches, a control switch that bridges the accelerating switches, and means for closing the switches in a predetermined order, of means, dependent upon the closure of the control switch, for automatically opening the remaining switches in the order in which they were closed.

4. In a control system, the combination with a motor having armature and field magnet windings, automatic accelerating switches therefor, a control switch adapted to bridge the accelerating switches, means for closing the accelerating switches in a predetermined order, and means, dependent upon the closure of the accelerating switches, for closing the control switch, of means, dependent upon the closure of the control switch, for automatically opening the accelerating switches in the order in which they were closed.

5. In a system of control, the combination with an electric motor, an accelerating resistance therefor, a field magnet, a resistance therefor, a series of independently operated switches for cutting out the accelerating resistance, a control switch for bringing the accelerating switches and for inserting the field resistance, of means, dependent upon the closure of the control switch, for automatically opening the accelerating switches in a predetermined order.

[Claims 6 to 10 not printed in the Gazette.]

974,153. CAR-COUPLING. ELI H. JANNEY, Fairfax county, Va. Filed Mar. 21, 1907. Serial No. 363,685.



1. In a car coupling, the combination with the draw-head, a coupling hook pivoted therein, a vertically movable locking and coupling hook opening pin for said coupling hook, and a lock-set for said locking pin, of coöperating means in said draw-head and on said locking pin for causing said locking pin to engage and be supported by said lock-set under any opening movement of said coupling hook.

2. In a car coupling, the combination with the draw-head, a coupling hook pivoted therein, a vertically movable locking pin for said coupling hook, and a lock-set for said locking pin, of coöperating means in the side of said draw-head and on said locking pin for causing said locking pin to engage and be supported by said lock-set under any opening movement of said coupling hook.

3. In a car coupling, the combination with the draw-head, a coupling hook pivoted therein, a vertically movable locking pin for said coupling hook, and a lock-set in said draw-head for said locking pin, of an incline in the side of said draw-head, and a projection on said locking pin, coöperating, when said locking pin is lifted during any opening movement of the coupling hook, to cause said locking pin, when released, to engage and be supported by said lock-set.

4. In a car coupling, the combination with the draw-head, a coupling hook pivoted therein, a vertically movable locking pin for said coupling hook, and a lock-set in said draw-head for said locking pin, of a double incline lying in a recess in said draw-head, and a projection on said locking pin, the whole coöperating, when said locking pin is lifted during any opening movement of said coupling hook, to cause said locking pin, when released, to engage and be supported by said lock-set.

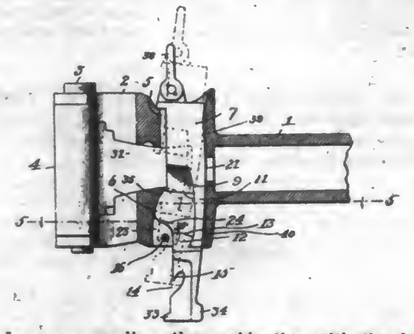
5. In a car coupling, the combination with the draw-head, a coupling hook pivoted therein, a vertically movable locking pin for said coupling hook adapted when raised to its upward limit of movement to force said coupling hook to the open position, a lock-set for said locking pin, and means for causing said locking pin to move toward and engage said lock-set after forcing said coupling hook open.

[Claims 6 to 8 not printed in the Gazette.]

974,154. CAR-COUPLING. ELI H. JANNEY, Fairfax county, Va. Filed June 18, 1906, Serial No. 322,331. Renewed Nov. 24, 1908. Serial No. 464,286.

1. In a car coupling, the combination with the draw-head, a coupling hook pivoted therein, and a vertically moving locking and coupling hook opening pin for said coupling hook adapted to be automatically lifted by said coupling hook during the movement of the latter to the closed position, of coöperating means in the side of said draw-head and locking pin for imparting to the latter an initial upward movement when contacted with by said coupling hook.

2. In a car coupling, the combination with the draw-head, a coupling hook pivoted therein, and a vertically moving and coupling hook opening pin for said coupling hook adapted to be automatically lifted by said coupling hook during the movement of the latter to the closed position, of coöperating inclines in the side of said draw-head and locking pin for imparting to the latter an initial upward movement when contacted with by said coupling hook.



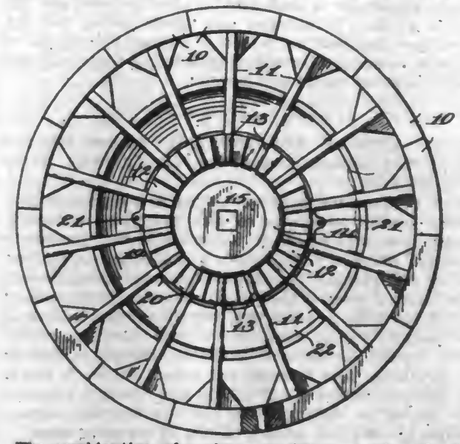
3. In a car coupling, the combination with the draw-head, a coupling hook pivoted therein, a vertically movable locking pin for said coupling hook, and means on said locking pin and coupling hook for rotating the latter to the open position when the former is raised into contact therewith, of coöperating means on said coupling hook and draw-head for facilitating the rotation of said coupling hook to the open position.

4. In a car coupling, the combination with the draw-head, a coupling hook pivoted therein, a vertically movable locking pin for said coupling hook, and means on said locking pin and coupling hook for rotating the latter to the open position when the former is raised into contact therewith, of coöperating inclines on said coupling hook and draw-head for facilitating the rotation of said coupling hook to the open position.

5. In a car coupling, the combination with the draw-head, a coupling hook pivoted therein, a vertically movable locking pin for said coupling hook, and means on said locking pin and coupling hook for rotating the latter to the open position when the former is raised into contact therewith, of coöperating means on said locking pin and draw-head for causing said locking pin to move bodily laterally in the direction of rotation of said coupling hook as it is forced open by the lifting of said locking pin.

[Claims 6 to 9 not printed in the Gazette.]

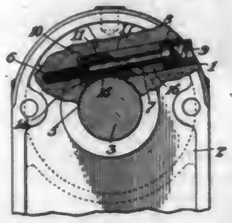
974,155. SPRING-WHEEL. EDSON W. JENKINS, Alfred Station, N. Y., assignor of one-half to Charles M. Hayes, Hornell, N. Y. Filed June 6, 1910. Serial No. 565,243.



The combination of a rim comprising a series of relatively movable sections, of spokes carried by said sections,

having squared enlargements at their inner ends provided with ribs upon opposite faces, a hub having elastic means around its periphery to receive the inner ends of said spokes, hub plates disposed upon opposite sides of said hub and having radial grooves upon their inner surfaces to receive said spoke ribs, and provided with abutting, peripheral side flanges beyond the spoke enlargements, having coincident recesses forming openings through which the spokes project, and means to connect said hub plates together.

974,156. FRICTIONAL LOCKING DEVICE. JOHN G. JONES, Rochester, N. Y., assignor to M. D. Knowlton Company, Rochester, N. Y., a Corporation of New York. Filed July 19, 1906. Serial No. 326,839.



1. The combination with two parts between which locking connection is to be effected, of a locking device comprising a plurality of sleeves in contact at their ends one of which sleeves is adapted to be moved laterally under endwise pressure of an adjacent sleeve and forced against one of said parts, and the remainder against the other part to lock said parts from individual movement, the co-acting faces of said sleeves being inclined in the same direction, and a compression bolt passing freely through openings in said sleeves, the opening in said movable sleeve being larger than the bolt to permit lateral movement of said sleeve.

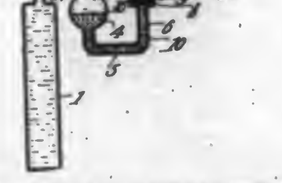
2. The combination with two parts between which locking connection is to be effected, one of said parts being provided with two openings in communication with each other, and the other part seated in one of said openings, of a locking device located wholly within the other opening and comprising a compression bolt, and a plurality of sleeves mounted on said bolt and having co-acting inclined faces, one of said sleeves having an opening larger than said bolt and movable laterally under endwise compression of the bolt to lock said two parts together.

3. The combination with two parts between which locking connection is to be effected, of a locking device comprising a headed compression bolt threaded into one of said parts for endwise adjustment, and a plurality of sleeves loosely supported on said bolt between its head and the part in which it is threaded, said sleeves having their adjacent ends inclined in the same direction to cause one of the same under endwise compression to move laterally into position against one of said parts.

974,157. THERMO-ELECTROSTAT. ROSCOE WILLIAM KING, Las Animas, Colo. Filed June 11, 1909. Serial No. 501,638.

1. A thermo-electrostat comprising a container, a fluid therein readily responsive to heat variations, a conduit leading from said container, a plunger in said conduit in operative relation to said fluid, a conducting cross head fast on said plunger, two electric contacts carried by said cross head, a block of insulating material on the end of the conduit having the plunger therein and in the path of the contacts on the cross head on the movement of the latter toward the conduit, a circuit terminal carried by the insulating block in make and break relation to one of the contacts, and a mechanically non-resisting terminal also carried by the insulating block in constant electric relation to the other contact carried by the cross head.

2. A thermo-electrostat comprising a container, a fluid therein readily responsive to heat variations, a conduit leading from said container and including an expansion chamber, a plunger movable in the outer end of the conduit in operative relation to said fluid and provided with a conducting cross head, an insulating block carried by the outer end of the conduit and provided with circuit terminals, and electric contacts carried by the cross head, one of said contacts being in constant electrical relation to one of the circuit terminals and the other contact being in make and break relation to the other of the circuit terminals, the circuit terminal on the insulating block in make and break relation to the co-acting contact on the cross head being engaged by the said co-acting contact on the movement of the plunger into the conduit.



3. A thermo-electrostat comprising a container, a fluid therein readily responsive to heat variations, a conduit leading from said container and including an expansion chamber, mercury in the outer end of the conduit and in the expansion chamber, a plunger in the outer end of the conduit and engaged by the mercury, a conducting cross head carried by the plunger, an insulating block carried by the outer end of the conduit in adjustable relation thereto, a contact terminal carried by the block on one side of the conduit, a mercury cup carried by the block on the other side of the conduit, and electric contacts carried by the cross head, one in constant relation to the mercury cup and the other in make and break relation to the contact terminal carried by the block, the plunger moving into the conduit to bring the contact and terminals into electrical engagement.

974,158. LIFE-PRESERVER. ANTON H. KLINT, San Francisco, Cal., assignor of one-half to Simeon Bishop, San Francisco, Cal. Filed Oct. 29, 1909. Serial No. 525,306.



1. A life preserver including a jacket having sleeves and arranged to open down the front, front and rear arm strips surrounding the sleeves of the garment and secured to the front and rear portions thereof, said strips being spaced from the sleeves to form circumferential air compartments.

2. A life preserver including a jacket having sleeves, and arranged to open down the front, front and rear arm strips surrounding the sleeves, and secured to the front and rear portions of the waist thereof, said arm strips forming intermediate circumferential air compartments, and means for admitting air into said compartments.

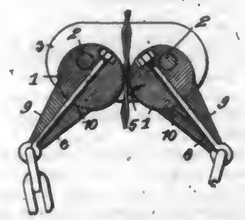
3. A life preserver including a jacket having sleeves, front and rear arm strips secured to the sleeves and front and rear portions of the waist of the garment respectively, and defining circumferential air compartments, and tubes depending from the garment and communicating with the interior of said compartments.

4. A life preserver including a jacket having sleeves, front and rear arm strips secured to the sleeves and front and rear portions of the waist of the garment respectively, and forming independent circumferential air compartments, tubes depending from the front of the garment and communicating with the interior of the air compartments, and a belt encircling the jacket at the waist line thereof.

5. A life preserver including a jacket having sleeves and arranged to open down the front, front arm strips secured to the front of the garment and to the wrist bands of the sleeves respectively, rear arm strips secured to the front arm strips and having their inner ends overlapped and secured to the rear portion of the waist or jacket, said front and rear arm strips forming circumferential air compartments, and means for admitting air to the interior of said compartments.

[Claim 6 not printed in the Gazette.]

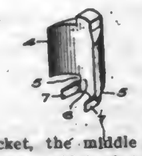
974,159. WOVEN-WIRE-FENCING GRIP. ARTHUR KNODLE, Leaf River, Ill. Filed Apr. 16, 1910. Serial No. 555,792.



1. A wire fence gripping device comprising a pair of end plates, a pair of gripping rollers disposed between and having their ends bearing against the opposing sides of said end plates, rods extending eccentrically through said gripping rollers and also through and having their bearings in said end plates, a pair of intermeshing gears secured on one end of said rods for rotation therewith and bearing against the outer side of one of said end plates, sleeves projecting radially from said gripping rollers, bolts extending diametrically through said rollers and longitudinally through said sleeves, said bolts having eyes at their outer ends, and bearing on the outer ends of said sleeves, said bolts securing said sleeves to the said gripping rollers and co-acting therewith to form arms for said rollers, and chains, for the purpose set forth, attached to the eyes of said bolts.

2. In a wire fencing gripping device of the class described, a gripping roller, an eye-bolt extending diametrically therethrough and a sleeve on one side of the gripping roller and through which the said eye-bolt extends, said eye-bolt securing said bracing sleeve to the said gripping roller and coacting therewith to form an operating arm for said roller.

974,160. TURBINE-BUCKET. ALFRED H. KUDLICH, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Aug. 15, 1907. Serial No. 388,639.



1. A turbine bucket, the middle portion of which is thicker than its edges, said bucket having its base provided with a neck of less width than the bucket and of the same thickness as the adjoining portion of the body of the bucket, and horns extending from the base in a direction transverse to a line joining the outer edges of the bucket.

2. A curved turbine bucket the middle portion of which is thicker than its edges, said bucket having its base formed from a neck projecting from its middle portion and horns on the outer end of the neck extending in a forward and backward direction beyond the body of the bucket.

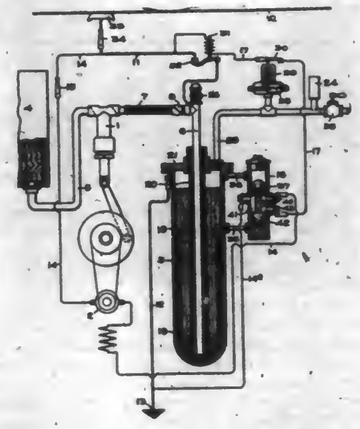
3. A curved turbine bucket the middle portion of which is thicker than its edges, said bucket having its base provided with a neck projecting from said middle portion that is of less width than the bucket and horns extending from the outer end of the neck on the concave side of the bucket with their outer faces parallel.

4. The combination with a turbine wheel having an undercut groove, of a turbine bucket having forwardly extending horns whose outer sides are parallel and whose upper edges fit under the over-hanging portion of said groove.

5. The combination with a turbine wheel having an undercut groove, of a bucket provided with holding members which extend along said groove beyond the plane of said bucket and engage the walls of the groove.

[Claims 6 to 13 not printed in the Gazette.]

974,161. HEATING SYSTEM. HERMANN-LEMP, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed May 10, 1910. Serial No. 560,497.



1. In combination, a vessel containing a liquid to be heated that is a relatively poor conductor of electricity and also a body of fluid that is a good conductor thereof, means for conveying a current of electricity to said body of fluid, and means for receiving said current after it has passed through said body and also the liquid.

2. In combination, a vessel containing a liquid to be heated and also a body of mercury, means for conveying a current of electricity to the mercury, and means for receiving said current after it has passed through the mercury and also through the liquid.

3. In combination, a vessel containing a liquid to be heated and also a body of fluid that is a good conductor of electricity, means for conveying liquid to the vessel and vapor or liquid therefrom, a conductor for supplying current to the body of fluid, and a conductor receiving said current after it has passed through the body of fluid and the liquid.

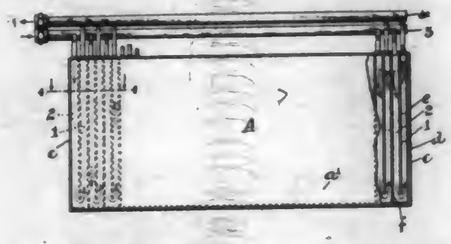
4. In combination, a vessel containing a liquid to be heated and also a body of fluid whose specific gravity is greater than that of the liquid, a means for supplying liquid to the vessel under pressure, a conduit for con-

veying vapor or heated liquid from the vessel, a conductor that supplies current to said body of fluid, a conductor receiving the current after it passes through the body of fluid and the liquid, a device for controlling the supply of liquid to the vessel, and a means for regulating the supply of current through the conductors.

5. In combination, a vessel containing a liquid to be heated and also a body of mercury, conduits conveying liquid to the vessel and liquid or vapor therefrom, a pump that is normally in operation to continuously supply liquid to the vessel, a regulator for the motor that is sensitive to change in level of the liquid in the vessel, conductors for conveying current to the vessel and receiving it after it has passed through the mercury and the liquid, and a regulator for controlling the passage of current which is sensitive to a condition of the liquid being heated.

[Claims 6 to 14 not printed in the Gazette.]

974,162. APPARATUS FOR THE MANUFACTURE OF PLATE-ICE. WILLIAM H. LLEWELLYN and ARTHUR G. OLNEY, New York, N. Y. Filed July 18, 1907. Serial No. 384,317.



1. A thin plane-faced freezing-plate for making plate ice, comprising front and rear walls and vertical partitions forming a plurality of independent pairs of connected vertical refrigerant circulating channels whose front and rear walls form parts of the front and rear surfaces of the plate.

2. A thin plane-faced freezing-plate for making plate-ice, comprising front and rear plates and intervening partitions dividing the interior space of the plate transversely into independent pairs of connected vertical refrigerant channels.

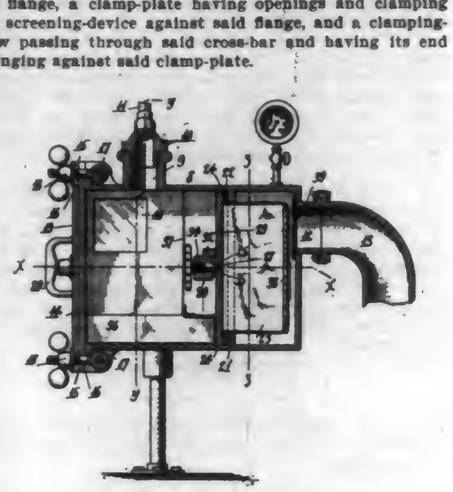
3. A thin plane-faced freezing plate for making plate-ice, comprising front and rear walls and vertical partitions forming a plurality of independent pairs of connected vertical refrigerating channels whose front and rear walls form parts of the front and rear surfaces of the plate and means for introducing a fluid refrigerant at the top of one channel of each pair and withdrawing it from the top of the other channel of each pair.

4. A freezing member comprising front and rear walls, end walls and a vertical transverse division wall forming connected refrigerant circulation channels down one and up the other of which a fluid refrigerant may be circulated.

974,163. DUST-SEPARATING TANK. BART LOBER, Buffalo, N. Y. Filed Apr. 1, 1900. Serial No. 487,278.

1. The combination of a casing having an inlet, an outlet, and a bearing-flange between said inlet and outlet, a gasket held against said bearing-flange, a foraminous sack having its outer marginal portion bearing against said gasket, a clamping-element bearing against the outer marginal portion of said sack, a cross-bar having bearing against opposite walls, and a clamping-screw passing through said cross-bar and acting against said clamping-element.

2. The combination of a casing having an inlet, an outlet, and an internal continuous flange located between said inlet and outlet, said casing having also a pocket in one of its walls adjacent said flange and an inwardly projecting ear on the opposite wall, a cross-bar having one end entered in said pocket and its other end bearing against the rear face of said ear, a screening-device held against said flange, a clamp-plate having openings and clamping said screening-device against said flange, and a clamping-screw passing through said cross-bar and having its end impinging against said clamp-plate.



3. The combination of a casing having an inlet and an outlet, a removable receptacle in the bottom of said casing having a screen hinged thereto and adapted to be normally positioned between said inlet and outlet and a screening-sack between said outlet and said screen with its open end facing said screen.

4. The combination of a casing having an inlet and an outlet, a screen closing the inner end of said outlet, a screening-device in that portion of the casing adjacent said outlet, a removable receptacle in the bottom of said casing, and an upright screening-device of coarser mesh than the first-mentioned screening-device hinged to said receptacle and located between said first-mentioned screening-device and said inlet and so arranged that the dust and dirt extracted thereby from the air will drop into said receptacle.

5. The combination of a casing having a removable closure at its front end, an inlet in its top wall and an outlet in its rear end, a screening-device in the rear portion of said casing of comparatively fine mesh, a dirt receptacle in the front portion of said casing and removable through the front end thereof, and a screen hinged to said receptacle and normally in a vertical position, said screen being of comparatively coarse mesh and located between said first mentioned screening-device and said inlet.

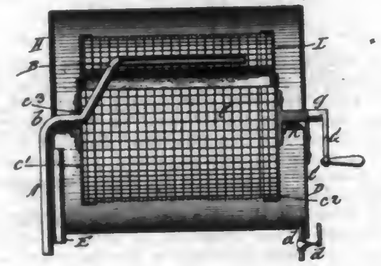
974,164. TYPE-WRITER. JOHN BAPTIST MARTIN, Hahnville, La. Filed Aug. 1, 1910. Serial No. 574,787.



1. In a typewriter, an electric motor for returning the typewriter carriage to the initial position, and two contact members includable in circuit with the motor, one contact member being adjustable to and from the other, and the other contact member being movable by the carriage into and out of engagement with the first named contact and provided with adjustable means for determining the time of actuation of said movable contact by the carriage.

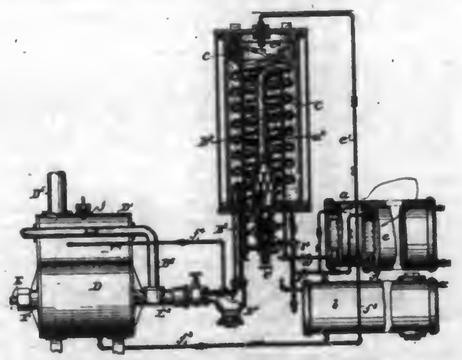
2. In a typewriter, an electric motor for returning the typewriter carriage to the initial position, and two contact rods includable in circuit with the motor, said rods being in alinement one with the other and one of said rods being provided with a series of spaced perforations with removable pins adapted thereto, and an actuating member on the carriage of the typewriter adapted to engage either of the pins to move the rod into or out of engagement with the other rod.

974,165. VEGETABLE-WASHER. SAVERIO A. MASCIA, New York, N. Y. Filed Aug. 9, 1909. Serial No. 512,032.



In a device of the character described, the combination with the semi-cylindrical tank and cover, of the spray stand pipe supported axially in the tank and projecting upward above the axial line of same, the perforate cylindrical cage formed with a central annular bearing in one end disk adapted to fit and pass over the spray stand pipe and with a journal and crank attached to the other end disk the journal being adapted to rest on a bearing formed for its reception on that end of the tank, said end disks, a water supply pipe, an overflowing pipe and a discharge pipe connected with the tank, the whole arranged and operating substantially in the manner and for the purpose described.

974,166. APPARATUS FOR PRODUCING MOTIVE POWER. HUDSON MAXIM, New York, N. Y. Filed Apr. 11, 1896. Serial No. 587,100.



1. The combination with a boiler and its furnace, of a water-tank communicating with the boiler, an oil tank communicating with the furnace and a gas generator delivering gas under pressure to both tanks, for the purpose set forth.

2. The combination with a boiler and its furnace, of an oil tank, an evaporating coil within the boiler, and communicating with said tank and with the furnace and gas generator delivering gas under pressure to said tank for the purpose set forth.

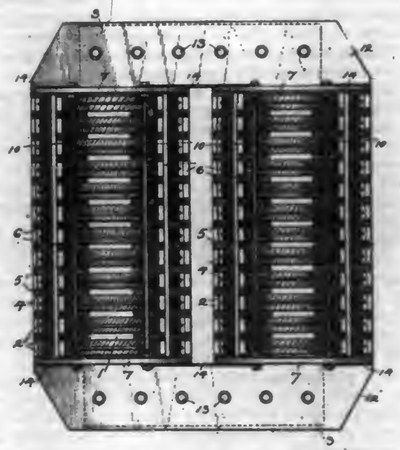
3. The combination with a boiler and its furnace, of an oil tank, an evaporating coil within the boiler and communicating with said tank and with the furnace, a coil leading from the furnace through the boiler and onward and a gas generator delivering gas under pressure to said tank, for the purpose set forth.

4. The combination with a boiler and its furnace, of an oil tank, an evaporating coil within the boiler and communicating with said tank and with the furnace, an acetylene pressure supply leading to said tank and a connection between said supply and the furnace, as set forth.

5. The combination of a water boiler, a combustion chamber projecting within said boiler, an oil tank connected with the combustion chamber, and a water tank connected with the boiler, a source of gaseous fuel under pressure and connections between the source of gaseous fuel and the water tank, the oil tank and the combustion chamber.

[Claims 6 to 12 not printed in the Gazette.]

974,167. TRANSFORMER. MAX MAYER, Pankow, Germany, assignor to General Electric Company, a Corporation of New York. Filed May 3, 1909. Serial No. 493,533.



1. The combination in a transformer, of a core having legs and end-members, coils surrounding the core legs, blocks of insulating material between and extending beyond the edges of adjacent coils, rods extending across the edges of the coils holding the ends of the blocks, end-plates surrounding the core legs adjacent to the end-coils and plates fastened to the end members of the core preventing movement of the end-plates.

2. The combination in a core-type transformer having a plurality of legs, of coils surrounding the legs, substantially oblong blocks of insulating material between adjacent coils extending beyond the edges of the coils having holes in their outer ends, rods of insulating material passing through the holes across the edges of the coils on the core-legs, end-plates adjacent to the end-coils, bolts fastening the end-plates on the same leg together, and plates fastened to the end-core members extending beyond the core legs holding together the end-plates.

3. In combination, a plurality of coils, an insulator therefor consisting of a plurality of insulating blocks between and extending beyond the edges of adjacent coils and insulating members extending across the edges of the coils holding the ends of the blocks.

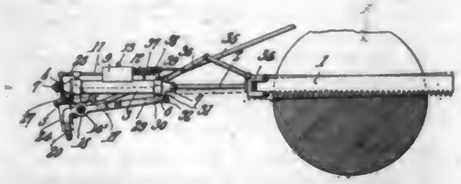
4. In combination, a plurality of coils, an insulator therefor comprising blocks formed of layers of insula

material between and extending beyond the edges of adjacent coils, and insulating members extending across the edges of the coils holding the ends of the blocks.

5. In combination, a plurality of coils insulated from each other by a plurality of substantially oblong blocks placed between adjacent coils separated by spaces from each other with ends having holes therein extending beyond the edges of the coils, and insulating members passing through the holes extending across the edges of the coils.

[Claims 6 and 7 not printed in the Gazette.]

974,168. DRAG-SAW MACHINE. FRANK ALBERT MCKEE and FRANCIS R. HOREL, Arcata, Cal. Filed Jan. 25, 1910. Serial No. 540,006.



1. In a sawing machine, a reciprocating member, a saw attached thereto, a carrier for the reciprocating member, a pivot support for that end of the carrier toward the saw, said pivot support being movable transversely to the movement of the carrier on the support, and power means for rocking the carrier together with the reciprocating member and saw on the pivot support.

2. In a sawing machine, a fluid pressure reciprocatory power member, a saw attached thereto, a carrier for the reciprocatory member, a pivot support for the end of the carrier toward the saw and movable transversely to the movement of the carrier on its pivot and means responsive to fluid pressure for rocking the carrier together with the reciprocatory member and the saw on the pivot support.

3. In a sawing machine, a reciprocatory member, a saw attached thereto, a carrier for the reciprocatory member, a pivot support for the end of the carrier toward the saw and movable transversely to the movement of the carrier on its pivot, a power means for rocking the carrier together with the reciprocating member and saw on the pivot support, and means for rendering the rocking means for the carrier active or inactive at will.

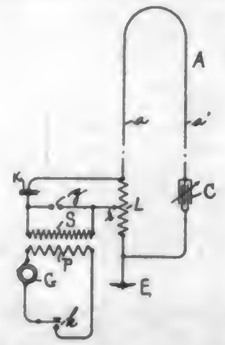
4. In a sawing machine, a fluid pressure reciprocatory engine, a saw attached to the reciprocatory member of the engine, a mounting for said engine on which the latter is pivoted at the end toward the saw for movement on an axis transverse to the direction of reciprocation, the mounting also being movable transversely to the movement of the engine on its pivot, and fluid pressure means causing the rocking of the engine on its pivot at each reciprocation of the saw.

5. In a sawing machine, a reciprocatory power member, a saw attached thereto, a carrier for the reciprocatory member, a pivotal support for the carrier located at the end thereof toward the saw, a pivotal support for the first named pivot support and located with reference to the carrier at the end thereof remote from the first named pivot support, and means for rocking the carrier for the power member and saw on the first named pivot support in timed relation to the reciprocatory movements of the saw.

[Claims 6 to 8 not printed in the Gazette.]

974,169. TRANSMITTING APPARATUS. FREDERICK W. MIDGLEY, Jersey City, N. J., assignor to International Telegraph Construction Company, a Corporation of New York. Filed Feb. 1, 1906. Serial No. 298,897.

1. In a wireless signaling system, transmitting apparatus comprising the combination of an aerial conductor connected at one end to earth, means for impressing electrical energy upon said conductor, and a conductor connecting the top of said aerial conductor non-inductively to earth, and a condenser connected in said last named conductor approximate its earth end.



2. In a wireless signaling system, transmitting apparatus comprising the combination of a looped aerial conductor, means associated with one leg of said loop for impressing high frequency electrical energy thereon, a second leg of said loop non-inductively connected at its top to said first leg and non-inductively connected to earth, and a condenser connected in the second leg approximate its earth connection.

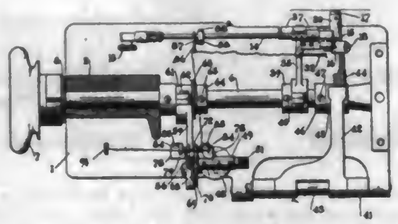
3. In a wireless signaling system, transmitting apparatus comprising the combination of a looped aerial conductor, a condenser connected in one leg of the loop approximate the lower end thereof, the loop legs non-inductively connected at their tops, and the leg containing said condenser non-inductively connected to earth, and means for impressing oscillations upon the loop associated with another leg of the loop.

4. In a wireless signaling system, transmitting apparatus comprising the combination of an aerial conductor, means for impressing oscillations upon said conductor, a condenser, a non-inductive connection at the top of said aerial conductor, said connection being non-inductive and extending to earth through said condenser.

5. In a wireless signaling system, apparatus for transmitting electrical waves of long period comprising the combination of a looped aerial conductor having its legs connected to earth, the legs being non-inductively connected together at their tops, a condenser connected in one leg of said loop approximate its earth connection, said leg including said condenser being non-inductive, and an oscillator independent of said loop impressing electrical energy upon a second leg of said loop.

[Claims 6 and 7 not printed in the Gazette.]

974,170. STITCH-FORMING MECHANISM. WILLIAM V. MILLER, Brooklyn, N. Y., assignor to The Manhattan Machine Supply Company, New York, N. Y., a Corporation of New York. Filed Dec. 26, 1903. Serial No. 186,587.



1. A stitch forming mechanism comprising a needle, looper and take-up, means for actuating the several elements, and the take-up comprising in its structure an oscillating lever and an oscillating controlling finger arranged adjacent said lever and coöperating therewith to receive the thread as it slips from the take-up.

2. A stitch forming mechanism comprising a needle, a looper and a take-up, means for actuating the same, and the take-up comprising a bifurcated lever and an oscillating controlling finger arranged adjacent said lever and coöperating therewith to receive the thread as it slips from the take-up.

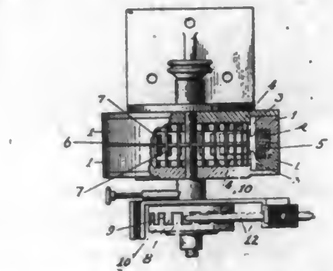
3. A stitch forming mechanism comprising a needle, a looper and a take-up means for actuating the same, and the take-up comprising a lever and a thread controlling finger arranged so that the thread may slip from one to the other and the movements of one being given at a higher speed than the other.

4. A stitch forming mechanism comprising a needle, a looper, a take-up and means for actuating the same, and the take-up comprising an oscillating lever, a pair of stationary thread-guides and an oscillating thread-controlling finger arranged adjacent said lever and coöperating therewith to receive the thread as it slips from the take-up.

5. A stitch forming mechanism comprising a needle, a looper, a take-up and means for actuating the same, and the take-up comprising an oscillating lever, a stop pin, a vibratory controlling finger coöperating with said lever, and a pair of thread-guides.

[Claims 6 to 24 not printed in the Gazette.]

974,171. RECTIFYING ELECTRIC CURRENTS. JOHN J. MONTGOMERY, Santa Clara, Cal. Filed Aug. 28, 1909. Serial No. 515,107.



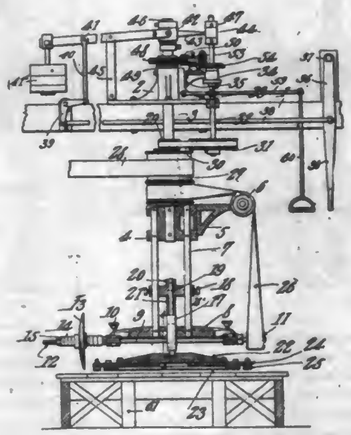
1. In the art of reorganizing alternating electric current the herein described process of rectification which consists in the following operations: (1) In imparting to the moving element through the agency of a fixed element and the utilization of a derived portion of the current under rectification, a succession of positive and negative accelerations, the resultant effect of which is a step-by-step progression of the moving element undulatory in its character, the successive undulations being in response to the successive variations of the electrical forces of the current under rectification, and in synchronism with and coterminous as regards time with, such variations, whether such variations occur in successively equal times or not; and (2) in imparting the said step-by-step progression to an element of a pole changing device having its other elements connected to the circuit carrying the current under rectification, and which said element receiving said step-by-step motion coöperates with the other elements of the pole changing device to successively reverse the order of the terminal connections of the circuit carrying the current under rectification to a utilization circuit, substantially as described.

2. The herein described process of rectifying an alternating current which consists in giving to the moving element through the agency of a fixed element a succession of positive and negative accelerations, the resultant effect of which is a step-by-step progression of the moving element in exact consonance with the variations of the current to be rectified and in imparting the step-by-step movement to an element of a pole changing device adapted to coöperate with other elements of a pole changing device so as to successively reverse terminal connections, substantially as described.

3. The herein described process of rectifying an alternating current which consists in giving to a moving element through the agency of a fixed element, a succession of positive and negative accelerations, the resultant effect of which determines a step-by-step progression of the moving element in exact consonance with the variations of the current to be rectified, and in imparting the step-by-step movement so determined, to an element of a pole changing device adapted to coöperate with other elements connected to the circuit carrying the current under rectification, to successively reverse the order of the terminal connection of the circuit carrying the current under rectification to a utilization circuit, by the step-by-step movement imparted to the element of a pole changing device substantially as described.

4. The herein described electric motor and commutator combination for reorganizing electric currents, which consists of a motor comprising a field magnet of soft iron or steel having an annular groove formed therein, a coil in said groove, the inner projections of the sides of the groove being cut through at equi-distant intervals, leaving one or more sets of inwardly projecting pole tips, the pole tips being opposite each other, those on one side of the groove, when energized, being of the same polarity, and those of the opposite side being of the opposite polarity; and a rotatable element carried on a shaft so mounted as to be concentric with the circles of the pole tips, and consisting of a wheel having soft iron or steel projections completing the magnetic circuit between the pole tips; in combination with a commutator and brushes capable of being so adjusted that their contact with the live segments of the commutator shall be broken by the rotation produced by the motor at the respective times when the waves of alternating current are at zero potential, all substantially as described.

974,172. MACHINE FOR SAWING CIRCLES. PEYTON L. MORGAN and WILLIAM M. BROCKENBROUGH, Lynchburg, Va. Filed Jan. 21, 1910. Serial No. 539,215.



1. In a sawing machine, the combination with an u
right main shaft journaled for rotation and vertic
movement in a fixed support, a saw carriage connecte
with and carrying a saw arbor at right angles to sa
shaft, a saw on the arbor, and means for rotating it;
a countershaft geared to said main shaft, means f
rotating the countershaft to turn the main shaft and ca
riage, and means for raising said shafts simultaneously.

2. In a sawing machine, the combination with an u
right main shaft journaled for rotation and vertic

movement in a fixed support, a saw carriage connected with and carrying a saw arbor at right angles to said shaft, and a saw on the arbor, of a power pulley mounted loosely on said shaft, connections between it and said arbor, a countershaft geared to the main shaft for turning the latter, connections between the countershaft and said pulley, and means for raising the shafts simultaneously.

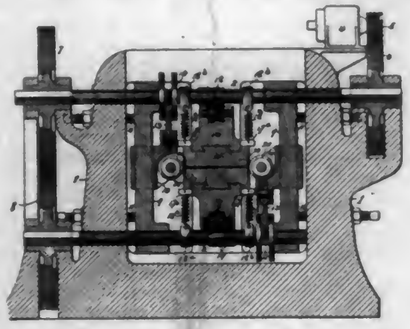
3. In a sawing machine, the combination with an upright main shaft, a saw carriage connected therewith, and a saw arbor journaled in the carriage transversely to the main shaft and carrying a circular saw; of pulleys loosely mounted on the shaft and connected with each other, means for imparting rotary motion to one of them, means connecting the second pulley with said saw arbor for rotating the latter, a countershaft geared to the main shaft for turning the latter, and a belt leading from the third of said pulleys to the countershaft.

4. In a sawing machine for cutting barrel heads and the like, the combination with an upright main shaft, a saw carriage connected therewith and standing at right angles thereto, and a saw arbor journaled in the carriage and carrying a circular saw near one extremity; of pulleys loosely mounted on the shaft and connected with each other, means for imparting rotary motion to one of them, a belt leading from a second pulley to a pulley on the opposite end of said saw arbor, a countershaft geared to the main shaft for turning the latter, and a belt leading from the third of said pulleys to the countershaft.

5. In a sawing machine, the combination of a rigid support, a vertical shaft slidably mounted therein, a saw carriage connected at right angles to the lower end of the said shaft, a saw in the carriage means for raising and lowering the said shaft, means for turning the said shaft, and means for rotating the saw.

[Claims 6 to 8 not printed in the Gazette.]

974,173. METHOD OF AND MACHINE FOR FLANGING PLATES. WILLIAM H. MORGAN, Alliance, Ohio. Filed Oct. 9, 1909. Serial No. 521,909.



1. The method of flanging an elongated article consisting in simultaneously subjecting the opposite edges of approximately the same transverse portion of the article to the action of flanging devices moving at right angles to the length of the article.

2. The method of flanging an elongated article consisting in clamping the article between dies with the two sides of the article projecting beyond the dies, and subjecting the opposite projecting edges of approximately the same transverse portion of the article to the action of flanging devices moving at right angles to the length of the article.

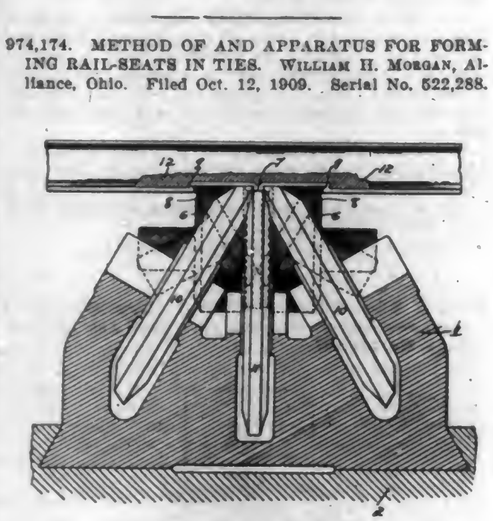
3. The method of flanging an elongated article, which consists in subjecting the opposite edges of approximately the same transverse portion of the article to a step by step flanging pressure sufficient to laterally expand said edges.

4. The method of flanging elongated articles having a web and enlarged edges, which consists in simultaneously subjecting both enlarged edges to a step by step flanging pressure, the said flanging pressure being applied simultaneously to approximately the same transverse portion of the article.

5. The method of flanging elongated articles, consisting in alternately feeding the article longitudinally and then clamping it against movement, and simultaneously subjecting both edges thereof adjacent to the clamped section, to the action of flanging tools moving laterally with respect to the article.

[Claims 6 to 14 not printed in the Gazette.]

974,174. METHOD OF AND APPARATUS FOR FORMING RAIL-SEATS IN TIES. WILLIAM H. MORGAN, Alliance, Ohio. Filed Oct. 12, 1909. Serial No. 522,288.



1. The method of forming a depressed seat in a metal shape which consists in forming a transverse groove in the top face of the shape and then applying lateral forging pressure to the side of the groove so as to form an overhanging lip.

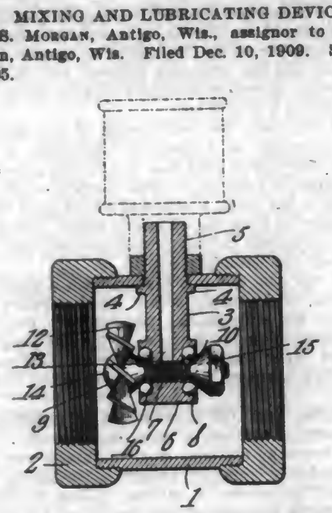
2. The method of forming a depressed seat in a metal tie, which consists in subjecting a portion of the upper surface of the tie to a pressure sufficient to form a depression transversely of the upper surface of the tie, and then applying lateral forging pressure to the sides of the groove so as to form overhanging lips.

3. The method of forming a depressed seat having a central rib, in a metal tie, which consists in subjecting a portion of the upper surface of the tie to a pressure sufficient to form the depression and rib transversely of the upper surface of the tie, and then applying lateral forging pressure to the side walls of the groove and to the opposite sides of the rib so as to form overhanging lips.

4. An apparatus for forming depressed rail-seats in ties, comprising a movable frame, a roughing roll carried thereby for forming the depression and rolls obliquely arranged with reference to the roughing roll and also carried by said frame in rear of the roughing roll, and engaging the end walls formed by the roughing roll to produce overhanging lips.

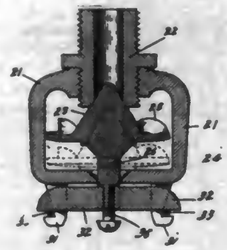
5. An apparatus for forming depressed rail-seats in ties, comprising a frame adapted to move laterally with respect to the tie, a roughing roll mounted to rotate in said frame for forming a depression and a central rib transversely throughout the surface of the tie, and two series of oppositely disposed rolls arranged obliquely with reference to the roughing roll and carried by the frame in rear of the roughing roll, one pair of diagonal rolls operating on the end wall of the depression and the other pair against the side walls of the rib, to produce overhanging lips.

974,175. MIXING AND LUBRICATING DEVICE. WILLIAM S. MORGAN, Antigo, Wis., assignor to Mary H. Morgan, Antigo, Wis. Filed Dec. 10, 1909. Serial No. 532,465.



A mixer and lubricator comprising a barrel, a nipple supported by the barrel and passing through the side of the same and having at its inner end a head provided with an aperture surrounded at its ends by ball races, a spindle extending through the aperture in the head and carrying a series of vanes and conical nuts mounted upon the shank of the spindle and bearing balls located in the ball races and bearing against the conical surfaces of said nuts.

974,176. ROTARY DISTRIBUTING-NOZZLE OR SPRINKLER-HEAD. HERMAN F. NEWMAN, Indianapolis, Ind. Filed May 16, 1908. Serial No. 433,191.

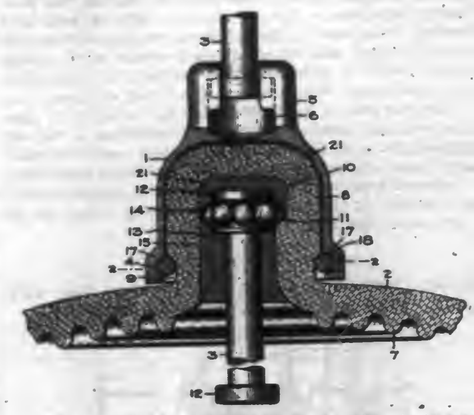


1. The combination, in a rotary distributing nozzle, of a main cage or body having open sides and provided with a valve seat above said open sides and a valve-stem-guiding perforation opposite the said valve seat, a valve positioned between said valve seat and the member containing said perforation and provided with a stem extending out through said perforation, arms extending out from the main body on opposite sides of said valve-stem-guiding perforation, a bar adapted to be carried by said arms at least one of said arms being provided with hook-like portions, and an independent support composed of fusible metal adapted to rest on the hook-like portion beneath the bar when in engaged relation thereto and thus support said bar and through it the valve-stem and valve.

2. The combination, in a sprinkler system, with an eduction pipe having a valve seat in its discharge end, of a cage or frame on said eduction pipe forming a carrier for the valve, a valve mounted therein and adapted to fit said valve seat and provided with a stem extending out therefrom in line with the discharge orifice of the eduction pipe and passing through a valve-stem-guiding perforation in the main body or cage, two pairs of hooked arms extending out from the body or cage in the vicinity of the valve-stem-guiding perforation, a supporting bar adapted to be carried by said pairs of arms, small bars of fusible metal adapted to rest on the hook-like portions of the arms beneath the bar and thus support said bar, and an adjusting screw mounted in said bar and engaging with the end of the valve-stem whereby the valve may be adjustably held to its seat.

3. The combination, in a sprinkler system, with an eduction pipe having a valve seat in its discharge end, of a cage or frame on said eduction pipe forming a carrier for the valve, a valve mounted therein and adapted to fit said valve seat and provided with a stem extending out therefrom in line with the discharge orifice of the eduction pipe and passing through a valve-stem-guiding perforation in the main body or cage, two pairs of hooked arms extending out from the body or cage in the vicinity of the valve-stem-guiding perforation, a supporting bar adapted to be carried by said pairs of arms, small bars of fusible metal adapted to rest on the hook-like portions of the arms beneath the bar and thus support said bar, and an adjusting screw mounted in said bar and engaging with the end of the valve-stem whereby the valve may be adjustably held to its seat said valve being provided with a distributing plate having spirally set wings in its upper surface whereby the valve structure will be given a rotary movement by the force of the water as it emerges from the eduction pipe.

974,177. INSULATOR FOR HIGH-TENSION TRANSMISSION SYSTEMS. JAKOB E. NOEGGERATH, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 9, 1910. Serial No. 542,862.



1. The combination with an insulator, of a strain member sustained by said insulator, and yieldable slugs for distributing the pressure imposed upon the insulator by said strain member.

2. The combination with an insulator having an internal shoulder, of a strain bolt having a head disposed in proximity to said shoulder, and anchor slugs disposed between said shoulder and the head of said bolt.

3. The combination with an insulator having a shouldered cavity, a strain bolt having a head disposed within said cavity, and anchor slugs disposed between the outside of said bolt head and the shoulder of said cavity.

4. The combination with an insulator having a cavity enlarged at its inner end to form an internal shoulder and provided with a groove in the wall of the outer portion of the cavity, of a strain bolt having a head disposed in the enlarged portion of said cavity, and anchor slugs insertible through said groove into the space between the outer surface of said bolt head and the shoulder of said cavity.

5. The combination with an insulator having a peripheral shoulder, of a supporting bell surrounding the grooved portion of the insulator and provided with an internal complementary shoulder, and an anchor wire disposed in the space between said shoulders.

[Claims 6 and 7 not printed in the Gazette.]

974,178. TIRE-FASTENING DEVICE. WILLIAM BRANCH OWEN, Price, Utah. Filed Feb. 11, 1910. Serial No. 543,398.

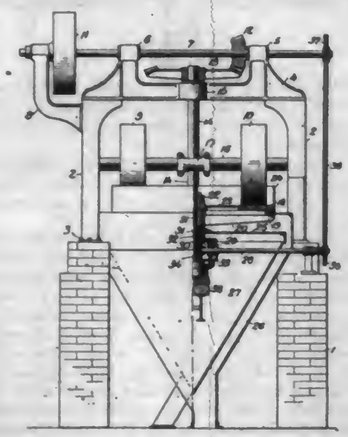


1. The combination of a wheel rim, a flexible tire, an annular clamping band within the tire and having overlapping ends, a rack upon one end of said band, a pinion rotatably mounted on the other end of said band to mesh with said rack, and a double ended dog to co-act with both the pinion and rack.

2. The combination of a wheel rim, a flexible tire, an annular clamping band within the tire and having overlapping ends, a rack upon one end of said band, a pinion rotatably mounted on the other end of said band to mesh with said rack, and a dog pivoted intermediate of its ends on the end of the band carrying said pinion and having one end co-acting with the rack, and its other end resilient and provided with a rounded extremity to co-act with said pinion.

3. The combination of a wheel rim, a flexible tire, an annular clamping band within the tire and having overlapping ends, means for drawing the ends of said band together, one of said ends of the band being formed with spaced openings and the other being formed with a longitudinal series of spaced openings adapted to be brought into registration with the first mentioned openings, said overlapping ends of the band being also formed with openings arranged between said spaced openings, a bolt arranged radially in the rim and in the last mentioned openings in the overlapped ends of the band, said bolt having a T-shaped head with prongs to enter the spaced registering openings in the band, and a tightening means on the outer end of the bolt.

974,179. DRY-PAN. RAYMOND C. PENFIELD, New York, N. Y. Filed July 13, 1909. Serial No. 507,422.



1. In a dry pan, the combination of a grinding member, a screening member, the latter being concentric with and inside of the grinding member, means for supporting and jointly rotating the said members, and an independently rotating secondary screening device below the first screen.

2. In a dry pan, the combination of grinding mechanism, mullers arranged to operate in connection therewith, a screening member, means for jointly supporting the grinding member and the screening member, and an independently rotating secondary screening element below the first one and having a finer mesh.

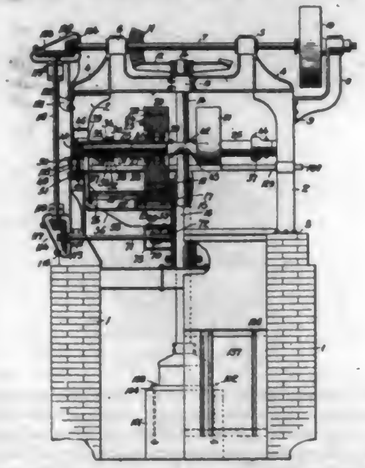
3. In a dry pan, the combination of a grinding base, mullers operating in connection therewith, a primary screen concentric with said base and having a coarse mesh, an independently rotating secondary screen below the first and having a fine mesh, a screened clay hopper for receiving the material from the secondary screen, and a tailings hopper for receiving the unscreened material that does not pass through the secondary screen.

4. In a dry pan, the combination with a grinding base and mullers, of a primary screen which receives the material from the mullers, an independently rotating secondary screen below the first screen for screening the material more finely than the first screen, and receptacles for receiving screened material of different degrees of fineness.

5. In a dry pan, the combination of grinding plates, mullers working thereon, a screening element concentric with and receiving material from the plates and mullers, an independently rotating secondary screening element below the first screen, a tailings hopper receiving the coarse material thrown off the secondary screen, and a screened clay hopper for receiving the fine material which passes through the secondary screen.

[Claim 6 not printed in the Gazette.]

974,180. DRY-PAN. RAYMOND C. PENFIELD, New York, N. Y. Filed July 13, 1909. Serial No. 507,423.



1. In a dry pan, the combination of a grinding element, a screening element, said elements being concentric with each other and both situated in substantially the same horizontal plane and forming the bottom of the pan and moving at different speeds.

2. In a dry pan, the combination of a grinding element consisting of a rotary surface, a screening element, said elements being concentric with each other in substantially the same plane and forming the bottom surface of the pan, means for driving the grinding element, and means for indedendently driving the screening element, so that the relative speed of the two elements may be regulated.

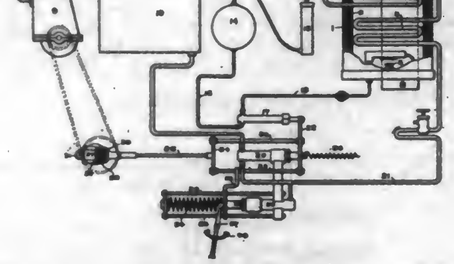
3. In a dry pan, the combination of a grinding element consisting of a rotary surface, a screening element also consisting of a rotary surface, both situated in substantially the same plane and concentric with each other to form the bottom surface of the pan, a rim encircling the pan, and means for causing the grinding and screening elements to move independently of each other.

4. In a dry pan, the combination of a grinding means consisting of a rotary plate, mullers arranged in association therewith, a screening means also consisting of a rotary element, said grinding and screening means being located concentric with each other in substantially the same plane and forming the bottom surface of the pan, and means for actuating the screening and grinding means independently of each other.

5. In a dry pan, the combination of a grinding element, a screening element, said grinding and screening elements being located concentric with each other in substantially the same horizontal plane and forming the bottom surface of the pan, and said grinding element rotating more rapidly than the screening element so that the screening may be more effectually accomplished.

[Claims 6 to 15 not printed in the Gazette.]

974,181. REGULATOR FOR STEAM-GENERATING APPARATUS. OTTO F. PRASSON, Lynn, Mass., assignor by mesne assignments, to General Electric Company, a Corporation of New York. Filed Dec. 5, 1902. Serial No. 133,967.



1. The combination with a boiler, of a liquid fuel burner, water and fuel pumps for supplying water to the boiler and fuel to the burner, means for simultaneously actuating the pumps, an adjustable back-stop for the pump pistons, and an automatic pressure regulator for adjusting the position of the stop.

2. The combination with a boiler, of a liquid fuel burner, water and fuel pumps for supplying water to the boiler and fuel to the burner, means for imparting simultaneous movements to the pumps, a driving connection for said means including a lost-motion connection, an adjustable stop for the pumps, and a device acted upon by the boiler pressure for adjusting the stop.

3. In combination, a boiler comprising a vaporizer and super-heating coils, a burner, water and fuel pumps, means for varying the effective deliveries of the pumps, a regulating device comprising a piston and cylinder located in the water supply connection between the pump and boiler, the movable element thereof being adapted to actuate said means in accordance with variations of the pressure at the water end of the boiler, and a manually controlled lever for rendering the said movable element wholly or partially idle.

4. In combination, a boiler having a vaporizing and a superheating coil, a fire chamber, pumps for supplying liquid to the boiler and fuel to the fire chamber, a driving mechanism which tends at all times to impart a maximum stroke to the pumps, a stop interposed in the path of said driving mechanism which automatically varies the effective strokes of the pumps in accordance with the demand for superheated vapor and in substantially the same degree, and a manually-actuated device for modifying the action of said stop.

5. The combination with a boiler and liquid fuel burner for the same, of water and fuel pumps, a variable stroke mechanism for actuating the pumps simultaneously, a pressure device acted upon by the water pressure between the pump and boiler and adapted to automatically vary the stroke of said mechanism in accordance with the variation of the water pressure, and a manually controlled means for regulating the operation of the pressure device.

[Claims 6 to 19 not printed in the Gazette.]

974,182. PROCESS FOR OBTAINING OLEFIN OR SATURATED ACIDS. ISAAC KING PHELPS, New Haven, Conn. Filed June 1, 1908. Serial No. 436,179.

1. The process of reducing alcoholic and ketonic acids to substances containing a smaller number of atoms of oxygen by reacting on the initial material with hydriodic acid in the presence of a substantially anhydrous organic solvent.

2. The process of reducing alcoholic and ketonic acids to substances containing a smaller number of atoms of oxygen by reacting on the initial material with hydriodic acid in the presence of a substantially anhydrous organic solvent, and in the presence of a catalytic agent.

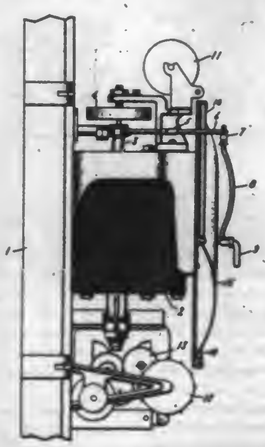
3. The process of reducing alcoholic and ketonic acids to substances containing a smaller number of atoms of oxygen by reacting on the initial material with a mixture of phosphorus and iodin in the presence of a substantially anhydrous organic solvent.

4. The process of reducing alcoholic and ketonic acids to substances containing a smaller number of atoms of oxygen by reacting on the initial material with a mixture of phosphorus and iodin in the presence of a substantially anhydrous organic solvent, and in the presence of a catalytic agent.

5. The process of reducing alcoholic and ketonic acids to substances containing a smaller number of atoms of oxygen by reacting on the initial material with hydriodic acid in the presence of glacial acetic acid.

[Claim 6 not printed in the Gazette.]

974,183. RECORDING DEVICE. WILLIAM H. PRATT, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed June 14, 1909. Serial No. 501,995.



1. In a recording device, the combination with a mark mounted to swing about an axis of oscillation, of means for moving a record sheet in a direction parallel to said axis of oscillation and over a cylindrical surface curved about an axis which forms an angle with said axis of oscillation.

2. In a recording device, the combination with a mark mounted to swing about an axis of oscillation, of means for moving a record sheet in a direction parallel to said axis of oscillation and over a curved surface which is coincident with the path of the marker and extends

liquely across both the path of the record sheet and the path of said marker.

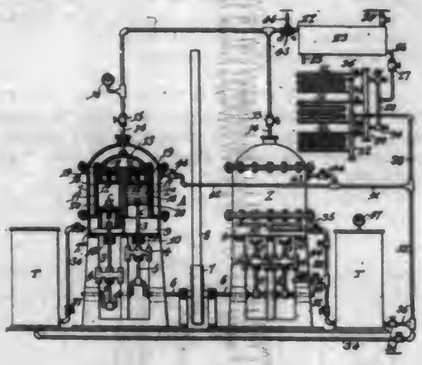
3. In a recording device, the combination with a marker mounted to swing about an axis of oscillation, of means for moving a record sheet in a direction parallel to said axis of oscillation and over a curved surface which extends obliquely across the path of the record sheet and through the plane of movement of said marker, whereby equal angular movements of said marker produce marks of equal length on the record sheet.

4. In a recording device, the combination with a marker mounted to swing about an axis of oscillation, of means for moving a record sheet in a direction parallel to said axis of oscillation and a curved platen mounted to extend obliquely across the path of the record sheet and through the plane of movement of said marker, the intersection of said platen with said plane being substantially an arc about said axis of oscillation as a center.

5. In a recording device, the combination with a marker mounted to swing about an axis of oscillation, of means for moving a record sheet in a direction parallel to said axis, and a platen for said record sheet intersected by the plane of movement of said marker and inclined to said plane, said platen being curved to render its intersection with said plane substantially an arc about said axis of oscillation as a center.

[Claims 6 to 10 not printed in the Gazette.]

974,184. ICE-MAKING MACHINE. WILLIAM M. PAUETT, Greensboro, N. C., assignor of one-half to William A. Byerly, Bridgewater, Va. Filed Dec. 30, 1909. Serial No. 535,687.



1. In a machine of the class described, the combination of a compressor having a discharge at one end only, a condenser connected therewith for cooling the refrigerating medium supplied by the compressor, a cooler connected with the condenser, an expansion valve between the condenser and cooler, a return conduit between the cooler and compressor, a cooling jacket for the compressor, and means for by-passing a portion of the refrigerating medium through the jacket from the return conduit and admitting the remainder of the medium directly to the compressor.

2. In a machine of the class described, the combination of a compressor, a condenser connected therewith for cooling the refrigerating medium supplied by the compressor, a cooler connected with the condenser, an expansion valve between the condenser and cooler, a return conduit between the cooler and compressor, a cooling jacket for the compressor, controllable means for by-passing a portion of the refrigerating medium through the jacket from the return conduit, and a storage tank included in the return conduit.

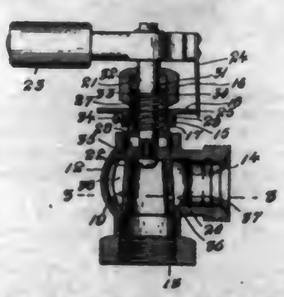
3. In a machine of the class described, the combination of a compressor, a condenser connected therewith, a cooler connected with the condenser, an expansion valve between the condenser and cooler, a return pipe leading from the cooler to the suction side of the compressor, a storage tank in the return pipe, a cooling jacket for the compressor, a pipe leading from the return pipe to the cooling jacket, valves in the said pipes for controlling the supply of the refrigerating medium to the cooling jacket, and means for conducting the medium from the cooling jacket to the piston chamber of the compressor.

4. In a machine of the class described, the combination of a compressor having a plurality of cylinder sections, a condenser, a refrigerant supply pipe leading from the cylinder sections to the condenser, a cooler, an expansion valve between the cooler and condenser, storage tanks adapted to contain refrigerating medium, a return pipe leading from the cooler to both storage tanks, means connecting the tanks with the cylinder sections, cooling jackets for the cylinder sections, a pipe leading from the return pipe to both cooling jackets, valves in the last-mentioned pipe for controlling the supply of the refrigerating medium to the individual jackets, and means for conducting the refrigerating medium from the cooling jackets of the cylinder sections to their piston chambers.

5. The combination of a compressor including a cylinder, a piston mounted therein, a suction valve for admitting gas to the cylinder through the piston, a discharge valve, a cooling jacket surrounding the cylinder, and communicating means between the jacket and cylinder opened and closed by the piston for admitting gas from the jacket to the cylinder, with a condenser for receiving a refrigerant from the compressor, a cooling coil, an expansion valve between the condenser and coil, and separate means for conducting the gas from the cooling coil to the compressor jacket and the suction valve of the compressor.

[Claims 6 to 8 not printed in the Gazette.]

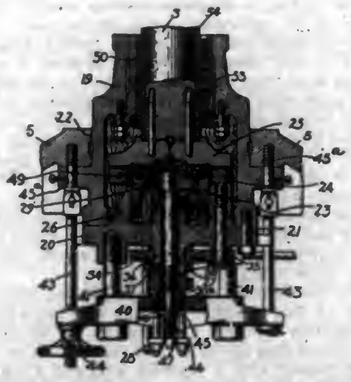
974,185. VALVE. HENRY F. QUICKEL, Harrisburg, Pa. Filed Nov. 24, 1909. Serial No. 529,724.



1. In a valve, the combination with a hollow body provided with inlet and outlet passages and with an upwardly-projecting, externally-threaded, hollow extension, of a valve seated in said body and comprising a hollow, tapering rotatable plug open at its bottom and provided with spaced apertures adapted to be brought into register with the said outlet passage, a valve-stem rigidly attached to said valve and extending upward through said hollow, externally-threaded extension, said valve-stem being provided at its upper end with a handle having a depending spring detent, a spring encircling said valve-stem and serving to yieldingly hold the valve to its seat, a gland nut on the upper end of said threaded extension, and a retaining and indicating disk also mounted on said threaded extension and provided with a series of notches engaged by said spring detent.

2. In a valve, the combination with a hollow body provided with inlet and outlet passages and with an upwardly-projecting, externally-threaded, hollow extension, of a valve seated in said body and comprising a hollow, tapering rotatable plug open at its bottom and provided with spaced apertures adapted to be brought into register with the said outlet passage, a valve-stem rigidly attached to said valve and extending upward through said hollow, externally-threaded extension, said valve-stem being provided at its upper end with a handle having a depending spring detent, a spring encircling said valve-stem and serving to yieldingly hold the valve to its seat, a gland nut on the upper end of said threaded extension, and a retaining and indicating disk also mounted on said threaded extension and provided with a series of notches engaged by said spring detent, the end notches of the series having abrupt shoulders to be engaged by said detent to limit the movement of the said handle and thus arrest the turning movements of the valve plug.

974,186. STEP-BEARING. RICHARD H. RICE, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Nov. 14, 1905. Serial No. 287,288.



1. A shaft bearing for turbines comprising two adjustable bearing blocks, a screw for adjusting one, a plurality of screws for adjusting the other, and means for simultaneously adjusting the screws of the latter block.

2. A shaft bearing for turbines comprising a rotating element, main and auxiliary bearing blocks which are individually adapted to support said element under different conditions, a member in which the main block is hydraulically supported, means for rigidly supporting the auxiliary block which includes a plurality of screws mounted in said member, and gearing carried by the member for simultaneously rotating the screws to adjust the position of the auxiliary block.

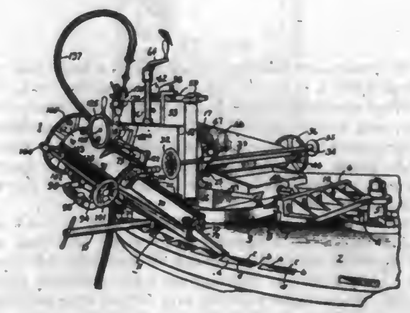
3. A shaft bearing for turbines comprising a rotating member, main and auxiliary bearing blocks which operate independently, a casing for the blocks and member, means for limiting the movement of the main block and for adjusting it, adjusting screws in the casing for supporting the auxiliary block, pinions splined to the screws, a gear meshing with the pinions of the several screws, and means for operating the gear.

4. A shaft bearing for turbines comprising a rotating element, an adjustable block for supporting it, a casing containing the element and block, a head for the casing, adjusting screws arranged in the head upon the ends of which the block rests, pinions splined to the screws, a gear meshing with the pinions for simultaneously operating the screws, there being means on the head forming a bearing for the gear, and a device supported by the said means for rotatably supporting the pinions.

5. A shaft bearing for turbines comprising a casing, a rotating element, a hydraulically supported bearing block therefor, there being a chamber formed between the element and the block, a conduit supplying lubricant under pressure to the chamber to flow outwardly therefrom and maintain a fluid film between the element and the block, and means for maintaining the block in operative relation to the element, comprising a member secured to said block which projects outwardly from the bearing, a yoke mounted on the casing, a device mounted for longitudinal movement on the yoke which engages the end of said member, and a spring carried by the yoke which presses the device against the member.

[Claims 6 to 12 not printed in the Gazette.]

974,187. SLOTTING AND SHAPING MACHINE. JOHN RIDDELL, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct. 6, 1905. Serial No. 281,597.



1. A shaping and slotting machine comprising a reciprocable tool, a motor for reciprocating the tool, and means for supporting and adjusting the tool comprising three members one of which is movable in a direction at right angles to the line of reciprocation of said tool, a second member on which the first is mounted for rectilinear movement in said direction, a support on which the second member is mounted for rectilinear movement, a third member mounted for rectilinear movement on the first and carrying the tool, the second and third members being movable in directions at right angles to each other and to the direction of movement of the first member and means for moving said members.

2. In a machine of the character described, the combination of a reciprocable tool, means for varying the direction of reciprocation of the tool about two axes at an

angle to each other, and means for feeding the tool in two planes transverse to said axes.

3. In a machine of the character described, the combination of a tool, a holder for the tool which is mounted for rotary and reciprocating movement, a motor for reciprocating the holder and the tool, means for feeding the tool with respect to the work in a plurality of planes at an angle to each other, one of said planes being parallel to the line of reciprocation, and a device for turning the holder to present the tool at the proper cutting-angle to the surfaces of said planes.

4. In a machine of the character described, the combination of a reciprocable tool, means supporting the tool by which the latter is adjustable about two right angularly disposed axes, and means for feeding the tool with respect to the work in planes transverse to said axes.

5. In a machine of the character described, the combination of a reciprocable tool, a support for the tool which includes separate means for adjusting the tool about two right angularly disposed axes, and means for feeding the tool in a plurality of planes at an angle to one another, one of which is parallel to one of said axes.

[Claims 6 to 52 not printed in the Gazette.]

974,188. HEAD-REST FOR CHAIRS. FRANK RITTER, Rochester, N. Y. Filed Feb. 16, 1907. Serial No. 357,687.



1. The combination with a support and a head rest each provided with a laterally projecting clamping end, of a connecting member composed of separable side pieces overlapping said ends; connections between the extremities of said parts forming fulcrum points and means for moving the side pieces relatively to each other on said fulcrum points into engagement with the clamping ends of the support and head rest.

2. The combination with a support and a head rest each provided with a laterally projecting clamping end, of a connecting member composed of separable side pieces the extremities thereof overlapping and projecting beyond said ends, connections between said extremities located at the outer sides of the clamping ends of the support and head rest and means for adjusting the side pieces of the connecting member relatively to each other to secure the clamping ends between them.

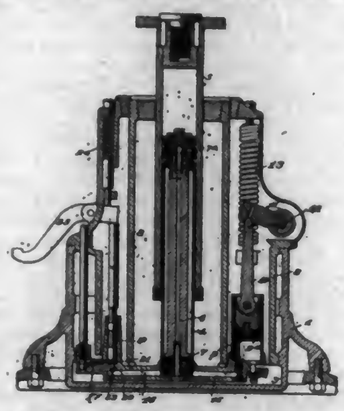
3. The combination with a support and a head rest each provided with a laterally projecting clamping end, of a connecting member composed of separable side pieces the extremities thereof overlapping and projecting beyond said ends, screws adjustably connecting said projecting extremities and a compression member engaging the side pieces at an intermediate point.

4. The combination with a member composed of separable side pieces secured together at their ends and a compression member arranged centrally thereof, of two clamping heads located between the opposite ends of the side pieces, a supporting arm on one of the heads projecting laterally from between the side pieces and an arm attached to and projecting laterally from the other head and forming a head rest support.

5. In a head rest, the combination with a member having recesses in its ends and provided with apertures opening at the sides of the recesses, of clamping heads arranged in the latter, a laterally extending arm on each head projecting outwardly through said apertures, one of said arms forming a support for the member and the other forming a support for a head rest and means for adjustably securing the heads in their respective recesses.

[Claims 6 to 18 not printed in the Gazette.]

974,189. VALVE MECHANISM FOR DENTAL OR OTHER SIMILAR CHAIRS. FRANK RITTER, Rochester, N. Y. Filed Dec. 23, 1907. Serial No. 407,782.



1. The combination with a conduit formed with a tapering port, of a valve arranged to seat at the larger end of the port, and a cylindrical member controlled by the valve and lying within the tapered portion when the valve is seated against the larger end of the port.

2. The combination with a base formed with a fluid chamber, of fluid-operated elevating sections, a pump for supplying fluid from the base chamber to the sections, a conduit conducting the fluid from the sections to the base chamber, formed with a tapering port and a seat at the larger end of the port, a plunger adapted to engage the seat at the larger end of the port, and a cylindrical member arranged at the end of the plunger and lying within tapered portion of the port when the plunger engages the seat, and having a diameter slightly smaller than the diameter of the narrowest portion of the port.

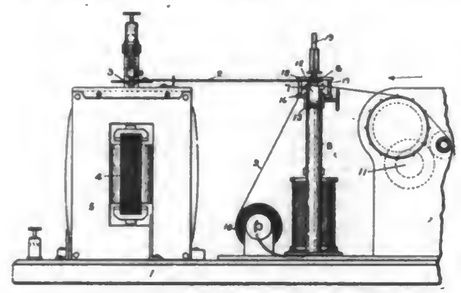
3. The combination with a base formed with a fluid chamber, of fluid operated elevating sections, a pump for supplying fluid from the base chamber to the sections, a conduit conducting the fluid from the sections to the base chamber formed with a tapering port and a seat at the larger end of the port, a member operating in the tapering port and having a diameter slightly smaller than the diameter of the narrowest portion of the port, and a valve to coöperate with the seat at the larger end of the port while the member lies in the tapered portion and loosely engaging the said member, to permit the latter to be deflected laterally by any small article within the port so that the valve will seat properly.

4. The combination with a base formed with a fluid chamber, of fluid-operated elevating sections, a pump for supplying fluid from the base chamber to the sections, a conduit conducting the fluid from the sections to the base chamber formed with a tapering port and a seat at the larger end of the port, a member operating in the port and having a diameter slightly smaller than the diameter of the narrowest portion of the port and formed with a tapered socket, and a plunger having a tapered end seated in the socket and coöperating with the seat at the larger end of the tapered port, while the member lies within the tapered port.

5. The combination with a base formed with a fluid chamber, of fluid-operated elevating-sections, a pump for supplying fluid from the base chamber to the sections, a conduit conducting the fluid from the sections to the base chamber, formed with a tapering port and a seat at the larger end of the port, a valve coöperating with the seat at the larger end of the port, a cylindrical member operating in the port to control it and lying within said port while the valve is coöperating with its seat, and a spring acting to hold the cylindrical member loosely against the valve.

[Claim 6 not printed in the Gazette.]

974,190. CURVE-DRAWING INSTRUMENT. LEWIS T. ROBINSON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 30, 1903. Serial No. 150,099.



1. In combination, means for supporting a record surface, a movable meter element, a series of marking devices arranged between the moving element and the record surface, and electromagnetic means for causing the moving element to engage with the particular marking device between it and the record surface to cause said marking device to make a record upon the record surface.

2. In combination an element moving in a path, a series of marking devices arranged in proximity to said path, each of said devices being provided with a stylus and an engaging portion, the engaging portions of some of the marking devices being displaced with reference to the corresponding styluses, and means for causing the moving element to engage with the engaging portion of the marking devices in proximity to the point in the path at which the moving element may happen to be.

974,191. WIRELESS APPARATUS. FREDERICK G. SARGENT, Westford, Mass. Filed Apr. 3, 1909. Serial No. 487,609.

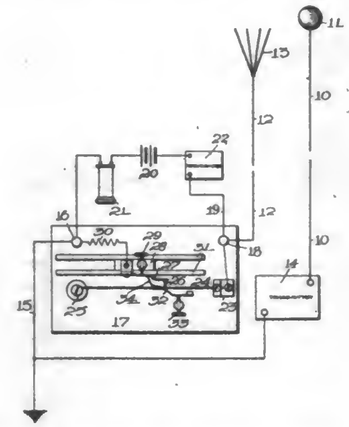
1. In a device of the character described, the combination of a metallic conductor supported at its ends and free to vibrate, and a vibratory carbon contact point adapted to engage said conductor, said contact point and conductor being adapted to vibrate under the influence of Hertzian waves.

2. A detector for the purpose described, comprising a conductor supported at two points and free to vibrate between said points, a conducting point adapted to engage said conductor and free to vibrate, and means for adjusting said point to and from the conductor, said contact point being movable along the conductor.

3. A detector for the purpose described, comprising a conductor supported at two points and free to vibrate between said points, and a contact point lightly engaging it and adjustable along the conductor and transversely thereto.

4. A detector for the purpose described comprising a conductor supported at two points and free to vibrate between said points, and a vibratory contact point lightly engaging it between said two points, said conductor and contact point being connected with a circuit.

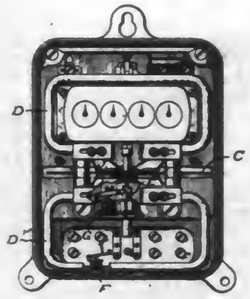
5. A detector comprising a conductor, a yieldingly supported vibratory contact point adapted to engage the side thereof, and a light non-conducting spring supported to vibrate with said contact point, and projecting beyond



said point, whereby said light spring will engage the conductor before the point to prevent permanent coherence.

[Claims 6 to 11 not printed in the Gazette.]

974,192. ELECTRIC METER. GEORGE A. SAWIN, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Sept. 13, 1906. Serial No. 334,433.



1. In an electric meter having a vertical shaft, a thrust bearing therefor and current coils, the combination with the vertical shaft and the thrust bearing, of means operative upon a cessation of current-flow through the current coils of the meter for separating the shaft and its bearing.

2. In an electric meter having a vertical shaft, a thrust bearing therefor and current coils, the combination with the vertical shaft and the thrust bearing, of means operative upon the cessation of current-flow through the current coils of said meter for lowering said bearing away from the shaft.

3. In an electric meter having current coils, a vertical shaft and thrust bearing therefor, a magnet coil in series with the current coils of the meter, and means controlled thereby for separating the shaft and its bearing.

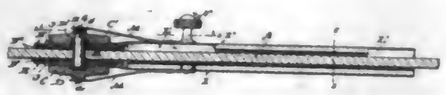
4. In an electric meter having current coils, a vertical shaft and a thrust bearing therefor, a magnet coil in series with the current coils of the meter, and means controlled thereby for lowering said bearing away from the shaft.

5. In an electric meter having current coils, a potential coil, and a movable element, the combination with the cur-

rent coils of means controlled by the current flow through the current coils for opening the circuit of the potential coil and for causing the movable element of the meter to be frictionally braked.

[Claims 6 and 7 not printed in the Gazette.]

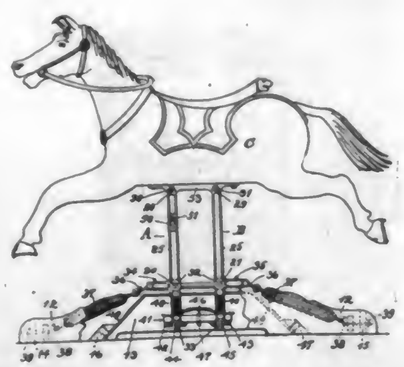
974,193. WINDOW-CLEANER. EDWARD J. SCHOWALTER, Racine, Wis. Filed Nov. 19, 1906. Serial No. 344,008.



1. A window-glass cleaner comprising a pair of channeled washers, a post that extends from one of the washers through an aperture in the glass and engages the other of said washers, gaskets opposing the sides of said glass, disks interposed between the gaskets and washers, and glass cleaning arms having shanks in detachable engagement with the washer-channels against said disks.

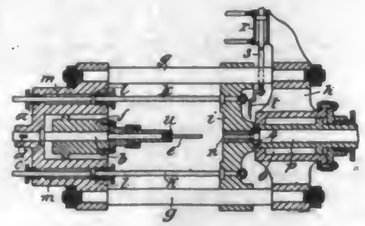
2. A window-glass cleaner comprising a pair of channeled washers, a post that extends from one of the washers through an aperture in the glass and engages the other of said washers, gaskets opposing the sides of the glass, disks interposed between the gaskets and washers, glass-cleaning arms having shanks in detachable engagement with the washer-channels against said disks, and springs in connection with said arms for locking engagement with the aforesaid washers.

974,194. EXERCISING-MACHINE. CARL SCHULZE, Chicago, Ill. Filed Dec. 29, 1909. Serial No. 535,480.



An exercising machine, comprising, in combination, a platform, a seat above said platform, two frame-members spaced apart and connected to said platform by pivotal means, shafts upon which said frame-members oscillate, each of said frame-members comprising two connected bars, arms on said frame-members and projecting in opposing directions therefrom, spiral springs connected to the outer end of said arms, said springs being in angular relation to said arms, a tensioning device for each of said springs to which the other ends of said springs are secured, said tensioning devices being located near the outer ends of said platform, a yoke at the lower ends of said frame-members and pivotally connecting the same one to the other, a curved spring on the upper surface of said yoke, and a bent bar located above said latter spring and below said shafts, said bent bar being secured at its ends in said platform.

974,195. HYDRAULIC METAL-PRESS. JOHANN THEODOR JOSEPH SEIFERT, Dresden-Neustadt, Germany, assignor to Neue Berliner Messingwerke Wilhelm Borchert, Jr., Berlin, Germany, a Firm. Filed Nov. 16, 1909. Serial No. 528,407.



1. In a hydraulic press for the manufacture of tubes or rods from hollow or solid blocks, a main pressure cylinder and piston and an auxiliary cylinder and piston; a die supported by the piston of said auxiliary cylinder, said auxiliary piston being open at both ends with the axis thereof located in alinement with the axis of the piston of the main pressure cylinder, in order that the finished article may be ejected through the hollow piston of said auxiliary cylinder.

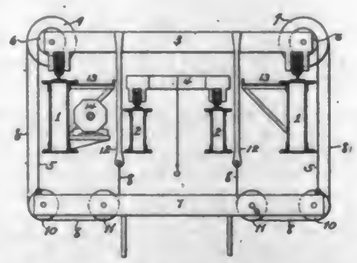
2. A hydraulic press of the character indicated provided with a press cylinder, and an auxiliary cylinder having a hollow piston; together with a die held in operative position within such hollow piston.

3. A hydraulic press for the manufacture of tubes or rods from hollow or solid blocks, embracing a main piston and an auxiliary tubular piston; in combination with a die located within said tubular piston, and a cutter operatively connected with means for causing it to sever the deadhead from the work.

4. A hydraulic press of the character indicated provided with a press cylinder, an auxiliary cylinder, and a block holding receptacle, said block holding receptacle being operatively connected with secondary or additional cylinders.

5. A hydraulic press of the character indicated provided with a press cylinder, an auxiliary cylinder, and a block holding receptacle, said block holding receptacle being operatively connected with secondary hydraulic cylinders, the effective length of the stroke of the pistons of which is the same or substantially the same as the depth of the receptacle.

974,196. LADLE-CRANE. HENRY A. SEYMOUR, Washington, D. C., assignor to The Morgan Engineering Company, Alliance, Ohio. Filed May 7, 1910. Serial No. 560,048.



1. In a double trolley crane, the combination with the main trolley, ladle bar and main hoisting chains or ropes located outside the main girders, of safety ropes or chains arranged to connect the ladle bar and main trolley at points inside the main girders.

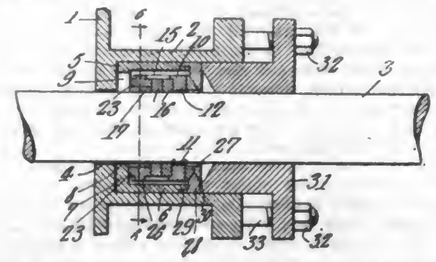
2. In a ladle crane, the combination with the main trolley mounted on the main girders, an auxiliary trolley mounted on the auxiliary girders, of main hoisting chains or ropes connecting the main trolley and ladle bar outside the main girders, and safety ropes or chains connecting the main trolley and ladle bar at points inside the main girders.

3. In a ladle crane, the combination with a main trolley mounted on the main girders, an auxiliary trolley mounted on the auxiliary girders, of main hoisting ropes or chains located outside the main girders, and safety ropes or chains connecting the main trolley and ladle bar at points slightly outside of the vertical plane of the auxiliary girders.

4. In a ladle crane, the combination with main and auxiliary girders and footwalks interposed between the same, of main hoisting ropes or chains located outside of the main girders and safety ropes or chains located between said footwalks and the auxiliary girders.

5. In a ladle crane, the combination with main trolley mounted on the main girders, of hoisting ropes or chains located outside the main girders, and safety ropes or chains depending from the main trolley outside the main girders and passing under sheaves attached to the ladle bar and connected directly or indirectly with the main trolley at a point inside the main girders.

974,197. ROD-PACKING. THOMAS SMITH, San Luis Potosi, Mexico. Filed Aug. 17, 1910. Serial No. 577,545.



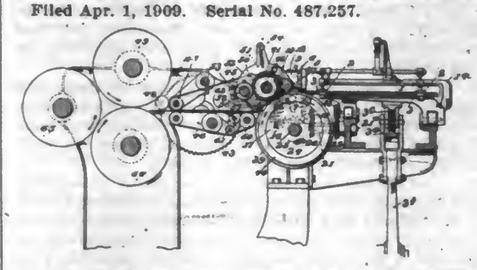
1. In a device of the class described, a tubular member adapted to surround a piston rod; segmental rod inclosing rings in the tubular member; bridges interengaged with the rings and the tubular member to hold the rings against rotation upon the rod; the rings and the bridges being under the fluid pressure of the space in which the piston rod operates.

2. In a device of the class described, a tubular member having slots in its side walls and adapted to inclose a piston rod; segmental rod-inclosing rings in the tubular member; bridges interengaging with the rings and having lugs to register in the slots; and an inclosing structure for the tubular member defining a fluid pressure space communicating with the fluid pressure space with which the piston rod operates, the slots constituting ports for the admission of fluid pressure upon the rings.

3. In a device of the class described, segmental rings adapted to inclose a piston rod; bridges interengaging with the rings; means engaging the bridges to limit the movement of the bridges and the rings transversely of the rod; and an inclosing structure for the rings and the bridges defining a fluid pressure space communicating with the fluid pressure space in which the piston rod operates.

4. In a device of the class described, a tubular member having slots in its side walls and adapted to inclose a piston rod; segmental rod-inclosing rings in the tubular member and provided with flat peripheral seats; bridges resting upon the seats and conforming approximately to the bore of the tubular member, the bridge being provided with lugs adapted to register loosely in the slots of the tubular member; and an inclosing structure for the tubular member, defining a fluid pressure space which communicates with the fluid pressure space in which the piston rod operates, the slots in the tubular member constituting ports whereby the rings and the bridges may be exposed to the fluid pressure.

974,198. PAPER-TRIMMING MACHINE. WALTER H. SMITH, Niles, Ohio, assignor to The Harris Automatic Press Company, Niles, Ohio, a Corporation of Ohio. Filed Apr. 1, 1909. Serial No. 487,257.



1. A trimming machine comprising means for positively gripping and transferring sheets of paper or other stock from one point to another, means for trimming an edge of each sheet while it is held by the gripping means and while being so transferred, means for positively holding and retransferring such stock, and means for trimming a second edge of each sheet while it is being so retransferred.

2. A trimming machine comprising means for positively gripping sheets of paper or other stock and transferring the same from one point to another, such means engaging such sheets in proximity to the edges thereof, means for trimming an edge of each sheet while it is held by the gripping means and while being so transferred, means for positively holding and retransferring such stock, and means for trimming a second edge of each sheet while it is being so retransferred.

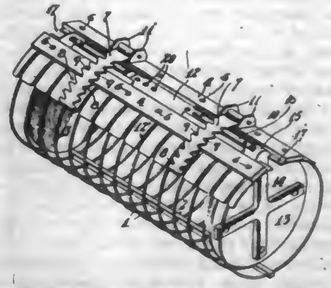
3. A trimming machine comprising means for positively gripping sheets of paper or other stock near opposite edges thereof and transferring such stock from one point to another, means for trimming said edges of each sheet of stock while being so transferred, means for positively holding and retransferring such stock, and means for trimming a second edge while the stock is being so retransferred.

4. A trimming machine comprising a feed table, means for successively engaging separate pieces of stock from above and below and transferring the same from one point to another, means for trimming an edge of each sheet while it is being so transferred, means for positively holding and retransferring each sheet, and means for trimming a second edge of each sheet while it is being so retransferred.

5. A trimming machine comprising a feed table, means for positively gripping separate pieces of stock from above and below and transferring the same from one point to another, means for trimming an edge of each sheet while it is held by the gripping means and while being so transferred, means for positively holding and retransferring such stock, and means for trimming a second edge of each sheet while it is being so retransferred.

[Claims 6 to 15 not printed in the Gazette.]

974,199. MEAT-HOLDER. GEORGE L. STARK and ALBERT W. BAXTER, Los Angeles, Cal. Filed Aug. 7, 1909. Serial No. 511,837.



1. An open-work receptacle adapted to receive the ham, a plate adapted to be placed in said receptacle, and end

disks for the receptacle having sliding engagement with said plate.

2. A wire receptacle split longitudinally and adapted to receive the ham, a plate adapted to be placed across the longitudinal opening in the wire receptacle, and end disks slidably mounted on said plate and adjustably secured thereto.

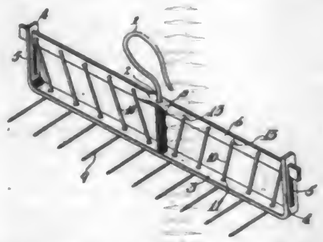
3. A wire receptacle adapted to receive the ham, said receptacle having a longitudinal opening, adjustable connections for permitting expansion of the receptacle and for holding the same when contracted around the ham, and adjustable end disks for the cylinder.

4. A wire receptacle comprising a series of substantially circular wires, the end of each wire having a hook, two pair of edge bars engaging the respective hooked ends of the wire, adjustable connections extending between the edge bars, a plate adapted to be inserted under the edge bars, and end disks slidably engaging said plate.

5. An expansible receptacle adapted to receive the ham having a longitudinal opening, a plate for closing said opening, said plate having a series of slots in each edge adapted to receive the wires of the receptacle, and end disks slidably engaging said plate.

[Claim 6 not printed in the Gazette.]

974,200. SKEWER. GEORGE L. STARK and ALBERT W. BAXTER, Los Angeles, Cal. Filed Aug. 11, 1909. Serial No. 512,402.



1. A skewer comprising a frame, a tooth carrier movable vertically on the frame, and a series of teeth connected with the tooth carrier, said frame having individual means for guiding the respective teeth of the series.

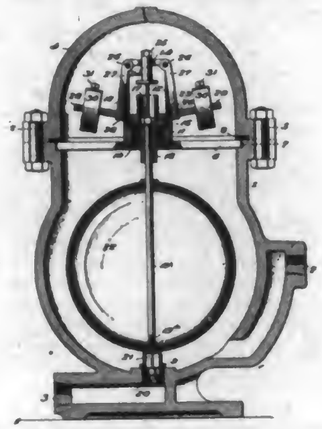
2. A skewer comprising a frame, a series of teeth, means for supporting said teeth, and means operated by the weight of the meat on the teeth for moving the teeth closer together.

3. A skewer comprising a frame, a tooth carrier movable vertically on the frame, teeth connected with the tooth carrier, the frame having perforations through which the teeth extend, said perforations being located out of line with the point of connections between the teeth and tooth carrier.

4. A skewer comprising a frame consisting of a horizontal bar with upturned ends, said ends having slots, a tooth carrier comprising a horizontal bar with ends extending through said slots, a hook with a shank supporting said frame, said shank passing loosely through said tooth carrier, means for yieldingly holding the tooth carrier in the upper part of said slots, and teeth pivotally connected to the tooth carrier and extending through perforations in the frame out of line with their pivotal connections at the tooth carrier.

5. A skewer comprising a frame consisting of a horizontal bar with upturned ends, said ends having slots, a tooth carrier comprising a horizontal bar, the ends of which extend into said slots, a hook with a shank supporting said frame, said shank passing loosely through said tooth carrier, means for yieldingly holding the tooth carrier in the upper part of said slots, and teeth pivotally connected to the tooth carrier and extending through perforations in the frame out of line with their pivotal connections at the tooth carrier, the perforations in the frame through which the teeth pass being somewhat larger than the teeth.

974,201. STEAM-TRAP. SEBASTIAN STEINMITZ, Scranton, Pa. Filed Oct. 15, 1909. Serial No. 522,878.



1. In a steam trap, the combination with a casing, of a valve controlling the outlet from the casing, a valve-stem, a cam head concentric with said valve-stem and movable thereon, a movable locking member adapted to coöperate with the cam head aforesaid to hold the valve in open position, and a float in the casing which is movable in relation to the valve and cam head and is adapted, under the influence of the water in the casing, to move the cam head so that it will be engaged by the movable locking member at one limit of its play, and at the other limit of its play to close the valve.

2. In a steam trap, the combination with a casing, of a valve controlling the outlet from the casing, a valve-stem, a movable tubular cam head adapted for operative engagement with said valve-stem and adapted for shifting the valve-stem, means adapted to sustain the movable cam head when in a predetermined position, and a float in the casing which is movable in relation to the valve and the cam head aforesaid and is adapted, under the influence of the water in the casing, to engage and move the said cam head so that it will be held by the sustaining means aforesaid at one limit of the play of said float, and at the other limit of its play to close the valve.

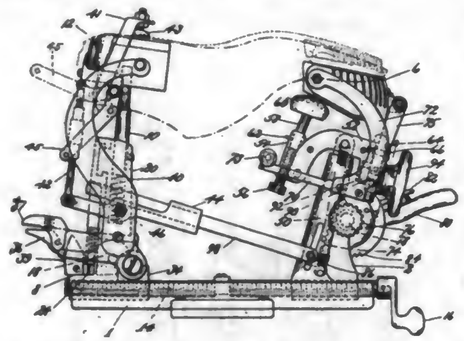
3. In a steam trap, the combination with a casing, of a valve controlling the outlet from the casing, a valve-stem, a cammed locking device through which the valve-stem loosely passes, means for adjustably supporting the valve-stem from the said movable locking device, a pivoted weighted dog having a toe adapted to engage the cam of the movable locking device when the latter is shifted to thereby sustain the valve in open position, and a float slidable freely on the valve-stem and adapted, under the influence of the water in the casing, to engage and move the cammed locking device on the rising of the water and, to move independently of the valve-stem to close the valve on the outflow of the water.

974,202. JACK FOR SHOE-MACHINES. EDWARD A. STIGGINS, Beverly, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Nov. 16, 1904. Serial No. 232,952.

1. In a jack, means for supporting a shoe, a heel-band adapted to embrace the heel portion of the shoe, means for jacking the shoe and means operated automatically during the jacking operation for actuating the band in the direction of the height of the shoe sustained by the supporting means.

2. In a jack, means for supporting a shoe, a toe-band, a heel-band, and means connected with one end of the heel-band for rocking said band in the direction of the height of the shoe about an axis extending transversely of the shoe and located near the other end of the band.

3. A jack, comprising a heel-band adapted to embrace the heel portion of a shoe, a toe-band adapted to embrace the toe portion of the shoe and means under control of the operator for simultaneously rocking the two bands in the direction of the height of the shoe.

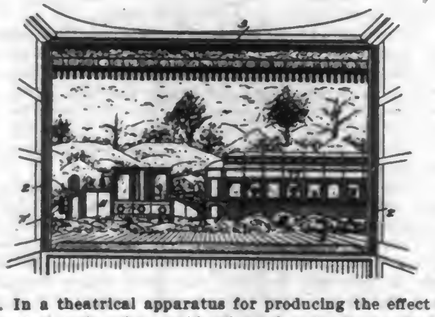


4. In an apparatus of the class described, a heel pin for supporting a last, a heel-band, means for thrusting the last on the heel pin backwardly into the band, said apparatus having provision for tipping the heel-band during said backward thrust to compensate for the angular movement of the last about the pivot of the heel pin.

5. In a shoe-supporting jack, a heel-band, means for supporting the heel-band, means for jacking the shoe, and means for actuating said heel-band during the jacking operation to move its middle rear portion downwardly and its front end portions upwardly.

[Claims 6 to 26 not printed in the Gazette.]

974,203. THEATRICAL APPARATUS. JOHN F. SULLIVAN, New York, N. Y. Filed Feb. 6, 1908. Serial No. 414,471.



1. In a theatrical apparatus for producing the effect of a moving train, the combination of a track, an engine and car arranged to pass in view of an audience, means for moving the engine and car around the track, and means for separating the engine from the car and concealign the engine after it has once passed in view and at the same time permitting the car to continue to pass in view as long as desired.

2. In a theatrical apparatus for producing the effect of a moving train, the combination of a track, an engine and car arranged to pass in view of an audience, means for moving the engine and car around the track, and means for automatically separating the engine from the car and concealing the engine after it has once passed in view and at the same time permitting the car to continue to pass in view as long as desired.

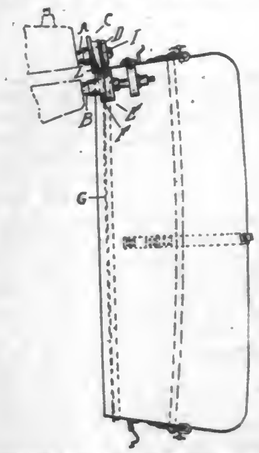
3. In a theatrical apparatus for producing the effect of a moving train, the combination of a main track having an exhibiting portion, a train arranged to pass in view of an audience, a storage track normally connected with the main track on which storage track a part of the train is stored, means for moving the part of the train from the storage track on to the main track, and a switch mechanism for disconnecting the storage track from the main track after the train has left the storage track.

4. In a theatrical apparatus for producing the effect of a moving train, the combination of a main track having an exhibiting portion, a train arranged to pass in view of an audience, a storage track normally connected with the main track on which storage track a part of the train is stored, means for moving the part of the train from the storage track onto the main track, and a switch mechanism for automatically disconnecting the storage track from the main track after the train has left the storage track.

5. In a theatrical apparatus for producing the effect of a moving train, the combination of a main track having an exhibiting portion, a train arranged to pass in view of an audience, a storage track normally connected with the main track on which storage track a part of the train is stored, means for moving the part of the train from the storage track onto the main track, and a switch mechanism automatically operated by the train as it leaves the storage track for disconnecting said storage track from the main track.

[Claims 6 to 27 not printed in the Gazette.]

974,204. MACHINE FOR BEADING AND FLANGING SHEET METAL. WILBER A. SYLVESTER, Detroit, Mich., assignor to Charles R. Wilson, Detroit, Mich. Filed Oct. 11, 1909. Serial No. 522,132.



1. The combination with a forming roll, of a work holder provided with guides having a flange and groove engagement with said roll and adapted to receive a substantially U-shaped sheet metal blank, and clamps for engaging the opposite ends of the U and forcing the blank into firm contact with the holder.

2. The combination with a forming roll, of a work holder for engaging the work so as to expose the opposite edges thereof, and a hinged finger for said workholder for engaging one of the edges of the work and positioning the same in said holder.

3. The combination with a forming roll, of a work holder for engaging the work so as to expose the opposite edges thereof, and hinged fingers adapted to alternatively engage the opposite edges of the work to position the same in the holder and adapted to leave one edge of the work unobstructed for engagement with the forming roll.

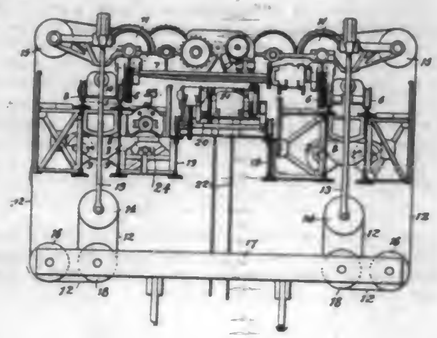
4. The combination with a forming roll, of a work holder engaging the work so as to expose the marginal portions thereof, guide flanges on said holder adjacent to the opposite edges thereof, a finger hinged to said holder and a bent portion for passing over said guide flanges and a hook for engaging the edge of the work, and a clamp for securing said finger to the work.

5. The combination with a forming roll, of a work-holder formed in a plurality of sections, each provided

with marginal guide flanges for engagement with said forming roll, means for positioning one of said sections upon the work and for securing the same thereto, and means for securing another section to the first-mentioned section.

[Claims 6 to 9 not printed in the Gazette.]

974,205. LADLE-CRANE. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed Apr. 16, 1910. Serial No. 555,972.



1. In an overhead traveling crane, the combination with a bridge comprising main and intermediate girders, of a main trolley mounted on the main girders, links depending from the trolley and located in planes intermediate the outer girders of the bridge, a sheave on each link, a ladle carrying bar, sheaves mounted on the latter adjacent the two ends thereof, hoist cables depending from the main trolley outside the bridge girders and passing around sheaves on the ladle carrying bar, and around the sheaves on the links, and an auxiliary trolley mounted on the intermediate girder of the bridge.

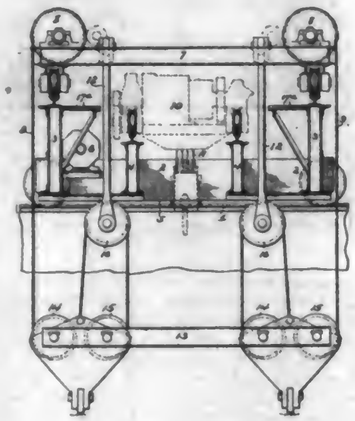
2. In an overhead crane, the combination with a bridge comprising main and intermediate girders, the main girders each being composed of two parallel separated sections disconnected from end to end, of a main trolley mounted on said main girders, links depending from the trolley between the sections of each main girder sheaves on said links, a ladle carrying bar, sheaves on the latter adjacent the ends of the bar, hoist cables carried by the drums of the main trolley and passing down outside the main girders under sheaves on the ladle carrying bar, up and around the sheaves on the links, and an auxiliary trolley mounted on the auxiliary girders.

3. In an overhead crane, the combination with a bridge composed of main and auxiliary girders, of a trolley mounted on the main girders, links depending from said trolley in planes intermediate the outer girders of the bridge, sheaves on said links and hoist chains passing down outside the outer girders of the bridge and around the sheaves on the links, and a ladle carrying bar supported by said cables.

974,206. LADLE-CRANE. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed Apr. 18, 1910. Serial No. 556,262.

1. An overhead crane comprising a bridge having main and intermediate girders and main and auxiliary trolleys, the main trolley being mounted upon the main girders and having rods or links depending between the main and intermediate girders, and the auxiliary trolley upon the intermediate girders, the main hoisting cables depending outside of the main girders, and passing over sheaves carried by said depending rods or links.

2. In an overhead traveling crane, the combination of a bridge having main and intermediate girders of box type, a main trolley mounted upon the main girders and provided with rods or links depending between the main and intermediate girders, and hoist chains carried by the drums on the main trolley, depending outside the main girders and passing over sheaves carried at the lower ends of the depending rods or links.



3. In an overhead traveling crane, the combination of a bridge having main and intermediate girders disconnected from end to end, a main trolley mounted on the main girders, rods or links depending from the main trolley between the main and intermediate girders and carrying sheaves at the lower ends, hoist chains depending from the main trolley outside of the main girders and passing over the sheaves on said rods or links and a foot walk secured to the inner side of a main girder.

4. The combination of main and intermediate girders, foot walks secured to the inner faces of the main girders, a trolley mounted on the main girders, rods or links depending from said trolley between the foot walks and intermediate girders, sheaves on the lower ends of said links or rods and hoist chains depending from said trolley outside of the main girders and passing over the sheaves on the rods or links.

5. The combination with main and intermediate girders, a bridge drive motor secured to the inner face of one of the main girders, a trolley mounted on the main girders, rods or links depending from the trolley between the main and intermediate girders, sheaves on the lower ends of said rods or links and hoist chains depending from the trolley outside of the main girders and passing over the sheaves on the lower ends of the links.

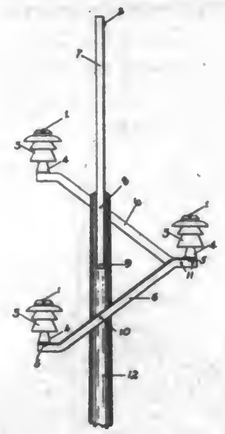
[Claims 6 to 8 not printed in the Gazette.]

974,207. INSULATOR-SUPPORT. WARREN RAY THOMPSON, Chicago, Ill., assignor to H. M. Byllesby & Company, Chicago, Ill., a Corporation of New Jersey. Filed May 10, 1910. Serial No. 560,529.

1. An insulator support comprising bars connected to each other at one end, said bars diverging from their points of attachment to each other, so that their opposite ends will be separated, and said bars being adapted to be connected between their ends to a pole or other support, substantially as described.

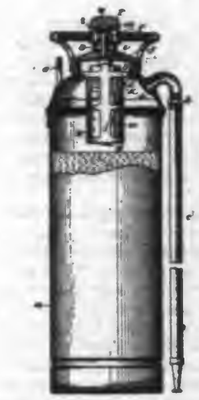
2. An insulator support comprising angle bars connected to each other at one end, said bars diverging from their points of attachment to each other, so that their opposite ends will be separated, and said bars being adapted to be connected between their ends to a pole or other support, substantially as described.

3. An insulator support comprising bars connected to each other at one end, said bars diverging from their points of attachment to each other, so that their opposite



ends will be separated, and said bars being adapted to be connected between their ends to opposite sides of a pole or other support, substantially as described.

974,208. CHEMICAL FIRE-EXTINGUISHER. WILLIAM S. TIFFANY, Columbus, Ohio. Filed Mar. 8, 1907, Serial No. 361,335. Renewed Mar. 15, 1910. Serial No. 549,440.



1. In a fire extinguisher, the combination, with a cylinder, a vial supported therein, and a cap closing the cylinder, of a flexible diaphragm arranged between the cap and cylinder, and a plunger mounted in the cap and projecting to the inner side of the diaphragm and in line with the surface of the vial, the interspace between the plunger and vial being unoccupied by the diaphragm.

2. In a fire extinguisher, the combination, with a cylinder, a frangible vial supported therein, and a cap closing the cylinder, of a flexible diaphragm arranged between the cap and cylinder, and a plunger mounted in the cap, the plunger provided with an enlarged head on the inner side of the diaphragm between the diaphragm and vial and in line with the surface of the vial.

3. In a fire extinguisher, the combination, with a cylinder, a frangible vial supported therein, and a cap closing the cylinder, of a flexible diaphragm arranged between the cap and cylinder, and a plunger mounted in the cap, the plunger provided with an enlarged head on the inner side of the diaphragm between the diaphragm and vial and in line with the surface of the vial, and means clamping the diaphragm tightly against the plunger head.

4. In a fire extinguisher, the combination, with a cylinder, a frangible vial supported therein, and a cap closing the cylinder, of a flexible diaphragm arranged between the cap and cylinder, and a plunger mounted in the cap and having an angular cross-section, a knob on the outer end of the plunger, the plunger provided with an enlarged head on the inner side of the diaphragm between the diaphragm and vial and in line with the surface of the vial, and means clamping the diaphragm tightly against the plunger head.

5. In a fire extinguisher, the combination, with a cylinder, a frangible vial supported therein, and a cap closing the cylinder, of a flexible diaphragm arranged between the cap and cylinder, and a plunger mounted in the cap, the plunger provided with an enlarged rotatable head on the inner side of the diaphragm between the diaphragm and vial and in line with the surface of the vial, and means clamping the diaphragm tightly against the plunger head.

[Claims 6 to 17 not printed in the Gazette.]

974,209. PIPE ATTACHMENT. ARTHUR J. TIZLEY, New York, N. Y., assignor of one-half to J. D. Miller, New York, N. Y. Filed Jan. 29, 1910. Serial No. 540,852.



1. The combination with a pipe having a recess formed in the bottom of the bowl communicating with a bore extending out through the bottom of the bowl, of a headed plug arranged within said recess and bore, means for holding said plug in position, the said plug being provided with smoke passages extending in from one side of the head and out through the top and with a saliva passage extending in through one side of the head and out through the neck of the plug.

2. The combination with a pipe having a recess formed in the bottom of the bowl communicating with a vertical bore formed therein, of a plug provided with a head arranged within said recess, said plug having a neck extending into said bore provided with a groove, said head being provided with smoke passages adapted to communicate the bowl to the smoke passage of the neck of the pipe and with a saliva passage adapted to communicate the smoke passage of the neck of the pipe with the bore formed in the base.

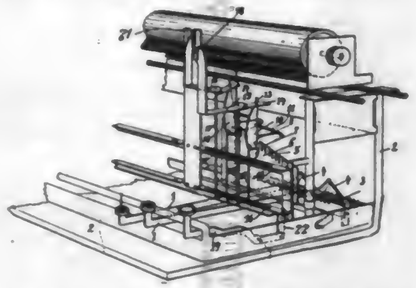
3. An attachment for pipes comprising a plug provided with a head having a reduced neck portion provided with a transverse groove in its end, a smoke passage extending in the head of said plug from one side communicating with diverging passages extending out through the top of the plug, said head being provided with a saliva passage extending in from the opposite side communicating with a vertical passage formed in the neck.

4. As a new article of manufacture, a tobacco pipe having a circular recess formed in the bottom of the bowl communicating with a vertical bore extending out through the bottom of the bowl, of a plug provided with a head adapted to fit snugly within said recess and having a neck adapted to fit snugly within the bore of the bowl, said pipe being provided with a smoke passage communicating with the recess, said head having a smoke passage extending into the same from one side adapted to communicate with the smoke passage of the pipe, said smoke passage

of the head communicating with diverging passages extending out through the top and a saliva passage extending into said head from the opposite side communicating with a vertical passage formed in the neck of said plug adapted to communicate said smoke passage of the pipe with the open air.

5. The combination with a pipe having a recess and a bore formed in its bottom and provided with a smoke passage communicating with the recess, of a headed plug provided with a neck mounted in said recess and bore, a passage formed in said plug for connecting said smoke passage to the bowl of the pipe, a passage formed in said plug for connecting the smoke passage of the pipe with the bore of said pipe, said neck portion of said plug being provided with an instrument receiving groove for turning said plug so as to cause either of said passages to register with the smoke passages of the pipe, and a ring arranged in the bowl of the pipe for holding the plug in place.

974,210. TYPE-WRITER. RICHARD TOEPPER, Berlin, Germany. Filed Sept. 25, 1909. Serial No. 519,508.



1. In a typewriter, the combination with a frame, type bars provided with type blocks and having horizontal portions, vertical pivots for said horizontal portions of said bars, horizontally disposed links pivotally connected with said horizontal portions at one side of the pivots thereof, vertically swinging elements for actuating said links, key levers, and connections between said key levers and said elements.

2. In a typewriter, the combination with a frame, type bars provided with horizontal portions and having type blocks, vertical pivots for said horizontal portions, links pivoted to said bars at one side of the pivots thereof, vertically swinging elements for actuating said links, notched anchoring plates, notched anchoring elements removably mounted on said plates, and pivotally supporting said swinging elements, key levers, and connections between said key levers and said vertically swinging elements.

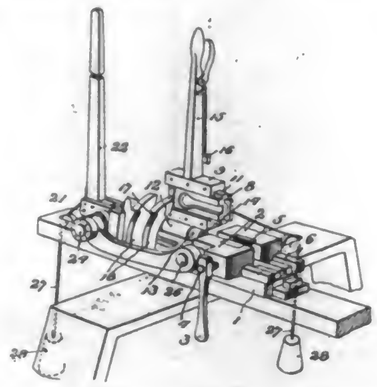
3. In a typewriter, the combination with a frame, type bars arranged in banks on opposite sides of a central printing position, vertical pivots for said type bars, links pivoted to said bars at one side of the pivots thereof, actuating members slidably connected with said links, key levers, and connections between said key levers and said actuating members.

4. In a typewriter, the combination with a frame, type bars having horizontal portions, vertical pivots for said type bars, links pivotally connected with said bars at one side of the pivots thereof, actuating elements slidably connected with said links and pivoted to swing vertically, a shifting device connected with said bar pivots for shifting the type carried by said bars, key levers, and connections between said key levers and said vertically swinging members.

5. In a typewriter, the combination with a frame, type bars having horizontal portions, vertical pivots for said horizontal portions, a slidably mounted shifting frame supporting said vertical pivots, means for shifting said frame, horizontally disposed links connected with said bars at one side of the pivots thereof, vertically swinging actuating elements slidably connected with said links, key levers, and connections between said key levers and said vertically swinging elements.

[Claim 6 not printed in the Gazette.]

974,211. MACHINE FOR SHAPING DRILLS. FRANCOIS M. TUCKER, Fredericktown, Mo., assignor of one-half to Elisa Turnbeaugh, Fredericktown, Mo. Filed Dec. 2, 1909. Serial No. 531,005.



1. An apparatus of the character described, comprising a base, a tool-holder movably mounted on said base, die members supported by the base, a shaft journaled on the base and provided with cranks, means secured to said shaft for pressing the die members together upon a turning of the shaft and links connected to said cranks and to the tool-holder.

2. An apparatus of the character described comprising a base, a tool-holder movably mounted on said base, die members supported by the base a handle connected to one of said die members, means on the base arranged to engage said handle and lock the die members in closed relation to each other, a shaft journaled on the base and provided with cranks, a handle connected to said shaft, and adapted to be swung over upon the die members to press the same together and links connected to said cranks and to the tool-holder.

3. An apparatus of the character described, comprising a base, a tool holder mounted on said base and provided with laterally extending pins, die members supported by the base, a shaft journaled on the base and provided with cranks, means secured to said shaft for pressing the die members together upon a turning of the shaft, and links connected to said cranks and to the pins of the tool holder.

4. An apparatus of the character described, comprising a base, a die member mounted on said base, another die member, a laterally swinging die holder carrying said last named die member, a handle connected to said die holder, longitudinally spaced upwardly projecting dogs secured to the base and provided with hooked ends, the handle being adapted to swing across the base and in between said dogs, and a detent carried by said handle and adapted for engagement with said hooked ends.

5. An apparatus of the character described, comprising a base, a lower die member supported on said base, an upper die member, a die holder to which said upper die member is connected, said die holder being pivotally connected at one end to one side of the base and adapted to swing across the base so as to carry the upper die member down upon the lower die member, a handle projected from the die holder, a spring pressed detent carried by said handle, dogs projecting upwardly from the base at the side thereof opposite the hinged connection of the die holder with the base and designed for engagement by said detent whereby to lock the die in closed position, a transverse shaft journaled on the base and provided with cranks, a die pressing member projected from said shaft, an actuated lever secured to said die pressing member and adapted to swing longitudinally over and upon the base and into engagement with the die holder, and links mounted upon the said cranks and connected to the tool holder as and for the purpose set forth.

[Claim 6 not printed in the Gazette.]

974,212. BUFFER FOR AUTOMOBILES. JAMES TURNER and PEARL P. CRABILL, Springfield, Ohio, assignors to The Central Brass & Fixture Company, Springfield, Ohio, a Corporation of Ohio. Filed Apr. 13, 1910. Serial No. 555,234.



1. In a buffer for vehicles, a buffer bar, and means on each side of the vehicle for connecting said bar thereto, said means comprising a two-part head adapted to be secured to said vehicle, the respective parts of said head being pivoted together, together with devices for clamping the respective parts of said head together, substantially as specified.

2. In a buffer for vehicles, a buffer bar, a two-part head on each side of said vehicle together with means for attaching said heads thereto, sliding connections between said heads and said bar, buffer springs interposed between said bar and heads and means for adjusting the position of the respective parts of each head with reference to each other, substantially as specified.

3. In a buffer for vehicles, a buffer bar, a two-part head on each side of said vehicle together with means for connecting said head thereto, means for yieldably connecting said bar to said heads, and means for adjusting the respective parts of each of said heads with reference to each other, substantially as specified.

4. In a buffer for vehicles, a buffer bar, a head on either side of the vehicle secured to a projecting part thereof, such as the channel frame, said head lying on the top of said projecting part and being also extended around the forward end thereof, means for clamping said head to said projecting part, and means for yieldingly connecting said buffer bar to said heads, substantially as specified.

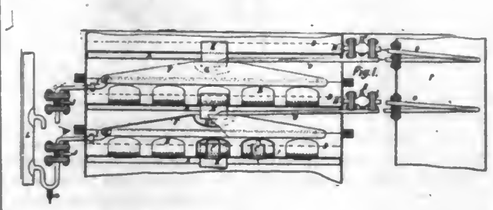
5. In a buffer for vehicles, a buffer bar, a two-part head connected to said vehicle on either side thereof, one part of each of said heads having a forwardly projecting portion, rearwardly projecting portions on said bar having a sliding connection with said head portions, springs interposed between said bar and head portions; and means for adjustably securing the respective parts of each of said head portions together, substantially as specified.

[Claims 6 to 9 not printed in the Gazette.]

974,213. DISTILLING AND RECTIFYING APPARATUS. RENÉ VALLAT, Paris, France, assignor to Gustavus Adolphus Pfizer, Paris, France. Filed Feb. 23, 1909. Serial No. 479,395.

1. In a distilling apparatus of the kind described the combination with the chambers and plates of the apparatus, the bubbling members and overflow thereof, of a hood having inclined walls and arranged over the said bubbling members said hood being adapted to receive from below the vapors rising from the said bubbling members, means for causing the feed liquid discharged by the said overflow to flow over the entire surface of the said hood and to cool the same so as to cause the condensation of said vapors, a gutter connected to the lower edge of said hood and adapted to collect the product of condensation of said vapors and means for discharging the said products of condensation.

2. In a distilling apparatus of the kind described the combination with the chambers and plates of the apparatus, the bubbling members and overflow thereof, of a hood having inclined walls disposed above the said bubbling members and being adapted to receive from below the vapors rising therefrom, a concave portion provided in the top of said hood and arranged under the said overflow so as to receive the liquid overflowing from the latter and to cause it to trickle down over the upper surface of said hood, a gutter secured to the lower edge of said hood and adapted to collect the products of the condensation which form on the inner side of the hood, a pipe leading from the said gutter to the outside of the apparatus and a control cock in the said pipe.



3. In a distilling apparatus of the kind described the combination with the chambers and the plates of the apparatus the bubbling members thereof and overflow thereof of a cone shaped hood arranged above the said bubbling members, a central concave portion provided at the top of said hood, means for conveying into the said portion the liquid coming from the said overflow, a gutter at the lower edge of said hood, a duct leading from the said gutter to the outside of the apparatus, means for controlling the said duct, a serrated rim secured to the lower edge of said hood and adapted to dip into the liquid contained in the chamber of the distilling apparatus.

4. In a distilling apparatus of the kind described the combination with the chambers and plates of the apparatus, the bubbling members and overflow thereof, of a cone shaped hood arranged over the said bubbling members, a central concave portion provided at the top of said hood, means for conveying into the said portion the liquid discharged from the said overflow, a gutter secured to the lower edge of said conical hood, a duct leading from the said gutter to the outside of the apparatus, means for controlling the said duct, a serrated rim secured to the outside edge of the said gutter and adapted to dip into the liquid contained in the said chamber of the distilling apparatus and a second serrated rim secured to the inside of edge of the said gutter and extending into the said liquid deeper than the first named serrated rim.

5. In a distilling apparatus of the kind described the combination with the chambers and plates of the apparatus, the bubbling members and overflows thereof, of a cone shaped hood arranged over the said bubbling members, a central concave portion provided at the top of the said hood, means for conveying into the said portion the liquid discharged from the said overflows, a gutter at the lower edge of said conical hood, a duct leading from the said gutter to the outside of the distilling apparatus and means for controlling the said duct.

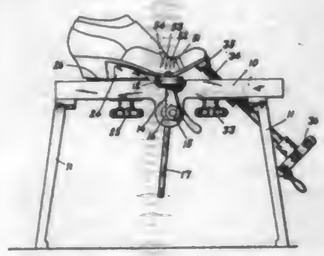
[Claims 6 and 7 not printed in the Gazette.]

974,214. SHOE-CREASING MACHINE. STANLEY F. VAN PELT, Indianapolis, Ind. Filed Mar. 30, 1910. Serial No. 552,459.

1. A shoe creasing machine comprising a main body, transversely-adjustable clamping members adapted to clamp the edges of the sole of the shoe, a bending head arranged to engage the under face of the forward end

of the sole of the shoe, means for moving said bending head to bend the sole, and an instep support.

2. A shoe creasing machine comprising a main body, transversely-adjustable clamping members adapted to clamp the edges of the sole of the shoe, a bending head arranged to engage the under face of the forward end of the sole of the shoe, and means for moving said bending head to bend the sole.



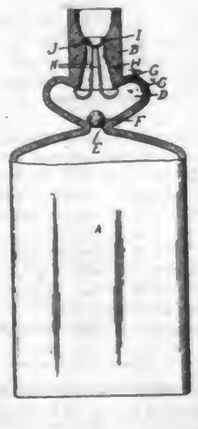
3. A shoe creasing machine comprising a main body, clamping members adapted to clamp the edges of the sole of the shoe, a bending head arranged to engage the under face of the forward end of the sole of the shoe, means for moving said bending head to bend the sole, and an instep support.

4. A shoe creasing machine comprising a main body, clamping members adapted to clamp the edges of the sole of the shoe, a bending head arranged to engage the under face of the forward end of the sole of the shoe, and means for moving said bending head to bend the sole.

5. A shoe creasing machine comprising a main body, transversely-adjustable sole-clamping members carried by the main body, a longitudinally-adjustable block mounted on the main body, a sole-bending screw threaded through said block and carrying a sole-engaging head at its upper end and arranged to engage the under face of the forward end of the sole, and an instep-support longitudinally adjustable on the main body.

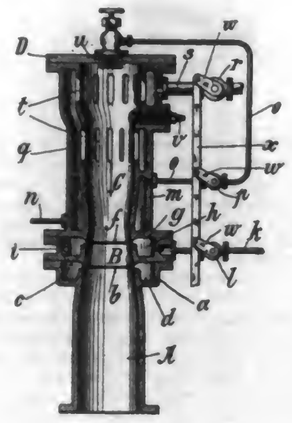
[Claims 6 to 14 not printed in the Gazette.]

974,215. NON-REFILLABLE BOTTLE. PETER VICE, New York, N. Y. Filed Apr. 2, 1909. Serial No. 487,393.



In a non-refillable bottle, the combination with a neck increasing gradually in thickness toward its central portion to form a curved valve-seat, of a cup-shaped valve arranged in said seat and provided with an interiorly beveled upper edge, the inner surface of said valve forming a regular, unbroken curve with the valve-seat, a sharp, angular abutment below said valve-seat, a pocket surrounding the abutment and extending above the same, hooks carried by said valve and arranged to engage the abutment aforesaid, an additional valve-seat below said pocket, and a ball positioned in the last-mentioned valve-seat.

974,216. SATURATED OR SUPERHEATED VAPOR GENERATOR. GUSTAV VOEGELI, Wettingen, Switzerland. Filed Feb. 11, 1910. Serial No. 543,371.

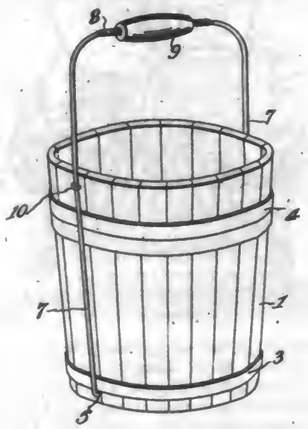


1. A saturated or superheated vapor generator, comprising a vessel having a top double-walled section, presenting between its walls a lower fuel vaporizing chamber communicating with the top of the section and an upper air chamber also communicating with the interior of the section; and an ignition device mounted on the section; and a bottom section separated from the top section by a narrow interstitial opening and presenting an outer chamber which encompasses the said interstitial opening and is provided with a liquid inlet, said bottom section also presenting a saturated or superheated vapor outlet; substantially as described.

2. A saturated or superheated vapor generator, comprising a vessel having a top double-walled section, presenting between its walls a lower fuel vaporizing chamber communicating with the top of the section and an upper air chamber also communicating with the interior of the section; and an ignition device mounted on the section; and a bottom section separated from the top section by a narrow interstitial opening and presenting an outer chamber which encompasses the said interstitial opening and is provided with a liquid inlet, said bottom section also presenting a saturated or superheated vapor outlet; and means for controlling in common the said inlets for fuel, air and liquid; substantially as described.

974,217. BUCKET. FRANK WAGNER, Reaburn post-office, Manitoba, Canada. Filed June 27, 1908, Serial No. 440,633. Renewed Aug. 27, 1910. Serial No. 579,346.

A bucket provided with diametrically opposite holes in the chime thereof below the plane of the bucket bottom; in combination with a bail consisting of a single length of wire having the central portion thereof inserted through such holes and extended across beneath the bucket bottom, and its end portions thereof bent upward along the opposite sides of the bucket and fastened thereto at or near the top edge of the bucket, the ends of the wire being brought together and overlapped above the bucket and twisted one upon the other forming a single carrying bail.



974,218. ADJUSTABLE CHAPLET. THOMAS HARRY WELLS, Toronto, Ontario, Canada. Filed Apr. 6, 1910. Serial No. 553,895.



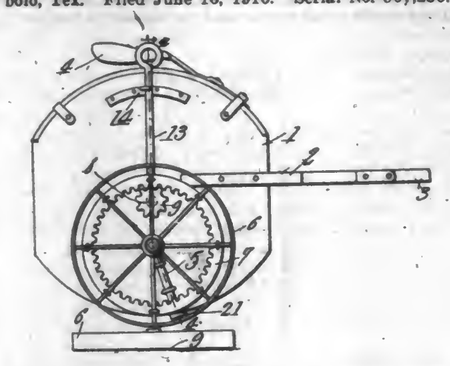
1. In adjustable chaplets, the members adapted for screw-threaded engagement provided with heads of relatively large area and having a receding margin whereby the metal of the casting is permitted to converge over the perimeter of the head and envelop the periphery of the inclined face, for the purpose hereinbefore set forth.

2. In adjustable chaplets, the members adapted for screw-threaded engagement provided with laterally extending flanges to form heads of relatively large area, and a supporting stem integral with one of said members and so formed as to be readily severed from the head of the chaplet after the casting is made.

3. In adjustable chaplets, the members adapted for screw-threaded engagement provided with laterally extending flanges to form heads of relatively large area, a receding margin whereby the metal of the casting is permitted to converge over the perimeter and envelop the periphery of the inclined face of said heads, and a supporting stem having a neck portion of reduced diameter adjacent to the outer surface of said head.

4. An adjustable chaplet comprising two separable parts adapted for screw-threaded engagement, a sleeve and stud each having a laterally extending flange of relatively large area to form heads having an uninterrupted plane outer-surface, and one or more transverse openings communicating with the screw-threaded interior of said sleeve.

974,219. STALK-CUTTER. FRIDOLIN WERNER, Sr., Cibolo, Tex. Filed June 16, 1910. Serial No. 567,256.



1. A stalk cutter comprising a casing open at its forward and rear ends, a draft means attached to the casing, axle sections attached to the sides of the casing, supporting wheels journaled upon the axle sections, a cutting bar secured at its end portions to the axle sections and sides of the casing, a shaft journaled for rotation in the casing, means operatively connecting said shaft with the supporting wheels, and cutting blades carried by the shaft and adapted to coöperate with the cutting bar during the chopping operation.

2. A stalk cutter comprising a casing open at its forward and rear ends, a draft means attached to the casing, axle sections attached to the sides of the casing and having their lower portions downwardly and forwardly inclined, supporting wheels journaled to the upper ends of the axle sections, a cutter bar secured to the lower portions of the axle sections and the sides of the casing and having its forward cutting edge upwardly disposed, a shaft journaled in the casing, means for operating the shaft from the supporting wheels and cutting blades carried by the shaft and adapted to coöperate with the said cutter bar.

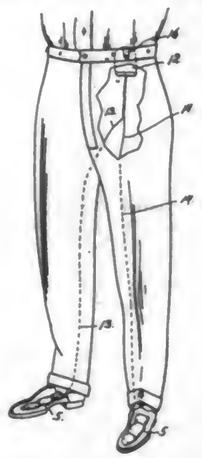
3. A stalk cutter comprising a casing open at its forward and rear ends, a draft means attached to the casing, axle sections attached to the sides of the casing, supporting wheels journaled upon said axle, a cutter bar adjustably attached to the axle sections and sides of the casing, a shaft journaled for rotation in the casing, means for rotating the shaft from the supporting wheels and cutting blades adjustably carried by the shaft and adapted to cooperate with the cutter bar.

4. A stalk cutter comprising a casing open at its forward and rear ends, a draft means attached to the casing, axle sections attached at the sides of the casing and having their lower portions forwardly and downwardly inclined, supporting wheels journaled to the upper portions of the axle sections, a cutter bar adjustably secured to the axle sections and the sides of the casing and having its forward cutting edge upwardly disposed, a shaft journaled for rotation in the casing, means for operating the shaft from the supporting wheels and cutting blades, adjustably carried by the shaft and adapted to coöperate with the cutter bar.

974,220. ELECTRIC INSOLE. CHARLES W. WEST, Denver, Colo., assignor to The Electro-Curo Company, Denver, Colo. Filed Mar. 23, 1908. Serial No. 422,846.

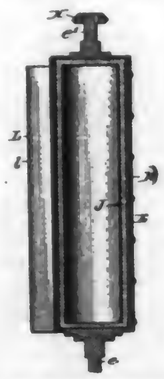
1. The combination with a portable battery of a pair of insoles in electrical connection with said battery, each of the insoles composed of a number of metal members, a strip of flexible conducting material centrally and rigidly connected with an intermediate metal member, the opposite extremities of the strip being in frictional contact with the metal members on either side of the intermediate member, a strip of flexible insulating material applied to the metal members, the strip of conducting material being

interposed between the metal members and the insulating material, and conductors leading from the poles of the battery to the metal members of the respective insoles.



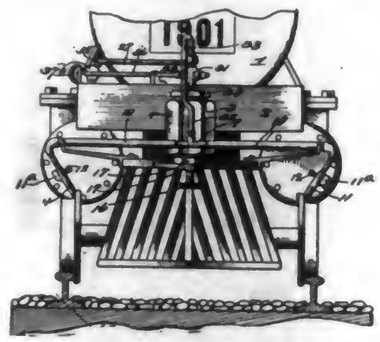
2. The combination with a portable battery, of a pair of insoles in electrical connection with said battery, the insoles consisting of a plurality of metallic members, a strip of flexible conducting material connected with an intermediate member and loosely engaging the members on the opposite sides of the intermediate member, and conductors leading from the poles of the battery to the metallic members, substantially as described.

974,221. WATER-MOTOR. LOUISA M. WILBER, Buffalo, N. Y. Filed Aug. 27, 1908. Serial No. 450,529.



A water-motor comprising a support having a particircular pocket, a cylindrical vertically-disposed hollow body lined with a plastic substance and adapted to be supplied or filled with a liquid, said hollow body being located in said pocket, fixed vertically-disposed impact wings spaced around the periphery of said hollow body and secured to the cylindrical wall thereof, each impact wing extending from top to bottom of said hollow body and consisting of two curved walls extending outward from said body and of parti-crescent shape in cross-section so as to present a concaved surface against which the flowing water acts and a convex surface readily movable into the water in the pocket of said support, said curved walls being in fixed relation to the cylindrical wall of said hollow body, and trunnions at opposite ends of said hollow body.

974,222. LUBRICATOR. AUSTIN D. WILLIAMS, Roseville, Cal. Filed June 16, 1909. Serial No. 502,411.



1. In a lubricator, oil and steam chambers having a diaphragm dividing them operable by the pressure of steam, a valve controlled chamber adjacent the oil chamber, a duct leading therefrom provided with a T-pipe, ducts leading from either side of the T-pipe, said T-pipe having independent passages for oil and steam, and means for affording communication between the T-pipe and the steam chamber.

2. In a lubricator, the combination of the engine's wheels, of a casing having oil and steam chambers, a spring tensioned valve controlled chamber below the oil chamber and provided with a duct leading therefrom, a T-pipe having independent passages for the oil and steam, said duct having communication with the oil passage, and means for affording communication between the steam chamber and the T-pipe, said T-pipe having means for conveying steam and oil to the flanges of the wheels.

3. In a lubricator, the combination of the engine's wheels, of a casing having oil and steam chambers, a spring tensioned valve controlled chamber below the oil chamber and provided with a duct leading therefrom, a T-pipe having independent passages for the oil and steam, said duct having communication with the oil passage, means for affording communication between the steam chamber and the T-pipe, said T-pipe having pipes having their extremities provided with movable nozzles for conveying steam and oil to the flanges of the wheels.

4. In a lubricator, the combination of the engine's wheels, of a casing having oil and steam chambers, a spring tensioned valve controlled chamber below the oil chamber and provided with a duct leading therefrom, a T-pipe having independent passages for the oil and steam, said duct having communication with the oil passage, a tube having a valve therein for affording communication between the steam chamber and the T-pipe, said T-pipe having means for conveying steam and oil to the flanges of the wheels.

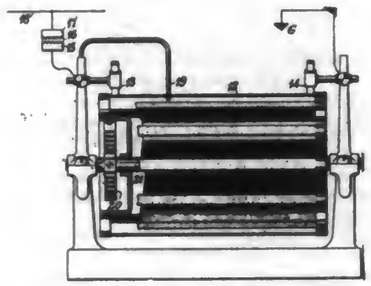
5. In a lubricator, the combination of the engine's wheels, of a casing having oil and steam chambers, a spring tensioned valve controlled chamber below the oil chamber and provided with a duct leading therefrom, a T-pipe having independent passages for the oil and steam, said duct having communication with the oil passage, a tube having a valve therein for affording communication between the steam chamber and the T-pipe, said T-pipe having conduits having their extremities provided with movable nozzles for conveying steam and oil to the flanges of the wheels.

[Claims 6 and 7 not printed in the Gazette.]

974,223. LIGHTNING-ARRESTER. ALEXANDER JAY WURTS, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Sept. 5, 1905. Serial No. 277,104.

1. An electrical fuse comprising a plate of frangible insulating material and a film of conducting material covering said plate, the passage of current through said material serving to destroy it and to fracture said plate.

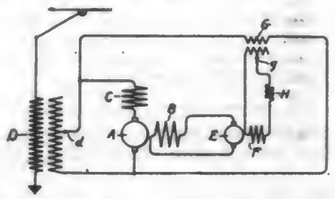
2. An electrical fuse comprising a plate of frangible insulating material and a film of fusible conducting material upon its surface, the fusing of which fractures said plate.



3. An electrical fuse comprising a plate of frangible insulating material and a film of fusible conducting material covering its surface, destruction of which, by the passage of current therethrough, also ruptures the plate of insulating material, the mass of the conducting material being so small as to preclude the production of sufficient amounts of gases or vapors to form a conducting medium after the destruction of the fuse.

4. An electrical fuse comprising a non-conducting frangible body and a fusible conducting film covering its surface the fusing of which breaks said frangible body and produces only a negligible amount of conducting vapor.

974,224. ELECTRIC BRAKING. ERNST F. W. ALEXANDERSON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct. 9, 1909. Serial No. 521,924.



1. The method of operating an alternating current commutator motor as a generator returning energy to the source for dynamic braking, which consists in connecting the motor armature to the source, separately exciting the motor field with current approximately in phase with the voltage of the source, varying simultaneously the connections between the motor armature and the source and the strength of the current supplied to the motor field to vary the braking torque, and varying the strength of said current independently to adjust the motor voltage for different speeds.

2. The method of operating an alternating current commutator motor as a generator returning energy to the source for dynamic braking, which consists in connecting the motor armature to the source through a transformer, separately exciting the motor field with current approximately in phase with the voltage of the source, varying simultaneously the ratio of transformation of said transformer and the strength of the current supplied to the motor field to vary the braking torque, and varying the strength of said current independently to adjust the motor voltage for different speeds.

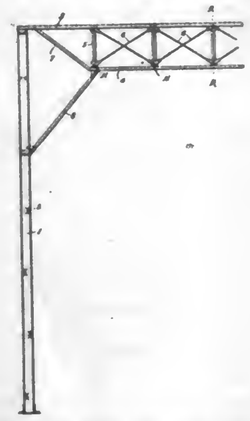
3. The method of operating an alternating current commutator motor and an exciter therefor to cause the motor to act as a generator returning energy to the source for dynamic braking, which consists in connecting the exciter armature to the motor field and the motor armature and exciter field to the source, varying simultaneously the connections from the source to motor armature and exciter field to adjust the braking torque, and varying independently the voltage impressed on the motor field by the exciter armature to adjust the motor armature voltage for different speeds.

4. The method of operating an alternating current commutator motor and an exciter therefor to cause the motor to act as a generator returning energy to the source for dynamic braking, which consists in connecting the exciter armature to the motor field and the motor armature and exciter field to the source through a transformer, varying the ratio of transformation of said transformer and thereby affecting proportionally the motor armature and exciter field to vary the braking torque, and varying independently the voltage impressed from the source on the exciter field to adjust the motor armature voltage for different speeds.

5. In combination with an alternating current commutator motor and a source of current therefor, means for supplying to the motor field a current approximately in phase with the voltage of the source, means for connecting the motor armature to the source and for varying simultaneously the connections between the motor armature and the source and the strength of current supplied to the motor field, and independent means for varying independently the strength of said current.

[Claims 6 to 8 not printed in the Gazette.]

974,225. BRIDGE FOR SUPPORTING TROLLEY-WIRES BY MEANS OF THE CATENARY SYSTEM. ROBERT L. ALLEN, Syracuse, N. Y., assignor to Archbold-Brady Company, Syracuse, N. Y., a Corporation of New York. Filed Aug. 27, 1909. Serial No. 514,936.



1. A truss comprising upper and lower chords, posts of angle-iron interposed between the chords, each post having its end sections flattened and secured to the chords, and a diagonal member connecting the upper end of each post with the lower end of the next post, the diagonal members being secured to the flattened end sections of the posts, substantially as and for the purpose described.

2. A truss comprising upper and lower chords, and posts of angle-iron interposed between the chords, each post having its end sections flattened, and each flattened end section having its outer portion bent at an angle to the remaining part of said flattened section and secured to one of the chords, substantially as and for the purpose specified.

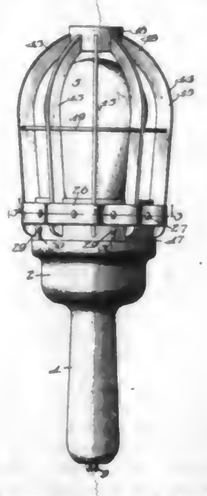
3. A truss comprising upper and lower chords, posts of angle-iron interposed between the chords, each post having its end sections flattened, and each flattened end section having its outer portion bent at an angle to the

remaining part of said flattened section and secured to one of the chords, and a diagonal member connecting the upper end of each post with the lower end of the next post, the diagonal members being secured to the flattened sections of the posts, substantially as and for the purpose set forth.

4. A steel structure comprising opposing main elements spaced apart and members connecting the main elements, said members being formed of angle iron and each member having its end sections flattened, and each end section having its outer portion bent at an angle to the remaining part of said flattened section and secured to one of the main elements, and diagonal members connecting the formed members, the diagonal members being secured to the flattened end sections of said former members, substantially as and for the purpose specified.

5. A bridge for supporting trolley wires by means of the catenary system comprising towers spaced apart, a truss connecting the towers, the truss comprising upper and lower chords formed of channel-iron, the upper chord extending from one tower to the other, and the lower chord having its intermediate portion extending substantially parallel to the upper chord, and each of its end portions converging toward the upper chord, posts interposed between the chords and formed of angle-iron, each post having its end sections flattened and each flattened end section having its outer portion bent at an angle to the remaining part of the flattened section and secured to the web of one of the chords, and a diagonal member connecting the upper end of each post with the lower end of the next post, the diagonal members being secured to the flattened sections of the posts, and a knee brace connecting each tower and the lower chord, substantially as and for the purpose set forth.

974,226. PORTABLE LAMP AND GUARD THEREFOR. REUBEN B. BENJAMIN, Chicago, Ill., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed June 7, 1907. Serial No. 377,785.



1. A lamp guard comprising an end member, a plurality of guard strips interlocking at their ends with said end member, a second end member interlocking with the other ends of said guard strips, and means for retaining one of said end members and the ends of said guard strips in their interlocked position.

2. A lamp guard comprising an end member, a plurality of guard strips interlocking at their ends with said end member, a second end member interlocking with the other ends of said guard strips, and a retaining member surrounding said last-mentioned end member and the ends of the guard strips to retain them in their interlocked position.

3. A lamp guard comprising an end member, a plurality of guard strips interlocking at their ends with said end member, a ring interlocking with the other ends of said guard strips, and a retaining member surrounding said ring and the ends of the guard strips to retain them in their interlocked position.

4. A lamp guard comprising an end member, a plurality of guard strips interlocking at their ends with said end member, a ring interlocking with the other ends of said strips, and a retaining strip surrounding said ring and the ends of the guard strips to retain them in their interlocked position, said retaining strip being secured to said ring at points intermediate the guard strips.

5. A lamp guard comprising an end member, a plurality of guard strips connected at their ends thereto, a ring interlocking with the other ends of said guard strips, means for retaining the ends of said guard strips and said ring in interlocked relation, and a spacing ring engaging said guard strips intermediate their ends.

[Claims 6 to 21 not printed in the Gazette.]

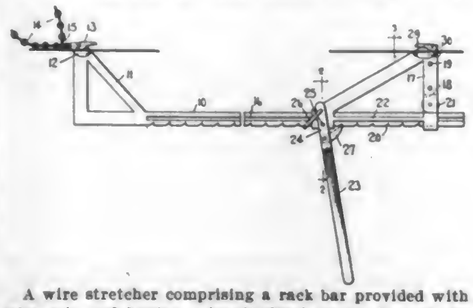
974,227. ELECTRODE FOR ARC-LAMPS. EDWARD R. BERRY and EMILE J. GUAY, Lynn, Mass., assignors to General Electric Company, a Corporation of New York. Filed July 9, 1909. Serial No. 506,747.



1. An arc light electrode composed of a tube of aluminium with titanic material compacted therein.

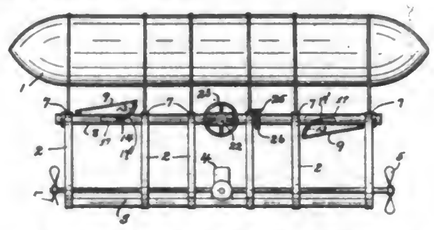
2. An arc light electrode composed of an aluminium tube with a filling of titanium carbid.

974,228. WIRE-STRETCHER. ADOLPH A. BOE, Irene, S. D. Filed Apr. 22, 1908. Serial No. 428,526.



A wire stretcher comprising a rack bar provided with a wire grip and having a longitudinal groove in each side; a frame slidably mounted on the rack bar, said frame comprising a pair of bars apertured to receive the rack bar, one of said bars extending laterally and the other diagonally with respect to said rack bar, said bars being connected at the ends remote from the rack bar and spaced from each other at opposite ends, a second pair of bars connecting the last mentioned bars at their spaced ends and working in the grooves of the rack bar; a wire grip carried by the aforesaid frame; a lever pivoted to the frame; and a pair of pawls pivoted to said lever and alternately engageable with said rack bar.

974,229. STEERING MECHANISM FOR FLYING-MACHINES. CARL BOSTEL, Cleveland, Ohio. Filed May 1, 1909. Serial No. 493,242.

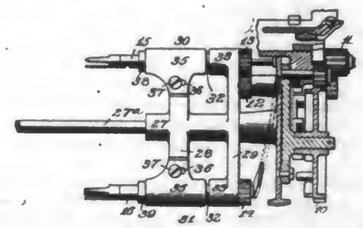


1. In steering mechanism for flying machines, the combination of a frame, a shaft rotatably mounted in said frame, steering planes hinged at each end of said shaft, arms pivotally secured to the free ends of said planes, sliding blocks arranged within said shaft, means connecting said arms and said blocks, bars connected to said blocks and provided at their free ends with racks, a gear wheel mounted in said shaft and adapted to mesh with said racks on said rods and means for rotating said gear wheel, for the purpose set forth.

2. In steering mechanism for flying machines, the combination of a frame, a shaft rotatably mounted in said frame, steering planes hinged at each end of said shaft, said planes being arranged on diametrically opposite sides of said shaft, means for rotating said shaft so as to change said planes from a horizontal to a vertical position and means for simultaneously changing the angle of said planes relative to said shaft, said means comprising curved arms pivotally secured to the free ends of said planes, sliding blocks arranged within said shaft, means connecting said arms and said blocks, bars connected to said blocks and provided at their free ends with racks, a gear wheel mounted in said shaft and adapted to mesh with said racks on said rods, means for rotating said gear wheel and guide pins arranged on said shaft and adapted to engage the said curved arms, substantially as described.

3. In steering mechanism for flying machines, the combination of a frame, a shaft rotatably mounted in said frame, steering planes hinged at each end of said shaft, said planes being arranged on diametrically opposite sides of said shaft, means for rotating said shaft so as to change said steering planes from a horizontal to a vertical position, means for locking said shaft against rotation, arms pivotally secured to the free ends of said planes, sliding blocks arranged within said shaft, means connecting said arms and said blocks, bars connected to said blocks and provided at their free ends with rack teeth, a gear wheel mounted in said shaft and adapted to mesh with said rack teeth on said rods and means for rotating said gear wheel, for the purpose set forth.

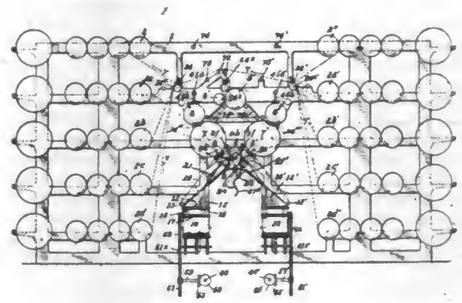
974,230. APPLE-PARING MACHINE. WILLIAM H. BOUTELL, Rochester, N. Y., assignor to Boutell Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed Sept. 23, 1905. Serial No. 279,752.



1. In a paring machine, the combination with a supporting frame, a fruit fork and a paring knife having a shank, of a turntable provided with a lower slotted arm for guiding the shank and an upper supporting arm, having open bearings therein, a sleeve loosely surrounding the shank having trunnions resting in said bearings, an arm secured to the shank above the sleeve and a spring operating on the arm to yieldingly hold the paring knife in operative position on the turntable.

2. In a paring machine, the combination with a frame, and a paring knife supported thereon, of a revoluble reel adapted to support a plurality of fruit forks provided with a forward and rear arm for each fork, a tubular bearing secured in each of the rear arms and supported by the forward arms, spindles journaled in the bearings having forks thereon and each provided with a collar located at one side of its respective forward arm and a pinion abutting the rear arm and limiting its outward movement and cap plates on each of the forward arms adjustable longitudinally on the bearings and coöperating with the collars to take up lengthwise lost motion of the spindles in their bearings, and means for rotating the reel and driving the fork pinions.

974,231. APPARATUS FOR PRINTING AND FOLDING PAPERS. JOHN A. BOYCE, Springfield, Ill. Filed Oct. 1, 1906. Serial No. 336,856.



1. In a double-ender printing and folding apparatus, the combination of printing couples at both ends of the machine, oppositely inclined formers between the printing couples of the two ends of the machine, a supplement cutter-mechanism intermediate of the formers, main cutter-mechanisms adjacent to the formers respectively, a slitter device intermediate of the main cutter-mechanisms and adapted to divide the supplement web into plural web members, means for leading sheets cut by the supplement cutter-mechanism alternately to opposite formers, the sheet cut from one member of the supplement web going to one former and the next sheet cut from the same member of the supplement web going to an opposite former, and so on in succession, and means for leading the main sheets and the supplement sheets to and along the formers, with the supplement sheets next to the formers.

2. In an apparatus adapted to perfect and fold a continuously moving web, the combination of main carrier devices having their axes in line with the initial line of travel of the web operated upon, opposite folder mechanisms having their axes parallel to the initial line of travel of said web, and a delivery device intermediate of and simultaneously receiving papers folded separately by said folder mechanisms.

3. The combination of means for continuously propelling a plural-plate-wide main-web and a plural-plate-wide supplement-web, a severing device adapted to cut the main web longitudinally and a severing device adapted to cut the main web transversely to form two-leaf sheets in rows; a severing device adapted to cut the supplement web longitudinally and a severing device adapted to cut the web transversely, to form pairs of rows of supplement sheets; means for propelling the supplement sheets of one row of a pair directly to a carrier cylinder turning in one direction; means for propelling the supplement sheets of

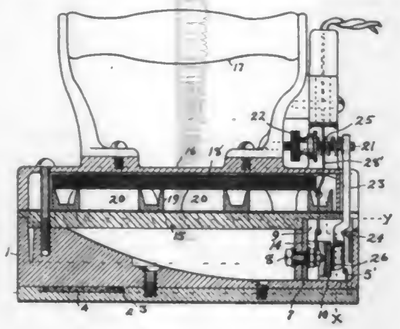
the complemental row of the same pair directly to another carrier cylinder turning oppositely to said first named carried cylinder and means for inserting the supplement sheets with the main sheets.

4. The combination of means for printing on a plural-plate-wide supplement web the matter of one-leaf sheets in pairs of rows, means for printing on plural-plate-wide webs the matter of two-leaf sheets in rows, means for associating all the webs, means for propelling all of the webs in unison, means for leading the supplement web apart from the main webs and dividing it into one-leaf sheets, means for dividing the other webs into two-leaf sheets, and means for alternately associating in a direct run the one-leaf sheets with the two-leaf sheets of the different webs, the one leaf sheets of one row of a pair being associated with the two-leaf sheets derived from one web running on a carrier device revolving in one direction and the one leaf sheets of the complemental row of the same pair being associated with the two-leaf sheets derived from the other web, and running on a carrier device revolving in a direction opposite to the direction of revolution of said first named carrier device.

5. The combination of means for printing on a plural-plate-wide web the matter of one-leaf sheets in pairs of rows, means for printing on plural plural-plate-wide webs the matter of two-leaf sheets in rows, means for associating all the webs and propelling all of the webs in unison, means for propelling said first named web apart from the other associated webs, means for dividing the first named web into one-leaf sheets, means for dividing the other webs into two-leaf sheets, means for alternately associating the one-leaf sheets with the two-leaf sheets of the different webs, the one leaf sheets of one row of a pair being associated with the two-leaf sheets derived from one web, running on a carrier device revolving in one direction and the one-leaf sheets of the complemental row of the same pair being associated with the two-leaf sheets derived from the other web and running on a carrier device and revolving in a direction opposite to the direction of revolution of said first named carrier device and means for interfolding the one-leaf sheets with the two-leaf sheets.

[Claims 6 to 155 not printed in the Gazette.]

974,232. ELECTRICAL SAD-IRON. WILLIAM A. BRAUN, Fort Wayne, Ind., assignor of one-half to Fremont L. Jones, Fort Wayne, Ind. Filed Feb. 23, 1910. Serial No. 545,413.



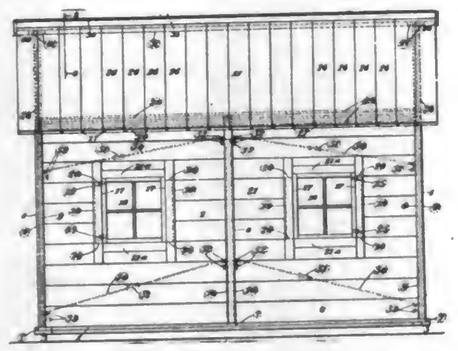
1. In apparatus of the class described, a hollow base, an electrical heating element therein; an electrical contact terminal; an expanding member in connection with the base and having normal contact with the terminal; two line-wires, said heating element expanding member, and terminal being connected in electrical series between said wires; a lever suitably fulcrumed, adapted to act against the expanding member toward the terminal; and a spring external of the base, adapted to actuate the lever.

2. In apparatus of the class described, a hollow base, an electrical heating element therein, an electrical contact terminal, an expanding member in connection with the base and normally resting in contact with the terminal, two line wires, said heating element expanding member, and terminal being connected in electrical series between said wires, and a spring pressed lever acting against the expanding member toward the terminal.

3. In apparatus of the class described, a hollow base, an electrical heating element therein, an expanding member, an electrical contact terminal, two line wires, said heating element, expanding member, and contact terminal being connected in electrical series between said wires, the expanding member normally resting in contact with the terminal and adapted to break contact therewith when expanded by heat emanating from the heating element, and means for applying spring pressure to the expanding member toward the terminal.

4. In apparatus of the class described, a hollow base, an electrical heating element therein, two line-wires, an expanding member arranged in electrical series with the heating element between said wires and being adapted to break the electrical circuit thereby formed when sufficiently expanded by heat emanating from the heating element, and means for applying spring pressure to the expanding member.

974,233. PORTABLE HOUSE. ROBERT R. BREWER, St. Louis, Mo. Filed Oct. 11, 1909. Serial No. 522,055.



1. In a portable building, the combination of a roof comprising a ridge-pole having a pair of grooves, a plurality of roof-boards, each of said roof-boards being inserted into one of said grooves, each end roof-board being provided with a strip of wood, each intermediate roof-board being provided with a pair of cleats, a pair of side walls, a pair of end walls, said ridge-pole being supported by said end walls, said cleats on each intermediate roof-board being adapted to straddle the top of a side wall, a plurality of screw-eyes attached to one of said cleats on each roof-board, a plurality of screw-eyes attached to each side wall, a pair of chains, each of said chains being laced through all of said screw-eyes on a side of the building, and means for securing each end of said chains to the building.

2. In a portable building, the combination of a roof comprising a plurality of boards, each end of each of said boards being provided with a cleat, each of said cleats being provided with a screw-eye, a wall adapted to support an end of each of said boards, a plurality of screw-eyes attached to said wall and adjacent said first-mentioned screw-eyes, a chain laced through all of said screw-eyes, and means for securing each end of said chain to said wall.

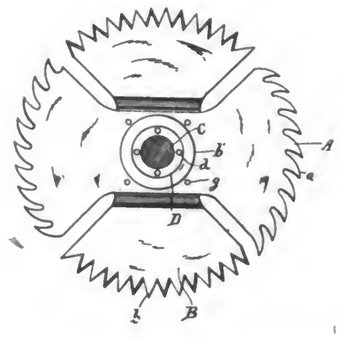
3. A portable building including a plurality of walls, a roof supported from said walls and comprising a ridge-pole having a pair of grooves, a plurality of roof-boards adapted to fit into said grooves, each of said roof-boards having rabbeted edges, each of said roof-boards being provided with a pair of cleats and with screw-eyes, a plurality of screw-eyes secured to each wall supporting said roof and adjacent said cleats, a pair of chains, each of said chains being laced through adjacent screw-eyes on each side of said building, substantially as and for the purpose set forth.

4. In a portable building, a pair of uprights, a pair of members forming the sides of a window frame, each end of each of said members being slotted and the outer sides of said members being grooved between said slots thereof, boards arranged between the uprights, the boards adjacent said members extending into the slots thereof, short boards extending in said grooves of the members and secured to the uprights, and a pair of boards secured to and disposed on opposite sides of the boards at the top and bottom of the window.

5. In a portable building, a pair of uprights, a pair of members forming the sides of a window frame, each end of each of said members being slotted and the outer sides of said members being grooved between said slots thereof, boards arranged between the uprights, the boards adjacent said members extending into the slots thereof, short boards extending in said grooves of the members and secured to the uprights, the boards engaging in said slotted ends of the members which form the sides of a window frame acting as supports for said members.

[Claims 6 to 8 not printed in the Gazette.]

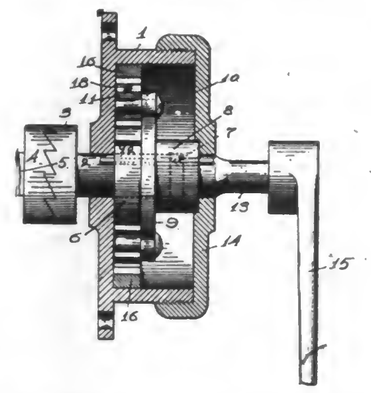
974,234. CUTTER-HEAD. JOSEPH H. BURKE, Portland, Me. Filed Jan. 15, 1910. Serial No. 538,221.



1. In an expansible cutter head, the combination of an arbor having an annular flange thereon, a cutter plate as B fitting on said arbor and impinging against said flange, said plate having its opposite ends expanded and provided with a plurality of cutting teeth and having its central portion contracted laterally and offset to form a central recess, a cutting plate as A having expanded ends and laterally contracted central portion fitting in the recess of the plate B with a screw threaded central opening concentric with the arbor, a bushing fitting the arbor and impinging against the face of the plate B and having a screw thread on its outer surface engaging the screw thread in the opening in plate A, a collar impinging against said bushing and a nut on the end of the arbor for holding the parts in place.

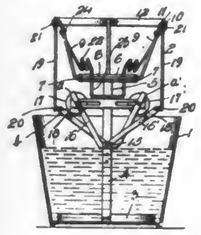
2. In an expansible cutter head, the combination of an arbor having an annular flange thereon, a pair of cutter plates as B and A fitting on said arbor and disposed at right angles to each other, each having expanded ends provided with cutting teeth and laterally contracted central portions, the central portions of said plates being formed so that the edges come in the same plane when the cutter head is closed, the plate A having a central screw threaded opening, a bushing fitting over the arbor and having a screw threaded periphery engaging the screw thread in said opening and a collar and nut for holding the parts in place.

974,235. CRANKING MECHANISM FOR AUTOMOBILES. JAMES B. CASTLE, San Francisco, Cal., assignor of one-half to Robert S. Moore, San Francisco, Cal. Filed Sept. 7, 1909. Serial No. 516,322.



The combination with a casing for attachment to an automobile, of a cranking shaft extended therein, said shaft carrying a clutch member for engagement with the clutch member of an engine shaft, a head rotatable within the casing and through which the cranking shaft is slidable, a hub into which the projecting end of said shaft extends, a disk carried by said hub, a dog pivoted to said disk for engagement with the head for the cranking shaft, a rack ring immovable in the casing, a pawl pivoted to the head of the dog for engagement with the said ring to release the dog from engagement with the head of the cranking shaft on a back explosion of the engine being cranked, and devices for imparting rotation to the hub within the casing to operate the cranking shaft.

974,236. MOP-WRINGER. THOMAS F. CONDON, East Dorset, Vt. Filed Apr. 26, 1910. Serial No. 557,728.

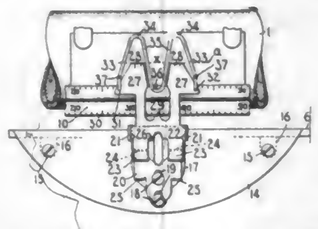


1. A mop wringer, comprising a supporting frame provided with two upwardly projecting members, one of the members being long and curved outwardly at its upper end, bell crank levers pivoted to the two members of the frame, rollers mounted in the bell crank levers, a double crank journaled in the upper end of the longer member of the frame, an operating fork having a foot treadle, and having operable connection with the double crank lever, links connecting the bell-crank levers to the ends of the fork, and a spring having a tension upon the double-crank for holding the rollers apart.

2. A mop wringer, comprising a supporting frame, provided with an upwardly and outwardly projecting member, double bell-crank levers pivoted to the frame, a roller mounted between the members of each bell-crank lever, a fork, a treadle for operating the fork, a spring returned operating member attached to the fork, and means for operatively connecting the fork with the two bell crank levers.

3. A mop wringer, comprising a supporting frame having an upwardly and outwardly projecting member, two double bell-crank levers pivoted to the frame, a roller mounted between the members of each bell-crank lever, a fork, a treadle for operating the fork, a spring returned member attached to the member of the frame and operatively connected to the fork, and two links operatively connecting the bell-crank levers and the fork.

974,237. TYPE-WRITING MACHINE. THOMAS J. COO, Toronto, Ontario, Canada, assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Oct. 21, 1907. Serial No. 398,424.



1. In a typewriting machine, the combination of a platen, and a card guide carried by a fixed portion of the machine and having a wire extension that crosses the printing line and is looped at the top and bottom.

2. In a typewriting machine, the combination of a platen, and a card guide having openings in the guiding portions thereof through which the writing may be seen, said guide being carried by a fixed portion of the machine and having an extension that crosses the printing line and is in the general form of an inverted W.

3. In a typewriting machine, the combination of a platen, and a card guide carried by a fixed portion of the machine and having two sets of arms with openings between the arms of each set, said arms extending across the printing line with one set on each side of the printing point.

4. In a typewriting machine, the combination of a cylindrical platen, and a card guide carried by a fixed portion of the machine and having two sets of arms with openings between the arms of each set, said arms conforming generally to the curvature of the platen and extending across the printing line with one set on each side of the printing point.

5. In a typewriting machine, the combination of a platen, a card guide carried by a fixed portion of the machine and having two sets of arms with openings between the arms of each set, said arms extending across the printing line with one set on each side of the printing point, and spring means for effecting a pressure of said arms against the platen.

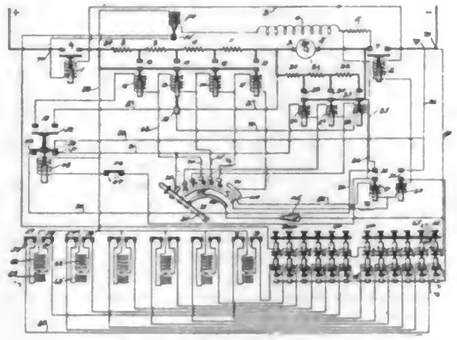
[Claims 6 and 7 not printed in the Gazette.]

974,238. MOTOR CONTROL. ANDREW M. COYLE, New York, N. Y., assignor to Otis Elevator Company, Jersey City, N. J., a Corporation of New Jersey. Filed Jan. 30, 1908. Serial No. 413,473.

1. In a system of electrical control, the combination with a source of current supply, of an electric motor, controlling devices for the motor, a plurality of electromagnets, and selective devices operative respectively to effect the energization of one or both of said electromagnets.

2. In a system of electrical control, the combination with a source of current supply, of an electric motor, motor controlling mechanism, a brake magnet, a trip magnet, and means for effecting the energization of either the brake magnet alone or both the brake magnet and trip magnet when current is supplied to the motor.

3. In a system of electrical control, the combination with a motor, of a source of current supply, motor controlling mechanism, a plurality of electro-magnets, and devices for effecting the energization of said magnets when current is supplied to the motor, one of said devices controlling one of said magnets and the other of said devices controlling both of said magnets.

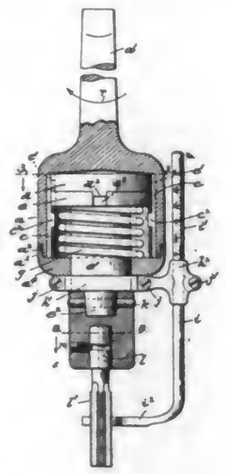


4. In a system of electrical control, the combination with a source of current supply, of an electric motor, controlling mechanism for the motor, a brake magnet coil, a trip magnet coil, a circuit for the brake magnet coil, a circuit including both of said coils, and selective devices for controlling said circuits.

5. In a system of electrical control, the combination with a source of current supply, of a motor, controlling mechanism therefor, a brake magnet coil, a trip magnet coil, circuits for said coils each open at a plurality of points, selective devices for manually closing each circuit at one point, and means for automatically completing said circuits when current is supplied to the motor.

[Claims 6 to 9 not printed in the Gazette.]

974,239. TAPPING AND DRILLING CHUCK. JOSEPH A. DALTON, Pawtucket, R. I., assignor of one-half to Peter J. Quinn, Pawtucket, R. I. Filed Dec. 23, 1909. Serial No. 534,624.



1. In a tool of the class described, a housing having a stock for connection with a power driven machine spindle and said housing provided with two diametrically opposite grooves, a closure secured on said housing and provided with an opening, a key secured in each groove and having integral blocks projecting in the bore of said housing, a clutch member made fast at the bottom of the bore of said housing, a movable clutch member provided with a series of slots to receive the blocks of said keys and having a concentric hub projecting through the opening of the closure and said hub having a reduced shank, a coil spring surrounding the hub and interposed between the closure and the last mentioned clutch, a bar having a lateral portion to come in contact with the work to be tapped or drilled and said bar provided with graduated markings thereon, a support mounted on the hub and having means to frictionally hold said bar in position, and a head secured on the shank of the clutch-hub and provided with a socket to receive the shank of a tap or drill.

2. In a tool of the class described, a closed housing having a stock for connection to a power driven spindle, a fixed driving-clutch mounted in the housing, a working-clutch having an integral hub which is reduced to form a shank, and expanding spring to force the working-clutch into engagement with the driving-clutch after the tapping or drilling operation, a head secured on the shank of the clutch-hub and said shank provided with a socket to receive the shank of the tap or drill, means to engage the working-clutch during its operation of tapping or drilling, a support mounted on the clutch-hub and having a binder means, a stop-bar slidably mounted in the binder of said support and said bar provided with a graduated scale, whereby said bar may be set for the depth of hole desired to be tapped or drilled.

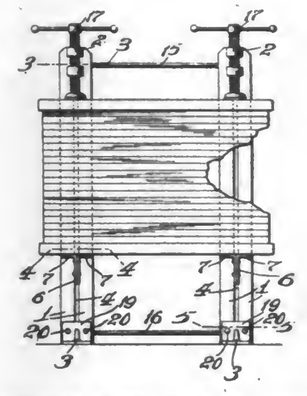
3. In a tool of the class described, a closed housing having a stock for connection to a power driven spindle, a driving-clutch member fixed in the housing, keys secured in the housing and having integral blocks, a working-clutch member adapted to engage the first mentioned clutch and provided with a series of slots to receive the blocks of said keys and said second mentioned clutch having a hub projecting from the housing and having a reduced shank, a head secured on the shank of said hub and provided with a socket for the reception of a tap or drill, a support mounted on the hub and having a clamping portion, a bar slidable in the clamping portion of said support and provided with graduated markings and said bar adapted to come in contact and act as a stop upon the surface of the work prior to the latter being tapped or drilled, and means to cause the working-clutch to release from engagement with the blocks of said keys after the tapping operation.

4. In a tool of the class described, a closed housing having a stock for connection with a machine-spindle which is automatically driven to respectively feed and reverse the motion of the tap or drill, a disk-shaped clutch fixedly secured in said housing, a disk-shaped working-clutch having an integral hub projecting from said housing and said clutch provided with a series of slots formed in its sides a tap or drill-head secured on a reduced portion of the hub and provided with a socket to receive the tap or drill, means to lock the working-clutch by its slots with said housing during the feeding depth of the tap or drill, a slidably mounted stop-bar carried by the tool to come in contact with the work and said bar provided with a graduated scale to give the desired depth of hole to be tapped or drilled, and means to force the working-clutch into engagement with the fixed clutch after the tapping or drilling operation.

974,240. WOODWORKER'S PRESS FOR GLUED WORK. JOHN M. DARR, St. Louis, Mo. Filed Aug. 20, 1910. Serial No. 578,214.

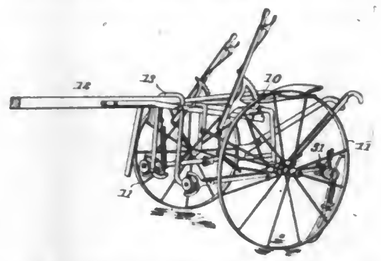
1. The improved woodworker's press for glued work, comprising vertical standards in the form of pairs of angle-beams, the beams of each pair being spaced apart and held parallel to each other to form a space between each beam of each pair, a supporting and bracing foot-piece clamped in the space between said angle-beams of each pair, a sliding bracket mounted loosely in said space between each pair of beams, and a head-piece clamped between the upper ends of each pair of beams and carrying a hand-screw, substantially as specified.

2. The improved woodworker's press, comprising the pairs of angle-beam standards 1- composed each of two angle-beams spaced apart and provided with a vertical-series of holes 10, the foot-pieces 3 having a web 18 clamped in the space between said pairs of angle-beams, the sliding bracket 6 having a web loosely mounted in said space between said beams and provided with a hole adapted to register with said vertical-series of holes in said beams, a pin 9 for engaging the walls of said registering holes to support said bracket, and the head-piece 2 having its body-portion 11 clamped in the space between said beams at the upper portion thereof and also having the vertical front and back shoulders 12 which engage the front and back edges of said angle-beams, and also carrying a hand-screw.



3. The improved woodworker's press, comprising pairs of angle-beams, head and foot pieces clamped between the beams of each pair, the head-pieces carrying a hand-screw, brackets arranged to slide in the spaces between the beams of each pair, and horizontal tie-rods provided with clamping-nuts.

974,241. CULTIVATOR. GEORGE W. DAVIS, Blossom, Tex. Filed July 29, 1909. Serial No. 510,283.



1. In a cultivator, the combination with a body portion, of a bar carried by said body portion, a hollow disk mounted on said bar, and having an inner serrated face, a second disk engaged against said first disk and having a corresponding serrated face, a sleeve member positioned against the outer face of said second disk, said second disk and said sleeve member having corresponding curved and serrated faces arranged at right angles to said first serrated faces, a standard engaged through said sleeve members, a bolt engaged about said standard and through said disks, said first disk having a longitudinal slot formed through the outer wall thereof, the outer face of said first disk being curved, and a washer carried by said bolt for slidable engagement through the curved faces of said first disk.

2. In a cultivator, the combination with a body portion, of a shovel beam located thereon, a disk carried by said shovel beam, a second disk rotatably disposed against said first disk, a sleeve member arranged against said second

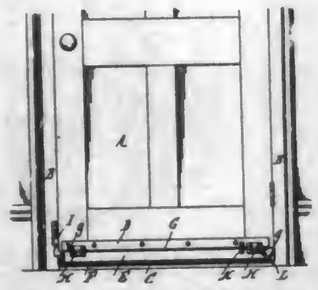
disk, a standard carried by said sleeve member, a hand lever mounted upon said second disk, a rack disposed on said first disk and adapted for coöperation with said hand lever, a pair of plates carried by said hand lever, adapted for independent operation, said plates adapted to engage alternately upon the upper edges and between the teeth of said rack to permit of the fine adjustment of the angle of said standard, and means connected to said plates for withdrawing the same independently from said rack.

3. A cultivator including a bar, a hollow disk mounted on said bar and having a serrated face, a second disk engaged against said first disk and having a correspondingly serrated face, a sleeve member positioned against said second disk, said second disk and said sleeve member having interfitting curved and serrated faces, a standard carried through said sleeve member, and means carried by said disks and said sleeve member for clamping said standard and said disks rigidly in adjusted position.

4. A cultivator including a bar having a disk formed upon one end thereof with a flattened and serrated face, a second disk engaged against said first disk and having a correspondingly formed flattened face for interlocking engagement therewith, said second disk also having an outer concaved and serrated face, a sleeve member engaged against said second disk and having a convexed and serrated face for locking engagement with said second disk, a standard arranged through said sleeve member at right angles to said disks, and means engaged with said standard and said disk for clamping the same rigidly in various planes relative to one another.

5. A cultivator including a bar, a disk carried on said bar and having a serrated face, a second disk disposed against said first disk and having a correspondingly formed serrated face, said second disk also having a curved and serrated opposite face, a sleeve member engaged against the curved face of said second disk, a standard carried through said sleeve member and means for clamping said disks and said sleeve member together at various angles.

974,242. WEATHER-STRIP FOR DOORS. HOMER L. DAVIS, East Aurora, N. Y., assignor, by direct and mesne assignments, of one-third to Martin T. Devaney, one-third to Frank H. Rehler, and one-third to Charles K. Ernst, Buffalo, N. Y. Filed Oct. 23, 1908. Serial No. 459,168.

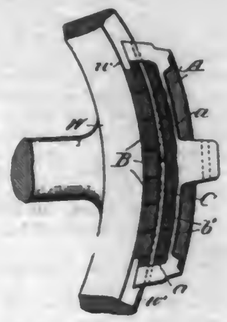


A weather-strip for doors comprising a fixed strip secured to the door, a movable strip connected with said fixed strip and provided with a piece of flexible material, the inner end of said movable strip being cut away leaving said flexible material exposed, and means for normally holding said movable strip in a raised position, substantially as set forth.

974,243. BRAKE-SHOE. JOHN H. DAVIS, Brooklyn, N. Y., assignor to Davis Brake Shoe Company, New York, N. Y., a Corporation of New York. Filed Mar. 3, 1910. Serial No. 547,079.

1. A friction brake shoe for railway cars having a longitudinal wedge-shaped recess opposite the tread of the shoe, and a series of removable replaceable friction sections loosely fitted in said slot.

2. In a friction brake shoe for railway cars the combination of a shoe having a longitudinal wedge-shaped recess, and removable beveled wooden sections loosely confined in said slot.



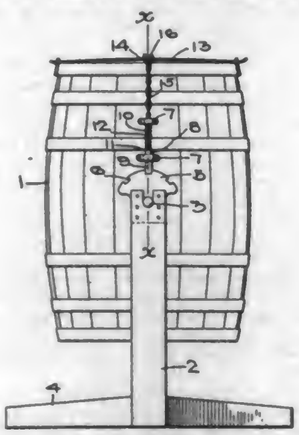
3. A brake shoe having a longitudinal recess opposite the tread of the wheel, said recess being approximately V-shaped in cross section; with movable friction sections loosely mounted in said recess and beveled to engage the beveled sides of the recess.

4. In combination a brake shoe having a longitudinal recess opposite the tread of the wheel, said recess being beveled on its sides, a series of removable wooden sections loosely mounted in said recess, and beveled on their sides to engage the beveled sides of the recess.

5. A brake shoe for flanged wheels, having a groove on its face to accommodate the flange of the wheel, and a recess in its face opposite the tread of the wheel wedge-shaped in cross section; with loose wearing sections in said recess having beveled sides engaging the beveled sides of the recess.

[Claims 6 to 11 not printed in the Gazette.]

974,244. CHURN ATTACHMENT. WILLIAM DE VRIES, Marion, N. D. Filed Feb. 7, 1910. Serial No. 542,535



1. A churn attachment comprising a spring actuated bolt attached to the barrel, or body portion thereof, a fixed segmental plate with which the bolt is adapted to coöperate and suitable connections between the latter and clamping means for the cover, whereby said bolt is automatically operated by the removal of the cover from the barrel.

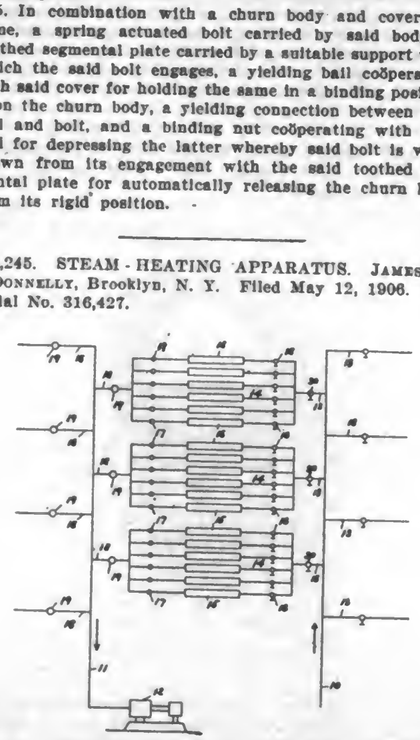
2. A churn attachment, a suitable device carried by the barrel or body portion of the churn and adapted to be automatically operated by the removal of the cover from the barrel, whereby the latter is held against movement.

3. In combination with a churn body, a suitable device carried thereby and adapted to be operated by the removal of the cover from the churn body, whereby said device is automatically operated for holding the body in a fixed position when the cover is removed.

4. In a churn attachment comprising in combination a suitable body and supports therefor, a segmental plate fixed to one of said supports, and having depressions formed therein, bearings fixed to one side of the body of the churn, a bolt passing freely through said bearings, the lower enlarged end of which is adapted for engagement with the recesses formed in the segmental plate, a coil spring interposed between the upper bearing and lower enlarged end of the bolt and encircling the latter, a clamping bail having a depending lip formed thereon and a chain connecting the upper end of the bolt with said lip, whereby when the clamping bail is removed for releasing the top of the barrel or body of the churn, the bolt is automatically released and allowed to engage with the toothed segmental plate.

5. In combination with a churn body and cover for same, a spring actuated bolt carried by said body, a toothed segmental plate carried by a suitable support with which the said bolt engages, a yielding bail coöperating with said cover for holding the same in a binding position upon the churn body, a yielding connection between said bail and bolt, and a binding nut coöperating with said bail for depressing the latter whereby said bolt is withdrawn from its engagement with the said toothed segmental plate for automatically releasing the churn body from its rigid position.

974,245. STEAM-HEATING APPARATUS. JAMES A. DONNELLY, Brooklyn, N. Y. Filed May 12, 1906. Serial No. 316,427.



1. In a steam heating system: a steam supply main and a return main; a plurality of heat distributing systems in communication therewith, and each comprising one or more radiating devices; branch supply pipes to and branch return pipes from said heat distributing systems; and weighted means at the outlet of each of said radiating devices as well as in the branch returns, adjusted to permit a predetermined, proportionate flow of steam from each of said radiating devices as well as from each heat distributing system.

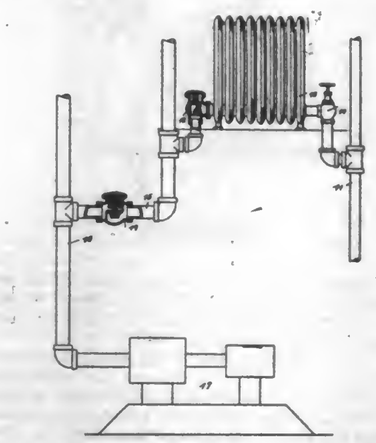
2. In a steam heating system: a steam supply main and a return main; a plurality of heat distributing systems in communication therewith, and each comprising one or more radiating devices; branch supply pipes to and branch return pipes from said heat distributing systems; and weighted means at the outlet of each of said radiating devices as well as in each of said branch returns, adjusted to permit a predetermined, proportionate flow of steam from each of said radiating devices as well as from each heat distributing system, and in quantities at least sufficient to effect the removal of the air and the water of condensation from the radiating devices.

3. In a steam heating system: a steam supply mai and a return main; a plurality of heat distributing sy temes in communication therewith, and each comprisin one or more radiating devices; branch supply pipes to an branch return pipes from said heat distributing systems and weighted automatic valves at the outlet of each o said radiating devices as well as in each of said branc returns, adjusted to permit a predetermined, proportion ate flow of steam from each of said radiating devices a well as from each heat distributing system, and in quanti ties at least sufficient to effect the removal of the air an the water of condensation from the radiating devices.

4. In a steam heating system: a steam supply mai and a return main; a plurality of heat distributing sys tems in communication therewith, and each comprisin one or more radiating devices; branch supply pipes t and branch return pipes from said heat distributing sys tems; and weighted automatic valves at the outlet o each of said radiating devices and weighted check valve in each of said branch returns, said valves being adjusted to permit a predetermined, proportionate flow of steam from each of said radiating devices as well as from each heat distributing system, and in quantities at least suffi cient to effect the removal of the air and the water of con densation from the radiating devices.

5. In a steam heating system: a steam supply main and a return main; a plurality of heat distributing systems in communication therewith, and each comprising one or more radiating devices; branch supply pipes to and branch return pipes from said heat distributing systems; and weighted check valves at the outlet of each of said radiating devices as well as in each of said branch returns adjusted to permit a predetermined, proportionate flow of steam from each of said radiating devices as well as from each heat distributing system, and in quantities at least sufficient to effect the removal of the air and the water of condensation from the radiating devices.

974,246. STEAM-HEATING SYSTEM. JAMES A. DONNELLY, Brooklyn, N. Y. Filed Mar. 12, 1908. Serial No. 420,622.



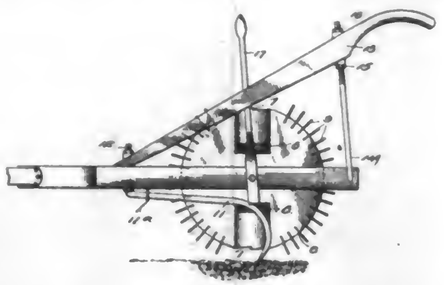
1. In a steam heating system, the combination of a steam supply main, a return main, a plurality of heat distributing sections or systems each comprising one or more radiating devices, a branch supply and a branch return pipe affording independent communication for each section or system with said supply and return mains, a fitting, having a restricting orifice of fixed dimension, at the outlet of each radiating device, and a fitting, having a restricting orifice of fixed dimension, in each branch return, the area of said restricting orifices of the radiating devices of each section or system bearing a definite and predetermined relation to the area of the restricting orifice of the corresponding branch return.

2. In a steam heating system, the combination of a steam supply main, a return main, a plurality of heat distributing sections or systems each comprising one or more radiating devices, a branch supply and a branch return pipe affording independent communication for each section or system with said supply and return mains, a fitting, having a restricting orifice, at the outlet of each radiating device, the area of same being proportioned to the initial condensation of the radiating device, and a fitting, having a restricting orifice, in each of the branch returns, the area of same being proportioned to the normal condensation of the corresponding section or system.

3. In a steam heating system, the combination of a steam supply main, a return main, a plurality of heat distributing sections or systems each comprising one or more radiating devices, a branch supply and a branch return pipe affording independent communication for each section or system with said supply and return mains, a check valve, having a restricting orifice of fixed dimension, at the outlet of each radiating device, and a check valve, having a restricting orifice of fixed dimension, in each of the branch returns.

4. In a steam heating system, the combination of a steam supply main, a return main, a plurality of heat distributing sections or systems each comprising one or more radiating devices, a branch supply and a branch return pipe affording independent communication for each section or system with said supply and return mains, a weighted check valve, having a restricting orifice of fixed dimension, at the outlet of each radiating device, and a weighted check valve, having a restricting orifice of fixed dimension, in each of the branch returns.

974,247. COTTON CHOPPER. ARCHIBALD A. DOUGLASS, JR., and DANIEL FRANKLIN DOUGLASS, Ruby, S. C., assignors of one-half to Geo. K. Laney, Robt. K. Laney, and Ronchel B. Laney, Chesterfield, S. C. Filed Jan. 25, 1910. Serial No. 540,084.

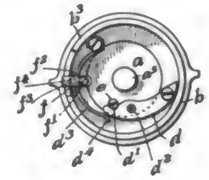


1. In a cotton chopper, a revolving wheel, knives carried by said wheel, and a hollow cylindrical member adapted to revolve within said wheel for shielding portions of the cotton to be chopped.

2. In a cotton chopper, a revolving wheel, hollow revolving cylindrical members carried by said wheel, and adapted to shield portions of cotton from being chopped, and teeth formed integrally on said cylindrical members, substantially as and for the purpose described.

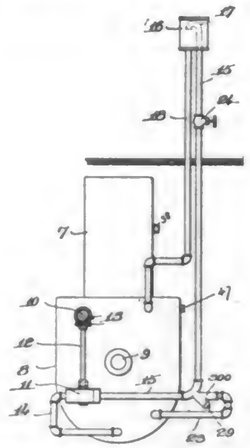
974,248. CLUTCH MECHANISM. WILLIAM W. DEYDEN, Philadelphia, Pa., assignor to Charles E. Troemner, Philadelphia, Pa. Filed June 14, 1910. Serial No. 566,764.

1. In a clutch mechanism, a locking-pawl with a notch and connected with a driven-member, a bow-shaped spring, adapted to bear against said locking-pawl, in operative position and connected with said member, a pin arranged so as to engage the notch of said locking-pawl and to be held in contact normally therewith by said spring and a tensioning device connected with said driven-member and provided with a shiftable depending frictional bearing and jamming means adapted to hold said spring in contact in normal relation, with said locking-pawl.



2. In a clutch-mechanism, a locking-pawl connected with a driven-member, a bow-shaped spring adapted to bear against said locking-pawl in operative position and connected with said member, a pin adapted to engage the locking-pawl with a driving-member and a tensioning device connected with said driven-member and provided with a shiftable depending frictional bearing and jamming means adapted to hold said spring in contact in normal relation, with said locking-pawl.

974,249. SIGHT-FEED OILER FOR AUTOMOBILES. JOHN ECKHARD, Boston, Mass. Filed Nov. 29, 1909. Serial No. 530,350.



1. In a sight-feed oiling system, the combination with an engine having bearings to be oiled and an inclosed crank case, of a sight feed, a pump operated by the engine, a pipe connecting the inlet of the pump to the crank case, another pipe connecting the outlet of the pump to the sight feed, a valve in said latter pipe to control the amount of oil delivered to the sight feed, a by-pass pipe connecting said latter pipe with the crank case and provided with a spring-controlled valve, and a pipe to deliver oil from the sight feed to the bearings.

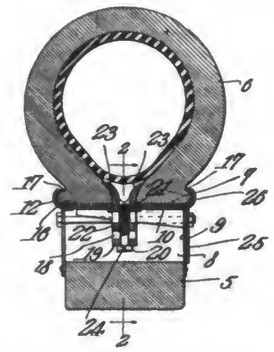
2. In a device of the class described, the combination with an engine having a closed crank case and bearings to be oiled and also having a channel formed in the wall of the crank case and other channels communicating therewith and formed in the walls of the cylinder, said latter channels terminating in ports for delivering oil to the cylinder, of means to deliver oil to said channels, and an automatic valve controlling the supply of oil from the channel to each port.

3. In a device of the class described, the combination with an engine having a closed crank case and bearings to be oiled and also having a channel formed in the wall of the crank case and other channels communicating therewith and formed in the walls of the cylinder, said latter channels terminating in ports for delivering oil to the cylinder, of means to deliver oil to said channels, and a spring-pressed valve controlling the supply of oil from the channel to each port and opening in the direction of the flow of the oil.

4. In a device of the class described, the combination with an engine having cylinders and a closed crank case and also having bearings to be oiled, said crank case having a channel formed in the walls thereof which runs longitudinally, and each cylinder having a channel formed in the wall thereof, which channel extends longitudinally of the cylinder and communicates with the first-named channel and also communicates with the interior of the cylinder, of means to deliver oil from the first-named channel to the bearings to be oiled, a sight feed communicating with said first-named channel, a pump connected with the crank case, a pipe connecting the pump to the sight feed, and a valve in said pipe.

5. In a sight feed oiling system, the combination with an engine having bearings to be oiled and an inclosing crank case, of a sight feed, a pump on the exterior of the crank case but connected thereto, a pipe connecting the outlet of the pump to the sight feed, a valve in said pipe to control the amount of oil delivered to the sight feed, a pipe to deliver oil from the sight feed to the bearings, and a by-pass provided with a spring-controlled valve to return surplus oil from the pump to the crank case.

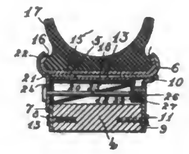
974,250. VEHICLE-WHEEL. EDMUND JOSEPH ESTEY, Apponaug, R. I. Filed May 1, 1909. Serial No. 493,342.



In a device of the character described, the combination with a felly provided with an opening formed upon its periphery, of a rim permanently secured upon said felly and provided with an L-shaped slot extending from one edge of the same, a tire-holding rim adapted to be removably arranged upon said first named rim, said tire-holding rim being provided with an inwardly extending boss adapted to be inserted within said L-shaped slot, a locking ring adapted to be secured upon one side of said felly for engagement with the tire holding rim, and a lug rigidly mounted upon said locking ring for insertion within said opening formed upon said felly, to confine said boss within the circumferential portion of said L-shaped slot.

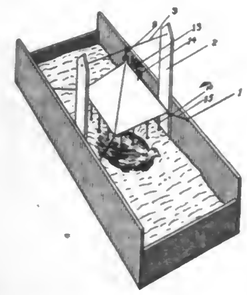
974,251. DEMOUNTABLE RIM. EDMUND JOSEPH ESTEY, Apponaug, R. I. Filed June 6, 1910. Serial No. 565,185.

1. The combination with the felly of a wheel, of a rim permanently secured upon said felly and provided with an edge curved in cross-section, said felly being provided with a plurality of pockets, said rim being provided with a corresponding number of slots having communication with said pockets, a demountable rim provided with edges curved in cross-section to hold a tire, said demountable rim being adapted to be removably arranged upon said first named rim, a plurality of lugs connected with said demountable rim for insertion within said slots, each of said lugs having portions thereof under-cut to lock with the walls of the slot, a ring to be detachably connected with said felly, and a plurality of keys rigidly mounted upon said ring for insertion within said pocket, to confine said lugs within one end of said slots.



2. The combination with the felly of a wheel, of a rim permanently upon the same, and provided with a plurality of approximately L-shaped slots, said felly being provided with a corresponding number of pockets in registration with said slots, a demountable rim for arrangement upon said first named rim and to hold a tire, said demountable rim being provided with a plurality of lugs having their ends and sides under-cut, a ring to be removably arranged upon said felly, a plurality of keys rigidly mounted upon said ring, a plurality of bolts to hold said ring upon said felly, and a plurality of fixed lugs provided with screw threaded openings to coöperate with said bolts.

974,252. AUTOMATIC POULTRY-DUSTER. PHILMER C. FISH, Kansas City, Mo. Filed July 5, 1910. Serial No. 570,296.



1. An automatic poultry duster comprising a container having a cloth bottom, an agitator having a head supported on the cloth bottom, and a rocker arm extending through the cloth bottom, for the purpose set forth.

2. In an automatic poultry duster, a container having a cloth bottom; and an agitator comprising a head having laterally projecting portions, and downturned rocker arms extended through the container bottom, for the purpose set forth.

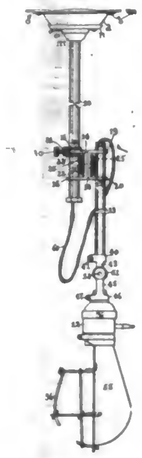
3. In an automatic poultry duster, a container having a cloth bottom, and an agitator having a head provided with reversibly curved portions, which are supported on the cloth bottom, and have downturned arms extended through the cloth bottom, substantially as set forth.

4. An automatic poultry duster comprising a cloth bottom, and an agitator formed of stiff wire having its center portion bent to form a horizontal, reversibly curved head, and its end portions turned downwardly and projected through the cloth bottom, substantially as set forth.

5. In an automatic poultry duster, a container comprising a rigid, perforated base member having an outer covering of fabric, and an agitator having a head located between the base and covering, and arm members projected through the base, for the purpose set forth.

[Claims 6 to 10 not printed in the Gazette.]

974,253. LAMP-FIXTURE. PETER FORD, Somerville, Mass. Filed Nov. 14, 1907. Serial No. 402,095.



1. In an adjustable fixture or support, in combination, two rods or members, and a frictional clamp for connecting said members, said clamp comprising two back plates pivoted together and engaged by spring washers, arms extended from said back plates and provided with holes through which said rods are passed, and spring plates engaging said rods between the said arms, substantially as described.

2. In an adjustable fixture or support, in combination, two rods or members, and a frictional clamp for connecting said members, said clamp comprising two back plates pivoted together and engaged by spring washers, arms extended from said back plates and provided with holes through which said rods are passed, spring plates engaging said rods between the said arms, a saddle straddling one of said arms and provided with holes through which a rod passes, and a set screw extended through the back of said saddle and engaging the arm straddled by said saddle, substantially as described.

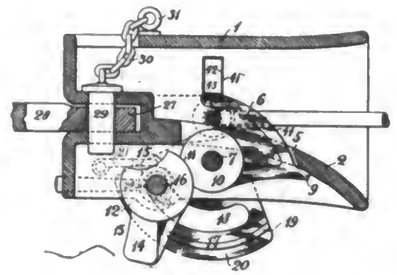
3. In an adjustable fixture or support, in combination, two rods or members, and a frictional clamp for connecting said members, said clamp comprising two back plates pivoted together and engaged by spring washers, arms extended from said back plates and provided with holes through which said rods are passed, a spring plate carried by one of said clamping members and engaging the rod passed through the arms of said member and means to secure the other of said clamping members to the rod extended through its arms, substantially as described.

974,254. COUPLING. JOHN FROGGATT, Camberwell, and CHARLES STACEY, Malvern, Victoria, Australia. Filed Mar. 21, 1908. Serial No. 422,386.

1. A coupling for railway trains comprising on oscillating hook adapted to engage with a link on the second car, and two disks having convex and concave portions respectively so that the convex portion of one disk locks into the concave of the other so as to lock the hook in operative position.

2. A coupling comprising a shaft, a hook mounted thereon and adapted to engage with the coupling link of the other car, a disk on said shaft having a concave portion, a second shaft, a disk thereon having a convex portion adapted to engage with the concave portion of the other disk to prevent rotation of the hook.

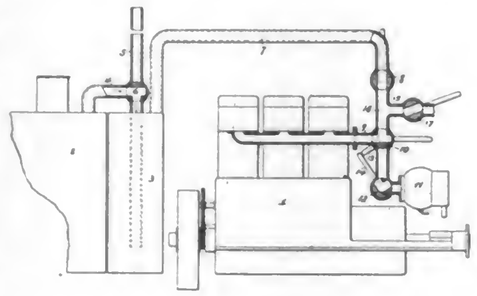
3. A coupling comprising a casing, a shaft mounted on said casing, a hook mounted on said shaft adapted to engage with the coupling link of the other car, said casing having its walls inclined for directing the coupling link toward the said hook, a weight on the said shaft to hold the hook in coupling position, a disk on said shaft having a concave portion, a second shaft, a handle thereon for rotating the same, and a disk on said shaft having a convex portion adapted to engage with the concave portion of the other disk for locking the hook against movement.



4. A coupling comprising a casing having inclined interior walls and a slot in the bottom wall, a shaft mounted in the casing below the slot, a hook on said shaft projecting through the slot, said hook having a projection thereon adapted to engage with the bottom of the casing for limiting its upward movement, a weight tending to hold the hook in its coupling position, means for locking the hook in its raised position, and pivoted members in the casing for preventing upward movement of the coupling link of the other car.

5. A coupling comprising a casing, a shaft mounted therein, a hook mounted on said shaft, a weight on the shaft tending to hold the hook in its coupling position, a disk on the shaft having a concave portion, a hand operated shaft, a disk thereon having a convex portion adapted to engage with the concave portion of the other disk, a weight on said second shaft, locking means for holding the second disk out of engagement with the first disk, and a projection on the weight carried by the first shaft for disengaging said locking means to allow the parts to assume their locked coupling position.

974,255. POWER PLANT. ALBERT L. GALUSHA, Dorchester, Mass. Filed Mar. 11, 1909. Serial No. 482,849.



1. In apparatus of the character described, the combination with an internal combustion engine, a gas producer, and a source of supply of liquid fuel, of a pipe connecting the gas producer and source of liquid fuel, a pipe connecting said first-mentioned pipe with the engine, a three-way valve at the intersection of said pipes, a valve in the first-mentioned pipe between the three-way valve and the gas producer, and a valved air pipe communicating with the first-mentioned pipe between the said valves in the latter.

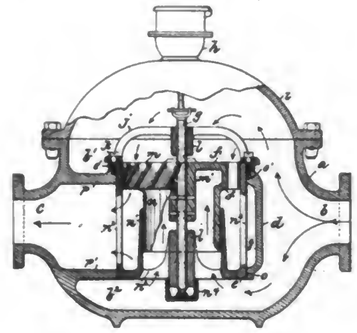
2. In apparatus of the character described, the combination with an internal combustion engine, a gas producer and a vaporizer for liquid fuel, of a pipe connected with the gas producer and the vaporizer, a pipe connecting the first mentioned pipe with the cylinder of the engine, a three-way valve located at the intersection of said pipes, a valve located between said three-way valve and the vaporizer, a valve located at the other side of the three-way valve, an air pipe communicating with the first mentioned pipe, and a valve in said air pipe.

3. In apparatus of the character described, the combination with an internal combustion engine, a gas producer and a vaporizer for liquid fuel, of a pipe communicating at one end with the gas producer and at the other end with the vaporizer, a pipe connecting the first mentioned pipe with the engine cylinder, a three-way valve at the juncture of said pipes, a valve between the three-way valve and the gas producer, the space between said valves constituting a mixing chamber, an air pipe communicating with said mixing chamber, a valve in said air pipe, and a valve between the three-way valve and the vaporizer.

4. In apparatus of the character described, the combination with an internal combustion engine, and means for supplying producer gas and air to said engine, of a vaporizer for liquid fuel, means of communication between the vaporizer and the engine cylinder, a valve in said means of communication, means for limiting the opening of said valve, and a three-way valve for controlling the passage of producer gas and air or liquid fuel separately to the engine cylinder or for permitting a mixture of producer gas and liquid fuel to pass to the engine cylinder.

5. In apparatus of the character described, the combination with an internal combustion engine, a gas producer, a pipe connecting the gas producer with the engine cylinder, an air pipe communicating with the first mentioned pipe, and valves in said pipes, of a stack adapted to communicate with the producer and a valve for opening said stack to the producer or for closing the latter and opening communication between the producer and said first mentioned pipe.

974,256. WATER-METER. ERNEST E. GAMON, Newark, N. J. Filed Apr. 15, 1910. Serial No. 555,648.



1. In a water meter, the combination with a main casing having upper and lower receiving chambers and an intermediate outlet chamber, a propeller wheel mounted in said intermediate chamber, so arranged that the water in the lower chamber exerts an upward pressure against the propeller wheel, but has no communication with the outlet chamber, while the water in the upper chamber passes through the propeller wheel into the outlet chamber.

2. In a water meter, the combination with a main casing having upper and lower receiving chambers and an intermediate outlet chamber, a cylinder mounted in said intermediate outlet chamber, a propeller wheel mounted in said cylinder provided with means which co-act with means on said cylinder, so arranged that the water in the lower chamber exerts an upward pressure against the propeller wheel but has no communication with the outlet chamber, while the water in the upper chamber passes through the propeller wheel into the outlet chamber.

3. In a water meter, the combination with a main casing having upper and lower receiving chambers and an intermediate outlet chamber, a cylinder mounted in said intermediate outlet chamber, a propeller wheel mounted in said cylinder provided with means which co-act with means on said cylinder, so arranged that the water in the lower chamber exerts an upward pressure against the propeller wheel but has no communication with the outlet chamber, while the water in the upper chamber passes through the propeller wheel into the outlet chamber.

4. In a water meter, the combination with a main casing having upper and lower receiving chambers and an intermediate outlet chamber, a cylinder mounted in said intermediate outlet chamber, a propeller wheel mounted in said cylinder provided with centrally depending means so arranged that the water in the lower chamber fills up said depending means and exerts an upward pressure against the under side of the wheel, but has no communication with the outlet chamber, while the water in the upper chamber passes through the propeller wheel into the outlet chamber.

5. In a water meter, the combination with a main casing having upper and lower receiving chambers and an outlet chamber, a cylinder mounted in said outlet chamber and provided with upper and lower bearings, a spindle supported in the bearings, and a propeller wheel provided with a tubular extension mounted on said spindle, the cylinder being provided with a tubular extension co-acting with the tubular extension of the propeller wheel, the arrangement being such that the water in the lower casing exerts an upward thrust against the under side of the propeller wheel, while the water from the upper chamber is delivered to the wheel and discharged into the outlet chamber.

[Claim 6 not printed in the Gazette.]

974,257. METAL-REDUCING PROCESS. FREDERICK W. GORDON, Philadelphia, Pa. Filed Sept. 25, 1908, Serial No. 454,758. Renewed Sept. 9, 1910. Serial No. 581,152.

1. That improvement in the art of reducing the ores of



volatile metals and recovering the metal therefrom which comprises the following steps, viz:—establishing and maintaining a columnar furnace-charge comprising commingled ore and fuel; establishing and maintaining therethrough an upward current represented by air injected at the base of the column and by gases discharged at the top of the column; establishing and maintaining within the column two successive zones, a lower one of reduction and gasification and metal vaporization, and an upper one of metal-vapor condensation; withdrawing from between

said zones some of the furnace gases with their quota of metal-vapor; condensing a portion of the metal-vapor contained in said withdrawn gases; and recovering the metal resulting from said condensation, substantially as set forth.

2. That improvement in the art of reducing the ores of volatile metals and recovering the metal therefrom which comprises the following steps, viz:—establishing and maintaining a columnar furnace-charge comprising commingled ore and fuel; establishing and maintaining therethrough an upward current represented by air injected at the base of the column and by gases discharged at the top of the column; establishing and maintaining within the column two successive zones, a lower one of reduction and gasification and metal-vaporization, and an upper one of metal-vapor condensation; withdrawing from between said zones some of the furnace gases with their quota of metal-vapor; condensing a portion of the metal-vapor contained in said withdrawn gases; recovering the metal resulting from said condensation; and utilizing said withdrawn gases for preheating the charge, substantially as set forth.

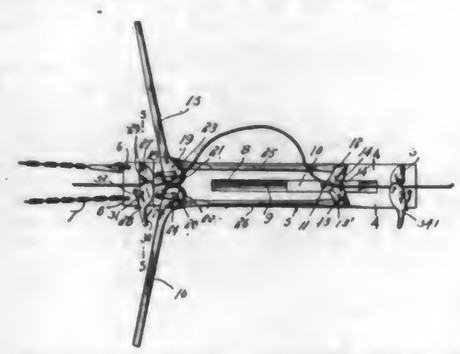
3. That improvement in the art of reducing the ores of volatile metals and recovering the metal therefrom which comprises the following steps, viz:—establishing and maintaining a columnar furnace-charge comprising commingled ore and fuel; establishing and maintaining therethrough an upward current represented by air injected at the base of the column and by gases discharged at the top of the column; establishing and maintaining within the column two successive zones, a lower one of reduction and gasification and metal-vaporization, and an upper one of metal-vapor condensation; withdrawing from between said zones some of the furnace gases with their quota of metal-vapor; condensing a portion of the metal-vapor contained in said withdrawn gases; recovering the metal resulting from said condensation; conveying the uncondensed withdrawn metal-vapor back to the zone of metal-vapor condensation in the column; and utilizing said withdrawn gases for preheating the charge, substantially as set forth.

4. That improvement in the art of reducing the ores of volatile metals and recovering the metal therefrom which comprises the following steps, viz:—establishing and maintaining a columnar furnace-charge comprising commingled ore and fuel; establishing and maintaining therethrough an upward current represented by air injected at the base of the column and by gases discharged at the top of the column; establishing and maintaining within the column two successive zones, a lower one of reduction and gasification and metal-vaporization, and an upper one of metal-vapor condensation; withdrawing from between said zones some of the furnace gases with their quota of metal-vapor; condensing a portion of the metal-vapor contained in said withdrawn gases; recovering the metal resulting from said condensation; conveying the uncondensed metal-vapor to the said zone of metal-vapor condensation; utilizing said withdrawn gases for preheating the charge; and conveying the unwithdrawn gases with their quota of metal-vapor to the zone of metal-vapor condensation, substantially as set forth.

5. That improvement in the art of reducing the ores of volatile metals and recovering the metal therefrom which comprises the following steps, viz:—establishing and maintaining a columnar furnace-charge comprising commingled ore and fuel; establishing and maintaining therethrough an upward current represented by air injected at the base of the column and by gases discharged at the top of the column; establishing and maintaining within the column two successive zones, a lower one of reduction and gasification and metal-vaporization, and an upper one of metal-vapor condensation; withdrawing from between said zones some of the furnace gases with their quota of metal-vapor; condensing a portion of the metal-vapor contained in said withdrawn gases; recovering the metal resulting from said condensation; conveying the remaining withdrawn metal-vapor to said zone of metal-vapor condensation; utilizing said withdrawn gases for preheating the charge; conveying the unwithdrawn gases with their quota of metal-vapor to the zone of metal-vapor condensation; and returning to the zone of metal-vaporization the metal condensed in the zone of metal-vapor condensation from the withdrawn and unwithdrawn metal-vapor conveyed to it, substantially as set forth.

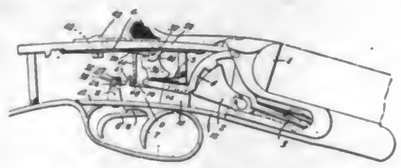
[Claims 6 to 8 not printed in the Gazette.]

974,258. WIRE-STRETCHER. ANTONIO GREEN, Jet, Okla. Filed Aug. 18, 1909. Serial No. 513,473.



A wire stretcher, comprising a bed plate, a slide on the bed plate, a pair of segmental wire gripping jaws pivoted eccentrically on said slide, a pair of transversely disposed handle levers having meshing toothed heads fulcrumed on the bed plate, links connecting the free ends of the jaws with the handle levers, and a pair of wire gripping elements located on the bed plate in advance of said jaws, and cooperating to grip and hold a wire during its release by said jaws.

974,259. FIRING MECHANISM FOR GUNS. CHARLES GREEN, Syracuse, N. Y., assignor to Lefever Arms Company, Syracuse, N. Y., a Corporation of New York. Filed June 29, 1909. Serial No. 504,966.



1. A firing mechanism comprising means for effecting successive firing including a trigger, a shiftable spring-pressed controlling member movable with the trigger and shiftable relatively to the trigger, a catch movable with the trigger for normally holding the controlling member from shifting movement by its spring, a stop for engaging the controlling member and limiting the movement thereof with the trigger during the first pull of the trigger, the trigger having a limited movement relatively to the controlling member when the latter is engaged with the stop and thereby carrying the catch out of engagement with the controlling member, and means movable with the trigger and coacting with the controlling member for limiting the movement of the trigger relatively to the controlling member when engaged with said stop, the shifting of the controlling member relatively to the trigger serving to move the controlling member out of position to coact with the stop to prevent the movement of the trigger for effecting the second discharge, substantially as and for the purpose specified.

2. A firing mechanism comprising means for effecting successive firing including a trigger, a spring-pressed controlling member movable with the trigger and shiftable forwardly and rearwardly relatively to the trigger, a catch movable with the trigger for holding the controlling

member from being shifted forwardly by its spring, a stop for engaging the controlling member and limiting the movement thereof with the trigger during the first pull of the trigger, the trigger having a limited movement relatively to the controlling member when the latter is engaged with the stop and thereby carrying the catch out of engagement with the controlling member, and means movable with the trigger and coacting with the controlling member for limiting the movement of the trigger relatively to the controlling member when engaged with said stop, the shifting of the controlling member forwardly by its spring relatively to the trigger serving to move the controlling member out of position to coact with the stop to prevent the movement of the trigger for effecting the second discharge, substantially as and for the purpose set forth.

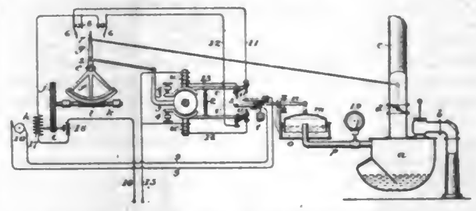
3. A firing mechanism comprising hammer-cocking means, and means for effecting successive firing including a trigger, a shiftable controlling member movable with the trigger and shiftable relatively thereto, said member being formed with a cam face, a spring for shifting said member in one direction relatively to the trigger, a catch movable with the trigger for normally holding the controlling member from shifting movement by the spring, a stop for engaging said member and limiting the movement thereof with the trigger during the first pull of the trigger, the trigger having a limited movement relatively to the controlling member when the latter is engaged with the stop and thereby carrying the catch out of engagement with the controlling member, means movable with the trigger and coacting with the controlling member for limiting the movement of the trigger relatively to the controlling member when engaged with said stop, the shifting of the controlling member by its spring relatively to the trigger serving to move the controlling member out of position to coact with the stop to prevent the movement of the trigger for effecting the second discharge, and means for engaging said cam face during the depression of the trigger by the hammer-cocking means, and shifting the controlling member in the opposite direction relatively to the trigger, substantially as and for the purpose set forth.

4. A firing mechanism comprising means for effecting successive firing including a trigger, a firing element operated by the trigger, a spring-pressed controlling member carried by said element and movable therewith and shiftable relatively thereto, means for holding the controlling member from shifting movement by its spring relatively to the firing element, means for limiting the movement of said controlling member with the firing element during the first pull of the trigger, the firing element having a limited movement relatively to the controlling member when the latter is engaged with the limiting means for the controlling member and thereby carrying said holding means out of position to hold the controlling member from shifting movement, and means movable with the firing element and coacting with the controlling member for limiting the movement of the firing element relatively to the controlling member when engaged with said limiting means, the shifting of the controlling member relatively to the firing element serving to move the controlling member out of position to coact with said limiting means to prevent the movement of the firing element for effecting the second discharge, substantially as and for the purpose described.

5. A firing mechanism comprising means for effecting successive firing including a trigger, a firing element arranged above the trigger and formed with a catch, a spring-pressed controlling member arranged on one side of the firing element and movable therewith and shiftable forwardly and rearwardly relatively thereto, said member having a shoulder for normally engaging said catch and preventing forward shifting of said member by its spring, a stop for engaging the controlling member and limiting the movement thereof with the firing element during the first pull of the trigger, the firing element having a limited movement relatively to the controlling member when the latter is engaged with the stop and thereby carrying the catch out of engagement with the shoulder of the controlling member, and means movable with the firing element and coacting with the controlling member for limiting the movement of the firing element relatively to the controlling member when engaged with said stop, the shifting of the controlling member forwardly by its spring relatively to the firing element serving to move the controlling member out of position to coact with the stop to prevent the movement of the firing element for effecting the second discharge, substantially as and for the purpose specified.

[Claims 6 to 35 not printed in the Gazette.]

974,260. AUTOMATIC PRESSURE-REGULATOR FOR GAS-COLLECTING MAINS. OTTO F. GREIM, Milwaukee, Wis., assignor to The Milwaukee Coke and Gas Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Oct. 5, 1908. Serial No. 456,139.



1. The combination with a gas collecting main and a valve controlling the pressure in said main, of a motor connected with a source of power independent of the pressure in said main and adapted to move said valve in opposite directions, a movable part subjected to the pressure in said main and means connected with said movable part and controlling the operation of said motor according to variations of pressure in said main, substantially as described.

2. The combination with a gas collecting main and a valve controlling the pressure in said main, of a motor for operating said valve, an expansion chamber communicating with said main and adapted to move said valve in opposite directions, a movable part and means connected with said movable part and controlling the operation of the motor according to variations of pressure in said main, substantially as described.

3. The combination with a gas collecting main and a valve controlling the pressure in said main, of means for operating said valve and means for automatically controlling the valve operating means comprising a movable part subjected to the pressure in said main, a movable electric contact piece connected with said movable part, and opposing movable electric contact pieces arranged on opposite sides and in the path of the other contact piece and each adapted to be shifted by the valve operating means away from the intermediate contact piece when the circuit is closed, substantially as described.

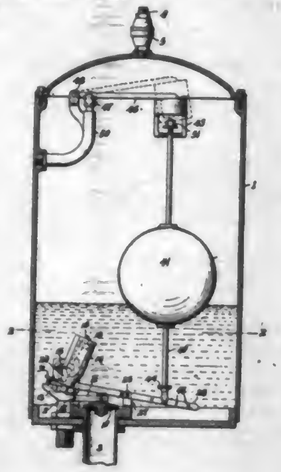
4. The combination with a gas collecting main and a valve controlling the pressure in said main, of a motor for operating said valve, an expansion chamber communicating with said main and having a movable part and electro-magnetic means controlling the operation of the motor and comprising a movable contact piece connected with the movable part of the expansion chamber, opposing contact pieces arranged on opposite sides and in the path of the other contact piece and movable by the motor away from the intermediate contact piece and means for returning the outer contact pieces to normal position when the circuit is broken, substantially as described.

5. The combination with a gas collecting main and a valve controlling the pressure in said main, of a motor for operating said valve, a movable part subjected to the pressure in said main, and electro-magnetic means controlling the operation of the motor and the movement thereby of said valve according to variations of pressure in the main and comprising a contact piece connected with said movable part, movable contact pieces arranged on opposite sides and in the path of the other contact piece,

means tending to move the outer contact pieces toward each other, stops limiting the approach of said outer contact pieces toward each other and holding them normally out of engagement with the intermediate contact piece, an oscillatory part connected with the motor and means adapted to connect either outer contact piece toward which the intermediate contact piece is moved with said oscillatory part, substantially as described.

[Claims 6 to 14 not printed in the Gazette.]

974,261. AIR-COMPRESSING APPARATUS. WILLIAM U. GRIFFITHS, Philadelphia, Pa. Filed June 15, 1909. Serial No. 502,301.



1. In an air compressing or charging apparatus, the combination of a tank, a passage-way into the said tank for the induction and eduction of air, means for opening and closing the said passage-way, a water inlet, a valve for opening and closing the said inlet, a water outlet, a valve for opening and closing the said outlet, a lever pivoted intermediate its ends and upon one end of which the water outlet valve is supported and upon the other end of which a weight is carried, which weight has operative connection with the said water inlet valve, a lever pivoted intermediate its ends one end of which has operative connection with the first-mentioned lever, a rod connecting the opposite end of the second-named lever to the means for opening and closing the said passage-way, and a float on the said rod, the said float occasioning movement of the said second-mentioned lever whereby the said first-mentioned lever and the weight carried thereby are actuated to cause the opening and closing of the water inlet and the water-outlet valves.

2. In an air compressing or charging apparatus, the combination of a tank, a passage-way into the said tank for the induction and eduction of air, a valve for closing the said passage-way, a lever for supporting the said valve, a water inlet, a valve for closing the said inlet, a water outlet, a lever pivoted intermediate its ends and having a valve upon one side of its pivot for closing the said water outlet and having a weight upon the opposite side of the said pivot, the relation of the said weight to the said pivot being such that the line of gravity is moved from one side to the other of the said pivot by movement of said lever, means extending laterally from the valve closing the water inlet, the said means having movable engagement with the said weight, a lever pivoted intermediate its ends and having one end portion thereof in engagement with the water outlet valve lever, a rod having connection with the opposite end portion of the said lever, and also with the lever supporting the valve for closing the passage-way for the induction and eduction of air, a floating member on the said rod, the said member being moved upwardly upon the said rod by the filling of the said tank with water and being permitted to move downwardly upon the said rod upon the escape of the water to occasion the opening and closing of the said valves.

974,262. BELT. SIMON GUTMAN, New York, N. Y. Filed Aug. 12, 1910. Serial No. 576,781.

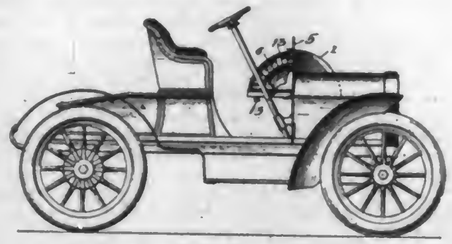


1. In a belt stiffener, a curved rigid plate having apertures therein, a second plate similar in shape to the first plate and provided with tongues projecting through the apertures in the first plate and also adapted to project through the belt and to be bent over to secure said members to the belt, the second plate having a covering on the outer face of material similar to the outer face of the belt, the second plate being of smaller dimensions than the first plate whereby the margins of the first plate are exposed beyond the edge of the outer plate.

2. In a belt stiffener, a curved rigid plate having apertures therein, a second plate similar in shape to the first plate and provided with tongues projecting through the apertures in the first plate and also adapted to project through the belt and to be bent over to secure said members to the belt, the second plate having a covering on the outer face of material similar to the outer face of the belt, the second plate being of smaller dimensions than the first plate whereby the margins of the first plate are exposed beyond the edge of the outer plate, the larger plate also having tongue portions projecting inwardly and adapted to pass through the belt and to be closed down to secure the plate to the belt.

3. In a belt stiffener, a curved rigid plate having apertures therein, a second plate similar in shape to the first plate and provided with tongues projecting through the apertures in the first plate and also adapted to project through the belt and to be bent over to secure said members to the belt, the second plate having a covering on the outer face of material similar to the outer face of the belt with the margins bent around the edges secured between the plates, the second plate being of smaller dimensions than the first plate whereby the margins of the first plate are exposed beyond the edge of the outer plate.

974,263. MAIL-CABINET. CASSIUS M. HAMILTON, Chicago, Ill., assignor to Addison C. Thomas, Chicago, Ill. Filed Nov. 26, 1909. Serial No. 529,870.



1. A mail cabinet comprising, in combination, a rigid casing, and a segmental compartment fitting within said casing and having pockets, the front of said compartment being pivotally mounted on the front of said casing and adapted to swing said compartment outward and downward to afford access to said pockets.

2. A mail cabinet comprising in combination a rain-proof segmental casing adapted for attachment to a vehicle, and a segmental compartment hinged at its front to said casing, and adapted to swing on a horizontal axis

said compartment having a curved upper wall and a row of pockets covered by said curved wall.

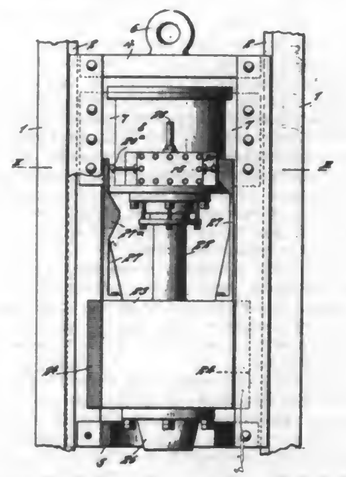
3. In a mail cabinet, the combination of a rain-proof casing, and a segmental compartment having its front detachably hinged to said casing and adapted to swing outward and downward therefrom, said compartment having a curved upper wall and mail pockets radially disposed beneath said wall and protected thereby.

4. In a mail cabinet, the combination of a rain-proof casing, means for securing said casing to the front of a vehicle, a compartment fitting within said casing and having its front hinged to said casing, said compartment having a curved upper wall and a row of mail pockets underneath said wall and protected thereby, said compartment being adapted to swing outward and downward with said hinged front to afford access to said pockets, one after another.

5. In a mail cabinet, the combination of a rain-proof casing adapted for attachment to a road vehicle, and a pivotally mounted compartment within said casing and having a flat front which is adapted to swing away from said casing through an angle of substantially 90 degrees, and a stop for limiting further swinging movement of said compartment, said compartment having a plurality of mail pockets radially disposed and arranged to be progressively and completely exposed as said compartment swings on its pivotal mounting.

[Claims 6 to 8 not printed in the Gazette.]

974,264. VALVE-GEAR FOR POWER-HAMMERS. JAMES HAMILTON, New York, N. Y. Filed Oct. 22, 1909. Serial No. 523,987.



1. A steam hammer comprising a frame, a cylinder rigidly supported in said frame, a piston in said cylinder, a depending piston rod connected to said piston, a hammer carried by said piston rod at its lower end, means for guiding said hammer in the frame, a horizontally arranged slide valve carried by the cylinder, a valve rod carried by said valve and extending outwardly therefrom, a pair of upright arms carried by the hammer, a cam on each of said arms near its upper end, said cams being arranged to engage the projecting ends of the valve rod, one of said cams moving the valve in one direction and the other cam moving the valve in the opposite direction.

2. A power hammer comprising a frame, a power cylinder rigidly secured in the upper end of said frame, a piston in said cylinder, a downwardly extending piston rod connected to said piston, a hammer connected to the lower end of said piston rod, vertical ribs formed on said hammer and adapted to engage the frame to guide the hammer, a horizontally movable valve carried by the cylinder, a valve rod connected to said valve and extending outwardly therefrom, both ends of said valve rod projecting beyond the valve, upright standards secured to the hammer on opposite sides thereof, each of said standards carrying a valve operating cam, said cams being at different heights, and one being arranged to force the valve in one direction as the hammer completes its upward movement, and the other being arranged to force the valve in the opposite direction when the hammer completes its downward movement, the valve in the cylinder being formed with suitable supply and exhaust ports.

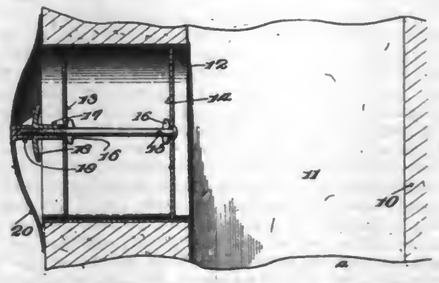
3. A power hammer comprising a frame, a power cylinder rigidly secured in the upper end thereof, a piston in said cylinder, a depending piston rod connected to said piston, a hammer carried by said piston rod at its lower end, vertical ribs formed on said hammer at opposite sides thereof, said ribs being adapted to engage the movable frame and guide the hammer in its vertical movement, a valve chest secured to the cylinder, a slide valve therein, a valve rod connected to said valve and extending outwardly from both ends of the valve, and means carried by the hammer and adapted to engage the valve rod at the ends of the hammer movements to move the valve and thereby admit fluid under pressure above the piston as the hammer moves upwardly and below the piston as the hammer moves downwardly.

4. The combination of a frame, a power cylinder rigidly secured in the upper end of said frame, a piston in said cylinder, a piston rod extending downwardly from said piston, a reciprocable head secured to the lower end of said piston rod, means to guide said head in the frame, a slide valve carried by the cylinder, a pair of upwardly extending cams carried by the head, a valve rod connected to the slide valve, both ends of said rod extending beyond the valve casing and adapted to be alternately engaged by the cams carried by the reciprocable head.

5. A power hammer comprising a frame, a power cylinder rigidly secured in said frame, a piston in said cylinder, a downwardly extending piston rod connected to said piston, a hammer connected to the lower end of said piston rod, means to guide the hammer in the frame, a horizontally movable valve carried by the cylinder, said valve being provided with a central supply port and two exhaust ports, one on each side thereof, a valve seat formed on the cylinder, said seat being provided with two central supply ports and an exhaust port at each side of said supply ports, a valve chest inclosing the valve, a valve rod connected to said valve and extending outwardly therefrom, a pair of cams carried by the hammer and adapted to engage the valve rod, said cams being at different heights, and one being arranged to force the valve in one direction as the hammer completes its upward movement, and the other being arranged to force the valve in the opposite direction as the hammer completes its downward movement.

[Claim 6 not printed in the Gazette.]

974,265. DRUM FIRE-PLUG. GEORGE EDW. HARGREAVES, Oregon City, Oreg. Filed June 2, 1909. Serial No. 499,809.



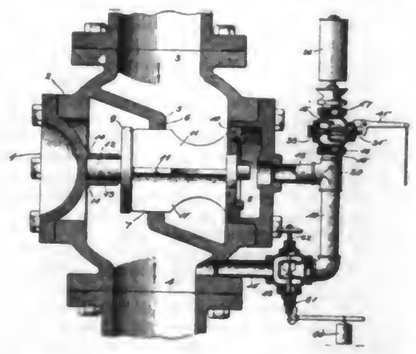
1. A flue cap including a pair of spaced heads for binding engagement within a thimble, a bolt extending through the heads and beyond the outer one of the heads, pins ar-

ranged through the bolt and against the inner faces of the heads, and a clamping nut disposed upon the outer end of the bolt to secure the heads thereon.

2. A flue cap including a pair of spaced heads for binding engagement within a thimble, a bolt carried through the heads and extending outwardly therefrom, a clamping nut carried upon the bolt adjacent its outer end to seat against the adjacent head, pins arranged through the bolt and against the inner faces of the heads to hold the same in spaced relation, and a cap carried upon the outer end of the bolt for engagement over the end of the thimble.

3. A flue cap including a pair of spaced heads for binding engagement within a thimble, a bolt arranged through the heads, a clamping nut carried by the bolt to secure the heads thereon, pins carried through the bolt and against the heads to hold the same in spaced relation, and a cap detachably engaging over the outer end of the bolt and over the adjacent end of the thimble.

974,266. ENGINE-STOP. FRANK HENNEBÖHLE, Chicago, Ill. Filed Sept. 4, 1909. Serial No. 516,268.



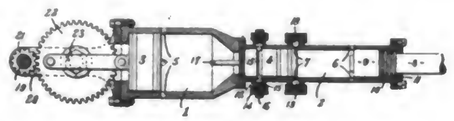
1. A stop apparatus comprising a valve casing having an inlet and an outlet, a main valve member, a cylinder, a piston mounted in said cylinder and attached to said main valve member, said piston fitting said cylinder snugly to exclude dirt, but permitting leakage of pressure fluid from the inlet side of the valve casing to said cylinder, one face of said piston being exposed to the pressure in the inlet side of the casing and the other face of the piston being exposed to the pressure in said cylinder, said piston being of greater area than said main valve member, and a valve-controlled vent for said cylinder.

2. A stop apparatus comprising a valve casing having an inlet and an outlet, a main valve member, a cylinder, a piston mounted in said cylinder and attached to said main valve member, said piston fitting said cylinder snugly to exclude dirt, but permitting leakage of pressure fluid from the inlet side of the valve casing to said cylinder, one face of said piston being exposed to the pressure in the inlet side of the casing and the other face of the piston being exposed to the pressure in said cylinder, said piston being of greater area than said main valve member, a means of communication between the cylinder and the outlet side of the valve casing, and a valve in said means of communication, said valve being normally held seated by the pressure in the outlet side of the valve casing.

3. An engine stop comprising a main valve casing having an inlet and an outlet, a valve member in said casing arranged to control the flow of fluid through said casing, a chamber communicating with the inlet side of said valve casing, a movable member connected to said main valve member and exposed to the pressure in said chamber, a connection between said chamber and the outlet side of said casing, and means for controlling said communication.

4. An engine stop comprising a main valve casing having an inlet and an outlet, a valve member in said casing arranged to control the flow of fluid through said casing, a chamber communicating with the inlet side of said valve casing, a movable member connected to said main valve member and exposed to the pressure in said chamber, a means of communication between said chamber and the outlet side of said casing, and a valve located in said means of communication, said valve having a tendency to open, and being normally held closed by the pressure in the outlet side of the main valve casing.

974,267. DRILLING APPARATUS. JOHN J. HENNESSY and EDWARD A. CAPOCEFALO, Syracuse, N. Y. Filed Oct. 12, 1908. Serial No. 457,211.



1. A pneumatic apparatus comprising a case, an air compressing piston and a hammer piston movable in the case, the pistons being spaced apart therein and being unconnected, the spaces in the case behind the compressing piston and in front of the hammer piston being unconnected, and a catch extending through the case for holding the hammer piston in its retracted or starting position during the compression stroke of the first-mentioned piston, substantially as and for the purpose described.

2. A pneumatic apparatus comprising a case, an air compressing piston movable in one end portion of the case, a hammer piston movable in the other end portion of the case, the pistons being spaced apart and being unconnected, the case between the pistons being formed with an open passage located to permit the inlet of air in front of the compressing piston when at the end of its suction stroke, and with an open passage located to permit the air to escape from in front of the hammer piston during the power stroke thereof, the latter passage also permitting air to enter in front of the hammer piston during the return stroke thereof, in order that the hammer piston may be retracted by the suction of the compressing piston, and a catch extending through the case for holding the hammer piston in its retracted position, substantially as and for the purpose specified.

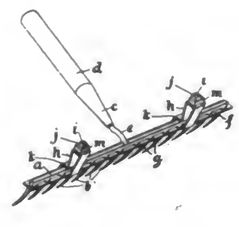
3. A pneumatic apparatus comprising a case, an air compressing piston movable in one end portion of the case, a hammer piston movable in the other end portion of the case, the pistons being spaced apart therein, and being unconnected, the spaces in the case behind the compressing piston and in front of the hammer piston being unconnected, and the case being formed with an open passage located to permit the inlet of air in front of the compressing piston when said piston is at the end of its suction stroke and with an open passage located to permit the escape of air from in front of the hammer piston during the power stroke thereof, the latter passage also permitting air to enter in front of the hammer piston during the return stroke thereof, in order that the hammer piston may be retracted by the suction produced by the compressing piston, a tool spindle supported at the hammer piston end of the case and having one end located in the path of the hammer piston, and a catch for holding the hammer piston in its retracted or starting position during the compression stroke of the first-mentioned piston, substantially as and for the purpose set forth.

4. A pneumatic apparatus comprising a case, an air compressing piston movable in one end portion of the case, a hammer piston movable in the other end portion of the case, the pistons being spaced apart and being unconnected, the spaces in the case behind the compressing piston and in front of the hammer piston being unconnected, and the case being formed with an open passage located in front of the position occupied by the head of the compression piston when at the end of its suction stroke, and with a passage opening directly into the outer air and located near the position occupied by the head of the hammer piston when at the end of its power stroke, and a catch extending through the case and engaging the hammer piston for holding the hammer piston in its retracted or starting position during the compression stroke of the first-mentioned piston, substantially as and for the purpose described.

5. A pneumatic apparatus comprising a case, a compressing piston and a power piston reciprocally movable in the case, one in advance of the other, the pistons being spaced apart therein and being unconnected, a catch for holding the power piston in its retracted or starting position during the compression stroke of the compressing piston, and means fixed to one piston and extending toward the other piston in order to engage said other piston during the compression stroke of the first-mentioned piston and thereby force the power piston from the catch, substantially as and for the purpose set forth.

[Claims 6 to 10 not printed in the Gazette.]

974,268. SELF-CLEANING RAKE. ALFRED S. HESS, Milwaukee, Wis. Filed Apr. 4, 1910. Serial No. 553,431.



1. The combination with a rake of a cleaning-device comprising a cleaner-bar rising and falling on and adapted to sweep the teeth of the rake, and one or more devices mounted on said cleaner-bar having a projected part adapted to catch over the cross-bar of the rake and thus hold said bar in raised position.

2. The combination with a rake of a cleaning-device comprising a cleaner-bar rising and falling on and adapted to sweep the teeth of the rake, and one or more devices mounted on said cleaner-bar having an element projecting over the cross-bar of the rake from the front side when the cleaner-bar is raised, in conjunction with means bringing the center of gravity to the rear of the rake when the parts are in such position and the rake in position of use.

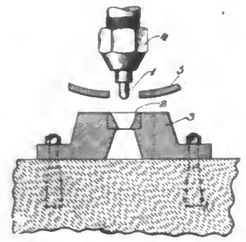
3. In combination with a rake, a cleaner-bar rising and falling on and adapted to sweep the teeth of the rake, a pair of straps mounted on said cleaner-bar and embracing the cross-bar of the rake; and one or more projecting elements mounted on said bar and adapted when the latter is raised to engage over the cross-bar of the rake, being held in that position by gravity when the rake is in position of use.

4. In combination with a rake, a cleaner-bar rising and falling on and adapted to sweep the teeth of the rake, and a pair of straps mounted on said bar and embracing the cross-bar of the rake, each strap having an inwardly projecting element adapted when said bar is in raised position to engage over the cross-bar of the rake and maintain it in said position.

5. In combination with a rake, a cleaner-bar rising and falling on and adapted to sweep the teeth of the rake, and a pair of straps mounted on said bar and embracing the cross-bar of the rake, each strap having an inwardly projecting element adapted when said bar is in raised position to engage over the cross-bar of the rake and maintain it in said position; the center of gravity of the combination being at the rear of the rake in aforesaid position.

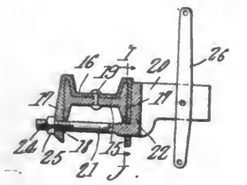
[Claims 6 to 9 not printed in the Gazette.]

974,269. METHOD OF TESTING AND MARKING METAL STRUCTURAL WORK. PERCY S. HILDRETH, New York, N. Y. Filed Apr. 14, 1908. Serial No. 427,024.



The method of testing and certifying the workable qualities of a metallic structure part as distinguished from a test piece which consists in stamping or punching upon a thin portion of said part a cup-shaped depression of definite and predetermined depth, substantially as described, whereby the condition of the surfaces of the depression is at once a test and a certificate of the workable qualities and strength of that particular part.

974,270. BRAKE-BEAM. JOHN B. HOAGLAND, St. Louis, Mo., assignor of one-half to Theodore B. Aufricht, St. Louis, Mo. Filed May 9, 1910. Serial No. 560,122.



1. The combination with a brake beam, of a stirrup secured thereto and having its terminal portions projecting beyond one face thereof, said terminals having openings, one of the openings being angular, a fork, a stem extending therefrom and retained within the openings, and means engaging the stem for binding the fork against the stirrup and binding said stirrup upon the beam.

2. The combination with a beam, of a stirrup secured thereto and embracing the same, said stirrup having apertured terminal portions projecting beyond the beam, a fork, a stem projecting therefrom and reversibly mounted within the openings in the terminal portions, said stem and the walls of one of the openings coöperating to hold the stem against rotation, and means engaging the stem for clamping the fork against the stirrup and binding said stirrup upon the beam.

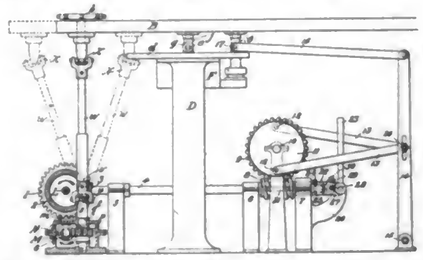
3. The combination with a beam, of a stirrup secured thereto and having its free terminals projecting therebeyond, said terminals having openings therein, a fork, and means removably mounted within the openings and engaging the fork for binding said fork upon the stirrup.

974,271. TENTERING-MACHINE. JOHN J. HOEY, Providence, R. I. Filed Oct. 15, 1909. Serial No. 522,783.

1. The combination in a tentering machine with side-rails adapted to be moved laterally and longitudinally in relation to each other during the operation of the machine, of sprocket-wheels rotatively mounted on the side-rails, a driven shaft, means to drive said shaft, and flexible shafts having universal joints connecting the driven shaft with the sprocket-wheels to rotate the latter during their movement with the side-rails.

2. The combination in a tentering machine having side-rails adapted to be moved laterally and longitudinally in

relation to each other during the operation of the machine, of rotatable conveyer-chain wheels, driving means, and flexible shafts having universal joints connecting the driving means with the chain-wheels to rotate the latter during their movement with the side-rails.



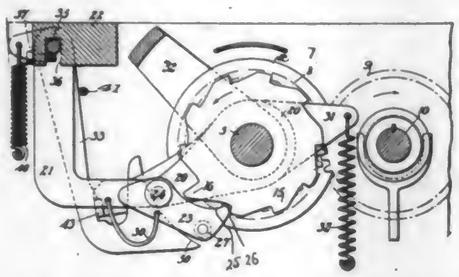
3. The combination in a tentering machine with chain-driving wheels adapted to be moved laterally and longitudinally of the machine during its operation, of a driven shaft, and flexible shafts having universal joints connecting the driven shaft with the chain wheels to rotate the latter during their movement on the machine.

4. The combination in a tentering machine with chain-driving wheels adapted to be moved laterally and longitudinally on the machine, a horizontal shaft on the machine, vertical stud-shafts, gears for driving said stud-shafts from the horizontal shaft, and flexible shafts having universal joints connecting the stud-shafts with the chain-wheels to allow the movement of the chain-wheels during their rotation.

5. The combination in a tentering machine with chain-driving wheels arranged to move laterally and longitudinally on the machine, of a horizontal driven shaft, vertical stud-shafts, gears to rotate the stud-shafts from the driven shaft, telescopic shafts for driving the chain-wheels, and universal joints connecting the telescopic shafts with the chain-wheels and stud-shafts.

[Claims 6 to 14 not printed in the Gazette.]

974,272. REGISTERING APPARATUS. HERMAN HOLLERITH, Garrett Park, Md., assignor to The Tabulating Machine Company, a Corporation of New Jersey. Filed Feb. 7, 1906. Serial No. 300,007.



1. In a transfer mechanism for registering apparatus, comprising registering elements of higher and lower orders, a member which acts as a carry pawl for its registering element and as a releasing means for the carrying mechanism for the next registering element.

2. In a transfer mechanism for registering apparatus, carry pawls, latch devices for holding the pawls and means for releasing the latch devices by the carry pawls.

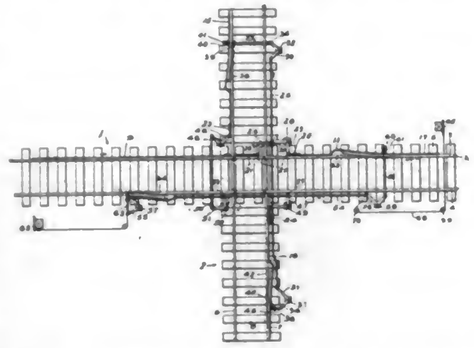
3. In a transfer mechanism for registering apparatus the combination of registering elements and carry pawls, means for imparting a relative movement to such of the registering elements and carry pawls as are to be actuated during a transfer and means for simultaneously moving a plurality of said carry pawls and registering elements to complete the transfer.

4. In a transfer mechanism for registering apparatus, comprising carry-pawls and register wheels, means for rotating said pawls and wheels in opposite directions and means actuated either by the movement of a wheel, or during the rotatory movement of its pawl, for releasing the carry-pawl of the next higher wheel.

5. In a transfer mechanism for registering apparatus the combination with the register wheels, carry pawls therefor, means for imparting a radial movement to the pawls by the rotation of the wheels, means for imparting to said pawls a movement around the axis of the wheels, latches for holding said pawls against such movement and means for releasing any latch by the radial movement of the pawl of next lower order.

[Claims 6 to 21 not printed in the Gazette.]

974,273. AUTOMATIC INTERLOCKING CROSSING SYSTEM. RANSOM LEE HOLT, Woodbury, Ga. Filed Nov. 15, 1909. Serial No. 528,060.



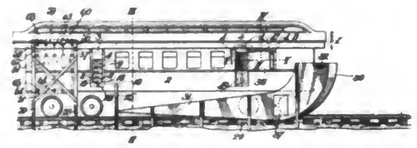
1. The combination with a plurality of track-ways which cross each other, and are provided with movable rail-sections for derailing a train, of a longitudinally movable actuating rail arranged adjacent a rail of one of said track-ways, means connecting said actuating rail of one of said track-ways with the movable rail-section of the other of said track-ways, and said actuating rail being adapted to move the connecting means by a longitudinal movement of the same in one direction only, substantially as described.

2. The combination with a plurality of track-ways which cross each other, and are provided with movable rail-sections for derailing a train, of a longitudinally movable shaft having means connected thereto for actuating the movable rail-sections of one of said track-ways, of a longitudinally movable actuating rail arranged adjacent a rail of the other track-way, means connecting said actuating rail with said longitudinally movable shaft, and means whereby said last named means is moved by said actuating rail by a movement of the same in one direction only, substantially as described.

3. In combination, a plurality of track-ways which cross each other, a movable rail-section associated with one of said track-ways to derail a train, an actuating rail arranged near a rail of the other track-way, said actuating rail being provided with a longitudinally disposed slot, and connecting means between said actuating rail and movable rail-section including a member movably mounted within said slot.

4. In combination, a plurality of track-ways which cross each other, a movable rail-section associated with one of said track-ways to derail a train, a shaft arranged near the track-way, a bell-crank lever connected to said shaft and movable rail-section, an actuating rail arranged near a rail of the other track-way and provided with a longitudinally disposed opening, a second bell-crank lever connected to said shaft, and connecting means between said actuating rail and said second bell-crank lever, including a member movably mounted within said slot.

974,274. MAIL-POUCH RECEIVING AND DELIVERING APPARATUS. ALBERT HUPP, Kansas City, Mo., assignor to U. S. Rapid Mail Service Co., Pierre, S. D., a Corporation of South Dakota. Filed Aug. 5, 1909. Serial No. 511,352.



1. An apparatus of the character described, comprising a station chute and a mail-car pouch-receiver, the latter facing in the direction of travel of the car and the former in the opposite direction, a station crane arranged near the trackway forward of the chute and adapted for detachably supporting one or more mail pouches in the path of the mail pouch receiver carried by the car, a crane carried by and capable of being projected from the side of the car or withdrawn therein, a basket depending from the first-named crane and provided with a movable bottom, means for normally holding said bottom closed, and means near the receiving end of the chute for tripping the first-named means to permit the bottom of the basket to move and the pouch or pouches to drop into the chute.

2. An apparatus of the character described, comprising a station crane and a mail-car pouch receiver, the latter facing in the direction of travel of the car and the former in the opposite direction, a station crane arranged near the trackway forward of the chute and adapted for detachably supporting one or more mail pouches in the path of the mail pouch receiver carried by the car, a crane carried by and capable of being projected from the side of the car or withdrawn therein, a basket depending from the last-named crane and provided with a movable bottom, a pivoted trigger normally holding the bottom of the basket closed, and means near the receiving end of the chute, for tripping said trigger.

3. An apparatus of the character described, comprising a station chute and a mail-car pouch receiver, the latter facing in the direction of travel of the car and the former in the opposite direction, a station crane arranged near the trackway forward of the chute and adapted for detachably supporting one or more mail pouches in the path of the mail pouch receiver carried by the car, a crane carried by and capable of being projected from the side of the car or withdrawn therein, a basket depending from the last-named crane and provided with a movable bottom, a pivoted trigger normally holding the bottom of the basket closed, consisting of two curved plates held yieldingly together at their lower ends, a trigger pivoted to one of said plates and engaging the other to hold them together, and means near the receiving end of the chute for tripping said trigger.

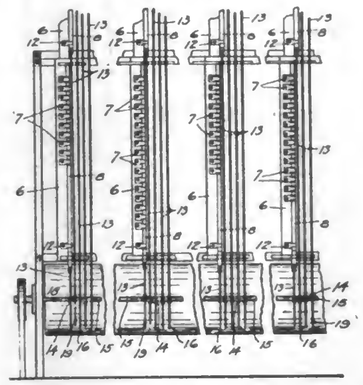
4. In an apparatus of the character described, a car provided with a door opening and a collapsible pouch-receiver, consisting of a plate extending outward from the rear edge of the door opening beyond the front edge thereof and a flexible top and bottom connecting the said plate with the adjacent side of the car.

5. In an apparatus of the character described, a car provided with a door opening and a collapsible pouch-receiver consisting of a plate extending outward from the rear edge of the door opening beyond the front edge thereof and a flexible top and bottom connecting the said plate with the adjacent side of the car, and cables connecting the front end of said plate to the adjacent side of the car.

[Claims 6 to 19 not printed in the Gazette.]

974,275. ILLUMINATED SIGN. WILLIAM H. INGLE, Tacoma, Wash. Filed Aug. 17, 1909. Serial No. 513,271.

1. In an electric sign, the combination of a source of electric energy; a distributer comprising a plurality of contact fingers; a vertically movable bar adapted to engage all of said fingers when in one position but to be disconnected therefrom when in its alternate position, and being electrically connected to one terminal of the source of electric energy; separate circuits connected to and leading from each of said contact fingers; lights inserted in each of said circuits and being electrically connected to the other terminal of the source of electric energy; a letter-block whereon said lights are arranged; a rotating controlling cylinder; one or more plugs extending out from said cylinder; and a lever pivoted adjacent to said cylinder and connected to said vertically movable bar and adapted to be engaged and operated by said plugs whereby said bar is moved into and out of engagement with said contact fingers.

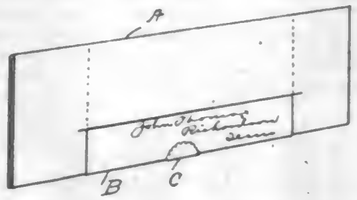


2. In an electric sign, the combination of a source of electric energy; a letter-block comprising an element in the electric sign; lights arranged on said letter-block and being electrically connected to one terminal of the source of electric energy; a series of distributers, each comprising a plurality of contact fingers arranged in a group; separate circuits each connecting one of said lights to one or more contact fingers; a series of vertically movable bars each adapted to engage all of said fingers in one group and being electrically connected to the other terminal of the source of electric energy; a rotating controlling cylinder; one or more plugs extending out from said cylinder, said plugs being arranged in lines parallel with the axis of the cylinder and in planes at right-angles thereto; and a series of levers pivoted adjacent to the cylinder and each connected to one of said vertically movable bars, and each adapted to be engaged by and operated by all said plugs which lie in a plane at right-angles to the axis of the cylinder, whereby said bar is moved into and out of engagement with said group of contact fingers.

3. In an electric sign, the combination of a source of electric energy; a series of letter-blocks, each comprising an element of the electric sign; lights arranged in corresponding positions on each of said letter-blocks and all being electrically connected to one terminal of the source of electric energy; a series of banks of distributers, one such bank being provided for each of said letter-blocks and each bank comprising a plurality of contact fingers arranged in groups; separate circuits each connecting one of said lights to one or more contact fingers in the bank corresponding with the letter-block in which the light is mounted; a series of vertically movable bars each adapted to engage all the fingers in one group and being electrically connected to the other terminal of the source of electric energy; a rotating controlling cylinder; a plurality of plugs extending out from said cylinder, said plugs being arranged in lines parallel with the axis of the cylinder for simultaneous action and at right-angles thereto for consecutive action; and a series of levers adjacent to the cylinder and each connected to one of said vertically movable bars, and each adapted to be engaged

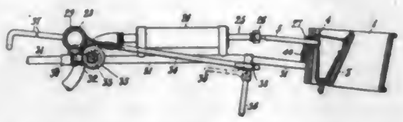
by and operated by all said plugs which lie in the plane at right-angles to the axis of the cylinder, whereby said bar is moved into and out of engagement with said group of contact fingers by each of said plugs successively.

974,276. MAILING-FOLDER. CHARLES FRANCIS JENKINS, Washington, D. C. Filed Feb. 19, 1910. Serial No. 544,944.



A folded letter sheet the outside fold of which is slotted, an insert in said slot so arranged as to expose a portion thereof, said exposed portion containing the name and address of the party for whom the folder is intended, and means for fastening the exposed portion of the insert to the folded letter sheet.

974,277. MILKING-MACHINE. FRANS JOSEF JOHANSSON and EMIL ALBERT OLSON GÖTHE, Stockholm, Sweden. Filed Jan. 26, 1910. Serial No. 540,128.



1. In a milking machine, the combination of a reciprocating part, a rod swingably connected to the said reciprocating part, a clamping member carried by the said rod, and a guide for the said rod causing the same to move in such a manner that the clamping member will exert a pulling action on the teat while pressing thereon, substantially as and for the purpose set forth.

2. In a milking machine, the combination of a cylinder, a piston movable in the said cylinder, a piston rod, a rod swingably connected to the said piston rod, a clamping member carried by the said swingable rod, and a guide for the said rod causing the same to move in such a manner that the clamping member will exert a pulling action on the teat while pressing thereon, substantially as and for the purpose set forth.

3. In a milking machine, the combination of a teat cup, a reciprocating part placed outside the said teat cup, a rod swingably connected to the said reciprocating part, a clamping member carried by the said rod within the said teat cup, and a guiding sleeve placed in the wall of the said teat cup and surrounding the said rod, said sleeve being adapted to swing vertically in the wall of the teat cup, substantially as and for the purpose set forth.

4. In a milking machine, the combination of a teat cup, a reciprocating part placed outside the said teat cup, a rod swingably connected to the said reciprocating part, a clamping member carried by the said rod within the said teat cup, a guiding sleeve placed in the wall of the said teat cup and surrounding the said rod, said sleeve being adapted to swing vertically in the wall of the teat cup, and means acting to normally keep the clamping member in a raised position, substantially as and for the purpose set forth.

5. In a milking machine, the combination of a teat cup, a reciprocating part placed outside the said teat cup, a rod swingably connected to the said reciprocating part, a clamping member carried by the said rod within the said teat cup, a guiding sleeve placed in the wall of the said teat cup and surrounding the said rod, said sleeve being adapted to swing vertically in the wall of the teat cup, and a spring acting to turn the said sleeve in such a direction as to raise the clamping member, substantially as and for the purpose set forth.

[Claims 6 to 8 not printed in the Gazette.]

974,278. ART OF PRINTING. LEWIS R. KANTNER, Hasbrouck Heights, N. J., assignor of one-third to MAX L. Mitchell, Williamsport, Pa. Filed Aug. 16, 1909. Serial No. 513,179.

1. The herein described process, consisting in making a print with ink containing coloring matter in addition to the body pigment of the ink and incorporated therewith, and subsequently treating the print with an oil in which the added coloring matter is soluble and the body pigment insoluble.

2. The herein described process, consisting in making a print with an ink containing coloring matter in addition to the body pigment of the ink, and subsequently treating said print with banana oil to liquefy said coloring matter.

3. The herein described process consisting in making a printed impression with ink containing coloring matter in addition to the body pigment of the ink; then treating the print with an oil in which said coloring matter is not soluble; then making a second impression over the first with the same ink, and finally treating the print with a solvent which will liquefy the said coloring matter in the ink of the print.

974,279. AUTOMATIC TELEGRAPHY. GREGORY T. KANZER-CHEGODARD, Kamenka, Russia. Filed Mar. 31, 1903. Serial No. 150,446.



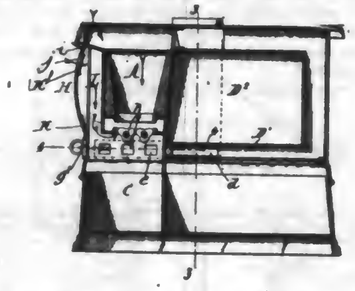
1. In an automatic telegraph, the combination with a Morse key, of a plug comprising two metallic spring plates electrically insulated from each other and having forked ends adapted to embrace the upper and lower front contacts of the key.

2. In an automatic telegraph, the combination with a Morse key and a tape driving mechanism, of a plug comprising two metallic spring plates electrically insulated from each other and having forked ends adapted to be inserted between the circuit closing contact points of the key, a pair of brushes made of conductive material electrically insulated from each other, and flexible conducting wires connecting the plug with the brushes.

3. In an automatic telegraph, the combination with a telegraph line, a Morse key and a strip having conductive surface and nonconductive characters, corresponding to a telegraphic code, of two brushes, one of which engages the characters and the other the free part of the same strip, whereby a circuit will be closed and broken by the nonconductive characters to send corresponding current-impulses through the key to the line.

4. In an automatic telegraph, the combination with a telegraph line and a Morse-key to send current impulses to line, of a yielding plug adapted to be inserted in said key, a tape drawing mechanism, two brushes arranged near said mechanism, wires connecting the brushes and plug, a tape having conductive surface and nonconductive characters impressed thereon so as to form conductive and nonconductive portions of sufficient width, one of said brushes engaging the characters whenever the tape is drawn under them and whereby a circuit will be closed between one of the key terminals, through the plug the wire, the brush, the conductive part of the tape, another wire, another brush, and another side of the plug to the other terminal of the key, in any desired intervals of time, to send Morse signals, substantially as described.

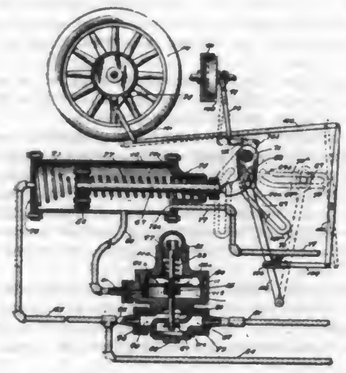
974,280. STOVE. EDWARD KENER, Jr., Buffalo, N. Y., assignor to Buffalo Co-operative Stove Company, Buffalo, N. Y., a Corporation of New York. Filed Apr. 20, 1908. Serial No. 427,974.



1. The combination of the fire chamber, the grate, the ash pit, an upright flue-back extending below the level of the grate, an oven, a flue underneath the oven communicating with the flue-back but permanently disconnected from the ash pit, said oven-flue being in communication with the fire chamber, a substantially horizontal connecting flue communicating with the side of the ash pit and the side of the flue-back, said connecting flue being arranged on the outside of the stove, and means for controlling the passage of the dust and products of combustion through said connecting flue.

2. The combination of the fire chamber, the grate, the flue-back extending below the level of the grate, the ash pit provided in its side adjacent to the flue-back with a down-draft passage, an oven, a flue underneath the oven communicating with the flue-back but permanently disconnected from the ash-pit, said oven-flue being in communication with the fire chamber, a substantially horizontal flue arranged on the outside of the stove and connecting the ash pit with the flue-back, said connecting flue being closed at its front end and communicating at its rear end with the side of the flue-back and having an open inner side fitted against the contiguous wall of the ash pit over said down-draft passage, and a damper applied to said passage within said connecting flue and having an operating device extending through the front end of said flue.

974,281. AUTOMOBILE CLUTCH AND BRAKE CONTROLLING MECHANISM. HENRY M. KUGLER and WILLIAM T. CLARK, Buffalo, N. Y. Filed May 20, 1909. Serial No. 497,374.



1. In an automobile brake mechanism, the combination with the engine cylinders and engine exhaust fluid controlling means; of an exhaust fluid reservoir, a check valve placed between said engine cylinders and said reservoir and a pressure reducing valve placed between said reservoir and said fluid controlling means.

2. In an automobile brake mechanism, the combination with the engine cylinders and engine exhaust fluid controlling means; of an exhaust fluid reservoir, a compression retaining valve placed between said cylinders and said controlling means, a check valve placed between said cylinders and said compression retaining valve and a pressure reducing valve placed between said reservoir and said controlling means.

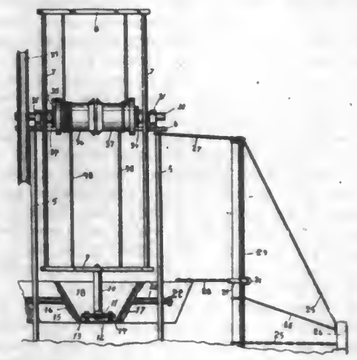
3. In an automobile brake mechanism, the combination with the engine cylinders and engine exhaust fluid controlling means; of an exhaust fluid reservoir, means between said reservoir and said engine cylinders for maintaining the proper compression in the said engine cylinders, means placed between said fluid reservoir and said controlling means for maintaining a predetermined pressure of the exhaust fluid passing through said controlling means and check valves placed between said cylinders and said means for maintaining the compression in said cylinders.

4. In an automobile brake mechanism, the combination with the engine cylinders and brake mechanism; of an engine exhaust fluid reservoir, a compression retaining valve between said fluid reservoir and said engine cylinders, check valves between said retaining valve and said cylinders, engine exhaust fluid controlling means between said reservoir and said brake mechanism and means for operating said brake mechanism whereby the brakes may be set or released.

5. In an automobile brake mechanism, the combination with the engine cylinders and brake mechanism; of an engine exhaust fluid reservoir, a compression retaining valve between said fluid reservoir and said engine cylinders, check valves between said retaining valve and said cylinders, engine exhaust fluid controlling means between said reservoir and said brake mechanism, an exhaust fluid cylinder, a piston movable in said cylinder, means connecting said piston to said brake mechanism, pipes connecting each end of said fluid cylinder to said controlling means whereby the brakes may be set or released.

[Claims 6 to 19 not printed in the Gazette.]

974,282. WAVE-MOTOR. THEODORE LA BRUM, San Diego, Cal. Filed June 20, 1910. Serial No. 567,810.



1. A wave motor comprising a plurality of vertical piles, a platform supported thereon, a float mounted for vertical movement between said piles, rollers carried by said float and bearing against said piles, and independent anchoring means for said float to hold it against endwise movement.

2. A wave motor comprising a plurality of vertical piles, a platform supported thereon, a float mounted for vertical movement between said piles, rollers carried by said float and bearing against said piles, and independent anchoring means for said float to hold it against endwise movement and for permitting vertical movement thereof, said anchoring means comprising a vertical pole, an anti-

friction device traveling vertically thereon, and a connection between said anti-friction device and said float.

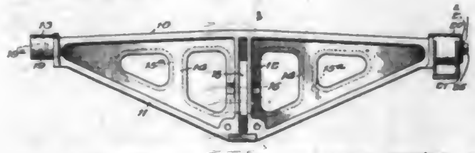
3. A wave motor comprising a plurality of vertical piles, a platform supported thereon, a float mounted for vertical movement between said piles, rollers carried by said float and bearing against said piles, independent anchoring means for said float to hold it against endwise movement, and an open water ballast compartment located at the central portion of said float.

4. A wave motor comprising a plurality of vertical piles, a platform supported thereon, a float mounted for vertical movement between said piles, rollers carried by said float and bearing against said piles, independent anchoring means for said float to hold it against endwise movement and for permitting vertical movement thereof, said anchoring means comprising a vertical pole, an anti-friction device traveling vertically thereon, and a connection between said anti-friction device and said float, and an open water ballast compartment located at the central portion of said float.

5. A wave motor comprising a plurality of vertical piles, a platform supported thereon, a float mounted for vertical movement between said piles, rollers carried by said float and bearing against said piles, and independent anchoring means for said float to hold it against endwise movement, said anchoring means comprising a substantially vertical pole, a distant anchor, connections between said anchor and said pole, a connection between the upper part of said pole and the upper part of the piles of the frame, an anti-friction device traveling upon said pole, and a connection between said anti-friction device and said float.

[Claims 6 and 7 not printed in the Gazette.]

974,283. BRAKE-BEAM. JOHN A. LAMONT, St. Louis, Mo., assignor to American Steel Foundries, Chicago, Ill., a Corporation of New Jersey. Filed May 31, 1910. Serial No. 564,335.



1. A brake beam having a compression member, a tension member, a middle support, webs joining said compression and tension members at points between their united ends and trunnions formed at the ends of said compression and tension members, all the parts being cast in a single piece, in combination with brake heads mounted for rotation on said trunnions, means for securing said brake heads in adjusted positions, said means comprising intersecting bolts, substantially as described.

2. A brake beam comprising compression and tension members, a web uniting said compression and tension members at points between their ends, trunnions at the meeting point of said compression and tension members, the parts all being cast in a single piece, in combination with a center suspension lug secured to said integral casting, substantially as described.

3. A brake beam of the class described, of general channel shape in cross section and provided with integral trunnions at its ends, the web of said channel being provided with openings therethrough, and strengthening ribs around said openings, substantially as described.

4. A one piece brake beam provided with trunnions upon its ends, said trunnions having apertures therein, in combination with a brake head mounted for rotation upon each of said trunnions, intersecting bolts mounted within the openings in said trunnions and means whereby each of said heads is positively held against rotation, substantially as described.

5. A brake beam having trunnions upon its ends, each of said trunnions being provided with openings formed at right angles to each other, in combination with a brake head rotatably mounted upon each of said trunnions, bolts mounted in the openings of and concentric with said trunnions, said bolts being adapted to secure said heads upon said trunnions, eye-bolts mounted in the other of said openings and retained in place by the concentric bolts, toothed nuts held by said eye-bolts and adapted to co-act with the outer surface of the brake heads, and means for forcing said toothed nuts tightly against the outer surface of said brake heads, substantially as described.

[Claim 6 not printed in the Gazette.]

974,284. AERIAL TRAMWAY. WILLIAM C. LAWSON, Roanoke, Va. Filed Feb. 8, 1910. Serial No. 542,767.



1. In an aerial tramway, the combination with supporting means, of an upstanding bracket mounted thereon, spaced rail members secured to opposite sides of the bracket, and a cable rail extending between the rail members.

2. In an aerial tramway, the combination with supporting means, of a bracket mounted thereon and having upstanding arms, rail members secured to opposite sides of the bracket arms, and a cable rail extending between the rail members and over the bracket arms.

3. In an aerial tramway, the combination with spaced standards and a tie rod connecting the same, of an upstanding bracket mounted on the tie rod, spaced rail members secured to opposite sides of the bracket, and a cable rail extending between the rail members.

4. In an aerial tramway, the combination with spaced standards and a tie rod connecting the same, of an upstanding bracket comprising a hub through which the rod passes, said hub having an upstanding arm, a rail member fixed to the arm, and a cable rail engaged with the bracket.

5. In an aerial tramway, the combination with supporting means, of upstanding brackets mounted thereon, rail members including spaced elements, each secured at its ends to opposite sides of the brackets, and cable rails passing between the elements and secured to the supporting means.

[Claims 6 to 20 not printed in the Gazette.]

974,285. CELLULOSE OR PYROXYLIN COMPOUND. PAUL H. A. LEDEN, Baltimore, Md., assignor of one-fourth to Alexander M. Hanline and one-fourth to Ernest E. Quandt, Baltimore, Md. Filed June 22, 1909. Serial No. 503,678.

1. The process, which comprises adding to a solution of cellulose or pyroxylin, a solution of sulfur, and evaporating to dryness at normal temperature.

2. The process, which comprises dissolving cellulose or pyroxylin in acetone and adding thereto a solution of sulfur and evaporating to dryness at normal temperature.

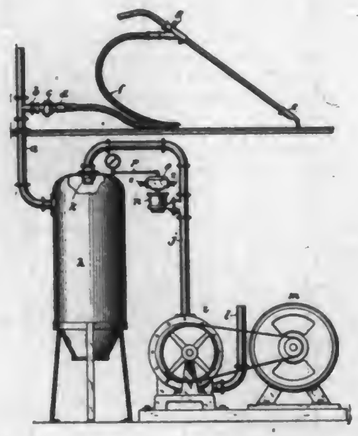
3. The process, which comprises dissolving cellulose or pyroxylin in a suitable solvent and adding thereto a small percentage of a solution of sulfur dissolved in chloroform and evaporating to dryness at normal temperature.

4. The process, which comprises dissolving cellulose or pyroxylin in acetone and adding thereto between three and ten per cent. of a solution of sulfur dissolved in chloroform and evaporating to dryness at normal temperature.

5. The process, which comprises dissolving cellulose or pyroxylin in acetone and adding thereto sulfur dissolved in chloroform and evaporating to dryness at normal temperature.

[Claims 6 to 15 not printed in the Gazette.]

974,286. VACUUM CLEANING APPARATUS. FRANK J. MATCHETTE, RICHARD RADDATZ, and CHARLES MOUKOS, Milwaukee, Wis.; said Raddatz and Moukos assignors to said Matchette. Filed Feb. 1, 1907. Serial No. 355,242.



1. In vacuum cleaning apparatus the combination of a service main, a pump connected therewith and adapted to exhaust air therefrom, an unloading valve controlling communication between the suction side of the pump and the atmosphere and having an actuating connection with a part of the apparatus in which service pressure is maintained, a check valve between said unloading valve and the service main adapted to prevent back flow of air into said main when the unloading valve is opened, and an automatic controller operated by variations in service pressure to intermittently admit and release such pressure to and from said unloading valve at separate predetermined limits of service pressure, substantially as described.

2. In vacuum cleaning apparatus the combination of a service main, a pump connected therewith and adapted to exhaust air therefrom, an unloading valve controlling communication between the suction side of the pump and the atmosphere and having a fluid pressure actuating connection and an automatic controller connected with a part of the apparatus in which service pressure is maintained and comprising spring pressed valves subjected to service pressure and controlling the admission and release of fluid pressure through the actuating connection of the unloading valve, substantially as described.

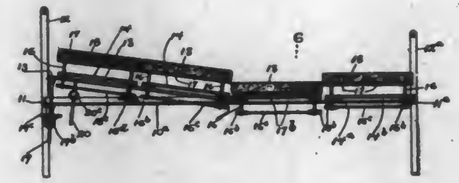
3. In vacuum cleaning apparatus the combination of a service main, a pump connected therewith and adapted to exhaust air therefrom, an unloading valve controlling communication between the suction side of the pump and the atmosphere and having a fluid pressure actuating connection, a spring tending to hold said valve closed, and an automatic controller connected with a part of the apparatus in which service pressure is maintained and comprising valves subjected to service pressure and controlling the admission and release of fluid pressure to and from the unloading valve, and adjustable springs opposing the movement of said controller valves by air pressure, substantially as described.

4. In vacuum cleaning apparatus the combination of a dust separator and low pressure reservoir, a pump connected with said separator and reservoir and adapted to exhaust air therefrom, an unloading valve connected with the suction side of said pump and controlling communication between it and the atmosphere, a check valve between said unloading valve and said separator and reservoir adapted to prevent back flow of air into the reservoir when the unloading valve is opened, an automatic controller connected with said reservoir and comprising valve mechanism subjected to service pressure and controlling the operation of the unloading valve and portable means adapted to control the operation of said controller at a distance therefrom, substantially as described.

5. The combination of a service main, a pump connected with said main and adapted to exhaust air therefrom, an unloading valve controlling communication between the suction side of the pump and the atmosphere and having an actuating connection with a part of the apparatus in which service pressure is maintained, and means adapted to automatically admit and release said service pressure to and from said valve at separate predetermined limits of pressure.

[Claims 6 to 13 not printed in the Gazette.]

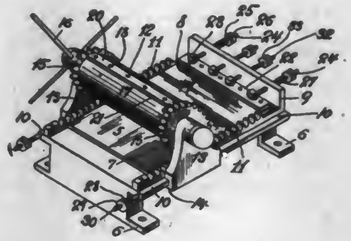
974,287. BED. ALBERT M. MAY, Lakewood, Ohio. Filed Feb. 8, 1908. Serial No. 414,865.



1. In a bed, a main frame, a plurality of auxiliary frame sections extending between the sides of the main frame, a plurality of vertically movable trays carried by said sections the section at the head of the bed having two independent trays, each of which extends from the side to the center of the bed and means for shifting said trays.

2. In a bed, a frame, and a sectional bottom, a U-shaped member supporting a portion of the latter, said member extending across the head of the bed and having its arms hinged to the sides of the frame, means at the head of the bed for raising or lowering said member, and a pair of counterweighted arms hinged to the arms of said member and having teeth adapted to automatically engage the sides of the frame to rigidly hold the member in any desired position.

974,288. MACHINE FOR CURVING ELECTROTYPES. WALKER W. MCCARROLL, Arlington, N. J. Filed Nov. 22, 1909. Serial No. 529,247.



1. In a machine of the class described the combination of a fixed support, a flexible member mounted to lie flat on said support, tension members interposed between the latter and the said flexible member and a rotating member for curving the said flexible member.

2. In a machine of the class described the combination of a rotatable member, a flexible member fastened to the same and adapted to curve around said rotatable member when the latter is rotated and tension means fastened to the opposite end of said flexible member.

3. In a machine of the class described the combination of a bed, a cylinder movable on the same, blankets the one end of which are fast to said cylinder and tension

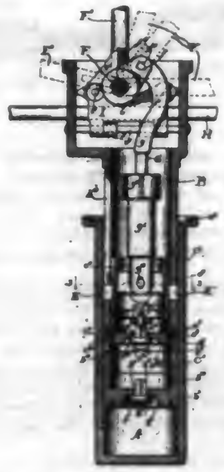
member interposed between the other ends of said blankets and the said bed.

4. In a machine of the class described the combination of a cylinder, a bed, a blanket on the latter and fast to said cylinder at the one end, yielding means for fastening the other end of said blanket to the bed and mechanism for operating the said cylinder on the bed to curve the blanket around the same.

5. In a machine of the class described the combination of a bed, a rack fastened at either side thereof, guides on said bed, a cylinder, gears on the same for meshing with the said racks, bearings for the said cylinder, means for guiding the same on the said guides, a blanket fastened to the said cylinder and adapted to be curved around the same and yielding means interposed between said blanket and said bed.

[Claims 6 and 7 not printed in the Gazette.]

974,289. HYDRAULIC CHAIR. EDWARD MELCHIOR, Chicago, Ill. Filed June 22, 1908. Serial No. 439,684.



1. In a hydraulic chair, the combination of a cylinder, a plunger movable therein, a piston for forcing fluid into said cylinder to elevate the plunger, valve-mechanism for controlling the flow to and from the cylinder, means securing the plunger against movement in the cylinder, a lever, reclining-mechanism controlled by said lever, a connection between the piston and the lever for operating the piston in either direction, and yielding means interposed in said connection which permits the lever to be shifted in one direction when the plunger is secured against movement in the cylinder.

2. In a hydraulic chair, the combination of a cylinder, a plunger movable therein, a piston in the plunger for forcing fluid into said cylinder to elevate the plunger, valve-mechanism for controlling the flow to and from the cylinder, means securing the plunger against movement in the cylinder, a lever, reclining-mechanism controlled by said lever, a connection between the piston and the lever for operating the piston in either direction, and yielding-means interposed in said connection which permits the lever to be shifted in one direction when the plunger is secured against movement in the cylinder.

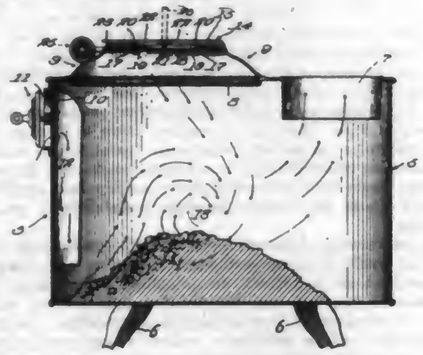
3. In a hydraulic chair, the combination of a cylinder, a plunger movable therein, a piston for forcing fluid into said cylinder to elevate the plunger, valve-mechanism for controlling the flow to and from the cylinder, means controlled by the piston for securing the plunger against movement in the cylinder, a lever, reclining-mechanism controlled by said lever, a connection between the piston and the lever for operating the piston in either direction, and yielding-means interposed in said connection and which permits the lever to be shifted in one direction when the plunger is secured against movement in the cylinder.

4. In a hydraulic chair, the combination of a cylinder, a plunger movable therein, a piston for forcing fluid into said cylinder to elevate the plunger, valve-mechanism for controlling the flow to and from the cylinder, means for securing the plunger against movement in the cylinder, a lever, reclining-mechanism controlled by said lever, a connection between the piston and the lever for operating the piston in either direction, and a spring interposed in said connection which permits the lever to be shifted in one direction when the plunger is secured against movement in the cylinder.

5. In a hydraulic chair, the combination of a cylinder, a plunger movable therein, a piston for forcing fluid into said cylinder to elevate the plunger, valve-mechanism for controlling the flow to and from the cylinder, means controlled by the piston for securing the plunger against movement in the cylinder, a lever, reclining-mechanism controlled by said lever, a connection between the piston and the lever for operating the piston in either direction, and a spring interposed in said connection and which permits the lever to be shifted in one direction when the plunger is secured against movement in the cylinder.

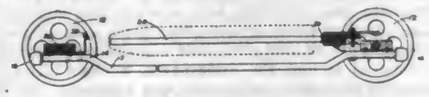
[Claims 6 to 35 not printed in the Gazette.]

974,290. STOVE. JAMES M. MERRITT, Los Angeles, Cal., assignor to Hoffman Hardware Company, Los Angeles, Cal., a Corporation of California. Filed Jan. 20, 1910. Serial No. 538,981.



A stove construction, comprising a hollow body having a draft outlet at its rear upper end, an opening in its top near the front, and a draft inlet in its front near the top, a draft tube leading from the draft inlet downwardly on the inside of the body to a point near the bottom, a damper controlling the draft inlet, a bell shaped cover adapted to close the opening in the top of the body, the cover having a flat top and an opening in the center thereof, a stationary recessed plate mounted on the top of the cover and having draft apertures therein, and a movable plate mounted on the stationary plate in its recess and having apertures therein for registration with the apertures in the stationary plate, the upper surfaces of both plates being flat and in the same plane.

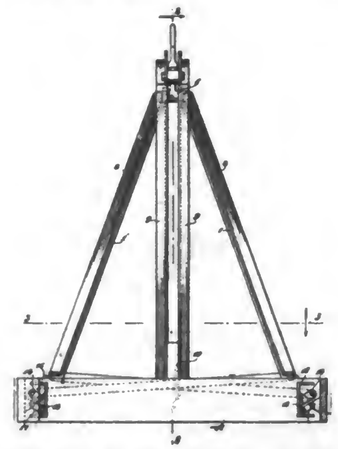
974,291. SHUTTLE. WILBUR G. PEET, Bridgeport, Conn. Filed June 3, 1910. Serial No. 564,817.



1. A shuttle comprising a reach, axles mounted thereon and carrying wheels, gripping jaws secured to one end of the reach and having half sockets, a spindle having a threaded end adapted to engage the half sockets, a spring acting to normally open the jaws and a lever for holding the jaws in the gripping position.

2. A shuttle comprising a reach, axles mounted thereon and carrying wheels, a lower gripping jaw rigidly secured to one end of the reach, a spring controlled upper jaw, a lever for holding the upper jaw in the gripping position and a spindle held in position by the jaws.

974,292. MACHINE FOR HANDLING BRICKS. RAYMOND C. PENFIELD, New York, N. Y. Filed Oct. 8, 1908. Serial No. 456,693.



1. A brick handling machine, comprising a main frame, a pair of clamps at the base for gripping the brick, means for actuating said clamps consisting essentially of horizontal rock shafts having rigid arms thereon which are pivotally connected to the clamps to provide a parallel motion mechanism for each clamp, crosswise arranged levers secured to said rock shafts, lifting bars pivotally connected to the ends of said levers, and means for jointly actuating said lifting bars.

2. A machine for handling brick, comprising a main frame, a pair of clamps, shafts having rigid arms thereon which are pivotally connected to the clamps to provide a parallel motion mechanism for each clamp, crosswise arranged levers secured to the shafts, lifting means pivotally connected to said levers, and means for jointly actuating said lifting means consisting of a lever at the top of the machine to which the lifting crane applies its power.

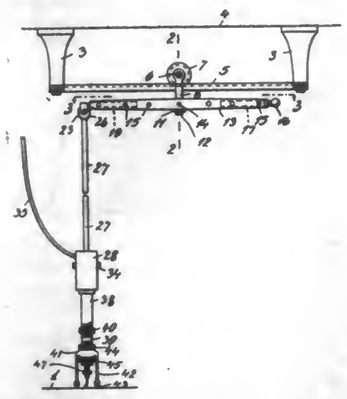
3. A machine for handling masses of material, comprising a vertically disposed frame, a pair of clamps at the lower end for exerting pressure against the opposite ends of the lower course of brick, rock shafts supported alongside of said clamps, rigid arms on said rock shafts pivotally connected to the clamps, long horizontal levers arranged crosswise of each other and of the machine and rigidly attached to the rock shafts, and means whereby the lifting strain which raises the entire machine is applied to the ends of the long levers.

4. In a machine for handling brick and other masses of material, having a lower tier shorter than the rest of the mass, the combination of a vertically disposed frame having a laterally projected upper part, a pair of clamping members at the lower end of the frame for exerting pressure against the ends of the lower tier of brick, a pair of horizontally disposed long levers arranged crosswise of each other, means consisting of horizontal rock shafts having rigid arms thereon which are pivotally connected to the clamping members to provide a parallel motion mechanism for each clamping member, whereby the power of said levers is applied to the clamps, and means for actuating said levers to effect the clamping.

5. A machine for handling bricks, comprising a vertical frame, a laterally extending arm on the upper end thereof, a single pair of laterally extending clamps at the base of the frame, rock shafts having arms movably connected to the clamps to provide a parallel motion mechanism for each clamp, levers secured to the rock shafts, lifting bars pivoted to said levers, and means for raising the lifting bars when the lifting power is applied to lift the machine.

[Claims 6 and 7 not printed in the Gazette.]

974,293. APPARATUS FOR CUTTING PAPER, CLOTH, OR SIMILAR PATTERNS. EMANUEL PIGNONE, New York, N. Y., assignor of one-half to George M. Laub, Newark, N. J. Filed May 12, 1910. Serial No. 560,776.



1. In an apparatus of the class stated, a support for the work, a horizontal arm pivotally suspended at its center above the work, a suspension bar connected with one end of the arm, a universal joint connecting the suspension bar with the arm, a gear casing supported by the suspension bar and which incloses and protects the gears, a cutter bar, mechanism within the casing for actuating the cutter bar, power devices which connect direct with the gears and do not make contact with either the arm or the suspension bar, and a presser foot.

2. In an apparatus of the class stated, a support for the work, a horizontal arm suspended above the work, means whereby the arm may move bodily across the work, other means whereby it may be swung laterally to the right and left, a suspension bar supported by the arm, a universal joint interposed between the suspension bar and the arm, a gear casing supported by the suspension bar and which incloses the gears in a dust-proof manner, a cutter bar, mechanism within the casing for actuating the cutter bar, driving devices connected direct with the gears without making contact with any of the other parts stated, and a cutter at the lower end of the cutter bar.

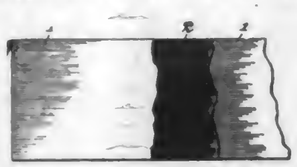
3. In an apparatus of the class stated, a support for the work, a track suspended above the work, a carriage adapted to longitudinal movement along the track, a horizontal arm pivotally supported at its center from the carriage, a counterpoise at one end of the arm, means whereby the counterpoise may be adjusted, a suspension bar pivotally connected to the other end of the arm, means whereby the suspension bar may be adjusted, a gear casing supported by the suspension bar, which incloses and protects the gears, a cutter bar, mechanism within the casing for actuating the cutter bar, a cutter upon the lower end of the cutter bar, and a presser foot.

4. In an apparatus of the class stated, a support for the work, a track above the support, a carriage adapted to longitudinal movement along the track, a horizontal arm pivotally supported from the carriage, an antifriction bearing for the arm, an adjustable counterpoise at one end of the arm, a suspension bar connected to the other end of the arm by an adjustable universal joint, a gear

casing supported by the suspension bar, a cutter bar, mechanism within the casing for actuating the cutter bar, and a cutter upon the lower end of the cutter bar.

5. In an apparatus of the class stated, a support for the work, a track above the support, a carriage adapted to longitudinal movement along the track, a horizontal arm pivotally supported from the carriage, an antifriction bearing for the arm, an adjustable counterpoise at one end of the arm, a suspension bar connected to the other end of the arm by an adjustable universal joint, a casing which incloses the gears in a dust-proof manner supported by the suspension bar, a cutter bar, mechanism within the casing for actuating the cutter bar, and a cutter upon the lower end of the cutter bar.

974,294. SURGICAL BANDAGE. EDMUND MORSE POND, Rutland, Vt. Filed Sept. 16, 1908, Serial No. 453,247. Renewed Mar. 25, 1910. Serial No. 551,583.



1. A surgical bandage and dressing comprising in combination a textile fabric, a body of material readily soluble in water at the normal temperature of the human body, in which the textile fabric is embedded, and a water-tight backing of waterproof material.

2. A surgical bandage and dressing comprising in combination a textile fabric, a readily soluble composition of glycerin and gelatin in which the textile fabric is embedded, and a water-tight backing of waterproof material.
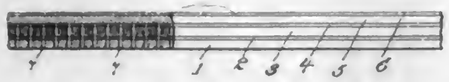
3. A surgical bandage and dressing comprising in combination a textile fabric, a readily soluble composition of 75 parts glycerin and 25 parts gelatin in which the textile fabric is embedded, and a water-tight backing of waterproof material.

4. A surgical bandage and dressing comprising in combination a section of wire cloth, a body of material readily soluble in water at the normal temperature of the human body, in which the wire cloth is embedded, and a water tight backing of waterproof material.

5. A surgical bandage and dressing comprising in combination a section of wire cloth, a readily soluble composition of glycerin and gelatin in which the wire cloth is embedded, and a water-tight backing of waterproof material.

[Claims 6 to 9 not printed in the Gazette.]

974,295. SURGICAL BANDAGE. EDMUND MORSE POND, Rutland, Vt. Filed Oct. 23, 1907, Serial No. 398,796. Renewed June 2, 1910. Serial No. 564,683.



1. The herein described surgical bandage comprising a layer of gelatin, and a sheet formed of fluid-tight fabric having perforations extending through both gelatin and backing sheet.

2. The herein described surgical bandage comprising a layer of gelatin, and a sheet formed of fluid-tight fabric having perforations extending through both, together with a backing of absorbent material.

3. The herein described surgical bandage comprising a layer of gelatin, and a sheet formed of fluid-tight fabric having perforations extending through both, together with a backing of absorbent material and a second sheet of fluid-tight material.

4. The herein described surgical bandage comprising a layer of gelatin, and a sheet formed of fluid-tight fabric having perforations extending through both, together with a backing of absorbent material and a second sheet of fluid tight material, the perforations also passing through the absorbent material.

5. The herein described surgical bandage comprising a layer of medicated gelatin, a sheet formed of fluid-tight material, a backing of coarse absorbent material, a second sheet formed of fluid-tight material and a second backing of finer absorbent material, the gelatin, first fluid-tight sheet and first layer of backing having perforations in line one with the other extending through them.

[Claims 6 and 7 not printed in the Gazette.]

974,296. ELECTRIC GLOW-LAMP. HERMANN REMANÉ, Berlin, EMIL GOTTSCHALK, Charlottenburg, and EUGEN HUBWITZ, Berlin, Germany, assignors to Deutsche Gasglühlicht Aktien Gesellschaft, (Auergesellschaft,) Berlin, Germany, a Corporation. Original application filed July 18, 1907, Serial No. 384,357. Divided and this application filed Dec. 17, 1908. Serial No. 468,000.



1. An incandescent electric lamp comprising a tungsten filament and a support therefor, composed of two separate bodies of metals connected mechanically, one of said metals having the property of forming an alloy with tungsten, while the other has the contrary property.

2. An incandescent electric lamp comprising a tungsten filament and a support therefor, composed of a core of one metal and of a coating of a different metal, one of said metals having the property of forming an alloy with tungsten, while the other has the contrary property.

3. An incandescent electric lamp comprising a tungsten filament and a support therefor composed of a core of one metal and a coating of a different metal, one of said metals belonging to the copper group and the other to the iron group.

4. An incandescent electric lamp comprising a tungsten filament and a support therefor composed of a core of one metal and a coating of a different metal, one of said metals being nickel and the other copper.

5. The combination of a refractory metal filament and a support therefor, composed of distinct bodies of different metals, of which one has the property of forming an alloy with the material of the filament, while another has the contrary property.

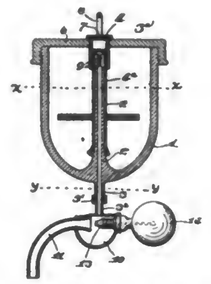
[Claim 6 not printed in the Gazette.]

974,297. EYELETED ENAMELED SIGN. ERNEST RICHARDSON, Beaver Falls, Pa. Filed Mar. 7, 1910. Serial No. 547,795.



The combination of an enameled plate having a hole surrounded by a flanged wall enameled on both sides, and an eyelet therein, said eyelet having a body lying within the flanged wall and tightly fitting against the enamel on the same and having at one end an annular cup-like flange fitting over the end of the said flanged wall and against the external face of the latter whereby the cracking of the enamel around the said hole is prevented, the eyelet is fixedly held in the hole, and the said wall reinforced.

974,298. DISINFECTING APPARATUS. CHARLES B. RIDER, Ocean City, N. J., assignor of one-half to Samuel H. Hann, Camden, N. J. Filed Nov. 1, 1909. Serial No. 525,633.



1. The combination with a receiving cup having an interior inverted discharge-tube, an exterior tubular neck at the base of the cup, in alinement with said interior tube, means to vent the cup and means to adjustably control the admission of liquid to the open end of the discharge-tube, a mixing-chamber disposed below said cup and its tubular neck, inlet and discharge pipes leading to and from said mixing-chamber, and an injector-nozzle and combining tube mounted thereon, respectively, in spaced relation, within said mixing-chamber.

2. The combination with a receiving cup, an apertured closing cap therefor, a thimble vertically adjustable in said aperture, a central tube in said cup, peripherally slotted near its upper end, a basal hollow neck on said cup, in alinement with its central tube, a tubular wick fitted sleeve-like over the latter, a mixing chamber below said cup and its adjunctive elements, and means to discharge a current of water through said mixing chamber in a direction transverse to the superposed cup and its discharge tubes.

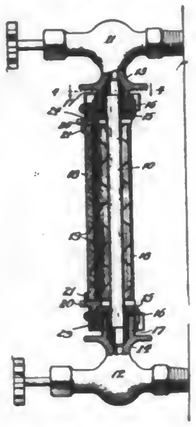
3. The combination with the receiving cup having a central tubular outlet within the same, said tube being fluted, a tubular wick being fitted over said tube, means to hold said elements in operative register, a basal aperture in said cup in alining communication with the central tube thereof, a mixing chamber below the cup, an injector device in said chamber, and means to convey water to and discharge it from the elements of said injector device.

4. The combination with a mixing chamber, comprising a chambered body, an injector nozzle and its combining tube mounted horizontally within the same, a water discharge pipe leading therefrom, a water inlet pipe leading to the same, with means on the projecting end of the latter adapted to couple it to a fired source of water supply, a receiving cup operatively supported over said chambered body, adapted to contain a disinfecting solution, and an inverted open-ended discharge tube centrally disposed in said cup and communicating at its base with said chambered body over said injector device therein.

974,299. BOILER-WATER-GLASS SHIELD. GEORGE H. SARGENT and ARTHUR G. HOLLINGSHEAD, Chicago, Ill. Filed July 1, 1909. Serial No. 505,315.

1. In a boiler water glass shield, the combination of a transparent protector adapted to partially surround a water glass, a plurality of laterally projecting spring clips adapted to detachably maintain the shield in protecting position over the water glass, and means for adjustably securing said shield to said spring clips, whereby the shield may be angularly adjusted relatively to said clips and retain the same relative position with relation to the water glass, substantially as described.

2. In a boiler water glass shield, the combination of a transparent protector adapted to partially surround a water glass, nuts for said water glass, a plurality of clips adapted to engage the water glass nuts, and to detachably maintain the shield in protecting position over the said water glass, and means for adjustably securing the clips to said shield whereby the shield may be adjusted relatively to the nuts to bring it into proper angular relation with the water glass, the shield maintaining the same distance from the water glass in any adjusted position, substantially as described.



3. A water glass shield comprising the combination of a hollow glass member open at one side for application to the water glass, nuts for said water glass, a head at each end of the shield, an outwardly extended external flange on each head, and a curved leaf spring clip adjustably attached to each of said flanges and bearing on the ends of the same, said clips connecting with the nuts of the water glass, the adjustable attachment of said clips to said flanges permitting rotation of said shield to a desired position while maintaining the shield at a constant distance from said water glass, substantially as described.

4. A water glass shield comprising a semi-tubular shield member, a water glass having stuffing boxes therefor, terminal heads having semi-tubular upright flanges to embrace said stuffing boxes and permit rotation of the shield about the glass, the lower head having an internal substantially horizontal shoulder to rest upon the lower stuffing box of the water glass, and means to hold the heads upon the stuffing boxes and permit adjustable rotation of the shield about its longitudinal axis and upon said holding means, substantially as described.

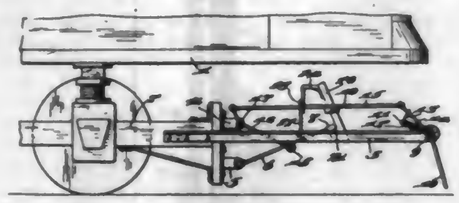
5. A water glass shield comprising a semi-tubular member, a water glass having stuffing boxes therefor, terminal heads having semi-tubular upright flanges to embrace said stuffing boxes and permit rotation of the shield about the glass, the lower head having an internal substantially horizontal shoulder to rest on the lower stuffing box of the water glass, substantially U-shaped spring clips embracing the respective flanges with their free ends projecting beyond the ends of the flanges to embrace the stuffing boxes and retain the shield in place, and a connection between each spring and the adjacent flange to permit rotatable adjustment of the shield about its longitudinal axis and upon the spring clips, substantially as described.

[Claim 6 not printed in the Gazette.]

974,300. CAR-FENDER. OTTO J. SCHMITT, Philadelphia, Pa. Filed June 22, 1910. Serial No. 568,358.

1. In a car fender, the combination with a truck, of parallel horizontal forwardly extending bars secured to the truck, a fender pivotally connected to the truck, catches supported by said bars, engaging the free end of the fender and normally holding said fender in an elevated position, and a tripping fender pivotally connected to the forward ends of said bars and constructed to release said catches, substantially as described.

2. In a car fender, the combination with a truck, of forwardly projecting parallel bars secured to the truck, a fender pivotally connected to the truck, a tripping fender pivotally connected to the forward ends of said bars levers pivotally connected to the truck, rollers on the lower ends of said levers engaging below the fender, levers pivotally connected to the forward ends of said bars, rods connecting the upper ends of the first-mentioned levers with the upper ends of the last-mentioned levers, catches pivotally supported on said rods and constructed to engage the fender and hold it in elevated position, and means on said tripping fender constructed to engage the last-mentioned levers and move the rods to release the catches from the fender, substantially as described.



3. In a car fender, the combination with a truck, of forwardly projecting parallel bars secured to the truck, a fender pivotally connected to the truck, a tripping fender pivotally connected to the forward ends of said bars, levers pivotally connected to the truck, rollers on the lower ends of said levers engaging below the fender, levers pivotally connected to the forward ends of said bars, rods connecting the upper ends of the first-mentioned levers with the upper ends of the last-mentioned levers, catches pivotally supported on said rods and constructed to engage the fender and hold it in elevated position, arms on said tripping fender, springs on said arms, spring arms on said springs located in a path to engage said last-mentioned levers whereby when said tripping fender is moved rearwardly, said rods will be moved forwardly to release the catches from the fender, susbtantially as described.

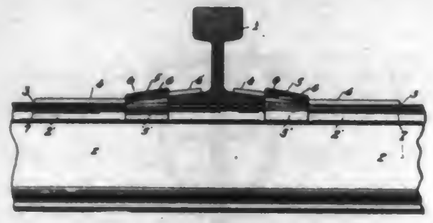
4. In a car fender, the combination with a truck, of forwardly projecting parallel bars secured to the truck, a fender pivotally connected to the truck, a tripping fender pivotally connected to the forward ends of said bars, levers pivotally connected to the truck, rollers on the lower ends of said levers engaging below the fender, levers pivotally connected to the forward ends of said bars, rods connecting the upper ends of the first-mentioned levers with the upper ends of the last-mentioned levers, catches pivotally supported on said rods and constructed to engage the fender and hold it in elevated position, means on the tripping fender for engaging said last-mentioned levers to move said rods forwardly and release the catches from the fender, and rods secured to said bars and located in the path of the upper ends of said catches whereby said catches are maintained normally in locking engagement with the fender, substantially as described.

974,301. RAIL-FASTENER. CLYDE BELMONT SCOTT, Mercer, Pa., assignor of one-half to Joseph W. Nelson, Mercer, Pa. Filed June 30, 1910. Serial No. 569,672.

1. A rail fastener comprising a flat portion, an integral portion at an angle thereto, fingers bent down from the flat portion and at right angles to it, and a member rigidly fixed to the flat portion having downwardly and inwardly bent lips, substantially as shown and described.

2. A rail fastener comprising a flat steel plate having its forward end bent upwardly at a slight angle and its rear end bent downwardly at a greater angle, and a gripping member fixed transversely to the plate adjacent its forward angled end, substantially as shown and described.

3. A rail fastener comprising a resilient plate having its forward end bent upwardly at a slight angle and its rear end bent downwardly at a greater angle, and inwardly bent lips fixed to the plate and extending below it, substantially as shown and described.



4. In combination, a tie having a flanged top with indentations therein, a rail upon said tie, rail fasteners on said tie at either side of the rail, said rail fasteners having forward ends sprung upon the upper sides of the rail base, and having downwardly bent fingers at their rear ends entering said indentations and members fixed transversely of the fasteners and embracing the flanged top of the tie, substantially as shown and described.

5. In combination, a metallic tie, a rail seated thereon, indentations in said tie, a rail fastener on said tie, lips extending downwardly and inwardly from the fastener and gripping the tie, one end of said fastener entering the indentations in the tie, and the other end of said fastener gripping the rail, substantially as shown and described.

[Claims 6 and 7 not printed in the Gazette.]

974,302. KNITTED WEB, HOSIERY, AND MODE OF MAKING SAME. ROBERT W. SCOTT, Leeds Point, N. J., assignor, by direct and mesne assignments, to Scott & Williams, Incorporated, Camden, N. J., a Corporation of New Jersey. Filed June 6, 1906. Serial No. 320,407.



1. A shaped, seamless, tubular web having bordering wales and widening wales, each of the latter being introduced alongside of the innermost of the bordering wales, and having a closely drawn primary loop or stitch.

2. A machine-knit stocking having a seamless foot, seamless heel and toe pockets, and gussets adjoining the front of the heel pockets, and consisting of widening wales, each introduced alongside of the innermost of a series of bordering wales.

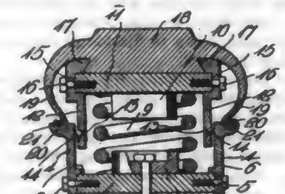
3. A machine-knit stocking having a seamless leg, with shaped calf having bordering wales, and widening wales introduced alongside of the innermost of the bordering wales, and each having a closely drawn primary loop or stitch.

4. A machine-knit stocking having a seamless leg, with shaped calf having bordering wales, a seamless heel, and widening wales introduced alongside of the innermost of the bordering wales and each having a closely drawn primary loop or stitch.

5. A machine-knit stocking having seamless leg and foot, seamless heel and toe pockets, a shaped calf with bordering wales, and widening wales introduced alongside of the innermost of the bordering wales and each having a closely drawn primary loop or stitch.

[Claims 6 to 10 not printed in the Gazette.]

974,303. CUSHION-TIRE. EDWARD C. SHILLING, Columbus, Ohio. Filed Apr. 7, 1910. Serial No. 553,968.

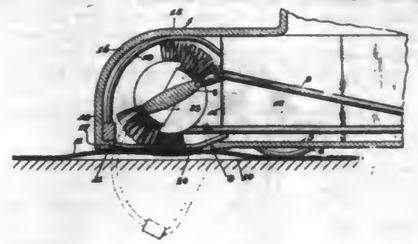


1. A cushion tire for wheels comprising, an inner metal tire adapted to be secured to the rim of the wheel, an outer metal tire arranged around said inner metal tire and spaced radially therefrom, a series of coiled springs arranged between said tires, annular side plates secured to the opposite edges of said inner metal tire and each having a laterally extending grooved flange on its outer face, annular side plates secured to the edges of said outer metal tire and having radially sliding engagement with said first mentioned side plates, an elastic tire secured around said outer metal tire, flexible shields formed on the opposite edges of said elastic tire having their free edges inserted in said grooved flange of the first mentioned side plates and means for clamping said edges in said groove.

2. The combination with a wheel having a metal tire secured to the rim thereof, an outer metal tire arranged around and spaced from said rim secured tire, a series of springs arranged between said metal tires, inner annular side plates secured to the edges of said inner metal tire, outer annular side plates secured to the edges of said outer metal tire and having sliding engagement with said inner side plates, said outer plates having annular grooves on their inner faces for engagement with the outer metal tire and provided on their outer edges with inwardly extending flanges beveled downwardly and inwardly to form in connection with said outer metal tire dove-tailed grooves, a rubber tire having annular flexible extensions formed intermediately between its inner and outer edges on its opposite sides, the inner edges of said rubber tire below said flexible extensions being beveled outwardly to form interlocking members for engagement with said dove-tailed grooves and means for detachably connecting the free edges of said flexible extensions with the flanges attached to said inner tire.

974,304. DETACHABLE BRUSH-GUARD FOR CARPET-SWEEPERS. JAMES M. SPANGLER, Canton, Ohio, assignor to The Hoover Suction Sweeper Company, New Berlin, Ohio, a Corporation of Ohio. Filed Aug. 11, 1910. Serial No. 576,666.

1. For carpet sweepers of the character described, a brush guard comprising the base bar 18, the curved spring arms 19 rigidly connected to said base bar a the spring fingers 20 rigidly connected to said base b on the opposite side thereof from the arms 19 and e tending at right angles from the bar 18, substantially described.



2. For carpet sweepers of the character described, brush guard comprising a base bar, spring arms rigid connected to said base bar, and a plurality of spring f gers rigidly connected to said base bar opposite said arm

3. A device of the character described comprising base bar, curved retaining arms formed of spring ma rial and rigidly fastened to said bar and a plurality guard fingers formed of spring material, rigidly connect to said bar and extending outwardly from said bar substantially right angles thereto and opposite said arm the free ends of said arms and fingers adapted to be te porarily sprung out of their normal position into po tions to bring said arms and fingers nearer to each oth

4. A detachable brush guard for carpet sweepers pr vided with a casing and bottom, a brush opening in t bottom, a brush mounted upon a horizontal axis with said casing and having its bristles protruding throu said brush opening and an interior ledge along one ed of said brush opening, said brush guard comprising base bar, spring arms rigidly connected to said base b a plurality of spring guard fingers rigidly connected said base bar and extending at right angles thereto a in line with the direction of rotation of said brush, sa arms and fingers adapted to be sprung toward each oth to permit said guard to be inserted through said bru opening, said base bar adapted to rest upon said intern ledge, said arms adapted to bear against said casing hold said base bar in place upon said ledge and said gua fingers adapted to extend across said brush opening, t bottom sides of said fingers lying in substantially t same plane with the lower surface of the bottom of sa sweeper.

974,305. WELL-DRILLING DEVICE. JOHN S. STE ART, Houston, Tex. Filed June 24, 1910. Serial N 568,669.

1. In a device of the character described, a casing; drill bit secured at the extremity thereof; a means ad cent to said bit for rotating the same and an outer pi surrounding said casing, rotatable independently there and carrying means upon its external surface for recei ing and elevating the cuttings from said bit.

2. In a device of the character described, an inner c ing; a motor therein; a drill bit operatively connected said motor; an outer casing surrounding said inner c ing and operating independently thereof; means carri upon the outer surface of said outer casing for receivi the cuttings from said drill and elevating the same, a means for operating said outer casing.

3. In a device of the character described, an inner c ing; a motor therein; a drill bit operatively connected said motor; an outer casing surrounding the said inn casing and operating independently thereof; a spi flange carried upon the outer surface of said outer casi for receiving the cuttings from said drill bit and elevati the same, and means for operating said outer casing.

4. In a device of the character described the combi tion with an inner casing and a motor carried thereb

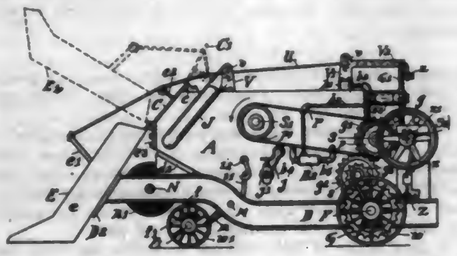
of a drill bit operatively connected with the motor; a means for supplying a motive force to said motor; an outer casing surrounding said inner casing and operating independently thereof; a spiral flange carried upon the outer surface of said outer casing for receiving the cuttings from said drill bit and elevating the same; and means for operating said outer casing.



5. In a device of the character described the combination with an inner casing and a supporting means therefor, of a motor carried thereby, a drill bit operatively connected with the motor, means for supplying a motive force to said motor, an outer casing surrounding said inner casing and its supporting means and operating independently thereof; a spiral flange carried upon the outer casing for receiving the cuttings from said drill bit and elevating the same, and means for operating said outer casing.

[Claim 6 not printed in the Gazette.]

974,306. SNOW HANDLING AND REMOVING MEANS. ARMIN STRAUSS, Rochester, N. Y. Filed Apr. 13, 1910. Serial No. 555,172.



1. Coöperatively combined for the purpose described, a truck adapted to move along the road bed; a melting chamber, and means for heating the same, provided with suitable discharge opening or openings for the water from the melted snow; an opening through the wall of the melting chamber; a scoop for engaging the snow in front of the truck pivotally supported in alinement with the opening for receiving the snow in the melting chamber and means for swinging the snow scoop to discharge the snow therefrom into the melting chamber.

2. Coöperatively combined for the purpose described, a truck adapted to move along the road bed; a melting chamber, and means for heating the same, provided with suitable discharge opening or openings for the water from the melted snow; an opening through the wall of the melting chamber; a scoop for engaging the snow in front of the truck pivotally supported in alinement with the opening for receiving the snow in the melting chamber and means for opening the door to the melting chamber and swinging the snow scoop to discharge the snow therefrom into the melting chamber and operative connections between such door and such snow scoop to coöperatively time their movements.

3. Coöperatively combined for the purpose described, a truck adapted to move along the road bed; a melting chamber, and means for heating the same, provided with suitable discharge opening or openings for the water from the melted snow; an opening through the wall of the melting chamber provided with a suitable closure or door; a scoop for engaging the snow in front of the truck pivotally supported in alinement with the opening for receiving the snow in the melting chamber and means for opening the door to the melting chamber and for swinging the snow scoop to discharge the snow therefrom in the melting chamber.

4. Coöperatively combined for the purpose described, a truck adapted to move along the road bed; a melting chamber, and means for heating the same, provided with suitable discharge opening or openings for the water from the melted snow; an opening through the wall of the melting chamber; a series of revolubly supported blades in the melting chamber for engaging and dividing the snow and means for revolving the same; a scoop for engaging the snow in front of the truck pivotally supported in alinement with the opening for receiving the snow in the melting chamber and means for swinging the snow scoop to discharge the snow therefrom into the melting chamber.

5. Coöperatively combined for the purpose described, a truck adapted to move along the road bed; a melting chamber, and means for heating the same, provided with suitable discharge opening or openings for the water from the melted snow; an opening through the wall of the melting chamber provided wth a suitable closure or door; a series of revoiubly supported blades in the melting chamber for engaging and dividing the snow and means for revolving the same; a scoop for engaging the snow in front of the truck pivotally supported in alinement with the opening for receiving the snow in the melting chamber and means for opening the door to the melting chamber and swing the snow scoop to discharge the snow therefrom into the melting chamber and operative connections between such door and such snow scoop to coöperatively time their movements.

[Claims 6 to 10 not printed in the Gazette.]

974,307. STREET-CAR ADVERTISING DEVICE. WELCOME F. SWEET, St. Louis, Mo. Filed Jan. 22, 1909. Serial No. 473,776.



1. In an advertising device, the combination with an endless carrier, frames pivotally connected thereto, guide ways in which said frames are mounted, switches in said guide ways, and jogs or bends in said guide ways for effecting a clearance between the frames at the point of reversal.

2. In an advertising device, the combination with an endless carrier, frames pivotally connected thereto, guide ways constituting tracks with which said frames coöperate, there being substantially parallel tracks at the top and bottom edges of said frames, cross-overs connecting the parallel tracks and spring switches arranged at the cross-over points for properly directing the frames.

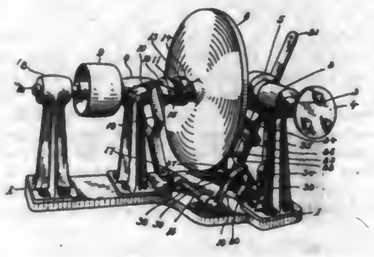
3. In an advertising device, the combination with an endless carrier, of frames connected to said carrier, guide-ways constituting tracks in which said frames travel, jogs in said guide-ways for effecting a clearance between the frames at the points of reversal and adjustable lugs on said frames engaging in said guideways.

4. In an advertising device for street cars, the combination with upper and lower guide-ways arranged above the car windows, of an endless carrier operating in the lower one of the guide-ways, a series of card carrying frames arranged to move longitudinally between the guide-ways, which frames are curved transversely to conform to the curvature of that portion of the car between the guide-ways, means whereby each frame is connected to the endless carrier at one end and guide lugs on the frame, which lugs engage in the guide-ways, and there being jugs or bends formed in the lower guide-way adjacent its ends for effecting a clearance between the frames at the points of reversal.

5. In an advertising device for street cars, the combination with upper and lower guide-ways arranged above the windows in a car, of an endless carrier operating on the lower one of the guide-ways, a series of card carrying frames, each connected at one corner to the endless carrier, guide lugs on the remaining corners of the frame, which guide lugs engage in the guide-ways, and there being jogs or bends formed in the lower guide-way adjacent its ends for effecting a clearance between the frames at the points of reversal.

[Claim 6 not printed in the Gazette.]

974,308. VARIABLE-SPEED POWER-TRANSMISSION MECHANISM. ROBERT W. SWIFT, Detroit, Mich. Filed June 17, 1908. Serial No. 438,893.



1. In a device of the character described the combination of a driving and a driven shaft, friction members on said shafts, and means for moving said members into frictional contact comprising an operating lever connected to move one member relative to the other to vary the speed, and also comprising a member adapted to be held by said lever in position to cause said frictional members to be moved into frictional contact when said lever is moved to move said friction member toward high speed position, and to be released to permit said friction members to move out of frictional contact upon any reverse movement of said lever, and means connected to the operating lever for transmitting motion therefrom to move one member relative to the other to vary the speed.

2. A device of the character described comprising friction members, a lever for moving one member relative to the other to vary the speed, means for moving said members into frictional contact comprising a lever, and means for connecting said levers and permitting a limited relative movement thereof.

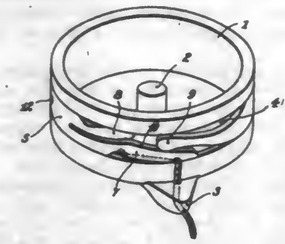
3. In a variable-speed transmission mechanism, the combination of friction members, means for controlling the transmission of motion including an operating lever and a member frictionally attached to said lever, and a lever for moving one of said friction members to vary the speed, which lever is actuated by said operating lever and has a limited movement relative thereto.

4. A device of the character described comprising frictional transmission members, and means for moving said members into frictional contact including an operating le ver and a connecting member, and means for throwin said connecting member out of operative position upo movement of said lever in one direction.

5. A device of the character described comprising fric tional transmission members, a lever adapted to move on member relative to the other to vary the speed, and mean for moving said members into frictional contact includin a connecting member, and means for controlling the oper ation of said connecting member adapted to be operated b one of the friction members when moved to slow spee position.

[Claims 6 to 18 not printed in the Gazette.]

974,309. SHUTTLE TENSION DEVICE. JOSEPH H THAYER, East Bridgewater, Mass., assignor to Unite Shoe Machinery Company, Paterson, N. J., a Corpora tion of New Jersey. Filed Dec. 29, 1906. Serial No 349,980.



1. A shuttle tension for sewing machines having, i combination, a thread-supporting surface, a yieldin thread-engaging member and a yielding tension-adjustin member engaging the thread-engaging member and pres ing it against the thread, the members being relatively ad justable at substantially right angles to the direction o pressure to change their point of engagement and var the tension, substantially as described.

2. A shuttle tension for sewing machines, having, i combination, with a circular thread case provided with peripheral groove, a thread engaging member, and a ten sion adjusting member mounted in said groove and a ranged to engage the thread engaging member, said ten sion adjusting member being longitudinally adjustable said groove, substantially as described.

3. A shuttle tension for sewing machines, having, i combination, with a circular thread case provided with peripheral groove, a thread engaging member and a ten sion adjusting member engaging the thread engagin member, said members being mounted in the groove so a to be capable of a relative longitudinal adjustment theret to vary the tension, substantially as described.

4. A shuttle tension for sewing machines having, i combination, a thread supporting surface, a tension sprin engaging the thread, and a tension-adjusting spring en gaging the tension spring, one of said springs being be eled at their point of engagement and the springs bein adjustable longitudinally with respect to each other t vary the tension, substantially as described.

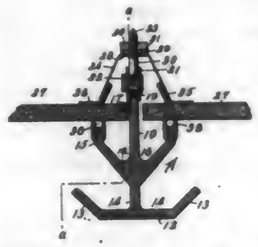
5. A shuttle tension for sewing machines, having, i combination, with a circular thread case, a thread enga ing member, a tension adjusting member extending abo the periphery of the thread case and arranged to engag the thread engaging member, said tension adjusting mem ber being adjustable about the periphery of the threa case to vary the tension, substantially as described.

[Claims 6 to 12 not printed in the Gazette.]

974,310. SKYLIGHT CONSTRUCTION. JEFFERSON THOMPSON, New York, N. Y. Filed May 27, 1909. S rial No. 498,631.

1. In a skylight construction, and in combination wi a glass panel thereof, a cushioning member for supporti said panel, said member consisting of a plurality of rel

tively thin vertical walls of soft metal upon the upper longitudinal edges of which a face of the said panel makes line contact.



2. In a skylight construction, and in combination with a glass panel thereof, a cushioning member for supporting said panel, said member consisting of a channeled strip of soft metal having relatively thin parallel walls upon the upper longitudinal edges of which a face of the panel rests.

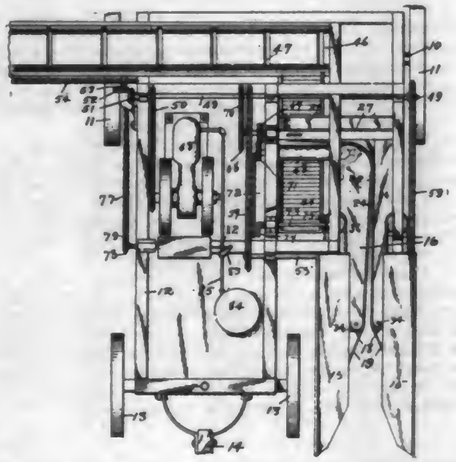
3. In skylight construction, and in combination with a glass panel thereof, a cushioning member for supporting said panel, said member consisting of a reversible channeled strip of soft metal having pairs of opposed, relatively thin walls upon the upper longitudinal edges of a pair of which walls a surface of the panel rests.

4. In a skylight, an astragal having outstanding wings or flanges, cushioning members removably and reversibly supported upon the marginal edges of said wings or flanges, each cushioning member consisting of a channeled strip of soft metal having relatively thin upstanding walls, and glass plates having their under surfaces resting upon the edges of said walls.

5. In a skylight, an astragal having outstanding wings or flanges, cushioning members removably and replaceably supported upon the marginal edges of said wings or flanges, each cushioning member consisting of a plurality of relatively thin vertical walls of soft metal, and glass plates resting upon said walls.

[Claims 6 to 19 not printed in the Gazette.]

974,311. CORN-HARVESTER. JOHN TJOSSEM, Paulina, Iowa. Filed Aug. 10, 1908. Serial No. 447,692.



1. In a machine of the class described, the combination of a conveyer, having one side arranged for moving rearwardly, a second conveyer adjacent to the first, having its side nearest the first arranged for moving rearwardly, and having its rear portion arranged for moving laterally in the rear of the first conveyer, said conveyers being arranged to receive corn stalks between them and to hold them in substantially upright positions and said conveyers also being inclined laterally at their rear ends to incline the upper ends of the corn stalks laterally after they have passed beyond the first mentioned conveyer.

2. In a machine of the class described, the combination of an endless belt conveyer arranged to have one side move rearwardly, a second endless belt conveyer, arranged to have its side adjacent to the first conveyer move rearwardly and then laterally in the rear of the first conveyer, said second conveyer being arranged in engagement with the first conveyer at the point where it turns from its rearwardly moving position to its laterally moving position.

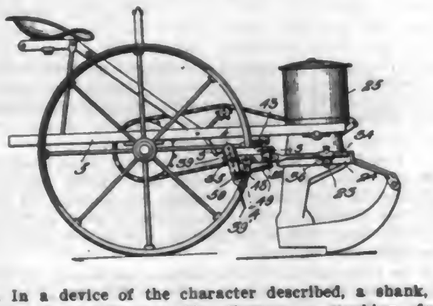
3. In a machine of the class described, the combination of a frame, an endless conveyer belt passed around the frame and arranged to have one side move rearwardly, a second frame having a portion substantially parallel with the first frame, and also a part extending laterally in the rear of the first frame, and a conveyer passed around the ends of the second frame with the central portion of the second conveyer in engagement with the rear portion of the first conveyer.

4. In a machine of the class described, the combination of a conveyer, having one side arranged for moving rearwardly, a second conveyer adjacent to the first, having its side nearest the first arranged for moving rearwardly, and having its rear portion arranged for moving laterally in the rear of the first conveyer, said conveyers being arranged to receive corn stalks between them and to hold them in substantially upright positions and said conveyers also being inclined laterally at their rear ends to incline the upper ends of the corn stalks laterally after they have passed beyond the first mentioned conveyer, and means for yieldingly holding the adjacent parallel portions of said conveyer belts toward each other.

5. In a machine of the class described, the combination of an endless belt conveyer arranged to have one side move rearwardly, a second endless belt conveyer, arranged to have its side adjacent to the first conveyer move rearwardly and then laterally in the rear of the first conveyer, said second conveyer being arranged in engagement with the first conveyer at the point where it turns from its rearwardly moving position to its laterally moving position, and means for yieldingly holding the adjacent parallel portions of said conveyer belts toward each other.

[Claims 6 to 8 not printed in the Gazette.]

974,312. MARKING DEVICE FOR SEED-PLANTERS. LUTHER N. TODD, Canton, Ill. Original application filed Nov. 3, 1909, Serial No. 526,132. Divided and this application filed Feb. 2, 1910. Serial No. 541,494.



1. In a device of the character described, a shank, a bar longitudinally movable thereon, a marking foot pivotally secured to said shank, the end of said bar being engaged with the rearward edge of said foot to limit its pivotal movement in one direction and means for cushioning the contact of the foot with the ground.

2. A device of the character described comprising a shank, a longitudinally adjustable bar carried by said shank, a marking foot pivotally secured on the rear end of the shank, the rear end of said bar being engaged over the edge of said foot, means for adjusting said marking foot upon the shank, a hanger depending from the shank and means carried by the marking foot movably engaged with said hanger for cushioning the contact of the foot with the ground.

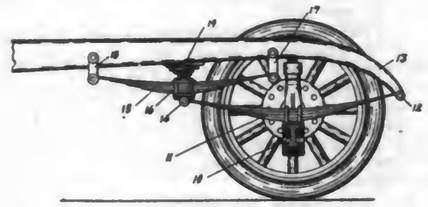
3. A device of the character described comprising a shank, a marking foot pivotally secured to the rear end of said shank, a longitudinally movable bar adjustably arranged upon said shank and having its rear end engaged over the edge of the marking foot, means for securing the bar in its adjusted position, means for adjusting the marking foot on the shank, a hanger secured to the shank and means carried by the marking foot movably engaged with the hanger for cushioning the contact of the foot with the ground.

4. A device of the character described comprising a shank, a bar movably arranged upon the rear end of said shank, means for securing said bar against movement, a marking foot pivotally secured on the rear end of the shank, the extremity of said bar being engaged over the edge of the marking foot, a hanger secured to the shank, a rearwardly extending rod carried by the marking foot and movable in said hanger and means arranged on said rod to cushion the impact of the foot with the ground.

5. A device of the character described comprising a cylindrical shank having a flattened rear portion, a bar having a slot in one end movably mounted on said shank, a plate carried by said shank having a set screw disposed through the slot in said bar and adapted to secure the same in its adjusted position, a marking foot pivotally secured to the rear end of said shank, said shank and marking foot having a longitudinal series of openings adapted to be registered, a pivot bolt extending through the alined openings having a nut engaged upon its ends, whereby said marking foot may be adjusted upon the shank, a hanger secured to the shank, a rearwardly extending rod carried by the marking foot movable in said hanger, a nut engaged upon the extremity of said rod, and a spring arranged upon said rod between the nut and the hanger adapted to cushion the impact of the foot with the ground.

[Claims 6 to 9 not printed in the Gazette.]

974,313. VEHICLE-SPRING SUPPORT. EMORY D. TOOPS, Indianapolis, Ind., assignor of one-half to Charles B. Clarke, Indianapolis, Ind. Filed Jan. 31, 1910. Serial No. 541,003.



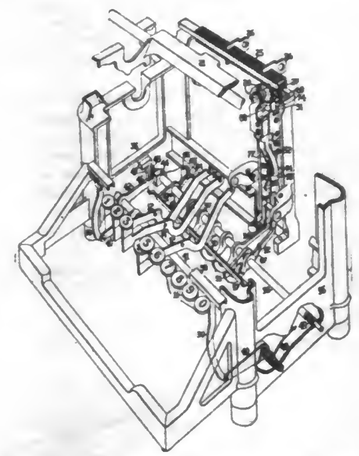
1. In a vehicle, the combination of a supporting axle and the main frame, of a spring secured at its middle to the axle and at one end to the main frame, a second spring connected at its middle to the free end of the first spring and connected at its ends to the main frame.

2. In a vehicle, the combination of a supporting axle and the main frame, of a spring secured at its middle to the axle and at one end to the main frame, a second spring connected at its middle to the free end of the first spring and connected at its ends to the main frame, and a third compression spring interposed between the middle of the second spring and the main frame.

3. The combination of a supporting axle, a longitudinally extended leaf spring secured at its middle to the axle, a main frame connected to one end of said spring, a second longitudinally extended leaf spring connected at its middle to the opposite end of the first spring and connections between the ends of the second spring and the main frame.

4. The combination of a supporting axle, a longitudinally extended leaf spring secured at its middle to the axle, a main frame connected to one end of said spring, a second longitudinally extended leaf spring connected at its middle to the opposite end of the first spring, a compression spring interposed between the middle of the second spring and the main frame, and connections between the ends of the second spring and the main frame.

974,314. TYPE-WRITING MACHINE. RICHARD W. UHLIG, Rutherford, N. J., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Dec. 27, 1909. Serial No. 534,048.



1. In a tabulating mechanism, the combination with a series of column stops, of a pinion rotatable by the column stops, a set of stops having a volute arrangement and connected to said pinion, a set of keys, and a variably movable stop mechanism controlled by the set of keys to be projected thereby variable distances into the path of said volute stops for variably arresting the same.

2. In a tabulating mechanism, the combination with a series of column stops, of a pinion rotatable by the column stops, a set of stops having a volute arrangement and connected to said pinion, a single stop, a series of keys, and means for enabling said keys to project said single stop variable distances into the path of said volute stops for variably arresting the same.

3. In a tabulating mechanism, the combination with a series of column stops, of a pinion rotatable by the column stops, a single pawl to prevent rotation of the pinion, and a spring for said pawl; the latter having opposite cams engageable by the column stops during the movements of the carriage in opposite directions, for releasing the pinion from the control of said pawl.

4. In a typewriting machine, the combination with a set of type-operating figure keys, of a carriage, a tabulating mechanism for said carriage, a bar extending along the set of keys in position to be depressible by the same stroke of the finger that depresses any key, and means for enabling said bar to connect said tabulating mechanism to the depressed figure key to be operated thereby.

5. In a typewriting machine, the combination with a set of type-operating figure keys, of a carriage, a tabulating mechanism for said carriage, a bar extending along the set of keys in position to be depressible by the same stroke of the finger that depresses any key, and means for enabling said bar to connect said tabulating mecha-

nism to the depressed figure key to be operated thereby; means being connected to said bar to prevent the figure types from printing at the tabulating operation.

[Claims 6 to 25 not printed in the Gazette.]

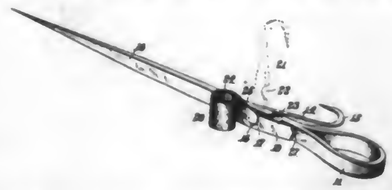
974,315. BRIDGE-DAM. SAMUEL ARTHER VANCIL, Greenway, Ark. Filed Aug. 18, 1910. Serial No. 577,770.



1. In a bridge dam a main concrete wall adapted to be arranged across the bed of a stream, a second wall arranged above said main wall whereby a space in the bed of the concrete is provided and adapted to be filled in to form a roadway and water conducting pipes arranged through the dam.

2. In a bridge dam a main concrete wall arranged across the stream, a second wall arranged above said main wall thereby forming a space adapted to be filled in to provide a roadway, a series of water conducting pipes arranged through said dam, and a series of supporting posts arranged in the bed of the stream below the main wall to form a foundation for the latter.

974,316. MINER'S CANDLESTICK. ANTONIO VIERA, Ray, Ariz. Filed Feb. 16, 1910. Serial No. 544,304.



1. In a device of the class described, the combination of a spike provided with a handle integral therewith; a candle socket provided with a flat spring projection having a longitudinal slot therethrough; and a hook member provided with a winged shank adapted to pass through said spike and through the opening in said socket projection and lock said socket to said spike.

2. In a device of the class described, the combination of a spike provided with a handle; a candle socket provided with a flat spring projection having a longitudinal slot therethrough; a member pivotally mounted in said spike, and extending through said longitudinal opening; means for oscillating said member; and projections on said oscillating member adapted to normally lock said socket to said spike.

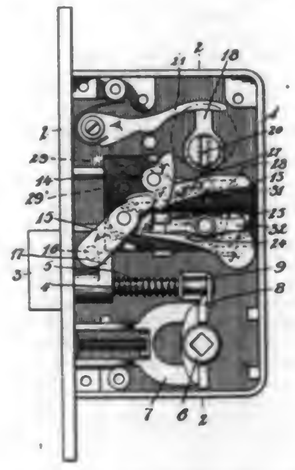
3. In a device of the class described, the combination of a spike provided with a handle; a candle socket provided with a flat spring projection having a longitudinal slot therethrough and an in-turned end engaging a depression in said spike; a member pivotally mounted in said spike and extending through said longitudinal opening; means for oscillating said member; and projections on said oscillating member adapted to normally lock said socket to said spike.

4. In a device of the class described, the combination of a spike provided with a handle; a candle socket provided with two flat spring projections, one of which under pressure is adapted to enlarge said socket for the reception of a candle, while the other projection is provided with a longitudinal slot; a member pivotally mounted in said spike and extending through said longitudinal opening; means for oscillating said member; and projections on said member adapted to normally lock said socket to said spike.

5. In a device of the class described, the combination of a spike provided with a handle; a candle socket on one side thereof having a longitudinally-slotted spring projection; and a hook member on the other side of the spike provided with a shank which extends through said spike and slot and is provided with winged projections engaging the outer face of said spring projection to lock said socket to said spike.

[Claims 6 to 10 not printed in the Gazette.]

974,317. LOCK SYSTEM. HENRY G. VOIGHT, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed July 12, 1910. Serial No. 571,552.



1. In a lock system, the combination with a plurality of locks, each having a locking bolt, said locks each having a similar key-operable mechanism, of a series of different keys similarly formed to operate said mechanism of each lock, key-operable means in one lock operable by all of the keys of the series to retract its bolt and key-operable means in another of said locks operable by certain of said keys but inoperable by other of said keys to retract its lock bolt.

2. In a lock system, the combination with a plurality of locks, each having a locking bolt, said locks having similar tumbler mechanism, of a series of different keys similarly bitted to fit the tumbler mechanism of each lock, key operable means in one lock operable by all of the keys of the series to retract its lock bolt, and key operable means in another of said locks operable by certain of said keys but inoperable by other of said keys to retract its lock bolt.

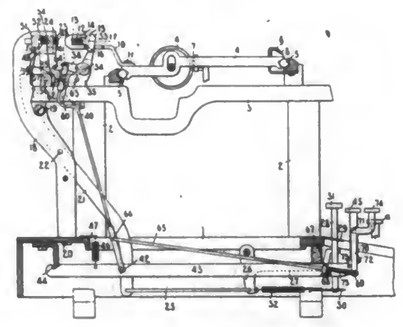
3. In a lock system, the combination with a plurality of locks, each having a locking bolt, of a series of different keys including a change key and an emergency key, one of said locks having bolt-operating mechanism constructed and arranged to be operated by all of said keys, another of said locks having bolt-operating mechanism, said change and emergency keys only each having portions adapted to coöperate with said second bolt operating mechanism to actuate the bolt of said other lock of the system.

4. In a lock system, the combination with a plurality of locks, each having a locking bolt, of a series of different keys including a change key and an emergency key, bolt-operating mechanism in one of said locks, key-operable means operable by all of said keys to actuate said bolt-operating mechanism, bolt-operating mechanism in another of said locks, key-operable means for actuating said second bolt-operating mechanism, said change key and emergency key only having extensions to coöperate with said second key-operable means to actuate the bolt in said second lock.

5. In a lock system, the combination with a plurality of locks, each having a locking bolt, of a series of different keys including a change key and an emergency key, bolt-operating mechanism in one of said locks, key-operable means in said lock for actuating said bolt-operating mechanism operable by all of said keys, bolt-operating mechanism in another of said locks, key-operable means in said second lock for actuating said bolt-operating mechanism, said change key and said emergency key having shanks of greater overall length than the shanks of the other keys of the series, said key-operable means in said second lock being constructed and arranged to receive said shank extensions whereby the bolt of said second lock may be operated exclusively by said change and emergency keys respectively.

[Claims 6 to 15 not printed in the Gazette.]

974,318. TYPE-WRITING MACHINE. JOHN WALDHEIM, Newark, N. J., assignor to Union Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed Aug. 4, 1910. Serial No. 575,504.



1. In a typewriting machine and tabulating mechanism, the combination of a carriage; a frame of the machine; a tabulator stop; and means for shifting said tabulator stop from one of said frame and carriage parts to and for connecting it with the other of said parts.

2. In a typewriting machine and tabulating mechanism, the combination of a carriage; a frame of the machine; a tabulator stop; means for shifting said tabulator stop from one of said frame and carriage parts to operative position on the other of said parts; and means for shifting said tabulator stop back to inoperative position.

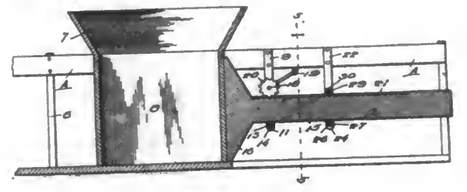
3. In a typewriting machine and tabulating mechanism, the combination of a carriage; a frame of the machine; a tabulator stop; and a shifting device, said shifting device and stop both being normally carried by one of said frame and carriage parts, and the shifting device being operative to shift the stop to the other of said parts and to operative position thereon.

4. In a typewriting machine and tabulating mechanism, the combination of a carriage; a frame of the machine; a tabulator stop; a shifting device; a stop holder; and a stop support, said shifting device, stop and stop holder being normally carried by one of the carriage and frame parts, and the stop support being carried by the other of said parts, and the shifting device being operative to move said stop from said holder to operative position on said stop support.

5. In a typewriting machine and tabulating mechanism, the combination of a frame of the machine; a carriage; a column stop; and means for shifting said column stop from one of said frame and carriage parts to any one of a plurality of positions on the other of said parts, the relative movement between the carriage and frame determining the particular one of the said plurality of positions to which said column stop may be moved.

[Claims 6 to 71 not printed in the Gazette.]

974,319. BALING-PRESS. CHARLIE E. WALKER, Daingerfield, Tex. Filed Feb. 11, 1910. Serial No. 543,256.



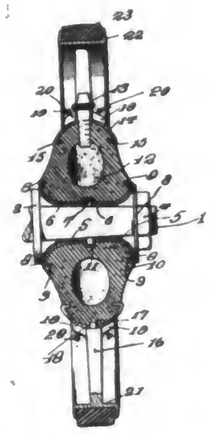
1. In a baling press, the combination with a frame including parallel horizontal top members, of a pair of supporting brackets secured to the top members in alinement with each other transversely of the frame, said brackets including vertically extending upper portions, inwardly projected horizontal intermediate portions, and vertically extending downwardly directed lower portions, said lower portions being disposed in parallel relation centrally of the frame, a supporting roller journaled between the said vertical lower end portions of the brackets, said lower end portions extending upwardly beyond the supporting roller to form a plunger guide, a plunger snugly disposed between the said lower vertical portions of the brackets and resting upon the supporting roller, said plunger extending above the horizontal intermediate portions of the brackets, a horizontal shaft journaled in the upper portions of the brackets, a gear carried by the said shaft, a rack carried by the upper side of the plunger and meshed with the gear, and means for revolving the shaft.

2. In a baling press, the combination with a frame including parallel horizontal top members, of a pair of supporting brackets secured to the top members in alinement with each other transversely of the frame, said brackets including vertically extending upper portions inwardly projected horizontal intermediate portions, and vertically extending downwardly directed lower portions, said lower portions being disposed in parallel relation centrally of the frame, a supporting roller journaled between the said vertical lower end portions of the brackets, said lower end portions extending upwardly beyond the supporting roller to form a plunger guide, a plunger snugly disposed between the said lower vertical portions of the brackets and resting upon the supporting roller, said plunger extending above the horizontal intermediate portions of the brackets, a horizontal shaft journaled in the upper portions of the brackets, a gear carried by the said shaft, a rack carried by the upper side of the plunger and meshed with the gear, means for revolving the shaft, a second pair of similarly formed brackets secured to the top members of the frame rearwardly of the first named brackets, a supporting roller journaled between the lower ends of the vertical lower portions of the second named brackets, said plunger being disposed upon the said second named roller, and a third roller journaled between the upper portions of the said named brackets and resting upon the upper surface of the plunger.

974,320. WHEEL. HORACE E. WALKER, Detroit, Mich. Filed July 3, 1908. Serial No. 441,822.

1. A wheel including a bushing having flared extremities, a sleeve snugly engaged about said bushing, a bead formed annularly about the central portion of said sleeve, a cushion engaged about said sleeve and having a groove formed in the inner face thereof for the reception of said bead, ears carried by said sleeve for engagement in annular grooves provided in the sides of said cushion, a rim secured against the periphery of said cushion, in-turned ears carried by said rim for engagement with said cush-

ion, a plurality of spokes radially extended from said rim, a felly carried upon the outer ends of said spokes and a tire mounted upon said felly.



2. In a wheel, the combination with an axle, a collar disposed upon the inner end of the axle and a washer carried upon the outer end of the axle of a bushing mounted on the axle and having flared extremities for engagement against said collar and said washer, a sleeve located on said bushing and conformed thereto in shape, a cushion engaged over said sleeve, means carried by said sleeve for rigidly securing said cushion therethrough, a rim mounted upon said cushion, a plurality of spokes radially extended from said rim and a felly mounted upon the outer ends of said spokes.

3. A wheel including a bushing, a sleeve carried by said bushing, a cushion mounted on said sleeve, a bead formed on said sleeve for engagement in said cushion, ears carried by said sleeve for engagement with said cushion, a rim supported upon the periphery of said cushion, spokes radially extended from said rim and a felly mounted upon the outer ends of said spokes.

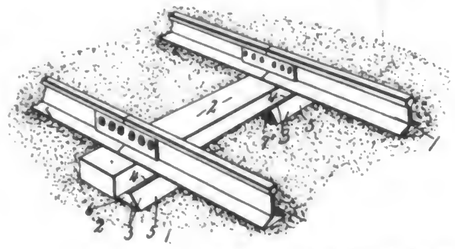
4. A wheel including a bushing, a sleeve mounted on said bushing, said bushing being flared at its opposite extremities to retain said sleeve in position, a cushion mounted about said sleeve, ears carried by said sleeve for engagement with said cushion, a rim secured to the periphery of said cushion, ears carried by said rim and engaged with said cushion, a valve radially positioned through the outer portion of said cushion, a plurality of spokes carried by said rim and a felly mounted upon the outer ends of said spokes.

5. A wheel including a cushion, means for supporting said cushion, a rim secured to the periphery of said cushion, spokes radially extended from said rim, studs formed upon the inner ends of said spokes for engagement through said rim, blocks carried by said spokes, set screws positioned through said blocks for engagement within said rim and a felly located upon the outer extremities of said spokes.

974,321. METALLIC SUPPORT FOR WOOD TIES. JOHN H. WEIDMAN, Marcellus, N. Y. Filed Mar. 1, 1910. Serial No. 546,709.

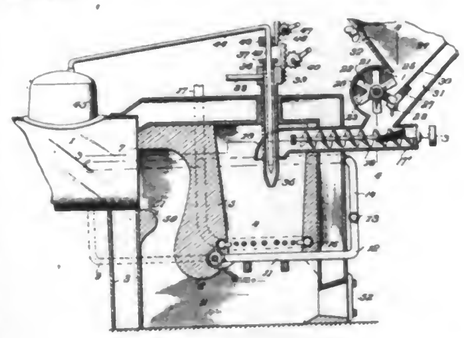
1. In combination with a wood tie and rails resting thereon, a metal tie support consisting of a trough like structure open at the bottom and provided with a top and downwardly flaring sides, the top portion engaging the under side of the wood tie and forming a rest therefor, and a raised rib on the top of the metal support adapted to embed itself in the tie to prevent relative lateral movement of the tie and its metal support.

2. In combination with a wood tie and rails resting thereon, a metal support resting against the under side of the tie and provided with downwardly flaring sides, said metal support being open at the bottom and at one end and having its other end closed to form a driving head.



3. A support for wood ties consisting of separate metal plates arranged under the ends of the ties some distance apart, and provided with downwardly flaring sides, one end of each plate being open between the sides and the opposite end closed by a driving head.

974,322. SMOKE-CONSUMING FURNACE. GEORGE E. WELLS, Dayton, Ohio. Filed July 9, 1910. Serial No. 571,242.



1. In a furnace, the combination with a casing, a fire-pot within the casing and spaced from one end wall and the bottom thereof, to provide an exit flue for the products of combustion, a grate in the bottom of the fire pot, a fuel casing extending into the fire pot, a conveyer in the casing, means for feeding fuel to the latter casing, an air supply tube extending into the fire pot and through the open end of the fuel casing, a steam pipe fitting within the air supply tube, and means for introducing steam to the steam tube.

2. In a furnace, the combination with a casing, a fire pot within the casing and spaced from one end wall and the bottom thereof to provide an exit flue for the products of combustion, a grate in the bottom of the fire pot, a fuel supply for delivering fuel downwardly to the center of the fire, means for supplying fuel to the delivery means an air supply tube extending in the fire pot above the level of the fuel, a steam pipe within and spaced from the inner walls of the air tube and terminating a short distance from the end of the latter, a plurality of jets near the bottom of the fire pot, a pipe connecting the jets to supply air thereto and means for adjusting the air and steam tubes.

3. In a furnace the combination with a casing, a transverse partition extending across the casing, the said partition being upwardly inclined on its front face and rounded on its bottom, the latter being spaced from the bottom of the casing, the rear surface of the partition being in the form of an ogee curve and spaced from the rear inner wall of the casing to form an exit flue for the products of combustion, a projection extending from the

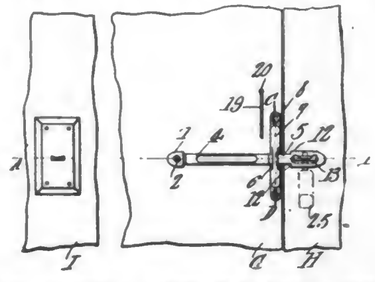
rear wall of the casing to provide a contracted portion in the flue, a fire pot in the casing, the partition forming one wall of said fire pot, a grate in the bottom of the fire pot, a plurality of jets extending within the fire pot near the bottom thereof, a pipe connected with the jets to supply air thereto, a fuel casing extending with the fire pot to deliver fuel downwardly in the same, and means adjacent the fuel delivery casing for introducing a mixture of steam and air to the fuel as it is delivered to the fire pot.

4. In a furnace, the combination of a casing, a partition extending across the casing and spaced from one end and the bottom, a projection on the casing extending toward but spaced from the rear wall of the partition to form a restricted exit flue for the products of combustion, a fire pot in the casing, the front of the partition forming a part of the fire pot, a grate in the flue pot including a series of pipes, a pipe embedded in the partition and communicating with the pipes forming the grate bars, the grate bars extending outside of the casing, a head one side the casing with which the pipes communicate, a boiler, pipes connecting the head and the boiler, a series of jets projecting in the fire pot above the grate, means for supplying the jets with air, fuel feeding means extending within the fire pot, a pipe passing through the end of the feeding means to supply the fuel with steam, a pipe surrounding the steam pipe to supply the steam and fuel with air, and means for independently adjusting the steam and air pipes in the fire pot.

5. In an apparatus of the class described, the combination of a fire pot, a tube through which fuel is fed to the fire pot, the inner end of the tube being turned downwardly a pipe passing through the turned down end of the tube, means for supplying the tube with air, a pipe within and spaced from the air inlet pipe, and terminating some distance from the end of the latter, means for supplying the inner pipe with steam, means for independently adjusting the steam, and air inlet pipes in the furnace, a series of jet pipes in the fire pot below the level of the bottoms of the steam and air inlet pipes, and means for supplying air to the jet pipes.

[Claim 6 not printed in the Gazette.]

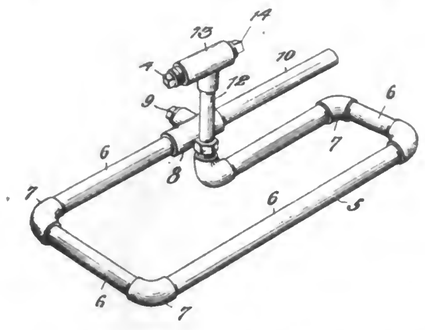
974,323. DOOR-LATCH. ENOCH S. WHEELER, Centralia, Wash. Filed June 20, 1910. Serial No. 567,905.



A latch including a pivoted latch strip, a tongue at one end of said strip and having a slotted portion provided with oppositely extending shoulders, a guide plate embracing the strip, oppositely extending stems upon the tongue and movable within the guide plate, and yielding means for engaging either stem to hold the latch strip normally in a predetermined position within the guide plate, said strip and plate being reversible.

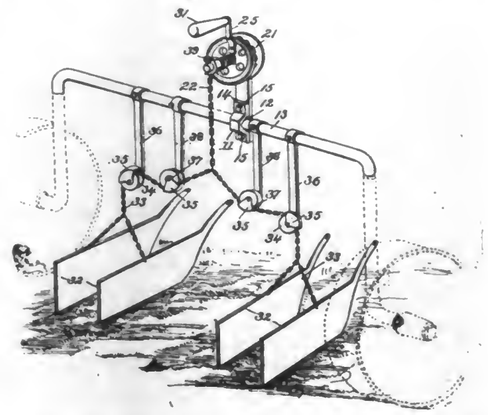
974,324. OIL-BURNER. RUFUS J. WHEELER and HENRY R. NEIL, Bakersfield, Cal. Filed May 2, 1910. Serial No. 558,763.

A burner of the character described comprising a pipe coil adapted to be arranged in the fire box of a stove, a supply pipe connected to one end of said coil, a vertically positioned pipe connected to the other end of said coil and extending centrally above the same, a T-shaped burner head upon the upper end of said vertical pipe, removable plugs threaded in the opposite ends of the horizontally disposed portion of said head, said head having opposite angularly disposed openings at the point



of juncture of the vertical and horizontal portions of the head, the gases generated in the coil being directed outwardly and downwardly upon said coil through the openings, substantially as and for the purpose specified.

974,325. PLOW-FENDER ADJUSTER. CYRUS W. WILLIAMS, Turney, Mo. Filed Dec. 31, 1909. Serial No. 535,783.



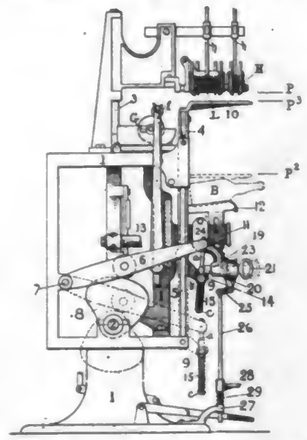
1. In combination with a cultivator having fenders, of an arm adjustably supported upon said cultivator, a U-shaped clamp arranged upon the lower end of said arm for engagement about the frame of the cultivator, clamping bolts secured to said frame and said arm for retaining the clamp in position, teeth formed upon the inner face of said clamp for engagement with the cultivator, and means disposed upon the upper end of said arm for adjusting said fenders.

2. An adjusting mechanism including a supporting arm, a bolt extending from one side and from the upper end of said arm, an apertured disk secured against the side of the arm concentric to said bolt, a pulley loosely mounted about the bolt for engagement against the outer face of said disk, a spring carried by the bolt to retain said pulley against said disk, a pin carried by said pulley for engagement in the apertures in said disk and a handle arranged on the pulley to retract the same from said disk.

3. An adjusting mechanism including a supporting bar, a bolt laterally extending from the bar, a concentric disk carried over the bolt in rigid relation to the bar, a pulley loosely disposed over the bolt to seat against said

disk, said disk having spaced concentric apertures, a pin carried by the pulley for engagement in the apertures, a handle carried by the pulley to designate the same from said disk and to rotate the pulley, and yieldable means connected to the pulley for holding the same against said disk.

974,326. FEED-CONTROLLING MEANS FOR LABELING-MACHINES. FRANK O. WOODLAND, Worcester, Mass. Filed Mar. 25, 1909. Serial No. 485,577.



1. In a labeling machine, the combination with the label-supply holder, pickers that take labels therefrom, and a reciprocating picker-carrier upon which the pickers are mounted; of an intercepting stop-device shiftable into and from abutting alinement with a coacting member upon the picker-carrier, for arresting the movement of said picker-carrier and pickers, and means for adjusting said intercepting stop-device into and out of engagement, for the purpose set forth.

2. In a labeling machine, a label-holder adapted for supporting a pack of labels for bottom delivery at a predetermined position, pickers movable to and from said position for taking labels singly from the pack, a carrier for said pickers, means for operating said picker-carrier, a yieldable connecting device joining said picker-carrier and its operating means, and a shiftable stop-device supported adjacent to and adapted to be thrown as an intercepting barrier into the path of the picker-carrier for abutting engagement with said picker-carrier to stop its upward movement when the pickers are near to but not in contact with the pack of labels.

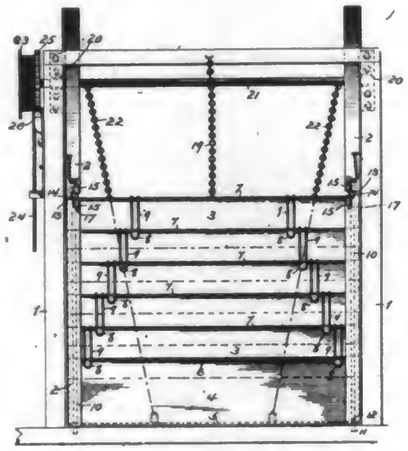
3. In a labeling machine of the class specified, a reciprocating picker-carrier, guiding means therefor, mechanism for fully operating said picker-carrier, a stationary label-holder having means for supporting a pack of labels, glue-applying pickers mounted upon said picker-carrier, an intercepting device supported on a stationary part of the machine and adjustable into position for temporarily intercepting and arresting movement of the picker-carrier when approaching the label-holder, and means for relieving the strain on the carrier-operating mechanism when said picker-carrier is arrested, without stopping said operating mechanism.

4. The combination of a top-charged bottom-delivery label-holder, having a plurality of pairs of stakes adapted for supporting labels in pack thereon, glue-applying pickers that take labels individually from the pack, an operating means for bringing said pickers and label-holder into conjunction to effect the feeding of labels by contact of the picker-faces with the under label of the pack, an interposible and retractable dog or stop-device engageable with the moving part at a fixed position to temporarily prevent contact of the pickers and labels, a yieldable connection uniting the moving part with its operating means, and means by which said dog or stop-device can be manually interposed and retracted at will of the operator.

5. In a labeling machine, the combination, with the label-holder, vertically reciprocating picker-carrier, pickers thereon, picker-operating means connected with said picker-carrier, a yieldable connecting-joint mechanism therefor, a stationary bottle-rest, and the forwardly projecting arm that supports said rest; of a hanger secured upon said arm, a picker-stopping device adjustably supported by said hanger, and adapted to be moved into the path of the picker-carrier or an engageable member thereon; said stopping device having a handle member at convenient position for manual actuation thereof for adjusting the stop-device into and out of intercepting or engaging position, for the purpose set forth.

[Claim 6 not printed in the Gazette.]

974,327. DOOR. ROBERT WOODS, Grand Forks, N. D., assignor of one-fourth to Patrick J. Mulloy, Grand Forks, N. D. Filed May 12, 1909. Serial No. 495,380.



1. A door structure comprising a vertical movable collapsible door, and an upright, oscillatory locking bar for said door mounted in fixed bearings.

2. A door structure comprising a series of relatively movable members, and oscillatory locking bars, each mounted in fixed bearings adjacent to respective side edges of the door.

3. A door structure comprising a plurality of relatively movable members, and an oscillatory, upright locking bar mounted in fixed bearings and adapted to engage the upper and lower members of the door.

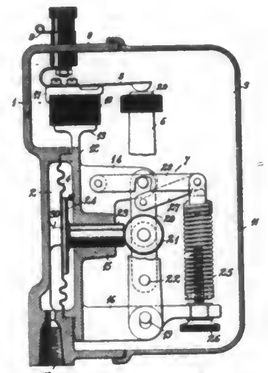
4. A door structure comprising a series of vertically movable sections movable relatively to each other and a locking bar having a part to project over the upper section and a part to engage the lower section.

5. A door structure comprising grooved guide-ways, a door comprising relatively movable sections movable in said guide-ways, the lower section having a projection, and a locking bar having a part to project across the guide-way over the upper section of the door, said locking bar also having a shoulder at its lower end to engage the projection on the lower section of the door.

[Claims 6 to 8 not printed in the Gazette.]

974,328. FLUID-PRESSURE-CONTROLLED SWITCHING DEVICE. CHRISTIAN AALBORG, Wilkinsburg, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., a Corporation of Pennsylvania. Filed Dec. 6, 1907. Serial No. 405,407.

1. In a fluid-actuated switching device, the combination with a fluid-receiving chamber, a diaphragm in said chamber, stationary contact fingers and a pivoted contact arm, of a plunger and a lever interposed between the contact arm and the diaphragm, a spring and two links that act in opposition to the fluid-pressure on the diaphragm, and means for adjusting the force exerted by the spring.



2. In a fluid-actuated switching device, the combination with a fluid-receiving chamber, a diaphragm in said chamber, stationary contact members and a pivoted contact-bearing arm, of a lever interposed between a point near the pivot of the arm and a stationary part, a spring and two links one of which connects the spring to said lever and the other of which connects the spring to said stationary part.

3. In a fluid-actuated switching device, the combination with a fluid-receiving chamber, a diaphragm in said chamber, stationary contact members and a pivoted contact-bearing arm, of a lever which connects a point in the arm near its pivot to a stationary part, a roller mounted on said lever, a plunger interposed between the roller and the diaphragm, a spring and links for opposing the action of the pressure in the receiving chamber against the plunger, and means for adjusting the force exerted by the spring.

4. A fluid-actuated switching device comprising stationary and movable contact members, a fluid-receiving chamber, a diaphragm in said chamber, a plunger and a lever interposed between the diaphragm and the movable contact member, an adjustable spring and a link for forcing the plunger against the diaphragm in opposition to the fluid-pressure in the receiving chamber.

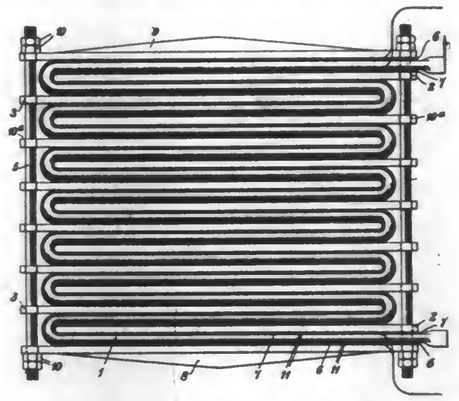
974,329. ELECTRIC HEATING DEVICE. CHRISTIAN AALBORG, Wilkinsburg, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., a Corporation of Pennsylvania. Filed Nov. 19, 1908. Serial No. 463,489.

1. An electric heating device comprising a flattened fluid-containing tube, relatively flat resistance elements disposed adjacent to the respective outer surfaces of the flattened tube and insulated therefrom, and means for firmly pressing the resistance elements against the surfaces of the tube.

2. An electric heating device comprising a zigzag grid of flattened fluid-containing tubing and resistance elements forced into engagement with the outer surfaces of the flattened tubing and insulated therefrom.

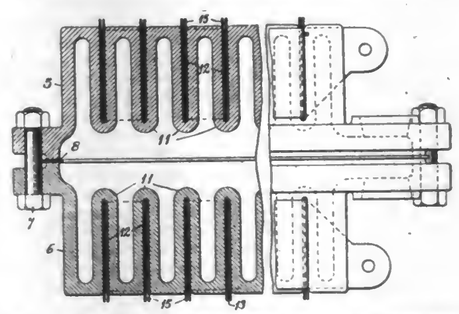
3. An electric heating device comprising a zigzag grid of flattened fluid-containing tubing, rods or bars disposed between the turns of the grid, relatively flat resistance elements interposed between the adjacent surfaces of the rods or bars and of the tubing and insulated therefrom, and means for compressing the zigzag grid from end to end.

4. An electric heating device comprising a flattened fluid-containing tube, an insulated resistance element in close contact with the flat outer surface of the tube, and means for clamping said parts together, the tendency for the tube to assume a circular section under internal fluid pressure being partially relied upon to press the resistance element against the adjacent surface of the tube.



5. An electric heating device comprising a zigzag grid of flattened fluid-containing tubing, rods or bars disposed between the turns of the grid, relatively flat resistance elements interposed between the adjacent surfaces of the rods or bars and of the tubing and insulated therefrom and a clamping frame composed of end pieces and side bolts for compressing the zigzag grid from end to end.

974,330. ELECTRICALLY-HEATED BOILER. CHRISTIAN AALBORG, Wilkinsburg, Pa., assignor to Westinghouse Electric and Manufacturing Company, a Corporation of Pennsylvania. Filed July 8, 1909. Serial No. 506,604.

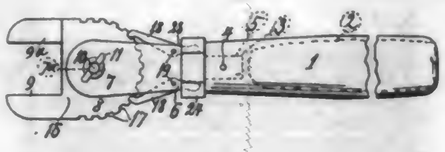


1. An electrically heated steam generator comprising a relatively flat resistance element, a receptacle having a plurality of ribs or projections on the inner surfaces of its walls, and slots cut in its outer wall and extending into the projections or ribs to receive said resistance element, whereby the fluid pressure within the receptacle compresses the resistance element.

2. An electrically heated steam generator comprising a cast metal receptacle having inlet and outlet ports at opposite ends, and a plurality of parallel ribs projecting inwardly from its walls and parallel slots cut into the ribs or projections from its outer surface, and a resistance strip or ribbon threaded back and forth through the slots for transmitting heat through the projections into the liquid contained within the receptacle, whereby the fluid pressure within compresses the resistance strip or ribbon.

3. A heating receptacle for liquids having inwardly projecting ribs provided with recesses, and an insulated resistance element seated in said recesses, whereby the fluid pressure in the receptacle compresses the resistance element.

974,331. WRENCH. JOHN AARSEN, Hatton, N. D. Filed Oct. 4, 1909. Serial No. 520,998.



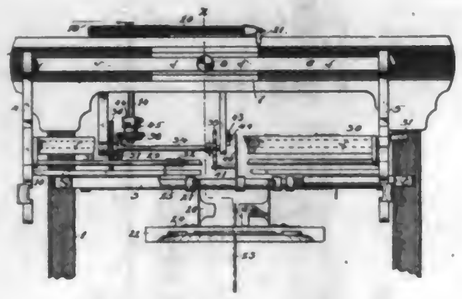
1. A wrench comprising a handle with a flat front end, a pair of jaws having overlapping flat rear portions or plates provided upon their adjacent faces with longitudinal corrugations, one of the plates having a transversely slotted hole and the other a round hole, a pivot bolt passed through said holes and through the flat portion of the handle, a thumb nut on the end of the bolt, a bushing in the handle near the nut, and means near the head of the bolt to engage in the slotted hole to prevent turning of the bolt therein.

2. A wrench comprising a handle with a flat front end, of a pair of jaws having overlapping flat rear portions or plates provided upon their adjacent faces with longitudinal corrugations, one of the plates having a transversely slotted hole and the other a round hole, a pivot bolt passed through said holes and through the flat portion of the handle, a thumb nut on the end of the bolt, and means near the head of the bolt to engage in the slotted hole to prevent turning of the bolt therein, one of said jaw plates having a semicircular toothed edge, two oppositely disposed dogs pivotally mounted on the handle and having, springs normally engaging them with said toothed edge, and a collar rotatable on the handle and having two cams adapted each of them to press upon the rear portion of one of the dogs and thereby hold alternately one dog disengaged from the toothed edge.

3. A wrench comprising a handle with a flat front end, of a pair of jaws having overlapping flat rear portions or plates provided upon their adjacent faces with longitudinal corrugations, one of the plates having a transversely slotted hole and the other a round hole, a pivot bolt passed through said holes and through the flat portion of the handle, a thumb nut on the end of the bolt, and means near the head of the bolt to engage in the slotted hole to prevent turning of the bolt therein, one of said jaw plates having a semicircular toothed edge, two oppositely disposed dogs pivotally mounted on the handle and having springs normally engaging them with said toothed edge, and a collar rotatable on the handle and having two cams adapted each of them to press upon the rear portion of one of the dogs and thereby hold alternately one dog disengaged from the toothed edge.

4. A wrench comprising a handle with a flat front end, of a pair of jaws having overlapping flat rear portions or plates provided upon their adjacent faces, with longitudinal corrugations, one of the plates having a transversely slotted hole and the other a round hole, a pivot bolt passed through said holes and through the flat portion of the handle, a thumb nut on the end of the bolt, and means near the head of the bolt to engage in the slotted hole to prevent turning of the bolt therein, one of the said jaw plates having a semicircular toothed edge, two oppositely disposed dogs pivotally mounted on the handle and having springs normally engaging them with said toothed edge, and a collar rotatable on the handle and having two cams adapted each of them to press upon the rear portion of one of the dogs and thereby hold alternately one dog disengaged from the toothed edge, said handle being made in two sections of which the front section has a rearward stem and the rear section having a socket removably secured upon the stem and butting against said collar, and the front portion of the handle having a shoulder meeting the front end of the collar.

974,332. TYPE-WRITER-CARRIAGE-FEEDING MECHANISM. JESSE ALEXANDER, Brooklyn, N. Y., assignor, by mesne assignments, of one-half to Emma Scheu Schorcht, Buffalo, N. Y. Continuation of application Serial No. 221,925, filed Oct. 24, 1904. This application filed Oct. 8, 1908. Serial No. 456,805.



1. A typewriter carriage feeding mechanism, including a carriage construction, a tension device connected to the carriage, a universal bar, a pivoted stop bar provided with a series of teeth, means coöperating with said stop bar for normally preventing said tension device from exerting a pull on said carriage, escapement means operated by said universal bar for permitting said tension device to operate, and a spring-pressed pawl for overcoming the momentum of the carriage when said tension device is checked by engaging the teeth on the stop bar.

2. A typewriter carriage feeding mechanism, including a carriage construction, a tension device connected to the carriage, a universal bar, a stop bar movably carried by said carriage, a ratchet coöperating with said stop bar, means of connection between said tension device and said ratchet, said carriage normally being under no longitudinal tension, a member carried by the universal bar coöperating with the stop bar to form an escapement for said ratchet, and means for operating said escapement mechanism for permitting said tension device to move said carriage.

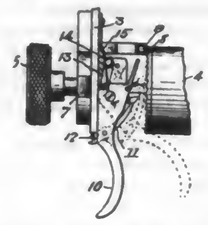
3. A typewriter carriage feeding mechanism, including a carriage construction, a tension device connected to the carriage, a universal bar, a stop bar movably carried by the carriage, a ratchet coöperating with said stop bar, means of connection between said tension device and said ratchet, said carriage normally being under no longitudinal tension, a member carried by the universal bar coöperating with said stop bar to form an escapement for said ratchet, means for operating said escapement mechanism for permitting said tension device to move said carriage, and means for checking the momentum of said carriage.

4. A typewriter carriage feeding mechanism, including a carriage construction, a tension device connected to the carriage, a universal bar, a stop bar carried by said carriage, a ratchet coöperating with said stop bar, a train of gears connecting said tension device and said ratchet, said tension device normally tending to rotate said ratchet and the member on said universal bar coöperating with the stop bar to provide an escapement mechanism for releasing said ratchet from said stop bar to permit said tension device to rotate and move said carriage.

5. A typewriter carriage feeding mechanism, including a carriage construction, a tension device, means of connection between the tension device and the carriage, a stop bar carried by said carriage construction and a reducing train of gears, a ratchet connecting said train of gears with said tension device and stop bar, whereby the tension applied to said carriage, when said carriage is permitted to move, is greater than the pressure sustained by said stop bar.

[Claims 6 to 13 not printed in the Gazette.]

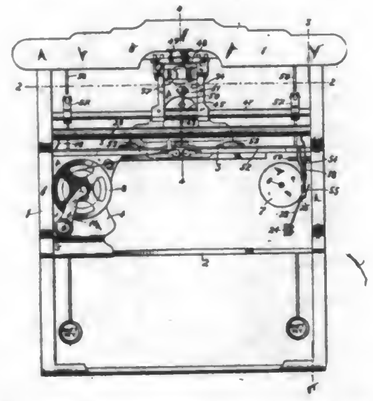
974,333. TYPE-WRITER LINE-SPACING MECHANISM. JESSE ALEXANDER, Brooklyn, N. Y., assignor, by mesne assignments, of one-half to Emma Scheu Schorcht, Buffalo, N. Y. Filed Oct. 8, 1908. Serial No. 456,806.



1. A line-spacing mechanism for a typewriter including a rotatable platen having a horizontal axis, a crown ratchet-wheel movable therewith, a horizontally movable operating-lever mounted on a vertical axis, a pawl pivoted to said lever forward of its axis and also having a vertical axis, a stop for normally holding said pawl out of engagement with said ratchet and a spring for moving said pawl into engagement with said ratchet when said lever is operated and said pawl is relased from its top.

2. A line-spacing mechanism for a typewriter including a platen, a ratchet, a carriage side-plate affording a bearing therefor, an upwardly projecting portion rigidly carried by said side-plate and adapted for digital engagement, an operating-lever pivotally mounted on a vertical axis and having a forwardly projecting handle portion adapted for digital engagement, a pawl carried by said lever normally disengaged from said ratchet but adapted to rotate said ratchet when operated by said lever and an adjustable stop mounted on a vertical pivot for limiting the operative movement of said pawl.

974,334. TYPE-WRITER-RIBBON OPERATING AND FEEDING MECHANISM. JESSE ALEXANDER, Brooklyn, N. Y., assignor of one-half to William Alexander Albert Schnauffer, New York, N. Y. Filed Feb. 18, 1909. Serial No. 478,572.



1. In typewriter ribbon operating mechanism, a pair of ribbon spools, ratchet wheels connected with said spools, actuating pawls for said wheels, each of said pawls carrying a resilient wheel-engaging blade secured at one end of its pawl and free from said pawl at its wheel-engaging portion and means to limit the movement of the free end of said blade with respect to its pawl.

2. In typewriter ribbon operating mechanism, a pair of ribbon spools, ratchet wheels for said spools, actuating pawls coöperating with said wheels, each of said pawls carrying a resilient wheel-engaging blade extending alongside of its supporting pawl; said blade being free from said pawl at its wheel-engaging portion and having limited movement relatively to said pawl at its free end, a universal bar, actuating connections between said bar and said pawls to actuate said ribbon spools.

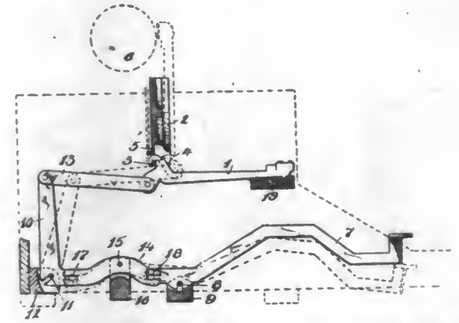
3. In typewriter ribbon operating mechanism, a pair of ribbon spools, ratchet wheels for said spools, an actuating pawl coöperating with each of said wheels, a spring-arm adjacent each of said wheels and adapted to engage the same, means for disengaging and engaging said pawls from and with said wheels at will, and means for causing said pawls simultaneously to disengage and permit the engagement of said spring-arms with the corresponding wheels at will.

4. In typewriter ribbon operating mechanism, a pair of ribbon spools, a ratchet wheel for each of said spools, an actuating pawl for each of said wheels, a spring-arm cooperating with each of said wheels respectively, an extension on each of said arms projecting transversely of the adjacent pawl, means for engaging and disengaging said pawls from said ratchet wheels, said extensions on said spring-arms being so arranged that the engagement and disengagement of said pawls from said wheels will cause simultaneous engagement and disengagement of said spring-arms with said wheels, respectively.

5. In typewriter ribbon operating mechanism, a pair of ribbon spools, ratchet wheels for said spools, actuating pawls for said wheels, each of said pawls carrying a resilient wheel-engaging blade, said blades being free from said pawls at their wheel-engaging portions, and means to limit the movement of the free portions of said blades away from their respective pawls.

[Claim 6 not printed in the Gazette.]

974,335. TYPE-WRITER KEY AND TYPE-BAR MECHANISM. JESSE ALEXANDER, Brooklyn, N. Y., assignor, by mesne assignments, of one-half to Emma Scheu Schorcht, Buffalo, N. Y. Continuation of application Serial No. 219,725, filed Aug. 6, 1904. This application filed Oct. 8, 1908. Serial No. 456,804. Renewed May 26, 1910. Serial No. 563,623.



1. A key and type bar construction for a typewriter including a pivoted type bar having a rearward and downward extension therefrom, an L-shaped intermediate lever to the rear thereof, having an upright arm and a horizontal bar, the upright arm being connected by a link to the rearward extension of the type bar adapted to exert an upwardly inclined thrust thereon, a pivoted key lever, and a tilting lever pivoted to the frame connecting in the same plane the key lever and the horizontal arm of the intermediate lever.

2. A key and type bar construction for a typewriter including a pivoted type bar having a rearward and downward extension therefrom, a pivoted key lever, a pivoted L-shaped intermediate lever, a link connecting said lever to the type bar adapted to exert an upwardly inclined thrust thereon, a pivoted tilting lever connecting in the same plane said lever to the key lever, a removable beam forming a support for the pivot of said intermediate lever,

and a beam forming a support for the pivot of said tilting lever.

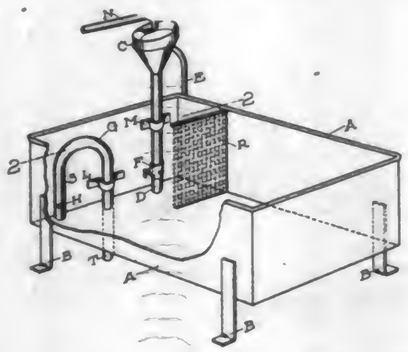
3. A key and type bar construction for a typewriter including a pivoted type bar having a rearward and downward extension therefrom, a pivoted key lever, a pivoted L-shaped intermediate lever, a link connecting said intermediate lever to the type bar and adapted to exert an upwardly inclined thrust thereon, a pivoted tilting lever connecting in the same plane said lever to the key lever, a beam forming a support for the pivot of said key lever, removable means for securing said key lever pivot beam to the frame of the machine and a beam forming a support for the pivot of said tilting lever.

4. A key and type bar construction for a typewriter including a pivoted type bar, having a rearward and downward extension therefrom, a pivoted key lever, a pivoted L-shaped intermediate lever, a link connecting said intermediate lever to the type bar and adapted to exert an upwardly inclined thrust thereon, a tilting lever connecting in the same plane said lever to the key lever, a beam forming a support for the pivot of said tilting lever, and removable means for securing said tilting lever pivot beam to the frame of the machine.

5. A key and type bar construction for a typewriter comprising a series of type bars pivoted on an arc of a vertical circle, each type bar being provided with a downward and rearward extension, a series of intermediate levers to the rear thereof, links connecting said bars and levers to exert an upwardly inclined thrust upon said type bars, a series of key levers, a series of pivoted tilting levers connecting in the same plane said intermediate and said key levers, a supporting beam, a pivot rod carried thereby, said key levers being slotted at the bottom edge to engage said rod, and a beam forming a support for the pivots of said tilting levers.

[Claim 6 not printed in the Gazette.]

974,336. APPARATUS FOR WASHING PHOTOGRAPHIC PRINTS. ARNOLD D. ALT, St. Louis, Mo. Filed Jan. 10, 1910. Serial No. 537,226.



1. An apparatus for washing photographic negatives and prints comprising a tank, a pipe for supplying water to said tank, a funnel at the upper end of said pipe, an overflow pipe leading from said funnel, a siphon adapted to discharge the water from said tank, and means whereby said negatives and prints are prevented from interfering with the operation of said siphon, substantially as described.

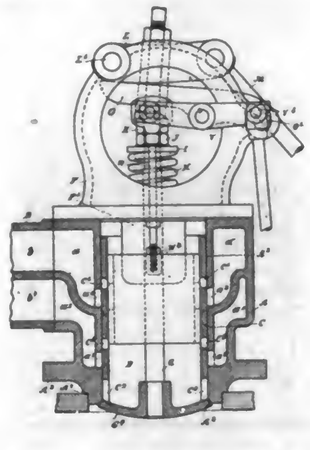
2. An apparatus for washing photographic negatives and prints comprising a tank, a pipe for supplying water to said tank, a funnel at the upper end of said pipe, an overflow pipe leading from said funnel, a valve for regulating the flow of water through the pipe for supplying water to said tank, a siphon adapted to discharge the water from said tank, said siphon having an opening in its shorter leg above the lower end thereof, and means whereby said negatives and prints are prevented from interfering with the operation of said siphon, substantially as described.

3. An apparatus for washing photographic negatives and prints comprising a tank, a pipe for supplying water to said tank, a funnel at the upper end of said pipe, an overflow pipe leading from said funnel, a valve for regulating the flow of water through said pipe for supplying water to said tank, a siphon adapted to discharge the water from said tank, said siphon having a bend of oval cross section between its legs and an opening in its shorter leg above the lower end thereof, substantially as described.

4. An apparatus for washing photographic negatives and prints comprising a tank, a pipe for supplying water to said tank, a funnel at the upper end of said pipe, an overflow pipe leading from said funnel, a valve for regulating the flow of water through the pipe for supplying water to said tank, a siphon adapted to discharge the water from said tank, said siphon having an opening in its shorter leg above the lower end thereof and a bend of oval cross section between its legs, and having also a cutaway part at the rear and lower end of said shorter leg whereby the negatives and prints are prevented from interfering with the operation of said siphon, substantially as described.

5. An apparatus for washing photographic negatives and prints comprising a tank, a pipe for supplying water to said tank, a funnel at the upper end of said pipe, an overflow pipe leading from said funnel, a valve for regulating the flow of water through the pipe for supplying water to said tank, a siphon adapted to discharge the water from said tank, said siphon having an opening in its shorter leg above the lower end thereof and having also a cutaway part at the rear and lower end of said shorter leg whereby the negatives and prints are prevented from interfering with the operation of said siphon, substantially as described.

974,337. VALVE FOR GAS-ENGINES. BAXTER M. ASLAKSON, Salem, Ohio. Filed Oct. 19, 1907. Serial No. 398,155.



1. A valve for gas engines comprising; a cylindrical casing opening into the explosion chamber of the engine embodying a central chamber and annularly disposed chambers in communication with the air supply and gas supply respectively, and having port openings leading from the annular chambers to the central chamber; a valve to close the said central chamber and having walls rigidly mounted on said valve to slide in contact with the walls of the central chamber and in the path of said port openings, so disposed that the port openings into the annular chamber connected with the gas supply are exposed later than are the port openings connected with the air supply; a throttle valve mounted within said valve comprising walls adapted to close the port openings in said valve; and suitable means for reciprocating the said valve in timed relation with the engine; and suitable speed actuated means to change the position of said throttle within said valve.

2. A valve for gas engines comprising; a cylindrical casing opening into the explosion chamber of the engine embodying a central chamber and annularly disposed chambers in communication with the air supply and gas supply respectively, and having port openings leading from the annular chambers to the central chamber; a cylindrical valve slidably fitted in said casing and provided with port openings to expose the said port openings in the casing, said openings in the valve so disposed that the openings leading to the air supply are exposed not later than the opening to the explosion chamber, and that the openings leading to the gas supply are exposed later than the said opening to the explosion chamber; a throttle valve mounted within said valve comprising walls adapted to close the port openings in said valve; and suitable means for reciprocating the said valve in timed relation with the engine; and suitable speed actuated means to change the position of said throttle within said valve.

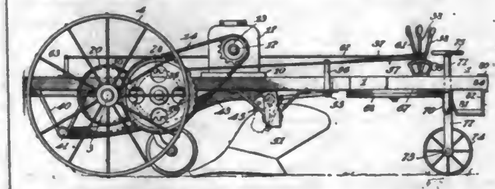
3. A valve for gas engines comprising; a cylindrical casing opening into the explosion chamber of the engine embodying a central chamber and annularly disposed chambers in communication with the air supply and gas supply respectively, and having port openings leading from the annular chambers to the central chamber; a cylindrical valve slidably fitted in said casing and provided with port openings to expose the said port openings in the casing, said first mentioned openings being of smaller dimensions than later said mentioned openings in the casing, said openings in the valve being so disposed that the openings leading to the air supply are exposed not later than the opening to the explosion chamber, and that the openings leading to the gas supply are exposed later than the said opening to the explosion chamber; a throttle valve mounted within said valve comprising walls adapted to close the port openings in said valve; and suitable means for reciprocating the said valve in timed relation with the engine; and suitable speed actuated means to change the position of said throttle within said valve.

4. A valve for gas engines comprising; a cylindrical casing opening into the explosion chamber of the engine embodying a central chamber and annularly disposed chambers in communication with the air supply and gas supply respectively, and having port openings leading from the annular chambers to the central chamber; a cylindrical valve slidably fitted in said casing and provided with port openings in the cylindrical walls to open into the explosion chamber of the engine and to expose said port openings in the casing, said openings in the valve so disposed that the openings in the casing leading to the air supply are exposed simultaneously with the opening of the port into the explosion chamber, and the openings in the casing leading to the gas supply are exposed later than the said opening to the explosion chamber; a throttle valve mounted within said valve comprising walls adapted to close the port openings in said valve; and suitable means for reciprocating the said valve in timed relation with the engine; and suitable speed actuated means to change the position of said throttle within said valve.

5. A valve for gas engines comprising; a cylindrical casing opening into the explosion chamber of the engine embodying a central chamber and annularly disposed chambers in communication with the air supply and gas supply respectively, and having port openings leading from the annular chambers to the central chamber; a valve consisting in an inverted open ended cylinder, slidably mounted in said central chamber, the cylindrical wall being provided with port openings of predetermined size to move in the path of the port openings in said central chamber, said port openings in the valve being disposed in closer relation than the ports in said casing whereby the ports to the air supply and the ports to the gas supply are exposed successively; a throttle valve mounted within said valve comprising walls adapted to close the port openings in said valve; and suitable means for reciprocating the said valve in timed relation with the engine; and suitable speed actuated means to change the position of said throttle within said valve.

[Claims 6 to 17 not printed in the Gazette.]

974,338. MOTOR-PROPELLED PLOW. ANDREW K. BALTEZOR, Wentzville, Mo. Filed Apr. 13, 1909. Serial No. 489,585.

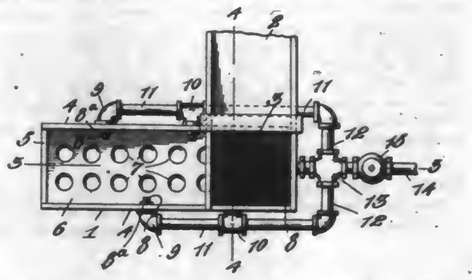


1. A plow comprising a main frame, a plow member having its beam pivotally connected to the frame, hanger brackets fixedly carried by the side members of the frame and provided with racks, pinions loosely journaled on the plowing member and engaging with said racks, and means separate from the pinions and racks for adjusting said plow member vertically.

2. A plow comprising a main frame, a plow beam pivoted to said frame, a transverse shaft journaled on the beam and carrying pinions at each end, hangers fixedly carried by said frame and provided with racks with which said pinions engage, and means separate from the racks and pinions for raising and lowering said plow beam.

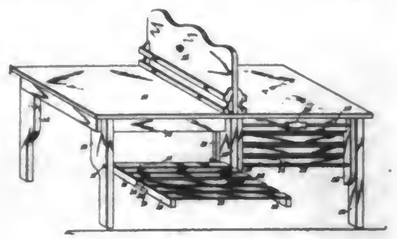
3. A plow comprising a main frame provided with supporting wheels, a plow beam pivoted to said frame, brackets carried by said beam, a shaft extending through said brackets, pinions mounted on the ends of said shaft, hanger brackets fixed to the sides of said frame and having internal racks with which said pinions engage, a bail connected to said beam brackets, and a lever connected with said bail whereby when said lever is rocked a vertical movement will be imparted to said plow beam.

974,339. SLUICE-BOX. JOHN J. BARKER, Delta, Colo. Filed May 3, 1910. Serial No. 559,226.



The herein described sluice box, comprising a rectangular body having an open top and an overflow at one end, the bottom of said box being flat and formed with longitudinal rows of concave pockets to contain quicksilver, a jet nozzle arranged in the upright wall of the inlet end of the box, and in a plane slightly above the bottom of the latter to direct a jet of water longitudinally through the box, longitudinal series of jet nozzles arranged in the upright side walls of the box to direct streams of water transversely across the bottom of said box, the jet nozzles on opposite sides of the box being arranged in staggered relation whereby transverse currents of water are formed to intersect the longitudinal jet, each of said nozzles having a hollow cylindrical body provided with an inner end having a plurality of perforations, all said nozzles being disposed in a common plane, and controllable means to supply water under pressure to said nozzles.

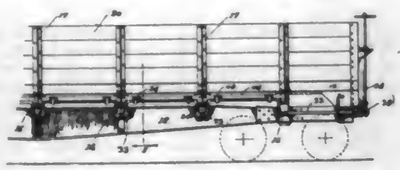
974,340. EXTENSION-SHELF FOR WRITING-TABLES. JOHN F. BEEB, Nevada, Iowa. Filed Oct. 18, 1909. Serial No. 523,128.



1. A device of the class described, comprising a table, an extension shelf comprising two arms pivotally supported below the table top and capable of swinging upwardly to a vertical position below the table top, said arms each having an extension at the lower side of its outer end, cross slats fixed to said arms, two auxiliary arms hinged to the outer ends of the aforesaid arms, hinges for connecting the auxiliary arms with the first mentioned arms, said extensions on the first mentioned arms being arranged to support the auxiliary arms in a horizontal position in line with the first mentioned arms, cross slats on the auxiliary arms, said auxiliary arms being capable also of folding to position overlapping the first mentioned arms and of folding under the table top, and means for limiting the downward movement of the first mentioned arms when in their extended positions, for the purposes stated.

2. A device of the class described, comprising a table having a strip extending longitudinally thereof at one side below the table top and spaced apart from the edge of the table top, a supporting piece fixed to the table top and extended downwardly at a point midway between the ends of the legs, two extension shelves, each comprising two arms, one pivoted to one of the legs of the table and the other pivoted to said support, stop blocks secured to said leg in said support to be engaged by said arm to hold them in horizontal position, the outer ends of said arms being provided with projecting portions so arranged as to engage the side strip of the table top when the said arms are swung upwardly past a dead center, two auxiliary arms having extensions at the inner ends of the aforesaid arms, hinges arranged at the ends of said extensions on the auxiliary arms and connected to the first mentioned arms, cross slats connecting said auxiliary arms, and a rod connected to the first mentioned arms, and provided with a handle, substantially as, and for the purposes stated.

974,341. METALLIC CAR CONSTRUCTION. ANTON BECKER, Chicago, Ill., assignor to Joseph S. Ralston, Chicago, Ill. Filed May 29, 1905. Serial No. 262,805.



1. In a car, the combination of a plurality of continuous cross-bearers, doors pivotally mounted between the cross-bearers to form a part of the floor of the car and to swing downward to dump at the sides of the track, and channel irons mounted on the top of the cross-bearers with their backs on the floor level and with their edges turned downward, adapted to engage the edges of the adjacent doors to form a continuous level floor.

2. In a metallic car, the combination of a plurality of continuous cross-bearers, doors pivotally mounted between the cross-bearers to form a part of the floor of the car and to swing downward to dump at the sides of the track, continuous channel irons mounted on the tops of the cross-bearers with their backs on the floor level and with their edges turned downward and inclined toward the centers of the cross-bearers, said down-turned edges also fitting the corresponding bevel on the sides of the doors whereby when the doors are closed and pushed upward a tight level floor is formed, as described.

3. In a metallic car, the cross-bearer formed of a beam continuous with a wider continuous channel iron secured to its top, the edges of the channel being turned downward and inward, and a center sill below the beams as described.

4. In a car, the combination of a longitudinal girder, cross-bearers and two bolsters extending crosswise of the girder, a shaft journaled on successive cross-bearers or bolsters having crank arms adjacent to the journaled portions, and a crank pin connecting successive crank arms between successive cross-bearers or bolsters, means for revolving said shaft, doors pivoted on the longitudinal girder resting on the crank pins of the shaft between the crank arms adapted to be moved by rotating the shaft up to form a part of the level floor and down between the journals of said shaft to discharge the load at the sides of the car, and channel irons wide enough to fill the spaces between successive doors secured flanges downward on the tops of the cross-bearers, the backs of the channels being level with the floor.

5. In a car, the combination of a longitudinal girder, cross-bearers and two bolsters extending crosswise of the girder, a shaft journaled on successive cross-bearers or bolsters having crank arms adjacent to the journaled portions, and a crank pin connecting successive crank arms between successive cross-bearers or bolsters, means for revolving said shaft, doors pivoted on the longitudinal girder resting on the crank pins of the shaft between the crank arms adapted to be moved by rotating the shaft up to form a part of the level floor and down between the journals of said shaft to discharge the load at the sides of the car, and channel irons wide enough to fill the spaces between successive doors secured flanges downward on the tops of the cross-bearers, the backs of the channels forming a part of the level floor and the channel flanges being turned downward and inward to engage corresponding bevels on the edges of the doors whereby a tight floor is formed.

[Claims 6 to 13 not printed in the Gazette.]

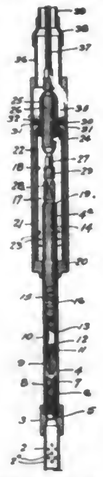
974,342. PUMP FOR OIL AND LIKE WELLS. CHARLES W. BELL, Bartlesville, Okla. Filed Oct. 15, 1909. Serial No. 522,842.

1. In pumping apparatus for oil or like wells, the combination of a valve-controlled working-barrel, a valve-controlled discharge tube in said working-barrel, a piston connected to said discharge-tube, means for reciprocating said piston, and a chamber communicating at its lower end with the tubing leading to the top of the well, said working-barrel extending into said chamber.

2. In pumping apparatus for oil or like wells, the combination of a valve-controlled working-barrel, a discharge-tube in said working-barrel, a valve at the upper end of said discharge-tube and above said working-barrel, a piston connected to said discharge-tube, means for reciprocating said piston, and a chamber communicating at its lower end with the tubing leading to the top of the well, said working-barrel extending up into said chamber.

3. In pumping apparatus for oil or like wells, the combination of a valve-controlled working-barrel, a discharge-tube in said working-barrel, a valve in said discharge-tube above said working-barrel, the upper end of said working-barrel being beveled, a piston connected to said discharge-tube, means for reciprocating said piston, and a chamber communicating with the tubing leading to the top of the well, said working-barrel extending up into said chamber.

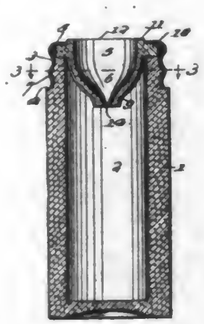
4. In pumping apparatus for oil or like wells, the combination of a valve-controlled working-barrel, a valve-controlled discharge-tube in said working-barrel, a piston connected to said discharge-tube, means for reciprocating said piston, a chamber, said working-barrel extending up within said chamber, an outer chamber communicating with said chamber, and a valve between said outer chamber and the tubing leading to the top of the well.



5. In pumping apparatus for oil or like wells, the combination with a valve-controlled working-barrel, a valve-controlled discharge tube in said working-barrel, a piston connected to said discharge-tube, means for reciprocating said piston, a chamber, said working-barrel extending up within said chamber, an outer chamber communicating with said chamber at the lower end thereof and a valve-controlled connection between said outer chamber and the tubing leading to the top of the well.

[Claims 6 to 11 not printed in the Gazette.]

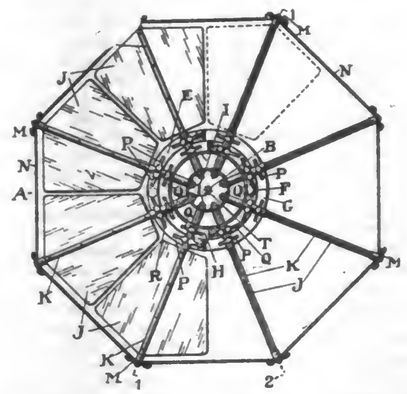
974,343. CONDIMENT-HOLDER. ARTHUR JAMES BENNETT, Cambridge, Ohio. Filed Mar. 16, 1910. Serial No. 549,762.



1. A condiment shaker comprising a container body having an open upper end, an inverted conical member projecting through said open end into said body and formed at its upper edge with a circumferential flange adapted to rest upon said end, and at its apex with a discharge opening, and means associated with said body end and flange for retaining said member in position, said member having its internal surface formed with longitudinal cutting ribs which face the interior of said body, for disintegrating the material therein when said body is shaken.

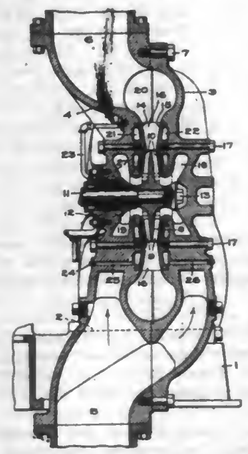
2. A condiment shaker comprising a container body having an open upper end externally threaded, an inverted conical member projecting through said end into said body and formed at its upper edge with a circumferential flange adapted to rest upon said end and at its apex with a discharge opening, said flange having formed integral therewith a circumferential internally threaded depending flange adapted for engagement with said threaded body end, and means formed on said member for disintegrating the material in said body when the latter is shaken.

974,344. PROPELLER-WHEEL. JAMES BENNETT, San Francisco, Cal. Filed Jan. 5, 1909. Serial No. 470,867.



A propeller wheel comprising a plate with flanges attached at right angles constituting a hub, outwardly extending spindles journaled in the flanges of the hub, swiveled plates, and truss rods connecting said spindles at their outer ends, vanes and turning guides attached to said spindles, a shaft on which the wheel is mounted, a disk provided with a bearing for said shaft, and segmental tracks secured to said disk and adapted to engage said turning guides, substantially as set forth.

974,345. CENTRIFUGAL PUMP AND COMPRESSOR. HARRY F. BENSON, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Feb. 26, 1909. Serial No. 480,089.



1. In an apparatus of the character described, the combination of a casing divided into sections in a plane

perpendicular to the shaft and provided with inner and outer concentric shoulders, inlet and discharge conduits formed in one section only of the casing that terminate in planes parallel to the shaft, a shaft, an impeller mounted thereon and overhung and having covered blades on opposite sides, a bearing for the shaft carried solely by the casing section that contains the conduits, and an annular discharging device seated in said shoulders and inclosing the covering on the blades and coöperating with the inner and outer edges thereon, which device surrounds the impeller and is made in two principal parts, one of which is attached to one casing section and the other to the opposing section.

2. In an apparatus of the character described, the combination of a casing divided into right and left hand sections in a plane perpendicular to the shaft, inlet and discharge conduits carried solely by the section through which the shaft extends, a shaft, an impeller mounted on the end of the shaft, a single bearing for the shaft, carried solely by the section that carries the conduits, an annular fluid discharging device comprising two members located on opposite sides of the impeller and having well rounded bores and fluid directing vanes that extend between the members, means for attaching one of the members to one casing section and the other to the opposite, and a base on which both casing sections are mounted, the section opposite the one having the conduits being slidable thereon to expose the impeller.

3. In an apparatus of the character described, the combination of a base, a casing divided into right and left hand sections in a plane perpendicular to the shaft, feet on the separate parts of the casing that rest on the base and are slidable thereon, inlet and discharge conduits carried solely by the section through which the shaft extends, a shaft, an impeller mounted on the end of the shaft, a single bearing for the shaft, carried solely by the section that carries the conduits, an annular fluid discharging device comprising two members located on opposite sides of the impeller and having well rounded bores and fluid directing vanes that extend between the members, means for attaching one of the members to one casing section and the other to the opposite, an annular chamber formed in each of the casing sections both of which communicates with the inlet conduit and receive fluid therefrom, and a central annular chamber which surrounds the fluid discharging device and is formed partly in one casing section and partly in the other and communicates with the discharge conduit.

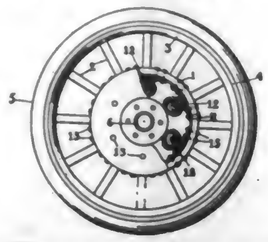
4. In an apparatus of the character described, the combination of a casing divided into sections in a plane perpendicular to the shaft, inlet and discharge conduits formed solely in one of the sections, a shaft, an impeller mounted thereon and having vanes on opposite sides, plates covering the sides of the vanes, a bearing for the shaft which is supported solely by the section containing the conduits, an annular fluid discharging device that surrounds the impeller that comprises two principal members, a shoulder on each of said members which serves to center it and also to cover the bore of the adjacent plate on the side of the impeller vanes, means for attaching one of said members and its directing vanes to one of said sections, other means for attaching the other member to the other casing section, a chamber surrounding the discharging devices that is formed partly in one section and partly in the other, the said chamber communicating with the discharge conduits, and a chamber formed in each of said casing sections which supplies fluid to the impeller and communicates with the inlet.

974,346. GREEN AZO DYE. WILHELM BERGDOLT, Leverkusen, near Cologne, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Feb. 12, 1910. Serial No. 543,490.

1. The herein-described new azo dyestuffs obtainable from a para-diamin, an ortho-oxy-carboxylic acid, an 1.8-aminonaphthol sulfonic acid and an anilin-disulfonic acid, which dyestuffs are, after being dried and pulverized, in the shape of their alkaline salts dark powders soluble in hot water generally with a green color; yielding upon reduction with stannous chlorid and hydrochloric acid a para-diamin, an amino-ortho-oxy-carboxylic acid, an anilin-disulfonic acid and a triamino-8-napthol sulfonic acid; and dyeing half-wool green shades, substantially as described.

2. The herein-described new azo dyestuff obtainable from tolidin, salicylic acid, 1.8-aminonaphthol-4-sulfonic acid and 1.2.5-anilin-disulfonic acid, which dyestuff is, after being dried and pulverized, in the shape of its sodium salt a dark powder soluble in hot water with a green color and soluble in concentrated sulfuric acid with a bluish-violet color, yielding upon reduction with stannous chlorid and hydrochloric acid tolidin, aminosalicylic acid, 1.2.5-anilin-disulfonic acid and triamino-8-napthol-4-sulfonic acid; and dyeing half-wool green shades, substantially as described.

974,347. SPRING-WHEEL. LOUIS BLESSING, Jackson, Mich. Filed June 11, 1909. Serial No. 501,480.



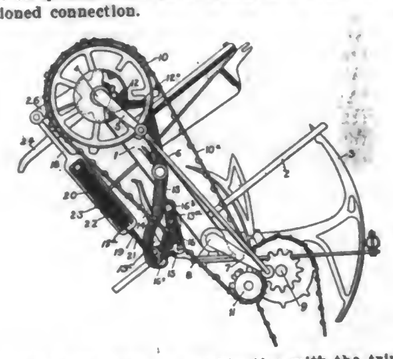
1. A spring wheel comprising a hub provided with a pair of parallel, spaced flanges, a ring loosely encircling the hub between the flanges and carrying conventionally disposed spokes, felly and rim, cross-members connecting the flanges within the ring, and pairs of oppositely disposed spiral springs on each cross member whose inner ends are secured thereto and whose outer ends are each secured to the ring, each spring consisting of a bar bent between its ends into spaced, parallel arms which are inturned in corresponding spirals, the inner ends being formed into eyelets encircling the cross-members, and the outer portions of each bar at the return bend being transversely crimped.

2. A spring wheel comprising a hub provided with a pair of parallel, spaced flanges, a ring loosely encircling the hub between the flanges and carrying conventionally disposed spokes, felly and rim, cross-bolts connecting the flanges within the ring, and pairs of oppositely disposed spiral springs on each bolt whose outer ends are oppositely directed, each spring comprising a bar bent on itself between its ends into parallel spaced arms whose inner ends form closed eyelets adapted to engage a cross-bolt and means securing the outer portion to the ring.

3. A spring wheel comprising a hub provided with a pair of parallel, spaced flanges, a ring loosely encircling the hub between the flanges and carrying conventionally disposed spokes, felly and rim, cross-bolts connecting the flanges within the ring, and pairs of oppositely disposed spiral springs on each bolt whose outer ends are oppositely directed, each spring comprising a bar bent on itself between its ends into parallel spaced arms whose inner ends form closed eyelets adapted to engage a cross-bolt, and means securing the outer portion to the ring, and the ends of the springs of each pair being alternately arranged on the bolt.

974,348. COMPRESSOR AND TRIP MECHANISM FOR GRAIN-BINDERS. JOSEPH BODA, Plano, Ill., assignor to Independent Harvester Company, Plano, Ill., a Corporation of Maine. Filed Sept. 29, 1909. Serial No. 520,059.

1. In a grain binder, in combination with the trip lever, trip rock shaft and yieldingly extensible compressor link comprising two members and a compressor spring interposed between them; a lever on the rock shaft which connects it with the trip lever; a cam constituting said connection, said lever on the rock shaft having a slotted connection with one member of the extensible compressor link; a link connecting said lever with the other member of the compressor link, and a spring interposed in the last mentioned connection.



2. In a grain binder, in combination with the trip lever, trip rock shaft and yieldingly extensible compressor link comprising two members and a compressor spring interposed between them; a lever on the trip rock shaft; a cam on the trip lever engaged by said rock shaft lever, one portion of the cam track being curved in an arc whose radius is the length of the arm of the rock shaft lever which engages the cam, and the portion at one end of said curved portion being deflected out of the curve; said rock shaft lever having slotted connection with one end of the compressor link, the play at said slotted connection corresponding in extent to said deflected portion of the cam track; a link from said rock shaft lever connected with the other member of the compressor and a spring interposed in such connection.

3. In a grain binder, in combination with the trip lever, trip rock shaft and yieldingly extensible compressor link comprising two members and an interposed compressor spring, a closed cam on the trip lever, a lever on the rock shaft having an arm provided with an abutment engaging said closed cam, said rock shaft lever being connected with the lower member of the extensible link, and an independent connection from said lever to the upper member of the link.

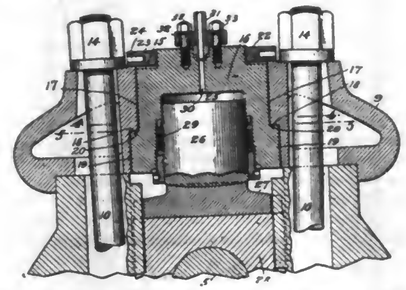
4. In a grain binder, in combination with the trip lever, trip rock shaft and yieldingly extensible compressor link comprising two members and an interposed compressor spring, a bell crank on the rock shaft, a cam on the trip lever with which one member of the bell crank is engaged, the other member having slotted connection with the lower member of the compressor link, the upper member of the link having an offset eye; a link from the slotted arm of the bell crank extending through said eye; a spring coiled above the eye and a stop on the link for the end of the spring remote from the eye.

5. In a grain binder, in combination with the trip lever, trip rock shaft and yieldingly extensible link comprising two members and an interposed compressor spring; a bell crank on the trip rock shaft; a cam on the trip lever with which one arm of the bell crank is engaged, the other arm of the bell crank being connected with the lower member of the compressor link with play at its connection longitudinally with respect to the link, a second link connecting said bell crank lever to the upper member of the compressor link, and a spring interposed in the last mentioned connection.

974,349. PRESSURE-REGULATING DEVICE FOR ROLLER-MILLS. DAVID R. BOWEN, Ansonia, Conn., assignor to Farrel Foundry and Machine Company, Ansonia, Conn., a Corporation of Connecticut. Filed Mar. 23, 1910. Serial No. 551,203.

1. A pressure regulating device for roller mills including in combination an interiorly bored cap for the roll support, a cylinder removably located in the bore of the cap, a ram in the cylinder operating on the roll bearing, and fluid regulating means connected with the cylinder.

2. A pressure regulating device for roller mills including in combination an interiorly bored cap for the roll support, a cylinder located in the bore of the cap, locking means carried by the cap, locking means on the cylinder which may be caused to engage with the locking means in the cap, and a ram in the cylinder for operating on the roll bearing.



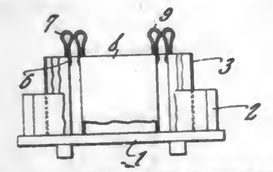
3. A pressure regulating device for roller mills including in combination an interiorly bored cap for the roll support, a cylinder located in the bore of the cap, locking projections in said bore, locking projections on the cylinder which engage with the projection in the bore, and a ram in the cylinder for operating on the roll bearing.

4. A pressure regulating device for roller mills including in combination an interiorly bored cap for the support, locking projections in the bore, said projections being spaced apart circumferentially, a cylinder located in the bore of the cap, locking projections on the cylinder less in width than the space between the projections in the bore and arranged to coöperate with said projections, and a ram in the cylinder for operating on the roll bearing.

5. A pressure regulating device for roller mills including in combination an interiorly bored cap, bolts for securing the cap to the roll support, locking projections in the bore, a cylinder located in the bore, locking projections on the cylinder which may be caused to engage with the projections in the bore, means for bringing the projections on the cylinder snugly against the projections in the bore, and a ram in the cylinder operating on the roll bearing.

[Claims 6 to 8 not printed in the Gazette.]

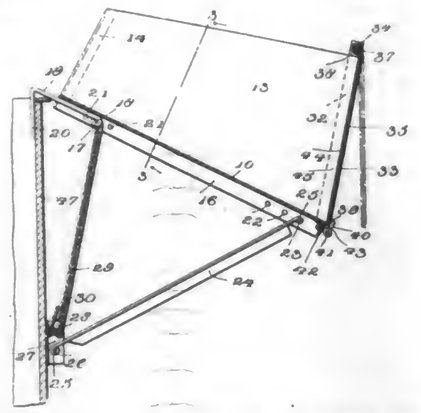
974,350. CEMENT-BLOCK MOLD. ROBERT J. BRATTON, Georgetown, Ill. Filed Oct. 18, 1909. Serial No. 523,228.



1. A device of the class described consisting of a mold; a core resting within the mold; the mold being provided with a handle at each end, and the core being provided with a handle at each end located in close proximity to the handles of the mold, to define pairs of gripping elements, each of which pairs is adapted to be engaged by a hand of the operator, for the simultaneous removal of the core and the mold.

2. A device of the class described consisting of a hollow mold; a core located within the mold; the core and the mold being provided at their ends, with handles, having at their upper ends, enlargements located in close relation to each other, to constitute a means for limiting the movement of the core within the mold.

974,351. CHUTE. JOSEPH E. BRAZEAL, Birmingham, Ala., assignor to The Quick Unloading Car Chute Co., Birmingham, Ala. Filed Nov. 2, 1909. Serial No. 525,910.

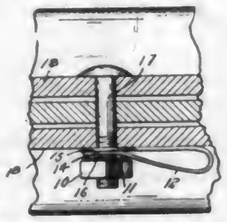


1. A chute including an inclined body portion, spaced channel bars carried beneath said body portion, hooks adjustably mounted in the upper ends of said channel bars for engagement with a wall to support the body, pendent braces hinged in the outer ends of said channel bars, rests secured to the lower ends of said braces to engage against the wall to support said body portion, and connecting chains depending from the inner ends of said hooks for adjustable engagement with said rests to support the same.

2. A chute including a body, spaced hooks carried upon the inner end of the body for supporting the same against a wall, hinged braces depending from the outer end of said body, U-shape rests hinged upon the lower ends of said braces, transverse pins disposed through the upper ends of said rests, and depending chains carried by said hooks and adjustably looped about said pins for holding the rests against the wall.

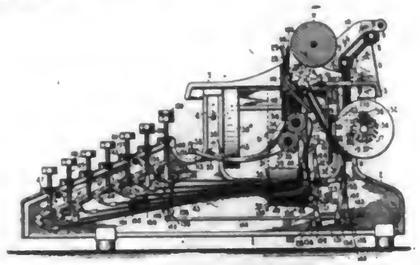
3. A chute including a body, spaced channel bars positioned against the underside of the body, hinge-bolts adjustably disposed through the opposite ends of said bars, outwardly extending hooks hinged upon the bolts at the inner ends of the body and between the flanges of said bars, depending braces hinged upon said bolts at the outer end of the said body, and adjustable supporting means carried by the inner end of the bolts for retaining said braces in adjusted position beneath the body.

974,352. NUT-LOCK. EDWARD V. BAISTER, Ruth, Miss. Filed Jan. 4, 1909. Serial No. 470,687.



The combination of a bolt, of a nut on the bolt having ratchet teeth concentric to the bolt opening and on the under side of the nut, of a locking plate comprising a bowed strip of resilient material having one end provided with an eye for the reception of the bolt and the other end forked and straddling the bolt, one of the arms of said forked end being bent at right angles to the remainder of the arm and disposed radially of the nut for engaging the ratchet teeth on the latter.

974,353. TYPE-WRITING MACHINE. ALEXANDER T. BROWN, Syracuse, N. Y. Filed Mar. 12, 1906. Serial No. 305,561.



1. In a typewriting machine, the combination of a ribbon vibrator, an actuating device connected therewith, and a rocking member operative on said actuating device, said device being movable into and out of operative relation to said rocking member while the vibrator is away from the printing point.

2. In a typewriting machine, the combination of a ribbon vibrator, an actuating member connected therewith, and a rocking member adapted to actuate said actuating member, one of said members being movable to render the rocking member inoperative to actuate said actuating member while the vibrator is away from the printing point.

3. In a typewriting machine, the combination of a ribbon vibrator, a rocking member for operating said ribbon vibrator, and a connection between said rocking member and said vibrator, said connection including a part that is movable substantially to the axis of said rocking member whereby said rocking member is rendered inoperative to actuate the vibrator.

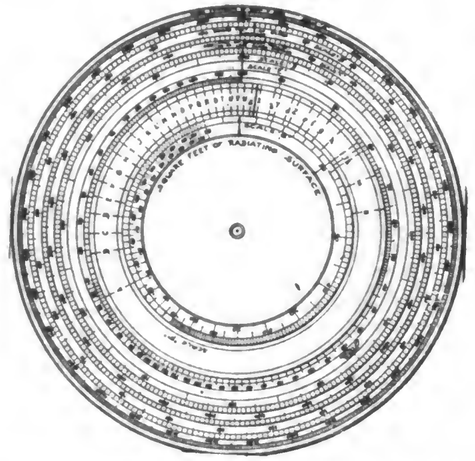
4. In a typewriting machine, the combination of a ribbon vibrator, a link for operating said ribbon vibrator, and a rocking member for operating said link, said link being movable to different positions in which its longitudinal axis bears different relations to said rocking member, one of said positions being such that the longitudinal axis of said link substantially passes through the axis of said rocking member so that said ribbon vibrator is not operated by said rocking member.

5. In a typewriting machine, the combination of a ribbon vibrator; a link for operating said ribbon vibrator, a rocking member for operating said link, an arm on said rocking member, said arm extending across the axis of said rocking member; a sliding connection between said link and said arm, and means for moving said sliding connection to different positions along said arm, one of said positions being such that the longitudinal axis of said link substantially passes through the axis of said rocking member.

[Claims 6 to 72 not printed in the Gazette.]

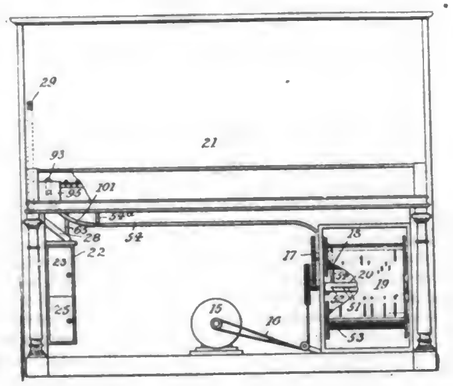
974,354. RADIATION-CALCULATOR. PAUL FERRIE BROWN, Hackensack, N. J., assignor of one-half to Mark E. Monash, New York, N. Y. Filed July 6, 1909. Serial No. 506,201.

A radiation calculator adapted to mechanically perform operations of addition and multiplication, comprising six round members, three thereof being intact disks relatively immovable and the remaining three members being annular revoluble bodies each thereof having its center portion cut out, a plurality of pins passing through said cut out portion and through the relatively fixed disks whereby said centers form a sectional pivot about which the revoluble bodies turn, the lowermost fixed member having graduations to indicate the cubic contents in feet of a closure, the next adjacent revoluble member having graduations to indicate the glass surface of such closure, said last named graduations representing the quotient resulting from the division of the graduations on the first member by fifty five, the next adjacent revoluble member having graduations to represent the area of exposed wall surface in such closure, said last named graduations representing the product of multiplying the graduations on the second named member by four, the next adjacent fixed member having two sets of graduations one set corresponding to those on the second named member and being designed to indicate the sum resulting from the movement of the movable members between itself and the first mentioned fixed member, and the other set of graduations indicating the



reduction to the logarithmic scale of the other graduations on the same member, the next adjacent revoluble member having graduations to correspond to the logarithm of a predetermined factor for ascertaining the required radiating surface, and the next adjacent fixed member having graduations corresponding to the logarithms of the square feet of radiating surface and being designed to indicate a product resulting from the movement of its immediately adjacent movable member.

974,355. COIN-CONTROLLED ACTUATING MECHANISM FOR AUTOPNEUMATIC PIANOS. EDWARD D. CARNEY, St. Johnsville, N. Y., assignor to F. Engelhardt & Sons, St. Johnsville, N. Y., a Firm. Filed Jan. 20, 1910. Serial No. 538,976.

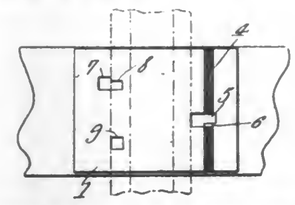


1. A device of the character described, comprising a coin magazine having a lateral coin-egress slot and a guide beneath said slot, a lever having a coin rest at the base of the magazine, an electric circuit controlled by the lever, and a reciprocative coin ejector engaging the guide and adapted to push a coin off the coin rest and out of the coin egress slot.

2. A device of the character described, comprising a coin magazine, an inclosed movable member which is adapted to simultaneously support a plurality of coins and to be held by said coins in its lowered position, means for raising said member upon liberation from said coins, a coin ejector, pneumatic means for actuating the same, an armature on the movable member, a coöperating electromagnet, means at a distance from the magazine for energizing said electro-magnet, and an electric circuit controlled by the movable member.

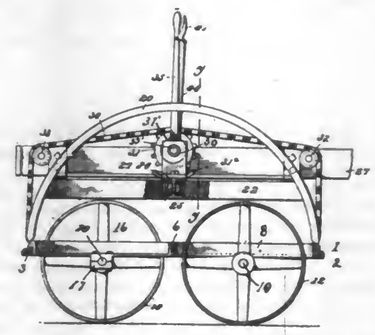
3. A device of the character described, comprising a coin magazine, an inclosed movable member which is adapted to simultaneously support a plurality of coins and to be held by said coins in its lowered position, means for raising said member upon liberation from said coins, a coin ejector, bellows for actuating the same, an armature on the movable member, a coöperating electromagnet, coin-controlled means at a distance from the magazine for energizing said electro-magnet, a spring-catch adapted to engage the movable member, a hook connected to the bellows and adapted to engage said catch, and an electric circuit controlled by the movable member.

974,356. RAIL-FASTENER. EMANUEL H. CASE and THOMAS R. BARRALL, Nanticoke, Pa. Filed June 30, 1910. Serial No. 569,729.



A rail fastener including a rail supporting plate having spaced openings therein, each of which has a reduced end portion, said openings being spaced apart to receive a rail there-between, a flange upon the plate and intersected by one of the openings, rail engaging spikes insertible through said openings, each spike having a recess in one side, said plate being shiftable to bring the flange against a rail and to position a wall of each reduced portion of the openings within a recess, there being an opening in the plate and movable to one side of the rail when the plate is shifted, and a fastener insertible through said opening to hold the plate against shifting movement.

974,357. LAND-ROLLER. HARRY L. CLAIBORNE, Guineys, Va. Filed Dec. 19, 1907. Serial No. 407,141.



1. A land roller comprising a roller carrying frame, rollers carried thereby, a pole carrying frame pivotally

mounted upon the roller frame, a sprocket wheel carried by the pole frame, a chain having its free ends secured to the roller frame and passing over the sprocket wheel, and means for operating said sprocket wheel.

2. A land roller comprising a roller carrying frame, rollers carried by the said frame, upwardly extending arch-plates carried by the roller frame, a pole carrying frame pivotally carried by the arch-plates, a pole carried by the said frame, a sprocket wheel carried by the said pole carrying frame, a chain having its free ends secured to the roller frame and passing over the sprocket wheel, a lever pivotally mounted upon the pole carrying frame, and means for locking the sprocket wheel to the lever.

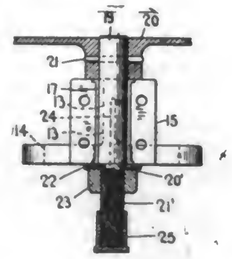
3. A land roller comprising a roller carrying frame, rollers carried by the said frame, upwardly extending arch plates carried by the roller frame, a shaft rotatably supported by the arch-shaped plates, a pole carrying frame rigidly secured to the said shaft, a pole carried by the said frame, a large sprocket wheel carried by the pole carrying frame, a small sprocket wheel carried by the side of the pole on each side of the first mentioned large sprocket wheel, a chain having its free ends secured to the roller frame and passing over the small and the large sprocket wheels, a lever pivotally mounted upon the pole carrying frame, and means for locking the sprocket wheel to the lever.

4. A land roller comprising a roller carrying frame, rollers carried by the said frame, upwardly extending arch-shaped plates carried by the roller frame, a shaft rotatably supported by the arch-shaped plates, a pole carrying frame rigidly secured to the said shaft, a pole carried by the said frame, a large sprocket wheel carried by the side of the said pole, a small sprocket wheel carried by the side of the pole on each side of the first mentioned large sprocket wheel, a chain having its free ends secured to the roller frame and passing over the large and small sprocket wheels, a lever pivotally mounted upon the pole carrying frame and having its lower end extending below the sprocket wheel, a plate slidably mounted upon the lower end of the lever and normally held in a downward position, teeth carried by the upper and lower edges of the plate, a rack bar carried by the pole frame below the plate and adapted to be engaged by the lower teeth thereof, the upper teeth adapted to engage the large sprocket wheel, a rod connected to the plate and extending upwardly and connected to a lever carried by the sprocket operating lever, whereby the plate is either locked to the rack or to the sprocket wheel.

5. A land roller comprising a roller carrying frame, rollers carried by the said frame, upwardly extending arch-plates carried by the roller frame, horizontal bars carried by the arch-shaped plates, a pole carrying frame pivotally supported by the horizontal bars, a pole carried by the said frame, a sprocket wheel carried by the side of the said pole, a chain having its free ends secured to the roller frame and passing over the sprocket wheel, a lever pivotally mounted upon the pole carrying frame, a segmental rack carried by the pole frame below the sprocket wheel, a pinion carried by the sprocket wheel, a vertically movable member carried by the lever and adapted to engage either the rack or the pinion, substantially as described.

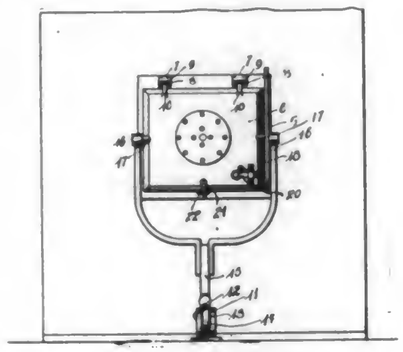
974,358. ATTACHMENT FOR HARVESTERS. OTIS O. CLARK, Liberal, Kans. Filed May 28, 1909. Serial No. 498,998.

1. The combination with a harvester frame, a bracket adapted to rest on one of the members of the frame, means for attaching the bracket to the frame, a bearing formed on said bracket, a shaft carried in said bearing and extending above and below the ends of the bearing, a cutter disk provided with a hub fixed on the upper end of the shaft, the under face of the hub resting directly on the upper end of the bearing, the lower end of said shaft being reduced from the lower end of the bearing downward and provided with threads, a washer carried on the reduced end and bearing against the lower end of the bearing and a nut on said lower end to hold said washer in position, said threaded lower end extending below said nut to form grease cup attaching means.



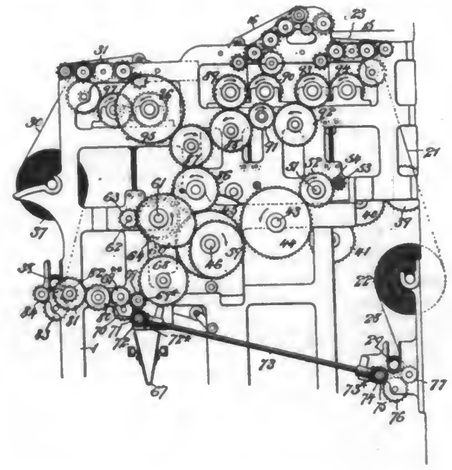
2. In combination with a harvester frame; a bracket provided with a flat base substantially of T-shape and adapted to rest on one of the members of the frame, the head of the T having an elongated bolt receiving slot formed therethrough whereby the bracket may be adjustably attached to the frame, a bearing carried at the end of the stem of the T and extending vertically up from the flat base, a vertical web between the upstanding portion of the bearing and the stem of the T, a shaft carried in said bearing and extending above and below the respective ends of the bearing, a cutter disk provided with a hub fixed on the upper end of the shaft, the under face of the hub resting directly on the upper end of the bearing, the lower end of said shaft being reduced from the lower end of the bearing downward and provided with threads, a washer carried on the reduced end and bearing against the lower end of the bearing, and a nut on said lower end to hold said washer in position, said threaded lower end extending below said nut to form grease cup attaching means.

974,359. DOOR-OPENER. CORNELIUS CLEARY, Ironton, Ohio. Filed Feb. 18, 1910. Serial No. 544,604.



In combination, a furnace having a door-frame, a door hinged on its upper edge to the frame, trunnions rigid with the sides of the door, a yoke having eyes pivotally connected with the trunnions, a lever pivoted to the lower end of the yoke, a fulcrum support pivotally connected to the lever, said lever having a treadle portion, a segmental rack fixed at its lower end to one side of the door-frame and extending outwardly and upwardly from the lower part of the door-frame, said segmental rack having teeth on its inner concave edge and its upper end formed into a rounded terminal, a latch pivoted to one side of the door and adapted to engage the teeth of the rack, a spring fixed to the door and adapted to hold the latch normally against the teeth of the rack, and a strap mounted over the spring and latch.

974,360. CUTTING AND FOLDING MACHINE. EDGAR H. COTTRELL, Stonington, Conn., assignor to C. B. Cottrell & Sons Company, New York, N. Y., a Corporation of New Jersey. Filed Dec. 15, 1906. Serial No. 347,926.



1. Means for collecting a group of sheets cut and fed from the main web, a folding cylinder, and means for causing the cylinder to collect thereon a plurality of previously printed insert sheets fed from one source of supply, and a previously printed cover sheet fed from another source of supply with the said collected group of sheets cut and fed from the main web.

2. Means for collecting a group of previously printed insert sheets fed from one source of supply, means for collecting a group of sheets cut and fed from the main web, a folding cylinder and means for causing the cylinder to collect thereon the collected group of previously printed insert sheets and a previously printed cover sheet fed from another source of supply with the collected group of sheets cut and fed from the main web.

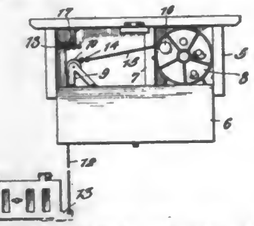
3. Means for collecting a group of two previously printed insert sheets fed from one source of supply, means for collecting two sheets cut and fed from the main web, a folding cylinder and means for causing the folding cylinder to collect thereon the collected group of two previously printed insert sheets and a previously printed cover sheet fed from another source of supply with the collected group of two sheets cut and fed from the main web.

4. Means for collecting a group of sheets cut and fed from the main web, folding cylinders, means for causing one of the cylinders to collect thereon a plurality of previously printed insert sheets fed from one source of supply and a previously printed cover sheet fed from another source of supply with the group of sheets cut and fed from the main web, and co-acting folding devices arranged to fold the sheets together and deliver them at a predetermined point.

5. Means for collecting a group of previously printed insert sheets fed from one source of supply, means for collecting a group of sheets cut and fed from the main web, folding cylinders, means for causing one of the cylinders to collect thereon the group of previously printed insert sheets and a previously printed cover sheet fed from another source of supply with the group of sheets cut and fed from the main web, and co-acting folding devices arranged to fold the sheets together and deliver them at a predetermined point.

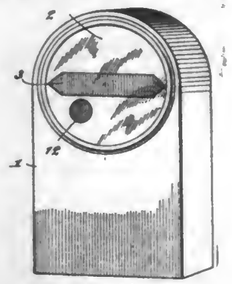
[Claims 6 to 13 not printed in the Gazette.]

974,361. TIME-CONTROLLED DRAFT-REGULATOR. VICTOR E. COZINE, Gloversville, N. Y. Filed Mar. 4, 1910. Serial No. 547,287.



In a device of the character described, the combination with a casing and an alarm clock arranged therein, of a U-shaped frame formed intermediate of the ends of a metal bar, said bar having its extremities secured to the inner walls of the casing, the arms of said frame having openings therein, a releasing pin slidably mounted in said openings, a wire attached to the draft plate and extending through an opening in the bottom of the casing, the upper end of said wire being removably engaged over the end of said pin, and a flexible connection between the alarm shaft and the other end of said releasing pin whereby said pin will be retracted in the frame upon the operation of the alarm to release said wire therefrom, substantially as and for the purpose set forth.

974,362. RAILWAY-SIGNAL. JAMES J. COZZENS, East Orange, CHARLES F. ESTWICK, Jersey City, and GEORGE S. TIFFANY, Summit, N. J., assignors to The Kinsman Block System Company, a Corporation of New York. Filed Apr. 2, 1910. Serial No. 553,103.



1. In a railway signal, the combination of a semaphore mounted on and arranged to turn with a rotary spindle, and giving its indications by changes in position; an armature fixed on said spindle; a magnet associated with said armature and operating to turn said armature and semaphore; an artificial background for said semaphore, having an aperture therein; a spectacle carried on said spindle behind said background and in register with said aperture; and a lamp behind said spectacle.

2. In a railway signal, the combination of a semaphore mounted on and arranged to turn with a rotary spindle, and giving its indications by changes in position; an armature fixed on said spindle; a magnet associated with said armature and operating to turn said armature and semaphore; an artificial background for said semaphore, having an aperture therein; a spectacle carried on said spindle behind said background and in register with said aperture; a lamp behind said spectacle; and an electrically operated latch arranged to engage and hold said semaphore in one of its positions.

3. In a railway signal, the combination of a semaphore mounted on and arranged to turn with a rotary spindle and adapted to occupy three positions of indication, and giving its indications by changes in position; an armature fixed on said spindle; a magnet associated with said armature and operating to turn said armature and sema-

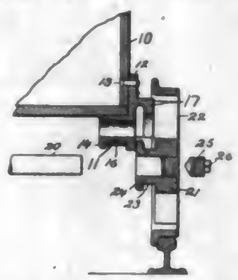
phore; an artificial background for said semaphore; and an electrically operated latch arranged to engage and hold said semaphore in its intermediate position.

4. In a railway signal, the combination of a semaphore mounted on and arranged to turn with a rotary spindle and adapted to occupy three positions of indication, and giving its indications by changes in position; an armature fixed on said spindle; a magnet associated with said armature and operating to turn said armature and semaphore; an artificial background for said semaphore, having an aperture therein; a spectacle carried on said spindle behind said background and in register with said aperture; a lamp behind said spectacle; and an electrically operated latch arranged to engage and hold said semaphore in its intermediate position.

5. In a railway signal, the combination of a semaphore biased to danger and mounted on and arranged to turn with a rotary spindle, said semaphore giving its indications by changes in position; an armature fixed on said spindle; a magnet associated with said armature and operating to turn said armature and semaphore; an inclosing casing for said armature and magnet and having an aperture in its front; a spectacle carried on said spindle within the casing and so as to register with said aperture; a lamp behind said spectacle; and an electrically operated latch to hold said semaphore in one of its positions.

[Claim 6 not printed in the Gazette.]

974,363. CAR-WHEEL. WILLIAM H. DAUGHERTY, Jasonville, Ind. Filed Jan. 4, 1910. Serial No. 536,432.

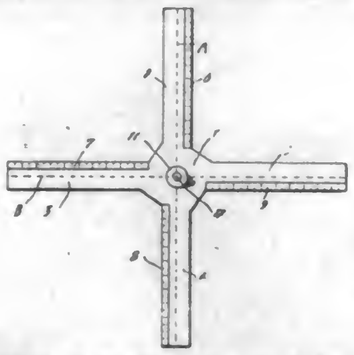


1. A journal bearing including a cylindrical boxing having an enlarged and overhanging flange at its outer end, the flange being interrupted at its lower side, a hub engaged against the box, an annular flange formed on the inner end of said hub for interlocking engagement with the overhanging flange, an axle loosely engaging through said boxing and said hub when registered to secure the same together, and a detachable plug carried in the outer end of said hub to retain the axle from displacement.

2. A journal bearing including a boxing having a web adjacent its outer end to seat against the side of a supporting body, and having an overhanging flange outwardly of the web and being open at its lower side, said boxing also having spaced beads to provide a groove, a retaining strap seated in the groove and carried by the supporting member to secure the boxing thereto, a hub positioned against the outer end of the boxing, an annular flange formed over the inner end of said hub for interlocking engagement with the overhanging flange, an axle loosely engaging through said boxing and said hub when registered to secure the same together, and a detachable plug carried in the outer end of said hub to retain the axle from displacement.

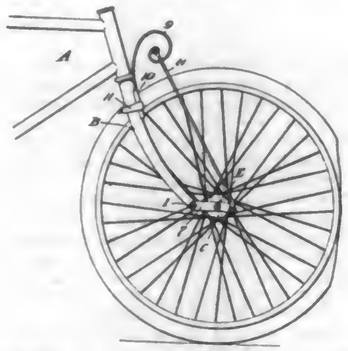
974,364. MEASURING INSTRUMENT. SIDNEY T. DERBYSHIRE, Beloit, Wis. Filed Oct. 12, 1909. Serial No. 522,233.

A measuring instrument comprising a central portion, a plurality of correspondingly scaled arms radiating from said central portion and located in a common plane therewith, the longitudinal axes of said arms intersecting each other at a common point, said central portion being provided with an aperture passing through the point



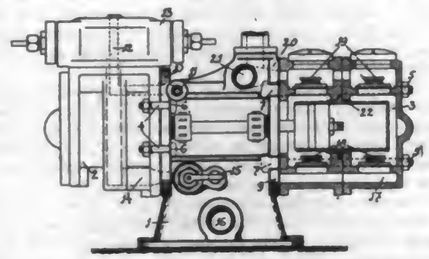
of intersection of the longitudinal axes of said arms, a tubular sleeve secured upon said central portion with its bore in registration with said aperture and a prick punch mounted for sliding movement through the bore of said sleeve and said aperture.

974,365. SPRING-FORK FOR BICYCLES. LEO E. DRAPER, Santa Cruz, Cal. Filed Mar. 11, 1910. Serial No. 548,646.



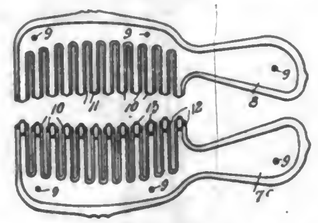
An attachment for bicycles comprising a spring having a portion removably secured to the fork of the bicycle, spaced wheel supporting links pivotally connected at their inner ends to the arms of the fork, and connecting rods pivoted at their lower ends to the outer terminals of the links and pivoted at their upper ends to the free terminal of the spring.

974,366. PUMP, INJECTOR, OR THE LIKE. GERHARD JOAN OTTO DORIS DIKKERS, Lonneker, near Hengelo, Netherlands. Filed June 21, 1907. Serial No. 380,158.



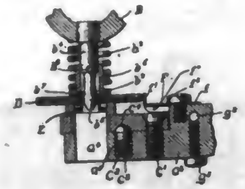
A fluid supply apparatus, consisting of independently detachable members provided with inlet and outlet ports and inclosing all the moving parts subject to frequent repair, in combination with a unitary frame provided with connections for all the inlet and outlet pipes and having the fluid supply passages connecting the detachable members entirely inclosed in said frame, and registering with the inlet and outlet ports of the detachable members.

974,367. MASSAGING IMPLEMENT. ANNA M. DUNDER, Wilber, Nebr. Filed July 18, 1910. Serial No. 572,523.



In a comb, a hollow body comprising two sections, each section having half teeth thereon, rollers journaled in and projecting beyond the ends of the teeth, said teeth being tapered from the center to the edges transversely of the comb.

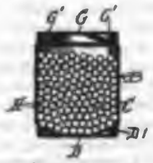
974,368. EYELETING-TOOL. CLARENCE L. EATON, Rochester, N. Y., assignor, by direct and mesne assignments, to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed July 6, 1903. Serial No. 164,312.



1. In an eyelet extracting implement, the combination with a tool member having a cone-shaped head to engage the clenched end of an eyelet and force the eyelet from the material in which it is set, of a yielding sleeve surrounding said tool member for clamping the material and holding the material against movement during the extracting operation, said sleeve being concaved to prevent engagement with the clenched end of the eyelet.

2. In an eyelet extracting implement, the combination with a tool member having a cone-shaped head and a cylindrical shank, of a sleeve surrounding said shank and being provided with a concave outwardly extending flange surrounding said cone-shaped head, together with a member having a surface coöperating with said concave flange for clamping the work before and during the extraction of an eyelet.

974,369. SHOT-CARTRIDGE. EDWARD P. FOLLETT, Chicago, Ill. Filed May 7, 1909. Serial No. 494,668.



1. The combination with a cartridge shell; of a shot concentrator insertible therein, said concentrator consisting of a cylindrical body and ends adapted to close said cylinder, one of said ends nearest the open end of said cartridge having a plurality of perforations intermediate of the center and its rim, and a charge of shot partly filling said concentrator as described.

2. The combination with a cartridge shell; of a shot concentrator insertible therein, said concentrator consisting of a cylindrical body and abutting ends, said ends being adapted to close said cylinder, one of said ends nearest the open end of said cartridge having a plurality of perforations, and a charge of shot partly filling said concentrator, as described.

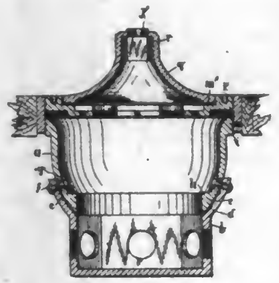
3. The combination with a cartridge shell; of a shot concentrator inclosable therein, consisting of a cylindrical body and ends adapted to close said cylinder, one of said ends nearest the charge in said cartridge being fixed to and closing said cylinder, the other end being adapted to abut against the other end of said cylinder and having a plurality of apertures, and a charge of shot partly filling said cylinder as described.

4. The combination with a cartridge shell; of a shot concentrator secured therein, said concentrator consisting of a cylindrical body having one fixed end and another end adapted to abut against the opposite end, said abutting end being nearest the open end of said cartridge, and having a plurality of perforations, the diameter of said ends being less than the diameter of the central part of said cylindrical body, and a charge of shot partly filling said concentrator as described.

5. The combination with a cartridge shell; of a shot concentrator insertible therein, said concentrator consisting of a cylindrical body having fixed ends, one of said ends having a plurality of perforations and the diameter of the central part of said body being adapted to prevent the ends from contact with the barrel of a gun, and a charge of shot partly filling said concentrator.

[Claim 6 not printed in the Gazette.]

974,370. UNIVERSAL FLOOR-BOX FOR THE DISTRIBUTION OF ELECTRIC WIRES. JOHN FOUNTAIN, Jr., Elizabeth, N. J. Filed June 24, 1904, Serial No. 213,932. Renewed Mar. 31, 1910. Serial No. 552,632.



1. A floor box having two adjustable box body sections, one section provided with an outwardly projecting flange, and the other with an inwardly projecting flange, said flanges being provided with bearing seats, whereby said box sections are capable of universal adjustment one upon the other upon said flanges.

2. A floor box having two adjustable box body sections, one section being polygonal and provided with an outwardly projecting flange and the other with an inwardly projecting flange, said flanges being provided with bearing seats, whereby said box sections are capable of universal adjustment one upon the other upon said flanges.

3. A floor box having two adjustable box body sections, one section being polygonal and provided with an outwardly projecting flange having openings in the lateral faces thereof, and the other with an inwardly projecting

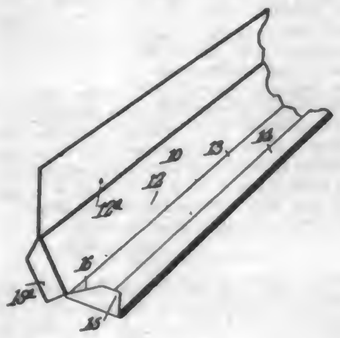
flange, said flanges being provided with bearing seats, whereby said box sections are capable of universal adjustment one upon the other upon said flanges.

4. A floor box having two adjustable box body sections, one section provided with an outwardly projecting flange, and an annular interior seat on said flange, and the other with an inwardly projecting flange, means for connecting said flanges, whereby said box sections are capable of universal adjustment one upon the other.

5. A floor box having two adjustable box body sections, one section being polygonal and provided with an outwardly projecting flange, and an annular interior seat on said flange, and the other with an inwardly projecting flange, means for connecting said flanges together whereby said box sections are capable of universal adjustment one upon the other.

[Claims 6 to 16 not printed in the Gazette.]

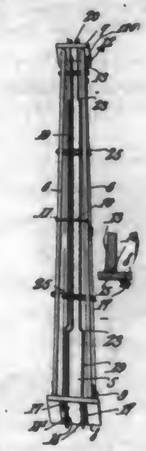
974,371. POCKET-CASE. ARTHUR FRANKE, Manitowoc, Wis. Filed June 18, 1909. Serial No. 502,999.



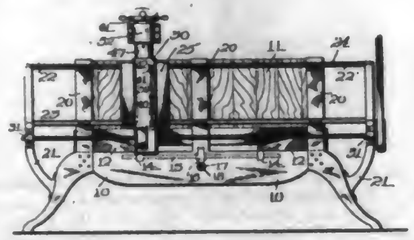
In an article of the class described, counter-part body and cover blanks, each of the said blanks having two portions of the same width and a relatively narrow portion integral with one edge of one of the first mentioned portions, and a closure tab integral with one end of the last mentioned one of the said two portions of each blank, the last mentioned one of the two said portions of the cover blank being secured to the other one of the said two portions of the body blank and the relatively narrow portion of the said cover blank being secured to the last mentioned one of the two said portions of the body blank, the relatively narrow portion of the body blank being folded to lie against that side of the one of the two said portions with which it is integral opposite the side to which the relatively narrow portion of the cover blank is secured, the tab at the end of the said one of the two said portions of the body blank being also folded in upon the said side of the said portion with which it is integral, the tab of the cover blank being folded and secured to the outer side of the tab carrying portion of the body blank and the relatively narrow portion of the cover blank secured thereto, the other one of the said two portions of the cover blank being secured to and completely covering the said outer side of the tab carrying portion of the body blank and the tab and relatively narrow portion of the cover blank secured thereto.

974,372. MOLD. FRANK FULLENKAMP, Fort Recovery, Ohio. Filed May 24, 1909. Serial No. 497,918.

In a fence post mold, the combination with a pallet board, side walls, end walls having openings for reinforcing wires, and means for holding said parts in place; of angle iron strips each having one wing secured to the outer face of an end wall and the other standing alongside an opening therein, a bolt through the outstanding wing, and a wire clip carried by said bolt, for the purpose set forth.



974,373. CLICKING-PRESS. FREDERICK R. FULLER, Worcester, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Jan. 13, 1909. Serial No. 472,052.



1. In a clicking press, the combination of a block or table, a column, a press arm mounted on the column and projecting over the block or table, means for moving the press arm up and down and means for supporting said column in adjusted positions along one side of said block or table.

2. In a clicking press, the combination of a block or table, a press arm above it, a column for supporting the arm adjustable along the edge of the table, and means for moving the press arm transversely to the direction of adjustment of the column.

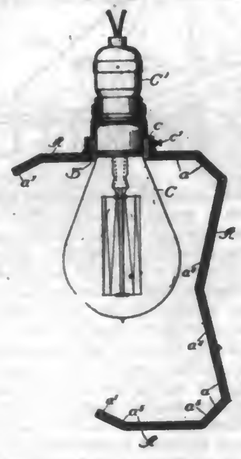
3. In a clicking press, the combination of a block or table, a press arm above it, a column for supporting the arm adjustable along the edge of the table, and means whereby the arm can be raised and lowered on the column in all positions thereof.

4. In a clicking press, the combination with a press arm and a block or table over which the press arm is arranged to project, of a support for the press arm freely adjustable along the edge of the block or table, and means for moving the press arm toward and away from the block or table in any position of adjustment.

5. In a clicking press, the combination with a press arm and a block or table over which the press arm is arranged to project, of a support for the press arm arranged for free manual adjustment along the edge of the block or table, mechanism for moving said press arm toward and away from the block or table, a normally rotated shaft and means for effecting an operative connection between said mechanism and said shaft in every position of adjustment of the support.

[Claims 6 to 21 not printed in the Gazette.]

974,374. REFLECTOR FOR STORE-WINDOWS AND THE LIKE. THOMAS GAGGS, Chicago, Ill., assignor to Thomas H. Sidney, Chicago, Ill. Filed Aug. 19, 1909. Serial No. 513,553.



1. A reflector for store windows and the like comprising an upper, downwardly facing, trough-shaped top, a lower, upwardly facing, trough-shaped bottom, a back wall connecting said top and said bottom, said top, bottom and back wall having reflecting surfaces disposed at an angle to one another, and a lamp-holder mounted on said reflector for supporting an electric incandescent lamp in pendent position in front of said back wall, substantially as described.

2. A reflector for store windows and the like comprising top, bottom and back connecting walls having inner reflecting surfaces disposed at an angle to one another, said top wall having a down-turned lip at its free edge and said bottom wall having an up-turned lip at its free edge, and means secured to the reflector for supporting an electric lamp in pendent position in front of said back wall, substantially as described.

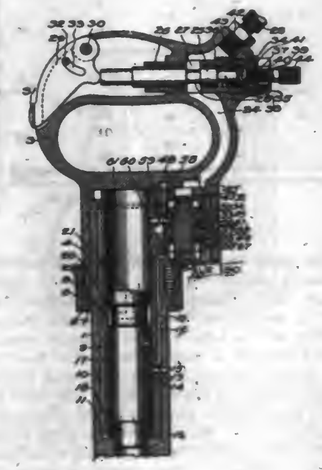
3. A reflector for store windows and the like, comprising a downwardly facing, trough-shaped upper part, an upwardly facing, trough-shaped lower part of less width than said upper part, and a reflecting back plate connecting said upper and lower parts, said upper trough-shaped part having a holder for supporting a lamp in pendent position in front of said back plate, substantially as described.

4. A reflector for store windows and the like, comprising a downwardly facing, trough-shaped upper part, an upwardly facing, trough-shaped lower part and an inwardly arched reflecting back wall extending between said upper and lower parts.

5. A reflector for store windows and the like, comprising an upper, inverted, trough-shaped top provided with an opening to admit a lamp, a lower, upwardly facing, trough-shaped bottom portion and an inwardly arched, connecting wall between said upper and lower parts.

[Claims 6 to 8 not printed in the Gazette.]

974,375. FLUID-PRESSURE-ACTUATED IMPACT-TOOL. GEORGE H. GILMAN, Claremont, N. H., assignor to Sullivan Machinery Company, Claremont, N. H., a Corporation of Maine. Filed May 28, 1907. Serial No. 376,060.



1. A fluid-pressure actuated impact tool having a handle portion and a cylinder portion, the latter provided with an enlarged offset portion having a valve chamber, a valve mounted for movement in said valve chamber, said handle portion embracing the end of said cylinder portion and extending down below the offset portion thereof, and suitable clamping means for positively clamping the handle portion to the cylinder portion below the said offset portion.

2. A fluid-pressure actuated impact tool having a handle portion and a cylinder portion, the latter provided with an enlarged offset portion, a valve block in said offset portion, a valve adapted to seat therein, means to supply pressure to said valve, passages adapted to place latter in communication with the cylinder, said handle portion embracing the cylinder and the offset portion thereof and extending below the latter, and clamping means for securing the handle portion to the cylinder below said offset portion.

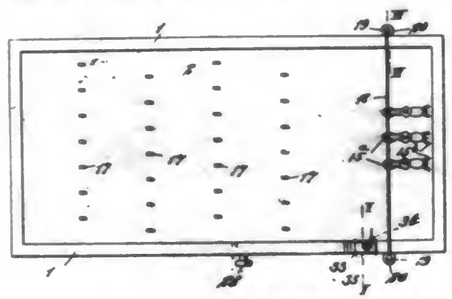
3. A fluid-pressure actuated impact tool having a handle portion and a cylinder portion, the latter provided with an enlarged offset portion having a valve chamber, said handle portion forming an end closure for the cylinder and the valve chamber and extending to the cylinder below the offset portion thereof, and clamping means thereat to clamp the handle portion to the cylinder portion.

4. A fluid-pressure actuated impact tool having a cylinder, a valve chamber contained in an enlarged offset portion of the cylinder, a valve in said valve chamber, a handle portion, a shoulder on said cylinder below said offset portion and a threaded collar adapted to clamp said handle portion to said cylinder by engagement with said shoulder and said handle portion.

5. A fluid pressure actuated impact tool comprising a casing 1, a handle 3 having a hub portion 4, said casing being provided with a lateral enlargement 2 and the hub portion provided with a corresponding enlarged portion, a plug 66 mounted in said enlarged portion 2, a hollow valve 49 closed at one end and having annular passages 51 and 52, means to supply fluid pressure to said valve, and fluid passages connecting said annular passages of said valve with opposite ends of the casing 1.

[Claim 6 not printed in the Gazette.]

974,376. RACE-GAME APPARATUS. JOHN GOODWIN, New York, N. Y. Filed Aug. 17, 1908, Serial No. 448,768. Renewed July 12, 1909. Serial No. 507,262.



1. A race game apparatus comprising a horizontal table constituting a course or track, means to longitudinally vibrate said table, means to suddenly arrest the forward movement of said table, a series of game pieces adapted to be placed on the table and to be freely and independently moved thereon, a transverse barrier near one end of the table, means for vertically moving said barrier, means to hold said barrier in position above the table and in the path of the game pieces, and means for releasing said barrier to permit it to be raised above the game pieces.

2. A race game apparatus comprising a horizontal table constituting a course or track, means to longitudinally vibrate said table, means to suddenly arrest the forward movement of said table, a series of simulated horses adapted to be placed on the table and to be freely and independently moved thereon, a transverse barrier near one end of the table, means for vertically moving said barrier, means to hold said barrier in position above the table and in the path of the horses, means to hold said vibrating means out of operation to permit it to be raised above the horses, and means to simultaneously release the vibrating means and the barrier, whereby the barrier will be raised above the horses when the table is vibrated.

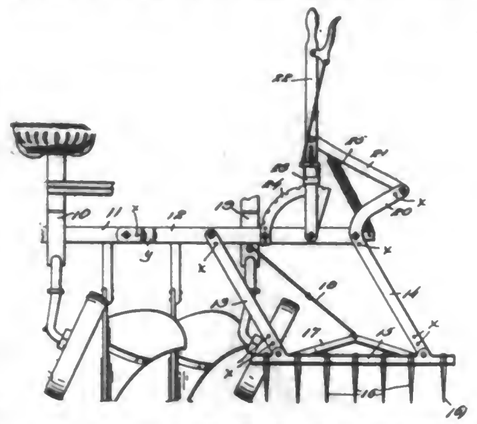
3. A race game apparatus comprising a horizontal table constituting the course or track, means to longitudinally vibrate said table, means to suddenly arrest the forward movement of said table, a series of simulated horses adapted to be placed on the table and to be freely and independently moved thereon, a transverse barrier near one end of the table, means for vertically moving said barrier, means to hold said barrier in position above the table and in the path of the horses, a pivoted arm adjacent the barrier and carrying a starting flag, and means for simultaneously releasing the table vibrating means and the barrier and depressing the flag-carrying arm.

4. A race game apparatus comprising a table constituting a track, means for loosely supporting said table in a horizontal position, means to guide the ends of the table to prevent lateral vibrations, a spring connected to the frame and to the table, a pivoted table-moving lever having one of its arms connected to the table, a rigid support for said lever, a motor, a cam arranged to be rotated by said motor and adapted to engage the table-moving lever, a series of simulated horses adapted to be moved over the table, a barrier extending transversely of the table, and means to move the barrier from the path of the horses.

5. A race game apparatus comprising a table constituting a track, means for loosely supporting said table in a horizontal position, means to guide the ends of the table to prevent lateral vibration, a spring connected to the frame and to the table, a pivoted table-moving lever having one of its arms connected to the table, a rigid support for said lever, a motor, a cam arranged to be rotated by said motor and adapted to engage the table-moving lever, a stop device to hold the motor out of operation, and means to move said stop device to release the motor.

[Claims 6 to 14 not printed in the Gazette.]

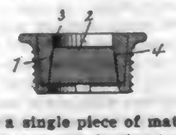
974,377. PLOW ATTACHMENT. OLE HATLELID, Lignite, N. D. Filed Oct. 31, 1908. Serial No. 460,466.



1. A cultivator attachment for plows comprising, the combination with a plow; of a laterally extending supporting bar pivotally and adjustably carried rearwardly of the plow and extending outwardly therefrom beyond its pivot point to lie in a normally horizontal position, a pendent link pivotally and adjustably secured to the bar inwardly of one portion of the plow frame and intermediately of the ends of the bar, an outer link pivotally connected to said bar adjacent its outer end and depending therefrom in parallel relation to the first named link, said last named link having an upwardly and outwardly curved extension disposed outwardly of the free end of the bar, a harrow member pivoted to the lower ends of said pendent links and disposed horizontally in parallel relation to the bar at all times, a forwardly extending brace carried by the harrow member, a flexible brace rod connecting said brace and the plow frame, a hand lever pivotally mounted upon said bar intermediate the outer link and the frame portion to which said flexible brace is connected, a link pivotally connecting said hand lever and the extremity of the extension, a spring connected to the outer end of the bar and adjustably connected to the link, a segment mounted upon said bar, and a dog carried by said hand lever for engagement with said segment to lock said lever in an adjusted position.

2. In a device of the class described, the combination with a plow; of a beam extending laterally and pivotally connected to the frame of the plow, arms depended from said beam, a harrow device pivotally secured to the lower ends of said arms, an outwardly extended curved arm formed upon the outer of said arms, a hand lever pivotally mounted upon said beam, a link connected to the outer end of said short arm and said hand lever, a spring connected to the outer end of said beam, a lug having a threaded aperture, said lug being carried by the link, a set screw adjustably mounted in said aperture and secured to the upper end of the spring to adjust the tension thereof, nuts mounted on said screw to hold the same in its adjusted position, a segment mounted on said beam, a dog carried by the lever for engagement with said segment and a flexible brace rod connecting the plow frame and the harrow device.

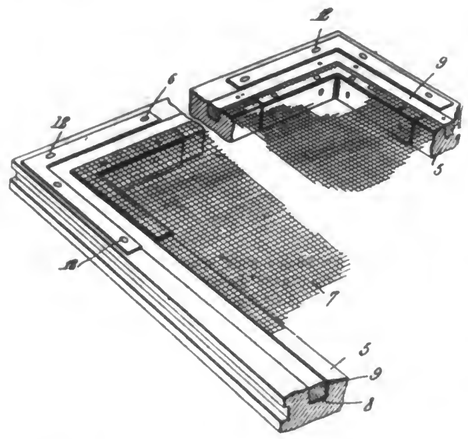
974,378. BUNG. PAUL HEINE, Lancaster, Pa. Filed Nov. 6, 1909. Serial No. 526,504.



A bung made of a single piece of material and provided with a separable plug or core having tapered sides and integral at its upper end with said bung; said bung having been given a conical shape under pressure so as to close the incision and make it practically solid, but not destroying the taper of said plug.

974,379. [WITHDRAWN.]

974,380. SCREEN. JOHN B. HOAGLAND, St. Louis, Mo., assignor of one-half to Theodore B. Aufricht, St. Louis, Mo. Filed Apr. 12, 1909. Serial No. 489,329.

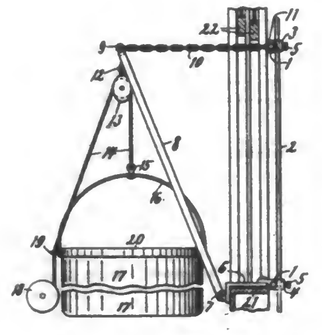


The combination with a wooden screen frame having a grooved face, of a corner fastening comprising an angular sheet metal plate fitting the frame at the corners thereof, and spaced at its outer edge from the outer edge of the frame to permit trimming of said edge, said plate having a bead entering the groove of the frame, and a flange projecting from the inner edge of the plate at an angle thereto, said flange fitting in the inner angle of the frame.

974,381. FIRE-ESCAPE. JOHN H. HOGSTON, Ladysmith, Wis. Filed Apr. 19, 1909. Serial No. 490,870.

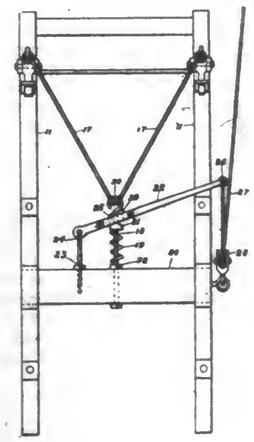
1. In a fire-escape, in combination an open frame adapted to be placed in a window opening, the same having arms projecting beyond the window opening at the inner side of the building and supporting arms resting upon the window sill and curved downwardly outside thereof, an arch having its legs pivoted to said supporting arms, bracing means connecting the upper part of the arch with the upper part of the frame to hold the arch in an outwardly leaning position, a pulley block attached to the apex of the arch, a rope passed through the block, means at one end of the rope for supporting one or more persons, said frame being constructed of four bars crossing each other near their ends and blocks at each crossing with one or more sets-screws in each block for holding the bars adjustably in the blocks.

2. In a fire-escape, in combination an open frame adapted to be placed in a window opening, the same having arms projecting beyond the window opening at the inner side of the building and supporting arms resting upon the window sill and curved downwardly outside thereof, an arch having its legs pivoted to said supporting arms, bracing means connecting the upper part of the arch with the upper part of the frame to hold the arch in an outwardly leaning position, a pulley block attached to the apex of the arch, a rope passed through the block, means at one end of the rope for supporting one or more persons, said frame being constructed of four bars crossing each other near their ends and blocks at each crossing with



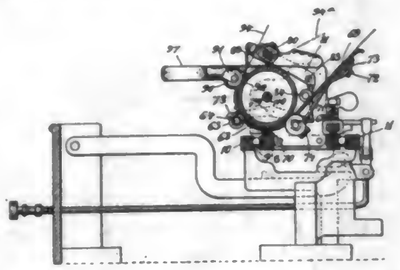
one or more set-screws in each block for holding the bars adjustably in the blocks, two of said bars being angular in cross section to prevent twisting of the frame when the screws in the blocks are loosened for adjusting the size of the frame.

974,382. SLED-BRAKE. ELWOOD HOLLINGSWORTH, Harrison, Idaho. Filed Jan. 3, 1910. Serial No. 535,990.



In a sled brake, pins extending downward at an angle through openings through the sled runners from top to bottom, the said pins connected with levers at their upper ends fulcrumed to standards secured to the sled runners, the said levers adapted to raise and lower the brake pins by means of rods connected therewith reaching backward and coöperating with a cross lever fulcrumed at a position on the body of the sled, held in normal position by a coil spring and encircling a rod passing through the said lever and the bolster of the sled and operated by means of a cable working over a pulley secured to the sled, substantially as described.

974,383. TYPE-WRITING MACHINE. CHARLES W. HOWELL, Newark, N. J. Original application filed Dec. 10, 1906, Serial No. 347,202. Divided and this application filed Nov. 6, 1908. Serial No. 461,276.



1. In a typewriting machine having a revoluble platen and a platen frame, the combination of a metal plate curving around the under side of the platen and extending upwardly and rearwardly therefrom to form a paper shelf, a rock-shaft journaled upon the ends of the platen frame said plate having ears whereby it is loosely mounted upon said rock shaft, a spring pressing said plate up toward the platen, a pressure roll journaled upon the forward portion of said plate and pressed by said spring against the platen, a rear pressure roll mounted upon yielding arms which are attached to said plate, the axis of said rear roll being about coincident with the axis of said shaft, and the latter being cranked to clear said rear roll, a release arm or handle upon said rock-shaft, cam faces formed upon said rock-shaft to force said rear roll away from the platen and detain it there, and levers mounted upon the ends of the platen frame and operable by cams provided upon said rock-shaft and having means to throw the forward pressure roll away from the platen.

2. In a typewriting machine having a revoluble platen and a platen frame, the combination of a paper-guiding plate hinged in rear of the platen and curving around under the platen and carrying at its forward portion a roll to press against the platen, a spring to press said plate toward the platen, levers at the ends of the platen frame, and a finger piece, cams operable by said finger-piece to vibrate said levers to swing the forward portion of said plate away from the platen, and hold it there.

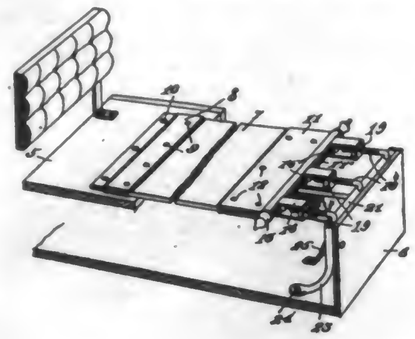
3. In a typewriting machine having a revoluble platen and a platen frame, the combination of a paper-guiding plate hinged in rear of the platen and curving around under the platen and carrying at its forward portion a roll to press against the platen, a spring to press said plate toward the platen, levers at the ends of the platen frame, a finger piece, cams operable by said finger-piece to vibrate said levers to swing the forward portion of said plate away from the platen, and hold it there, a roll spring-pressed against the rear side of the platen, and cams controlled by said finger-piece for moving said rear roll away from the platen and holding it there.

4. In a typewriting machine having a revoluble platen and a platen frame, the combination of a paper-guiding plate curving around the under side of the platen, a rock-shaft journaled upon the ends of the platen frame, said plate having ears whereby it is loosely mounted upon said rock-shaft, a spring pressing said plate up toward the platen, a pressure roll journaled upon the forward portion of said plate and pressed by said spring against the platen, a release arm or handle upon said rock-shaft, cams provided upon said rock-shaft, and levers mounted upon the ends of the platen frame and operable by said cams to throw the forward pressure roll away from the platen.

5. In a typewriting machine having a revoluble platen and a platen frame, the combination of a paper-guiding plate hinged in rear of the platen and curved forwardly around the platen, a pressure roll carried by said plate at its forward portion, a spring pressing said roll against the platen, a spring-pressed roll running upon the rear side of the platen, and a finger-piece having means to release said rolls simultaneously.

[Claims 6 to 11 not printed in the Gazette.]

974,384. FOLDING SEAT. HILL HUMPHREY, Jacksonville, N. C. Filed Oct. 23, 1909. Serial No. 524,272.



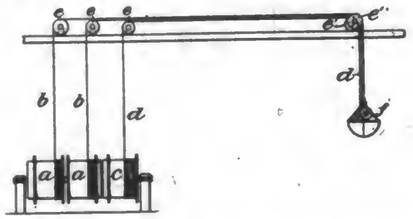
1. An auxiliary buggy seat comprising a flexible body having reinforcing plates secured to its opposite ends, the plates on one end of said body being secured to the buggy seat, a transverse rod secured between the plates on the free end of said body, screw threaded studs engaging said rods having heads on their outer ends, a plurality of links, each comprising a metal strap having its ends secured on said studs, a substantially U-shaped brace member secured to the dash-board of the vehicle, and a plurality of longitudinally adjustable attaching rods disposed through the outer ends of said links, said rods having their outer ends engaged with said brace member to stretch the flexible body seat between the stationary seat and the dash-board.

2. An auxiliary buggy seat comprising a flexible body having reinforcing plates secured to its opposite ends, one end of said body being secured to the stationary buggy seat, the plate on the free end of said body being integrally formed and provided with an intermediate cylindrical portion, a rod transversely disposed in said cylindrical portion carrying a plurality of studs provided with heads on their outer ends, said studs extending laterally from the cylindrical portion of said plates, a strap link having its ends disposed upon each other and provided with perforations through which said studs are disposed, attaching rods having threaded shank portions and angularly disposed outer ends, said shank portions being threaded and freely movable through openings in the outer ends of said links, securing nuts disposed on said rods, and a substantially U-shaped brace member secured to the dash-board, said brace member having a plurality of openings in its horizontal portion to receive the angular ends of said rods, said rods being adapted to be removed therefrom and the flexible body member folded upon itself and disposed under the cushion of the stationary seat when the auxiliary seat is not in use.

974,385. HOISTING APPARATUS. CHARLES W. HUNT, New York, N. Y. Filed Aug. 9, 1909. Serial No. 512,055.

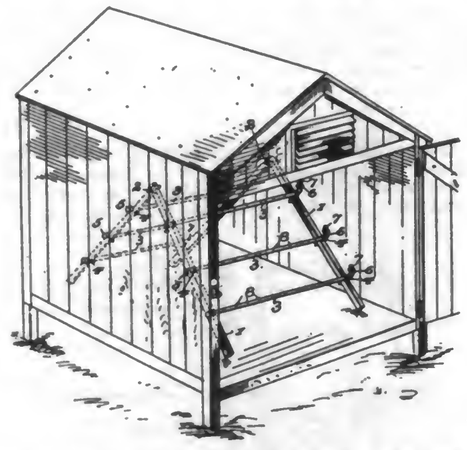
1. In a hoisting apparatus, the combination with the bucket or load, of two head ropes to support the load, means for winding both of said ropes and an equalizing device through which the ropes are connected to the bucket or load.

2. In a hoisting apparatus, the combination with the bucket or load, means for winding both of said ropes of two head ropes to support the load, separate guide sheaves for the ropes, and a guide and spreader connected to the bucket or load and adapted to permit movement of the head ropes to equalize the tension.



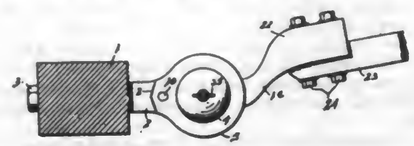
3. In a hoisting apparatus, the combination with the bucket or load, of two head ropes to support the load, separate guide sheaves for the ropes, a guide and spreader connected to the bucket or load, and a chain connecting the head ropes and passing about the guide and spreader on the bucket or load.

974,386. CHICKEN-PERCH. GEORGE C. JAMES, Fairmont, Nebr. Filed Apr. 13, 1909. Serial No. 489,561.



A roost for fowls comprising supporting bars, tubes rotatably mounted thereon and running at right angles to said bars, and bolts extending through the bars and adapted to encircle the tubes near their ends, said tubes being provided intermediate of their ends with apertures and adapted to carry a disinfectant or the like.

974,387. THILL-COUPLING. JULES F. JAQUET, Ballston, Va. Filed Oct. 30, 1909. Serial No. 525,471.

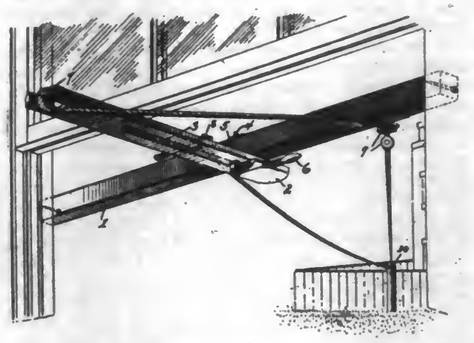


1. A device of the character described, comprising a spherical socket adapted to be secured to the axle of a vehicle and having a removable side, a connecting member arranged within said spherical socket and provided with dove-tailed projections, friction members provided with recesses adapted to coöperate with said dove-tailed projections, whereby the same may be removably secured to said connecting member for forming a spherical portion therewith, and means detachably holding said removable side in its normal position.

2. A device of the character described, comprising a spherical socket adapted to be secured to the axle of a vehicle and having a removable side, a connecting member provided with an enlarged flat substantially circular end, dove-tailed projections arranged upon said circular end, substantially semi-spherical metallic friction members arranged upon said circular end, and provided with corresponding openings for coöperation with said dove-tailed projections, said friction members forming with said circular end substantially a sphere of which said friction members form the greater portion, and said dove-tailed projections being arranged substantially vertical when in their operative positions.

3. A device of the character described, comprising a socket adapted to be secured to the axle of a vehicle, a connecting member arranged within said socket and provided upon its opposite sides with dove-tailed projections, and friction members provided with recesses adapted to receive said dove-tailed projections.

974,388. CLOTHES-LINE HOLDER. ERNEST JONAS, New York, N. Y. Filed June 28, 1910. Serial No. 569,408.



1. A clothes-line hanger, comprising a bar, supportable at opposite sides of a window-frame, an endless clothes-line supporting-member pivotally and slidably connected thereto, and means carried by said bar for holding the line in a fixed position.

2. A clothes-line hanger, comprising a support, an endless clothes-line supporting arm provided with a longitudinal slot, means passing through said slot and said support for holding said arm to said bar and permitting both pivotal and slidable movement of said arm, and means carried by said support for holding the line in a fixed position.

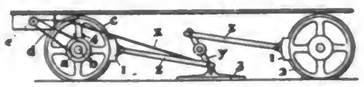
974,389. ELECTRODE FOR ELECTRIC-ARC LIGHTS. ADRIAN DENMAN JONES, Holloway, England. Filed Apr. 19, 1909. Serial No. 490,945.

1. An arc lamp electrode, comprising a carbon core, a plurality of projecting members from said core, chemical material disposed around the core between said projecting members, and said projecting members being shaped so as to partially inclose said chemical material, to mechanically hold it in place.

2. An arc lamp electrode comprising a carbon core provided with a plurality of radial members, and chemical material disposed around the core between said radial members, each of said radial members on the carbon core

provided with lateral projections coöperating therewith and with the chemical material to mechanically hold the latter in place.

974,390. EMERGENCY-BRAKE. THOMAS JONES and LEWIS JOHN EVANS, Ynisceedwyn, Ystradgynlais, England. Filed Sept. 3, 1909. Serial No. 516,120.



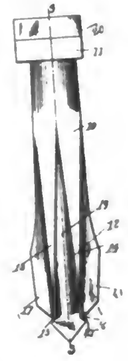
1. An emergency brake comprising brake blocks for engaging with the vehicle wheels, brake blocks for engaging with the track, a shaft, means connecting said shaft to the wheel axle, two clutch members mounted on said shaft, one of said clutch members being rotatably mounted on said shaft and the other being slidably mounted thereon, a second shaft, a governor mounted on said shaft, means connecting said shafts together, a barrel secured to the rotatably mounted clutch member, a hook composed of three parts, a slide bar engaging said hook, a cord connecting said slide bar to the barrel, a chain hanging in said hook and connected to the brake blocks aforesaid, and a double ended hook mounted upon the wheel axle substantially as described.

2. An emergency brake comprising brake blocks for engaging with the vehicle wheels, brake blocks for engaging with the track, a shaft, means connecting said shaft to the wheel axle, two clutch members mounted on said shaft, one of said clutch members being rotatably mounted on said shaft and the other being slidably mounted thereon, a second shaft, a governor mounted on said shaft, means connecting said shafts together, a barrel secured to the rotatably mounted clutch member, a hook composed of three parts, a slide bar engaging said hook, a cord connecting said slide bar to the barrel, a chain hanging in said hook and connected to the brake blocks aforesaid, and a double ended hook mounted upon the wheel axle and means for preventing the operation of the device by the vibration of the vehicle if the required speed has not been reached substantially as described.

3. An emergency brake comprising brake blocks for engaging with the vehicle wheels, brake blocks adapted to engage the track, clutch mechanism connected to the wheel axles, a governor controlling said clutch mechanism and means connecting said clutch mechanism to the brake blocks, a pivotally mounted lever normally resting between the clutch members, a second pivotally mounted lever connected to the governor, a wedge-shaped member provided on the second pivoted member and adapted to engage with the underside of the first pivoted member, and means for retaining the second pivoted member in the normal position substantially as described.

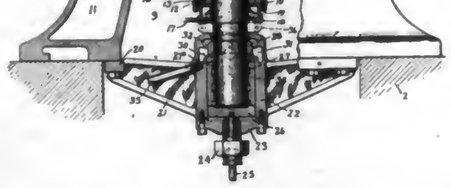
4. An emergency brake comprising brake blocks for engaging with the vehicle wheels, brake blocks for engaging with the track, a shaft, means connecting said shaft to the wheel axle, two clutch members mounted on said shaft, one of said clutch members being rotatably mounted on said shaft and the other being slidably mounted thereon, a second shaft, a governor mounted on said shaft, means connecting said shafts together, a barrel secured to the rotatably mounted clutch member, a hook composed of three parts, a slide bar engaging said hook, a cord connecting said slide bar to the barrel, a chain hanging in said hook and connected to the brake blocks aforesaid, and a double ended hook mounted upon the wheel axle, a pivotally mounted lever normally resting between the clutch members, a second pivotally mounted lever connected to the governor, a wedge shaped member provided on the second pivoted member and adapted to engage with the underside of the first pivoted member and means for retaining the second pivoted member in the normal position substantially as described.

974,391. SPIKE. JOHN L. JOSSART, Minocqua, Wis. Filed Apr. 28, 1910. Serial No. 558,160.



The combination with a tubular member provided with a flanged upper end and having its lower end formed of a plurality of tongues, the outer side of each of said tongues tapering inwardly continuously toward the lower end of the member, a rib on the outer side of each tongue and disposed longitudinally to the latter, the upper and lower ends of each of said ribs tapering inwardly toward the top and bottom of said member respectively, and a spreading pin adapted to force said tongues outwardly as the pin is driven into the bore of the tubular member.

974,392. COMBINED THRUST AND GUIDE BEARING. OSCAR JUNGGREN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 10, 1906. Serial No. 305,234.



1. In combination, a shaft one of whose ends is exposed to the effects of lubricant under pressure, which pressure partially supports it, a thrust block mounted on the shaft at some distance from said end, a coöperating block which when the bearing is in use is separated from the one on the shaft by a film of lubricant, a guide bearing sleeve that surrounds the shaft between the end and the thrust block, a support for one of the thrust blocks and the sleeve, and means for supplying lubricant under pressure to the end of the shaft from which it flows through the guide-bearing and escapes in a film between the thrust blocks.

2. In combination, a shaft, a thrust-bearing comprising movable and stationary blocks which are separated by a film only of lubricant when the bearing is in operation, a guide-bearing sleeve located below the thrust-bearing, a means for discharging high-pressure lubricant through the guide-bearing to the thrust-bearing so that the guide-bearing will always be lubricated and chips caused by cutting of the thrust-bearing blocks will be prevented from entering the guide-bearing, and a casing common to the bearings which contains a chamber working at atmospheric pressure which receives the lubricant after it exhausts from the thrust-bearing.

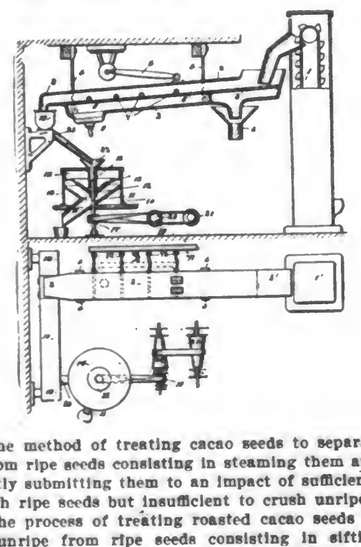
3. In combination, a shaft, a thrust-bearing, a guide-bearing located below the thrust-bearing, a plate for taking the longitudinal thrust on the guide-bearing and through it that on the thrust-bearing, and means for admitting fluid under pressure between the end of the shaft and the plate and permitting it to flow through the guide-bearing and discharge through the thrust-bearing.

4. In combination, a shaft, a guide-bearing therefor, one end of which acts as a part of a thrust-bearing, a thrust-bearing block carried by the shaft and coöperating with the said end of the guide-bearing, a closure for the end of the shaft, and a means for discharging lubricant under high pressure between the end of the shaft and said closure and causing it to flow axially through the guide-bearing at full pressure and discharge between the upper end of the guide-bearing and the block on the shaft.

5. In combination, a shaft, a guide-bearing therefor, a removable end for the guide-bearing, a bearing-block carried by the shaft and coöperating with said end to form a thrust-bearing to resist the thrust of the shaft, and a means for discharging lubricant to the guide-bearing from which it flows between the parts of the thrust-bearing.

[Claims 6 to 20 not printed in the Gazette.]

974,393. PROCESS OF TREATING CACAO-SEEDS TO SEPARATE UNRIPE FROM RIPE SEEDS. MAX FEODOR KÄSSMODEL, Leipzig, Germany. Filed Feb. 16, 1909. Serial No. 478,296.



1. The method of treating cacao seeds to separate unripe from ripe seeds consisting in steaming them and subsequently submitting them to an impact of sufficient force to crush ripe seeds but insufficient to crush unripe seeds.

2. The process of treating roasted cacao seeds to separate unripe from ripe seeds consisting in sifting out broken seeds, steaming the unbroken seeds, submitting the latter to impact of sufficient force to crush ripe seeds but insufficient to crush unripe seeds, and subsequently separating the crushed from the uncrushed seeds.

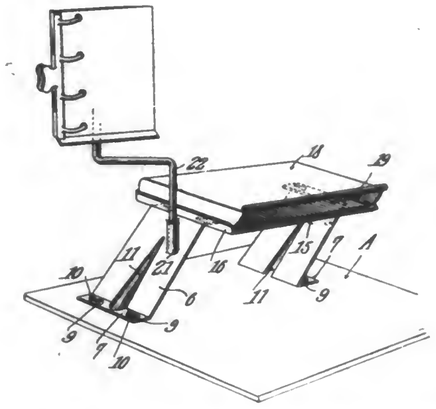
3. The process of treating roasted cacao seeds to separate unripe from ripe seeds consisting in sifting out broken seeds, steaming the unbroken seeds, projecting the latter against a wall with sufficient force to crush ripe seeds but insufficient to crush unripe seeds, and subsequently separating the crushed from the uncrushed seeds.

4. The process of treating cacao seeds to separate unripe from ripe seeds consisting in steaming the seeds, submitting the seeds to impact of sufficient force to crush the ripe seeds, but insufficient to crush the unripe seeds, and subsequently separating the crushed from the uncrushed seeds.

5. The process of treating cacao seeds to separate unripe from ripe seeds consisting in steaming the seeds, projecting the seeds against a surface with sufficient force to crush the ripe seeds, but insufficient to crush the unripe seeds and subsequently separating the crushed from the uncrushed seeds.

[Claims 6 and 7 not printed in the Gazette.]

974,394. DESK ATTACHMENT. ADA COWAN KENDRICK, Williamsburg, Kans. Filed July 23, 1909. Serial No. 509,162.



1. In a device of the class described, supporting members provided each at its upper end with a flange formed with keyhole slots, a frame carrying upon its under side studs engaging in said slots, said frame connecting the said supporting members, and a casing supported upon the frame.

2. In a device of the class described, a pair of forwardly inclined supporting members provided each at its upper end with a flange, a frame disposed upon the said upper ends of the members and having studs coöperating with the flanges to hold the same in position thereon, said frame serving as a connection between the members, and a casing removably supported upon the frame.

3. In a device of the class described, a pair of forwardly inclined supporting members provided each at its upper end with a flange, an open frame disposed upon the said upper ends of the members and having studs coöperating with the flanges to hold the same in position thereon, said open frame serving as a conection between the members and a casing removably supported upon the open frame.

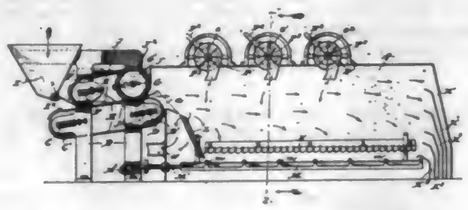
4. In a device of the class described, forwardly inclined supporting members provided each at its upper end with a flange, an open frame disposed upon the said upper ends of the members and connecting the same, the said members and frame being designed to straddle the key board of a typewriter, and a casing removably supported upon the frame.

974,395. ORE CONCENTRATOR OR SEPARATOR. GEORGE CHANDLER KIDDER, Salt Lake City, Utah. Filed Feb. 3, 1909. Serial No. 475,897.

1. In an ore separator, a chamber, a screen in the lower portion thereof, said screen sloping transversely of the chamber and increasing in mesh from the front to the rear of the chamber, and means for projecting ore into said chamber from the front thereof toward the rear thereof above said screen.

2. In an ore separator, a chamber, a screen in the lower portion thereof, said screen sloping transversely of the chamber and increasing in mesh from the front to the rear of the chamber, means for vibrating said screen lon

gitudinally of the chamber, and means for projecting ore into said chamber from the front thereof toward the rear thereof above said screen.



3. In an ore separator, a chamber, a screen in the lower portion of said chamber increasing in mesh from the front to the rear of the chamber, a transversely inclined apron positioned above said screen, and means for projecting ore into said chamber from the front thereof toward the rear thereof above said apron.

4. In an ore separator, a chamber, a screen in the lower portion of said chamber increasing in mesh from the front to the rear of the chamber, a transversely inclined apron positioned above said screen and provided with channels extending transversely thereof so as to deliver material to the screen, and means for projecting ore into the front of said chamber toward the rear thereof above said apron.

5. In an ore separator, a chamber, a screen in the lower portion of said chamber formed of a plurality of sections increasing in mesh from the front to the rear of the chamber, a transversely inclined apron positioned above said screen, and means for projecting ore into said chamber from the front thereof toward the rear thereof above said apron.

[Claims 6 to 25 not printed in the Gazette.]

974,396. LIGHTNING-ROD. EDWARD J. KRESS, Pittsburg, Pa., assignor, by direct and mesne assignments, to William M. Leatherman, Pittsburg, Pa. Filed Oct. 10, 1908, Serial No. 457,189. Renewed May 11, 1910. Serial No. 560,729.



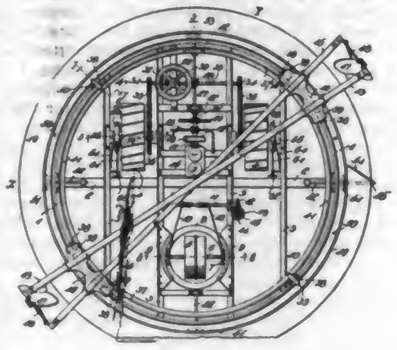
1. A lightning rod formed of a fibrous core, a helical winding of wire around said core, and an inclosing covering of interwoven wire, the inclosing covering having interspaces, as and for the purpose described.

2. A lightning rod comprising a core of absorbent material, and a woven wire tube incasing said core, said woven wire tube having interspaces.

974,397. ROAD-GRADER. VICTOR LANDHOLM, Westpoint, Nebr. Filed Jan. 27, 1910. Serial No. 540,360.

1. In a road grader, a supporting frame, a plow carrier revolubly mounted on said frame, plows supported and operated by said carrier, a revolubly mounted dirt carrier adapted to receive the dirt thrown up by said plows and to discharge the same at a pre-determined point, and means to operate said plows and dirt carrier at the proper rates of speed.

2. In a road grader, a self propelled supporting frame, a plow carrier revolubly mounted on said frame, plows supported and operated by said carrier, a rotary dirt carrier revolubly mounted on said frame, a driving mechanism to operate said plows and dirt carrier at the proper rates of speed, a steering mechanism, and means to raise and lower one or the other side of said machine to cause the plows to engage the ground at the proper point.



3. In a machine of the character described, a supporting frame comprising an annular ring and a series of cross bars connected to said ring, supporting and driving wheels revolubly mounted in said frame, a steering and supporting wheel, means to operate said steering and supporting wheel, a propelling mechanism connected with said drive wheels, an annular rotary plow carrier revolubly mounted on said main frame, means to drive said plow carrier, inwardly and upwardly inclined plow beams secured to said carrier, means to brace said beams, plows arranged on the outer ends of said beams, an annular rotary dirt carrier adapted to receive the dirt thrown up by said plows, means to drive said dirt carrier, and means to discharge the dirt therefrom at the desired point.

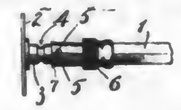
4. In a machine of the character described, a main supporting frame comprising an annular ring and a series of cross bars, supporting and driving wheels mounted between said cross bars at the forward end of the frame, an annular steering wheel frame revolubly mounted in the rear portion of said main frame, a steering wheel journaled in said revolubly mounted frame, a steering shaft, steering cables connected to said rotary steering wheel frame and adapted to be wound in opposite directions upon said steering shaft whereby said steering wheel is turned one way or the other to guide the machine, means to operate said steering wheel shaft, a driving mechanism connected to said driving wheel, a rotary plow carrier supported by said main frame, a rotary dirt carrier, and means to operate said plow and dirt carrier.

5. In a road grader, a main wheeled supporting frame comprising an annular ring forming a track, a rotary plow carrier comprising an annular frame, an annular rack secured to said frame, a series of supporting rollers revolubly mounted on said carrier and adapted to engage the track formed by the ring of said main frame, a driving gear engaged with said rack, plow beams secured to said annular frame, plows carried by the outer ends of said beams, and a rotary dirt carrier mounted on said main frame and adapted to receive the dirt thrown up by said plow and to discharge the same at a predetermined point.

[Claims 6 to 8 not printed in the Gazette.]

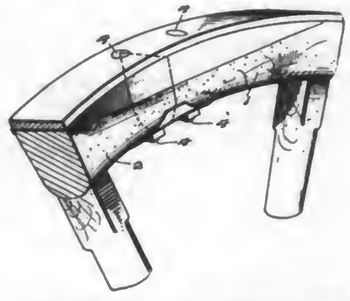
974,398. CURTAIN-ROD CONNECTION. FRANK L. LATHROP, Wallingford, Conn., assignor to H. L. Judd Company, Wallingford, Conn., a Corporation of New York. Filed Feb. 10, 1910. Serial No. 543,004.

In a device of the character described, a two-part telescopic tubular rod longitudinally adjustable, a support for each end of the rod, each support comprising a relatively short pin-like member arranged to be permanently secured to a suitable wall, one of said pin-like members having a recess in its side, one of the telescopic parts of said tube being slitted, an inwardly directed nib in the side of said slitted tube at or near the slit therein and arranged to enter the recess in the pin-like member by which



it is supported, and a collar corresponding substantially in internal diameter to the normal external diameter of said tube, said collar being slidable thereon to cover that part of the tube containing said inwardly directed nib when the parts are assembled and to hold that part of the tube against expansion.

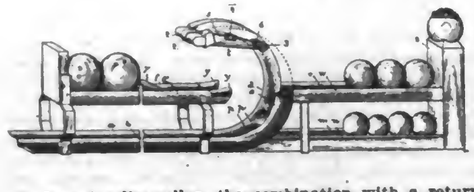
974,399. FELLY-JOINT BRIDGE. ALEXANDER LAWRIE, Pumpville, Tex. Filed Oct. 20, 1909. Serial No. 523,698.



1. A felly joint bridge, comprising a segment shaped member embodying side portions straight on one edge and curved on their opposite edges and connected at such last named edges by a curved connecting web adapted to fit over and upon the outer edge of a felly at the joint thereof, the connecting web being formed with openings for the tire bolts, as and for the purpose set forth.

2. A felly joint bridge, embodying side members and a curved connecting web, the web being formed with openings to receive the tire bolts and with a flange extending longitudinally between and spaced from the side members to one side of the median line of the connecting web.

974,400. BOWLING-ALLEY. EUGENE LEE, San Francisco, Cal. Filed July 24, 1909. Serial No. 509,378.



1. In a bowling alley, the combination with a return-way having an upwardly and forwardly curved terminal loop, of a ball rack having the receiving end situated within the loop, and means for controlling the delivery of the balls to the rack, comprising a strap held under tension across the curvilinear path of the balls and means for regulating the tension of the strap.

2. In a bowling alley the combination with the return runway, of a terminal loop springing from the runway in an upward and forward curve and composed of parallel rails having a space or opening of sufficient size to let the small balls pass between the rails and to catch and control the large balls, a runway for the small balls situated behind the loop, means on the main runway at the point of separation where the large balls take the rails of the loop for checking the speed of the small balls, and means for reducing the speed of the large balls comprising the check strap and means for regulating the tension of the strap.

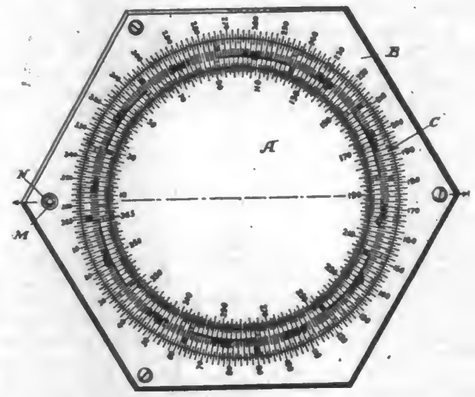
3. In a bowling alley, the single return-way for large and small balls having an upwardly and forwardly curved terminal loop composed of parallel rails having an opening between them of less dimensions than the diameter of the large balls but through which the small balls can pass, a receiving rack for the small balls in line with said opening and extending behind the loop, a receiving rack for the large balls situated over the main runway and extending forward from the loop, and means for controlling the speed of the large balls in their run within the loop, comprising the check strap arranged to intercept the curvilinear path of the balls at an angle and means for maintaining tension on the strap.

4. In a bowling alley, the combination with a return-way having an upwardly and forwardly curved terminal loop, of a receiving rack having one end situated within said loop and extending forwardly therefrom, a cushioning device on the end of said rack, and means on the loop for variably controlling the speed and the direction of travel of the balls from a curvilinear path to one more nearly parallel with the plane of the receiving rack.

5. In a bowling alley, a return-way having an upwardly and forwardly curved terminal loop, a receiving-rack having one end situated within the loop, and means within the field inclosed by the loop operating to abruptly change the direction of travel of the balls as controlled by the loop.

[Claims 6 to 9 not printed in the Gazette.]

974,401. TIME-INDICATOR. GEORGE I. BODINE, Jr., Philadelphia, Pa. Filed June 10, 1909. Serial No. 501,343.



1. In a device of the class described, the combinatio with two circular scales having a fixed relation to eac other and provided with 365 equidistant graduations i line with each other, the said graduations being numbere on each scale consecutively from 1 to 365, those on on scale increasing clockwise and those on the other scal increasing anti-clockwise and the number 365 on one scal being opposite number 1 on the other scale, and movabl means adapted to be brought into register with said gradu ations to indicate the number of interest days and als the number of discount days between two dates.

2. In a device of the class described, the combinatio with two circular scales having a fixed relation to eac other and provided with 365 equidistant graduations i

line with each other, the said graduations being numbered on each scale consecutively from 1 to 365, those on one scale increasing clockwise and those on the other scale increasing anti-clockwise and the number 365 on one scale being opposite number 1 on the other scale, and a third circular scale having registering graduations marked consecutively with the names of the months and the days of the month, and movable means for bringing said graduations into register to indicate the number of interest days and also the number of discount days between two dates.

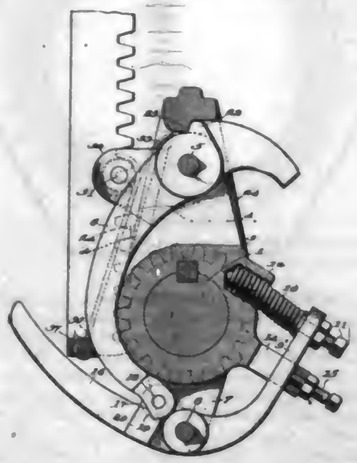
3. In a device of the class described, the combination with a circular scale having graduations consecutively numbered in opposite directions, the said numberings commencing one graduation apart, of a circular indicating scale having corresponding graduations consecutively marked with the months and days of the month, bank holidays being marked distinctively thereon, and means for indicating on said first mentioned scale the distance between two selected dates on the indicating scale, whereby the number of days may be read from said first scale.

4. In a device of the class described, the combination with a circular scale having graduations consecutively numbered in opposite directions, the said numberings commencing one graduation apart, of a circular indicating scale having corresponding graduations consecutively marked with the months and days of the month, bank holidays being marked distinctively thereon, and means for moving said indicating scale with reference to said first mentioned scale to indicate the number of interest or discount days between two selected dates.

5. In a device of the class described, the combination with a scale having graduations consecutively numbered in opposite directions, the said numberings commencing one graduation apart, of an indicating scale having corresponding graduations consecutively marked with the months and days of the month, bank holidays being marked distinctively thereon, and means for moving said indicating scale with reference to said first mentioned scale to indicate the number of interest or discount days between two selected dates.

[Claim 6 not printed in the Gazette.]

974,402. POWER-TRANSMITTING DEVICE. THOMAS J. LEVEY, Washington, D. C., assignor of one-fifth to James B. Shearer, one-fifth to Linwood T. Hewitt, Baltimore county, Md., one-fifth to John McVeity, Baltimore, Md., and one-fifth to Martin Nilsson, Peekskill, N. Y. Filed May 3, 1910. Serial No. 559,161.



1. In a power transmitting device, the combination of a rotating shaft; a movable part; means loosely mounted on said shaft engaging said movable part; means fixed on said shaft adapted to engage said loosely mounted means; and automatic means associated with said fixed means adapted to release said loosely mounted means when a predetermined strain has been reached, substantially as described.

2. In a power transmitting device, the combination of a rotating shaft provided with an arm fixed thereon; an arm loosely mounted on said shaft; connections by which said fixed arm is adapted to transmit power to said loosely mounted arm; and means for automatically disengaging said connections when the power transmitted to said loosely mounted arm exceeds a predetermined amount, substantially as described.

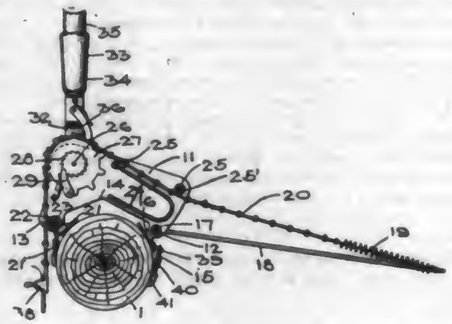
3. In a power transmitting device, the combination of a rotating shaft provided with an arm fixed thereon; an arm loosely mounted on said shaft; connections by which said fixed arm is adapted to transmit power to said loosely mounted arm; means for automatically disengaging said connections when the power transmitted to said loosely mounted arm exceeds a predetermined amount; and means for automatically restoring the parts to their normal positions after such disengagement has occurred, substantially as described.

4. In a power transmitting device, the combination of a rotary shaft provided with an arm fixed thereon; an arm loosely mounted on said shaft; and having a pair of coöperating lugs by which said fixed arm is adapted to transmit power to said loosely mounted arm; and means comprising an interengaging lever and pawl for automatically disengaging said coöperating lugs when the power transmitted to said loosely mounted arm exceeds a predetermined amount, substantially as described.

5. In a power transmitting device the combination of a rotating shaft; an arm fixed to said shaft; a pawl pivoted to said arm; a pivoted lever also fixed to said shaft with which said pawl engages; and means loosely mounted on said shaft adapted to engage said pawl, substantially as described.

[Claims 6 to 11 not printed in the Gazette.]

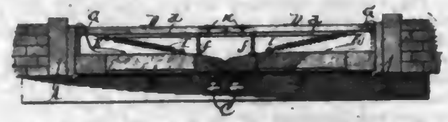
974,403. WIRE-STRETCHER. JOHN H. LEWIS, Mount Vernon, Wash. Filed Apr. 15, 1910. Serial No. 555,581.



1. A device of the class described comprising two oblong frame plates of similar shapes, post engaging means carried at the opposite ends thereof, a shaft extended through the plates, a sprocket revoluble thereon between the plates, a ratchet carried by the sprocket and a pawl engaging the ratchet to prevent rotation of the sprocket in one direction, an operating lever bifurcated and having the extremities of its furcations pivoted upon the shaft outwardly of the plates, a chain carried upon the sprocket, a wire gripping member carried at its outer end, a pawl carried between the furcations of the lever and adapted to engage the teeth of the sprocket for rotation of the sprocket and taking up of the chain, and resilient means engaged with the inner end of the chain for take up thereof.

2. A device of the class described comprising a frame, post engaging means carried thereby, a sprocket revoluble therein, a ratchet carried by the sprocket, a pawl engaging the ratchet to prevent rotation of the sprocket in one direction, a chain carried upon the sprocket, an operating lever pivoted adjacent the sprocket, a pawl carried by the lever and adapted to engage the teeth of the sprocket for rotation of the sprocket and taking up of the chain, a U-shaped yoke member having its end pivoted upon the frame, a resilient member carried thereby and connected to the inner end of the chain for take up thereof.

974,404. FIRE-ESCAPE DOOR. LEROY R. LOUGHBOROUGH, Rochester, N. Y. Filed June 11, 1908. Serial No. 437,828.



1. The combination of a boltless door, and a locking brace therefor arranged to normally resist opening of the door from the outside and movable under outward pressure from the inside to a position to release the door, substantially as set forth.

2. The combination of a boltless outwardly-opening door, and a locking-brace carried by the door, the brace being arranged to normally resist opening of the door, but movable under outward pressure from the inside to a position to release the door, substantially as set forth.

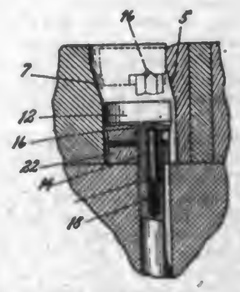
3. The combination of a door, a swinging locking brace pivoted to the inner side of the door and movable toward and from the same, a part against which the free end of the brace abuts when in its normal position to resist opening of the door from the outside, and means for limiting the inward movement of the brace, substantially as set forth.

4. The combination of a door, a swinging locking brace pivoted to the inner side of the door and movable toward and from the same, a part against which the free end of the brace abuts when in its normal position to resist opening of the door from the outside, and a flexible connection between the door and the brace for limiting the inward movement of the brace, substantially as set forth.

5. The combination of a door, a swinging locking brace pivoted to the inner side of the door and movable toward and from the same, a part against which the free end of the brace abuts when in its normal position to resist opening of the door from the outside, and a spring for resisting the outward movement of the brace, substantially as set forth.

[Claims 6 to 18 not printed in the Gazette.]

974,405. HEEL-COMPRESSING MACHINE. THOMAS LUND, Beverly, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Feb. 19, 1906. Serial No. 301,825.



1. In a heel compressing machine, a mold comprising side dies, a breast plate formed to project over a portion of the mold cavity, and a top lift plate arranged for movement at right angles to the plane of its acting face, said plate being also mounted for movement in a direction parallel to said face.

2. In a heel compressing machine, a mold comprising relatively movable side dies, a breast plate arranged for movement with the side dies and formed to project over a portion of the mold cavity, and a top lift plate arranged to be raised in the cavity and mounted for movement rearwardly in said cavity.

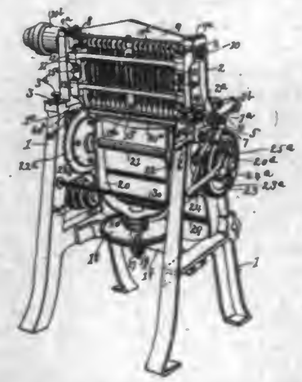
3. In a heel compressing machine, a mold comprising relatively movable side dies, a breast plate having an acting face inclined rearwardly and upwardly, and a top lift plate arranged to be raised in the mold cavity and mounted to be moved rearwardly in said cavity by engagement with the inclined face of said breast plate.

4. In a heel compressing machine, a mold comprising relatively movable side dies, a breast plate movable with the side dies and formed with an acting face inclined rearwardly and upwardly, and a top lift plate arranged to be raised in the mold cavity and mounted to be moved rearwardly in said cavity by engagement with the inclined face of said breast plate.

5. In a heel compressing machine, a mold comprising relatively movable side dies, a breast plate formed with an acting face inclined rearwardly and upwardly, a post arranged for vertical movement in the mold cavity, and a top lift plate mounted for horizontal movement upon said post.

[Claims 6 to 9 not printed in the Gazette.]

974,406. DRILLING-MACHINE. JOHN W. LUNDGREN, Duluth, Minn. Filed Apr. 30, 1906, Serial No. 314,449. Renewed June 18, 1910. Serial No. 567,686.



1. The combination of a main frame, a support mounted in said frame, a transversely adjustable head frame hinged on said main frame and adapted to swing upwardly, means for locking said head frame in one or another of the positions to which it may be adjusted transversely of the machine, drill carriers mounted on said head frame, means mounted on said head frame for driving the drills, and a yielding pressure yoke carried by said head frame and adapted to bear upon the article to be drilled.

2. The combination of a frame, a support mounted thereon, a transversely movable drill-carrying means mounted on said frame, means for laterally positioning said carrying means, a yielding presser foot mounted on said drill-carrying means and having passages formed therein for the drills, means for exerting pressure on said foot to press the same on the article or articles to be drilled, means for rotating said drills, and means adapted to feed across said support beneath said presser foot the article or articles to be drilled.

3. In a drilling machine, the combination of a frame, a vertically movable support mounted on or in said frame, means for raising said support, a shaft journaled in said support, propelling means governed by said shaft, slide

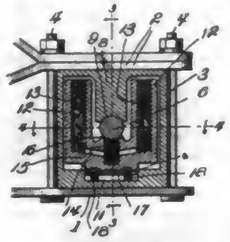
loosely mounted on said shaft, guides for governing the direction of movement of said slides, a cogged wheel keyed to said shaft for rotating the same, a lever for actuating said wheel, a guard for said wheel and concentric therewith keyed to a shoulder or hub formed on one of said slides, and a dog pivoted on said guard, and adapted to engage one or another of the teeth of said wheel, to prevent the rotation of the same.

4. In a drilling machine, the combination of a frame, a vertically movable support mounted on or in said frame, tables or guides approaching said support in opposite directions and at an angle to the direction of travel of said support and pivotally connected at their opposing ends to said support near its upper end.

5. In a drilling machine, the combination of a main frame, a head frame hinged thereon and adapted to swing upwardly, slides mounted on the main frame and adapted in operation to overlap a portion of the head frame to hold the same in its lowered position.

[Claims 6 to 8 not printed in the Gazette.]

974,407. AXLE-BOX LUBRICATOR. THOMAS MANNERS, Rice, Tex. Filed Oct. 9, 1908. Serial No. 456,934.



An axle lubricator comprising an axle box open at its outer end and having a medially disposed depending member, the lower end of which is provided with a concaved surface forming a bearing for the upper surface of the axle, a U-shaped lubricator removably fitted in the axle box and provided on its lower side with bow-shaped springs serving to support the lubricator in spaced relation to the lower side of the box, said lubricator having its opposite limbs arranged adjacent to the opposite sides of the depending member and the portion connecting said limbs located below the axle and provided on its upper side with a concavity forming a bearing surface for the lower side of the axle, the said limbs being hollow and forming recesses filled with waste and the said portion connecting the said limbs being medially provided with a waste filled recess communicating with the second-named concavity, and further provided with downwardly inclined oil passages connecting the recesses of the limbs with the recess of the portion connecting the limbs, and a U-shaped handle located at the medial portion of the outer end of the lubricator and extending to a point adjacent to the open end of the box and providing a grip for removing the lubricator.

974,408. PIPE AND NUT WRENCH. PATRICK MASTERSON, Cobalt, Ontario, Canada. Filed Aug. 27, 1909. Serial No. 514,910.



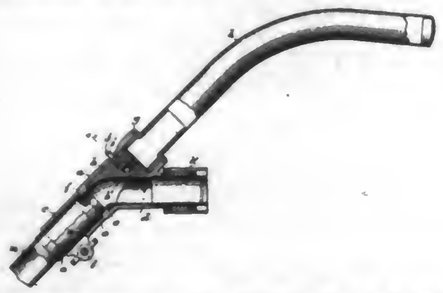
1. A wrench of the character described comprising a shank having gripping teeth thereon, a movable jaw, a plurality of pairs of links connecting the jaw and the shank and a spring extending between the shank and one of the links of one of the pairs and normally forcing the movable jaw to closed position.

2. A wrench for the purpose specified comprising a shank having gripping teeth thereon, a movable jaw, a plurality of pairs of links connecting the movable jaw with the shank, the outermost pair of said links being crescent-shaped, whereby it will accommodate a pipe or nut held between the edges, and spring means for forcing the movable jaw to closed position.

3. A wrench for the purpose specified, comprising a shank having gripping teeth thereon, a movable jaw, a plurality of pairs of links connecting the jaw and the shank, one of said pairs of links having a projection thereon, and a spring extending between the shank and the projection and normally forcing the movable jaw to closed position.

4. A wrench for the purpose specified comprising a shank having gripping teeth thereon, a movable jaw, a plurality of pairs of links connecting the shank and movable jaw, the innermost pair of said links having a projection thereon, a pin on the shank, and a flat spring secured at one end of the shank and extending around the pin and having the opposite end engaging the projection on the link substantially as hereinbefore described.

974,409. COUPLING-VALVE FOR PNEUMATIC CLEANING-TOOLS. FRANK J. MATCHETTE and CHARLES MOUKOS, Milwaukee, Wis.; said Moukos assignor to said Matchette. Filed Oct. 6, 1905. Serial No. 281,700.



1. The combination of an elbow-shaped case having a socket at one end adapted for the detachable and swivel connection therewith of a tubular tool shank, a hose coupling at the other end and an intermediate valve chamber having side and end ports communicating with said socket and hose coupling, and a valve plug fitted to turn in said chamber and having a passage in constant register at one end with one of said ports and adapted to be turned at the other end into and out of register with the other port.

2. The combination of an elbow-shaped case having a socket at one end adapted for the detachable and swivel connection therewith of a tubular tool shank, a hose coupling at the other end and an intermediate valve chamber having side and end ports communicating with said socket and hose coupling, a valve plug fitted to turn in said chamber and having a passage in constant communication at one end with one of said ports and adapted to be turned at the other end into and out of register with the other port, and a handle attached to said case in line with said socket.

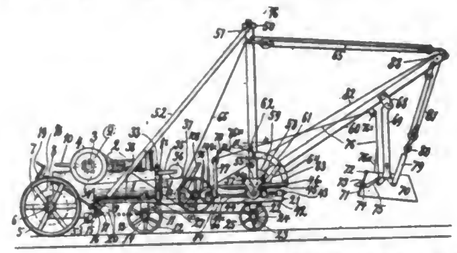
3. The combination of a case having a cylindrical valve chamber with a port and inwardly projecting valve seat at one end and a removable closure at the other end, a port in one side and a transverse slot in the other; a cylindrical plug fitted to turn in said chamber upon said seat and having a passage opening at one end through the side thereof in position to be turned into and out of register with said side port and registering at the other end with said end port; an operating piece detachably secured in said plug and projecting through the slot in said case and a tubular tool shank having a swivel connection with said case, substantially as described.

4. The combination of a case having a valve chamber, a contractible tubular extension at one end provided with a clamping screw and a tubular hose connection on one side at an angle to said extension, a valve fitted in said chamber and adapted to open and close communication between said tubular extension and hose connection, and a tube having a sleeve in which it is fitted to turn and which is fitted and adapted to be clamped in the tubular extension of said case, substantially as described.

5. The combination of a case having a cylindrical valve chamber, a contractible tubular extension at one end, and a tubular hose connection opening into the side of said chamber, a cylindrical plug fitted to turn in said chamber and having a passage opening through one end and the side thereof, a sleeve removably fitted in the tubular extension of said case, a screw adapted to clamp said extension on said sleeve, and a tube fitted to turn in said sleeve and provided with collars for holding it therein, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

974,410. COMBINED DERRICK AND TRACTION-ENGINE. WILLIAM H. MATHER, Laramie, Wyo. Filed Feb. 4, 1910. Serial No. 542,157.



1. The combination with a traction engine having traction wheels and a supporting axle pivoted at its middle and a supporting and steering wheel at each end, and manually operated means for swinging the axle on its pivot, of a derrick having one end of its main frame detachably connected to and supported by the traction engine, an axle supporting the other end of the frame and having at each end journaled a supporting and steering wheel, the middle of the axle being pivotally connected to the frame, two rods pivotally connecting said axle with the axle of the steering wheels of the engine, whereby all the steering wheels are steered in unison, means for transmitting power from said engine to the working parts of the derrick and means for disengaging the traction wheels from the engine proper when the derrick is in operation.

2. The combination with a traction engine having traction wheels and a supporting axle pivoted at its middle and a supporting and steering wheel at each end, and manually operated means for swinging the axle on its pivot, of a derrick having one end of its main frame detachably connected to and supported by the traction engine, an axle supporting the other end of the frame and having at each end journaled a supporting and steering wheel, the middle of the axle being pivotally connected to the frame, two rods pivotally connecting said axle with the axle of the steering wheels of the engine, whereby all the steering wheels are steered in unison, means for transmitting power from said engine to the working parts of the derrick and means for disengaging the traction wheels from the engine proper when the derrick is in operation; said rods being converged toward each other with the ends pivoted to the axle at the derrick frame.

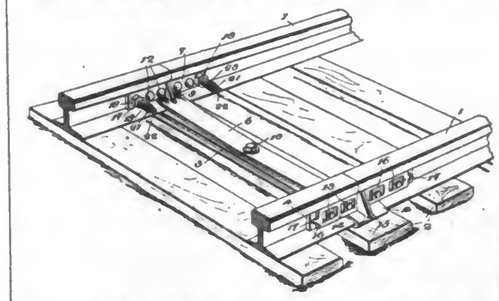
3. The combination with a traction engine having a boiler, of a band detachably secured about the boiler and provided with apertured arms, a bar in said apertures and a derrick having a main frame with a pair of supporting wheels under one end, the other end being supportingly connected with said bar.

4. The combination with a traction engine having a boiler, of a band detachably secured about the boiler and provided with apertured arms, a bar in said apertures and a derrick having a main frame with a pair of supporting wheels under one end, the other end being supportingly connected with said bar, and horizontally arranged braces from each end of the bar to the boiler to help hold the bar in position.

5. The combination with a traction engine having a boiler, of a band detachably secured about the boiler and provided with apertured arms, a bar in said apertures and a derrick having a main frame with a pair of supporting wheels under one end, the other end being supportingly and detachably connected with said bar.

[Claims 6 and 7 not printed in the Gazette.]

974,411. TRACK-BRACE. CHARLES MAUNDERS, Minot, N. D. Filed Apr. 23, 1910. Serial No. 557,252.



1. In a rail joint having bolts for securing together the meeting ends of the rails, means for locking all of the nuts on the bolts, said means spanning the joint and being fixed to the rail ends to assist in tying the same together.

2. In a rail joint having bolts for securing together the meeting ends of the rails, means for locking the nuts on the bolts, said locking means spanning the joint and being provided with angularly disposed stems secured through the respective rail ends.

3. In a rail joint having bolts for securing together the meeting ends of the rails, a bar lying against one side of the rails and formed with sockets in which the nuts on the bolts are received and locked, and means for fixing the bar to the respective rail ends, whereby to assist in tying the rail ends together.

4. The combination with a track brace having a pair of co-acting wings to fit against opposite sides of an interposed rail, a splice bar lying against the outer face of one of the wings and formed with a plurality of sockets, the splice bar having stems secured through both of the wings and the interposed rail, a plurality of bolts passing through the wings and the rail, and a plurality of nuts working on the bolts and received in the sockets and held therein against turning movement.

5. The combination with a track brace including a pair of co-acting wings fitted against opposite sides of an interposed rail, one of said wings being formed in its outer face with a reinforcing rib, a splice bar lying against the outer face of the last named wing and bowed intermediate of its ends to embrace the rib, the splice bar having a plurality of sockets and also having stems secured through both of the wings and the interposed rail, a plurality of bolts passing through the wings and rail, and nuts working on the bolts and received in the respective sockets in the splice bar and held therein against turning movement.

[Claims 6 and 7 not printed in the Gazette.]

974,412. MECHANISM FOR CONVERTING MOTION. WILLIAM D. MCGEE, Portland, Oreg., assignor of one-half to Charles L. Phillips, The Dalles, Oreg. Filed Apr. 27, 1910. Serial No. 557,929.

1. The combination with a shaft having a double oppositely wound spiral groove, of a reciprocating casing through which the shaft passes, said casing having a par-

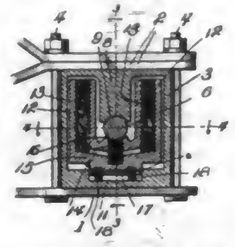
loosely mounted on said shaft, guides for governing the direction of movement of said slides, a cogged wheel keyed to said shaft for rotating the same, a lever for actuating said wheel, a guard for said wheel and concentric therewith keyed to a shoulder or hub formed on one of said slides, and a dog pivoted on said guard, and adapted to engage one or another of the teeth of said wheel, to prevent the rotation of the same.

4. In a drilling machine, the combination of a frame, a vertically movable support mounted on or in said frame, tables or guides approaching said support in opposite directions and at an angle to the direction of travel of said support and pivotally connected at their opposing ends to said support near its upper end.

5. In a drilling machine, the combination of a main frame, a head frame hinged thereon and adapted to swing upwardly, slides mounted on the main frame and adapted in operation to overlap a portion of the head frame to hold the same in its lowered position.

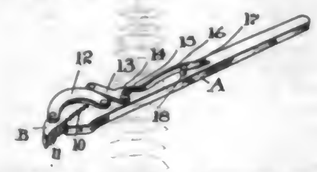
[Claims 6 to 8 not printed in the Gazette.]

974,407. AXLE-BOX LUBRICATOR. THOMAS MANNERS, Rice, Tex. Filed Oct. 9, 1908. Serial No. 456,934.



An axle lubricator comprising an axle box open at its outer end and having a medially disposed depending member, the lower end of which is provided with a concaved surface forming a bearing for the upper surface of the axle, a U-shaped lubricator removably fitted in the axle box and provided on its lower side with bow-shaped springs serving to support the lubricator in spaced relation to the lower side of the box, said lubricator having its opposite limbs arranged adjacent to the opposite sides of the depending member and the portion connecting said limbs located below the axle and provided on its upper side with a concavity forming a bearing surface for the lower side of the axle, the said limbs being hollow and forming recesses filled with waste and the said portion connecting the said limbs being medially provided with a waste filled recess communicating with the second-named concavity, and further provided with downwardly inclined oil passages connecting the recesses of the limbs with the recess of the portion connecting the limbs, and a U-shaped handle located at the medial portion of the outer end of the lubricator and extending to a point adjacent to the open end of the box and providing a grip for removing the lubricator.

974,408. PIPE AND NUT WRENCH. PATRICK MASTERSON, Cobalt, Ontario, Canada. Filed Aug. 27, 1909. Serial No. 514,910.



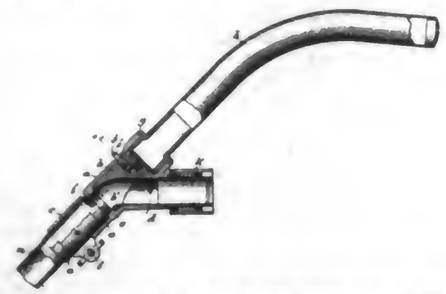
1. A wrench of the character described comprising a shank having gripping teeth thereon, a movable jaw, a plurality of pairs of links connecting the jaw and the shank and a spring extending between the shank and one of the links of one of the pairs and normally forcing the movable jaw to closed position.

2. A wrench for the purpose specified comprising a shank having gripping teeth thereon, a movable jaw, a plurality of pairs of links connecting the movable jaw with the shank, the outermost pair of said links being crescent-shaped, whereby it will accommodate a pipe or nut held between the edges, and spring means for forcing the movable jaw to closed position.

3. A wrench for the purpose specified, comprising a shank having gripping teeth thereon, a movable jaw, a plurality of pairs of links connecting the jaw and the shank, one of said pairs of links having a projection thereon, and a spring extending between the shank and the projection and normally forcing the movable jaw to closed position.

4. A wrench for the purpose specified comprising a shank having gripping teeth thereon, a movable jaw, a plurality of pairs of links connecting the shank and movable jaw, the innermost pair of said links having a projection thereon, a pin on the shank, and a flat spring secured at one end of the shank and extending around the pin and having the opposite end engaging the projection on the link substantially as hereinbefore described.

974,409. COUPLING-VALVE FOR PNEUMATIC CLEANING-TOOLS. FRANK J. MATCHETTE and CHARLES MOUKOS, Milwaukee, Wis.; said Moukos assignor to said Matchette. Filed Oct. 6, 1905. Serial No. 281,700.



1. The combination of an elbow-shaped case having a socket at one end adapted for the detachable and swivel connection therewith of a tubular tool shank, a hose coupling at the other end and an intermediate valve chamber having side and end ports communicating with said socket and hose coupling, and a valve plug fitted to turn in said chamber and having a passage in constant register at one end with one of said ports and adapted to be turned at the other end into and out of register with the other port.

2. The combination of an elbow-shaped case having a socket at one end adapted for the detachable and swivel connection therewith of a tubular tool shank, a hose coupling at the other end and an intermediate valve chamber having side and end ports communicating with said socket and hose coupling, a valve plug fitted to turn in said chamber and having a passage in constant communication at one end with one of said ports and adapted to be turned at the other end into and out of register with the other port, and a handle attached to said case in line with said socket.

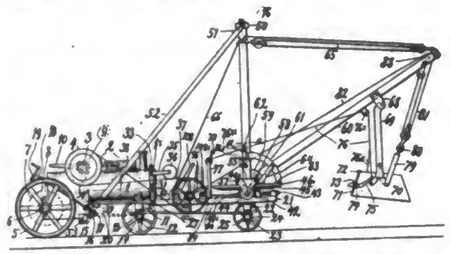
3. The combination of a case having a cylindrical valve chamber with a port and inwardly projecting valve seat at one end and a removable closure at the other end, a port in one side and a transverse slot in the other; a cylindrical plug fitted to turn in said chamber upon said seat and having a passage opening at one end through the side thereof in position to be turned into and out of register with said side port and registering at the other end with said end port; an operating piece detachably secured in said plug and projecting through the slot in said case and a tubular tool shank having a swivel connection with said case, substantially as described.

4. The combination of a case having a valve chamber, a contractible tubular extension at one end provided with a clamping screw and a tubular hose connection on one side at an angle to said extension, a valve fitted in said chamber and adapted to open and close communication between said tubular extension and hose connection, and a tube having a sleeve in which it is fitted to turn and which is fitted and adapted to be clamped in the tubular extension of said case, substantially as described.

5. The combination of a case having a cylindrical valve chamber, a contractible tubular extension at one end and a tubular hose connection opening into the side of said chamber, a cylindrical plug fitted to turn in said chamber and having a passage opening through one end and the side thereof, a sleeve removably fitted in the tubular extension of said case, a screw adapted to clamp said extension on said sleeve, and a tube fitted to turn in said sleeve and provided with collars for holding it therein, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

974,410. COMBINED DERRICK AND TRACTION-ENGINE. WILLIAM H. MATHER, Laramie, Wyo. Filed Feb. 4, 1910. Serial No. 542,157.



1. The combination with a traction engine having traction wheels and a supporting axle pivoted at its middle and a supporting and steering wheel at each end, and manually operated means for swinging the axle on its pivot, of a derrick having one end of its main frame detachably connected to and supported by the traction engine, an axle supporting the other end of the frame and having at each end journaled a supporting and steering wheel, the middle of the axle being pivotally connected to the frame, two rods pivotally connecting said axle with the axle of the steering wheels of the engine, whereby all the steering wheels are steered in unison, means for transmitting power from said engine to the working parts of the derrick and means for disengaging the traction wheels from the engine proper when the derrick is in operation.

2. The combination with a traction engine having traction wheels and a supporting axle pivoted at its middle and a supporting and steering wheel at each end, and manually operated means for swinging the axle on its pivot, of a derrick having one end of its main frame detachably connected to and supported by the traction engine, an axle supporting the other end of the frame and having at each end journaled a supporting and steering wheel, the middle of the axle being pivotally connected to the frame, two rods pivotally connecting said axle with the axle of the steering wheels of the engine, whereby all the steering wheels are steered in unison, means for transmitting power from said engine to the working parts of the derrick and means for disengaging the traction wheels from the engine proper when the derrick is in operation; said rods being converged toward each other with the ends pivoted to the axle at the derrick frame.

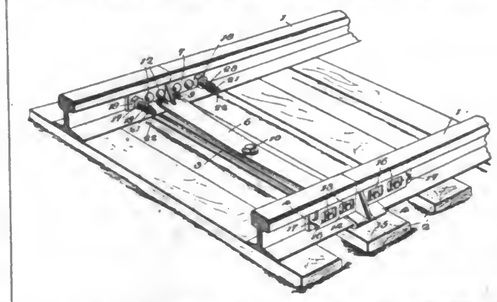
3. The combination with a traction engine having a boiler, of a band detachably secured about the boiler and provided with apertured arms, a bar in said apertures and a derrick having a main frame with a pair of supporting wheels under one end, the other end being supportingly connected with said bar.

4. The combination with a traction engine having a boiler, of a band detachably secured about the boiler and provided with apertured arms, a bar in said apertures and a derrick having a main frame with a pair of supporting wheels under one end, the other end being supportingly connected with said bar, and horizontally arranged braces from each end of the bar to the boiler to help hold the bar in position.

5. The combination with a traction engine having a boiler, of a band detachably secured about the boiler and provided with apertured arms, a bar in said apertures and a derrick having a main frame with a pair of supporting wheels under one end, the other end being supportingly and detachably connected with said bar.

[Claims 6 and 7 not printed in the Gazette.]

974,411. TRACK-BRACE. CHARLES MAUNDERS, Minot, N. D. Filed Apr. 23, 1910. Serial No. 557,252.



1. In a rail joint having bolts for securing together the meeting ends of the rails, means for locking all of the nuts on the bolts, said means spanning the joint and being fixed to the rail ends to assist in tying the same together.

2. In a rail joint having bolts for securing together the meeting ends of the rails, means for locking the nuts on the bolts, said locking means spanning the joint and being provided with angularly disposed stems secured through the respective rail ends.

3. In a rail joint having bolts for securing together the meeting ends of the rails, a bar lying against one side of the rails and formed with sockets in which the nuts on the bolts are received and locked, and means for fixing the bar to the respective rail ends, whereby to assist in tying the rail ends together.

4. The combination with a track brace having a pair of co-acting wings to fit against opposite sides of an interposed rail, a splice bar lying against the outer face of one of the wings and formed with a plurality of sockets, the splice bar having stems secured through both of the wings and the interposed rail, a plurality of bolts passing through the wings and the rail, and a plurality of nuts working on the bolts and received in the sockets and held therein against turning movement.

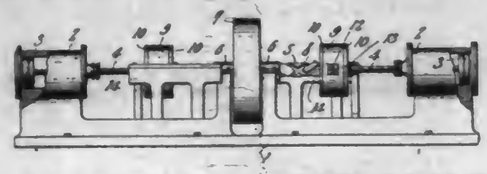
5. The combination with a track brace including a pair of co-acting wings fitted against opposite sides of an interposed rail, one of said wings being formed in its outer face with a reinforcing rib, a splice bar lying against the outer face of the last named wing and bowed intermediate of its ends to embrace the rib, the splice bar having a plurality of sockets and also having stems secured through both of the wings and the interposed rail, a plurality of bolts passing through the wings and rail, and nuts working on the bolts and received in the respective sockets in the splice bar and held therein against turning movement.

[Claims 6 and 7 not printed in the Gazette.]

974,412. MECHANISM FOR CONVERTING MOTION. WILLIAM D. MCGEE, Portland, Oreg., assignor of one-half to Charles L. Phillips, The Dalles, Oreg. Filed Apr. 27, 1910. Serial No. 557,929.

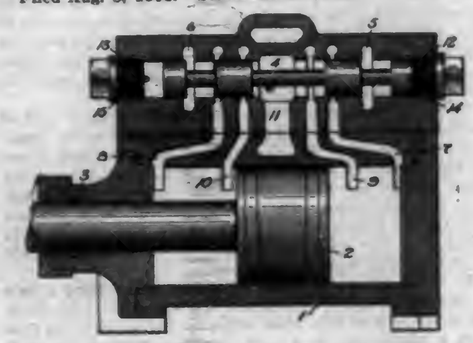
1. The combination with a shaft having a double oppositely wound spiral groove, of a reciprocating casing through which the shaft passes, said casing having a par-

tition provided with a shaft opening, the walls of the shaft opening of the partition being rabbeted, a pair of toothed disks rotatably mounted in the casing on opposite sides of the partition, said disks having openings through which the shaft passes, and annular flanges surrounding the openings, said flanges extending into the aforesaid rabbets, the teeth of one disk extending into one of the shaft grooves, and the teeth of the other disk extending into the other shaft groove, and means for alternately locking the disks to the casing, said means yielding to permit rotary movement of the disks in one direction.



2. The combination with a shaft having a double oppositely wound spiral groove, of a reciprocating drum through which the shaft passes, said drum having a partition provided with an opening through which the shaft passes, disks mounted on opposite sides of the partition, said disks having shaft openings, and teeth in said openings entering the grooves of the shaft, the teeth of one disk entering one of said grooves, and the teeth of the other disk entering the other groove, said disks being spaced from the heads of the drum, and having a raised portion opposite said heads, the periphery of said raised portion having sockets, and dogs pivotally mounted in said socket, and extending into engagement with the inner surface of the rim of the drum for locking the disks to said rim, said dogs yielding to permit rotary movement of the disks in one direction.

974,413. PRESSURE-FLUID ENGINE. HENRY H. MERCER, Claremont, N. H., assignor to Sullivan Machinery Company, Claremont, N. H., a Corporation of Maine. Filed Aug. 8, 1908. Serial No. 447,560.



1. As a new article of manufacture, a valve for use in a fluid pressure engine, presenting a composite structure comprising a plurality of cup-shaped spool portions, each formed integrally out of sheet metal and having, in addition to the outer peripheral walls of the spool, a tubular part forming an axial extension of the bottom of the cup, whereby the grain of the metal of the cup bottom is transverse to the grain of the metal in the tubular part and the periphery, and one or more tubular metallic stem portions welded to said spool portions and forming with the tubular part thereof the stem of the valve.

2. As a new article of manufacture, a valve for use in a fluid pressure engine, comprising a composite structure consisting of a plurality of cup-shaped spool portions, each formed integrally out of sheet metal together with an attached tubular portion projecting from the bottom of the cup, and a connecting stem portion integrally joined to the said cup-shaped spool portion.

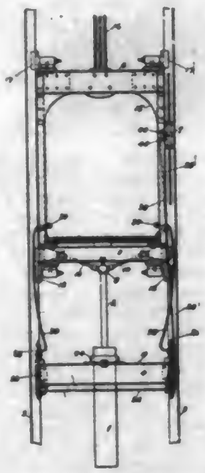
3. As a new article of manufacture, a valve for use in a fluid pressure engine, comprising a composite structure having a light cup-shaped metallic spool formed out of sheet metal and having integrally formed therewith an inner tubular portion struck up from the bottom of the cup and of lesser diameter than the outer periphery of the spool, whereby the grain of the metal in the cup bottom is transverse to the grain of the metal of the peripheral and inner tubular portions, and an adjacent stem portion to which the said cup portion is secured.

4. As a new article of manufacture, a valve for use in a fluid pressure engine, comprising a composite structure consisting of a hollow metal stem portion and a metallic cup-shaped spool portion having metallic union with said stem portion, said spool portion being formed out of sheet metal, whereby the grain of the metal in the cup bottom is transverse to the axis of the valve.

5. As a new article of manufacture, a valve for use in a fluid pressure engine comprising a stem member and one or more cup-shaped spools having metallic union with said stem member, said spools being formed of sheet metal to impart to said spools the maximum resistance to strains or shocks lengthwise the axis of the valve.

[Claims 6 to 9 not printed in the Gazette.]

974,414. SAFETY APPLIANCE FOR ELEVATORS. ALBERT C. MOHNIKE, Yonkers, N. Y. Filed Nov. 14, 1908, Serial No. 462,560. Renewed Sept. 7, 1910. Serial No. 580,925.



1. In safety appliances for elevator cars, the car, a safety-plank suspended below the car and extending parallel with the same across the elevator-shaft, guide rails for the car and the ends of said plank, clamp mechanisms carried at the ends of said plank for engaging said guide-rails when the car attains an undue speed, for arresting said plank, a traveling-cable speed-control mechanism operable by the car, connections operatively connecting said clamp mechanisms with said traveling-cable for enabling said cable by a pull on said connections to set the clamp mechanisms against said guides when the car attains an undue speed, and cushioning means for gradually arresting the car on its descent toward said plank comprising a liquid-cylinder secured to said plank, a piston-rod connected with the car, and a piston carried by said rod to be cushioned by the liquid in said cylinder; substantially as set forth.

2. In safety appliances for elevator cars, the car, a safety-plank connected therewith, means for arresting said plank when the car attains an undue speed, cushioning means for gradually arresting the car on its descent toward said plank, safty-clamps carried by the car, and means operable from the cushioning means for setting said clamps on the descent of the car toward said plank; substantially as set forth.

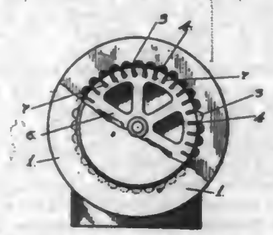
3. In safety appliances for elevator cars, the car, a safety-plank connected therewith, means for arresting said plank when the car attains an undue speed, and cushioning means for gradually arresting the car on its descent toward said plank, said plank having a cushioned section supporting said cushioning means; substantially as set forth.

4. In safety appliances for elevator cars, the car, a safety-plank suspended below the car and extending parallel with the same across the elevator-shaft, guide rails for the car and the ends of said plank, clamp mechanisms carried at the ends of said plank for engaging said guide-rails when the car attains an undue speed, for arresting said plank, a traveling-cable speed-control mechanism operable by the car, connections operatively connecting said clamp mechanisms with said traveling cable for enabling said cable by a pull on said connections to set the clamp mechanisms against said guides when the car attains an undue speed, and cushioning means for gradually arresting the car on its descent toward said plank comprising a cushioning cylinder secured to said plank below the car and having its piston rod projected upwardly to be driven downwardly by the car when the latter descends toward said plank, thereby cushioning the car; substantially as set forth.

5. In safety appliances for elevator cars, the car, a safety-plank connected therewith, means for arresting said plank when the car attains an undue speed, and a cushioning cylinder carried by said plank and having its piston rod projected upwardly to be driven downwardly by the car when the latter descends toward said plank, said plank having a cushioned section supporting said cylinder; substantially as set forth.

[Claims 6 to 9 not printed in the Gazette.]

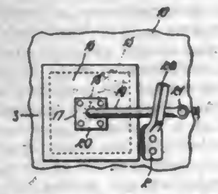
974,415. PROCESS FOR COMPELLING ELECTRIC MOTORS TO KEEP IN STEP WITH THE WAVES OR IMPULSES OF THE CURRENT DRIVING THEM, AND A MOTOR EMBODYING THE PROCESS. JOHN J. MONTGOMERY, Santa Clara, Cal. Original application filed Aug. 28, 1900, Serial No. 515,107. Divided and this application filed Apr. 6, 1910. Serial No. 553,721.



1. In the electrical arts the herein described method or process for compelling a moving element in a motor to keep step with the waves or impulses of the electric current which drives it, which consists in giving to the moving element through the agency of a fixed element, a succession of positive and negative accelerations, the resultant effect of which determines a step-by-step progression of the moving element in exact consonance with variations in the current applied, so that when the current is applied and the movable element brought in synchronism by the application of an extraneous force, the attraction of the field magnet will first pull the movable element forward and will then hold it back in such manner that it will continue to advance with a step or movement undulatory in its character, the successive steps or undulations being in response to the successive variations of the electrical forces, and in synchronism with and conterminous as regards time with such variations, whether such variations occur in successively equal times or not, all substantially as said method or process is described in the foregoing specification.

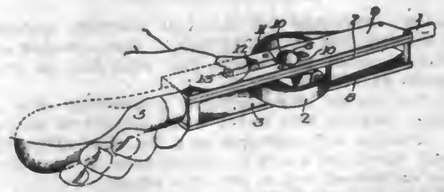
2. A motor comprising a field magnet of soft iron or steel, having an annular groove formed therein, a coil in said groove, the inner projecting portions at the sides of the groove being cut through at equi-distant intervals, leaving one or more sets of inwardly projecting pole tips, the pole tips being opposite each other, those on one side of the groove when energized being of the same polarity, and those on the opposite side being of the opposite polarity; and a rotatable element carried on a shaft so mounted as to be concentric with the circles of the pole tips, and consisting of a wheel having soft iron or steel bars or projections and moving between or near the pole tips, substantially as described.

974,416. CLOSURE FOR CISTERN-CLEANERS. GERVIAS T. MOORE, Annona, Tex. Filed Sept. 9, 1909. Serial No. 516,925.



The combination with a hollow body having an opening in one of its walls, a keeper connected to said body adjacent to said opening and extending obliquely to the adjacent wall of the body, a plate fitting over said opening and provided with a socket in its outer face, a cover member fitting over said socket and with an aperture smaller than the socket, an arm mounted to swing upon said body and engaging with said keeper and with an inwardly directed terminal passing through the aperture of said cover member, and a bearing connected to said arm and rotatably engaging in said socket.

974,417. SURVEYOR'S REEL. WILLIAM W. MORGAN, Hollywood, Cal. Filed Feb. 7, 1910. Serial No. 542,577.



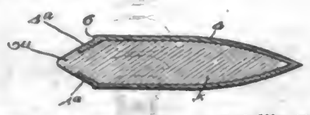
1. A surveyor's tape comprising a reel provided with a tape and with an arbor, the arbor having an undercut slot extending diametrically across its end, a frame in which said arbor is journaled, and said frame having a way, a bolt slidably mounted in said way and adapted to engage the slotted portion of the arbor, said bolt having a projection serving as a manually operating means.

2. A surveyor's tape comprising a reel provided with a tape and with an arbor, a frame in which said arbor is journaled, said arbor having a diametrical slot across its end, and said frame having a way extending diametrically of said arbor, a bolt slidably mounted in said way and adapted to engage the slotted portion of the arbor, and spring means engaging said bolt for holding said bolt in locking or unlocking position.

974,418. BULLET. GEORGE A. MUENZENMAIER, Lebanon, and FRANK M. SEE, Silverton, Ohio, assignors to The Peters Cartridge Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Jan. 27, 1908. Serial No. 412,730.

1. In a bullet, in combination, a metallic casing comprising a shell having a cylindrical body portion and a forwardly extending conical point, a shoulder formed at

the rear of the cylindrical portion of the casing, said shoulder extending around the periphery of the casing, a rearwardly extending base portion integral with said casing in the form of a frustum of a cone and having its greatest diameter less than the diameter of the cylindrical portion whereby the said shoulder at the rear of the cylindrical portion is formed and having its apex extending rearwardly, and a core or filling on the interior of the casing and extending rearwardly beyond the said conical base portion formed integral with the casing whereby a rearwardly extending base portion of approximately conical form is secured.



2. In a bullet, in combination, a metallic casing comprising a shell having a cylindrical body portion and a forwardly extending conical point, a shoulder formed at the rear of the cylindrical portion of the casing, said shoulder extending around the periphery of the casing, a rearwardly extending base portion integral with said casing in the form of a frustum of a cone and having its greatest diameter less than the diameter of the cylindrical portion whereby the said shoulder at the rear of the cylindrical portion is formed and having its apex extending rearwardly, and a core or filling on the interior of the casing and extending rearwardly into the said conical base portion.

3. In a bullet, in combination, a metallic casing comprising a shell having a cylindrical body portion and a forwardly extending conical point, a shoulder formed at the rear of the cylindrical portion of the casing, said shoulder extending around the periphery of the casing, a rearwardly extending base portion integral with said casing in the form of a frustum of a cone and having its greatest diameter less than the diameter of the cylindrical portion whereby the said shoulder at the rear of the cylindrical portion is formed and having its apex extending rearwardly, and a core or filling on the interior of the casing.

974,419. PROCESS OF MAKING COPPER ALLOYS AND THE PRODUCT THEREOF. JAMES NAULTY and JOHN SCANLIN, Philadelphia, Pa. Filed July 23, 1910. Serial No. 573,525.

1. The process of compounding a chromium alloy of copper, combined with nickel, which consists in melting the chromium with aluminum as a flux, then adding the copper, nickel and a suitable bulking metal to the molten mass successively and in the order stated.

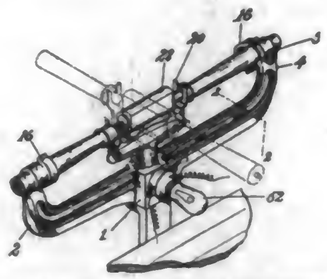
2. The product of the process described which is approximately a five per cent. chromium alloy of copper, combined with nickel in the ratio of approximately five parts by weight of said copper alloy to one part by weight of nickel.

3. The new product described which is approximately a five per cent. chromium alloy of copper fluxed with aluminum, combined with nickel in the ratio of approximately five parts by weight of said copper alloy to one part by weight of nickel.

4. The new product described which is approximately a five per cent. chromium alloy of copper fluxed with aluminum, combined with nickel and zinc in the ratio, in the aggregate, of approximately one hundred and twenty pounds of said copper alloy to forty-five pounds, in the aggregate, of nickel and zinc.

974,420. APPARATUS FOR HEATING TOOLS ELECTRICALLY. JOHN OBERLY, Cincinnati, Ohio, and CHARLES F. DUDLEY, Bellevue, Ky., assignors to O. A. Miller Treeing Machine Company, Portland, Me., a Corporation of Maine. Filed Apr. 6, 1907. Serial No. 366,829.

1. The combination with a treeing iron provided with a heating resistance within its acting part, and with handles extending from opposite sides of said part, of a support for removably sustaining said iron by engagement with its handles, contacts upon said iron electrically connected with the resistance and terminals upon said support for completing a circuit through the resistance arranged to have engagement with the contacts upon the iron in the operative position of the iron upon said support.



2. The combination with a treeing iron provided with a heating resistance within its acting part, and with handles extending from opposite sides of said part, of a support for removably sustaining said iron by engagement with its handles, contacts carried by said iron upon opposite sides of said acting part and electrically connected with the resistance and terminals upon the support for completing a circuit through the resistance arranged to have engagement with the contacts upon the iron in the operative position of the iron upon the support.

3. The combination with a treeing iron provided with an internally arranged heating resistance, of a support, a holder for removably sustaining said iron arranged for movement upon the support from an inoperative to a working position, contacts upon the iron electrically connected with the resistance and terminals upon said support arranged to have engagement with the contacts upon the iron in the working position of said holder to complete a circuit through the resistance and to be disengaged therefrom in the inoperative position of said holder.

4. The combination with a treeing iron provided with an internally arranged heating resistance, of a support, a holder for removably sustaining said iron in an approximately horizontal position arranged for movement from an inoperative to a working position, contacts upon the iron electrically connected with the resistance and terminals upon the support arranged in the path of the contacts upon the iron for completing a circuit through the resistance in the working position of said holder.

5. The combination with an iron provided with a heating resistance within its acting part, and with handles extending in opposite directions from said part, of a support, a holder formed to sustain removably said iron and arranged for movement upon said support from an inoperative to a working position, contacts upon said handles electrically connected with the resistance and terminals upon the support arranged in the path of the contacts upon the handles in position to complete a circuit through the resistance in the working position of the holder.

[Claims 6 to 14 not printed in the Gazette.]

974,421. COLT AND CALF WEANER. CHARLES H. PATTERSON, Trinidad, Colo. Filed July 5, 1910. Serial No. 570,287.

1. In a colt and calf weaner of the muzzle type, the combination of a lower or rear section comprising a bail-shaped main frame having angularly-disposed rear arms provided with intermediate deflections, an arch-bar connected at its ends to the main frame, and wires connected to the main frame and forming therewith a basket; an upper or forward section comprising a bail-shaped main frame having angularly-disposed rear arms pivotally connected to the arms of the first-named section, an arch-bar connected at its ends to the main frame and wires connected to the main frame and arch-bar and forming therewith a basket, and hooks pivoted to the forward end of the main frame of the second-named section and adapted to swing into and out of engagement with the forward end of the main frame of the first-named section, for the purpose set forth.



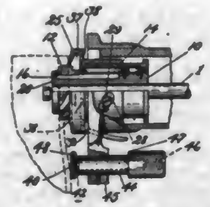
2. In a colt and calf weaner of the muzzle type, the combination of a lower or rear section having a basket and a transverse-arch-bar adapted to rest over an animal's nose and also having upwardly-directed rear arms, and an upper or forward section having a basket and also having upwardly-directed rear arms connected with and adapted to swing on the arms of the first-named section.

3. In a colt and calf weaner of the muzzle type, the combination of a lower or rear section having a basket and a transverse-arch-bar adapted to rest over an animal's nose and also having upwardly-directed rear arms, an upper or forward section having a basket and also having upwardly-directed rear arms connected with and adapted to swing on the arms of the first-named section, and gravitating means on the second-named section for engaging the first-named section on upward inclination of the animal's muzzle and for moving out of engagement with said section on downward inclination of the animal's muzzle.

4. In a colt and calf weaner of the muzzle type, the combination of sections pivotally connected one to the other and adapted to receive the animal's muzzle between them, and hooks pivoted to the forward end of one section and adapted, when the animal tips its muzzle upward, to swing into engagement with the forward end of the other section.

5. In a colt and calf weaner of the muzzle type, the combination of sections pivotally connected one to the other and adapted to receive the animal's muzzle between them, and gravitating means on one section for engaging the other section and locking the sections together when the animal tips its muzzle upward.

974,422. BURNISHING-MACHINE. CHARLES PEASE, Salem, Mass., assignor to United-Xpedite Finishing Company, Berwick, Me., a Corporation of Maine. Filed Mar. 8, 1906. Serial No. 304,949.



1. In a machine of the class described, the combination with a series of yieldingly supported burnishing elements for acting on the edge of a heel, of a tread burnishing member constructed and arranged to coöperate with said yielding elements to burnish the immediately adjacent portions of the tread and the edge face of a heel in any position of the yielding burnishing elements.

2. In a machine of the class described, the combination with relatively movable edge burnishing elements spaced apart, of a tread burnishing member having portions extending inwardly between said relatively movable elements to burnish the tread face of the heel at its edge in any position of the movable edge burnishing elements.

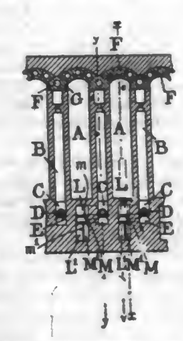
3. In a machine of the class described, a burnishing tool comprising a series of relatively movable edge burnishing elements extending obliquely across the acting face of the tool, a tread burnishing member comprising a sleeve having portions extending between the edge burnishing elements and movable spirally to cover more or less of the width of the acting face of the tool.

4. In a machine of the class described, a burnishing tool provided with an acting face for burnishing the edge of a heel, and a tread burnishing member rotatable therewith and arranged to cover a portion of said acting face, combined with means for causing said tread burnishing member to move spirally for uncovering said acting face when the rotation of said member is retarded.

5. In a machine of the class described, the combination with an edge burnisher presenting grooves extending obliquely across its acting face, of a tread burnishing member movably mounted to cover more or less of said acting face and having inwardly extending devices standing in said grooves whereby the tread burnishing member is caused to follow a spiral path in moving to cover and uncover the edge burnisher.

[Claims 6 to 14 not printed in the Gazette.]

974,423. COKE-OVEN. WALTER WINSTANLEY PECK, Manchester, England. Filed Oct. 28, 1909. Serial No. 525,010.



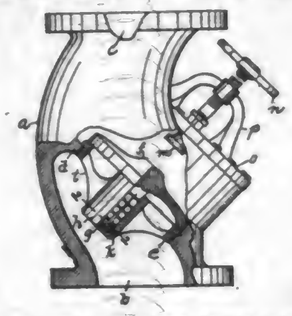
1. In a coke oven the combination with the retorts A and vertical heating flues B of a large cavity beneath the flues B divided by a gas conduit into a combustion chamber C and air delivery chamber E, and a large cavity beneath the retorts A divided by thin tiles *m m'* into the flues L L' for heated products and flues M M' for air substantially as described.

2. In a coke oven the combination with the retorts A and vertical heating flues B of a large cavity beneath the flues B divided by a gas conduit into a combustion chamber C and air delivery chamber E, and a large cavity beneath the retorts A divided by thin tiles *m m'* into the flues L L' for heated products and flues M M' for air, air passages F in the crown and pipes N to conduct the heated air from the passages F to the flues M' substantially as described.

974,424. AUTOMATIC VALVE. JOHN B. PERKINS, Revere, Mass. Filed June 8, 1904. Serial No. 211,582.

In a valve of the character described, in combination, a valve casing provided with an outlet and an inlet port, a valve seat intermediate said ports, a valve of greater area than said seat movable bodily toward and from said seat, a solid plunger attached to the underside of said

valve, a cylinder of smaller diameter than said valve seat and into which said plunger is adapted to enter, radially extended arms connecting the valve seat and cylinder, said cylinder being closed at its bottom and sides and



open at its top, and said plunger having a substantially narrow tapering channel on its exterior to form a restricted outlet for the cylinder and thereby cushion the valve in its closing movement, substantially as described.

974,425. SEMI-AUTOMATIC SMALL-ARM. NICOLAS PIEPER, Liege, Belgium. Filed Apr. 22, 1910. Serial No. 557,090.



1. In a fire arm, the combination of a body, a barrel, a striker bolt, a spring acting to force said bolt toward the barrel, means for retaining the bolt in its rearward position, a yielding stop device connected with the bolt and adapted to coöperate with an abutment on the body and retard the initial recoil movement of the bolt, and means for varying the resistance to recoil offered by said device.

2. In a fire arm, the combination of a body, a barrel, a striker bolt, a spring acting to force the bolt toward the barrel, means for retaining the bolt in its rearward position, and adjustable means adapted to retard the initial recoil movement of the bolt.

3. In a fire arm, the combination of a body, a barrel, a striker bolt, a spring acting to force the bolt toward the barrel, means for retaining the bolt in its rearward position, a spring actuated device adapted to check the initial recoil movement of the bolt, and means for varying the resistance to the recoil offered by said device.

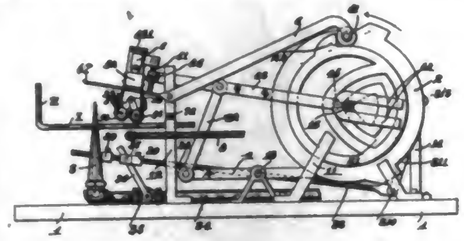
4. In a fire arm, the combination of a body, a barrel, a striker bolt, a spring acting to force the bolt toward the barrel, means for retaining the bolt in its rearward position, and a lever fulcrumed on the bolt and adapted to engage the body to check the initial recoil movement of the bolt, said lever having a lateral projection by means of which it may be moved to inoperative position.

5. In a fire arm, the combination of a body, a barrel, a striker bolt, a spring acting to force said bolt toward the barrel, means for retaining the bolt in a rearward position, and a yielding stop device extending laterally from the bolt and adapted to coöperate with the body to retard the initial recoil movement of the bolt and to prevent rotation thereof.

[Claims 6 to 14 not printed in the Gazette.]

974,426. MACHINE FOR BENDING COLLARS AND THE LIKE. JAMES K. P. PINE, Troy, N. Y., assignor to United Shirt & Collar Company, a Corporation of New York. Filed Aug. 18, 1905. Serial No. 274,787.

1. In a bending machine, a hollow support for the article to be folded having an edge portion apertured for the escape of a dampening medium, a device or member for bending the article over said edge portion by a movement of said device or member toward said support, means for supplying dampening medium to the interior of said support; and automatically operating means whereby said supplying means is intermittently operated substantially in the manner and for the purposes set forth.



2. In a bending machine, a hollow support for the article to be folded, having an edge portion apertured for the escape of a dampening medium, a device or member passing on both sides of said edge portion for bending the article over said edge portion by a movement toward said support, means for supplying dampening medium to the interior of said support; and automatically operating means whereby said supplying means is intermittently operated substantially in the manner and for the purposes set forth.

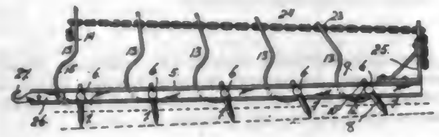
3. In a wing bending machine, a hollow support for the article to be folded having an edge portion apertured for the escape of a dampening medium, means for supplying such dampening medium to said support, and means including a pair of rollers, one of which passes on each side of said edge portion, for folding the article over the edge of said support.

4. In a wing bending machine, a hollow support for the article to be folded having an edge portion apertured for the escape of a dampening medium, means for supplying such dampening medium to said support, means for folding the article over the edge of said support, and a guide on said support for the article to be folded.

5. In a wing bending machine, a hollow support for the article to be folded having an edge portion apertured for the escape of a dampening medium, means for supplying such dampening medium to said support, means for folding the article over the edge of said support, and guides, one of which is adjustable, for the article to be folded.

[Claims 6 to 34 not printed in the Gazette.]

974,427. HARROW. DANIEL L. POWERS, Evans, Colo. Filed June 19, 1909. Serial No. 503,184.



1. A harrow composed of a frame work, toothed shafts journaled therein, spring members connected with the respective shafts and extended upwardly therefrom, the upper extremity of each spring member being bifurcated and connected by a flexible portion with the frame work, substantially as described.

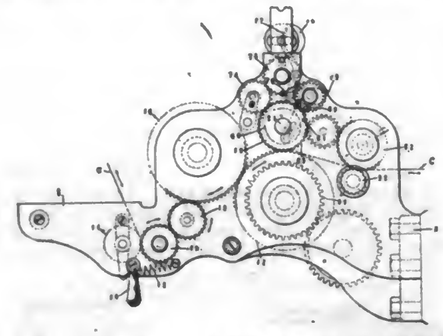
2. A harrow, comprising a frame work, a number of transversely disposed bars journaled therein and equipped with teeth, and upwardly extended members secured at their lower extremities to the said bars, and a flexible element for adjustably connecting the upper extremities of all the said members with the frame work, substantially as described.

3. A harrow comprising a frame work, a number of toothed bars journaled therein and arranged in parallel relation, upwardly extending spring members, having their lower extremities rigidly connected with the toothed bars, and a flexible device connecting the upper extremities of all of the spring members with the frame work of the harrow, the latter being equipped with an upwardly extending bracket for the purpose, the flexible device being adjustably connected with the spring members, for the purpose set forth.

4. A harrow composed of a frame work, a number of transversely arranged toothed bars, disposed in parallel relation and journaled in the frame work, spring members connected with the respective toothed bars at the lower extremities of the said bars, the latter projecting upwardly from the said bars, the frame work being provided with a relatively stationary bracket and a flexible device detachably and adjustably connected with the upper extremities of all of the spring members, and with the said bracket of the frame work, substantially as described.

5. A harrow of the class described, composed of a number of longitudinally disposed frame bars, a number of shafts journaled in said bars and extending at right angles to the latter, the shafts being equipped with teeth, spring members having their lower extremities respectively connected with the toothed shafts, their upper extremities being slotted, a chain connected with the upper extremities of the spring members, a link of the chain engaging the slot of each spring member, and a stationary bracket mounted on one of the frame bars, with which the chain is also connected, substantially as described.

974,428. PRINTING APPARATUS. WILLIAM A. PRINGLE, Niagara Falls, N. Y., assignor to The Carter-Crume Co., Limited, Niagara Falls, N. Y., a Corporation of Canada. Filed Dec. 5, 1906. Serial No. 346,392.



1. In a numbering mechanism for printing presses, in combination, a rotary cylinder, a plurality of numbering wheels carried thereby, actuating means therefor, and means carried by said cylinder for holding said actuating means out of operative relation to said numbering wheels during a predetermined number of rotations of said cylinder.

2. In numbering mechanism for printing presses, in combination, a rotary cylinder, a plurality of numbering wheels carried thereby, means for actuating said wheels in succession, said means being carried by said cylinder, means for holding said first-mentioned means out of operative relation to said numbering wheels during a predetermined number of rotations of said cylinder, and means associated with said actuating means adapted to actuate said holding means during each rotation of said cylinder.

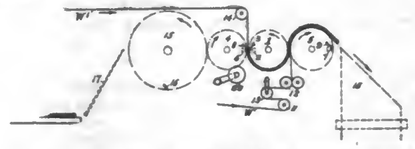
3. In numbering mechanism for printing presses, in combination, a rotary cylinder, a plurality of numbering wheels carried thereby, actuating means therefor carried by said cylinder, movable means adapted to hold said actuating means out of operative relation to said numbering wheels during a predetermined number of rotations of said cylinder and to permit said actuating means to be moved into operative relation with said numbering wheels after said cylinder has completed said predetermined number of rotations, and means associated with said actuating means adapted to actuate said movable means during each rotation of said cylinder.

4. In numbering mechanism for printing presses, in combination, a rotary cylinder, a plurality of numbering wheels carried thereby adapted to advance a number upon a predetermined number of rotations of said cylinder, means carried by said cylinder for positively actuating said numbering wheels, and stationary means adapted to actuate said last-mentioned means during each rotation of said cylinder.

5. In numbering mechanism for printing presses, in combination, a rotary cylinder, a plurality of numbering wheels carried thereby adapted to be actuated to advance a number upon a predetermined number of rotations of said cylinder, pawl and ratchet mechanism for actuating said numbering wheels, a plunger for operating said pawl and ratchet mechanism, and means for positively actuating said plunger at each rotation of said cylinder.

[Claims 6 to 20 not printed in the Gazette.]

974,429. PRINTING-MACHINE. OTTO L. RAABE, Jersey City, N. J., assignor to R. Hoe and Co., New York, N. Y., a Corporation of New York. Filed Feb. 18, 1910. Serial No. 544,567.



1. The combination with a knife carrying cylinder, of a pair of cylinders each carrying cutting means with which the knife coöperates in succession, and all the cylinders being provided with sheet taking devices, means for directing a web between the knife carrying cylinder and one cylinder of the pair, means for directing a web between the knife carrying cylinder and the other cylinder of the pair, and means for delivering sheets from both webs associated to form a single product.

2. The combination with a knife carrying cylinder, of a pair of cylinders each carrying cutting means with which the knife coöperates in succession, and all the cylinders being provided with sheet taking devices, means for directing a web between the knife carrying cylinder and one cylinder of the pair, means for directing a web between the knife carrying cylinder and the other cylinder of the pair, means for removing a part of the product formed from one of the webs by the cutting operation, and means for delivering the remainder of the product of this web associated with the product cut from the other web to form a single product.

3. The combination with a knife carrying cylinder, of a pair of companion cylinders each carrying cuting means with which the knife coöperates in succession, means for directing a web between the knife carrying cylinder and one of the cylinders of the pair, means for directing a web between the knife carrying cylinder and the other cylinder of the pair, means for removing from one of the companion cylinders a part of the product formed from one of the webs by the cutting operation, sheet taking devices on this companion cylinder, sheet taking devices on the knife carrying cylinder to which the sheet taking devices on said companion cylinder deliver the remainder of the product, sheet taking devices on the other companion cylinder to which the sheet taking devices on the knife carrying cylinder deliver the product, and a longitudinal folder to which the associated product from the webs is delivered.

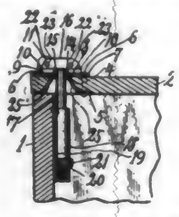
4. The combination with a knife carrying cylinder, of a pair of companion cylinders each carrying cutting means with which the knife coöperates in succession, means for directing a web between the cutting cylinder and the first companion cylinder, means for directing a web between the knife carrying cylinder and the second companion cylinder, a slitter coöperating with the first companion cylin

der, means for removing from the first companion cylinder part of the product formed by the cutting operation, sheet taking devices on the first companion cylinder, sheet taking devices on the knife carrying cylinder and to which the sheet taking devices on the first companion cylinder deliver, sheet taking devices on the second companion cylinder which receive the product from the sheet taking devices on the knife carrying cylinder, and a longitudinal folder.

5. The combination with a knife carrying cylinder, of a pair of companion cylinders each carrying cutting means with which the knife coöperates in succession, means for directing a web between the cutting cylinder and the first companion cylinder, means for directing a web between the knife carrying cylinder and the second companion cylinder, a slitter coöperating with the first companion cylinder, means for removing from the first companion cylinder part of the product formed by the cutting operation, sheet taking devices on the first companion cylinder, sheet taking devices on the knife carrying cylinder and to which the sheet taking devices on the first companion cylinder deliver, sheet taking devices on the second companion cylinder which receive the product from the sheet taking devices on the knife carrying cylinder, a longitudinal folder, and a cylinder provided with sheet taking devices for removing a part of the product formed from one of the webs by the cutting operation.

[Claim 6 not printed in the Gazette.]

974,430. BOX-FASTENER. PETER RANK, St. Paul, Minn. Filed Jan. 7, 1910. Serial No. 536,941.



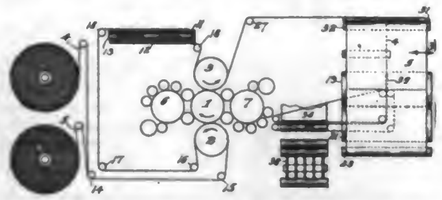
1. The combination with a box having a hinged cover, of a plate secured to the front wall of the box, a bolt journaled and retained in said plate and extending upwardly above the edge of the wall, the upper end of the bolt having two oppositely disposed apertured flat arms, each with a curved and wedge-shaped upper edge, a striking plate secured to the under side or the cover and having in its middle an upward bulge extending up through the cover and provided with a central slot, the inner sides of the bulge having two opposite wedge-shaped cams, each with two cam faces converging into the said slot, a second plate secured upon the top of the cover and having a slot registering with the slot in the bulge of the striking plate and near one side of its slot a lug with an aperture registering with the aperture in either of the apertured arms of the bolt that may be turned to the lug for purpose of sealing the bolt.

2. The combination with a box having a hinged cover, of a plate secured to the front wall of the box, a bolt journaled and retained in said plate and extending upwardly above the edge of the wall, the upper end of the bolt having two oppositely disposed apertured flat arms each with a curved and wedge-shaped upper edge, a striking plate secured to the under side of the cover and having in its middle an upward bulge extending up through the cover and provided with a central slot, the inner sides of the bulge having two opposite wedge-shaped cams, each with two cam faces converging into the said slot, a second plate secured upon the top of the cover and having a slot registering with the slot in the bulge of the striking plate and near one side of its slot a lug with an aperture registering with the aperture in either of the apertured arms of the bolt that may be turned to the lug for purpose of sealing the bolt; the upper edges of the bulge of the striking plate being inserted in the slot of the second plate, and rivets passed through the two plates and the intervening cover.

3. The combination with a box having a hinged cover, of a plate secured to the front wall of the box, a bolt journaled and retained in said plate and extending upwardly above the edge of the wall, the upper end of the bolt having two oppositely disposed apertured flat arms, each with a curved and wedge-shaped upper edge, a striking plate secured to the under side of the cover and having in its middle an upward bulge extending up through the cover and provided with a central slot, the inner sides of the bulge having two opposite wedge-shaped cams, each with two cam faces converging into the said slot, a second plate secured upon the top of the cover and having a slot registering with the slot in the bulge of the striking plate and near one side of its slot a lug with an aperture registering with the aperture in either of the apertured arms of the bolt that may be turned to the lug for purpose of sealing the bolt; said second plate having near its upper side inclines arranged to impel the arms upward as they are turned to locking position at opposite sides of the slot.

4. The combination with a box having a hinged cover, of a plate secured to the front wall of the box, a bolt journaled and retained in said plate and extending upwardly above the edge of the wall, the upper end of the bolt having two oppositely disposed apertured flat arms, each with a curved and wedge-shaped upper edge, a striking plate secured to the under side of the cover and having in its middle an upward bulge extending up through the cover and provided with a central slot, the inner sides of the bulge having two opposite wedge-shaped cams, each with two cam faces converging into said slot, a second plate secured upon the top of the cover and having a slot registering with the slot in the bulge of the striking plate and near one side of its slot a lug with an aperture registering with the aperture in either of the apertured arms of the bolt that may be turned to the lug for purpose of sealing the bolt; said second plate having at its upper side, inclines arranged to impel the arms upward as they are turned to locking position at opposite sides of the slot, and at the upper end of each incline a level portion or shelf for the arm to rest on, for the purpose set forth.

974,431. PRINTING-MACHINE. GEORGE F. READ, London, England, assignor, by mesne assignments, to R. Hoe and Co., New York, N. Y., a Corporation of New York. Filed Mar. 5, 1909. Serial No. 481,373.



1. The combination with a rotary printing couple the printing cylinder of which carries a single set of plates said plates covering practically the entire circumference of the cylinder and having their columns running around the cylinder, of means for directing a plurality of webs through the couple side by side, means for reversing each of the webs and again presenting them to the couple whereby the webs are perfected, and means for converting the webs into a page product with the pages in proper order.

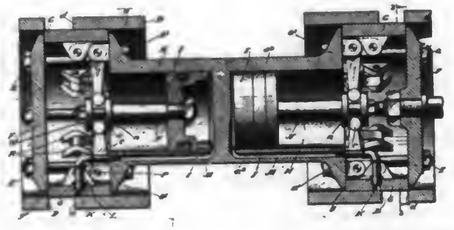
2. The combination with a printing couple, of a plurality of web reversers whereby webs presented to the couple may be turned over and again presented thereto, two cutting mechanisms, two delivery mechanisms, and means for causing an associated product from the two cutting mechanisms to be alternately sent to the delivery mechanisms.

3. The combination with a printing couple, of a plurality of web reversers whereby webs printed on the couple may be turned over and again presented thereto, two pairs of cutting cylinders, sheet taking devices on said cylinders, the sheet taking devices on one cylinder of one pair operating alternately with those of the other cylinder of the pair and the sheet taking devices of one pair delivering to those of the other pair, and two delivery mechanisms to which the sheet taking devices deliver associated sheets.

4. The combination with a pair of cutting cylinders, of means for directing a printed and perfected web thereto, a second pair of cutting cylinders arranged beneath the first pair, means for directing a printed and perfected web thereto, sheet taking devices on each cylinder of the first pair, the devices on one cylinder acting alternately with respect to the devices on the other, sheet taking devices on each cylinder of the second pair, the devices on one cylinder acting alternately with respect to the devices on the other cylinder, the sheet taking devices of each cylinder of one pair being arranged to transfer the sheets taken thereby to the corresponding cylinder of the other pair for association with the sheet thereon, and folding devices to which the associated sheets are delivered.

5. The combination with means for printing and perfecting a plurality of webs, of two pairs of cutting cylinders to which the webs are led, sheet taking devices on said cylinders, the sheet taking devices on one cylinder of each pair operating alternately with those of the other cylinder of the pair and the sheet taking devices of one pair delivering to those of the other pair, and two delivery mechanisms coöperating with said cylinders, associated sheets from the pairs being successively sent to the delivery mechanisms.

974,432. ENGINE-VALVE. CLIFTON REEVES, Trenton, N. J. Filed Dec. 2, 1909. Serial No. 530,908.



1. A balanced valve having means for forcing said valve to its seat with a predetermined pressure, said valve being so constructed as to prevent leakage except under excessive compression.

2. In an engine valve, the combination of a balanced valve having a packing-ring, and means for expanding said ring with a predetermined pressure, said valve being so constructed as to prevent leakage except under excessive compression.

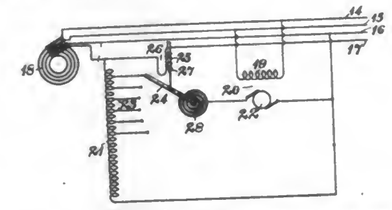
3. In an engine valve, the combination of a valve-body, a packing-ring, a piston mounted in a bore in said body, and mechanical connection between said piston and said ring, said connection being such as to permit the ring to yield under excessive compression.

4. In an engine valve, the combination of a valve-body, a packing-ring, a piston, a connection between said piston and said ring for expanding the latter, said connection being such as to permit the ring to yield under excessive compression, and means governed by the position of the valve for admitting steam to said piston.

5. In an engine valve, the combination of a valve-body, a packing-ring thereon, a piston mounted in a bore in said body, a lever connecting said piston and said ring, said ring having a port in its face that is connected with said piston-bore.

[Claims 6 to 9 not printed in the Gazette.]

974,433. SPEED REGULATION FOR DYNAMO-ELECTRIC MACHINES. CLARENCE RENSHAW, Swissvale, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Aug. 2, 1905. Serial No. 272,397.



1. The combination with an alternating current electric generator, an auto-transformer supplied with energy from said generator and provided with spaced contact terminals, and a motor electrically connected thereto, of means dependent upon the current delivered by the generator for varying the voltage applied to said motor, said means comprising an electro-magnet winding connected in the external circuit of the generator, independently of the auto-transformer, an armature for said winding and a movable contact member connected to said armature and adapted to engage said auto-transformer contact terminals.

2. The combination with a polyphase electric circuit, a motor having a field magnet connected to one phase of said circuit and an armature connected to another phase thereof, of an auto-transformer interposed between the armature and said circuit, and means dependent upon the current traversing the circuit for automatically varying the active length of the transformer winding.

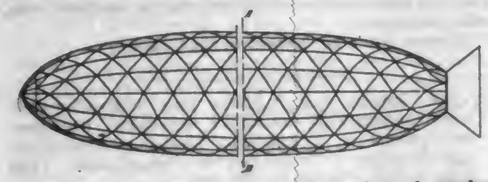
3. The combination with a polyphase alternating current electric generator, a motor having its armature and field magnet supplied with energy from different phases of said circuit, and an auto-transformer interposed between the generator and at least one of the members of the motor, of means dependent upon the current delivered by the generator for automatically varying the active length of the auto-transformer winding and the speed of the motor.

4. The combination with a two-phase alternating current electric generator, two external circuits therefor, a single-phase electric motor having a field magnet supplied with energy from one of said circuits, and an auto-transformer interposed between the motor armature and the other circuit, of means for automatically varying the active length of the transformer winding and the speed of the motor as the current delivered by the generator varies, said means comprising a switching device and an actuating magnet included in one of the generator circuits.

5. The combination with a two-phase alternating current electric generator, two external circuits therefor, an auto-transformer connected across one of said circuits and an electric motor supplied with energy therefrom, the field magnet winding of said motor being connected across the other external generator circuit and one of the armature terminals of said motor being connected to one terminal of said transformer, of a movable contact arm connected to the other armature terminal and adapted to engage any one of various taps in the transformer to vary the voltage supplied from the transformer to the motor, and means for moving said contact arm substantially as the current in the external generator circuit varies.

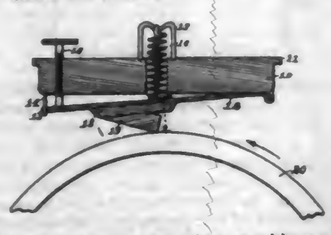
[Claim 6 not printed in the Gazette.]

974,434. STIFFENING-SKELETON FOR BALLOON-COVERINGS. WILHELM RETTIG, Berlin, Germany. Filed Aug. 14, 1909. Serial No. 512,790.



A balloon skeleton comprising a number of wooden rods that cross each other to form intervening triangular meshes, and shoes at the joints of some of said rods that engage the superposed rods.

974,435. TRIMMER FOR PHONOGRAPH-RECORDS. JOHN DAVID ROCKHILL, Conrad, Iowa. Filed Aug. 4, 1909. Serial No. 511,229.

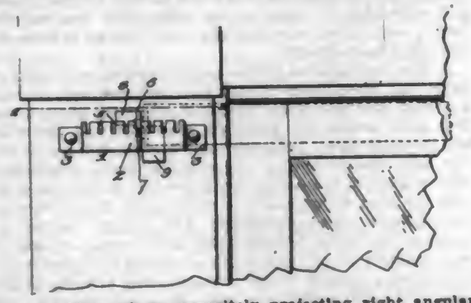


1. A device for trimming phonographic records, comprising a substantially circular body portion designed to be detachably supported in a phonograph in place of the circular frame usually employed for supporting the phonographic reproducing instrument, a disk pivoted at one edge to the under surface of said body portion, an adjusting screw mounted in the body portion to engage the free end of the disk for adjusting its position relative to the body portion and for holding it away from the body, a spring connected to the disk and extended through the body portion to yieldingly hold the disk upwardly against said adjusting screw, and a cutting tool fixed to the under surface of the disk substantially circular in cross section and extended at an acute angle relative to the central portion of the disk, the cutting edge of said tool being substantially round and being inclined at an angle slightly less than a right angle relatively to the lower surface of the cutting tool, for the purposes stated.

2. A device for trimming phonographic records, comprising a substantially circular body portion designed to be detachably supported in a phonographic instrument in place of the circular frame usually employed for supporting the phonographic reproducing instrument, a disk pivoted at one edge to the under surface of said body portion and having a projection at its opposite edge, a guide loop fixed to the body portion to receive said projection, an adjusting screw mounted in the body portion to engage said disk, a contractible spring fixed to the central portion of the disk and extended through said body portion, a support for said spring fixed to the body portion, and a cutting tool fixed to the under portion of the disk substantially circular in cross section and extended at an acute angle relative to the central portion of the disk, the cutting end of said tool being substantially round and being inclined at an angle slightly less than a right angle relatively to the lower surface of the cutting tool, for the purposes stated.

974,436. SHADE-ROLLER BRACKET. AUGUST ROTHFUCHS and CHARLES ECK, Hammond, Ind. Filed Apr. 4, 1910. Serial No. 553,224.

In a shade roller bracket, a stationary member adapted to be secured to a window frame, said member having formed therein a series of upwardly extending locking notches, an inwardly projecting flange formed on the lower edge of said member, the inner edge of said flange being spaced a short distance from the frame, an adjustable member having formed therein a notch adapted to be engaged with one of the notches in said stationary member whereby an interlocking connection is provided be-



tween said members, oppositely projecting right angular lugs formed on the inner end of said adjustable member and adapted to bear against the outer surface of the window frame, one of said lugs having an extension adapted to fit within the space between the inwardly projecting flange on the lower edge of said stationary member and the adjacent surface of the window frame.

974,437. UMBRELLA. FRANK W. ROTZELL, Kansas City, Mo. Filed Feb. 6, 1909. Serial No. 476,410.

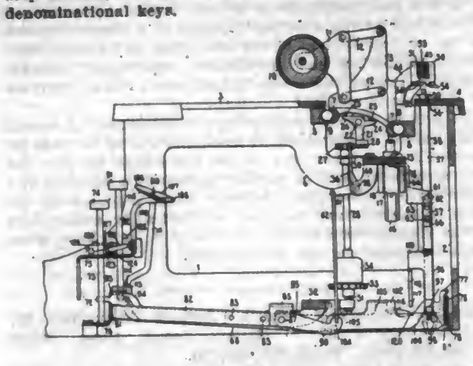


A separable umbrella comprising a rod section, a tip section, and a handle section, a cover ring mounted on the rod section and having ribs attached thereto, the rod section having a keeper slot therein immediately below the cover ring, the tip section having a reduced part fitting within the rod section and provided with a headed spring keeper, the handle section having a socket into which the butt of the rod section is projected and having a keeper slot, and the rod section being provided with a spring keeper having a head projected into the slot in the handle socket, the reduced part of the tip section being such that it may enter the socket in the handle portion when the rod section is removed, substantially as set forth.

974,438. TYPE-WRITING MACHINE. JOHN T. SCHAAFF, Washington, D. C., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Nov. 1, 1909. Serial No. 525,698.

1. In a typewriting machine and in tabulating mechanism, the combination of a carriage, step-by-step feed devices for said carriage, tabulator stop devices for arresting said carriage at any desired denominational position in any selected one of a plurality of columns, column keys

and denominational keys for controlling said tabulator, stop devices, and an interlock between said column and denominational keys.



2. In a typewriting machine and in tabulating mechanism, the combination of a carriage, step-by-step feed devices for said carriage, tabulator stop devices for arresting said carriage at any selected denominational position in any selected one of a plurality of columns, hand operated means for operating the column selecting devices, hand operated means for operating the denomination selecting devices, and means for preventing an operation of the hand operated means for the denominational devices until the column selecting devices have first been operated.

3. In a typewriting machine and in tabulating mechanism, the combination of a carriage, step-by-step feed devices for said carriage, and a tabulator for controlling said carriage, said tabulator comprising a set of column keys and a set of denominational keys, means for normally locking one of said sets of keys, and means operated by any key of the other set for releasing said locking means.

4. In a typewriting machine and in tabulating mechanism, the combination of a carriage, step-by-step feed devices for said carriage, tabulator stop devices for arresting said carriage at any desired denominational position in any selected one of a plurality of columns, column keys and denominational keys for controlling said tabulator, stop devices, an interlock between said column and denominational keys, and means for throwing said interlock out of operation.

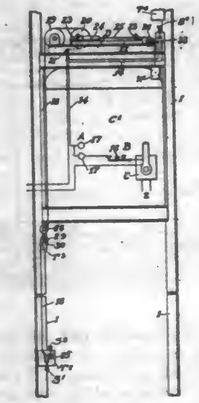
5. In a typewriting machine and in tabulating mechanism, the combination of a carriage, step-by-step feed devices for said carriage, and a tabulator for controlling said carriage, said tabulator comprising a set of column keys and a set of denominational keys, means for normally locking one of said sets of keys, means operated by any key of the other set for releasing said locking means, and hand operated means for maintaining said locking means inoperative.

[Claims 6 to 26 not printed in the Gazette.]

974,439. ELEVATOR. MARTIN C. SCHWAB, Chicago, Ill. Filed Apr. 27, 1909. Serial No. 492,587.

1. In an elevator apparatus the combination with a car and means for operating it, said operating means including a controller mounted upon and carried by the car, of a cable carried by the car and depending therefrom, a weight suspended by said cable, said car and weight being movable relatively to each other, means for relatively moving them, and means operated by the relative movement of the car and weight for automatically shifting the controller to "stop" position and thereby stopping the car.

2. In an elevator apparatus, the combination with a car and the suspended weight movable relatively to each other, of means for automatically stopping the car, said means having an electric circuit including a switch adapted to be closed by the relative movement of the weight and the car, an electro-receptive device in said circuit, and means operated by said electro-receptive device for stopping the car.



3. In an elevator apparatus, the combination with a car and a suspended weight movable relatively to each other, of means for automatically stopping the car, said means having an electric circuit including a switch carried by the weight and adapted to be closed by the relative movement of the weight and car, an electro-receptive device in said circuit and means operated by said electro-receptive device for stopping the car.

4. In an elevator apparatus the combination with a car and a suspended weight movable relatively to each other, of means for automatically stopping the car, said means having an electric circuit including a switch carried by the car and adapted to be closed by the relative movement of the weight and car, an electro-receptive device in said circuit, and means operated by said electro-receptive device for stopping the car.

5. In an elevator apparatus the combination with a car, means including a controller for operating it, and a suspended weight, said weight and car being movable relatively to each other, of an electric circuit having a switch adapted to be operated by the relative movement of the weight and car, an electro-receptive device included in said circuit and means operated by said electro-receptive device for stopping the car through the medium of the controller.

[Claims 6 to 23 not printed in the Gazette.]

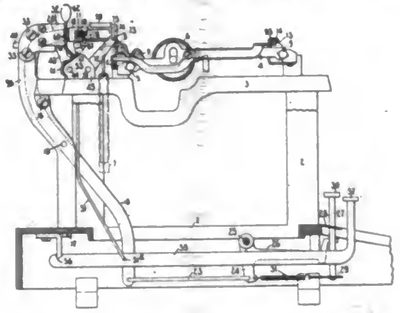
974,440. PROCESS FOR THE DESTRUCTION OF HAIRS AND OTHER EXTRANEOUS MATTER IN FLOSS AND WASTE SILK. CLAUDIUS SEIGNOL, Lyon, France. Filed July 22, 1910. Serial No. 573,275.

A process for treating floss and waste silk with a view to the destruction of hairs, horsehairs, nails, and horny gelatinous or other substances which they may contain, such process consisting in subjecting the floss or waste silk to the action of weak solutions of alkaline sulfids with the addition of a small quantity of oil, then quickly washing in hot water and finally rinsing in cold water, in order to eliminate any trace of the sulfid employed and to remove the debris of hairs or other impurities of animal origin.

974,441. TYPE-WRITING MACHINE. CHARLES H. SHEPARD, New York, N. Y., assignor to Union Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed Aug. 1, 1910. Serial No. 574,903.

1. In a typewriting machine and tabulating mechanism, the combination of a series of tabulator stops movable into and out of operative position and adapted to remain in either of said positions to which they are moved; means for moving said stops to operative position; means for moving said steps to inoperative position; and key

controlled means controlled from the keyboard of the machine for controlling both of said means.



2. In a typewriting machine and tabulating mechanism, the combination of a series of tabulator stops movable into and out of operative position and adapted to remain in either of said positions to which they are moved; means for moving said stops to operative position; means for moving said stops to inoperative position; a key at the keyboard for controlling one of said means; and a separate key at the keyboard for controlling the other of said means.

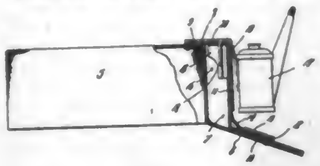
3. In a typewriting machine and tabulating mechanism, the combination of a series of tabulator stops movable into and out of operative position and adapted to remain in either of said positions to which they are moved; means for moving said stops to operative position; means for moving said stops to inoperative position; and a single set of key controlled means for controlling either one or the other of the said moving means at will.

4. In a typewriting machine and tabulating mechanism, the combination of a series of tabulator stops movable into and out of operative position and adapted to remain in either of said positions to which they are moved; and means for moving the stops to inoperative position, said means being controlled by a key at the keyboard of the machine.

5. In a typewriting machine and tabulating mechanism, the combination of a series of tabulator stops movable into and out of operative position and adapted to remain in either of said positions to which they are moved; a wiper movable into and out of coöperative relation with said column stops and operative to move the column stops to inoperative position; and a key at the keyboard of the machine for controlling the movement of the wiper into and out of coöperative relation with said column stops.

[Claims 6 to 24 not printed in the Gazette.]

974,442. MINER'S CAP. ALBERT A. SONAK, Sprague, W. Va. Filed Aug. 4, 1909. Serial No. 511,148.



1. A lamp support comprising a base plate, a reinforcing plate carried by the same, and a bracket secured to the base plate and having rearwardly projecting and downwardly converging yieldable wings to receive therebetween and wedge the bill of a lamp supporting hook.

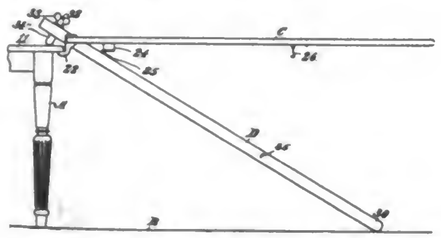
2. A lamp support comprising a base plate and rearwardly projecting and downwardly converging means secured to the inner face of the base plate and adapted to wedge therein the bill of a lamp supporting hook.

3. A lamp support comprising a base plate, means secured to the base plate forming a V-shaped socket adapted to wedge therein the bill of a lamp supporting hook, and means reinforcing the base plate.

4. The combination with a cap, a base plate secured thereto and having a vertical portion, of a bracket secured to the vertical portion of the base plate and having rearwardly projecting and downwardly converging yieldable wings to receive and wedge therebetween the bill portion of the hook of a lamp.

5. A lamp support comprising a substantially Z-shaped plate having a central slot therein, and a strip of material secured at the inner face of the plate near its top, the said strip being bent to provide rearwardly projecting and downwardly converging yieldable wings disposed in the path of the slot and adapted to frictionally engage and wedge therebetween the bill portion of a lamp hook when passed through the slot in the plate.

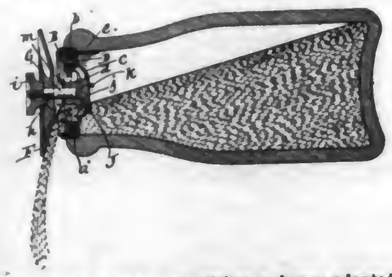
974,443. IRONING-BOARD. JOSEPH DIEUDONNÉ ST. PIERRE and EMERY C. GAUVIN, Lowell, Mass. Filed Dec. 20, 1909. Serial No. 534,175.



1. In a device of the class described, the combination of a board which is round at one end and square at the other with a longitudinal slot therein, dogs which depend from the square end of the board on each side of said slot and are formed with right angular extensions at the bottom, and a transverse cleat attached to the bottom of said board behind the slot, with a leg which is rounded at its lower end has a slot at its upper end and is hinged intermediate its ends to said cleat, a binding cleat with a rounded lower face, a bolt fixed in said binding cleat and extended through the slot in the leg, and a thumb nut screwed on the free end of said bolt as described.

2. In a device of the class described, the combination of a board which is square at one end with a longitudinal slot therein, and dogs which depend from the square end of the board on each side of said slot and are formed with right angular extensions at the bottom, with a leg which is hinged behind said slot and projects through said slot said projecting portion being formed with a vertical slot, a binding cleat, a bolt fixed in said binding cleat and extending through the slot in the leg, and a thumb nut screwed on the free end of said bolt as described.

974,444. BOTTLE-STOPPER. CHARLES J. STAUFFIGER, Buffalo, N. Y. Filed Apr. 29, 1910. Serial No. 558,325.



1. A bottle stopper comprising a frame adapted to be placed in the neck of a bottle and having an annular groove in its periphery, a packing having a cylindrical body adapted to engage the interior of the bottle neck and provided with an internal flange engaging with the groove of the neck, and a cover guided on the frame and movable toward and from the upper edge of the packing.

2. A bottle stopper comprising a frame adapted to be arranged in the neck of a bottle, a packing interposed between said frame and the bottle neck, a cover movable toward and from the outer side of the packing and operating to close and open the bottle and a rod guided in said frame and carrying said cover.

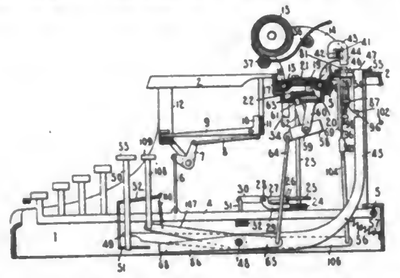
3. A bottle stopper comprising a frame adapted to be arranged in the neck of a bottle, a packing interposed between said frame and the bottle neck, a cover movable toward and from the packing, a rod guided in said frame connected with the cover by means of a square part on said rod engaging with a correspondingly shaped opening in the cover, and a screw nut engaging with the threaded upper end of the rod and engaging with the upper side of said cover.

4. A bottle stopper comprising a frame adapted to be arranged in a bottle neck and having a hub provided on its underside with an oblong socket, a rod having inner and outer ends and guided in said hub and provided at its inner end with an oblong locking head adapted to be moved into and out of engagement with said socket, and a cover mounted on the outer end of said rod.

5. A bottle stopper comprising a frame adapted to be arranged in a bottle neck and having a hub provided on its underside with an oblong socket, a rod having inner and outer ends and guided in said hub and provided at its inner end with an oblong locking head adapted to be moved into and out of engagement with said socket, a cover mounted on the outer end of said rod, and a stop on said frame for limiting the turning of said head below the frame.

[Claims 6 and 7 not printed in the Gazette.]

974,445. TYPE-WRITING MACHINE. ANDREW W. STEIGER, Bridgeport, Conn., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Aug. 6, 1909. Serial No. 511,613.



1. In tabulating mechanism for typewriting machines, the combination of a plurality of stops, a single coöperating stop, the stops when coöperating yielding one to the other, and means for preventing such yielding when said single stop coöperates with a predetermined stop of said plurality of stops.

2. In tabulating mechanism for typewriting machines, the combination of a plurality of stops, a single coöperating stop yieldable to said plurality of stops, and means for preventing said single stop from yielding to a predetermined stop of said plurality of stops.

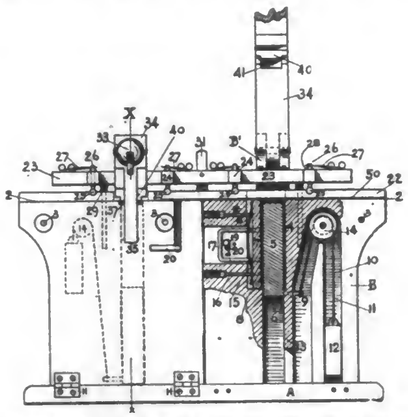
3. In tabulating mechanism for typewriting machines, the combination of a carriage, a set of column stops, a single column selecting stop coöperative therewith and yielding to certain of said column stops, and means for holding said selecting stop rigid to coöperate with a predetermined column stop to arrest the carriage, intervening column stops being skipped or passed.

4. In tabulating mechanism for typewriting machines, the combination of a carriage, a plurality of column stops adjustably arranged thereon, a single column selecting stop on the frame of the machine, said selecting stop being yieldable to certain of said column stops when the carriage is released, and means for preventing said single stop from yielding to a predetermined column stop so as to arrest the carriage in a predetermined columnar position.

5. In tabulating mechanism for typewriting machines, the combination of a plurality of stops, a single coöperating stop yieldable to said plurality of stops, and means controlled by a plurality of keys for preventing said single stop from yielding to a predetermined stop of said plurality of stops.

[Claims 6 to 30 not printed in the Gazette.]

974,446. MECHANISM FOR COVERING LEAF-PNEUMATICS. HORACE W. STOWE, Meriden, Conn. Filed Aug. 20, 1910. Serial No. 578,201.



1. In mechanism for the purpose described, the combination of a recessed body-block having a top table-surface, and provided with a receiving space or guide-way leading from said surface, a plunger movable within said space, and adapted to bottom at the base thereof, means for elevating said plunger, a laterally movable side-clamping plate, means for controlling said plate, drag-devices located above the table-surface at the right and left of the receiving-space opening, a top-pressing member, a swinging lever carrying said member, and means for retaining and releasing said lever, substantially as set forth.

2. A mechanism of the character described, comprising a supporting body having a table-surface and a work-receiving space opening thereto, a spring-pressed clamp-plate at one side of said space, elastic facings at the side wall of the space and on said clamp-plate, means for controlling said side clamp-plate, an elastic-faced plunger movable in said receiving-space, means for automatically elevating said plunger, drag-devices at either side of the opening, means for yieldingly pressing said drag-devices toward the table-surface, an overhead hand-lever carrying a spring-pressed elastic-faced presser in alinement with said plunger, and means for locking said lever at depressed position.

3. In a mechanism of the character described, the combination with the recessed supporting-body having the work-receiving space; of the side-clamping plate, guiding and limiting devices therefor, an outstanding loop attached to said plate, forwardly pressing springs acting against the back of the plate, a rocker-shaft having a cam that engages said loop, and means for manipulating said rocker-shaft for controlling the side-clamping plate.

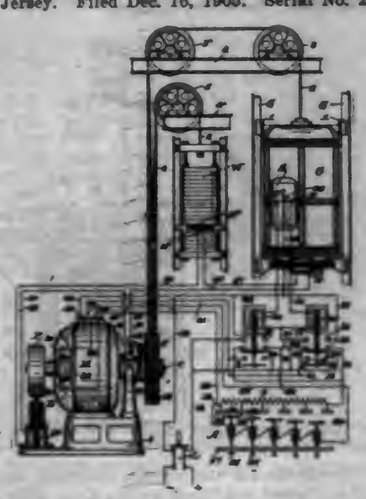
4. In a mechanism of the class described, the combination with the body-block having a pressing matrix therein, and a table-surface across the mouth of said matrix, a movable plunger therein, and means for automatically elevating said plunger, of spring-pressed drag-devices ad-

jacent to the opening in said table-surface, and means for elevating and depressing said drag-devices.

8. In a mechanism of the class described, the combination with the supporting body having the work-receiving space and side pressing means therein, and the table-surface for supporting the covering fabric; of a vertically movable drag-bar having arms projecting over said table-surface, drag-devices loosely supported in said arms, pressure springs for said drag-device, guide-rods and elevating springs for supporting said drag-bar, and a latch-device for retaining the drag-bar at depressed position.

[Claims 6 to 8 not printed in the Gazette.]

974,447. MAGNETIC TRACTION-WHEEL DRIVE. AUGUST SUNDH, Yonkers, N. Y., assignor to Otis Elevator Company, Jersey City, N. J., a Corporation of New Jersey. Filed Dec. 16, 1905. Serial No. 291,986.



1. In a traction elevator, the combination with a car, and counterweight, of brake apparatus for said car and counterweight, hoisting cables connecting said car and counterweight, a magnetic sheave associated with said cables, a motor for driving said sheave, and means for simultaneously energizing said sheave and releasing said brake apparatus.

2. In a traction elevator, the combination with a car, of electro-mechanical brake apparatus carried thereby, a counterweight, additional electro-mechanical brake apparatus carried by said counterweight, one or more cables connecting the car and counterweight, a magnetic sheave associated with said cables, a motor for driving said sheave, and means for energizing said sheave and releasing said brake apparatus concurrently.

3. In a traction elevator, the combination with a car, of a counterweight, brake apparatus carried by one of said parts, a magnet for releasing said brake apparatus, one or more cables connecting the car and counterweight, a magnetic traction sheave, windings for said sheave, a motor for driving said sheave, and means operable from the car for simultaneously energizing said brake magnet, sheave windings, and motor.

4. In a traction elevator, the combination with a car, counterweight and cables, of brake apparatus for the car and counterweight, electric releasing means for said brake apparatus, an electro-magnetic traction sheave associated with said cables, means controllable from the car for operating said electric-releasing-means and effecting the energization of said traction sheave, and a motor for driving said sheave.

5. In a traction elevator, the combination with a car, counterweight and cables, of brake apparatus for the car, electric releasing means for said brake apparatus, an electro-magnetic traction sheave, a motor for driving said sheave, reversing switches for the motor controllable from the car, and connections between said reversing switches and said electric releasing means and electro-magnetic traction sheave to effect the operation of the releasing means and the energization of said traction sheave when either reversing switch is closed.

[Claims 6 to 11 not printed in the Gazette.]

974,448. PROCESS OF LIQUEFYING ORGANIC COLLOIDS. FREDERICK SUPF, New York, N. Y., assignor to The Arabol Manufacturing Company, New York, N. Y., a Corporation of New York. Filed June 27, 1908. Serial No. 440,681.

1. The herein described process of preventing or hindering the coagulation of certain organic colloids at ordinary temperature, consisting in treating the colloids with a solution of a suitable salt of an organic sulfonic acid.

2. The herein described process of preventing or hindering the coagulation of certain organic colloids at ordinary temperature, consisting in treating the colloids with a solution of a suitable salt of a derivative of an organic sulfonic acid.

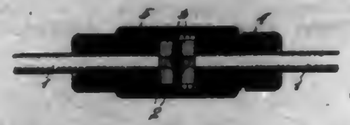
3. The herein described process of preventing or hindering the coagulation of certain organic colloids at ordinary temperature, consisting in treating the colloids with sodium naphthalenesulfonate.

4. The herein described process of preventing or hindering the coagulation of glue at ordinary temperature, consisting in treating said glue with a suitable salt of an organic sulfonic acid.

5. The herein described process of preventing or hindering the coagulation of hide glue at ordinary temperature, consisting in treating the said hide glue with sodium naphthalenesulfonate.

[Claims 6 to 10 not printed in the Gazette.]

974,449. TERMINAL CONNECTION. OTTO THIEME, St. Louis, Mo. Filed Oct. 28, 1909. Serial No. 525,213.

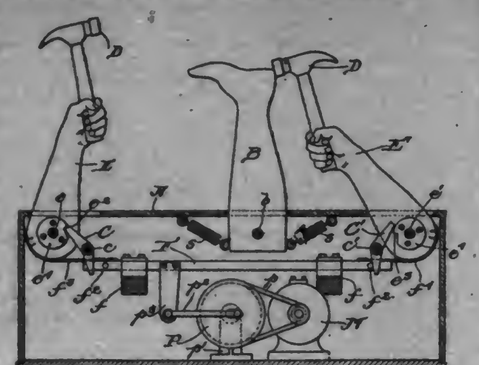


In a terminal connection, the combination of the terminal ends of an electrical conductor composed of a strand of wire coated with insulation as usual, threaded insulation pieces designed to coöperate with each other to clamp the strands together, washers arranged upon the ends of the conductors to be electrically connected, the ends of said strands being bent over the outer faces of said washers in such manner as to have slight play in adjusting themselves to the complementary parts when a connection is made.

974,450. EXHIBITING APPARATUS. FRANCIS W. TULLY, Brookline, Mass. Filed Mar. 11, 1910. Serial No. 548,698.

1. In an exhibiting apparatus, a foot form pivotally mounted and held to slight yielding movement by opposed cushion springs, a hammer at each side of said foot form, one hammer pivoted to swing in a path to strike the toe of said form, and the other hammer pivoted to swing in a path to strike the heel of said form, the striking blows of said hammers being directionally opposed to each other, and means to reciprocate said hammers.

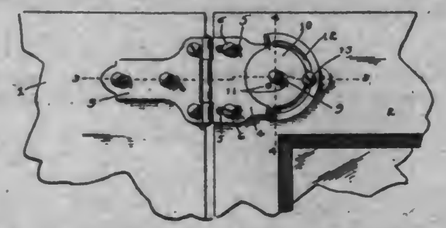
2. In an exhibiting apparatus, a foot form pivotally mounted and held to slight yielding movement by opposed cushion springs, a hammer at each side of said foot form, one hammer pivoted to swing in a path to strike the toe of said form, and the other hammer pivoted to swing in a path to strike the heel of said form, the striking blows of said hammers being directionally opposed to each other, and means to reciprocate said hammers alternately so as to strike said toe and heel alternate percussive blows.



3. In an exhibiting apparatus, a foot form pivotally mounted and held to slight yielding movement by opposed cushion springs, a hammer at each side of said foot form, one hammer held by a dummy hand and arm pivoted to swing in a path to strike the toe of said form, and the other hammer held by an oppositely disposed dummy hand and arm pivoted to swing in a path to strike the heel of said form, the striking blows of said hammers being directionally opposed to each other, and means to reciprocate said hammers.

4. In an exhibiting apparatus, a form adapted to hold an article of wearing apparel, a hammer at each side of said form pivoted to swing in a path to strike said form, by gravity, means to swing said hammers through their return strokes and to release them at the ends thereof, and means whereby each hammer will be removed from contact with the form when the other hammer strikes the form.

974,451. ADJUSTABLE HINGE. ANTHONY VANDERVELD, Grand Rapids, Mich., assignor to Grand Rapids Show Case Company, Grand Rapids, Mich., a Corporation of Michigan. Filed Mar. 29, 1910. Serial No. 552,189.



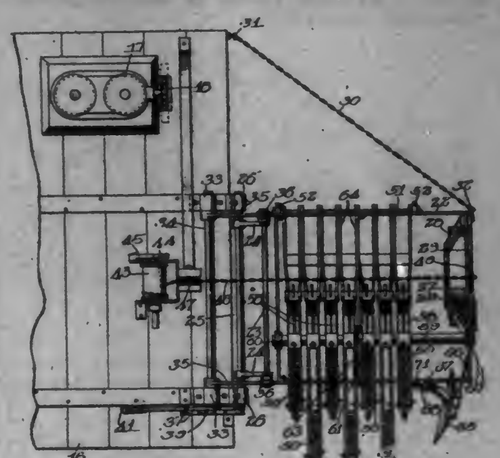
1. A hinge, one leaf of which is adapted to be fixed to a support, the other leaf being provided with means for adjustable attachment, means for accomplishing such adjustment, and means for locking the adjusting means.

2. A hinge, one leaf of which is provided with attaching means and adapted to be fixed to a stationary member, the other leaf being provided with attaching means and provision for adjustment and adapted to be attached to a door and having an opening engaged by an adjusting member, the same being provided with locking means to maintain the adjustment.

3. In a device of the class described, a stile, a door, and a hinge, one leaf of which is fixed to the stile, the other leaf being adjustably attached to the door, said adjusting means comprising slotted openings to receive the attaching screws, an opening engaged by an eccentric, and means for moving and locking said eccentric at any desired point.

4. In a device of the class described, a hinge, one leaf of which is provided with openings to receive attaching screws, the other leaf having slotted openings to receive attaching screws, and also having an opening to receive an eccentric, a pivoted member, an eccentric fixed to said member and engaging the last named opening, and a slot in said member engaged by a locking screw.

974,452. RAILWAY WEED-CUTTER. ROBERT WHITTY, Horicon, Wis., and EDWARD LAAS, Chicago, Ill. Filed Dec. 18, 1909. Serial No. 533,797.



1. In a railway weed cutter, the combination with a railway car, of a frame pivotally connected with the car, means for shifting said pivotal connection, means for supporting the outer end of said frame, a plurality of weed cutting devices on said frame, and a grass line cutter which is elastically mounted on said frame.

2. In a railway weed cutter, the combination with a railway car, of a frame, a plurality of weed cutting devices on said frame, and a grass line cutter connected with said frame comprising a disk, a bracket supporting the same having a pivoted extension and a compression spring interposed between said extension and said frame, for the purpose described.

3. In a railway weed cutter, the combination with a railway car, of weed cutting apparatus, and means for adjustably connecting said weed cutting apparatus with the car, comprising a rock shaft, means for rotating the same, rotatable supporting arms on the car to which said weed cutting apparatus is pivoted, arms on said rock shaft and links connecting said arms with the arms to which said apparatus is pivoted.

4. In a railway weed cutter, the combination with a railway car, of weed cutting apparatus, means pivoted to the car and to said weed cutting apparatus, and means on the car whereby said last mentioned pivotal connection may be raised and lowered.

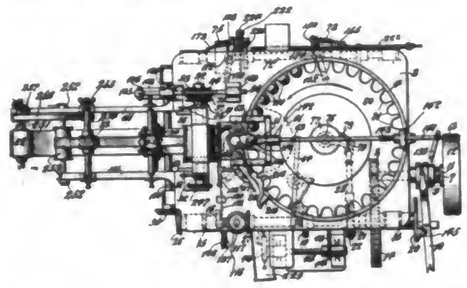
5. In a railway weed cutter, the combination with a railway car, of weed cutting apparatus, means pivoted to the car and to said apparatus, a rock shaft on the car having a lever, means for locking the lever at different positions, and means connected with said rock shaft for raising and lowering the pivotal connection between said means pivoted to the car and said weed cutting apparatus.

[Claims 6 to 10 not printed in the Gazette.]

974,453. WRAPPING-MACHINE. LAWRENCE H. WILBUR, Philadelphia, Pa., assignor to H. O. Wilbur and Sons, Inc., Philadelphia, Pa., a Corporation of Pennsylvania. Filed Mar. 3, 1910. Serial No. 547,018.

1. In a machine of the character described, a frame, a drum adjacent thereto carrying a strip of material for wrapping articles, a plurality of rolls mounted on said

frame for feeding said strip of material, means to produce a step by step movement of said rolls, a cutting device adjacent said rolls adapted to sever said strip of material, a support for the severed portion of said material having an opening therein, a carrier adjacent said support for a plurality of articles to be wrapped, means to feed an article to the severed portion of said material, a suitably mounted plunger adapted to pass said article and material through said opening to fold said material about said article, means to twist the folded portion of said material and means to press said twisted portion together.



2. In a machine of the character described, a frame, a drum adjacent thereto carrying a strip of material for wrapping articles, a plurality of rolls mounted on said frame for feeding said strip of material, means to produce a step by step movement of said rolls, a cutting device adjacent said rolls adapted to sever said strip of material, a support for the severed portion of said material having an opening therein, a carrier adjacent said support for a plurality of articles to be wrapped, means to feed an article to the severed portion of said material, a suitably mounted plunger adapted to pass said articles and material through said openings to fold said material about said articles, a plurality of fingers adapted to twist the folded portion of said material, and means to press said twisted portion together.

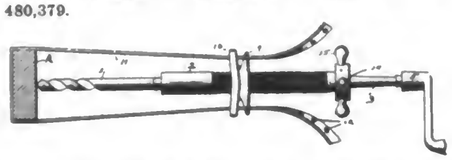
3. In a machine of the character described, a frame, a drum adjacent thereto carrying a strip of material for wrapping articles, a plurality of rolls mounted on said frame for feeding said strip of material, means to produce a step by step movement of said rolls, a cutting device adjacent said rolls adapted to sever said strip of material, a support for the severed portion of said material having an opening therein, a carrier adjacent said support for a plurality of articles to be wrapped, means to feed an article to the severed portion of said material, a suitably mounted plunger adapted to pass said articles and material through said opening to fold said material about said articles, a plurality of fingers adapted to twist the folded portion of said material, and a plurality of blocks adapted to press said twisted portion together.

4. In a machine of the character described, a frame, a drum adjacent thereto carrying a strip of material for wrapping articles, a plurality of rolls mounted on said frame for feeding said strip of material, means to produce a step by step movement of said rolls, a cutting device adjacent said rolls adapted to sever said strip of material, a support for the severed portion of said material having an opening therein, a carrier adjacent said support for a plurality of articles to be wrapped, means to feed an article to the severed portion of said material, a suitably mounted plunger adapted to pass said articles and material through said opening to fold said material about said articles, a plurality of fingers adapted to twist the folded portion of said material, a plurality of blocks adapted to press said twisted portion together, and means to eject the wrapped article from said machine.

5. In a machine of the character described, a frame, a drum adjacent thereto carrying a strip of material for wrapping articles, a plurality of rolls mounted on said frame for feeding said strip of material, means to produce a step by step movement of said rolls, a cutting device adjacent said rolls adapted to sever said strip of material, a support for the severed portion of said material having an opening therein, a carrier adjacent said support for a plurality of articles to be wrapped, means to feed an article to the severed portion of said material, a suitably mounted plunger adapted to pass said articles and material through said opening to fold said material about said articles, a plurality of fingers adapted to twist the folded portion of said material, a plurality of blocks adapted to press said twisted portion together, and a suitably controlled air blast to eject the wrapped articles from said machine.

[Claims 6 to 22 not printed in the Gazette.]

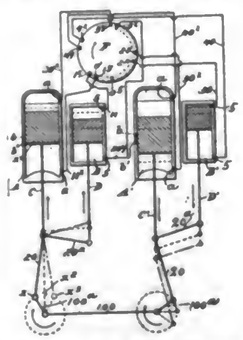
974,454. PORTABLE FORCE-DRILL. CHARLES W. WILSON, Chicago, Ill. Filed Feb. 27, 1909. Serial No. 480,379.



1. In a portable force drill, the combination of a rotatable sleeve threaded externally, a rotatable socketed stem in said sleeve, means for locking the sleeve and stem together, and means engaging the threads of the sleeve and means for connecting said last named means with the article to be operated upon for producing relative approaching adjustment of the sleeve and article.

2. In a portable force drill, the combination with a stem and an externally threaded sleeve surrounding the same and engaging the stem for imparting longitudinal stress thereto, of a threaded member threaded onto said sleeve and adjustable longitudinally thereof, a frame extending from said threaded member and having strap receiving openings, a strap adapted to engage the article operated upon intermediate the length of the strap, and said strap having its ends extending through the openings of the frame, the end portions of the strap being apertured, and lugs extending from the threaded member into the apertures of the strap.

974,455. EXPLOSIVE-ENGINE. WILLIAM J. WRIGHT, Franklin, Pa. Filed Feb. 17, 1906. Serial No. 301,683.



1. An improved explosive engine comprising two working cylinders and their pistons, and a pump for each working cylinder, piston rods for the pistons of the pumping cylinders, a crank shaft, operative connections between said crank shaft and said piston rods to cause said pumping and working cylinder pistons to operate in unison and move in the same direction under a part of their cycle of movement and to move in opposite directions during another part of that cycle of movement, a source of working agent supply, and an automatically controlled valve common to both pumps and working cylinders for leading the charge to said pumps and working cylinders successively and alternately into their opposite ends, substantially as shown and described.

2. An improved explosive engine, comprising two working cylinders, including a piston for each, said cylinders having a valved intake at each end, and a piston controlled exhaust common to both ends of the cylinder, a pump for each cylinder, having a valved combined intake and exhaust at each end, the combined intake and exhaust having a crossed connection with their respective coöperating working cylinders, a source of working agent supply, and a single valve mechanism, geared with the drive member of the engine, adapted to control the feed to the pump inlets, whereby to feed to both pumps at the same time from opposite ends alternately and in succession.

3. An explosive engine, comprising a pair of working cylinders, having a valved intake at each end, and central piston controlled exhausts; of a pump for each cylinder, having a single opening at each end, a working agent controlling valve common to both pumps, and their working cylinders, and having independent ports, leads from said ports to each end of the working cylinder and the pump, the leads from the pumps through the single valve having a crossed over relation with their respective working cylinders, substantially as shown and for the purposes described.

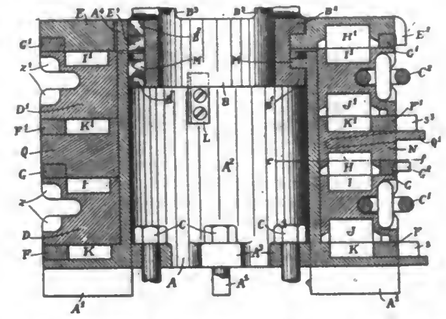
4. The combination of the two working cylinders and their pistons, the pump cylinders and their pistons, coöperatively joined with their respective working cylinders, each pump having a single opening in each end, the working cylinders having a valved intake at each end, and a central piston controlled exhaust, the single drive shaft having a crank for each set of pump and working cylinders set on quarters, a rocking lever connection for joining the cross-head for each working cylinder piston with the shaft cranks and the piston rods for the pumps, a source of working supply, and a single valve mechanism common to both sets of working and pump cylinders, adapted to control the feed of the working agent to and from the pumps to the working cylinders in successive alternate intervals, for the purposes specified.

5. In an explosive engine as described, the combination with the working cylinders A—A′ having a valved intake at each end, and a central piston controlled exhaust, the pumps B—B′ having a single opening at each end, and cooperatively joined with the cylinders A—A′, the drive shaft having two cranks on quarters, automatically shiftable connections for joining the pistons of the working and pump cylinders with the shaft cranks, a single valve mechanism common to both sets of pump and working cylinders, said valve having a separate set of ports for joining the ends of each pump cylinder with its coincident working cylinder, and in a crossed relation, whereby the pump cylinder at one end communicates with the working cylinder at the opposite end, and vice versa, a governor geared with the drive shaft, said governor including a shiftable valve member for controlling the flow of the working agent.

[Claim 6 not printed in the Gazette.]

974,456. WINDLASS. CIPRIANO ANDRADE, Jr., New York, N. Y. Filed May 14, 1910. Serial No. 561,363.

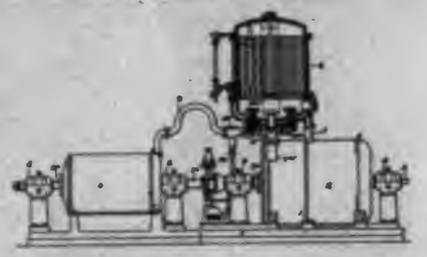
1. In windlasses, in combination; a bed plate, having recesses in its upper face; a central hollow pin perpendicular to said bed plate and integral therewith, said central pin having castellations at its upper portion; a lower sheave rotating freely about said pin as an axis, the lower face of said lower sheave resting on the upper face of said bed plate, said lower sheave having recesses in its top face; a heaving ring rotating freely about said pin as an axis, the lower face of said heaving ring resting on the upper face of said lower sheave, said heaving ring having recesses in its upper face; an upper sheave rotating freely about said pin as an axis, the lower face of said upper sheave resting on the upper face of said heaving ring, said upper sheave having recesses in its top face; a top plate with recesses segmental in plan, said recesses registering with the castellations on the upper end of the central hollow pin, and adapted for effective engagement with said castellations to prevent said top plate from rotating with reference to said pin, the lower face of said top plate resting on the upper face of said upper sheave; pawls let into the lower face of said top plate, said pawls engaging in said recesses in the upper face of said upper sheave, whereby said upper sheave is free to rotate in one direction with reference to said top plate, but not in the opposite direction; pawls let into the lower face of said upper sheave, said pawls engaging said recesses in the upper face of said heaving ring, and coöperating with said pawls in the lower face of said top plate, whereby said upper sheave is free to rotate in one direction with reference to said top plate and heaving ring, but not in the opposite direction; pawls let into the lower face of said heaving ring, said pawls engaging in said recesses in the upper face of said lower sheave, whereby said lower sheave is free to rotate in one direction with reference to said heaving ring but not in the opposite direction; pawls let into the lower face of said lower sheave, said pawls engaging in said recesses in the upper face of said bed plate, and coöperating with said pawls in the lower face of said heaving ring, whereby said lower sheave is free to rotate in one direction with reference to said bed plate and heaving ring, but not in the opposite direction; means for imparting a limited reciprocating motion of rotation to said heaving ring; means for securing said windlass solidly to the deck or floor.



2. In windlasses, in combination; a bed plate, having recesses in its upper face; a central hollow pin perpendicular to said bed plate and integral therewith, said central pin having castellations at its upper portion; a lower sheave rotating freely about said pin as an axis, the lower face of said lower sheave resting on the upper face of said bed plate, said lower sheave having recesses in its top face; a heaving ring rotating freely about said pin as an axis, the lower face of said heaving ring resting on the upper face of said lower sheave, said heaving ring having recesses in its upper face; an upper sheave rotating freely about said pin as an axis, the lower face of said upper sheave resting on the upper face of said heaving ring, said upper sheave having recesses in its top face; a top plate with recesses segmental in plan, said recesses registering with the castellations on the upper end of the central hollow pin, and adapted for effective engagement with said castellations to prevent said top plate from rotating with reference to said pin, the lower face of said top plate resting on the upper face of said upper sheave; pawls let into the lower face of said top plate, said pawls engaging in said recesses in the upper face of said upper sheave, whereby said upper sheave is free to rotate in one direction with reference to said top plate, but not in the opposite direction; pawls let into the lower face of said upper sheave, said pawls engaging said recesses in the upper face of said heaving ring, and coöperating with said pawls in the lower face of said top plate, whereby said upper sheave is free to rotate in one direction with reference to said top plate and heaving ring, but not in the opposite direction; pawls let into the lower face of said heaving ring, said

pawls engaging in said recesses in the upper face of said lower sheave, whereby said lower sheave is free to rotate in one direction with reference to said heaving ring but not in the opposite direction; pawls let into the lower face of said lower sheave, said pawls engaging in said recesses in the upper face of said bed plate, and coöperating with said pawls in the lower face of said heaving ring, whereby said lower sheave is free to rotate in one direction with reference to said bed plate and heaving ring, but not in the opposite direction; means for imparting a limited reciprocating motion of rotation to said heaving ring; means for securing said windlass solidly to the deck or floor; means for tripping all four sets of pawls; means as shown and described for forcing said covering member down with reference to said central pin.

974,457. ELASTIC-FLUID TURBINE. CHARLES A. BACKSTROM, Philadelphia, Pa., assignor to International Power Generator Company, a Corporation of Delaware. Filed Oct. 30, 1909. Serial No. 526,441.



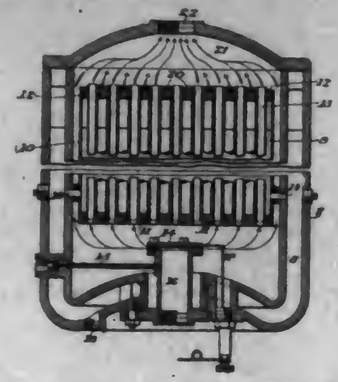
1. The combination, constituting a multi-fluid turbine, of an elastic fluid turbine element, means to generate and deliver thereto a plurality of expansive motive fluids, means, provided with valvular devices, to supply materials to said generator; and a governor adapted to operate as a speed responsive device driven by the turbine, with connecting actuating mechanism, controlling said valvular devices.

2. In a multi-fluid turbine comprising a turbine element, a generator adapted to supply thereto a plurality of expansive motive fluids, and a turbo compressor driven directly by the turbine shaft, with a valvular device controlling the admission of air therefrom to the generator, of a valvular device controlling a source of supply of water, and another valvular device controlling a source of supply of fuel, delivered to the generator, a governor adapted to operate as a speed responsive device driven by the turbine, and connecting mechanism controlled by said governor and actuating said series of valvular devices.

3. In a multi-fluid turbine, a turbine element, means to generate and supply thereto a plurality of expansive motive fluids, a turbo compressor, a valvular device between the same and the generator, means to deliver water to the generator, a valvular device between said elements, a source of supply of fuel to the generator with interposed controlling valvular device, a series of levers actuating said series of valvular devices, a hydraulic cylinder whose piston rod actuates said levers, a valve mechanism governing the supply of fluid under pressure to actuate said hydraulic cylinder, and a governor driven from the turbine shaft, with interposed connecting mechanism actuating said last mentioned valve mechanism under regulative control of the governor.

974,458. METHOD OF UTILIZING PRODUCTS OF COMBUSTION AND APPARATUS THEREFOR. CHARLES A. BACKSTROM, Philadelphia, Pa., assignor to International Power Generator Company, a Corporation of Delaware. Filed Sept. 15, 1908, Serial No. 453,106. Renewed Apr. 7, 1910. Serial No. 554,044.

1. In a generator, means for feeding fuel, means for feeding air, a burner to which the commingled fuel and air are fed, a water jacket, a boiler independently supported in said jacket and located in the heat zone of the burner, said boiler having tubes through which the products of combustion pass and having ports intermediate the discharge end of said tubes through which steam may pass to mix with produces of combustion passing through said tubes and around said boiler, and said water jacket communicating with said boiler.

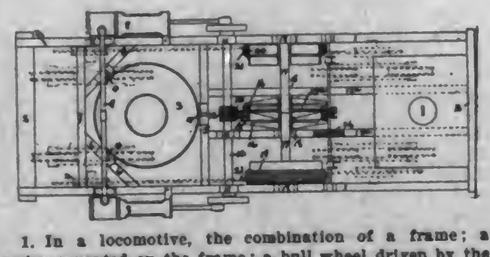


2. In a generator, means for feeding fuel, means for feeding air, a burner to which the commingled fuel and air is conducted, a water jacket, and a boiler independently supported in said jacket, surrounded thereby, and located in the heat zone of the burner, said boiler having tubes through which the products of combustion may pass and having ports surrounding the discharge ends of said tubes through which products of combustion may pass to mix with the steam issuing from said ports and the products of combustion passing around said boiler, and said water jacket communicating with said boiler.

3. In a generator, a water jacket, a boiler independently supported therein to permit products of combustion to completely surround said boiler, said boiler having a plurality of open ended tubes through which products of combustion may pass, and provided with ports surrounding the discharge ends of said tubes to permit steam to mix with the products of combustion passing through the tubes and around the boiler, a burner carried by the water jacket, means for feeding fuel, and means for feeding air, and said water jacket completely surrounding the sides and bottom of said boiler.

4. In a steam generator, a boiler having a plurality of open ended tubes to permit passage of products of combustion, and provided with ports between the tubes for escape of steam to cause an intimate commingling of the steam and products of combustion, there being a common chamber for the steam and products of combustion wherein the mixing takes place, and a source of heat for the boiler, said source of heat operating at a pressure higher than atmospheric pressure.

974,459. LOCOMOTIVE. BERT CHARLES BALL, Portland, Oreg. Filed Nov. 30, 1908. Serial No. 465,019.



1. In a locomotive, the combination of a frame; a motor mounted on the frame; a bull wheel driven by the motor and mounted on the frame; a stationary taut cable extending to the front and rear of the locomotive and

wrapped with a complete turn directly around the bull wheel; guides for maintaining the cable in the path of the locomotive; and guides on the locomotive acting upon the cable for taking the cable from and delivering the cable to the cable guides.

2. In a locomotive, the combination of a frame; devices at each side of the locomotive for operating upon a stationary cable extending to the front and rear of the locomotive for driving the locomotive; and means on the locomotive for actuating said devices.

3. In a locomotive, the combination of a frame; devices comprising a bull wheel upon which a cable may run with a complete turn directly around said wheel at each side of the locomotive for operating upon a taut stationary cable extending to the front and rear of the locomotive; and means on the locomotive for actuating said devices.

4. In a locomotive, the combination of a frame; devices comprising a bull wheel at each side of the locomotive over which a stationary cable extending to the front and rear of the locomotive may run with a complete turn directly around said wheel; and means on the locomotive for actuating said devices.

5. In a locomotive, the combination of a frame; wheels at each side of the frame over which a stationary cable may run for actuating the locomotive; and means on the locomotive for driving said wheels comprising a differential gear.

[Claims 6 to 11 not printed in the Gazette.]

974,460. DIAL-FOOT FOR WATCHES. WEBSTER C. BALL, Cleveland, Ohio. Filed May 6, 1908. Serial No. 431,079.

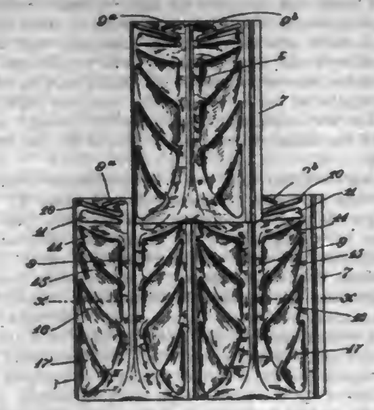


The combination with the bed-plate and dial of a watch, of means for securing the latter to the former, such means comprising lugs on the inturned face of said dial, said lugs being laterally recessed and the opposed face of said bed-plate being formed with apertures for the reception of said lugs, and screws in said bed-plate having tapered body portions and reduced terminally threaded portions, the apertures for said screws intersecting those receiving said lugs and being disposed so that the tapered body portions of said screws, upon insertion of the latter, engage the lower edges only of the recesses in the corresponding lugs, whereby the latter are drawn downwardly, the reduced threaded terminal portions of said screws being of a length to permit such body portion to be backed out of such apertures without entirely releasing the screws, yet releasing the dial lugs.

974,461. ROOFING OR SIDING SHINGLE. ALBERT D. BIERMAN, Columbus, Ohio, assignor to The Kinnear and Gager Manufacturing Company, Columbus, Ohio, a Corporation of Ohio. Filed Aug. 5, 1909. Serial No. 511,354.

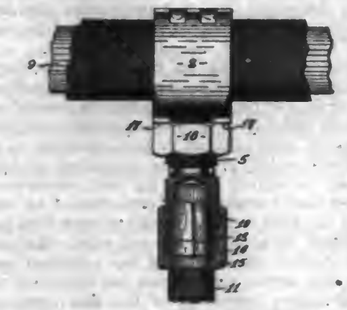
1. A roofing or siding shingle consisting of a plate of suitable material having suitable jointing edges and a middle rib expanded at its lower end, and inclined embossments between the middle rib and the edges of the shingle adapted to form downwardly inclined channels to direct water toward the middle of the shingle at the upper portion and toward the edges of the shingle at its lower portion, the width of the expanded lower end of the middle rib being greater than that of the space between the adjacent ends of the upper inclined expoled embossments of two similar shingles when jointed.

2. A roofing or siding shingle having a middle rib terminating at its upper end in oppositely laterally extending short ribs each downwardly inclined toward the edge of the shingle and reversely inclined ribs beyond the ends of said lateral ribs and extending above and below said ends



and inclined downwardly toward the middle rib of the shingle.

974,462. ELECTRICAL COUPLING. CARL H. BISSELL, Syracuse, N. Y., assignor to Crouse-Hinds Company, Syracuse, N. Y., a Corporation of New York. Filed Jan. 27, 1910. Serial No. 540,350.



1. In an electrical coupling, a band member comprising two sections pivotally connected to each other at corresponding ends and provided at their opposite ends with opposing externally threaded projections, a main member having a shank provided with an engaging face for coöperating with the band member, said projections being shaped to embrace a portion of the shank, and a nut for engaging the externally threaded projections and the shank, substantially as and for the purpose specified.

2. In an electrical coupling, a band member comprising two sections pivotally connected to each other at corresponding ends and provided at their opposite ends with opposing externally threaded projections, a main member having a shank provided with an engaging face at one end for coöperating with the band member, the shank having a substantially cylindrical portion, and the inner faces of said projections being shaped to conform to the periphery of the cylindrical portion of the shank, and a nut for engaging the externally threaded projections and the shank, substantially as and for the purpose described.

3. In an electrical coupling, a band member comprising two sections pivotally connected to each other at corresponding ends and provided at their opposite ends with opposing externally threaded projections substantially semi-cylindrical in cross section, a main member having a shank provided with an engaging face for coöperating with the band member, the shank having a cylindrical part of reduced diameter embraced by said projections, and a nut for engaging the externally threaded projections and the shank, substantially as and for the purpose set forth.

4. In an electrical coupling, a band member comprising two sections pivotally connected to each other at corresponding ends and provided at their opposite ends with opposing externally threaded projections, a main member having a shank provided with an engaging face for cooperating with the band member, said projections being shaped to embrace a portion of the shank and having opposing lengthwise surfaces normally engaging each other, and a nut for engaging the externally threaded projections and the shank, substantially as and for the purpose specified.

5. In an electrical coupling, a band member comprising two sections pivotally connected to each other at corresponding ends and provided at their opposite ends with opposing externally threaded projections substantially semi-cylindrical in cross section which in effect form a sleeve when the band member is in clamping position, said projections having opposing lengthwise surfaces normally engaging each other, a main member having a shank provided with a head at one end located within the bore of the band member and coöperating with said band member, the shank having a cylindrical part of reduced diameter embraced by the inner faces of the opposing projections, and a nut for engaging the externally threaded projections and the shank, substantially as and for the purpose described.

[Claims 6 to 23 not printed in the Gazette.]

974,463. PROCESS FOR REMOVING TIN FROM TIN-PLATE WASTE. HEINRICH BRANDENBURG, Kempen-on-the-Rhine, Germany. Original application filed Mar. 3, 1908, Serial No. 418,933. Divided and this application filed Aug. 11, 1908. Serial No. 448,062.

The process of removing tin from tin plate, scrap or other tin containing material, together with simultaneous production of oxid of tin, which consists in flowing a solution of caustic alkali over the tin containing material, air being present in said solution in such quantity as to insure the formation of an oxygen compound of tin, the caustic alkali thereafter converting said compound into stannic alkali with the additional formation of an alkaline carbonate in the fluid mass, removing in part that portion of said alkaline solution encumbered with alkaline carbonate and stannic alkali leaving the principal part of the solution still active, to facilitate the continued formation of said oxygen compound of tin, and continuously supplying fresh quantities of the aerated alkaline reagent to effect a continuous and substantially uniform production of said stannic alkali, substantially as described.

974,464. POLYCHROME SCREEN AND PROCESS OF MAKING THE SAME. CHARLES L. A. BRASSEUR, New York, N. Y. Filed Sept. 9, 1907. Serial No. 391,964.

1. The method, substantially as hereinbefore set forth, of forming grained screens for use in photographic processes, consisting in forming as spheres grains of different light-selective absorption properties, distributing said grains in a layer on a support, flattening them out and binding them together.

2. The method, substantially as hereinbefore set forth, of forming grained screens for use in photographic processes, consisting in placing a quantity of grains of different light-selective absorption properties upon an adhesive substance in a dry or non-sticky condition and causing them to pack close together, rendering said substance adhesive and then drying it again, removing the surplus grains, then flattening the grains remaining upon said substance, and then placing on them a binding layer.

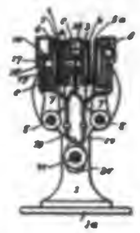
3. A screen for photographic processes consisting of grains of different light-selective absorption properties integral with a colorless film of the same material as the grains.

4. The method, substantially as hereinbefore set forth, of forming grained screens for use in photographic processes, consisting in placing a quantity of grains of different light-selective absorption properties upon an adhesive substance backed by paper and in a dry or non-tacky state and causing them to pack close together, rendering said adhesive substance tacky and then drying it again, removing surplus grains, then transferring the layer to a colorless film, flattening the grains, and binding them together and to said film.

5. A screen for use in photographic processes consisting of thin flat grains of different colors forming a layer coated on one side at least with a thin layer of colorless material and integrally connected with said grains, the whole forming an endless film which can be rolled up and unrolled in film-cameras and kinematographic work.

[Claims 6 to 14 not printed in the Gazette.]

974,465. APPARATUS FOR HARDENING KNIFE-BLADES. EWALD BRÖKING, Gevelsberg, Germany. Filed Mar. 12, 1910. Serial No. 549,023.



1. An apparatus for hardening steel comprising in combination, relatively movable pressure elements for engaging the steel to be hardened, means for actuating one of said elements to engage and release the steel, movable means for holding the steel between said elements, and subsequently releasing it, and means for applying cooling medium to the steel while engaged by said elements.

2. An apparatus for hardening steel comprising in combination, relatively movable chambered pressure elements provided with perforated pressure surfaces, means for pressing the steel therebetween while hot, means for applying a cooling medium through said chambered elements to the steel to cool the same, and means for holding the steel in position prior to engagement by said pressure elements and releasing the steel subsequent to release by said pressure elements.

3. An apparatus for hardening steel comprising in combination, relatively movable pressure elements for engaging the steel while hot, and means for holding the steel in position prior to engagement by said elements and releasing the steel when the same is released by said elements.

4. An apparatus for hardening steel comprising in combination, a central element provided with a plurality of pressure plates on opposite sides thereof, vertically disposed pivoted elements movable against the pressure plates of said central element and having pressure plates coöperating with the plates of said central elements to compress the steel while hot, and means for applying a cooling medium to the steel while compressed.

5. An apparatus for hardening steel comprising in combination, relatively movable pressure elements for engaging the steel while hot, and automatically acting movable elements for holding the steel between said elements prior to engagement thereby and releasing the steel subsequently to release by said elements.

[Claims 6 to 9 not printed in the Gazette.]

974,466. FRICTION DRAFT-RIGGING. CYRUS L. BUNDY, Kingsland, N. J., assignor, by mesne assignments, to William H. Miner, Chicago, Ill. Filed July 27, 1909. Serial No. 509,943.

1. In a friction draft rigging, the combination with a draw-bar, draft yoke and stop members, of a pair of wedge faced friction followers extending through the draft yoke and engaging one, the draft yoke and the other the draw-bar, an intermediate wedge faced transversely arranged and transversely and longitudinally movable friction block, an upright spring acting at its inner end against said intermediate friction block, and tension rods extending through said wedge faced followers, one pair on each side of the draft yoke and two through each wedge faced follower, and a spring seat plate supported by said rods and against which the outer end of the spring bears, substantially as specified.



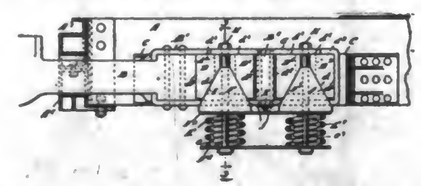
2. In a friction draft rigging, the combination with a draw-bar, draft yoke and stop members, of a pair of wedge faced followers, an intermediate friction block acting against said followers, a spring acting against said intermediate block, friction straps on each side of the draft yoke bearing against the horizontal friction faces of said wedge faced followers, a spring seat plate against which the outer end of the spring bears and tension rods connecting said spring seat plate with said friction straps, substantially as specified.

3. In a friction draft rigging, the combination with a draw-bar, draft yoke and stop members, of a pair of wedge faced followers, an intermediate friction block acting against said followers, a spring acting against said intermediate block, friction straps on each side of the draft yoke bearing against the horizontal friction faces of said wedge faced followers, a spring seat plate against which the outer end of the spring bears and tension rods connecting said spring seat plate with said friction straps, said intermediate friction block, spring and friction straps having a movement longitudinally with the draw-bar, substantially as specified.

4. In a friction draft rigging, the combination with the draw-bar, draft yoke and stop members, of a pair of wedge faced friction followers extending through said yoke, and an intermediate friction wedge block, a spring acting against said wedge block, a plate against which the outer end of the spring bears, and connections between said plate and said wedge faced friction followers, substantially as specified.

5. In a friction draft rigging, the combination with the draw-bar, draft yoke and stop members, of a pair of wedge faced friction followers extending through said yoke, and an intermediate friction wedge block, a spring acting against said wedge block, a plate against which the outer end of the spring bears, friction straps, one on each side of the draft yoke bearing against said friction followers, and connections between said plate and said friction straps, substantially as specified.

974,467. FRICTION DRAFT-RIGGING FOR RAILWAY-CARS. CYRUS L. BUNDY, Kingsland, N. J., assignor, by mesne assignments, to William H. Miner, Chicago, Ill. Filed July 27, 1909. Serial No. 509,944.



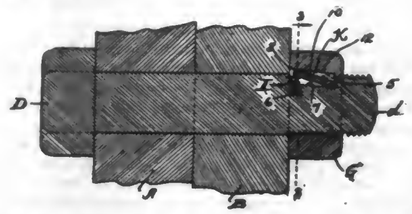
1. In a friction draft rigging, the combination with a draw-bar, draft yoke and stop members, the draft yoke having an intermediate abutment, of two tandem arranged pairs of wedge faced friction followers extending through the draft yoke, two intermediate tandem wedge faced friction blocks, upright springs acting at their inner ends against said intermediate friction blocks, a spring seat plate against which the outer ends of said springs bear and tension rods connecting said spring seat plate with said wedge faced followers, substantially as specified.

2. In a friction draft rigging, the combination with a draw-bar, draft yoke and stop members, of two tandem pair of wedge faced followers, two tandem arranged intermediate friction blocks acting against said followers, tandem springs acting against said intermediate blocks, friction straps on each side of the draft yoke bearing against the horizontal friction faces of said wedge faced followers, a spring seat plate against which the outer ends of the springs bear, and tension rods connecting said spring seat plate with said friction straps, substantially as specified.

3. In a friction draft rigging, the combination with a draw-bar, draft yoke and stop members, of two tandem arranged friction units, each of said units comprising a pair of wedge faced followers, a friction block between and acting against said followers, a spring acting against said friction block, and friction straps on each side of the draft yoke bearing against the horizontal friction faces of said wedge faced followers of both of said units, substantially as specified.

4. In a friction draft rigging, the combination with a draw-bar, draft yoke and stop members, of two tandem arranged friction units, each of said units comprising a pair of wedge faced followers, a friction block between and acting against said followers, a spring acting against said friction block, friction straps on each side of the draft yoke bearing against the horizontal friction faces of said wedge faced followers of both of said units, a spring seat plate against which the outer ends of the springs of both of said units bear, tension rods connecting said spring seat plate with said friction straps, said wedge faced followers having slots to accommodate said tension rods, substantially as specified.

974,468. NUT-LOCK. JOSEPH BURGERT and RUDOLPH FRANKE, Cleveland, Ohio. Filed Aug. 20, 1910. Serial No. 578,157.



1. In a nut-lock, in combination, a bolt having the screw-threaded portion of its shank provided with a recess which is arranged longitudinally of the shank, which recess is enlarged at its inner end toward and substantially radially of the shank; a nut screwed onto the recessed portion of the said shank and provided internally with a recess extending endwise of the nut, which recess has a depth increasing in the direction in which the nut is turned in screwing the nut onto the bolt so as to form a side wall which faces in the opposite direction; a spiral spring arranged within the aforesaid enlargement of the recess in the bolt and substantially radially of the bolt, and a key arranged loose within and longitudinally of the recess in the bolt, which key overlaps the outer end of the spring and is held by the spring in contact with the nut.

2. In a nut-lock, in combination, a bolt having the screw-threaded portion of its shank provided with a recess which is arranged longitudinally of the shank, which recess is enlarged at its inner end toward the center and substantially radially of the shank; a nut screwed onto

the recessed portion of the said shank and provided internally with a recess extending endwise of the nut, which recess has a depth increasing in the direction in which the nut is turned in screwing the nut onto the bolt and has a side wall which faces in the opposite direction; a spiral spring arranged within the aforesaid enlargement of the recess in the bolt and substantially radially of the bolt, and a key arranged loose within and longitudinally of the recess in the bolt, which key overlaps the outer end of the spring and is held by the spring in contact with the nut, said key having its outer end rounded and also having bearing at the said end on the bottom of the recess in the bolt.

3. In a nut-lock, in combination, a bolt having the screw-threaded portion of its shank provided with a recess which is spaced from the free extremity and arranged longitudinally of the shank, which recess is enlarged at its inner end toward the center and substantially radially of the shank; a nut screwed onto the recessed portion of the said shank and provided internally with a recess extending from the inner end face of the nut toward the outer end of the nut but spaced from the outer end face of the nut, which recess has a depth gradually increasing in the direction in which the nut is turned in screwing the nut onto the bolt so as to form a side wall which faces in the opposite direction; a spiral spring arranged within the aforesaid enlargement of the recess in the bolt and substantially radially of the bolt, and a key arranged loose within and longitudinally of the recess in the bolt, which key overlaps the outer end of the spring and is held by the spring in contact with the nut.

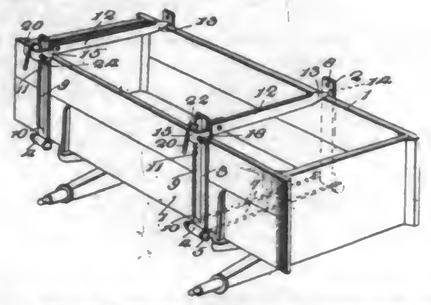
4. In a nut-lock, in combination, a bolt having the screw-threaded portion of its shank provided with a recess which is spaced from the free extremity and arranged longitudinally of the shank, which recess is enlarged at its inner end toward the center and substantially radially of the shank and has its bottom slanting from the open end of the said enlargement of the recess both toward the center and toward the free extremity of the shank; a nut screwed onto the recessed portion of the said shank and provided internally with a recess extending from the inner end face of the nut toward the outer end of the nut but spaced from the outer end face of the nut, which recess has a depth increasing in the direction in which the nut is turned in screwing the nut on the bolt, and has a side wall which faces in the opposite direction; a spiral spring arranged within the aforesaid enlargement of the recess in the bolt and substantially radially of the bolt, and a key arranged loose within and longitudinally of the recess in the bolt, which key overlaps the outer end of the spring and is held by the spring in contact with the nut, said key having bearing at its outer end on the bottom of the recess in the bolt.

5. In a nut-lock, in combination, a bolt having the screw-threaded portion of its shank provided with a recess which is spaced from the free extremity and arranged longitudinally of the shank; a nut screwed onto the recessed portion of the said shank and provided internally with a recess extending endwise of the nut and having a depth increasing in the direction in which the nut is turned in screwing the nut onto the bolt, and a key arranged loose within and longitudinally of the recess in the bolt, which key is substantially uniform in dimensions from end to end and has rounded ends, and a spiral spring acting to retain the key in contact with the nut, the recess in the bolt being enough deeper than the thread of the bolt to wholly receive the key at its outer end below the thread.

[Claims 6 and 7 not printed in the Gazette.]

974,469. WAGON-BOX BRACE. JOHN H. BUTT, Mohall, N. D. Filed Mar. 23, 1910. Serial No. 551,079.

1. A device of the character described comprising oppositely disposed uprights coiled at their lower extremities to receive a pin, one of said uprights being formed with an outwardly projecting web longitudinally recessed near the lower end of said upright, a bail comprising two lengths of oppositely spaced wire extending parallel and coiled at their extremities around said pins for pivotally connecting the lower ends of said uprights, a connecting bar, the ends of which are adapted to engage the uprights near their upper ends, and means for locking said bar in position.



2. A device of the character described comprising oppositely spaced uprights, one of said uprights being provided near its upper end with a series of longitudinally spaced apertures, a longitudinally extending rack provided near the upper end of the opposite upright, a bail pivotally connected at its ends with the lower ends of said uprights and a connecting bar adapted to engage at its ends said apertures and the rack.

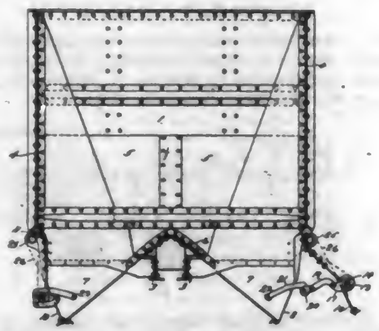
3. A device of the character described comprising oppositely spaced uprights, a bail pivotally connected with the lower ends thereof, a connecting bar having its edges bent inwardly near one end and overlapped to form a shank, a loop provided at the extremity thereof for engagement with one of said uprights near its upper end and means carried by the opposite end of said connecting bar for engagement with the opposite upright near its upper end.

4. A device of the character described comprising oppositely spaced uprights, a bail pivotally connected with the lower ends thereof, a connecting bar adapted to engage said uprights near their upper ends and a hook formed on one extremity of said connecting bar for engagement with one upright.

5. A device of the character described comprising oppositely spaced uprights, a bail pivotally connected with the lower ends thereof, a connecting bar, one end thereof being adapted to engage one of said uprights near its upper end, the opposite end of said bar being provided with a loop, and means carried by said loop for engagement with the opposite upright near its upper end.

[Claims 6 to 11 not printed in the Gazette.]

974,470. DUMP-CAR. ARGYLE CAMPBELL, Chicago, Ill., assignor to Enterprise Railway Equipment Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 11, 1910. Serial No. 548,517.



1. In a dump car, the combination with a car body having a plurality of door openings on each side of its longitudinal center, a plurality of side dump doors hinged to the car body, a movable operating shaft journaled in bearings fixed to the doors near their free edges, said operating shaft connecting two adjacent doors, a polygonal winding drum on said shaft having a shouldered locking face, flexible connecting links between said winding drum and the car body, one of said connecting links having a shouldered locking face, substantially as specified.

2. In a dump car, the combination with a car body having a plurality of door openings on each side of its longitudinal center, a plurality of side dump doors hinged to the car body, a movable operating shaft journaled in bearings fixed to the doors near their free edges, said operating shaft connecting two adjacent doors, a polygonal winding drum on said shaft having a shouldered locking face, flexible connecting links between said winding drum and the car body, one of said connecting links having a shouldered locking face, a winding shaft journaled on the car body and a winding chain and drums connecting said winding shaft on the doors, substantially as specified.

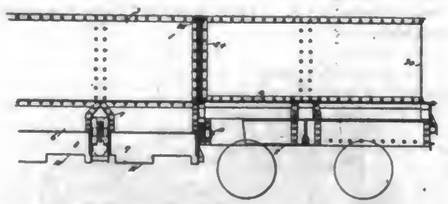
3. In a dump car, the combination with a car body, of a hinged door, an operating shaft journaled on and movable with the door, a polygonal winding drum on said shaft having a shouldered locking face, and flexible connecting links between said winding drum and the car body, one of said links having a shouldered locking face engaging the shouldered locking face of said drum, substantially as specified.

4. In a dump car, the combination with a car body, of hinged doors, an operating shaft journaled on, movable with and connecting said doors, a polygonal winding drum on said shaft having a shouldered locking face, and flexible connecting links between said winding drum and the car body, one of said links having a shouldered locking face engaging the shouldered locking face of said drum, substantially as specified.

5. In a dump car, the combination with a car body, of a hinged door, an operating shaft journaled on and movable with the door, a polygonal winding drum on said shaft having a shouldered locking face, and flexible connecting links between said winding drum and the car body, one of said links having a shouldered locking face engaging the shouldered locking face of said drum, a further shaft journaled in fixed bearings on the car body, and connecting means between said further shaft and said operating shaft on the door, substantially as specified.

[Claims 6 to 11 not printed in the Gazette.]

974,471. DUMP-CAR. ARGYLE CAMPBELL, Chicago, Ill., assignor to Enterprise Railway Equipment Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 28, 1910. Serial No. 558,152.



1. In a dump car, the combination with a dump car body having upright sides and ends, and provided with a flat floor at the end portions of the car body and two longitudinally extending V shaped hoppers at the middle portion of the car body between the trucks, one on each side of the longitudinal center line, of a plurality of pairs of V hung doors, the doors of each pair being hinged at their lower meeting ends to adapt the car for both side and central dumping, and a removable partition between the hopper portion and the flat floor portion of the car body to adapt the car for use either as a ballast car or as a coal car, and means for removably supporting said partition in the car body substantially as specified.

2. In a dump car, the combination with a car body having permanent upright sides and ends and provided with a flat floor portion at each end, and a middle hopper dump portion having door openings and dump doors for closing said openings, and a removable transverse partition between the hopper dump portion and the flat floor portion of the car body, and means for removably supporting said partition in the car body substantially as specified.

3. In a dump car, the combination with a car body having permanent upright sides and ends and provided with a flat floor portion at each end, and a middle hopper dump portion having door openings and dump doors for closing said openings, and a removable transverse partition between the hopper dump portion and the flat floor portion of the car body, the upright sides of the car each having an angle iron secured thereto to receive said removable transverse partition, said partition comprising a plurality of separately removable boards substantially as specified.

4. In a dump car, the combination with a dump car body having permanent upright sides and ends, a middle portion furnished with dump door openings and doors for closing said openings, and a permanent floor portion at each end of the car body, of a removable transverse partition extending between the permanent flat floor portion of the car body and the middle dump door opening portion thereof, and means for removably supporting said partition in the car body substantially as specified.

5. In a dump car, the combination with a dump car body having permanent upright sides and ends, a middle portion furnished with dump door openings and doors for closing said openings, and a permanent floor portion at each end of the car body, of a removable transverse partition extending between the permanent flat floor portion of the car body and the middle dump door opening portion thereof, the upright sides of the car body having angle irons secured thereto to receive said removable partition, said partition comprising a plurality of separately removable pieces substantially as specified.

974,472. CHECKREIN-HOLDER. PETER P. CATALANO, Lawton Station, N. Y. Filed Jan. 29, 1910. Serial No. 540,811.



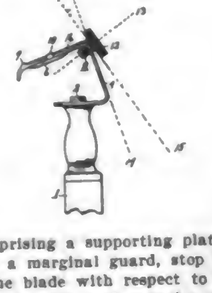
1. In a check rein holder, the combination of a movable check piece engaging the check rein and provided with a rein hook, a depressibly releasable spring latch engaging said check piece in the check position and having a portion thereof straddling the rein hook, and a driving rein having an intermediate loop to engage said rein hook and bear upon the adjacent latch portion.

2. In a check rein holder, the combination of a frame comprising side rein loops, a central depending portion communicating with said rein loops, and a guide piece extending from the lower end of said depending portion, a check piece movable in said guide and engaging the check rein and provided with a rein hook upstanding within said depending frame portion, a depressibly releasable spring latch engaging said check piece in the check position and having a portion thereof contiguous to the check piece below its upper end, and driving reins movable through said frame loops and into said depending portion and having intermediate loops to engage said rein hook and bear upon the contiguous latch portion whereby to release the latch and check piece.

974,473. SAFETY-RAZOR. HENRIE CLAUSS, Fremont, Ohio. Filed Nov. 27, 1908. Serial No. 464,713.

1. A razor comprising a supporting plate and handle, said plate having a guard at its forward edge and a lug at each terminal of said guard, a blade lying upon the plate engaging said lugs with the edge thereof, and a screw having a flanged head which engages the rear edge

of the blade, said screw being so mounted as to cause a laterally extending portion of its head to partially overhang the blade surface.

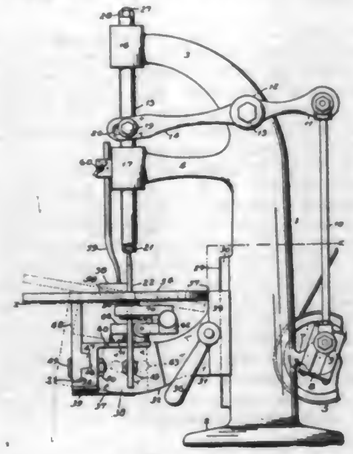


2. A razor comprising a supporting plate and handle, said plate having a marginal guard, stop lugs upon the plate to arrest the blade with respect to said guard, a blade lying upon the plate and engaging said lugs with the edge thereof, and a screw mounted on the supporting plate having a head of relatively large diameter, the head of the screw being adapted to engage the rear edge of the blade, said screw being so positioned as to cause the plane of its engaging face to stand at acute angle with respect to the surface of the blade.

3. A razor comprising a supporting plate and handle, said plate having a marginal guard, a blade lying upon said plate, means for positioning the blade thereon, and a screw having a head of relatively large diameter standing at an acute angle with respect to the surface of the blade, said screw being movable to carry the inner surface of the head against the rear edge of the blade to overhang the same.

4. A razor comprising a blade carrying plate having a depressed central portion and blade supporting end surfaces, a guard along the margin of said plate between said end supporting surfaces, stop lugs upon said end surfaces in alinement with said guard, and an adjusting screw having a flanged head engaging the rear edge of said blade at an acute angle with respect to the surface thereof.

974,474. FILING-MACHINE. EDWARD CURTIS, Newark, N. J. Filed Feb. 13, 1908. Serial No. 415,657.



1. The combination with a supporting bracket, of an angle piece having one of its arms connected to said bracket and adapted to adjust angularly with respect thereto in a vertical plane, a post having its lower end connected to the other arm of said angle piece and adapted to adjust angularly with respect thereto in a vertical plane, the two members of one of said adjustable connections having vertical contacting faces one provided with a rib and the other with a groove both curved in vertical plane, the groove flaring in cross section and the rib correspondingly tapered and adapted to wedge tight in said groove, horizontally projecting clamping means for said members accessible from the side of the same, and a work table on said post.

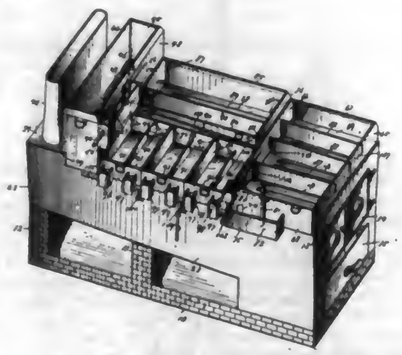
2. The combination with a supporting arm, of a post having a rounded end and a curved rib on its side, said supporting arm being recessed at its outer vertical face to receive said post and form a seat for the rounded end thereof and grooved at said outer face to receive the rib of the post, means for clamping said arm and post together, and a work table on said post.

3. In a filing machine, the combination with a spindle adapted to support the file, means for reciprocating said spindle, and means for supporting the work, of a plate pivoted upon said supporting means to swing in a plane substantially at right angles to the said spindle and having a lever arm, a link pivoted at one end to said arm and having its other end screwed therein, a screw cap engaging said threaded link and having a reduced neck, a bracket fixed upon the said supporting means and being forked to receive said neck, and a roller mounted in said plate.

4. In a filing machine, the combination with a spindle adapted to carry the file, means for reciprocating said spindle, and an adjustable bracket for supporting the work, of a plurality of plates fulcrumed upon said bracket to swing in planes substantially at right angles to the said spindle and having each a lever like arm, rollers mounted one in the end of each of said plates opposite said arm and adapted to engage different sides of the file, threaded links connected one to each of said arms, female screw members one on each of said links, and means for holding said female screw members against longitudinal movement with respect to the bracket.

5. In a filing machine, the combination with a spindle adapted to carry the file, means for reciprocating said spindle, and an adjustable bracket for supporting the work, of a plate pivoted upon said bracket to swing in a plane substantially at right angles to the spindle, a roller mounted in said plate, a threaded link pivoted to an arm of said plate, a screw cap engaging said threaded link, means holding said screw cap against movement with respect to the bracket, auxiliary plates pivoted on the main plate, rollers in said auxiliary plates, threaded links pivoted to said auxiliary plates, independent screw caps engaging said links, and means holding said screw caps against longitudinal movement with respect to the main plate.

974,475. MAPLE-SAP EVAPORATOR. SAMUEL DANIELS, Hardwick, Vt. Filed Mar. 22, 1910. Serial No. 550,966.



1. In a sap evaporator of the character described, a heating apparatus comprising side walls, a rear wall and a front wall and containing a heating chamber; an arch located on one side of a substantially central line drawn longitudinally through the heating chamber; a boiling or evaporating pan supported by the heating apparatus above the heating chamber between the arch and the opposite side wall of the heating apparatus; a boiling or evaporating pan supported by the heating apparatus at the front end thereof in front of the arch; and syruping-off pans supported by the heating apparatus and located on that side of the apparatus containing the arch, for the purpose set forth.

2. In a sap evaporator of the character described, a heating apparatus comprising side walls, a rear wall and a front wall and containing a heating chamber; an arch located on one side of a substantially central line drawn longitudinally through the heating chamber, the front wall of said arch extending diagonally from one of the walls of the heating apparatus rearward toward said central line; a boiling or evaporating pan supported by the heating apparatus above the heating chamber between the arch and the opposite side wall of the heating apparatus; a boiling or evaporating pan supported by the heating apparatus at the front end thereof in front of the arch; and syruping-off pans supported by the heating apparatus and located on that side of the apparatus containing the arch, for the purpose set forth.

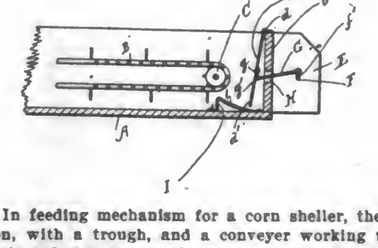
3. In a sap evaporator of the character described, a heating apparatus comprising side walls, a rear wall and a front wall and containing a heating chamber; an arch located on one side of a substantially central line drawn longitudinally through the heating chamber, the front wall of said arch being provided with dampers and said wall and dampers extending diagonally from one of the walls of the heating apparatus rearward toward said central line; a boiling or evaporating pan supported by the heating apparatus above the heating chamber between the arch and the opposite side wall of the heating apparatus; a boiling or evaporating pan supported by the heating apparatus at the front end thereof in front of the arch; and syruping-off pans supported by the heating apparatus and located on that side of the apparatus containing the arch, for the purpose set forth.

4. In a sap evaporator of the character described, a heating apparatus comprising side walls, a rear wall and a front wall and containing a heating chamber; an arch located on one side of a substantially central line drawn longitudinally through the heating chamber, the front wall of said arch being provided with dampers and said wall and dampers extending diagonally from one of the walls of the heating apparatus rearward toward said central line; a substantially vertical wall extending rearward from the inner end of the arch; a boiling or evaporating pan supported by the heating apparatus above the heating chamber between the arch and the opposite side wall of the heating apparatus; a boiling or evaporating pan supported by the heating apparatus at the front end thereof in front of the arch; and syruping-off pans supported by the heating apparatus and located on that side of the apparatus containing the arch, for the purpose set forth.

5. In a sap evaporator of the character described, a heating apparatus comprising side walls, a rear wall and a front wall and containing a heating chamber; an arch located on one side of a substantially central line drawn longitudinally through the heating chamber, the front wall of said arch being provided with dampers and said wall and dampers extending diagonally from one of the walls of the heating apparatus rearward toward said central line; a substantially vertical wall extending rearward from the inner end of the arch; a flue located above the arch and extending rearward therefrom and comprising a substantially horizontal bottom and a substantially vertical side wall located centrally and longitudinally in the heating chamber; a boiling or evaporating pan supported by the heating apparatus above the heating chamber between the arch and the opposite side wall of the heating apparatus; a boiling or evaporating pan supported by the heating apparatus at the front end thereof in front of the arch; and syruping-off pans supported by the heating apparatus and located on that side of the apparatus containing the arch, for the purpose set forth.

[Claims 6 and 7 not printed in the Gazette.]

974,476. FEEDING MECHANISM FOR CORN-SHELLERS. WILLIAM J. DAUNER and LOUIS F. DAUNER, Sutton, Nebr. Filed Aug. 8, 1910. Serial No. 576,237.



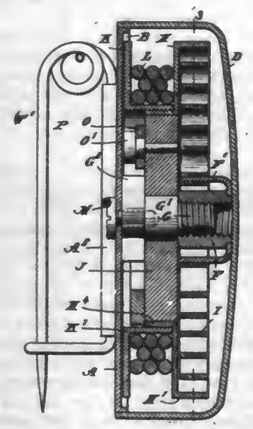
1. In feeding mechanism for a corn sheller, the combination, with a trough, and a conveyer working therein, of a pivoted plate arranged crosswise in the trough at the receiving end of the conveyer, and driving mechanism operating to oscillate the said plate independent of the motion of the conveyer.

2. In feeding mechanism for a corn sheller, the combination, with a trough, and an endless conveyer working therein; of a plate hinged to the receiving end of the said trough, a crank-shaft journaled beyond the end of the trough, and a connecting-rod which oscillates the said plate from the said crank-shaft.

3. In feeding mechanism for a corn sheller, the combination, with a trough and two endless conveyers working side by side in the trough; of a guard strap secured to the bottom of the trough between the said conveyers, a plate hinged to the receiving end of the said trough above the said strap, and driving devices for oscillating the said plate.

4. In feeding mechanism for a corn sheller, the combination, with a trough, and endless conveying mechanism working therein; of a plate of thin sheet metal having its upper edge hinged to the receiving end of the trough, a crankshaft provided with a plurality of cranks and journaled beyond the end of the trough, and connecting-rods engaging with the said cranks and pivoted to the said plate at different points of its width.

974,477. REEL FOR EYEGLASSES. GEORGE H. DAY, Southbridge, Mass., assignor to American Optical Company, Southbridge, Mass., a Corporation of Massachusetts. Filed Jan. 23, 1907. Serial No. 353,598.



1. The combination of a cover, a back plate, an internally threaded center post secured to the cover, a reel mounted to turn on said post, a spring connected with the reel, a pawl carried by the reel, a stationary ratchet carried by the center post and engaged by the pawl, and a fastening screw the shank of which engages and extends through the back plate and ratchet into the center post,

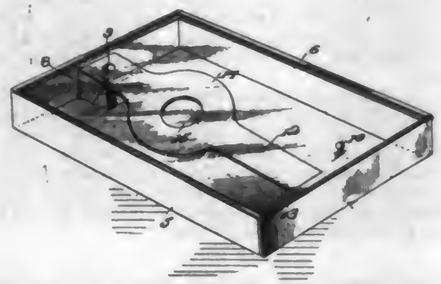
the said screw engaging the back plate to force it toward the center post.

2. The combination of a casing composed of cover and back plate, an internally threaded tube secured to one of the parts of the casing, a center post having one end externally screw-threaded to fit said tube, and the other end internally screw-threaded, a reel mounted to turn on said post, a ratchet stationary on the post, a spring connected with the reel, a pawl carried by the reel and engaging the ratchet, and a fastening screw projected through the other part of the casing into the center post.

3. The combination of a casing composed of cover and back plate, an internally threaded center post secured to one of the parts of the casing, a reel mounted to turn on the said post, a spring connected with the reel, a pawl carried by the reel, a ratchet engaged by the pawl, and a fastening screw projected through the other part of the casing into the center post, the said post being threaded in such a direction that the tension of the spring will operate to tighten it.

4. The combination of a casing having a screw threaded tube with a projection on the outside thereof, a center post screwed into said tube, a reel mounted to turn on said post, and a coiled spring having one end connected with the reel and the other secured to said projection.

974,478. PUZZLE OR TOY. VARIEN D. DIXON, Fort St. Michael, Alaska. Filed July 7, 1910. Serial No. 570,897.



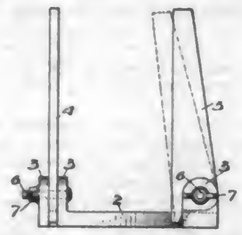
1. A puzzle including a receptacle, a cup disposed within the receptacle, a perforated bridge forming a connection between the top of the cup and bottom of the receptacle, and a movable member adapted to be rolled over the bridge and positioned within the cup.

2. A puzzle including a receptacle, a cup secured to the receptacle, a bridge piece secured to the top of the cup and bottom of the receptacle, respectively, said bridge piece having its intermediate portion provided with an enlargement having an opening therein, and a ball of mercury adapted to be rolled over the bridge piece and positioned within the cup.

3. A puzzle including a receptacle, a block secured to the bottom of the receptacle and having its upper surface inclined downwardly and provided with a cup, a bridge piece secured to the top of the block and bottom of the receptacle, respectively, and having its intermediate portion provided with an enlargement having a central opening therein, and a ball of mercury adapted to be rolled over the bridge piece and positioned within the cup.

4. A puzzle including a receptacle having a transparent top and provided with a cover, a block secured to the bottom of the receptacle at one end thereof and having its upper surface inclined downwardly and provided with a depression constituting a cup, one edge of the block at the inclined surface thereof being rabbeted to form a shoulder, a bridge piece having one end thereof resting on the shoulder and its other end beveled and secured to the bottom of the receptacle, said bridge piece having its intermediate portion provided with a circular enlargement having a central opening formed therein, and a ball of mercury adapted to be rolled over the upper surface of the bridge piece and positioned within the cup.

974,479. ADJUSTABLE DOUBLE SQUARE. GEORGE W. FIELDHOUSE, Swissvale, Pa. Filed Aug. 5, 1907. Serial No. 387,007.



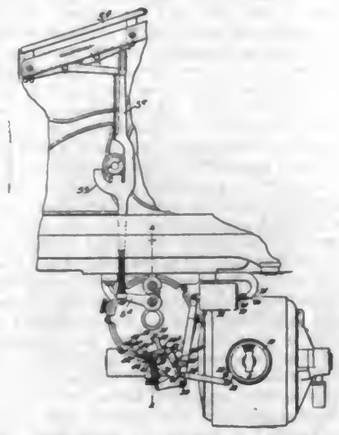
1. A double square comprising a base having a plurality of blades adjustably mounted on one face thereof, the blades being adjustable toward and away from each other in planes perpendicular to the base and at right angles to each other and means for securing the blades in their adjusted positions; substantially as described.

2. A double square comprising a base having a pair of blades adjustably mounted thereon adjacent to the ends thereof, the blades being adjustable toward and away from each other in planes perpendicular to the base and at right angles to each other, and means for securing the blades in their adjusted positions, the inner edge of the base being curved; substantially as described.

3. A double square comprising a quadrantal base having a curved inner edge, a pair of blades having slotted lower ends mounted on the base adjacent to the ends thereof and bolt-securing means for holding the lower ends of the blades on the base, the blades being arranged to be adjusted toward and away from a common axis in planes perpendicular to the base and at right angles to each other; substantially as described.

4. A double square comprising a quadrantal base, a pair of blades pivotally mounted thereon, the lower ends of said blades being slotted, and means extending through the slots for securing the blades in their adjusted position, the blades being arranged to be adjusted on the base in planes perpendicular to the base and at right angles to each other; substantially as described.

974,480. ADDING-MACHINE. CLARENCE B. FOSTER, Detroit, Mich., assignor to Burroughs Adding Machine Company, Detroit, Mich., a Corporation of Michigan. Filed Feb. 6, 1909. Serial No. 476,492.



1. The combination of the machine proper, a motor for driving the same, a clutch between the motor and the machine, means for starting and stopping the motor, and timing devices for operating said means to stop the motor when the clutch is open.

2. The combination of the machine proper, a motor for driving the same, a clutch between the motor and the machine, means for starting and stopping the motor, and motor-set timing devices for operating said means to stop the motor when the clutch is open.

3. The combination of the machine proper, a motor for driving the some, a clutch between the motor and the machine comprising driving and driven members, means for starting and stopping the motor, and timing devices set by the driving member of the clutch and adapted to operate upon said means to stop the motor when the clutch remains open a predetermined length of time.

4. The combination of the machine proper, a motor for driving the same, a clutch between the motor and the machine comprising driving and driven members, means for starting and stopping the motor, timing devices set by the driving member of the clutch and adapted to operate upon said means to stop the motor when the clutch remains open a predetermined length of time, and means for keeping said timing devices set by the driven member of the clutch.

5. The combination of the machine proper, an electric motor for driving the same, a clutch between the motor and the machine, a switch for starting and stopping the motor, and timing devices for operating said switch to stop the motor when the clutch is open.

[Claims 6 to 73 not printed in the Gazette.]

974,481. POSITIVE-DISPLACEMENT ROTARY BLOWER. JAMES JOSEPH GIBSON, Homestead, and CHARLES L. W. TRINKS, Pittsburg, Pa.; said Trinks assignor to said Gibson. Filed Sept. 24, 1909. Serial No. 519,324.

1. In a blower, the combination of a casing, a plurality of counterbalanced blades rotatable on a common axis therein, and centrifugally balanced blade rotating means.

2. In a blower, the combination of a casing, separately rotatable blades therein revoluble on a common axis, a counterbalance for each blade on the opposite side of the blade axis from the blade, and centrifugally balanced blade rotating means.

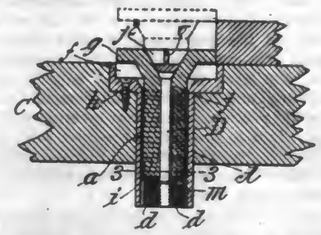
3. In a blower, the combination of a casing, an unequal number of blades rotatable therein on a common axis, a counterbalance for each blade on the diametrically opposite side of the blade axis from the blade, and centrifugally balanced blade rotating means.

4. In a blower, the combination of a casing, a plurality of separately rotatable blades therein revoluble on a common axis, a counterbalance for each blade at the opposite side of the blade axis from the blade, the centers of gravity of each blade and its counterweight being in a common plane at right angles to the axis of rotation, and centrifugally balanced blade rotating means.

5. In a blower, the combination of a casing, an axle arranged centrally therein, a plurality of hub members loose on said axle, said members having like counterweight extensions, blades each secured to certain of the hub members, and centrifugally balanced blade rotating means.

[Claims 6 to 14 not printed in the Gazette.]

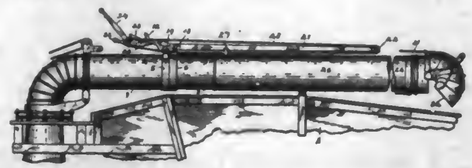
974,482. BENCH-STOP. ALBERT D. GOODELL, Shelburne Falls, Mass., assignor to Goodell Tool Company, Shelburne Falls, Mass., a Corporation of Massachusetts. Filed July 26, 1910. Serial No. 573,926.



1. In a bench stop, a metallic bushing piece having a vertical upwardly opening circular socket with vertical grooves therein, and having internal circumferential alternated ribs and grooves, one above another which are intersected by said vertical grooves, a stop piece comprising an enlarged upper portion and a polygonal shank of reduced diameter, the corners thereof engaging, for vertical guidance, in the aforesaid vertical grooves, and said stop piece having a stem axially therethrough adapted for a rotative movement and provided at its lower end with a bar or button adapted to have, accordingly as the stem is turned, its extremity in one of the aforesaid vertical grooves, or in engagement with one or another of the internal circumferential ribs of the bushing piece.

2. In a bench stop a metallic bushing piece having a vertical upwardly opening circular socket with vertical grooves therein, and having internal circumferential alternated ribs and groovee, intersected by said vertical grooves, and provided with a cup shaped upper portion, a stop piece comprising an enlarged upper portion to be normally accommodated in said cup shaped portion of the bushing, and a polygonal shank of reduced diameter, the corners of which engage in the aforesaid vertical grooves, and said stop piece having, a passage axially therethrough enlarged at its upper end, and having a stem therein adapted for a rotative movement, provided at its lower end with a bar or button adapted to have, accordingly as the stem is turned, its extremity in one of the aforesaid vertical grooves or in engagement with one or another of the internal circumferential ribs of the bushing piece, and said stem having an enlarged finger piece at its upper end located in the enlarged portion of said passage.

974,483. PNEUMATIC STACKER. JOHN GOODISON, Sarnia, Ontario, Canada, assignor to The Indiana Manufacturing Company, Indianapolis, Ind., a Corporation of West Virginia. Filed July 22, 1909. Serial No. 509,021.



1. The combination, in a pneumatic stacker, of a horizontally-arranged turntable, a chute having a curved lower end mounted on said turntable and comprising an inner section and an outer swinging section, arms supporting said chute, hinge bands connecting said sections, means for locking said bands, a telescopic chute section mounted on said swinging section, and telescoping mechanism communicating with said telescopic section and supported by the band on said swinging section whereby said mechanism and sections when said bands are unlocked may be simultaneously swung alongside said inner section.

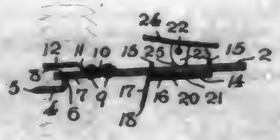
2. The combination, in a pneumatic stacker, of a horizontally-arranged turntable, a chute having a curved lower end mounted on said turntable and comprising an inner section and an outer swinging section, pivoted arms supporting said chute, hinge bands connecting said sections, a telescoping section mounted on said swinging section, an arm on the band of said outer section, a pole affixed to said arm and provided with a sprocket, a shaft mounted in said arm and provided with a sprocket, a chain connecting said sprockets and communicating with said telescoping section, means for rotating said shaft to actuate said chain to project and retract said telescoping section, and means for releasing said bands to permit said swinging section and parts associated therewith to swing alongside said inner section.

3. The combination, in a pneumatic stacker, of a horizontally-arranged turntable, a chute having a curved lower end mounted on said turntable and comprising an inner section and a swinging section, arms supporting said chute, hinge bands connecting said sections, a chute section telescopically mounted on said swinging section, means connected to the band of said swinging section and communicating with said telescopic section to project and retract the latter section, and means for releasing said bands to permit said swinging section and parts associated therewith to swing alongside said inner section.

4. The combination, in a pneumatic stacker, of a horizontally-arranged turntable, a chute having a curved lower end mounted on said turntable and comprising an inner section and a swinging section, arms supporting said chute, hinge bands connecting said sections, a telescoping section mounted on said swinging section, a deflector on said telescoping section, means connected with the band on said swinging section for projecting and retracting said telescoping section, means associated with said telescoping means for adjusting said deflector, and means for releasing said bands to permit said swinging and telescoping sections and said telescoping and adjusting means to swing alongside said inner section.

5. The combination, in a pneumatic stacker, of a turntable, a chute mounted on said turntable and comprising an inner section and a swinging section, means for supporting said chute, hinge bands connecting said sections, a telescoping chute section mounted on said swinging section, means connected to the band of said swinging section and communicating with said telescoping section for projecting and retracting the latter, a locking lever pivotally connected to one of said bands, and means on the opposite band with which said lever engages to lock and release said bands to permit said swinging and telescoping sections and parts associated therewith to swing alongside said inner section.

974,484. CAN-OPENER. GEORGE F. HALL, Newark, N. J., assignor of two-thirds to Arlingham W. Hammett and William Sweetland. Filed Feb. 19, 1909. Serial No. 478,986.



1. A can-opener comprising a main body provided with a piercing member, a blade-carrier slidably arranged upon said main body, a clamping means consisting of a plate-like fingerpiece formed with oppositely extending push-pieces, and eccentrically pivoted ears extending from said fingerpiece, said ears extending centrally from the marginal edges of said finger-piece, the marginal edge-portions of said ears being adapted to be brought in clamping engagement with said main body so as to clamp said blade-carrier in any one of its adjusted positions upon said body, said push-pieces being arranged so that a downward pressure upon one of said push-pieces will clamp said ears, and a downward pressure upon the other push-piece will release said ears from their clamped relation.

2. A can-opener comprising a main body provided with a piercing member, a blade-carrier slidably arranged upon said main body, a clamping means consisting of a plate-like fingerpiece formed with oppositely extending push-pieces, and eccentrically pivoted ears extending from said fingerpiece, said ears extending centrally from the marginal edges of said finger-piece and said ears being formed with cam-shaped marginal edge-portions adapted to be brought in clamping engagement with said main body so as to clamp said blade-carrier in any one of its adjusted positions upon said body, said push-pieces being arranged so that a downward pressure upon one of said push-pieces will clamp said ears, and a downward pressure upon the other push-piece will release said ears from their clamped relation.

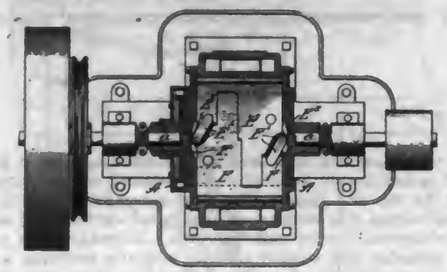
3. A can-opener comprising a main body provided with a piercing member, a blade-carrier comprising a base-plate provided with loop-shaped portions embracing said main body, a second plate extending from said base-plate, said second plate being provided with an angular finger formed with a knife-edge, a clamping means consisting of a plate-like fingerpiece formed with oppositely extending push-pieces, said ears extending centrally from the marginal edges of said finger-piece, and eccentrically pivoted ears extending from said fingerpiece, the marginal edge-portions of said ears being adapted to be brought in clamping engagement with said main body so as to clamp said blade-carrier in any one of its adjusted positions upon said body, said push-pieces being arranged so that a downward pressure upon one of said push-pieces will clamp said ears, and a downward pressure upon the other push-piece will release said ears from their clamped relation.

4. A can-opener comprising a main body provided with a piercing member, a blade-carrier comprising a base-plate provided with loop-shaped portions embracing said main body, a second plate extending from said base-plate, said second plate being provided with an angular finger formed with a knife-edge, a clamping means consisting of a plate-like fingerpiece formed with oppositely extending push-pieces, and eccentrically pivoted ears extending from said fingerpiece, said ears extending centrally from the marginal edges of said finger-piece and said ears being formed with cam-shaped marginal edge-portions adapted to be brought in clamping engagement with said main body so as to clamp said blade-carrier in any one of its adjusted positions upon said body, said push-pieces being arranged so that a downward pressure upon one of said push-pieces will clamp said ears, and a downward pressure upon the other push-piece will release said ears from their clamped relation.

5. A can-opener comprising a main body provided with a piercing member, a blade-carrier comprising a base-plate provided with loop-shaped portions embracing said main body, a second plate extending from said base-plate, said second plate being provided with an angular finger formed with a knife-edge, perforated ears extending upwardly from said base-plate, said ears embracing the opposite edge-portions of said main body, a clamping means consisting of a plate-like finger-piece, and ears extending from said fingerpiece, said ears extending centrally from the marginal edges of said finger-piece and said second-mentioned ears being eccentrically pivoted to the ears of said base-plate, the marginal edge-portions of said eccentrically pivoted ears being adapted to be brought in engagement with said main body so as to clamp said blade-carrier in any one of its adjusted positions upon said body, said push-pieces being arranged so that a downward pressure upon one of said push-pieces will clamp said ears, and a downward pressure upon the other push-piece will release said ears from their clamped relation.

974,485. ROTARY ENGINE. MALCOLM L. HARRIS, Chicago, Ill. Filed Aug. 15, 1908. Serial No. 448,690.

1. The combination with a cylinder and a rotatable drum eccentrically mounted therein, of a pair of blades passed diametrically through the drum and arranged to contact with the wall of the cylinder, a pair of links, one connected to each blade and mutually pivoted together to form a toggle and a cam mounted upon the drum and engaging the joint of the toggle, the curvature of the cam being such that when either blade is in any given position, the toggle will be extended by coöperation with the cam to such an extent as to bring the other blade into a position where the combined lengths of the blades will equal the length of the chord of the cylinder determined by the position of the first blade.



2. The combination with a cylinder and a rotatable drum eccentrically mounted therein, of two blades extending diametrically from the drum and adapted to contact with the cylinder wall, cams at the ends of the drums adjacent to the blades and two pairs of toggle-links at opposite ends of the blades, one link of each pair engaging each blade and the joint of the pairs engaging the corresponding cams, the curvature of the cams being such that when either blade takes a given position, the toggle will be extended to such a degree that the other blade will be forced by the action of the toggle-links to a position where the combined effective length of the blades will equal the length of the chord of the cylinder determined by the position of the first blade.

3. The combination with a cylinder and a rotatable eccentric drum, of two overlapping blades, each having depressions to receive portions upon the other blade, the depressions being such and so arranged with respect to the drum that one always projects outside the drum so that the live steam in the working chamber of the engine will enter the depression to force the blades in opposite directions.

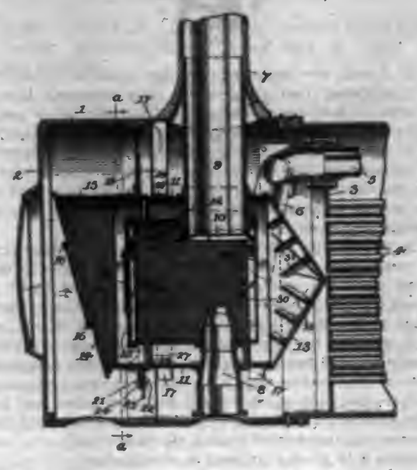
4. The combination with a cylinder and a rotatable drum eccentrically journaled therein, of a pair of similar blades extending diametrically through the drum, each blade having on each face a tongue and a depression side by side, each depression being opposite to the tongue on the opposite face and of such size as to receive a tongue within it, whereby when the similar blades are reversed relatively the tongues on each will fit the depressions on the other, each blade thus engaging both sides of the other.

5. The combination with a cylinder and a rotatable drum eccentrically journaled therein, of a pair of similar blades extending diametrically through the drum, each blade having on each face a tongue and a depression side by side, each depression being opposite the tongue on the opposite face and of such size as to receive a tongue within it, whereby when the similar blades are reversed relatively the tongues on each will fit the depressions on the other, and the depressions being longer than necessary to receive the tongues and being arranged so that one set of depressions projects at all times from the drum to receive live steam from the working chamber of the engine to force the blades apart.

[Claims 6 to 10 not printed in the Gazette.]

974,486. LOCOMOTIVE. GEORGE J. HATZ, Omaha, Nebr. Filed Apr. 18, 1910. Serial No. 556,007.

1. The combination of a smoke box; a plurality of drums located therein, each drum having one closed end, the said drums being mounted one within another with the closed end of one adjacent the open end of the next and with spaces intervening between their walls to form a sinuous smoke passage from the smoke box to the innermost drum; and a smoke stack adapted to carry smoke from the innermost drum.



2. The combination of a smoke box; a plurality of drums, located therein, each drum having one closed end, the said drums being mounted one within another with the closed end of one adjacent the open end of the next, and with spaces intervening between their walls to form a sinuous smoke passage from the smoke box to the innermost drum; screens of foraminous material in the open ends of said drums; and a smoke stack connected to said innermost chamber.

3. The combination of a smoke box; a plurality of drums, located therein, each drum having one closed end; the said drums being mounted one within another with the closed end of one adjacent the open end of the next, and with spaces intervening between their walls to form a sinuous smoke passage from the smoke box to the innermost drum; screens of foraminous material in the open ends of said drums; baffles of foraminous material in said sinuous passage; and a smoke stack connected to said innermost chamber.

4. The combination of a smoke box; a plurality of drums, located therein, each drum having one closed end, the said drums being mounted one within another with the closed end of one adjacent the open end of the next, and with spaces intervening between their walls to form a sinuous smoke passage from the smoke box to the innermost drum; screens of foraminous material in the open ends of said drums; baffles of foraminous material in said sinuous passage; baffle plates within the smoke box and outside said drums; means for adjusting the area of said baffle plates; and a smoke stack connected to said innermost chamber.

5. The combination of a smoke box, a drum in said smoke box having one closed end; a screen of foraminous material in the open end of said drum; baffles of foraminous material upon the interior of the closed end of said drum adapted to receive and disintegrate the larger cinders; and means for withdrawing smoke from said drum at a point adjacent the baffles.

[Claims 6 to 9 not printed in the Gazette.]

974,487. CUSHION-KEY FOR WRITING-MACHINES. HOWARD MORTON HAY, Chicago, Ill., assignor to Cushion Crown-Arch Key Company, Chicago, Ill., a Corporation of New Jersey. Filed Dec. 9, 1909. Serial No. 532,231.

1. A device for retaining cushion caps on typewriter keys comprising two cups having their bases formed with interlocking parts, said cups being secured together, base

to base, by said parts, one of said cups being adapted to fit over the key, and the other adapted to receive a cushion cap.



2. A device for retaining cushion caps on typewriter keys comprising two sheet metal cups arranged base to base, one of said cups having slots and the other having tongues engaging said slots and locking the cups together.

3. A device for retaining cushion caps on typewriter keys comprising two sheet metal cups arranged base to base, one of said cups having slots in its base and the other having integral tongues struck up from its base and engaging said slots to lock the cups together.

4. A device for retaining cushion caps on typewriter keys comprising two cups secured together, base to base, one cup having a cylindrical side-wall adapted to fit the key, and the other cup, adapted to receive the cap, having its side wall converging toward the open end of the cup.

5. A cushion key for typewriting machines comprising two cups secured together base to base, one cup adapted to fit over the usual key, and a resilient key cap arranged in the other cup, said cap having a hollow interior and having its side walls flaring downwardly and outwardly from the crown and supported within the latter cup.

[Claims 6 to 10 not printed in the Gazette.]

974,488. CUSHION-CAP FOR FINGER-KEYS. HOWARD MORTON HAY, Chicago, Ill., assignor to Cushion Crown-Arch Key Company, Chicago, Ill., a Corporation of New Jersey. Filed Apr. 7, 1910. Serial No. 553,999.



1. The combination with a suitable shell or socket, provided with means for its connection to a finger key, of a cushion of resilient material comprising a base portion, supported within and projecting above the top of the socket, and a crown portion projecting laterally at the upper end of the base and supported thereby out of engagement with the upper edge of the socket.

2. The combination with a suitable shell or socket provided with means for its connection to a finger key, of a cushion of resilient material comprising a hollow base having its side wall fitting within and projecting above the top of the socket and a crown projecting laterally from the upper end of the base out of engagement with the upper edge of the socket.

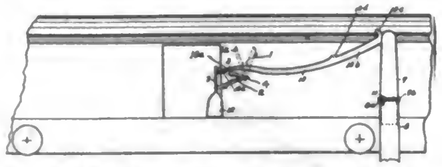
3. The combination with a suitable shell or socket provided with means for its connection to a finger key, of a cushion of resilient material comprising a hollow base having an upwardly converging side wall fitting within and projecting above the top of the socket and a crown projecting laterally from the upper end of the base and supported thereby out of engagement with the upper edge of the socket.

4. The combination with a shell or socket provided with means for its attachment to a finger key, said socket having an upwardly converging side wall, of a cushion of resilient material comprising a hollow base having an upwardly converging side wall fitting within and projecting above the top of the socket and a crown projecting laterally from the upper end of the base and supported thereby out of engagement with the upper edge of the socket.

5. The combination with a shell or socket provided with means for its attachment to a finger key, said socket having upwardly converging side walls, of a cushion of resilient material comprising a base having a hemispherical cavity and an upwardly converging side wall fitting within and projecting above the top of the socket and a crown projecting laterally at the upper end of the base.

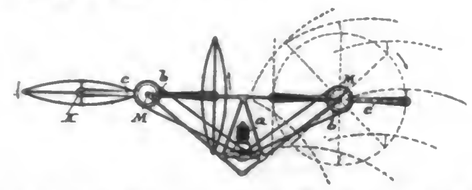
[Claim 6 not printed in the Gazette.]

974,489. MAIL-BAG DELIVERER. ORVILLE HOWARD, Bay City, Mich. Filed Apr. 9, 1910. Serial No. 554,569.



In a mail bag deliverer, the combination with a pair of spring-pressed arms pivotally mounted on the outside of the car, of a ring adapted to be secured to a mail sack and having lugs adapted to engage the extremity of said spring-pressed arms, together with a stationary post and a swinging arm secured thereto, said arm provided with an upwardly curved member adapted to enter said ring, and a stop carried at the upper extremity of said curved member, for the purpose set forth.

974,490. BLADE-FEATHERING MECHANISM FOR PROPELLERS AND THE LIKE. HUGO HÜCKEL, Neutitschein, Austria-Hungary. Filed Feb. 21, 1908. Serial No. 417,063.



1. In mechanism such as described, the combination of a revolving frame having a shaft, a blade journaled in the outer portion of the frame and carrying a gear, a driving gear carried by the frame, a chain connecting said gears, and an operative connection between the shaft and the driving gear embodying a crank driven by the rotation of the shaft.

2. In mechanism such as described, the combination of a revolving frame having a shaft, a blade journaled in the outer portion of the frame and carrying a gear, a driving gear, a chain connecting said gear with the gear on the blade, a crank to rotate said driving gear, and means connecting said crank with the shaft whereby the rotation of the latter causes the proper movement of the crank to feather the blade as the frame revolves.

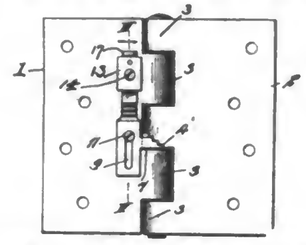
974,491. TENT-FRAME. GEORGE HUEBNER, Lagrange, Tex. Filed June 20, 1910. Serial No. 567,872.



1. A tent-frame consisting of a hinge having a pair of leaves; a pair of tubular collars pivotally mounted on each of said leaves; and tent-poles having their upper ends snugly fitted in and readily removable from said collars.

2. A tent-frame consisting of a hinge having a pair of leaves; a pair of tubular collars pivotally mounted on each of said leaves; tent-poles having their upper ends snugly fitted in and readily removable from said collars and lugs which project from the ends of one of said leaves to limit the swing of a pair of said tent-poles.

974,492. HINGE. ALEXANDER HUGHES, Jr., Fort Lee, N. J. Filed Apr. 9, 1910. Serial No. 554,383.



1. A hinge consisting of two members suitably connected together, a vertically movable stop device on one member and a spiral stop-engaging surface carried by the other member and adapted to engage the stop device to limit the opening movement of the hinge members.

2. A hinge consisting of two members suitably connected together each member provided with knuckles, a vertically movable stop device on one member, one of the knuckles of the other member formed with a spiral stop engaging surface adapted to engage said stop device to limit the opening movement of the hinge members.

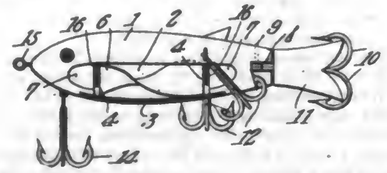
3. A hinge consisting of two members suitably connected together, a vertically movable stop device on one member, means for holding said stop device in its adjusted positions and a spiral stop-engaging surface carried by the other hinge member and adapted to engage the stop device to limit the opening movement of the hinge members.

4. A hinge consisting of two members suitably connected together, a vertically movable stop device on one member and provided with a shouldered extension, a detent to hold said stop device in its adjusted position and a spirally arranged stepped stop engaging surface carried by the other member, the shoulders of said stepped surface being adapted to engage the shoulders on the stop device to limit the opening movement of the hinge members.

5. A hinge consisting of two members suitably connected together each member provided with knuckles, an adjustable stop device on one member and one of the knuckles of the other member formed with a spiral stop engaging surface adapted to engage said stop device to limit the opening movement of the hinge members.

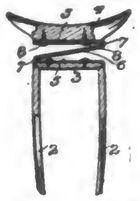
[Claim 6 not printed in the Gazette.]

974,493. MINNOW-BAIT. OMER F. IMMELL, Blair, Wis. Filed Oct. 12, 1909. Serial No. 522,290.



A device of the class described comprising a body having an opening therethrough from one of the side faces of the body to the other; and a spiral lure disposed in said opening and rotatably supported in the body; there being oppositely disposed channels in the side faces of the body at both ends of the opening and communicating therewith, the channels which are disposed opposite to each other, transversely of the body, converging as they approach the opening.

974,494. CRUTCH. CHESTER L. JENSEN and LONNIE A. LAMEY, Spokane, Wash. Filed Nov. 2, 1909. Serial No. 525,902.

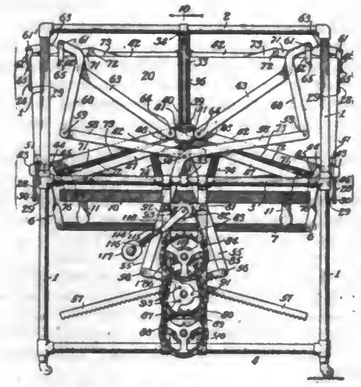


1. A crutch having a body or staff, a cross bar at the upper end of the body, a head separated therefrom, and a spring interposed between the body and head, said spring extending diagonally from one end of the crutch head to the opposite edge of the cross bar.

2. A crutch having a body, a cross bar at the upper end of the body, a head, and a Z-shaped spring interposed between the body and cross bar, the parallel ends of said spring being attached to the under side of the head and to the upper side of the cross-bar respectively.

3. A crutch having a body, a cross bar at its upper end, a head, and a flat spring extending in a plane transverse to the length of the crutch and interposed between the head and body.

974,495. HOSPITAL-BED. FRED E. R. JONES and RUSSELL S. BARNUM, Chicago, Ill.; said Barnum assignor to said Jones. Filed Mar. 21, 1910. Serial No. 550,677.



1. The combination with a stationary bed, of a stretcher-frame mounted thereon, said frame having a normally loose fabric attached thereto to overlie the bed proper, means for placing said fabric under tension when the frame is elevated, and means for elevating one end of said frame while the other remains at normal level.

2. The combination with a stationary bed, of a superposed stretcher-frame comprising movable side-rails connected by a normally loose fabric, said rails having joints therein near the middle, means for locking said joints to render the rails normally rigid, means for spreading said rails to stretch said fabric when an end of the frame is lifted, and means for lifting an end of said frame.

3. The combination with a stationary bed, of a superposed stretcher-frame for supporting a fabric over the bed, extensible frame supporting elements at the several cor-

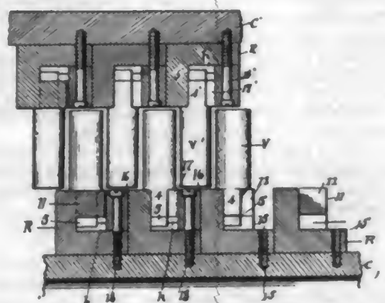
ners of said frame to allow for the requisite extension when said frame is tilted, and means for lifting any predetermined pair of said extensible elements.

4. The combination with a stationary bed, of a superposed stretcher-frame comprising longitudinal side-rails, a fabric for connecting said rails, telescoping end-pieces connected to each of said rails, movable supporting elements for supporting said end pieces, spreading elements for spreading said rails to place said fabric under tension, and means for simultaneously actuating said supporting and spreading elements.

5. The combination with a stationary bed, of a superposed stretcher-frame comprising parallel side-rails for supporting a fabric mounted thereon, telescoping extension elements connected with the ends of each of said rails, movable supports for supporting said extension elements, means for lifting said movable supports, and means for guiding said supports vertically.

[Claims 6 to 12 not printed in the Gazette.]

974,496. TURBINE VANE AND WHEEL. DUSTON KEMBLE, Lakewood, Ohio. Filed Jan. 13, 1910. Serial No. 537,974.



1. In turbines, a vane carrying member having radially disposed slots, vanes provided with headed shanks engaged in said slots and locking plugs for said shanks filling the outer portion of each slot.

2. A vane carrying member having radially disposed slots in its periphery open laterally, vanes having shanks of less lateral depth than said slots engaged therein and plugs filling said slots behind said shanks and locked therein.

3. A vane carrying member provided with an annular flange at its periphery having open radial slots at intervals, in combination with vanes having headed shanks engaged in said slots and headed plugs occupying said slots respectively and locking said vanes in place.

4. A vane carrying member having a flange at its periphery provided with radial slots transversely across said flange and open at the edge thereof, vanes having angular shanks in said slots and locking keys for the vanes in the otherwise open portions of said slots constructed to engage beneath the said flange to avoid being thrown out by centrifugal force.

5. A vane carrying member having a flange about its periphery with slots at intervals across the same to the base of the flange, in combination with vanes having angular shanks provided with portions engaged beneath said flange to avoid being thrown off by centrifugal force and removable keys in said slots locking said vanes in place laterally.

[Claims 6 to 11 not printed in the Gazette.]

974,497. ELECTRIC GENERATOR AND MOTOR. DUSTON KEMBLE, Lakewood, Ohio. Filed Jan. 13, 1910. Serial No. 537,975.

1. In electric machines, a pole member having a slot radially therein and parallel to the axis of the armature shaft, a core piece transversely of said slot and a compensating winding about said core, and a coil about said pole member inclosing said compensating coil.

2. An electric machine having a field member provided with a radial recess extending across the same substantially at right angles to the plane of rotation of the armature, and a cross piece in said recess substantially parallel to the said plane of rotation and a compensating coil about the said cross piece within said recess and within the sides of said field member.



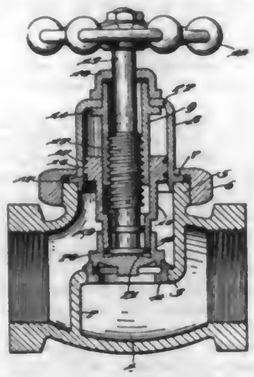
3. In electric machines, a pole member having a slot open thereinto from its inside and having a core transversely therein, a compensating winding about said core, a main coil about said member covering said winding and a shoe upon the inner side of said member across the mouth of said slot.

4. In an electric machine, field magnets formed with longitudinal openings therethrough, and an inner coil and an outer coil wound within and about said magnets respectively, and said inner coil being disposed in a plane substantially at right angles to the outer coil.

5. In electric machines, a pole member having a radial slot and a core piece removably mounted therein, a compensating winding about said core piece within said slot, and a main magnetizing coil about said pole member and said inner compensating winding.

[Claim 6 not printed in the Gazette.]

974,498. GLOBE-VALVE. ARTHUR L. KERBAUGH, Allentown, Pa. Filed Mar. 25, 1910. Serial No. 551,445.



1. A globe valve, comprising a casing, having a valve seat therein, of a hood on the casing, an internally screw-threaded barrel in the hood, a screw-threaded stem in the barrel, a cylinder around the barrel, and a valve secured to the cylinder, said cylinder and valve constructed to move with the stem, and a piston of greater diameter than the cylinder and integral with the cylinder and movable in the hood, substantially as described.

2. A globe valve, comprising a casing, having a valve seat therein, of a hood secured on said casing, an internally screw-threaded barrel secured in the hood, a screw-threaded stem engaging the threads in the barrel, a cylinder around the barrel and surrounding the inner end of the stem, a valve on the end of the cylinder connected to the stem, and a piston on said cylinder of greater diameter than the cylinder and movable in contact with the inner face of the hood, substantially as described.

3. A globe valve, comprising a casing, a partition in the casing, having a screw-threaded opening therein, and a ring screwed into said opening constituting a valve seat, said casing having an opening in line with said valve seat, of a hood, a cap ring securing said hood on the casing, an internally screw-threaded barrel secured in the hood, and of smaller diameter than the hood, a cylinder movable on the barrel, a piston fixed to the cylinder and movable in the hood, a valve on the end of the cylinder adapted to close said valve seat, a screw-threaded stem engaging the threads in the barrel, and a head or flange on the end of the stem, located between the end of the cylinder and the valve, substantially as described.

4. A globe valve, comprising a casing, having a valve seat therein, of a hood, an annular flange around the hood, a cap ring engaging over said flange, and screwed on to the casing, said hood having an opening in its end, a cylindrical barrel located in said opening in the hood, an annular flange on the barrel, a cap ring screwed onto the barrel, and clamping the hood between the same and the flange on the barrel, said barrel having internal screw-threads, a screw-threaded stem in said barrel engaging the threads in the latter, a cylinder movable on the barrel, between the same and the hood, a valve screwed onto the lower end of the cylinder, and a flange or head on the lower end of the stem, located between the end of the cylinder and the valve, substantially as described.

5. A globe valve, comprising a casing, having a valve seat therein, of a hood, an annular flange around the hood, a cap ring engaging over said flange, and screwed onto the casing, said hood having an opening in its end, a cylindrical barrel located in said opening in the hood, an annular flange on the barrel, a cap ring screwed onto the barrel, and clamping the hood between the same and the flange on the barrel, said barrel having internal screw-threads, a screw-threaded stem in said barrel, engaging the threads in the latter, a cylinder of two diameters, the larger diameter mounted to move on the barrel, an integral piston on said cylinder, engaging the inner face of the hood, a flange on the valve stem in the smaller diameter of said cylinder, a flange or head on the lower end of the stem against the lower end of the cylinder, said cylinder externally screw-threaded at its smaller diameter, a valve having a screw-threaded recess therein, and a convex bottom in said recess, said valve screwed onto the cylinder, substantially as described.

974,499. LOSS-PREVENTING DEVICE. SAMUEL L. KIMMEL, Bluffton, Ohio, assignor of one-half to John Fett, Bluffton, Ohio. Filed Dec. 4, 1909. Serial No. 531,398.



A device of the class described, fashioned from a single strip of metal bent to form alined, triangular heads, disposed apex to apex, one extremity of the strip being bent

adjacent the apexes of the heads, to form an article-engaging clasp, disposed substantially normal to the plane of the heads, one of the heads being bent adjacent its extremity, toward the axis of the claps, said extremity being convexed away from the axis of the clasp, in a plane substantially parallel to the plane of the clasp.

974,500. DEVICE FOR OPENING AND HOLDING THE MOUTHS OF FISH, &c. MAURITS LEEFSON, Philadelphia, Pa. Filed Feb. 26, 1909. Serial No. 480,146.

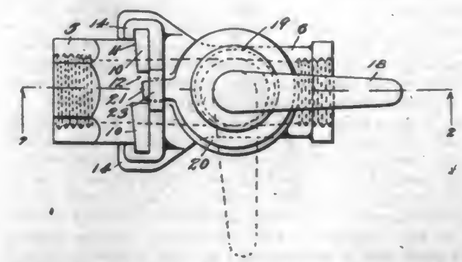


1. In a device of the character described, a pair of jaws pivoted together and superimposed in closed position, a toothed portion on each jaw and in opposed relation to the toothed portion of the other jaw, a bowed spring normally tending to maintain said jaws in diverged position, and locking means adapted to pass through both of said jaw members, said locking means holding the jaws in superimposed position and automatically actuated to release said jaws by a closing pressure of said spring.

2. In a device of the character described, a pair of jaws pivoted together, a spring normally tending to maintain said jaws in diverged position, an arm secured to each jaw and having an opening therein, one of said openings being counterbored and a stud to lock said jaw adapted to pass through both openings and having a head coöperating with said counterbore whereby displacement of said stud is prevented in unlocked position.

3. In a device of the character described, a member having a jaw portion and an off-set portion, a second member pivoted thereto and having a similar jaw and off-set portion, said members being adapted in closed position to be superimposed and contact substantially throughout the length thereof, a spring secured to said off-set portions and normally tending to open said jaws and locking means for securing the members and jaws in superimposed position.

974,501. QUICK COUPLING. WILLIAM H. LEONARD, Denver, Colo., assignor to The Denver Rock Drill & Machinery Company, Denver, Colo. Filed Nov. 8, 1909. Serial No. 526,712.



1. In a quick coupling of the character set forth, the combination with coacting coupling elements having detachably associated coacting devices for securing them together, of a valve in one of the elements, means for operating the valve, and a device mounted on the element having the valve and actuated on the movement of such valve to a predetermined position to maintain the securing devices in coacting relation and thereby hold the coupling elements against uncoupling.

2. In a quick coupling of the character set forth, the combination with coacting coupling elements, of a valve in one of the elements, and a bolt automatically actuated on

the movement of the valve to a predetermined position to lock the coupling elements against uncoupling.

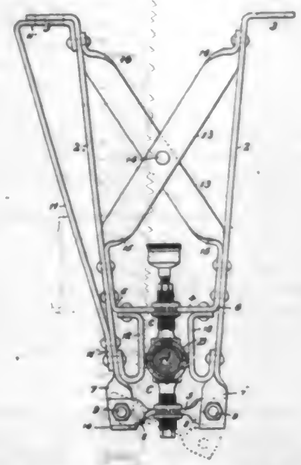
3. In a quick coupling of the character set forth, the combination with coacting coupling elements, of a valve in one of the elements, and a bolt slidably mounted on the coupling element having the valve and automatically actuated on the movement of the valve to a predetermined position to lock the coupling elements against uncoupling.

4. In a quick coupling of the character set forth, the combination with coacting coupling elements, of a rotary valve in one of the elements, and a sliding bolt engaged with and operated by the valve to lock the elements against uncoupling.

5. In a quick coupling of the character set forth, the combination with coacting coupling elements having detachably interlocked devices for securing them together, of a rotary valve in one of the elements, said valve having an eccentric, and means engaged with the eccentric for preventing the interlocked devices of the coupling elements from becoming detached.

[Claims 6 to 10 not printed in the Gazette.]

974,502. SHAFT-HANGER. CHRISTOPHER W. LEVALLEY, Milwaukee, Wis. Filed May 24, 1906. Serial No. 318,508. Renewed Mar. 29, 1910. Serial No. 552,235.



1. A shaft-hanger having side members formed of bar metal, each of which is, near its outer end, transversely twisted so as to give to the immediate end portion a one fourth turn to cause it to lie in a plane substantially transverse to the axis of the shaft, and a cross member secured to the said turned end portions of the side members, substantially as set forth.

2. A shaft-hanger having side members formed of bar metal the outer end portions of which are disposed in planes substantially transverse to the axis of the shaft, a cross member for supporting one of the supports for the shaft-bearing transversely twisted so as to have its end parts disposed to lie flatwise against the said end portions of the side members, and its intermediate portion disposed in a plane that is substantially at right angles to those in which are located its end portions and means for uniting the side and cross members, substantially as set forth.

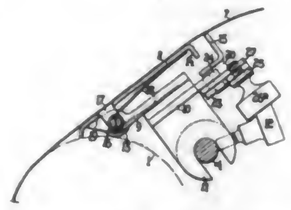
3. A shaft-hanger having side members formed of bar metal the outer end portions of which are each given a one fourth turn to cause them to lie in planes substantially transverse to the axis of the shaft, a cross member for carrying one of the supports for the shaft-bearing having each of its end portions given a one fourth turn whereby they are adapted to lie flatwise against the turned end parts of the side members, and means for uniting the side and the cross members, substantially as set forth.

4. A shaft-hanger having side members the outer end portions of which lie in planes substantially transverse to the axis of the shaft and are provided with the flanges 10, and the cross member arranged to be secured to the said end portions of the side members and to rest upon the said flanges, substantially as set forth.

5. A shaft-hanger having side members and upper and lower cross members, one of the cross members being bent and secured to the inner face of one of the side members, and extending from its connection therewith across the hanger to the other side member to which it is connected near its foot portion, substantially as set forth.

[Claims 6 to 11 not printed in the Gazette.]

974,503. TYPE-WRITING MACHINE. CARL F. LUNDEBERG, Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of Delaware. Filed June 21, 1910. Serial No. 568,087.



1. In a typewriting machine, the combination with a platen, of a paper-aligning mechanism comprising a gage and a shiftable paper-tablet with its upper edge lying flush with the outer edge of the gage to cover or blanket the latter.

2. In a typewriting machine, the combination with a platen, of a paper-aligning mechanism comprising a paper gage and a yielding paper table to uncover the gage only when the leading edge of the work sheet is being alined therewith.

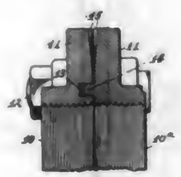
3. In a typewriting machine, the combination with a platen, of a paper-aligning mechanism including a paper gage, a paper table hinged relative to the gage, and a spring to hold the paper table in position to sheathe the gage.

4. In a typewriting machine, the combination with a platen, of a yielding paper table, and paper-aligning means normally rendered ineffective by the position assumed by the paper table relative thereto.

5. In a typewriting machine, the combination with a platen, of a swinging paper table and a paper gage adjustable relative to the printing line and normally sheathed by the position assumed by the paper table.

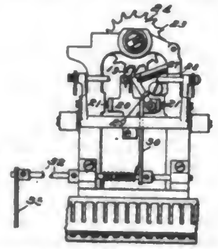
[Claims 6 to 20 not printed in the Gazette.]

974,504. PIPE-UNION. CHARLES J. LUTHER, Elizabeth, N. J., assignor of one-half to Joseph C. Davis, Maplewood, N. J. Filed Aug. 20, 1909. Serial No. 513,803.



The combination of two pipe flanges having opposed faces provided with interfitting members, the said opposed faces of the flanges having registering tapering recesses for the insertion of a wedge in separating one flange from the other.

974,505. TYPE-WRITING MACHINE. CHARLES A. MACDERMOTT, Columbus, Ohio, assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 10, 1908. Serial No. 426,199.



1. In a typewriting machine having type-operating keys, a carriage, a rack therefor, and a carriage-feeding mechanism, including a feeding dog operated by the keys and having a spring to cause it to pass a rack tooth at the movement of said carriage feeding mechanism, the combination with a type-operating key, of means operated thereby to prevent said feeding dog from being caused by said spring to pass the rack tooth at the movement of said carriage-feeding mechanism.

2. In a typewriting machine having type-operating keys, a carriage, a rack therefor, and a carriage-feeding mechanism, including a feeding dog operated by the keys and having a spring to cause it to pass a rack tooth at the movement of said carriage feeding mechanism, the combination with a type-operating key, of means operated thereby to prevent said feeding dog from being caused by said spring to pass the rack tooth at the movement of said carriage-feeding mechanism, said preventing means including a stop normally out of the path of the dog, and means being operated by said key to project said stop into the path of the dog.

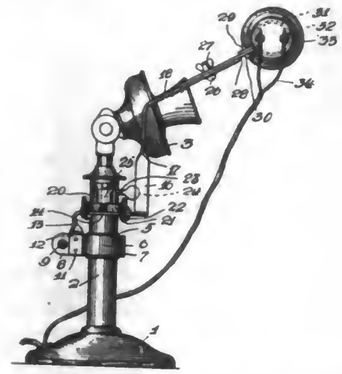
3. In a typewriting machine having type-operating keys, the combination of a carriage-feeding mechanism, including a feeding dog operated by the keys, and a spring to vibrate said dog past an escapement tooth, a type-operating key, and means operated by said key to silence said feeding dog; said silencing means including a stop normally out of the path of the dog, and means operated by said key to project said stop into the path of the dog to prevent the latter from being vibrated by said spring past an escapement tooth; said stop provided upon the end of a rock arm which is connected to said key.

4. In a typewriting machine having type-operating keys and a carriage-feeding mechanism, including a feeding dog operated by the keys, the combination with a type-operating key, of means operated thereby to silence said feeding dog, said silencing means including a stop normally out of the path of the dog, and means operated by said key to project said stop into the path of the dog to prevent the latter from vibrating past an escapement tooth; said stop provided upon the end of a rock arm which is connected to said key; said rock arm mounted upon a rock shaft, and an arm extending from said rock shaft to engage a lever on which the key is mounted.

5. In a typewriting machine, the combination with a carriage, a rack therefor, type-operating keys, a universal bar operated by all the keys, a ribbon-vibrating mechanism operated by said universal bar, a carriage-feeding mechanism also operated by said universal bar and including a feeding dog operated by the keys and having a spring to cause it to pass a rack tooth at the movement of said carriage-feeding mechanism, and means operated by one of said keys to prevent said feeding dog from being caused by said spring to escape past the rack tooth at the movement of said carriage feeding mechanism.

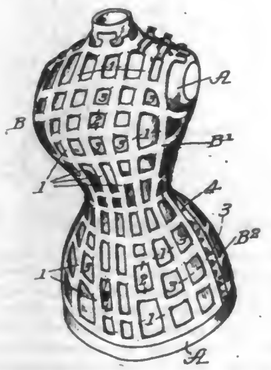
974,506. TELEPHONE-RECEIVER HOLDER. HARRY M. MCALARNEY, Puritan, Pa. Filed Sept. 1, 1910. Serial No. 580,010.

1. The combination with a desk telephone, of a bracket detachably connected to the pedestal thereof, a bar carried by said bracket and bent to provide a horizontal support and an angular portion in proximity to the transmitter of the telephone, bearings mounted upon the horizontal support of said bar, a switch rod journaled in said bearings and adapted to control the movement of the receiver switch arm of the telephone, and an arm adjustably connected to the angular portion of said bar and adapted to support the receiver of the telephone.



2. In a telephone receiver holder, the combination with a telephone, of a bracket carried thereby, a bar attached to said bracket, said bar being bent to provide a horizontal support and an angularly disposed portion, bearings mounted upon the horizontal support portion of said bar, a rod journaled in said bearings, a crank carried by said rod and adapted to control the movement of the receiver arm of said telephone, an arm adjustably connected to the angular portion of said bar, and a clamp pivotally connected to the upper end of said arm and adapted to support the receiver of the telephone, substantially as described.

974,507. MOLD. PETER M. MCNABB, Joliet, Ill. Filed Aug. 17, 1909. Serial No. 513,319.



1. A mold the frame of which is made of material which is plastic when heated and is set and rigid when cold, whereby when heated said mold may be conformed to the model and when cold will retain its shape during the molding of the figure, said frame comprising sections constructed and arranged to be detachably connected to each other, substantially as described.

2. A mold the frame of which is made of material which is plastic when heated and is set and rigid when cold, whereby when heated said mold may be conformed to the model and when cold will retain its shape during the molding of the figure, said frame comprising sections constructed and arranged to be detachably connected to each other, said sections comprising a section consisting of

parts constructed and arranged to overlap and to be connected together in fixed overlapped position, substantially as described.

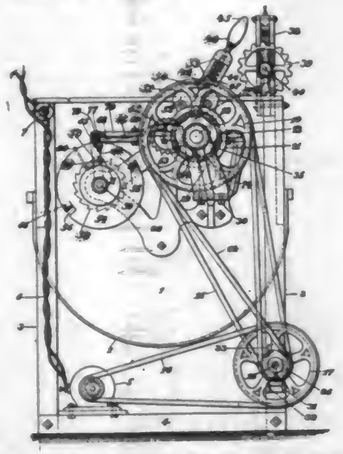
3. A mold the frame of which is made of material which is plastic when heated and is set and rigid when cold, whereby when heated said mold may be conformed to the model and when cold will retain its shape during the molding of the figure, said frame comprising sections constructed and arranged to be detachably connected to each other, and a flexible covering for the frame of said mold, substantially as described.

4. A mold the frame of which is made of material which is plastic when heated and is set and rigid when cold, whereby when heated said mold may be conformed to the model and when cold will retain its shape during the molding of the figure, said frame comprising sections constructed and arranged to be detachably connected to each other, and a covering of fabric for the frame of said mold, substantially as described.

5. A mold the frame of which is made of material which is plastic when heated and is set and rigid when cold, whereby when heated said mold may be conformed to the model and when cold will retain its shape during the molding of the figure, said frame comprising sections constructed and arranged to be detachably connected to each other, and a flexible covering for the frame of said mold applied thereto by means of an adhesive, substantially as described.

[Claim 6 not printed in the Gazette.]

974,508. GEARING. CARLTON A. MUNGER, St. Louis, Mo., assignor to Wayne Manufacturing Company, St. Louis, Mo., a Corporation of Missouri. Filed Sept. 17, 1909. Serial No. 518,166.



1. The combination of a driving shaft adapted to be rotarily reciprocated, a pair of female friction cones mounted on said shaft, means for driving said cones, a male friction cone adapted alternately to engage said first-mentioned cones, and means for producing such engagement, said means consisting in a pivoted member attached to said male cone, a roller connected with said member, a cam with which said roller is adapted to engage, and means for actuating said cam, said means consisting in a ratchet connected to said cam, a pawl in engagement with said ratchet, and means driven from one of said first-mentioned cones for moving said pawl forward and backward.

2. The combination of a driving shaft adapted to be rotarily reciprocated, a pair of female friction cones mounted on said shaft, means for driving said cones, a male friction cone adapted alternately to engage said first-mentioned cones, and means for producing such engagement, said means consisting in a pivoted member attached to said male cone, a roller connected with said member, a cam with which said roller is adapted to engage, and means for actuating said cam, said means consisting in a ratchet connected to said cam, a pawl in engagement with said ratchet, eccentrically driven means for moving said pawl forward and backward, and means connected with one of said first-mentioned cones for operating the last-mentioned means.

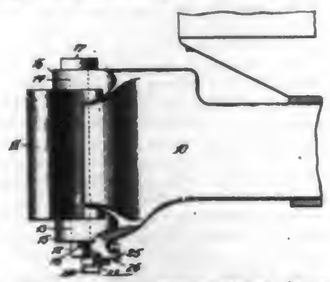
3. The combination of a driving shaft adapted to be rotarily reciprocated, a pair of female friction cones mounted on said shaft, means for driving said cones, a male friction cone adapted alternately to engage said first-mentioned cones, and means for producing such engagement, said means consisting in a pivoted member attached to said male cone, a roller connected with said member, a cam with which said roller is adapted to engage, and means for actuating said cam, said means consisting in a ratchet connected to said cam, a pawl in engagement with said ratchet, and driven means driven from one of said first-mentioned cones for moving said pawl forward and backward.

4. The combination of a driving shaft adapted to be rotarily reciprocated, a pair of female friction cones mounted on said shaft, means for driving said cones, a male friction cone adapted alternately to engage said first-mentioned cones, and means for producing such engagement, said means consisting in a pivoted member connected to said male cone, a member pivoted thereto and having adjustable screws adapted to impinge thereagainst and thus impart motion thereto, cam-engaging means borne by said last-mentioned member, and a cam adapted to impart motion to said last-mentioned member and thereby to the member connected to the male cone.

5. The combination of a driving shaft, a member adapted to be rotarily reciprocated, a member adapted to be continuously rotated in one direction, a driver for each of said members, a driver mounted on said shaft, a shiftable driver connected to said shaft and continuously engaged with the second named driver, means for shifting said shiftable driver into interchangeable engagement with the two first named drivers, means for imparting rotary reciprocatory movement to said shaft, to impart rotary reciprocatory movement to the first named member when said shiftable driver is in engagement with said first named driver, and a detent for rendering the reverse-producing means inoperative, to impart continuous rotary movement to the second named member when said shiftable driver is in engagement with said second named driver.

[Claims 6 to 17 not printed in the Gazette.]

974,509. KNUCKLE-PIN RETAINER. CHARLES F. MURRAY, Chicago, Ill., assignor to American Steel Foundries, New York, N. Y., a Corporation of New Jersey. Filed Aug. 16, 1909. Serial No. 513,032.



1. The combination of a coupler-head, a pivoted knuckle, a knuckle pivot-pin, and a pivot-pin retainer having a pin and hole connection with said coupler-head, said retainer pin being normally non-rotatable in its hole, thereby maintaining said retainer in operative relation with said pivot-pin, said retainer-pin being capable of rotation in its hole permitting shifting of the retainer into inoperative position when the pivot-pin is displaced longitudinally, substantially as described.

2. The combination of a coupler-head, a pivoted knuckle, a knuckle pivot-pin, and a pivot-pin retainer having sliding engagement with said coupler-head, said retainer being capable of turning during a portion of its sliding travel on said head to bring it into operative position with respect to said pivot-pin, said retainer being incapable of such turning and consequently being retained in operative position during the remainder of its sliding engagement, substantially as described.

3. The combination of a coupler-head, a pivoted knckle, a knuckle pivot-pin, and a pivot-pin retainer having sliding engagement with said coupler-head and normally prevented from sliding by said knuckle pivot-pin, said retainer being capable of sliding when the pivot-pin is vertically displaced and of turning during a portion of its sliding travel on said head to bring it into operative position with respect to said pivot-pin, said retainer being incapable of such turning and consequently being retained in operative position during the remainder of its sliding engagement, substantially as described.

4. The combination of a coupler-head provided with a hole therethrough, a pivoted knuckle, a knuckle pivot-pin, and a pivot-pin retainer having a shank pivoted and slidable in the hole in the said coupler-head, said shank having a portion angular in cross section and incapable of turning in said hole and another portion capable of such turning, whereby when the angular part is in such hole the retainer is maintained in operative relation with said pivot-pin and when the retainer is shifted to bring the other part of the shank into said hole the retainer may be turned into inoperative position, substantially as described.

5. The combination of a coupler-head provided with a hole therethrough, a pivoted knuckle, a knuckle pivot-pin, and a pivot-pin retainer having a shank fitted and slidable in the hole in said coupler head, said shank having a portion angular in cross section and incapable of turning in said hole and another portion capable of such turning, whereby when the angular part is in said hole the retainer is maintained in operative relation with said pivot-pin and when the retainer is shifted to bring the other part of the shank into said hole the retainer may be turned into inoperative position, said pivot-pin when in normal position preventing longitudinal movement of the shank of said retainer thereby preventing the retainer from being turned, substantially as described.

974,510. TRACTION-WHEEL. JULIUS OESTE, Davis, Cal. Filed Nov. 18, 1909. Serial No. 528,708.

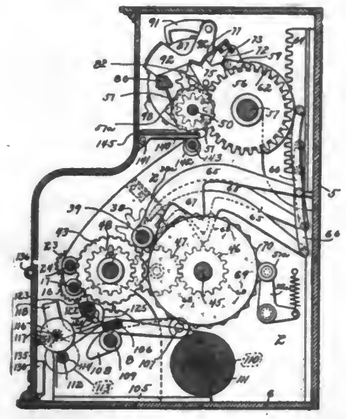


1. A wheel rim composed of transversely inclined plates with alternate plates oppositely inclined from opposite edges of the rim, and intermediate uniting plates extending edgewise across the rim between adjacent plates.

2. A wheel rim composed of transversely inclined plates with alternate plates oppositely inclined from opposite edges of the rim, and intermediate substantially rectangular plates projecting radially from the rim and being diagonally disposed across the rim and having their edges united to the first-named plates.

3. The combination in a wheel, of a rim composed of plates alternately inclined to opposite sides of a radial plane transverse to the axis of the wheel, said plates having outturned base flanges, and means to secure said flanges to the inner wheel rim, substantially rectangular plates projecting radially from the rim and diagonally disposed and extending between the contiguous edges of the first named plates, and means for uniting said plates.

974,511. TICKET PRINTING AND AUDITING MACHINE. JOHN F. OHMER, Dayton, Ohio. Filed July 24, 1908. Serial No. 445,165.



1. In a machine of the type specified, the combination with a total cash counter, of a continuously rotating indicator having fare indications thereon, cam, lever and rack connections between the rotating indicator and the total cash counter, whereby, when one of the fare indications is selected, the total cash counter is set, and means for actuating the total cash counter after being so set to register the value of the fare or ticket.

2. In a machine of the type specified, the combination with a rotating cylinder having means thereon for printing the names of stations or points of destination, and the value of transportation to each station or point of destination, an indicator coöperatively connected with said printing cylinder and through which said cylinder is actuated to bring a selected station and fare value to a printing position, a total cash counter to count the fare value of the transportation as per the ticket, and means for operating said total cash counter to register thereon said fare value, and means for printing a ticket, and a duplicate record of said ticket.

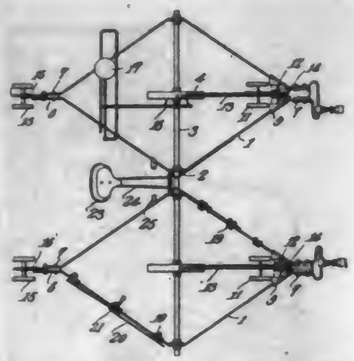
3. In a machine of the type specified, a rotatable printing device to print the stations or points of destination and the fares or values of transportation thereto, a total cash counter to register the total fare values of tickets issued to said stations or points of destination, a total counter to register the total of the tickets, printing mechanism for simultaneously printing tickets upon which are indicated the points of destination and the values of said tickets, and means for actuating both counters concurrently.

4. In a machine of the type specified, the combination of a type wheel for printing the stations or points of destination and the value of the tickets thereto, means for moving said type wheel to each of its operative positions, a cash counter for printing the total value of the tickets issued, a total counter for printing the total number of tickets issued, means for inking said type wheel and said printing counters, means for printing tickets from said type wheel, means for printing a record of said tickets, and means for issuing said tickets and storing the printed record thereof.

5. In a machine of the type specified, the combination with devices for printing tickets and records thereof, said tickets to contain the stations or points of destination, the values thereof, and the date of the issuance of such tickets, means for setting the printing devices to positions for printing the tickets, a total counter to count the total value of the tickets printed and issued, a counter for counting the total number of the tickets issued, and means for concurrently operating the total ticket-value counter and the total ticket number counter.

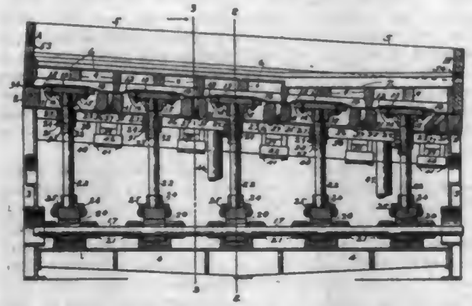
[Claims 6 to 35 not printed in the Gazette.]

974,512. AGRICULTURAL IMPLEMENT. WILLIAM W. OLDHAM, Bowie, Tex. Filed June 15, 1908. Serial No. 438,629.



In an agricultural implement, the combination with a gang frame having side bars standing oblique to the line of draft, the earth engaging devices, seed dropping mechanism, and seat carried thereby, and the main axle and wheels supported by the frame midway between its front and rear ends; of caster wheels at the rear end of the frame, means for adjusting them vertically, a hood secured over the front ends of the side bars of the frame and having uprights, a lever journaled in the latter, a shank vertically adjustable through said hood and connected with the lever, and a truck carried by the lower end of the shank.

974,513. PULP-SCREEN. JOHN OLSEN, Watertown, N. Y. Filed Sept. 9, 1909. Serial No. 516,855.



1. A pulp screening mechanism, comprising an elongated vat having a screen, and a plurality of separate suction devices arranged in series beneath said screen for draining portions of the stream of pulp therethrough, each of said devices having an outlet for the screened pulp, said screen consisting of two sections, one of said sections arranged at an angle to the horizontal, whereby the stream of pulp flows at a substantially constant high speed from end to end thereof, the other section of the screen being arranged horizontal and adapted to receive and screen the residue of the pulp which flows from the first section.

2. A pulp screening mechanism comprising an elongated vat, a series of independent vacuum chambers each having a diaphragm and an inclined outlet, means for vibrating said diaphragms, and two screens in said vat for forming the upper wall of said chambers, one of said screens arranged at an angle to the horizontal, so that a stream of pulp will flow down it, and portions of said stream will be drawn into the chambers beneath said screen, the other screen arranged horizontal and adapted to receive and screen the pulp which flows from the first screen.

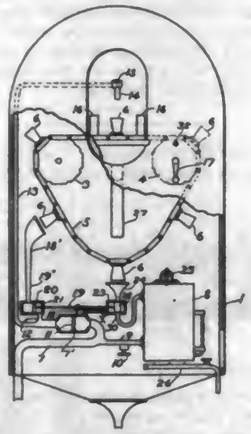
3. A pulp screening mechanism, comprising an elongated vat, a series of independent vacuum chambers each having a diaphragm and an inclined outlet, means for vibrating said diaphragms, two screens in said vat for forming the upper wall of said chambers, one of said screens arranged at an angle to the horizontal, so that a stream of pulp will flow down it, and portions of said stream will be drawn into the chambers beneath said screen, the other screen arranged horizontal and adapted to receive and screen the pulp which escapes from the first screen, and means for separating the pulp drawn through the two screens, so as to permit the pulp drawn through the horizontal section to be rescreened by the angular section.

4. In a pulp screening mechanism, an elongated vat, a series of independent vacuum chambers each having a diaphragm, means for vibrating said diaphragms, an inclined outlet for each vacuum chamber, and a plurality of screen plates forming the upper wall of said chambers, a number of said screen plates being arranged in the same plane at an angle to the horizontal, the remaining plates arranged horizontal, the latter plates being adapted to screen the residue of the pulp after the stream passes off the angular plates.

5. In a pulp screening mechanism, an elongated vat having a screen which is inclined at an angle to the horizontal, and having a second screen arranged horizontal, a series of separate vacuum chambers under said screens, a diaphragm for each vacuum chamber, a separate inclined outlet for each chamber, a flow spout for each outlet, a divided flow box, one compartment in said flow box adapted for receiving the pulp screened by the inclined screen, the other compartment adapted for receiving the pulp drawn through the horizontal screen, and means for returning the pulp drawn through the horizontal screen to the source of unscreened stock for redelivery to the inclined screen for rescreening.

[Claims 6 and 7 not printed in the Gazette.]

974,514. STERILIZING DEVICE. HENRY W. PATRICK, Elyria, Ohio. Filed July 5, 1910. Serial No. 570,250.



1. In a device of the class described, the combination of a liquid receptacle, a duct for conducting liquid to said receptacle and means introducing a sterilizing medium to said receptacle, whereby the same is sterilized, said last named means being under the control of the liquid in said duct.

2. In a device of the class described, the combination of a liquid receptacle, a duct for conducting liquid to said receptacle, means controlling the flow of liquid in said duct, means for introducing a sterilizing medium into said receptacle to sterilize the same and a valve in said duct controlling said last named means, said valve being operated by the flow of liquid in the duct.

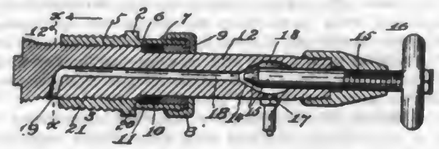
3. In a device of the class described, the combination of a plurality of liquid receptacles, a duct for conducting liquid to said receptacles, a valve in said duct controlled by the flow of liquid therein, a second duct adapted to convey a sterilizing medium to one of said receptacles and a valve mounted in said second duct, said second valve being controlled by said first valve to open said second duct to permit the flow of the sterilizing medium when there is a movement of liquid in the first named duct.

4. In a device of the character described, the combination of a plurality of liquid receptacles, a conveyer upon which the same may be mounted and moved to each of several positions, a duct adapted to convey liquid to one of said positions to a receptacle thereat, a second duct adapted to convey a sterilizing medium to a second of said positions to sterilize a receptacle thereat and means governed by the flow of fluid in the first named duct controlling the conveyance of the sterilizing medium through the second duct.

5. In a device of the character described, the combination of a plurality of liquid receptacles, a conveyer upon which the same may be mounted and moved to each of several positions, a duct adapted to convey liquid to one of said positions to a receptacle thereat, a second duct adapted to convey a sterilizing medium to a second of said positions to sterilize a receptacle thereat, and a valve in said first named duct controlled by the flow of liquid therein, said valve governing the introduction of the sterilizing medium to the receptacles.

[Claims 6 to 10 not printed in the Gazette.]

974,515. GAGE-COCK. SAMUEL PATTON, Washington, D. C. Filed May 19, 1910. Serial No. 562,177.



1. In a gage cock for steam boilers, the combination, with a screw stem having a longitudinal channel, a valve seat in the stem at the outer end of the channel, and a duct leading into the inner end of the channel from the boiler, of a tube secured to and projecting into the boiler and having an internal screw-thread in which the duct end of the stem is turned for opening and closing communication between the boiler and the said channel.

2. In a gage cock for steam boilers, the combination, with a packing gland tube having a portion thereof secured to and projecting into the boiler, of a revoluble stem having an enlarged screw-threaded end working through said tube portion into the boiler, said stem having a longitudinal bore terminating in a valve seat and in a duct leading through said stem end into the boiler, said duct opened and closed by turning the stem in said tube portion.

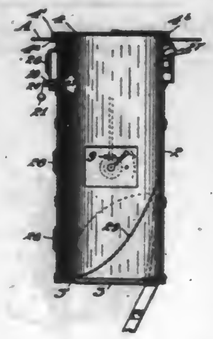
3. In a gage cock for steam boilers, the combination, with a packing gland tube having an internal screw-threaded portion secured to and projecting into the boiler, of a channeled stem extending through and projecting from each end of the gland having an enlarged end screwing in the said tube portion so that the latter will open and close communication between the channel and the boiler by revolving the stem.

4. In a gage cock, the combination, of a longitudinally channeled stem having an angular duct leading from one end of the channel through the periphery of a threaded end of the stem, a valve seat in the stem at the outer end of the channel, and means in which the stem is revolved for opening and closing the duct.

5. In a gage cock, the combination, of a revoluble screw stem having a longitudinal bore terminating in a valve seat and in a duct which extends through the periphery of an enlarged screw-threaded end of the stem, and means in which the stem is revolved for opening and closing the duct.

[Claim 6 not printed in the Gazette.]

974,516. LIFE-SAVING ATTACHMENT FOR SUBMARINES. SHIVELY S. PETERSON, San Francisco, Cal. Filed Sept. 27, 1909. Serial No. 519,704.



1. The combination with a vessel adapted to be submerged, of a compartment in the vessel, said compartment having a door in its bottom which opens upwardly into the compartment, said compartment having, also, an opening outside of the vessel, edgewise swinging door for opening and closing the last-named opening, means for closing said openings so as to render the compartment water tight, means independent of said opening for admitting water into the compartment, independent means controllable from within the compartment, for draining said compartment, and means for operating the closure which controls the opening outside of the vessel.

2. The combination with a vessel adapted to be submerged, of a compartment in the vessel, said compartment having an opening in its bottom, a door controlling said opening and mounted to swing in an upward direction into the compartment, and said compartment having an opening leading to the outside of the vessel, an edgewise swinging door for opening and closing the last-named opening, means whereby the openings are rendered water tight, means independent of said openings for admitting water thereinto, independent means for draining the compartment, said last named means being controlled from within the compartment, and means by which the closure controlling the opening leading exterior to the vessel may be operated from within said compartment.

3. The combination with a vessel adapted to be submerged, of a compartment in the vessel, and having ingress and egress door controlled openings, an edgewise swinging closure for the egress opening, means independent of said openings for admitting water into the compartment, and independent means controlled from within the compartment for draining the compartment.

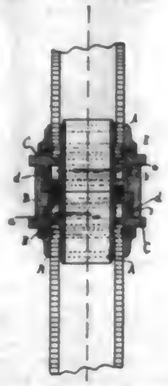
4. The combination with a vessel adapted to be submerged, of a compartment within the vessel having an opening thereinto and an opening outside the vessel, said openings being in line and in the top and bottom respectively of the compartment, and an upwardly opening closure for the bottom opening, a trap-door for said inside opening and a cover for said outside opening, said compartment capable of being rendered water-tight when said openings are closed, said outside cover mounted on a shaft to swing horizontally, and means for operating said shaft to turn the door from within the compartment.

5. The combination with a vessel adapted to be submerged, of a compartment within the vessel having an opening in its bottom thereinto and an opening outside the vessel, a trap-door for said inside opening, said trap door opening upwardly into the compartment and a cover for said outside opening, said compartment capable of being rendered water-tight when said openings are closed, said outside cover mounted on a shaft to swing horizontally, means for operating said shaft to turn the door from within the compartment, means independent of said openings controllable from within the compartment

for flooding the compartment, and independent means for draining the compartment, said means being controlled from within the compartment.

[Claims 6 to 11 not printed in the Gazette.]

974,517. PIPE-JOINT. CLAUDE REVAILLOT, Nice, France. Filed Mar. 6, 1909. Serial No. 481,683.



1. In a device of the character described, a cylindrical junction piece having trapezoidal wings with spaces therebetween, each wing provided with a circular groove, a member having a channeled and milled crown and a crown in relief provided with studs corresponding in number to said wings and engageable in the spaces between the outer end of the wings of the other member, a central cylindrical member having a groove and a spring disposed between said central member and the junction piece, and elastic rings in the groove of said central member.

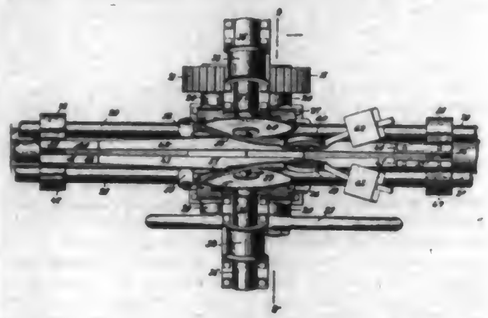
2. The combination with a central cylindrical member having a circular groove, a cylindrical junction piece having trapezoidal wings with a circular groove in each wing near the outer end and one near the base, a member in the form of a channeled and milled crown and having a crown in relief received in the groove at the base of the wings and provided with studs engageable in the grooves at the outer end of the wings of the opposite member, means securing the crown in relief in the groove, and a spring disposed between the junction piece and central member.

3. The combination with cylindrical central pieces having studs, cylindrical junction pieces at opposite ends thereof and having helical grooves receiving said studs to effect a coupling, the central pieces having at their adjacent ends semi-circular grooves, elastic rings in said grooves, a collar on each junction piece and having an inner circular groove, a metal ring slidable therein, and springs between the central pieces, and junction pieces, and screws for securing the parts in position.

4. In a device of the character described, central cylindrical pieces, cylindrical junction pieces over the outer ends of said central pieces, the central pieces having wings each wing having a groove in the form of a semi-circle, packing rings therein, collars on the junction pieces, sectional metallic rings therein, members having limited rotary motion and provided with studs engageable in the grooves of said wings to effect a coupling, springs between the central and the junction pieces, and screws forming the fastening means for said parts.

974,518. STAVE-JOINTING MECHANISM. PHILIP S. REYMAN, Mount Carmel, Ill., assignor to John C. Kelch, Mount Carmel, Ill. Filed Mar. 8, 1909. Serial No. 481,872.

1. In a stave jointing mechanism, the combination of a form made in a plurality of parts movable relatively to each other, a plurality of saws, one disposed adjacent to each of said parts for the purpose of cutting opposite edges of a stave blank resting upon said form, means controllable at will for moving one of said parts and one of said saws bodily in relation to another of said parts and another of said saws, and a presser member associated with one of said saws and movable therewith for the purpose of pressing upon the stave blank at a point adjacent to said last-mentioned saw.



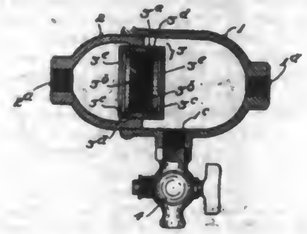
2. The combination of a plurality of sectors mounted to swing in opposite directions and provided with teeth, worms provided with teeth meshing with said teeth of said sectors, gearing connecting said worms together so as to bring both of said sectors under the same control, means for actuating one of said worms for the purpose of swinging said sectors, forks connected with said sectors, saws supported by said forks and movable bodily toward and from each other as said sectors are swung in opposite directions, a form in two parts, each part being associated with a saw and movable bodily therewith, said saws approaching or receding from each other, and means for moving said form past said saws.

3. A device of the character described, comprising a pair of horizontally disposed rods, form pieces supported by said rods, bearings connected with said form pieces and engaging said rods for the purpose of slidably supporting said form pieces, a separate saw associated with each form piece, means for turning one of said saws and one of said form pieces relatively to another saw and another form piece, and a presser member disposed adjacent to said saws and mounted to swing in the planes of rotation thereof, said presser members being movable bodily with said saws in planes crossing the planes of rotation of said saws.

4. In a stave jointing machine, the combination of a shaft, sectors supported by aid of said shaft and adapted to swing in opposite direction, forks carried by said sectors, cutting members revolubly mounted upon said forks and adapted to approach and recede from each other, said cutting members being arranged to turn bodily upon said shaft as a center in planes crossing the axis of rotation of said shaft, a form made in a plurality of parts movable relatively to each other and adapted to support a stave blank, said form being higher at its middle portion than at its ends, means for moving said form bodily in a plane coinciding with the general direction of said shaft, and presser members movable relatively to said cutting members in the general plane of rotation of the latter, and also movable toward and from said form, for the purpose of holding stave blanks engaging said form.

5. A stave jointing mechanism comprising a stationary supporting member, a rod carried thereby, a plurality of sectors movable relatively to each other and supported by aid of said rod, a plurality of forks, each fork being integral with a sector, separate saws journaled relatively to said forks, one of said saws being movable to different angles relatively to another saw, presser members supported by said rod and journaled relatively to the same, and connections from said presser members to said sectors and forms for enabling said presser members to move with said sectors and forks in planes crossing the general planes of rotation of said saws.

974,519. GASOLENE OR OIL FILTER. GEORGE T. REYNOLDS, Providence, R. I. Filed May 4, 1909. Serial No. 493,930.



1. A filter of the class described comprising a hollow body open at one end and provided with a threaded hole at the opposite end and on one side of equal diameters, a cap containing a chamber adapted to screw into the open end of said body and provided with an outlet opening, and a flange at its inner end, and a filter screen comprising an exteriorly threaded sleeve adapted to be removably screwed into the threaded flange of said cap, removable filtering material within said ring held in place by detachable collars.

2. A filter of the class described comprising a hollow body open at one end and having a threaded hole through the opposite end and one side and of equal diameters with their axes at a right angle to each other, said holes adapted to interchangeably receive a supply pipe and a pet-cock, a chambered cap adapted to screw into said body and having a threaded hole at its outer end and an interiorly threaded flange at its inner end, and a removable filter screen comprising a sleeve screwed into said cap flange, and filter material within said sleeve retained in position by perforated disks and threaded collars in each end of the sleeve, said filter adapted to operate in either a vertical or a horizontal position by changing the positions of the inlet pipe and the pet-cock.

974,520. SHOE FOR WALKING ON WATER. LUIGI RISSO, Genoa, Italy. Filed Feb. 11, 1909. Serial No. 477,478.

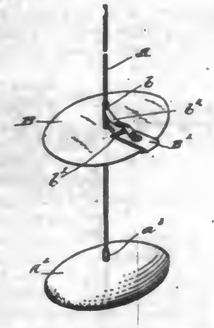


1. In a device for walking on water, the combination with two substantially closed hulls each comprising a skeleton frame composed of two rearwardly extending parallel rods, a centrally disposed rod arranged in parallel relation with said rearward rods and extending forwardly thereof, a back disk secured to the rear ends of said rearwardly disposed rods, a plurality of partitioned diaphragms disposed on said rods and spaced apart from each other, the foremost diaphragm being reduced in diameter with respect to the remaining diaphragms, a cone member disposed on the forward end of said central rod, and a water-proof covering inclosing said diaphragms and extending from said cone member to said back disk.

2. In a device for walking on water, the combination with two hulls, a rotary propelling device disposed between said hulls, and parallel rods projecting from said hulls through said propelling device and movably connected therewith whereby movement of said hulls serves to rotate said propelling device about an axis parallel with and between said rods.

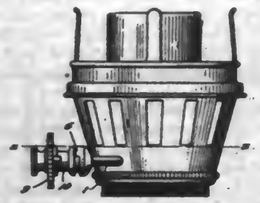
974,521. SKIRT-MARKER. CHRISTIAN A. RITTMAN, Sandusky, Ohio. Filed Apr. 15, 1908. Serial No. 427,228.

1. In a device of the character described, the combination of a base, a vertically disposed rod rotatably supported at its lower end substantially centrally in said base and adapted to be twirled between the fingers by its upper end, a disk transversely mounted on said rod and adjustable therealong, a piece of marking material, and resilient means upon said disk adapted to secure such marking material to said disk so as to project beyond the periphery thereof.



2. In a device of the character described, the combination of a base, a vertically disposed rod rotatably supported at its lower end in said base and adapted to be twirled between the fingers by its upper end, means for detachably thus securing such lower rod end in said base, and a marker projecting laterally from said rod.

974,522. WICK-GAGE. GEORGE A. RITZLER, Kenton, Ohio. Filed Feb. 16, 1910. Serial No. 544,170.



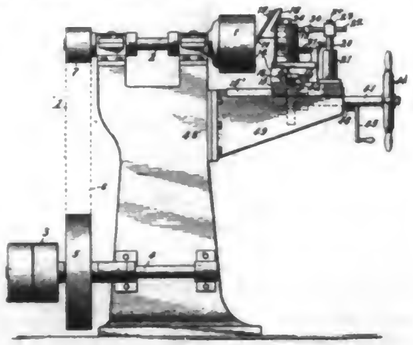
1. In a wick gage, of the character described, the combination, with a wick-controlling spindle having its extremity screw threaded, the portion adjacent thereto squared and the next part cylindrical, of a sleeve mounted on said cylindrical portion, a thumb-disk fitted on said squared portion, a thumb-nut mounted on said screw-threaded extremity of the spindle, a rigid flange on said spindle against which the sleeve is clamped when the thumb-nut is tightened, a projection on said sleeve, and a stationary projection extending into the path of the projection on the sleeve for the purpose specified.

2. In a wick gage, of the character described, the combination, with a wick-controlling spindle having its extremity screw threaded, the portion adjacent thereto squared and the next part cylindrical, of a sleeve mounted on said cylindrical portion, a thumb-disk fitted on said squared portion, a thumb-nut mounted on said screw-threaded extremity of the spindle, a rigid flange on said spindle against which the sleeve is clamped when the thumb-nut is tightened, a projection on said sleeve, and a stationary collar having a projection extending into the path of the projection on the sleeve for the purpose specified.

3. In a wick of the character described, the combination with a wick-controlling spindle having its extremity screw threaded, the portion adjacent thereto squared and the next part cylindrical, of a sleeve mounted on said cylindrical portion, a thumb-disk fitted on said squared portion, a thumb-nut mounted on said screw-threaded extremity of the spindle, a rigid flange on said spindle against which the sleeve is clamped when the thumb-nut is tightened, a projection on said sleeve, a flange on the

end of said sleeve adjacent to the thumb-disk, hooks on said thumb-disk engaging said flange on the sleeve, and a stationary projection extending into the path of the projection on the sleeve for the purpose specified.

974,523. GRINDER FOR IRREGULAR SURFACES. ALEXANDER ROBERTS and ARTHUR LIBERT, Green Bay, Wis. Filed Feb. 14, 1910. Serial No. 543,774.



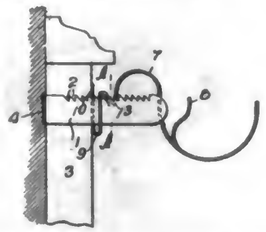
1. In a device of the described class, the combination of a revoluble grinder, a carriage adapted to be alternately moved in opposite directions past and in close proximity to said grinder, a swinging arm pivotally supported at one end from said carriage, means for securing the object to be ground to said swinging arm, a guide plate, and a guide bearing, said guide plate and bearing being connected one with said swinging arm and the other with a stationary base plate, and means for yieldingly retaining said guide plate and guide bearing in contact with each other as the object to be ground is moved in contact with the surface of the grinder.

2. In a device of the described class, the combination of a revoluble grinder, a reciprocating carriage, a swinging arm pivotally supported at one end from said carriage, means for securing the object to be ground to said swinging arm, a guide plate and guide bearing, said guide plate and bearing being connected one with said swinging arm and the other with a stationary base plate, a spring connected at one end with said swinging arm and at its opposite end to said carriage, and means for communicating a reciprocating movement to said carriage and the coöperating parts mounted thereon.

3. In a device of the described class, the combination of a revoluble grinder, a reciprocating carriage supported in close proximity to said grinder, a swinging arm pivotally supported at one end from said carriage, means for adjustably securing the object to be ground to said swinging arm, a guide plate secured to said movable carriage, a guide bearing supported from a stationary base plate, means for yieldingly retaining said guide plate and guide bearing in contact with each other, and means for communicating a reciprocating movement to said carriage and the coöperating parts supported therefrom.

4. In a device of the described class, the combination of a grinder, means for communicating a revoluble movement to said grinder, a carriage adapted to be alternately moved in opposite directions past and in close proximity to said grinder, a swinging arm pivotally supported at one end from said carriage, means for securing the object to be ground to said swinging arm, a guide plate and a guide bearing, said guide plate and bearing being connected one with said swinging arm and the other with a stationary base plate, means for yieldingly retaining said guide plate and guide bearing in contact with each other as the object to be ground is moved in contact with the surface of said grinder, and means for manually communicating a reciprocating movement to said carriage and the parts supported therefrom, all substantially as and for the purpose specified.

974,524. HANGER. LOUIS ROEHM, Chicago, Ill. Filed Nov. 12, 1909. Serial No. 527,662.



1. In a curtain fixture, the combination of a ratchet-bar, and a hanger movable on said bar and having a spring-base for engagement with a window casing.

2. In a curtain fixture, the combination of a ratchet-bar having a foot for engagement with the back of a supporting member, and a hanger engaging with said ratchet-bar, and having a spring-base normally pressing against the front of said supporting member.

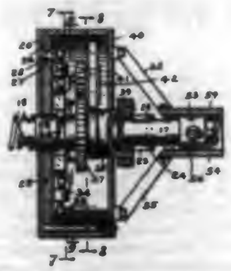
3. In a curtain fixture, the combination of a ratchet-bar having a slotted foot for engagement with the back surface of a supporting member, and a hanger having a wing engaging with said ratchet bar and also having a spring-base operative to hold said hanger in position on said bar.

4. In a curtain fixture, the combination with a hanger having a slotted wing and also having a flat base for engagement with a supporting member, of a ratchet-bar passing through said wing for engagement therewith to hold said hanger in position against said supporting member.

5. In a curtain fixture, the combination of a ratchet-bar and a sheet metal hanger bent in a plurality of convolutions one of which forms a spring for engagement with the supporting member, and another of which forms a bearing surface for said ratchet-bar when in place at the side of said hanger and engaging therewith.

[Claims 6 and 7 not printed in the Gazette.]

974,525. STARTER FOR HYDROCARBON-ENGINES. JOHN B. RUNNER, Indianapolis, Ind., assignor to Leonard M. Quill and Louis A. Browne, Indianapolis, Ind. Filed June 20, 1910. Serial No. 567,968.



1. The combination, with an engine, of a shaft, a coupling for detachably connecting the engine and shaft, a sleeve mounted on the shaft, a ratchet wheel mounted on the sleeve, means for permitting rotation in only one direction of the sleeve on the shaft, a lever having a hub through which the shaft passes, an arm on the hub of the lever, and means on the arm for drivingly engaging the ratchet wheel as the hub is rocked by the lever.

2. The combination, with an engine, of a shaft, manual means for rotating the shaft, a coupling for detachably connecting the engine and shaft, a fixed ring, a circular disk rotating with the shaft and making a close working fit in the ring, said ring having rearwardly tapering recesses next to the disk, rollers in said recesses to lock the disk against back travel, and means for permitting the shaft to turn in the disk at a predetermined back strain

comprising radially adjustable brake-shoes secured to the disk, and means for regulating the inward pressure of said shoes.

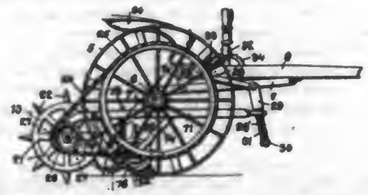
3. The combination, with an engine, of a shaft, a coupling for detachably connecting the engine and shaft, a fixed ring, a circular disk rotating with the shaft and making a close working fit in the ring, said ring having rearwardly tapering recesses next to the disk, rollers in said recesses to lock the disk against back travel, a lever having a hub through which the shaft passes, a ratchet wheel, means for rotating the disk by the rotation of the ratchet wheel, an arm on the hub of the lever and means on the arm for drivingly engaging the ratchet wheel as the hub is rocked by manually operating the lever.

4. The combination, with an engine, of a shaft, a coupling for detachably connecting the engine and shaft, a fixed ring, a circular disk rotating with the shaft and making a close working fit in the ring, said ring having rearwardly tapering recesses next to the disk, rollers in said recesses to lock the disk against back travel, a lever having a hub through which the shaft passes, a ratchet wheel, means for rotating the disk by the rotation of the ratchet wheel, an arm on the hub of the lever, a ratchet wheel on the arm, and means for causing driving engagement between the two wheels at one travel of the arm and disengagement at the other.

5. The combination, with an engine, of a shaft, a coupling for detachably connecting the engine and shaft, a fixed ring, a circular disk rotating with the shaft and making a close working fit in the ring, said ring having rearwardly tapering recesses next to the disk, rollers in said recesses to lock the disk against back travel, a lever having a hub through which the shaft passes, a ratchet wheel, means for rotating the disk by the rotation of the ratchet wheel, an arm on the hub of the lever, a ratchet wheel on the arm, means for causing driving engagement between the two wheels at one travel of the arm and disengagement at the other, and means connecting the coupling and lever to connect the shaft by a movement of the lever.

[Claims 6 to 9 not printed in the Gazette.]

974,526. EARTHWORKING-MACHINE. CHARLES F. SCHAUPP, Wilson, Minn. Filed June 25, 1910. Serial No. 568,862.



1. The combination with a wheeled frame, of bars pivoted on said frame intermediate of their ends, tooth carrying cylinders rotatably supported by said bars, means for positively rotating one of said cylinders, means for yieldingly maintaining the teeth of the other cylinder in contact with the ground, and means for oscillating said bars to move the cylinders to operative and inoperative position.

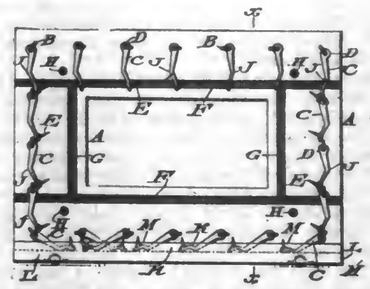
2. The combination with a wheeled frame, of bars pivoted on said frame intermediate of their ends, a toothed cylinder adjustably mounted in the rear ends of said bars, sprockets carried by the wheels, pinions fixed on the cylinder shaft, drive chains traversing said sprockets and pinions, a second toothed cylinder suspended between said pivoted bars, means normally holding the teeth of the latter cylinder yieldingly in contact with the ground, and means mounted in the wheeled frame for oscillating said bars to move said cylinders to operative and inoperative position.

3. The combination with a wheeled frame, of bars pivoted on said frame intermediate of their ends, a toothed cylinder carried by said bars, means for rotating said cylinder, hanger links pivoted to said bars and depending therefrom, a second toothed cylinder rotatably mounted in the lower ends of said links, springs arranged between said bars and links to yieldingly hold the teeth of said cylinder in engagement with the ground, the teeth of one cylinder passing between the teeth on the other cylinder as the cylinders rotate, and means mounted in said frame for moving the cylinders to operative and inoperative position.

4. The combination with driving wheels and an axle connecting the same, of a U-shaped frame supported at its ends on said axle, the ends of said frame extending downwardly below the axle, a bar pivoted to each end of the frame and extending forwardly and rearwardly of the driving wheels, a pair of toothed cylinders rotatably mounted between the rear ends of said bars, means for positively rotating one of said cylinders, independent means for yieldingly supporting said cylinders in operative position, and means for moving said cylinders to operative and inoperative position.

5. The combination with driving wheels and an axle connecting the same, of a U-shaped frame secured at its ends upon said axle, a bar pivoted to each end of said frame and extending rearwardly thereof, spaced toothed cylinders rotatably mounted between the rear ends of said bars, the teeth on one cylinder being adapted to pass between those on the other cylinder, means for positively rotating one of said cylinders, springs arranged at each end of the other cylinder beneath said bars for yieldingly holding the teeth of said cylinder in contact with the ground, and means for simultaneously moving said cylinders to operative and inoperative position.

974,527. HOLDER FOR RUGS DURING FINISHING, &c. AUGUST C. SCHOEN, Philadelphia, Pa. Filed Nov. 24, 1909. Serial No. 529,669.



1. A frame, right angularly disposed arms on the several sides thereof, spurs and eyes on opposite ends of said arms, means on the frame with which said eyes are pivotally connected, and arms with means of connection at the corners of said frame, the faces of said frame having openings to receive said spurs.

2. A frame, arms on the several sides thereof, spurs and eyes on opposite ends of said arms, and means on the frame with which said eyes are pivotally connected, said sides having therein openings to receive said spurs, the undersides of said arms intermediate of their ends being outwardly deflected.

3. In a device of the character stated, a frame having a forwardly extending base and a vertical flange on the outer edge of said base, said frame being provided with channels, and means pivotally mounted on the frame and having their free ends extending over said channels and having prongs adapted to pierce a rug and enter said channels.

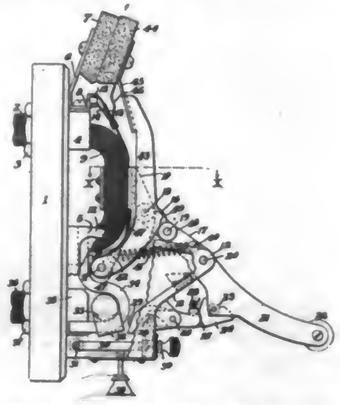
4. In a device of the character stated, a frame having a forwardly extending base and a vertical flange on the outer edge of said base, said frame being provided with channels, and means pivotally mounted on the frame and having their free ends extending over said channels and having prongs adapted to pierce a rug and enter said channels, said prongs being inclined toward their pivotal support.

5. In a device of the character stated, a frame having a forwardly projecting base, a vertical guard on said base

at a distance from the adjacent face of the frame, and pivotally mounted means on said frame carrying prongs at their free ends to pass through and hold a rug.

[Claims 6 to 8 not printed in the Gazette.]

974,528. ELECTRIC SWITCH. WILLIAM M. SCOTT, Philadelphia, Pa., assignor to The Cutter Electrical and Manufacturing Company, a Corporation of New Jersey. Filed Oct. 9, 1909. Serial No. 521,894.



1. In an electric switch, movable main and shunt contacts, an arm carrying a shunt contact independently of said main contact, members pivoted to each other for operating said main contact, a cam surface on said shunt carrying arm, and a cam engaging member carried at the pivotal connection of said members for operating said shunt carrying arm.

2. In an electric switch, movable main and shunt contacts, an arm carrying a shunt contact independently of said main contact, links pivoted to each other to form a toggle for operating said main contact, a cam surface on said shunt carrying arm, and a cam engaging member carried by the pivot joining said toggle links for operating said shunt carrying arm.

3. In an electric switch, movable main and shunt contacts, an arm carrying a shunt contact independently of said main contact, links pivoted to each other to form a toggle for operating said main contact, a cam surface on said shunt carrying arm, and a cam engaging member carried at the pivot joining said toggle links, the surface of said cam engaged by said cam engaging member at approximately and full circuit closing position being determined by an arc having a pivot of a link of said toggle as a center.

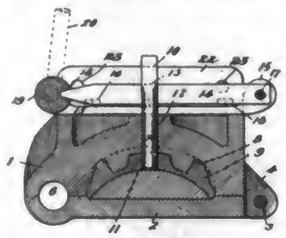
4. In an electric switch, movable main and shunt contacts, an arm carrying a shunt contact independently of said main contact, members pivoted to each other for operating said main contact, a cam surface on said shunt carrying arm, and a cam engaging member carried by one of said pivoted members intermediate the terminal pivots of said members.

5. In an electric switch, movable main and shunt contacts, an arm carrying a shunt contact independently of said main contact, links pivoted to each other to form a toggle for operating said main contact, a cam surface on said shunt carrying arm, and a cam engaging member carried by said toggle intermediate the terminal pivots of said toggle.

[Claims 6 to 14 not printed in the Gazette.]

974,529. JOURNAL-BEARING MOLD. HERMAN F. SCHRODER, Berwyn, Ill., assignor to William H. Miner, Chicago, Ill. Filed June 18, 1909. Serial No. 502,869.

1. In a mold for manufacturing journal bearing liners, the combination with a pair of opening and closing mold members having an upright gate extending lengthwise of the mold and provided with a plurality of horizontally extending runners communicating with the interior of the mold at different levels, of a pair of movable cores mounted to reciprocate through one of said mold members and eject the soft metal liner cast therein therefrom, said movable cores engaging said liner one above and the other below its middle, substantially as specified.



2. In a mold for manufacturing journal bearing liners, the combination with a pair of opening and closing mold members having an upright gate extending lengthwise of the mold and provided with a plurality of horizontally extending runners communicating with the interior of the mold at different levels, of a pair of movable cores mounted to reciprocate through one of said mold members and eject the soft metal liner cast therein therefrom, said movable cores engaging said liner one above and the other below its middle, a pair of core levers engaging said cores and a grooved rock shaft and lever for operating said core levers, substantially as specified.

3. In a mold for manufacturing journal bearing liners, the combination with a pair of opening and closing mold members, of a pair of movable cores mounted to reciprocate through one of said mold members and eject the soft metal liner cast therein therefrom, a pair of core levers engaging said cores and a grooved rock shaft and lever for operating said core levers, said rock shaft having an adjusting arm and adjusting screw, substantially as specified.

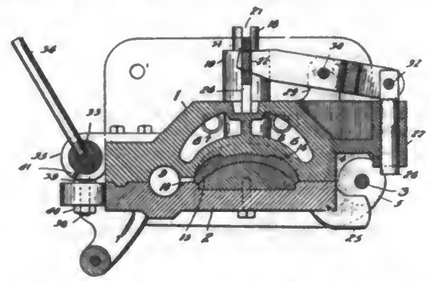
4. A journal bearing mold consisting in a pair of opening and closing mold members having an upright gate extending lengthwise of the mold and provided with a plurality of horizontal extending runners communicating with the interior of the mold at different levels, one of said mold members having a movable core adapted to reciprocate therethrough and serve as a means for ejecting or discharging the journal bearing liner cast therein from the mold, said mold members being hinged together on an upright axis, and one of said mold members having means for securing it stationary in an upright position, substantially as specified.

5. A journal bearing mold consisting in a pair of opening and closing mold members having an upright gate extending lengthwise of the mold and provided with a plurality of horizontally extending runners communicating with the interior of the mold at different levels, one of said mold members having a movable core adapted to reciprocate therethrough and serve as a means for ejecting or discharging the journal bearing liner cast therein from the mold and an operating lever for said movable core, said mold members being hinged together on an upright axis, and one of said mold members having means for securing it stationary in an upright position, substantially as specified.

[Claims 6 to 9 not printed in the Gazette.]

974,530. JOURNAL-BEARING MOLD. HERMAN F. SCHRODER, Berwyn, Ill., assignor to William H. Miner, Chicago, Ill. Filed July 3, 1909. Serial No. 505,839.

1. In a mold for manufacturing journal bearing liners, the combination with a main mold member, of a door mold member hinged thereto, a pair of movable cores mounted to reciprocate in one of said mold members and eject the soft metal liner cast therein therefrom, and connecting means for operating said cores simultaneously from and by the door member by its opening movement, substantially as specified.



2. In a mold for making journal bearing liners, the combination with a stationary main member, of a door member hinged thereto, a pair of movable cores mounted to reciprocate through the main member and eject the soft metal liner cast therein therefrom, a bar connecting said movable cores, an operating lever therefor, said door member having an arm actuating said lever when the door is swung open, substantially as specified.

3. A mold for manufacturing journal bearing liners, comprising a main member, a door member, and movable cores mounted to reciprocate through said main member and eject the soft metal liner cast therein therefrom, a lever for operating said movable cores, the door having an arm for actuating said lever when it is thrown open, substantially as specified.

4. A mold for manufacturing journal bearing liners, comprising a main member, a door member, and movable cores mounted to reciprocate through said main member and eject the soft metal liner cast therein therefrom, a lever for operating said movable cores, the door having an arm for actuating said lever when it is thrown open, and a piston interposed between said operating lever and said arm of the door, substantially as specified.

5. A mold for manufacturing journal bearing liners, comprising a main member, a door member, and movable cores mounted to reciprocate through said main member and eject the soft metal liner cast therein therefrom, a lever for operating said movable cores, the door having an arm for actuating said lever when it is thrown open, and a piston interposed between said operating lever and said arm of the door, said operating lever having a fork and said cores having a bar connecting the same and engaging the fork of the lever, substantially as specified.

[Claims 6 to 17 not printed in the Gazette.]

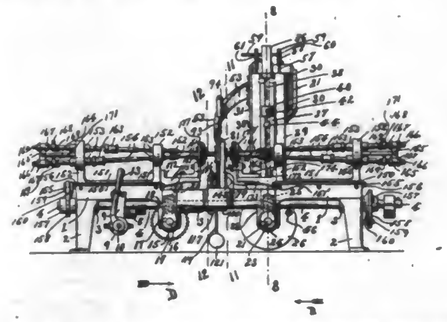
974,531. SYRINGE. FRIEDRICH SCHWARZ and HEINRICH TAUSS, Vienna, Austria-Hungary. Filed Jan. 13, 1909. Serial No. 472,074.



1. A hypodermic syringe comprising in combination a rigid container, a detachable membrane providing a closing means for said container at one end, detachable closing members for the other end thereof, means for fastening said membrane and closing members onto said container, said means serving simultaneously for securing said membrane and closing members to each other, a hypodermic needle, and a device for exerting a pressure upon said membrance.

2. A hypodermic syringe comprising in combination a container, a membrane closing said container at one end thereof, a plate covering said membrane, a second plate closing the other end of said container, a nipple engaging said second plate, a plurality of rods extending from said nipple, said rods being provided with screw threads, a plurality of bolts projecting through the first named plate and engaging the threads on said rods, a hypodermic needle provided with a flange near its rear end and a device for exerting a pressure upon said membrane.

974,532. APPARATUS FOR DRILLING AND COUNTERBORING THREAD-HOLES AND CUTTING THREAD-NICHES IN BUTTON-BLANKS. HERBERT J. SKIPP, Newark, N. J. Filed Aug. 21, 1908. Serial No. 449,732.



1. In an apparatus for cutting thread-niches between the thread-holes of buttons, the combination with a base-member, of a longitudinally extending shaft connected therewith, means for driving said shaft, a button-clamping and holding chuck connected with said base-member, means for feeding buttons one at a time to said clamping and holding chuck, a longitudinally moving carriage slidably arranged upon said base-member, a drill-carriage slidably arranged upon said longitudinally moving carriage, so as to be capable of a lateral movement thereon, a plurality of niching drills rotatably connected with said drill-carriage, means adapted to slide said longitudinally moving carriage forward toward said clamping and holding chuck to bring said niching drills into a cutting position with relation to a button held therein, and means for causing a lateral movement of said drill-carriage on said longitudinally moving carriage to cut the thread-niches between the thread-holes of said buttons, means for returning said drill-carriage to its normal initial position, and means for returning said longiutdinally moving carriage to its normal initial position, substantially as and for the purposes set forth.

2. In an apparatus for cutting thread-niches between the thread-holes of buttons, the combination with a base-member, of a longitudinally extending shaft connected therewith, means for driving said shaft, a button-clamping and holding chuck connected with said base-member, means for feeding buttons one at a time to said clamping and holding chuck, a longitudinally moving carriage slidably arranged upon said base-member, laterally extending guide-members upon the upper surface of said longitudinally moving carriage, a drill-carriage slidably connected with said guide-members, a plurality of revoluble shafts provided with drill-chucks mounted on said drill-carriage, niching-drills secured in said drill-chucks, means connected with said longitudinally extending shaft adapted to slide said longitudinally moving carriage forward toward said clamping and holding chuck to bring said niching-drills into a cutting position with relation to a button held therein, and means for causing a lateral movement of said drill-carriage on said longitudinally moving carriage to cut the said thread-niches, means for returning said drill-carriage to its normal initial position, and

means for returning said longitudinally moving carriage to its normal initial position, substantially as and for the purposes set forth.

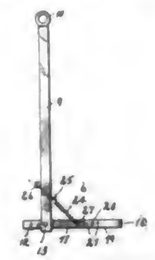
3. In an apparatus for cutting thread-niches between the thread-holes of buttons, the combination with a base-member, of a longitudinally extending shaft connected therewith, means for driving said shaft, a button-clamping and holding chuck connected with said base-member, means for feeding buttons one at a time to said clamping and holding chuck, a longitudinally moving carriage slidably arranged upon said base-member, laterally extending guide-members upon the upper surface of said longitudinally moving carriage, a drill-carriage slidably connected with said guide-members, a plurality of revoluble shafts provided with drill-chucks mounted on said drill-carriage, niching-drills secured in said drill-chucks, means connected with said longitudinally extending shaft adapted to slide said longitudinally moving carriage forward toward said clamping and holding chuck to bring said niching-drills into a cutting position with relation to a button held therein, comprising a cam upon said longitudinally extending shaft adapted to engage the outer end of said longitudinally moving carriage, and means for causing a lateral movement of said drill-carriage on said longitudinally moving carriage to cut said thread-niches, means for returning said drill-carriage to its normal initial position, and means for returning said longitudinally moving carriage to its normal initial position, the same comprising a spiral spring-member connected with said base-member and adapted to operatively engage with a lug connected with said longitudinally moving carriage, substantially as and for the purposes set forth.

4. In an apparatus for cutting thread-niches between the thread-holes of buttons, the combination with a base-member, of a longitudinally extending shaft connected therewith, means for driving said shaft, a button-clamping and holding chuck connected with said base-member, means for feeding buttons one at a time to said clamping and holding chuck, a longitudinally moving carriage slidably arranged upon said base-member, laterally extending guide-members upon the upper surface of said longitudinally moving carriage, a drill-carriage slidably connected with said guide-members, a plurality of revoluble shafts provided with drill-chucks mounted on said drill-carriage, niching-drills secured in said drill-chucks, means connected with said longitudinally extending shaft adapted to slide said longitudinally moving carriage forward toward said clamping and holding chuck to bring said niching-drills into a cutting position with relation to a button held therein, comprising a cam upon said longitudinally extending shaft adapted to engage the outer end of said longitudinally moving carriage, and means for causing a lateral movement of said drill-carriage on said longitudinally moving carriage to cut said thread-niches, comprising a fulcrum-post secured upon said longitudinally moving carriage, a lever pivotally secured thereto, a swivel-post adjustably connected with said drill-carriage adapted to be engaged by said lever, a downwardly extending tail-piece upon one end of said lever, a cam secured upon said longitudinally extending shaft adapted to engage said tail-piece to operate said lever, means for returning said drill-carriage to its normal initial position, and means for returning said longitudinally moving carriage to its normal initial position, the same comprising a spiral spring-member connected with said base-member and adapted to operatively engage with a lug connected with said longitudinally moving carriage, substantially as and for the purposes set forth.

5. In an apparatus for cutting thread-niches between the thread-holes of buttons, the combination with a base-member, of a longitudinally extending shaft connected therewith, means for driving said shaft, a button-clamping and holding chuck connected with said base-member, means for feeding buttons one at a time to said clamping and holding chuck, a longitudinally moving carriage slidably arranged upon said base-member, laterally extending guide-members upon the upper surface of said longitudinally moving carriage, a drill-carriage slidably connected with said guide-members, a plurality of revoluble shafts provided with drill-chucks mounted on said drill-carriage, niching-drills secured in said drill-chucks, means connected with said longitudinally extending shaft adapted to slide said longitudinally moving carriage forward toward said clamping and holding chuck to bring said niching-drills into a cutting position with relation to a button held therein, comprising a cam upon said longitudinally extending shaft adapted to engage the outer end of said longitudinally moving carriage, and means for causing a lateral movement of said drill-carriage on said longitudinally moving carriage to cut said thread-niches, comprising a fulcrum-post secured upon said longitudinally moving carriage, a lever pivotally secured thereto, a swivel-post adjustably connected with said drill-carriage adapted to be engaged by said lever, a downwardly extending tail-piece upon one end of said lever, a cam secured upon said longitudinally extending shaft adapted to engage said tail-piece to operate said lever, means for returning said drill-carriage to its normal initial position, and means for returning said longitudinally moving carriage to its normal initial position, the same comprising a spiral spring-member, connected with said base-member and adapted to operatively engage with a lug connected with said longitudinally moving carriage, substantially as and for the purposes set forth.

[Claim 6 not printed in the Gazette.]

974,533. WELL-HOOK. ARTHUR SOSS, Bee, Nebr. Filed Dec. 13, 1909. Serial No. 532,800.

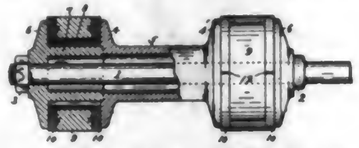


1. In a grappling device, the combination with a lift bar, of a gripping member pivoted on said bar, and means adapted to yieldingly support the gripping member at an angle with the said bar.

2. In a grappling device, the combination with a lift bar, of an arm pivoted thereto and provided with a fixed jaw, a hooked jaw adjustably attached to said fixed jaw, and a spring adapted to support the said arm at an angle with the lift bar.

3. In a grappling device, the combination with a lift bar, of an arm adjustably pivoted to the bar, a fixed jaw on said arm, said jaw having an angular gripping face, a hooked jaw adjustably attached to said fixed jaw and co-operating therewith, and adjustable means for yieldingly supporting the said arm relatively to the lift bar.

974,534. PISTON-VALVE. DAVID F. STAYMAN, New York, N. Y. Filed Aug. 12, 1909. Serial No. 512,493.



1. A piston or packing ring comprising a plurality of annular segments having concentric grooves formed in the opposite side faces thereof, expansible binder-rings contiguous with said opposite side faces, and annular tongues formed on said binder-rings and engaging the grooves in said piston-ring segments.

2. A piston or packing ring comprising a plurality of annular segments, expansible binder-rings disposed on opposite sides thereof, and annular tongue and groove connections between said piston-ring and segments and binder-rings.

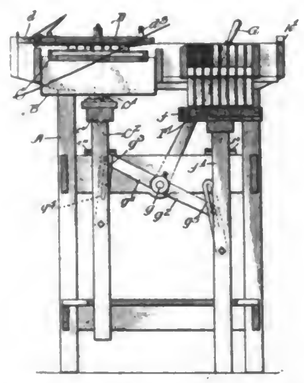
3. In a piston or packing ring, the combination with a plurality of annular segments, of binder-rings disposed on opposite sides thereof and comprising transversely-split elastic rings, and annular tongue and groove connections between said annular segments and binder-rings.

4. In a piston, the combination of a piston-head having spaced flanges, a transversely-divided sectional piston-ring disposed between said piston-head flanges, expansible binder-rings disposed on opposite sides of said sectional piston-ring, annular tongue and groove connections between said sectional piston-ring and binder-rings, and a spring-ring disposed between said piston-head flanges and engaging said binder-rings.

5. In a piston, the combination of a piston-head having spaced flanges, a transversely-divided sectional piston-ring disposed between said piston-head flanges and having annular side grooves, binder-rings on opposite sides of said sectional piston-ring engaging the inner faces of the piston-head flanges, annular tongues formed on said binder-rings and engaging the side grooves of the sectional piston-ring, and a spring-ring disposed between said piston-head flanges and engaging said binder-rings and sectional piston-ring.

[Claim 6 not printed in the Gazette.]

974,535. PASTING OR GUMMING MACHINE. JOHN W. STOCKER, Chicago, Ill. Filed Feb. 24, 1908. Serial No. 417,277.



1. In a pasting machine, supporting means for holding a card or sheet, means for applying paste to the said card or sheet, devices for shifting the said supporting means horizontally, and mechanism for then applying a plurality of strips material to the pasted surface of the said card or sheet.

2. In a pasting machine, the combination of means for holding an article, means for applying paste to said article, devices for shifting the said supporting means horizontally, and means for applying a thin strip of material to the pasted surface of said article.

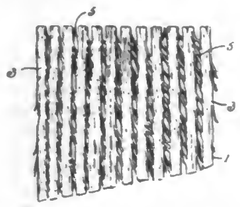
3. In a pasting machine, the combination of a horizontally movable carrier for holding a card or sheet of material, means for applying paste to the undersurface of said card or sheet of material, a set of hoppers over which the said carrier is movable, each hopper adapted to contain a stack of thin strips of material, and means for simultaneously raising the said stacks of strips in their hoppers to apply the uppermost strips to the pasted surface of the said card or sheet.

4. In a pasting machine, the combination of a movable carrier for holding a card or sheet of material, a paste pot, vertically reciprocating means within said paste pot for carrying a suitable quantity of paste upwardly, to apply the same to the under-surface of the said card or sheet, a set of hoppers each adapted to contain a stack of thin strips of material, means whereby the carrier is movable from a point above the paste pot to a point above the said set of hoppers, and plungers for moving the said stacks of strips upwardly to apply the uppermost strips to the pasted surface of said card or sheet of material.

5. In a pasting machine, the combination of a slidable carrier, spring-pressed fingers for holding a card or sheet of material upon the under-surface of said carrier, a paste pot below the path of travel of said carrier, a set of vertically reciprocating daubers within the paste pot, a set of hoppers each adapted to contain a stack of thin strips of material, a plunger for each hopper, and a single hand lever for operating the said daubers and plungers.

[Claims 6 to 32 not printed in the Gazette.]

974,536. EXPANDED-WOOD LAMINA. ALBERT M. STOLTEY, Newark, N. J. Filed Oct. 18, 1909. Serial No. 523,171.



1. As a new article of manufacture, an expanded wood veneer comprising a wooden openwork held together by intact portions of wood.

2. As a new article of manufacture, an expanded wood veneer comprising a wood openwork held together by unaffected portions of wood running lengthwise of the grain.

3. As a new article of manufacture, an expanded wood veneer comprising a wood openwork held together by untorn portions of wood running diagonally.

4. As a new article of manufacture, a wood veneer having parallel running grooves, the wood fiber within the grooves being partly separated.

5. As a new article of manufacture, a wood veneer provided with a parallel running series of grooves formed by compressing the material, the wood fibers within the grooves being separated.

[Claims 6 to 14 not printed in the Gazette.]

974,537. STATION-INDICATOR AND SIMILAR DEVICE. PETER N. STOWBY and ERNEST M. HATCH, Brooklyn, N. Y., assignors of three-fourths to Peter N. Stowby and one-fourth to Ernest M. Hatch, Brooklyn, N. Y. Filed Aug. 18, 1910. Serial No. 577,796.



1. The combination with a casing substantially rectangular in form, the said casing comprising side, top and bottom elements, and end heads, of two partitions one in proximity to each of the said end heads for dividing the interior of the casing in three chambers, exhibition strips located in the central chamber, feed, take-up and supply rollers for the said exhibition strips all located in the said central chamber, an operating element, means operated thereby and located in one of the end chambers for imparting movements in either direction to the said feed

rollers, and means located in the other end chamber for imparting movements to the said supply and take-up rollers alternatively, the said casing having openings therein, and the said strips being arranged to move in proximity to the said openings whereby portions thereof may be viewed through the said openings.

2. The combination with a casing having two openings therein one of greater width than the other, of two exhibiting strips arranged to travel in proximity to the said openings whereby they may be viewed therethrough, feed rollers for the said exhibiting strips, other rollers to which the ends of the said strips are connected and which are adapted to act as take-up and supply rollers for the said strips, means for imparting movements in either direction to the said feed rollers for each of the said strips, the extent of movement imparted to one of the said strips being in excess of that imparted to the other said strip, means for imparting movements to those of the other said rollers which at the time act as take-up rollers, the extent of movement so imparted being slightly in excess of that necessary to take up the amount of the strip fed by the feed rollers and being greater in respect to the strip to which the greater movement is given than to the strip to which the less movement is given, the last said means including frictional connections permitting lost motion to compensate for such excess movements, a single operating element for both of the movement imparting means, and reversing means for changing the direction of movements imparted to the said feeding rollers for feeding the strips.

3. The combination with a casing, of two pairs of rollers, the rollers of each pair being arranged horizontally in line with each other and the said pairs being arranged vertically one above the other, each of the four said rollers being provided with pinions, of driving means therefor comprising two spur gears, one arranged between the pinions of the upper and lower rollers of each pair but of such a diameter that they can be in mesh with the pinions of the upper or lower pair only and not with the pinions of both the said pairs at one time, pivoted arms carrying the said spur gears, a vertically movable slide to which both the said arms are connected, and means for moving the said slide vertically to change the position of the spur gears so that they will intermesh with the pinions of either the said upper or lower pair of rollers, an operating shaft, a sprocket wheel upon the said operating shaft, a sprocket chain in engagement therewith, sprocket wheels connected with the said spur gears, the said sprocket chain being also in engagement with the latter said sprocket wheels, exhibiting strips having their opposite ends connected with the said rollers, feed rollers for the said exhibiting strips, means for operating the said feed rollers from the said operating shaft, and reversing means for the movements imparted to the said feed rollers upon a movement always in one direction of the said operating shaft.

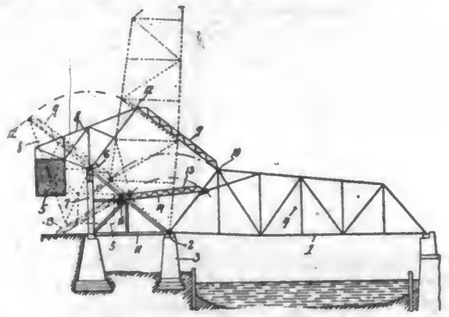
4. The combination with a substantially rectangular casing comprising side elements, top and bottom elements, and end heads, each of the side elements having exhibiting openings therein, the upper exhibiting openings being of lesser width than the lower exhibiting openings, and two partitions one located in proximity to each of the end heads, the said partitions dividing the interior of the casing into three chambers, of a central operating shaft supported by the said partitions and extending through the central chamber into both of the end chambers, two pairs of rollers in the upper portion of the central chamber, arranged horizontally and immediately one above the other, the said upper and lower pairs being arranged to alternatively constitute take-up and supply rollers, exhibiting strips having their opposite ends connected to the said rollers, feed and direction rollers for the said strips arranged to guide portions thereof in proximity to the upper openings in the side casing elements, similar feed and take-up rollers, strips, and direction and feed rollers for the lower portion of the casing, the feed and take-up rollers arranged to guide portions of the latter said strips in proximity to the lower casing openings, movement transmitting means contained in one of the said end chambers for transmitting movements from the said operating shaft to the said feed rollers, reversing means for reversing the direction of movements imparted to the said feed rollers during a movement always in one direction of the operating shaft, movement transmitting means contained in the other said end chamber for transmitting movements of the said operating shaft to either the upper or lower pairs of the said rollers of the upper and lower sets, the movements so imparted being in excess of the movements required to take-up the portions of the strip fed by the feed rollers, and the said means including frictional connections permitting lost motion to compensate for such excess movements, and means in connection with the last said movement transmitting means for changing the driving connection from one pair of each of the sets of rollers to the other pair of each of the sets of rollers.

5. The combination with a substantially rectangular casing comprising side elements, top and bottom elements, and end heads, each of the side elements having exhibiting openings therein, the upper exhibiting openings being of lesser width than the lower exhibiting openings, and two partitions one located in proximity to each of the end heads, the said partitions dividing the interior of the casing into three chambers, of a central operating shaft supported by the said partitions and extending through the central chamber into both of the end chambers, two pairs of rollers in the upper portion of the central chamber, arranged horizontally and immediately one above the other, the said upper and lower pairs being arranged to alternatively constitute take-up and supply rollers, exhibiting strips having their opposite ends connected to the said rollers, feed and direction rollers for the said strips arranged to guide portions thereof in proximity to the upper openings in the side casing elements, similar feed and take-up rollers, strips, and direction and feed rollers for the lower portion of the casing, the feed and take-up rollers arranged to guide portions of the latter said strips in proximity to the lower casing openings, movement transmitting means contained in one of the said end chambers for transmitting movements from the said operating shaft to the said feed rollers, reversing means for reversing the direction of movements imparted to the said feed rollers during a movement always in one direction of the operating shaft, movement transmitting means contained in the other said end chamber for transmitting movements of the said operating shaft to either the upper or lower pairs of the said rollers of the upper and lower sets, the movements so imparted being in excess of the movements required to take up the portions of the strip fed by the feed rollers, and the said means including frictional connections permitting lost motion to compensate for such excess movements, and means in connection with the last said movement transmitting means for changing the driving connection from one pair of each of the sets of rollers to the other pair of each of the sets of rollers, both of the said movement transmitting means including gearing, the speed ratios of which will cause the movements imparted to the lower feed rollers and to the lower set of take-up rollers to be in excess of the movements imparted to the upper feed rollers and the upper set of take-up rollers.

974,538. BRIDGE. JOSEPH B. STRAUSS, Chicago, Ill. Filed Mar. 9, 1908. Serial No. 419,982.

1. A bascule bridge comprising a moving leaf mounted upon horizontal pivots at its heel and terminating at said pivots, a counterweight carrying part mounted on fixed horizontal pivots behind the leaf pivots, the two sets of pivots separately supported, a rigid link connecting the moving leaf and counterweight, the vertical line through the center of gravity of the counterweight and the line passing through the axis of the link intersecting above the trunnions on which the counterweight is supported.

2. A bascule bridge comprising a moving leaf mounted on horizontal pivots at its heel, a counterweight carrying part mounted on fixed horizontal pivots behind the leaf pivots, two separate supports, one for the leaf and the other for the counterweight support, a rigid link connecting the moving leaf with the counterweight, the vertical line through the center of gravity of the counterweight and the line passing through the axis of the link intersecting above the trunnions on which the counterweight is supported when the bridge is closed, the line joining said point of intersection and the trunnions of the counterweight passing between said supports.



3. A bascule bridge comprising a moving leaf pivotally connected to a support, a separate counterweight carrying part pivotally mounted behind said leaf, a counterweight carried thereby, a rigid link connecting the leaf with the counterweight carrying part, the lever arm of the counterweight and the lever arm of the link being both shorter than the lever arm of the moving leaf, the lever arm of the link greater than the lever arm of the counter-weight and less than the lever arm of the leaf.

4. A bascule bridge comprising a moving leaf mounted on horizontal pivots at its heel and terminating at said pivots, a counterweight carrying part mounted on fixed horizontal pivots behind the leaf pivots, the two sets of pivots separately supported on fixed supports, a counterweight on said counterweight carrying part, a rigid link connecting the moving leaf and counterweight, whereby the two balance each other in all positions, the center of gravity of the counterweight being in front of the counterweight carrying part when the bridge is in its open position.

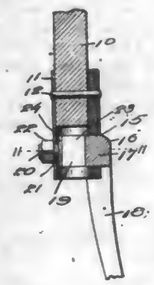
5. A bascule bridge comprising a moving leaf, a separated counterweight, a rigid link connecting the counterweight to the leaf, pivots at both ends of said link separate supports for the leaf and counterweight, and a mounting frame in combination therewith adapted to produce only vertical reactions on the two supports, the reaction on the front support being substantially equal in all positions of the leaf between its open and closed positions to the weight of the leaf, and the reaction on the rear support being substantially equal in all positions of the leaf between its open and closed positions to the weight of the counterweight and its support.

[Claims 6 to 10 not printed in the Gazette.]

974,539. GARDEN IMPLEMENT. SAMUEL THOMAS, Randall, Minn. Filed June 24, 1910. Serial No. 568,690.

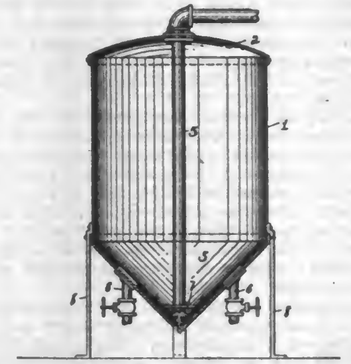
1. A garden tool comprising a handle, a sleeve secured at one end thereof, a tool head having an arch, the sleeve having an opening in one side adapted to receive a portion of said arch and an opening in the opposite side thereof, a threaded extension on said arch positioned within the sleeve and extending through the second opening, and a fastening nut on the threaded extension for holding the head to the sleeve

2. A garden tool comprising a handle, a sleeve secured at one end of said handle, a tool head having an arch and tines formed integrally therewith, said sleeve having a longitudinal rib on one side thereof, said sleeve having a rectangular opening formed in said rib and extending laterally on either side thereof, the arch of said tool head being rectangular in cross section and adapted to be positioned within said opening, a lug on said arch projecting within the sleeve, a shoulder on said lug fitting within the sleeve, a threaded extension on the lug and projecting through an opening in the opposite side of the sleeve, and a clamping nut on the outer end of said threaded extension.



3. A garden tool comprising a handle, a cylindrical sleeve secured on one end of the handle, a tool head having an arch and tines formed integrally therewith, said sleeve having a longitudinal rib formed by overlapping the meeting edges of said sleeve, the sleeve having a rectangular opening cut through said rib and extending on opposite sides of said rib, the arch of said head being rectangular in cross section and adapted to be seated within said rectangular opening, a lug projecting laterally from said arch and extending within said sleeve, the said lug having a shoulder curved to fit the inner wall of the sleeve, a threaded extension on said lug projecting through a circular opening formed in the diametrically opposite wall of the sleeve, and a clamping nut on the threaded extension, whereby the arch and the sleeve will be securely bound together, the said curved shoulder and said nut clamping a portion of the sleeve therebetween.

974,540. SPRAYING APPARATUS. SAMUEL TRUDEAU, Toledo, Ohio. Filed Apr. 21, 1910. Serial No. 556,709.

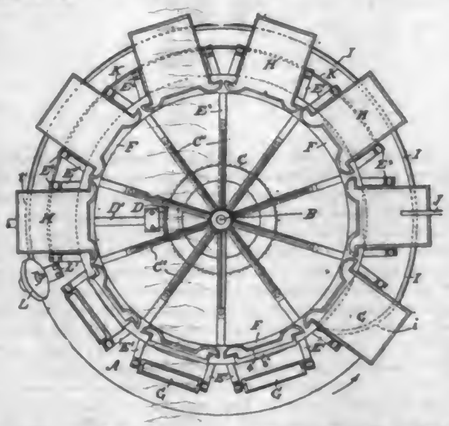


In an apparatus of the class described, in combination, a closed receptacle having an outwardly projecting conical bottom, liquid discharge pipes tapped into such bottom around its apex, a pipe communicating with a source of fluid under pressure and projecting into the receptacle with its discharge end directed toward and terminating adjacent the bottom apex, and a deflector plate carried by said latter pipe adjacent its discharge end, substantially as and for the purpose described.

974,541. MACHINE FOR CASTING ANODE-PLATES. RICHARD TRUSWELL, Trail, British Columbia, Canada. Filed Aug. 27, 1909. Serial No. 514,911.

1. In a casting machine, the combination with a base of a vertical axle, a bevel wheel journaled upon said axle, a bevel pinion gearing into said bevel wheel, an axle journaled upon said base and carrying said pinion, radial arms secured upon said wheel, a pair of brackets secured

upon the free end of each of said arms, an annular plate secured upon said brackets, a bearing secured upon each bracket, a mold head secured upon said plate between each pair of arms, an open swivel section mold with trunnions journaled in said bearings and making joint with the head section, a rail with curved ends extending partly around the circle and supporting some of the swivel sections of said molds, a spray pipe nearly coextensive with said rail, and a pulley under which the outer ends of the molds have to pass after leaving said rail, substantially as set forth.



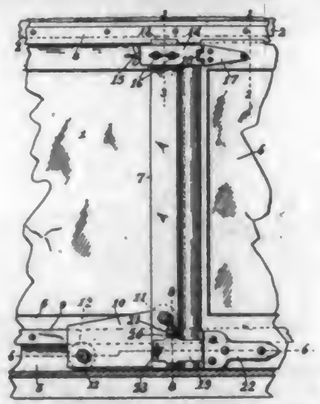
2. In a casting machine, the combination with a base, of a horizontal bevel wheel journaled thereon, a bevel pinion geared in said wheel, a shaft carrying said pinion, radial arms secured to said wheel, a pair of brackets at the end of each arm, an annular plate secured upon said brackets, a bearing at the projecting end of each bracket, a mold head secured upon said plate between each pair of arms, an open swivel mold section with trunnions journaled in the bearings of the brackets and making joint with the head and a horizontal circular rail with curved ends extending partly around the circle under and supporting some of the pivoted sections of the molds, substantially as set forth.

3. In a casting machine, the combination with a base of a horizontal rotary table mounted thereon, means of giving a rotary motion to said table, a series of pairs of horizontal bearings on the periphery of said table, a mold-section with trunnions journaled in each pair of bearings, a head section of the mold secured to the table adjacent to each pivoted section and making joint therewith and a horizontal circular rail with curved ends extending under and supporting some of the journaled sections, substantially as set forth.

4. In a casting machine mold, the combination of a plate divided longitudinally and joined with a tongue-and groove joint, bolts placed transversely to said joint, a coiled spring upon the ends of said bolts extending between the sides of the plate and the head and nut respectively, a rim on one end and two sides of said plate, a beveled edge on the other end of said plates, a trunnion on each side of said plate adapting it to be pivotally hung and upset, a head section conforming to said swivel section adapted to be fixed into position and provided with a beveled edge fitting the beveled edge of the swivel section and allowing the latter to swing upward, substantially as set forth.

974,542. SUPPORT FOR DISAPPEARING DOORS. ANTHONY VANDERVELD, Grand Rapids, Mich., assignor to Grand Rapids Show Case Company, Grand Rapids, Mich., a Corporation of Michigan. Filed Aug. 5, 1909. Serial No. 511,396.

1. A door support comprising a movable stile, a downwardly projecting guide strip traversed by the upper end of the stile, a door pivotally supported by the stile and having a groove in the top edge to receive the guide strip, means for adjusting the top of the door toward and away from the stile and means for adjusting the door vertically.



2. A door support comprising a movable stile, a downwardly projecting guide strip traversed by the upper end of the stile, a track at one side of the stile and traversed by the lower end of the same, a door pivotally supported by the stile and having a groove to receive the guide strip, means for adjusting the door toward and away from the stile at the top and means for adjusting the door sidewise of the stile at the bottom.

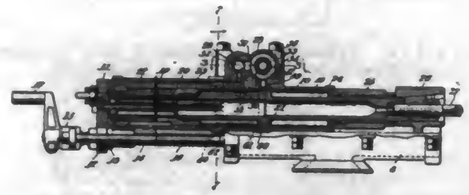
3. A door support comprising a movable stile, a downwardly projecting guide strip engaged and traversed by the upper end of the stile, a track at one side of the lower end of the stile and on which the stile is movably supported, a door pivotally supported by the stile and having a top groove to receive the guide strip, means for vertically adjusting the door, means for adjusting the top of the door toward and away from the stile, and means for adjusting the bottom of the door sidewise.

4. A door support, comprising an upper guide strip having its lower edge projecting downward, a carrying rail, a movable stile below the guide strip, side plates embracing the said strip and attached to the stile, a rearwardly projecting plate secured to the stile, a grooved roller on the side of the stile traversing the upper edge of the rail, a grooved roller attached to the projecting end of the side of the plate and traversing the under side of the rail, a door hinged to the stile and supported thereby, said door also having a groove in its upper edge to engage and traverse the guide strip and means for adjusting the door vertically and horizontally relative to the stile and guide strip.

5. A door support, comprising a horizontally movable stile, an upper guide strip having its lower edge projecting downward, a lower supporting rail, guide plates attached to the stile and slidably embracing the guide strip, a plate attached to the stile and extending alongside the rail, a grooved roller on the side of the stile and traversing the top of the rail, a grooved roller on the side of the plate and traversing the under edge of the rail, a longitudinally and vertically adjustable hinge near the top of the stile, a vertically and laterally adjustable hinge near the bottom of the stile, means for adjusting said hinges, and a door carried by the hinges and provided with a groove in its upper edge to receive and traverse the guide strip.

974,543. FLUID-PRESSURE MOTOR. DANIEL SHAW WAUGH, Denver, Colo., assignor to The Denver Rock Drill & Machinery Company, Denver, Colo. Filed Sept. 25, 1909. Serial No. 519,543.

1. In a fluid pressure motor, the combination with a cylinder member, of a reciprocating piston therein, having a working and a return stroke, a valve casing located on one side of the cylinder member and having a valve chamber provided with an internal annular channel, motive fluid supply means communicating with the channel, and a port extending from the channel to the interior of the cylinder member, said casing also having another port leading from the chamber to the rear portion of the cylinder member, and an automatic valve operating in the casing and controlling the passage of motive fluid from the annular channel to the last mentioned port, while permitting motive fluid at all times to pass from the annular channel to the first mentioned port, said piston having a passageway opening through its rear end and also having an inlet port that moves into and out of register with the first mentioned port of the valve casing.

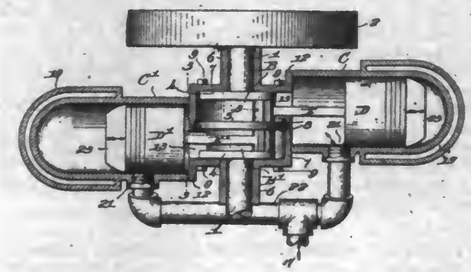


2. In a fluid pressure motor, the combination with a cylinder member, of a reciprocating piston therein having a working and a return stroke, a valve casing located on one side of the cylinder member transversely thereof and having a valve chamber provided with an internal annular channel, a cage detachably located in the chamber and having openings that communicate with the annular channel, said valve casing having a port extending from the annular channel to the interior of the cylinder member between its ends and also having another port leading from the chamber to the rear portion of the cylinder member, motive fluid supply means communicating with the channel, and an automatic reciprocating valve operating in the cage and controlling the passage of motive fluid from the annular channel to the last mentioned port while permitting motive fluid at all times to pass from the annular channel to the first mentioned port, said piston having a longitudinal passageway opening through its rear end, and said passageway having an inlet port that moves into and out of register with the first mentioned port of the valve casing.

3. In a fluid pressure motor, the combination with a cylinder member and a reciprocatory piston operating therein, of means for supplying motive fluid to the cylinder to reciprocate the piston, said means including an automatic fluid operated valve, a passageway for conducting motive fluid from the interior of the cylinder member against one end of the valve, said passageway having a plurality of inlet ports communicating with the cylinder member at different points and successively covered and uncovered by the piston, a valve for controlling one of the ports, a spring operating against the valve to normally hold the same in closed position, and an exposed operating handle for moving the valve against the action of the spring to open the port.

4. In a fluid pressure motor, the combination with a cylinder member and a reciprocatory piston operating therein, of means for supplying motive fluid to the cylinder to reciprocate the piston, said means including an automatic fluid operated valve, a passageway for conducting motive fluid from the interior of the cylinder member against one end of the valve, said passageway having a plurality of inlet ports communicating with the cylinder member at different points and successively covered and uncovered by the piston, a sliding plug valve movable into and out of one of the ports for closing the same, said valve having a stem projecting from one side of the cylinder member and provided with an exposed operating handle, and a spring surrounding the stem and bearing against the valve for normally moving the same to closed position.

974,544. INTERNAL-COMBUSTION ENGINE. JOHN W. AKERMAN, Newburyport, Mass. Filed Jan. 17, 1910. Serial No. 538,367.



1. The combination, with two opposed stationary cylinders, each cylinder having oppositely located inlet and exhaust ports near the outer end of the piston-stroke, and an intake port near the inner end of the piston stroke and connected with a source of supply, a rotatable shaft between the cylinders and having a single crank, pistons in the cylinders, operatively connected with the crank, and a chambered base connecting the inner ends of the cylinders and communicating with the cylinders at their inner ends, of a solid revolving disk fixed on the crank between the connections intermediate said crank and pistons and dividing the base into two permanently separated chambers, one for each cylinder, a passage connecting each chamber with the inlet port of its cylinder, and means to ignite the explosive charge when admitted to and compressed in the outer end of a cylinder, each piston in its reciprocation opening and closing the intake, inlet, and exhaust ports of its cylinder.

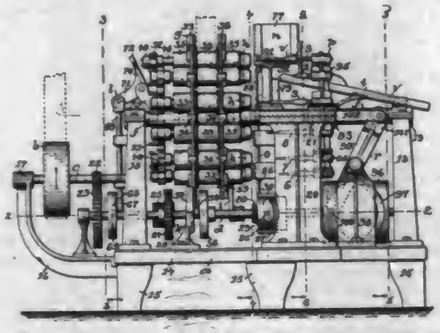
2. The combination, with two opposed and stationary cylinders, a chambered base connecting their inner ends, a rotatable shaft supported by said base and having a single crank, and pistons in the cylinders, operatively connected with the crank, of a solid disk concentric with the shaft and fixed on the crank, dividing said base into two permanently and completely separated chambers each communicating continuously with the inner end of one of the cylinders and means governed by the pistons to draw a fresh supply of explosive medium into a chamber on the outward stroke of the piston in the communicating cylinder and to force it into the outer end of such cylinder on the next inward stroke.

3. The combination, with two opposed and stationary cylinders closed at their outer ends and open at their inner ends, a connecting base having two permanently separated chambers, each communicating continuously with the inner end of a cylinder, a piston in each cylinder, and means governed by the pistons to establish temporary communication between a chamber and the outer end of its cylinder on the inward stroke of the piston therein, of a rotatable shaft having a single crank operatively connected with the pistons, separate ports in the cylinders near their inner ends and communicating with a supply of explosive medium to introduce a charge to said chambers, in alternation, on the outward strokes of their corresponding pistons, and means fixed on the single crank to maintain the permanent separation of the chambers in the base.

4. The combination, with a base having an internal annular seat, a shaft rotatably mounted in the sides of said base and having a single crank, a solid disk fixed on said crank and revolving in the seat, to divide the base into two permanently separate chambers, a stationary cylinder in continuous communication with each chamber, and pistons in the cylinders, operatively connected with the single crank at opposite sides of the disk, of a by-pass leading from each chamber and terminating in an inlet port opening into the corresponding cylinder near its outer end, said port being closed by the piston on the outward stroke thereof and opened on the inward stroke.

5. In an internal-combustion engine, a two-part base having alined bearings in the opposite sides thereof and an intermediate, internal annular seat at the abutting faces of the two parts of the base, a shaft rotatably mounted in said bearings and having a single crank within the base, and a solid revoluble disk fixed on said crank and having its periphery fitting snugly in said seat, to divide the base into two permanently separated chambers, combined with two opposed cylinders attached to the ends of said base and each communicating continuously at its inner end with a chamber, pistons in the cylinders, operatively connected with the crank at opposite sides of the disk, and means governed by the pistons to intermittingly connect each chamber with the outer end of its cylinder.

974,545. BOBBIN-BORING MACHINE. LUTHER C. BALDWIN, Providence, R. I., and EDWIN C. BUFFINGTON, Manchester, N. H., assignors to U. S. Bobbin & Shuttle Co., Providence, R. I., a Corporation of New Jersey. Filed July 17, 1907. Serial No. 384,269.



1. In a bobbin boring machine, a rotatable frame having a plurality of bobbin holders, a non-rotatable tool holder composed of a slidable frame carrying a plurality of drills, a charging rod carried by said tool holder frame, means to feed bobbin blanks to a position between the front of the bobbin holders and the front end of said charging rod, means for moving said tool holder frame to bring said charging rod to engage a bobbin blank and force the latter into one of said bobbin holders, and means to rotate said bobbin holder frame.

2. In a bobbin boring machine, a horizontal shaft, a rotatable frame on said shaft, having a plurality of bobbin holders thereon, a slidable tool holder frame on said shaft carrying a plurality of drills, a charging rod carried by said tool holder frame, means to feed bobbin blanks to a position between the front of said bobbin holders and the charging rod, a pair of shafts, means actuated by one shaft to rotate said bobbin holder frame, means operated by the other shaft to actuate said first shaft and thereby said bobbin frame rotating means, means to lock said bobbin holder frame against rotation operated intermittently from said second shaft, and means to actuate said bobbin blank feeding means from said second shaft.

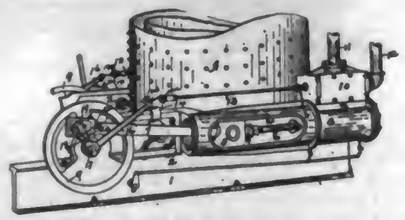
3. In a bobbin boring machine, a rotatable frame having a plurality of bobbin holders, a non-rotatable slidable frame carrying a plurality of drills, charging means carried by said slidable frame, means for intermittently rotating said bobbin holder frame, means for rotating said bobbin holders, means for feeding blanks in position to be engaged by said charging means to insert a bobbin blank into one of the bobbin holders, and means for actuating said slidable frame to simultaneously insert a bobbin blank into one of the holders and to cause said drills to engage the previously inserted blanks.

4. In a bobbin boring machine, a rotatable frame carrying a plurality of bobbin holders, means to intermittently move said frame in the arc of a circle, means to feed bobbin blanks to a position in front of said holders, means to rotate said holders, combined charging and drilling means to successively insert a blank into each holder and to operate on the previously inserted blanks, and means to move said combined means to and from said holders upon each partial rotation of said frame.

5. In a bobbin boring machine, a rotatable frame carrying a plurality of bobbin holders, means to intermittently move said frame in the arc of a circle, means to feed bobbin blanks to a position in front of said holders, means to rotate said holders, a tool holding frame slidable to and from said rotatable frame, means carried by said tool holding frame for engaging a blank and feeding same to one of said bobbin holders upon each forward movement of said tool holding frame, and means to reciprocate said tool holding frame.

[Claims 6 to 15 not printed in the Gazette.]

974,546. STEAM-ENGINE. BERT C. BALL, Portland, Oreg. Filed Sept. 17, 1909. Serial No. 518,212.



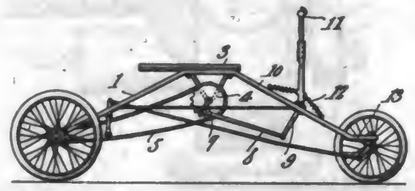
1. In an engine, the combination of a frame; an engine cylinder secured to the frame; a steam chest on the top of the cylinder; a cross head guide; a cross head arranged in the guide; a piston rod extending from the cylinder to the cross head; an engine connecting rod connected to the cross head; a crank on which the connecting rod is journaled; a valve actuating crank mounted on the engine crank; a valve rod extending from the valve above the cross head guides; a connecting rod extending from the actuating crank and connected with the valve rod above the cross head guide; and an upright cylindrically shaped boiler, the engine frame being mounted at the side of the boiler with the engine cylinder at one side of a plane in which the axis of the boiler lies and extending radially from the boiler and at right angles to the axis of the cylinder and with the engine crank at the opposite end of said plane.

2. In a logging engine, the combination of a base frame; an engine cylinder secured to the frame; a steam chest on the top of the cylinder; a cross head guide; a cross head arranged in the guide; a piston rod extending from the cylinder to the cross head; an engine connecting rod connected to the cross head; a crank on which the connecting rod is journaled; a valve actuating crank mounted on the engine crank; a valve rod extending from the steam chest; a rocker arm arranged inside the connecting rod, and pivotally mounted on the frame with its pivot below the valve rod; a valve connecting rod journaled on the valve actuating crank, and extending outside of the engine connecting rod, and connected with the rocker arm; means for connecting the valve rod with the rocker arm; and an upright cylindrically shaped boiler, the engine frame being mounted at the side of the boiler with the engine cylinder at one side of the plane in which the axis of the boiler lies and extending radially from the boiler and at right angles to the axis of the cylinder, and with the engine crank at the opposite side of said plane.

3. In a logging engine, the combination of a base frame; an engine cylinder secured to the frame; a steam chest on the top of the cylinder; a cross head guide; a cross head arranged in the guide; a piston rod extending from the cylinder to the cross head; an engine connecting rod connected to the cross head; a crank on which the connecting rod is journaled; a valve actuating crank mounted on the engine crank; a valve rod extending from the steam chest; a rocker arm arranged inside the connecting

rod, and pivotally mounted on the frame with its pivot below the valve rod; a valve connecting rod journaled on the valve actuating crank, extending outside the engine connecting rod, and connected with the rocker arm above the engine connecting rod; and means for connecting the valve rod with the rocker arm.

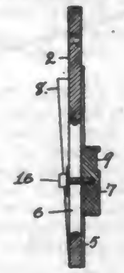
974,547. VEHICLE. ALEXANDER M. BOLLINGER, Leechburg, Pa. Filed Dec. 24, 1909. Serial No. 534,831.



1. A vehicle including a frame having an extension, a steering axle, a recessed bearing element secured to the extension, a pivot device extending through the extension and element, a spring housed between said extension and element and coiled about the pivot device, means for securing the spring against rotation on said device, and means upon the spring and engaging the axle for holding said axle normally in a predetermined relation to the direction of travel of the vehicle, said axle being mounted on the pivot device.

2. A vehicle including fixedly connected elements, a pivot device extending therethrough, one of said elements being recessed, an axle upon the pivot device, a spring upon the pivot device and housed within the recessed element, said spring being held against rotation relative to said elements, and oppositely extending means upon the spring for engaging the axle to hold said axle normally in a predetermined relation to the direction of travel of the vehicle.

974,548. BAILING-HORN. JOHN BRAUER, Menasha, Wis. Filed Aug. 22, 1910. Serial No. 578,338.



1. A bailing horn consisting of an arm, one end of which is adapted to be secured to a suitable bench top and its other end to extend outward from said bench a distance equal to the depth of the deepest article to be bailed, a bailing block convex transversely of said arm with a curvature approximately corresponding with the curve of the inside diameter of the article to be bailed mounted upon the upper surface of said arm, with its inner end spaced a distance from the outer end of said arm substantially equal to the depth of the article to be bailed, a channel across the longitudinal central line of said block near the inner end thereof and transversely of said arm of a width in excess of the distance apart of the entering points of the bail ears to be used, and means for retaining the block in the desired position upon the arm.

2. A bailing horn consisting of an arm, one end of which is adapted to be secured to a suitable bench top and the other end to extend outward from the bench a distance equal to the depth of the article to be bailed, a slot through the arm along its longitudinal central line for a portion of its length, a bailing block mounted upon the upper surface of said arm with its inner end spaced a distance from the outer end of said arm substantially equal to the depth of the article to be bailed, a convex upper surface upon said block transversely of said arm with a curvature approximately corresponding with the curve of the inside of the article to be bailed, a channel across the longitudinal central line of said block near the inner end thereof and transversely of said arm of a width in excess of the distance apart of the entering points of the bail ears to be used, ribs arranged for preserving the parallelism between said arm and bailing block, and a bolt tapped into said block for retaining the same upon the arm at any desired point in the length of the slot.

974,549. CAR-WHEEL. GEORGE H. BRYANT and AUGUST ZIMSING, Chicago, Ill. Filed Oct. 7, 1909. Serial No. 521,527.



1. A sound deadened wheel having its rim integral with its central portion and also having one or more cavities in the rim and in the path of sound vibrations containing a non-resonant material, substantially as described.

2. A sound deadened wheel having its rim integral with its central portion and also having one or more cavities in the rim and in the path of sound vibrations containing a non-resonant metal, substantially as described.

3. A wheel having its rim integral with its central portion and also having one or more apertures extended through the wheel near the inner part of the rim, such aperture or apertures containing a non-resonant material, substantially as described.

4. A wheel having its rim integral with its central portion and also having one or more apertures extended through the wheel near the inner part of the rim, such aperture or apertures containing a non-resonant metal, substantially as described.

5. A wheel having its rim integral with its central portion and also having one or more apertures extended through the wheel, said apertures containing a non-resonant material, substantially as described.

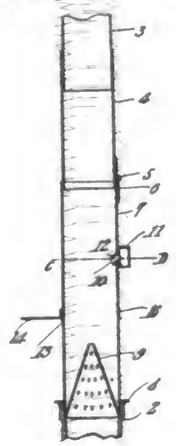
[Claims 6 and 7 not printed in the Gazette.]

974,550. DOWN-SPOUT. EMILIO CARDARELLI, Boston, Mass., assignor of one-third to Walter I. Oliver, Boston, Mass. Filed Aug. 7, 1909. Serial No. 511,775.

1. The combination with a drain pipe and a fixed down spout thereabove and spaced therefrom; of a sleeve mounted to slide and rotate upon the down spout, a casing hingedly connected to the sleeve and insertible into the drain pipe, and an attaching spur detachably connected to and extending radially from the casing.

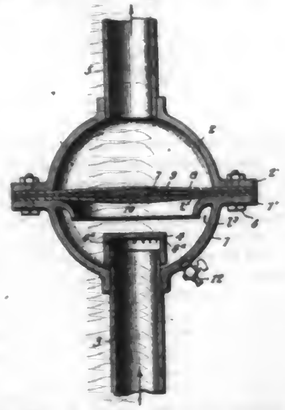
2. The combination with a down spout, and a hinged casing slidably mounted thereon; of attaching means including a spur, a flexible band integral with the spur and

embracing the casing, said band having hooked terminals, and means wrapped about said terminals for holding them



against spreading movement and binding the bands about the casing.

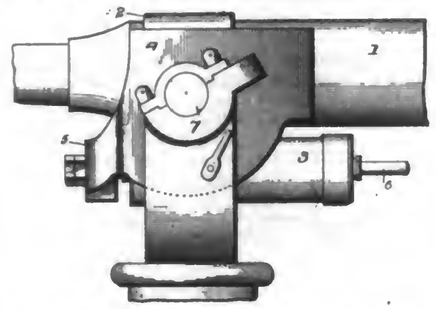
974,551. GAS ECONOMIZER AND PURIFIER. JOHN W. CARPENTER, Salem, W. Va. Filed Oct. 26, 1909. Serial No. 524,660.



In a gas purifier and economizer, a casing comprising two hemispherical sections provided with peripheral flanges, a perforated metal disk, a resilient membrane on each side of said disk, said disk and said membrane being secured between the abutting flanges of the two hemispherical sections, a spacing member between one of said membranes and the perforated disk, an inlet pipe into one of said hemispherical sections, a metal cap screwed to the end of said inlet pipe and provided with perforations in the side thereof, the hemispherical section bearing the inlet pipe also being provided with an inwardly curved flange directed toward the inlet pipe, a cock secured in said section near said inlet pipe and an exit pipe from the other hemispherical section.

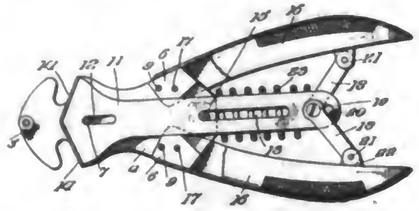
974,552. GUN-MOUNT. DAVID J. CARTWRIGHT, Hull, Mass., assignor of one-half to Walter S. Wait, Newton, Mass. Filed Aug. 19, 1903, Serial No. 170,084. Renewed Nov. 6, 1907. Serial No. 401,010.

1. In a gun mount and in combination, a trunnionless barrel, a sleeve carried by said barrel, recoil mechanism located beneath said barrel and suitably connected with said barrel sleeve, a supporting slide with which said sleeve has sliding engagement, and trunnions on said slide below the longitudinal axis of the gun and coincident with the center of the entire mass, whereby the mass is held in stable equilibrium and the gun is balanced at any angle of elevation.



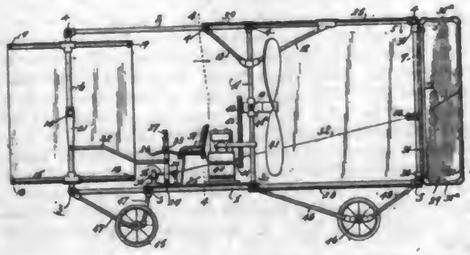
2. In a gun mount and in combination, a barrel 1, a sleeve 2 carried by said barrel and having dove-tailed connecting elements, recoil mechanism 3 depending from said sleeve, a supporting slide 4 having dove-tailed grooves with which said sleeve connecting elements are engaged, and trunnions 7 projecting from said slide 4 on opposite sides thereof at a point below the longitudinal axis of the barrel 1 and coincident with the center of the mass, whereby the mass is preserved in stable equilibrium and the gun is balanced at any angle of elevation.

974,553. FRUIT CLIPPING AND PRUNING INSTRUMENT. BENJAMIN J. CLOSE, Highland, Cal. Filed Nov. 4, 1909. Serial No. 526,307.



An implement of the character described, comprising a head formed of a pair of plates separated from each other, recesses formed on the opposite sides of the plates at the forward portion thereof, a pair of handles pivotally connected to the plates at the rear portion thereof, a blade mounted for reciprocal movement between the plates, said blade at one end being provided with cutting edges in position to be forced across the recesses, and links connecting the rear end of said blade to the handles.

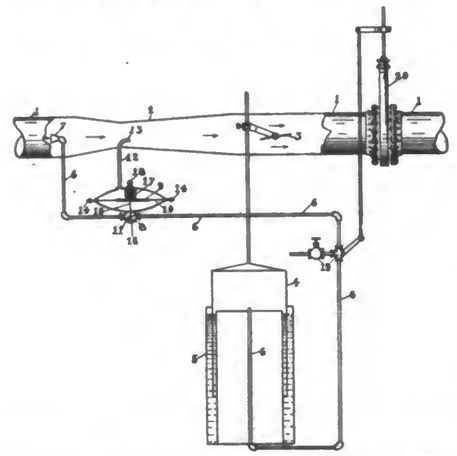
974,554. FLYING-MACHINE. LOUIS L. CRANE, New York, N. Y. Filed Dec. 10, 1909. Serial No. 532,396.



The herein described flying machine, comprising a main frame, square in cross sections, vertical and horizontal

members therefor, air resisting material on four sides of the main frame extending substantially from the rear to the middle of the frame, a propeller diametrically mounted within the covered portion, a motor and gearing therefor, a frame of less cross sectional area than the main frame, a pivotal mounting therefor in the main frame, air resisting material on four sides of the pivoted frame, the main frame being uncovered between the covered portions, and rudders and steering mechanism substantially as described.

974,555. REGULATOR FOR GAS GENERATING AND SUPPLY SYSTEMS. FRANK L. CROSS, Detroit, Mich. Filed July 6, 1909. Serial No. 506,147.



1. A regulator for controlling flow of gas through a conduit comprising means for closing the conduit adapted to be operated by gas under pressure, means for admitting gas from the conduit to the closing means, means for controlling the admitting means, adapted to be operated by gas under pressure, and means for introducing gas thereto from the conduit under pressures that are functions of the velocity of flow of gas through the main and also when the static pressure in the conduit falls below a predetermined point.

2. A regulator for controlling flow of gas through a conduit comprising a valve for closing the conduit, means for closing the valve adapted to be operated by gas under pressure, means for admitting gas from the conduit to the valve closing means, means for controlling the admitting means adapted to be operated by gas under pressure, and means for introducing gas to the controlling means from the conduit itself under pressures that are functions of the velocity of flow of gas through the conduit.

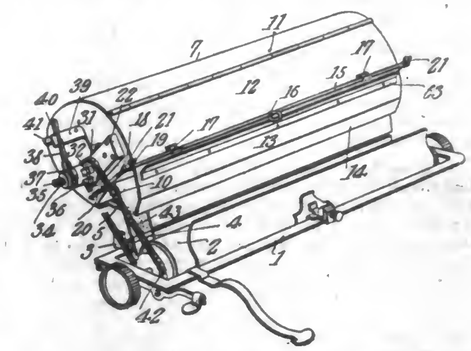
3. A regulator for controlling flow of gas through a conduit comprising means for closing the conduit adapted to be operated by gas under pressure, means for admitting gas from the conduit to the closing means, consisting of a pipe whose inlet mouth lies in the conduit directed toward the incoming gas and whose outlet is connected to the conduit valve closing means, a valve in the pipe, a chamber, a movable diaphragm adapted to open and close the valve dividing the chamber into two compartments one of which is connected with the pipe, a pipe from the other compartment having an open end in the conduit directed away from the incoming gas, and means adapted to impose a constant resistance to the valve closing movement of the diaphragm.

4. A regulator for controlling flow of gas under pressure through a conduit comprising a valve in the conduit, a pressure float tank adapted to operate the valve by its rise and fall, a pipe connecting the conduit with the tank, a valve in the pipe, a chamber on the pipe valve, a movable diaphragm dividing the chamber into two compartments one of which is in communication with the valve pipe in front of the valve, a pipe connecting the other compartment with the conduit, the inlet mouths of the said pipes being so disposed in the conduit that the pressures exerted in the diaphragms are functions of the velocity of flow in the conduit, said diaphragms being operatively connected to the pipe valve, and adjustable means adapted to impose a predetermined constant resistance to the closing movement of the diaphragm.

5. A regulator for controlling flow of gas through a conduit comprising means for closing the conduit, a pressure float tank adapted to operate the valve, a pipe whose inlet mouth lies in the conduit directed against the current of gas in the conduit and whose outlet enters the float tank, a valve in the pipe having a chamber divided by a movable diaphragm operating the valve, into two compartments into one of which said pipe opens, a pipe from the other compartment whose inlet mouth lies in the conduit directed away from the current therein, whereby the pressures on the diaphragm sides are functions of the velocity of flow of gas in the conduit, and an adjustably tensioned spring in the chamber adapted to impose a constant resistance to the closing movement of the diaphragm.

[Claims 6 to 11 not printed in the Gazette.]

974,556. PAPER-FEED ATTACHMENT FOR TYPEWRITERS. WILDEY R. DIXON, Roanoke, Va., assignor of one-half to John Rose, Roanoke, Va. Filed Jan. 29, 1910. Serial No. 540,855.



1. In a paper feed attachment for typewriters, a reservoir for the sheets, means for feeding the sheets from the reservoir comprising a feed roller, driving means between the same and the platen of the typewriter and means for adjusting the portion of the driving means controlling the feed roller about the longitudinal axis of said feed roller.

2. In a paper feeding apparatus for typewriters, a reservoir for the sheets, means for feeding the sheets from the reservoir comprising a feed roller, flexible connections between the same and the platen of the typewriter, and means for the adjustment of the portion of the connections adjacent to the feed roller about the longitudinal axis of the latter.

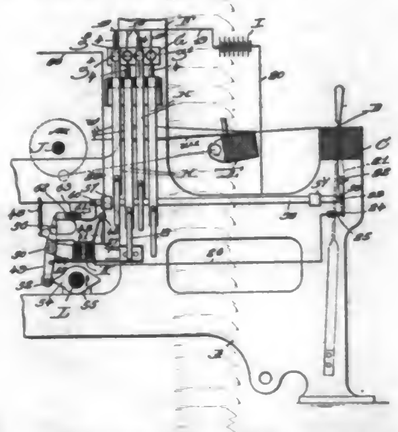
3. In a paper feeding attachment for typewriters, a reservoir for the sheets, means for feeding the sheets from the reservoir comprising a feed roller, flexible driving means between the same and the platen of a typewriter, means for connecting the driving means to and disconnecting it from the sheet feeding roller at will, and means for the adjustment of those portions of the driving means adjacent to the feed roller about the longitudinal axis of the latter.

4. In a paper feeding attachment for typewriters, a reservoir for the sheets, a feed roller in the reservoir, gearing carried by the reservoir in operative relation to the feed roller, a support for the gearing adjustable about the longitudinal axis of the feed roller, and flexible connections extending from said gearing to the platen of the typewriter.

5. In a paper feeding attachment for typewriters, a reservoir for the sheets, a feed roller in the reservoir, gearing carried by said reservoir in operative relation to the feed roller, a clutch, flexible driving means between one member of the clutch and the platen of the typewriter, and a support for the gearing and clutch members adjustable about the longitudinal axis of the feed roller.

[Claims 6 to 11 not printed in the Gazette.]

974,557. ELECTROMECHANICAL WARP STOP-MOTION FOR LOOMS. JOHN F. DUSTIN, Fulton, N. Y., assignor of one-half to John W. Stevenson, Fulton, N. Y. Filed Apr. 22, 1910. Serial No. 556,955.



1. A warp stop-motion for looms comprising a controlling-circuit for setting in operation the stopping mechanism, a series of vertically-reciprocating harness-frames, terminals carried by each frame, means to include said terminals in the controlling-circuit when a frame is in its lowest position, said means including a member moved automatically and independently of the frame as the latter begins to rise, to throw the terminals out of the circuit, and a series of metallic heddles in each harness-frame and normally maintained inoperative by their warp-threads when the frame is down, breakage of a warp-thread releasing its heddle and causing closure of the controlling-circuit through the terminals on the frame while said terminals are in circuits.

2. A warp stop-motion for looms comprising a controlling-circuit for setting in operation the stopping mechanism, a harness-frame having a series of metallic heddles, terminals carried by the frame and adapted to be electrically connected by a heddle when released by failure of its warp-thread, resilient contact fingers on the outside of the frame and connected with said terminals, coöperating contact members in the controlling-circuit and arranged to be engaged by the said terminal contact-fingers when the harness-frame is at or near its lowest position, and means movable independently of the frame to open the circuit by or through one of said contact members as the frame begins to rise.

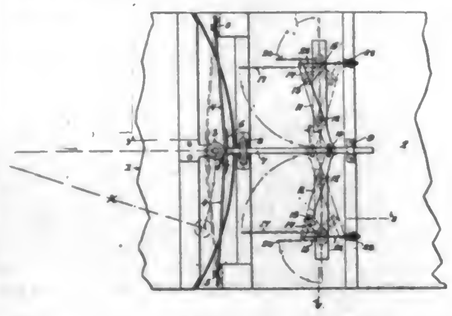
3. A warp stop-motion for looms comprising a controlling-circuit for setting in operation the stopping mechanism, a harness-frame having a series of metallic heddles, terminals carried by the frame and adapted to be electrically connected by a heddle when released by failure of its warp-thread, contact fingers on the outside of the frame and connected with said terminals, a fixed contact member in the controlling-circuit, and a movable contact member also in said circuit, said contact members engaging the fingers when the harness-frame is at or near its lowest position, and positive means to retract the movable contact member from the coöperating finger as the rise of the harness-frame begins.

4. In a warp stop-motion for looms, a harness-frame, an upper, transverse terminal thereon having an external contact finger, a series of metallic heddles longitudinally slotted to receive said terminal, a lower transverse terminal on the frame, extended beneath the lower ends of the heddles and having an external contact finger, a controlling-circuit for setting in operation the stopping mechanism, means for including said terminals in such circuit when the harness-frame is at or near its lower position, a dropped heddle at such time completing the circuit through the upper and lower terminals on the frame, and means to open the circuit at the contact finger of one of the terminals as the frame begins to rise.

5. In a warp stop-motion for looms, a controlling-circuit for setting in operation the stopping mechanism, a plurality of reciprocating harness-frames each having a series of metallic, longitudinally slotted heddles, means to complete the controlling-circuit through a dropped heddle when its harness-frame is at or near its lowest position, and a non-metallic cross-bar on each frame extended through the slots in the heddles thereof and located below the sheet of warp, the cross-bars on harness-frames which are raised serving as warp-rests for a slack thread coöperating with a heddle in a frame which is down, to sustain the heddle and prevent completion of the controlling-circuit thereby.

[Claims 6 to 16 not printed in the Gazette.]

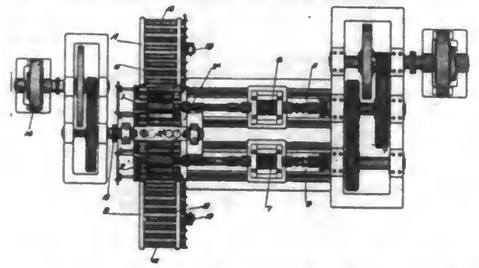
974,558. SAFETY-GATE FOR BRIDGES. CASPER FAUST, Oshkosh, Wis. Filed July 2, 1910. Serial No. 570,075.



1. In a horizontally swinging bridge gate having a tappet disposed adjacent to its end, and an abutment with which the bridge is adapted to register; the combination of a reciprocative plunger, a lever fulcrumed to the bridge abutment having an arm connected to the plunger, a rock-shaft journaled in the abutment and extending upwardly therethrough, a gate secured to the upper extension of the rock-shaft, a crank secured to the lower end of said rock-shaft, the crank and other arm of the lever being in pin and slot connection with each other, and a weight connected to the lever and crank connection of said rock-shaft, whereby the said rock-shaft is operated in one direction.

2. In a horizontally swinging bridge gate having a tappet disposed adjacent to its end, and an abutment with which the bridge is adapted to register; the combination of a reciprocative plunger, a cam-rail carried by the plunger for engagement with the tappet, a lever fulcrumed to the bridge abutment having one arm in connection with said plunger, a rock-shaft journaled in the abutment and extending upwardly therethrough, a gate secured to the upper extension of the rock-shaft, another shaft in gear connection with the rock-shaft, a gate carried by the other shaft, a crank secured to the lower end of said rock-shaft, the crank and other arm of the lever being in pin and slot connection with each other, and an operating weight in connection with the gate mechanism, whereby the same is moved in one direction.

974,559. ROLLING-MILL. JOSEPH FAWELL, Pittsburg, Pa. Filed June 27, 1908. Serial No. 440,646.



1. In a rolling mill the combination of two stands of horizontal rolls, means for constantly driving the rolls of such stands in such direction that the rolls of one stand will feed the article during reduction toward the other stand, means for lowering and raising the lower rolls, a stand of vertical rolls arranged in operative relation to the stands of horizontal rolls and positively driven and operative in both directions, and reversible mechanism for feeding the article back and forth through the rolls.

2. In a rolling mill the combination of two stands of horizontal rolls, means for constantly driving the rolls of such stands in such direction that rolls of one stand will feed the article during reduction toward the other stand, means for lowering and raising the lower rolls, a stand of vertical rolls arranged in operative relation to the stands of horizontal rolls, means for positively rotating the vertical rolls and reversible mechanism for feeding the article back and forth through the rolls.

3. In a rolling mill the combination of two stands of three high rolls, means for positively rotating the outer rolls of each stand in the same direction but reversely to the direction of rotation of the outer rolls of the other stand, means for shifting one of the outer rolls and the intermediate roll of each stand relative to the other outer roll, and reversible mechanism for feeding the article back and forth through the rolls.

4. In a rolling mill the combination of two stands of three high rolls, means for positively rotating the outer rolls of each in the same direction but reversely to the direction of rotation of the outer rolls of the other stand, means for shifting an outer roll and the intermediate roll of each stand relative to the other outer roll, reversible feed mechanism and means for rotating the intermediate roll in the direction of feed of the feed mechanism.

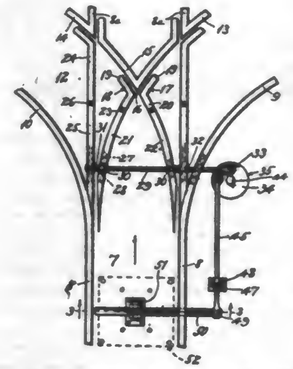
5. In a rolling mill the combination of two stands of three high rolls, means for positively rotating the outer rolls of each stand in the same direction but reversely to the direction of rotation of the outer rolls of the other stand, means for shifting an outer roll and the intermediate roll of each stand relative to the other outer roll, a stand of vertical rolls arranged in operative relation to the stands of horizontal rolls, means for positively rotating the vertical rolls, and reversible mechanism for feeding the article back and forth.

[Claims 6 to 9 not printed in the Gazette.]

974,560. AUTOMATIC RAILROAD-SWITCH. MICHAEL M. FERNANDEZ, Los Angeles, Cal. Filed Dec. 28, 1909. Serial No. 535,268.

1. A main track having a switch track extending therefrom, movable switch-points coöperating with the switch rails and the main track rails, a transversely disposed switch-bar connected with said switch-points, flexible connections between said switch-bar and said switch-points respectively permitting a limited independent movement of either of said switch-points with respect to the other, and means positively connected with said switch-bar for shifting the same.

2. A main track, a right switch track extending therefrom, a left switch track also extending therefrom, pivotally mounted switch-points coöperating with the rails of said tracks, a transversely disposed switch-bar, flexible connections between said switch-bar and said switch-points respectively permitting a limited independent movement of the different switch-points with respect to the remainder thereof, and a track device positively connected with said switch-bar and affording means for shifting said switch bar.



3. A main track having mean switch-points pivotally mounted in alinement with the rails thereof, a right hand switch track, a left hand switch track, inner switch points pivotally mounted in alinement with the rails of said switch tracks and having their free ends disposed adjacent respectively to said main switch-points, a transversely disposed switch-bar engaging all of said switch-points to shift the same, springs in connection with said switch-bar permitting a limited independent movement of said bar with respect to said main switch-points and a track device connected with said switch-bar and adapted to be actuated by a passing train.

4. A main track having main switch-points movably mounted in alinement with the rails thereof, a switch track, inner switch-points movably mounted in alinement with the rails of said switch track and having their free ends disposed adjacent respectively to said main switch-points, a transversely disposed switch-bar engaging all of said switch-points to shift the same, springs in connection with said switch-bar permitting a limited independent movement of said bar with respect to said main switch points, a track device connected with said switch bar and adapted to be actuated by a passing train, and resilient means tending to hold said switch-bar in its different positions corresponding to the different positions of said switch-bar.

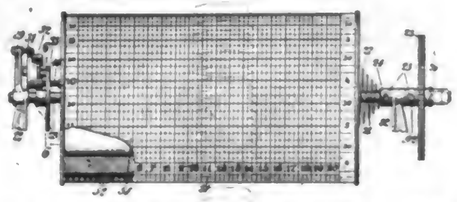
5. A main track having main switch-points pivotally mounted in alinement with the rails thereof, a right hand switch track, a left hand switch track, inner switch-points pivotally mounted in alinement with the rails of said switch tracks and having their free ends disposed adjacent respectively to said main switch-points, a transversely disposed switch-bar engaging all of said switch-points to shift the same, springs in connection with said switch-bar permitting a limited independent movement of said bar with respect to said main switch-points, a rotatable clutch member attached to said switch-bar and having clutch teeth, a fixed clutch member also having clutch teeth engaging said first teeth and tending to prevent the rotation of said rotatable clutch member, resilient means tending to hold said clutch members with their teeth in engagement and a track device connected with said rotatable clutch member for rotating the same.

[Claims 6 to 10 not printed in the Gazette.]

974,561. ELECTRIC WATCHMAN'S CLOCK. GEORGE B. FESSENDEN, Boston, Mass., assignor to The Eco Magneto Clock Co., Boston, Mass., a Corporation of Maine. Filed July 23, 1908. Serial No. 444,807.

1. In an electric watchman's clock, the combination of a cylinder tending to move in one direction, and automatic

means adapted to be moved positively to allow the cylinder to shift in said direction only at the end of each complete rotation of the same.



2. In an electric watchman's clock, the combination of a cylinder tending to move longitudinally in one direction, and automatic means normally preventing the movement of the cylinder in that direction and arranged to allow a step-by-step movement of the cylinder in said direction.

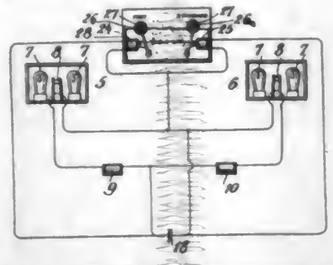
3. In an electric watchman's clock, the combination of a cylinder tending to move in one direction, and a rotatable release device having flanges of different heights and adapted to successively move at the end of each complete rotation of the cylinder whereby the cylinder is successively permitted to move.

4. In an electric watchman's clock, the combination of a cylinder tending to move in one direction and having a pin and a release device rotatable with the cylinder and engaged by the pin, said release device being moved successively from under the pin at the end of each complete rotation of the cylinder.

5. In an electric watchman's clock, the combination of a cylinder tending to move in one direction and having a pin and a spring-actuated release device with flanges of different heights engaged by the pin, said release device being rotatable with the cylinder and having projections adapted to be successively engaged for turning it, thereby permitting the movement of the cylinder.

[Claims 6 and 7 not printed in the Gazette.]

974,562. INDICATING AND RECORDING MECHANISM. THEODORE M. FOOTE, Allston, Mass. Filed May 2, 1910. Serial No. 558,779.



1. Signal recording mechanism comprising means, thermostatically controlled, for recording the burning of a light.

2. Signal recording mechanism comprising a recording element and thermostatically operated controlling means therefor disposed in proximity to a light, the burning of which is to be recorded.

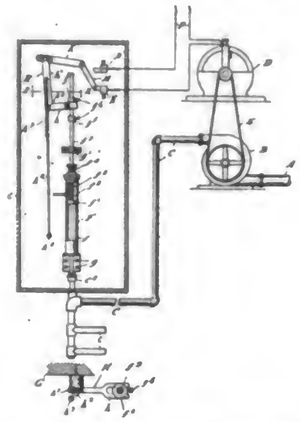
3. Signal recording and indicating mechanism comprising an electric circuit, a thermostatic circuit controller arranged in close proximity to a light, and independent indicating and recording means in the said electric circuit.

4. Signal recording mechanism comprising an electrically controlled recording element and a thermostatically operated circuit controller therefor.

5. Signal recording and indicating mechanism comprising electrically controlled recording and indicating elements and a thermostatically operated circuit controller therefor.

[Claims 6 to 11 not printed in the Gazette.]

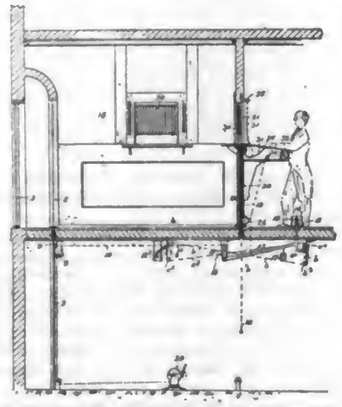
974,563. AUTOMATIC PRESSURE-CONTROLLER FOR WATER AND OTHER PIPES. IRA G. FOSLER, Chicago, Ill. Filed Jan. 6, 1908. Serial No. 409,466.



1. A pressure controller comprising a pressure gage having a cylinder, piston and spring, a bell crank lever having an arm engaged by the piston stem and having its other upright arm provided with a spring connection extending past the fulcrum of said bell crank lever so that when said last mentioned arm of said lever is moved by the piston stem of the pressure gage past the dead center, said spring connection will aid in operating the lever, and a switch connected to and operated by the upright arm of said lever substantially as specified.

2. A pressure controller comprising a pressure gage having a cylinder, piston and spring, a bell crank lever having an arm engaged by the piston stem and having its other arm provided with a spring connection extending past the fulcrum of said bell crank lever so that when said last mentioned arm of said lever is moved by the piston stem of the pressure gage past the dead center, said spring connection will aid in operating the lever, and a switch connected with and operated by said bell crank lever, one end of said spring being connected at a fixed point to the frame and the other end thereof being connected to said lever substantially as specified.

974,564. BANK-PROTECTOR. MICHAEL E. FRANK, Sheboygan, Wis., assignor of one-third to Louis Herman, Sheboygan, Wis. Filed Feb. 24, 1910. Serial No. 545,675.



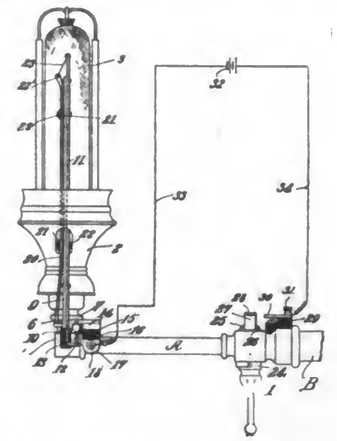
1. In a commercial institution having a cashier's window, a protecting device comprising a bullet-proof blind for the window, a motor-controlled actuating mechanism in connection with the bullet-proof blind, a locking-latch for the actuating mechanism, a treadle release lever for the latch and a flexible shield for concealing the operating extension of the treadle.

2. In a commercial institution having an inclosed cage, a series of cashiers' windows in the cage, a main doorway and a communicating doorway to the cashier's cage, a protecting device and burglar trap comprising slidable blinds for the cashier windows and doorways, actuating weights for the blinds, spring-controlled hinged lids for the cashiers' windows, locking latches for the blinds and hinged lids, a foot treadle in juxtaposition to each cashier's window, and means connecting each foot-treadle with all of the locking latches.

3. In a commercial institution having a cashier's window, a protecting device comprising a spring-controlled bullet-proof hinged lid for the window, a locking-latch for the lid, and a foot-treadle in juxtaposition to the window, the foot-treadle being connected to the locking-latch.

4. In a commercial institution having an inclosed cage, a cashier's window, a main doorway, and a communicating door to the cashier's cage; a protecting device and burglar trap comprising slidable blinds for the cashier's window and doorways, actuating weights for the blinds, a motor-controlled hinged lid for the cashier's window, locking latches for the blinds and hinged lid, a foot-treadle in juxtaposition to the cashier's window, and means connecting the foot treadle with all of the locking latches.

974,565. AUTOMATIC GAS-IGNITER. EUGENE E. GERALD, Baltimore, Md. Filed Mar. 23, 1910. Serial No. 551,105.



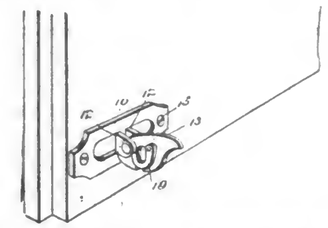
A device of the character described comprising a bracket adapted to be attached to a burner, uprights insulated from each other mounted upon said bracket, a thermostatic rod, having its lower end bent angularly, secured to the top of one of the uprights, an adjustable contact pin to engage said bent end, mounted on said bracket and insulated therefrom, a resistance wire connecting one of the uprights and the thermostatic rod.

974,566. LATCH. CHESLEY T. J. GILES, Greenville, S. C. Filed Jan. 24, 1910. Serial No. 539,777.

1. In a latch, a plate provided with ears outstanding from the plane of the plate, a gravity-operated latch pivoted between the ears, and a gravity-operated lock pivoted to the latch.

2. In a latch, a plate provided with ears, a latch pivoted between the ears and embodying a recess, and a gravity-operated lock pivoted to the latch and swinging across the recess.

3. In a latch, a securing plate, a gravity-actuated latch member pivoted to the plate and provided with a recess, and a hook-shaped lock pivoted to the latch and tending to swing by gravity across the recess.



4. In a latch, a securing plate provided with ears, a latch pivoted between the ears and provided with a recess, a hook-shaped lock pivoted to the latch and tending to swing across the recess and proportioned to engage with an ear to limit the movement of the lock.

5. In a latch, a securing plate having ears stamped from a plate and bent upwardly at right angles to the plate in spaced relation, a latch pivoted between the ears and having a nose adapted for engagement with the plate to limit the movement of the latch, said latch being provided with a staple-receiving orifice, and a hook-shaped lock pivoted adjacent the orifice and adapted to swing across such orifice by gravity.

974,567. COUPLING FOR THE OPERATING-CHAINS OF LIGHTING APPARATUS, &c. THOMAS M. HARRIGAN, Woodstock, Vt. Filed Apr. 23, 1910. Serial No. 557,226.



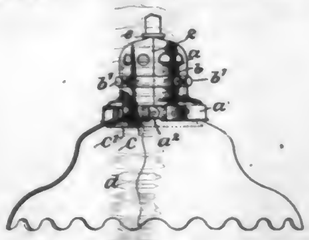
1. In a device of the class described, a strip of flexible material having reverse bends at opposite ends, each of said ends being slotted from its extremity inward, the slotted end portions lying contiguous to the intermediate connecting portion and forming therewith a retaining seat or socket.

2. The combination of two parts to be joined, each having an enlargement, and a strip of flexible material having reversed bends at opposite ends, each of said ends being slotted from its extremity inward, the slotted portions being contiguous to the intermediate body portion and each forming therewith a holding seat or socket in which the enlargement of one of the parts to be joined is seated, the portion of said part to be joined contiguous to its enlargement passing through the slot.

974,568. SHADE-HOLDER. EDWIN E. HAYWARD, Waterbury, Conn., assignor to The Plume & Atwood Manufacturing Company, Waterbury, Conn., a Corporation of Connecticut. Filed July 23, 1910. Serial No. 573,541.

1. A shade holder comprising a part divisible to be passed over an electric light and its socket, a part adapted to surround the same and hold said part in position, a part adapted to be passed partially through a shade and to be passed into the first aforesaid part, and means connected to the part surrounding the first aforesaid part and adapted to connect to the part passing into the shade for removably holding all of said parts in the desired relation to one another and supporting the shade.

2. A shade holder comprising a conoidal head in two parts, means for hinging the said parts together so as to open said head and pass the same over an electric light and the socket, a ring adapted to be passed over said conoidal head to hold the parts together in position, clasping the socket of the electric light, an annulus adapted to be passed up and partially through a shade and the upper flange thereof and to be passed into the conoidal head, and means connected to said ring and adapted to pass through the head and through the annulus or sleeve for connecting the parts together and supporting the shade.



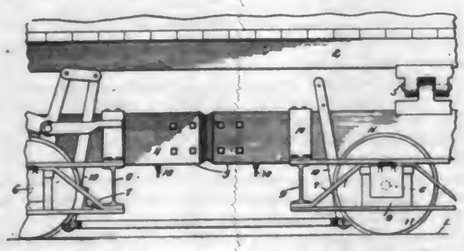
3. A shade holder comprising a conoidal head in two parts, means for hinging the said parts together so as to open said head and pass the same over an electric light and the socket, a ring adapted to be passed over said conoidal head to hold the parts together in position, clasping the socket of the electric light, an annulus adapted to be passed up and partially through a shade and the upper flange thereof and to be passed into the conoidal head, and screws occupying radial positions passing through said ring at spaced intervals through openings in the conoidal head and also through openings in the annulus or sleeve for connecting the parts together and supporting the annulus and shade from the conoidal head.

4. In a shade holder, the combination with a conoidal head having series of spaced openings, of a ring adapted to surorund the head, screws passing through the ring and adapted to pass through said openings in the head, an annulus or sleeve having openings through which said screws may be passed and said annulus adapted to be passed up and partially through a shade and up into the conoidal head for connection with said screws and with the shade to be supported thereby.

5. In a shade holder, the combination with a conoidal head having spaced openings, of a ring adapted to surround the head, screws passing through the ring and adapted to pass through said openings in the head, an annulus or sleeve with a flared base adapted to be passed up and partially through the shade and to be passed up into the conoidal head, the said annulus provided with holes inclined in series and the series spaced apart and agreeing in number with said screws whereby the screws are adapted to be passed through similar holes of the series as the sleeve with the shade is adjusted in the line of the axis of the assembled parts.

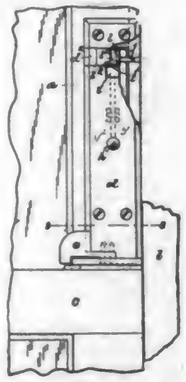
[Claims 6 and 7 not printed in the Gazette.]

974,569. DRAFT-SILL. JOHN JAMES IRVIN, Bellwood, Pa. Filed Oct. 23, 1909. Serial No. 524,203.



A draft sill for dump cars comprising a plurality of sections arranged end to end and each including a pair of spaced side members, blocks secured between and located at the adjacent ends of said members and provided with axial openings co-incident with the long axes of the sections, a coupling bar loosely fitted in said openings and provided adjacent to its opposite ends with transverse slots, and keys insertible through said slots to bear on the remote ends of said blocks, for the purposes described.

974,570. SASH-FASTENING DEVICE. JOHN JAKSICK, Lakewood, Ohio. Filed May 15, 1908. Serial No. 433,026.



1. In a device of the class described, the combination with a mounting plate *d*, of a rocking lever *g* pivotally mounted thereon, a cam part *h* connected with one end of said lever, a locking member *i* pivotally connected with the other end thereof and mounted to have predetermined longitudinal and vertical movements; the parts being proportioned to secure the normal alternative extension of one of said members *h i* beyond the mounting plate, and a movable member *l* actuated by the vertical movement of said locking member, substantially as set forth.

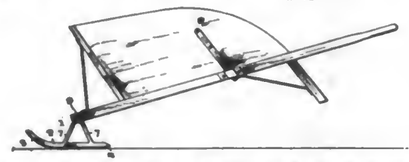
2. In a device of the class described, the combination with the mounting plate, of a rocking lever pivotally mounted thereon, a locking member connected with one end of said lever, a cam part connected with the opposite end, said parts being so proportioned that the one or the other is adapted to be alternatively actuated to extend beyond the plane of the mounting plate, and means associated with the locking member for maintaining it depressed rearwardly of the mounting plate, concurrently with the depression of the cam part, substantially as set forth.

3. In a device of the class described, the combination with a pivoted locking member, of a slotted casing mounting the same and permitting limited movement thereof in a vertical plane, a laterally movable member associated with said locking member and adapted to be actuated upon its vertical movement, and means for maintaining said locking member in a retired position to permit the free movement of the window sashes, substantially as set forth.

4. In a device of the class described, the combination with a mounting plate adapted to be positioned upon the side rail of a window sash, of normally extended locking means mounted upon said plate, comprising a cam part, a locking member, and a pivotally connected lever, a spring acting against said locking member above its pivotal connection with the lever, and a movable slide adapted to serve as an abutment for the lever or alternatively retain it in a retired position rearwardly of the mounting plate, substantially as set forth.

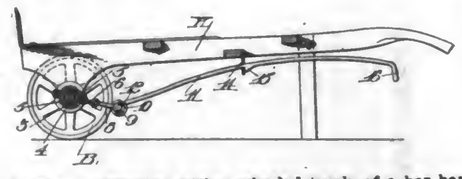
5. In a device of the class described, the combination with a mounting plate, of a rocking lever pivotally mounted thereon, a locking member connected with one end of said lever, a cam part connected with the opposite end; said locking member and cam being so constructed that one or the other is normally adapted to be alternatively actuated and extended beyond the plane of the mounting plate, and means for temporarily maintaining both of the latter parts in their retired positions, substantially as set forth.

974,571. ATTACHMENT FOR WHEELBARROWS. WILLIAM C. JOHNSON, Fence, Wis. Filed Dec. 29, 1908. Serial No. 469,812.



The combination with a wheelbarrow and axle rod; of a shoe of runner-like outline and of inverted T-shape in cross section, the stem thereof having integral therewith upwardly extending and inclined brace members, said members converging at their upper ends, a transverse bar formed integral with said brace members at their point of convergence and forming an approximate T member therewith, the ends of said transverse bar terminating in upstanding lateral ears, said ears being adapted to be received snugly between the axle carrying portions of said wheelbarrow and adapted to receive said axle rod in effecting connection between the same and said ears, said point of convergence between the brace members and said transverse bar being in vertical alinement with said axle rod where the strain and weight of said barrow is greatest.

974,572. WAREHOUSE-TRUCK-BRAKE ATTACHMENT. JOHN JONES, Salem, Oreg., assignor of one-half to Timothy Sexton, San Francisco, Cal. Filed Feb. 21, 1910. Serial No. 545,078.



1. The combination with a wheeled truck, of a bar having chock or locking blocks at its ends adapted to be wedged between the truck wheels and the floor, links projecting from the bar and bands loosely turnable about the wheel axle, said bands having projecting arms forming with the links a toggle-joint between the bands and the bar, and means connected to the bar for raising and lowering the same and the blocks relatively to the floor.

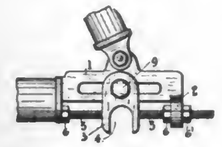
2. The combination with a wheel truck and the axle thereof, of clamps secured to the axle, having grooves or channels in the periphery, bands fitting and turnable in said grooves, arms carried by the bands, links having the upper ends turnably connected with the arms, a bar with which the opposite ends of the links are connected, said bar having chocks or locking blocks at its ends capable of being wedged between the periphery of the wheels and the floor.

3. The combination with a wheel truck and the axle thereof, of clamps secured to the axle, having grooves or channels in the periphery, bands fitting and turnable in said grooves, arms carried by the bands, links having the upper ends turnably connected with the arms, a bar with which the opposite ends of the links are connected, said bar having chocks or locking blocks at its ends capable of being wedged between the periphery of the wheels and the floor, and a means for withdrawing the chocks from the wheels.

4. The combination with a wheel truck and the axle thereof, of clamps secured to the axle, having grooves or channels in the periphery, bands fitting and turnable in said grooves, arms carried by the bands, links having the upper ends turnably connected with the arms, a bar with which the opposite ends of the links are connected, said bar having chocks or locking blocks at its ends capable of being wedged between the periphery of the wheels and the floor, a means for withdrawing the chocks from the wheels, said means consisting of a slidable bar connected with the center of the chock-carrying bar and having a latch upon it, and a yoke with which said latch is adapted to engage.

5. The combination with a wheeled truck, of a bar substantially parallel with the wheel axle, chocks fixed to the bar and adapted to engage and lock the wheels, a toggle-joint connection between the bar and the wheel axle, one member of the joint being connected to the bar and the other member being loosely turnable about the axle, and means to bend the joint and thus vary the distance between the bar and axle.

974,573. BICYCLE-CHAIN-ADJUSTING MEANS. GUSTAVE KINDERMANS, Vilvorde, Belgium. Filed Mar. 25, 1910. Serial No. 551,561.



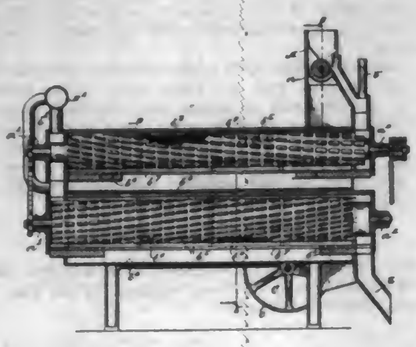
1. In a bicycle-chain adjusting device, the combination with the rear forks, a flat piece connecting said forks, and a horizontal slot in said flat piece, of a slotted sliding-block, a screw-bolt extending through the upper part of said block and through the horizontal slot of the flat piece, a screw-threaded rod made integral with said block and extending freely into the lower horizontal fork, a screw-nut on said rod between the fork and the sliding-block for securing the rod in place, a second screw-threaded rod made integral with the block and extending from the opposite side thereof, means for guiding said second rod in the flat piece, and means for securing it in adjusted positions, substantially as set forth.

2. In a bicycle-chain adjusting device, the combination with the rear forks, a flat piece connecting said forks, and a horizontal slot in said flat piece, of a slotted sliding-block, a screw-bolt extending through the upper part of said block and through the horizontal slot of the flat piece, a screw-threaded rod made integral with said block and extending freely into the lower horizontal fork, a screw-nut on said rod between the fork and the sliding-block for securing the rod in place, a second screw-threaded rod made integral with the block and extending from the opposite side thereof, a depending lug on said flat piece and a suitable slot in said lug, said second screw-threaded rod extending freely through the slot in said lug, and a screw-nut between the block and the lug for securing the rod in place, substantially as set forth.

974,574. COTTON-SEED DELINTER. PHINEAS F. KING, Cleveland, Ohio, assignor to The Lannert-King Company, Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 13, 1909. Serial No. 527,762.

1. In a machine for delinting cotton seed, the combination with an outer shell of abrading material, of a device extending longitudinally in said shell, a plurality of series of members carried by said device, the members of each series being arranged longitudinally of said device and each of said members having an outer and an inner portion, the outer portion being adapted to wipe against the inner surface of the shell and being extended substan-

tially concentric with the shell when the latter is empty of seed, and the inner portion of said member connecting the outer portion with the said device, said inner portion having a resilient part for pressing the said outer portion against the shell, and means for producing a relative rotative movement between the shell and the said device.



2. In a machine for delinting cotton seed, the combination with an outer shell of abrading material, of a device extending longitudinally in said shell, a plurality of series of members carried by said device, the members of each series being arranged in a general helical fashion about said device and each of said members having an outer and an inner portion, the outer portion being adapted to wipe against the inner surface of the shell and being extended substantially concentric with the shell when the latter is empty of seed, and the inner portion of said member connecting the outer portion with the said device, said inner portion having a resilient part for pressing the said outer portion against the shell, and means for producing a relative rotative movement between the shell and the said device.

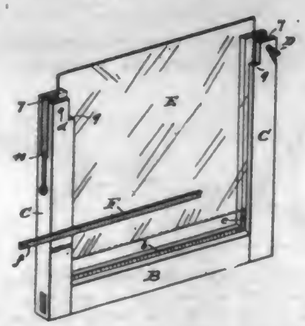
3. In a machine for delinting cotton seed, the combination of a shell of abrading material, a drum rotatable within said shell, and a plurality of series of resilient members carried by said drum and having extended bearing surfaces that are adapted to press the seeds against said shell, said bearing surfaces being substantially concentric with the shell, and contacting therewith while the shell is empty of seed, and the individual members in each series being movable toward and from the drum independently of the other members of the series.

4. In a machine for delinting cotton seed, the combination of a shell of abrading material, a drum rotatable within said shell, and a plurality of series of resilient members carried by said drum and having lateral surfaces arranged substantially parallel to said shell and adapted to press the seeds against said shell, said members of each series being arranged in a general helical fashion about said drum, whereby they serve to simultaneously advance such seeds longitudinally of said shell, and the bearing surface of each member being substantially concentric with the shell and contacting therewith when the latter is empty of seed.

5. In a machine for delinting cotton seed, the combination with a shell of abrading material, of a rotatable device within said shell, a plurality of series of members carried by said device, said members having outer portions that are adapted to wipe against the inner surface of the shell and that are extended substantially concentric with the shell when the latter is empty of seed, and inner portions connecting the outer portions with the said rotatable device, said inner portions having a resilient part for pressing the said outer portions against the shell, for the purpose specified, the individual members in each series being movable toward and from the device independently of the other members in the series.

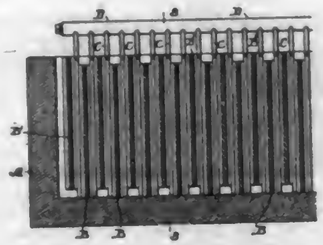
[Claims 6 to 9 not printed in the Gazette.]

974,575. MEANS FOR SECURING GLASS PANES IN POSITION. JOHN KNOBAL, Covington, Ky., assignor of one-half to Edward E. Walker, Covington, Ky. Filed Nov. 21, 1908. Serial No. 463,800.



A window sash comprising a base rail, stiles rigidly connected thereto, said rail and stiles having longitudinal grooves on their inner surfaces, an upper detachable rail having a groove therein, wedge members to clamp a light of glass in said groove, said upper rail having a double tenon at either end and alining holes therethrough, said stiles having a mortise and having a hole therethrough and having a square shoulder to abut said upper rail and thereby aline the holes of the stiles and rails, and a dowel pin adapted to extend into said holes.

974,576. ELECTROLYTIC CELL. GILBERT C. LANDIS, Wadsworth, and JACOB H. SMITH, Rittman, Ohio, assignors to Ohio Salt Company, Wadsworth, Ohio, a Corporation of Ohio. Filed July 2, 1909. Serial No. 505,764.

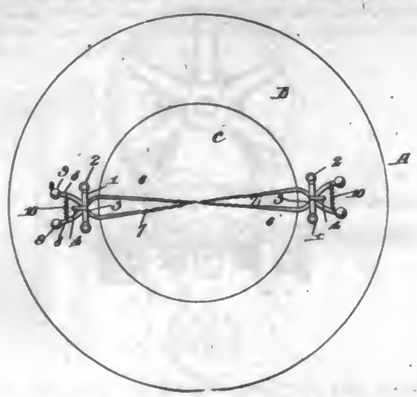


An electrolytic cell consisting of a container; two series of electrodes mounted in said container to form a tortuous path through the same for the electrolyte; a series of tubes of electrical non-conducting material each in the form of a series of substantially parallel convolutions; one of said tubes being mounted between each pair of electrodes; with two supply pipes each connected to each of said tubes for circulating cooling fluid therethrough.

974,577. HAT-PIN. AXEL LARSEN, Perth Amboy, N. J. Filed May 21, 1910. Serial No. 562,624.
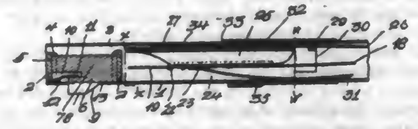
1. A hat fastener comprising a guide member, a pair of slidably mounted pivotally connected hair-engaging spurs, each spur being of a tapered construction approximately throughout its entire length, and a stop carried by the guide member and adapted to be engaged with the spurs to hold them against sliding movement in an outward direction.

2. A hat fastener comprising a guide member, companion hair-engaging spurs pivotally connected with each other and adjustably mounted in the said guide member, a stop supported by the said guide member and adapted to be engaged with the spurs to hold them in their adjusted positions, handles formed at the outer ends of the



said spurs, and a spring bearing on the handles to cause the said spurs to be yieldingly engaged with each other.

974,578. PENHOLDER. BENJAMIN F. LEWIS, Pittsburg, Pa., assignor of one-third to Joseph G. Satter, Pittsburg, Pa. Filed Mar. 14, 1910. Serial No. 549,266.



1. A pen of the type described comprising a tubular body, a plug arranged at one end of said body, a spring controlled carrier carried by said plug and extending into said body and adapted to movably support a plurality of pen points, a longitudinally movable sleeve mounted upon said body and adapted to shift said pen points into position to be used at the end of said body, and a spring-controlled means actuated by said sleeve to hold the pen points in position to be used.

2. A pen of the type described, comprising a tubular body, a spring-controlled carrier mounted in said body and adapted to support a plurality of pen points, longitudinally movable means mounted upon said body and adapted to shift the pen points one at a time to the forward end of said body, and spring-controlled means actuated by the first mentioned means and adapted to clamp a pen point in position to be used.

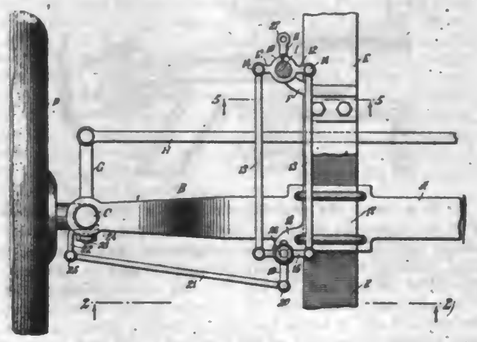
3. A pen holder comprising a tubular body, a spring-controlled carrier detachably mounted in said body and adapted to support a plurality of pen points, a longitudinally movable sleeve mounted upon said body and adapted to shift said pen points one at a time to the forward end of said body, and a transversely shiftable and spring-controlled block adapted to be moved by said sleeve to clamp the pen point at the forward end of said body.

4. A pen holder comprising a tubular body, a plug detachably mounted in said body, a spring-controlled carrier supported by said plug and adapted to support a plurality of pen points, a sleeve slidably mounted upon said body and adapted to shift the pen points of said carrier one at a time to the forward end of said body, and a transversely shiftable and spring-controlled block slidably mounted in the forward end of said body and adapted to be moved by said sleeve to hold the pen point in the forward end of said body.

5. In a pen holder, a tubular body, a plug mounted in one end of said body, a carrier secured to said plug and extending into said body and adapted to support a plurality of pen points, a sleeve slidably mounted upon said body and having a prong projecting into said body adapted to shift said pen points one at a time to the forward end of said body, a spring pressed block slidably mounted in the forward end of said body, and means actuated by a forward movement of said sleeve to elevate said block to clamp the shifted pen point in the forward end of said body.

[Claims 6 to 9 not printed in the Gazette.]

974,579. VEHICLE-HEADLIGHT-STEERING GEAR. ARTHUR G. LINDLEY, Schenectady, N. Y., assignor of one-half to Thomas F. MacGregor, Schenectady, N. Y. Filed Dec. 4, 1909. Serial No. 531,321.



1. A vehicle headlight steering gear, comprising a lamp, a pivot post therefor, a bracket for said pivot post fixedly attached to the body structure of the vehicle to move therewith, a second pivot post, a bracket for said second post fixedly attached to the running gear of the vehicle to move with the axle thereof and arranged to dispose the said second post in line with the said first-mentioned post and directly at the rear thereof, means operatively connecting said pivot posts to rotate the same in unison, and means for connecting the pivot of the steering wheel with the second of said posts to rotate said pivot and said post in unison.

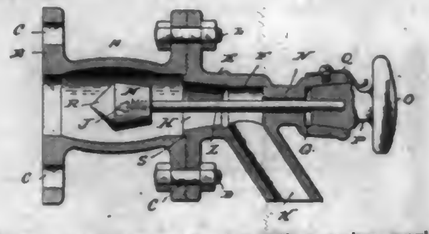
2. A vehicle headlight steering gear, comprising a lamp, a pivot post for said lamp, a bracket for said post mounted upon the body of the vehicle to move therewith, a second pivot post, a bracket for said second post mounted upon the running gear of the vehicle to move with the axle thereof, said bracket disposed in such manner as to locate said second post in line with the said first-mentioned post and equidistant from the longitudinal center of the body of the vehicle, lateral extensions fixedly mounted on both of said posts, a tie rod pivotally connecting said lateral extensions to rotate said posts in unison, an extension mounted on the steering wheel of the vehicle, an extension mounted on said second post in substantial parallel disposition to the extension on said steering wheel, and a tie rod connecting said extension mounted on the second post to rotate the said second post in unison with said steering wheel.

3. A vehicle headlight steering gear, comprising a pivotal member fixedly mounted upon the running gear to move with the axle thereof, means connecting the steering wheel and said pivot member to produce in said member a rotation proportioned to the shift of said wheel, a lamp, a pivotal support for said lamp mounted to move with the body of the vehicle, said support being disposed in line with said pivotal member and equidistant therewith from the longitudinal center of said vehicle, extensions mounted on said pivotal member and said support, and means pivotally connecting said extensions to move the said member and support in unison.

974,580. FILTER-PRESS COCK. NELSON A. LOCKWOOD, Logan, Utah, assignor of one-half to Le Roy Eccles, Logan, Utah. Filed Feb. 19, 1910. Serial No. 544,932.

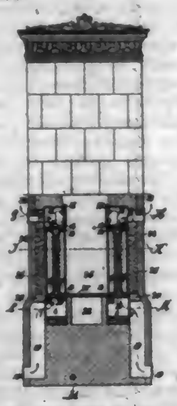
1. In a cock of the character described, the combination with a casing adapted to have one end secured to a source

of supply, of a supplemental casing secured to and making a tight joint with the other end thereof, coincident passages extending through the two casings, the passage in the supplemental casing having a flaring portion at each end with a portion of decreased diameter intermediate said portions, and a rod reciprocably mounted in said reduced portion and bearing on one end a valve adapted to be seated in one of the flaring portions to close the passage and on the other end a head adapted to be engaged in the other flaring portion when the valve is unseated.



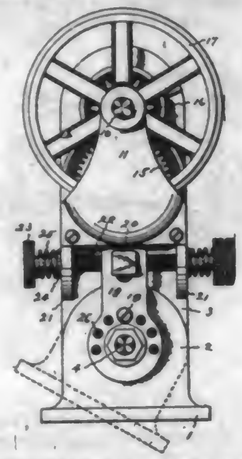
2. In a cock, the combination with a casing provided with an attaching flange at each end, of a supplemental casing secured to one of said flanges and making a tight joint therewith, a T-shaped passage formed in the supplemental casing and having one end of the head of the T in communication with the passage in the main casing, the stem of the T being adapted to form a spout, a valve seat formed at one end of the head of the T and a recess at the other end, and a rod reciprocably mounted in said head passage and provided on one end with a valve adapted to close the end of the passage adjacent the reversible casing by being engaged in the valve seat and bearing on the other end means adapted to be engaged in said recess when the valve is out of its seat, and means for locking said means in position.

974,581. AIR-HEATING CHAMBER FOR STOVES, FURNACES, AND OTHER HEATING APPARATUS. ROMAN MAX, Warsaw, Russia. Filed Aug. 13, 1906. Serial No. 330,506.



An air-heating chamber for stoves, furnaces and the like comprising pipes with internal radial webs, each of said pipes being provided with trough-shaped grooves, a bottom chamber upon which said pipes are mounted, said bottom chamber being provided at its upper end with ridges fitting in the grooves in the bottoms of the said pipes, a top chamber mounted upon the upper ends of said pipes, the lower end of said top chamber having ridges fitting in the grooves in the upper ends of the pipes, and a removable front wall 15 for the top chamber, said front wall having ribs 16 disposed toward the interior of the top chamber, said top and bottom chambers being open to the atmosphere, as described.

974,582. AIR-PUMP. JOHN J. MCINTYRE, Hartford, Conn. Filed May 7, 1910. Serial No. 559,018.



1. The combination in a pump, of a base, a frame pivotally mounted on the base, a cylinder carried by the frame, a piston movable in the cylinder, a crank for reciprocating the piston, a pulley, means connecting the pulley and the crank, a plate pivotally connected with the base, a nut carried by said plate, a threaded spindle mounted on the pump frame and extending through said nut, and means for turning the spindle.

2. The combination in a pump, of a base, a frame pivotally mounted on the base, a cylinder carried by the frame, a piston movable in the cylinder, a crank for reciprocating the piston, a pulley, gears connecting the pulley and the crank, a plate pivotally connected with the base, a block carried by the plate, a threaded spindle carried by the pump frame and extending through the block, and means for turning the spindle.

3. The combination in a pump, of a base, a frame pivotally mounted on the base, a cylinder carried by the frame, a piston movable in the cylinder, means for reciprocating the piston, a plate pivotally connected with the base, a nut carried by said plate, a threaded spindle carried by the pump frame and extending through said nut, a head for turning the spindle, and a spring for normally holding the spindle from moving longitudinally with relation to the pump frame.

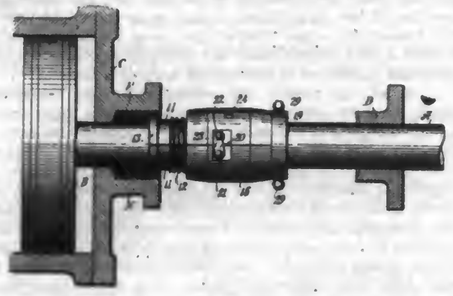
4. The combination in a pump, of a base adapted to be fixedly secured in position, a frame pivotally connected with the base, a cylinder carried by the frame, a piston movable in the cylinder, a crank for reciprocating the piston, a pulley carried by the frame, a train of reducing gears connecting the pulley and the crank, a plate pivotally connected with the base and adapted to be fastened to the base in any desired radial position, a nut carried by said plate, a threaded spindle extending through said nut and through parts of the pump frame, heads for turning the spindle, and springs for normally holding the spindle from moving longitudinally with relation to the pump frame.

5. The combination of a pump having a driving member, a supporting means for said pump, said driving member being movable with relation to said supporting means, and two independently operable means for adjusting the relative positions of said parts and holding the same therein.

[Claims 6 to 11 not printed in the Gazette.]

974,583. APPARATUS FOR PACKING AND UNPACKING STUFFING-BOXES. ALBERT MEIER and HANS DUMBLIN, West Hoboken, N. J. Filed July 22, 1910. Serial No. 573,219.

1. An apparatus for packing and unpacking stuffing boxes, comprising a stationary collar; a rotary driver pivotally mounted on said collar; a ram member slidably mounted upon the shaft to be packed; and wedging means interposed between the said driver and said ram member for forcing the said ram member from the said driver longitudinally on said shaft.



2. An apparatus for packing and unpacking stuffing boxes, comprising a stationary collar; a rotary driver pivotally mounted on said collar; a ram member slidably mounted upon the shaft to be packed, said ram member having a screw threaded section extended within said driver; and means mounted on said driver for engaging said screw threaded section on said ram member.

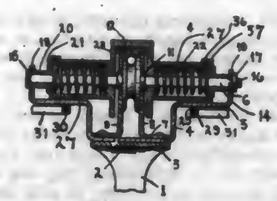
3. An apparatus for packing and unpacking stuffing boxes, comprising a stationary collar; a ram member slidably mounted upon the shaft to be packed, said ram member having a rearwardly extended screw threaded section; and a rotary driver pivotally mounted on said collar, said driver having an internally formed screw threaded section, the threads whereof are engaged with the screw threaded section of said ram member.

4. An apparatus for packing and unpacking stuffing boxes, comprising a stationary collar; a ram member slidably mounted upon the shaft to be packed, said ram member having a rearwardly extended screw threaded section; a rotary driver pivotally mounted on said collar, said driver having an internally formed screw threaded section, the threads whereof are engaged with the screw threaded section of said ram member; and means for rotating said driver.

5. An apparatus for packing and unpacking stuffing boxes, comprising a stationary collar; a ram member slidably mounted upon the shaft to be packed, said ram member having a rearwardly extended screw threaded section; a rotary driver pivotally mounted on said collar, said driver having an internally formed screw threaded section, the threads whereof are engaged with the screw threaded section of said ram member; and a plurality of extracting devices adapted to be inserted within the packing to engage and withdraw the same from the packing recess.

[Claims 6 to 10 not printed in the Gazette.]

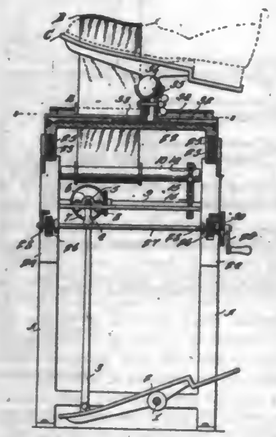
974,584. TROLLEY. GEORGE A. MILLER, McKeesport, Pa. Filed Apr. 21, 1910. Serial No. 556,702.



1. In a trolley, the combination with a trolley pole having the upper end thereof provided with a head, of a yoke secured to said head and having lateral extensions terminating in vertical bearings, harp arms connected to said yoke, a hub mounted in said harp arms, a wheel revolubly mounted upon said hub, a pin extending through said hub and adapted to be supported by said bearings, spring-pressed barrels movably mounted upon said pin, retaining members carried by said barrels and adapted to engage each other, said members having longitudinal grooves formed therein for the trolley wire, and means supported by said yoke and adapted to move said barrels to provide opening for the passage of the trolley wire.

2. In a trolley, the combination with a trolley pole having the upper end thereof provided with a head, of a yoke secured to said head and having lateral extensions terminating in vertical bearings, harp arms connected to said yoke, a hub mounted in said harp arms, a wheel revolubly mounted upon said hub, a pin extending through said hub and adapted to be supported by said bearings, spring-pressed barrels movably mounted upon said pin, retaining members carried by said barrels and adapted to engage each other, said members having longitudinal grooves formed therein for the trolley wire, and means supported by said yoke and adapted to move said barrels to provide opening for the trolley wire when removing the trolley, said means including rock shafts, cranks carried thereby, and arms mounted upon the ends of said shafts and adapted to move said barrels outwardly.

974,585. SHOE-POLISHING MACHINE. LONGHAIR I. MINATO, Piano, Idaho. Filed May 25, 1910. Serial No. 563,355.



1. A machine of the class described comprising a supporting frame, an endless polishing band, operating means for the band, a vertically adjustable support, a slide movable on the support, a foot rest disposed above the slide and under the upper flight of the band, and a universal joint between the foot rest and slide.

2. A machine of the class described comprising a supporting structure, a foot rest thereon, an endless polishing element having its upper flight extending transversely over the rest, means for supporting and operating the element, idlers engaging the upper flight of the element at opposite sides of and below the rest, horizontally-movable devices on which the idlers are supported, horizontal alining guides in which the devices slide, and yielding means pressing the devices toward each other for tensioning the polishing element on the shoe supported by the rest.

3. A machine of the class described comprising a supporting structure, an endless polishing band, a foot rest disposed to support a shoe in coöperative relation with the band, means for mounting the foot rest for movement back and forth with respect to the band, and means for adjusting the vertical position of the foot rest.

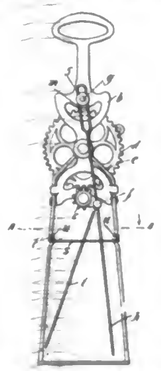
4. A machine of the class described comprising a supporting structure, an endless polishing band, driving rolls around which the band passes, a sprocket and chain mechanism for driving the rolls, a foot-operated device for actuating the said mechanism, spring-pressed idlers engag-

ing the top flight of the band, and an adjustable foot rest disposed above and between the idler rolls and under the active portion of the band.

5. A machine of the class described comprising a supporting structure, an endless polishing band, driving rolls around which the band passes, a mechanism for driving the rolls, a device for actuating the said mechanism, idlers engaging over the top flight of the band, an adjustable foot rest disposed above and between the idler rolls and under the active portion of the band, yielding means for pressing the idlers inwardly toward each other and toward the rest and means for raising and lowering the foot rest.

[Claim 6 not printed in the Gazette.]

974,586. EGG-BEATER. EDWARD MOMPESSON MORGAN, Westmount, Quebec, Canada. Filed June 19, 1907. Serial No. 379,793.



1. In an egg beater, the combination of a supporting frame having a hand driven spur gear and a spur pinion intermeshing therewith, such pinion having a pin projecting parallel to its axis; a stud upon the upper part of the supporting frame, a beater arm consisting of a single strand of wire with its upper end bent back upon itself in the form of a longitudinal loop to fit slidably upon the stud, its middle being pivoted upon the said pin, and its lower end formed as a beater, a transverse plate carried by the support beneath and adjacent to the pinion and having a slot to accommodate and guide the said beater arm, and a central perforation; and a shorter beator arm passed upwardly through the said perforation and pivotally connected at its upper end to the pin upon the said pinion, the beating ends of such beater arms being constructed to pass each other in their operation.

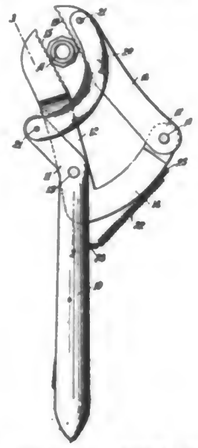
2. In an egg beater, the combination with a carrying frame, of a revoluble member mounted upon such frame, a beater arm pivotally connected to the said revoluble member, a transverse guiding member carried by the frame at one side of the revoluble member and allowing movement of the arm transversely to the frame and preventing undue displacement of the said arm at right angles to the said movement, and means slidably fulcruming such arm to the frame at a point at the opposite side of the revoluble member, and means for operating the revoluble member.

3. In an egg beater, the combination with a carrying frame, of a revoluble member mounted upon such frame, a long beater arm pivotally connected between its ends to the said revoluble member, a short beater arm pivotally connected at its upper end to such revoluble member, a transverse member at one side of the revoluble member and presenting a guiding slot and a perforation the long arm working in the slot and the short arm working in the perforation, and means slidably fulcruming such long arm to the frame at a point at the opposite side of the revoluble member, and means for operating the revoluble member.

4. In an egg beater, the combination with a carrying frame, of a revoluble member mounted upon such frame, a long beater arm pivotally connected between its ends to the said revoluble member, a short beater arm pivotally connected at its upper end to such revoluble member, a transverse member carried by the frame below the revoluble member and presenting a guiding slot and a perforation the long arm working in the slot and the short arm working in the perforation, a stud upon the upper part of the frame, the upper end of the long beater arm being formed with a longitudinal slot slidably engaging the said stud, and means for operating the revoluble member.

5. In an egg beater, the combination with a carrying frame, of a revoluble member mounted upon such frame, a long beater arm pivotally connected between its ends to the said revoluble member, a short beater arm pivotally connected at its upper end to such revoluble member, a transverse member carried by the frame below the revoluble member and presenting a guiding slot and a perforation the long arm working in the slot and the short arm working in the perforation; a stud upon the upper part of the frame, a flanged roller mounted rotatably upon the said stud, the upper end of the long beater arm being formed with a longitudinal slot slidably engaging the said roller between the flanges of the latter, and means for operating the revoluble member.

974,587. WRENCH. JAMES A. MORRIS, Gillett Grove, Iowa. Filed Nov. 9, 1909. Serial No. 526,950.



1. A wrench, comprising a handle, pivotally associated jaws, a link connection between one of said jaws and said handle, and a spring fastened to one of said jaws and to said handle.

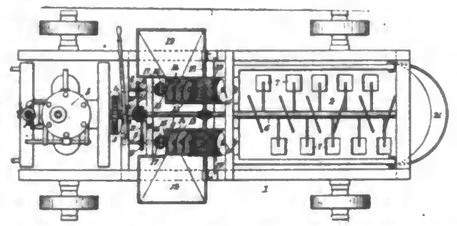
2. A wrench, comprising a handle, pivotally associated jaws, a link connection between one of said jaws and said handle, and a spring secured between said jaws and said handle, one of said jaws being pivotally secured to said handle.

3. A wrench, comprising a handle, a jaw pivotally secured directly to said handle and having a laterally disposed arm, a second jaw pivotally secured to said arm, and links pivotally secured, respectively, to said second jaw and said handle.

4. A wrench, comprising a handle, a jaw pivotally secured to said handle and having a laterally disposed arm, a second jaw pivotally secured to said arm, links pivotally secured, respectively, to said second jaw and said handle, and a spring secured respectively, to said arm and said handle, said handle having the end adjacent to which said first jaw is located, laterally disposed.

5. A wrench, comprising a handle having a bifurcated, laterally disposed extremity, a jaw member pivotally mounted between the sides of said bifurcated extremity, said jaw member having a laterally extending, curved arm, a second jaw pivotally mounted at the end of said arm, curved links pivotally connected respectively, with the end of said second jaw and said bifurcated end of said handle, one of said links being arranged at each side of said second jaw, and a spring secured respectively, to said arm and said handle, said links being curved toward said arm.

974,588. FEEDER FOR CONCRETE-MIXERS. FRED G. OLP, Nunda, N. Y. Filed Sept. 25, 1908. Serial No. 454,687.



1. In a feeder for a concrete mixer, a hopper having a lateral extension, a trough which leads from the lateral extension, a feed worm disposed in the trough and having one of its terminals disposed in the lateral extension, a brush disposed across the feed worm, and means for operating the feed worm and the brush simultaneously.

2. In a feeder for a concrete mixer, two hoppers, chutes which lead into the hoppers respectively, feed worms disposed in the chutes respectively, means for rotating the feed worms, brushes disposed over each of the feed worms, the periphery of each brush being concave transversely, and means for rotating the brushes.

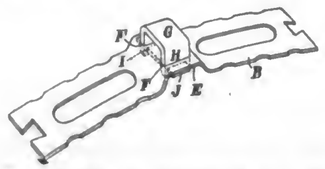
3. In a feeder for a concrete mixer, a feed worm adapted for raising material, a brush disposed thereover, with its axis substantially at right angles to the axis of the feed worm, and means for rotating the feed worm and the brush.

4. In a feeder for a concrete mixer, a feed worm, adapted for raising material, a brush disposed with its axis substantially at right angles to the axis of the feed worm, the periphery of the brush being concave transversely and which engages the feed worm, and means for rotating the feed worm and the brush.

5. In a feeder for a concrete mixer, a hopper, a chute which leads from the hopper, a feed worm mounted for rotating in the chute, a main shaft, a gear wheel thereon, a second shaft, a gear wheel on the second shaft which meshes with the gear wheel on the main shaft, a brush secured to the second shaft disposed across the feed worm, a shaft on which the feed worm is mounted, a gear wheel on the last-mentioned shaft, another shaft, a gear wheel thereon which meshes with the last-named gear wheel, sprocket wheels on the main shaft and the last-named shaft respectively, and a sprocket chain disposed on the sprocket wheels.

[Claim 6 not printed in the Gazette.]

974,589. REINFORCED BRAKE-SHOE. JOSEPH ALEXANDER PANTON, Waterloo, near Liverpool, England. Filed Dec. 16, 1909. Serial No. 533,406.



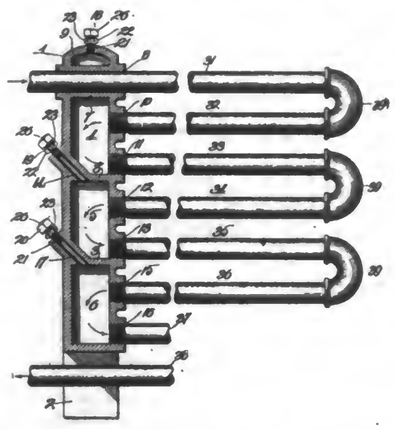
1. In a brake-shoe, the combination of a back; a key-lug extending through the back; and a locking plate extending through the downwardly-projecting portion of the lug and underlying the back.

2. In a brake-shoe, the combination of a back provided with an upwardly-projecting portion; a key-lug extending through said upwardly-projecting portion; and a locking bar or pin passing through the downwardly-extending portion of the lug and underlying the upwardly-projecting portion of the back.

3. In a brake-shoe, the combination of a back provided with two longitudinally-disposed slots; a key-lug formed of a separate piece bent into inverted U form, each arm thereof, adjacent to its lower end, being provided with a slot, said arms being adapted to be passed down through the slots in the back; and a locking plate or key passing through the slots in the arms and underlying the back.

4. In a brake-shoe, the combination of a back having an upwardly-extending portion or section extending across the same, said portion having two parallel slots formed therein; a key-lug formed of a separate piece, bent into an inverted U-form, each arm thereof having a slot formed in its lower portion, said arms being adapted to be passed through the slots in the back; and a locking plate or key passing through the slots in the arms and underlying the back.

974,590. GAS-LIBERATING HEADER FOR STEAM-CONDENSING COILS. WILLIAM F. PARADISE, Leavenworth, Kans. Filed Jan. 18, 1909. Serial No. 473,013.

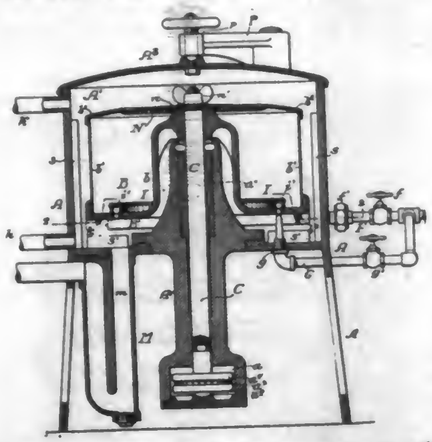


1. In a steam condensing coil, a header provided with a series of superposed chambers and with gas-escape passages communicating with the upper ends of said chambers, the said passages of all of the chambers below the topmost one extending diagonally outward to one side of the overlying chambers, hollow externally-threaded casings screwed into said passages and provided at their outer ends with enlargements having radiating passages communicating at their inner ends with the interior of said casings; said casings also having valve-seats at the lower or inner ends and perforated diaphragms outward of said enlargements, reciprocatory valves fitting in said diaphragms, caps secured upon the upper or outer ends of the casings, and springs arranged in the casings and bearing at their opposite ends against said caps and the valves and normally holding the latter upon said valve seats to prevent the escape of gas, at less than a predetermined pressure, from the upper ends of said chambers.

2. In a steam condensing coil, a header provided with a series of superposed chambers and with gas-escape passages communicating with the upper ends of said chambers, the said passages of all of the chambers below the topmost one extending diagonally outward to one side of the overlying chambers, hollow externally threaded casings screwed into said passages and provided at their outer ends with enlargements having radiating passages communicating at their inner ends with the interior of said casings; said casings also having valve-seats at the

lower or inner ends and perforated diaphragms outward of said enlargements, reciprocatory valves fitting in said diaphragms, caps secured upon the upper or outer ends of the casings, and springs arranged in the casings and bearing at their opposite ends against said caps and the valves and normally holding the latter upon said valve seats to prevent the escape of gas, at less than a predetermined pressure, from the upper ends of said chambers, in combination with a pair of pipes for and connected to each of said chambers in different horizontal planes, and couplings connecting the opposite ends of the upper pipe of one chamber with the lower pipe of the adjacent superposed chamber.

974,591. WASHING-MACHINE. THOMAS S. PATTERSON, Rosemont, Pa., assignor to The Oil and Waste Saving Machine Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 14, 1908. Serial No. 415,917.



1. The combination in a washing machine, of a casing forming a washing chamber, a removable cover for the said chamber, a cage pivotally mounted in the chamber and capable of receiving the masses of loose material to be washed, said cage having in its bottom a series of openings, means for rotating the cage, and a steam nozzle at the bottom of the chamber, the opening in the nozzle being in a direct line with the series of openings in the bottom of the cage so that a jet of steam will be projected into the cage directly through the openings in succession so as to agitate the material within the cage by initial force of the jet of steam.

2. The combination of a casing inclosing a washing chamber, a cage mounted in the washing chamber and having a series of valved openings, means for turning the cage, and a steam nozzle alining with the openings of the cage so as to deliver steam into the interior of said cage.

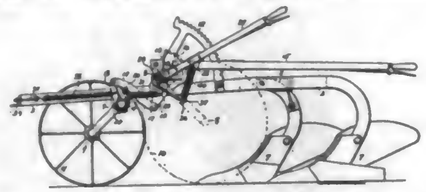
3. The combination of a casing inclosing a washing chamber, a cage mounted in the chamber, means for rotating the cage, said cage having a series of openings in the bottom, valves in said openings, a steam nozzle mounted under the cage and in line with the openings, whereby as the cage is rotated steam will be projected through the valved openings and into the body of the cage.

4. The combination of a casing inclosing a washing chamber, a cage mounted in said chamber, means for rotating the cage, there being a series of openings in the bottom of the cage concentric with the center of rotation, a series of ball valves in said openings, a steam nozzle projecting through the bottom of the casing in line with said openings in the bottom of the cage, and means for supplying steam to said nozzle so that the ball valves will be operated by the steam projected from the nozzle as the cage rotates.

5. The combination of a casing, a cage mounted within the casing, a turbine wheel connected to or forming part of the cage, a nozzle, two steam pipes connecting with the nozzle, and a reducer mounted in one of the steam pipes so that when steam is turned into one pipe the cage will be rotated slowly and when turned into the other pipe the cage will be rapidly rotated.

[Claims 6 and 7 not printed in the Gazette.]

974,592. GANG-PLOW. WILLIAM L. PAUL, South Bend, Ind., assignor to Oliver Chilled Plow Works, South Bend, Ind. Filed Apr. 23, 1908. Serial No. 428,744.



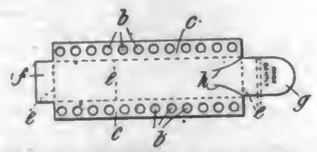
1. In a gang plow the combination with two crank axles and a wheel on each, of a lever loose on the rear axle and an arm projecting upwardly from the front axle, a link connecting the loose lever on the rear axle at a point below the latter with the upwardly projecting arm on the front axle and yielding means connecting said lever with the rear axle whereby the latter is also turned by said lever.

2. In a gang plow the combination with two crank axles and a wheel on each, of a lever loose on the rear axle, an arm projecting upwardly from the front axle, a link connecting the loose lever at a point below the rear axle with the upwardly projecting arm on the front axle, means for yieldingly connecting said lever and rear axles whereby both axles may be turned in unison, and a second lever for turning the rear axle independently of the front axle.

3. In a gang plow, the combination with a frame, front and rear crank axles, and a wheel on each axle, of a toothed segment secured to the frame, a lever arm loose on the rear axle and adapted to be locked to the segment on the frame, the said lever arm having a toothed segment, means connecting said lever arm at a point below the axle with an upwardly projecting arm on the front axle, a second lever arm also loose on the rear axle and having means for detachably locking it to the segment on the first mentioned lever arm, an arm secured to the rear axle and a spring interposed between said arm and second lever arm.

4. The combination with a frame, two crank axles, and a wheel on each axle, of a lever arm loose on the rear axle and adapted to be locked to the frame, a sleeve adjustably secured to the front axle and provided with an upwardly projecting arm, a link connecting said arm above its axle to the loose lever arm below the rear axle, means for locking said loose lever arm to the frame, and second lever loosely mounted on the rear axle and having means for its detachable connection to the loose lever arm, yielding means between said second lever and rear axle and springs connecting the frame and axle turning means for assisting in elevating the plows.

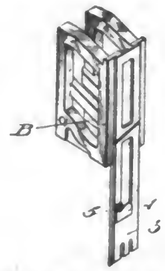
974,593. RECEPTACLE. ALBERT HENRY FRANKS PEEL, Theobald's Road, London, England. Filed Mar. 31, 1909. Serial No. 486,929.



A receptacle of the class described comprising a blank formed from a single piece of material having weakened lines extending the entire length thereof near opposite

longitudinal edges to provide inwardly folded side walls and a bottom, the said side walls having alining openings of like diameters and spaced from each other, and end flaps extending from the bottom and being of corresponding width to the same, one of said flaps being of corresponding depth to the depth of the side walls and provided with a weakened line to permit inward folding thereof, the remaining end flap being of considerably greater depth than the side walls and provided with a plurality of transverse weakening lines to permit inward folding thereof, whereby its free end will overhang said bottom, the said bottom being provided with converging slits cut in from one end thereof for a slight distance of its length, substantially as described.

974,594. CLEANING ATTACHMENT FOR SPACE-BANDS OF LINOTYPE-MACHINES. UMBERTO PIAGNERI, San Francisco, Cal. Filed Jan. 3, 1910. Serial No. 536,059.

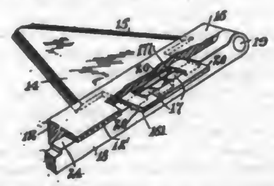


1. A space band cleansing device comprising a resilient plate having one end removably secured to a stationary member and having the opposite free portion resilient and projecting into the path of space bands, and an abrasive material separably held upon said resilient free portion.

2. In a linotype machine, a cleansing device projected into the path of space bands and comprising a plate having a flat bracket extension at one end by which it is removably attached to the machine, said plate having a spring leaf folded forwardly and downwardly and partially filling the channel through which the space bands pass, and an abrasive material carried on said spring leaf.

3. In a linotype machine, a stationary wiper, removably secured to the machine, having a spring leaf member folded forwardly and downwardly so as to partially fill the channel through which the space bands pass, whereby it intercepts one side of a space band, and a removable, renewable abrasive material carried by said spring leaf.

974,595. CUTTER-BAR. JOHN H. POOLE, Brockton, and ALFRED D. ABBENZELLER, Randolph, Mass., assignors to Brockton Mowing Machine Cutter Bar Company, Brockton, Mass., a Corporation of Massachusetts. Filed Nov. 11, 1909. Serial No. 527,391.



1. A cutter bar having a series of transverse slots open at the front side of the bar, a series of knives having slotted shanks to enter the slots of the bar, and a resilient yieldable locking bar movable perpendicularly to the plane of said slots and having a series of tongues to enter the slots in said shanks, the tops of said tongues being beveled to permit the insertion of a knife while said bar is in locking position.

2. A cutter bar having a series of transverse slots open at the front side of the bar, a series of knives having slotted shanks to enter the slots of the bar, and a resiliently yieldable locking bar movable perpendicularly to the plane of said slots and having a series of tongues to enter the slots in said shanks, the tops of said tongues being beveled, and the outer surface of the knife shanks being beveled to permit the insertion of a knife while said locking bar is in locking position.

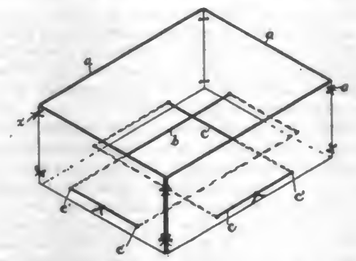
3. A cutter bar having a series of transverse slots and provided with a flange above the plane of said slots, a series of knives having slotted shanks to enter said bar slots and arranged to bear on the under side of said flange, and a locking bar having tongues to enter the slots of the knife shanks, said locking bar being secured to said cutter bar below said flange and disposed in the angle between said flange and the rear of the cutter bar when in locking position.

4. A cutter bar having a series of transverse slots, a series of knives having slotted shanks to enter the slots of the bar, and a locking bar resiliently yieldable relative to said cutter bar and provided with beveled tongues to enter the slots of the knife shanks, said tongues having depressions between them to permit the insertion of a tool for removing a blade while said bar is in locking position.

5. A cutter bar having a series of transverse slots open at the front side of the bar, a series of knives having slotted shanks formed to enter said slots of the bar, and a resiliently yieldable locking bar secured to the cutter bar and provided with a series of locking tongues to enter slots of the knife-shanks to engage or release all the knives, the tops of said tongues being beveled to permit insertion of a knife while said bar is in locking position.

[Claim 6 not printed in the Gazette.]

974,596. COLLAPSIBLE BOX. MAURICE W. RANDALL, Portland, Me. Filed Sept. 14, 1908. Serial No. 452,842.



1. A collapsible box comprising a plurality of side walls hingedly connected at their ends and adapted to fold together to form a flat package, the opposite walls of said box being parallel to each other, a cord threaded between two of the nonadjacent sides of the box, the strands of said cord constituting a plurality of taut bottom supports directly connecting such side walls of the box, and a bottom resting upon said cords and closely fitting between the side walls of the box.

2. A collapsible rectangular box comprising four side walls hingedly connected at their ends and adapted to fold together to form a flat package, an endless cord connecting two of the side walls of said box, the strands of said cord extending parallel to the other two side walls of the box, a second endless cord connecting the other two side walls of the box, the strands of said cord crossing the strands of the first mentioned cord and extending parallel to the side walls which it connects, and a rectangular bottom adapted to be supported upon said cords and to closely fit between the side walls of the box.

3. A collapsible rectangular box comprising four sides hingedly connected at their ends and adapted to fold together to form a flat package, a plurality of bottom supporting cords connecting two opposite side pieces of the box and extending parallel to the other two side pieces

thereof, and a bottom resting upon said cords and closely fitting between the side walls of the box.

4. A collapsible rectangular box comprising four side walls hingedly connected at their ends and adapted to fold together to form a flat package, a continuous cord threaded between two of the side pieces of said box, the strands of said cord constituting a plurality of bottom supports extending directly between opposite side pieces of the box and parallel to the other side piece of the box, and a bottom supported upon said strands.

974,597. MANUFACTURE OF MALTED PREPARATIONS FROM CEREALS. LOUIS CHARLES REESE, Southfields, London, England. Filed Aug. 18, 1908. Serial No. 449,138.

1. A process for the manufacture of malted food preparations from cereals, said process consisting in adding free bran to malted and unmalted cereals and water, digesting the mixture under heat so as to effect saccharification of the starch in the cereals and extraction of albuminoids and organic phosphoric compounds from the added bran, and filtering off the mixed extracts.

2. A process for the manufacture of malted food preparations from cereals, said process consisting in adding free bran to malted and unmalted cereals and water, digesting the mixture under heat so as to effect saccharification of the starch in the cereals and extraction of albuminoids and organic phosphoric compounds from the added bran, filtering off the mixed extracts and concentrating the filtrate.

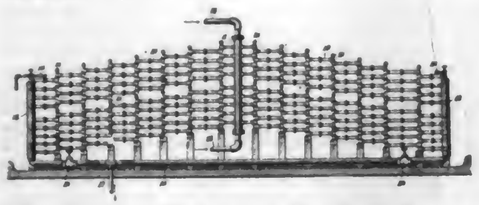
3. A process for the manufacture of malted food preparations from cereals, said process consisting in adding free bran to malted and unmalted cereals and water, digesting the mixture under heat so as to effect saccharification of the starch in the cereals and extraction of albuminoids and organic phosphoric compounds from the added bran, filtering off the mixed extracts and concentrating them *in vacuo*.

4. A process for the manufacture of malted food preparations from cereals, said process consisting in adding free bran to malted and unmalted cereals and water, digesting the mixture at a temperature below 100° C., filtering off the mixed extracts obtained from the cereals and added bran, and concentrating the filtrate.

5. A process for the manufacture of malted food preparations from cereals, said process consisting in adding free bran to malted and unmalted cereals and water, digesting the mixture at a temperature suitable for effecting saccharification of the starch in the cereals and extraction of albuminoids and organic phosphoric compounds from the added bran, filtering off the resulting mixed extracts, digesting the resulting solid portion of the mixture with water, under heat and pressure, filtering off the resulting extract, adding such extract to those first obtained and concentrating the mixed extracts.

[Claims 6 to 8 not printed in the Gazette.]

974,598. CONDENSER. GERHARD REIMERS, Milltown, N. J., assignor of one-half to Frederick A. Sondheimer, New York, N. Y. Filed June 4, 1910. Serial No. 564,921.



1. In a condenser for freezing mediums and other gases, a gas feed pipe, a liquid discharge pipe, and a series of condenser coils extending from the feed pipe to the discharge pipe and successively arranged one below and at the side of the other to successively discharge from one coil to the next by gravity.

2. In a condenser for freezing mediums and other gases, a series of tiers of condenser coils, with the coils of one tier successively arranged below the coils of an adjacent tier in passing from the feed to the discharge end of the condenser, each coil of each tier discharging into the next coil below of the next adjacent tier.

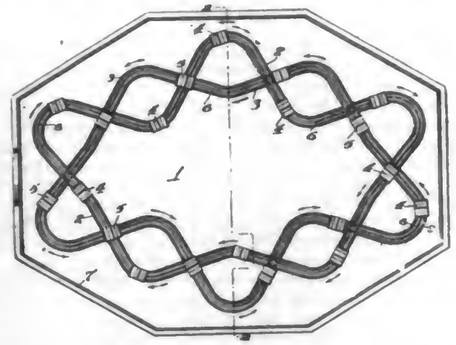
3. In a condenser for freezing mediums and other gases, a series of tiers of condenser coils, the tiers of coils successively depressed below each other in passing toward their point of discharge, and each coil of each tier discharging into a coil below arranged in another tier.

4. In a condenser for freezing mediums, and other gases, a vertical feed header, a vertical discharge header, and a series of condenser coils forming a continuous pipe system leading from the feed header to the discharge header, with the coils successively arranged one below the other in passing toward the discharge header.

5. In a condenser for freezing mediums and other gases, a vertical feed header, a vertical discharge header, and a series of condenser coils forming a continuous length of pipe connecting the feed header to the discharge header, the coils arranged to discharge successively one into the other under the action of gravity.

[Claims 6 to 9 not printed in the Gazette.]

974,599. CAROUSEL. AFTON G. REYNOLDS, St. Louis, Mo., assignor to Amusement Park Railway Co., St. Louis Mo., a Corporation of Arizona. Filed Mar. 7, 1910. Serial No. 547,834.



1. The combination with endless track ways crossing each other at intervals, of trucks supported by the track ways and arranged for travel thereon, endless driving chains arranged in planes beneath the track ways and means carried by the chains for engagement with said trucks.

2. The combination with endless track ways crossing each other at intervals, of trucks supported by the track ways and arranged for travel thereon, endless driving chains arranged in planes beneath the track ways, means carried by the chains for engagement with the trucks and means arranged adjacent one of the chains for lowering the truck-engaging devices at times.

3. In a carousel continuous track ways crossing each other at intervals, trucks supported on the track ways, driving chains arranged one above the other and beneath the track ways, means for directing the chains to travel in courses parallel with the track ways, fingers carried by the upper chain for engagement with the trucks on one of the track ways, levers carried by the lower chain for engagement with the trucks supported on the other track way and a race way having cams for moving the levers out of engagement with the trucks to permit their passage under the upper drive chain at times.

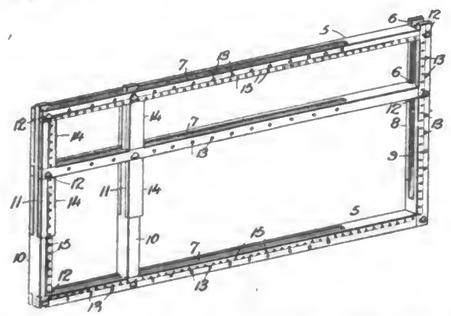
4. In a carousel continuous, sinuous track ways crossing each other at intervals, drive chains arranged one above the other in a plane beneath the track ways, direct-

ing wheels arranged in pairs and of uniform diameters for directing the chains to travel in courses paralleling the track ways, means for imparting motion to a number of said wheels, trucks supported on the track ways, fingers carried by the upper drive chain for engagement with a number of the trucks, bell-crank levers carried by the lower chain for engagement with trucks supported on the other track way and means for engaging said bell-crank levers at times to cause them to disengage from said trucks and travel in a plane beneath the upper drive chain.

5. In a carousel, a pair of continuous, tortuous track ways arranged to cross each other at intervals, there being a slot formed between each pair of tracks and parallel therewith, trucks supported on each of the track ways, wheels arranged in pairs one above the other beneath said track ways, chains embracing the wheels and disposed to travel in courses immediately under and parallel with said slots, means carried by the upper chain for engagement with the trucks on one of the track ways, means carried by the lower chain for engagement with the trucks on the other track way and means arranged adjacent the lower drive chain and parallel therewith for lowering the last mentioned truck-engaging means to permit them to pass under the upper drive chains at points of crossing.

[Claims 6 and 7 not printed in the Gazette.]

974,600. STRETCHING-FRAME. JOHN J. ROBINSON, New York, N. Y. Filed Nov. 3, 1909. Serial No. 526,099.



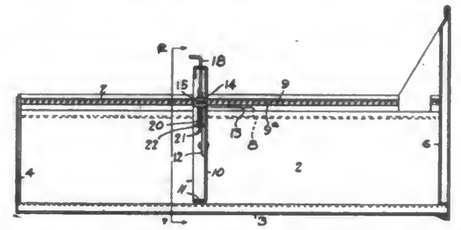
In a stretching frame, the combination with outer longitudinal bars slotted at one end and having a tongue at the other end, of a similar auxiliary bar adapted to be located between the outer bars, a slotted cross bar at one end of the frame adapted to receive the tongues at the ends of the longitudinal bars, an outer cross bar with reduced portions to fit within the slots of the longitudinal bars, a similar auxiliary bar to coöperate with the longitudinal bars to form a frame within the outer bars, pins at each side of the bars to attach the fabric to be stretched, and connecting pins adapted to enter perforations in the bars to enlarge or reduce the sizes of the frames.

974,601. FILE-HOLDER. ERIC G. SAMPSON and ALFRED L. WELHAM, Jamestown, N. Y., assignors to Art Metal Construction Co., Jamestown, N. Y., a Corporation of New York. Filed May 21, 1910. Serial No. 562,674.

1. In a file holder, the combination of a follower, oppositely arranged guideways extending longitudinally of said holder, locking dogs carried by said follower adapted to engage the opposite sides of said holder, and a spring actuated bolt having cam diverging fingers engaging openings in said locking dogs.

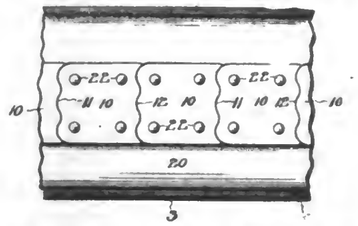
2. In a file holder, the combination of a follower, oppositely arranged guideways extending longitudinally of said holder, locking dogs comprising bars extending longitudinally of said follower and movably supported thereby, said dogs adapted to engage opposite sides of said holder, a spring actuated bolt, and connections between said bolt and said bars for moving the same simultaneously.

3. In a file holder, the combination of a follower, oppositely arranged guideways extending longitudinally of said holder, said guideways having downwardly extending grooves, guide-fingers on said follower engaging said



guideways and having downwardly projecting ends engaging the grooves therein, spring actuated locking dogs adapted to engage opposite faces of the holder, and means for operating said dogs simultaneously.

974,602. TREAD FOR PNEUMATIC TIRES. JOHN C. SCHLEICHER, Mount Vernon, N. Y. Substituted for application filed Mar. 26, 1909, Serial No. 486,024. This application filed Feb. 28, 1910. Serial No. 546,475.



1. A tread for pneumatic tires embodying a removable flexible strip adapted to be stretched onto a tire, and a number of circularly arranged contacting metallic plates secured on said strip, each having its entire front and rear edges scalloped and the adjacent scalloped edges of the plates interlocking to allow of lateral and outward and inward movement of said plates with the strip, but prevent lateral movement of the plates on the strip, substantially as described.

2. A tread for pneumatic tires embodying a removable flexible strip adapted to be stretched onto a tire, a number of circularly arranged contacting metallic plates on said strip, each having its entire front and rear edges scalloped and the adjacent edges of the plates interlocking to allow of lateral and outward and inward movement of the plates with the strip, but prevent lateral independent movement of the plates on the strip and means for securing said plates to said strip, substantially as described.

3. A tread for pneumatic tires embodying a removable flexible strip adapted to be stretched onto a tire, a number of circularly arranged contacting metallic plates on said strip, each having its entire front and rear edges scalloped and the adjacent edges of the plates interlocking to allow of lateral and outward and inward bending movement of the plates with the strip, but prevent lateral movement of the plates on the strip and means for securing said plates on said strip comprising rivets each having an outer and an inner head, the outer heads extending beyond said plates and washers on the inner heads, substantially as described.

974,603. SPOOL OF PASTEBOARD, CARDBOARD, OR SIMILAR MATERIAL. ALBERT SCHMIDT, Leipzig, Germany. Filed Jan. 4, 1910. Serial No. 536,274.

1. A spool comprising a body portion; and heads thereon, formed of paste-board material; said body portion being made of a plurality of sections fastened together, provided with reduced ends, having oppositely disposed

screw-threads thereon, and said heads being provided with oppositely disposed screw threads adapted to engage said first mentioned threads, substantially as described.



2. A spool comprising a body portion; and heads thereon, formed of paste-board material; said body portion being made of a plurality of sections fastened together, provided with reduced ends, having oppositely disposed screw-threads thereon, and said heads being provided with oppositely disposed screw threads adapted to engage said first mentioned threads, and an annular groove in the faces of said heads, substantially as described.

3. A spool comprising a tubular body portion formed of a plurality of sections, the diameter of each section being reduced near the end and provided with a shoulder, and the end of each section being flanged over inwardly, so that the flanges may bear rigidly against each other, and together form a stiffening rib, and a cap provided with a recess therein adapted to inclose the reduced end of said tube and to fit against said shoulder and against said inturned flanges, substantially as described.

4. A spool made of paste-board or similar material, comprising two semi-tubular members with ends flanged inward, the edges of said flanges abutting, and a cap provided with a recess therein adapted to fit snugly over the ends of the two members of said tube and to bind them together and support the flanged portions, the said cap and the said flanges being axially perforated to permit the passage therethrough of the holding spindle for the spool, substantially as described.

974,604. ANIMAL-SHEARS. GREGOR SCHNEIDER, Würzburg, Germany. Filed Oct. 15, 1908. Serial No. 457,874.
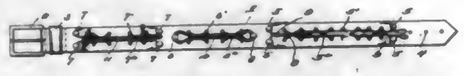


1. In a hair cutter the combination of a switch wheel (8), a worm-wheel (5) provided on said switch wheel, a screw spindle (4) engaged by said worm wheel, a second switch wheel (9) coöperating with said first switch wheel, a movable plate (10), levers (6 and 7) rotatably mounted on said plate, springs influencing said levers adapted to cause the first switch wheel (8) to rotate, scissor like arms (19) fixed to said plate, and means to cause at a pressing together of said arms a step like rotation of the worm-wheel by the switch lever (7), and at the backward motion of said arms a movement of said worm wheel by the second switch lever (6), substantially as described and for the purpose set forth.

2. In a hair-cutter the combination of a switch wheel (8), a worm wheel (5) provided on said switch wheel a screw spindle (4) engaged by said worm wheel, a second switch wheel (9) coöperating with said first switch wheel, a movable plate (10), a switch lever (6) rotatably mounted on said plate spring influencing said levers, a nose (20) provided on said switch lever, a shaft (31), a lever (33) having the form of a finger mounted on the upper end of said shaft, a tappet (32) mounted on said shaft (31) adapted to cause a rotation of the switch lever (6) and a disengaging of the switch wheel (8), a second switch lever (7) also rotatably mounted on said plate (10), scissor like arms (19) fixed to said plate, and the engagement of said second switch lever with said second switch wheel (9) adapted to cause in greater intervals a motion of the screw spindle and of the foot comb substantially as described and for the purpose set forth.

3. In a hair-cutter the combination of a switch wheel (8), a shaft (21) for said switch wheel, a rotatably mounted plate (23) carrying said shaft springs influencing said levers, a worm-wheel (5), a screw spindle (4) engaging said worm-wheel, a hand lever (28), a thumb (26) provided on said hand lever adapted to rotate said plate and to disengage the worm wheel and the screw spindle, substantially as described and for the purpose set forth.

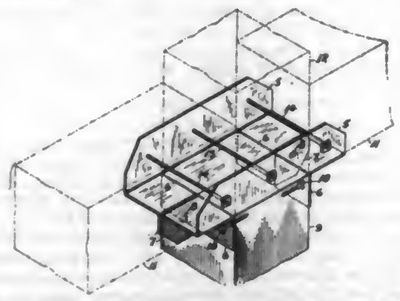
4. In a hair-cutter the combination of a hollow spindle (4), a draw spring (34) located inside said spindle and fixed with one end to a screw (35), a pin (36) provided with conically pointed projections (37) and connecting with the other end of said spring, a cap (38) guiding said pin, a bolt (40) acting under the influence of a spring and providing a hole for said pin to pass through, a tooth like nose (41) located inside said hole on said bolt, engaging the conical projections of said pin adapted to arrest the same and to rebend the spring at an upward motion of said pin, substantially as described and for the purpose set forth.

974,605. HATBAND. OTIS W. SCHOFIELD, Montpelier, Idaho. Filed Oct. 23, 1909. Serial No. 524,174.



As a new and improved article of manufacture, a hat band having means for connecting the meeting ends thereof, said band being provided between said meeting ends with a plurality of sets of spaced openings, each set comprising a series of openings arranged in pairs, a lacing thong of single length passed intermediately through the band near one end thereof and thence having its extremities threaded through the sets of openings and united near the opposite end of the band, the threaded portions of the extremities providing sets of crossed retaining strands, and hooked studs carried by the band and arranged respectively at the opposite ends of each set of strands.

974,606. POST-CAP AND TIMBER-SEAT. OTTO R. SCHAADEN, San Francisco, Cal. Filed Aug. 10, 1909. Serial No. 512,272.



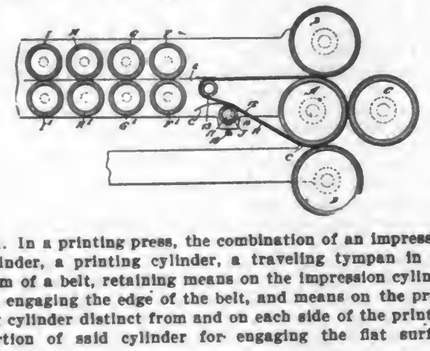
1. A post cap or timber seat comprising parts adapted to rest upon the top of the post, flanges formed integral therewith and extending upwardly at the edges of said parts to engage sides of the upper timbers, said flanges having free upper edges, parts formed integral therewith and extending downward midway between said flanges and at the ends of said first named parts, said depending parts having outward right angled extensions from their inner edges adapted to engage the sides of the top of the post, substantially as described.

2. A post cap, or timber seat consisting of two similar sections each comprising a central seat portion adapted to rest upon the top of the post, an outer flange portion bent at right angles to said seat portion adapted and free at its upper edge to engage sides of the upper timbers, an inner flange portion extending downwardly from said seat portion at its ends only, said inner flange having right angled extensions and said extensions being adapted to engage sides of the top of the post, substantially as described.

3. A post cap or timber seat comprising a main portion, a part of which is adapted to rest upon the top of the post, flanges below said main portion adapted to rest against the sides of a post, flanges extending upwardly from said main portion also adapted to rest against the sides of a post, and having free upper edges, and terminal ribs depending from said main portion in alinement with, but spaced from, each other to permit the post to pass therebetween, substantially as described.

4. A post cap or timber seat comprising a horizontal seating portion adapted to rest upon, and be supported by, a vertical post, upwardly extending flange portions adapted to engage the sides of a post above said seat portion, and having free upper edges, downwardly extending flanged portions adapted to rest against the sides of a post below said seat portion, and central depending ribs, the inner ends of said ribs being spaced from each other to permit a post to pass therebetween, substantially as described.

974,607. ROTARY WEB-PRESS. CHRISTIAN N. SMITH, Elgin, Ill., assignor, by mesne assignments, of two-thirds to Charles A. Armbruster and John A. Haben. Filed Oct. 16, 1908. Serial No. 458,008.



1. In a printing press, the combination of an impression cylinder, a printing cylinder, a traveling tympan in the form of a belt, retaining means on the impression cylinder for engaging the edge of the belt, and means on the printing cylinder distinct from and on each side of the printing portion of said cylinder for engaging the flat surface thereof.

2. In a printing press, the combination of an impression cylinder, a printing cylinder, a traveling tympan in the form of a belt, and bearers on the impression cylinder and the printing cylinder, the bearers on the printing cylinder being wider than those on the impression cylinder, so as to overlap the belt.

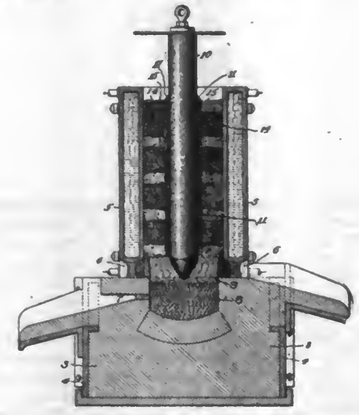
3. In a printing press, the combination of an impression cylinder having its central part recessed, a tympan for the same in the form of a belt, a plurality of printing cylinders arranged around the impression cylinder so as to be in contact with the belt, and rings on the several printing cylinders which overlap and bear upon the edges of the belt.

4. In a printing press, the combination of an impression cylinder, a printing cylinder, an endless tympan belt around the impression cylinder, and bearers on said cylinders, the bearers on the printing cylinder overlapping the belt.

5. In a printing press, the combination of an impression cylinder, a printing cylinder, an endless tympan belt around the impression cylinder, and coöperating means on the impression cylinder and the printing cylinder other than the impression and printing surfaces thereof for retaining the belt in proper position on the impression cylinder.

[Claims 6 to 9 not printed in the Gazette.]

974,608. PROCESS FOR SMELTING ORE. FREDERICK T. SNYDER, Oak Park, Ill., assignor to Electric Metals Company, Chicago, Ill., a Corporation of West Virginia. Filed July 1, 1907. Serial No. 381,585.



1. The process of making steel which consists in smelting iron ore with a minimum of carbon in an electric furnace having a refractory crucible surmounted by water-jacketed walls and electrodes surrounded by material adapted to flux the earthy constituents of the ore, whereby steel low in carbon may be produced and collected out of contact with carbon, and the walls of the furnace saved from corrosion in the absence of a carbon lining.

2. The process of making steel from iron ore in an electric furnace, which consists in feeding such ore mixed with sufficient carbon to reduce such ore and provide the required carbon contents of the steel, while preventing the absorption of additional carbon by shielding the electrodes with lime, said lime being adapted to flux the earthy constituents of the ore, and collecting the metal in a crucible free from carbon.

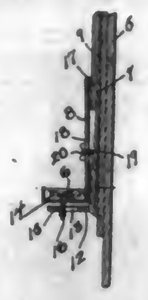
3. The process of operating an electric furnace having a carbon electrode, for the smelting of oxid ore, which consists in feeding such ore into the furnace and in protecting the electrode by surrounding said electrode with the oxid of a metal having a temperature of reduction substantially higher than the temperature of reduction of the metal being produced.

4. The process of smelting iron ore for the direct production of steel, which consists in forming a furnace charge of such ore, with a quantity of carbon only slightly in excess of the amount required for reduction, smelting such charge upon a slag bath by heat developed by an electric current passed through said slag, regulating the composition of the furnace charge so as to produce a slag which forms at a temperature suitable for the reduction of the iron and formation of steel, collecting the molten metal out of contact with carbon in a crucible of basic material, while confining said slag bath by fluid-cooled walls and thereby congealing the outlying portions of the slag to form an insulating lining for said fluid-cooled walls.

5. The process of electrically smelting iron ores which consists in passing an electric current between two or more electrodes dipping into a slag bath, feeding the ore mixed with reducing material to said slag bath, cooling the outlying portions of the slag bath to form a container or lining composed of solid slag, and collecting the molten material in a crucible of basic material underneath said slag.

[Claim 6 not printed in the Gazette.]

974,609. SCAFFOLD-BRACKET. JOHN C. SNYDER, Topeka, Kans. Filed Mar. 2, 1910. Serial No. 546,803.



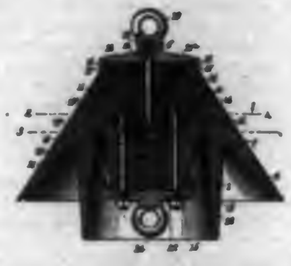
1. A scaffold bracket comprising a base plate adapted to extend beneath a course of shingles at its forward end, a rearwardly projecting jaw integrally formed with said plate, an upright at the rear end of the base plate, a superposed claw plate, the rear end of said plate being disposed in parallel relation to the upright end of the base plate, a claw formed at the forward end of said claw plate, and clamping connections between said plates.

2. A scaffold bracket comprising a base plate adapted to extend beneath a course of shingles at its forward end, an upright integrally formed at the rear end of the base plate, the horizontal portion of said plate being thickened adjacent to said upright, the forward end of said plate gradually decreasing in thickness, a claw integrally formed at the thickened portion of said plate, a superposed claw plate movably disposed upon said base plate, a claw formed upon the forward extremity of said claw plate, the rear portion of said claw plate being vertically extended in parallel relation to the upright at the end of said base plate, the horizontal portion of said claw plate and the upright of the base plate having slots formed therein, a bolt carried by each of said plates extending through said slots, and clamping nuts engaged upon the ends of said bolts.

3. A scaffold bracket comprising a base plate adapted to extend beneath a course of shingles at its forward end, an integral upright at the rear end of said base plate, said plate being thickened in advance of said upright, the forward end thereof being gradually reduced in thickness, a claw integrally formed with said plate and extending rearwardly and obliquely therefrom, the under surface of said plate being normally spaced from the face of the shingle, a superposed claw plate movably disposed upon said base plate, the rear end of said plate being vertically extended in spaced parallel relation to said upright, a claw formed at the forward end of said claw plate, each of said plates having slots formed therein, bolts carried by each of said plates extending through the other of said plates, and wing nuts engaged upon the outer threaded ends of said bolts.

4. A scaffold bracket comprising a base plate adapted to extend beneath a course of shingles at its forward end, an upright at the rear end of said base plate, said base plate being thickened adjacent to said upright, the forward end of said plate gradually decreasing in thickness, a claw integrally formed at the thickened portion of said plate and struck out from said upright, said claw being downwardly inclined, a superposed claw plate movably disposed upon said base plate, a claw formed upon the forward extremity of said claw plate and extending downwardly at an acute angle thereto, the rear portion of said claw plate being vertically extended in parallel relation to said upright, the upper end of said vertical extension being laterally and forwardly extended, the horizontal portion of said claw plate and the upright at the rear end of said base plate having slots formed therein, a bolt carried by each of said plates extending through said slots, and wing nuts engaged upon the ends of said bolts.

974,610. STRAIN-INSULATOR. LOUIS STEINBERGER, New York, N. Y. Filed June 17, 1910. Serial No. 567,418.



1. A strain insulator, comprising a body member provided with a recess and with an opening merging into said recess, a single metallic tension member extending through said opening and provided with an anchor disk located within said recess, a plurality of metallic tension members disposed upon opposite sides of said single metallic tension member, and means for anchoring said plurality of metallic tension members relatively to said body member.

2. A strain insulator, comprising a body member provided with a tubular portion integral therewith, and further provided with an annular recess bounding said tubular portion, a metallic ring disposed within said annular recess, metallic tension members extending through portions of said metallic ring and exerting tension upon said body member in one direction, and means for exerting tension upon said body member in the opposite direction.

3. A strain insulator, comprising a body member provided with a tubular portion integral therewith and further provided with an annular recess concentric to and forming a boundary for said tubular portion, a metallic ring mounted within said annular recess and provided with bolt holes, a plurality of bolts extending through said bolt holes for exerting tension upon said body member in one direction, and a single bolt provided with a portion engaging said body member for exerting tension thereupon in the opposite direction.

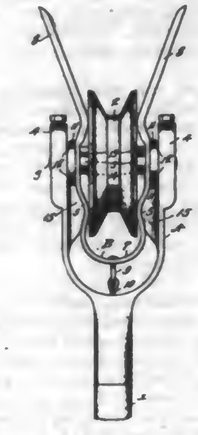
4. A strain insulator, comprising a body member provided with a tubular portion integral therewith and further provided with a recess extending toward but not reaching said tubular portion, a single bolt extending through said tubular portion and provided with an anchor disk disposed within said recess for exerting tension upon said body member in one direction, a filling disposed within said recess, a cap covering said filling, and tension members extending through said cap and provided with means for exerting tension upon said body member in a direction contrary to that exerted by said single bolt.

5. A strain insulator, comprising a body member provided with a tubular portion integral therewith, and further provided with an annular recess concentric to said tubular portion, an anchor ring and a washer fitted into said annular recess, bolts extending through portions of said anchor ring and also through portions of said body member, a metallic cap engaging said body member, means connected with said bolts for exerting pressure upon said cap, and a tension member connected with said body portion and extending in a direction opposite to that in which said bolts extend.

[Claims 6 to 13 not printed in the Gazette.]

974,611. TROLLEY-HARP. WILLIAM W. STEWART, Muskogee, Okla. Filed Mar. 16, 1910. Serial No. 549,628.

1. The combination of a trolley harp including spaced arms, an axle supported by the arms, a wheel on the axle, a replacing device pivotally mounted on the axle and consisting of resiliently connected arms, means between the arms of the device and harp whereby the resiliency of the device maintains the same yieldingly in inoperative position and automatically returns it to such position, means connected with the device for throwing the same to operative position, and fixed members on the harp arranged over the upper front portions of the wheel and spaced apart a fixed distance to permit the trolley wire to enter between them, said members serving as retainers for the wire and forming stops for the device when in operative position.



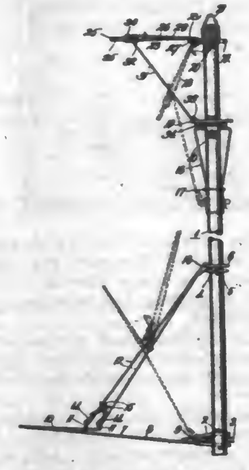
2. The combination of a trolley harp including spaced arms, an axle supported by the arms, a wheel on the axle, a replacing device pivotally mounted on the axle and consisting of resiliently connected arms disposed between the arms of the harp and wheel, means between the arms of the device and harp whereby the resiliency of the device maintains the same yieldingly in inoperative position and automatically returns it to such position, means connected with the device for throwing the same to operative position, and members on the harp arranged to form stops for the device when in operative position, said members being fixed on the harp and permanently arranged to extend inwardly over the top of the wheel from opposite sides to retain the wheel on the trolley wire.

3. The combination of a trolley harp including spaced arms, an axle supported by the arms, a wheel on the axle, a replacing device pivotally mounted on the axle and consisting of resiliently connected arms, means between the arms of the device and harp whereby the resiliency of the device maintains the same yieldingly in inoperative position and automatically returns it to such position, means connected with the device for throwing the same to operative position, members on the harp arranged to form stops for the device when in operative position, said members being integral with the harp and arranged to extend inwardly over the top of the wheel from opposite sides to retain the wheel on the trolley wire, and current conducting springs connected with and supported by the said arms of the harp and engaging opposite sides of the wheel.

4. The combination of a U-shaped trolley harp, a wheel mounted therein, a U-shaped replacing device mounted in the harp and consisting of a single piece forming the two side members connected by resilient portions and having their free extremities formed into outwardly diverging wire engaging fingers, cam surfaces on the harp engaging the members of the device for pressing the members toward each other when they are moved from normal position to automatically effect the return of the device when the latter is released, said surfaces having openings, an axle on the harp for the wheel, said axle extending through the said openings to support the replacing device, and means connected with the device for throwing the same to operative position.

5. The combination of a harp consisting of spaced arms, an axle on the arms, recesses on the inner faces of the arms, a wheel on the axle, a pair of connected members disposed each between one side of the wheel and adjacent arm of the harp, each member having a projection normally engaging in the recess of the adjacent arm, and means acting through the members for yieldingly holding the projections in the recesses, and a rope connected with the members to form an actuator therefor, and for guiding the movement of the trolley harp.

974,612. BROOM-HANGER. FRANK M. THORPE, Lamar, Mo. Filed Mar. 21, 1910. Serial No. 550,684.



1. A hanger for brooms and analogous articles, comprising a stem, a ring slidable thereon, means to limit downward movement of the ring, a rib arranged radially with respect and bearing a pivotal relation at its inner end to said stem and provided with an outwardly-opening radially-disposed loop, and a brace pivoted at its upper end to the slidable ring and at its lower end to the said loop.

2. A hanger for brooms and analogous articles, comprising a stem, a ring slidable thereon, means to limit downward movement of the ring, a ring surrounding the stem at its lower end and suitably anchored, a rib arranged radially with respect and bearing a pivotal relation at its inner end to said anchored ring and provided with an outwardly-opening radially-disposed loop, and a brace pivoted at its upper end to the slidable ring and at its lower end to said loop.

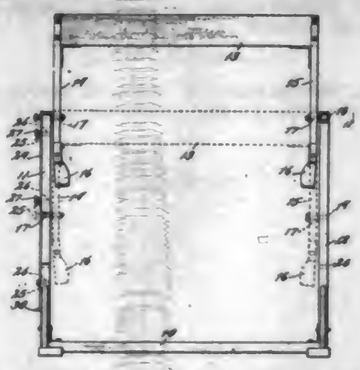
3. A hanger for brooms and analogous articles, comprising a stem, a ring slidable thereon, means to limit downward movement of the ring, ribs arranged radially with respect and bearing a pivotal relation at their inner ends to said stem, and provided with outwardly-opening radially-disposed loops, and braces pivoted at their upper ends to the slidable ring and at their lower ends to the said ribs, the lower end of each brace being looped to the adjacent brace.

4. A hanger for brooms and analogous articles comprising a stem, a ring slidable thereon, means to limit downward movement of the ring, ribs arranged radially with respect and bearing a pivotal relation at their inner ends to said stem and provided with outwardly-opening radially-disposed loops, and braces pivoted at their upper ends to the slidable ring and at their lower ends to the said ribs, each brace being formed with a laterally-extending loop overlapping the adjacent rib at one side and receiving the brace of the adjacent rib.

5. A hanger for brooms and analogous articles, comprising a stem, a spring catch, a ring fitting around the stem and adapted to be slid upward over and supported by the spring catch at a predetermined height, a rib arranged radially of and bearing a pivotal relation at its inner end to the upper end of the stem and provided at its outer end with a loop, and a brace pivotally connecting the said slidable ring and the outer portion of the said loop.

[Claims 6 to 11 not printed in the Gazette.]

974,613. HURDLE. WILLIAM S. TOTHILL, Chicago, Ill. Filed Nov. 23, 1908. Serial No. 464,133.



1. In a hurdle, the combination with a standard, and a single cross bar connected therewith and adapted to swing relatively thereto, of means adapted to hold said cross bar yieldingly in position and to return the same to position when displaced.

2. In a hurdle, the combination of a standard, and a single cross bar member pivotally mounted thereon and adapted to swing along an axis above the center of gravity of said cross bar member.

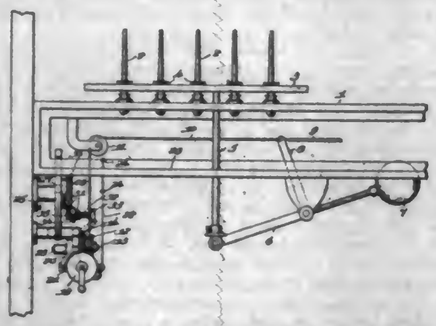
3. In a hurdle, the combination with a standard, and a single cross bar connected therewith and adapted to swing relatively thereto, of a weight connected with said cross bar and adapted to hold it yieldingly in position.

4. In a hurdle, the combination of a pair of standards and a cross bar member comprising a single cross-bar pivotally mounted between them on an axis intermediate the top and bottom of said cross bar member, the portion of said cross bar member on one side of said axis being heavier than the portion on the other side whereby the cross bar is held yieldingly in position.

5. In a hurdle, the combination of a pair of standards, a cross bar member,—comprising two arms and a single cross bar rigidly connected to each of said arms,—pivotally mounted between said standards on an axis intermediate the ends of said arms, and a weight on the free end of one of said arms adapted to hold said cross bar member yieldingly in position with the cross bar uppermost.

[Claims 6 to 12 not printed in the Gazette.]

974,614. TRAVERSE-MOTION FOR YARN-SPINNING APPARATUS. SAMUEL R. TRUESDALE, Lonsdale, R. I., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed July 27, 1910. Serial No. 574,070.



1. In apparatus of the class described provided with a builder-motion including a builder-arm, a cam to control the movement thereof during the building of the main winding of yarn on the bobbin, and a connected bunch-building cam having a toothed face, in combination, a toothed follower to coöperate with and be rotated by said bunch-building cam, and movable with the builder-arm, and also laterally relatively thereto, means rendered operative by such rotation of the follower to move it gradually across the face and out of engagement with its cam when the bunch is completed, and a second follower carried by the builder-arm, to coöperate with the first-named cam when the bunch-building cam and its follower are disengaged.

2. In apparatus of the class described, a builder-motion including a builder-arm, different actuating cams therefor, to effect respectively the winding of a bunch, and a main winding of yarn on the bobbin, a follower for each cam, carried by the builder-arm, means to rotate the follower of the bunch-building cam by direct engagement with such cam, and means rendered operative by rotation of said follower to move it axially of the coöperating cam and out of engagement therewith to terminate the winding of the bunch.

3. In apparatus of the class described, a builder-motion including a builder-arm, different actuating cams therefor, to effect respectively the winding of a bunch, and a main winding of yarn on the bobbin, a follower for each cam, carried by the builder-arm, means to rotate the follower of the bunch-building cam by direct engagement with such cam, and means rendered operative by rotation of said follower to move it axially of the coöperating cam and out of engagement therewith to terminate the winding of the bunch, combined with adjustable means to determine the extent of axial movement of said rotated follower to thereby regulate the volume of the bunch.

4. In apparatus of the class described, a builder-motion including a builder-arm, different actuating cams therefor, to effect respectively the winding of a bunch, and a main winding of yarn on the bobbin, a follower for each cam, carried by the builder-arm, means to rotate the follower of the bunch-building cam by direct engagement with such cam, and means rendered operative by rotation of said follower to move it axially of the coöperating cam and out of engagement therewith to terminate the winding of the bunch, combined with a stop collar longitudinally adjustable on said rotatable follower, to determine the axial position of the latter with respect to its actuating cam when starting the bunch winding, and means to retain said collar in adjusted position.

5. In apparatus of the class described, a builder-motion including a builder-arm, two co-axial and similar actuating cams therefor but of different throw, to effect the winding upon the bobbin of a bunch with a short traverse, and a main winding with a long traverse, respectively, a follower for each cam, carried by the builder-arm, one of said followers being toothed externally and spirally grooved internally, a threaded stud on which said follower is moved longitudinally when it is rotated, and teeth on the bunch-winding cam to engage and rotate the toothed follower, rotation of the latter causing movement thereof across the face of its cam and final disengagement therefrom to terminate the bunch winding.

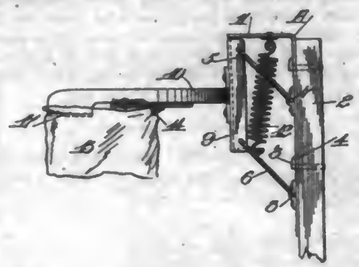
[Claims 6 to 9 not printed in the Gazette.]

974,615. BAG-HOLDER. FREDERICK C. VONDERAHE, Jr., Oregon City, Oreg. Filed Feb. 23, 1910. Serial No. 545,459.

1. A bag holder having normally expanded resilient means for supporting a bag, and means for supporting this holder at a normally elevated position and allowing the holder gradually to sink as the bag is filled, said means including upper and lower swinging members to each of which the bag supporting means is connected.

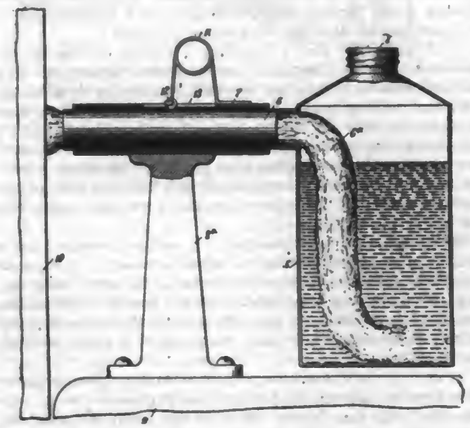
2. The combination of a pair of suitably supported upper and lower hinge members, a plate hingedly connected to each of said hinge members, a spring acting to move said plate normally upwardly, and bag holding means carried by the plate.

3. The combination of a bracket, a pair of upper and lower clevis hinges hinged to the bracket, a plate carried by the hinges, a spring carried by the bracket and acting



to move the plate and clevises normally upward, and bag holding means on the plate.

974,616. LUBRICATOR FOR ELEVATOR-GUIDES. CHARLES VALENTYNE WARREN, Cambridge, Mass. Filed Dec. 23, 1909. Serial No. 534,608.



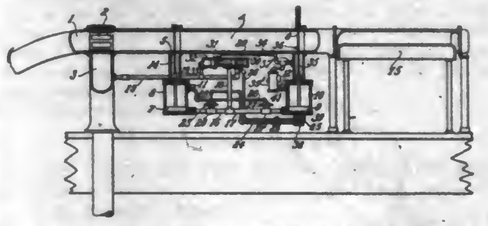
1. A lubricator for elevator guides, comprising a lubricant cup having a wick tube extending therefrom, a tubular guide carried by the elevator car, in which the wick tube is slidably arranged, an eye attached to the wick tube and extending through a slot formed in the guide tube, and a spring having one end attached to the guide tube and its opposite end engaged in the eye.

2. A lubricator for elevator guides, comprising a lubricant cup having a wick tube, the wick tube discharging laterally from the cup, a wick extending through the tube from the cup and feeding the lubricant from the cup by capillary action, a guide carried by the elevator car, on which the wick tube is slidably arranged to move to and from the elevator guide, and a spring arranged to hold the outer end of the tube operatively to the elevator guide, with the cup and guide located when in operative position to permit of the sliding movement of the tube in either direction.

3. A lubricator for elevator guides, comprising a wick tube, a guide carried by the elevator car, on which the wick tube is slidably supported to move to and from the elevator guide, a lubricant cup supported on the wick tube and from which the wick tube laterally extends, and a spring to hold the outer end of the tube operatively to the elevator guide, having one end connected to the guide and the other end engaged with the tube.

4. A lubricator for elevator guides, comprising a lubricant cup having a wick tube extending therefrom, a tubular guide carried by the elevator car, in which the wick tube is slidably arranged, and having a longitudinal slot, and a spring retaining the outer end of the tube operatively to the elevator guide, having one end fixed relatively to the guide and the other operatively engaged with the tube through the said slot.

974,617. RECEIVING APPARATUS FOR PNEUMATIC-DESPATCH SYSTEMS. HAROLD D. WATERHOUSE, Quincy, Mass., assignor, by mesne assignments, to American Pneumatic Service Company, Boston, Mass., a Corporation of Delaware. Filed Dec. 2, 1907. Serial No. 404,805.



1. A pneumatic despatch apparatus, having, in combination, a transmission tube, a gate therefor, mechanism actuated by the air compressed by the carrier for causing the opening of the gate, and a timing mechanism for causing the gate to be closed after a predetermined interval, substantially as described.

2. A pneumatic despatch apparatus, having, in combination, a transmission tube, a gate therefor, means for supplying air for operating the gate mechanism actuated by the air compressed by the carrier for controlling said air supply to operate the gate in one direction, and a timing mechanism for causing the gate to be operated in the other direction after a predetermined interval, substantially as described.

3. A pneumatic despatch apparatus, having, in combination, a transmission tube, a gate therefor, a cylinder, a piston therein connected with the gate, an air supplying means, a valve controlling communication between the cylinder and air supply, means for operating the valve in one direction by the carrier, and a timing mechanism for causing the valve to be operated in the opposite direction after a predetermined interval, substantially as described.

4. A pneumatic despatch apparatus, having, in combination, a transmission tube, a gate therefor, a cylinder, a piston therein connected with the gate, an air supplying means, means operated by air compressed by the carrier for controlling said air supply to open the gate, and a timing mechanism for causing the air supply to close the gate after a predetermined interval, substantially as described.

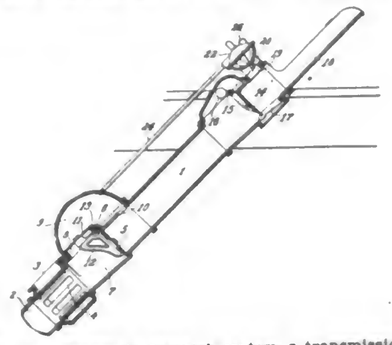
5. A pneumatic despatch apparatus, having, in combination, a transmission tube, a gate therefor, a cylinder, a piston therein connected with the gate, means controlled by the carrier for supplying air to the cylinder to operate the gate in one direction, and a timing mechanism rendered active by the operation of the gate for causing the gate to be returned after a predetermined interval, substantially as described.

[Claims 6 to 17 not printed in the Gazette.]

974,618. SENDING MECHANISM FOR PNEUMATIC-DESPATCH APPARATUS. HAROLD D. WATERHOUSE, Quincy, Mass., assignor, by mesne assignments, to American Pneumatic Service Company, Boston, Mass., a Corporation of Delaware. Filed Dec. 2, 1907. Serial No. 404,806.

1. In a pneumatic despatch system, a transmission tube, a sending chamber, inner and outer gates for closing the sending chamber, means for closing the outer gate after a carrier has entered the sending chamber, means for counterbalancing the pressures on opposite sides of the inner gate, and a supply pipe having a communication with the transmission tube unaffected by the opening and closing of the inner gate, substantially as described.

2. In a pneumatic despatch system, a transmission tube, a sending chamber through which the carrier slides, inner and outer gates for closing the sending chamber mounted to open under the pressure of an inserted carrier, means for closing the gates when the carrier has passed, means for counterbalancing the pressures on opposite sides of the inner valve, and a supply pipe having a communication with the transmission tube unaffected by the opening and closing of the inner gate, substantially as described.



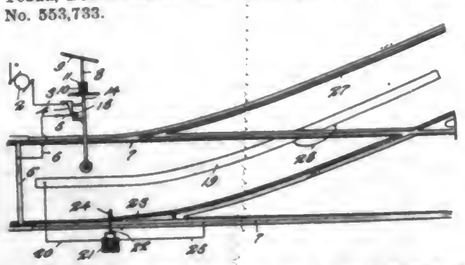
3. In a pneumatic despatch system, a transmission tube, an inclined sending chamber through which the carriers slide, inner and outer gates mounted to open under the pressure of an inserted carrier, means for closing the gates after a carrier has passed, means for counterbalancing the pressures on opposite sides of the inner gate, and a carrier-receiving chute in line with the sending chamber, substantially as described.

4. In a pneumatic despatch system, a transmission tube, a sending chamber through which the carriers pass to the transmission tube, inner and outer gates mounted to open under the pressure of an inserted carrier, means for closing the gates after a carrier has passed, means for counterbalancing the pressures on opposite sides of the inner gate, and means for controlling the entrance of successive carriers into the sending chamber, substantially as described.

5. In a pneumatic despatch system, a transmission tube, a sending chamber through which the carriers pass to the transmission tube, inner and outer gates mounted to open under the pressure of an inserted carrier, means for closing the gates after a carrier has passed, means for counterbalancing the pressures on opposite sides of the inner gate, and means controlled by the carrier for locking the outer gate, substantially as described.

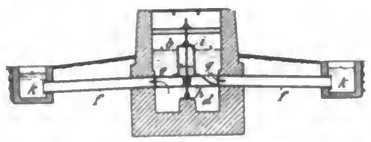
[Claims 6 to 11 not printed in the Gazette.]

974,619. AUTOMATIC TRACTION-SWITCH. JOHN L. YODER, Bellefontaine, Ohio. Filed Apr. 6, 1910. Serial No. 553,733.



In an automatic car switch of the character described, a track switch, a solenoid having its core connected with the switch, a contact plate connected with the solenoid, a connection between the solenoid and the main track, a car having its motor connected with an offset contact, a pivoted switch member for said contact, a connection between the switch and the car, a spring pressed rod provided with a contact roller, said rod having its lower portion insulated from its upper portion and the said lower portion being provided with a pair of projections, and the lower of said projections being insulated from the rod and normally forcing the switch against the contact point, and the opposite offset adapted to engage the contact when the rod is depressed and the switch swung away from and supported by the insulated offset of the rod.

974,620. HYDRAULIC RAM. ADOLF ABRAHAM, Charlottenburg, Germany. Filed Aug. 4, 1909. Serial No. 511,207.



1. A hydraulic ram comprising a casing having chambers therein, pipes connecting with said chambers, a series of pipes communicating with said casing, and a rotatable member in said casing between the chambers and having ports therein communicating with the interior of the casing and with the said series of pipes.

2. A hydraulic ram comprising a casing having an upper and a lower chamber therein, pipes connecting with said chambers, a rotating member separating said chambers and having ports therein, and a series of pipes communicating with the casing, some of said ports connecting the upper chamber with said pipes, and others of said ports connecting said pipes with the lower chamber, whereby the rotation of said members will bring each pipe of the series alternately in communication with the upper and lower chamber.

3. A hydraulic ram comprising a casing having an upper and a lower chamber therein, pipes connecting with said chambers a series of pipes communicating with said casing, a rotating member having ports therein communicating with the interior of the casing and with the said pipes, said member being rotated by the passage of water through the chamber.

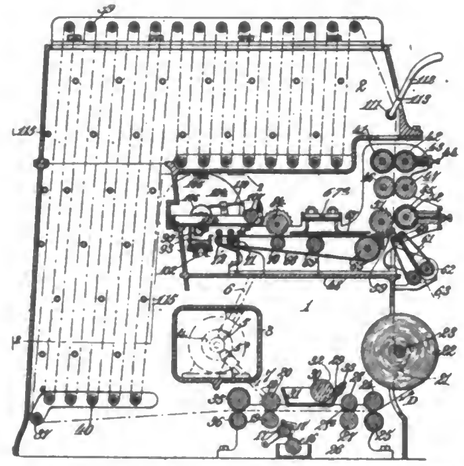
4. A hydraulic ram comprising a casing having chambers therein, means for feeding the driving water to one chamber, and the driven water to the other chamber, an outlet pipe leading from said casing, and means actuated by the driving water for alternately connecting and disconnecting said pipe with said chambers, whereby the suction created by the passage of said driving water through the pipe will draw into said pipe the driven water.

5. A hydraulic ram comprising a casing having chambers therein, means for feeding the driving water to one chamber, and the driven water to the other chamber, a series of pipes leading from said casing, means actuated by the driving water for alternately connecting and disconnecting said pipes with said chambers, whereby the suction created by the passage of the driving water through said pipes will draw the driven water into said pipes.

[Claims 6 and 7 not printed in the Gazette.]

974,621. ENVELOP-MACHINE. ALBERT J. ACKERMAN, New York, N. Y., assignor to Charles de Lukacsevics, New York, N. Y. Filed Dec. 7, 1908. Serial No. 466,321.

1. In an envelop machine, the combination of means for feeding a web of paper to the machine, a device for applying a transverse line of gum to those portions of the web which are subsequently to constitute the sealing flaps of the envelops, a drying chamber arranged to receive the web after the said application of gum thereto, creasing devices operative on the web to form longitudinal and transverse creases which define the face or body of the envelop, knives operative upon the web on lines wholly within the marginal edges thereof for severing the blanks from the web whereby the remainder of the web is in the form of a continuous strip, a stripper for removing the severed blanks from the web, and a conveyer for drawing the remaining portion of the web from the machine in the form of a continuous strip.



2. In an envelop machine, the combination of means for feeding a web of paper to the machine, a device for applying at appropriate intervals transverse lines of gum to those portions of the web which are subsequently to constitute the sealing flaps of the envelops, a printing device for making imprints at appropriate intervals on the web at the opposite side from that which receives the gum, a drying chamber arranged to receive the web after the gum and imprints have been applied thereto, creasing devices operative on the web to form longitudinal and transverse creases which define the body of the envelop, knives operative upon the web on lines wholly within the marginal edges thereof for severing the blanks from the web whereby the remainder of the web is in the form of a continuous strip, a stripper for removing the severed blanks from the web, and means for drawing the continuous remaining portion of the web from the machine.

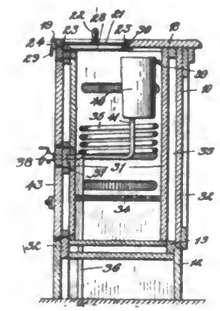
3. In an envelop machine, the combination of means for feeding a web of paper to the machine, a gumming device for applying a line of gum to the web in a direction transversely thereof and to those portions of the web which are subsequently to constitute the sealing flaps of the envelops, creasing devices having rectangular dies cooperating with the web to form rectangular indentations conforming to the outline of the body of the envelop which indentations are located in the previously gummed side of the web, and means for severing the blanks from the web, on lines wholly within the marginal edges of the web whereby the remainder of the web is in the form of a continuous strip, a stripper for removing the severed blanks from the web, and means for drawing the continuous remainder of the web from the machine.

4. In an envelop machine, the combination of means for feeding a web of paper thereto, a device for applying transversely extending lines of gum to those portions of the web which are to constitute the sealing flaps of the envelops, creasing devices having coacting male and female dies coöperative with the web to form rectangular indentations conforming to the outline of the body of the envelop in that side of the web to which the said lines of gum have been applied, knives for severing the blanks from the web on lines wholly within the marginal edges of the web whereby the remainder of the web is in the form of a continuous strip, a stripper for removing the severed blanks from the web, means for drawing the continuous remainder of the web from the machine, folding devices for turning inwardly the end flaps, a gumming device for applying gum to the inturned end flaps and of the envelop, and means for folding and pressing the bottom flap of the envelop upon the inturned and gummed end flaps.

5. In an envelop machine, the combination of means for feeding a continuous web of paper to the machine, a gumming device for applying transversely extending lines of gum to those portions of the web which are subsequently to constitute the sealing flaps of the envelops, creasing devices for forming rectangular indentations at that side of the web to which the said gum has been applied, said indentations having an outline corresponding to the body of the envelop, cutting devices for severing the blanks from the web on the lines contained wholly within the lateral edges of the web, a stripper for removing the severed blanks from the web and directing the continuous remainder of the web from the path of the blanks, a folding device for turning inwardly the end flaps of the blanks, a device for applying gum to the inturned end flaps, a device for turning the bottom flap upon the gummed end flaps, and means for pressing the bottom flap to such gummed end flaps.

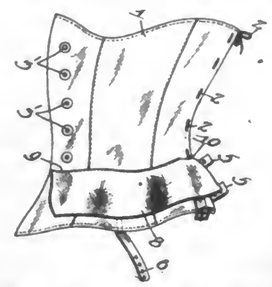
[Claims 6 to 14 not printed in the Gazette.]

974,622. COUNTER FOR FOODS AND BEVERAGES. WILLIAM AMENDA, Oklahoma, Okla. Filed Sept. 27, 1909. Serial No. 519,910.



A counter cabinet of the character described, embodying an intermediate cooling section, a series of beverage holding tanks removably held within said cooling section against one wall thereof, separate discharge pipes leading downwardly from said tanks and horizontally across said cooling section and through its opposite wall, separate discharge faucets for said discharge pipes, and a water pipe adapted for connection to a service pipe at one end and having a discharge faucet at its opposite end adjacent said beverage faucets, and embodying a series of horizontal coils superposed one upon the other and surrounding and overlying the horizontal portions of said tank discharge pipes.

974,623. LEGGING. THOMAS W. AUSTIN, Omaha, Nebr., assignor to American Manufacturing Co., an Association. Filed Feb. 8, 1908. Serial No. 414,876.

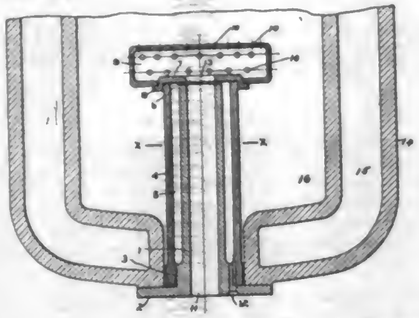


1. A legging of the kind described, comprising a body part open at one side thereof, an apron secured to the inner side of said body part, adapted to be positioned within the footwear, means for securing together the

edges of said body part at the open side thereof above said apron, and buckling means for securing said edges together below the point of attachment of said apron.

2. A legging of the kind described, comprising a body part open at one side thereof, an apron secured at its upper end to the inner side of said body part proximate to the lower edge thereof, adapted to be positioned with its lower end within the footwear, lacing means for securing together the edges of said body part at the open side thereof above said apron, and buckling means for securing together said edges below the point of attachment of said apron.

974,624. BURNER FOR COMBUSTION UNDER HIGH PRESSURE. CHARLES A. BACKSTROM, Philadelphia, Pa., assignor to International Power Generator Company, a Corporation of Delaware. Filed June 21, 1909, Serial No. 503,417. Renewed May 21, 1910. Serial No. 562,770.



1. A burner located in a heat zone, said burner having a vaporizing and superheating chamber for the fuel and a superheating chamber for the air and provided with a chamber receiving the united fuel and air and in which the combustion takes place and is fully completed, said chamber being provided with apertures communicating with the heat zone.

2. A burner located in a high pressure heat zone, said burner having an outer vaporizing and superheating chamber for the fuel and an inner superheating chamber for the air and provided with a chamber receiving the united fuel and air and in which the combustion takes place and is fully completed, said chamber being provided with apertures communicating with the high pressure heat zone.

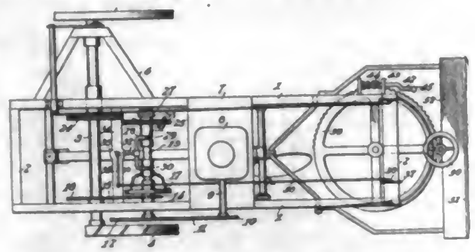
3. A burner located in a high pressure heat zone, said burner having an outer vaporizing and superheating chamber surrounding the air conduit, and provided with a chamber in which the combustion takes place and is fully completed, said last named chamber having apertures communicating with the high pressure heat zone.

4. A burner located in a high pressure heat zone, of an apparatus for utilizing the products of combustion, said burner having a vaporizing and superheating chamber surrounding the air inlet, and provided with a chamber in which combustion takes place and is completed, said chamber having apertures communicating with the high pressure heat zone of the apparatus.

5. The combination in a burner for combustion at a pressure higher than atmospheric, of an inner sleeve forming an air conduit, an outer sleeve forming with the inner sleeve a vaporizing and superheating chamber for the fuel, a cap for the outer ends of said sleeves and a combustion chamber seated on said cap and provided with apertures.

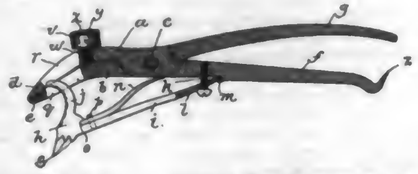
974,625. DRIVING AND STEERING MEANS. ANDREW K. BALTEZOR, Wentsville, Mo. Original application filed Apr. 13, 1909, Serial No. 489,585. Divided and this application filed Aug. 10, 1909. Serial No. 512,176.

1. In a motor plow structure, the combination with a supporting frame, of a horizontal steering wheel carrier rotatably mounted thereon on a vertical axis, means for rotating said carrier, a steering wheel rotatably mounted on the carrier on a vertical axis eccentrically placed with relation to the carrier, and means for independently rotating the steering wheel on its axis.



2. In a motor plow structure, the combination with a supporting frame, of a steering wheel carrier rotatably mounted thereon and having worm teeth, a worm engaging the teeth for rotating the carrier, a steering wheel having a stem journaled on the carrier at one side of its axis of rotation, and means for rotating the stem.

974,626. LASTING-PINCERS. GEORGE O. BARBOUR, Rockland, Mass., assignor to Frank W. Whitcher Co., Boston, Mass., a Corporation of Maine. Filed Apr. 17, 1909. Serial No. 490,523.



1. A lasting tool comprising pivoted members having gripping jaws transversely slotted, a fulcrum foot loosely connected with one of said members and having a guide arm movable in the slots of the jaws.

2. A lasting tool comprising gripping jaws, a serrated fulcrum foot attached thereto beneath and in rear of the ends of said jaws, and movable toward and from the jaws, a spring tending to hold said foot away from the jaws, and an adjustable stop limiting the maximum outward movement of the foot.

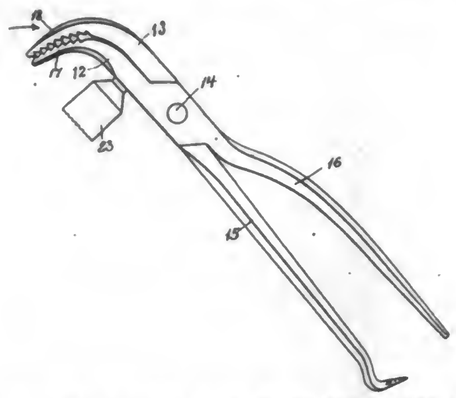
3. A lasting tool comprising pivotally connected members having gripping jaws, a shoulder on one of said members, a fulcrum foot having an arm lying longitudinally of the tool and abutting at its end on said shoulder, a screw passing through said arm into the adjacent member, loosely securing the arm and foot thereto, and a spring reacting between the arm and member tending to hold the foot as far away from the jaws as permitted by the position of the screw.

4. A lasting tool comprising pivotally connected members having gripping jaws, a shoulder on one of said members, a fulcrum foot having an arm lying longitudinally of the tool and abutting at its end on said shoulder, a screw passing through said arm into the adjacent member, loosely securing the arm and foot thereto, and a leaf spring secured at one end to the arm and bearing at its other end against the said member, tending to hold the foot as far away from the jaws as permitted by the adjustment of the screw.

5. A lasting tool comprising pivoted members having gripping jaws transversely slotted, a fulcrum foot having an arm extending lengthwise of the tool and connected to one of said members, and having a guiding arm projecting into the slots of said jaws, and a spring arranged to hold the foot away from the jaws.

[Claims 6 to 9 not printed in the Gazette.]

974,627. LASTING-PINCERS. GEORGE O. BARBOUR, Rockland, Mass., assignor, by direct and mesne assignments, to Frank W. Whitcher Co., Boston, Mass., a Corporation of Maine. Filed Oct. 4, 1909. Serial No. 520,965.

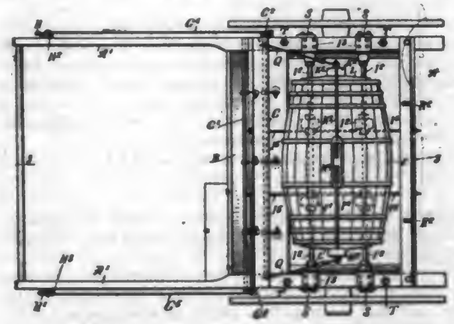


1. A pair of pincers having opposed serrated jaws, the points of the teeth of each jaw being opposite the points of the teeth of the other jaw and when the jaws are closed the points of a plurality of the teeth at the outer end portions of each jaw normally engaging the points of the opposing teeth of the other jaw, and the points of a plurality of the teeth at the inner end portions of the jaws being spaced apart from each other.

2. A pair of pincers having opposed serrated jaws, the front face of each tooth having a relatively long slope and the rear face of each tooth being relatively short and substantially at right angles with the face of the jaw and the short face of each tooth of the upper jaw being substantially in alinement with the short face of the opposing tooth of the lower jaw.

3. A pair of pincers having opposed serrated jaws, the points of the teeth of each jaw being opposite the points of the teeth of the other jaw and when the jaws are closed the points of a plurality of the teeth at the outer end portions of each jaw normally engaging the points of the opposing teeth of the other jaw, and the points of a plurality of the teeth at the inner end portions of the jaws being spaced apart from each other, said jaws being relatively thin and resilient and adapted to bend under pressure upon the handles after the normally contacting front teeth are in engagement with each other to also bring the normally separated rear teeth into engagement with each other.

974,628. SPRINKLER. JOHN ROBERTSON BARNES, New York, N. Y. Filed Aug. 21, 1909. Serial No. 514,031.



1. A sprinkler, comprising a wheeled vehicle, a tank mounted on the said vehicle and having valved sprinkling heads, a barrel support within the tank having wheels on which the barrel is adapted to rest, rods on which the wheels are journaled, and brackets attached to the vehicle frame and on which the ends of the rods are supported, a barrel filled with the liquid to be sprinkled, and a frame in which the barrel is mounted to turn.

2. A sprinkler, comprising a wheeled vehicle, a tank mounted on the said vehicle, a barrel support within the tank, a barrel containing the liquid to be sprinkled, a barrel frame having side members, supporting members for engaging the heads of the barrel and mounted to turn on the said side members of the frame, and means for connecting the barrel frame with the vehicle.

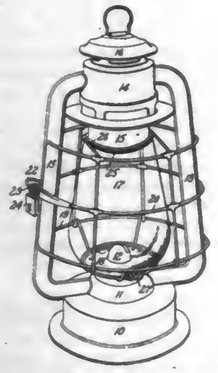
3. A sprinkler, comprising a wheeled vehicle, a tank mounted on the said vehicle and having valved sprinkling heads, a barrel support within the tank, a barrel filled with the liquid to be sprinkled, a barrel frame, supporting members engaging the barrel and mounted to turn on the barrel frame, stays connecting the said vehicle with the said barrel frame, and means for clamping the supporting members in adjusted position on the barrel frame.

4. A sprinkler, comprising a wheeled vehicle, a tank mounted on the said vehicle and open at the top, and a support within the tank for supporting a barrel to be emptied into the tank, the said support having wheels for the barrel to rest on, a barrel frame having connected side members, and supporting members for engaging the heads of the barrel and mounted to turn on the said side members of the frame.

5. A sprinkler provided with a wheeled vehicle having a tank open at the top, a barrel support within the said tank, a barrel for filling the tank with a liquid, and a barrel frame for moving the barrel into position in the tank, the said frame having side bars, screw rods connecting the side bars with each other, and supporting arms for engaging the heads of the barrel and mounted to turn on the said side bars.

[Claims 6 to 11 not printed in the Gazette.]

974,629. LANTERN-GUARD. CHARLES BERGENER, Rochester, N. Y., assignor to C. T. Ham Manufacturing Company, Rochester, N. Y. Filed Oct. 13, 1908. Serial No. 457,575.



1. The combination with a lantern frame and globe-holding means vertically movable therein, of a guard which is attached to said frame and which, when closed, forms a rigid inclosure for the globe and prevents the removal of the globe in a lateral direction, said guard having a movable portion which is opened for removing the globe and which, when closed, locks said globe-holding means against upward movement, substantially as set forth.

2. The combination with a lantern frame and globe holding means vertically movable therein, of a guard having a portion which is pivoted to said frame to swing laterally toward and from the globe and which is provided with a locking device which engages the globe-holding

means when the guard is closed and prevents said means from being raised, substantially as set forth.

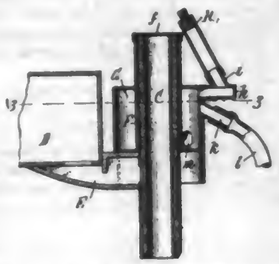
3. The combination with a lantern frame and globe-holding means vertically movable therein, of a guard which is attached to said frame and which, when closed, forms a rigid inclosure for the globe and prevents the removal of the globe in a lateral direction, said guard having a movable portion which is pivoted to swing laterally toward and from the globe and which is provided with a locking device which engages the globe-holding means when the guard is closed and prevents said means from being raised, substantially as set forth.

4. The combination with a lantern frame having a vertically movable chimney by which the globe is held in position, of a movable guard which is attached to said frame and which, when closed, engages said chimney and prevents the latter from being raised, substantially as set forth.

5. The combination with a lantern frame having a vertically movable chimney by which the globe is held in position and which is provided with a locking shoulder, of a movable guard attached to said frame and provided with a locking stop which engages said shoulder when the guard is closed, substantially as set forth.

[Claims 6 to 11 not printed in the Gazette.]

974,630. GAS-BURNER ATTACHMENT FOR OIL-BURNING LAMPS. CHARLES BERGENER, Rochester, N. Y., assignor to C. T. Ham Manufacturing Company, Rochester, N. Y. Filed Mar. 30, 1909. Serial No. 486,809.



1. A holder for a gas burner adapted to be applied to the wick tube of an oil burning lamp, said holder comprising a sleeve which fits the wick tube, a gas chamber arranged outside of said sleeve and having its outlet arranged below the top of said sleeve, and a gas burner communicating with said outlet, substantially as set forth.

2. A holder for a gas burner adapted to be applied to the wick tube of an oil burning lamp, said holder comprising a sleeve which fits the wick tube and is provided at its upper end with a cover which closes the upper end of said tube and covers the wick therein, a gas chamber outside of said sleeve, and a gas burner mounted on said chamber, substantially as set forth.

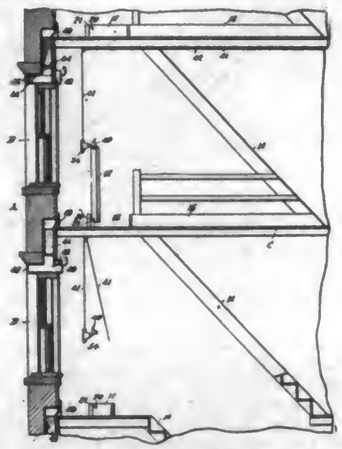
3. A holder for a gas burner adapted to be applied to the wick tube of an oil burning lamp, said holder comprising a sleeve which fits the wick tube, a gas chamber having an inlet and an outlet for the gas, said inlet arranged at a distance above the bottom of said chamber, whereby the lower portion of the chamber forms a reservoir for entrained water, and a burner connected with said outlet, substantially as set forth.

4. A holder for a gas burner adapted to be applied to the wick tube of an oil burning lamp, said holder comprising an inner sleeve which fits the wick tube and a gas chamber which surrounds said sleeve and has an inlet and an outlet for the gas, and a burner connected with said outlet, substantially as set forth.

5. A holder for a gas burner adapted to be applied to the wick tube of an oil burning lamp, said holder comprising a sleeve which fits the wick tube, and a gas chamber having an inlet and an outlet for the gas and having its outlet arranged below the top of said sleeve, and a gas burner communicating with said outlet and arranged outside of said sleeve and inclining upwardly toward the same, substantially as set forth.

[Claim 6 not printed in the Gazette.]

974,631. WATER-DRAIN FOR BUILDINGS. FREDERICK S. BIEBER, Poughkeepsie, N. Y. Filed Oct. 2, 1909. Serial No. 520,614.



1. The combination with a building having structural floor openings, of bulkheads surrounding said openings and having gaps, gates for closing said gaps and adapted to be held in normally inoperative positions, a line controlling all of said gates in each story, whereby said gates can be simultaneously released in each story, and thermostatic means for controlling said line, said bulk heads being of less height than the distances from the floors to the ceilings of the building.

2. The combination with a building having structural floor openings, of bulkheads surrounding said openings, for preventing the flow of water from story to story through the said openings, and water drains for conducting water from each of said floors to the outside of the building.

3. The combination with a building having structural floor openings, of bulkheads surrounding said openings and having gaps, gates for closing said gaps and adapted to be held normally inoperative, and water drains for permitting the flow of water from each of said floors to the outside of the building.

4. The combination with a building having structural floor openings, of bulkheads surrounding said openings to prevent the flow therethrough of water, and water drains comprising short tubes set in the wall of the building and leading to the outside thereof, said tubes being provided with suitable openings at the floor level of the building structure.

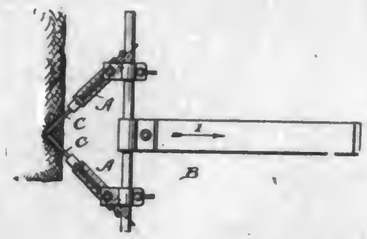
5. The combination with a building having structural floor openings, of bulkheads surrounding said openings to prevent the flow therethrough of water, a water drain comprising a tube having an opening therein adapted to be located at the floor line of one story and having a delivery extension leading outside the said building for the drainage of water from the said floor.

[Claims 6 to 8 not printed in the Gazette.]

974,632. PROCESS OF UNDERCUTTING IN MINES. FRANK BILLINGS, Cleveland, Ohio. Filed Feb. 14, 1910. Serial No. 543,680.

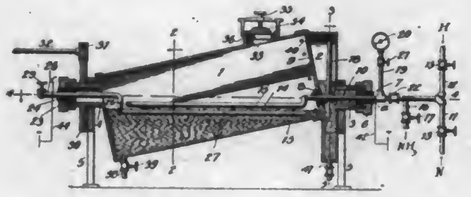
1. The herein described method of cutting a groove in the working face in a mine, which consists in drilling holes into said working face and in then withdrawing the drill bit in a direction at an angle to its longitudinal axis.

2. The herein described process of cutting a groove in the working face in a mine, which consists in drilling two holes at an angle to each other and in directions such that their longitudinal axes intersect, and in then withdrawing both drill bits simultaneously and in a direction at an angle to the longitudinal axes of both.



3. The herein described process of cutting a groove in the working face in a mine, which consists in removing a part of the mineral and then in drilling a hole at an angle to the working face and in the same horizontal plane with the material removed, and in then removing the drill bit by swinging it horizontally toward the recess formed by the said removal of such material.

974,633. PROCESS OF MAKING AMMONIA, ALKYL AMMONIA, OR AMMONIA BASES. HENRY SPENCER BLACKMORE, Mount Vernon, N. Y., assignor to Robert E. Robinson and Daniel C. Spruance, trustees, New York, N. Y. Filed Nov. 23, 1908. Serial No. 463,980.



1. Process of making ammonia, alkyl-ammonia, or ammonia bases, which comprises supplying energy to non-oxidizing substances containing nitrogen and hydrogen, in a yielding state, causing constituents thereof to unite while in the presence of a substance capable of uniting with ammoniacal substances.

2. Process of making ammonia, alkyl-ammonia, or ammonia bases, which comprises supplying energy to non-oxidizing substances containing nitrogen and hydrogen, in a yielding state, causing constituents thereof to unite while in the presence of a substance capable of uniting with ammoniacal substances, and augmenting the union by the action of a contact substance.

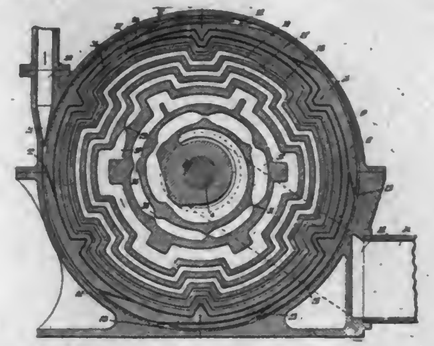
3. Process of making ammonia, alkyl-ammonia, or ammonia bases, which comprises supplying energy to non-oxidizing substances containing nitrogen and hydrogen, in a yielding state, causing constituents thereof to unite while under pressure and in the presence of a substance capable of uniting with ammoniacal substances.

4. Process of making ammonia, alkyl-ammonia, or ammonia bases, which comprises supplying energy to non-oxidizing substances containing nitrogen and hydrogen, in a yielding state, causing constituents thereof to unite while under pressure and in the presence of a substance capable of uniting with ammoniacal substances, and augmenting the union by the action of a contact substance.

5. Process of making ammonia, which comprises agitating non-oxidizing substances capable of yielding nitrogen and hydrogen causing constituents thereof to unite, while in the presence of a substance capable of uniting with ammonia.

[Claims 6 to 48 not printed in the Gazette.]

974,634. ROTARY TURBINE-ENGINE. JOSEPH BLAEKER, New York, N. Y. Filed Dec. 30, 1909. Serial No. 535,578.



1. In a device of the class described, the combination with a casing, of a rotor in said casing, said rotor having a passage extending spirally in successive winds from the periphery to the center thereof, a motive fluid inlet for said rotor adjacent the periphery thereof, and an outlet for said rotor adjacent the center thereof.

2. In a device of the class described, the combination with a casing, of a rotor rotatably in said casing, said rotor having a passage extending from adjacent the periphery to adjacent the center thereof in a gradually decreasing spiral manner, and said passage having abutting walls to form impact surfaces, a motive fluid inlet for said rotor adjacent the periphery thereof, and an outlet for said rotor adjacent the center thereof.

3. In a device of the class described, the combination with a casing, of a rotor, said rotor having a spiral passage extending from the periphery to adjacent the center thereof, said passage having a plurality of constricted portions for forming impact abutments therein, a motive fluid inlet for said rotor adjacent the periphery thereof, and an outlet for said rotor adjacent the center thereof.

4. In a device of the class described, the combination with a casing, of a rotor rotatably connected to said casing, said rotor having a plurality of spiral passages, forming continuations of each other, each successive passage being larger than the next preceding passage, a motive fluid inlet for said rotor adjacent the periphery thereof, and an outlet for said rotor adjacent the center thereof.

5. In a device of the class described, the combination with a support, of a rotor rotatably connected to said support, said rotor having a plurality of passages therein forming continuations of each other, each successive passage being twice the cross-sectional area of the preceding passage.

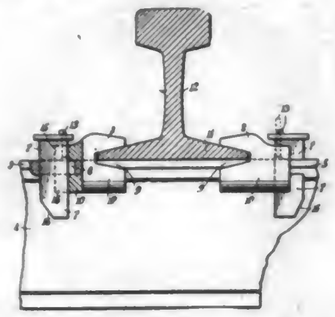
[Claims 6 to 13 not printed in the Gazette.]

974,635. FASTENER FOR RAILWAY-RAILS. JOSEPH M. BLAKE, Meadville, Pa. Filed Feb. 23, 1910. Serial No. 545,283.

1. A fastener for railway rails, comprising a tie having a laterally extended head and perforations disposed on opposite sides of a rail seat; a railway rail seated thereon; a plurality of clamps slidably mounted on said tie to infold the base of said rail; a plurality of wedge-shaped spikes to be driven in said perforations to force the said clamps over the base of said rail; and fixed locking members carried by said clamps arranged to be bent over said spikes to prevent the removal thereof from said perforations.

2. A fastener for railway rails, comprising a tie having a laterally extended head and perforations disposed on opposite sides of a rail seat; a railway rail seated thereon; a plurality of clamps slidably mounted on said tie to infold the base of said rail, and provided at the outer edge

with recesses alined with said perforations; and a plurality of wedge-shaped spikes to be driven in said perforations to force the said clamps over the base of said rail.

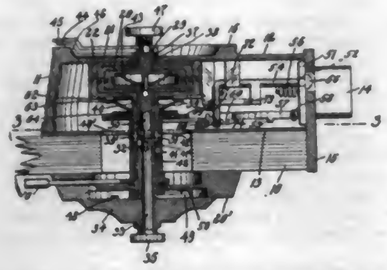


3. A fastener for railway rails, comprising a tie having a laterally extended head and perforations disposed on opposite sides of a rail seat; a railway rail seated thereon; a plurality of clamps slidably mounted on said tie to infold the base of said rail, and provided in the outer edge with recesses alined with said perforations; a plurality of wedge-shaped spikes to be driven in said perforations to force the said clamps over the base of said rail; and soft metal bars fixedly mounted in said clamps and adapted to be extended over said spikes to prevent the lift thereof from said perforations.

4. A fastener for railway rails, comprising a tie having a laterally extended head and disposed transversely across the railway rails; a plurality of clamping members slidably mounted upon said tie and each having a plurality of extensions adapted to extend over the base of said rails and under the head of said tie when in superimposed relation; and a plurality of anchor devices holdingly connecting said clamping members and said tie.

5. A fastener for railway rails, comprising a tie having a laterally extended head disposed in transverse relation to said railway rail and provided with perforations disposed on opposite sides of a rail seat; a railway rail seated thereon provided with laterally extended base flanges; a plurality of clamps slidably mounted on said tie and provided with separated forwardly extended clamping members superimposed, the upper to extend over the flange of the base of the railway rail and the under member to be disposed beneath the head of the tie in vertical relation with the said upper member; and a plurality of wedge-shaped spikes adapted to be driven into said perforations to force the said clamps over the base of said rail and head of said tie.

974,636. LOCK. JOHN BLASZCZYK, New York, N. Y. Filed Jan. 26, 1910. Serial No. 540,224.

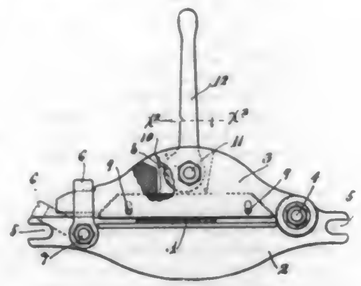


1. In a permutation lock, the combination with a lock case, of a locking bolt slidably arranged therein, a series of normally stationary tumblers, a series of rotatable tumblers adapted to be shifted in the direction of their longitudinal axes and corresponding in number to that of said stationary tumblers, one set of said tumblers being provided with projections and the other with recesses adapted to register with said projections, a secondary tumbler controlled by said rotatable tumblers and normally held in the path of said locking bolt, means for rotating said rotatable set of tumblers to bring said projections and recesses into registering positions, and means for shifting said rotatable tumblers in the direction of their longitudinal axes when said projections register with said recesses and for forcing said secondary tumbler out of the path of said locking bolt.

2. In a permutation lock, the combination with a lock case, of a locking bolt slidably arranged therein, a series of normally stationary tumblers, a series of rotatable tumblers adapted to be shifted in the direction of their longitudinal axes and corresponding in number to that of said stationary tumblers, one set of said tumblers being provided with projections and the other with recesses adapted to register with said projections, a secondary tumbler controlled by said rotatable tumblers and normally held in the path of said locking bolt, means for rotating said rotatable set of tumblers to bring said projections and recesses into registering positions, and means for shifting said rotatable tumblers in the direction of their longitudinal axes when said projections register with said recesses and for forcing simultaneously said secondary tumbler out of the path of said locking bolt.

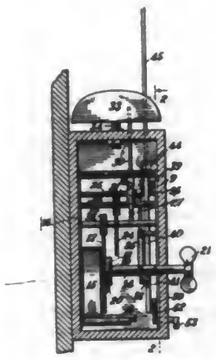
3. In a permutation lock, the combination with a lock case, of a locking bolt slidably arranged therein, a series of normally stationary tumblers, a series of rotatable tumblers adapted to be shifted in the direction of their longitudinal axes and corresponding in number to that of said stationary tumblers, one set of said tumblers being provided with projections and the other with recesses adapted to register with said projections, a secondary tumbler controlled by said rotatable tumblers and normally held in the path of said locking bolt, means for rotating said rotatable set of tumblers to bring said projections and recesses into registering positions, and a spring for shifting said rotatable tumblers in the direction of their longitudinal axes when said projections register with said recesses and for forcing said secondary tumbler out of the path of said locking bolt.

974,637. BELT-CLAMP. ALBERT BORUP, Minneapolis, Minn. Filed Apr. 7, 1910. Serial No. 554,001.



The combination with two pairs of pivotally connected levers, one member of each pair being longer than the other and having laterally open bolt seats, locked yokes pivotally connected to the relatively long lever and detachably engageable with the ends of the relatively short lever, a belt clamping blade mounted in one member of each pair of levers, cam devices pivoted to the same levers and operative on the central portions of the respective clamping blades, and nut equipped bolts detachably engageable with the open seats of said long levers, for drawing the two pairs of clamping levers together in order thereby to stretch or tighten the belt.

974,638. INCUBATOR-ALARM. WALTER M. BRALY, Blackwell, Okla. Filed Aug. 24, 1909. Serial No. 514,337.

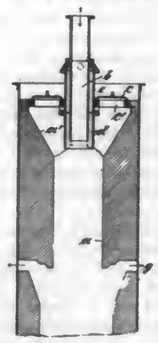


1. In an incubator alarm, a frame, means for sounding an alarm, a wheel having a projection adapted to drive the said means, a bar having an uneven surface adapted to be moved relatively to the frame, a pivoted lever having a tooth for engaging the projection on the wheel, means for pressing the lever against the uneven surface of the bar, a damper lever, and means connecting the damper lever with the bar.

2. In an incubator alarm, a bar having an uneven surface, links pivoted to the bar, a wheel having a projection, means for sounding an alarm adapted to be actuated by the wheel, and a pivoted lever having a tooth for engaging the projection on the wheel, the lever also contacting with the bar to be operated by the uneven surface thereof.

3. In an incubator alarm, a bar having an uneven surface, links pivoted to the bar, a wheel, means for sounding an alarm operable by the wheel, a lever having a tooth for engaging the wheel, the lever contacting with the uneven surface of the bar, to be operated thereby, a pivoted finger adapted for engaging one of the links for raising the links and the bar to operate the lever and cause its tooth to engage the wheel, and an arm secured to the finger for moving the finger out of engagement with the links.

974,639. GAS-GENERATOR. EDUARD BRAUSS, Linden, near Hanover, Germany, assignor to Gebr. Körting Aktien-Gesellschaft, Körtingsdorf, near Hanover, Germany. Filed Aug. 3, 1909. Serial No. 511,016.

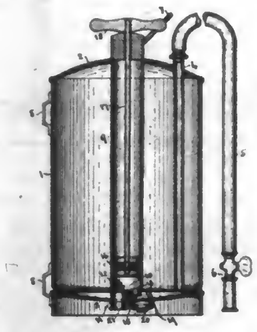


1. A gas generator having in combination a generator chamber, a passage for the material to be treated extending downwardly into said chamber, a passage for the blast surrounding said passage for the material to be treated extending downward to substantially the level of the stack of material in said chamber and terminating in a passage of less outer diameter than the diameter of said stack and outlets for withdrawing gas near the lower part of said chamber.

2. Gas generator having in combination, a generator chamber widened at its upper end, a fuel supply funnel at the upper end of said generator and terminating in said widened part, a gas exit near the lower end of said generator, a fluid supply pipe around said fuel supply funnel and terminating below the same, said fluid-supply pipe being of less area than the narrower part of the generator.

3. Gas generator having in combination, a generator chamber widened at its upper end, a fuel supply funnel at the upper end of said generator and terminating in said widened part, a gas exit near the lower end of said generator, a fluid supply pipe around said fuel supply funnel and terminating below the same, said fluid-supply pipe being of less area than the narrower part of the generator, and a cover for the upper widened end of said generator, said cover having openings therein and removable doors closing said openings, for the purpose set forth.

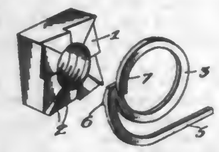
974,640. SPRAYING APPARATUS. MOTT BILLINGS BROOKS, Rochester, N. Y., assignor to Field Force Pump Company, Elmira, N. Y. Filed Aug. 5, 1908. Serial No. 447,069.



1. A spraying apparatus comprising a receptacle, a cylinder extending through the receptacle from the top to near the bottom thereof, a head closing the lower end of the cylinder, a tubular extension of smaller diameter leading from the head through the bottom of the receptacle, an induction valve for said tube, an eduction valve at the lower end of the cylinder, and a piston and operating rod in the cylinder.

2. A spraying apparatus comprising a receptacle, a cylinder extending through the receptacle from the top to near the bottom thereof, a head closing the lower end of the cylinder, a tubular extension of smaller diameter leading from one side of the head to and through the bottom of the receptacle, an induction valve for said tube, an eduction passage through the head, a downwardly opening valve for said passage, and a piston and operating rod in the cylinder.

974,641. NUT-LOCK. JACOB BURKHART, Aberdeen, Pa. Filed Feb. 3, 1910. Serial No. 541,853.



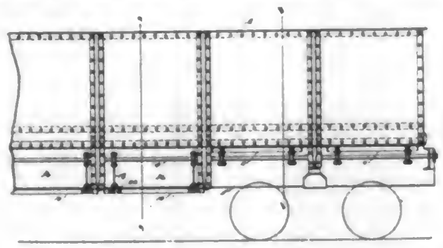
1. A nut lock comprising, in combination with a bolt and a nut having an inner ratchet face, a washer resiliently interposed between said inner face and a surface from which the bolt protrudes, a pawl on said washer coacting with the ratchet face of said nut, and a tail on

said washer abutting the surface from which the bolt protrudes to prevent rotation of the washer and nut, said tail being of a form to yield under excessively heavy pressure caused by mechanical backward rotation of the nut.

2. A nut-lock formed of a single piece of metal of substantially a reversed figure 2 shape adapted to encircle the bolt with its base formed to yield under heavy pressure and resting on the base of the rail and having a portion engaging the nut.

3. A nut-lock formed of a single piece of metal of substantially a reversed figure 2 shape adapted to encircle the bolt with its base in contact with the base of the rail and having a portion engaging the nut, said base of the nut-lock being so formed that when heavy pressure is applied to unscrew the nut, the base will yield so as to permit it to swing clear of the rail-base.

974,642. RAILWAY DUMP-CAR. ARGYLE CAMPBELL, Chicago, Ill., assignor to Enterprise Railway Equipment Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 28, 1910. Serial No. 558,153.



1. In a dump car, the combination with a dump car body having a middle set of door openings at the middle portion of the car between the trucks, and further door openings at the end portions of the car body above the trucks, doors for closing the middle openings hinged at their inner longitudinal edges below the center sills and doors for closing the openings at the end portions of the car above the trucks hinged at their inner longitudinal edges above the center sills, substantially as specified.

2. In a dump car, the combination with a dump car body having a middle set of door openings at the middle portion of the car between the trucks and further door openings at the end portions of the car body above the trucks, doors for closing the middle openings hinged below the center sills and doors for closing the openings at the end portions of the car above the trucks hinged above the center sills, and operating shafts for opening and closing said doors located above the level of the middle doors and below the level of the upper doors, substantially as specified.

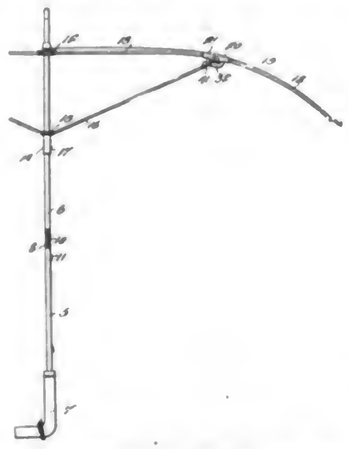
3. In a dump car, the combination with a dump car body having a middle set of door openings at the middle portion of the car between the trucks and further door openings at the end portions of the car body above the trucks, doors for closing the middle openings hinged at their inner longitudinal edges below the center sills and doors for closing the openings at the end portions of the car above the trucks hinged at their inner longitudinal edges above the center sills, and common operating shafts for both the upper and lower sets of doors extending longitudinally of the car at each side thereof, substantially as specified.

4. In a dump car, the combination with a dump car body having a middle set of door openings at the middle portion of the car between the trucks and further door openings at the end portions of the car body above the trucks, doors for closing the middle openings hinged at their inner longitudinal edges below the center sills and doors for closing the openings at the end portions of the car above the trucks hinged at their inner longitudinal edges above the center sills, and common operating shafts for both the upper and lower sets of doors extending longitudinally of the car at each side thereof, winding drums on said shafts and connecting links for operating said lower sets of doors at the middle portion of the car and winding drums on said shafts and connecting links for operating said upper sets of doors, substantially as specified.

5. In a dump car, the combination with a dump car body having a middle set of door openings at the middle portion of the car between the trucks and further door openings at the end portions of the car body above the trucks, doors for closing the middle openings hinged below the center sills and doors for closing the openings at the end portions of the car above the trucks hinged above the center sills, and common operating shafts for both the upper and lower sets of doors, winding drums on said shafts and connecting links for operating said lower sets of doors at the middle portion of the car and winding drums on said shafts and connecting links for operating said upper sets of doors, said upper sets of doors having sliding bars at their outer swinging edges for connection with said links, substantially as specified.

[Claims 6 to 10 not printed in the Gazette.]

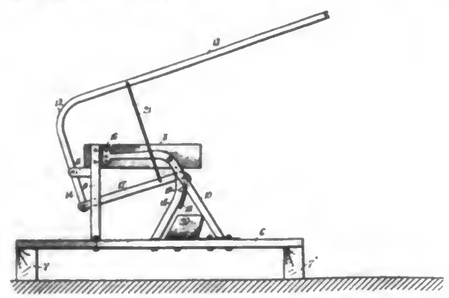
974,643. FOLDING UMBRELLA. GUSTAF CARLSON, De Kalb, Ill. Filed Jan. 25, 1910. Serial No. 540,024.



1. In a folding umbrella, an oblong coupling plate provided on one side and adjacent to its opposite ends with lugs, a rib section provided at one end with a channeled clip to receive one of said lugs, and a pivot pin passing through the said clip and lug, a second rib section forming a continuation of the first-named rib section, said second rib section having at one end thereof a channeled clip similar to the first-named clip and pivotally connected to the other of said lugs, laterally disposed lugs arranged on said clips and located to one side of the pivotal connection between said clips and coupling plate, and a spring having its opposite terminals secured to said lugs, for the purpose described.

2. In a folding umbrella, an oblong coupling plate provided on one side and adjacent to its opposite ends with lugs, a rib section provided at one end with a channeled clip to receive one of said lugs, and a pivot pin passing through said clip and lug, a second rib section forming a continuation of the first-named rib section, said second rib section having at one end thereof a channeled clip similar to the first-named clip and pivotally connected to the other of said lugs, laterally disposed lugs arranged on said clips and located to one side of the pivotal connection between said clips and coupling plate, a spring having its opposite terminals secured to said lugs, and stops arranged on said coupling plate and beyond said lugs to limit the pivotal movement of the rib sections.

974,644. HOLDING DEVICE FOR RESETTING SCRAPERS. JOSEPH BENJAMIN CATHY, Godfrey, Ga. Filed May 12, 1910. Serial No. 560,973.



1. In a holding device for resetting scrapers, a base member, a shaping plate secured thereto, a frame secured to the base member, a foot member secured to the frame, a lever fulcrumed to the frame, a clamping rod articulated to the lower arm of the lever and extending past the foot member and in the direction of the shaping plate, and a depending flange on the clamping rod for engaging the face of a scraper in the direction of the shaping plate and drawing it in the direction of the foot member.

2. In a holding device for resetting scrapers, in combination with a scraper, a base member, a shaping plate secured thereto, a frame secured to the base member, a lever pivoted to the frame, a clamping rod articulated to an arm of the lever and extending in the direction of the shaping plate, and means on the clamping rod for engaging the side of the scraper in the direction of the shaping plate.

3. In a holding device for resetting scrapers, in combination with a scraper, a base member, a frame secured thereto, a foot member secured to the frame, a shaping plate secured to the base member and spaced from the foot member, a lever fulcrumed to the frame, a clamping rod articulated to an arm of the lever and extending past the foot member and in the direction of the shaping plate, and means on the clamping rod for engaging the scraper and holding it against the foot member and away from the shaping plate.

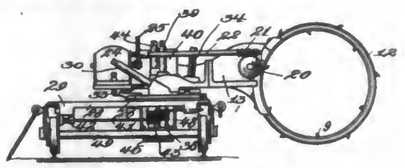
4. In a holding device for resetting scrapers, in combination with a scraper, a base member, a frame secured thereto, a foot member with an opening therethrough, secured to the frame, a shaping plate secured to the base member and spaced from the foot member, a lever fulcrumed to the frame, a clamping rod articulated to an arm of the lever and extending through the opening in the foot member and in the direction of the shaping plate, and means on the clamping rod for engaging the scraper and holding it against the foot member.

5. In a holding device for resetting scrapers, in combination with a scraper, a base member, a frame secured thereto, a foot member secured to the frame, a shaping plate secured to the base member and spaced from the foot member, a lever fulcrumed to the frame, a clamping rod articulated to an arm of the lever and extending past the foot member and in the direction of the shaping plate, the other arm of the lever being bent so that the terminals of the arms of the lever are disposed substantially at right angles to each other, a rod connecting the said other terminal of the lever and the clamping rod, and means on the clamping rod for engaging the scraper and holding it against the foot member with a surface of the scraper facing the shaping plate.

[Claims 6 to 10 not printed in the Gazette.]

974,645. MINING-MACHINE. ALFRED U. DAVIS, Lutherville, Md. Filed July 27, 1909. Serial No. 509,762.

1. A mining machine comprising a support, a rigid annular housing mounted on said support, a ring having its periphery inclosed and revoluble within such housing, the ring having an unobstructed central core-receiving opening extending therethrough, cutting devices carried by a lateral face of the ring and occupying an area sufficient to cause a clearance for the ring and housing, means supported by the housing support and coöperative with the inclosed periphery of the ring for revolving the latter, and means for feeding the housing and the ring in the direction of the axis of the latter.



2. A mining machine comprising a support, a rigid annular housing mounted thereon, a rigid ring having its outer circumference inclosed and journaled within said housing, the periphery of the ring being also provided with a gear face which is inclosed within the housing, cutting teeth projecting from one face of the ring in a direction approximately axially thereof and arranged to form a clearance for the housing and ring as such parts are fed in an axial direction, driving mechanism carried by said support and coöperative with the gear face on the inclosed ring for revolving the latter, and means for feeding the housing and ring in the direction of the axis of the latter.

3. A mining machine comprising a support, a turntable mounted thereon and carrying a radial arm, a rigid annular housing fixed to said arm, a rigid ring having its outer circumference inclosed and journaled within said housing, the ring having a central unobstructed core-receiving opening extending therethrough, cutters fixed to one face of the ring and operative to cut away material to form a clearance for the housing and ring, driving means carried by the housing and coöperative with said ring to revolve the latter, means for turning the arm and housing about the axis of the turn-table as a center, and means for feeding the housing and ring in the direction of the axis of the latter.

4. A mining machine comprising a support, a turntable mounted thereon, an arm projecting radially from the turn-table and turnable about the axis of the latter as a center, a motor supported on said arm, a rigid annular housing fixed to the outer end of said arm, a rigid ring having its outer circumference inclosed by and journaled within said housing, cutting teeth on one side of said ring and arranged to form a clearance for the housing and ring when the latter is fed in an axial direction, driving means carried by the housing and coöperative with the periphery of said ring for revolving the latter, said driving means being operatively connected to said motor, means for rotating the turn-table to alter the angle of said arm and housing, and means for feeding the housing and ring in the direction of the axis of the latter.

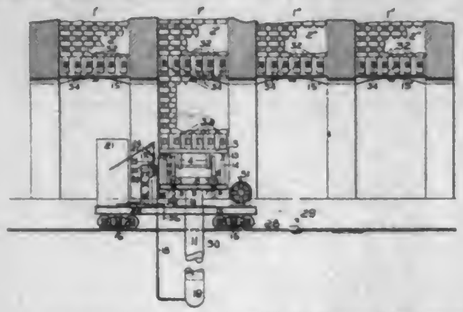
5. A mining or cutting machine comprising a support, a turn-table thereon, a vertically movable arm carried by the turn-table, a revoluble ring carried by said arm and having an unobstructed core-receiving opening extending therethrough, cutting devices projecting from a face of said ring and operative during an axial feed movement of the ring, means for rotating the ring, a housing supporting said ring solely by its periphery, and means connected to the support for feeding the housing and the ring in the direction of the axis of the ring.

[Claims 6 to 12 not printed in the Gazette.]

974,646. APPARATUS FOR BURNING CERAMIC MATERIALS. HENRY L. DOHERTY, New York, N. Y. Filed Feb. 17, 1910. Serial No. 544,486.

1. In apparatus for burning ceramic materials the combination of a plurality of vertical shafts, a tunnel running beneath said shafts, and a single discharging means for the said plurality of shafts, said discharging means

being mounted on a movable platform supported by trucks running on rails laid in said tunnel, whereby said discharging means may be moved into position for discharging material from any one of said plurality of shafts.



2. In apparatus for the continuous burning of ceramic ware the combination of a plurality of kiln-chambers, means for introducing air and gas into said chambers, means for withdrawing the products of the combustion of said air and gas from said chambers, a tunnel running beneath said plurality of kiln chambers, a single discharging means for the said plurality of kiln chambers, said discharging means being mounted on a movable platform supported by trucks running on rails laid in said tunnel, whereby said discharging means may be moved into position for discharging material from any one of said plurality of kiln chambers.

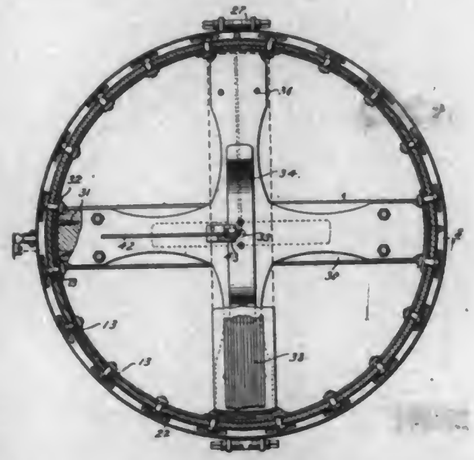
3. In apparatus for burning ceramic materials the combination of a plurality of vertical shafts, means for introducing air near the bottom of each of said shafts, means in each of said shafts for introducing a combustible gas at an intermediate place in said shaft, means in each of said shafts for withdrawing from said shafts the products of the combustion taking place in said shafts, a tunnel running beneath said plurality of vertical shafts, and a single discharging means for the said plurality of shafts, said discharging means being mounted on a movable platform supported by trucks running on rails laid in said tunnel, whereby said discharging means may be moved into position for discharging material from any one of said plurality of vertical shafts.

4. In apparatus for burning ceramic materials the combination of a plurality of vertical shafts, each of said shafts having a movable gate adapted to close the bottom thereof, dampered air inlets in the walls thereof, inlet ports for the entrance of combustible gas located in the walls of said shaft above the said air inlets, and passages for the withdrawal of combustion gases, said passages being located above said gas inlets, a tunnel running beneath said plurality of vertical shafts and a single discharging means for the said plurality of vertical shafts, said discharging means being mounted on a movable platform supported by trucks running on rails laid in said tunnel, whereby said discharging means may be moved into position for discharging material from any one of said plurality of vertical shafts.

5. In apparatus for burning ceramic materials the combination of a plurality of vertical shafts, each of said shafts having a plurality of dampered ports for the admission of air thereto near the bottom thereof, removable bars adapted to bear in said air ports for the purpose of supporting the charge in said shaft, a movable gate for closing the bottom of said shaft, ports for the admission of combustible gas into said shaft above the "cooler" of said shaft, passages for withdrawing combustion gases from said shaft located above the said gas ports; a tunnel running beneath the said plurality of vertical shafts, and a single discharging means for said plurality of vertical shafts, said discharging means comprising a movable truck carrying a hydraulic lift, a platform mounted upon the plunger of said lift, a removable car supported upon said platform, a force pump for supplying water under pressure to said lift, and means for moving said movable truck in said tunnel, whereby said discharging means may be moved into position for discharging material from any one of said plurality of vertical shafts.

[Claims 6 and 7 not printed in the Gazette.]

974,647. DRUM. GEORGE W. DU LANY, Omaha, Nebr. Filed Nov. 8, 1909. Serial No. 526,882.



1. In a drum of the class described, the combination with a drum cylinder having heads carried thereon, said heads being tightened by hoops supported by the same, of rings secured to the upper edges of said hoops having an outwardly formed flange on the lower side thereof, said flange having slots formed therein at regular intervals, a U-shaped ring carried midway of the drum cylinder provided with slots in the arms thereof adapted to register with the similar openings in the hoop rings, means operating in said slots for drawing together the hoop rings and tightening the heads, and means carried on the interior of the drum for regulating the tone thereof.

2. In a drum of the class described, the combination with a drum cylinder having heads carried thereon, said heads adapted to be tightened by hoops supported by the same, of rings carried on the upper edges of said hoops having the lower sides thereof flanged outwardly, said flanges having slots therein at regular intervals, a U-shaped stationary ring carried midway on the exterior of the drum cylinder, having a series of slots formed in the arms thereof, a lazy tong structure adapted to reciprocate in said slots, and means for drawing together the elements of said lazy tong structure and tightening the head.

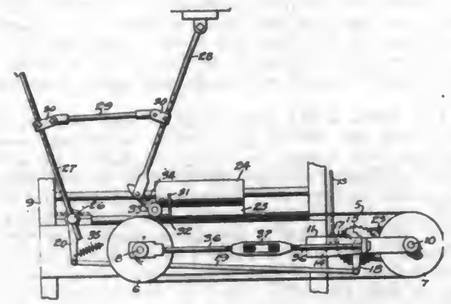
3. In a drum of the class described, the combination with a drum cylinder having drum heads carried thereon, of tightening hoops operating against said drum heads, outwardly flanged rings carried on the upper edges of said tightening hoops, having slots formed in the flange thereof at regular intervals, a stationary U-shaped ring secured midway of the drum cylinder and provided with a series of slots therein at regular intervals adapted to register with the simtlar openings in the hoop rings, a lazy tong structure interposed between said rings and provided with transverse pins at the joints, said pins adapted to bear against the surface of the ring adjacent said slots and permit the joints to reciprocate, and means for drawing together the elements of said lazy tong structure and tightening the drum heads.

4. In a drum of the class described, the combination with a drum cylinder having heads carried thereon, of means secured to the drum cylinder and operating against the heads for tightening the same by a continuous mechanical movement, crossed braces carried on the interior of the drum cylinder, mutes operating on said crossed braces, and means whereby said mutes may be operated.

5. In a drum of the class described, the combination with a drum cylinder, snares disposed at right angles under said heads, of means secured to the drum cylinder and operating against the heads for tightening the same by a continuous mechanical movement, crossed braces carried midway on the interior of the drum cylinder, springs supported thereby, vertical guides at each longitudinal extremity thereof, and mutes adapted to be reciprocated on said guides and be retained against the snares by said springs, as and for the purpose set forth.

[Claims 6 to 8 not printed in the Gazette.]

974,648. COUNTER AND STACKER. EDMUND L. FEEMAN, New York, N. Y., assignor to John Dunphy, New York, N. Y. Filed Dec. 28, 1909. Serial No. 535,247.



1. In a stacker and counter, the combination with traveling belts, means for operating the belts intermittently, a stacking board traveling over the belts, an oscillating arm carrying the same, and means connected with the operating means to swing the stacker forward after a certain number of intermissions.

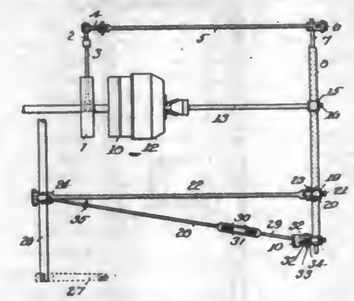
2. In a counter and stacker, the combination with the delivery rollers of a machine, of moving belts, pulleys carrying the same, means for giving the pulleys an intermittent movement, a stacking board on the belts before the rollers, a swinging arm carrying the board, an oscillating lever actuating the arm, and means connecting the lever with the intermittent movement means to oscillate it at certain periods.

3. In a stacker and counter, the combination with the feed rollers of a machine, of traveling belts opposite the feed rollers, pulleys carrying the belts, means for giving the pulleys an intermittent movement, a bell crank lever connected with the intermittent movement means, a stacking board traveling on the belts opposite the rollers, and means interposed between the bell crank lever and the stacking board to operate the latter.

4. In a stacker and counter, the combination with the feed rollers, of traveling belts in front of same, pulleys carrying the belts, means for giving the pulleys an intermittent motion, a bell crank lever connected with and operated by the said means, a stacking board traveling over the belts opposite the rollers, an oscillating arm carrying the same, arms mounted on a stud, a link connecting one arm with the bell crank lever, and a link connecting the other arm with the oscillating arm of the stacking board.

5. In a stacker and counter, the combination with the delivery rollers of a producing machine, of a plurality of moving belts before the delivery rollers, pulleys carrying the belts, means for intermittently rotating the pulleys, a stacking board with teeth to fit between the belts, rollers carrying the stacking board, a rearwardly extending arm on the board, an oscillating lever connected with the arm and hung from the machine, rocking arms with links to operate the lever, and means for actuating the arms at certain intervals.

974,649. INTERCONNECTED CLUTCH AND BRAKE OPERATING MECHANISM. SKOTTOWE B. FISHBURNE, and ISRAEL H. BOND, Columbia, S. C. Filed June 3, 1909. Serial No. 499,869.



1. In combination a lever for operating an engine brake, a clutch operating mechanism, a shaft, said shaft having an arm, a rod connected at one end with the clutch operating mechanism and provided at the other with a yoke for engaging the arm, a rod detachably connecting the arm with the engine brake lever, said rod having at one end an eye for engaging an opening in the brake lever, a yoke whose body portion engages the yoke of the first named rod, a plate having a central and end openings, the arms of the yoke passing loosely through the end openings and being headed on the opposite side and the link passing through the central opening and being headed on the opposite side and a turn buckle interposed in the rod.

2. In combination a lever for operating an engine brake, and a clutch operating mechanism, a shaft, said shaft having an arm, a rod connected at one end with the clutch operating mechanism and provided at the other with a yoke for engaging the arm, a rod detachably connecting the arm with the engine brake lever, said rod having at one end an eye for engaging an opening in the brake lever, a yoke whose body portion engages the yoke of the first named rod, and a plate having a central and end openings, the arms of the yoke passing loosely through the end openings and being headed on the opposite side and the link passing through the central opening and being headed on the opposite side.

3. In combination a lever for operating an engine brake, and a clutch operating mechanism, a shaft, said shaft having an arm, a rod connected at one end with the clutch operating mechanism and provided at the other with a yoke for engaging the arm, a rod detachably connecting the arm with the engine brake lever, said rod having at one end means for engaging the brake lever, a yoke whose body portion engages the yoke of the first named rod, and a slidable connection between said yoke and said last named rod.

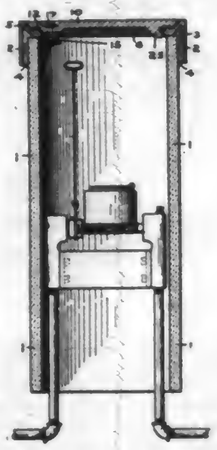
974,650. TOP FOR METER-BOXES. EDWIN H. FORD, Hartford City, Ind. Filed June 22, 1909. Serial No. 503,594.

1. A body portion having means to engage a cover locking device, a cover, and a cover locking device including a worm to engage said means on the body and adapted to lower and raise said cover to and from said body without rotating said cover.

2. A body portion having means to engage a cover locking device, an annular rib on said body, a cover, a gasket carried by said cover adapted to engage said rib on the body, and a cover locking device including a worm to engage said means on the body and adapted to lower and raise said cover to and from said body without rotating said cover.

3. A body portion provided with an internal opening bounded by an inwardly projecting ledge, a cover adapted to close said opening, and a locking device including a worm provided with external threads adapted to engage

the projecting ledge for unlocking and forcing said cover to move upwardly from said body portion.

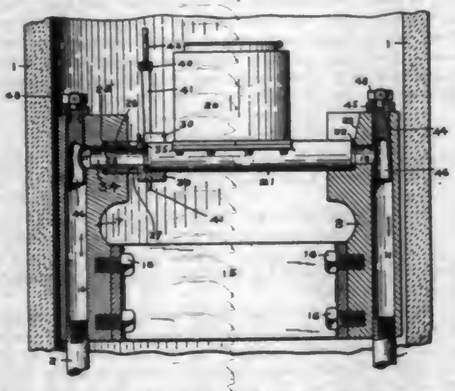


4. A body portion provided with an opening bounded by an inclined extension terminating in an annularly projecting ledge, a cover to close said opening in said body, and a revoluble locking device engaging said ledge when moved in one direction to tightly lock the cover upon the body portion and to release and raise said cover up from said body portion when moved in the reverse direction.

5. A body portion provided with an opening bounded by an inclined extension terminating in an annularly projecting ledge, a cover to close said opening in said body, a revoluble locking device engaging said ledge when moved in one direction to tightly lock the cover upon the body portion and to release and raise said cover up from said body portion when moved in the reverse direction, and a hook on said cover opposite the locking device and adapted to contact the lower edge of said ledge, as and for the purposes set forth.

[Claim 6 not printed in the Gazette.]

974,651. MEANS FOR SETTING METERS. EDWIN H. FOSD, Hartford City, Ind. Filed June 22, 1909. Serial No. 503,595.



1. A device of the above specified class including the meter box and service pipes, meter supporting means adjustably arranged on the ends of said service pipes and provided with internal passageways for conveying the water or gas between said service pipes and meter, means for securing said supporting means together when adjusted, a meter, and means for securing said meter between said supporting means and in line with the internal passageways.

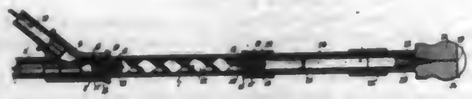
2. A device of the above specified class including the meter box and service pipes, meter supporting means adjustably arranged on the ends of said service pipes and provided with internal passageways for conveying the water or gas between said service pipes and meter, means for securing the supporting means together when adjusted, a meter, means for securing said meter between the supporting means and in line with the internal passageways, and means adapted to establish or discontinue the water or gas supply through said meter and meter supporting means.

3. A device of the above specified class including the meter box and service pipes, meter supporting means adjustably arranged on the ends of said service pipes and provided with internal passageways for conveying the water or gas between said service pipes and meter, means for securing the supporting means when adjusted, a meter, means for securing said meter between the supporting means and in line with said internal passageways, and means adapted to establish or discontinue the water or gas supply through said meter and meter supporting means.

4. A device of the above specified class including the meter box and service pipes, meter supporting means, provided with recesses to receive the ends of the meter pipes adjustably arranged on the ends of said service pipes and provided with internal passageways for conveying the water or gas between said service pipes and meter, the upper ends of said passageways being formed conically, hollow sleeves adapted to rest within the conically formed ends of said passageways, valves operating within said sleeves to open or close communication through said passageways, and a meter adapted to be interposed between the meter supporting means and in line with said internal passageways.

5. A device of the above specified class including the meter box and service pipes, meter supporting means, provided with recesses to receive the ends of the meter pipes adjustably arranged on the ends of said service pipes and provided with internal passageways for conveying the water or gas between said service pipes and meter, the upper ends of said passageways being formed conically, hollow sleeves adapted to rest within the conically formed ends of said passageways, means adapted to draw said sleeves snugly into said conically formed ends, valves operating within said sleeves to open or close communication through said passageways, and a meter adapted to be interposed between the meter supporting means and in line with said internal passageways.

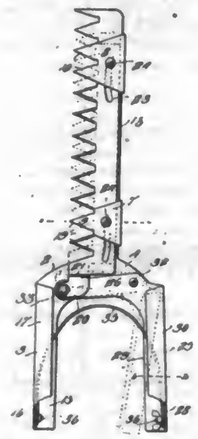
974,652. OIL-BURNER. ADOLPHUS HENRY FORSTNER, Portland, Oreg. Filed May 28, 1910. Serial No. 563,852.



1. An oil burner, comprising a supply pipe; a burner fixture; a mixing chamber interposed between said supply pipe and said burner fixture to form a communicating passage between the same; an elongated spiral member rotatively mounted in said chamber; adjustable bearings for said spiral member; and supports for said bearings having laterally extended wings mounted in slots formed on the ends of said chamber.

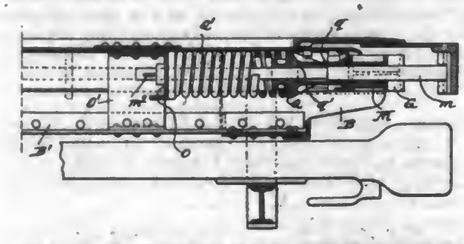
2. An oil burner, comprising separate air and oil supplies and connecting ducts therefor; a mixing chamber therefor; a tube connected to said mixing chamber and having an eliminating screen across the passage thereof; a burner fixture having a centrally disposed gas duct; and a metallic cone mounted in said fixture to be heated thereby.

974,653. LAWN AND HEDGE TRIMMER. GEORGE G. FRAZER, St. Louis, Mo. Filed Jan. 22, 1909. Serial No. 473,742.



A lawn and hedge trimmer comprising a guard bar provided at one end with a handle offset from its front side and a lug offset from its rear side, said bar also being provided along its front edge with integral longitudinal teeth and upon its rear edge with integral guide arms, said guide arms being folded over to a position parallel with said bars, a reciprocating cutter bar having longitudinal teeth on one edge to coöperate with the aforesaid teeth of the guard bar and provided with longitudinal slots and with an angularly bent arm at its rear end, bolts passing through the slots in the cutter bar and openings in the guard bar and guide arms, a handle pivoted to the lug of the first-named handle having an arm pivotally connected with the angular arm of the cutter bar, and a spring disposed between the handle and acting to normally maintain the guard bar and cutter bar in a prescribed relative position.

974,654. BUFFING MECHANISM. RICHARD D. GALLAGHER, Jr., New York, N. Y., assignor to Standard Coupler Company, New York, N. Y., a Corporation of New Jersey. Original application filed May 21, 1909, Serial No. 497,489. Divided and this application filed Dec. 22, 1909. Serial No. 534,477.



1. In a buffing mechanism, the combination with the buffer beam having bearings therein for the center and side stems, of the buffer, a center stem pivotally connected with said buffer, a bracket for limiting the outward movement of said center stem, a follower on said center stem, coöperating shoulders on the follower and stem normally out of engagement when the buffer is advanced, a spring interposed between said follower and bracket, side stems pivotally connected with the buffer, and side stem springs coöperating with said side stems and normally under tension tending to advance the buffer, the arrangement being such that initial inward movement of the buffer is resisted solely by the side stem springs, and final inward movement of the buffer is resisted by both the side and center stem springs.

2. In a buffing mechanism, the combination with the end sill, a buffer beam having a rounded outer face and supporting sills for said end sill and buffer beam, of a buffer, a center stem pivotally connected with said buffer and having a stop for limiting the outward movement of the buffer, side stems pivotally connected with the buffer, and springs for advancing said side stems and buffer, the construction being such that the angular movement of the buffer on the end of the center stem will permit the coöperating buffer to engage and rest against the outer rounded face of the buffer beam.

3. In a buffing mechanism, the combination with the buffer beam, buffer beam extension having a rounded outer face and rounded filling pieces on the outer face of said buffer beam at each side of said buffer beam extension, of a buffer, a center stem on which said buffer is pivotally mounted, side stems pivotally connected with the buffer, springs coöperating with said side stems for advancing the buffer, and means coöperating with the center stem for limiting the outward movement of the buffer, the arrangement being such that angular movement of the buffer on the center stem will permit the coöperating buffer to rest against and be supported by the filling pieces at the sides of the buffer beam extension.

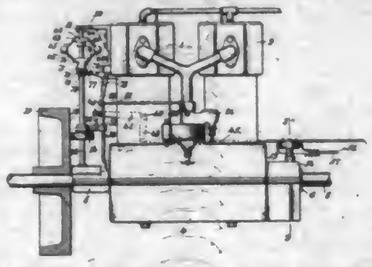
4. In a buffing mechanism, the combination with the buffer beam having bearings therein for center and side stems, longitudinal sills connected with said buffer beam and having brackets thereon provided with bearings for said center and side stems, of a buffer, a center stem pivotally connected at its forward end with the buffer and having an enlargement on its rear end coöperating with the bracket for limiting the outward movement of the buffer, a follower through which the center stem passes, a spring interposed between said follower and bracket for holding the follower advanced, means for limiting the forward movement of the follower, and coöperating shoulders on the follower and center stem spaced apart when the buffer is advanced to the limit of its movement and adapted to engage, to put the center stem spring under compression, only when the buffer has been moved inwardly, and side stems for normally holding said buffer advanced to the limit of its movement, substantially as described.

5. In a buffing mechanism, the combination with the buffer beam, longitudinal sills, brackets supported by said longitudinal sills and a center stem passing through the buffer beam and bracket and having an intermediate shoulder, of a buffer pivotally mounted on said center stem, an enlargement on the rear end of said center stem for limiting its outward movement, a follower on said center stem, means for limiting the forward movement of said follower, a spring interposed between said follower and bracket for resisting final inward movement of the center stem and buffer, said follower having a shoulder for coöperation with the shoulder on the center stem, the proportions of the parts being such that said shoulders are normally spaced apart whereby the buffer is free from the resistance of the center stem spring during initial inward movement.

974,655. ENGINE-GOVERNOR ATTACHMENT. WILLIAM HILTON GILTNER, Paris, Ky. Filed Feb. 16, 1909. Serial No. 478,242.

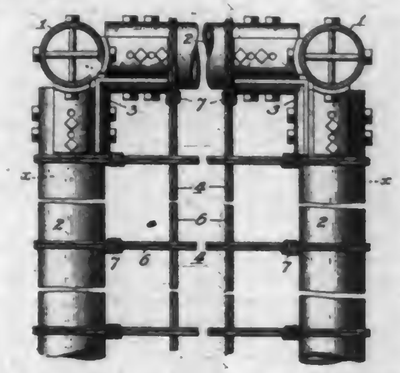
1. The combination with the engine and the main shaft, of a fly wheel on the main shaft having a friction face, a vertical shaft, a fixed bearing in which the upper end of the shaft is journaled, a slidable bearing in which the lower end of the shaft is journaled, a friction wheel slidable on the vertical shaft and coöperating with the friction face of the fly wheel, a spring normally pressing the bearing away from the fly wheel, means for limiting the outward movement of the bearing, a yoke engaging the friction wheel, a guide rod for the yoke, means for moving the yoke, a spark timer, a connection and between the yoke moving means, and the spark timer, a throttle, a governor operated by the vertical shaft, a connection between the governor and the throttle.

2. In combination with the engine and the main shaft, a governor shaft, a governor driven by the shaft, a driving connection between the main shaft and the governor shaft, means in connection with the driving connection



for varying the relative speed of the governor shaft with respect to the main shaft, a spark timer for the engine, a connection between said means and the spark timer, a throttle for the engine, and a connection between the governor and the throttle.

974,656. REINFORCED CONCRETE STRUCTURE. GEORGE M. GRAHAM, Chicago, Ill., assignor, by mesne assignments, to Suspension Steel Concrete Company, a Corporation of Delaware. Filed Apr. 21, 1909. Serial No. 491,345.



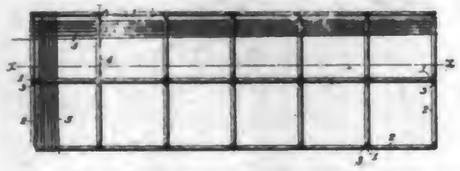
1. A reinforcing frame for concrete structures comprising, a series of round border beams, and a skeleton center of flattened hoop shaped links extending from beam to beam, and each consisting of a single strand at one side and a double strand at the other side and formed from a single rod or wire the terminals of which end in coil splices surrounding the aforesaid double strands; substantially as set forth.

2. A reinforcing frame for concrete structures comprising, a series of round border beams, and a skeleton center of flattened hoop shaped links arranged in crossed relation and extending from beam to beam, and each consisting of a single strand at one side and a double strand at the other side and formed from a single rod or wire the terminals of which end in coil splices surrounding the aforesaid double strands, substantially as set forth.

3. A reinforcing frame for concrete structures comprising, a series of round border beams, and a skeleton center of flattened hoop shaped links extending from beam to beam, and each consisting of a single strand at one side and a double strand at the other side and formed from a single rod or wire the terminals of which end in coil splices surrounding the aforesaid double strands, said strands having a tensioning twist, substantially as set forth.

4. A reinforcing frame for concrete structures comprising, a series of round border beams, and a skeleton center of flattened hoop shaped links arranged in crossed relation and extending from beam to beam, and each consisting of a single strand at one side and a double strand at the other side and formed from a single rod or wire the terminals of which end in coil splices surrounding the aforesaid double strands, said strands having a tensioning twist, substantially as set forth.

974,657. REINFORCING-FRAME FOR CONCRETE STRUCTURES. GEORGE M. GRAHAM, Chicago, Ill., assignor, by mesne assignments, to Suspension Steel Concrete Company, a Corporation of Delaware. Filed Apr. 21, 1909. Serial No. 491,346.



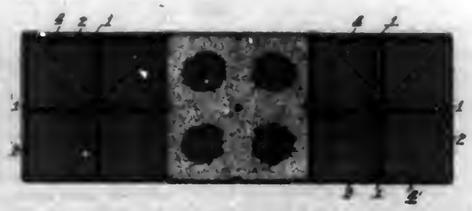
1. A reinforcing frame for the floors of concrete structures, comprising a series of posts, a series of round border beams, a series of intermediate beams, couplings connecting said beams and posts together into a series of units, and a continuous winding of wire encompassing said frame and forming a skeleton center therefor, substantially as set forth.

2. A reinforcing frame for the floor of concrete structures, comprising a series of posts, a series of round border beams, a series of intermediate beams, couplings connecting said beams and posts together into a series of units, and a continuous winding of wire in crossed relation and encompassing said frame to form a skeleton center therefor, substantially as set forth.

3. A reinforcing frame for the floors of concrete structures, comprising a series of posts, a series of round border beams, a series of intermediate beams, couplings connecting said beams and posts together into a series of units, a continuous winding of wire encompassing said frame and forming a skeleton center therefor, and a series of tie links connecting the upper and lower strands of said winding together, substantially as set forth.

4. A reinforcing frame for the floors of concrete structures, comprising a series of posts, a series of round border beams, a series of intermediate beams, couplings connecting said beams and posts together into a series of units, a continuous winding of wire in crossed relation and encompassing said frame to form a skeleton center therefor, and a series of tie links connecting the upper and lower strands of said winding together, substantially as set forth.

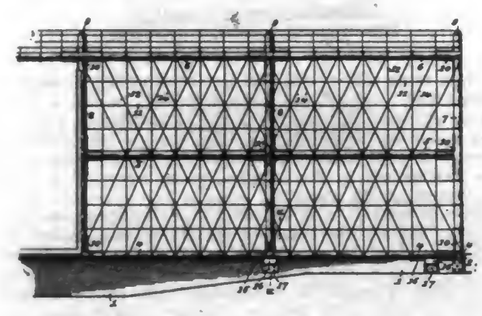
974,658. REINFORCED-CONCRETE FLOOR. GEORGE M. GRAHAM, Chicago, Ill., assignor, by mesne assignments, to Suspension Steel Concrete Company, a Corporation of Delaware. Filed Apr. 21, 1909. Serial No. 491,347.



1. The hereinafter described method of forming reinforced concrete floors in which the reinforce is formed by wires woven around a multiple unit frame of round tubing, such method comprising the application of the floor forming concrete mass to the border portions of the central units, the application of the mass to the central portions of said central units, the application of the mass to the border portions of the outer units, and the application of the mass to the central portions of border units, such applications being successive and following the setting of the preceding application, substantially as set forth.

2. The herein described method of forming reinforced concrete floors in which the reinforce is formed by wires wound in crossed relation around a multiple unit frame of round tubing, such method comprising the application of the floor forming concrete mass to the border portions of the central units, the application of the mass to the central portions of said central units, the application of the mass to the border portions of the outer units, and the application of the mass to the central portions of border units, such applications being successive and following the setting of the preceding application, substantially as set forth.

974,659. REINFORCED CONCRETE CAR STRUCTURE. GEORGE M. GRAHAM, Chicago, Ill., assignor, by mesne assignments, to Suspension Steel Concrete Company, a Corporation of Delaware. Filed Apr. 21, 1909. Serial No. 491,348.



1. In a reinforced concrete car body or like structure, the combination of a skeleton frame formed by a series of round vertical posts and upper, lower and intermediate round beams connected together, and a skeleton center comprising in part, a series of vertical strands, each attached by a loop and fastening means to an intermediate horizontal beam and extending down and around a lower horizontal beam, thence to an upper horizontal beam and across to an opposite upper horizontal beam, thence down to a lower horizontal beam and around the same, thence up to an intermediate horizontal beam and secured thereto by a loop and fastening means.

2. In a reinforced concrete car body or like structure, the combination of a skeleton frame formed by a series of round vertical posts and upper, lower and intermediate round beams connected together, and a skeleton center comprising in part a series of lower horizontal strands, each attached by a loop and fastening means to an intermediate post and extending to and around a corner post and across to an opposite corner post, thence to an opposite intermediate post and around the same, and thence back in a reverse direction to the first intermediate post and attached thereto by a loop and fastening means.

3. In a reinforced concrete car body or like structure, the combination of a skeleton frame formed by a series of round vertical posts and upper, lower and intermediate round beams connected together, and a skeleton center comprising in part a series of upper horizontal strands, each attached by a loop and fastening means to an intermediate post and extending to and around a corner post and across to an opposite corner post, thence to an opposite intermediate post and secured thereto by a loop and fastening means.

4. In a reinforced concrete car body or like structure, the combination of a skeleton frame formed by a series of round vertical posts and upper, lower and intermediate round beams connected together, and a skeleton center comprising in part, a series of vertical strands, each attached by a loop and fastening means to an intermediate horizontal beam and extending down and around a lower horizontal beam, thence to an upper horizontal beam and across to an opposite upper horizontal beam, thence down to a lower horizontal beam and around the same, thence up to an intermediate horizontal beam and secured thereto by a loop and fastening means, and a series of lower horizontal strands, each attached by a loop and fastening means to an intermediate post and extending to and around a corner post, thence to an opposite intermediate post and around the same, and thence back in a reverse direction to the first intermediate post attached thereto by a loop and fastening means.

5. In a reinforced concrete car body or like structure, the combination of a skeleton frame formed by a series of round vertical posts and upper, lower and intermediate round beams connected together, and a skeleton center comprising in part, a series of vertical strands, each attached by a loop and fastening means to an intermediate horizontal beam and extending down and around a lower horizontal beam, thence to an upper horizontal beam and across to an opposite upper horizontal beam, thence down to a lower horizontal beam and around the same, thence up to an intermediate horizontal beam and secured thereto by a loop and fastening means, and a series of upper horizontal strands, each attached by a loop and fastening means to an intermediate post and extending to and around a corner post and across to an opposite corner post, thence to an opposite intermediate post and secured thereto by a loop and fastening means.

[Claims 6 to 11 not printed in the Gazette.]

974,660. MAKING FISH SAUSAGE. MARTIN F. HAHN, Hamburg, Germany. Filed Aug. 12, 1908. Serial No. 448,244.

1. The process of making fish sausage which comprises cleaning the fish, smoking the same after cleaning, chopping the cleaned and smoked fish and raw meat together, thereby intimately mixing them, flavoring the mixture, stuffing the flavored mixture into a skin container, boiling the container with the ingredients therein, and finally smoking the stuffed container.

2. The process of making fish sausage which comprises cleaning haddock, smoking the same after cleaning, simultaneously chopping and intimately mixing the cleaned and smoked haddock with raw pork, adding salt, pepper, paprika, onions and smoked bacon with the mixture, stuffing the seasoned mixture into a gut the interior of which has been previously smeared with pork fat, boiling the stuffed gut, and finally smoking the latter.

3. A process of making fish sausage which comprises smoking the fish meat, mixing the smoked fish meat with meat sausage material, filling the mixture into skins, boiling the sausage so made and finally smoking it.

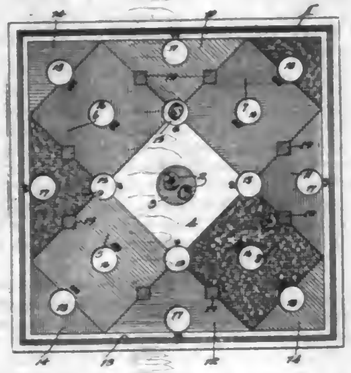
974,661. GAME APPARATUS. WILLIAM A. HAMILTON, Mill Valley, Cal., assignor of one-half to Edyth C. Walter, San Francisco, Cal. Filed Nov. 1, 1909. Serial No. 525,629.

1. An improved game apparatus comprising a board with piece-retaining pockets, and pieces having inherent powers of locomotion for automatically and spasmodically directing the pieces over the board.

2. A game apparatus comprising a board having a defined starting point, and pieces movable automatically and spasmodically over the board, said board having means arranged in the course of the pieces by which said pieces are entrapped.

3. A game apparatus comprising a board divided off into areas of different colors, said board having a central starting point, piece-retaining pockets in the board, said board

having representations of traps at suitable intervals between the pockets, and a game piece possessing means for



inducing automatic and spasmodic movement of the pieces over said board.

974,662. VEHICLE-WHEEL HUB. RUPERT L. HARRELL, Northwilkesboro, N. C., assignor of one-half to The Red Top Bottling Company, Northwilkesboro, N. C. Filed Mar. 12, 1910. Serial No. 548,865.

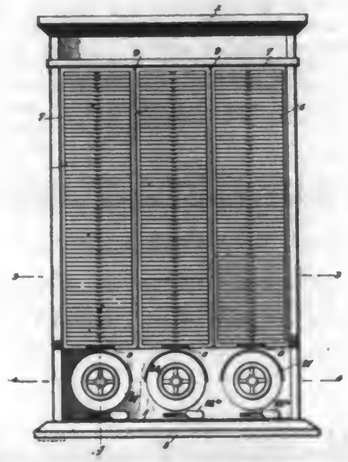


In a device of the class described, the combination with an axle, of a wheel coöperating therewith, a spindle carried by said wheel provided with a conical formed bearing adjacent to said wheel said bearing being surrounded by a horizontal spaced flange, a tubular boxing carried below said axle provided with conical flared portions at each extremity thereof the outer flared portion being substantially parallel to the conical bearing of the spindle the flange surrounding said spindle being adapted to fit over the end of the tubular boxing, a tapered nut carried by the inner terminal of said spindle the sides of which being substantially parallel to the inner flared portion of said tubular boxing, roller bearings interposed between the conical bearing of said spindle, the nut carried by said spindle, and the flared portions at the ends of the tubular boxing, and an outwardly extending lip carried by the upper side of said axle projecting over the joint between the flange surrounding the spindle and the tubular boxing.

974,663. FILE-CABINET. WILLIAM A. HARRIS, Greenville, S. C., assignor to George W. Taylor, Greenville, S. C. Filed Aug. 30, 1909. Serial No. 515,189.

1. A filing cabinet comprising a frame, a plurality of drawers therein, a number wheel provided with parts corresponding to the drawers and arranged to be exposed singly and a drawer opening device adapted to be brought into operative relation with any of said drawers by a movement of the number wheel.

2. A filing cabinet comprising a main casing, a frame arranged to fit into said main casing, a plurality of superposed drawers carried by said frame, a number wheel provided with numbers corresponding to the drawers arranged to be exposed singly, a drawer opening device and means actuated by the movement of the number wheel for bringing said drawer opening device into operative relation with the drawer corresponding with the number exposed.



3. A filing cabinet comprising a main casing, a removable frame arranged to fit into said main casing, a plurality of superposed drawers carried by said frame, a number wheel having numbers corresponding to the drawers, means for exposing the numbers singly, a single lever arm for moving any of the drawers, means actuated by the movement of the wheel for bringing the lever arm into operative relation with the drawer corresponding to the number exposed and means for causing the engagement of said lever arm with the drawer for opening the same.

4. A filing cabinet comprising a main casing, a removable frame arranged to fit into said main casing, a plurality of superposed drawers carried by said frame, a number wheel having numbers corresponding to the drawers, a plate provided with an opening for exposing a single number, a vertically movable arm adapted to be actuated by a movement of said number wheel, means for moving said arm into operative relation with the drawer corresponding to the number exposed on the number wheel and means for causing a lateral movement of the arm to bring it into engagement with the drawer selected.

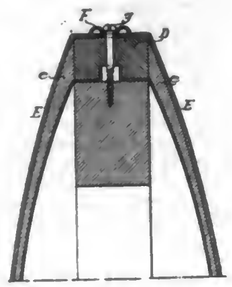
5. A filing cabinet comprising a main casing, a removable frame arranged to fit into said main casing, a plurality of superposed drawers carried by said frame, a number wheel having numbers corresponding to the drawers, a plate secured to said main casing and provided with an opening for exposing a number, a vertically extending rod at the rear of said row of drawers, an arm slidably secured to said rod, means controlled by the number wheel for moving said arm up and down the rod, and means for rotating said rod, thereby bringing the arm into engagement with the rear end of the drawer, corresponding to the number exposed on the number wheel so as to push the drawer forward.

[Claims 6 to 8 not printed in the Gazette.]

974,664. CAR-SEAT STRUCTURE. FRED H. HENRY, Philadelphia, Pa., assignor to John A. Brill, Philadelphia, Pa. Filed Dec. 4, 1906. Serial No. 346,250.

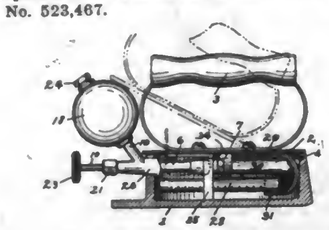
The combination of a frame, spring plates mounted on opposite sides of the frame, springs mounted between the plates, each plate having a flange at each end turned in so as to fit over the edge of the frame, the lips projecting outwardly from the ends of the flanges, the lips of the spring plate of one side of the frame facing the lips of

the spring plate on the opposite side of the frame, with a channeled strip secured to the frame and retaining the



plates to the frame, the lips extending into the channel of the strip.

974,665. SELF-HEATING IRON. JULIUS HEILBRON, St. Paul, Minn., assignor to Herz Manufacturing Company, a Corporation of Minnesota. Filed Oct. 19, 1909. Serial No. 523,467.



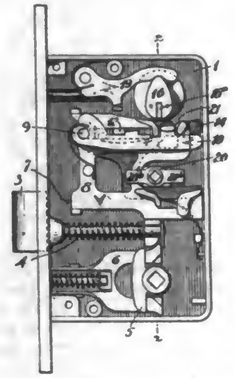
A self heating sad iron comprising a chambered body portion with a burner therein, a valve mechanism connected with said burner, said valve consisting of a hollow tube threaded internally at its front end, a hollow plug having exterior and interior screw threads, secured in said tube, said plug being reduced in diameter at its inner end whereby a passage is formed between the plug and tube, openings establishing communication between said passage and the interior of the plug, a valve rod having a screw threaded end secured to the interior threads of the plug, said rod having a projection provided with a conical valve, said plug also having a conical opening, a needle on the outer end of the conical valve adapted to close said opening, and said plug being further provided with an annular projection which extends beyond the outer face of the same to protect the point of the needle.

974,666. HOTEL-CORRIDOR LOCK. NORMAN B. HUBD, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed June 27, 1910. Serial No. 569,005.

1. In a lock, a latch-bolt, knob mechanism for operating said latch mechanism from both sides of the lock, a dead-locking device, a main tumbler carried thereby, a secondary tumbler coöperating therewith but relatively movable independently thereof, means for operating both of said tumblers simultaneously.

2. In a lock, a latch-bolt, knob mechanism for operating said latch mechanism from both sides of the lock, a dead-locking device, a main tumbler carried thereby, a secondary tumbler coöperating therewith but relatively movable independently thereof, means for operating both of said tumblers simultaneously and for shifting said tumblers simultaneously.

3. In a lock, a latch-bolt, knob mechanism for operating said latch mechanism from both sides of the lock, a dead-locking device, a main tumbler carried thereby, a secondary tumbler coöperating therewith but relatively movable independently thereof, means for operating both of said tumblers simultaneously and for shifting said tumblers simultaneously, a connection between said tumblers whereby the movement of the secondary tumbler in one direction will impart a corresponding movement to the first mentioned tumbler.

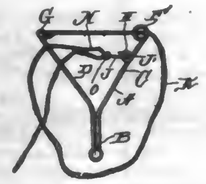


4. In a lock, a latch-bolt, knob mechanism for retracting said latch-bolt from both sides of the lock, a dead-locking device, a main and secondary tumbler mechanism co-acting therewith, thumb-turn mechanism for the inner side of the lock for moving said dead-locking device from its operative to its inoperative position and vice versa under all conditions, two keys adapted to said lock, one of said keys operating said dead-locking mechanism and one of said tumblers, the other key operating said dead-locking mechanism and both of said tumblers.

5. In a lock, a latch-bolt, knob mechanism for retracting said latch-bolt from both sides of the lock, a dead-locking device, a main and secondary tumbler mechanism co-acting therewith, thumb-turn mechanism for the inner side of the lock for moving said dead-locking device from its operative to its inoperative position and vice versa under all conditions, two keys adapted to said lock, one of said keys operating said dead-locking mechanism and one of said tumblers, the other key operating said dead-locking mechanism and both of said tumblers, said keys being of different over-all length.

[Claims 6 to 11 not printed in the Gazette.]

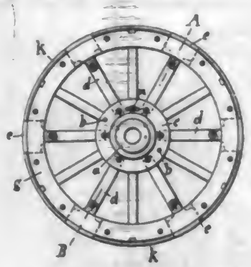
974,667. GARTER. CHARLES F. INGALLS, Laconia, N. H., assignor of one-third to Frank L. Clifford, Melrose Highlands, Mass. Filed Oct. 5, 1909. Serial No. 521,078.



1. A garter comprising a wire which is bent upon itself to form resilient arms terminating in eyes, leg surrounding means fastened to one of said eyes and passing freely through the other, a hook fastened to said means, and adapted to engage one of said arms.

2. A garter comprising a wire which is bent upon itself to form resilient arms terminating in eyes, a cord fastened to one of said eyes and passing freely through the other, a hook adjustably fastened to said cord, and an eye formed intermediate one end of said wire and the portion which is bent upon itself and engaged by said hook.

974,668. DETACHABLE WHEEL-RIM. REINER JANCLAES and WILLIAM KAULHAUSEN, Aix-la-Chapelle, Germany. Filed Oct. 26, 1909. Serial No. 524,738.



1. A device of the character described, comprising a felly, a ring secured to the side of said felly, bolts held in recesses of the felly by said ring, a fixed rim upon the felly having a raised edge on one of its sides, rods pivotally connected with one of their ends to said bolts, a ring secured to the hub of a wheel pivotally connected to the other ends of said bolts, and having holes to be engaged by an adjusting key, and a spring actuated pin, a sleeve fastened upon the hub ring guiding the pin, said pin entering holes in the hub at each of its terminal positions for holding said hub ring in adjusted position, substantially as described and for the purpose set forth.

2. A device of the character described, comprising a felly, a ring secured to the side of said felly, bolts held in recesses of the felly by said ring, a fixed rim upon the felly having a raised edge on one of its sides, said felly, ring, and fixed rim being intermittently recessed, to allow the passage of the fastening means for the tire upon the rim, rods pivotally connected with one of their ends to said bolts, means pivotally connected to the other ends of said bolts for actuating the rods and bolts, and means for holding said actuating means in adjusted position, substantially as described and for the purpose set forth.

974,669. CABLE-HANGER. ELIJAH GORDON JEFFRIES, Boise, Idaho. Filed Dec. 7, 1909. Serial No. 531,776.



1. In a cable hanger, the combination with a stirrup, of a pin connected to said stirrup, and a locking member pivotally connected to said pin and having a short arm adapted to be thrown beyond the center line of support extending through said pin.

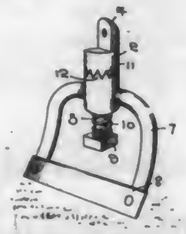
2. In a cable hanger, the combination with a stirrup, of a pin connected to said stirrup, and a locking member pivotally connected to said pin and comprising a pair of arms so disposed as to extend on opposite sides of said pin when in their locked position.

3. In a cable hanger, the combination with a stirrup adapted to support a cable, of a locking member adapted to engage a supporting cable, and means for pivotally connecting said locking member with said stirrup, said locking member comprising a single length of wire bent on itself to form engaging portions which are adapted to abut against said supporting cable.

4. In a cable hanger, the combination with a stirrup adapted to engage a cable, of a pin connected to said stirrup, and a locking member pivotally connected to said pin and adapted to engage a supporting cable, said locking member comprising a single length of wire bent intermediate its ends to form a corrugation which is adapted to engage said supporting wire, and having legs extending from each side of said corrugation and coiling one or more times around said pin, the lengths of said wire extending from said pin in a converging manner toward each other, from whence they are twisted one around the other to form a stiffened shank, the ends of said lengths extending in spaced relation to form a U-shaped grip which is adapted to embrace said supporting cable.

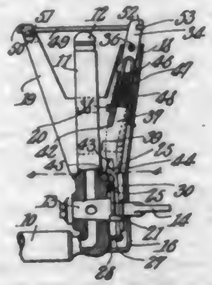
5. A cable hanger, comprising a supporting member and a suspending member pivotally connected together, said members having juxtaposed concave faces arranged in opposition to each other, and means on one of said members adapted to lockingly engage a cable, whereby said members are locked against relative movement.

974,670. ATTACHMENT FOR CULTIVATORS. JAMES L. JENKINS, Johnstown, W. Va. Filed June 17, 1910. Serial No. 567,467.



A cultivator attachment, comprising a shank having a shaft depending therefrom and the lower edges of said shank provided with vertically arranged teeth, said shank being also provided with an upwardly extending wing adapted for engagement with the cultivator shank, a socket slidably and rotatably mounted on said shaft, said socket being provided on its upper edges with vertically disposed teeth adapted for engagement with the teeth of said shank, a yoke integral with said socket, the arms of said yoke being curved downwardly and extended forwardly of said socket, a blade mounted on the lower ends of said yoke, a nut adjustably secured to the lower free end of said shaft, and a spring encompassing said shaft between said nut and the lower end of said socket and adapted to exert upward pressure thereon, whereby said socket will be normally held in position with relation to said shank.

974,671. GAS-BURNER. CARL A. JOHNSON, Bucklin, Mo., assignor of one-fourth to John T. Coleman, Tolar, N. Mex. Filed Apr. 11, 1910. Serial No. 554,750.



1. In a device of the class described, a burner body, a burner valve, a valve actuating member upon the stem of the valve, a fixed projection on the burner body, the said valve actuating member having a portion engaging normally with said projection, a spring tending to rotate said member in the direction of rotation of the valve to closed position, a member fixed upon the stem of the

valve and adapted for engagement by said valve actuating member when the same is disengaged from said projection, a pivoted member adapted when moved in one direction to so disengage the valve actuating member, a spring connected with the pivoted member holding it normally in one direction, and a thermostatic element connected to the said pivoted member.

2. In a device of the class described, a burner body, a burner valve, a valve actuating member upon the stem of the valve, a fixed projection on the burner body, the said valve actuating member having a portion engaging normally with said projection, a spring tending to rotate said member in the direction of rotation of the valve to closed position, a member fixed upon the stem of the valve and adapted for engagement by said valve actuating member when the same is disengaged from said projection, a pivoted arm, a member upon the arm arranged to disengage the valve actuating member when the arm is moved upon its pivot in either direction, and a thermostatic element connected to the arm.

3. In a device of the class described, a burner body, a burner valve, a valve actuating member upon the stem of the valve, a fixed projection on the burner body, the said valve actuating member having a portion engaging normally with said projection, a spring tending to rotate said member in the direction of rotation of the valve to closed position, a member fixed upon the stem of the valve and adapted for engagement by said valve actuating member when the same is disengaged from said projection, a pivoted arm, means upon the arm arranged to so disengage the valve actuating member when the arm is rocked upon its pivot in either direction, a spring tending normally to hold the arm in one direction, and a thermostatic element connected to the arm.

4. In a device of the class described, a burner body, a burner valve, a valve actuating member upon the stem of the valve, a fixed projection on the burner body, the said valve actuating member having a portion engaging normally with said projection, a spring tending to rotate said member in the direction of rotation of the valve to closed position, a member fixed upon the stem of the valve and adapted for engagement by said valve actuating member when the same is disengaged from said projection, a pivoted arm, means arranged upon the arm for rocking and sliding movement and adapted to so disengage the valve actuating member when the arm is rocked upon its pivot in either direction, a spring tending normally to hold the arm in one direction, and a thermostatic element connected to the arm.

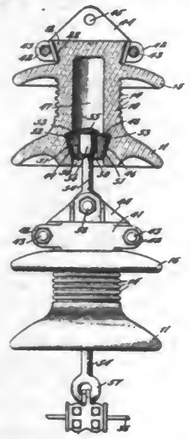
5. In a device of the class described, a burner body, a burner valve, a valve actuating member upon the stem of the valve, a fixed projection on the burner body, the said valve actuating member having a portion engaging normally with said projection, a spring tending to rotate said member in the direction of rotation of the valve to closed position, a member fixed upon the stem of the valve and adapted for engagement by said valve actuating member when the same is disengaged from said projection, a pivoted arm, a member upon the arm and adapted to so disengage the valve actuating member when the arm is rocked, a spring normally holding the arm in one direction, the said member upon the arm moving bodily with the arm when the arm is rocked in one direction and adapted to rock upon the arm when the same is moved in the other direction, and a thermostatic element connected with the arm.

[Claims 6 to 10 not printed in the Gazette.]

974,672. INSULATOR. ROBERT M. JOHNSTON, Mansfield, Ohio, assignor to The Ohio Brass Company, Mansfield, Ohio, a Corporation of New Jersey. Filed Dec. 23, 1907. Serial No. 407,623.

1. In an insulator, the combination of a series of interchangeable insulator sections detachably swiveled together, and a suspension means attached to the ends of the series.

2. In an insulator, the combination of a plurality of insulator sections, connected clamps engaging the adjacent ends of the sections, and a suspension device attached to the free extremity of the sections.



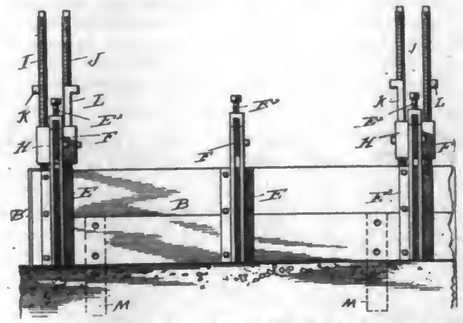
3. In an insulator, the combination of a series of insulator sections, means for detachably swiveling said sections together, and a suspension means attached to the ends of the series.

4. In an insulator, the combination of a series of interchangeable insulator sections detachably swiveled together, and a suspension means attached to the ends of the series.

5. An insulator, comprising a hollow body portion of insulating material, a suspension bolt, one extremity of the bolt projecting into the hollow body portion at one end of the insulator, means for supporting and securing the bolt to the body for free swivel movement with respect thereto, said bolt being provided with suspension means at its free end, and a suspension device secured to the other end of the insulator.

[Claims 6 to 8 not printed in the Gazette.]

974,673. FLASK FOR BUILDING CEMENT WALLS. JEROME C. JOSLIN, Keene, N. H. Filed Nov. 27, 1907. Serial No. 404,170.

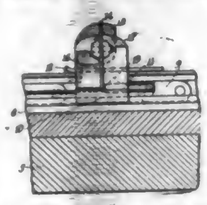


In a flask of the kind described, the combination with cross-bars, of jaws adjustably mounted on said cross-bars carrying sides, ends carried by said sides, depending guide-members carried by the sides, and means slidably mounted on the cross-bars for raising and supporting said mold, for the purpose described.

974,674. LACE-FEEDING DEVICE. WILLIAM H. JOSLIN and MANFRED H. BENNETT, Scituate, R. I., assignors to William E. Joslin, Scituate, R. I. Filed Apr. 21, 1910. Serial No. 556,724.

1. In a lace-feeding device for a tipped length of lacing, a carrier, and a lace-pulling member carried by the car-

rier, the pulling member having oppositely-arranged engaging portions, said portions when in operative position spaced apart sufficiently to permit of the lacing freely passing therebetween but close enough together when in said position to engage and prevent the passage of the tip.



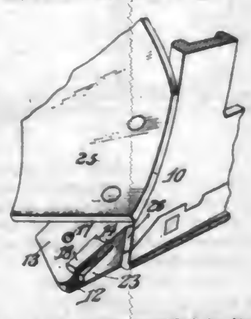
2. In a lace-feeding device for a tipped length of lacing, a carrier, a lace-supporting member carried by the carrier, and a lace-pulling member driven by the carrier and having lace-engaging portions relatively movable to and from each other, the said portions when brought to operative position standing apart sufficiently to allow the lacing to pass freely therebetween and close enough together to engage and prevent the passage of the lacing tip.

3. In a lace-feeding device for a tipped length of lacing, a carrier, a lace-supporting member carried by the carrier, and a lace-pulling member pivotally supported to swing to and from the lace-supporting member, and arranged when in its innermost position sufficiently spaced from the lace-supporting member to permit of the lacing freely passing therebetween, yet close enough to the lace-supporting member to engage the shoulder presented by the inner edge of tip and cause the lacing to be drawn forwardly with the carrier.

4. In a lace-feeding device for a tipped length of lacing, a carrier, a block attached to the carrier, having a laterally-extended lace support, and a lace-pulling plate pivotally supported on the block to swing to and from the lace support and arranged when in its operative position sufficiently spaced from the support to permit of the lacing sliding therebetween, yet sufficiently close to prevent the passage of the tip.

5. In a lace-feeding device for a tipped length of lacing, a lace carrier, a lace-supporting member carried by and extending laterally of the carrier in an approximately horizontal position, the said member having an upwardly-projecting guard flange adjacent to its outer edge, and a pulling member movable to and from the supporting member and arranged when in its operative position close to the guard flange and sufficiently spaced from the supporting member to allow the lacing to pass freely therebetween, yet engage and prevent the passage of the tip.

974,675. PLOW. ROBERT MARVIN KELLY, Longview, Tex. Filed Sept. 21, 1909. Serial No. 518,881.



1. In a plow, a standard provided in its lower portion at a point remote from the landside with a bolt opening and having its landside face provided with a lateral projection of less area than said face and having its front end extending in advance of the bolt opening, a share having its landside flange fitted against the landside face of the standard and provided in its face with an interiorly arranged socket receiving the said projection, whereby the share is held against upward movement on the landside face, said share having an opening registering with the bolt opening of the standard, and a fastening device passed through the said openings.

2. In a plow, the combination of a standard having at a point remote from the landside a vertically disposed bolt opening in its lower portion, and provided at its landside face with a tapered lug projecting laterally from said face and having its front end extending in advance of the bolt opening, and a share having a face fitted against the landside face of the standard and provided with an interiorly arranged socket corresponding in shape to and receiving said lug, whereby the share is locked against upward movement on the landside face by wedging the share on the standard, said share having an opening registering with the opening of the standard, and a fastening device arranged in the said openings and securing the share to the standard.

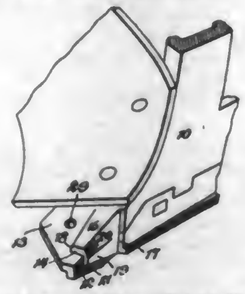
3. In a plow, the combination of a standard having at a point remote from the landside a vertically disposed bolt opening in its lower portion, and provided at its landside face with a shoulder, and having a tapered lug projecting laterally from the landside face and of less area than said face, said lug having its front end extending in advance of the bolt opening and having its thicker and narrower end at the front and spaced from the front of the standard and decreasing in thickness and increasing in width toward its rear end and merging into the landside face at a point in advance of the said shoulder, a share having its landside flange fitted against the said shoulder and provided in the inner face of the said flange with a socket of correspondingly tapered shape as and receiving the lug of the standard to hold the share against upward movement on the landside face by wedging the share on the standard, said share having an opening registering with the opening of the standard, and a fastening device arranged in the said openings and securing the share to the standard.

4. In a plow, the combination of a standard provided with lugs projecting from its upper and landside faces, and a share having corresponding recesses in its lower face and in the inner face of its landside flange, said lugs fitting snugly in the recesses, whereby the share is locked against both vertical and horizontal movement.

5. In a plow, the combination of a standard provided with tapering longitudinal lugs projecting from the upper and landside faces of the standard, and a plow point provided in its lower face with a tapering recess and having a landside flange provided also in its inner face with a tapering recess, said recesses snugly receiving the tapered lugs, whereby the plow point is interlocked with the standard and held against both vertical and horizontal movement.

[Claim 6 not printed in the Gazette.]

974,676. PLOW. ROBERT MARVIN KELLY, Longview, Tex. Filed July 7, 1910. Serial No. 570,872.



1. In a plow, a standard provided at the meeting edge of its landside face and its top face with a tapering projection extending over a portion of the said top face and over a portion of the landside face and being of an area less than the said faces, and a share having its landside flange fitted against the landside face of the standard and provided at its angle with a recess receiving the said projection, whereby the share is held against vertical movement on the landside face and lateral movement on the top face of the standard.

2. In a plow, a standard provided at the meeting edges of its top face and landside face with a tapering projection extending over a portion of the top face and a portion of the landside face of the standard and being of less area than the said faces and having its thicker and narrower end at the front and decreasing in thickness and increasing in width toward its rear end and merging into the top face and the landside face of the standard, and a share fitted against the top face and the landside face of the standard and provided in the angle formed by its landside flange with a socket of corresponding tapering shape receiving the lug of the standard and interlocking the share with the same, whereby the share is wedged on the standard and held against vertical movement on the landside face and lateral movement on the top face of the standard.

3. In a plow, a standard provided at the meeting edges of its top face and landside face with a tapering projection composed of an inwardly extending top portion and a depending approximately vertical portion, said projection being spaced from the front of the standard and decreasing in thickness and increasing in width toward its rear end and merging into the top and landside faces of the standard, and a share fitted against the top face and the landside face of the standard and provided in the angle formed by its landside flange with a socket of corresponding shape receiving the lug of the standard and interlocking the share with the same, whereby the share is wedged on the standard and is held against upward movement on the landside face and lateral movement on the top face of the standard.

4. In a plow, a standard provided at the meeting edges of its top and landside faces with a tapering projection composed of an inwardly extending transversely inclined top portion and a depending approximately vertical portion having the upper portion of its side face inclined upwardly and inwardly, and a share fitted against the top face and the landside face of the standard and provided in the angle formed by its landside flange with a socket of corresponding tapering shape receiving the lug and interlocking the share with the standard, whereby the share is wedged thereon and is held against upward movement on the landside face and lateral movement on the top face of the standard.

5. In a plow, a standard provided at the meeting edges of its top and landside faces with a tapering projection composed of an inwardly extending transversely inclined top portion and a depending approximately vertical portion having the upper portion of its side face inclined upwardly and inwardly, said projection being provided with inclined side edges and being of a greater width at the top of the same than at the bottom thereof, and a share fitted against the top face and the landside face of the standard and provided in the angle formed by its landside flange with a socket of corresponding tapering shape receiving the lug and interlocking the share with the standard, whereby the share is wedged thereon and is held against upward movement on the landside face and lateral movement on the top face of the standard.

974,677. DOLLY-BAR. CLAUD C. KIRK, Newcastle, Ind. Filed Feb. 1, 1910. Serial No. 541,357.

1. A dolly bar comprising a casing, a die slidably connected with the casing, a spring yieldingly backing the said die, and means for regulating the resistance of the spring.

2. A dolly bar comprising a casing, a die having a limited sliding movement in the casing, a closure for the outer end of the casing, a spring yieldingly backing the die, and means carried by said closure and for operative connection with the spring for regulating the resistance thereof.



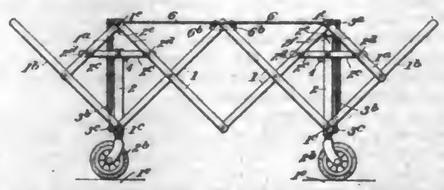
3. A dolly bar comprising a casing, a die carrier fitted at one end within the casing and having a transverse slot, a key extending through the casing and said slot and detachably connecting the die with the casing to permit the die to have a limited reciprocatory movement therein, a spring backing on the die, and means for regulating the resistance of said spring.

4. A dolly bar comprising a casing, a die fitted in one end thereof to have a limited reciprocatory movement, a closure for the opposite end of the casing, a spring yieldingly backing said die, a block disposed between the spring and closure, and an adjusting device carried by the closure and acting on said block.

5. A dolly bar comprising a casing, a die fitted in one end thereof to have a limited reciprocatory movement, a closure for the opposite end of the casing, a plunger composed of sections, one arranged to bear against the die, an adjusting device carried by the closure and bearing against the other plunger section, and a spring disposed between said plunger sections.

[Claim 6 not printed in the Gazette.]

974,678. FOLDING FRAME FOR TRUCKS. PHILIP J. KREMER, Somerton, Ohio. Filed Apr. 26, 1910. Serial No. 557,815.



1. In a casket truck, an end frame comprising four bars pivotally united in lazy-tongs fashion, the upper ends of the two lowermost bars extending beyond their points of intersection with the upper bars and intersecting each other and extended beyond their own point of intersection; short bars pivotally connected at center to the upper ends of the lowermost bars, said short bars being pivotally connected at their upper ends, and also pivotally connected at their lower ends to the two upper bars above the points of intersection of the upper bars with the lower bars, substantially as described.

2. In an extensible truck frame, the combination of extensible side and end members, and corner members;

with a collapsible top member comprising links each pivotally connected at their outer ends to an angle piece pivoted to a corner member of the truck frame and at its inner end to an angle piece, and a bar pivotally connecting the inner angle pieces.

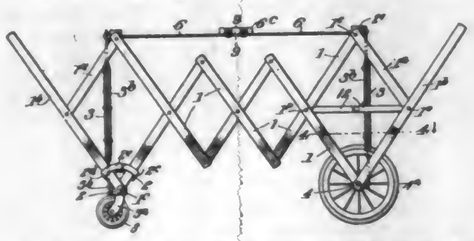
3. A foldable truck comprising extensible side-frames and end-frames connected at the corners of the truck; with links pivotally connected to each other and to the frames to limit the lateral expansion thereof, and links pivotally connected to the frames at their outer ends and to angle pieces at their inner ends, and a tie-piece to which the said angle pieces are pivotally connected, to limit the longitudinal expansion of the frames.

4. In a truck-frame, the combination of lazy-tong side-frames and lazy-tong end-frames, standards at the corners of the truck pivotally connected at their lower ends to the adjacent side and end frames, and links connecting the upper ends of the standards with the adjacent lazy-tong members of the side frame; with links pivotally connected to the frames at their outer ends and to angle-pieces at their inner ends, and a tie-piece pivotally connecting said angle-pieces, substantially as described.

5. In a truck-frame, the combination of lazy-tong side-frames and lazy-tong end-frames, standards at the corners of the truck pivotally connected at their lower ends to the adjacent side and end frames, corner members connecting the adjacent side and end frames above the standards, and links connecting the upper ends of the standards with the adjacent lazy-tong members of the side frame; with links pivotally connected to each other and to the adjacent corner members of the frame, and links pivotally connected to the corner members of the truck-frame at their outer ends and to angle-pieces at their inner ends, and a tie-piece pivotally connecting said angle-pieces, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

974,679. CASKET-TRUCK. PHILIP J. KREMER, Somerton, Ohio. Filed May 17, 1910. Serial No. 561,595.



1. In a casket truck, the combination of a side frame composed of bars united in lazy-tongs fashion, a shaft-bolt having its outer end connected to the lower ends of the outermost bars of said frame, auxiliary bars attached at their upper ends to the said outermost bars and at their lower ends to the inner end of said shaft-bolt, and a wheel journaled on said shaft-bolt.

2. In a casket truck, the combination of side frames composed of bars united in lazy-tongs fashion, auxiliary bars attached to the outermost bars of the side frames at one end of the truck, a shaft-bolt connected to the lower ends of said frame-bars and auxiliary-bars at each side of the truck, and a wheel journaled on each of said shaft-bolts; with a caster connected to the lower ends of the rearmost bars of each of the side frames.

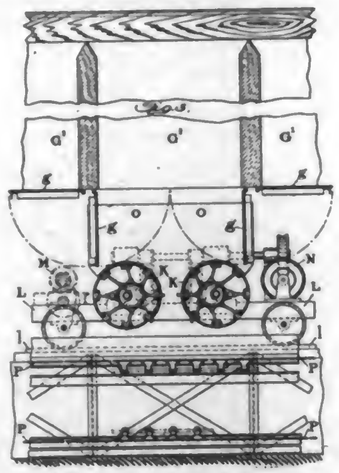
3. In a casket truck, the combination of a frame at each side of the truck each composed of bars united in lazy-tongs fashion, auxiliary bars attached at their upper ends to the outermost bars of each side frame at one end of the truck, a shaft-bolt connected to the lower ends of said outermost frame-bars, and the lower ends of said auxiliary bars of each side frame, and a wheel journaled on each shaft-bolt; with a corner-member connected to the lower ends of the rearmost bars of each of the side frames, a caster swiveled on each corner member; and foldable end frames connected to the front and rear ends of the side frames.

4. In a casket truck, the combination of lazy-tongs, side and end frames, corner castings connected to the lower ends of the outermost bars of the side frames and to the adjacent end frame, said corner castings having portions to limit the swinging movement of the bars of the frames connected therewith.

5. In a casket truck, the combination of side and end frames, a corner casting connected to the lower ends of the outermost bars of each side frame and to the adjacent end frame, said corner castings having side and end members to which the frames are pivotally attached and having slotted guides to limit the swinging movement of the bars connected therewith.

[Claims 6 to 9 not printed in the Gazette.]

974,680. MEANS FOR CHARGING REFUSE-DESTRUCTORS. HENRY NORMAN LEASK, Egremont, England. Filed Oct. 30, 1908. Serial No. 460,309.



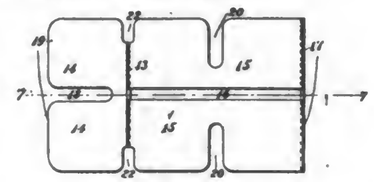
1. Feeding means of the class described consisting of an outer hollow drum having openings through the circumferential wall thereof at regular intervals, a dead shaft upon which said drum is rotatably mounted and provided with eccentrics, a smaller drum rotatably disposed within the outer drum and engaging the eccentrics, and projections movably attached to the inner drum and extensible through the openings of the outer drum.

2. Feeding means of the class described comprising an outer hollow drum provided with openings, means for positively rotating the outer drum, and a smaller drum eccentrically and loosely mounted within the outer drum and having projections movably attached thereto and projectable through the openings of the outer drum, the smaller drum being moved within the outer drum through the projections engaging the opening of the latter drum.

3. In a device of the class specified for supplying fuel to fire, a series of hoppers having bottom doors, a truck movable under the hoppers, a pair of rollers mounted upon the truck and one of the rollers mounted eccentrically within the other and provided with fingers projectable and withdrawable through the other roller to forwardly feed the fuel when the doors of a hopper over the truck are open, and a conveyer under the truck to receive the fuel and feed it forward toward the fire.

974,681. UNIVERSAL CUT-OUT AND SWITCH-BLOCK HOLDER. ERNEST R. LE MANQUAIS, Bellemead, N. J. Filed May 29, 1909. Serial No. 499,118.

1. A holder for cut-out blocks having two arms disposed in different planes, there being a central web portion which unites the arms, and a flange on one of the arms, there being a slot in the arm having the flange, the slot extending through the flange.



2. A holder for cut-out blocks having an arm, and a flange on the arm, there being a slot in the arm which extends through the flange.

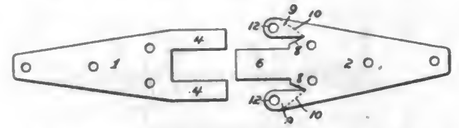
3. A holder for cut-out blocks having an arm, and a flange disposed at right angles to the arm near its terminal, there being a slot in the arm which extends through the flange.

4. A holder for cut-out blocks having two arms disposed in different planes, there being a central web portion which unites the arms, and a flange on one of the arms, there being a slot in the arm having the flange, the slot extending through the flange and there being also lateral slots in the arm having the flange, the lateral slots not extending to the first-mentioned slot.

5. A holder for cut-out blocks having two arms disposed in different planes, there being a central web member which unites the two arms and there being lateral slots in the central web member.

[Claims 6 to 8 not printed in the Gazette.]

974,682. HINGE. JERRY LESTER, Alanson, Mich., and HIRAM W. HUMPHREY, South Bend, Ind. Filed Nov. 17, 1909. Serial No. 528,552.



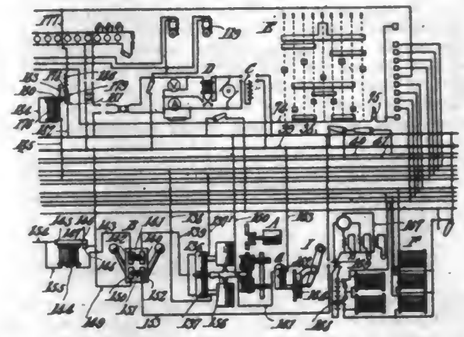
1. A hinge comprising two members and a hinge pin, said members provided with knuckles for said hinge pin, one of said members being cut at respective sides of its center near one end, forming ears and said ears being twisted and engaging the ends of the pintle.

2. A hinge comprising two members and a hinge pin, said members having knuckles engaging said hinge pin, one of said members being cut diagonally at respective sides of its center near one end and inwardly spaced from its side edges, forming ears, and said ears being bent on diagonal lines at an angle to said diagonal cuts and having their free end portions substantially parllel with each other and engaging the ends of the hinge pin.

974,683. CONTROLLING SYSTEM FOR MOTOR TRACTION-CARS. WILLIAM C. MAYO, Barstow, Tex., assignor, by direct and mesne assignments, of one-third to Electric Gas Motor Car Company, a Corporation of Arizona, one-third to George E. Briggs, Barstow, Tex., and one-third to John Houlehan, El Paso, Tex. Original application filed Feb. 24, 1908, Serial No. 417,431. Divided and application filed Nov. 3, 1908, Serial No. 460,828. Divided and this application filed Dec. 29, 1909. Serial No. 535,440.

1. In a system of electric car control, speed changing mechanism between the power side of the car and the car axles, electric controlling means for said speed changing mechanism, and means for establishing electric connection on the lowering speed side of the speed changing mechanism when the main controlling circuit therefor is broken.

2. In a system of electric car control, electrically operated speed changing mechanism, means for establishing electric circuits to actuate the speed changing mechanism to either raise or lower the speed and an electro-magnetically operated circuit controller and circuits therefor for establishing an electric circuit on the lowering speed side of the speed changing mechanism.



3. In a system of electric car control, a source of electric power and power conductors leading therefrom, electrically operated speed changing mechanism, electric circuits for the speed changing mechanism for causing the actuation thereof to either raise or lower the speed, and other means for actuating the lowering side of the speed changing mechanism comprising an electro-magnet, an armature therefor, a circuit through said armature and a magnet to a line conductor leading to the electric side of the speed changing mechanism, a terminal in the path of the armature and connected to one power conductor and a connection between the electric side of the speed changing mechanism and the other power conductor.

4. In an electric system of car control, a source of electric power and power conductors leading therefrom, electrically operated speed changing mechanism, electric circuits for said speed changing mechanism, for causing the actuation thereof to either raise or lower the speed, and other means for actuating the lowering speed side of the speed changing mechanism, comprising an electro-magnet, an armature therefor, a circuit through said armature and magnet and to a line conductor leading to the electric side of the speed changing mechanism, a terminal in the path of the armature and connected to one power conductor, a connection between the electric side of the speed changing mechanism and the other power conductor, and means for initially energizing the magnet to move its armature into engagement with said contact.

5. In a system of electric car control, a source of electric power and power conductors leading therefrom, electrically operated speed changing mechanism, electric circuits for said speed changing mechanism for causing the actuation thereof to either raise or lower the speed, and other means for actuating the lowering speed side of the speed changing mechanism comprising an electro-magnet, an armature therefor, a circuit through said armature and magnet and to a line conductor leading to the speed changing mechanism, on its electric side, a terminal in the path of the armature and connected to one power conductor, a connection between the electric side of the speed changing mechanism and the other power conductor, and means for initially energizing said magnet to move its armature into engagement with said contact, comprising another terminal in the path of the armature on its movement away from the magnet, a controller, circuit connections established by said controller when in its inactive position for energizing said magnet to attract its armature.

974,684. COMBINATION THERMOGRAPH AND HYGROGRAPH. ALEXANDER G. MCADIE, San Francisco, Cal. Filed Mar. 22, 1910. Serial No. 551,023. (Dedicated to the public.)

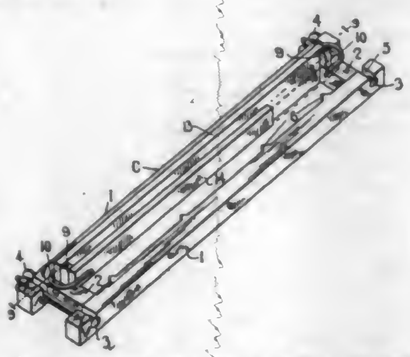
A combination thermograph and hydrograph, consisting of a cylinder driven by clock work, having a paper at-

tached thereto properly graduated, and the saturation content printed in weight thereon for given temperatures, a coil adapted to expand or contract with any change in temperature, a support therefor, an arm in contact with said coil, an arm in contact with said coil having counterbalancing weights at its rear end and a pencil at its front end, resting on said paper, said arm having an upward or downward motion induced by the expansion or contraction of said coil, said pencil tracing the movements of said arm on the said paper, thereby recording the degree of temperature, said arm having movably attached thereto at a lower angle and responding to its motion a second arm, said lower arm having a pencil at its front



end, a hook attached thereto and connecting a strand of hairs arranged lengthwise of the rear side of said first mentioned arm, said hairs being adapted to lengthen or contract with the change of saturation pressure thereby subjecting said hook to an upward or downward motion as the said hairs lengthen or contract, said hook communicating such upward or dowaward motion to the lower arm, said arm having contact with said paper and tracing its movement thereon, a percentage scale suspended from said first mentioned arm, said apparatus being adapted to record simultaneously the degree of temperature and indicate the moisture content in weight and percentage of saturation deficit, substantially as described.

974,685. GREENHOUSE-BENCH MOLD. FRANCIS C. MCCASLIN, Zanesville, Ohio. Filed Mar. 31, 1909. Serial No. 486,985.

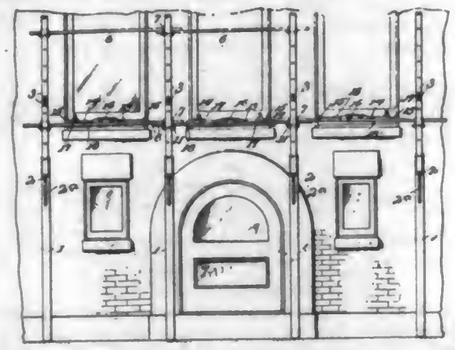


1. In a greenhouse bench mold, a section comprising in combination a pair of parallel side beams, spacing blocks interposed between the ends of said beams, means for clamping said beams and blocks together, and a wall forming device including a pair of spaced members, one of which is disposed between and above and the other upon said spacing blocks, separate spacing blocks interposed between the ends of said members, means for clamping said members and blocks together, said means consisting of U-shaped spring clips arranged to straddle the ends of said plates and interposed blocks.

2. In a greenhouse bench mold, a section comprising, in combination, a pair of parallel side beams, spacing blocks interposed between the ends of said beams; means for clamping said beams and blocks together; and a wall forming device connected to said section and including a pair of spaced L-shaped plates having the major portions thereof arranged parallel with said beams, and the minor portions at right angles to the same, the major portion of one of said plates being rigidly secured to the adjacent beam; blocks interposed between the ends of said plates; and means for clamping said plates and last mentioned blocks together.

3. In a greenhouse bench mold, a section comprising in combination a pair of parallel side beams, spacing blocks between the ends thereof in a common plane therewith, and clamping means securing said beams and blocks together, and a wall forming device comprising a pair of side plates, spacing blocks between the ends thereof and clamping means securing said plates and spacing blocks together, one of the plates of said wall forming device being of a width exceeding the width of the side beams of the first named section, and being provided in its lower corners with angular recesses to receive the spacing blocks thereof, so that the lower edge of said plate lies in the same plane with the lower side of said section and the upper edge of said plate is above the plane of the upper side of said section, the other plate of said wall forming device being narrower than the first named plate, and having its lower edge in the plane of the upper side of said section and its upper edge in the plane of that of the first-named plate, the said spacing blocks of the said wall forming device bearing on those of the said sections.

974,686. PORTABLE SCAFFOLD. ADDISON H. MCGHAN, Washington, D. C. Continuation of application Serial No. 548,394, filed Mar. 9, 1910. This application filed June 23, 1910. Serial No. 568,516.



1. A scaffold comprising spaced, parallel vertical standards formed of lower single stile supports and upper opposed ladder sections, in combination with floor boards, means for rigidly connecting them to said ladders to hold the vertical standards parallel and prevent lateral swaying or pivotal movement thereof, and means to connect said boards intermediate the standards rigidly to the opposed inner faces of window frames.

2. The combination with uprights and a scaffold board carried thereby and provided with holes near its edge, of an extensible strut for attachment to a window frame, and two braces adjustably mounted on said strut and having bent ends to engage holes in the scaffold board.

3. The combination with uprights and a scaffold board carried thereby, the said board having a series of holes arranged along its edge, of an extensible strut for attachment to a window frame, two braces movably mounted on said strut and having bent ends to engage the holes in the scaffold board and means for locking the braces to the strut.

4. In a scaffold, the combination with upright ladder members, a scaffold board resting on rungs of said ladder members and braces for connecting the board to a building, of clamps embracing the board adjacent each upright member, each clamp having a slotted end to straddle a rung of a ladder section, and means for locking the clamp to its rung.

5. In a scaffold, the combination with upright ladder members, a scaffold board resting on rungs of said ladder members and braces for connecting the board to the building, of clamps embracing the board adjacent to each upright member each clamp having a slotted end to straddle a rung of a ladder section, and a bolt passing through each clamp and the scaffold board.

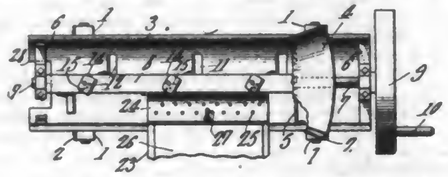
[Claims 6 to 22 not printed in the Gazette.]

974,687. ELECTRIC-LIGHT HANGER. NORMAN MCLEOD, Detroit, Mich. Filed Dec. 4, 1909. Serial No. 531,298.



A cushion suspension hanger for electric lamps, having in combination a suspension case having a large aperture in its bottom wall, an insulating cup fixed therewithin, said cup being provided with an aperture axially concentric with that in the bottom of the case but of smaller diameter, a suspension rod engaging with its headed upper end within said insulating cup and with its lower end projecting through the aperture in the bottom thereof, and a cushion spring interposed between the insulating cup and the suspension rod, whereby the rod is yieldingly held in raised position with respect to the case and insulating cup.

974,688. CONCRETE-MIXER. JOHN MEGGERS, Charlotte, Iowa. Filed July 28, 1910. Serial No. 574,326.

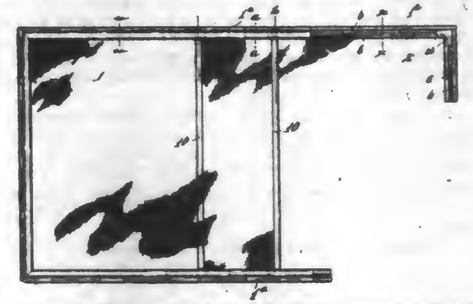


1. In a device of the class described, a container; a mixer journaled in the container, and comprising a shaft and a blade thereon, in one of which there is a plurality of openings disposed in an arc of a circle, and in the other of which there is a projection to register successively in the openings, thereby to change the angle of the blade with respect to the axis of the shaft; a clamping device located at the center of the arc in which the openings are disposed, the clamping device constituting at once a pivotal mounting for the blade, and a means for holding the blade upon the shaft to maintain the projection successively in the openings.

2. In a device of the class described, a container; a bar secured to the container longitudinally thereof; a bracket including a leg slidable upon the bar, and a platform upheld by the leg and adapted to support a tank, the platform being provided along its inner edge with a trough-shaped distributer extended longitudinally of the container and adapted to receive the contents of the tank, the distributer overhanging and engaging slidably with the upper edge of the container to prevent the bracket from tilting away from the container.

974,689. WINDOW-SCREEN. FRANK L. MICHAELS and GEORGE WELLING, Covington, Ky. Filed Oct. 4, 1909. Serial No. 520,788.

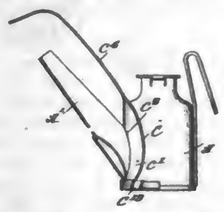
1. A window screen frame formed of sheet metal, and comprising strips each having a body portion with hook bends on each edge thereof, the meeting ends of said strips being cut on a miter, a connecting corner plate engaged between both hook bends of each strip, a notch being formed into said connecting plate through which the meeting edges of the inner hook bends project.



2. A window screen, comprising two slidably connected frame sections, each section composed of strips of sheet metal each having a body portion and hook bends on each edge thereof, said strips forming three sides of the frame, a tie-strip formed of sheet metal, U-shaped in cross section, with its ends slitted forming two separated limbs, the one provided with a hook bend adapted to engage with one of the hook bends of the frame strip, the opposite limb engaging the opposite strip hook bend.

3. A window screen, comprising two slidably connected frame sections, each section composed of strips of sheet metal, each having a body portion and hook bends formed on each edge thereof, one of each hook bends adapted to form clasping means for the wire cloth, and a plate fixed to two sides of each frame section, provided with a bend forming a slide-way, engaging with the relative opposed hook bend of the second frame section.

974,690. MINER'S LAMP. DOMINICK MIGLIO, Calumet, Mich. Filed Apr. 12, 1910. Serial No. 554,919.



1. A miner's lamp having a body and spout and provided in connection therewith, with a protector having a body plate encircling the spout at the base thereof, and provided with a brace plate extending from said body plate upwardly along the under side of the spout and conformed thereto, and also having a shield and reflector wing projecting from the upper edge of the main plate above the spout, the protector being provided below the juncture of its body plate with the brace plate with a projecting wing folded upon itself forming a brace band extending along the lower edge of the lamp body below the juncture thereof with the spout substantially as set forth.

2. A miner's lamp having a body and a spout, and provided with a protector having a body plate encircling the body of the spout and conformed to the body of the lamp, and also having in fixed relation to said body plate, a brace plate curved to conform to and underlying the spout substantially as set forth.

3. A protector or shield for miners' lamps having a body plate adapted to encircle a lamp spout at the base thereof and provided with a brace plate extended from said body plate upwardly and at an incline to underlie the under side of the spout and curved in cross section to

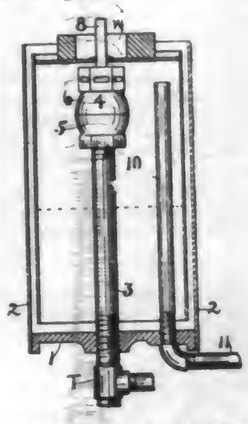
conform thereto, a reflector wing projecting from the upper edge of the body plate and a brace band extending laterally at the lower edge of the body plate substantially as and for the purposes as set forth.

4. A protector or shield for miners' lamps having a body plate curved in cross section to conform to a lamp body and having an opening adapted to receive a lamp spout and provided with an upwardly inclined brace plate crossing the line of said opening and curved to conform to a lamp spout extended through said opening substantially as set forth.

5. A protector or shield for miners' lamps comprising a body plate having an opening for a lamp spout and provided below said opening with a depending brace plate folded upon itself forming a manifold brace band extending laterally at the lower edge of the body plate and curved to conform to a lamp body substantially as set forth.

[Claims 6 and 7 not printed in the Gazette.]

974,691. GAS-REGULATOR. LOUIS H. MILLER, Mount Eden, Cal., assignor to L. H. Miller Acetylene Gas Machine Company, a Corporation of Arizona. Filed May 4, 1909. Serial No. 493,938.



In a gas regulator, a water tank having openings in the bottom thereof, an outlet pipe passing through one of said openings and to a point near the top of the tank, an inlet pipe passing through the other of said openings, a valve body on the upper end of the inlet pipe, a valve disk having a stem projecting through the top of the valve body, and a gas bell secured on the valve stem and adapted to be seated on the top of the valve body when the valve is wide open.

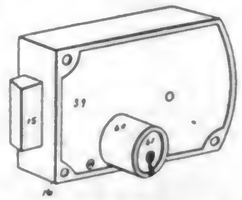
974,692. SHIRT-SLEEVE. LEWIS L. MOORE, Canton, Ohio, assignor to Mordecai Moore, Canton, Ohio. Filed Feb. 19, 1910. Serial No. 544,912.



1. A shirt sleeve having a cuff on its free end extending from the edge a substantial width upward therefrom, the cuff being secured to the sleeve and forming a reinforced portion with a plural-ply of material part way around the same, there being a single-ply portion of the sleeve intervening between the ends of the reinforced portion thereof, and one end of the cuff being extended from its secured portion and adapted to overlap the other secured end, with means for fastening the overlapped portions of the cuff, whereby the single-ply portion of the sleeve is neatly folded between the reinforced portions thereof.

2. A shirt sleeve having a cuff on its free end extending from the edge a substantial width upward therefrom, the cuff being secured to the sleeve and forming a reinforced portion with a plural-ply of material part way around the same, there being a single-ply portion of the sleeve intervening between the ends of the reinforced portion thereof, and one end of the cuff being made of elastic material and extended from its secured portion and adapted to overlap the other secured end, with means for fastening the overlapped portions of the cuff, whereby the single-ply portion of the sleeve is neatly folded between the reinforced portions thereof.

974,693. MULTIPLE-KEY LOCK. JAMES J. MURPHY, Terryville, Conn., assignor to Eagle Lock Co., Terryville, Conn., a Corporation. Filed May 9, 1906. Serial No. 315,859.



1. In a multiple-key lock, the combination with a plurality of two-part tumblers the respective parts of which are constructed to be reset for coaction with different keys, of means for resetting the said tumblers, and a supplemental pin-tumbler lock for locking the said means.

2. In a multiple-key lock, the combination with a plurality of two-part tumblers the respective parts of which are constructed to be reset for coaction with different keys, of an adjusting eccentric for resetting the said tumblers, a supplemental pin-tumbler lock, and pinions interposed between the eccentric and supplemental lock for locking the said eccentric.

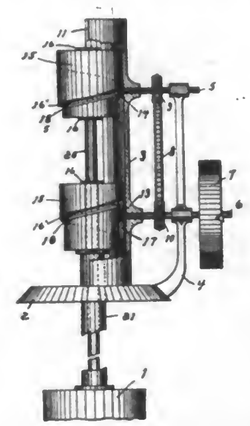
3. In a multiple-key lock, the combination with the case thereof, of two-part tumblers the respective parts of which are constructed to be re-set for co-action with different keys, an eccentric for resetting the said two-part tumblers, a supplemental pin-tumbler lock mounted in the lock-case, and pinions connecting the supplemental pin-tumbler lock with the said eccentric which is held in its locked position by the said pinions and supplemental pin-tumbler lock.

4. In a multiple-key lock, the combination with a lock-case, of a plurality of two-part tumblers the respective parts of which are constructed to be reset for co-action with different keys, a main bolt for co-action with the said tumblers, a key-way leading into the lock-case through the front thereof for the reception of a key by which the said two-part tumblers are operated, guard-mechanism co-acting with the said main bolt and arranged to be operated by a key also introduced through the front of the said lock-case, tumbler-resetting means, and a supplemental lock located within the said lock-case, connected with the said resetting means for locking the same, and arranged to be operated by means of a key introduced from the back of the said lock-case, whereby the supplemeptal lock can only be reached for operation when the compartment provided with the lock has been opened by the operation of its two-part tumblers and its guard-mechanism by their respective keys.

5. In a multiple-key lock, the combination with a lock-case, of a plurality of two-part tumblers the respective parts of which are constructed to be reset for coaction with different keys, a main bolt for coaction with the said tumblers, a key-way leading into the lock-case through the front thereof for the reception of a key by which the said two-part tumblers are operated, guard-mechanism co-acting with the main bolt and arranged to be operated by a key introduced through the front of the said lock-case into the key-way aforesaid, tumbler-resetting means, and a supplemental lock located within the said lock-case, connected with the said resetting means for locking the same, and arranged to be operated by means of a key introduced from the back of the said lock-case, whereby the supplemental lock can only be reached for operation when the compartment provided with the lock has been opened by the operation of its two-part tumblers and its guard-mechanism by their respective keys.

[Claims 6 to 16 not printed in the Gazette.]

974,694. PUMP DRIVING-GEAR. JAMES W. MYER, San Francisco, Cal. Filed Feb. 28, 1910. Serial No. 546,486.



1. In a piston drive gear, a pinion, a cylindrical head having a spiral gear and a straight gear parallel to the axis of the head connecting the ends of the spiral and also having a cam groove adjacent the said gears, a drive shaft on which said pinion is carried, and a roller adjacent said pinion and traveling in the cam groove of the head, as set forth.

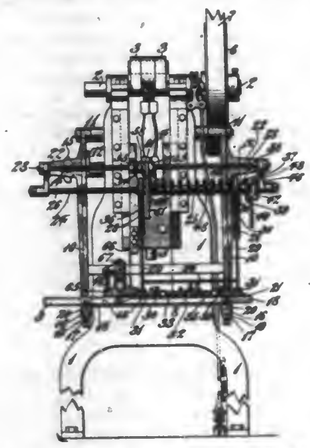
2. In a piston drive gear, a pair of heads each having a spiral gear and a straight gear connecting the ends of the spirals, a pinion in mesh with the gear teeth of each head, means to hold the heads in mesh with each pinion, and means to drive the pinions at the same rate, as set forth.

3. In a piston drive gear, a pair of heads each having a spiral gear and a straight gear connecting the ends of the spiral gears, a guide in which both heads slide, a pinion in mesh with the teeth of each head, a shaft supporting each pinion, and means to drive each pinion at the same rate, as set forth.

4. In a piston drive gear, a pair of heads each having a spiral gear and a straight gear connecting the ends of each spiral and also having a cam groove adjacent the teeth, a shaft adjacent each head, a pinion carried by each shaft and in mesh with the teeth of the adjacent head, a roller adjacent the pinion on each shaft and which coöperates with said cam groove to hold the heads in mesh with the teeth of their respective pinions, and means to drive each pinion at the same rate, as set forth.

5. In a piston drive gear, a pair of heads each having a spiral set of gear teeth, and having a straight set of gear teeth connecting the ends of the spiral set of teeth, a guide for the heads, a shaft adjacent each head, a pinion on each shaft and in mesh with the teeth of each head, a roller carried by each shaft and adapted to prevent the head from getting out of mesh therewith, means to drive each pinion at the same rate, and a piston rod connected with each head, as set forth.

974,695. STAMPING AND PUNCHING MACHINE. CLARENCE A. MYERS, Camden, N. J. Continuation of application Serial No. 508,599, filed July 20, 1909. This application filed June 10, 1910. Serial No. 566,226.



1. The combination of a stamping machine, with a table swingingly mounted thereon, and means to feed a strip of material along said table and toward said machine.

2. The combination of a stamping machine, with a table swingingly mounted thereon, means to feed a strip of material toward said machine, and means to feed said strip of material angularly to said first feeding movement.

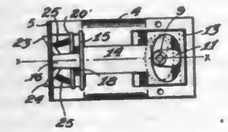
3. The combination of a stamping machine, with a table swingingly mounted thereon, a frame carried by said table adapted to support a strip of material, and means to effect a step by step movement of said frame.

4. The combination of a stamping machine, with a table swingingly mounted thereon, of a frame carried by said table adapted to engage a strip of material, means to feed said strip of material toward said machine, and means to effect a step by step movement of said frame.

5. The combination of a stamping machine with a frame swingingly mounted thereon carrying a table, a rod carried by said frame, a plurality of hangers movably mounted on said rod, gripping members secured to said hangers for engaging a strip of material, and means to effect a partial rotation of said hangers.

[Claims 6 to 30 not printed in the Gazette.]

974,696. SASH HOLDER AND LOCK. KICHIZO NARAHARA, Alameda, Cal. Filed Nov. 11, 1909. Serial No. 527,539.



1. A combined sash holder and lock comprising a frame, a shaft rotatable therein, a pair of spaced apart cams fast on said shaft, an arm slidable in said frame and having one end provided with a slot that loosely surrounds one of said cams, sash holding fingers carried by the other end of said arm, a second arm slidable in said frame and having a slotted end that surrounds the other cam, and locking fingers carried by the other end of said last mentioned arm.

2. A combined sash holder and lock comprising a frame having an end plate, said plate provided with spaced apart slots, a sash locking arm slidable in said frame and having fingers at one end that project through said slots, a sash holding arm also slidable in said frame and provided with an end plate, fingers pivotally connected to said

plate, and projecting through said slots, and means for independently actuating said locking and holding arms.

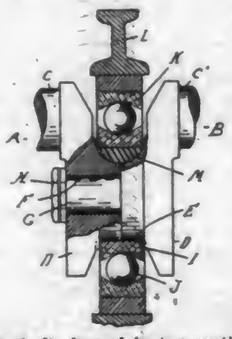
3. A combined sash holder and lock comprising a frame, a shaft rotatable therein, a pair of cams fast thereon and arranged at different angles, a sash holding arm slidable in said frame and engaging one of said cams, oppositely projecting holding fingers carried by said arm, a sash locking arm also slidable in said frame and engaging the other cam, and locking fingers projecting from said locking arm.

4. A combined sash holder and lock comprising a frame, an arm slidable therein, a pair of oppositely projecting spring pressed holding fingers pivoted to said arm, a second arm also slidable in said frame, a pair of locking fingers carried by said last mentioned arm, and means for independently actuating said arms.

5. In a device of the character described the combination of sash racks having inclined teeth and laterally projecting spaced apart side catches, and holding and locking fingers adapted for engagement with said teeth and catches respectively.

[Claims 6 and 7 not printed in the Gazette.]

974,697. CRANK-SHAFT AND BEARING THEREFOR. EMIL A. NELSON, Detroit, Mich., assignor to Rotary Valve Motor Company, Detroit, Mich., a Corporation of Michigan. Filed Feb. 5, 1910. Serial No. 542,192.



1. A crank shaft, formed in two sections having adjacent cranks abutting bosses on said cranks concentric with the axis of the shaft, a key engaging a radial key seat in said bosses, and a ball race surrounding said bosses and retaining said key.

2. A crank shaft comprising two sections having adjacent cranks, abutting bosses on said cranks concentric with the axis of the shaft, a pin projecting from one boss engaging a corresponding recess in the other, a key engaging a radial key seat in the periphery of said bosses, and a ball bearing mounted upon and surrounding said bosses forming a retaining means for said key.

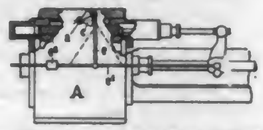
3. A crank shaft comprising two sections having adjacent abutting bosses on said cranks concentric with the axis of the shaft, a pin projecting centrally from one of said bosses and passing through a corresponding aperture in the other boss, a clamping nut having a threaded engagement with the end of said pin, a key engaging a radial key seat in the periphery of said bosses, and a ball bearing mounted upon said bosses and retaining said key in its seat.

4. A crank shaft comprising two sections having adjacent cranks, abutting bosses on said cranks, a plurality of keys engaging radial recesses in the periphery of said bosses, and a ball bearing mounted upon said bosses and retaining said keys.

5. A crank shaft comprising two sections having adjacent cranks, abutting bosses on said crank concentric with the axis of the shaft, a plurality of segmental keys engaging corresponding key seats in the periphery of said bosses, and a ball bearing mounted on said bosses and retaining the same.

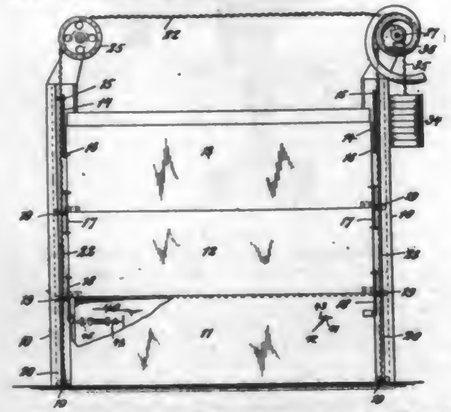
[Claim 6 not printed in the Gazette.]

974,698. DIRECT-ACTING PUMP. PHILIP FRANCIS ODDIE, Wimbledon, near London, England. Filed Apr. 20, 1908. Serial No. 428,274.



In a direct acting pumping engine having an indeterminate length of stroke, the combination of a plurality of cylinders, a piston in each cylinder, a main valve and a distributing valve for each cylinder and means for automatically varying the periods of fluid pressure through said valves controlled by the length of stroke of said pistons, said means including a toothed quadrant and ratchet adapted at times to engage the teeth on said quadrant and at other times to engage a smooth part of said quadrant and connections between said ratchet and said pistons; substantially as described.

974,699. DOOR AND MEANS FOR OPERATING SAME. FREDRIC D. OGDEN, Bayonne, N. J.; J. Edward Ogden, administrator of said Fredric D. Ogden, deceased, assignor, by mesne assignments, to The Patent Appliance Company, a Corporation of New York. Filed Nov. 12, 1909. Serial No. 527,588.



1. In a multi-section door, the combination with a plurality of swinging door sections, of means for successively lifting each section and simultaneously swinging its upper end outwardly.

2. In a multi-section door, the combination with a plurality of pivoted door sections, of vertical guideways for the said pivots, and means for raising and simultaneously swinging on its pivots each section successively while the pivots are guided in the guideways.

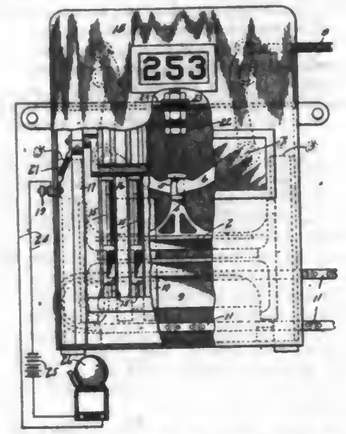
3. In a multi-section door, the combination with a plurality of vertically superposed door sections arranged to lie when closed substantially in a plane, of means for lifting and simultaneously swinging the sections successively from a position in the said plane to a position substantially horizontal thereto.

4. In a multi-section door, the combination with a plurality of vertically superposed door sections and connecting elements pivotally connecting the sections together, of means coöperating therewith for lifting and simultaneously swinging the sections successively.

5. In a multi-section door, the combination with a plurality of vertically superposed door sections, of means including connecting elements pivotally connecting the sections together for successively moving the door sections from their vertically superposed positions to positions side by side, and from a substantially vertical to a substantially horizontal position.

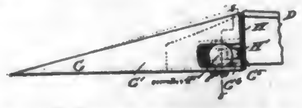
[Claims 6 to 17 not printed in the Gazette.]

974,700. FARE-REGISTER. JOHN F. OHMER, Dayton, Ohio, assignor to Ohmer Fare Register Co., Dayton, Ohio. Filed June 14, 1909. Serial No. 501,928.



In an actuating mechanism for fare registers, a plurality of counter actuators, a slidable member adapted to engage and actuate individually said actuators, a vertically reciprocating gate adapted to engage said slidable member to actuate it, a bell crank lever engaging said gate, a cord attached to said lever, a setting rod, connections between said setting rod and said slidable member, indicators associated with said setting rod and adapted to indicate the position of said slidable member, an insulated electrical contact adapted to be engaged by said gate, an electric circuit including said contact and said gate, and an electric bell in said circuit, whereby, when any one of said counter actuators is moved, an audible signal will be given.

974,701. ADJUSTABLE PLOW-POINT. NELS L. OLSON, Butte, Mont. Filed May 7, 1910. Serial No. 560,039.



1. A plow point having a front flat edge and provided in rear thereof with a socket and with a vertical side plate and having in said side plate a longitudinal slot extending to its rear end combined with a plow share having its front end fitting in the socket of the plow point and having an upright flange alongside the vertical plate of the plow point and provided in said flange with a bolt hole, a wedge plate between the vertical plate of the plow point and the upright flange of the share and having a longitudinal slot registering with the bolt hole in the flange and the slot in the plate of the plow point and a securing bolt passed through said wedge, point plate and share flange and having an eccentric head operating upon the plow point to adjust the same outwardly, all substantially as described, whereby the plow point may be adjusted vertically and laterally at its front end, substantially as set forth.

2. A removable plow point having a laterally extending edge at its front end combined with means for securing said point in position with capacity for lateral and vertical adjustment at its said front end, substantially as set forth.

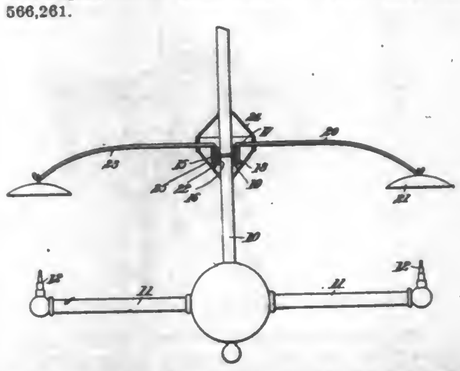
3. The combination with a plow share of a removable point applied thereto and intermediate devices between the plow point and share whereby the front end of the point may be adjusted vertically and laterally substantially as set forth.

4. The combination with a share and a plow point fitting removably thereon, of a bolt connecting the plow point and share and adapted to permit the lateral and vertical adjustment of the point at its front end, substantially as set forth.

5. The combination with a plow share of a point fitting removably thereon and adjustable laterally at its front end, means for securing the point to the share and a wedge interposed between the share and point whereby it will effect an adjustment of the point relatively to the share, substantially as set forth.

[Claims 6 to 14 not printed in the Gazette.]

974,702. SMOKE-BELL SUPPORT. JAMES T. OWENS, Washington, D. C. Filed June 10, 1910. Serial No. 566,261.



1. A device of the character described comprising a wire loop having each end formed into a coil, the axis of which is at a right angle to the plane in which the loop is bent, the two coils extending in opposite directions from the plane of the loop and being adapted to be brought into position with their axes in the same line to receive and support the vertical end of a bracket which also serves as a lock for the loop.

2. A device of the character described comprising a wire loop having each end formed into a coil, the axis of which is at a right angle to the plane in which the loop is bent, and the wire of the loop at a point intermediate its ends being formed into a coil also at a right angle to the plane of the loop, the two end coils extending in opposite directions from the plane of the loop and being adapted to be brought into position with their axes in the same line to receive and support the vertical end of a bracket which also serves as a lock for the loop.

3. A device of the character described comprising a wire loop having each end formed into a coil, the axis of which is at a right angle to the plane in which the loop is bent, and the wire of the loop at a point intermediate its ends being formed into a coil also at a right angle to the plane of the loop, the intermediate coil having its midlength in the plane of the loop, and the two end coils being adapted to be brought into position with their axes in the same line to receive and support the vertical end of a bracket which also serves as a lock for the loop.

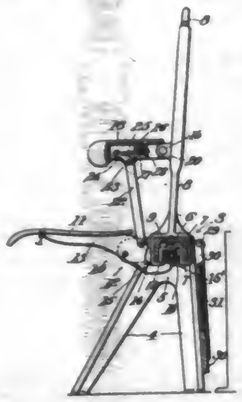
4. A device of the character described comprising a wire loop having each end formed into a coil, the axis of which is at a right angle to the plane in which the loop is bent, and the wire of the loop at a point intermediate its ends being formed into a coil also at a right angle to the plane of the loop, the intermediate coil having its midlength in the plane of the loop, the two end coils extending in opposite directions from the plane of the loop and being adapted to be brought into position with their axes in the same line to receive a wire.

5. An article of the character described, comprising a coil of wire having its ends bent outside of and substantially parallel with the axis of the coil to the midlength of the coil, extended thence in a single plane lying at a right angle to the axis of the coil, in opposite directions,

into the form of a loop, and bent at each end to form a coil with its axis parallel with the first named coil, the axes of the end coils being adapted to be brought into a line with each other to receive and support the vertical end of a bracket which also serves as a lock for the coil.

[Claims 6 and 7 not printed in the Gazette.]

974,703. OPERA-CHAIR. GEORGE R. PARR, Baltimore, Md. Filed Jan. 17, 1910. Serial No. 538,366.

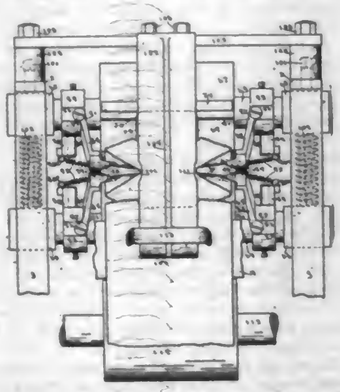


1. The combination with a seat back, a seat, and arms pivoted to said seat back, of separate springs acting upon the seat and arms in a direction toward a folded position.

2. The combination of standards, an inverted U-shaped angle bar connecting said standards, a plurality of seat backs, ears projecting from said backs and slidably embracing the angle bar, seats pivoted to the backs, rearward and upward extensions from the seats projecting into the channel of the angle bar, and expansive springs in said channel above the extension from the seats and bearing downward thereon with a tendency to fold the seats.

3. In an opera chair, a supporting frame, a seat pivoted thereto, a seat back, an arm pivoted to the seat back, a link pivotally connecting the seat and arm in a manner to cause the arm to fold downward when the seat is folded upward, and a spring in said arm having a tendency to maintain the seat and arm in their folded position.

974,704. PAPER-BAG MACHINE. ASA L. PARRISH, Elkhart, Ind. Filed July 19, 1909. Serial No. 508,381.



1. In a paper bag machine, the combination of rolls between which tucked tubing passes, rotating side grippers as 88, 88, 88, 88, arranged to enter the tucks of the tubing and having bearing faces opposing each other and extensions adapted to grip the paper to the rolls, said rolls carrying a tube cutting mechanism, and one of said rolls having a clearance space formed in one side of it.

2. In a paper bag machine, the combination of rolls between which tucked tubing passes, rotating side grippers as 88, 88, 88, 88, arranged to enter the tucks of the tubing and having bearing faces opposing each other and extensions adapted to grip the paper to the rolls, said rolls carrying a tube gripping and cutting mechanism, and one of said rolls having a clearance space formed in one side of it.

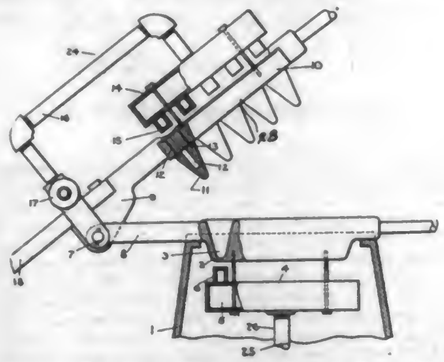
3. In a paper bag machine, the combination of a pair of rolls between which the tubing passes, side grippers as 88, 88, 88, 88, arranged to enter the tucks of the tubing and having bearing faces opposing each other and extensions adapted to grip the paper to the rolls; and a blade carried by one of the rolls upon which one face and its tucks only of the tubing are bent defining the crossline P^{12}.

4. In a paper bag machine, the combination of a pair of side grippers suitably supported for rotation, with means against which to grip tucked tubing, bearing faces upon the outer or free ends of said grippers adapted to bear upon one another, whereby they act to grip said tubing against said means, and the inner ends of said grippers being adapted for their support.

5. In a paper bag machine, the combination of a pair of side grippers suitably supported for rotation, with means against which to grip tucked tubing, means for gripping the tubing, bearing faces upon the outer or free ends of said grippers adapted to bear upon one another whereby they act to project their gripping means within the tucks of the tubing and grip it against said means, and the inner ends of said grippers being adapted for their support.

[Claims 6 to 34 not printed in the Gazette.]

974,705. MOLDING AND BAKING MACHINE. LAMBERT W. PARTRIDGE, Baltimore, Md., assignor to Flynn & Emrich Company, Baltimore, Md., a Corporation of Maryland. Filed Apr. 27, 1909. Serial No. 492,458.



In a machine for molding and baking ice cream cones, a conical mold, means for heating the mold, a corresponding hollow conical former mounted to reciprocate into and out of the mold, and a burner secured to the former, the aperture of the burner disposed toward the hollow to direct a flame into the former to heat it uniformly from within.

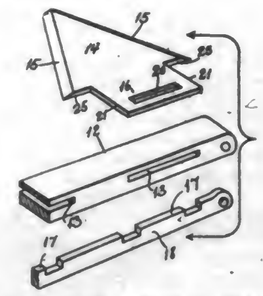
974,706. WEATHER-STRIP. CHARLES A. PENNY, Grand Junction, Colo. Filed June 30, 1910. Serial No. 569,716.

1. The combination with a door sill, having a slot therethrough, of a strip of inverted U shaped form in cross section fitted to the slot, said strip having a slot at one end, a lever pivotally supported and having pivotal connection with the interior of the strip and an arm projecting from one end of the lever into the slot in the strip in position to be engaged by the lower edge of the door in closing to depress the arm and elevate the strip uniformly throughout its length against the lower edge of the door when closed.



2. The combination with the door sill, slotted throughout its length and having inward projecting stops, of a strip fitted to the slot and normally resting upon the stops whereby to bring its upper edge flush with the upper surface of the sill, one end of the strip having a slot therethrough, a lever pivotally connected with the sill and having pivotal sliding connection with the strip, an arm adjustably connected with one end of the lever in position to project up through the slot in the end of the strip and having an inclined surface adapted to be engaged by the lower edge of the door when closed whereby to depress the arm and cause the strip to be raised into contact with the lower edge of the door throughout the entire length of the latter.

974,707. CUTTER-BAR. JOHN H. POOLE, Brockton, and ALFRED D. ABBENZELLER, Randolph, Mass., assignors to Brockton Mowing Machine Cutter Bar Company, Brockton, Mass., a Corporation of Massachusetts. Filed Oct. 19, 1909. Serial No. 523,385.



1. A cutter bar having a series of transverse slots open at the front side of the bar, a series of knives having shanks formed to enter said slots, and a series of connected locking tongues movable crosswise of the plane of the series of slots, and adapted to engage and release the knives.

2. A cutter bar having its entire upper and lower surfaces flat and continuous, and provided with a series of transverse slots open at the front side of the bar, a series of knives having shanks formed to enter said slots, and means for simultaneously locking, and releasing, the knives, said means being secured to a vertical edge of the bar.

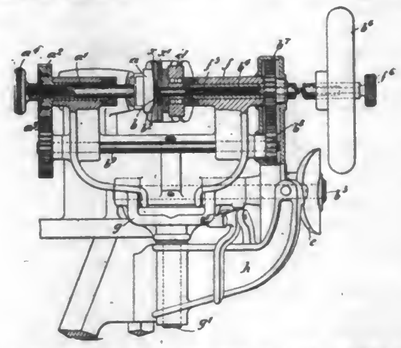
3. A cutter bar having a series of transverse slots open at the front side of the bar, a series of knives having shanks formed to enter said slots, and a locking bar hinged to the cutter bar and provided with a series of locking tongues which are simultaneously movable crosswise of the slots, and adapted to simultaneously engage, and release, the knives.

4. A cutter bar having its entire upper and lower surfaces flat and continuous, and provided with a series of transverse slots extending through the bar from the front to the rear side thereof, a series of knives having shanks formed to enter said slots and project through the same, and means carried by the cutter bar for simultaneously locking, and unlocking, the knife shanks, said means being secured to a vertical edge of the bar, the projecting ends of the shanks facilitating the removal of the knives from the cutter bar when they are unlocked.

5. A cutter bar having a series of transverse slots open at the front side of the bar, a series of knives having slotted shanks constructed to enter the slots of said cutter bar, and a locking bar secured to the rear side of said cutter bar and provided with tongues adapted to enter the slots in the shanks of said knives, said locking bar being mounted to move perpendicular to the plane of said slots to lock and unlock said knives.

[Claims 6 to 9 not printed in the Gazette.]

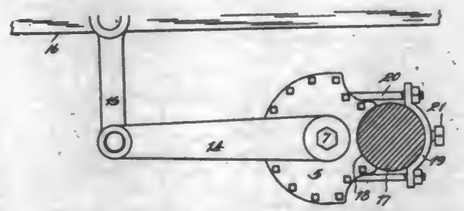
974,708. MACHINE FOR TRIMMING THE HEELS OF BOOTS AND SHOES. WILLIAM THOMAS BUCKINGHAM ROBERTS, Leicester, England, assignor to Oswald Vernon Forbes, London, England. Filed June 6, 1910. Serial No. 565,375.



1. A machine for trimming heels of boots or shoes comprising a rotary cutter, clamping devices for holding the heel and provided with securing means for connecting said clamping devices and holding the heel thereto, the cutter and clamping devices having relative motion, means for causing the clamping devices to present the heel to the cutter, and means for transferring the line of operation of the cutter all around the margin and also the breast of the heel.

2. A machine for trimming heels for boots or shoes comprising a rotary cutter, clamping means for holding the heel and provided with securing means for connecting said clamping means and holding the heel thereto, the cutter and clamping means having relative motion and the clamping means presenting the heel to the cutter, means for causing the cutter to trim all around the margin and the breast of the heel, two cams automatically controlling the relative motion of the cutter and clamping means, one cam governing the margin and the other the breast of the heel, means for coupling the cams to move in unison with the clamping means, and operating mechanism.

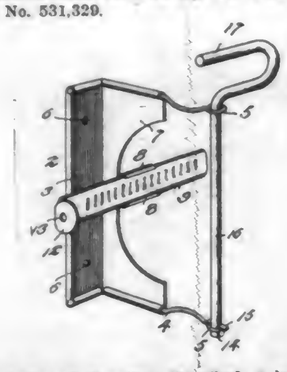
974,709. SHOCK-ABSORBER. CHARLES F. RODIN, San Francisco, Cal. Filed Nov. 22, 1909. Serial No. 529,233.



The combination in a spring recoil compensator, of a plate adapted to be secured to the axle of a vehicle, said plate having a longitudinal segmental groove, a segmental casing having the axis of the groove its center of curvature, a shaft turnable in the groove, a channel

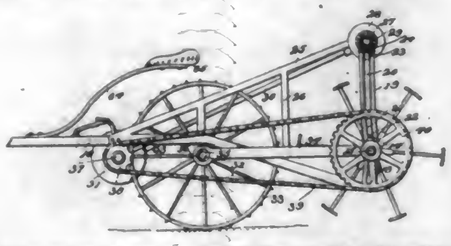
formed in the lower part of the groove, a packing bar located in the channel and forming a joint with the surface of the shaft, a piston projecting radially from the shaft and having a packing joint between its edges and the interior of the segmental casing, means for oscillating the shaft and piston within the casing, valve-controlled passages by which liquid contained in the casing is allowed to pass freely from one side to the other of the piston, and return grooves formed in the inner surface of the casing, said grooves being gradually lengthened from one end to the other of the casing.

974,710. COMBINATION WINDOW-SHADE HOLDER AND SWINGING CURTAIN-POLE. ALBERT ROTZEL and MILTON IMBT, Stroudsburg, Pa. Filed Dec. 4, 1909. Serial No. 531,329.



In a device of the class described, a bracket member constructed of resilient material, said bracket member being substantially U shape in cross section and having its top and bottom and one of its vertical walls bent upon themselves, a wire member engaging the said bent portions, said wire member having its free ends terminating in eyes, a U-shaped member having offsets engaging the lower eye, a rotatable member within the eyes and resting upon the U-shaped member of the lower eye, said rotatable member having its upper portion provided with a substantially U-shaped extension, a curtain pole section for this extension, the edge of the bracket not provided with the bent portions having a centrally arranged longitudinally extending offset member, said member having its longitudinal edges bent toward each other, the body of the said offset member being slitted to provide a resilient tongue, and a shade roller supporting member having its body provided with depressions adapted to be engaged by the resilient tongue, substantially as and for the purpose set forth.

974,711. ROTARY PLOW. DAVID C. RUTH, Halstead, Kans. Filed Dec. 28, 1909. Serial No. 535,301.



1. A rotary plow including a frame, guides formed at the rear end of said frame, blocks mounted in said guides, a rotary cultivator carried by said blocks, a power-shaft carried by the frame and connected to said cultivator to rotate the same, rods carried by said frame above said guides, a transmission disposed between said power-shaft and said rods for vertically reciprocating said rods, and links connecting said rods and blocks.

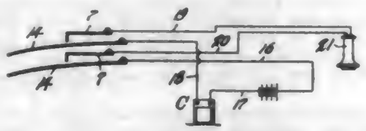
2. A rotary plow including a frame, a transverse shaft located in the rear end of said frame and adapted for vertical movement therein, a power-shaft connected to said transverse shaft for rotating the same, a drum having oppositely beveled faces carried upon said power-shaft, an operating shaft mounted in the frame and connected to said transverse shaft to vertically adjust the same, and a pinion carried by said operating shaft for alternate engagement with the bearing faces of said drum.

3. A rotary plow including a frame, guides arranged at the rear end of said frame, blocks mounted in said guides, a rotary cultivator carried by said blocks, rods extending upwardly from said blocks and provided with threads, sleeves arranged in threaded relation about the upper ends of said rods, an operating shaft longitudinally positioned in said frame, gears disposed between said operating shaft and said sleeves for rotating the same, a bevel pinion located upon the forward end of said operating shaft, a power shaft carried by said frame and connected to said rotary cultivators for actuating the same, and a drum having oppositely beveled bearing faces and slidably disposed upon said power-shaft to alternately engage the opposite sides of said pinion.

4. In a rotary plow the combination with a frame, a rotary cultivator mounted therein, and means for rotating said cultivator, of a drum mounted in said frame and adapted for lateral movement therein, an operating shaft mounted in said frame, a bevel pinion carried by said operating shaft for engagement with said drum, and means connected to the rear end of said operating shaft for adjusting said rotary cultivator.

5. A rotary plow including a frame, a rotary cultivator mounted in said frame, rods disposed in the frame and connected to said rotary cultivator, shafts having gears connected to said rods for vertically reciprocating the same, a pinion carried by one of said shafts, a drum having inner opposite faces for alternate engagement with said pinion, and means carried by the frame and connected to said drum for actuating the same to alternately engage the opposite sides of said pinion.

974,712. ARMATURE-TESTING DEVICE. LEVON H. SEYRANIAN, Monterey, Cal. Filed Dec. 29, 1908. Serial No. 469,879.

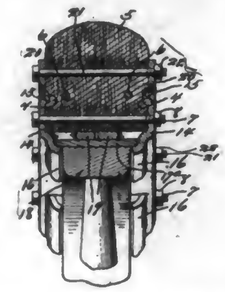


1. An armature testing device comprising two movable contacts forming terminals of an electric circuit including a buzzer and adapted to make electrical connection with two commutator bars, and two fixed contacts included in an indicating circuit adapted to be closed by the said movable contacts of the buzzer circuit.

2. An armature-testing device comprising a handle, a pair of fixed contacts thereon, a pair of movable contacts arranged to engage respectively fixed contacts, said movable contacts being so disposed as to engage two commutator bars at the same time, and means for connecting the contacts with an indicating circuit.

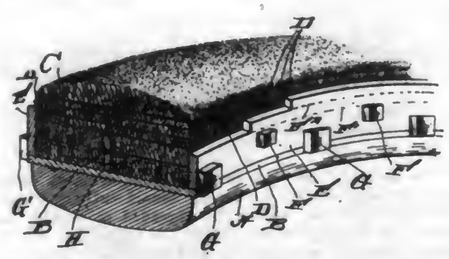
3. An armature-testing device comprising a handle composed of sections, said handle having channels, lead-in wires disposed in the channels, fixed contacts connected with certain of the wires, and spring contacts connected with the other wires, said spring contacts being normally separated from and disposed opposite from the fixed contacts respectively and projecting beyond the same to be brought into contact with a pair of commutator bars for testing the windings of an armature.

974,713. VEHICLE-WHEEL TIRE AND RIM. SELDEN L. SIMPSON, Cleveland, Ohio, assignor to The Simpson Specialty Company, Cleveland, Ohio, a Corporation of Ohio. Filed Oct. 19, 1909. Serial No. 523,530.



In combination with the felly of a wheel having a rim, the opposite edges of which project beyond the opposite edges of the felly, clamping plates having wings struck up therefrom and curved and adapted to engage underneath the projecting portions of the rim, portions of the plates engaging the circumference of the rim, a tire in contact with portions of said plates, inwardly extending wings upon said plates engaging the tire at positions diametrically opposite, the outer marginal edges of the plates provided with apertures, and bolts passing through said plates and adapted to hold the same in clamping relation against the tire and rim.

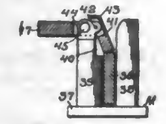
974,714. FIBER TIRE FOR VEHICLE-WHEELS. SELDEN L. SIMPSON, Cleveland, Ohio, assignor to The Simpson Specialty Company, Cleveland, Ohio, a Corporation of Ohio. Filed May 4, 1910. Serial No. 559,328.



1. A vehicle tire made up of fiber, the outer ends of which form a tread surface, reduced to a compact form and having concentric rows of stitching therein, clamping rings embracing the opposite sides of the tire and concentrically scored, means for fastening said rings to the fibrous tire, a rim, a metallic tire about the circumference thereof, an anchorage ring about said metallic tire, the outer marginal edge of said anchoring ring having adjacent portions at the edge thereof curved oppositely and embedded within the fiber tire, and means for holding said clamping rings to said metallic tire.

2. A vehicle tire made up of fiber, the outer ends of which form a tread surface, reduced to a compact form and having concentric rows of stitching therein, a rim, a metallic tire about the latter, clamping rings, concentrically scored to correspond to the rows of stitching of the fibrous tire, the scores being parallel with the concentric rows of stitching, the inner marginal edges of the rings engaging the circumference of said metallic tire, bolts passing through said rings and fibrous tire, the heads of the bolts engaging one of the marginal edges of the metallic tire, and nuts upon the threaded ends of the bolts engaging the other edge of the latter.

974,715. AUTOMATIC DERAILER. MARTIN C. SLODERBECK, Marion, Ind., assignor of one-third to Edward E. Leapley and one-third to Edward F. Walsh, Marion, Ind. Filed Oct. 25, 1909. Serial No. 524,521.



1. The combination with a movable derailer, of a rod extending therefrom and provided with an elongated slot, a shaft having a crank portion mounted in said slot, a laterally disposed operating lever carried by said crank shaft, spaced standards adapted to receive said lever intermediate thereof one of which is recessed upon its inner face, a latch pivoted upon the upper end of one of said standards to seat in said recess and depend between them and contact with the upper face of said arm, and a weighted member carried by the opposite end of said latch and extended laterally from the standard upon which it is pivoted.

2. The combination with a movable derailer, of a shaft connected to shift the same, a crank arm carried by said shaft, spaced standards adapted to receive said arm intermediate thereof, a latch pivoted upon the inner face of one of said standards to depend between them and contact with the upper face of said arm, and a weighted member carried by the opposite end of said latch and extended laterally from one standard.

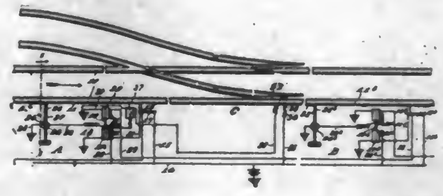
3. In a derailer, a movable derailer block, an operating connection therefrom provided with a lever, parallel standards spaced from each other and one provided with a recess at the upper portion of its inner face, a latch pivotally mounted at the top of said recessed standard, and an angularly disposed weighted handle to said latch.

4. The combination with a derailer, of means for shifting the same comprising an oscillating lever, opposite standards disposed to receive said lever intermediate thereof, one of said standards being provided with a locking eye at its upper end, and an angular bifurcated latch mounted to embrace the eye of said standard.

5. The combination with a derailer, of means for shifting the same comprising an oscillating lever, opposite standards disposed to receive said lever intermediate thereof, one of said standards being provided with a locking eye at its upper end and a lateral pivoting lug therefrom, a depending latch having a recess to receive said lug, and a weighted lever carried by said latch at the outer side of the standard therefor.

[Claim 6 not printed in the Gazette.]

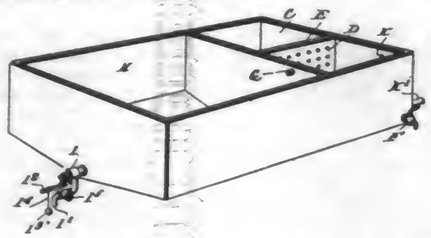
974,716. RAILWAY BLOCK SYSTEM. CHARLES W. SPERNADER, Oak Park, Ill. Filed May 24, 1909. Serial No. 498,024.



In a safety appliance for railways, the combination of a stop member, a solenoid 24 to set the same, a pair of solenoids 17 and 29 with a common armature, a depressible shoe, means to energize solenoid 17 controlled by said shoe, means operative by said armature to energize solenoid 24, means to restore the shoe and thereby to break the circuit through solenoid 17 after the passage of a train, the circuit through solenoid 24 being continued, a second depressible shoe, means controlled by the second

shoe to cause the second solenoid 29 of said pair to shift the common armature to reënergize solenoid 24, said last mentioned solenoid being momentarily deënergized during the shifting of said armature, and means to restore the second shoe to break the circuit through solenoids 24 and 29.

974,717. TURPENTINE-SEPARATOR. DAVIS B. SPHALER and BENJAMIN F. BRYAN, Taft, Fla. Filed Mar. 2, 1910. Serial No. 546,780.



1. The separator herein described comprising an inlet compartment, an outlet compartment and an intermediate compartment between the inlet and outlet compartments, an overflow pipe in the intermediate compartment, a perforated partition between the inlet compartment and the intermediate compartment, an outlet from the upper end of the intermediate compartment to the outlet compartment, an outlet at the lower end of the intermediate compartment, a discharge faucet at the lower end of the outlet compartment and having a projecting valve operating lever and a float for operating the same, all substantially as and for the purposes set forth.

2. A turpentine separator comprising a pan like body open at the top and divided into three compartments with partitions dividing the inlet, intermediate and outlet compartments, the inlet and intermediate compartments occupying one end of the pan and the outlet compartment the other end of the pan, the latter having a discharge at its lower end and a bottom inclining downwardly toward such discharge, the partition between the inlet and intermediate compartments being perforated and a discharge opening being provided near the top of the partition between the intermediate and outlet compartments, the intermediate compartment being provided with a discharge at its lower end and also having an overflow tube opening at its upper end within the intermediate compartment below the top of such compartment and having at its lower end a discharge pipe, all substantially as and for the purposes set forth.

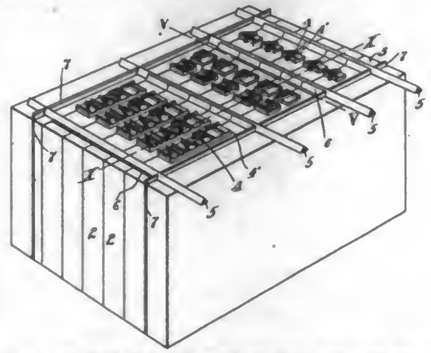
974,718. PRINTING-RULE AND SYSTEM OF APPLYING SAME TO PRINTING-FORMS. ASHTON GEORGE STEVENSON, Chicago, Ill., assignor to Chicago Linotabler Company, Chicago, Ill., a Corporation of Illinois. Filed July 5, 1910. Serial No. 570,333.

1. A type form which has a substantially level top surface and type molded upon and rising therefrom, in combination with a rule resting on said top surface and a plurality of projections integral with said top surface of the form, said projections rising above said top surface at opposite sides of said rule and engaging said rule to hold the same on said surface, substantially as described.

2. A type form which has a substantially level top surface and type molded upon and rising therefrom, in combination with a rule resting on said form and rising to the height of said type and a plurality of projections rising from, integral with said top surface, of less height than said type and engaging opposite sides of said rule to hold the same on said surface, substantially as described.

3. A type form having two rule engaging projections on and integral with its top surface and a rule of substantially triangular cross section secured thereon by and between said projections, substantially as described.

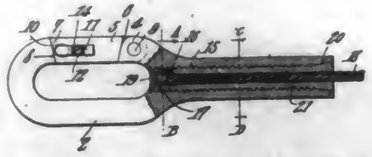
4. A type form having a substantially level top surface and type molded upon and rising therefrom, in combination with a rule having a printing edge at the top and a broad bottom resting on said surface and integral projections on said surface engaging opposite sides of said rule below the plane of the type faces and holding the rule on said surface, substantially as described.



5. A type form having a substantially level top surface and type rising therefrom, in combination with a rule laid on said surface and rising to the height of said type, integral projections upon said surface and serving to secure said rule thereto and one or more auxiliary rule fastenings each comprising a plate arranged between the lines of type perpendicularly to the rule and interlocked therewith, substantially as described.

[Claims 6 to 11 not printed in the Gazette.]

974,719. WIRE CABLE, SOCKET, AND COUPLING. CHARLES STEVENSON, Coraopolis, Pa. Filed Mar. 30, 1910. Serial No. 552,320.



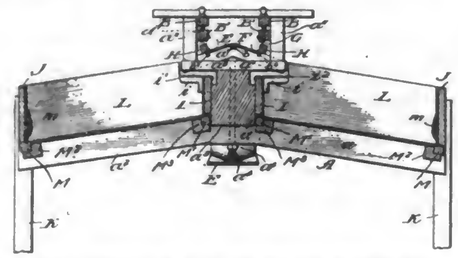
1. A device of the class described comprising an internally threaded socket; a bushing housed entirely within the contour of the socket and threaded to engage the socket, the bushing being adapted for connection with a flexible element, whereby the flexible element may protrude from one end of the socket; the bushing being shorter than the socket, to expose a part of the threads of the socket adjacent that end of the socket through which the flexible element protrudes, whereby the threads may serve to retain a packing about the flexible element.

2. A device of the class described comprising an internally threaded socket; a bushing threaded to fit within the socket and having an opening flared adjacent the outer face of the bushing; a cable inserted through the socket and through the bushing and having its end enlarged for engagement in the flaring portion of the opening in the bushing; and a packing resting against the bushing and engaged in the threads of the socket and compressed about the cable; the end of the socket remote from the bushing being flared to provide for the insertion of the packing.

974,720. ORANGE-SIZING MACHINE. JAMES W. STEVENSON, Riverside, Cal., assignor of one-half to Isaac A. Holeman, Riverside, Cal. Filed Mar. 10, 1910. Serial No. 548,474.

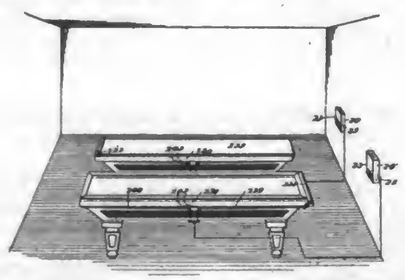
1. In a machine of the character described, the combination with the centrally disposed longitudinal beam, bins disposed upon each side of said beam; of the frame-work

secured to and located upon the upper surface of the beam composed of uprights, long and short ties, substantially V-shaped inverted belt carriers, notched at their apices, an endless belt supported by said belt carriers, a sprocket chain supported in notched apices of the belt carriers and attached to the under surface of the endless belt, gage rods and gage rod supports, adjusting screws for adjusting the gage rods, adjustable blocks located below the gage rods by means of which and the adjusting screws the size of the openings are diminished or enlarged to admit of the passage of different sized fruit therethrough to the bins.



2. The combination with the inverted substantially V-shaped belt carriers having notches in their apices, rectangular supporting framework upon which the carriers are supported, a longitudinal beam supporting the framework, and supporting rafters secured to the underside and ends of the longitudinal and centrally disposed beam, bins disposed upon each side of the longitudinal beam, and secured to, and supported upon the bin supporting rafters; of an endless belt, a sprocket chain secured to the under side of said belt, and operatively passed within the notches of, and over the carriers, sprocket-wheels secured to, and mounted upon shafts at each end of the machine and having sprocket teeth disposed upon their peripheries which take in the sprocket chain, substantially as and for the purposes set forth.

974,721. GAME APPARATUS. JAKE MANFRED STIVERS, Salida, Colo. Filed Mar. 12, 1910. Serial No. 548,977.



1. An automatic protecting device for game tables, comprising in combination with a table, a cover, means to remove or spread said cover, and means for actuating said removing means at will and returning said cover after a predetermined period.

2. An automatic protecting device for game tables, comprising, in combination with a table, a cover, means for removing said cover and returning the same over said table and mechanism to put said removing means into operation at will to determine the interval before said cover shall be returned, and to automatically actuate said removing and spreading means to return said cover.

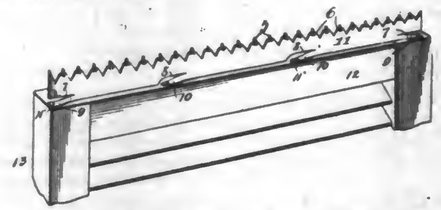
3. An automatic protecting device for game tables, comprising, in combination with a table, a rolled cover, means for unrolling said cover over said table and rolling it therefrom, and means for unrolling said cover and returning it after a predetermined interval.

4. An automatic protecting device for game tables, comprising, in combination with a table, a cover, a traveling roller from which said cover is adapted to be unwound to cover said table, means for pulling said roller, winding means to actuate said pulling means, and means in connection with said winding means for starting said winding means to uncover said table and to return said cover at the end of a predetermined period of time.

5. An automatic protecting device for game tables, comprising, in combination with a table, a cover, a traveling roller carrying said cover and being adapted to spread said cover over said table, means for causing said traveling roller to move along the slides of the table, winding mechanism for said moving means, and an apparatus in connection with said winding mechanism for starting said winding mechanism to roll said cover, to automatically measure a period of time during which said cover shall remain rolled, and to automatically start said winding mechanism to unroll said cover over said table.

[Claims 6 to 8 not printed in the Gazette.]

974,722. GUARD FOR BIRDS. LUDVIG G. SWANSON, Springfield, Mass., assignor of one-half to Hans W. Gutermann, Springfield, Mass. Filed Oct. 27, 1909. Serial No. 524,938.



1. A bird guard consisting of a single strip of sheet metal having a serrated upper edge and having incisions which extend first incliningly upwardly from its lower edge and then continue lengthwise of the strip, forming a plurality of securing tongues which are twisted so that the extremities thereof have dispositions at right angles to the plane of the body of the strip.

2. A blank for a bird guard consisting of a strip of sheet metal having one edge serrated, and having incisions which extend first incliningly from its opposite edge, and which are then continued longitudinally of the strip.

3. A bird guard comprising a strip of metal having a serrated upper edge and being longitudinally incised for a short distance from each of its ends and having a plurality of upwardly and horizontally extending incisions intermediate its ends.

974,723. WIRE-DRAWING MACHINE. HENRY ERNEST PARRY TAYLOR, Seymour, Conn., assignor to The Coe Brass Manufacturing Company, a Corporation of Connecticut. Filed June 11, 1908. Serial No. 437,944.

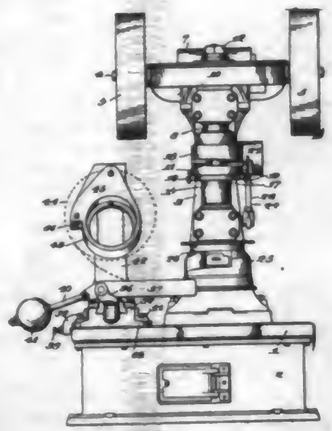
1. In a machine of the character described, a rotatable wire block, a die supported upon the machine and a wire reel attached to the machine and adapted to support a coil of wire by passing through the same and having at its side remote from the die, friction rollers which are adapted to pass transversely through the coil of wire.

2. A machine comprising a rotatable wire block, a shiftable standard mounted upon the bed of the machine, a die mounted upon said standard and a wire reel mounted upon said standard.

3. A machine of the character indicated, comprising a rotatable wire block, a standard mounted upon the bed-plate of the machine and adapted to be shifted substantially in alinement with the wire block, a die carried by said standard and adapted to be shifted laterally with relation to the wire block and a wire reel carried by the standard.

4. In a machine of the character indicated, a rotatable wire block, a die holder supported upon the bed-plate of

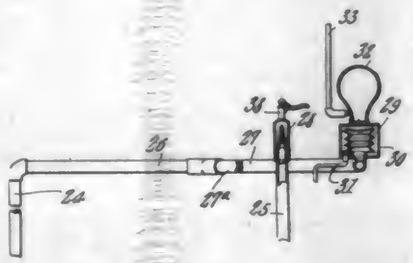
the machine and being disposed toward the wire block, a die retained at one end of the die holder, said die holder being channeled out along its entire length in the same plane with the opening in the die and a reel support located above the die holder.



5. In a machine of the character indicated, a rotatable wire block, an adjustable standard mounted upon the bedplate of the machine, a pivoted yoke mounted for movement with said standard and adapted to swing horizontally, and a die holder pivoted in said yoke and adapted to swing vertically.

[Claims 6 and 7 not printed in the Gazette.]

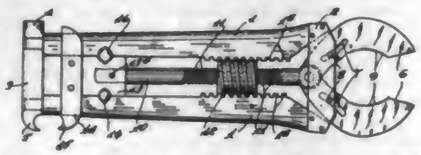
974,724. HYDRAULIC-RAM. JOHN R. THOMPSON, Flomaton, Ala. Filed Feb. 23, 1910. Serial No. 546,460.



1. The combination with a ram having a branched drive pipe, of flexible bags into which said branches discharge, a chamber inclosing each of said bags, and connected to a source of water supply, and each of said chambers having an outlet, a second chamber with which the branch pipes communicate, said chamber having an outlet, and alternately operating valves for controlling the flow from the branch pipes into the last mentioned chamber.

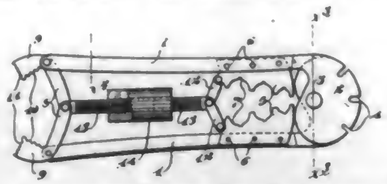
2. The combination with a ram having a branched drive pipe, of a flexible bag connected to each of said branches, a chamber inclosing each bag, and connected to a source of water supply, and each of said chambers having an outlet, a second chamber in communication with the branches of the drive pipe, said chamber having an outlet, a standard mounted in the last mentioned chamber, an oscillating beam pivoted to the standard, and valves carried by the respective ends of the beam for alternately opening the branches of the drive pipe to the last mentioned chamber.

974,725. WRENCH. JOSEPH A. TRAMBLEY, Maxbass, N. D. Filed Feb. 14, 1910. Serial No. 543,811.



In a wrench of the kind described, the combination with a rectangular frame, of an operating stem having secured at one end a sliding block head mounted in said frame and having pivotally secured at its other end a pair of coöperating jaws mounted for opening and closing movements in said frame, and a nut having external threaded engagement with said frame and having internal threaded engagement with said operating stem, substantially as described.

974,726. WRENCH. JOSEPH A. TRAMBLEY, Maxbass, N. D. Filed Apr. 7, 1910. Serial No. 554,009.



1. In a wrench of the kind described, the combination with a pair of pivotally connected operating levers, of a toggle lever connecting the said pairs of levers, coöperating jaws formed on the members of said toggle lever, and means for moving said toggle lever for opening and closing said jaws, substantially as described.

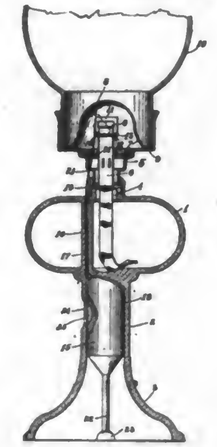
2. In a wrench of the kind described, the combination with a pair of pivotally connected operating levers, of a pair of toggle levers connecting said operating levers, and the members of one of said toggle levers having a pair of coöperating jaws, a pair of axially alined bolts secured at their outer ends to the pivotal connection between the members of said toggle levers, and a nut having right and left hand threads for threaded engagement with the inner ends of said bolts, substantially as described.

974,727. HOUSEHOLD SAFETY-LAMP. ROBERT L. VICTOR, Portland, Oreg. Filed Feb. 17, 1910. Serial No. 544,407.

1. In a lamp of the class described, the combination of a lamp body including a bowl and a hollow handle provided with an opening, a burner mounted on the body, a flame extinguisher mounted in coöperative relation with the wick tube of the burner, a weight mounted in the hollow handle of the lamp body, a flexible connection between the weight and extinguisher whereby the dropping of the weight moves the latter to extinguish the flame of the burner, and means on the weight with which the finger inserted through the opening of the said handle can engage for supporting the weight and preventing the same from operating the flame extinguisher when the lamp is raised.

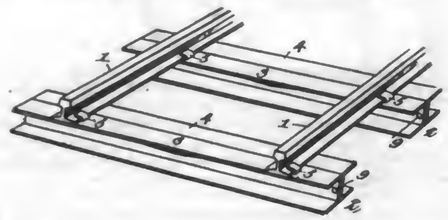
2. In a lamp of the class described, the combination of a lamp body consisting of a bowl, a chambered shaft under the bowl, and a base from which the shaft rises; a burner mounted on the bowl and including a wick tube; a flame extinguisher mounted to close over the upper end of the tube; a weight movably mounted in the shaft of the lamp body and having a depending support engaging portion, whereby the weight is held in raised position by the support upon which the lamp rests; a tubular guide arranged in the bowl and having a bore open at its lower end communicating with the chamber of the shaft and its upper end open adjacent the burner, and a flexible wire

extending through the bore of the guide and connected at its lower end with a weight and having its upper end extending into the burner and connected with the extinguisher for moving the latter by relative movement of the weight and lamp body, said shaft having an opening at the side of the weight, whereby the finger of the hand gripping the shaft can be inserted to engage the weight.



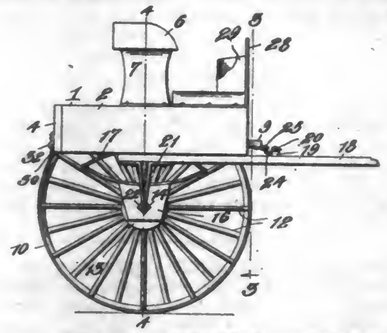
3. In a lamp of the class described, the combination with a lamp body consisting of a bowl, a hollow shaft integrally connected with the bottom of the bowl and having an opening, and a tubular guide arranged vertically in the bowl and having its ends integrally connected therewith, said tube having the lower end of its bore communicating with the chamber of the shaft and its upper end open to the atmosphere; a burner mounted on the bowl and including a wick tube; a flame extinguisher arranged to close over the upper end of the tube; a weight slidably mounted in the shaft of the lamp body and having a depression normally registering with the opening of the shaft when the weight is raised, whereby the weight can be held in raised position by the insertion of the finger into the depression; and a connecting element passing through the tubular guide and connected with the weight and extinguisher.

974,728. RAILWAY-TIE. JOSEPH M. WEISEL, Rockwood, Pa. Filed Jan. 11, 1910. Serial No. 537,424.



A railway tie comprising a pair of cross sectionally U-shaped members, each of said members having their upper faces slit and the portions provided by these slits bent to form rail engaging clamps, the vertical walls of said members being centrally provided with alining slots, each of said walls adjacent one of its ends being provided with a wedge shaped projection and being further provided adjacent its opposite end with a slot, and both of said walls being provided with bolt openings which are adapted to be brought into alinement when the wedge shaped projection of one of the members engages the slot of the opposite member.

974,729. MAIL-CART. WILLIAM B. WHERRY, Overton, Tex. Filed May 21, 1910. Serial No. 562,666.

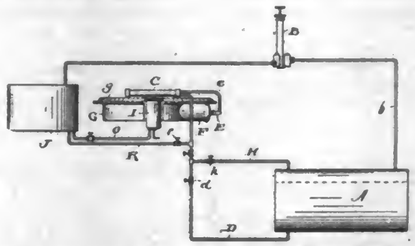


1. A cart of the character described comprising an axle, a wheel centrally arranged on said axle, bearings on the axle near its ends, a body, springs on said bearings and connected to and supporting the body, a draft device connected directly to the ends of the axle and connections between said draft device and said body to prevent excessive forward and rearward rocking motion of the latter.

2. A cart of the character described comprising an axle, a spring supported body mounted on the axle for swinging movement, a single supporting wheel arranged on the axle directly beneath the body, a pair of connected thills having hangers connected to the end portions of the axle whereby the thills may have vertical movement, and loose connections between the thills and the front portion of the body.

3. A cart of the character described comprising an axle, bearings thereon, springs on said bearings, rectangular cart body fixed to said springs, a seat arranged centrally on the body and disposed over said axle, a single ground wheel for supporting the body, said wheel being fixed to the central portion of the axle and arranged directly beneath the body and having a broad concave periphery, a pair of thills connected by a cross bar, hangers depending from the thills and connected to the axle, and loose connections between the thill cross bar and the front end of the body.

974,730. PRODUCING AND BURNING COMBUSTIBLE HYDROCARBON MIXTURES. ROLLIN H. WHITE, Cleveland, Ohio, assignor to The White Company, Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 7, 1907. Serial No. 401,069.



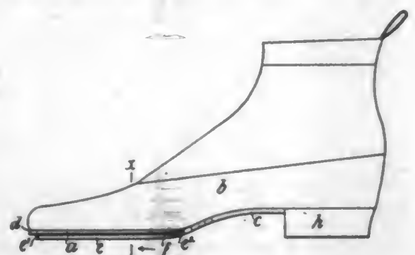
The combination of a burner having an induction tube, a sub-burner projecting through the burner first mentioned, a vaporizer arranged over both the main burner and the sub-burner, a jet nozzle connected with the discharge end of the vaporizer and arranged to discharge into said induction tube, with a fuel tank, two pipes which respectively connect the top and bottom of said tank with the inlet end of the vaporizer, a valve in both pipes, a second fuel tank, a pipe connecting it with the sub-burner, another pipe containing a valve connecting the last mentioned tank with the inlet end of the vaporizer, and means for putting air, under pressure, into both of said tanks.

974,731. SPINNING-TOP. CHARLES BURTON WINZER, Tooting, London, England, assignor to Ernst Paul Lehmann, Brandenburg-on-the-Havel, Germany. Filed July 31, 1909. Serial No. 510,612.



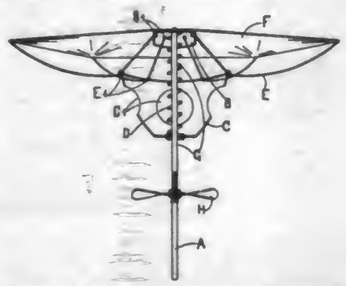
A spinning top having a peg consisting of a spiral spring the end of which is flat for the purpose of giving a combined jumping and erratic motion to said top while spinning.

974,732. BOOT AND SHOE CONSTRUCTION. JOHN THOMAS WOOLSTON, Towcester, England, assignor to Oswald Vernon Forbes, London, England. Filed Mar. 9, 1908. Serial No. 419,968.



A boot or shoe, having in combination, a middle sole secured to the upper and projecting beyond the same to afford a welt, a through sole secured to the under face of the middle sole, said through sole corresponding in shape to the middle sole but being of smaller dimensions and having its edge or periphery chamfered, a removable outer sole having a built up edge welt all the soles and the edge welt being of leather, the outer sole being slid over the through sole and its edge welt engaging over the chamfered edge of the through sole and under the projecting welt of the middle sole, the said projecting welt forming an extended bearing surface for the built up welt of the outer sole and being vertically flush therewith, and fastening means for detachably securing the outer sole to the through sole.

974,733. TOY PARACHUTE. MAURICE E. WRIGHT, San Diego, Cal. Filed Nov. 6, 1908. Serial No. 461,323.



1. A device of the character described, comprising a sail carrying portion normally in operative position, means for locking said sail carrying portion in inoperative position, mechanism for releasing said means, and means for protecting said mechanism from injury, substantially as shown.

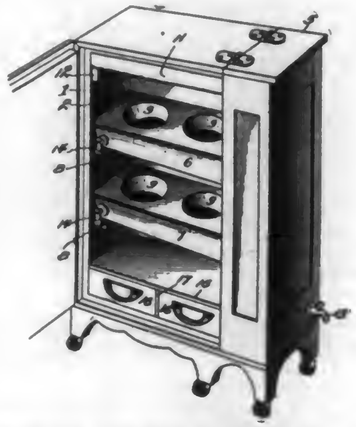
2. A device of the character described, comprising a threaded shaft, a propeller mounted revoluble thereon, a trigger holding a sail carrying portion in a closed position, and means in the path of the propeller for releasing the trigger after the propeller has made a predetermined number of revolutions, substantially as shown.

3. A device of the character described, comprising a shaft, a flaring cup shaped sleeve slidably mounted on said shaft, a member rigidly attached to the upper end of the shaft, a spring bearing between said member and said sleeve, and normally tending to force said sleeve away from said member, and a trigger adapted to hold said sleeve against the tension of said spring, substantially as shown.

4. A device of the character described, comprising a shaft, a cavity in said shaft, a trigger carried in said cavity, a spring in said cavity normally holding said trigger in operative position, a rod attached to the trigger, a bent portion of said rod extending through an opening, a threaded portion on said shaft, and a propeller traveling longitudinally when revolved on the threaded portion of said shaft, and engaging the bent portion of said rod, substantially as shown.

5. A device of the character described, comprising a shaft, a cup shaped sleeve slidably mounted upon said shaft, a member carried by the top of said shaft, ribs pivotally connected to the upper edge of the cup shaped sleeve, and having sliding engagement with said member, a fabric connected to said ribs, a spring interposed between said member and said sleeve, a trigger adapted to hold said sleeve against the tension of said spring, and means for releasing said trigger, substantially as shown.

974,734. REFRIGERATOR. LILLA ALLEN, Allentown, Ga. Filed May 11, 1910. Serial No. 560,663.

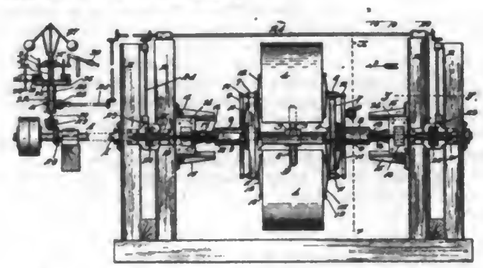


A refrigerator comprising a casing, a supply tank in the casing, hollow shelves communicating with said tank, said shelves having their upper faces formed with recesses to receive receptacles and their bottom faces inclined from the tank, means for supporting the free ends of the shelves, means for draining the tank, and independent means for draining the separate shelves.

974,735. CURRENT-MOTOR. HENRY ALLES, Joseph, Idaho. Filed Sept. 22, 1909. Serial No. 519,085.

1. In a motor, the combination of a shaft, blades pivoted thereon to turn into a position parallel with the shaft or diagonally of the shaft, and means for turning the blades into said positions, said means including a member on the shaft and having a movement relative to and concentric with the shaft, and connections between said member and the blades.

2. The combination with a shaft, of a series of blades circumferentially arranged thereon, and pivotally supported at their middles on the shaft, and means connected with the ends of the blades to vary their inclination with respect to the shaft, said means including a member operating crosswise of the shaft and concentric therewith, and outside of the edges of the blades, and means connecting said member with the blades.



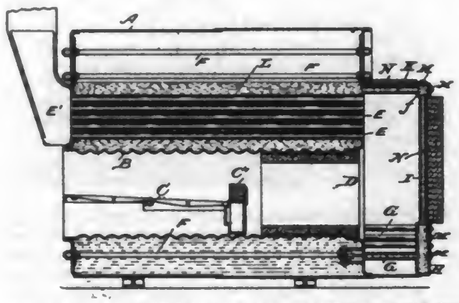
3. The combination with a shaft, of a series of blades circumferentially arranged thereon and extending in the length of the shaft, and means for varying their inclination lengthwise of the shaft, said means including a sleeve on the shaft adjacent the side edges of the blades and turnable around the shaft, and means connecting said sleeve with the blades.

4. The combination with a shaft, of a series of blades circumferentially arranged thereon and extending in the length of the shaft, and means for varying their inclination lengthwise of the shaft, said last named means including a worm sleeve on the shaft.

5. The combination of a shaft, of a series of blades pivotally mounted thereon and adapted to extend lengthwise of the shaft, means connected with the ends of the blades to vary their inclination with respect to the shaft, said means including oppositely turnable sleeves on the shaft, and means connecting said sleeves with opposite edges of the blades.

[Claims 6 to 12 not printed in the Gazette.]

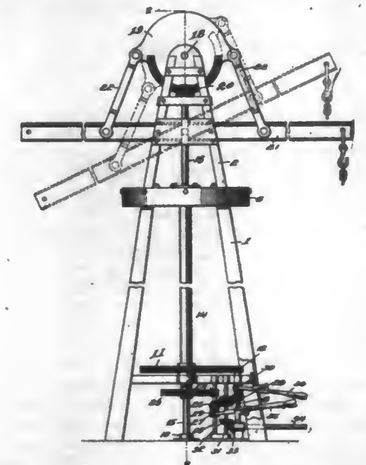
974,736. CIRCULATING ATTACHMENT FOR BOILERS. THOMAS BARROW, Detroit, Mich. Filed Mar. 1, 1909. Serial No. 480,555.



1. In a boiler, an upper and a lower header spaced from the rear end of the boiler, vertical water tubes bridging the opening between the upper and lower headers, a brick wall closing said opening and spaced from said tubes, a plurality of horizontally arranged water tubes leading from the boiler to the lower header, a plurality of horizontally arranged water tubes leading from the upper header to the boiler below its water level, and a wall above said tubes bridging the space between the end of the boiler and the upper header supported by said upper row of water tubes.

2. In a boiler, an upper and a lower header in the same vertical plane, spaced from and parallel with the rear end of the boiler, water tubes bridging the opening between the upper and lower headers, a brick wall closing said opening and spaced from said tubes, means for supporting said wall carried by the headers, a plurality of horizontally arranged water tubes leading from the boiler to the lower header, a plurality of horizontally arranged water tubes leading from the upper header to the boiler below its water level, and a wall above said tubes bridging the space between the end of the boiler and the upper header supported by said upper row of water tubes.

974,737. HOISTING APPARATUS. WILLIAM H. BEAM, Purcell, Okla. Filed Feb. 4, 1910. Serial No. 542,054.



1. An apparatus of the class described comprising a stationary frame, a revolving table mounted on the frame, a shaft carried by the table, means for revolving the shaft, a frame supported by the table, an angularly adjustable beam supported by the second frame, a second shaft, and geared connections between the said adjustable beam and the said second named shaft.

2. An apparatus of the class described comprising a stationary frame, a revolubly mounted table on said frame, a shaft carried by the table, a frame mounted on the table, a second shaft, a pivoted lifting beam supported by the second named frame, operative connections between the beam and the said second named shaft for moving the beam, and means for independently revolving the said shafts.

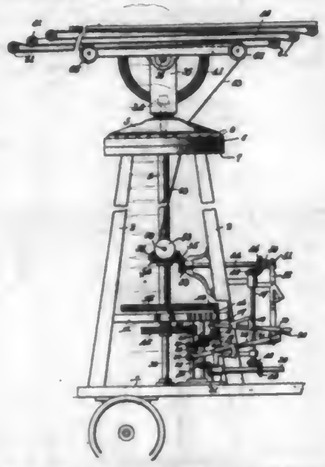
3. An apparatus of the class described comprising a fixed frame, a revolving table on the frame, a hollow shaft carried by said table, a frame mounted upon the table, a revoluble gear segment mounted upon the table-carried frame, a pivoted lifting beam operatively connected with the said gear segment, a driving shaft extending through the hollow shaft and geared to the said gear segment, and means for independently revolving the first and second named shafts.

974,738. PORTABLE EXTENSION-LADDER. WILLIAM H. BEAM, Purcell, Okla. Filed Feb. 10, 1910. Serial No. 543,049.

1. A portable extension ladder comprising a support, a revolubly mounted member carried by the support, a driving shaft, a hollow shaft supporting the said member, a shaft extending through the hollow shaft, a frame mounted on the member for angular adjustment and geared to the third named shaft, a ladder supported by the frame, and geared connections between the drive shaft and the said first and the second named shafts operative to independently revolve the said shafts.

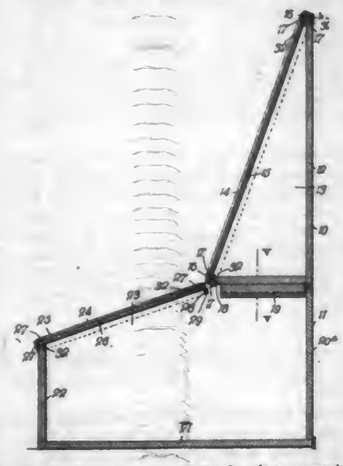
2. A portable extension ladder comprising a support, a revolubly mounted member on said support, a driving shaft, a hollow shaft supporting the said member, a shaft extending through the said hollow shaft, a frame mounted on the member for angular adjustment and geared to the

third named shaft, an extension ladder supported by the frame, a loose gear mounted on the hollow shaft, drums supported by the hollow shaft and geared to the gear on said hollow shaft, means for independently revolving the second and third named shafts, and driving connections between the drum and the said driving shaft.



3. A portable extension ladder comprising a support, a revolubly mounted member carried by the support, a shaft supporting the said member, a frame mounted on the member for angular adjustment, an extension ladder supported by the frame, revolubly mounted drums supported by the shaft and operatively connected with the said ladder, a loose gear supported by the shaft and geared to the drums, means for rotating the shaft, and means for rotating the drums.

974,739. KNOCKDOWN CASE. PHILIP A. BECKER, New York, N. Y. Filed May 22, 1909. Serial No. 497,671.



1. In a display case, a cover having a metallic frame substantially L-shaped in cross section, a glass plate fitting said frame and members adapted to engage both surfaces and the edge portion of said plate, said members being secured to said frame.

2. In a display case, a cover having a metallic frame substantially L-shaped in cross section, a glass plate fitting within said frame, said frame being provided with an off-set portion adapted to engage said plate and members adapted to engage both surfaces and the edge portion of said plate, said members being secured to said frame.

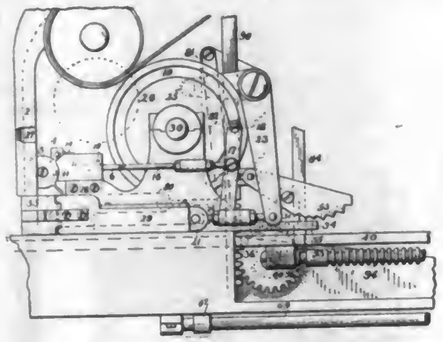
3. In a display case, a cover having a metallic frame, a glass plate fitting within said frame the edges of said frame partly in-casing the edge of said glass plate and U-shaped members secured to the inner surface of said frame for securing the glass within the frame.

4. A display case comprising a box-like member having tongues formed at the upper edge thereof, an inclined portion, a cover having a glass plate formed as a part thereof and a frame in which the plate is held, said box-like member of the casing having grooves along its upper edges to adapt the frame of the top to enter the same and hold the top to the casing, and a substantially triangular member having its bottom formed of a transversely-extending bar having grooves to slide along the tongues to adapt said member to be readily detached from the box-like member, said triangular member being provided with a cover having a metallic frame and a glass portion held to the frame, said frame being provided with marginal walls adapted to engage a part of the casing of the triangular member and having cleats adapted to engage the upper edge thereof to hold the cover to said member.

5. A display case having a box-like member, a substantially triangular member, said triangular member being provided with a cover or top having a metallic frame and a glass portion held to the frame, said frame being provided with marginal walls adapted to engage a part of the casing of the triangular member and having cleats adapted to engage the upper edge thereof to hold the cover to said member.

[Claims 6 and 7 not printed in the Gazette.]

974,740. JUSTIFYING MECHANISM. BENJAMIN F. BELLOWS, Cleveland, Ohio, and CONRAD LUTTROPP, Woonsocket, R. I., assignors to Electric Compositor Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 11, 1907. Serial No. 361,661.



1. The combination of an assembling spout, a vertical matrix guide therein which projects below the spout, and an assembling rail below said spout and guide, with a reciprocating packer comprising two side bars adapted to pass on opposite sides of said guide and into contact with the matrix engaging therewith, whereby said matrix is moved along said rail.

2. The combination of an assembling spout, a vertical matrix guide thereon, and an assembling rail, with means for dropping the matrices onto said assembling rail in engagement with said guide, two spring-actuated arms lying respectively in front of and behind said guide and having inwardly directed fingers and beveled surfaces, with a reciprocating packer comprising two side bars adapted to pass on opposite sides of said guide and to engage said beveled surfaces, and thereby spread the arms and to then move the matrix beyond said fingers.

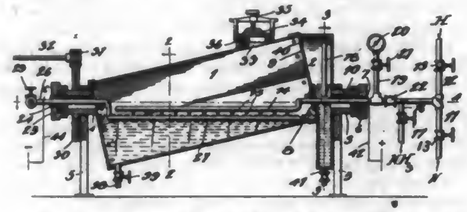
3. The combination of an assembling spout, escapement mechanism therefor, escapement operating mechanism, a packer, a rotatable shaft, and means secured to said shaft for operating the packer and the escapement operating mechanism.

4. The combination of an assembling spout, a rotatable star wheel whose arms project into said spout, a device restraining the rotation of said star wheel, a spring-actuated device for causing the same to rotate, and a device for synchronously withdrawing said restraining device and applying tension to said spring.

5. The combination of an assembling spout, a rotatable star wheel whose arms project into said spout, a plunger extending into the path of one of said arms to prevent the rotation of said star wheel, a reciprocating slide, mechanism operated thereby for withdrawing said plunger, a movable device for engagement with an arm of said star wheel, a spring for actuating the said device, said spring lying in the path of a part of said slide, whereby it is put under tension just before said plunger is withdrawn.

[Claims 6 to 31 not printed in the Gazette.]

974,741. PROCESS OF MAKING AMMONIA OR OTHER NITROGEN - HYDROGEN BINARY COMPOUNDS. HENRY SPENCER BLACKMORE, Mount Vernon, N. Y., assignor to Robert E. Robinson and Daniel C. Spruance, trustees, New York, N. Y. Original application filed Nov. 23, 1908, Serial No. 463,980. Divided and this application filed Mar. 25, 1909. Serial No. 485,829.



1. Process of making ammonia, which comprises supplying energy to nitrogen and hydrogen, while under fluctuating pressure in the presence of a substance capable of uniting with ammonia.

2. Process of making ammonia, which comprises supplying energy to nitrogen and hydrogen, while under fluctuating pressure in the presence of a substance capable of uniting with ammonia, and augmenting the union by the action of a contact substance.

3. Process of making ammonia, which comprises supplying energy to nitrogen and hydrogen, while under other than atmospheric pressure and in the presence of a substance capable of uniting with ammonia.

4. Process of making ammonia, which comprises supplying energy to nitrogen and hydrogen, while under other than atmospheric pressure and in the presence of a substance capable of uniting with ammonia, and augmenting the union by the action of a contact substance.

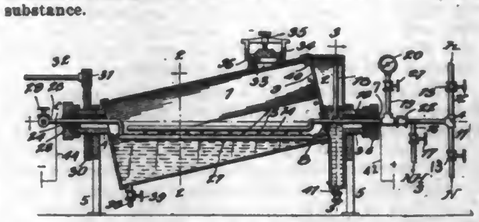
5. Process of making ammonia, which comprises supplying energy to nitrogen and hydrogen, while in the presence of mercury.

[Claims 6 to 38 not printed in the Gazette.]

974,742. PROCESS OF MAKING AMMONIA, ALKYL AMMONIA, OR AMMONIA BASES. HENRY SPENCER BLACKMORE, Mount Vernon, N. Y., assignor to Robert E. Robinson and Daniel C. Spruance, trustees, New York, N. Y. Original application filed Nov. 23, 1908, Serial No. 463,980. Divided and this application filed Mar. 29, 1909. Serial No. 486,390.

1. Process of making ammonia, alkyl-ammonia, or ammonia bases, which comprises supplying energy to nitrogen and hydrogen-containing compounds, in a yielding state, causing constituents thereof to unite, while in a non-oxidizing atmosphere and in the presence of a substance capable of uniting with ammoniacal substances.

2. Process of making ammonia, alkyl-ammonia, or ammonia bases, which comprises supplying energy to nitrogen and hydrogen-containing compounds, in a yielding state, causing constituents thereof to unite, while in a non-oxidizing atmosphere and in the presence of a substance capable of uniting with ammoniacal substances, and augmenting the union by the action of a contact substance.



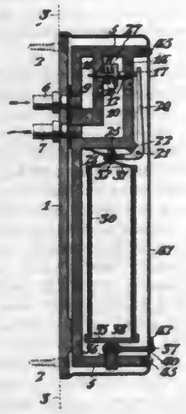
3. Process of making ammonia, alkyl-ammonia, or ammonia bases, which comprises supplying energy to nitrogen and hydrogen-containing compounds, in a yielding state, causing constituents thereof to unite, while in a non-oxidizing atmosphere and under pressure and in the presence of a substance capable of uniting with ammoniacal substances.

4. Process of making ammonia, alkyl-ammonia, or ammonia bases, which comprises supplying energy to nitrogen and hydrogen-containing compounds, in a yielding state, causing constituents thereof to unite, while in a non-oxidizing atmosphere and under pressure and in the presence of a substance capable of uniting with ammoniacal substances, and augmenting the union by the action of a contact substance.

5. Process of making ammonia, alkyl-ammonia, or ammonia bases, which comprises supplying energy to nitrogen and hydrogen carbid, in a yielding state, causing constituents thereof to unite, while in a non-oxidizing atmosphere and in the presence of a substance capable of uniting with ammoniacal substances.

[Claims 6 to 40 not printed in the Gazette.]

974,743. PNEUMATIC THERMOSTAT. CHARLES E. BONNET, Philadelphia, Pa. Filed May 21, 1909. Serial No. 497,561.



1. The combination with a casing having respectively opposite conical valve seat inlet and exhaust ports; of a double needle valve having opposite conical ends respectively fitted to said ports, so constructed and arranged that in accordance with reciprocatory movement of said valve said ports are alternately opened and closed; a lever arranged to shift said valve to close said inlet port; a strong spring arranged to operate said lever to close said port; a weaker spring tending to shift said valve to close said exhaust port; a thermostatic element normally restraining said stronger spring and permitting said weaker spring to normally maintain said valve closing said ex-

haust port; said thermostatic element including a cylindrical tube of hard rubber having a metallic cap operatively engaging said lever, a metallic base having means arranged to raise and lower it, including a screw fitted in said casing, an index lever adjustably connected with said base, and means detachably connecting said lever and base; whereby, said thermostatic element may be adjusted to operate said valve at different temperatures.

2. The combination with a casing having respectively opposite conical valve seat inlet and exhaust ports; of a double needle valve having opposite conical ends respectively fitted to said ports, so constructed and arranged that in accordance with reciprocatory movement of said valve said ports are alternately opened and closed; a lever arranged to shift said valve to close said inlet port; a strong spring arranged to operate said lever to close said port; a weaker spring tending to shift said valve to close said exhaust port; a thermostatic element normally restraining said stronger spring and permitting said weaker spring to normally maintain said valve closing said exhaust port; said thermostatic element including a hard rubber tube having means operatively engaging said lever, a metallic base having means arranged to raise and lower said tube, including a screw, an index lever connected with said screw, and means deachably connecting said lever and screw; whereby, said thermostatic element may be adjusted to operate said valve at different temperatures.

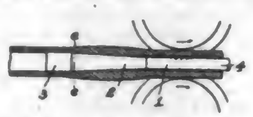
3. The combination with a casing having respectively opposite conical valve seat inlet and exhaust ports; of a double needle valve having opposite conical ends respectively fitted to said ports, so constructed and arranged that in accordance with reciprocatory movement of said valve said ports are alternately opened and closed; a lever arranged to shift said valve to close said inlet port; a strong spring arranged to operate said lever to close said port; a weaker spring tending to shift said valve to close said exhaust port; a thermostatic element normally restraining said stronger spring and permitting said weaker spring to normally maintain said valve closing said exhaust port; said thermostatic element including a hard rubber member having means operatively engaging said lever, means arranged to raise and lower said member, including a screw fitted in said casing, an index lever connected with said screw, and means detachably connecting said lever and screw, whereby, said thermostatic element may be adjusted to operate said valve at different temperatures.

4. The combination with a casing having respectively opposite conical valve seat inlet and exhaust ports; of a double needle valve having opposite conical ends respectively fitted to said ports, so constructed and arranged that in accordance with reciprocatory movement of said valve said ports are alternately opened and closed; a lever arranged to shift said valve to close said inlet port; a strong spring arranged to operate said lever to close said inlet port; a weaker spring tending to shift said valve to close said exhaust port; a thermostatic element normally restraining said stronger spring and permitting said weaker spring to normally maintain said valve closing said exhaust port; said thermostatic element including a hard rubber member having means operatively engaging said lever, and, means arranged to raise and lower said member; whereby, said thermostatic element may be adjusted to operate said valve at different temperatures.

5. The combination with a casing having respectively opposite valve seat inlet and exhaust ports; of a double needle valve having opposite ends respectively fitted to said ports, so constructed and arranged that in accordance with reciprocatory movement of said valve said ports are alternately opened and closed; a lever arranged to shift said valve to close said inlet port; a strong spring arranged to operate said lever to close said inlet port; a weaker spring tending to shift said valve to close said exhaust port; a thermostatic element normally restraining said stronger spring and permitting said weaker spring to normally maintain said valve closing said exhaust port; said thermostatic element including a hard rubber member having means operatively engaging said lever, and, means arranged to raise and lower said member; whereby, said thermostatic element may be adjusted to operate said valve at different temperatures.

[Claims 6 and 7 not printed in the Gazette.]

974,744. METHOD OF MANUFACTURING SEAMLESS TUBES. OTTO BAIERDE, Benrath, near Dusseldorf, Germany. Filed Feb. 15, 1910. Serial No. 544,082.



1. The method of manufacturing seamless tubes, which consists in increasing the internal and external dimensions of the billet and then as a part of the same operation reducing the external dimensions of the same.

2. The method of manufacturing seamless tubes which consists in alternately and successively increasing the internal and external dimensions of a billet and reducing the external dimensions thereof.

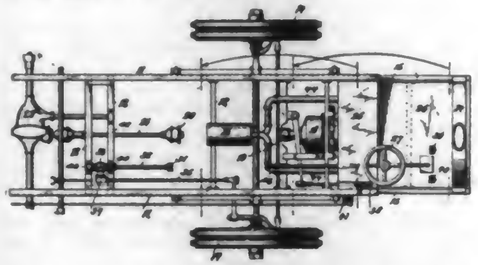
3. The method of manufacturing seamless tubes which consists in progressively increasing the internal and external dimensions of a billet and progressively as a part of the same operation reducing its external dimensions.

4. The method of manufacturing seamless tubes which consists in enlarging the external dimensions of a billet by a radially acting force and then as a part of the same operation reducing the external dimensions.

5. The method of manufacturing seamless tubes which consists in progressively step by step increasing the internal dimensions of a hollow billet and then step by step reducing the thickness of the wall of the billet while maintaining the increased internal dimensions.

[Claim 6 not printed in the Gazette.]

974,745. MOTOR-VEHICLE. CHARLES A. CARLSON, Brooklyn, N. Y., assignor to Carlson Motor & Truck Company, Philadelphia, Pa., a Corporation of New York. Filed May 25, 1909. Serial No. 498,281.

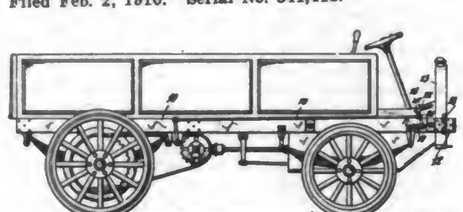


1. In a motor vehicle, the combination with a main frame and rear driving wheels and front steering wheels carried thereby, of a supplemental frame arranged in longitudinal sliding relation with the said main frame, whereby it may be longitudinally removed from the front of the vehicle, a motor and correlated parts carried by the said supplemental frame, a manually operated steering member also carried by the said supplemental frame, longitudinally disposed sliding clutch members for connecting the motor and the driving wheels in driving relation, one of the said members being carried by the main frame, and the other by the said supplemental frame, and longitudinally disposed sliding clutch members for connecting the manual steering member in operative steering relation with the steering wheels, one of the said members being carried by the main frame, and the other by the supplemental frame, the said clutch members being operatively engaged and disengaged by the mere act of sliding the supplemental frame into and out of its operative position in the main frame.

2. In a motor vehicle, the combination with a main frame including longitudinally disposed side channel irons, of a removable supplemental frame including longitudinal channel irons arranged to slide in the channel portions of the first said side irons and to be supported thereby, shoes of wedge-like form between the two sets of channel irons, a motor carried by the said supplemental frame, and bolts disposed with their axes horizontal and at right angles to the direction of movement of the said supplemental frame, for clamping the two sets of channel irons and the said shoes together.

3. In a motor vehicle, the combination with a main frame including longitudinally disposed side channel irons, of a removable supplemental frame arranged to slide in the channel portions of the said side irons and to be supported thereby, shoes between the said supplemental frame and side irons, a motor carried by the said supplemental frame, and bolts arranged to pass through the side channel irons, the said shoes and portions of the said supplemental frame, to clamp the said supplemental and main frames together.

974,746. MOTOR-VEHICLE. CHARLES A. CARLSON, Brooklyn, N. Y., assignor to Carlson Motor & Truck Company, Philadelphia, Pa., a Corporation of New York. Filed Feb. 2, 1910. Serial No. 541,413.



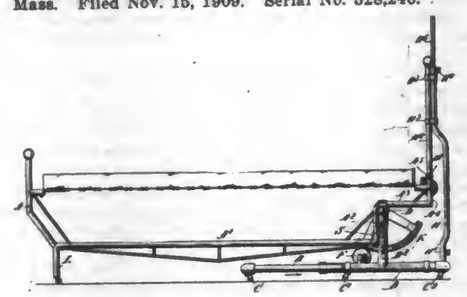
1. In a motor vehicle, the combination with a main frame, and a supplemental frame in longitudinal sliding relation therewith, of a pedal pivoted upon the main frame to move longitudinally with respect thereto and having a part overhanging portions carried by the supplemental frame, and means permitting the pedal to be moved laterally out of the path of the parts carried by the supplemental frame while the same is being removed.

2. In a motor vehicle, the combination with a main frame, and a supplemental frame in longitudinal sliding relation therewith, of a pedal pivoted upon the main frame to move longitudinally with respect thereto and having a part overhanging portions carried by the supplemental frame, means permitting the pedal to be moved laterally out of the path of the parts carried by the supplemental frame when the same is being removed, and a guide carried by the supplemental frame for engaging the said pedal and preventing the same from being so laterally moved while the supplemental frame is in its normal rest position in the main frame.

3. In a motor vehicle, the combination with a main frame, and a supplemental frame in longitudinal sliding relation therewith, of a block pivoted upon the main frame to move longitudinally with respect thereto, and a pedal pivoted upon the said block to move laterally with respect thereto, the said pedal having a portion arranged to normally overhang parts carried by the supplemental frame, and held normally against lateral pivotal movement with respect to the said block.

4. In a motor vehicle, the combination with a main frame, and a supplemental frame in longitudinal sliding relation therewith, of a block pivoted upon the main frame to move longitudinally with respect thereto, a pedal pivoted upon the said block to move laterally with respect thereto, the said pedal having a portion arranged to normally overhang parts carried by the supplemental frame, and a guide carried by the supplemental frame for normal engagement with the pedal to prevent its lateral movement.

974,747. FOLDING BED. HERBERT H. CARR, Boston, Mass. Filed Nov. 15, 1909. Serial No. 528,240.



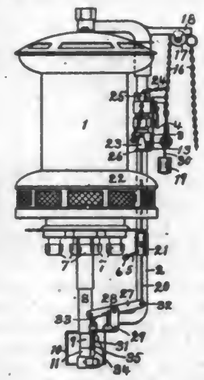
1. A folding bed comprising a body-part having a foot board and foot legs attached; a cross rod attached to the head end of the bed and having end bearings upon which the bed swings as it is turned up; forked standards in the upper end of which the end bearings of the said cross rod swing; a base support having an extension piece, a ratchet device by which the said extension may be operated, segment gears attached to and operated by the said cross bar, spur gear wheels engaging with the said segment gear and the said ratchet device whereby the movement of the bed, in turning up, causes the said base extension to be operated, substantially as and for the purpose set forth.

2. A folding bed comprising a body frame; standards in the upper end of which the body frame is journaled to swing; a base support having a movable extension member; and means operatively connecting said frame and member whereby the movement of said frame in lowering or raising the bed operates said base extension member, substantially as and for the purpose set forth.

3. In a folding bed, a pivoted body part having at its head end parts (A^4 A^4) and a uniting cross bar A^5; a head board having parts (H^2, H^2) and a uniting U shaped cross bar H^7 constructed to engage with the said uniting cross bar A^5, substantially as and for the purpose set forth.

4. A folding bed comprising a body frame having a foot board and foot legs attached; a base support having standards in which said body frame is journaled to swing; a movable extension member on said base support; and gearing connecting said body frame and extension member, substantially as and for the purpose set forth.

974,748. AUTOMATIC GAS-LAMP. WILLIAM A. CARR, Springfield, Mass., assignor to Charles H. Tenney, Hartford, Conn. Filed June 15, 1910. Serial No. 566,943.



1. In a lamp, of the class described, air valve-operating mechanism comprising, with the air valve, a longitudinally-movable downwardly-pressed rod provided with a

lug, connections between said valve and said rod, a suitably-mounted movable member arranged to be thrust into the path of said lug and to be withdrawn from such path, and means to elevate said rod and operate said movable member.

2. The combination, in a lamp of the class described, with a gas valve-operating rocker member, an operating carriage for such member slidingly mounted thereon, a flexible operating member attached to said carriage, and the air valve, of a longitudinally-movable downwardly-pressed rod provided with a lug and operatively connected with said air valve, a projection on said rocker member movable into and out of the path of said lug when said rocker member is actuated, and a flexible connection between said flexible operating member and said rod.

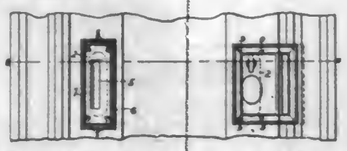
3. The combination, in a lamp of the class described, with a gas valve-operating rocker member, an operating carriage for such member slidingly mounted thereon, a flexible operating member attached to said carriage, and an air valve, of a longitudinally-movable downwardly-pressed rod provided with a lug at the upper terminal, a projection on said rocker member movable into and out of the path of said lug when said rocker member is actuated, a flexible connection between said flexible operating member and said rod, a suitable lifter for said air valve, and a suitably-mounted lever connecting the lower terminal of said rod with said lifter.

4. The combination, in a lamp of the class described, with a mixing-chamber, a gas-supply tube opening into said chamber, a mixture tube, a tubular air valve slidingly mounted in said mixture tube in operative relation to the terminal of said first-mentioned tube which is in said chamber, a gas valve stem protruding from said gas-supply tube, a rocker member affixed to the protruding terminal of said stem, an operating carriage for said rocker member slidingly mounted thereon, and a flexible operating member attached to said carriage, of a longitudinally-movable downwardly-pressed rod provided with a lug at the upper terminal, a projection on said rocker member movable into and out of the path of said lug when said rocker member is actuated, a flexible connection between said flexible operating member and said rod, a longitudinally-movable lifter connected with the terminal of said air valve which is in said chamber, and a lever mounted adjacent to said chamber and connecting the lower terminal of said rod with said lifter.

974,749. COMPOSITION OF MATTER FOR PREVENTION AND REMOVAL OF INCRUSTATION IN EXPLOSIVE-ENGINES. EDWIN W. CAULFIELD, St. Petersburg, Fla. Filed May 27, 1910. Serial No. 563,705.

A composition of the class described, consisting of potassium hydroxid, one pound, gasolene, three quarts, alcohol, one quart, cylinder oil, two ounces, and a small portion of ether, substantially as described.

974,750. DOOR. JOHN BAPTISTE CLERMONT, New York, N. Y., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Filed Dec. 19, 1908. Serial No. 468,341.

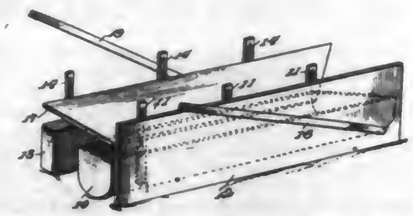


1. The combination with a door having openings of the same size and shape, one in each side or stile of the door, of a lock and a letter plate constructed to be interchangeably secured within said openings.

2. The combination with a door adapted to be permanently hinged at one side edge and having openings of the same size and shape, one in each stile of the door, of a lock and a letter plate constructed to be interchangeably secured within said openings.

3. The combination with a door having openings of the same size and shape, one in each stile of the door, of a lock and letter plate each constructed to be secured in either opening, whereby they are interchangeable.

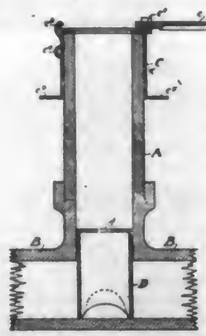
974,751. BOLL-WEEVIL EXTERMINATOR. PAULIN J. COCO, Hamburg, La. Filed Apr. 27, 1910. Serial No. 557,966.



1. A plant insect destroyer comprising a container for liquid insecticide, a runner frame supporting the same, and a cover adjustably supported above said container and provided with an inclined end for guiding the plant tops over said container.

2. A plant insect destroyer comprising a liquid container secured to a runner board and provided with slotted standards, a second runner with slotted standards, bolts arranged to connect the standards of said runner boards, and a cover board provided with a beveled end arranged on said bolts.

974,752. SEWER CONNECTION. WILMER E. MCCORQUODALE, Orange, Tex. Filed Sept. 29, 1909. Serial No. 520,104.

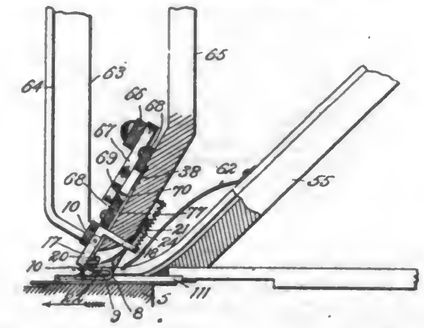


1. A sewer connection for houses and premises embracing a vertical outlet pipe, a cover or closure for the upper end of said pipe, means for securing and sealing said closure to said pipe, a vertically movable cut-off detachably mounted in said pipe adapted to close the lower end of said pipe, and a sewer union for the lower end of said pipe adapted to seat said cut-off and form therewith a back water valve for the sewer.

2. A sewer connection for houses and premises embracing a vertical outlet pipe, a closure for the upper end of said pipe, means for locking and sealing said closure, a vertically movable cut-off mounted within said pipe adapted to close its lower end, a sewer union for the lower end of said pipe adapted to seat said cut-off, means for removing said cut-off from said vertical pipe and sewer union.

974,753. HOOK-AND-EYE-SEWING MACHINE. WILLIAM A. COURTLAND, Brooklyn, N. Y., assignor, by mesne assignments, to The Connecticut Hook and Eye Company, Waterbury, Conn., a Corporation of Connecticut. Filed Feb. 14, 1908, Serial No. 415,960. Renewed Apr. 5, 1910. Serial No. 553,556.

1. In a device of the character described, the combination with means for singly feeding eyes into engaging position, and means for singly feeding hooks to engage said eyes; of means for positively holding an eye in engaging position while engaged by a hook and releasing the hold on said eye only after it has been fully engaged.



2. In a device of the character described, the combination with means for singly feeding eyes into engaging position, and means for singly feeding hooks to engage said eyes; of automatic means for positively holding an eye in said engaging position while engaged by a hook and releasing the hold on said eye only after it has been fully engaged.

3. In a device of the character described, the combination with means for singly feeding eyes into engaging position, and means for singly feeding hooks to engage said eyes; of means controlled by said eye feeding means for positively holding an eye in said engaging position while engaged by a hook and releasing the hold on said eye only after it has been fully engaged.

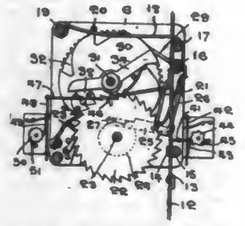
4. In a device of the character described, the combination with means for singly feeding eyes comprising a supporting bar having a reecess adapted to hold an eye, means for feeding eyes to said recess, a pusher in said recess adapted to push a single eye fed into said recess to the end of said bar into engaging position, means for operating said pusher, and means for singly feeding hooks to engage an eye fed into said position; of a shield suitably disposed on and pivoted to said bar to normally allow an eye to be pushed into and drawn by a hook from said engaging position and adapted to positively hold said eye in engaging position, said shield disposed to be locked in said eye holding position during the hook and eye engaging operation.

5. In a device of the character described, the combination with means for singly feeding eyes comprising a supporting bar having a recess adapted to hold an eye, means for feeding eyes to said recess, a pusher in said recess adapted to push a single eye fed into said recess to the end of said bar into engaging position, means for operating said pusher, and means for singly feeding hooks to engage an eye fed into said position; of a shield suitably disposed on and pivoted to said bar to normally allow an eye to be pushed into and drawn by a hook from said engaging position and adapted to positively hold said eye in said position, said shield disposed to be automatically locked in said eye holding position during the hook and eye engaging operation.

[Claims 6 to 12 not printed in the Gazette.]

974,754. CALENDAR. DANIEL T. DAVIS, Worley, N. C. Filed Nov. 30, 1909. Serial No. 530,577.

1. In combination, a bar adapted to coöperate with the works of a clock, a disk having a plurality of notches in its periphery corresponding with the extreme number of days in a month, said disk being mounted in operative relation to said bar, a means carried by said bar for the purpose of engaging said notches and rotating said disk upon a shaft, a disk having one notch in its periphery mounted to rear of said first mentioned disk and upon the same shaft and means coöperating with said last mentioned disk to compensate for the changes in long and short months.



2. A device of the character described, comprising the combination with a lever adapted to coöperate with the works of a clock; of a ratchet mounted on a shaft, means on said lever for rotating said ratchet, a notched disk and gear wheel mounted on a shaft adjacent said other shaft, communicating means between said gear and ratchet-mounted shaft, a dog and an elliptical disk carried by said notched disk, means stationarily mounted and adapted to engage said elliptical disk and rotate the same to compensate for leap year, means coöperating with said lever for registering the days of the week and additional means for registering the months.

3. A device of the character described, comprising the combination with a lever adapted to coöperate with the works of a clock; of a ratchet mounted on a shaft, means on said lever to rotate said ratchet, a single notched disk mounted on said shaft immediately below said ratchet, an additional lever carrying an arm coöperating with said disk to compensate for long and short months, an additional notched disk and gear mounted on a shaft adjacent said other shaft, means on said last referred to disk to compensate for leap year and means coöperating with said first referred to lever for registering the days of the week.

4. A device of the character described, comprising the combination with a lever adapted to coöperate with the works of a clock; of a ratchet mounted on a shaft, means on said lever for rotating said ratchet, a single notched disk mounted on said shaft below said ratchet, a gear and a notched disk mounted on an additional shaft, said disk carrying a dog and a smaller elliptical disk to compensate for leap year, a spring-held lever mounted on an additional shaft and carrying an arm spaced so as to receive said single notched disk therebetween and additional means to register the days and the months.

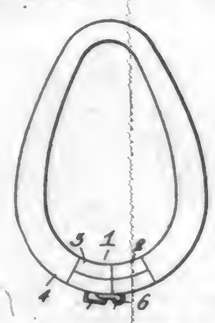
5. A device of the character described, comprising the combination with a lever adapted to coöperate with the works of a clock; of a ratchet mounted on a shaft, a single notched disk mounted on said shaft below said ratchet, an additional lever mounted on a second shaft and carrying an arm coöperating with said single notched disk to compensate for long and short months, means coöperating with said first referred to lever for registering the days, means coöperating with said ratchet for registering the months and additional means to compensate for leap year.

[Claims 6 to 10 not printed in the Gazette.]

974,755. PROTECTOR AND FASTENER FOR HORSE-COLLARS. CHARLES B. DEEDS, Mount Carroll, Ill. Filed Aug. 30, 1909. Serial No. 515,241.

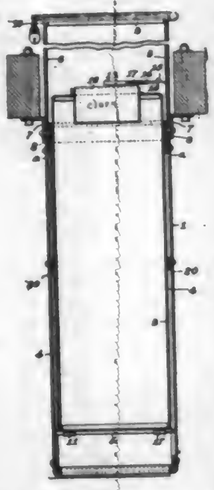
An attachment for horse collars comprising two members each with upper and lower sections and each having flanged inner ends, a horse collar having its ends arranged between said sections and contacting with said flanged ends, clamping means inserted through each member and through the ends of the collar, the lower section of one of the members having a transverse socket depending therefrom, the lower section of the other member having a loop depending therefrom, a pin having right angular

arms, one of which is secured to the loop, the other arm of the pin being arranged transversely and projecting be-



yond the edge of said lower section and adapted to be inserted in said transverse socket.

974,756. REGISTERING MECHANISM. ALFRED J. DIESCHER, Pittsburg, Pa. Filed Nov. 22, 1909. Serial No. 529,319.

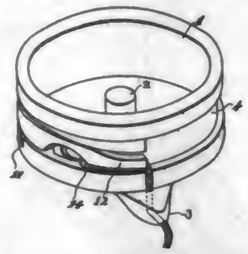


1. In a registering mechanism, the combination of a casing adapted to be connected to a channel conveying the fluid to be measured, a member arranged in the casing and adapted to be moved in accordance with changes of pressure or head in said fluid, and recording means consisting of a uniformly operated marker, and means for retaining a record sheet in position, said elements being arranged within the casing, and one of said elements being carried by the float and the other by the casing.

2. In a registering mechanism the combination of a casing adapted to be connected to a channel conveying the fluid to be measured, a member arranged in the casing and adapted to be moved in accordance with changes of pressure or head in said fluid, a uniformly operated marker arranged within and supported by the casing and means for holding the record sheet on the movable member.

3. In a registering mechanism the combination of an opened bottom casing adapted to be partially immersed in the fluid to be measured, an open-topped float provided with means for supporting the record sheet against its inner wall and arranged in the casing, a bracket secured to the cover of the casing and extending down into the float, a motor carried by the bracket, and a marker movable along the record sheet by the motor.

974,757. SHUTTLE TENSION DEVICE. JOHN L. DOW, Melrose Highlands, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Aug. 13, 1909. Serial No. 512,633.



1. A shuttle tension device for sewing machines, having, in combination with a cylindrical thread case having a peripheral groove, a thread engaging member mounted in the groove, a tension adjusting member also mounted in the groove and arranged to bear on the thread engaging member, said tension adjusting member being movable longitudinally in the groove to vary the tension.

2. A shuttle tension device for sewing machines, having, in combination with a cylindrical thread case having a peripheral groove, a thread engaging member mounted in the groove, a tension adjusting member also mounted in the groove and arranged to bear on the thread engaging member, said tension adjusting member being movable longitudinally in the groove to vary the tension, and means for locking the tension adjusting member in adjusted position.

3. A shuttle tension device for sewing machines, having, in combination with a thread case having a peripheral groove, a thread engaging member, and a tension adjusting member mounted in said groove and extending circumferentially of the thread case, said members being relatively adjustable longitudinally while in the groove to vary the tension.

4. A shuttle tension device for sewing machines, having, in combination with a thread case having a peripheral groove, a thread engaging member, a tension adjusting member mounted in said groove and extending circumferentially of the thread case, said members being relatively adjustable longitudinally while in the groove to vary the tension, and means carried by the members for locking them in adjusted position.

5. A shuttle tension device for sewing machines, having, in combination with a cylindrical thread case having a peripheral groove, a thread engaging member mounted in the groove, and a tension adjusting member mounted in the groove and provided with a cam surface arranged to bear on the thread engaging member, said tension adjusting member being movable while both members are in the groove.

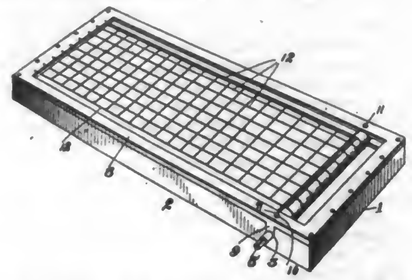
[Claims 6 to 11 not printed in the Gazette.]

974,758. BED-SPRING. LETTIE DOWNING, Franktown, Colo. Filed Jan. 25, 1910. Serial No. 540,016.

1. A device of the character described comprising a mattress supporting frame provided with oppositely disposed bearing slots, a shaft rotatably mounted in said slots, a roller fast on said shaft, a frame fitted over the upper edge of said mattress supporting frame and provided with pendent bearing lugs adapted to be fitted within said bearing slots to retain the said shaft therein, and means for preventing reverse movement of said roller.

2. A device of the character described comprising a mattress supporting frame provided with oppositely disposed bearing slots, a roller journaled in said slots, a supplemental frame fitted over said mattress supporting frame and provided with bearing lugs adapted to be fitted within said bearing slots to hold the roller therein, and locking pins adapted to be passed through said supplemental

frame and engaged with said tightening roller to prevent reverse movement thereof.



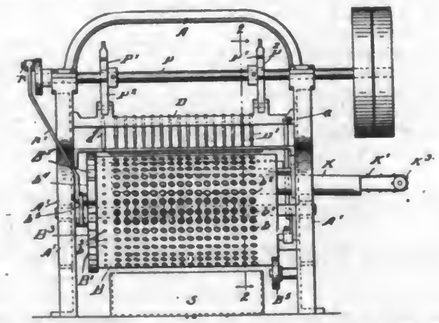
3. A device of the character described comprising a mattress supporting frame, a tightening roller journaled in one end thereof, a supplemental frame fitted over the upper edge of said mattress supporting frame and provided with means for engagement with said roller to retain the same to its journaled position in said mattress supporting frame, and roller locking means carried by said supplemental frame.

4. A device of the character described comprising a mattress supporting frame, a tightening roller journaled therein and provided with circumferential end openings, a supplemental frame fitted over the upper edge of said mattress supporting frame and adapted to retain said roller to its journals, and locking pins adapted to be passed through said supplemental frame and selectively engaged with the circumferential openings of the tightening roller to prevent reverse movements thereof.

5. A device of the character described comprising a mattress supporting frame having oppositely disposed vertically arranged bearing slots adjacent one end thereof, a shaft rotatably mounted in said slots, a tightening roller fast on said shaft and provided with circumferential end openings, a supplemental frame removably fitted over the upper edge of said mattress supporting frame and provided with oppositely disposed pendent bearing lugs adjacent one end thereof adapted to be fitted in the bearing slots of the mattress supporting frame over the said shaft, and locking pins adapted to be passed through said supplemental frame and selectively engaged with the circumferential openings of said tightening roller.

[Claim 6 not printed in the Gazette.]

974,759. CHERRY-PITTING MACHINE. SAMUEL J. DUNKLEY, Kalamazoo, Mich., assignor to Dunkley Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 29, 1904. Serial No. 234,716.



1. In a fruit pitting machine, the combination of means for holding the fruit, a pitting plunger having a relatively small shank, and an enlarged head divided into forks d^1 formed with sharp radial cutting edges d^2 on the end of the plunger, and an elastic stripper slitted to form yielding prongs which operate by their extremities passing between the forks, the slits of the stripper being in line respectively with the said cutting edges, substantially as set forth.

2. In a cherry pitting machine, the combination of means for holding the fruit, a reciprocating pitting plunger having a head furnished with a plurality of radial forks with inclined cutting edges, a rubber or elastic stripper having radial slits with stripping prongs between the radial slits, through which the pitting plunger may force the pit, upper and lower stationary curved supporting plates embracing the stripper, and suitable actuating mechanism, substantially as set forth.

3. In a cherry pitting machine, the combination with an intermittently rotating hollow drum furnished with a series of rows of cherry receiving cavities, each having a pit discharge opening through the drum, of a reciprocating pitting plunger cross head having a plurality of pitting plungers, each having a head furnished with a plurality of radial forks with inclined cutting edges, a rubber or elastic stripper having a series of sets of radial slits with stripping prongs between the radial slits through which the pitting plungers may force the pits, and upper and lower stationary curved supporting plates embracing the stripper inside said drum, substantially as specified.

4. In a fruit pitting machine, the combination of means for holding the fruit, a reciprocating pitting plunger having a head furnished with a plurality of radial forks with inclined cutting edges, an elastic stripper having radial slits with stripping prongs between the radial slits, through which the pitting plunger may force the pit, upper and lower stationary supporting plates embracing the stripper, and suitable actuating mechanism, substantially as set forth.

5. In a cherry pitting machine, the combination with an intermittently rotating hollow drum, furnished with a series of cherry receiving cavities, each having a pit discharge opening through the drum, of reciprocating pitting plungers, each having an enlarged head furnished with a plurality of forks with inclined faces, a stationary stripper inside the drum, reciprocating cleaner or ejector plungers inside the drum, and a rock shaft inside the drum for operating said ejector plungers, substantially as specified.

[Claims 6 to 8 not printed in the Gazette.]

974,760. ELECTRIC FISHING-TOOL. HARRY EASTWOOD, Fresno, Cal. Filed Feb. 2, 1910. Serial No. 541,577.



1. A fishing-tool consisting of a waterproof casing with a removable, sectional armature plug in the bottom, and means within the casing for magnetizing said armature sections.

2. A fishing-tool comprising a non-magnetic tubular casing having an armature plug at one end, electro-magnets

connected with said plug and housed within the casing, draw-bolts passing through the casing and seated in the plug to hold the latter in position, and electrical connections with the magnets extending out exterior of the casing.

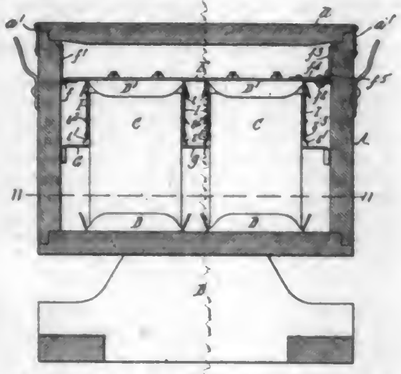
3. An electrical fishing-tool comprising a non-magnetic water-tight casing having at its lower end a removable, tapered armature forming a closure, and electro-magnetic means housed in the casing and connected with said armature.

4. An electrical fishing-tool comprising a non-magnetic water-tight casing having at its lower end a removable, tapered armature forming a closure, and electro-magnetic means housed in the casing and connected with said armature, said armature made in sections insulated from each other and adapted to be separately energized.

5. A fishing-tool comprising a water-tight casing, the lower end of which is provided with a removable, tapered armature plug, said plug made in sections, and an electromagnet for each armature section, said magnets housed within the casing.

[Claims 6 to 9 not printed in the Gazette.]

974,761. ICE-CREAM FREEZER. REUBEN C. ELDRIDGE, Niagara Falls, Ontario, Canada, and DE WITT C. BREED, Lockport, N. Y., assignors to Niagara Falls Ice Cream Freezer Company, Niagara Falls, N. Y. Filed Mar. 23, 1908. Serial No. 422,788.



1. In an ice cream freezer, the combination of a box, a plurality of receptacles arranged in a row in said box, holders in the lower portion of the box for the lower ends of said receptacles, a removable bar extending lengthwise of said row over said receptacles and having a socket for receiving and confining the upper end of each receptacle in the row, and means at opposite ends of said bar for releasably securing said bar in a fixed position in said box, substantially as set forth.

2. In an ice cream freezer, the combination of a box, a plurality of receptacles arranged in rows in said box, holders in the bottom of the box in which the lower ends of said receptacles are seated, bars having holders to receive the upper ends of said receptacles and hold them from movement in any direction, and means for rigidly but releasably securing said bars in said box above said receptacles with each holder thereof embracing the upper end of one of said receptacles, substantially as set forth.

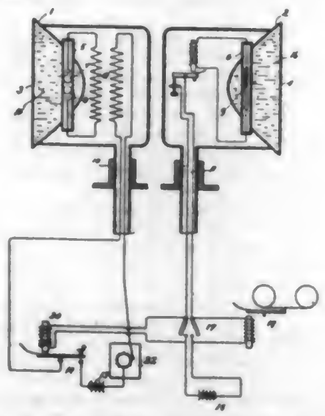
3. In an ice cream freezer, the combination of a box, a plurality of receptacles arranged in a row in said box, holders arranged in the bottom of said box for the lower ends of said receptacles, a bar extending horizontally above said row of receptacles and having downwardly flaring sockets, each adapted to receive and confine the upper end of one of said receptacles, and releasable means for rigidly securing said bar at opposite ends in said box, substantially as set forth.

4. In an ice cream freezer, the combination of a box, a plurality of receptacles arranged in rows in said box, upwardly flaring sockets arranged in the bottom of said box to receive and confine the lower ends of said receptacle, bars extending horizontally above said rows of receptacles and having downwardly flaring sockets each adapted to receive and confine the upper end of one of said receptacles, and releasable means for rigidly securing said bars at opposite ends in said box, substantially as set forth.

5. In an ice cream freezer, the combination of a box, a plurality of receptacles arranged in a row in said box, holders in said box for the lower ends of said receptacles, a bar extending lengthwise of said row above said receptacles and having parts which engage and hold the upper end of said receptacle in fixed position, means at one end of said box with which one end of said bar detachably interlocks and in which it is adapted to swing upwardly to an upright position, a bracket at the opposite end of said box with which the other end of said bar engages, and a latch for holding said bar stationary on said bracket, substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

974,762. WIRELESS TELEGRAPHY. REGINALD A. FESSENDEN, Washington, D. C. Filed Jan. 14, 1907. Serial No. 352,212.



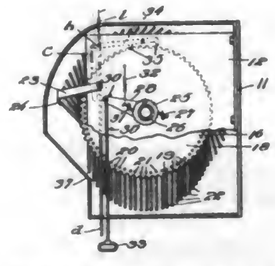
1. In wireless signaling the combination of a receiving apparatus and a transmitting apparatus, means for shielding the receiving apparatus from the action of the sending apparatus during the simultaneous operation of the sending and receiving apparatus, said means comprising a focusing device for receiving the waves and a focusing device for emitting the waves, both focusing devices being filled with a medium having a higher dielectric constant than air, so that the waves as emitted and received are of much shorter wave length than when traversing the space between the stations.

2. In wireless signaling, the combination of a receiving apparatus and sending apparatus and a relay for retransmission from one to the other, of shields protecting one apparatus from the action of the other during simultaneous operation of the two, said protecting means being adapted to change the wave length when in the immediate neighborhood of the receiver and sender.

3. In wireless signaling, the combination of a receiver and a generator of electromagnetic waves, and automatic means to retransmit effects from one to the other, and a shield for protecting each of said apparatuses from the other, and means to shorten the wave length in the immediate vicinity of the receiver and generator.

974,763. STREET-INDICATOR. HERBERT EDWARD FISHER, San Francisco, Cal. Filed Jan. 11, 1909. Serial No. 471,665.

1. An indicator device comprising a base plate, end plates disposed at right angles thereto and having laterally turned edged portions secured against the base plate, said end plates being provided with registering perforations, a shaft revoluble in said perforations, a drum mounted on said shaft, said drum having spaced end heads provided with registering series of spaced openings adjacent their peripheries, one of said heads having peripheral teeth, flexible shafts engaged slidably in the openings, indicator members pendent from said shafts, a retarding member carried by the plates and adapted to engage the outer edges of the indicator members, a ratchet wheel mounted on the shaft, a pawl carried by one of the end plates and engaged with the ratchet teeth to prevent rotation thereof, a spring connected to the ratchet wheel and shaft for rotating said shaft and drum carried thereby, a lever pivotally mounted on said shaft, a dog carried by said lever and in engagement with the teeth of the ratchet wheel, to impart rotation thereto upon movement of the lever, an operating lever pivoted upon one of said plates, said operating lever being provided with projections at either side of its pivot point, and being so disposed that one of said projections will engage with said teeth of one head, means for holding the lever in one position, normally in engagement with the peripheral teeth of said head, means for moving said lever out of operative engagement and means for moving the first named lever against the action of the spring.



2. In a device of the class described, the combination with an indicator having an oscillating actuating member, of a trip member comprising a yoke member having spaced arms and a bight portion and adapted to be pivoted by the extremities of its arms upon a trolley harp, and carrying spaced outwardly off-set trip arms extending downwardly therefrom, downwardly and inwardly entended trip members adapted for engagement upon trolley wire supports to engage said trip arms, and operative connections between the bight portion of the yoke and the oscillating member of the indicator.

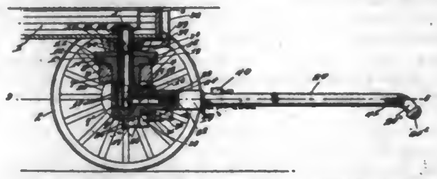
3. An indicating mechanism of the class described comprising the combination with an indicator normally under spring tension and having an oscillating actuating member, of a trip member comprising a yoke having spaced arms and a bight portion, operative connections between said bight portion and indicator mechanism and the actuating member thereof, said spaced arms being pivotally mounted upon the shaft of a trolley wheel, said arms being downturned and spaced from said bight portion, inwardly extended trip members supported upon the trolley wire and adapted to engage said downwardly extended arms to communicate longitudinal movement to the operating connection.

974,764. STREET SPRINKLING OR FLUSHING WAGON. JEREMIAH GANEY, Chicago, Ill. Filed Aug. 4, 1910. Serial No. 575,530.

1. In a sprinkling wagon, a tank, a tubular draft pole, a sprinkling head carried by the draft pole, and a hollow king bolt communicating at its upper end with the tank, and at its lower end with the interior of the draft pole.

2. In a sprinkling wagon, a tank, a tubular draft pole having separate conduits, a sprinkling head connected to each conduit, and a hollow king bolt communicating at its upper end with the tank, and at its lower end with the conduits of the draft pole.

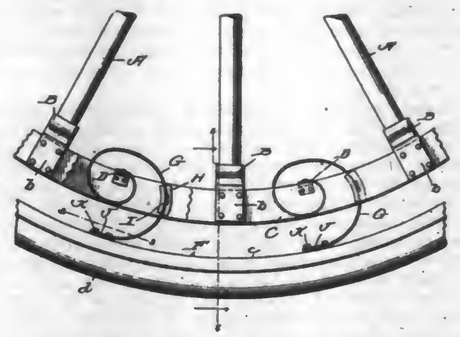
3. In a sprinkling wagon, a tank, a tubular draft pole, said draft pole having separate conduits, a sprinkling head connected to each conduit, a gate mounted in the pole to control the flow through either of the conduits, and a hollow king bolt communicating at its upper end with the tank, and at its lower end with the conduits of the draft pole.



4. In a sprinkling wagon, a tank, a bolster, a tubular casing carried by the bolster, a hollow king bolt mounted in said casing and communicating at its upper end with the tank, said king bolt having openings into the casing, a tubular draft pole connected to the casing and communicating with the interior thereof, and a sprinkling head carried by the draft pole.

5. In a sprinkling wagon, a tank, a bolster, a tubular casing carried by the bolster, said casing having a flange formed at its upper end, and said flange engaging the top of the bolster and having an annular groove in its upper face, a yoke fastened to the bottom of the tank, said yoke having a flange engaging the first mentioned flange, and formed with an annular ridge on its lower face, said ridge entering the aforesaid groove, a hollow king bolt secured to the yoke, and extending into the aforesaid casing and having its lower end journaled therein, the upper end of said king bolt communicating with the tank, and its lower end having openings into the casing, said casing having an outlet, a tubular draft pole connected to the casing over its outlet, and a sprinkling head carried by the draft pole.

974,765. SPRING-WHEEL. GEORGE E. GARON, Manchester, N. H. Filed Oct. 25, 1909. Serial No. 524,419.

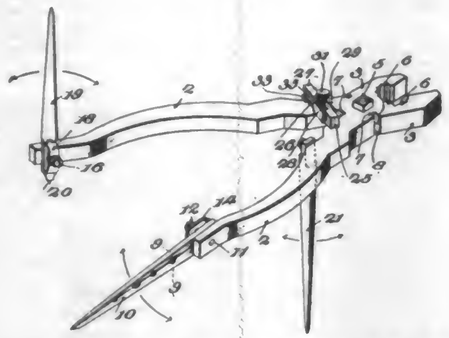


1. In a spring wheel, the combination with an inner annular member comprising annular plates spaced apart, and cross bars fixedly connecting the said annular plates at intervals, and an outer annular member surrounding and separated by an intervening space from the inner member, of springs connected with and curved about the said cross bars and also connected with the inner side of the outer annular member and having on their edges shoes disposed at right angles to the springs and opposed to the inner sides of the annular plates comprised in the inner annular member.

2. In a spring wheel, the combination with an inner annular member comprising annular plates spaced apart, cross bars fixedly connecting the said plates at intervals, spokes, and brackets fixed with respect to the spokes and straddling the annular plates, and an outer annular member surrounding and separated by an intervening space

from the inner member, said outer member being provided with threaded sockets of springs connected with and curved about the said cross bars of the inner member and having on their edges shoes disposed at right angles to the springs and opposed to the inner sides of the annular plates comprised in the inner annular member, normally concavo-convex spring plates arranged on the outer end portions of the springs and having screw holes and roughened surfaces surrounding the same, and screws extending through said holes and into the threaded sockets in the outer annular member and having roughened surfaces on the inner sides of their heads opposed to the roughened surfaces of the spring plates.

974,766. LACE-CUTTING IMPLEMENT. DUDLEY H. GILGES, Baldwin, Kans. Filed Sept. 3, 1909. Serial No. 516,013.



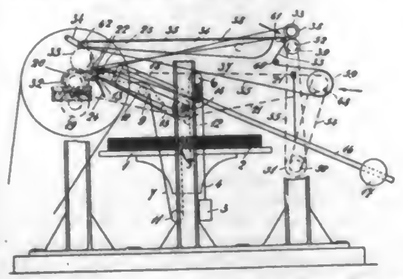
1. An implement for cutting laces from a leather strip including a handle, a guide supported on the handle and comprising parallel spaced plates connected at one end, one of the plates projecting beyond the other plate and being formed on its inside face with a notch, a removable knife mounted upon the open end of the guide and having an inclined cutting edge, the apex of the knife resting in said notch, means for detachably securing the knife to the guide and preventing a rotation of the knife, and a gage block slidably mounted in the guide and adjustable toward or from the knife.

2. An implement for cutting belt laces from a leather strip including a handle substantially rectangular in section, a guide supported on one face of the handle and comprising parallel spaced plates, one of the plates resting against the handle and having at its outer end an angularly bent attaching flange contacting with the side of the handle, the opposed plate extending beyond the face of the said attaching flange and being formed with a notch in its inside face alining with the face of the flange, a knife detachably mounted on the face of the flange, said knife having an inclined cutting edge, the apex of the cutting edge resting in said notch, means for detachably securing the knife to the face of the attaching flange and locking it against rotation, and a gage block slidably mounted in the guide and adjustable toward or from the knife.

3. An implement for cutting belt laces from a leather strip including a handle substantially rectangular in section, a guide supported on one face of the handle and comprising parallel spaced plates, one of the plates resting against the handle and having at its outer end an angularly bent attaching flange contacting with the side of the handle, the opposed plate extending beyond the face of said attaching flange and being formed with a notch in its inside face alining with the face of the flange, a clamp having inwardly extending marginal flanges fitting over the attaching flange, a screw passing through the clamp and flange and into the handle, a knife having an inclined cutting edge on its end and a projecting shoulder on one side extending over one of the flanges of the clamp when the knife is in place, a gage block shiftably disposed between the parallel plates of the guide, and means for adjustably holding the gage block nearer to or farther from the knife.

4. An implement for cutting belt laces from a leather strip including a handle substantially rectangular in section, a guide supported on one face of the handle and comprising parallel spaced plates, one of the plates resting against the face of the handle and having at its outer end an angularly bent attaching flange contacting with the side of the handle, the opposed plate extending beyond the face of said attaching flange and being formed with a transverse notch on its inside face alining with the face of the flange, a knife mounted upon the face of the flange having an inclined upper end forming a cutting edge, the apex of said end extending into said notch, said knife being provided with a lateral shoulder, a clamp having oppositely disposed inwardly turned flanges adapted to embrace the knife below the shoulder and to embrace the attaching flange, a screw passing through the clamp, the knife and the attaching flange and entering the handle, a gage block slidably mounted between the parallel plates and having oppositely disposed parallel side pieces engaging with the edges of the plates, and an adjusting screw passing through a slot in one of said plates adapted to shift the gage block and hold it in any desired adjusted position.

974,767. DEVICE FOR FEEDING SHEETS. PAUL HARTMANN, Berlin, Germany, assignor to The Firm of Hochstein & Weinberg, Berlin, Germany. Filed July 20, 1910. Serial No. 572,812.



1. Feeding apparatus for sheets comprising a reciprocating perforated vacuum chamber, means for rarefying the air in said chamber and a permeable web traveling over the perforated wall of said chamber so that the sheet is held on the web by atmospheric pressure.

2. In a feeding apparatus for a sheet pasting machine the combination with means for removing the sheets one by one from a pile means for supplying the sheet when removed with an adhesive substance and drawing rolls, of a traveling device adapted to convey the sheet by suction when supplied with the adhesive substance to said drawing rolls said device having a lesser speed than the surface speed of said rolls whereby the trailing end of the sheet is yieldingly retarded for the purpose set forth.

3. Feeding apparatus for sheets comprising a permeable traveling web adapted to be reciprocated to and from the pile of sheets, means for subjecting said web to the influence of a partial vacuum, means for reciprocating said web and means dependent upon said reciprocating means for causing said web to travel to deliver the sheets.

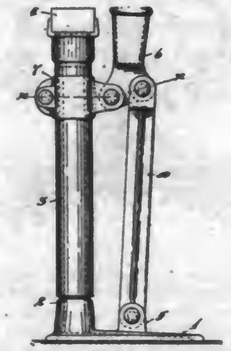
4. Feeding apparatus for sheets comprising a permeable traveling web adapted to be reciprocated to and from the pile of sheets means for subjecting said web to the influence of a partial vacuum, means for reciprocating said web and means dependent upon said reciprocating means for causing said web to travel to deliver the sheets whereby the traveling movement of said web ceases as soon as said web sinks to the supply pile of sheets, so that the removal of the top takes place while said web is at rest.

5. In a feeding apparatus for a sheet pasting machine, the combination with means for removing the sheets one by one from a pile means for supplying the sheet when

removed with an adhesive substance and drawing rolls, of a traveling device adapted to convey the sheet when supplied with the adhesive substance to said drawing rolls by suction, means for rarefying the air through said device at the receiving and delivery ends thereof said device having a lesser speed than that of the surface speed of said rolls whereby the sheet in part is yieldingly retarded in opposition to the influence of the drawing rolls and in part is free to deform under the influence of the moisture due to the adhesive substance.

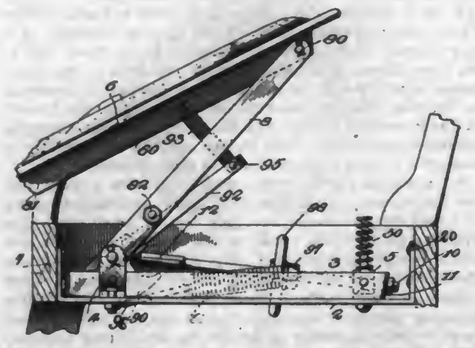
[Claims 6 to 8 not printed in the Gazette.]

974,768. LIFTING-JACK. WILLIAM HASLUP, Sidney, Ohio, assignor of one-fourth to C. L. Haslup, one-fourth to Maud Haslup, and one-fourth to C. M. Gearhart, Sidney, Ohio. Filed Oct. 4, 1909. Serial No. 520,841.



In a jack, a base, an upright standard, a tube telescoping thereon, an adjustable clamp on the tube, a link and bell crank lever connecting the adjustable clamp to the base, the standard, link and one arm of the bell crank lever lying closely together and extending in substantially vertical planes.

974,769. SEAT FOR CHAIRS AND THE LIKE. EDWARD J. HOFF, Berkeley, Cal. Filed June 15, 1909. Serial No. 502,307.



1. In combination, a supporting frame, a vertically movable seat, a frame at its front end pivotally joined to the front portion of said frame and at its rear end pivotally joined to the rear portion of said seat, vertically movable angle-levers carried by said frame and having upwardly and rearwardly extending lifting arms to engage said pivotally joined frame to lift the seat, link connections between the rear ends of said arms and said seat in advance of its rear end, and a seat counterbalancing and lifting spring device carried by said frame and coupled to said angle levers to swing the same to lift the seat.

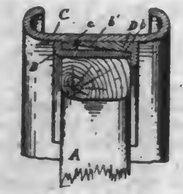
2. In a chair, in combination, a vertically movable seat, a supporting frame, a swinging lifting frame fulcrumed to the supporting frame below the front end of the seat and extended rearwardly and joined to the rear end of the seat to lift the rear end of the seat and project its front end forwardly, a vertically movable lifting-frame-elevating member having an independent lifting connection to the seat to elevate its front end, and an actuating spring device comprising a retractive spring and pull connections to said member.

3. In a chair, in combination, a supporting frame, a normally elevated seat having a vertically movable free front end and mounted at its rear end to swing on a vertically movable transverse axis, supporting means applied to the rear end of the seat and movable in an upwardly and forwardly curving arc to project the seat forwardly and elevate its rear end, a vertically movable actuating member for said means, a seat-swinging connection from said member to said seat for swinging the same on said axis to elevate its forwardly projecting front end, and an actuating retractive spring device having a pull connection to said member.

4. In combination, a supporting frame, a vertically and forwardly movable seat, a vertically swinging frame at its rear end pivotally joined to the rear of said seat and at its front pivotally joined to the front portion of said supporting frame and provided with a stop to limit the upward and forward movement of said seat, a vertically movable lifting arm fulcrumed to said supporting frame and having link connections with said seat in advance of its rear end for elevating the front end of the seat, said arm adapted to engage said swinging frame to elevate the rear end of the seat and to project the seat forwardly, and a retracting spring device provided with a pull connection to said arm for actuating the same.

5. In combination, a supporting frame, a vertically movable seat, a swinging frame pivotally joined to the supporting frame and to the seat for lifting the same and comprising an intermediate cross bar, a vertically movable lifting arm fulcrumed to the supporting frame and arranged beneath and to engage said cross bar and thereby elevate said swinging frame to raise the rear end of the seat, a connection from said lifting arm to the seat to elevate the front end of the seat, and a retractive spring device for elevating said seat provided with an operative pull connection to said arm.

974,770. REMOVABLE RIM FOR VEHICLE-WHEELS. ARTHUR NEEDHAM HOOD, Boston, Mass., assignor to Hood Rubber Company, Boston, Mass., a Corporation. Filed May 25, 1907. Serial No. 375,738.

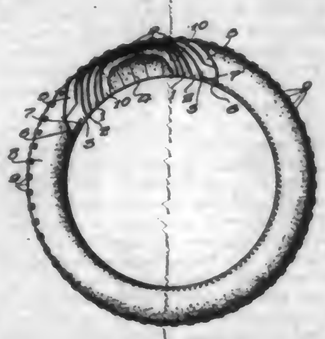


In a vehicle wheel, a permanent rim having an inclined face and transverse grooves in its face, a tire carrying rim removably carried thereby and having lugs engaging said grooves, said permanent rim having also bayonet slots or grooves, a filling ring having lugs for engaging said bayonet grooves, and means for locking said filling ring against circumferential movement on the permanent rim, substantially as described.

974,771. BUILT-UP PNEUMATIC TIRE. PETER TRUDEAU, Santa Ana, Cal. Filed July 28, 1908. Serial No. 445,795.

1. The built-up tire set forth comprising a canvas strip, a non-stretchable leather strip on said canvas strip, ce-

ment binding the stripe together, a second canvas strip upon the leather strip, a second non-stretchable leather strip of less width than the first leather strip, its edges being tapered, cement securing said second leather strip upon the center of the second canvas strip, a third non-stretchable leather strip containing wax and pitch and cemented upon the second leather strip and the canvas stretched thereunder, rigid means to hold the edges of the last-mentioned leather strip outward to form clenchers, a strip of canvas upon the inner canvas strip and longer at one edge than at the other edge so as to loop over onto the other edge, stitches securing the strips together at the edges, studs extending through the center of all the strips except the last-mentioned strip, and suitable means binding the clencher edges together.



2. A tire composed of canvas strips and leather strips arranged in layers, cement between the canvas strips and leather strips, a filling of beeswax, Burgundy pitch and turpentine in the outer leather, cement securing the strips together, wires at the edges of the strips to form clenchers, and stitches fastening the edges of the strips together.

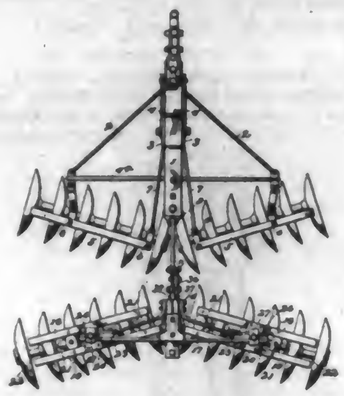
3. In a built-up tire, the combination with layers of canvas of different widths, of leather layers of different widths, the outermost of said layers containing wax and pitch, all cemented and stitched together and provided with clencher-edges.

REISSUES.

13,163. DISK HARROW. FRANK B. NIESZ, Canton, Ohio, assignor to The Bucher & Gibbs Plow Company, Canton, Ohio, a Corporation of Ohio. Filed July 19, 1910. Serial No. 572,753. Original No. 916,361, dated Mar. 23, 1909, Serial No. 468,399.

1. In a disk harrow, the combination with a front draft frame having two separate disk carrying shafts adjustable to assume a rearwardly converging angle, and harrow disks carried by said shafts, of a separate rear disk frame having two separate disk carrying shafts adjustable to assume a rearwardly diverging angle, harrow disks carried by the shafts, a reach bar having its rear end connected to the rear frame and extending forward to the front disk frame, and a horizontally swinging pivotal connection between the reach bar and the front frame and located in a longitudinal line with the apex of the converging angle of the forward disk carrying shafts.

2. In a disk harrow, the combination with a front draft frame having separate disk carrying shafts adjustable to assume a rearwardly converging angle, and harrow disks carried by said shafts, of a rear frame comprising a transversely arranged horizontal member and a reach bar having its rear end rigidly connected to the transverse bar at a point substantially mid-way between its ends, two separate disk shaft carrying frames separately vertically pivotally connected with the transversely arranged member at opposite sides of said reach connection, disk shafts carried by the frames, harrow disks on the shafts, means for adjusting the pivoted frames to assume a rearwardly diverging angle, the front end of the reach having a vertically arranged pivotal connection with the front frame at a point in a longitudinal line drawn between the inner ends of the disk shafts of the front frame.



3. In a disk harrow, the combination with a front draft frame having separate disk carrying shafts separately adjustable to assume rearwardly converging angles, harrow disks carried by said shafts, a forward draft bar connected to the frame and located in a line between the disks at the inner ends of the shafts, of a rear frame comprising a transversely arranged horizontal member and a reach bar having its rear end rigidly connected to the transverse bar at a point substantially mid-way between its ends, two separate disk shaft carrying frames separately intermediately pivotally connected with the outer portions of the transverse member, disk shafts carried by the frames, harrow disks on the shafts, separate means adjustably moving the frames on their vertical pivots to assume rearwardly diverging angles, the front end of the reach bar extending forward and vertically pivotally connected with the rear portion of the said forward draft bar.

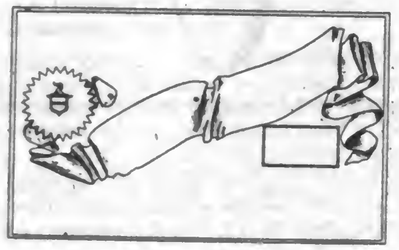
4. In a harrow, the combination with a front harrow frame, and adjustable disk shafts carried thereby, of a rear harrow frame flexibly connected at its front end to the front frame at a point between the ends of the front frame, separate disk frames vertically pivotally connected to the rear frame, means adjustably turning the frames on their vertical pivots, and horizontal slidable engaging members between the disk frames and the rear frames to prevent a tilting movement of the disk frames.

5. In a disk harrow, the combination with a front harrow frame carrying harrow disk shafts and harrow disks, of a rear harrow frame having a central draft connection with the front frame, separate disk frames vertically pivotally connected with the rear frame, disk shafts and disks carried by the frames, means for adjusting the disk frames on their vertical pivots, and horizontally slidably engaging members between the disk frames and the rear harrow frame to assist in preventing the tilting tendency of the pivoted disk frames caused by the draft engagement of the disks with the soil.

6. In a disk harrow, the combination with a front harrow frame carrying harrow disk shafts and harrow disks, of a rear harrow frame having a central draft connection with the front frame, separate disk frames intermediately pivotally connected with the rear frame, means for adjusting the disk frames on their vertical pivots, and horizontally projecting engaging members carried respectively by the disk and rear frames, said members located between the vertical pivots of the disk frames and the center of the rear frame.

DESIGNS.

40,959. LABEL-BLANK. HENRY FURSTE, Cincinnati, Ohio, assignor to The Boydell Bros. White Lead & Color Co., Detroit, Mich. Filed May 20, 1910. Serial No. 562,561. Term of patent 14 years.



The ornamental design for a label blank, as shown.

40,960. BACK FOR MIRRORS, BRUSHES, OR SIMILAR TOILET ARTICLES. GEORGE H. BERRY, Shelton, Conn., assignor to International Silver Company, Meriden, Conn., a Corporation of New Jersey. Filed Sept. 2, 1910. Serial No. 580,265. Term of patent 7 years.



The ornamental design for a back for mirrors, brushes, or similar toilet articles, as shown.

40,961. BACK FOR MIRRORS, BRUSHES, OR SIMILAR TOILET ARTICLES. GEORGE H. BERRY, Shelton, Conn., assignor to International Silver Company, Meriden, Conn., a Corporation of New Jersey. Filed Sept. 2, 1910. Serial No. 580,266. Term of patent 7 years.



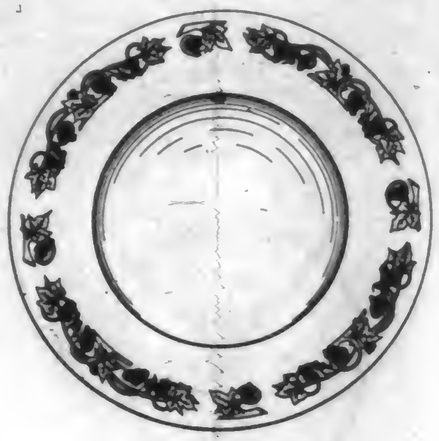
The ornamental design for a back for mirrors, brushes, or similar toilet articles, as shown.

40,962. HEATING-STOVE. JAPEW S. VAN BUREN, Albany, N. Y., assignor to Abram Cox Stove Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Sept. 9, 1910. Serial No. 581,338. Term of patent 7 years.



The ornamental design for a heating stove, as shown.

40,963. PLATE OR SIMILAR ARTICLE. ARTHUR A. BLANKENMEISTER, St. Louis, Mo. Filed Aug. 1, 1910. Serial No. 575,033. Term of patent 7 years.



The ornamental design for a plate or similar article, as shown.

40,964. STOVE. JOSEPH DAVIDS, Geneva, N. Y., assignor to Phillips & Clark Stove Co., Geneva, N. Y., a Corporation of New York. Filed Aug. 10, 1910. Serial No. 576,609. Term of patent 7 years.



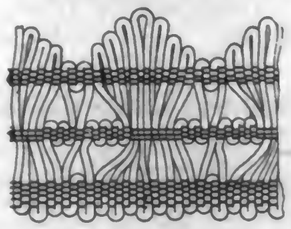
The ornamental design for a stove as shown and described.

40,965. PINCUSHION. GEORGE MILLIGAN, Davenport, Iowa. Filed Sept. 12, 1910. Serial No. 581,740. Term of patent 7 years.



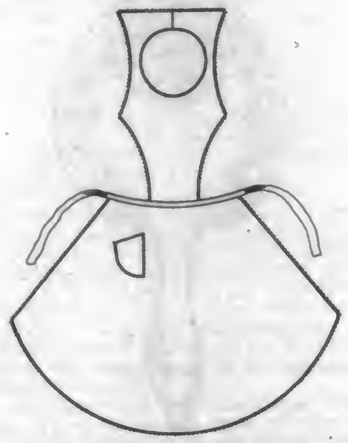
The ornamental design for a pin cushion as shown.

40,966. TRIMMING. WILLIAM HINCHLIFFE, Valley Falls, R. I., assignor to Frank Wood Manufacturing Company, a Corporation of Rhode Island. Filed Aug. 13, 1910. Serial No. 577,107. Term of patent 7 years.



The ornamental design for a trimming, as shown.

40,967. APRON. MARY A. MULLIGAN and JENNIE S. MULLIGAN, St. Paul, Minn. Filed Sept. 20, 1909. Serial No. 518,720. Term of patent 7 years.



The ornamental design for an apron as shown.

TRADE-MARKS

PUBLISHED NOVEMBER 1, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 10,285. (CLASS 39. CLOTHING.) NEUSTADTER BROS., San Francisco, Cal. Filed July 13, 1905.



Particular description of goods.—Coats, Blouses, Jumpers, Jackets, Aprons, Overalls, Trousers, and Outer Shirts.

Ser. No. 34,568. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) MAX EBERHARDT, Munich, Bavaria, Germany. Filed May 4, 1908.

△
Delta

Particular description of goods.—Fire-Extinguishing Compounds, Fire-Extinguishing Powder, Fire-Extinguishing Liquids, and Extinguishing-Grenades.

Ser. No. 40,383. (CLASS 15. OILS AND GREASES.) THE PROCTER & GAMBLE COMPANY, Ivorydale, Ohio; Kansas City, Kans.; Mariner Harbor, N. Y., and Cincinnati, Ohio. Filed Feb. 6, 1909. Used ten years.

LIGHT OF DAY
BRAND OF
CANDLES

Particular description of goods.—Candles.

Ser. No. 46,775. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE ANDREW JERGENS CO., Cincinnati, Ohio. Filed Dec. 29, 1909.

ZENOBIA

Particular description of goods.—Perfumes and Toilet Waters.

Ser. No. 47,251. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) CLARENCE S. BRANT, Avon, Ill. Filed Jan. 20, 1910.

CSB

Particular description of goods.—An Ointment for the Treatment of Eczema, Pimples, Redness of the Skin, Tetter, and Scalp Diseases.

Ser. No. 47,572. (CLASS 39. CLOTHING.) THE SALT'S TEXTILE MANUFACTURING COMPANY, Bridgeport, Conn. Filed Feb. 3, 1910.

SEALSKINETTE

Particular description of goods.—Women's, Children's, and Infants' Coats, Cloaks, Wraps, Capes, and Dresses.

Ser. No. 47,573. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) THE SALT'S TEXTILE MANUFACTURING COMPANY, Bridgeport, Conn. Filed Feb. 3, 1910.

SEALSKINETTE

Particular description of goods.—Velvets and Plushes.

Ser. No. 48,897. (CLASS 39. CLOTHING.) THOMAS G. PLANT COMPANY, Boston, Mass. Filed Apr. 7, 1910.

Wonder Worker

Particular description of goods.—Men's, Women's, and Children's Shoes and Parts Thereof, Said Shoes Being Composed in Whole or in Part of Leather, Cloth, and Canvas and Sometimes Containing Rubber, and the Parts of Shoes Being Leather, Wool, and Rubber Soles, Outersoles, Innersoles, Heels, Counters, Died-Out Linings, Leather Shanks, Top-Facings, Box-Toes, and Tongues.

Ser. No. 48,964. (CLASS 22. GAMES, TOYS, AND SPORTING GOODS.) JAMES S. BARTHOLOMEW, Occidental, Cal. Filed Apr. 9, 1910.



Particular description of goods.—Life-Saving and Swimming Corsets and Vests, Swimming Arm-Fins, Swimming-Sandals, and Expanding Parachutes Adapted to be Attached to the Human Legs for Swimming.

Ser. No. 49,086. (CLASS 26. MEASURING AND SCIENTIFIC APPLIANCES.) THE F. W. KING OPTICAL COMPANY, Cleveland, Ohio. Filed Apr. 14, 1910. Used ten years.

PUGH

Particular description of goods.—Meltters' Eyeglasses and Spectacles.

Ser. No. 49,212. (CLASS 39. CLOTHING.) JACQUES SCHIESSER, Radolfzell, Baden, Germany. Filed Apr. 20, 1910.



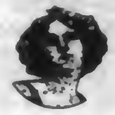
No claim being made for the word "Knüpftricot."
Particular description of goods.—Knitted Jackets, Undershirts, Drawers, Chemises, and Union Suits.

Ser. No. 49,340. (CLASS 27. HOROLOGICAL INSTRUMENTS.) MARSHALL-WELLS HARDWARE COMPANY, Duluth, Minn. Filed Apr. 28, 1910.

The Wueless

Particular description of goods.—Alarm-Clocks.

Ser. No. 49,366. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE MAUDE ODELL COMPANY, New York, N. Y. Filed Apr. 28, 1910.



Being the portrait of Maude Odell Doherty.
Particular description of goods.—Face-Creams, Skin-Lotions, Hair-Tonics, Face-Powders, Perfumes, Toilet Waters, Bath-Crystals, Liquid Shampoo Preparation, Massage-Cream, Deodorants, Tooth-Paste, and Tooth-Powder.

Ser. No. 49,607. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) ARTHUR JAFFÉ, Berlin, Germany. Filed May 9, 1910.

Serdynamin

Particular description of goods.—Hemoglobiniferous Preparations.

Ser. No. 49,907. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE HILLS BROTHERS COMPANY, New York, N. Y. Filed May 25, 1910.



Particular description of goods.—Figs.

Ser. No. 50,247. (CLASS 39. CLOTHING.) DENNIS D. BARRETT, Terre Haute, Ind. Filed June 10, 1910.



Particular description of goods.—Collars, Coats, Trousers, and Vests.

Ser. No. 50,281. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) S. J. VALK & BRO., New York, N. Y. Filed June 13, 1910.



Particular description of goods.—Olive-Oil.

Ser. No. 50,506. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) SOUTH TEXAS GRAIN COMPANY, Houston, Tex. Filed June 22, 1910.

SOTEX

Particular description of goods.—Grain and Mixed Food for Stock.

Ser. No. 50,631. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) WILLIAM H. GRANER, New York, N. Y. Filed June 29, 1910.



The portrait shown is that of my son.
Particular description of goods.—Cough-Drops.

Ser. No. 50,653. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) SANDS, TAYLOR & WOOD CO., Boston, Mass. Filed July 1, 1910.

WITCH

Particular description of goods.—Wheat-Flour.

Ser. No. 50,654. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) SANDS, TAYLOR & WOOD CO., Boston, Mass. Filed July 1, 1910.



Particular description of goods.—Wheat-Flour.

Ser. No. 50,763. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) SCHIEFFELIN & CO., New York, N. Y. Filed July 9, 1910.

CRESATIN

Particular description of goods.—An Analgesic and Antiseptic for Both External and Internal Use.

Ser. No. 50,772. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) FRANKLIN MFG. CO., Baltimore, Md. Filed July 9, 1910.



Which consists of a representation of a medallion inclosing in eccentric position a small circle surrounding the head of Benjamin Franklin, deceased.
Particular description of goods.—Cotton Piece Goods.

Ser. No. 50,805. (CLASS 19. VEHICLES, NOT INCLUDING ENGINES.) H. W. JOHNS-MANVILLE CO., New York, N. Y. Filed July 12, 1910.

J–M

Particular description of goods.—Brake-Band Lining.

Ser. No. 50,913. (CLASS 12. CONSTRUCTION MATERIALS.) GREENPOINT FIRE BRICK CO., Brooklyn, N. Y. Filed July 19, 1910.

ARMOR.

Particular description of goods.—Fire-Bricks and Tiles and Blocks Made of Fire-Brick Material.

Ser. No. 50,919. (CLASS 39. CLOTHING.) MADAME IRENE, New York, N. Y. Filed July 19, 1910.

Particular description of goods.—Corsets.

Ser. No. 50,991. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) LEOPOLD PFEIFFER, Vienna, Austria. Filed July 22, 1910.



The same being a portrait of the wife of said Leopold Pfeiffer.

Particular description of goods.—Hair-Nets.

Ser. No. 51,004. (CLASS 50. MERCHANDISE NOT OTHERWISE CLASSIFIED.) THE NATIONAL PRESS, Chicago, Ill. Filed July 23, 1910.



Particular description of goods.—Matrices Made from Type-Forms and from Cuts for Relief Printing in Connection with Type-Forms, Forms Cast in Such Matrices, Electrotypes of Type-Forms, and Electrotypes of Cuts for Use in Relief Printing.

Ser. No. 51,102. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) MORRIS EISENBERG, New York, N. Y. Filed July 27, 1910.

IMPALA



Particular description of goods.—Pressed Cheese.

Ser. No. 51,154. (CLASS 35. BELTING, HOSE, MACHINERY PACKING, AND NON-METALLIC TIRES.) IMPERIAL RUBBER CO., New York, N. Y. Filed July 29, 1910.

IRCO

Particular description of goods.—Cotton and Rubber Lined Hose, Linen Hose, Rubber Hose, Rubber and Fabric Hose, Rubber Tubing, Rubber, Cotton, and Leather Belting, Rubber Gaskets, Rubber Valves, and Machinery Packing in Sheet, Spiral, and Ring Form, Composed of Rubber, Rubber and Metal, Rubber and Asbestos, Rubber and Cloth, Rubber and Fiber, and Rubber and Flax.

Ser. No. 51,155. (CLASS 35. BELTING, HOSE, MACHINERY, PACKING, AND NON-METALLIC TIRES.) IMPERIAL RUBBER CO., New York, N. Y. Filed July 29, 1910.

CHALLENGE

Particular description of goods.—Cotton and Rubber Lined Hose, Linen Hose, Rubber Hose, Rubber and Fabric Hose, Rubber Tubing, Rubber, Cotton, and Leather Belting, Rubber Gaskets, Rubber Valves, and Machinery Packing in Sheet, Spiral, and Ring Form, Composed of Rubber, Rubber and Metal, Rubber and Asbestos, Rubber and Cloth, Rubber and Fiber, and Rubber and Flax.

Ser. No. 51,171. (CLASS 12. CONSTRUCTION MATERIALS.) ARKANSAS LIME COMPANY, East Sylamore, Ark. Filed July 30, 1910.



Particular description of goods.—Lime.

Ser. No. 51,184. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) VEEDER BROOM COMPANY, Hillsdale, Mich. Filed July 30, 1910. Used ten years.

VEEDER



The portrait shown is that of Charles S. Veeder.

Particular description of goods.—Brooms.

Ser. No. 51,265. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE GREAT WESTERN CEREAL COMPANY, Chicago, Ill. Filed Aug. 4, 1910.

VIKING

Consisting of the word "Viking."

Particular description of goods.—Rolled Oats.

Ser. No. 51,331. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) HEATON-PENINSULAR BUTTON FASTENER CO., Boston, Mass. Filed Aug. 9, 1910.

APEX

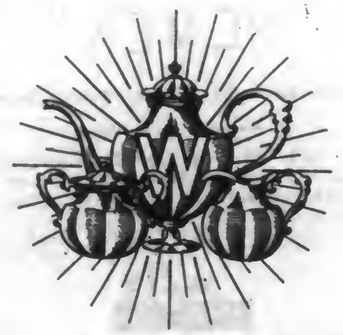
Particular description of goods.—Staple-Like Metallic Fasteners for Attaching Buttons to Boots and Shoes and for Securing Pieces of Clothing Together.

Ser. No. 51,336. (CLASS 37. PAPER AND STATIONERY.) GEORGE W. ALEXANDER, Baltimore, Md. Filed Aug. 10, 1910.

"ECONOMY"

Particular description of goods.—Penholders.

Ser. No. 51,387. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) HENRY ALLEN WRIGHT, Akron, Ohio. Filed Aug. 13, 1910.



Particular description of goods.—A Liquid Metal-Polish.

Ser. No. 51,427. (CLASS 35. BELTING, HOSE, MACHINERY PACKING, AND NON-METALLIC TIRES.) GORHAM RUBBER COMPANY, San Francisco, Cal. Filed Aug. 16, 1910.



"GRIZZLY"

Particular description of goods.—Rubber Belting, Rubber Hose, Cotton Rubber Lined Hose, Machinery Packing in Which Rubber is One of the Principal Ingredients, and Rubber Tires.

Ser. No. 51,437. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) OSTEOPATHY SUPPLY COMPANY, New York, N. Y. Filed Aug. 17, 1910.

PEDI-BON-UM

Particular description of goods.—An Antiseptic and Remedial Preparation.

Ser. No. 51,468. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) HYDEMAN AND LASSNER, New York, N. Y. Filed Aug. 20, 1910.

Storm Queen

Particular description of goods.—Veilings, Nettings, and Malines.

Ser. No. 51,503. (CLASS 39. CLOTHING.) SALANT & SALANT, New York, N. Y. Filed Aug. 23, 1910.

N C M

Particular description of goods.—Dress, Negligée, Work, Outing, Sporting, and Athletic Shirts, Overalls, Trousers, Underwear Consisting of Shirts, Drawers, and Union Suits of Knitted and Textile Fabrics, and Night-Shirts and Pajamas.

Ser. No. 51,518. (CLASS 39. CLOTHING.) BRILL BROTHERS, New York, N. Y. Filed Aug. 24, 1910.

"BRIDGE-OVER"

Particular description of goods.—Boys' Coats, Pants, and Vests.

Ser. No. 51,567. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) WILLIAM A. TOTTLE, Baltimore, Md. Filed Aug. 26, 1910.

Elastico

Particular description of goods.—Flat Varnish, Wall, and Whitewash Brushes.

Ser. No. 51,574. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) SCOVILL MANUFACTURING COMPANY, Waterbury, Conn. Filed Aug. 26, 1910.

Indurite

Particular description of goods.—Lacing-Hooks.

Ser. No. 51,639. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) THE VULCANIZED RUBBER COMPANY, New York, N. Y. Filed Aug. 31, 1910.

Vulco

Particular description of goods.—Rubber Combs.

Ser. No. 51,649. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) LOUIS R. SASSINOT, New Orleans, La. Filed Sept. 1, 1910.

SASS

Particular description of goods.—Paint-Oil.

Ser. No. 51,650. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) STERN & STERN, New York, N. Y. Filed Sept. 1, 1910.

MERMAID

Particular description of goods.—Chiffons and Malines.

Ser. No. 51,725. (CLASS 39. CLOTHING.) JACOB L. FRANKEL, New York, N. Y. Filed Sept. 8, 1910.

CLIMAX

Particular description of goods.—Woolen and Cotton Hosiery, Woolen and Cotton Underwear Consisting of Shirts, Drawers, and Union Suits, and Woolen and Cotton Sweaters and Sweater-Coats.

Ser. No. 51,741. (CLASS 37. PAPER AND STATIONERY.) BEEKMAN PAPER & CARD COMPANY, New York, N. Y. Filed Sept. 9, 1910.

PLAZA

Particular description of goods.—Writing and Printing Paper.

Ser. No. 51,758. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) JOHN SCRIVNER, Normal, Ill. Filed Sept. 12, 1910.

HOUSEHOLD JOY

Particular description of goods.—A Polishing Compound for Furniture and Interior Woodwork.

Ser. No. 51,792. (CLASS 2. RECEPTACLES.) SEALSHIPT OYSTER SYSTEM, South Norwalk, Conn. Filed Sept. 18, 1910.

"SEATANG"

Particular description of goods.—Oyster-Pails.

Ser. No. 51,824. (CLASS 26. MEASURING AND SCIENTIFIC APPLIANCES.) NEWBOLD & BULFORD, London, England. Filed Sept. 13, 1910.

INVISO

Particular description of goods.—Eyeglasses and Spectacles and Lenses.

Ser. No. 51,861. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) CROCKER-WHEELER COMPANY, Ampere, N. J. Filed Sept. 17, 1910.

"REMEK"

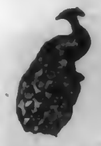
Particular description of goods.—Electric Transformers.

Ser. No. 51,883. (CLASS 8. SMOKERS' ARTICLES, NOT INCLUDING TOBACCO PRODUCTS.) NISSIM S. HANOKA & MAURICE MISHOULA, Chicago, Ill. Filed Sept. 19, 1910.



Particular description of goods.—Cigarette-Papers.

Ser. No. 51,884. (CLASS 8. SMOKERS' ARTICLES, NOT INCLUDING TOBACCO PRODUCTS.) NISSIM S. HANOKA & MAURICE MISHOULA, Chicago, Ill. Filed Sept. 19, 1910.



Particular description of goods.—Cigarette-Papers.

Ser. No. 51,891. (CLASS 30. CROCKERY, EARTHENWARE, AND PORCELAIN.) GREENWOOD POTTERY CO., Trenton, N. J. Filed Sept. 20, 1910.



Particular description of goods.—Chinaware.

Ser. No. 51,942. (CLASS 39. CLOTHING.) C. H. YATES & Co., Utica, N. Y. Filed Sept. 24, 1910.

LITTLE BO-PEEP

Particular description of goods.—Hosiery.

Ser. No. 51,943. (CLASS 39. CLOTHING.) C. H. YATES & Co., Utica, N. Y. Filed Sept. 24, 1910.



Particular description of goods.—Hosiery.

Ser. No. 52,138. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) JULIUS SCHMID, INC., Astoria, N. Y. Filed Oct. 6, 1910.

CUTOLINE.

Particular description of goods.—Styptic Pencils.

Ser. No. 52,241. (CLASS 37. PAPER AND STATIONERY.) J. C. BLAIR COMPANY, Huntingdon, Pa. Filed Oct. 12, 1910. Used ten years.

Penn's Treaty

Particular description of goods.—Paper for Writing and Printing Purposes, Drawing-Paper, Pencil-Paper, Envelops, Writing-Tablets, Pencil-Tablets, Drawing-Tablets, Spelling-Tablets, and Blank Books.

TRADE-MARKS

REGISTERED NOVEMBER 1, 1910.

80,015. CERTAIN PRINTED MATTER. BYRON S. ADAMS, Washington, D. C.
Filed March 3, 1910. Serial No. 48,150. PUBLISHED JULY 26, 1910.

80,016. PAVING-BLOCKS. THE ALLIANCE CLAY PRODUCT COMPANY, Alliance, Ohio.
Filed April 28, 1910. Serial No. 49,871. PUBLISHED AUGUST 30, 1910.

80,017. TEAS. AMERICAN COFFEE CO. OF NEW ORLEANS LTD., New Orleans, La.
Filed June 20, 1908. Serial No. 35,639. PUBLISHED MARCH 1, 1910.

80,018. REMEDY FOR CERTAIN DISEASES. FREDERICK ASCH, San Francisco, Cal.
Filed June 29, 1910. Serial No. 50,630. PUBLISHED AUGUST 30, 1910.

80,019. REFINED PETROLEUM. THE ATLANTIC REFINING COMPANY, Philadelphia, Pa.
Filed June 24, 1910. Serial No. 50,556. PUBLISHED AUGUST 30, 1910.

80,020. REFINED PETROLEUM. THE ATLANTIC REFINING COMPANY, Philadelphia, Pa.
Filed June 23, 1910. Serial No. 50,543. PUBLISHED AUGUST 30, 1910.

80,021. FEED-BAG. AVEY HUMANE FEED BAG COMPANY, San Francisco, Cal.
Filed January 28, 1910. Serial No. 47,442. PUBLISHED AUGUST 30, 1910.

80,022. SOAP. BARCLAY & BARCLAY, New York, N. Y.
Filed July 18, 1910. Serial No. 50,884. PUBLISHED AUGUST 30, 1910.

80,023. CIGARS. BERT BERCOVICH, Oakland, Cal.
Filed July 5, 1910. Serial No. 50,716. PUBLISHED AUGUST 30, 1910.

80,024. SOFT AND STIFF FELT HATS FOR MEN. F. BERG & Co., Orange Valley, N. J., and New York, N. Y.
Filed July 22, 1910. Serial No. 50,995. PUBLISHED AUGUST 16, 1910.

80,025. SHEDDING FOR WEAVING-LOOMS AND JACQUARD MACHINERY. LEVY FILS, A. BERNHEIM & CIE., Paris, France.
Filed May 5, 1910. Serial No. 49,531. PUBLISHED AUGUST 30, 1910.

80,026. ABRASIVE DISKS USED ON GRINDING-MACHINES. CHARLES H. BESLY & COMPANY, Chicago, Ill.
Filed March 8, 1910. Serial No. 48,273. PUBLISHED AUGUST 30, 1910.

80,027. LEAD-PENCILS. BLACKWELL-WIELANDY BOOK & STATIONERY CO., St. Louis, Mo.
Filed June 15, 1910. Serial No. 50,316. PUBLISHED JULY 19, 1910.

80,028. BLENDED WHISKY. FRANCIS W. BRADLEY, San Diego, Cal., assignor to F. W. Bradley Co., Inc., San Diego, Cal., a Corporation of California.
Filed February 2, 1910. Serial No. 47,539. PUBLISHED AUGUST 30, 1910.

80,029. KÜMMEL. OTTO GOTLIBOVICH VON BLANCKENHAGEN, Hinzenberg, Russia.
Filed September 29, 1908. Serial No. 37,702. PUBLISHED AUGUST 30, 1910.

80,030. HANDKERCHIEFS. BRANDON-MAGNUS CO., New York, N. Y.
Filed July 26, 1910. Serial No. 51,069. PUBLISHED AUGUST 30, 1910.

80,031. HANDKERCHIEFS. BRANDON-MAGNUS CO., New York, N. Y.
Filed July 26, 1910. Serial No. 51,070. PUBLISHED AUGUST 30, 1910.

80,032. PIANO AND FURNITURE POLISH. CADDELL POLISH COMPANY, Ilion, N. Y.
Filed April 7, 1910. Serial No. 48,899. PUBLISHED AUGUST 30, 1910.

80,033. CERTAIN CLOTHING. SAMUEL HIGBY CAMP, Jackson, Mich.
Filed December 9, 1909. Serial No. 46,372. PUBLISHED AUGUST 30, 1910.

80,034. MACHINE-BELT DRESSING. F. L. CAVAGNARO & CO., New York, N. Y.
Filed April 21, 1910. Serial No. 49,228. PUBLISHED AUGUST 30, 1910.

80,035. CANNED FRUITS, PRESERVED FRUITS, DRIED FRUITS, AND CANNED VEGETABLES. THE COAST PRODUCTS COMPANY, St. Louis, Mo.
Filed July 15, 1909. Serial No. 43,547. PUBLISHED AUGUST 30, 1910.

80,036. COMPOUND HAND-PUMPS. THE COE-STAPLEY MANUFACTURING COMPANY, Bridgeport, Conn.
Filed July 11, 1910. Serial No. 50,774. PUBLISHED AUGUST 16, 1910.

80,037. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,441. PUBLISHED AUGUST 30, 1910.

80,038. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,443. PUBLISHED AUGUST 30, 1910.

80,039. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,450. PUBLISHED AUGUST 30, 1910.

80,040. CIGARS. COMPAÑIA GENERAL DE TABACOS DE FILIPINAS, Barcelona, Spain.
Filed May 2, 1910. Serial No. 49,451. PUBLISHED AUGUST 30, 1910.

80,041. DRESSED AND FINISHED HARE AND RABBIT SKINS. CAMILLE DEON, Sens, France.
Filed July 1, 1910. Serial No. 50,667. PUBLISHED AUGUST 30, 1910.

80,042. BREAD. STREZO DIMITROFF, Steelton, Pa.
Filed July 1, 1910. Serial No. 50,661. PUBLISHED AUGUST 30, 1910.

80,043. CANNED SARDINES. P. DUFF & SONS, Pittsburg, Pa.
Filed March 6, 1909. Serial No. 40,967. PUBLISHED MARCH 1, 1910.

80,044. SMOKELESS POWDER. E. I. DU PONT DE NEMOURS POWDER COMPANY, Hoboken, N. J., and Wilmington, Del.
Filed July 18, 1910. Serial No. 50,897. PUBLISHED AUGUST 30, 1910.

80,045. HAT-PINS, STICK-PINS, BEAUTY-PINS, AND CUFF-LINKS. ENTERPRISE JEWELRY CO., Attleboro, Mass.
Filed February 6, 1909. Serial No. 40,404. PUBLISHED JUNE 7, 1910.

80,046. LIME-FRUIT JUICE. EVANS SONS LESCHER & WEBB LIMITED, Liverpool, England.
Filed April 29, 1910. Serial No. 49,378. PUBLISHED AUGUST 30, 1910.

80,047. LEATHER AND SKIN SHOES. S. B. FOOT & Co., Red Wing, Minn.
Filed June 20, 1910. Serial No. 50,433. PUBLISHED AUGUST 30, 1910.

80,048. ARTIFICIAL FLAVORS AND ESSENCES. ALEX. FRIES & BRO., Cincinnati, Ohio.
Filed September 20, 1909. Serial No. 44,806. PUBLISHED AUGUST 30, 1910.

80,049. CORDIALS. CAROLINE HENRIETTE GARNIER, Enghien-les-Bains, France.
Filed October 20, 1909. Serial No. 45,428. PUBLISHED AUGUST 30, 1910.

80,050. BLENDED TEA. ROBERT L. GRAHART, Lancaster, Pa.
Filed June 23, 1909. Serial No. 43,216. PUBLISHED AUGUST 30, 1910.

80,051. PIANOS, ORGANS, AND MUSIC-CHART FRAMES. THE GERMAN-AMERICAN CONSERVATORY OF MUSIC, Chicago, Ill.
Filed March 16, 1910. Serial No. 48,480. PUBLISHED AUGUST 30, 1910.

80,052. MEDICINAL PREPARATIONS FOR THE TOBACCO HABIT. EDWARD C. GETSINGER, Worcester, Mass.
Filed July 2, 1910. Serial No. 50,680. PUBLISHED AUGUST 30, 1910.

80,053. PREPARED STOCK FEED FOR LIVE STOCK. THE GREAT WESTERN CEREAL COMPANY, Chicago, Ill.
Filed July 22, 1910. Serial No. 50,983. PUBLISHED AUGUST 30, 1910.

80,054. MERCERIZED AND OTHERWISE PROCESSED COTTON YARNS. HARDING TILTON & COMPANY, Boston, Mass.
Filed July 21, 1910. Serial No. 50,956. PUBLISHED AUGUST 30, 1910.

80,055. OVERALLS AND OVERALL-COATS. HIGH POINT OVERALL COMPANY, High Point, N. C.
Filed July 30, 1910. Serial No. 51,165. PUBLISHED AUGUST 30, 1910.

80,056. WRITING AND WRAPPING PAPERS. HOLLINGSWORTH & WHITNEY CO., Boston, Mass.
Filed July 14, 1910. Serial No. 50,839. PUBLISHED AUGUST 16, 1910.

80,057. DRESS-TIES FOR NECK WEAR. W. O. HORN & BRO., New York, N. Y.
Filed July 19, 1910. Serial No. 50,921. PUBLISHED AUGUST 30, 1910.

80,058. METAL SWITCH AND SIGNAL CARRIER-BASES. W. K. KENLY COMPANY, Chicago, Ill.
Filed January 22, 1910. Serial No. 47,317. PUBLISHED AUGUST 30, 1910.

80,059. BATH-TUBS, SINKS, WASHBOWLS, AND CAST-IRON ENAMELED WARE. KERNER MANUFACTURING COMPANY, Pittsburg, Pa.
Filed July 9, 1910. Serial No. 50,771. PUBLISHED AUGUST 30, 1910.

80,060. ICE. KNICKERBOCKER ICE COMPANY, Chicago, Ill.
Filed July 9, 1910. Serial No. 50,766. PUBLISHED AUGUST 30, 1910.

80,061. CIGARS AND CIGARETTES. KUHNELS & STERNFF, New York, N. Y., and Manila, Philippine Islands.
Filed June 1, 1910. Serial No. 50,025. PUBLISHED AUGUST 30, 1910.

80,062. BROOMS. LEE BROOM & DUSTER COMPANY, Lincoln, Nebr.
Filed August 2, 1910. Serial No. 51,220. PUBLISHED AUGUST 30, 1910.

80,063. BROOMS. LEE BROOM & DUSTER COMPANY, Lincoln, Nebr.
Filed August 2, 1910. Serial No. 51,222. PUBLISHED AUGUST 30, 1910.

80,064. BROOMS. LEE BROOM & DUSTER COMPANY, Lincoln, Nebr.
Filed August 2, 1910. Serial No. 51,223. PUBLISHED AUGUST 30, 1910.

80,065. BROOMS. LEE BROOM & DUSTER COMPANY, Lincoln, Nebr.
Filed August 2, 1910. Serial No. 51,225. PUBLISHED AUGUST 30, 1910.

80,066. BROOMS. LEE BROOM & DUSTER COMPANY, Lincoln, Nebr.
Filed August 2, 1910. Serial No. 51,226. PUBLISHED AUGUST 30, 1910.

80,067. PARLOR-MATCHES. FRANCIS H. LEGGETT & Co., New York, N. Y.
Filed June 1, 1910. Serial No. 50,037. PUBLISHED AUGUST 30, 1910.

80,068. BORAX. FRANCIS H. LEGGETT & Co., New York, N. Y.
Filed July 6, 1910. Serial No. 50,732. PUBLISHED AUGUST 30, 1910.

80,069. TWINE AND CORD. THE LINEN THREAD CO., New York, N. Y.
Filed July 7, 1910. Serial No. 50,742. PUBLISHED AUGUST 30, 1910.

80,070. MALT EXTRACT CONTAINING POTASSIUM CARBONATE. ED. LOEFLUND & Co., Grunbach, Germany.
Filed August 18, 1909. Serial No. 44,206. PUBLISHED AUGUST 30, 1910.

80,071. CERTAIN PRECIOUS-METAL ARTICLES. SAMUEL M. MAGID, Boston, Mass.
Filed January 3, 1910. Serial No. 46,894. PUBLISHED AUGUST 30, 1910.

80,072. HAIR-NETS. MARLOWE MANUFACTURING COMPANY, New York, N. Y.
Filed July 26, 1910. Serial No. 51,094. PUBLISHED AUGUST 30, 1910.

80,073. PLAYING-CARDS. FRANK G. MCPHERSON, Beaver Falls, Pa.
Filed June 24, 1910. Serial No. 50,567. PUBLISHED AUGUST 30, 1910.

80,074. COMPOUNDS OF COCOA AND MALT AND COMPOUNDS OF CHOCOLATE AND MALT. JULIUS MEINL, Vienna, Austria-Hungary.
Filed March 26, 1910. Serial No. 48,687. PUBLISHED AUGUST 30, 1910.

80,075. BUTCHERS' SAWS. JOHN MIGNOLA, Jr., Alameda, Cal.
Filed October 27, 1909. Serial No. 45,579. PUBLISHED AUGUST 30, 1910.

80,076. SHERRY-WINE. BUENAVENTURA PABLO MIRA, Jerez de la Frontera, Spain.
Filed August 29, 1908. Serial No. 37,025. PUBLISHED AUGUST 30, 1910.

80,077. CANDIES. NEW ENGLAND CONFECTIONERY CO., Portland, Me., and Boston, Mass.
Filed July 20, 1910. Serial No. 50,926. PUBLISHED AUGUST 30, 1910.

80,078. MEDICINES AND SUPPOSITORIES. THEO. NOEL COMPANY, Chicago, Ill.
Filed June 5, 1908. Serial No. 35,167. PUBLISHED AUGUST 30, 1910.

80,079. BRICKS. PEARL CLAY PRODUCTS COMPANY, Bradford, Pa.
Filed March 14, 1910. Serial No. 48,379. PUBLISHED MAY 3, 1910.

80,080. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES. PETTINGELL-ANDREWS COMPANY, Boston, Mass.
Filed April 30, 1909. Serial No. 42,153. PUBLISHED AUGUST 30, 1910.

80,081. HEADACHE-POWDERS. POLLOCK MEDICINE Co., East St. Louis, Ill.
Filed May 27, 1909. Serial No. 42,713. PUBLISHED AUGUST 30, 1910.

80,082. CERTAIN TOILET PREPARATIONS. THE E. E. POWELL Co., Philadelphia, Pa.
Filed June 20, 1910. Serial No. 50,437. PUBLISHED AUGUST 30, 1910.

80,083. EGGS. THE PROUDFIT-ORMSBY COMMISSION COMPANY, Denver, Colo.
Filed April 16, 1910. Serial No. 49,147. PUBLISHED AUGUST 2, 1910.

80,084. GASOLENE-ENGINES. THE ROCKWELL MANUFACTURING COMPANY, West Chester, Pa.
Filed May 9, 1910. Serial No. 49,600. PUBLISHED AUGUST 30, 1910.

80,085. COFFEE, TEA, SPICES, AND FLAVORING EXTRACTS. THE ROGERS COMPANY, Tacoma, Wash.
Filed March 16, 1910. Serial No. 48,435. PUBLISHED AUGUST 30, 1910.

80,086. IRON AND STEEL BLOOMS, BILLETS, BARS, AND SHEETS. JOSEPH SANKEY & SONS, LTD., Bilston, England.
Filed June 18, 1910. Serial No. 50,423. PUBLISHED AUGUST 30, 1910.

80,087. TOILET-PAPER. SCOTT PAPER COMPANY, Philadelphia, Pa.
Filed September 18, 1906. Serial No. 22,171. PUBLISHED AUGUST 30, 1910.

80,088. PERFUMES. SOCIÉTÉ DISTILLERIES FRANCAISES DE LA VALLÉE DES ROSES, Paris, France.
Filed March 30, 1908. Serial No. 33,751. PUBLISHED AUGUST 30, 1910.

80,089. GRAIN AND MIXED FOOD FOR STOCK. SOUTH TEXAS GRAIN COMPANY, Houston, Tex.
Filed June 22, 1910. Serial No. 50,505. PUBLISHED AUGUST 30, 1910.

80,090. TYPE-WRITING MACHINES AND PARTS THEREOF. STANDARD TYPEWRITER Co., Groton, N. Y.
Filed July 1, 1910. Serial No. 50,666. PUBLISHED AUGUST 30, 1910.

80,091. WHEAT-FLOUR. THE GEO. TILESTON MILLING COMPANY, St. Cloud, Minn.
Filed February 5, 1910. Serial No. 47,594. PUBLISHED MAY 3, 1910.

80,092. VERMIFUGE AND REMEDIES FOR CERTAIN DISEASES. DR. J. F. TRUE & Co., INC., Auburn, Me.
Filed May 16, 1910. Serial No. 49,762. PUBLISHED AUGUST 30, 1910.

80,093. FERTILIZERS. VIRGINIA-CAROLINA CHEMICAL Co., Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn.
Filed July 19, 1910. Serial No. 50,918. PUBLISHED AUGUST 30, 1910.

80,094. METAL-PRESERVATIVE PAINT. WADSWORTH-HOWLAND COMPANY, Chicago, Ill.
Filed September 23, 1909. Serial No. 44,884. PUBLISHED FEBRUARY 8, 1910.

80,095. SNAP-BUTTONS USED AS GARMENT-FASTENERS. WALDES & Co., Prague-Wrschowitz, Austria-Hungary.
Filed July 21, 1910. Serial No. 50,970. PUBLISHED AUGUST 30, 1910.

80,096. HOSIERY. WALTER WESENDONCK, New York, N. Y.
Filed July 2, 1910. Serial No. 50,682. PUBLISHED AUGUST 30, 1910.

80,097. NUMBERING-MACHINES. WETTER NUMBERING MACHINE COMPANY, New York, N. Y.
Filed June 7, 1910. Serial No. 50,177. PUBLISHED JULY 19, 1910.

80,098. ANTISEPTIC POWDER. THE WHITEHOUSE CHEMICAL Co., Lynchburg, Va.
Filed May 12, 1909. Serial No. 42,386. PUBLISHED AUGUST 30, 1910.

80,099. REMEDY FOR IRREGULARITY OF THE MENSES. NOAH WILLHITE, Bucklin, Kans.
Filed April 11, 1910. Serial No. 49,021. PUBLISHED AUGUST 30, 1910.

LABELS

REGISTERED NOVEMBER 1, 1910.

15,376.—*Title:* "CUBAN INN." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed October 18, 1910.

15,377.—*Title:* "DAILY REPORT." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed October 20, 1910.

15,378.—*Title:* "MANUFACTORY OF CHOICE EGYPTIAN CIGARETTES." (For Cigarettes.) THEODORO VAFIADIS & Co., Boston, Mass., and Cairo, Egypt. Filed September 20, 1910.

15,379.—*Title:* "GOLDEN FIN BRAND NATIVE SMOKED SARDINES." (For Canned Smoked Sardines.) NEPTUNE PACKING Co., Booth Bay Harbor, Me. Filed May 13, 1910.

15,380.—*Title:* "LUCKY DOG." (For Canned Salmon.) GEORGE W. SANBORN, Astoria, Oreg. Filed October 15, 1910.

15,381.—*Title:* "STEP-INTO SHOE." (For Shoes.) GUY A. ORMISTON, Arkansas City, Kans. Filed October 17, 1910.

PRINTS

REGISTERED NOVEMBER 1, 1910.

2,654.—*Title:* "GILT EDGE CHAMPAGNE." (For Champagne.) HAMMONDSPORT VINTAGE Co., Penn Yan, N. Y. Filed October 7, 1910.

2,655.—*Title:* "ORDER YOUR BEER BY NUMBER." (For Lager-Beer.) JOS. M. FREY, Aurora, Ill. Filed July 29, 1910.

2,656.—*Title:* "COUNTRY LIFE IN AMERICA." (For Wheat Breakfast Food.) CREAM OF WHEAT Co., Minneapolis, Minn. Filed September 27, 1910.

2,657.—*Title:* "AUNT DINAH ON IRONING DAY." (For Electric Heating Devices.) THE CUTLER-HAMMER MFG. Co., Milwaukee, Wis. Filed October 14, 1910.

2,658.—*Title:* "MERCERIZED XX POPLIN." (For Mercerized Poplin.) HENRY GLASS & COMPANY, New York, N. Y. Filed September 26, 1910.

2,659.—*Title:* "THE LIFE SAVER." (For Rubber Boots.) THE W. F. POWERS COMPANY, New York, N. Y. Filed October 8, 1910.

2,660.—*Title:* "RUG." (For Rugs.) H. O. AMBROOKIAN & Co., New York, N. Y. Filed October 11, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

IN RE STANDARD ADDING MACHINE COMPANY.

Decided October 21, 1910.

1. ACCESS TO PENDING APPLICATION—OWNER OF EQUITABLE INTEREST.

Where a party holds an unquestioned equitable interest in an application, he may be given access to the same.

2. SAME—SAME.

A contract between H. and petitioner whereby H. agreed to assign "all inventions, patents, and improvements which he may invent or make or take out or acquire" pertaining to a certain class of machines *Held* not to entitle petitioner to access to certain applications in which H. at one time owned a half interest, but which were subsequently assigned to a third party.

3. SAME—CERTIFICATE OF COURT.

A petition for access to a pending application based on the allegation that knowledge of such application will be of assistance to petitioner in a suit brought against him by the assignee of such application will be denied in the absence of a certificate from the judge before whom such suit is pending that the application would be relevant and material.

ON PETITION.

Messrs. Fowler & Huffman for the Standard Adding Machine Company.

Mr. J. D. Rippy for Hopkins.

MOORE, *Commissioner:*

This is a petition by the Standard Adding Machine Company that it be permitted to inspect and obtain copies of the file and contents of certain applications of Hubert Hopkins, one of which, it is alleged, is abandoned.

The grounds upon which access to these applications is requested is that they are material evidence in a suit brought by petitioner against the Adding Typewriter Company for infringements of certain patents granted to W. W. Hopkins and Hinchman, and in support of the petition it is urged by the Standard Adding Machine Company that it is the equitable owner of a one-half interest in the three earlier applications of Hubert Hopkins.

The petitioner's alleged equity in the three applications referred to is based upon a contract between said W. W. Hopkins and the petitioner, whereby the former agreed to assign to the latter—

all inventions, patents and improvements which he may at any future time invent or make or take out or acquire, pertaining to and covering calculating or adding machines of any nature or description whatever.

It appears that a one-half interest in three of the applications of Hubert Hopkins was for a period in said W. W. Hopkins prior to the assignment of the entire interest by these two parties to the Addograph Manufacturing Company, from whom in turn the Adding Typewriter Company derived the right by virtue of which it now claims to be manufacturing its machines.

It is petitioner's contention that W. W. Hopkins should under this agreement have assigned to it his interest in the said three cases and that it therefore has such an equity as entitles it to inspect these cases. It is urged in behalf of the Adding Typewriter Company that the contract between W. W. Hopkins and the Standard Adding Machine Company is purely executory and so broad and unlimited as not to be worth the paper upon which it is written and that, furthermore, the Addograph Manufacturing Company was a *bona fide* purchaser for value, without notice of such agreement, which it may be noted was not recorded in this Office until some months after purchase of the applications by that company.

Where a party holds an unquestioned equitable interest in an application—as, for instance, where there is of record an assignment to him conveying the entire right, title, and interest therein and lacking only the request that the patent issue to him—he may be given access to the papers of the case, (*ex parte Hertford*, 113 O. G., 851;) but in the present case it is contended by the Adding Typewriter Company that the petitioner has no right whatever in the applications, and it strongly opposes the request for access thereto. Moreover, the Office is in possession of no records from which any right upon the part of the petitioner can be assumed. As was said in the case of *McDonough* v. *Gray* v. *Bell* v. *Edison*, (46 O. G., 1245; 1889, C. D., 9, 74:)

The Commissioner of Patents has no equitable jurisdiction over the rights of parties claiming under assignments and grants of inventions and patents. He cannot set aside or vacate such instruments, nor can he recognize equitable rights growing out of transactions between inventors and applicants and other parties. While he is authorized to recognize formal legal assignments, and when they have been filed in the Patent Office before patent issues may give the assignee control of the management and prosecution of an application and direct the patent to issue in the name of the assignee, yet he cannot recognize equitable rights under executory or other equitable contracts.

It is clear that petitioner's alleged equities in the application which it now seeks to inspect are not such as to strengthen in any way its present petition.

As to the relation of the applications to the petitioner's suit for infringement against the Adding Typewriter Company, it appears merely that peti-

tioner believes that knowledge of the contents of the application might be of assistance to him in conducting his case. No certificate has been filed from the judge before whom the suit is pending stating that the applications would be relevant and material. Under these circumstances it is well settled that the rule requiring applications to be preserved in secrecy cannot be waived. (*Ex parte Warner*, 96 O. G., 1238; *ex parte Heard*, 114 O. G., 2381; *in re Brown*, 115 O. G., 248.)

The petition is denied.

P. J. BOWLIN LIQUOR CO. *v.* J. & J. EAGER CO.

Decided October 15, 1910.

TRADE-MARKS—OPPOSITION—SUFFICIENCY OF NOTICE.

Where applicant applied for registration under the ten-years proviso of section 5 of the Trade-Mark Act and opposer had obtained registration under the same proviso, the citation of this registration in the notice of opposition is a sufficient allegation that the mark in issue is not registrable as a technical trade-mark.

APPEAL from Examiner of Interferences.

TRADE-MARK FOR HOLLAND GIN.

Mr. Arthur E. Wallace for P. J. Bowlin Liquor Co.

Mr. A. Parker-Smith for J. & J. Eager Co.

BILLINGS, *First Assistant Commissioner:*

This is an appeal by the P. J. Bowlin Liquor Co. from the decision of the Examiner of Interferences dismissing its opposition to the registration of the trade-mark applied for by the J. & J. Eager Co., No. 40,199, filed January 28, 1909.

The record shows that both parties to this proceeding are wholesale liquor dealers and that each is engaged in the sale of whisky and gin.

The record also shows that the trade-mark for which the J. & J. Eager Co. applied to have registered consisted of the word "Humboldt," in connection with other features. A description of the labels bearing the mark, which were attached to the packages, is given in the answer to Q. 19 by the witness Uncles, testifying in behalf of that company, as follows:

They may have been labels of different style or shape, but they always have a picture of a man smoking a pipe and the word "Humboldt" on them.

It appears that the appellee confined its use of the trade-mark to gin and that this mark has been continuously used upon the goods sold by that company in its business for about forty years.

The mark of the opposer, who is the appellant in this case, consists of the word "Humboldt," which mark is used in its business upon whisky. It appears very clearly from the appellant's record that it has continuously used in its business the word "Humboldt" as a trade-mark for whisky since as early as the year 1890.

A demurrer was filed to the opposition on the ground that the goods upon which the trade-mark was used—namely, gin by one party and whisky by the other—were not goods of the same descriptive properties. This demurrer was overruled by me, (148 O. G., 571,) following the principle announced by the court of appeals in the cases of *Walter Baker & Co.* v. *Harrison* (138 O. G., 770; 32 App. D. C., 272) and *Phœnix Paint and Varnish Co.* v. *Lewis Brothers*, (139 O. G., 990; 32 App. D. C., 285.)

I find no reason, upon consideration of the record presented, to change my opinion as to the correctness of the conclusion then reached, that gin and whisky are goods of the same descriptive properties within the meaning of the Trade-Mark Act.

The Examiner of Interferences states that—

It must be assumed for the purpose of this decision that the mark in issue is a technical one for in so far as the grounds of the opposition raise this question at all, they are impliedly at least in accord with this assumption.

The records show, however, that the appellee, J. & J. Eager Co., applied for registration of its trade-mark under the last clause of section 5 of the Trade-Mark Act, commonly known as the ten-year proviso.

The appellant, J. P. Bowlin Liquor Co., cited its registration in the notice of opposition as follows:

3. That the said trade-mark has been duly registered by the said P. J. Bowlin Liquor Co. in the United States Patent Office on February 27, 1906, the registration No. 50,014, for whisky in said Class 49.

The record of this registration shows that the application was also made in accordance with the provisions of the last clause of section 5 of the Trade-Mark Act, and the registration was effected under that section.

Judicial notice is taken of the fact that the word "Humboldt" is a personal name, more particularly the name of a scientist and explorer. P. J. Bowlin, president of the appellant company, testifies that the personality of the name "Humboldt" was well recognized when it was adopted as a trade-mark.

Q. 25. Who selected this name as a trade-mark for whisky for P. J. Bowlin & Co.?
A. 25. I did.
Q. 26. State, if you remember, how you came to select this name.
A. 26. Principally by the advice of some traveling man, I cannot recall his name, and reading of Humboldt as being a man whose name was handed down in history as a great explorer.

I am unable to agree with the Examiner of Interferences that it must be assumed that the trade-mark at issue is a technical one, for the reason that both applications for the registration of this mark were made under the clause providing for the registration of non-technical trade-marks, (section 5 of the Trade-Mark Act;) that the opposition in citing this registration in effect alleges that fact, and for the further reason that I am of the opinion that the word "Humboldt" is a personal name and is therefore not registrable as a technical trade-mark under section 5 of the Trade-Mark Act.

In view of the fact that both parties have shown contemporaneous use of the word "Humboldt" as a trade-mark for the same class of goods during ten years preceding the passage of the Trade-Mark Act, neither the appellee nor the appellant has had exclusive use of the mark during the ten-year period fixed by the statutes. I am forced to the conclusion that the Examiner of Interferences erred in holding that the appellee should register its mark, notwithstanding the fact of contemporaneous use, as shown in the record presented by the opposer.

The application of the appellee for registration of the mark must be refused, and the opposition is sustained.

The decision of the Examiner of Interferences is therefore reversed.

WHITMAN *v.* KING.

Decided December 13, 1909.

1. INTERFERENCE—PRIORITY—REDUCTION TO PRACTICE.

The successful performance of a process constitutes a reduction to practice thereof even if the apparatus used was not the best available for producing the result, (citing *Croskey* v. *Atterbury*, 76 O. G., 63; 9 App. D. C., 207.)

2. SAME—SAME.

Evidence considered and *Held* insufficient to establish that W. conceived the invention of counts 2 and 3 prior to the date of K.'s reduction to practice thereof.

APPEAL from Examiners-in-Chief.

PROCESS OF TREATING FINE ORES.

Messrs. Church & Church for Whitman.

Mr. John H. Roney and *Mr. George R. Hamlin* for King.

TENNANT, *Assistant Commissioner:*

This is an appeal from the decision of the Examiners-in-Chief affirming the decision of the Examiner of Interferences in awarding priority to Whitman as to count 1 and to King as to counts 2 and 3 in this interference.

The issue is as follows:

1. The process of agglomerating fine iron ores or residues, which consists in first moistening the mass and then subjecting the same to a temperature which shall cause the particles thereof, due to the impurities contained therein, to fuse sufficiently to become semiplastic and sticky, and to agitate by rolling the mass when in the semiplastic state.

2. The process of agglomerating fine iron ores or residues which consists in first moistening the mass and then passing the same through a rotating kiln having a region in which the degree of temperature shall cause the particles thereof, due to the impurities contained therein, to fuse sufficiently to become semiplastic and sticky.

3. The process of desulfurizing and agglomerating fine iron ores or residues which consists in first moistening the mass and then passing the same through a rotating kiln in one part of which it shall be exposed to an oxidizing atmosphere at a temperature best suited for its desulfurization and in another part of which it shall be exposed to a temperature which shall cause the particles thereof, due to the impurities contained therein, to melt sufficiently to become semiplastic and sticky.

The invention covered by this interference is allied to the process involved in a companion interference, No. 25,310, *Whitman* v. *Hearne* v. *King* v. *Dicke*. It differs therefrom in the preliminary step of moistening the ore. The Examiner of Interferences and the Examiners-in-Chief found that Whitman, the junior party, reduced the invention stated in count 1 to practice in June, 1903; that King had established conception and reduction to practice of all the counts of the issue in August, 1904, and Whitman had not established conception or reduction to practice of counts 2 and 3 prior to King's date of reduction to practice. The testimony clearly shows, and it is not disputed, that in the spring of 1903 Whitman was engaged in making experiments in processes of producing iron or steel directly from ore for one Dexter Reynolds. Reynolds authorized him to design and erect a plant for carrying on these experiments, and it appears that as early as June 20, 1903, Whitman had constructed an apparatus comprising a rotary shell about five feet in diameter and ten feet long lined with fire-brick and having at its front end an opening for charging the furnace and introducing fuel in the form of pulverized coal and at the opposite end a flue communicating with a stack. This apparatus was erected at Albany, N. Y., and immediately upon its completion Whitman conducted a series of three experiments differing from each other in the manner in charging the furnace and in the supply of fuel. The first of the tests was for the purpose of demonstrating the practicability of making wrought-iron directly from the ore, the second for the purpose of making a partially-reduced raw material which was delivered in the form of an iron sponge, and the third was for the purpose of melting impurities contained in the iron, especially in the silicates, so as to cause the agglomeration of the particles of iron and by the rotation of the furnace to roll up into balls or nodules. The last of these experiments is relied upon as reduction to practice of the invention in issue.

The testimony shows that in this experiment the ore was moistened and was introduced after a preliminary heating had been given to the furnace. The furnace was run for a considerable period of time, when the supply fuel was cut off, and rotation of the cylinder continued thereafter until the retort had partially cooled. The nodulized product was not removed until the next morning, when the furnace had cooled sufficiently to permit an employee to shovel out the contents. After the completion of these tests Whitman rendered a written report to Mr. Reynolds in which he stated that—

as a result of the investigation made it is apparent that the first and third methods are the most practicable for immediate development.

It appears that the product obtained in the last test was used to interest capital for the practical application of this process.

It is admitted by Whitman that this apparatus was not of a character which would be suited to a commercial exploitation of the invention. It is, however, immaterial whether or not this apparatus is the best available for producing the result if the process was successfully performed. (*Croskey* v. *Atterbury*, 76 O. G., 63; 9 App. D. C., 207.) I am clearly of the opinion that the evidence shows that the process was fully performed and that the product obtained was of the character adapted to be used in blast-furnaces in the manner desired and that this experiment constituted a reduction to practice by Whitman of the process set forth in count 1.

It is contended in behalf of King that inasmuch as the claims forming the issue of the present interference were taken from the patent to Baker and Hearne they should be construed with reference to that patent and that when so construed the process requires the passage of the ore through the rotating kiln, so there will be a continuous supply of fuel and ore and a continuous delivery of the nodules. I am unable to find any basis for this contention in respect to count 1. It is true that Baker and Hearne disclose a relatively long tube which is adapted to continuously discharge the nodular product and that the apparatus shown in the applications of both Whitman and King are of the same character. I am unable, however, to find any sufficient reason

why count 1 of the issue should be thus restricted. The application of the patent to Baker and Hearne, No. 788,813, contains the statement:

> We prefer to use for our process, a long rotary kiln such as is used in the manufacture of cement, for we can, by charging the material at the cold end, complete the desulfurization before the material reaches the zone of highest temperature where the clinkering takes place. It would be possible, however, to use a shorter kiln and vary the temperature as required by the process.

In view, therefore, of a statement in the Baker and Hearne patent that—

> it would be possible, however, to use a shorter kiln and vary the temperature as required by the process,

there appears to be neither a conflict with the Baker and Hearne disclosure nor any other reason for reading into count 1 the limitation suggested by King. In view of these facts it is held that Whitman reduced the invention covered by count 1 to practice in June, 1903. This date is prior to any date which can be accorded to King for conception and reduction to practice, and Whitman was, in my opinion, rightly awarded priority as to this count.

Count 2 calls for a continuous process, one step in the treatment of the ore being—

> passing the same through a rotary kiln having a region in which the degree of temperature will cause the particles thereof to fuse.

Count 3 includes, in addition to this feature, the further limitation that the ore should be exposed to an oxidizing atmosphere at a "temperature best suited for its desulfurization."

It is contended in behalf of Whitman that the furnace above referred to was subsequently operated so as to provide for the continuous discharge of the nodules and that a desulfurization of the ore was also obtained. This contention is based upon the testimony of Whitman's witnesses, Kelly and Huston.

It appears that in the summer of 1904 the furnace which had been tested at Albany was dismantled and shipped to Coatesville, Pa., where it was re-erected in the identical form for the purpose of demonstrating the practicability of the process above described to the Lukens Iron and Steel Company. It is pointed out that the witness Kelly testifies (X-Qs. 95 to 99, X-Q. 157, RD. Q. 174) that the ore was fed into an opening provided at the base of the stack and was discharged continuously from orifices near the other end of the cylinder and that Huston corroborates this testimony. (X-Qs. 27, 28, and 29.) It is true that these witnesses who assisted in the demonstration at Coatesville testified that the nodules were continuously discharged; but this testimony is not sufficient, in my mind, to overcome the testimony of Whitman that the apparatus as erected at Coatesville was identically the same as that erected at North Albany and which did not provide for any continuous discharge from the furnace solid or nodulized contents thereof during the metallurgical operation. (M. T. Reynolds, Q. 3.) Whitman testifies in respect to the apparatus operated at North Albany:

> X-Q. 78. As I understand it there is no provision in this furnace shown in Whitman Exhibit No. 18, for a continuous discharge from the furnace of the contents thereof, during the metallurgical operation?
> A. There is not.
> X-Q. 79. And there was none in the apparatus which was operated at North Albany, referred to in this testimony?
> A. There was none.

and in respect to that erected at Coatesville, as follows:

> X-Q. 126. The plant as erected at Coatesville was identically the same as that which was erected under your supervision for Dexter Reynolds at North Albany, was it not?
> A. It was.

Furthermore, there is not in his testimony any suggestion or claim that a continuous discharge of the material was ever attained in the operation of this furnace. The photographic copies of the machine do not disclose any sufficient means for obtaining a discharge of the nodulized material, and in view of these facts I am clearly of the opinion that this furnace never was so operated, notwithstanding the testimony of the witnesses Kelly and Huston to the contrary. Furthermore, this Coatesville demonstration did not take place until October, November, or December of 1904, and I do not find in the testimony presented in behalf of Whitman any sufficient evidence to establish a conception of the specific process set forth in counts 2 and 3 prior to the date of King's reduction to practice, which occurred in August, 1904.

If, however, it could be conceded that Whitman conceived the invention stated in counts 2 and 3 at the time he reduced the invention stated in count 1 to practice, there is no testimony which shows he was active in endeavoring to reduce to practice the invention of counts 2 and 3 when King entered the field or that he was diligent thereafter.

There is considerable testimony in Whitman's record adduced in the endeavor to show that he disclosed the invention in issue to King and that the latter is therefore not the original inventor. A careful reading of the record, however, fails to show any substantial corroboration of Whitman's testimony concerning the alleged disclosure to King of the process covered by these counts, and in view of the fact that King positively denies such disclosure to him it cannot be held that Whitman has proved that King is not an original inventor. In view of the facts above stated I agree with the conclusion of the Examiners-in-Chief that priority should be awarded to Whitman as to count 1 and to King as to counts 2 and 3 of the issue of this interference.

The decision of the Examiners-in-Chief is affirmed.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

WHITMAN *v.* KING.

Decided October 4, 1910.

INTERFERENCE—TESTIMONY—PRESUMPTION.

Where certain witnesses testify that a device claimed to be a reduction to practice of the invention operated in the manner called for in the issue, but the testimony of the inventor is, unexplained, in contradiction of their testimony, *Held* that the inventor being a party to the interference it was incumbent upon him to testify clearly and explicitly on this point, and, failing to do so, the presumption is against him.

Mr. Melville Church and *Mr. A. S. Steuart* for the appellant.

Mr. John H. Roney for the appellee.

ROBB, *J:*

This is an appeal from concurrent decisions of the Patent Office in an interference proceeding in which an award of priority as to the counts involved was made to the senior party King. The counts are as follows:

> The process of agglomerating fine iron ores or residues which consists in first moistening the mass and then passing the same through a rotating kiln having a region in which the degree of temperature shall cause the particles thereof, due to the impurities contained therein, to fuse sufficiently to become semiplastic and sticky.
> The process of desulfurizing and agglomerating fine iron ores or residues which consists in first moistening the mass and then passing the same through a rotating kiln in one part of which it shall be exposed to an oxidizing atmosphere at a temperature best suited for its desulfurization and in another part of which it shall be exposed to a temperature which shall cause the particles thereof, due to the impurities contained therein, to melt sufficiently to become semiplastic and sticky.

The invention differs from the invention covered by interference No. 25,310 (see 156 O. G., 1068) in that the ore to be operated upon is first moistened. One count, not requiring the metalliferous materials under treatment to be passed through a rotating kiln in a continuous or progressive movement, was awarded to appellant. From that decision no appeal was taken. The counts of the issue, however, as interpreted by the Patent Office tribunals, in which interpretation we concur, require such progressive movement as one step in the process. We have examined the record with care, appreciating the profitable utility and importance of the invention, and while we are not free from doubt we cannot say, on the evidence presented, that appellant has sustained the burden resting upon him and proved by a preponderance of testimony that he conceived the particular invention described in these counts prior to the date when appellee entered the field. Without noticing in detail the testimony it is sufficient to say that, while two witnesses testified that the kiln used in practicing the process described in the count awarded appellant was also operated in the manner required by the counts of the issue, Mr. Whitman himself did not so testify. On the contrary, the testimony of Mr. Whitman on this point is, unexplained, in contradiction of the testimony of these two witnesses. He being a party to the interference it was incumbent upon him to testify clearly and explicitly on this point, and failing to do so the presumption is against him rather than in his favor.

Mr. Whitman testifies that he disclosed this invention to Mr. King, the nominal appellee. Here again the testimony falls short. Mr. King denies the disclosure, and the man in whose presence it was made, "a noted ore expert," to use Mr. Whitman's language, was not called as a witness.

We therefore affirm the decision of the Commissioner. The clerk will certify this opinion as by law required.

Affirmed.

ADJUDICATED PATENTS.

The Whittingham patents, No. 716,504 and No. 757,853, for improvements in electric switches, construed and *Held* not infringed. *Automatic Switch Co.* v. *Monitor Mfg. Co.*, (C. C.,) 180 Fed. Rep., 983.

The Soistmann patent, No. 873,908, for a horn for talking-machines, construed and *Held* not infringed. *Excelsior Drum Works* v. *Sheip & Vandegrift*, (C. C. A.,) 180 Fed. Rep., 980.

The Barabasz reissue patent, No. 12,855, (original No. 877,035,) for a buckle, *Held* void as for invention not claimed in the original patent. *Marvel Buckle Co.* v. *Alma Mfg. Co.*, (C. C.,) 180 Fed. Rep., 1002.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 20, 1910.

Frederick M. Hall, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Maine Manufacturing Company, of Nashua, N. H., and the application of the Grand Rapids Refrigerator Company, 17 to 27 Ottawa street and 20 to 50 Clyde Park avenue, Grand Rapids, Mich., for registration of trade-marks and trade-mark registrations No. 36,235, dated April 9, 1901, to Christian Schmidt, 157 and 159 Springfield avenue, Newark, N. J., and No. 12,637, dated October 13, 1885, to Frederick M. Hall, 71 Randolph street, Chicago, Ill., and the notice sent by registered mail to the said Frederick M. Hall at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Frederick M. Hall, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 11, 1910.

Edward A. Donaldson, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the National Cleanser Mfg. Co., 347 Greenwich street, New York, N. Y., for registration of a trade-mark and trade-mark registration No. 23,634, dated September 19, 1893, to Edward A. Donaldson, of Galesburg, Ill., and the notice of such declaration sent by registered mail to the said Edward A. Donaldson at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Edward A. Donaldson, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 11, 1910.

Union Tubing Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Pennsylvania Flexible Metallic Tubing Company, 1305 Arch street, Philadelphia, Pa., for registration of a trade-mark and trade-mark registration No. 10,115, dated March 15, 1883, to the Union Tubing Company, of New York, N. Y., and the notice of such declaration sent by registered mail to the said Union Tubing Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Union Tubing Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 29, 1910.

George A. Knox, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of The Voegeli Brothers Drug Company, of No. 2 Washington avenue south, Minneapolis, Minn., for registration of a trade-mark and the trade-mark registration to George A. Knox, of Rochester, N. Y., and the notice of such declaration sent by registered mail to the said George A. Knox at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said George A. Knox, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 26, 1910.

Harry W. Russell, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Beall Brothers, of Alton, Ill., for registration of a trade-mark and the trade-mark registration to Harry W. Russell, of Huntsville, Ala., and the notice of such declaration sent by registered mail to the said Harry W. Russell at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Harry W. Russell, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 26, 1910.

Amman Iron Co., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Th. Goldschmidt, 16 Balkenberge Weg, Essen a. d. Ruhr, German Empire, for registration of a trade-mark and the trade-mark registration of the Amman Iron Co., of Swansea, county of Glamorgan, Wales, and the notice of such declaration sent by registered mail to the said Amman Iron Co. at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Amman Iron Co., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Samuel J. Brinkerhoff and George D. Brinkerhoff, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Theo. Noel Company, of Chicago, Ill., for registration of a trade-mark and the trade-mark registration of Samuel J. Brinkerhoff and George D. Brinkerhoff, of Minneapolis, Minn., and the notice of such declaration sent by registered mail to the said Samuel J. Brinkerhoff and George D. Brinkerhoff at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Samuel J. Brinkerhoff and George D. Brinkerhoff, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Charles C. Brooks, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Wehrman Medicine Company, 1260 Michigan avenue, Columbus, Ohio, and the application of G. H. Mullen, of Guyandotte, W. Va., for the registration of a trade-mark; the trade-mark registration of the Good Samaritan Ointment Company, 222 Broadway, Camden, N. J.; the trade-mark registrations of Samuel A. Richmond, of Tuscola, Ill.; and the trade-mark registration of Charles C. Brooks, of Waverly, N. Y., and the notice of such declaration sent by registered mail to the said Charles C. Brooks at the address given has been returned by the post-office as undeliverable.

Notice is therefore given to the said Charles C. Brooks, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Newell Coal Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Hokkaido Tanko Kisen (Kabushiki) Kaisha, of Mororan, Japan, for registration of a trade-mark and the trade-mark registration of the Newell Coal Company, of Peoria, Ill., and the notice of such declaration sent by registered mail to the said Newell Coal Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Newell Coal Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

James E. Blauvelt, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Edward Wright Dodez, No. 714 Washington Boulevard, Fort Wayne, Ind., for registration of a trade-mark and the trade-mark registration of James E. Blauvelt, No. 6 South Broadway, Nyack, N. Y., and the notice of such declaration sent by registered mail to the said James E. Blauvelt at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said James E. Blauvelt, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

THE
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OF THE
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CONTENTS.

	Page.
ISSUE OF NOVEMBER 8, 1910	263
DRAWINGS	263
APPLICATIONS UNDER EXAMINATION	264
ACCESS TO PENDING APPLICATIONS	264
PATENTS GRANTED	265
REISSUES	474
DESIGNS	477
TRADE-MARKS—REGISTRATION APPLIED FOR	481
TRADE-MARKS—REGISTERED	489
LABELS AND PRINTS	491
COMMISSIONER'S DECISIONS—	
Ex parte Heaton Manufacturing Company	493
DECISIONS OF THE U. S. COURTS—	
Union Carbide Co. v. American Carbide Co.	493
ADJUDICATED PATENTS	496
INTERFERENCE NOTICES	497

ISSUE OF NOVEMBER 8, 1910.

Patents	616—No. 974,772 to No. 975,387,	inclusive.
Designs	19—No. 40,968 to No. 40,986,	inclusive.
Trade-Marks	65—No. 80,100 to No. 80,164,	inclusive.
Labels	8—No. 15,282 to No. 15,289,	inclusive.
Prints	6—No. 2,661 to No. 2,666,	inclusive.
Reissues	3—No. 13,164 to No. 13,166,	inclusive.
Total	717	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	2	....	Ohio	33	4
Arkansas	1	....	Oklahoma	8	....
California	46	6	Oregon	4	....
Colorado	5	....	Pennsylvania	49	6
Connecticut	13	1	Rhode Island	7	....
Delaware	1	....	South Carolina	1	1
Florida	1	....	South Dakota	....	....
Georgia	3	....	Tennessee	1	2
Idaho	2	1	Texas	13	....
Illinois	62	7	Utah	3	....
Indiana	19	2	Vermont	....	....
Iowa	4	3	Virginia	7	....
Kansas	5	....	Washington	5	2
Kentucky	5	....	West Virginia	5	....
Louisiana	2	....	Wisconsin	5	2
Maine	2	....	Wyoming	1	....
Maryland	6	3			
Massachusetts	25	1	Alaska, District of	....	....
Michigan	18	1	Arizona Territory	2	....
Minnesota	18	1	District of Columbia	....	1
Mississippi	3	....	Hawaii Territory	....	....
Missouri	22	1	New Mexico Ter't'y	1	....
Montana	3	....	Panama	....	....
Nebraska	6	1	Philippine Islands	....	....
Nevada	....	....	U. S. Army	....	....
New Hampshire	5	....	U. S. Navy	1	....
New Jersey	38	2			
New York	92	24	Total to citizens of the United States	560	72
North Carolina	1	....			
North Dakota	2	....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina	....	....	Netherlands	....	....
Austria-Hungary	3	....	Newfoundland	....	....
Belgium	....	....	New South Wales	....	....
Brazil	....	....	New Zealand	....	....
British West Indies	....	....	Norway	....	....
Canada	10	....	Persia	....	....
Cape Colony	....	....	Queensland	....	....
Chile	1	....	Russia	3	....
China	....	....	Scotland	2	....
Costa Rica	....	....	South Australia	....	....
Cuba	....	....	Spain	....	....
Denmark	....	....	Sweden	1	....
Ecuador	....	....	Switzerland	1	....
England	20	4	Tasmania	....	....
France	5	1	Transvaal, South Africa	1	....
Germany	23	2	Victoria	2	....
Haiti	....	....	Western Australia	....	....
Ireland	....	....			
Italy	1	....	Total to citizens of foreign countries	75	....
Japan	....	....			
Mexico	2	....			

Drawings.

PRECAUTIONS TO BE OBSERVED IN FORWARDING DRAWINGS TO THE UNITED STATES PATENT OFFICE.

Where drawings are to be filed in connection with an application for Letters Patent in the United States Patent Office, each sheet, before it can be accepted by the Office as a part of the application, must be signed in the name of the inventor at the lower right-hand corner, either by him or by an attorney whose written authorization from the applicant is filed in connection with the application. This signature must also be attested by two witnesses, each of whom should sign the drawing at the lower left-hand corner of the sheet. The signatures should never be written on a line parallel with the longer edges of the sheet, one of the shorter edges being always regarded, for the purpose of locating the signatures, as the lower edge of the sheet. The signatures must all be within the margin-lines of the sheet and below the lines of the drawing. The title of the invention should be written with pencil on the back of each sheet of drawings.

When there are filed on the same day two or more applications by the same inventor, each of the documents and drawings belonging to the same application should have placed thereon the same letter or number, which should be different from the letter or number placed upon those of any other of the applications.

It is desirable that all parts of the complete application, including the drawings, be deposited in the Office at the same time. Should, however, the other parts of the application be filed before the drawings are sent, the latter when forwarded should be accompanied by a letter stating the number of sheets inclosed, and that the drawings are to be filed with the other parts of the application, giving the date at which such other parts were filed in the Office, the name of the inventor, and title of the invention. If the application has received a serial number, that should also be given, and it should be indorsed with pencil on the back of each sheet of drawings. The letter should also state, if such be the case, that the new drawings are to be substituted for those previously filed.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business November 1, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Sept. 19	Sept. 15	400
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Sept. 3	Sept. 23	197
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Oct. 3	Oct. 19	215
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Sept. 22	Sept. 20	465
167	5. Bookbinding; Harvesters; Jewelry; Music.	Aug. 13	July 25	545
316	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	Aug. 11	Sept. 14	327
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	Sept. 6	Sept. 12	548
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture: Supports.	Sept. 19	Sept. 15	377
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	Aug. 15	Sept. 6	328
235	10. Carriages and Wagons	Sept. 1	Sept. 1	731
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	Sept. 1	Sept. 8	389
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	Sept. 6	Sept. 7	677
339	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	Aug. 4	Sept. 22	515
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire-Working.	Sept. 21	Oct. 3	307
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	Sept. 12	Sept. 12	656
109	16. Telegraphy; Telephony	Aug. 17	Aug. 18	256
308	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Oct. 1	Oct. 3	216
337	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	Sept. 21	Sept. 9	258
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	Sept. 24	Sept. 10	340
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Sept. 17	Sept. 14	299
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	Aug. 18	Sept. 6	437
349	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	Aug. 4	July 28	624
370	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	Sept. 12	Sept. 16	399
144	24. Apparel; Apparel Apparatus; Sewing-Machines.	Aug. 1	Aug. 20	518

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Oct. 3	Oct. 10	150
106	26. Electricity, Generation; Motive Power.	Sept. 12	Sept. 10	324
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Sept. 26	Sept. 28	332
65	28. Internal-Combustion Engines	Aug. 24	Sept. 6	384
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Wood-working; Woodworking-Tools.	Aug. 18	Sept. 26	405
152	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	Sept. 8	Sept. 22	366
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Oct. 3	Oct. 1	227
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	Aug. 23	Oct. 1	340
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	Sept. 24	Sept. 19	366
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	Sept. 3	Sept. 2	326
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Sept. 27	Oct. 6	598
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	Sept. 16	Sept. 9	677
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	Aug. 18	Aug. 27	560
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	Sept. 6	Sept. 13	497
321	39. Water Distribution	Aug. 25	Aug. 1	420
220	40. Baggage; Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Sept. 16	Oct. 1	441
125	41. Railway Draft Appliances; Resilient Tires and Wheels.	Aug. 3	Aug. 6	654
279	42. Electric Railways; Electric Signaling; Electricity, Medical and Surgical; Railway Signaling; Signals; Surgery.	Aug. 8	Aug. 6	626
382	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	Aug. 10	Aug. 25	538

Oldest new case, Aug. 1; oldest amended, July 25.
Total number of applications awaiting action 18,284

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	Sept. 24	Oct. 18	607
	Designs	Oct. 7	Oct. 4	142
	Labels and Prints	Oct. 29	Oct. 29	6

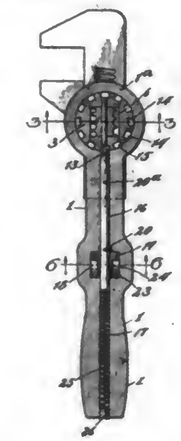
Access to Pending Applications.

Hereafter no person except the applicant, the assignee whose assignment is of record, or the attorney of record will be permitted to have access to the file of any application, except as provided for under the interference rules, unless written authority from the applicant, assignee, or attorney, identifying the application to be inspected, is filed in the case to become a part of the record thereof, or upon the written order of the Commissioner, which will also become a part of the record of the case.

PATENTS

GRANTED NOVEMBER 8, 1910.

974,772. WRENCH. MARTIN C. BERSTED, Chicago, Ill. Filed July 29, 1908. Serial No. 445,870.



1. In a wrench the combination of a body, a jaw, a projection on said jaw journaled in said body, a second jaw also carried by said projection and being adjustable with relation to the first jaw, a cap embracing said projection for holding the body and projection in operative relation, means carried by said cap for adjusting the jaws relatively, and means for holding the projection and body against relative rotation.

2. In a wrench the combination of a body, a jaw a recessed projection carried by said jaw and journaled in said body, a second jaw adjustable with relation to the first said jaw, a cap fitting the end of said projection and between which cap and jaw said body is freely rotatable, lugs on said cap fitting the recesses of said projection, means carried by said lugs for adjusting the jaws relatively, and means for holding the body against rotation with relation to said projection.

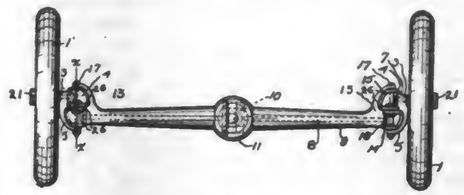
3. In a wrench the combination of a body, a jaw, a projection carried by the jaw and journaled in said body, said projection being recessed, means for holding the body and jaw against relative rotation, a second jaw adjustable with relation to the first jaw, a cap fitting the outer end of said projection and having lugs fitting the recesses thereof, a worm situated between said lugs in said cap, and means giving said worm operative relation to the second said jaw for adjusting the latter with relation to the first said jaw.

4. In a wrench, the combination with a handle provided with a cylindrical bearing portion, of a jaw provided with a journal portion rotatably supported in said bearing, means for releasably locking said journal in its bearing, a second jaw slidably engaging the first jaw, and means mounted at the center of said journal for imparting an adjustment to the second said jaw relatively to the first said jaw, said means being movable on two different axes which intersect in a point at the center of said journal.

5. In a wrench, the combination with a handle provided with a bearing, of a jaw provided with a journal fitting said bearing, a second jaw provided with a rack and slidably engaging the first said jaw, and a worm rotatably mounted at the center of said journal and engaging said rack.

[Claims 6 to 11 not printed in the Gazette.]

974,773. AUTOMOBILE DRIVING-GEAR. CHARLES C. BETTENHAUSEN, Princeton, Nebr. Filed July 25, 1910. Serial No. 573,746.



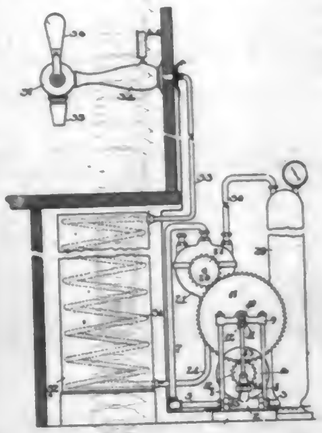
1. A rotatory axle, which is driven by differential gearing, and is provided with terminal beveled gear wheels; a sleeve thereon, which carries at each end an upwardly extending bracket and a closed casing for one of said terminal beveled gear wheels; a pair of traction wheels, having rotatory stub axles, which are fastened to the hubs of said traction wheels, and are provided with bevel gears; a nonrotatory sleeve which rides between the hub and stub axle of each traction wheel, and carries a downwardly extending bracket and a closed casing for one of said bevel gears; and a vertical pivot pin, which passes through both of said brackets and both of said casings; in combination with a gear sleeve, which pivots said gear casings together, rotates on said pivot pin, and is provided with terminal gears, meshing with said beveled gear wheels and bevel gears.

2. In driving gear for motor vehicles, an axle which is provided with terminal beveled gear wheels, and is formed in two sections, rotatable out of unison; means for transmitting motion differentially to said axle; a bearing sleeve, which surrounds said axle, and is provided at each end with an upwardly reaching bracket and with a closed casing for one of said terminal beveled gear wheels; a pair of traction wheels, having rotatory stub axles, which are fastened rigidly to the hubs of said traction wheels respectively, and are provided with terminal beveled gears respectively; nonrotatory bearing sleeves, which are located between the hubs and stub axles of said traction wheels, and which carry each a downwardly extending bracket and a closed gear casing; a vertical pivot pin, upon which said gear casings are mounted, one above the other; and a gear sleeve, which pivots said gear casings together, rotates on said pin, and is provided with terminal gears, located in said casings respectively, and meshing with said gear wheels; in combination with means for turning, relatively to each other, the parts which are so pivoted together.

974,774. CARBONATING-MACHINE. LOUIS CAUL, Cleveland, Ohio. Filed Dec. 15, 1909. Serial No. 533,247.

1. In a device of the character described, a mixing receptacle, an agitator within said receptacle, means for operating said agitator, a source of gas under pressure connected with the said receptacle, mechanism for forcing

the water into the said receptacle, means for operating said mechanism, in combination with a faucet, means connecting the said faucet with the mixing receptacle for conducting the fluid from the mixing receptacle, a handle upon said faucet and operative connections between the said faucet handle and the means for operating the water forcing mechanism and the agitator, whereby, when the handle is moved to permit the discharge of the fluid through the faucet, the said means for operating the water forcing mechanism and the agitating device will be put in operation.



2. In a device of the character described, a mixing receptacle, an agitating device within said mixing receptacle, a pump for forcing water into the interior of said receptacle, a motor for operating the said pump and the said agitating device, a source of gas under pressure connected with the interior of the mixing receptacle in combination with a faucet having a handle, connections between said faucet and the mixing receptacle to conduct the carbonated water, electrical connections between the faucet handle and the motor, whereby the motor will be actuated when the handle is moved to discharge the carbonated water.

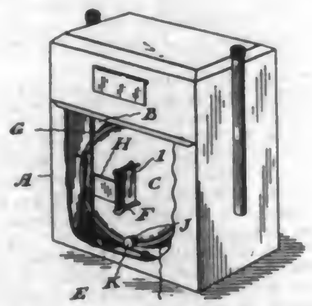
3. In a device of the character described, a mixing receptacle, an agitating device within said mixing receptacle, a source of gas under pressure connected with the interior of the mixing receptacle, a pump for forcing water into the interior of the receptacle, a motor operatively connected to said pump and to the agitating device, in combination with a faucet having a handle, connections between said faucet and the mixing receptacle for conducting the contents of the mixing receptacle to the faucet, one element of an electric switch carried by the faucet handle, the second element of an electric switch mounted upon the body of the faucet, conductor wires connected with the elements of the electric switch and with the motor, whereby, when the handle is moved to open the faucet, the said switch members will be brought into contact, whereby the electric motor will be actuated and cause the operation of the pump and the agitating device.

4. In a device of the character described, a mixing receptacle, an agitating device within said mixing receptacle, a source of gas under pressure connected with the interior of the receptacle, a pump, a pipe connecting the pump with the mixing receptacle, a motor, operative connections between the motor and the pump and the agitating device, in combination with a faucet having a handle, a conducting pipe connected with the agitating device and the faucet, said faucet being provided with a handle, a valve member connected to said handle, ducts in the valve member and in the body of the faucet adapted to be brought into register when the handle is moved in one direction to permit the discharge of the material from the mixing chamber, one element of an electric switch carried by the handle of said faucet, another element of an electrical switch carried by the body of the faucet, said switch members being brought into contact when the handle is moved to permit the discharge from the faucet in the manner described, electrical conductors connected with both switch members and with the motor, whereby the motor will be actuated when the handle is moved as described.

5. In a device of the character described, a mixing receptacle, an agitating device within said mixing receptacle, a source of gas under pressure connected with the interior of the receptacle, a pump, a pipe connecting the pump with the mixing receptacle, a motor, operative connections between the motor and the pump and the agitating device, in combination with a faucet, a conducting pipe connected with the mixing receptacle and the faucet, said faucet being provided with a handle, a valve member connected to said handle, ducts in the valve member and in the body of the faucet adapted to be brought into register when the handle is moved in one direction to permit the discharge of the material from the mixing chamber, one element of an electric switch carried by the handle of said faucet, another element of an electrical switch carried by the body of the faucet, said switch members being brought into contact when the handle is moved to permit the discharge from the faucet in the manner described, electrical conductors connected with both switch members and with the motor, whereby the motor will be actuated when the handle is moved as described, other ducts in the faucet body besides those previously mentioned, said ducts being connected with the ducts in the valve member to permit the discharge from the faucet when the handle is moved in the opposite direction to that previously described, the switch contact members being moved away from each other during the last mentioned operation of the handle.

[Claims 6 to 10 not printed in the Gazette.]

974,775. GAS-METER. JOHN W. DANAHER, Toronto, Ontario, Canada, assignor of one-half to Elias E. Slaght, Toronto, Canada. Filed Mar. 23, 1910. Serial No. 551,076.



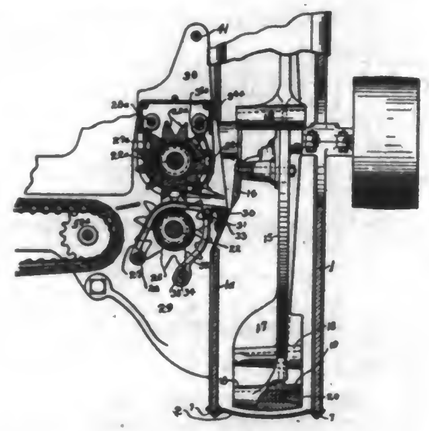
1. A gas meter provided with bellows having annular leather sides and an oil opening adjacent said leather sides and a closure therefor, said opening being arranged and located to drain the bellows as well as to form an oil inlet.

2. A gas meter provided with bellows having annular leather sides and metal ends, one end of the bellows having an opening therein provided with a freely removable and replaceable closure.

3. A gas meter provided with bellows having annular leather sides and an outer end disk of metal having an opening therein adjacent the edge of the disk and provided with a screw threaded closure.

974,776. FODDER-CUTTER. JOSEPH DICK, Canton, Ohio. Filed Sept. 4, 1908. Serial No. 451,634.

1. A fodder-cutter having a case including circular side plates, a resilient peripheral band made in two sections having adjacent ends of each detachably hinged together, an outlet pipe coupled between the other adjacent ends, with means for clamping the band around the plate, the edges of the band being shaped to fit the plate edges, and cutting means mounted in the case.



2. A fodder-cutter having a case including circular side plates, a resilient peripheral band clamped around the plate, the band being made in two sections having adjacent ends of each detachably hinged together, an outlet pipe coupled between the other adjacent ends, the edges of the band being shaped to fit the plate edges, and cutting means mounted in the case.

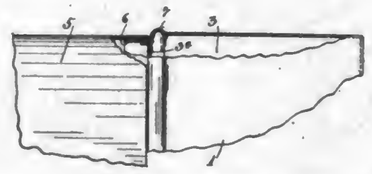
3. A fodder-cutter having a case including circular side plates, a resilient peripheral band clamped around the plates, an outlet pipe coupled with the band, the edges of the band being shaped to fit the plate edges and the band being outwardly arched intermediate its edges, and cutting means mounted in the case.

4. A fodder-cutter having a case including circular side plates having laterally beveled peripheral edges, a resilient peripheral band clamped around the plates and having edge corrugations adapted to expand to fit the plate edges, an outlet pipe coupled with the band and cutting means mounted in the case.

5. A fodder-cutter having a case including circular side plates, a resilient peripheral band clamped around the plates and having edge corrugations adapted to expand to fit the plate edges, an outlet pipe coupled with the band, and cutting means mounted in the case.

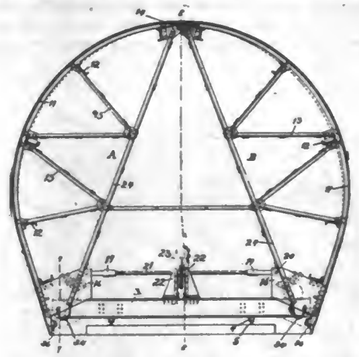
[Claims 6 to 14 not printed in the Gazette.]

974,777. AUTOMOBILE-RADIATOR. WILLIAM DIETZ, Detroit, Mich., assignor to McCord Manufacturing Company, Detroit, Mich., a Corporation of Maine. Filed May 26, 1909. Serial No. 498,540.



In an automobile radiator, the combination with an inner radiator frame, of an outer frame inclosing the said inner frame, and the said outer frame being formed from sheet metal and having its rear edge rolled or pressed to form a hood ledging and stiffening bead, which latter integrally connects said ledging to the said outer frame, substantially as described.

974,778. CENTER SUPPORT OR MOLD FOR FORMING TUNNELS OR SEWERS. GEORGE F. DILLIO, Baltimore, Md. Filed Aug. 31, 1909. Serial No. 515,390.



1. A center support or mold having in combination two opposite upright sections the upper ends of which are jointed together by pivot-bolts, while the bottom ends of the two sections are movable toward and away from each other; a truck on which the weight of the said sections is supported; an inclined bearing a roller in contact therewith, and said bearing and roller supporting the weight of the upright section on said truck; and means acting on the bottom ends of said two upright sections to move them toward and away from each other, whereby the said two opposite sections may be moved to contract and expand simultaneously both in a vertical and horizontal direction.

2. A center support or mold having in combination two opposite upright sections the bottom ends of which are movable toward and away from each other; a truck on which the said sections are supported; two stationary brackets on the truck and separated by a space; a screw-threaded rod connecting the said two sections, and means positioned on the rod and in said space which separates the brackets, for turning the rod.

3. A center support or mold having in combination two upright side-sections whose upper ends are in contact and whose bottom ends are separated and spaced apart; a horizontal rod connecting the lower parts of said two side-sections and the opposite ends of said rod screw-threaded respectively right and left; two stationary upright brackets separated by a space, and a hand-wheel on said rod positioned in the said space between the two brackets.

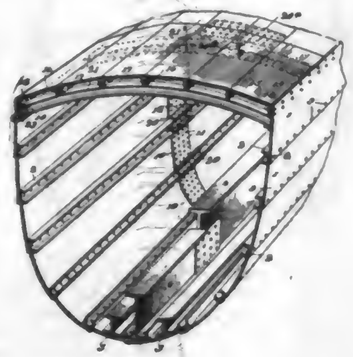
4. A center support or mold having in combination a truck provided with a fixed shoulder; two opposite upright sections the upper ends of which meet and the bottom ends of which are movable toward and away from each other; a flap at the bottom of each of said sections; hinges having a pivot-joint and two rigid arms projecting therefrom said arms being at a fixed angle with respect to each other—one of said arms carrying the said flap and the other arm resting on the said fixed shoulder, whereby a lowering movement of the sections will cause the said flaps to automatically swing inward and upward.

5. A center support or mold having in combination two upright side-sections whose upper ends are jointed together leaving the bottom ends free to be moved toward each other and away from each other; an inclined bearing co-acting with each side-section; a flap hinged to the bottom of each side-section, and operating mechanism whose movement will either contract or expand all of said parts.

974,779. STEEL STRUCTURE. WILLIAM A. DUNN, Smithville, Minn., assignor of one-half to Athol Morton Miller, Duluth, Minn. Filed Apr. 19, 1910. Serial No. 556,381.

1. A compartment formed of a plurality of plates having integral ribs, the edges of said plates overlapping the edges of the adjacent plates, means for securing the over-

lapping portions of the plates together, the other edges of the plates abutting against the edges of the plates adjacent thereto, the ribs of the adjacent plates whose edges abut being in alinement to provide braces for the compartment and a beam located at the bottom of the compartment and overlapping the meeting edges of the plates.



2. A compartment formed of a plurality of plates having integral ribs, the edges of each plate overlapping the adjacent plate, rivets securing the overlapping portions of the plates, the other edges of said plates being placed end to end and the ribs of adjacent sections being in alinement to provide braces for the compartment, and a beam located at the bottom of and extending throughout the length of the compartment and overlapping the meeting edges of the plates.

3. A compartment formed on its sides and bottom by a plurality of plates formed with ribs, the adjacent edges of said plates overlapping at points adjacent the ribs, rivets securing the overlapping portions of the plates, the other edges of the plates abutting against each other and the ribs forming continuous reinforcing braces on the inside of the compartment, plates overlapping the edges of the plates which abut against each other, rivets securing the latter plates, a series of channel beams forming the top of the compartment, the flanges of the channel beams abutting and forming reinforcing ribs throughout the length of the compartment, and rivets securing the said latter flanges together.

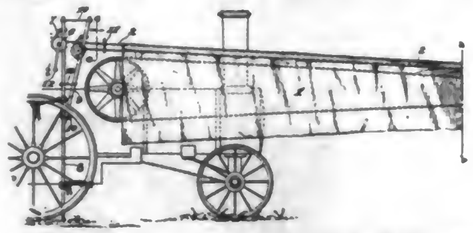
4. A compartment such as a ship's hull, comprising a series of plates having integral ribs extending inwardly from said plates, the edges of the plates overlapping and the edges of the plates extending inside bearing against one of the ribs of the next adjacent plate, rivets securing the overlapping portions of the plates together, and a deck or cover formed of plates having flanges riveted together.

5. A compartment formed of a series of plates formed with flanges at their edges, the said plates overlapping the adjacent plate, rivets securing the overlapping plates below the edge flanges, a series of channel plates forming the top of the compartment, the flanges of adjacent channel plates being arranged side by side and riveted, the flange on the uppermost side plate overlapping and being riveted to the end channel plate,

[Claims 6 to 8 not printed in the Gazette.]

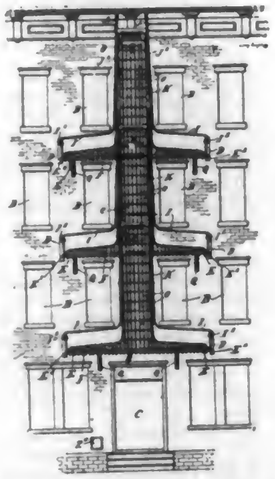
974,780. BELT-PROTECTOR. ARTHUR A. ELLIS, Minden, Ontario, Canada. Filed Sept. 20, 1909. Serial No. 518,604.

A belt protector of the character described, comprising a flexible sheet, supporting cords extending longitudinally beneath said sheet and projecting beyond the opposite ends of said sheet, a beam, hooks connected to the ends of said cords which extend beyond one end of the sheet, said hooks being adapted to catch over said beam; winding drums, means for supporting the winding drums, connections between said drums and the opposite ends of said



cords, means for rotating the drums, and means for securing the drums against reverse rotation.

974,781. FIRE-ESCAPE. MAURICE S. FINKELSTEIN, New York, N. Y., assignor of one-half to Joseph Moskowitz, New York, N. Y. Filed July 9, 1908. Serial No. 442,660.



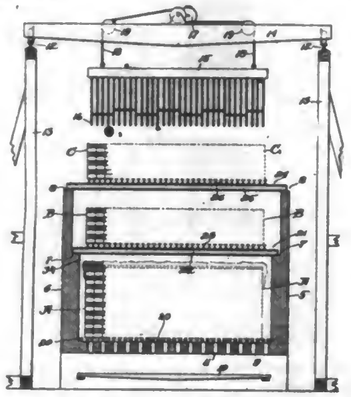
1. A fire escape comprising a wall, a platform one side of which is hinged directly thereto and having a central portion extending at right angles to the face of said wall, and a ladder hinged to the end of said extending portion and adapted to reach to the surface of the street.

2. A fire escape comprising a wall, a platform one side of which is hinged directly thereto and having a central portion extending at right angles to the face of said wall, a ladder hinged to the end of said extending portion and adapted to reach to the surface of the street, and means for raising and lowering said platform and for controlling the rate of speed of the lowering movement.

3. A fire escape comprising a wall, a plurality of platforms one side of each of which is hinged directly thereto each of which is provided with a projecting portion extending at right angles to said wall, a ladder connected to the end of each platform, means for placing said ladders in communication with each other, and means for raising and lowering said platforms in unison and for controlling the rate of speed of the lowering movement.

4. A fire escape comprising a wall, a plurality of platforms located one above the other and each hinged directly to said wall and each provided with a projecting portion extending at right angles to said wall, a ladder hinged to the ends of each of said projecting portions and means located near the base of the wall for raising and lowering said platforms in unison and for controlling the rate of speed of the lowering movement.

974,782. BRICKMAKING APPARATUS. JONATHAN P. B. FISKE, Newton, Mass., assignor to Raymond C. Penfield, New York, N. Y. Filed Jan. 2, 1907. Serial No. 350,359.



1. In a brick making apparatus, a kiln having provision for burning a lower complement of dried bricks, said kiln having an open top, a rack for supporting above said open top a load of bricks above the burning bricks, and supporting means for supporting said rack directly above said burning bricks.

2. In a brick making apparatus, a kiln having provision for burning a lower complement of dried bricks, a removable rack for supporting a load of bricks above the burning bricks, and supporting means for supporting said removable rack directly above said burning bricks.

3. In a brick making apparatus, a kiln having provision for burning a lower complement of dried bricks, a rack for supporting a load of bricks above the burning bricks, supporting means for supporting said rack directly above said burning bricks, a second rack for supporting a second body of bricks to be dried, and supporting means for supporting said second rack directly above the bricks on the first rack in position to receive the heated gases from the first mentioned burning bricks.

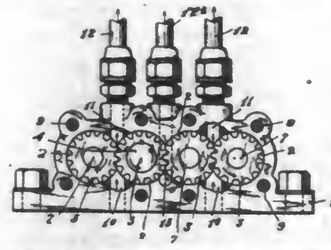
4. In a brick making apparatus, a kiln having provision for burning a lower complement of dried bricks, a removable rack for supporting a load of bricks above the burning bricks, supporting means for supporting said removable rack directly above said burning bricks, a second removable rack for supporting a second body of bricks to be dried, and supporting means for supporting said second removable rack directly above the bricks on the first removable rack in position to receive the heated gases from the first mentioned burning bricks.

5. In a brick making apparatus, the combination with a kiln having permanent side walls, provided with supporting means adapted to receive a rack and permit the same to be moved bodily therefrom with a load of bricks, of said brick-supporting rack adapted to support a large mass of superposed bricks, said rack consisting of a horizontal open-work platform, permanently united together as a whole, and lifting means permanently secured to said platform in position to be out of contact with said superposed mass of bricks when stacked on the platform, said lifting means having a lateral width relatively to said platform for giving stability of position to the platform when said lifting means is engaged by a raising device for transporting the rack and its load of bricks from the kiln.

[Claims 6 to 15 not printed in the Gazette.]

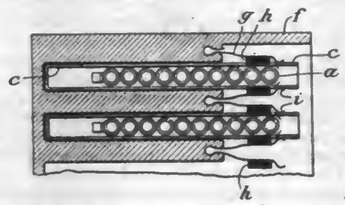
974,783. MULTIPLE-FEED GEAR-PUMP. WALTER A. FREDERICK, Muskegon, Mich. Filed Apr. 29, 1910. Serial No. 558,391.

1. In a multiple feed gear pump, a body member having at least four intersecting gear seats and provided with admission ports leading to the inner section of the outer and corresponding adjacent inner seats, and with discharge ports leading from the opposite sides of the same seats, and provided further with an intermediate discharge port opening from the opposite point of intersection of the intermediate seats, in combination with intermeshing gears working in said seats, and a driving shaft connected to one of said gears for imparting motion to the entire train of gears, substantially as described.



2. In a multiple feed gear pump, a body member having at least four intersecting gear seats and provided with admission ports leading to the inner section of the outer and corresponding adjacent inner seats, and with discharge ports leading from the opposite sides of the same seats, and provided further with an intermediate discharge port opening from the opposite point of intersection of the intermediate seats, in combination with intermeshing gears working in said seats, and a driving shaft connected to one of said gears for imparting motion to the entire train of gears, and the said body member having a detachable plate which normally closes the said gear seats and closely engages the several gears, substantially as described.

974,784. GREASING DEVICE FOR THE AMMUNITION OF FIREARMS. RUDOLPH FROMMER, Budapest, Austria-Hungary. Filed Feb. 3, 1909. Serial No. 475,801.



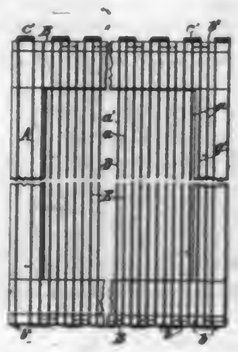
1. In a greasing device for the ammunition of fire arms the combination with the ammunition holder, of grease carriers, means for holding the latter out of contact with the ammunition and means to bring the said grease carriers in contact with the ammunition upon the withdrawal of same from its holder.

2. In a greasing device for the ammunition of fire arms the combination with the ammunition holder, of grease carriers so arranged as to be in the path of the ammunition while the same is withdrawn from its holder, means for normally holding the said grease carriers out of contact with the ammunition and upon the withdrawal thereof automatically bringing the grease carriers in contact with the ammunition.

3. In a greasing device for the ammunition of fire arms the combination with the ammunition holder, of grease carriers so arranged as to be in the path of the ammunition while it is withdrawn from its holder, yielding means for normally holding the said grease carriers away from the ammunition and upon the withdrawal thereof from the holder automatically forcing the grease carriers against the ammunition.

4. In a greasing device for the ammunition of fire arms the combination with the ammunition holder, of roller brushes saturated with grease, springs holding said roller brushes in the path of the ammunition while it is withdrawn from the holder and abutments normally holding said brushes away from the ammunition.

974,785. ELECTRIC INSECT-DESTROYER. WILLIAM M. FROST, Eureka, Mont. Filed Feb. 5, 1910. Serial No. 542,263.





1. In an electric insect destroyer, a plurality of parallel lengths or runs of wire, means to supply the adjacent lengths or runs with current of opposite polarity, and spring tension devices acting directly on said lengths or runs.

2. In an electric insect destroyer, a plurality of parallel lengths or runs of electrically charged wire, the adjacent runs being of opposite polarity and alternate runs being of the same polarity, and spring tension means acting directly on said lengths or runs in a longitudinal direction to maintain them taut, and at a predetermined distance from each other.

3. In an electric insect destroyer, a plurality of lengths or runs of wire, a tension device for the same, and means to feed current to the wire through the tension device.

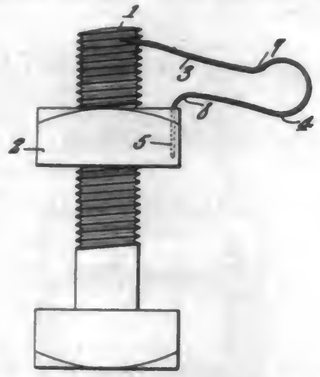
4. In an electric insect destroyer, parallel lengths or runs of wire, tension devices each connected with certain of said lengths or runs, and means to supply the tension devices with current of opposite polarity.

5. In an electric insect destroyer, the combination of a frame, parallel wire lengths traversing the same, and spring tension devices at opposite sides or edges of the frame and over which the wires are extended.

[Claims 6 to 11 not printed in the Gazette.]

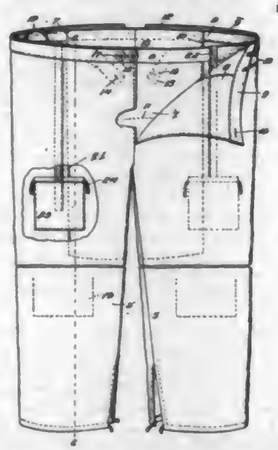
974,786. NUT-LOCK. CONRAD GLAUM, Audubon, Minn. Filed Mar. 9, 1909. Serial No. 482,291.

In a device of the class described, a nut having a bolt opening, and an aperture in its upper face adjacent one edge of the nut; and a resilient, U shaped member, one arm of which is rectangularly bent for mounting in the aperture of the nut, the other arm thereof being arranged to stand terminally within the extended contour of the bolt-opening in the nut; the portion of the nut which is disposed between the aperture and the periphery of the



nut, being pressed inwardly to engage the bent part of the resilient member.

974,787. UNDERGARMENT. HANNAH GOOLSBY, Wauchula, Fla. Filed Dec. 15, 1909. Serial No. 533,228.

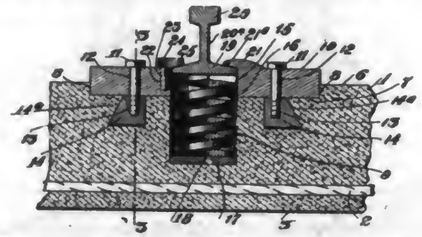


A pair of men's drawers having front and rear lining patches adjacent to and extending downwardly and upwardly from the crotch, the rear lining patch being connected with the seat of the garment by a transverse row of stitching to form a pocket, a belt connected with the rear lining patch adjacent to the upper edge of the latter, said belt being also connected with the waist band of the garment by the vertical rows of stitching adjacent to the side edges of the lining patch, and means for connecting the free ends of the belt including a button and a buttonhole, the waist band of the garment being provided with an auxiliary buttonhole for the passage of the belt button.

974,788. RAILROAD-TIE. GRANT C. GREEN, Beaumont, Tex. Filed May 7, 1910. Serial No. 559,981.

1. A tie provided with a socket, a rail chair carried by said tie, said rail chair being provided with a transverse recess, said recess being provided with a centrally located aperture registering with said socket, a lug overhanging said aperture and adapted to engage one side of a rail base, a spring seated in said socket and adapted to contact with the base of a rail, said rail chair being provided opposite said lug with a threaded opening and a securing bolt mounted in said threaded opening to engage the other side of a rail base.

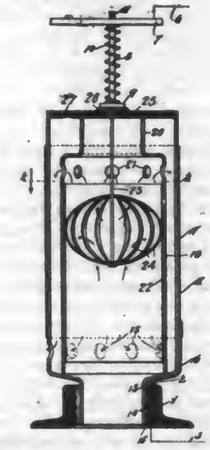
2. A tie provided with a socket, a rail chair carried by said tie, said chair being provided with an opening registering with said socket, a spring mounted in said socket and projecting through said opening, means for retaining a rail within said chair said rail resting upon said spring, a plurality of metallic blocks mounted in said tie and provided with threaded openings, said chair being provided with openings registering with said threaded openings and bolts passing through said openings and into said threaded openings to retain said channel in place.



3. A cement tie provided at each end with a transverse seat, each of said seats being provided with a centrally located socket, a rail chair mounted in each seat, means for retaining said chair within said seat, said chair being provided with an aperture registering with said socket and means for detachably retaining a rail within said chair.

4. A tie provided with a socket, a rail channel carried by said tie, a rail adapted to be positioned in said rail channel, said rail channel being provided with an aperture, said aperture in the rail channel being adapted to register with said socket, and a spring positioned in said socket and adapted to project through the aperture in said rail channel and to bear against the underside of said rail to normally hold it above the bottom of said rail channel.

974,789. OZONIZER. DAVID S. HENNEY, Newark, N. J. Filed Aug. 1, 1910. Serial No. 574,799.

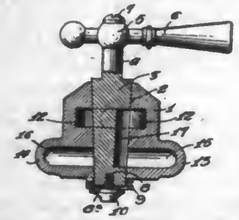


1. The herein described apparatus for the production of ozone, consisting of an outer cylinder, and an inner cylinder, the outer cylinder having one end of reduced diameter, the inner cylinder resting with its open end in contact with the outer cylinder, means for sealing the two cylinders at one end, both cylinders being open for the ingress of air at the other end, openings in the inner cylinder communicating therefrom to the interior of the outer cylinder, openings from the outer cylinder communicating with the outer air and means for securing an electrical discharge within the device.

2. The herein described apparatus for the production of ozone, consisting of an outer cylinder, and an inner cylinder, each cylinder having one end of reduced diameter, the inner cylinder resting with its open end in contact with the outer cylinder, means for sealing the two cylinders at one end, both cylinders being open for the ingress of air at the other end, openings in the inner cylinder communicating therefrom to the interior of the outer cylinder, openings from the outer cylinder communicating with the outer air, such openings being at opposite ends of the apparatus, and means for securing an electrical discharge within the device, the outer cylinder being provided with a base adapted to contact with a receptacle in combination with a receptacle to receive said base.

3. The herein described apparatus for the production of ozone, comprising two similarly shaped open-end glass cylinders of different diameters, each cylinder provided with openings in its wall near one end, each cylinder provided with a layer of foil, one of said cylinders being of a less size than the other and occupying an inverted position with relation to the other, the smaller within the larger, means for closing one end of the device, means for admitting air to the other end of the device, and an electrode within the inner vessel.

974,790. FAUCET. WILLIAM L. HEUSER, St. Louis, Mo. Filed Mar. 15, 1910. Serial No. 549,478.



1. A faucet comprising a body provided with a central opening, said body being provided with oppositely disposed upper grooves and oppositely disposed lower passages, a nozzle communicating with said grooves, a water pipe for each passage, and a turning plug provided with a longitudinal recess for placing either of said passages and the respective groove in communication.

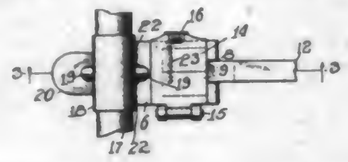
2. A faucet comprising a body provided with oppositely disposed upper grooves, a nozzle communicating with said grooves, said body also provided with oppositely disposed passages, a supply pipe for each passage, and a turning plug in said body provided with means for placing one of said grooves and passages in communication and at the same time cutting off communication between the other groove and passage.

974,791. VENTILATING STOP AND LOCK FOR WINDOWS. RUDOLPH B. HOERMANN, Watertown, Wis. Filed Feb. 9, 1910. Serial No. 542,928.



The combination with a pair of coöperating window sashes, of a supporting plate secured to the side rail of one of said sashes, a stop plate of less width in its vertical dimension hinged to one margin of the first mentioned plate and adapted to extend across the path of the other sash to a position beyond the sash cord of such other sash, said supporting plate being secured to said side rail at points above and below the stop plate, a spring hinged to automatically swing the stop plate to operative position, and a catch adapted, in one position of adjustment, to hold the stop plate in a folded position by engaging the inner margin of the supporting plate.

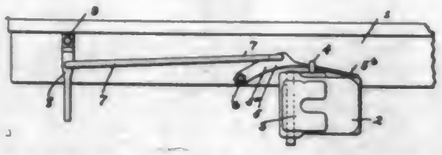
974,792. THILL-COUPLING. JACOB HOFSTETTER, Evanston, Ill. Filed Aug. 26, 1909. Serial No. 514,678.



1. In a thill coupling, the combination of a draw-iron having trunnions, a box or housing adapted to be secured to an axle, a pair of bearing blocks seated in and filling the box and provided on their inner faces with openings for receiving the trunnions on said draw-iron, and binding means for drawing together said blocks in a direction parallel to the axis of said trunnions and at a right angle with the axis of the draw-iron, substantially as described.

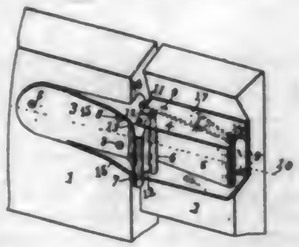
2. In a thill coupling, the combination of a draw-iron having trunnions, a box or housing adapted to be secured to an axle, a pair of bearing blocks seated in and filling the box and provided on their inner faces with openings for receiving the trunnions on said draw-iron, and a binding screw passing through said blocks and adapted to draw the same together in a direction parallel to the axis of said trunnions and at a right angle with the axis of the draw-iron, substantially as described.

974,793. COUPLING-OPERATING ATTACHMENT FOR CARS. FRANK HORN, Columbus, Ohio. Filed July 30, 1909. Serial No. 510,428.



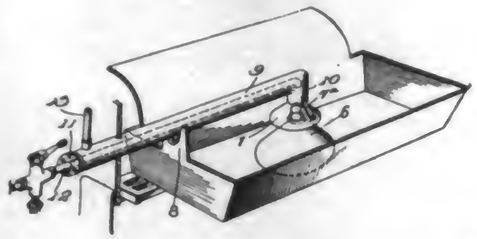
In a device of the character described, the combination with a car frame, a coupler connected therewith and a vertically movable locking pin in said coupler, of a locking pin lifting lever comprising a bar having one end pivotally connected with the vertical end face of the car frame for vertical swinging movement from which point said bar inclines upwardly and outwardly, terminating in a locking pin engaging member, an operating lever depending from the car body and pivotally connected therewith, and a connecting rod having one end pivotally connected with the locking pin lifting lever above the pivot point of the latter and its remaining end pivotally connected with said operating lever.

974,794. DOOR-HINGE. PERKINS E. HOWARD, Wichita, Kans. Filed Sept. 13, 1909. Serial No. 517,486.



The combination with a hinge comprising a fixed and movable member pivotally connected, said fixed member having a base plate carrying laterally extended parallel flanges and adapted to be secured to the door frame, said movable section consisting of an angle plate adapted to be secured to the face, and inner edge of a door and having on said edge portion a curved and grooved projection of a two armed spring pivotally mounted in the flanges of said fixed member, a roller also mounted therein, said spring adapted to bear against the roller and the base of said hinge and the projection on the movable member whereby said spring may automatically close the door from a given point and hold it open at 90° or at 180°.

974,795. CRUDE-OIL BURNER. LEE O. HUDSON, Altus, Okla., assignor of one-half to Charles L. Keesiar, Altus, Okla. Filed Oct. 2, 1909. Serial No. 520,616.



1. A crude oil burner, comprising a pan having a cold air inlet in its bottom having an upwardly extending conical wall, a conical deflector carried upon the upper end of the conical wall but spaced therefrom, a fuel pipe extending to a point immediately over the deflector, a warm air pipe surrounding the fuel pipe and opening at a point immediately over the deflector, and means whereby water may be supplied to the warm air pipe.

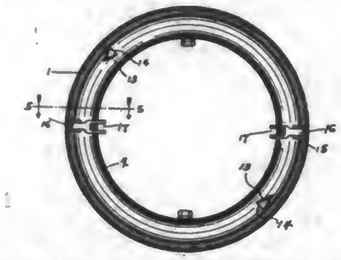
2. A crude oil burner comprising a pan having a cold air opening at its bottom, said opening being provided with upwardly and inwardly projecting walls, a fuel pipe extending to a point over said opening, an air pipe surrounding the fuel pipe and spaced therefrom and having a downwardly turned end, a conical deflector carried on the end of said air pipe but in spaced relation thereto, and a water pipe relatively small in size and entering said air pipe.

3. A crude oil burner including a pan having a central cold air inlet opening with upwardly projecting walls, a conical deflector mounted above the inlet opening and spaced therefrom, a fuel pipe extending to a point over the deflector, means for regulating the passage of fuel through the fuel pipe, a hot air pipe supported on the pan, having a perforated wall at its outer end, the inner end of the pipe being open and downwardly turned toward said deflector, and a water pipe of relatively small area, entering said hot air pipe near the outer end thereof.

4. A crude oil burner comprising a pan having upwardly extending sides, one of said sides being extended beyond the other side and curved outward, said pan being formed with an air opening in its bottom, said opening having upwardly and inwardly extending walls, a conical deflector supported above said walls and spaced therefrom, a fuel supply pipe extending to a point above the deflector, a hot air supply pipe inclosing the fuel pipe and spaced therefrom, the inner end of said hot air pipe being downwardly extended toward the deflector, and a water supply pipe entering the outer end of the hot air pipe.

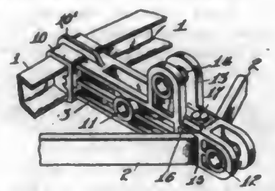
5. A crude oil burner, including a burning pan having a cold air passage in its bottom, a conical deflector mounted above the passage and deflecting the air passing through the same, an oil inlet pipe opening above the top of the deflector, an air inlet pipe also opening above the deflector, said air inlet pipe extending above the burning trough in position to be heated by the ignited oil, and means for admitting water to the air inlet pipe.

974,796. VEHICLE-WHEEL RIM. STEPHEN A. HUNTLEY, Kansas City, Mo., assignor, by direct and mesne assignments, of one-third to George W. Slater and one-third to Joseph M. Benham, Oakland, Cal., and one-third to W. E. Otis, Jr., Reno, Nev. Filed Apr. 28, 1909. Serial No. 492,757.



A wheel rim comprising a main section and an auxiliary section, the main section being provided with alternating wedging portions and recesses, the auxiliary section being provided with similar wedging portions and recesses adapted for complemental interlocking engagement with the corresponding portions of the main section, said auxiliary section having a plurality of lugs projecting therefrom, and a lever pivoted to each lug and having its free end bifurcated, said bifurcated end being designed to engage opposite sides of the spokes of the wheel to prevent displacement of the sections.

974,797. BRAKE-BEAM. CHARLES FRANCIS HUNTOON, Chicago, Ill., assignor to Henry D. Laughlin, Chicago, Ill. Filed July 15, 1909, Serial No. 507,703. Renewed July 22, 1910. Serial No. 573,288.



1. In a trussed brake beam, the combination with a flanged compression member, of a unitary strut member having a closed eye at its front end, a tension member having its end portions brought alongside of the web and flange portions of the compression member and means for locking the tension member to the strut member comprising a locking block seated in the closed eye of the strut member and abutting against the inner face of the tension member, and a pin extending through the strut and block and locking the latter in position.

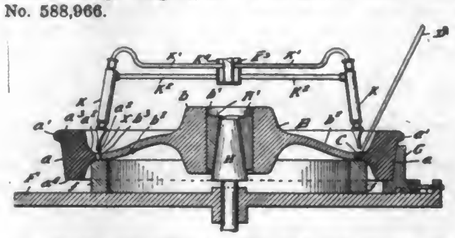
2. In a trussed brake beam, the combination with a compression member, of a strut member united thereto and having a closed eye at one end thereof, a tension member extending through said eye and having enlarged end portions connected to the compression member, a movable locking block seated in said eye and abutting against the inner face of the tension member and means for locking said lock in position.

3. In a trussed brake beam, the combination with a compression member, of a strut member united thereto and having a closed seat or eye portion to receive the tension member, a tension member extending through said eye portion and having enlarged ends connected to the compression member and means for rigidly locking said tension member to the strut.

4. In a trussed brake beam, the combination with a compression member of channel shape in cross section, of a tension member having end portions approximately conforming to and lying within the end portions of said compression member and provided at its ends with laterally enlarged heads to overlap the end surfaces of the compression members, a unitary strut member united at one end to the compression member and provided at its other with a closed eye adapted to receive the tension member.

5. In a trussed brake beam, the combination with a compression member, of a tension member having enlarged end portions, a unitary strut member connected to the compression member at one end and having a closed eye at its other to receive the tension member, and means for locking the tension member to said strut member.

974,798. WHEEL. WILLIAM L. JACOBY and FRANK B. BELL, Chicago Heights, Ill. Filed May 2, 1910. Serial No. 588,966.



1. A wheel comprising a rolled steel tire having an integrally formed and relatively thin, narrow inner annular web and a separately formed center having a hub and a relatively thin web of smaller exterior periphery than the interior periphery of said tire web, and welded thereto with a narrow weld annulus of varying width radially at different points of the circumference, substantially as specified.

2. A wheel comprising a rolled steel tire having an integrally formed and relatively thin and narrow inner annular web and a separately formed center having a hub and a relatively thin web of smaller exterior periphery than the interior periphery of said tire web and welded thereto with a narrow weld annulus of different composition from either said tire or said center and extending through the entire thickness of said webs, substantially as specified.

3. A wheel comprising a rolled steel tire having an integrally formed and relatively thin, narrow inner annular web and a separately formed center having a hub and a relatively thin web of smaller exterior periphery than the interior periphery of said tire web, and welded thereto with a narrow weld annulus of varying width radially at different points of the circumference and extending through the entire thickness of said webs, substantially as specified.

4. A wheel comprising a rolled steel tire having an integrally formed and relatively thin, narrow inner annular web and a separately formed center having a hub and a relatively thin web of smaller exterior periphery than the interior periphery of said tire web and welded thereto with a narrow weld annulus of different composition from either said tire or said center and containing an admixture of vanadium steel, and extending through the entire thickness of said webs, substantially as specified.

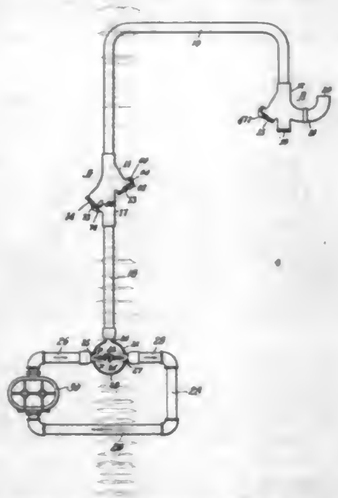
5. A wheel comprising a rolled steel tire having an integrally formed and relatively thin, narrow inner annular web and a separately formed center having a hub and a relatively thin web of smaller exterior periphery than the interior periphery of said tire web, and welded thereto with a narrow weld annulus of varying width radially at different points of the circumference and extending through the entire thickness of said webs, and containing an admixture of alloy steel, substantially as specified.

[Claims 6 to 8 not printed in the Gazette.]

974,799. PNEUMATIC-DESPATCH-TUBE APPARATUS. JOHN S. JACQUES, Hingham, Mass. Filed Aug. 18, 1909. Serial No. 512,646.

1. A despatch tube apparatus having, in combination, a transmission tube, means for creating an air current in said tube, a device controlling said air current, electrically

operated means to actuate said device, means to hold said device in its new position after being thus moved, said holding means being distinct from said actuating means, and electrically operated means to actuate said holding means to release said device and allow the same to resume its initial position.



2. A despatch tube apparatus having, in combination, a transmission tube, means for creating an air current in said tube, a device controlling said air current, electrically operated means to actuate said device and start said air current creating means into operation, means to hold said device in its now position after being thus moved, said holding means being distinct from said actuating means, and electrically operated means to actuate said holding means to release said device and to discontinue the operation of said air current creating means.

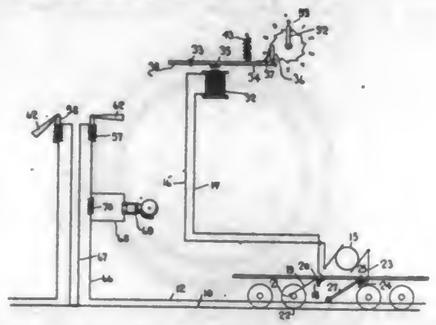
3. A despatch tube apparatus having, in combination, a transmission tube, means for creating an air current in said tube, a device controlling said air current to cause the same to pass in either direction, electrically operated means to move said device in one direction, electrically operated means to move said device in the opposite direction, means to hold said device after the same has been thus moved in either direction, said holding means being distinct from both of said moving means, and electrically operated means to render said holding means inoperative, thereby to release said device and allow the same to resume its initial position.

4. A despatch tube apparatus, having, in combination, a transmission tube through which carriers are transmitted, a device for producing an air current in said tube, a valve controlling said air current to cause the same to pass in either direction, electrically operated means to move said valve in one direction, electrically operated means to move said valve in the opposite direction, means to hold said valve after the same has been moved in either direction, and two distinct and independent means to release said holding means to allow said valve to resume its initial position.

5. A despatch tube apparatus having, in combination, a transmission tube through which carriers are transmitted from one station to another, means for creating an air current in said tube, a device controlling said air current, electrically operated means controllable at one of said stations to move said device, means to hold said device in its new position after being thus moved, said holding means being distinct from said moving means, and electrical means operated by the carrier at the other station to actuate said holding means to release said device and allow the same to resume its initial position.

[Claims 6 to 30 not printed in the Gazette.]

974,800. SIGNALING SYSTEM FOR RAILWAYS. JAMES A. JONES, Ward, W. Va., assignor of one-half to William Quick, Ward, W. Va. Filed Nov. 9, 1908. Serial No. 461,800.



The herein described railway signaling system comprising a series of track sections each insulated from the adjacent track sections, track signal devices connected to said sections, a trolley wire for each section, connected electrically thereto and also electrically connected to the track signal devices, a car having a trolley and an electrical contact device to respectively engage said trolley wires and said track sections as the car proceeds, a car-carried generator, one pole of which is connected to said trolley and a car-carried indicating instrument having an actuating electro-magnet, the winding of which is connected electrically to the other pole of the generator and to the said electrical contact device.

974,801. COMPOSITION OF VITREOUS MATTER. CHARLES A. KRAUS, Newton Highlands, Mass. Filed Aug. 27, 1909. Serial No. 514,858.

1. A vitreous homogeneous composition composed chiefly of sodium boro-silicate and containing further the oxid of a metal of the iron group in proportions sufficient to manifest in the composition when fused a superficial intimacy with iron or kindred metal.

2. A vitreous homogeneous composition composed chiefly of sodium boro-silicate and containing further the oxid of a metal having an atomic weight between 52 and 59 in proportions sufficient to manifest in the composition when fused a superficial intimacy with iron or kindred metal.

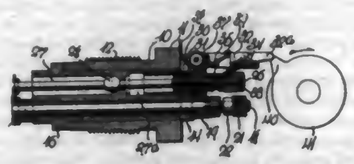
3. The composition of soda glass, borax and ferric oxid, the last in proportions sufficient to manifest in the composition when fused a superficial intimacy with iron or kindred metal.

4. A vitreous homogeneous composition whereof the chief constituents are sodium boro-silicate and an oxid of a metal of the iron group.

5. A vitreous homogeneous composition whereof the chief constituents are sodium boro-silicate and ferric oxid.

[Claims 6 to 8 not printed in the Gazette.]

974,802. SPARK-PLUG. THOMAS C. LUCE, Dalton, Mass., assignor to Luce Manufacturing Company, Dalton, Mass., a Corporation of Massachusetts. Filed Apr. 29, 1909. Serial No. 493,039.



1. A spark plug comprising a shell or body portion having a pair of contact rods extending horizontally therethrough and generally parallel with each other, one of said rods being tiltable in relation to the other, a spring pressed striking arm for tilting one of the rods, and means operated by the engine for moving the striking arm.

2. A spark plug comprising a body portion having two contact rods extending longitudinally therethrough, and generally parallel with each other, one of said rods being tiltable in relation to the other and each being turnable on its longitudinal axis.

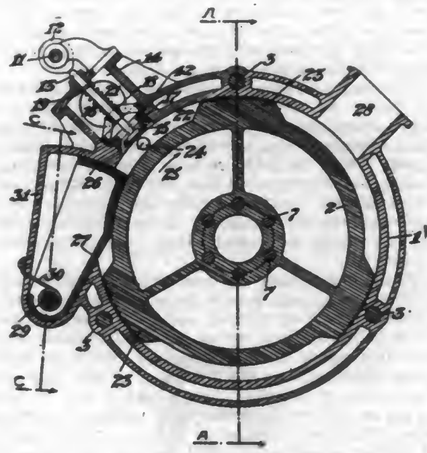
3. A spark plug comprising a shell, a contact rod extending longitudinally therethrough, a second contact rod extending through the shell and generally parallel with the first rod and adapted to contact with the first rod, means for supporting the second rod so as to permit it to rotate on its longitudinal axis to tilt in relation to the first rod, and to move longitudinally in relation to the shell.

4. A spark plug, having a shell with contact rods extending longitudinally through it, and generally parallel with each other, one of said rods being held to tilt and turn in the shell, a spring-pressed striking arm normally engaging said contact rod, and holding it out of engagement with the other rod, and means for operating the striking arm.

5. A spark plug comprising a shell having two contact rods extending longitudinally therethrough and generally parallel with each other, one of said rods being tiltable and turnable and movable longitudinally, a spring pressed striking arm for tilting and moving said rod, and means operated by the engine for moving the striking arm.

[Claims 6 to 10 not printed in the Gazette.]

974,803. ROTARY MOTOR. CHARLES DE LUKACSEVICS, New York, N. Y., assignor to George W. Morgan, New York, N. Y. Filed Aug. 21, 1907. Serial No. 389,441.



1. In a fluid pressure motor, a series of stationary communicating cylinders, a series of piston sections constituting a composite piston rotatable in said cylinders, and heads or projections on said piston sections for receiving the impact of the gas explosions, the heads or projections on succeeding sections being arranged in different angular positions, means for varying said positions, and means for locking the several sections together whereby to prevent relative movement thereof.

2. In a fluid pressure motor, a series of stationary communicating cylinders, walls separating said cylinders to provide independent chambers, a series of piston sections constituting a composite piston rotatable in said chambers, and heads or projections on said piston sections for receiving the impact of the gas explosions, the heads or projections on succeeding sections being arranged in different angular positions, the displacements thus formed on the piston as a whole representing uniform angular distances, and means for locking said sections together to prevent relative movement of said heads.

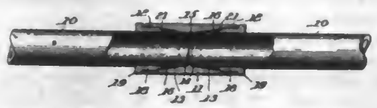
3. In a fluid pressure motor, a stationary cylinder, said cylinder comprising a series of sections each having an open and a closed end whereby to provide a plurality of independent chambers, a piston section rotatable in each of said chambers and heads or projections arranged in different angular positions on said sections, in combination with means for attaching a succeeding cylinder section and a succeeding piston section.

4. In a fluid pressure motor, a series of stationary communicating cylinders, said cylinders comprising each a section having a closed end whereby to provide independent chambers, a series of piston sections constituting a composite piston rotatable in said chambers, and heads or projections arranged in different angular positions on said piston sections, the construction being such that the number of cylinder sections and the number of piston sections may be varied.

5. In a fluid pressure motor, a composite piston made up of a plurality of piston sections, and heads or projections arranged in different angular positions on said piston sections, and means for coupling the successive sections to each other to provide a shaft, such means admitting of the angular adjustment of the said sections.

[Claims 6 to 8 not printed in the Gazette.]

974,804. JOINT FOR CONNECTING PIPE-SECTIONS. PHILIP J. MCCABE, Gary, Ind., assignor of one-half to John P. Van Syckle, Galena, Ill. Filed Nov. 16, 1909. Serial No. 528,423.



The herein described pipe coupling comprising in combination the following elements, to wit:—a sleeve disposed upon and connecting the end of two pipe sections, the bore of said sleeve at each end being threaded, said bore being conically formed inwardly of the threaded portions thereof to a point adjacent to the center of the sleeve, said conical bore portions gradually decreasing in diameter from their outer to their inner ends, an annular rib centrally formed in said sleeve and separating the conically formed portions of the bore, the opposed ends of the pipe sections abutting against the opposite faces of the rib, a split resilient bushing disposed upon the end of each pipe section, each of said bushings having a longitudinally inclined peripheral face adapted for engagement with one of the conical portions of the bore of the sleeve, a clamping nut threaded into each end of the sleeve adapted to force said bushing inwardly to frictionally engage the same with the walls of the conical portions of the bore of said sleeve, said nuts extending beyond the threaded portions of the bore of the sleeve and being of reduced diameter to force the bushings inwardly to the full extent of their movement and contract said bushings upon the pipe sections.

974,805. METALLIC FASTENER. GEORGE W. MCGILL, Riverdale-on-Hudson, N. Y. Filed June 3, 1907. Serial No. 376,990.



1. A metallic fastener having two blades composing its penetrating shank each blade being folded longitudinally in manner to provide one surface of each blade with a groove seated along its longitudinal center and the op-

posite surface of such blade with two grooves seated one along each edge of such blade.

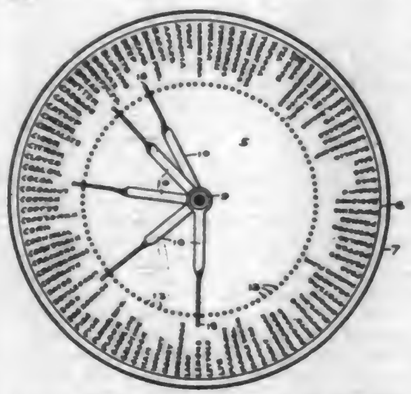
2. A metallic fastener having two blades composing its penetrating shank each blade being folded longitudinally in manner to provide one surface of each blade with a groove seated along its longitudinal center and the opposite surface of such blade with two grooves seated one along each edge of such blade, with the centrally located grooves of both blades normally opening toward each other in the fastener shank and having the two edges of one blade facing in one direction and the two edges of the other blade facing in an opposite direction.

3. A metallic fastener having two blades composing its penetrating shank with each one of such blades provided with a capping-end folded at right angles from the blade proper, and having the blades proper folded longitudinally in manner to provide the inner surface of each blade with a groove seated along its longitudinal center and the outer surface of such blade with two grooves seated one along each edge of such blade, and having the centrally grooved surfaces of both blades normally facing each other in the fastener shank and having both blades secured together in such position by a metal cap closed upon their capping ends.

4. A metallic fastener having blades composing its shank folded longitudinally in manner to cause the convex surface of the longitudinal axis of each blade and both edges of such blade to face in the same direction.

5. A metallic fastener having blades composing its shank folded longitudinally in manner to cause the convex surface of the longitudinal axis of each blade and both edges of such blade to face in the same direction and to occupy the same plane.

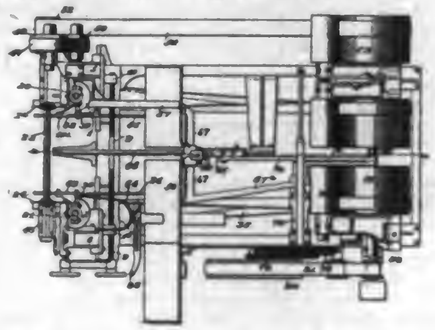
974,806. MEMORANDUM-DIAL. JAMES S. MCQUINN, Newcastle, Ind. Filed June 16, 1909. Serial No. 502,498.



1. A memorandum dial comprising a circular face-plate having an annular series of raised corrugations and a corresponding series of names of articles arranged opposite said corrugations, a hollow sleeve or rivet at the center of the plate, a plurality of dial-hands mounted on said rivet said hands being formed of flat spring-metal the outer ends of which have a quarter twist forming an edge to engage the corrugations of the face-plate and said outer ends having handle-extensions which vary from each other in their distance from the center of the face-plate, and washers separating said hands.

2. A memorandum dial comprising a circular face-plate having an annular series of half-round corrugations forming protruding portions and a corresponding series of names of articles arranged opposite said corrugations, a pivot at the center of the plate, a plurality of dial-hands mounted on said pivot said hands being formed of elastic strap-metal, the outer ends of which have a quarter twist forming an edge to engage the corrugations of the face-plate, and washers separating said hands.

974,807. CORNER-TRIMMING MACHINE FOR BOXES AND THE LIKE. HENRY W. MORGAN, Rochester, N. Y. Filed Nov. 18, 1907. Serial No. 402,726.



1. In a box trimming machine, the combination of four pairs of rotary saw cutters arranged to operate on four corners of a box, one pair being provided for each corner and having its members operating at right angles to each other, with guides for directing the box to the cutters.

2. In a box trimming machine, the combination of four pairs of rotary cutters arranged to operate on four corners of a box, one pair being provided for each corner, and having its members operating at right angles to each other, and mechanism for adjusting the cutters to permit them to operate on boxes of different sizes, with guides for directing the box to the cutters.

3. In a box trimming machine, the combination with four pairs of rotary cutters arranged to operate simultaneously on four corners of the box, two pairs being arranged above the other two pairs and each pair having its members operating at right angles to each other, of guides for directing the box to the cutters.

4. In a box trimming machine, the combination with a main frame, of carriers adjustable horizontally on the frame, a lower pair of rotary saw cutters fixed against vertical adjustment on each horizontally adjustable carrier, and having its members each crossing the plane of the other, upper cutter carriers vertically adjustable on the horizontally movable carriers, and an upper pair of rotary saw cutters carried by each vertically movable frame and having its members each crossing the plane of the other.

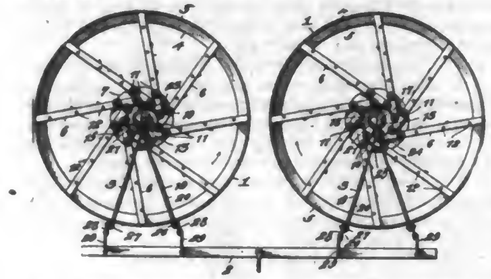
5. In a box trimming machine, the combination with a main frame, of a pair of carriers relatively adjustable on the frame, a pair of carriers each adjustable on one of the first named carriers, means for simultaneously adjusting the last named carriers, a pair of cutters on each of the last named carriers, each member of each pair crossing the plane of the other member, and a pair of cutters arranged on each of the latter, each member of each pair crossing the plane of the other member of said pair and fixed against adjustment toward the first named carriers.

[Claims 6 to 12 not printed in the Gazette.]

974,808. ROTARY HARROW. PEDER NILSEN MOUN, Kloten, N. D. Filed Mar. 19, 1910. Serial No. 550,405.

1. A harrow comprising a frame having diverging parts with depending portions at one end, a rotary member mounted at the other end of the frame and having depending teeth and an annular rim, guiding and bracing means carried by the depending portions of the diverging parts of the frame and adapted to engage the bottom of said rim and draft attaching means on said depending portions of the parts of the frame.

2. A harrow comprising a rotary member having depending teeth, a centrally arranged upstanding pivot on said member said pivot being formed with an annular flange, a two-part bearing sleeve to fit over said pivot, said sleeve being formed with grooved portions to receive said flange, said two-part bearing sleeve having flat outer faces, a frame to extend over a portion of the member, said frame being composed of rearwardly converging pairs of bars, the bars of each pair being arranged in forward converging relation and having their front ends overlapped and their rear ends superposed and provided with clamping portions to engage the two-part bearing sleeve, fastenings uniting the clamping portions of said bars, clevis plates secured to the overlapped front ends of said bars and means carried by the said front ends of said bars to engage the bottom portion of said rotary member.



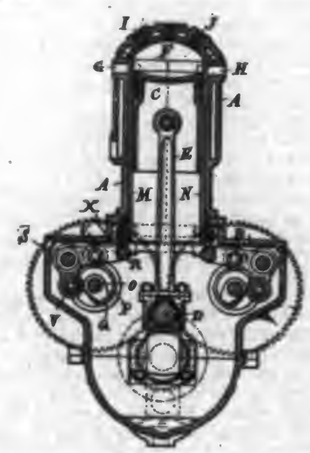
3. A harrow comprising a rotary member provided with depending teeth, a central upstanding pivot on said member said pivot being formed with an annular flange, a sectional bearing sleeve to engage said pivot, the sections of said bearing sleeve being formed intermediate their ends with an enlargement and on their inner faces with grooves to receive the flange on said pivot, and a frame having clamping portions to engage said sectional bearing sleeve above and below the enlargement on its sections.

4. A harrow comprising a frame having diverging parts with depending portions at one end, a rotary member mounted at the other end of the frame and having depending teeth and an annular rim, anti-friction rollers carried by the depending portions of the diverging parts of the frame and adapted to engage the bottom of said rim, and draft attaching means on said depending portions of the parts of the frame.

5. A harrow comprising a rotary member having depending teeth and a centrally arranged upstanding pivot, a sectional bearing to receive said pivot, and a frame to extend over a portion of said rotary member and having clamping means to engage said sectional bearing.

[Claims 6 and 7 not printed in the Gazette.]

974,809. EXPLOSIVE-ENGINE. HANS CLARIN HOVIND MUSTAD, Duclair, France. Filed Oct. 20, 1909. Serial No. 523,629.



1. An explosion engine comprising a casing having an explosion chamber and inlet and outlet ports in the walls of the chamber, a piston in the casing, a slide interposed directly between the piston and casing to control one of said ports, a second slide also interposed directly between the piston and casing to control the other port, said second slide being angularly displaced with respect to the first slide, and means to operate said slides.

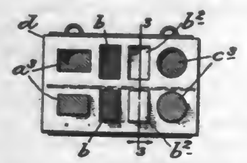
2. An explosion engine comprising a stationary casing having an explosion chamber and inlet and outlet ports in the walls of the casing, a piston in the casing, two semi-cylindrical oppositely positioned slides interposed directly between the piston and casing and means to independently move said slides to simultaneously close one port and open the other.

3. An explosion engine comprising a casing having an explosion chamber and inlet and outlet ports in the walls of the casing, a piston in the casing, two oppositely positioned imperforate slides interposed directly between the piston and casing, a crank shaft connected with the piston, independent cranks connected with the slides, means to operate said cranks from the crank-shaft and a casing inclosing the cranks and crank shaft.

4. An explosion engine comprising a casing having an explosion chamber and inlet and outlet ports in the walls of the casing, a piston in the casing, two oppositely-positioned semi-cylindrical slides interposed directly between the piston and casing, a crank shaft connected with the piston, independent cranks connected with the slides, stub-shafts carrying said cranks and gearing connecting the crank shaft with said stub-shafts.

5. An explosion engine comprising a casing having an explosion chamber and inlet and outlet ports in the walls of the casing, a piston in the casing, two oppositely positioned slides interposed directly between the piston and casing, a crank shaft connected with each slide, stub-shafts carrying said cranks, a gear on each of said stub-shafts of larger diameter than the gear on the crank-shaft, and a gear connecting the latter gear with the gears on the stub-shafts.

974,810. SIGNAL. WILLIAM J. O'BRIEN, Long Island City, N. Y. Filed Dec. 9, 1909. Serial No. 532,195.



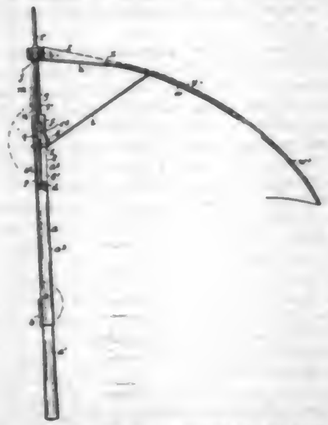
In a signal device, a predetermined number of panels arranged in line and adapted to represent consecutive numbers, said panels being divided into separate series, the panels of each series being similar in form and differing in form from the panels in the other series, and the separate panels of each series being distinctively colored.

974,811. FOLDING UMBRELLA. JOHN W. OLSSON, New York, N. Y., assignor of one-fourth to Richard F. Greenfield, High Bridge, N. J. Filed June 1, 1910. Serial No. 564,459.

1. In a folding umbrella, the combination of a staff having a pivoted handle portion, a lever pivoted in the upper part of the staff, a link connecting the lever and handle, a crown and a runner each movable lengthwise of the staff, means for transmitting movement from the lever to the crown, means for transmitting movement from the lever to the runner, stretchers pivoted to the runner, levers pivoted to the crown, folding ribs each comprising an inner and an outer section pivoted together and the inner sections being pivoted in the stretchers and affording fulcra for said levers, and links connecting the ends of the said levers with the outer rib-sections, substantially as described.

2. In a folding umbrella, the combination of a staff having a pivoted handle portion, a lever pivoted in the upper part of the staff, a folding link connecting the lever and handle, a crown and runner each movable lengthwise of

the staff, means for transmitting movement from the lever to the crown, means for transmitting movement from the lever to the runner, stretchers pivoted to the runner, levers pivoted to the crown, folding ribs each comprising an inner and an outer section pivoted together and the inner sections being pivoted in the stretchers and affording fulcra for said levers, and links connecting the ends of said levers with the outer rib-sections, the staff comprising sections pivoted together, substantially as described.



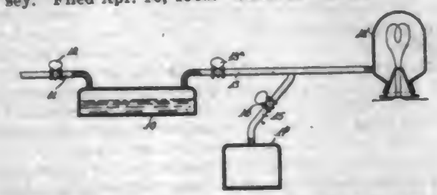
3. In an umbrella, the combination of the staff, an outer and an inner rib-section pivoted together, a lever fulcrumed at the inner end of the inner rib-section, a link pivotally connecting one end of said lever with the outer rib-section, a stretcher having one end thereof pivoted to the inner rib-section, and means, slidable on the staff, for effecting differential movements of the other ends of said lever and stretcher, substantially as described.

4. In an umbrella, the combination of the staff, an outer and an inner rib-section pivoted together, a link extending parallel with the inner rib-section, and having its outer end pivoted to the outer rib-section, a lever fulcrumed at the inner end of the inner-rib-section and having one end pivotally connected with the inner end of said link, a stretcher having one end thereof pivoted to the inner rib-section, and means, slidable on the staff, for effecting differential movements of the other ends of said lever and stretcher, substantially as described.

5. In a folding rib for an umbrella, the combination of an outer and an inner-rib-section pivoted together, a link extending parallel with the inner rib-section, being longitudinally channeled on the side thereof adjoining the inner rib-section and adapted to receive said rib-section within its channel and having its outer end pivoted to the outer rib-section, and a lever fulcrumed at the inner end of the inner rib-section and pivotally connected with the inner end of said link, substantially as described.

[Claim 6 not printed in the Gazette.]

974,812. PROCESS OF MAKING INCANDESCENT-ELECTRIC-LAMP FILAMENTS. HERSCHEL C. PARKER, New York, N. Y., assignor to Parker-Clark Electric Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 10, 1909. Serial No. 489,050.



1. The herein described process of making incandescent electric lamp filaments, which consists in flashing a filament in an atmosphere consisting of a hydrogen vapor saturated with oxy-chlorid of chromium, and with an absorbent gas for taking up the gases freed by the flashing process.

2. The herein described process of making incandescent electric lamp filaments, which consists in flashing a filament in an atmosphere containing hydrogen, oxy-chlorid of chromium and olefiant gas.

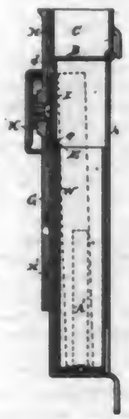
3. The herein described process of making incandescent electric lamp filaments which consists in flashing a carbon filament in an atmosphere containing hydrogen, oxy-chlorid of chromium and olefiant gas.

4. The herein described process of making incandescent electric lamp filaments, which consists in first passing hydrogen vapor over a surface of oxy-chlorid of chromium and into the flashing jar, second admitting an absorbent for the gases freed by flashing into the said mixture, and then flashing the filament in the said mixed gases.

5. The herein described process of making incandescent electric lamp filaments, which consists in flashing the filament in an atmosphere containing olefiant gas and the oxy-chlorid of chromium.

[Claims 6 to 10 not printed in the Gazette.]

974,813. VENDING-MACHINE. JAMES W. PATTERSON, New York, N. Y. Filed Sept. 24, 1906. Serial No. 335,864.



1. In a vending machine, the combination of a case, a hand operated reciprocatable riser within the case and having a hand operatable part extended to the outside of the case, and a lock for releasing the riser without moving it whereby the riser may be lifted at the will of the operator by the hand operatable part.

2. In a vending machine, the combination of a case open at the top, a movable lid for the case arranged within it at a distance from its top and shielded by the sides of the case so as to be inaccessible for opening, a hand operatable reciprocating riser within the case, adapted to be moved toward the lid to open the same and lift the article to be vended and having a hand operatable part extended to the outside of the case, and a locking device for controlling the operation of the riser.

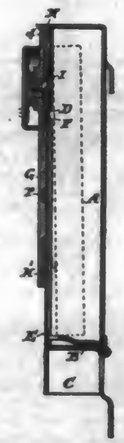
3. In a vending machine, the combination of a case open at its top, combined with a hand operated reciprocating riser within the case and guided by its interior walls and having a handle extending through the case to the outside, a locking device for locking the riser against being moved, arranged in front of the case and behind which the riser moves and hand operated means extending to the outside of the case for shifting the locking device to release the riser.

4. In a vending machine, the combination of a case open at its top, a movable device for normally closing the entrance to the case but which is free to be pushed upward for the discharge of the article, combined with a hand operated riser within the case and having a handle extending through the case to the outside, a locking device for locking the riser against being moved, and hand operated means for shifting the locking device to release the riser.

5. In a vending machine, a case, a riser to lift an article from the case normally resting within the case and resisting being raised and having a part extending through the case to the outside by which to manually lift it, and a lock upon the outside of the case having a part extending through the wall of the case to lock and unlock the riser to permit it to be held or to be manually raised as required.

[Claims 6 to 9 not printed in the Gazette.]

974,814. VENDING-MACHINE. JAMES W. PATTERSON, New York, N. Y. Filed Sept. 25, 1906. Serial No. 336,139.



1. A vending machine consisting of a case permanently closed on all sides and top and open at the bottom part only, combined with a gravity actuated movable bottom for supporting the article pivoted on a fixed axis within the case above the lower edge thereof and closely fitting the four walls of the said case to shield the edges of the bottom and close the case, a locking part within the chamber sealed by the bottom for locking the bottom in retaining position, and means having a hand operated part arranged upon the outer part of the case for causing the locking part to release the movable bottom and allow the article to discharge itself by gravity.

2. A vending machine consisting of a case open at the bottom part only, combined with a single gravity actuated movable bottom for supporting the article pivoted on a fixed axis within the case at a considerable distance above the lower edge thereof and closely fitting the walls of said case to shield the edges of the bottom and close the case, a locking part for locking the bottom in retaining position consisting of a flat plate part of which is outside of the case and part within the same for engaging the movable bottom, and means having a rotatable hand operated part for causing the locking part to release the movable bottom and allow the article to discharge itself by gravity.

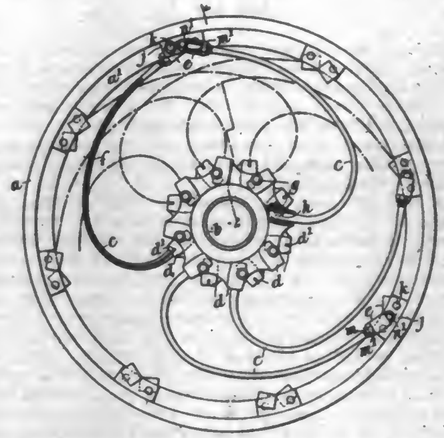
3. In a vending machine, a box shaped sheet metal case permanently closed on all sides and top and open at the bottom only, combined with a single closely fitting gravity actuating bottom located at a distance within the case and fitting the side walls thereof and pivoted thereto so that when the bottom is dropped it is shielded within the case, means for holding the movable bottom in locked position consisting of a sliding plate arranged against the wall of the case and having an engaging part for the bottom, and a rotatable hand operated part upon the outside of the case to move the sliding plate in the plane parallel to the plane of rotation of the hand operated part.

4. In a vending machine, the combination of a case open at the bottom only, a hinged bottom to close the open bottom of the case and support the article but permit it to drop by gravity when the bottom is open, said bottom hinged on a fixed axis at a distance above the bottom of the case and a lock arranged at the front and upper part of the case and having a locking and releasing device extending from the outer and upper part of the case down through the wall of the case to the inner and lower part thereof for making engagement with the hinged bottom upon the inside of the case, whereby the operation of the lock at the top and outside of the case may affect the release of the hinged bottom at the bottom and inside of the case.

5. In a vending machine, the combination of a case closed on sides and top and having a lateral slot *e* through its front wall and also having an open bottom, a bottom door hinged to the open bottom of the case, a locking plate D upon the outside of the case, and having a locking part E for the bottom extending through the lateral slot *e* to the inside of the case and extending downward to engage the hinged bottom door to lock the same in closed position, and hand operated means upon the outside and upper part of the case for shifting the locking plate to release the hinged bottom door.

[Claim 6 not printed in the Gazette.]

974,815. SPRING-WHEEL. MYLES WELLINGTON PECK, Putney, London, England. Filed Dec. 12, 1908. Serial No. 467,283.



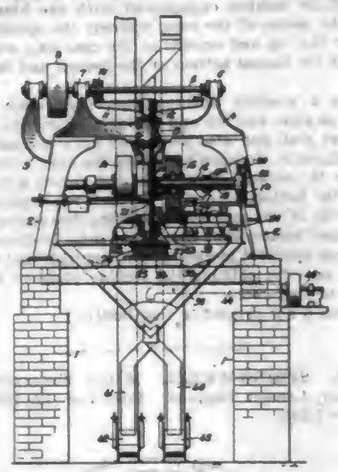
1. A spring wheel consisting of a hub and rim connected by two series of curved spring spokes, oppositely disposed, each of said spring spokes having a fin forming a flat or plate portion extending transversely of the wheel, said fin tapering from near the center of the wheel to the main body of the spoke near its outer end.

2. A spring wheel consisting of a hub and rim connected by two oppositely disposed series of curved spring spokes, oval in cross section intermediate their ends, which are circular, each of said spring spokes having a fin forming a flat or plate portion extending transversely of the wheel said fin tapering from near the center of the wheel to the main body of the spoke near its outer end.

974,816. DRY-PAN. RAYMOND C. PENFIELD, New York, N. Y. Filed July 13, 1909. Serial No. 507,420.

1. In a dry pan, the combination with a grinding base, of a primary screen, a secondary screen, said primary screen being situated in substantially the same plane as the grinding base, and both the primary and the secondary screens having a free outer edge, a surrounding husk, two hoppers below the screens, one for the tailings and the other for the screened clay, the outermost receiving the tailings, and the innermost the screened clay.

2. In a dry pan, the combination with a grinding base, of a primary screen, a secondary screen, hoppers below the screens, one for the tailings and the other for the screened clay, and a stationary rim having its lower edge close to the primary screen and providing a small opening between it and the screen through which the ground material passes to the screen.



3. In a dry pan, the combination of a grinding base having grinding plates thereon, mullers arranged in association with said parts, a cylindrical encircling rim, a primary screen rotating with the grinding base and close to the said rim, a secondary screen below the primary screen, said screens having each a free outer edge, a surrounding husk, and separate hoppers for receiving the material from the screens.

4. In a dry pan, the combination with a grinding element, of a primary screening element and a secondary screening element, the screens and the grinding element revolving in unison, a surrounding husk, hoppers below the screens, one for the tailings and the other for the screened clay, mullers arranged in connection with the grinding element, and a stationary rim supported above the primary screen with its lower edge in close proximity thereto, so that a space is provided between said rim and the screen through which the ground material passes.

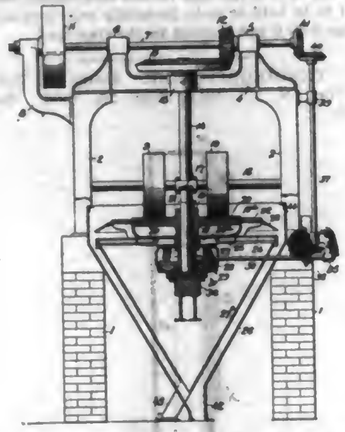
5. In a dry pan, the combination with a grinding base and mullers, of a primary screen having two sections one of which is stronger than the other, a stationary rim supported above the stronger section with an intervening space between it and the screen through which the ground material passes, a secondary screen below the primary screen, a surrounding husk, and hoppers below the screen, one for the tailings and the other for the screened clay.

974,817. DRY-PAN. RAYMOND C. PENFIELD, New York, N. Y. Filed July 13, 1909. Serial No. 507,421.

1. In a dry pan, the combination with grinding mechanism including a grinding base and mullers operating in association therewith, of a primary screen located in substantially the same plane as the grinding base, and a secondary screen, said primary and secondary screen being parallel to each other and connected together and having the same rotary movement, which movement is independent of the movement of the grinding mechanism.

2. In a dry pan, the combination with a grinding base, of means for imparting thereto a certain rate of revolution, a screen mechanism comprising primary and secondary screening elements arranged parallel to each other, said primary screening element being located in substantially the same plane as the grinding base, and means for imparting to the screening mechanism a rate of revolution independently of that of the grinding mechanism.

3. In a dry pan, the combination of a grinding pan, mullers therewith, means for imparting a certain rate of revolution to said pan, screening mechanism comprising a primary screen located in substantially the same plane as the grinding pan and a secondary screen parallel to and below the primary screen, said screening mechanism having a joint motion independently of the motion of the pan, and an apron encircling the periphery of the screening mechanism and receiving the coarse material which does not pass through the latter.

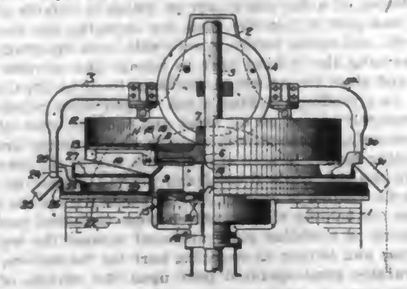


4. In a dry pan, the combination of a grinding base, mullers arranged to operate in association therewith, a screening mechanism including a primary screen having coarse openings and situated in substantially the same horizontal plane as the grinding base, and a secondary screen having finer openings and located below the primary screen and parallel thereto, means for imparting a rotary motion to the screening mechanism independently of the motion of the grinding devices, a tailings hopper receiving the material that does not pass through the screens, and a second hopper receiving the screened material.

5. In a dry pan, the combination of a grinding base, mullers therewith, a screen for screening the material after it leaves the base, said screen consisting of primary and secondary screening elements which are parallel to each other and one of which is in a plane below the other, an apron carried by the screen at its periphery, and a hopper for receiving the material delivered thereto by the apron.

[Claims 6 to 16 not printed in the Gazette.]

974,818. DRY-PAN. RAYMOND C. PENFIELD, New York, N. Y. Filed July 13, 1909. Serial No. 507,424. Renewed Apr. 8, 1910. Serial No. 554,272.



1. In a dry pan, the combination of a grinding element, a screen having an independent movement relative to said grinding element, a pan beneath the screen, and a stationary plow in said pan.

2. In a dry pan, the combination of a grinding element, a screening element having an independent movement relative to said grinding element, a dust pan revolving with the said screening element, a stationary plow in the dust pan, and means for receiving the plowed material.

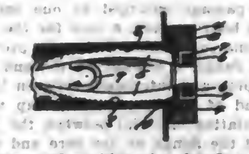
3. In a dry pan, the combination of a grinding element, a screening element having an independent movement relative to said grinding element, a dust pan having an encircling rim and carried by the screen below the latter, and a stationary wing or obstruction in the dust pan contiguous to the rim thereof.

4. In a dry pan, the combination of a grinding device, a primary screen having a different rate of revolution, a secondary screen revolving with the primary screen, a dust pan, a stationary device for removing the coarse material from the secondary screen, and a stationary device for removing the screened material from the dust pan.

5. In a dry pan, the combination of a grinding device, a screening device moving independently of the grinding device, and a pan having a plain surface located below the screen and revolving about the same axis, said pan having a rim, and a stationary plow in the pan forming an obstruction for the material to allow the latter to flow over the edge of the pan.

[Claims 6 to 9 not printed in the Gazette.]

974,819. FLUE-PLUG. WILLIAM F. PETERS, Waverly, N. Y. Filed June 30, 1910. Serial No. 569,789.

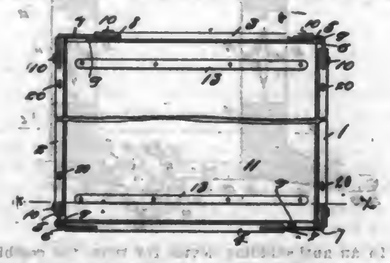


1. In an open end packing ring for flues, a pair of arms pivoted to said ring, a U-shaped spring connected to each of said arms for pressing the same in opposite directions, and means carried by said arms for preventing displacement of the same when inserted in a flue.

2. A packing ring for flues having an opening communicating with the interior of said flue, arms pivotally connected with said ring and adapted to engage the walls of said flue, and a spring connected with each of said arms for pressing the same in opposite directions.

3. A packing ring for flues having an opening communicating with the interior of said flue, arms pivotally connected to said ring, a spring disposed between said arms and adapted to press the same in opposite directions, the free ends of said arms being so constructed as to converge, for facilitating their insertion in the flue.

974,820. COLLAPSIBLE BOX. FRANK PINTO, Fort Worth, Tex. Filed July 19, 1910. Serial No. 572,767.



A collapsible box having four walls, metal flanges clamped in the edges of the walls and the meeting edges of said flanges being formed into hinges, pintles for the hinges, one of said walls being constructed of sections, a bottom, strap hinges attached to said bottom and projecting therefrom, cleats attached to the lower parts of two of said walls to support said bottom, the parts of said strap hinges projecting from said bottom being curved and having elongated perforations therethrough, said sectional wall having perforations through the lower section thereof to receive the ends of said hinges, and bolts having heads countersunk in the upper edge of said lower section and projecting through said section and through the perforations of said strap hinges to complete hinges for said bottom, said bolts being held against displacement by the upper section of said sectional wall.

974,821. ANTICREEPER. JOHN PLAYER, Jr., Oakland, Cal. Filed Apr. 12, 1910. Serial No. 554,912.



1. In an anticreeper the combination of two interlocking members coöperatively clamping the rail-base laterally between them, a gap in one of said members, staggered points of contact upon the opposing faces of said gap adapted to bear upon the upper and lower faces respectively of said rail base, the lower end of the other jaw being disposed to abut against a tie, whereby the creeping tendency of the rail tends to impart a rocking action to the anticreeper.

2. In an anticreeper the combination of two interlocking members arranged to coöperatively clamp the rail base between them, a gap in one of said members adapted to receive one edge of the rail base, staggered points of contact upon the opposing faces of said gap arranged to bear upon the upper and lower faces of said rail base, the lower end of the other jaw being disposed to abut against a tie, the interlocking device of said jaws having obliquely inclined impinging faces, so that the creeping tendency of the rail will cause said members to more firmly interlock.

3. In an anticreeper the combination of two interlocking members arranged to clamp the rail base laterally between them, an obliquely-inclined gap in one of said members adapted to receive one edge of the rail base and to cause the anticreeper to assume a vertical obliquity of position, there being staggered points of contact upon the opposing faces of said gap, the lower end of the other jaw being adapted to abut against a tie whereby the creeping tendency of the engaged rail will tend to impart a rocking action to the anticreeper and cause said points of contact to more firmly bear upon the rail base.

4. In an anticreeper the combination with a rail and a tie of two interlocking jaws adapted to clamp the rail base laterally between them, a gap in one of said jaws adapted for the reception of one edge of the rail base, staggered points of rail contact in said gap whereby the anticreeper is caused to assume a vertically oblique position, the other jaw being arranged to bear at its lower end against said tie whereby the restraining action of the anticreeper will tend to cause it to rock and said contact points to more firmly bear against the rail.

974,822. METHOD OF TREATING MANGANESE STEEL. WINFIELD S. POTTER, New York, N. Y. Filed May 2, 1910. Serial No. 558,845.

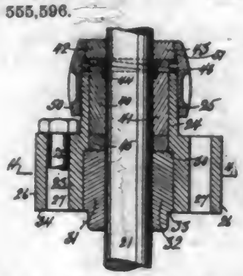
1. The method of treating manganese steel previously strengthened and toughened, which consists in reheating such metal to a temperature not above 550° C., then working the metal into its finished form, and finally cooling it.

2. The method hereinbefore described of treating manganese steel previously strengthened and toughened, consist-

ing in reheating such metal to a temperature between 225° C. and 550° C., then forming the metal into its finished shape, and finally cooling it.

3. The method hereinbefore described of treating manganese steel previously strengthened and toughened, consisting in reheating such metal to a temperature approximating 400° C., then forming the metal into its finished shape, and finally cooling it.

974,823. FRONT HEAD FOR DRILL-CYLINDERS. GEORGE S. POWER, Nutley, N. J. Filed Apr. 15, 1910. Serial No. 555,596.



1. In a front end for cylinders, the combination of a head, a split bushing in said head, a packing nut supported on the head and engaging said bushing and flexible means to lock the nut with said head.

2. In a front end for cylinders the combination of a head, a split bushing in said head, separated halves in the bushing, packing between said halves, a neck formed with the head, a packing nut supported on said neck and registering with one of said halves of the bushing and a spring bearing between the latter half and the end face of the neck.

3. In a front end for cylinders the combination of a head, a split bushing in said head, separated halves in the bushing, a tapered shouldered end for one of said halves, a neck formed with the head, a packing nut in threaded engagement with said neck and also in engagement with said tapered shouldered end, and a spring bearing between said neck and said shouldered end to lock the nut in place.

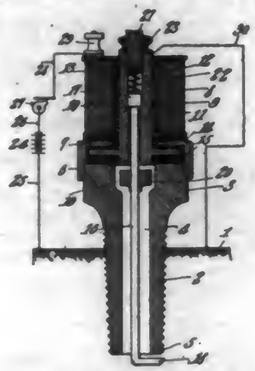
4. In a front end for cylinders the combination of a head, a neck formed with the head, a split bushing in said head, a shouldered end formed with said bushing, a packing nut supported on the neck and engaging the said shouldered end and a flexible medium between said shouldered end and the end face of said neck.

5. In a front end for cylinders the combination of a head, a neck formed with the head, a split bushing in the neck, a tapered shouldered end formed with the bushing, a packing nut with a tapered opening in threaded engagement with said neck and in register with the tapered shouldered end of the bushing and a spring bearing between the said neck and the said tapered end of the bushing.

[Claim 6 not printed in the Gazette.]

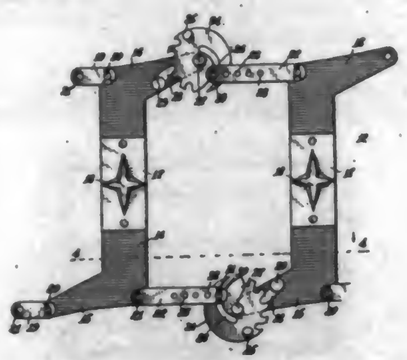
974,824. SPARK-PLUG. ELMER C. RAUCH, Coeur d'Alene, Idaho. Filed Aug. 25, 1909. Serial No. 514,622.

1. A spark plug of the make and break type, comprising a body portion adapted to enter an ignition chamber and there constituting one terminal of the plug, said body portion having a longitudinal passage therethrough enlarged at the end remote from the ignition chamber, and an electromagnet mounted on the body portion of the plug, a core for the magnet provided with a longitudinal passage enlarged at the outer end and there screw threaded, a firing pin extending through the body portion of the plug into the hollow core and there formed with an enlarged end housed in the enlarged portion of the passage through the core, said firing pin carrying within the enlarged portion of the passage through the body of the plug an armature in operative relation to the core and at the end remote from the end within the core extending beyond the ignition chamber end of the body portion of the plug and there bent at an angle to constitute a terminal of the plug in operative relation to the terminal at the ignition chamber end of the body portion of the plug, a closure for the enlarged end of the core provided with screw threads adapted to the threaded end of the passage through the core, and a spring housed in the core and compressed between the closure and the enlarged end of the firing pin, said spring tending to maintain the firing pin in open circuit position.



2. A spark plug comprising a body portion provided with an axial passage enlarged at one end, a magnet mounted on the body portion, a core for the magnet projecting beyond one end thereof and there provided with a circumferential flange, a cap-nut on the end of the body portion of the plug and interposed between the same and the adjacent end of the magnet, said cap nut inclosing said flange, insulating material between the body portion of the plug and the flange on the core and also between the said flange and the cap nut, a rod extending through the passage in the body of the plug and into and movable along the core and formed at one end into a circuit terminal in operative relation to the explosion chamber end of the body portion of the plug, and an armature carried by the rod within the enlarged portion of the passage through the body of the plug in operative relation to the corresponding end of the core.

974,825. ANTISKIDDING DEVICE FOR TIRES. JAMES EDWARD REDMOND, Butte, Mont. Filed Oct. 6, 1909. Serial No. 521,221.

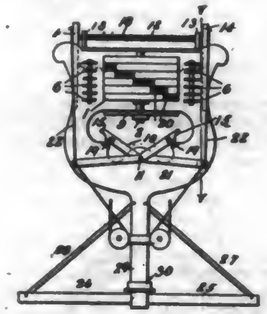


1. In an anti-skidding device for tires, the combination of spaced tread members extending transversely of the tire, oppositely extending link members provided at both ends of the said tread members and integral therewith, linked means connecting the said link members with the next successive tread member on both sides of the tire, and compensating members intermediate two of the said tread members for eccentrically taking up any slack in the said linked means.

2. In an anti-skidding device for tires, the combination of spaced tread members extending transversely of the tire, shoes provided with centrally disposed protuberances and longitudinally disposed on the said tread members, oppositely extending link members provided at both ends of the said tread members and integral therewith, link means connecting the said link members with the next successive tread member on both sides of the tire, and compensating members intermediate two of the said tread members for eccentrically taking up any slack in the said device.

3. In an anti-skidding device for tires, the combination of spaced tread members, extending transversely of the tire, shoes longitudinally disposed on the said tread members, star-shaped protuberances centrally mounted on the said shoes, oppositely extending link members provided at both ends of the said tread members and integral therewith, linked means connecting the said link members with the next successive tread member on both sides of the tire, pawl and ratchet mechanisms provided with an eccentric slot and mounted on the said link members, extended, perforated, linked means secured to the said tread members, and projecting means adjustably secured on the said perforated means and adapted to removably engage the said slot for eccentrically compensating for any slack occasioned in the said device.

974,826. MUSIC-LEAF TURNER. GIUSEPPE REGONDI, New Brighton, N. Y. Filed Aug. 25, 1908. Serial No. 450,177.



1. In a music-leaf turner, the combination with arms for turning the leaves and a rotatable drum causing the movement of said arms, of a star-wheel rotating with said drum; a lever capable of oscillation in a plane tangent to the path of the points of said star-wheel; and a dog pivotally mounted upon said lever and adapted to engage said star-wheel.

2. In a music-leaf turner, the combination with arms for turning the leaves and a rotatable drum causing the lateral displacement of said arms, of a star-wheel rotating with said drum; and a lever capable of oscillation in a plane tangent to the paths of the points of the star-wheel, said lever being provided with means adapting it to move the star-wheel when moving in one direction, and to leave it unmoved when moving in an opposite direction.

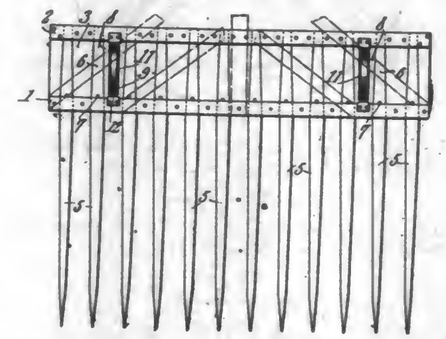
3. In a music-leaf turner, the combination with the leaf-turning arms and a rotating drum for operating said arms; of a star-wheel rigid with said drum; and a lever capable of oscillating in a vertical plane, said lever being adapted to engage the points of the star-wheel.

4. In a music-leaf turner, the combination with the leaf-turning arms and a star-wheel adapted to operate said arms; and a pair of levers capable of oscillation in vertical planes, one of said levers being adapted to impart an angular movement in one direction to said star-wheel and the other of said levers being adapted to impart an angular movement in the opposite direction to said star-wheel.

5. The combination with the driving drum and the leaf-turning arms driven thereby; of a star-wheel whereby the drum is rotated; and a pair of levers oscillating in vertical planes intersecting the circular path of the points of said star-wheel, each of said levers being provided with means adapting it to rotate the star-wheel in one direction only, the rotation caused by one of said levers being opposite to that caused by the other.

[Claims 6 to 13 not printed in the Gazette.]

974,827. HAY-RAKE. ALBERT W. RICHARDS, Sheridan, Wyo. Filed Feb. 24, 1910. Serial No. 545,715.



1. A rake structure comprising parallel front bars, parallel rear bars, blocks secured at their forward ends between the parallel front bars, and at their rear ends between the parallel rear bars, said blocks having their side edges converging from their rear ends toward their forward ends, and tines adapted to fit snugly at their rear portions between the parallel front bars and the parallel rear bars and at their vertical edges against the sides of the adjacent blocks.

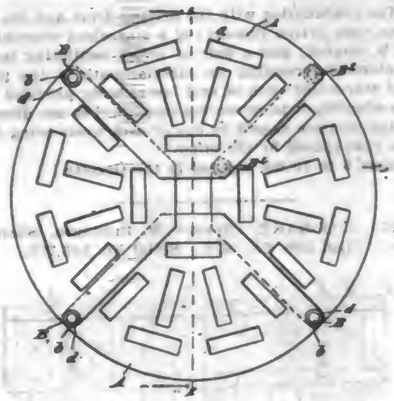
2. A rake structure including parallel front bars, parallel rear bars, blocks having their forward ends located between the parallel front bars and their rear ends located between the parallel rear bars, said blocks having their side edges converging from their rear ends toward their forward ends, tines fitting at their rear portions snugly between the parallel front bars and the parallel rear bars and having side edges which fit snugly against the side edges of said blocks, and keys attached to the tines adapted to engage the bars to prevent the said tines from working forwardly.

3. A rake structure comprising parallel front bars, parallel rear bars, blocks secured at their forward ends between the parallel front bars and at their rear ends between the parallel rear bars and having their side edges converging toward each other from their rear ends toward their forward ends, tines fitting snugly between the parallel front bars and parallel rear bars and having side edges fitting snugly against the converging side edges of the adjacent blocks, some of said blocks being provided with openings having depending bearings located at their opposite sides and at points between their ends, axles journaled in said bearings and supporting wheels mounted upon the axles and projecting through the openings in the said blocks.

974,828. COOKING UTENSIL. FRANK OSCAR ROLLINS, Lakeport, N. H., assignor of one-half to Edgar Samuel Hodgdon, Lakeport, N. H., and one-half to Benjamin James Smith, Laconia, N. H. Filed Apr. 27, 1910. Serial No. 558,042.

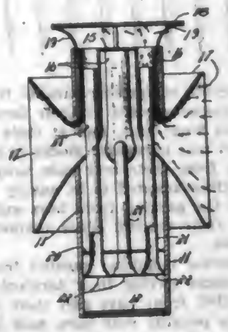
A support for the purpose described, comprising a plurality of sector-shaped sections, of even thickness throughout, lapped and pivotally connected end to end in series

and at points adjacent their outer edges; the outer ends of the end sections being disconnected and lapped and



free to move bodily one on the other, and legs connected with and depending from the sections.

974,829. VENTILATOR. HENRY J. ROTH, Dover, Minn. Filed Feb. 10, 1910. Serial No. 543,111.



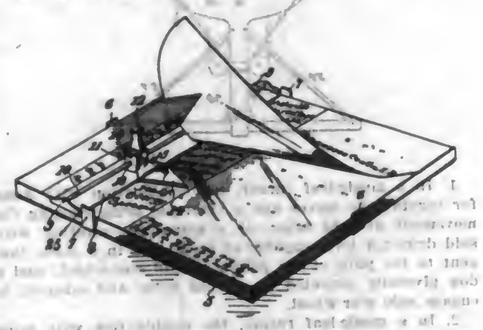
1. In a ventilating device, a vertical cylindrical casing, a transverse partition extending across the upper end of said casing and provided with a series of spaced openings, a series of draft tubes having flared inlet ends arranged around said casing and extending through the casing, said draft tubes being bent upwardly within the casing and having cylindrical outlet ends held in the openings of said partition, a second partition adjacent the lower end of said casing and provided with a series of openings equal in number to the draft tubes and immediately beneath said tubes, and a ventilating tube extending through each of the openings in the lower partition and into a respective draft tube, each of said ventilating tubes having its outlet end concentric with the outlet end of the respective draft tube and terminating short of the outlet end of said draft tube.

2. In a ventilating device, a vertical cylindrical casing, a transverse partition extending across the upper end of said casing and provided with a series of spaced openings, a series of draft tubes having flared inlet ends arranged around said casing and extending through the casing, said inlet ends being rectangular in outline and having their lateral edges contacting to entirely surround the casing, said draft tubes being bent upwardly within the casing and having cylindrical outlet ends held in the openings of said partition, a second partition adjacent the lower end of said casing and provided with a series of openings equal in number to the draft tubes and immediately beneath said tubes, and a ventilating tube extending through each of the openings in the lower partition and into a respective draft tube, each of said ventilating tubes having its outlet end concentric with the outlet end of the respective draft tube and terminating short of the outlet end of said draft tube, and a damper at the bottom of said casing.

3. In a ventilating device, a vertical cylindrical casing, a transverse partition extending across the upper end of said casing and provided with a series of spaced openings, a series of draft tubes having flared inlet ends arranged around said casing and extending through the casing, said draft tubes being bent upwardly within the casing and having cylindrical outlet ends held in the openings of said partition, a second partition adjacent the lower end of said casing and provided with a series of openings equal in number to the draft tubes and immediately beneath said tubes, a ventilating tube extending through each of the openings in the lower partition and into a respective draft tube, each of said ventilating tubes having its outlet end concentric with the outlet end of the respective draft tube and terminating short of the outlet ends of said draft tube, and a damper at the bottom of said casing.

4. In a ventilating device, a vertical cylindrical casing, a transverse partition extending across the upper end of said casing and provided with a series of spaced openings, a series of draft tubes having flared inlet ends arranged around said casing and extending through the casing, said inlet ends being rectangular in outline and having their lateral edges contacting to entirely surround the casing, said draft tubes being bent upwardly within the casing and having cylindrical outlet ends held in the openings of said partition, a second partition adjacent the lower end of said casing and provided with a series of openings equal in number to the draft tubes and immediately beneath said tubes, a ventilating tube extending through each of the openings in the lower partition and into a respective draft tube, each of said ventilating tubes having its outlet end concentric with the outlet end of the respective draft tube and terminating short of the outlet ends of said draft tube, and a damper at the bottom of said casing.

974,830. DEVICE FOR HOLDING AND SEVERING TICKETS, CHECKS, AND THE LIKE. THEODORE A. ROUSSEAU, Nashville, Tenn. Filed Sept. 21, 1909. Serial No. 518,886.

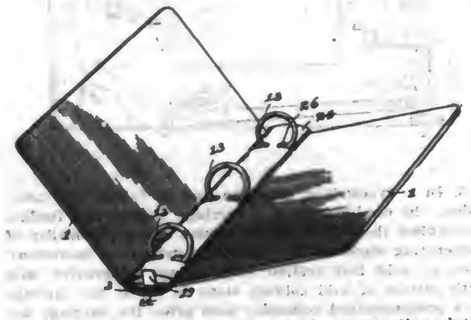


1. In a device for severing tickets, checks and the like, the combination with a base, of a straightedge, upwardly projecting lugs extending from the opposite ends of the straight edge, a rod supported in the lugs and extending between the same, a yoke slidably mounted upon the rod, a trowel-shaped cutter pivotally mounted in the yoke, and means on the base to engage the straight edge to aline the same with the desired line of severance of the ticket.

2. In a device for severing tickets, checks and the like, the combination with a base, of guides extending upwardly from the edges of the base, whereby a plurality of tickets or the like may be held in position on the base, one pair of said guides being disposed on opposite sides of the base with one of the sides of each of the guides in line with the line of severance of the ticket or the like to be severed, a straightedge, upwardly projecting lugs extending from the opposite ends of the straightedge, a rod supported in the lugs and extending between the same, a yoke slidably mounted upon the rod, said yoke being provided with an upwardly projecting handle portion, and a trowel-shaped cutter pivotally mounted in the yoke.

3. In a device for severing tickets, checks and the like, the combination with a base, of a straight edge, downwardly projecting portions located adjacent the end portions of the straight edge and adapted to engage the sides of the layer of tickets thereunder, upwardly projecting lugs extending from the opposite ends of the straight edge, a rod supported in the lugs and extending between the same, a yoke slidably mounted on the rod, a trowel-shaped cutter pivotally mounted in the yoke, and means on the base to engage the straight edge to aline the same with the desired line of severance of the ticket.

974,831. LOOSE-LEAF BINDER. LAWRENCE F. SCHERZINGER, Chicago, Ill., assignor to The Tengwall Company, Chicago, Ill., a Corporation of Maine. Filed July 8, 1909. Serial No. 506,466.



1. In a binder, the combination with a supporting plate, of pronged carrying members hinged thereto and provided with a plurality of opposed prongs, an actuating arm slidably mounted in said supporting plate, and cam blocks carried by said arm and projecting through slots formed in the meeting edges of said prong carrying members when the latter are in closed position.

2. In a binder, the combination with a supporting frame member, of prong plates hinged thereto and provided with a plurality of opposed prongs, an actuating arm slidably mounted in said frame member, and cam blocks carried by said arm and moving beneath said plates to force the latter upwardly into open position.

3. In a binder, the combination with a pair of prong plates, of prongs carried thereby, a sliding cam for supporting said plates to open the prongs, and a locking lip carried by said cam for positively locking said prongs in closed position.

4. In a binder, the combination with a supporting frame member, of leaf carrying plates hinged thereto, an actuating arm slidably mounted beneath said plates and a cam block carried by said arm and projecting through an aperture formed in the meeting edges of said plates when the latter are in closed position.

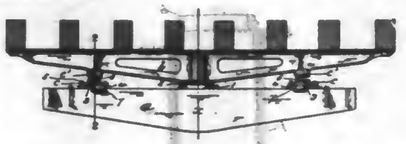
5. In a binder, the combination with a supporting plate, of prong carrying members hinged thereto and provided with opposed prongs, an actuating arm slidably mounted beneath said plates, a cam block carried thereby, a confining plate, and a flexible cover attaching member secured between said confining and supporting plates.

974,832. CAR-BOLSTER SIDE BEARING. CARL L. SCHWARTZ, St. Louis, Mo. Filed Jan. 31, 1910. Serial No. 541,122.

1. A car side-bearing having a bearing-face longitudinally inclined from its apex in opposite directions, and inclined transversely.

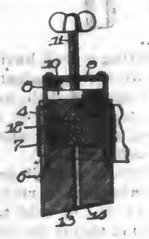
2. A car side-bearing having a bearing-face longitudinally inclined from its apex in opposite directions, and terminating in horizontal portions.

3. A car side-bearing having a bearing-face longitudinally inclined from its apex in opposite directions, the said face terminating in horizontal portions inclined therewith transversely.



4. A car side-bearing having a bearing-face longitudinally inclined from its apex in opposite directions, the said face terminating in horizontal portions radial therewith to the pivotal center of the car-truck.

974,833. BRUSH FOR DYNAMO-ELECTRIC MACHINES AND THE LIKE. EDMUND O. SCHWEITZER, Chicago, Ill. Filed Mar. 5, 1909. Serial No. 481,404.



1. A device of the class specified comprising a brush, a cylinder applied to the upper end of said brush, the brush having a passage extending from the chamber of said cylinder to the surface of the brush, a piston in said cylinder and a threaded member for use in connection with said piston.

2. A device of the class specified comprising a carbon brush having its upper end provided with a metal band and having a passage extending from one end to the other and grooves in the bearing surface communicating with said passage; a cylinder attached to the upper end of the brush within said metal band, having its chamber communicating with the other end of said passage, a piston within said cylinder, a removable head for said piston, and a winged screw threaded through said head and extended to said piston.

3. A device of the class specified comprising a brush having a chamber for lubricating compound, and a passage leading therefrom to the wearing surface, and spring means for forcing said compound from the chamber.

4. A device of the class specified comprising a brush having a cylinder for lubricating compound and a passage leading therefrom to the wearing surface of the brush, a piston in said cylinder and a spring acting upon said piston.

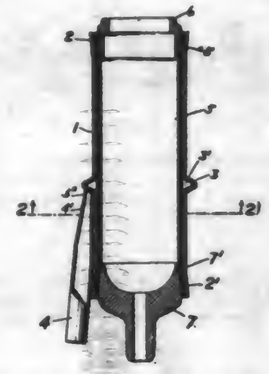
5. A device of the class specified comprising a brush having a cylinder for lubricating compound and a passage leading therefrom to the wearing surface of the brush, a piston in said cylinder, a spring acting upon said piston and a stem or spindle having threaded connections with the cylinder head and connected with said spring so that by turning the spindle the spring will be tightened.

974,834. TEAT-CUP. DAVID TOWNSEND SHARPLES, West Chester, Pa. Filed Feb. 5, 1910. Serial No. 542,166.

1. A teat cup comprising a shell having tapered end seats, a flexible tube disposed within said shell, devices having tapered parts for fixing the ends of said tube within the ends of said shell, and a passage communicating with the interior of said shell exterior to said tube.

2. A teat cup comprising a tubular shell having tapered end seats, a flexible tube disposed within said shell, a ring having a tapered part for holding an end of said tube

within an end seat of said shell, and a nipple having a tapered part for holding an end of said tube within an end seat of said shell.



3. A teat cup comprising a shell having an expanded intermediate section, a duct communicating with said section, a flexible tube within said shell, and means for fixing the ends of said tube to the ends of said shell, said expanded portion forming a chamber around said tube and communicating with said duct.

4. A teat cup comprising a shell having end seats, a tube disposed within said shell, a ring having means for frictionally engaging an end of said tube to one of said end seats, a nipple having means for frictionally engaging an end of said tube to the other of said end seats, said shell having an intermediate portion thereof expanded and forming a chamber surrounding said tube, and a duct communicating with said chamber.

974,835. PROCESS OF CASE-HARDENING TANTALUM. OTTO ARCHIBALD SIMPSON, Charlottenburg, Germany, assignor to Siemens & Halske A. G., Berlin, Germany, a Corporation of Germany. Filed Aug. 23, 1910. Serial No. 578,581.

1. The hereindescribed process of case-hardening a body composed of tantalum, which comprises the steps of roughening the surface of the body and subsequently treating it with a hardening agent.

2. The hereindescribed process of case-hardening a body composed of tantalum, which comprises the steps of roughening the surface of the body and subsequently oxidizing the roughened surface.

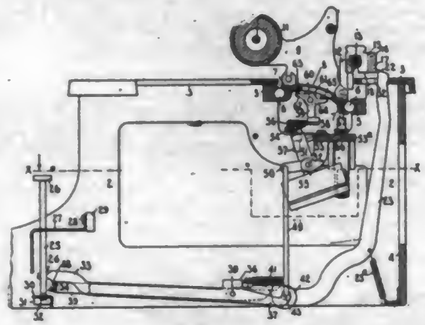
3. The hereindescribed process of case-hardening a body composed of tantalum, which comprises the steps of roughening the surface of the body, treating the roughened surface with a hardening agent and subjecting the roughened hardened surface to pressure.

4. The hereindescribed process of case-hardening a body composed of tantalum, which comprises the steps of roughening the surface of the body, treating the roughened surface with a hardening agent, pressing the roughened hardened surface and subsequently again treating the surface with a hardening agent.

974,836. TYPE-WRITING MACHINE. ARTHUR W. SMITH, New York, N. Y., assignor to Yost Writing Machine Company, Ilion, N. Y., a Corporation of New York. Filed Sept. 23, 1908. Serial No. 454,358.

1. In a typewriting machine, and in tabulating mechanism, the combination of a carriage, step-by-step feeding mechanism therefor, a set of column stops, a plurality of coöperating stops, each of said last recited stops being cooperative only with certain of said column stops to arrest the carriage in a predetermined columnar field after the carriage has been released from its step-by-step feeding mechanism, intermediate fields being skipped or passed, and variably-actuated carriage-releasing means.

2. In a typewriting machine and in tabulating mechanism, the combination of a carriage, step-by-step feeding mechanism therefor, a set of column stops having contact surfaces in different paths, a plurality of coöperating stops, each of said last recited stops being coöperative only with certain of said column stops to arrest the carriage in a predetermined columnar field after the carriage has been released from its step-by-step feeding mechanism, intermediate fields being skipped or passed, and variably-actuated carriage-releasing means.



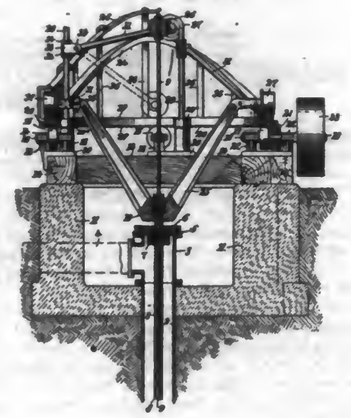
3. In a typewriting machine and in tabulating mechanism, the combination of a carriage, step-by-step feeding mechanism therefor, a set of column stops, a plurality of coöperating stops having unvarying extents of movement, each of said last recited stops being coöperative only with certain of said column stops to arrest the carriage in a predetermined columnar field after the carriage has been released from its step-by-step feeding mechanism, intermediate fields being skipped or passed, and variably-actuated carriage-releasing means.

4. In a typewriting machine and in tabulating mechanism, the combination of a carriage, step-by-step feeding mechanism therefor, a set of column stops, a plurality of coöperating stops, each of said last recited stops being coöperative only with certain of said column stops to arrest the carriage in a predetermined columnar field after the carriage has been released from its step-by-step feeding mechanism, intermediate fields being skipped or passed, keys for actuating said coöperating stops, a universal bar taken up at different points in the depressions of said keys depending upon the key actuated, and carriage releasing mechanism controlled by said universal bar, said universal bar and releasing mechanism enabling the carriage to be released at a substantially uniform period with reference to the bringing of the stops into coöperative relation irrespective of which of the stops are brought into coöperative relation.

5. In a typewriting machine and in tabulating mechanism, the combination of a carriage, step-by-step feeding mechanism therefor, a set of column stops, a plurality of coöperating stops, each of said last recited stops being cooperative only with certain of said column stops to arrest the carriage in a predetermined columnar field after the carriage has been released from its step-by-step feeding mechanism, intermediate fields being skipped or passed, keys for actuating said coöperating stops, a universal bar having a uniform extent of movement, said universal bar being taken up at different points in the actuation of said keys depending upon the key actuated, means for limiting the movement of the universal bar and thereby limiting the movement of the keys and the stops controlled thereby, and carriage releasing mechanism controlled by said universal bar, said universal bar and carriage releasing mechanism enabling the carriage to be released at a substantially uniform period with reference to the bringing of the stops into coöperative relation irrespective of which of the stops are brought into coöperative relation.

[Claims 6 to 10 not printed in the Gazette.]

974,837. PUMP. CASSIUS M. SMITH, Los Angeles, Cal. Filed Apr. 26, 1909. Serial No. 492,283.



1. A pump comprising a plurality of plungers and pump rods connected therewith; a reciprocating mechanism embodying a series of cams mounted on a rotary member to extend under the said rods to lift the same successively; suitable means for rotating the said rotary member; and means for shifting the said rods in the path of the said cams to alter the synchronized action of the rods.

2. A pump comprising a plurality of plungers and pump rods connected therewith; a rotary member having a series of cams formed thereon; suitable means for rotating said rotary member; connecting devices for connecting the said rods with the said cams and in successive arrangement thereon; and suitable means for shifting the said connecting devices on the said cams in the rotary path thereof.

3. A pump comprising a plurality of plungers and pump rods connected therewith; a rotary member mounted horizontally and concentric with said rods, said rotary member having a series of vertically extended cam surfaces formed thereon; suitable means for rotating said rotary member; a plurality of laterally extended arms each connected with one of the said rods, said arms being adapted to ride on the said cams; and means for rotating the said arms about the said rods to change the relation of each of the said arms to the said cams at predetermined times in relation to the rise and fall of said rods.

4. A pump comprising a plurality of plungers and pump rods connected therewith; a rotary member mounted horizontally and concentric with said rods and having a series of vertically extended cams; suitable means for rotating said rotary member; laterally extended arms each connected with one of the said rods, said arms being adapted to ride on said cams; and means for moving the said arms on their vertical axes during the lift of the said rods and in the direction of the travel of said rotary member to retard the movement of the said rods at a predetermined period in their lift.

5. A pump comprising a plurality of plungers and pump rods connected therewith; a rotary member mounted horizontally and concentric with said rods and having a series of vertically extended cams; suitable means for rotating said rotary member; laterally extended arms connected to said rods and adapted to ride on said cams; a stationary frame structure; hinged arms connecting the said laterally extended arms with the stationary structure; and vertically adjustable connections for said hinged arms with said structure.

[Claims 6 to 8 not printed in the Gazette.]

974,838. RECEIVING APPARATUS FOR ELECTRO-MAGNETIC WAVES. EDWIN H. SMYTHE, Chicago, Ill. Filed July 24, 1906. Serial No. 327,485.



1. An electromagnetic wave detector comprising an electrolyte, and a cathode and an anode having a very small area and a relatively large area, respectively, exposed to said electrolyte.

2. An electromagnetic wave detector comprising an electrolyte, a cathode consisting of a minute wire having an area approximately the area of the cross section of said wire exposed to said electrolyte, and an anode having a relatively large area exposed to the electrolyte.

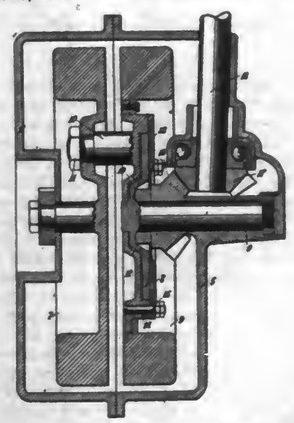
3. An electromagnetic wave detector comprising an electrolyte free from deleterious electro-depositable substances, a cathode having a very small area exposed to said electrolyte, and an anode of non-depositable material having a relatively large area exposed to the electrolyte.

4. An electromagnetic wave detector comprising a minute metallic cathode, a relatively large carbon anode, and an interposed electrolyte.

5. An electromagnetic wave detector comprising a minute platinum cathode and a relatively large carbon anode, and an interposed electrolyte free from deleterious electro-depositable substances.

[Claims 6 to 11 not printed in the Gazette.]

974,839. MOTOR-CYCLE FRICTION-CLUTCH. JACOB R. SPANGLER, New York, N. Y., assignor to S. D. Manufacturing Co., Brooklyn, N. Y. Filed Sept. 9, 1909. Serial No. 516,845.



1. The combination of an explosive engine crank-case, a driving shaft journaled in the crank-case, a driven shaft operatively connected to the driving shaft, and a friction clutch arranged in the crank-case in the length of the driving shaft between the crank thereof and the driving shaft to permit of the crank slipping relatively to the driving portion of the driving shaft at the instant of explosion when the engine is first started, or when the load is increased beyond certain limits.

2. The combination of an explosive engine crank case, a crank shaft having a crank, and a friction clutch arranged between the crank and shaft and arranged in the case to relieve the shaft of shock caused by the impetus of the explosion.

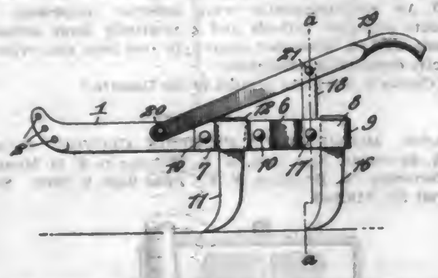
3. The combination of an explosive engine crank case, a crank shaft constructed of two sections, a fly-wheel of two sections spaced apart, with one of the sections of the fly-wheel rigid with one section of the crank shaft and the other section of the fly-wheel journaled on the crank shaft, means to frictionally bind the journaled section of the fly-wheel to that section of the crank shaft by which it is carried, and a crank-pin connecting the two sections of the fly-wheel together.

4. The combination of an explosive engine crank case, a driving shaft constructed of two sections, a fly-wheel of two sections spaced apart, with one of the sections of the fly-wheel rigid with one of the sections of the driving shaft, and the other section of the fly-wheel journaled on the other section of the driving shaft, a friction disk rigid with that section of the driving shaft on which the fly-wheel section is journaled, a friction plate interposed between the body of the fly-wheel and friction plate, and an annular clamping plate bearing on the friction disk and clamped to the fly-wheel.

5. The combination of an explosive engine crank case, a crank shaft having a friction disk rigid therewith, a fly-wheel carried on the shaft within the case and having a crank pin, a friction plate interposed between the friction disk and body of the fly-wheel, and means binding the wheel and friction disk together.

[Claim 6 not printed in the Gazette.]

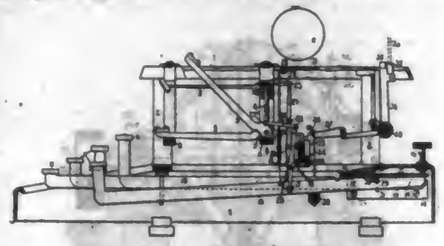
974,840. CULTIVATOR. GEORGE W. SPIERS, Caesar, Miss. Filed Aug. 8, 1910. Serial No. 576,093.



The herein described cultivator and subsoil plow comprising a beam having a laterally offset arm at its rear end, formed therewith, the said arm having an integral forwardly extending clamping member at its rear end; a detachable section having a forwardly extending portion to bear against one side of the beam and further provided with a laterally off-set rearwardly extending arm having an integral forwardly extending clamping member at its rear end, a front tooth having its standard disposed between the beam and the forwardly extending portion of the detachable section, clamping bolts securing said section to the beam, and also detachably and adjustably securing said tooth between said section and beam, the teeth having their standards disposed between the rearwardly extending offset arms and the clamping members thereof, handle braces, and clamping bolts extending through said arms, said clamping members and said braces, and serving to secure the braces to the said arms, and to also clamp the standards of the rear teeth between said arms and said clamping members.

974,841. TYPE-WRITING MACHINE. BURNHAM C. STICKNEY, Elizabeth, N. J., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Apr. 9, 1903. Serial No. 151,845.

1. In a typewriting machine, the combination of a series of type bars; a series of key operated levers; a series of sub-levers pivoted to the key operated levers; fulcrum links to which said sub-levers are pivoted; and means for enabling said sub-levers to operate said type bars, said type bars, fulcrum links and key operated levers being connected to said sub-levers at different points lengthwise of the latter, and the disposition of the parts being such that there is a dead centering of the parts to lock the type bars against rebound from their normal position.



2. In a typewriting machine, the combination of a series of key operated levers; a series of floating sub-levers pivoted to the key operated levers; a series of type bars connected to said sub-levers; and a series of movable devices connected to said sub-levers and to the framework of the machine, said movable devices, type bars and key operated levers being connected with said sub-levers at different points lengthwise of the latter, and the disposition of the parts being such that there is a dead centering of the parts that locks the type bars against rebound from their normal position.

3. In a typewriting machine, the combination of a series of type bars; a series of key operated levers; a series of sub-levers pivoted to the key operated levers; fulcrum links to which said sub-levers are pivoted; and actuating links connecting said sub-levers to the type bars, said actuating links, fulcrum links and key operated levers being connected with said sub-levers at different points lengthwise of the latter, and the disposition of the parts being such that there is a dead centering of the parts that locks the type bars against rebound from their normal position.

4. In a typewriting machine, the combination of a series of type-bars, a series of key-operated levers, a series of sub-levers pivoted at one set of their ends to the key-operated levers, fulcrum links to which said sub-levers are pivoted, and links connecting the other set of sub-lever ends to said type-bars.

5. In a front strike typewriting machine, the combination of a series of rearwardly striking type-bars, a series of key-bearing levers, a series of sub-levers pivoted upon the key-bearing levers and having upstanding arms which are connected to the type-bars, and a series of fulcrum links upon which said sub-levers are also pivoted, the disposition of the parts being such that there is a dead centering of the parts that lock the type bar in its normal position.

[Claims 6 to 32 not printed in the Gazette.]

974,842. NUT-LOCK. EDWARD W. TAYLOR, Salt Lake City, Utah. Filed Dec. 13, 1909. Serial No. 532,842.



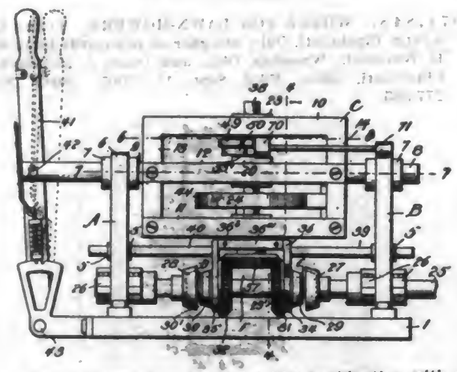
The combination in a nut lock, of a threaded bolt, a threaded nut mounted on the bolt and having in its bore a groove which extends in the direction of the thickness of the nut and to one side thereof and is diminished in depth from its longitudinal-center to its opposite sides and is provided with abrupt side walls slightly less in depth than said center and is also provided with reversely arranged cam surfaces intermediate said longitudinal center and side walls, and a pin snugly arranged in the longitudinal-central portion of the groove and between the bolt and the nut, all substantially as and for the purpose specified.

974,843. ROPE FOR THE TRANSMISSION OF POWER. JAMES P. TOLMAN, Newton, and JOHN LEWIS BIXBY, Jr., Arlington, Mass., assignors to Samson Cordage Works, Boston, Mass., a Corporation of Massachusetts. Filed Aug. 10, 1908. Serial No. 447,725.



A rope for the transmission of power comprising a central non-stretchable core containing metallic strands, a matrix of cementitious material surrounding said core, and an exterior covering of fibrous strands, said matrix penetrating the interstices of both the central core and the fibrous exterior and being vulcanized to form a tough bond between them uniting the two to prevent their longitudinal movement with relation to each other.

974,844. STARTING DEVICE FOR ENGINES. JOHN WILLIAM TUDOR, Boston, Mass. Filed Aug. 8, 1908. Serial No. 446,722.



1. In an engine starting device, the combination with a drive shaft, a gear mechanism slidable upon the drive shaft and carrying at opposite sides a driving member of a clutch mechanism, two independent driven clutch members on the drive shaft for coöperation with the respective aforesaid driving members of the clutch mechanisms, a spring, means whereby the gear mechanism may be shifted upon the drive shaft to present one of the driving members of one of the clutch mechanisms to the corresponding driven clutch member to effect a winding of said spring, means for automatically throwing said clutch mechanism out of operation and shifting the gear mechanism to a point intermediate the aforesaid driven members of said clutch mechanisms, said shifting means being operable to throw the gear mechanism in the opposite direction to present the other driving member of the other clutch mechanism to the corresponding driven member to effect an unwinding of said spring, and means to automatically shift the gear mechanism out of coöperative relation with said second clutch mechanism to a point intermediate said driven members of the clutch mechanisms after the spring has been unwound.

2. In a starting device for engines, the combination with a drive shaft, spaced driven clutch members on the drive shaft, a frame, a spring having connection with the frame, means movable in one direction and including a driving clutch member for engagement with one of the aforesaid driven clutch members to effect a winding of said spring, means to effect a release of the winding means when the spring has reached a certain tension, said movable means also including a second driving clutch member for coöperation with the other of said driven clutch members to effect an unwinding of said spring when said movable means is again operated, and means to effect an automatic release of the unwinding means when the spring has been unwound.

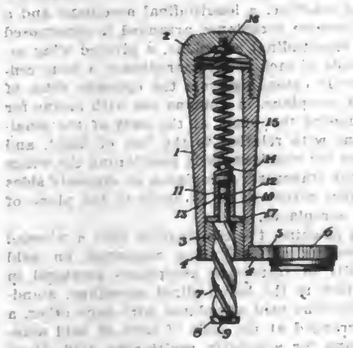
3. In a starting device for engines, the combination with a drive shaft, a movable frame, a spring having connection with the frame, a gear mechanism between the frame and said shaft, means whereby the frame may be moved in one direction, a clutch mechanism thrown into operation upon said movement of the frame to connect the gear mechanism and the drive shaft together to effect a winding of said spring, means to effect an automatic release of said clutch mechanism to disconnect the gear mechanism from the shaft when the spring has reached a certain tension, a second clutch mechanism thrown into operation when the frame is again moved to effect an unwinding of said spring, and means to effect an automatic release of the second clutch mechanism to disconnect the gear mechanism from the driving shaft when the spring has been unwound.

4. In a starting device for engines, the combination with a drive shaft, a movable frame, a spring having connection with the frame, a gear mechanism between the frame and said shaft, means whereby the frame may be moved in one direction, a clutch mechanism thrown into operation upon said movement of the frame to connect the gear mechanism and the winding shaft together to effect a winding of said spring, means to effect an automatic release of said clutch mechanism to disconnect the gear mechanism from the shaft when the spring has reached a certain tension, and a second clutch mechanism thrown into operation when the frame is again moved to effect an unwinding of said spring.

5. In an engine starting device, the combination with a drive shaft, a gear mechanism upon the drive shaft, a slidable frame mounted for longitudinal movement, a shaft carried by the frame and connected with said gear mechanism, and a spring having connection with the second mentioned shaft and the frame.

[Claims 6 to 24 not printed in the Gazette.]

974,845. STAMP-CANCELING DEVICE. JOSEPH UNGER, McKeesport, Pa. Filed Mar. 4, 1910. Serial No. 547,361.

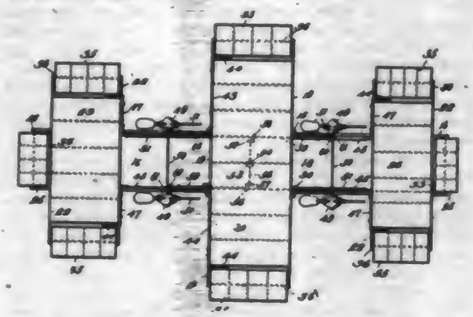


1. In a device of the character described, the combination with a hollow handle having a spiral guide fixed therein at one end and a removable cap portion at the other end, of a spiral stem working within said spiral guide and carrying an abrading surface, means carried by said stem at its inner end to prevent withdrawal of the stem by outward movement, and a spring interposed between the handle cap and stem, whereby the stem and the other parts within the handle may be readily removed by movement through the cap opening, substantially as and for the purpose set forth.

2. In a device of the character described, the combination with a hollow handle having a spiral guide fixed therein, of a spiral stem working within said guide and provided at its outer end with an abrading surface and at its inner end with a cylindrical extension, a sleeve fitted on said cylindrical extension so as to allow free rotation

of the latter without being itself rotated thereby, a washer adapted to loosely fit the bore of the handle, interposed between the sleeve and a bearing face of the said stem, substantially as and for the purpose set forth.

974,846. AUTOPLANE. CHARLES W. VAN WINKLE, White Plains, N. Y., assignor of one-half to Robert Conklin, Pleasantville, N. Y. Filed Oct. 7, 1909. Serial No. 521,525.



1. In a flying machine, a longitudinal aeroplane and a plurality of transverse aeroplanes arranged in superposed relation to the longitudinal aeroplane, a pivoted wing arranged at the ends of each of said aeroplanes, in combination with means for angularly positioning said wings with relation to the plane of said aeroplane.

2. In a flying machine, a longitudinal aeroplane and a plurality of transverse aeroplanes arranged in superposed relation to the longitudinal aeroplane, a pivoted wing arranged at the end of said aeroplanes, in combination with means for adjusting the wings at the ends of the longitudinal aeroplane in angular relation to the line of flight, and additional means for simultaneously positioning the wings at one end of the transverse areoplanes in angular relation to the plane of said transverse areoplanes at the opposite ends thereof.

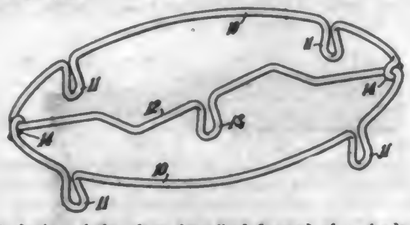
3. In a flying machine, a longitudinal aeroplane and a plurality of transverse aeroplanes arranged in superposed relation to the longitudinal aeroplane, a pivoted wing arranged at the ends of each of said aeroplanes, a wing centrally and laterally extending from the opposite sides of the longitudinal aeroplane, in combination with means for angularly positioning the wings at the ends of the longitudinal aeroplane with relation to the line of flight, and additional means for simultaneously positioning the wings at the ends of the transverse aeroplanes on opposite sides of the longitudinal aeroplane at an angle to the plane of said transverse aeroplanes.

4. In a flying machine, the combination with a wheeled frame, of a longitudinal aeroplane supported on said frame, a plurality of transverse aeroplanes arranged in superposed relation to the longitudinal aeroplane, standards rigidly connecting said aeroplanes with each other, a pivoted wing arranged at the ends of each of said aeroplanes, and means for angularly positioning said wings with relation to the plane of said aeroplanes.

5. In a flying machine, the combination with a wheeled frame, of a longitudinal aeroplane supported above said frame, a transverse aeroplane arranged in superposed relation to the longitudinal aeroplane at the opposite ends thereof, a transverse aeroplane disposed centrally above the longitudinal aeroplane and extending beyond the ends of the first named transverse aeroplanes, supporting standards rigidly connecting said aeroplanes to each other, a rudder pivoted at each end of the longitudinal aeroplane, means for independently operating said rudders to angularly position the same with relation to the line of flight, a wing pivotally arranged at the ends of each of the transverse aeroplanes, and means for simultaneously positioning the wings at one end of each of the transverse aeroplanes at an angle with relation to the plane of said transverse aeroplanes.

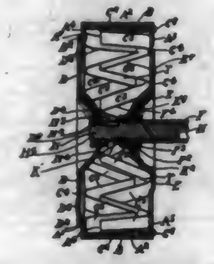
[Claims 6 to 14 not printed in the Gazette.]

974,847. SHOE-POLISHING FOOT-REST. ROBERT YOUNG, Fitchburg, Mass. Filed Aug. 23, 1909. Serial No. 514,093.



A device of the class described formed of a single wire and comprising a central cross-bar having laterally oppositely disposed zig-zag foot contacting portions and inclosing longitudinal rails formed by bending in opposite directions the two ends of said central portion in outward bows and each engaging the central bar at the opposite end, said central bar having a supporting foot bent up in a loop and said longitudinal rails each having similar supporting foot loops formed therein.

974,848. WHEEL FOR LAWN-MOWERS. JAMES H. AUBLE, Cincinnati, Ohio, assignor of two-thirds to Jacob H. Bromwell, Wyoming, Ohio, and James J. McDonald, Cincinnati, Ohio. Filed Sept. 11, 1905. Serial No. 277,985.



1. In the wheel of a mowing machine, the peripheral portion having transverse ribs and side flanges, formed out of one piece of sheet metal, and the inner shell or lining for this peripheral portion formed out of a single piece of sheet metal, and flanged channel plates to form a trackway, with means for securing the trackway to the inner shell, substantially as and for the purposes specified.

2. In a wheel of a mowing machine, the peripheral portion having transverse ribs and slotted side flanges, formed out of one piece of sheet metal, and the inner shell or lining for this peripheral portion formed out of a single piece of sheet metal, and the flanged track or channel plates provided with lugs at one edge adapted to pass through the slots of the side flanges of the peripheral portion and be bent, these several parts being thus combined, substantially as and for the purposes specified.

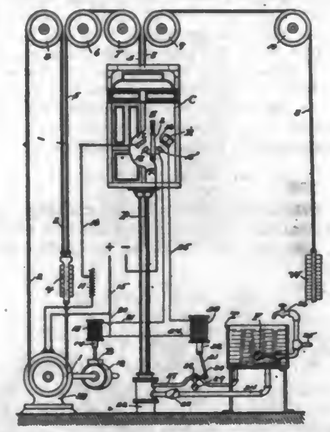
3. In a wheel of a mowing machine, the peripheral portion having transverse ribs and slotted side flanges, formed out of one piece of sheet metal, and the inner shell or lining for this peripheral portion formed out of a single piece of sheet metal, and the flanged track or channel plates provided with lugs at one edge adapted to pass through the slots of the side flanges of the peripheral portion and be bent, the inner lining or shell provided with struck-up lugs, adapted to pass through slots in the base of the adjacent channel plate, and be bent, thus combined, these several parts being thus held together, substantially as and for the purposes specified.

4. In a wheel of a mowing machine, the peripheral portion having transverse ribs and slotted side flanges, formed out of one piece of sheet metal, and the inner shell or lining for this peripheral portion formed out of a single piece of sheet metal, and the flanged track or channel plates provided with lugs at one edge adapted to pass through the slots of the side flanges of the peripheral portion and be bent, the inner lining or shell provided with struck-up lugs, adapted to pass through slots in the base of the adjacent channel plate, and be bent, thus combined, and a side diskal plate formed out of sheet metal, and provided with lugs struck up, and adapted to enter slots in the flange of the peripheral portion, and to be bent down, these several parts being thus held together, substantially as and for the purposes specified.

5. In a wheel of a mowing machine, the peripheral portion having transverse ribs and slotted side flanges, formed out of one piece of sheet metal, and the inner shell or lining for this peripheral portion formed out of a single piece of sheet metal, and the flanged track or channel plates provided with lugs at one edge adapted to pass through the slots of the side flanges of the peripheral portion and be bent, the inner lining or shell provided with struck-up lugs, adapted to pass through slots in the base of the adjacent channel plate, and be bent, thus combined, and a centrally concaved side diskal plate formed out of sheet metal, and provided with lugs struck up, and adapted to enter slots in the flanges of the peripheral portion, and to be bent down, these several parts being thus held together, substantially as and for the purposes specified.

[Claims 6 to 15 not printed in the Gazette.]

974,849. ELEVATOR-CONTROLLER. WILLIAM D. BALDWIN, New York, N. Y., assignor to Otis Elevator Company, Jersey City, N. J., a Corporation of New Jersey. Filed Aug. 11, 1906. Serial No. 330,113.



1. The combination with an elevator car and hoisting apparatus therefor, of a plunger directly connected to the car, a receptacle for receiving said plunger, means for regulating the flow of fluid from said receptacle upon the descent of the car, and a single device for controlling the hoisting apparatus and regulating means.

2. The combination with a car and hoisting apparatus, of a hydraulic retarding device, separate from the hoisting apparatus, and electric mechanism for varying said retarding device.

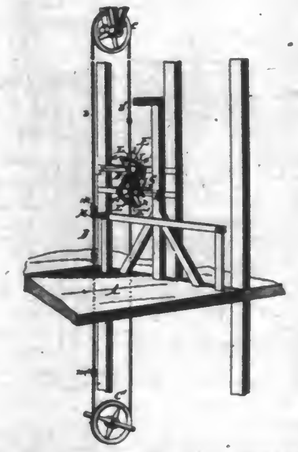
3. The combination with an elevator car, of hoisting apparatus therefor, a plunger attached to the car, a liquid-receptacle for receiving said plunger, means for regulating the flow of fluid to and from said receptacle to vary the retarding effect thereof on the movement of the car, and electric mechanism for controlling said regulating means.

4. The combination with an elevator car, of moving means therefor, a closed receptacle for containing liquid, a tank, connections between the receptacle and tank, means independent of said moving means actuated by the car for drawing the liquid from the tank into said receptacle when the car ascends, and for forcing it into said tank when the car descends, and electric apparatus controllable from the car for regulating the flow on the descent.

5. The combination with an elevator car, of hoisting apparatus therefor, a plunger connected to the car and separate from the hoisting apparatus, a cylinder for receiving said plunger, a tank communicating with said cylinder, electro-mechanical means for regulating the flow of fluid to said tank and a single device for controlling both the hoisting apparatus and the regulating means.

[Claims 6 to 20 not printed in the Gazette.]

974,850. ELEVATOR-CONTROLLING DEVICE. CORDIE BARNUM, Buffalo, N. Y., assignor of one-half to Fred H. Burr, Buffalo, N. Y. Filed July 11, 1910. Serial No. 571,310.



1. An elevator controlling device comprising a movable controlling member and a tappet thereon, and a stop member movable transversely relatively to the controlling member and provided with a stop face and with a shifting face, said stop member when in its normal position having its stop face arranged out of the path of said tappet and its shifting face in the path of said tappet and said stop member being shiftable into an abnormal position by moving said tappet against said shifting face and thereby bringing said stop face into the path of said tappet.

2. An elevator controlling device comprising a controlling cable and a tappet thereon, an oscillating frame having a stop face and a shifting face adapted to be engaged by said tappet, and means for holding said frame yieldingly in a position in which its stop face clears said tappet, said shifting face being adapted to be engaged by said tappet when the frame is in its normal position and thereby shifted into an abnormal position in which said stop face is arranged in the path of said tappet.

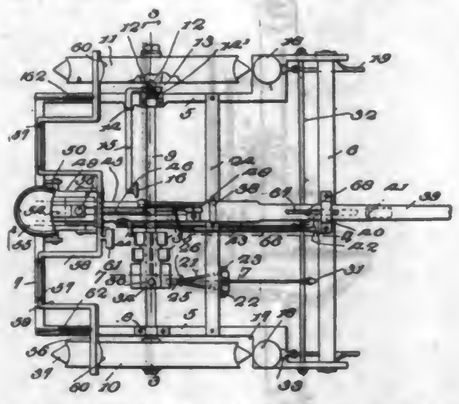
3. An elevator controlling device comprising a controlling cable and upper and lower tappets thereon, an oscillating stop frame having upper and lower stop bars and upper and lower inclined shifting bars arranged adjacent to the inner sides of the stop bars, and means for holding said frame yieldingly in a position in which the tappets clear said stop bars and engage the shifting bars for turning said frame so that said stop bars are in the path of said tappets.

4. An elevator controlling device comprising a controlling cable and upper and lower tappets thereon, an oscillating stop frame having upper and lower stop bars and upper and lower inclined shifting bars arranged adjacent to the inner sides of the stop bars, each of said stop bars having a slot which is wide in line with the adjacent inclined shifting bar and narrow on one side of said shifting bar, and means for holding said frame yieldingly in a position in which said tappets and cable are in line with the wide parts of said slots and said inclined shifting bars.

5. An elevator controlling device comprising a controlling cable and upper and lower tappets thereon, an oscillating stop frame having upper and lower stop bars, upper and lower inclined shifting bars each connected at one end with one end of one stop bar and two connecting bars each connecting the opposite end of each stop bar with the shifting bar of the other stop bar, and means for holding said frame yieldingly in a position in which said tappets and cable are in operative relation to said inclined shifting bars and out of operative relation to said stop bars.

[Claims 6 to 12 not printed in the Gazette.]

974,851. CORN-PLANTER. CLYDE F. BASS, Strafford, Mo. Filed Dec. 3, 1909. Serial No. 531,205.



1. A corn planter including a wheeled truck having runners, seed dropping mechanism mounted on the truck above the runners, a trip device operatively connected with the seed dropping mechanism, a collar slidably mounted on the axle of the truck and provided with a plurality of sets of peripheral lugs adapted to successively register with and engage the trip device, and means for securing the collar in adjusted position on the axle.

2. A corn planter including a wheeled truck having runners, seed dropping mechanism slidably mounted on the truck above the runners, a trip device operatively connected with the seed dropping mechanism and provided with a spring actuated finger, and a collar slidably mounted on the axle of the truck and provided with a plurality of sets of peripheral lugs adapted to successively register with and engage the finger of the trip device, and means for securing the collar in adjusted position on the axle.

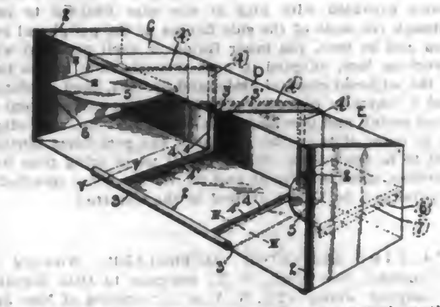
3. A corn planter including a wheeled truck having runners, seed dropping mechanism mounted on the truck above the runners, a trip device operatively connected with the seed dropping mechanism, a collar slidably mounted on the axle of the truck and provided with a plurality of sets of peripheral lugs adapted to successively register with and engage the trip device, a hanger depending from the truck and provided with a carrying wheel, means for securing the collar in adjusted position on the axle, and an operating lever operatively connected with the carrying wheel for raising and lowering the latter.

4. A corn planter including a wheeled truck, runners depending from the truck and provided with graduations, seed dropping mechanism mounted on the truck above the runners, a pivoted trip device operatively connected with the seed dropping mechanism, a collar slidably mounted on the axle of the truck and provided with a plurality of sets of radiating lugs disposed in staggered relation and adapted to successively engage the trip device for operating the seed dropping mechanism, and means for clamping the collar in adjusted position on said axle.

6. A corn planter including a wheeled truck having runners, seed dropping mechanism mounted on the truck above the runners, a trip device operatively connected with the seed dropping mechanism, marking lugs secured to the rims of the truck wheels, a collar slidably mounted on the axle of the truck and provided with a plurality of sets of radiating lugs adapted to successively register with and engage the trip device, means for securing the collar in adjusted position on the axle, the position of the lugs on the collar corresponding to the position of the marking lugs on the truck wheels.

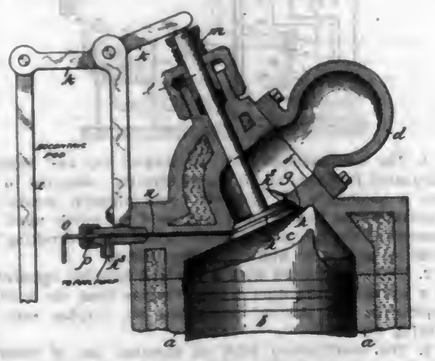
[Claims 6 to 14 not printed in the Gazette.]

974,852. WINDOW PROVISION-BOX. CHARLES C. BISHOP, St. Louis, Mo. Filed Apr. 7, 1910. Serial No. 553,933.



A window provision box comprising a central section formed with inwardly curled reinforcing pocket members at the front edges, each pocket member consisting of an inturned horizontal flange spaced from the body thereof and providing broad flat slides, and end sections formed with beaded inner ends at the bottom, rear walls and roof members and providing guiding edges, and telescopically fitted to the central section and having the flat front edges adapted to slide between the inturned horizontal flanges and bodies of said pocket members.

974,853. INTERNAL-COMBUSTION ENGINE. HERMAN F. BOCK, Antioch, Ill., assignor of one-half to Frank W. Severin, Chicago, Ill. Filed Dec. 20, 1909. Serial No. 534,181.



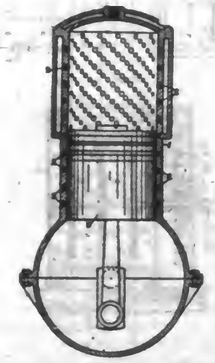
1. An internal combustion engine including a combustion and expansion chamber, means for separating said chamber into distinct compartments when compression occurs and for reëstablishing communication between said compartments when compression has been effected to permit of forcible flow from the compression compartment to the companion compartment, a piston moving in one of said compartments and serving therein to effect compression while the two compartments are separated, and means for supplying fuel to the other compartment.

2. An internal combustion engine including a combustion and expansion chamber, a valve operated by the engine for separating said chamber into distinct compartments when compression occurs and for reëstablishing communication between said compartments when compression has been effected to permit of forcible flow from the compression compartment to the companion compartment, a piston moving in one of said compartments and serving therein to effect compression while the two compartments are separated, and means for supplying fuel to the other compartment while said compartments are separated by said valve.

3. An internal combustion engine including a combustion and expansion chamber, a valve intermittently operated by the engine for intermittently separating said chamber into distinct compartments in one of which the piston moves, and means for supplying fuel to the other compartment when said chamber is divided into separate compartments by said valve, said valve having a fuel containing channel communicating with the fuel receiving compartment.

4. An internal combustion engine including a combustion and expansion chamber, a valve intermittently operated by the engine for intermittently separating said chamber into distinct compartments in one of which the piston moves, and means for supplying fuel to the other compartment when said chamber is divided into separate compartments by said valve, there being lodging place for the fuel adjacent to the valve and located in the path followed by the air moving from the compression compartment to the fuel compartment.

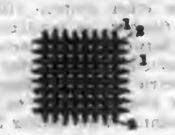
974,854. ENGINE-CYLINDER. HENRY H. BOGGS, Detroit, Mich. Filed Jan. 24, 1910. Serial No. 539,704.



1. As an article of manufacture, an engine cylinder of cast metal whose inner periphery is provided with conoidal solid inserts of refractory lubricating material, the smaller end faces of the inserts being flush with the inner wall of the cylinder.

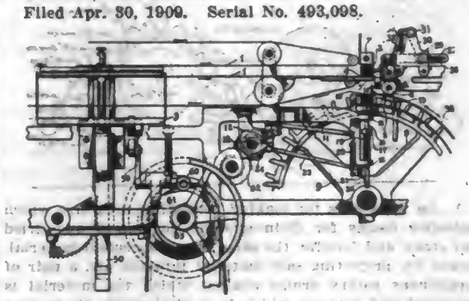
2. As an article of manufacture, an engine cylinder of cast metal and solid inserts of refractory lubricating material secured in the inner face thereof, said inserts being conoidal and being disposed with their smaller end faces flush with the inner wall of the cylinder, the inserts being secured in place in the process of casting the cylinder.

974,855. FABRIC. PAUL L. BOUSQUET, Akron, Ohio. Filed Oct. 6, 1909. Serial No. 521,190.



A fabric for the purpose described comprising warp and weft threads woven together, each of said threads embodying a wire constituting a core inclosed by a plurality of strands of fibrous material, each of said strands having been impregnated with a solution of a vulcanizable gum compound previous to its superimposition on said wire, whereby all portions of the fabric covering each of said wires is saturated with said vulcanizable compound, so that when said fabric is subjected to a vulcanizing heat the fibrous covering will be intimately united together and to said warp and weft threads to constitute a flexible unitary and approximately water-proof structure.

974,856. LABELING-MACHINE. GEORGE BRAND, FELIX MARCILE, and EDWARD P. SHELDON, Brooklyn, N. Y. Filed Apr. 30, 1909. Serial No. 493,098.



1. In a labeling machine, the combination of a yielding support for the article, a plunger engaging the article and forcing it against the support to depress the same, means independent of the plunger for holding the support temporarily depressed and label fastening devices for fastening the label around the article while resting upon the support in its depressed position.

2. In a labeling machine, the combination of a yielding support plate for the article in its label fastening position, a conveyer having pockets adapted to receive the article in its label fastening position and acting to carry the article away from the support plate after the label is fastened, a plunger for forcing the support plate down to position where the article will lie in the pocket in said conveyer and means independent of the plunger for holding the support plate temporarily depressed.

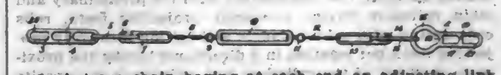
3. In a labeling machine the combination of a spring actuated support plate for the article to be labeled, a catch for holding the plate in the label fastening position and means for intermittently releasing the catch after each fastening operation.

4. In a labeling machine, the combination of a spring-actuated support for the article in its label fastening position, mechanism for holding the same down in the position to which it may be depressed, means for removing the article from said support and coöperating mechanism for releasing the support to allow it to return to normal position under the action of its spring upon the removal of the article therefrom.

5. In a labeling machine the combination of label applying mechanism, a conveyer for feeding the article toward labeling position and a pneumatic transfer device acting by suction on the article to transfer it from the conveyer to accurate position with relation to the label applying devices.

[Claims 6 to 15 not printed in the Gazette.]

974,857. TRACE-CHAIN. BENJAMIN F. BROCK, Tucumcari, N. Mex. Filed Oct. 20, 1909. Serial No. 523,576.

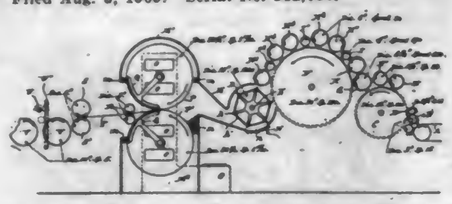


1. A trace chain having at each end an adjusting link and a take-up link connected with the same, each take-up link being adapted for engagement with the adjacent adjusting link at various parts of the latter.

2. A trace chain having adjusting links at its ends, each of said links being provided with a plurality of cross-bars

connecting the sides thereof, a take-up link adjacent each adjusting link and formed with a hook adapted for interchangeable engagement with said cross-bars, and a connecting link interposed between each adjusting link and the adjacent take-up link.

974,858. APPARATUS FOR MANUFACTURING HEAT-INSULATING LININGS OR COVERINGS. ALFRED G. BROWN, Winona, Minn., assignor to Union Fibre Company, Winona, Minn., a Corporation of Minnesota. Filed Aug. 9, 1909. Serial No. 512,030.



1. An apparatus for making insulating coverings which embodies means for disintegrating degummed and dried flax straw and forming the same into a flocculent material, means for projecting said material into the air, a pair of foraminous rotary drums against which the material is projected and between which it is discharged, air suction apparatus in communication with the interior of the drums whereby the material is held thereon in loose sheets which are fed toward each other and united by the rotation of the drums, segmental guards within the drums for relieving suction on the combined sheets at the point of discharge from the drums, and means for pressing the combined sheets to form a covering.

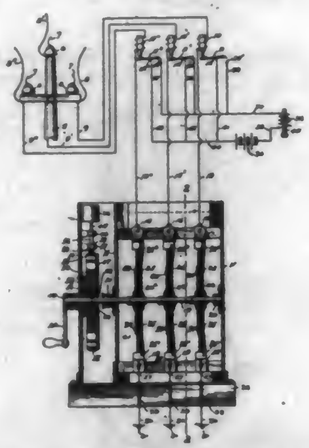
2. In apparatus for the manufacture of insulating covering, the combination with a preliminary cylinder having forwardly projecting teeth, feeding-in rolls for delivering straw to said cylinder, disintegrating rolls coöperating with said cylinder and having a surface movement reverse to that of the cylinder, a main cylinder having forwardly projecting teeth, a transfer roll for transferring the partially disintegrating fiber from the preliminary to the main cylinder, a plurality of rolls coöperating with the main cylinder and having forwardly projecting teeth, a brush for removing the fiber from the main cylinder, a casing surrounding said brush, a discharge duct with which the casing communicates, a pair of foraminous cylinders through which the air from said duct is discharged and on which the fiber is arrested, means whereby air suction through the cylinders may be maintained, and guide rolls through which the deposited fiber is conducted from the foraminous cylinders.

3. In an apparatus for forming insulating coverings from flax straw, the combination with means for disintegrating and making the straw into flocculent material embodying the fiber and woody portions, said means embodying a cylinder having forwardly projecting teeth, of a rotary brush having wiping arms moving in a path in proximity to the cylinder, diaphragms bridging the spaces between said arms, a casing in which the brush is mounted having a grated air entrance opening at the bottom, a discharge duct communicating with said casing and a pair of foraminous cylinders interposed in and bridging the discharge openings of said duct, with means whereby fiber deposited on said cylinders may be conducted away from the same in the form of a continuous sheet.

4. In apparatus for forming insulating coverings of fibrous material, the combination with the preliminary and main cylinders having forwardly projecting teeth, rolls coöperating with said cylinders and having forwardly projecting teeth but rotating in a direction whereby the proximate surfaces of the cylinders and rolls move in opposite directions, a transfer roll for transferring the material from one cylinder to the other and intermediate rolls for clearing the first mentioned rolls, of a rotary brush having wiping arms coöperating with the main cylinder to remove the fiber therefrom, a casing in which said brush is mounted having an air inlet opening at the bottom, a duct through which the fiber is discharged from said casing, a foraminous cylinder bridging the outlet of said duct, a suction box communicating with the foraminous cylinder and an internal guard lying in proximity to the periphery of said cylinder for relieving the air pressure at the point where the fiber is discharged from the cylinder.

5. In a machine for forming insulating coverings of fibrous material, the combination with the preliminary and main toothed cylinders, rolls coöperating with said cylinders for reducing the fiber to a flocculent condition, a rotary brush for discharging the fiber from the main cylinder, a casing in which said brush is mounted having a grated air inlet opening at the bottom, and a flaring discharge duct with which said opening communicates, of casings forming continuations of the walls of said duct, foraminous cylinders mounted in said casings and adapted to rotate in opposite directions toward each other, a suction chamber communicating with said foraminous cylinders and segmental guards located within the cylinders and extending forwardly from the point where their peripheries are in proximity, whereby the entrance of air on the discharge side of the cylinders is prevented.

974,859. LIGHTNING-ARRESTER. WILLIAM BUTLER, Lockport, N. Y. Filed June 13, 1908. Serial No. 438,346.

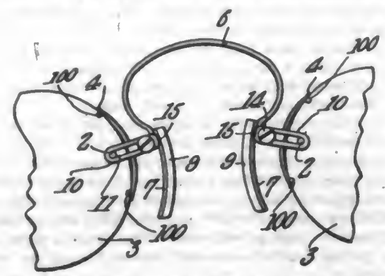


1. The combination, with a pole having a horn type arrester; of a magnet, a governing armature, a wire connecting the horn type arrester with the magnet, a switch box, supports, contacts secured to the supports, a wire connecting the magnet with one of the contacts, a wire connecting the other contact with the ground, a shaft journaled in the box, an insulator disk rigidly secured to the shaft between the contacts and carrying a pair of electric conductors each having two contact fingers, and a motor power by which the shaft is rotated.

2. The combination, with a pole having a horn type arrester; of a magnet, a governing armature, a wire connecting the horn type arrester with the magnet, a switch box, supports, contacts secured to the supports, a wire connecting the magnet with one of the contacts, a wire connecting the other contact with the ground, a shaft journaled in the box, an insulator disk rigidly secured to the shaft between the contacts, and carrying a pair of electric conductors each having two contact fingers, a source of electric energy, a solenoid, a wire leading from the source of electric energy to the solenoid, an armature contact point, a wire leading from the solenoid to the armature contact point, a wire connecting the pivotal point of the armature to the said source of electric energy, a bell crank armature, governed by the solenoid and a motor power connected with the solenoid by which the shaft is rotated.

8. The combination, with a pole having a horn type arrester; of a magnet, a governing armature, a wire connecting the horn type arrester with the magnet, a switch oil box, supports, spring band contacts rigidly secured at one end to their supports and at their other ends having slot and pin connection therewith, a wire connecting the magnet with one of the spring band contacts, a wire connecting the other spring band contact with the ground, a rotary shaft journaled in the oil box and extending therebeyond, an insulator disk rigidly secured to the shaft between the spring band contacts and carrying a pair of electric conductors each having two contact fingers, a source of electric energy, a solenoid, a wire leading from said source of electric energy to the solenoid, an armature contact point, a wire leading from the solenoid to the armature contact point, a wire connecting the pivotal point of the armature to the said source of electric energy, a bell crank armature, governed by the solenoid, a spring casing, formed with radial recesses in its periphery and having a sleeve fixed to the shaft, a sleeve loosely mounted on the shaft and provided with a ratchet wheel and an extension sleeve loosely riding on the casing-sleeve, a dog engaging the ratchet wheel, a coil spring secured at one end to the extension sleeve and the other end to the casing, a lever provided with a lug adapted to engage in the radial recesses and a lever connecting the bell crank armature with the lug-lever.

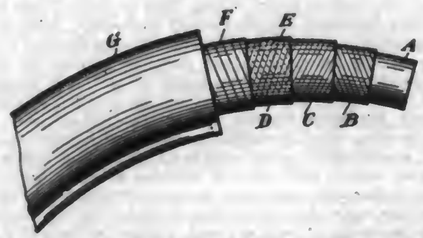
974,860. EYEGLASS-FRAME. WILLIAM EDWIN CLARKE, Detroit, Mich. Filed June 4, 1910. Serial No. 565,038.



1. An eye glass frame having means to engage a lens; a slotted member; and a supporting device located in the slot of said member and engaging the frame, upon which supporting member the slotted member is adapted to slide to coöperate with said means to hold the lens against displacement, the supporting member being manipulable to retain the slotted member against sliding movement.

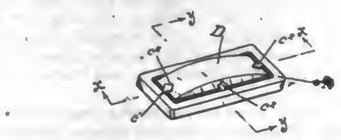
2. An eye glass frame including an arm having a stud at one end adapted to be inserted into a lens; slotted plate slidable upon the arm and coöperating with the stud to hold the lens against displacement; and a set screw located within the slot of the plate and engaging the arm to constitute a mounting for the plate, and to constitute a means for holding the plate against movement.

974,861. TIRE. BAILEY BRADLEY DAWSON, Lodge, Va. Filed Mar. 3, 1910. Serial No. 547,015.



A pneumatic tire including an inner air chamber of rubber, a surrounding layer of canvas stripping extending spirally around the rubber air chamber, a surrounding layer of cotton stripping extending spirally around the canvas stripping in a direction opposite thereto, a surrounding layer of parallel rawhide strips extending spirally around the cotton stripping in a direction opposite thereto, said parallel rawhide strips being individually coated with rubber merged to form an enveloping film upon the strips, a surrounding layer of oppositely disposed parallel spirally wound rawhide strips disposed upon the first layer of rawhide strips, the second layer of rawhide strips being individually coated with rubber merged to form a rubber envelop for the strips, a surrounding layer of spirally wound canvas stripping disposed upon the outer layer of rawhide strips, and a surrounding cover of rubber disposed upon the last named canvas stripping.

974,862. SETTING. CALVIN DEAN, Providence, R. I., assignor to Cory & Reynolds Company, Providence, R. I., a Corporation of Rhode Island. Filed Dec. 21, 1909. Serial No. 534,334.



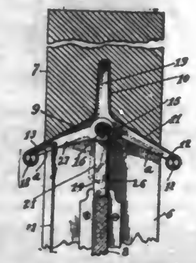
1. In a gem setting, the combination of a body provided with a central orifice, and with recesses opening into the orifice, a frame upon the body, flanges upon the frame engaging the margin of the orifice, and prongs upon the frame registering in the recesses and adapted to engage a gem.

2. In a setting, the combination of a body provided with a central orifice, and with recesses opening into the orifice, a frame upon the body, flanges upon the frame engaging the body through the orifice, prongs upon the frame registering with the recesses, and heads upon the prongs of greater breadth than the breadth of the recesses.

3. In a setting, the combination of a body provided with a central orifice, and with recesses opening into the orifice, and with a reduced portion at the margin of the orifice, a frame upon the body, flanges upon the frame engaging the reduced portion of the body, and prongs upon the frame registering in the recesses.

4. In a setting, the combination of a body provided with a central orifice, and with recesses opening into the orifice, and with a reduced beveled portion around the margin of the orifice, a frame upon the body, flanges upon the frame overlapping the beveled portion of the body, and prongs upon the frame extending through the recesses.

974,863. COMBINED VENTILATOR AND FLY-ESCAPE. THOMAS E. DILLEY, Los Angeles, Cal. Filed May 24. 1909. Serial No. 498,030.



1. A window frame having a lintel, a pane of glass mounted in said frame arranged with its upper edge disposed below said lintel and removed from said lintel, said edge extending completely across said window frame whereby a ventilating opening is formed under said lintel, and a

shutter attached at the upper edge to said lintel normally lying in the same plane with said pane adapted to swing laterally and adapted to have its lower edge lie adjacent to the upper edge of said pane to close said ventilating opening the upper edge of said pane forming the lower edge of said opening.

2. The combination of a window-frame provided with an opening therein at the top thereof, of a ventilator mounted in said opening, said ventilator comprising a transversely extending metallic frame secured in said opening at the top thereof, a plurality of bearings mounted in said frame, said bearings mounted transversely of said opening and engaging the material forming the lower edge of the opening, a shaft revolubly mounted in said bearings at the top of said opening, a closure rigidly secured to said shaft and operating therewith, and an arm provided with a pull cord rigidly secured to said shaft and adapted to operate said closure.

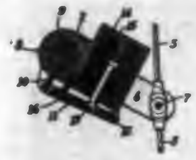
3. A window-frame having a lintel, a ventilator attached to the under side of said lintel and having a laterally projecting shield, a pane of glass mounted in said frame and having its upper edge disposed below said lintel whereby a ventilator opening is formed, brackets in connection with said ventilator having downwardly extending arms engaging the upper edge of said pane of glass, and a ventilator shutter rotatably mounted in said brackets and adapted to close said opening.

4. A window-frame having a lintel with a groove therein extending upwardly from the under face thereof, a ventilator having a tongue disposed in said groove and forming shields on the under side of said lintel below said groove, fastening devices passing in a substantially horizontal plane through said lintel and engaging said tongue to secure said ventilator to said lintel, and a shutter movably mounted on said ventilator under said lintel.

5. A window-frame having a lintel with a longitudinal groove in the under side thereof, a ventilator in the form of a plate having a longitudinally extending tongue on the upper side thereof seating in said groove, and having shields extending laterally at the lower portion thereof, brackets to which said ventilator plate attaches, a pane of glass mounted in said window frame and having its upper edge disposed below said ventilator whereby an opening is formed, said brackets having arms receiving the upper edge of said pane, and a shutter rotatably mounted in said brackets and adapted to close said opening.

[Claims 6 and 7 not printed in the Gazette.]

974,864. RAILWAY-SIGNAL. FRANK L. DODGSON, Rochester, N. Y., assignor, by mesne assignments, to General Railway Signal Company, Gates, N. Y., a Corporation of New York. Original application filed Mar. 27, 1903, Serial No. 149,841. Divided and this application filed Apr. 23, 1904. Serial No. 204,655.

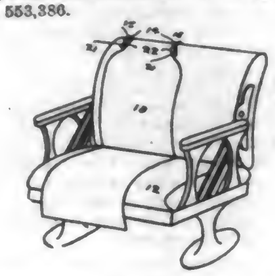


1. In a railway signal, an operating mechanism, a transmitting rod actuated thereby, a series of pivoted blades arranged at different distances along said rod, a separate electric clutch for each blade comprising a part attached to said rod, and an electric connecting device on the pivot of said blade for connecting said part therewith.

2. In a railway signal, a motor, a transmitting rod actuated thereby, a plurality of signal arms, an electric clutch at each arm for connecting said transmitting rod and said arm, means for operating any one clutch without operating any other clutch, and means for breaking the motor circuit after a movement of a signal arm.

3. Signal mechanism having, in combination, a plurality of semaphores pivotally mounted one above another, a common transmitting-rod arranged in substantially vertical position, connections between each semaphore and the rod including an arm and an electric clutch, means for energizing the clutches selectively to connect either of the semaphores with the transmitting-rod through the corresponding arm, an actuating mechanism for moving the rod vertically to operate such semaphore, and a circuit controller moved in correspondence with the movements of the rod to control the operation of the actuating mechanism.

974,865. SANITARY SEAT-COVER. CHARLES L. DREHER, South Norwalk, Conn. Filed Apr. 4, 1910. Serial No. 553,380.



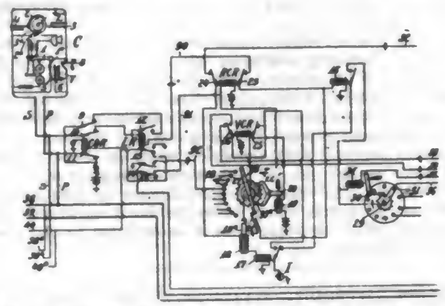
1. A sanitary seat cover comprising a strip of flexible material adapted to be formed into a roll when not in use, and a supporting bar to which one end of said strip is secured, said bar being provided with resilient supporting yokes, one end of each yoke being provided with an eye the other end of said yoke having a hook adapted to engage said eye, whereby said hook and eye may be interlocked to prevent unwinding of the strip when rolled.

2. A sanitary seat cover comprising a strip of flexible material adapted to be formed into a roll when not in use, and a supporting bar to which one end of said strip is secured, the ends of said bar being curved to form integral resilient supporting yokes, one end of each yoke being provided with an eye the other end of said yoke having a hook adapted to engage said eye, whereby said hook and eye may be interlocked to prevent unwinding of the strip when rolled.

3. A sanitary seat cover comprising a strip of flexible material adapted to be formed into a roll when not in use, and a supporting bar to which one end of said strip is secured, the ends of said bar being bent at an angle to the body thereof to form a curved loop, the extremity of each end being extended to form a curved arm provided with a hook, said loops and arms forming supporting yokes, said hooks being adapted to engage said loops to prevent unwinding of the strip when rolled.

974,866. AUTOMATIC TELEPHONE SYSTEM. ALFRED H. DYSON, Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company, a Corporation of Illinois. Filed Aug. 3, 1907. Serial No. 386,977.

1. A telephone system including telephone lines, link circuits at the exchange, selective switches less in number than the lines to select calling lines to connect idle link circuits therewith, a master switch mechanism, common to said switches and lines including a traveling member to select an idle switch, a second traveling member for said mechanism operated independently of said first member and serving to control travel of the selected selective switch, line relays for said lines at the exchange, each relay serving, when energized, to temporarily individualize said master switch mechanism to its calling line, terminals of said lines at said selective switches normally unselectable in character, switching means controlled by the operated line relay of a calling line to render its line's terminals selectable at said switches, apparatus controlled by said relay for determining the travel of said second member, and a locking circuit for each line relay serving, after initial operation, to continue the relay energized until its line is selected.



2. A telephone system including telephone lines, a line relay for each said line, link circuits at the exchange, selective switches less in number than the lines to select calling lines to connect idle link circuits therewith, a master switch mechanism, common to said switches and lines including a traveling member to select an idle switch, a second traveling member for said mechanism operated independently of said first member and serving to control travel of the selected selective switch, electro-magnetic means at the exchange operated responsive to current controlled at the substation of a calling line to render an idle selective switch operative, said means including the line's line relay, apparatus controlled by said relay for determining the travel of said second member, and a locking circuit for each line relay serving, after initial operation, to continue the relay energized until its line is selected.

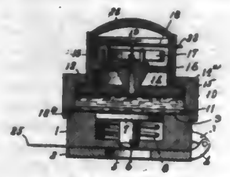
3. A telephone system including telephone lines, a line relay for each said line, link circuits at the exchange, selective switches less in number than the lines to select calling lines to connect idle link circuits therewith, a master switch mechanism, common to said switches and lines including a traveling member to select an idle switch, said member also serving as part of a circuit to render the selected switch operable, a second traveling member for said mechanism operated independently of said first member and serving to control travel of the selected selective switch, electro-magnetic means at the exchange operated responsive to current controlled at the substation of a calling line to render an idle selective switch operative, said means including the line's line relay, and a locking circuit for each line relay serving, after initial operation, to continue the relay energized until its line is selected.

4. A telephone system including telephone lines, link circuits at the exchange, selective switches less in number than the lines to select calling lines to connect idle link circuits therewith, a master switch mechanism, common to said switches and lines including a traveling member to select an idle switch, a second traveling member for said mechanism operated independently of said first member and serving to control travel of the selected selective switch, line relays for said lines at the exchange, each relay serving, when energized, to temporarily individualize said master switch mechanism to its calling line, terminals of said lines at said selective switches normally unselectable in character, switching means controlled by the operated line relay of a calling line to render its line's terminals selectable at said switches, apparatus controlled by said relay for determining the travel of said second member, circuit connections for stopping a selective switch when engaging the terminals of a line rendered selectable, means effective on selection made of a calling line, to restore said mechanism to common use of said lines, and a locking circuit for each line relay serving, after initial operation, to continue the relay energized until its line is selected.

5. A telephone system including telephone lines, link circuits at the exchange, selective switches less in number than the lines to select calling lines to connect idle link circuits therewith, a master switch mechanism, common to said switches and lines including a traveling member to select an idle switch, a second traveling member for said mechanism operated independently of said first member and serving to control travel of the selected selective switch, line relays for said lines at the exchange, each relay serving, when energized, to temporarily individualize said master switch mechanism to its calling line, means effective on selection made of a calling line, to restore said mechanism to common use of said lines, and a locking circuit for each line relay serving, after initial operation, to continue the relay energized until its line is selected.

[Claims 6 to 26 not printed in the Gazette.]

974,867. PAPER-TESTING DEVICE. HOWARD E. EDDY, Arlington, Md. Filed Dec. 7, 1909. Serial No. 531,829.



1. A paper testing device comprising a casing, a piston slidably mounted in one end of said casing and projecting therefrom, means at the other end of said casing for clamping a sheet of paper thereagainst, means for rupturing the paper so clamped, a pressure gage carried by the piston, said piston having a transparent end through which such gage may be read, said transparent end being adapted to receive direct pressure from the hand of the operator, and means for transmitting such pressure to said rupturing means.

2. In a paper testing device, a paper supporting, apertured plate, a cylinder having its head hinged to said plate and adapted to clamp the paper between itself and the plate, means carried by the cylinder for exerting a pressure on that part of the paper adjacent the aperture in said plate, and means for measuring such pressure.

3. In a paper testing device, an apertured supporting plate, a block hinged to such plate, a plunger mounted in said block and adapted to bear on the paper being tested above the aperture in said plate, fluid pressure means for actuating said plunger, and means for measuring such pressure.

4. In a paper testing device, a plate having an opening, a cylinder disposed adjacent said plate, a plunger mounted in the head of such cylinder directly over the opening in said plate, an elastic diaphragm overlying the upper end of said plunger, means for exerting fluid pressure on said diaphragm to cause it to actuate said plunger, and means for measuring such pressure.

5. In a paper testing device, a vertically disposed cylinder having at its lower end means for exerting pressure upon the paper being tested, a piston in said cylinder projecting from the upper end thereof, fluid in said cylinder, and a pressure gage carried by said piston and provided with a dial and with a cover through which said dial may be read.

[Claims 6 to 10 not printed in the Gazette.]

974,868. FILLING-BLOCK FOR FIREPROOF CONSTRUCTIONS. HENRY ERICSSON, Chicago, Ill. Filed Apr. 27, 1908. Serial No. 429,398.



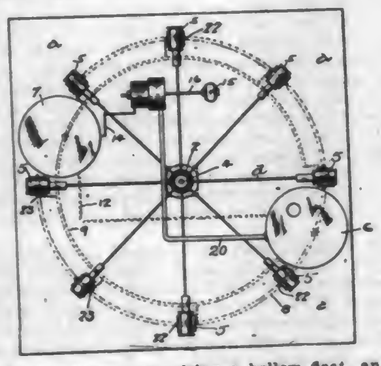
1. In a fire proof construction, a filling block having a rectangular base and a cross section substantially in the

form of an isosceles trapezoid, the legs of which curve in the form of an ogee curve, and the grooved portion of the curve is adjacent to the base, and reinforcing material embedded in the base of the block and projecting through the sides of the latter at a point intermediate the ends of the grooved portion of the curve and extending to a point overlapping the outer edges of the base of said block, the reinforcing material offering no obstruction beyond the sides of the base, whereby the bases of adjacent blocks may abut.

2. In a fire proof construction, a filling block having a rectangular base and a cross section substantially in the form of an isosceles trapezoid, the legs of which curve in the form of an ogee curve, and the grooved portion of the curve is adjacent to the base, and said legs having corrugations adjacent the upper end of the grooved portion thereof, and reinforcing material embedded in the base of the block and projecting outwardly beyond the legs thereof.

3. In a fire proof construction, a plurality of filling blocks each having a substantially flat rectangular base with legs extending from the margins of the base inward and toward the back of the block, a portion of each leg inclined in the opposite direction, thereby forming a groove, filling material between the blocks, a rod embedded in the filling material at a point adjacent the grooves in the respective legs and above the contiguous edges of the base of the blocks, and reinforcing material inserted in each block and projecting through the grooved portion thereof for connection with said rod.

974,869. WAVE-MOTOR. FRANK H. FARMER, San Francisco, Cal., assignor, by mesne assignments, to Luther Sadler, San Francisco, Cal. Filed June 12, 1909. Serial No. 501,779.



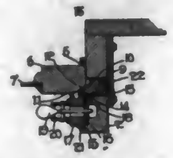
1. A wave motor comprising a hollow float, an oscillating pendulum inclosed by said float out of contact with the water and suspended within the float for universal movement in all directions around a circle having the point of oscillation for its center, and means for transforming into reciprocating movements in varying directions radially from the center the oscillations of the pendulum, comprising a plurality of cylinders having inlet and outlet ports connecting with a body of fluid, pistons in said cylinders, and means connecting said pistons with the pendulum for producing reciprocating movement of the pistons from the oscillations of the pendulum.

2. The combination of a float, a pendulum suspended thereon out of contact with the water, a cylinder, a piston operating in said cylinder, means for operatively connecting the piston with the pendulum, a pressure tank and a supply-tank for a fluid and means connecting the suction side of the cylinder with the supply-tank and its pressure side with the pressure tank.

3. In a wave motor, the combination of a float, a pendulum suspended thereon out of contact with the water, a plurality of cylinders on said float, pistons operating in said cylinders, means operatively connecting the pistons with the pendulum, a supply-tank, means connecting the cylinder with said tank for supplying fluid thereto, a pressure tank, means connecting the said cylinders with the pressure tank, a hydraulic motor and means connecting said motor with the pressure tank.

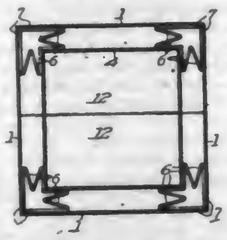
4. In a wave motor, the combination of a float, a universally swinging pendulum suspended therein for operation out of contact with the water, a plurality of pump-cylinders on the float, each having a piston and a pump-rod connected with the pendulum by a universal joint, situated between the pump-rod and the head of the piston, a supply tank connected with the space in each cylinder on one side of the piston, a pressure tank connected with the space in each cylinder on the opposite side of the piston, and a hydraulic motor arranged with relation to the pressure tank to be operated by the pressure therefrom.

974,870. WINDOW. WARREN A. FARMER, Arcade, N. Y. Filed Aug. 25, 1908. Serial No. 450,220.



In a device of the class described, the combination with a casing having a longitudinal slot in one of its side members and a window in said casing having a beveled side edge, of means for locking the window in said casing consisting of a horizontally movable wedge having a beveled surface corresponding to the bevel side edge of the window and adapted to contact with same, springs interposed between the back of the wedge and the casing, metal plates fastened to the inside of the wedge provided with diagonal slots, a vertically slidable metal strip having lugs on the edge thereof, adapted to project into said slots, and a pivotal arm having one end connected to the strip, substantially as set forth.

974,871. PACKING OR SHIPPING BOX. JEFFREY T. FERRIS, Anderson, Ind., assignor to The Sefton Manufacturing Company, Anderson, Ind., a Corporation of Indiana. Filed Apr. 28, 1909. Serial No. 492,654.



1. A packing or shipping box comprising a box body and corner buffers therein each formed from a strip of corrugated paper board folded transversely of the corrugations to form portions fitting the inner corners of the box and presenting toward the goods within the box reentrant other portions having resilient action.

2. A packing or shipping box comprising a box body and corner buffers therein each formed from a strip of double-faced corrugated board transversely folded with the different portions at angles to each other, one pair of such portions fitting against the box at a corner, another pair thereof being presented toward the goods within the box, and two similar pairs being arranged between the other two pairs to provide resilient action.

3. A packing or shipping box comprising a box body, a shell therewithin of less dimensions than the box body, and buffers arranged between the corners of the box body and the shell, each composed of a strip of suitable mate

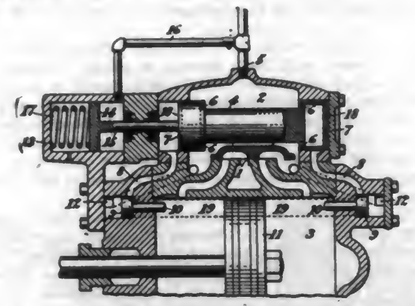
rial transversely folded to form portions resiliently hinged to each other and comprising portions fitting the inner corners of the box body and other portions fitting the outer corners of the shell.

4. A packing or shipping box comprising a box body, a shell therewithin of less dimensions than the box body, and buffers arranged between the corners of the box body and the shell, each composed of a strip of corrugated paper board transversely folded to form portions resiliently hinged to each other and comprising portions fitting the inner corners of the box body and other portions fitting the outer corners of the shell.

5. A packing or shipping box comprising a box body, a shell therewithin of less dimensions than the box body, and buffers arranged between the corners of the box body and the shell, each composed of a strip of double-faced corrugated paper board transversely folded with the different portions at angles to each other, one pair thereof fitting against the inner corner of the box body, another pair against the adjacent outer corner of the shell and two pairs thereof arranged intermediate the other pairs to provide resilient action.

[Claims 6 and 7 not printed in the Gazette.]

974,872. FLUID-PRESSURE VALVE. JOHN FOURNIA, Albany, N. Y., assignor of one-half to Frederick Randall Greene, Albany, N. Y. Filed Jan. 22, 1910. Serial No. 539,577.



1. In combination with the valve mechanism of a fluid-pressure motor, means coöperative with the valve mechanism tending to place the mechanism in starting position, and means controlled by the pressure fluid for rendering the coöperative means inoperative.

2. In combination with a slide-valve of a fluid-pressure motor, means coöperative with the valve tending to place the valve in starting position, and means controlled by the pressure fluid for rendering the coöperative means inoperative.

3. In combination with the valve mechanism of a fluid-pressure motor and a valve-operating plunger, means coöperating with the plunger and tending to place the valve in starting position, and means controlled by the pressure fluid for rendering the coöperative means inoperative.

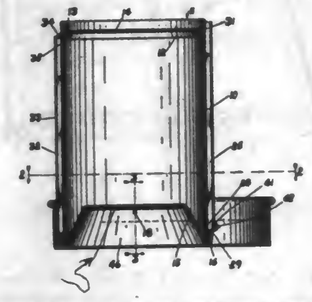
4. In combination with the valve mechanism of a fluid-pressure motor, resilient means coöperative with the valve mechanism tending to place the mechanism in starting position, and means controlled by the pressure fluid for rendering the resilient means inoperative.

5. In combination with a fluid-pressure slide-valve and a valve-operating plunger, an auxiliary piston controlled by the pressure fluid and adapted to coöperate with the plunger to place the valve in starting position when the pressure fluid is shut off, and to be moved out of operative relation with the plunger when the pressure fluid is admitted.

[Claims 6 to 10 not printed in the Gazette.]

974,873. STOCK-WATERING TANK. BURTON HERBERT GUDGE, Anderson, Ind. Filed May 10, 1909. Serial No. 494,981.

1. An automatic watering tank comprising a main hollow body having an outflow opening from its lower end and having an inverted open-bottom basin secured in its lower end and open to atmosphere at its upper end, means through which the said body may be filled, and means dependent upon the level of water in a delivery pan for admitting air into the upper end of said reservoir, and the said delivery pan separable from the main body.



2. A main reservoir for an automatic stock watering tank, comprising a main sheet metal body, a sheet metal open-bottom basin inverted in the lower end of said main body and connected therewith and open to atmosphere at its upper end, a cover member closing the upper end of said main body, the main body having a delivery opening near its lower end and a closable air exit opening leading from near its upper end to a point near its lower end.

3. A main reservoir for an automatic stock watering tank, comprising a main sheet metal body, a sheet metal open-bottom basin inverted in the lower end of said main body and connected therewith and open to atmosphere at its upper end, a cover member closing the upper end of said main body and associated therewith by means of an upwardly presented inwardly flaring flange carried by the main body below the top thereof, and a downwardly presented outwardly flaring flange carried by the cover member, the main body having a delivery opening near its lower end and a closable air exit opening leading from near its upper end to a point near its lower end.

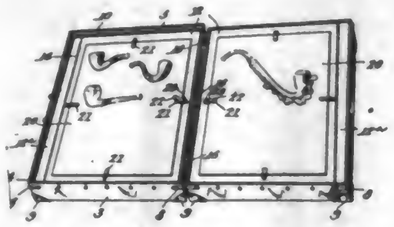
4. A main reservoir for an automatic watering tank, comprising a main sheet metal body, a sheet metal open-bottom basin inverted in the lower end of said main body and connected therewith and open to atmosphere at its upper end, a cover member closing the upper end of said main body, the main body having a delivery opening near its lower end and an air exit opening near its upper end, and vertical passage ways communicating with said openings and formed by applying to the wall of the main body strips of substantial U-shape.

5. A main reservoir for an automatic stock watering tank, comprising a main sheet metal body, a sheet metal open-bottom basin inverted in the lower end of said main body and connected therewith and open to atmosphere at its upper end, a cover member closing the upper end of said main body and associated therewith by means of an upwardly presented inwardly flaring flange carried by the main body below the top thereof and a downwardly presented outwardly flaring flange carried by the cover member, the main body having a delivery opening near its lower end and an air exit opening near its upper end, vertical passage ways communicating with said openings and formed by applying to the wall of the main body strips of substantial U-shape, and a loose pan adapted to receive the basin end of the main reservoir.

974,874. SAMPLE-CASE. JOHN GLOSSINGER, Chicago, Ill. Filed June 4, 1908. Serial No. 436,640.

In a sample case, a tray-carrying member having a peripheral support within and spaced from the top plane of the member, and a tray having a surface covering of flexible material, the material extending beyond one edge of the tray and being secured beneath said support to form a hinged connection between the tray and member,

the portion of the tray within the flexible covering being scored on a line to provide with the covering an intermediate joint extending in parallelism with the plane of the support.



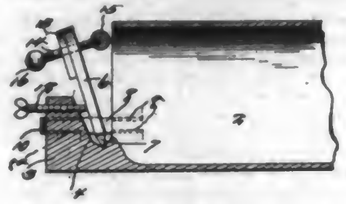
974,875. SOIL-STACK FITTING. WILLIAM GOEBEL, Chicago, Ill., assignor of forty-five one-hundredths to John M. Collins, Chicago, Ill. Filed Dec. 17, 1909. Serial No. 533,628.



1. In combination with a toilet fixture and soil stack, a fitting comprising an elongated shell, rectangular in cross section, and of a greater width than the diameter of the soil stack, whereby a space is provided within the shell on either side of the stack, a connection between the fixture and fitting, said connection entering the fitting on the elongated side thereof, whereby a space is left within the fitting during the discharge of fluid thereinto, which provides an air chamber to cause breaking of the vacuum incident to the down-rushing of fluid, said shell or casing being open at its upper and lower ends and formed at these points with contracted necks into which the ends of the section of the soil stack are entered, substantially as described.

2. In combination with a toilet fixture and soil stack, a fitting comprising an elongated shell, rectangular in cross section, and of a greater width than the diameter of the soil stack, whereby a space is provided within the shell on either side of the stack, a connection between the fixture and fitting, said connection entering the fitting on the elongated side thereof, and out of vertical alinement with the ends of the soil stack, whereby a space is left within the fitting during the discharge of fluid thereinto, which provides an air chamber to cause breaking of the vacuum incident to the down-rushing of fluid, said shell or casing being open at its upper and lower ends and formed at these points with contracted necks into which the ends of the section of the soil stack are entered, substantially as described.

974,876. DAMPER DEVICE. HERBERT GRAVES and GEORGE A. GRAVES, Springbrook, Oreg. Filed Mar. 17, 1910. Serial No. 549,940.



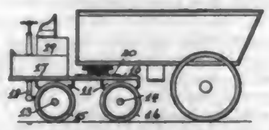
1. In a damper device, a furnace projecting pipe or flue having a hood, said hood having V-shaped recesses, a damper having lateral projecting lugs mounted in said recesses, said pipe or flue having guide-ways upon either side, plates received by said guide-ways immediately above said lugs, in order to hold the plate or damper securely in position.

2. In a damper device, a furnace projecting pipe or flue having a hood, said hood having V-shaped recesses, a damper having lateral projecting lugs mounted in said recesses, said pipe or flue having guide-ways upon either side, plates received by said guide-ways immediately above said lugs, in order to hold the plate or damper securely in position, and an adjusting screw penetrating said hood to be contacted with by the damper, in order to limit its play.

3. In a damper device, a furnace projecting pipe or flue having a hood, said hood having V-shaped recesses, a damper having lateral projecting lugs mounted in said recesses, said pipe or flue having guide-ways upon either side, plates received by said guide-ways immediately above said lugs, in order to hold the plate or damper securely in position, and means carried by the damper adapted to be adjusted in order to necessitate an increased or decreased amount of draft to operate the damper.

4. In a damper device, a furnace projecting pipe or flue having a hood, said hood having V-shaped recesses, a damper having lateral projecting lugs mounted in said recesses, said pipe or flue having guide-ways upon either side, plates received by said guide-ways immediately above said lugs, in order to hold the plate or damper securely in position, and an adjusting screw penetrating said hood to be contacted with by the damper, in order to limit its play, said damper having a weighted portion, and provided with means penetrating the weighted portion and the damper adapted to be adjusted, in order to necessitate increased or decreased amount of draft to operate the damper.

974,877. WAGON. HOWARD GREENE, Cranford, N. J., assignor of one-third to Walter F. Bialadell, Brooklyn, N. Y., and one-third to John H. Kennard, New York, N. Y. Filed May 19, 1909. Serial No. 496,912.



1. A truck platform, a frame, means for adjustably securing the frame to the platform, and including angle irons and screws, a plate above the frame, and a universal joint between the plate and the frame.

2. A wagon truck provided with a platform, a rectangular frame on the top of the platform, means for adjustably and removably securing the frame to the platform, bearings on the sides of the frame, a frame comprising trunnions adapted to rest in the bearings and stub-shafts at right angles to the trunnions, a plate above the trunnion frame, depending bearings on the plate resting over the stub-shafts, a fifth wheel resting on the plate and a vehicle body resting on the fifth wheel.

3. In a vehicle of the class described, the combination of a truck frame, a plate supported thereon, a series of concentric rings removably secured upon its upper face spaced apart to form a series of concentric grooves or guideways between them, to accommodate different sizes of fifth wheels, a wagon body and a fifth wheel on the wagon body adapted to engage in one of said concentric guideways.

4. In a vehicle body, the combination of a truck frame, a plate supported thereon provided with a central opening, a series of concentric rings removably secured upon its upper face and spaced apart to form a series of concentric grooves or guideways between them to accommodate different sizes of fifth wheels, a wagon body and a fifth wheel adapted to engage in one of said concentric guideways, and having a large central opening and a king bolt passing through said central openings of the plate and fifth wheel, with space to oscillate therein.

5. In a vehicle, the combination of a wagon truck, a plate adjustably secured thereon provided with a central opening and a series of concentric rings removably secured upon its upper face and spaced apart to form a series of concentric grooves or guideways between them to accommodate different sizes of fifth wheels, a vehicle body, a fifth wheel secured under the body and adapted to engage in one of said guideways, and having a central opening, a king bolt passing through the central openings of the plate and fifth wheel, and a universal joint between the truck and plate, comprising a member extending across the vertical line of the king bolt and provided with an opening into which the king bolt projects and in which it is permitted to oscillate.

974,878. FAUCET. FRANK GRUSCHOW, Chicago, Ill. Filed Feb. 9, 1906. Serial No. 300,284.

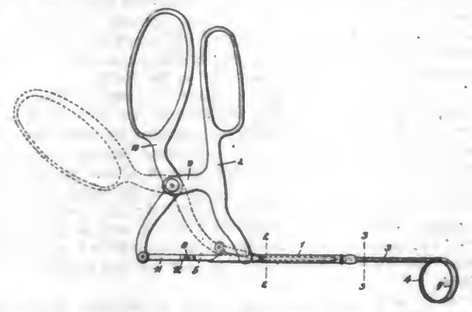


1. In a faucet of the class described, the combination of a stem provided with a passageway, a valve seat surrounding the passageway at one end thereof, a guide spaced from the said passageway in alinement therewith, a valve slidably mounted in said guide, and a branch discharge conduit between the said seat and guide, said valve comprising a valve head adjustable toward and from the main body of the valve member, and an expansible packing ring within the guide between the valve head and said main body of the valve member.

2. In a faucet of the class described, the combination of a main body portion provided with a discharge passage and having a bore converging with such passage, a valve seat opposite such bore, a valve slidably mounted in such bore and movable into engagement with the valve seat when in closed position and entirely out of the discharge passage when in open position, a crank shaft extending transversely of the valve with its cranked portion in sliding engagement therewith, and an operating lever having one arm in operative engagement with the crank shaft and the other rotatably mounted upon a projecting portion of the main body of the faucet, substantially as described.

974,879. SURGICAL INSTRUMENT. GEORGE EDWARD GWINN, San Antonio, Tex. Filed Jan. 29, 1910. Serial No. 540,896.

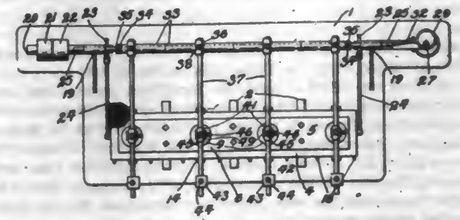
1. A device of the kind described comprising a rectangular tube, a second tube detachably connected to the first mentioned tube and in alinement with it, a snare carried by the second tube, said snare being oval in shape, and having its major axis at a right angle to the tube and its minor axis arranged oblique with respect to the axis of the tube, an operating rod working through said tubes, cutting means carried by said rod and operable in coöperation with the snare, a fixed handle carried by the first mentioned tube, a handle pivoted to the first mentioned handle, and a link pivotally connected to the movable handle and loosely and detachably connected to the rear end of the said rod.



2. A device of the kind described comprising a rectangular tube having its rear portion longitudinally slotted, a second tube carried by the first mentioned tube, a snare carried by the last mentioned tube, an operating rod slidable in said tubes, a fixed handle carried by the first mentioned tube and substantially at a right angle thereto, a lateral extension carried by said handle, a second handle pivotally mounted upon said extension, and a link, said link loosely connecting the movable handle and the rear end portion of the operating rod, the link being adapted to travel in the slot of the first mentioned tube.

3. A device of the kind described comprising a sectional tube, an oval snare carried by one of said sections, the major axis of said snare being at right angles to the tube, and the minor axis of the snare being also at an angle to the tube, an operating rod adapted to work through both sections, a cutting wire carried by one end of said rod and adapted to coöperate with the snare, a fixed handle carried by one section of the tube, a second handle pivotally supported from the first mentioned handle, the operating rod having its rear end bifurcated, a transverse pin passing through said bifurcated portion, and a link pivotally connected at one end to the second mentioned handle, and having an oblique slot adjacent the other end for engagement with said pin, one of the tube sections being slotted longitudinally to receive said link.

974,880. LENS-GRINDING APPARATUS. ELBERT A. HAMMETT, Kansas City, Mo., assignor to Hammett Manufacturing Company, Kansas City, Mo., a Corporation of Missouri. Filed Feb. 26, 1910. Serial No. 546,046.



1. In a lens grinding apparatus, a suitable frame, a base adapted for reciprocatory movement on said frame, a shaft adapted for reciprocatory movement on said frame, at a right angle to the movement of said base,

a sleeve revolubly mounted on said shaft, an arm fitted on said sleeve, a four-way fitting fixed on the free end of said arm, an extension arm fitted in said fitting, a weight adjustable on said extension arm, a pin fitted on said fitting and projecting into proximity to said base, and means for actuating said base and said shaft from a common driving mechanism.

2. In a lens grinding apparatus, a suitable frame, a base mounted on said frame, arms pivotally mounted on said base and provided with longitudinal slots, means on said base for holding optical tools, a device for carrying a lens plate and comprising a socketed head, and pins fixed in said head and projected through the slots in said arms, and arms 37 adapted for movement over said base and having pins depending into position for engaging a lens plate, substantially as set forth.

3. In a lens grinding apparatus, a suitable frame, a base supported on said frame, means on said base for holding a lens tool, a lens tool carried by said means, an adapter comprising a socketed head having laterally projecting pins, a lens plate having a shank projecting into the adapter socket, arms pivotally mounted on said base and having longitudinal slots through which the adapter pins are projected, an arm 37, and a pin carried by said arm 37 and having a pointed end engaging said lens plate, substantially as and for the purpose set forth.

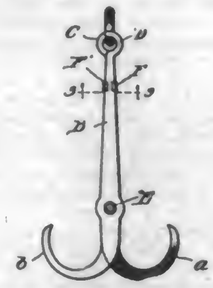
4. In a lens grinding apparatus, a suitable frame, a base adapted for reciprocatory movement on said frame, a rod extending transversely through said base and adapted for revoluble movement, a slotted arm fixed on each end of said rod, a plate fitted on said base and provided with a vertical socket for receiving tool shanks and with a lateral screw socket opening into said first named socket, an optical tool having a shank seated in said vertical socket, a set screw threaded into said lateral socket and impinging against the shank, an adapter comprising a socketed body and pins projecting from the body into the slots in said arms, a lens plate having a shank located in the adapter socket, an arm 37 adapted for reciprocatory movement over said base, a pin having a pointed end seated on said lens plate, and means for reciprocating said tool base and arm 37 in transverse paths.

5. In a lens grinding apparatus, a suitable frame, a base adapted for transverse reciprocatory movement on said frame, rods extending transversely through said base and adapted for revoluble movement therein, slotted arms fixed at opposite ends of said rods, stop members projecting laterally from said base and adapted for engagement by said arms, a plate fixed on said base and provided with a vertical socket and with a lateral socket opening into said vertical socket, an optical tool having a shank projected into said vertical socket, an adapter comprising a socketed head having pins projecting laterally therefrom, into the arm slots, a lens plate having a shank projected into the adapter socket, said shank having a beveled socket in its upper face, a shaft adapted for reciprocatory movement above said frame at a right angle to the movement of said base, an arm 37 revolubly mounted on said shaft, and a pin carried by said arm and having a pointed end projected into the lens plate socket, substantially as and for the purpose set forth.

974,881. GAMBREL. GEORGE J. HAUK, Mount Vernon, Ind. Filed July 14, 1910. Serial No. 571,901.

1. A device of the character described, comprising two reversely-arranged J-shaped members pivotally connected together, each member having at the free end of its stem a hook with its mouth directed toward the side of the stem on which the curved portion of that member lies, and a stop on one of the stems adapted to engage with the other stem on the side opposite the mouth of the hook on the latter stem.

2. A device of the character described, comprising two reversely-arranged J-shaped members pivotally connected together adjacent to the point where the curved portions leave the stems, each of said members having at the free end of its stem a hook with its mouth directed toward the side of the stem on which the curved portion of that stem lies, and a stop on one member engaging with the other member when said members are swung into a position wherein said hooks form a closed loop, said stop having a portion to engage the edge of the other stem opposite the mouth of the hook on that stem and another portion arranged to engage the side of the latter stem.



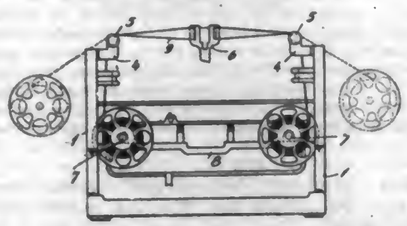
3. A device of the character described, comprising two reversely-arranged J-shaped members pivotally connected together adjacent to the point where the curved portions leave the stems, each of said members having at the free end of its stem a hook with its mouth directed toward the side of the stem on which the curved portion of that stem lies, and a stop on one member engaging with the other member when said members are swung so as to bring the stems thereof side by side, said stop being so located as to permit the said hooks to swing partially past each other so as to form a closed loop.

974,882. TYPE-WRITING MACHINE. EDWARD B. HESS, New York, N. Y., assignor to Royal Typewriter Company, Hoboken, N. J., a Corporation of New Jersey. Filed Nov. 22, 1906. Serial No. 344,529.



A writing machine comprising the combination of the transverse carriage plate F, a screw bolt attached thereto, a leaf spring one end of which loosely engages the plate and which has an aperture through which the bolt passes, a spring adjusting nut applied to the bolt and against which the spring reacts, and a feed roll carrying-arm arranged at a right angle to and engaged by the free end of the spring.

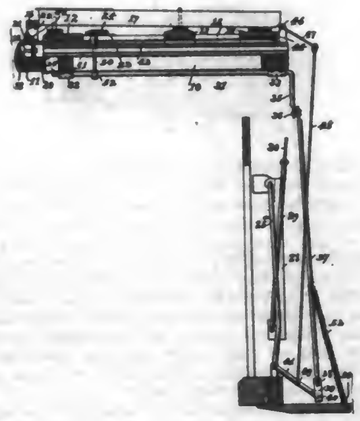
974,883. TYPE-WRITING MACHINE. EDWARD B. HESS, New York, N. Y., assignor to Royal Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Aug. 18, 1909. Serial No. 513,371.



1. A typewriting machine comprising side plates having, respectively, openings therein adapted for the insertion and removal of ribbon bobbins and, extending upwardly from said openings, open recesses, ribbon guides located above said recesses, a ribbon vibrator intermediate the ribbon guides, and horizontal bearings for the ribbon bobbins at each side of the machine located within the side plates and accessible through said openings therein, whereby when the ribbon bobbins are mounted upon said bearings the ribbon passes vertically from the bobbins through the open recesses and over the guides to the ribbon vibrator.

2. A typewriting machine comprising side plates with openings therein and open recesses extending vertically from said openings and bearings for the ribbon bobbins located within each side plate and accessible through the openings therein for the insertion and removal of ribbon bobbins, ribbon guides carried by the frame of the machine and located above said open recesses and a vertically movable ribbon vibrator located intermediate the ribbon guides.

974,884. PLAYER-PIANO. EMORY C. HISCOCK, Chicago, Ill., assignor to W. W. Kimball Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 20, 1909. Serial No. 523,649.



1. In a player piano, the combination with a cover for the expression-levers and a foldable bellows-operating pedal mechanism, of means connected to and simultaneously actuating said cover and pedal mechanism to effect both the opening and closing movements of the same.

2. In a player piano, the combination with a cover for the expression-levers, a foldable bellows-operating pedal mechanism, and a key-lock, of means connected to and simultaneously effecting the opening movements of said cover and pedal mechanism, and means for actuating said key-lock from said cover and pedal opening means.

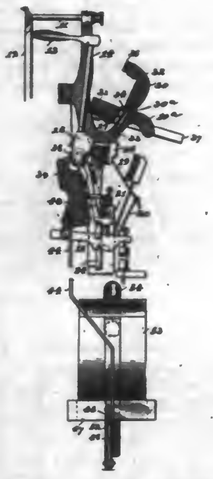
3. In a player piano mechanism, the combination with a cover for the expression-levers, a foldable bellows-operating pedal mechanism, and a key-lock, of means for simultaneously opening said cover and pedal mechanism, and means for actuating said key-lock from a further movement in the same direction of said cover and pedal opening means.

4. In a player piano mechanism, the combination with a foldable bellows-operating pedal mechanism, and manually operable means for opening and folding the same, of a key-lock, and means for actuating said key-lock from said pedal-actuating means upon the conclusion of the pedal-opening movement of the latter.

5. In a player piano, the combination with a foldable bellows-operating pedal mechanism including a pedal-shaft journaled on the lower portion of the piano frame, of a rock-shaft journaled beneath the key-bed, an operating handle on one end of said rock-shaft, and positively acting connections between the other end of said rock-shaft and said pedal shaft serving to effect both the opening and closing movements of said pedal mechanism.

[Claims 6 to 9 not printed in the Gazette.]

974,885. PLAYER-PIANO. EMORY C. HISCOCK, Chicago, Ill., assignor to W. W. Kimball Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 24, 1909. Serial No. 529,716.



1. In a player piano, the combination with the piano action and the pneumatic action, of mechanism for producing the soft-pedal effect through the pneumatic action, said mechanism including manually operable means for rocking the hammers of the piano action inwardly beyond their soft-pedal position whereby to effect the raising of the wippens of the piano action to such an extent as to avoid interference with the lifters of the pneumatic action in assembling and separating the piano and pneumatic actions, substantially as described.

2. In a player piano, the combination with the piano action and the pneumatic action, of mechanism for producing the soft-pedal effect through the pneumatic action, said mechanism including a pivoted hammer-rail section and an operating arm therefor through which the hammers of the piano action may be rocked inwardly beyond their soft-pedal position whereby to effect the raising of the wippens of the piano action to such an extent as to avoid interference with the lifters of the pneumatic action in assembling and separating the piano and pneumatic actions, substantially as described.

3. In a player piano, the combination with the piano action and the pneumatic action, of mechanism for producing the soft-pedal effect through the pneumatic action, said mechanism including a longitudinally divided hammer-rail the inner section whereof is hinged to the outer section, and a manually operable arm secured to said inner section through which the latter may be caused to engage and rock the hammers of the piano action inwardly into contact with the strings whereby to effect the raising of the wippens of the piano action to such a position as to avoid interference with the lifters of the pneumatic action in assembling and separating the piano and pneumatic actions, substantially as described.

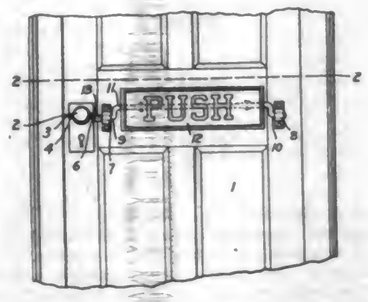
4. In a player piano, the combination with the piano action and the pneumatic action, of mechanism for producing the soft-pedal effect through the pneumatic action, comprising a longitudinally divided hammer-rail the two sections whereof are hinged together at their lower edges, an operating arm rigid with the inner of said sections, a motor pneumatic, a bell-crank lever one arm whereof is

disconnected from but adapted to engage and swing said operating arm, and lever and link connections between said motor pneumatic and the other arm of said bell-crank lever, substantially as described.

5. In a player piano, the combination with the piano action and the pneumatic action, of mechanism for producing the soft-pedal effect through the pneumatic action, comprising a longitudinally divided hammer-rail the two sections whereof are hinged together at their lower edges, an operating arm rigid with the inner of said sections, a bell-crank lever pivoted at its elbow, a roller mounted on one arm of said bell-crank lever and engaging said operating arm, a motor pneumatic, a bell-crank lever pivoted at its elbow adjacent to said motor pneumatic, operating connections between said motor pneumatic and one arm of said last-named bell-crank lever, and a link connecting the other arms of said bell-crank levers, substantially as described.

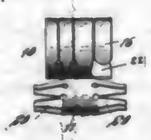
[Claim 6 not printed in the Gazette.]

974,886. EMERGENCY-EXIT-DOOR LOCK. PERCY W. HODGKINSON, Rochester, N. Y., assignor to Caldwell Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed Nov. 10, 1909. Serial No. 527,349.



An emergency exit door lock, comprising a lock with a latch in the door, and an inside door knob, including its shank, that is adapted to operate said latch; an arm having operative connection with said latch by attachment to said knob; and a rod journaled on the door and having a cranked end operatively connected with said arm and a vertically-cranked portion presented in position to be encountered by one attempting an exit; substantially as shown and described.

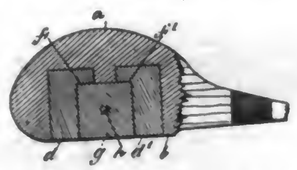
974,887. PEN AND PENCIL HOLDER. HERSCHEL J. HUDDLE, Jersey City, N. J. Filed Mar. 12, 1910. Serial No. 549,002.



1. A device of the character described, comprising a member having a body portion of sheet metal substantially cylindrical in form with its edges overlapping, said body having a plurality of circumferential slots extending from one of said overlapping edges part way around the circumference of the body thereby providing a plurality of flexing fingers, a portion of said body cut away and having a slot extending from said cut away portion part way around the circumference of the body, whereby in use the device is made to assume the curvature of the finger, and a holding member having a cylindrical body having its opposite ends conical and longitudinally slotted for a part of the length of said member to provide a plurality of yielding fingers at each end of said holding member, and means for holding the two members together to permit relative adjustment thereof.

2. A device of the character described, comprising a member having a body portion of sheet metal substantially cylindrical in form with its edges overlapping, said body having a plurality of circumferential slots extending from one of said overlapping edges part way around the circumference of the body thereby providing a plurality of flexing fingers, a portion of said body cut away and having a slot extending from said cut away portion part way around the circumference of the body, whereby in use the device is made to assume the curvature of the finger, and a holding member having a cylindrical body having its opposite ends conical and longitudinally slotted for a part of the length of said member to provide a plurality of yielding fingers at each end of said holding member, and means for pivotally holding the two members together to permit relative adjustment thereof.

974,888. GOLF-CLUB. CHARLES JACOBUS, Springfield, Mass., assignor to A. G. Spalding & Bros., New York, N. Y., a Corporation of New Jersey. Filed Sept. 30, 1909. Serial No. 520,252.



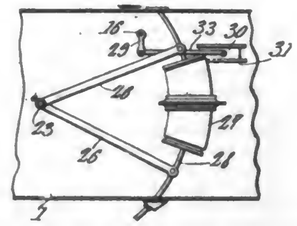
1. A golf club having a head of wood and two recesses spaced apart from one another and extending from the front or striking face of the head in a direction substantially at right angles to said striking face and into the interior of said head, and with a third recess located between and communicating with both said first mentioned recesses and extending also from said striking face into the interior of said head; and three plugs formed from wood and one located within each of said recesses and the outer ends of which terminate in the striking face aforesaid, the grain of said plugs extending longitudinally thereof and consequently substantially at right angles to the striking surface of said head.

2. A golf club having a head of wood and two recesses spaced apart from one another and extending from the front or striking face of the head in a direction substantially at right angles to said striking face and into the interior of said head, and with a third recess located between and communicating with both said first mentioned recesses and extending also from said striking face into the interior of said head; and three plugs formed from wood and one located within each of said recesses and the other ends of which terminate in the striking face aforesaid, the two outer plugs being each provided with a shoulder against which the inner end of the intermediate plug abuts, and the grain of said plugs extending longitudinally thereof and consequently substantially at right angles to the striking surface of said head.

3. A golf club having a head of wood and two recesses spaced apart from one another and extending from the front or striking face of the head in a direction substantially at right angles to said striking face and into the interior of said head, and with a third recess located between and communicating with both said first mentioned recesses and extending also from said striking face into the interior of said head; and three plugs one located within each of said recesses and the other ends of which terminate in the striking face aforesaid, the two outer plugs being each provided with a shoulder against which the inner end of the intermediate plug abuts.

4. A golf club having a head of wood and two recesses spaced apart from one another and extending from the front or striking face of the head in a direction substantially at right angles to said striking face and into the interior of said head, said recesses being formed by boring a hole circular in cross-section into said head, and with a third recess located between and communicating with both said first mentioned recesses and extending also from said striking face into the interior of said head but to a lesser distance than said two first mentioned recesses, said third recess being formed by boring a hole circular in cross-section into said head and thereby cutting away the space left between said two first mentioned recesses and a portion of two plugs previously inserted into said recesses, and whereby a shoulder is formed upon each of said plugs adjacent the bottom of said third recess; two plugs located one in each of said first mentioned recesses as aforesaid, and having each a shoulder as aforesaid; and a third plug circular in cross-section and located within said third recess and the inner end of which rests upon said shoulders; the outer ends of all of said plugs terminating in the striking face of said head and said plugs being formed from wood with the grain extending longitudinally thereof and consequently substantially at right angles to the striking surface of said head.

974,889. AUTOMATIC GAS-DRIP. OCEE JUSTUS, Clarksburg, W. Va. Filed Aug. 23, 1910. Serial No. 578,509.

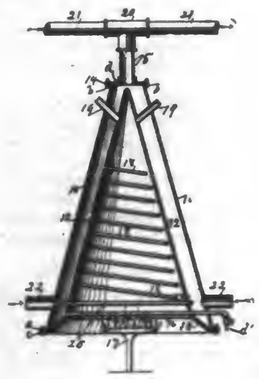


1. An apparatus for automatically removing the drip from gas comprising a pipe through which the gas passes, a drip pipe connected with the first mentioned pipe, spaced valves located in the drip pipe and operatively connected together whereby one valve opens, the other valve closes and vice versa, a casing with which the first mentioned pipe connects and into which it discharges, a service pipe connected with said casing, pressure cylinders located in the casing, means for alternately passing the gas from the first mentioned pipe to the said pressure cylinders, means located within the casing and operatively connected with the pressure cylinders and adapted to transmit movement to the said valves, the said means also being operatively connected with the means for alternately connecting the pressure cylinders with the first mentioned pipe.

2. An apparatus for automatically removing drip from gas comprising a pipe through which the gas passes, a drip pipe connected with the first mentioned pipe, spaced valves located in the drip pipe and operatively connected together whereby one valve closes as the other valve opens, and vice versa, a casing with which the first mentioned pipe connects and into which it discharges, a service pipe connected with said casing, pressure cylinders located within the casing, means for alternately passing the gas from the first mentioned pipe to the said pressure cylinders, means located within the casing and operatively connected with the pressure cylinders and adapted to transmit movement to the valves, said means including a rock shaft which is operatively connected at one end portion with the said valves and operatively connected at another portion with the means for alternately conveying the gas to the pressure cylinders.

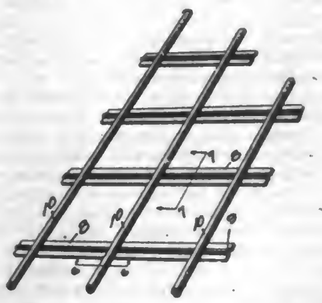
974,890. HOT-WATER HEATER AND CIRCULATOR. JAMES KEPHART, Webster City, Iowa. Filed Sept. 2, 1909. Serial No. 517,147.

1. A hot water heater comprising, in combination, an outer truncated cone, an inner cone secured to said truncated cone at its base only and held in concentric relation thereto, inlets at the bottom of said outer truncated cone and an outlet at its top, a burner below said cone and vente at its upper end extending outwardly and upwardly through said truncated cone, and a conical coil lying closely against the inner surface of said cone and communicating at its ends with the space between said outer and inner cones.



2. A hot water heater, comprising, in combination, an outer truncated cone, an inner cone secured to said truncated cone at its base only and held in concentric relation thereto, inlets at the bottom of said outer truncated cone and an outlet at its top, a burner below said cone and vents at its upper end extending outwardly and upwardly through said truncated cone, a conical coil lying closely against the inner surface of said cone and communicating at its ends with the space between said outer and inner cones, and a plurality of diametrically disposed pipes spanning the base of said inner cone and communicating with said space.

974,891. METHOD OF MAKING METALLIC FABRIC. MAURICE LACHMAN and LAURENCE S. LACHMAN, New York, N. Y., assignors to Universal Electric Welding Co., a Corporation of New York. Filed Mar. 11, 1909. Serial No. 482,822.



1. The method of producing a metallic fabric or structure formed of intersecting members, consisting in forming a projection on a strip, placing a metal rod in contact with said projection, passing a current through said rod and strip, the resistance to the passage of the current heating the metal at the point of contact to a welding heat, and applying pressure to complete the weld.

2. The method of producing a metallic fabric formed of intersecting members, consisting in forming a projection on a strip, placing a member in contact with said projection, passing a current through said strip and member to raise the temperature of the metal at the point of contact to a welding heat, and applying pressure.

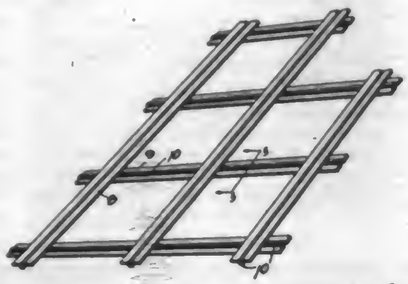
3. The method of forming a metallic fabric, consisting in forming a projection on a flat strip, placing a round metal rod in contact with said projection and crossing the same at an angle, passing a current through said rod and strip, the resistance to the passage of the current heating the metal at the point of contact to a welding heat, and applying pressure to complete the weld.

4. The method of producing a metallic fabric formed of intersecting members, consisting in forming a projection on a strip intermediate its edges, placing a metal rod in contact with said projection, passing a current through said rod and strip to raise the temperature of the metal at the point of contact to a welding heat, and applying pressure.

5. The method of forming metallic fabric consisting in forming a projection on a flat strip intermediate its edges, placing a round metal rod in contact with said projection and crossing the same at an angle, passing a current through said rod and strip, the resistance to the passage of the current heating the metal at the point of contact to a welding heat, and applying pressure to complete the weld.

[Claims 6 to 11 not printed in the Gazette.]

974,892. METHOD OF MAKING METALLIC FABRIC. MAURICE LACHMAN and LAURENCE S. LACHMAN, New York, N. Y., assignors to Universal Electric Welding Co., a Corporation of New York. Filed Mar. 11, 1909. Serial No. 482,823.



1. The method of forming a metallic fabric or structure, consisting in forming projections on flat strips in relation to each other with said projections in contact, passing a current through said strips at the point of intersection, the resistance to the passage of the current heating the metal at the points of contact to a welding heat, and applying pressure to complete the weld.

2. The method of forming a metallic fabric or structure, consisting in forming projections on strips of metal intermediate the edges thereof, bringing said strips into relation with each other with the said projections in contact, passing a current through said strips at the point of intersection, the resistance to the passage of the current heating the metal at the points of contact to a welding heat, and applying pressure to complete the weld.

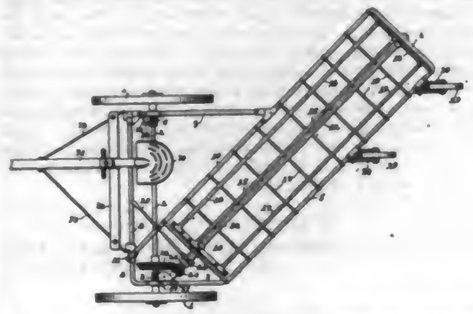
3. The method of forming a metallic fabric or structure, consisting in forming longitudinally extending ridges on strips of metal, placing said strips with said ridges in contact, passing a current through said strips at the point of contact, the resistance to the passage of the current heating the metal at the point of contact to a welding heat, and applying pressure to complete the weld.

4. The method of producing a metallic fabric or structure formed of intersecting strips, consisting in forming a projection on one of the strips, placing another strip in contact with said projection, passing a current through said strips to raise the temperature of the metal at the point of contact to a welding heat and applying pressure.

5. The method of producing a metallic fabric or structure formed of intersecting strips, consisting in forming projections on said strips, crossing the strips so that the projections will be in contact, passing an electric current through said strips to raise the temperature of the metal at the point of contact to a welding heat and applying pressure.

[Claim 6 not printed in the Gazette.]

974,893. SIDE-DELIVERY HAY-RAKE. FRANK K. LATHROP, Dayton, Ohio, assignor to The Ohio Rake Company, Dayton, Ohio, a Corporation of Ohio. Filed Sept. 21, 1908. Serial No. 453,955.

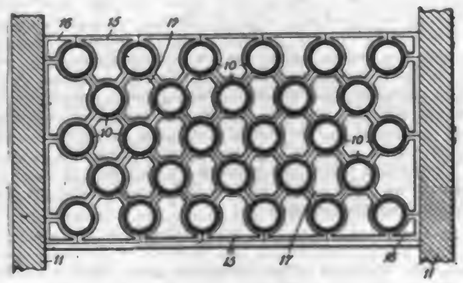


1. In a hay rake, the combination, with the carrying wheels and axle therefor, of a rake frame mounted thereon, and extending diagonally rearward therefrom, castings secured to the rake frame, with journal boxes on the axle, and adjusting screws connecting said castings and journal boxes for adjusting the height of the rake frame on the axle with means for locking the journal box to the rake frame castings in any adjusted position.

2. In a hay rake, the combination, with the carrying wheels and axle therefor, of a rake frame mounted thereon, and extending diagonally rearward therefrom, castings secured to the rake frame, with journal boxes on the axle, lugs on the castings to embrace the journal boxes, and adjusting screws connecting said castings and journal boxes for adjusting the height of the rake frame on the axle and means for locking the casting lugs to the journal box in any adjusted position.

3. In a hay rake, the combination, with the carrying wheels and axle therefor, of a rake frame mounted thereon and extending diagonally rearward therefrom, with a rake shaft mounted in said frame, and means for rotating the rake shaft from the carrying axle, castings secured to the rake frame with journal boxes on the axle, one of said castings carrying a journal box for the rake shaft, and adjusting screws connecting said castings and axle journal boxes for adjusting the height of the rake frame on the axle.

974,894. MOLD FOR BAFFLE-WALL CONSTRUCTION FOR BOILERS. GEORGE W. LAUGHTON, Weehawken, N. J. Filed Mar. 2, 1909. Serial No. 480,838.



1. A mold for making baffle walls of tubular boilers, comprising two walls each formed of a plurality of flexible members varying in shape, said members being adapted to encircle the tubes as the wall is being formed, and a plate member for closing the lower surface between the sectional walls.

2. A mold for making baffle walls of tubular boilers, comprising a plurality of members extending transversely of said boiler, each member being composed of sections varying in shape, the periphery of each section being flexible.

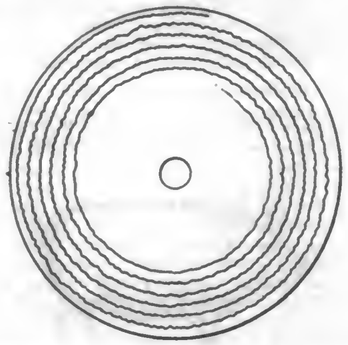
3. A mold for making baffle walls of tubular boilers, comprising a plurality of reinforced flexible members adapted to close the space between the boiler tubes.

4. A mold for making baffle walls of tubular boilers, comprising a plurality of flexible members adapted to close the space between the boiler tubes.

5. A mold for making baffle walls of tubular boilers, comprising spaced walls composed of a plurality of members of flexible material adapted to encircle a portion of the boiler tubes.

[Claims 6 to 8 not printed in the Gazette.]

974,895. PHONAUTOGRAPHIC RECORD AND PROCESS OF DUPLICATING THE SAME. EDWARD F. LEEDS, New York, N. Y. Filed Mar. 5, 1906. Serial No. 304,418.



1. A phonautographic record, formed in comparatively non-resisting material incapable of vibrating a stylus and reproducing sound, provided upon its surface with a film of the vapor of an electrically conductive material, substantially as described.

2. A phonautographic record, formed in comparatively non-resisting material incapable of vibrating a stylus and reproducing sound, provided upon its surface with a film of the vapor of metal, substantially as described.

3. A phonautographic record, formed in comparatively non-resisting material incapable of vibrating a stylus and reproducing sound, provided upon its surface with a film of the vapor of gold, substantially as described.

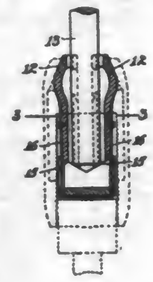
4. A phonautographic record, formed in comparatively non-resisting material incapable of vibrating a stylus and reproducing sound, transferred to suitable resisting material and provided upon its surface with a film of the vapor of an electrically conductive material, substantially as described.

5. A phonautographic record, formed in comparatively non-resisting material incapable of vibrating a stylus and reproducing sound, transferred to suitable resisting material and provided upon its surface with a film of the vapor of metal, substantially as described.

[Claims 6 to 37 not printed in the Gazette.]

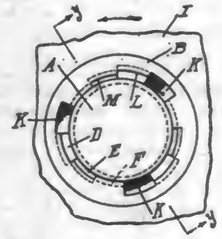
974,896. CHUCK. JOHN A. LELAND, Montague, Mass., assignor to Millers Falls Company, Millers Falls, Mass., a Corporation of Massachusetts. Filed July 14, 1909. Serial No. 507,510.

In a chuck, a pair of tool-shank engaging jaws adapted to stand parallel with each other or at different inclinations, the inner face of each jaw having longitudinal grooves forming two pairs of gripping teeth, the groove which separates the two pairs being deeper than the grooves which form each pair of teeth, and having its sides at a right angle to each other to engage the flat faces of an angular tapered tool shank, the teeth of each pair



being closely spaced relatively to the space which separates the two pairs whereby cylindrical shanks of varying sizes may be gripped, the inner faces of the jaws being also formed with recesses between their inner and outer ends which divide the teeth into inner and outer separate sets, the teeth and grooves being in alinement on opposite sides of said recesses.

974,897. CLOSURE-LOCKING MEANS. CARL J. LJUNGGREN, Providence, R. I. Original application filed Sept. 2, 1908, Serial No. 451,444. Divided and this application filed Sept. 21, 1909. Serial No. 518,796.



1. In a device of the type set forth, the combination with a stationary member, of a closure body, and a segment upon the body comprising longitudinally disposed portions of differing lengths.

2. In a device of the type set forth, the combination with a stationary member, of a closure body, and a segment upon the body comprising radially graduated longitudinally disposed portions of differing lengths.

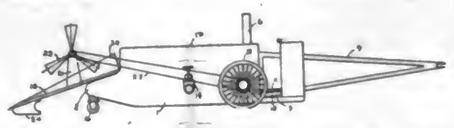
3. In a device of the type set forth, the combination with a stationary member, of a closure body, and a segment upon the body comprising longitudinally stepped portions, the end faces of the stepped portions being transversely inclined.

4. In a device of the type set forth, the combination with a stationary member, of a closure body, and a segment upon the body comprising stepped portions graduated both radially and longitudinally, said stepped portions terminating in transversely inclined faces.

5. In a device of the type set forth, the combination of a hollow stationary member provided with a series of internal radially graduated longitudinally disposed entrance channels, and with transversely disposed seats extending from the channels, a rotatable closure body, a segment upon the body provided with radially and longitudinally graduated stepped portions adapted to enter the channels as a sliding fit, and to register in the seats when the body is rotated.

[Claims 6 and 7 not printed in the Gazette.]

974,898. SNOW-MELTING DEVICE. CHARLES B. MANN, San Diego, Cal. Filed Oct. 27, 1909. Serial No. 524,959.



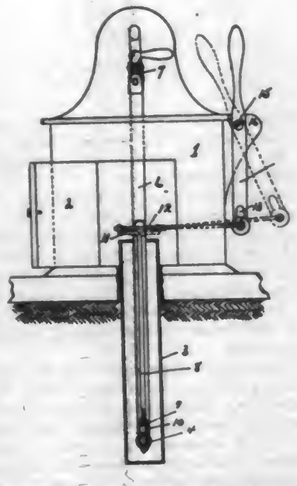
1. A snow melting device, of the character described, comprising a fire-box, a series of fuel oil burners therein, oil and water supply tanks for the burners, a plurality of melting tubes above the fire-box, an inclined scoop forward of the fire-box, a swivel jointed truck underneath the fire-box, and means to force the snow over the melting tubes, in combination with a braced beam for applying motive power at the rear.

2. A snow melting device of the character described, comprising a fire-box, a series of fuel oil burners therein, valves for regulating the burners, oil and water supply tanks, a plurality of melting tubes arranged in horizontal tiers above the fire-box, the tubes of one tier alternating with the next, an inclined scoop forward of the fire-box, a hinged joint that permits said scoop to follow irregularities of the street, shoes at the forward end of the scoop, and means to cut and force the snow over the melting tubes.

3. A snow melting device, comprising an inclosed jacketed fire-box, fuel oil burners therein, a series of return tubes placed horizontally over the fire-box, and means to cut and force the snow over the melting tubes.

4. A snow melting device, comprising a rectangular melting box, a fire-box underneath the melting box, an inclosed air space surrounding the fire-box and melting-box, a plurality of tubes arranged in alternate tiers, horizontally over the fire-box, means to convey the snow to the melting tubes, and valve controlled outlets for delivering water at either side of the machine.

974,899. CUT-OFF VALVE. ELMER C. MARRS, Detroit, Mich. Filed Feb. 1, 1905. Serial No. 243,773.



The combination of a sink and cabinet, a water pipe extending from a point above said sink to a point in the ground below the point of freezing, a box passing through the bottom of said cabinet and extending vertically into the ground below the freezing point and surrounding said water pipe, said box projecting at its upper end into said cabinet, a water cock at the upper end of said pipe over said sink, a cut-off valve in said pipe at the bottom of said box below the point of freezing, a rotatable rod located in said box and projecting therefrom, said rod having a crank at its upper end and engaging the cut-off valve at its lower end for operating said valve independently of the water cock, a vertical lever adjacent said cabinet, a horizontal connecting rod pivoted to said lever and to said crank to enable the water in said pipe to be cut off below the freezing point independently of the water cock, if desired.

974,900. EXPLOSIVE COMPOUND. HUDSON MAXIM, New York, N. Y. Filed Mar. 24, 1905. Serial No. 251,866.

1. A smokeless gunpowder, consisting of a mixture of tri-nitranisol, pyroxylin, and an oxidizing agent, as described.

2. A smokeless gunpowder consisting of a mixture of tri-nitranisol, pyroxylin, and nitro-glycerin, as described.

3. An explosive consisting of a gelatinated mixture of pyro-nitro-cellulose and tri-nitranisol.

4. The hereindescribed process of making smokeless gunpowder, which consists in mixing together pyroxylin, nitro-glycerin and tri-nitranisol and gelatinizing the resulting mixture.

5. The hereindescribed process of gelatinating pyroxylin, which consists in incorporating with pyroxylin, tri-nitranisol and nitro-glycerin heating the said mixture, maintaining the pyroxylin wet during the gelatinization thereof and subsequently drying the compound.

[Claims 6 to 13 not printed in the Gazette.]

974,901. HOG-YOKE. WILLIAM R. MCCARROLL, Hedley, Tex. Filed Aug. 12, 1910. Serial No. 576,889.



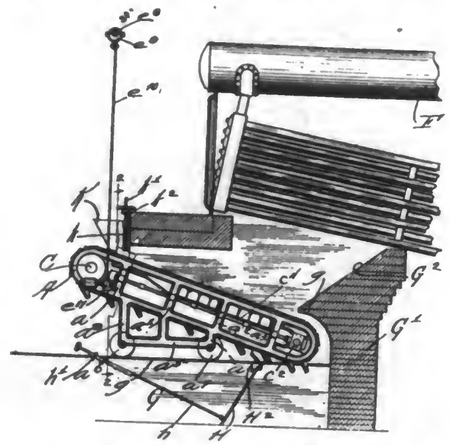
1. In a hog yoke, a rod adapted to be passed through the snout of a hog, a bar supported by the rod at a point above the hog's snout, a ball provided with a set screw arranged to engage over one end of the rod after the same has been passed through the snout of a hog, upwardly extending prongs having connection with the other end of the rod arranged to pass through the ears of the hog, and balls provided with set screws fixed to slide on said prongs and arranged to normally rest in front of the ears of the hog.

2. In a hog yoke, a rod adapted to be passed through the snout of a hog, a horizontal cross bar arranged on the rod adapted to have a sliding adjustment thereon, prongs diverging from one end of the rod and extending through the ears of the hog in an upward direction, a ball arranged to slide over the end of the rod and to rest in front of the hog's snout, a set screw arranged to hold said ball in position, and balls mounted on the prongs adapted to be fixed thereon to prevent the same from sliding through the ears of the hog.

3. In a device of the character described, the combination with a rod adapted to be passed through the snout of a hog, of a cross bar mounted on the rod adapted to have a sliding adjustment, a ball arranged to engage over the end of the rod after the same has been passed through the snout of the hog, and prongs extending from the rearmost extremity of the rod through the ears of the hog.

4. A device of the character described, comprising a rod adapted to be passed through the nose of an animal, a knob adapted to be fixed on one end of said rod, a cross bar supported on the rod above the nose of the animal and arranged to have a sliding adjustment on the rod, prongs supported at the rearmost extremity of the rod adapted to be passed through the ears of the animal, and knobs arranged on said prongs adapted to be held against the ears of the animal.

974,902. FURNACE-GRATE. JOSEPH J. MERRILL, Chicago, Ill. Filed Feb. 10, 1909. Serial No. 477,199.



1. A furnace grate comprising inclined parallel ways, curved ways connecting the respective parallel ways and independent grate units movable in said ways, each comprising a pair of shafts, grate bars connecting the shafts adapted to lie parallel with the inclined ways on both the upper and lower run and grate bars pivoted to one of the shafts adapted to lie parallel with the inclined ways on the upper run and to swing at an angle with the ways on the lower run to admit air through the grate.

2. In a grate of the class described individual grate units each separate from the others and each comprising parallel shafts, grate sections connecting the same at the ends thereof and intermediate grate sections journaled on one of said shafts and loosely supported on the other and adapted to operate by gravity to dump the ashes therefrom when combustion is completed.

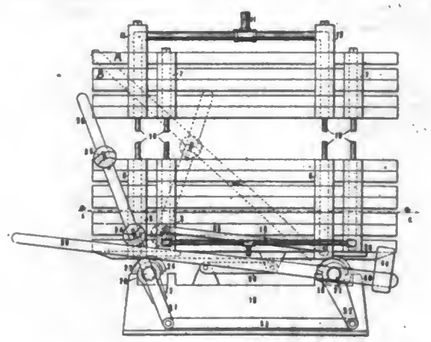
3. In a grate of the class described a plurality of longitudinally extended, laterally arranged frame sections rigidly secured each to each in parallel relation and affording on the inner adjacent faces thereof continuous channels to afford in each a circuit, a plurality of independent, interchangeable duplicate grate units each comprising an individual truck or carriage supported in the channels between adjacent frame members and each consisting of two parallel shafts, end grate sections connecting the same, intermediate grate sections pivoted on one and resting on the other, and said grate sections being so proportioned as to insure uniform distances between the shafts of each unit and the adjacent shafts of adjacent units, and sprocket wheels journaled at the ends of the frame members to propel said grate units.

4. In a grate of the class described duplicate interchangeable grate units each comprising a carriage or truck consisting of parallel shafts mounted on rollers, grate sections connecting said shafts at the ends, intermediate grate sections pivotally supported on one of said shafts and resting on the other and adapted to swing over by gravity in dumping and to hang from one of said shafts only during the return travel of the unit.

5. A furnace grate comprising frame members each having oppositely facing channels at the sides thereof, means rigidly connecting the frame members, a plurality of independent grate units loosely mounted on said frame members, each consisting of a plurality of shafts, grate bars journaled at each end to said shafts and grate bars pivoted at one end to one of the shafts and loosely resting on the other shaft.

[Claims 6 to 22 not printed in the Gazette.]

974,903. VENEER-DRYING APPARATUS. LOUIS G. MERRITT, Lockport, and BURTON L. GALE, Buffalo, N. Y., assignors to Gertrude I. Gale, Buffalo, N. Y., and Anna Hayward Merritt, Lockport, N. Y. Filed July 31, 1907. Serial No. 386,338.



1. In a veneer drier, in combination, a plurality of sets of platens, the individual platens of each set being connected to one another, and means for moving one of said sets relatively to the other.

2. In a veneer drier, in combination, a plurality of sets of platens, the individual platens of each set being rigidly connected to one another, and means for simultaneously moving said sets relatively to one another.

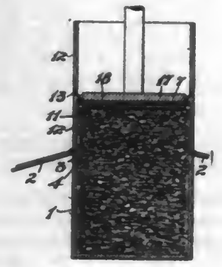
3. In a veneer drier, in combination, a plurality of series of platens, the individual platens of each series being disposed in alternate relation with those of another series thereof, and means for moving said series relatively to one another.

4. In a veneer drier, in combination, a plurality of series of rigidly connected platens, the platens of each series being disposed in alternate relation with those of another series, and means for moving each of said series bodily relatively to another series.

5. In a veneer drier, in combination, a series of rigidly connected platens, a second series of rigidly connected platens, the platens of said series being disposed in alternate relation and adapted to press veneers upon their upper and lower surfaces, and means for moving said series relatively to each other.

[Claims 6 to 53 not printed in the Gazette.]

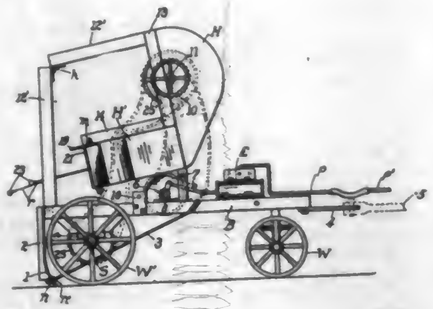
974,904. CARRIER FOR COMPRESSED FIBROUS MATERIALS. CHARLES H. MERRY, St. Louis, Mo., assignor of one-half to Natta A. Merry, Anacortes, Wash. Filed Dec. 26, 1908. Serial No. 469,443.



The combination with a tight receptacle having an open side and also having overhanging ledges on the inner faces of opposite side walls near the open side of the receptacle, said receptacle having a mass of fibrous material com-

pressed therein, of means for retaining the compressed material within the receptacle, said means comprising a sheet of woven material covering the body of compressed material and a plurality of straps laid over said covering sheet and having hooked end portions engaged under said overhanging ledges on the inner faces of the opposite side walls of the receptacle and held in place by the resilience of the compressed material.

974,905. CLAY LOADER AND SCRAPER. WILLIAM A. MOHRBACH, St. Louis, Mo. Filed Apr. 18, 1910. Serial No. 556,233.



1. In combination with a wagon-body, a conveyer-supporting tower comprising a lower rear fixed section and a hinged extension coupled thereto and capable of oscillation in a fixed plane, chutes carried at the front of the hinged extension and diverging laterally and at right angles to the plane of oscillation of the extension, the hinge axis being positioned at a point to allow the chutes to be folded close to the wagon-body, and means for supporting the extension in operative position.

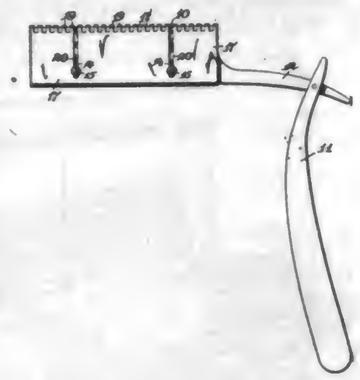
2. In combination with a wagon body having a front wheeled truck, a rear shaft provided with bearing wheels for the wagon, said wheels being loose on said shaft, a vertical forwardly folding tower on the wagon-body mounted over the rear shaft, sprocket wheels on the shaft aforesaid, an upper shaft on the tower, sprocket wheels on the tower-shaft, an endless bucket conveyer stretched between the sprocket wheels of the respective shafts, intermediate gearing between the shafts, an engine on the wagon-body in front of the tower for actuating the wagon-shaft and the conveyer, and means on the top of the tower for conveying away the dirt discharged from the buckets of the conveyer.

3. In combination with a wagon-body, a conveyer-supporting tower comprising a lower rear fixed section, a hinged extension coupled thereto, a front parallel portion forming a part of said hinged extension, and removable front posts for temporarily supporting the hinged extension, the latter being adapted to be folded forward against the wagon body upon a removal of the posts aforesaid.

974,906. GUARD FOR SAFETY-RAZORS. MICHAEL MONETTI, Bloomfield, N. J. Filed Apr. 12, 1910. Serial No. 555,016.

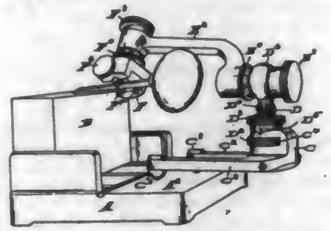
1. The combination of a razor blade having a widened back, with a U-shaped clip having converging sides, screws in both the converging sides and adapted to bear on the blade, and a guard having a series of slots on one edge to form teeth which are adapted to lie adjacent to the cutting edge of the blade, some of the recesses being extended into the guard to receive the screws on each side of the clip and provide means for adjustably securing the guard to the clip on either side thereof.

2. The combination of a razor blade having a widened back, with a U-shaped clip having converging sides, screws in both the converging sides adapted to bear on the sides of the blade, to transversely adjust the clip on the blade, and a guard having recesses to fit over the screws and to



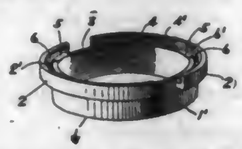
provide means for attaching and adjusting the guard on either side of the clip so that its edge can guard the edge of the blade to form either a right or left hand safety razor.

974,907. TOOL-SHARPENER. ADOLPH MUCHLMATT, Newport, Ky. Filed June 30, 1909. Serial No. 505,178.



The combination in a tool sharpener of a main frame, a vertical threaded standard, a horizontal arm, with a head for holding the tool, the head having a sliding piece operated by a screw and spring, with two stationary studs, all substantially as described.

974,908. TOOL FOR CLOSING RECEPTACLES. JOHN NAZEL and WILLIAM E. BARLOW, Philadelphia, Pa., assignors to Sanitary Paper Bottle Company, Wilmington, Del., a Corporation of Delaware. Filed Mar. 24, 1910. Serial No. 551,376.



1. A tool having a rim, a fillet within said rim, and a circular channel of curved cross section in said fillet, the channel in said fillet having an outer surface merging into the surface of said rim.

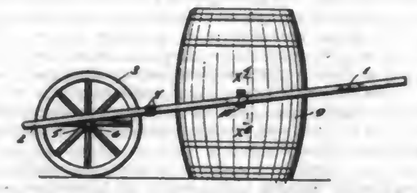
2. A tool having a flange with a rim having a curved inner surface, a fillet within said rim, and a circular channel of curved cross section in said fillet and concentric with said rim, said channel having an outer surface merging into the inner surface of said rim.

3. A tool comprising a ring, a flange extending outwardly therefrom, a rim on said flange, a circular channel

within said rim, a fillet intersecting said channel, and a circular channel in said fillet.

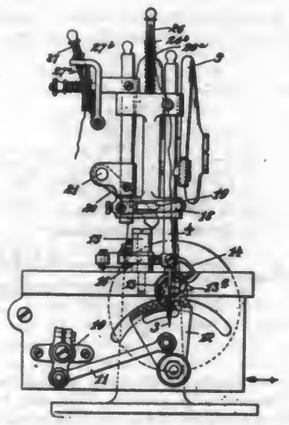
4. A tool comprising a ring having a conical surface, flanges projecting outwardly therefrom, recesses between said flanges, and circular channels within said flanges.

974,909. WHEELBARROW. PERL E. NEWCOMB, Hutchinson, Minn. Filed Jan. 24, 1910. Serial No. 539,696.



In a device of the kind described, the combination with a pair of laterally spaced handle bars constructed of a single piece of metal and the intermediate portion thereof being brought together to form a wheel yoke, a wheel mounted in said wheel yoke, and a barrel having laterally and oppositely projecting U-shape coupling brackets adapted to slide upon and embrace the said handle bars, the upper members of said brackets adapted to support the said barrel in an elevated position and the lower members of said brackets adapted to support said handle bars when said barrel is resting on a support, substantially as described.

974,910. TWO-THREAD OVEREDGE SEWING-MACHINE. GEORG NIEDERMAYR, Hattersheim-in-the-Taunus, Germany, assignor to Aaron Vail Rowley, Frankfort-on-the-Main, Germany. Filed Dec. 28, 1904. Serial No. 238,642.



1. In a two-thread over-edge sewing machine, the combination of a toothed plate for holding the fabric, and a frame movable along the fabric, with sewing mechanism carried by said frame and comprising a needle arranged to form a thread loop, a threaded looper of circular curvature mounted to swing about an axis eccentric to its outline so as not to stretch the needle loop and provided with a nose adjacent to its pivot, and a spreader.

2. In a two-thread over-edge sewing machine, the combination of means for holding the fabric, and a frame movable along the fabric, with sewing mechanism carried by said frame and comprising a needle, a threaded looper of circular curvature mounted to swing about a horizontal axis transverse to the direction of travel of said frame and provided with a loop-retaining nose adjacent to its pivot, and a spreader mounted to oscillate about a vertical axis.

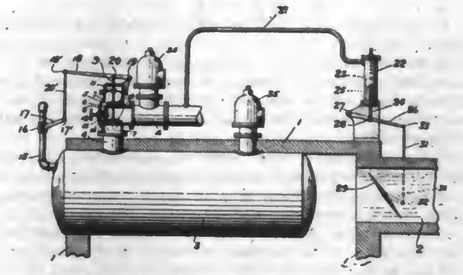
3. In a sewing machine the combination of a vertically reciprocating needle arranged to pierce the cloth and form a thread loop, an oscillating threaded looper of symmetrical circular curvature arranged to pass alternately above and below the cloth and provided with a loop-retaining nose adjacent to its pivot and a spreader which remains permanently above the cloth.

4. In a sewing machine the combination of a vertically reciprocating needle arranged to form a thread loop, a threaded looper of symmetrical circular curvature mounted to oscillate about an axis transverse to the direction in which the sewing progresses and provided with a loop retaining nose adjacent to its pivot and a movable spreader which remains permanently above the cloth.

5. In a sewing machine the combination of a reciprocating needle arranged to form a thread loop, a symmetrically curved threaded looper arranged to oscillate adjacent to the needle and to pass above and below the cloth, said looper being provided with a loop-retaining nose adjacent to its pivot and a spreader to move above the cloth.

[Claims 6 and 7 not printed in the Gazette.]

974,911. MEANS FOR REGULATING PRESSURE IN STEAM-BOILERS. JOHN C. PARKER, Philadelphia, Pa. Filed Mar. 20, 1909. Serial No. 484,689.



1. A steam boiler having a steam line and for regulating the flow of steam from said boiler through said line an automatic valve mechanism adapted to open and close with variations in the boiler pressure.

2. A steam boiler having a steam chamber, a steam line connected therewith, and mechanism operated by the boiler pressure for regulating the flow through said line.

3. A steam boiler having a steam chamber, a steam line leading therefrom, automatically operating valve mechanism connected with said line for regulating the pressure in said chamber, and a by-pass through which steam flows from said chamber through said line when said valve is closed.

4. A boiler having a steam "take off" in combination with mechanism comprising an automatically closing valve adapted to open when the working pressure of the boiler is reached and a by-pass through which steam flows from said boiler when said valve is closed.

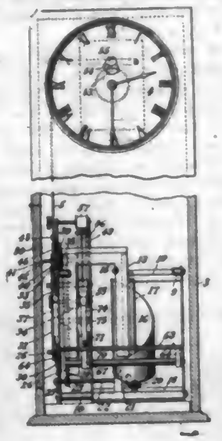
5. A boiler having mechanism comprising an automatically closing valve adapted to open when the working pressure of the boiler is reached, a by-pass through which steam flows from said boiler when said valve is closed, and a valve for closing said by-pass.

[Claims 6 to 10 not printed in the Gazette.]

974,912. EMPLOYEE'S TIME-RECORDER. ARTHUR PESTEL, Bayonne, N. J. Filed May 8, 1906. Serial No. 315,778.

1. An employee's time recorder, embodying time-controlled recording means, a card-guide, a single stop member having a plurality of stop-faces in a common plane and movable into and out of the path of a card in the card-guide, and means for actuating said stop member to bring its stop-faces successively into operative position.

2. An employee's time recorder, embodying time-controlled recording means, a card-guide, a card-stopping device having a plurality of stop faces mounted to turn about an axis and disposed in a common plane and movable into and out of the path of a card in the card-guide, and means for automatically turning said stopping device.



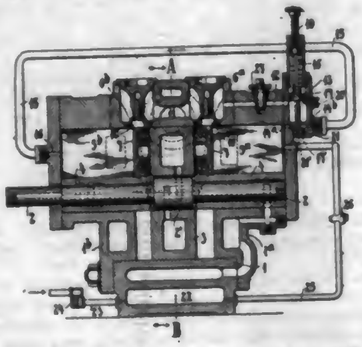
3. An employee's time recorder, embodying time-controlled recording means, a card-guide, a card-stopping device having a plurality of stop faces mounted to turn about an axis and disposed in a common plane and movable into and out of the path of a card in the card-guide, and time-controlled means for automatically turning said stopping device.

4. An employee's time recorder, embodying time-controlled recording means, a card-guide, a card-stopping device having a plurality of stop faces mounted to turn about an axis and disposed in a common plane at successively varying distances from a common axis and movable into and out of the path of a card in the card-guide, and means for automatically turning said stopping device.

5. An employee's time recorder, embodying time-controlled recording means, a card-guide, a rotary stop member having a series of twenty-four stop faces disposed respectively at successively varying distances from its axis and rotatable about said axis into and out of the path of a card in the card-guide, and time-controlled means for automatically turning said stop member one step each hour.

[Claims 6 to 10 not printed in the Gazette.]

974,913. ROTARY COMPRESSOR OR THE LIKE. WILHELM VON PITTLER, Wilmersdorf, near Berlin, Germany. Filed Jan. 4, 1910. Serial No. 536,393.



1. In combination, a cylindrical revolving disk having substantially flat side faces, a piston mounted on one side face of said disk and provided with transition surfaces, a casing including said disk, an axle for the disk, a bush on the axle, and an abutment slide axially movable in a guideway of the casing in contact with said disk and piston, said slide being guided with its outer edge face on a stationary guiding surface of the casing and with its inner face on the bush surrounding the axle of the disk and extending at least to the plane of the flat side of the disk.

2. In combination, a cylindrical revolving disk having substantially flat side faces, pistons mounted on both side faces of said disk and provided with transition surfaces, a casing including said disk, and abutment slides axially movable in guideways of the casing in contact with said disk and pistons, said slides being guided with their outer edge faces on stationary guiding surfaces of the casing and with their inner edge faces on bushes surrounding the axle of the disk and extending at least to the planes of the flat faces of said disk.

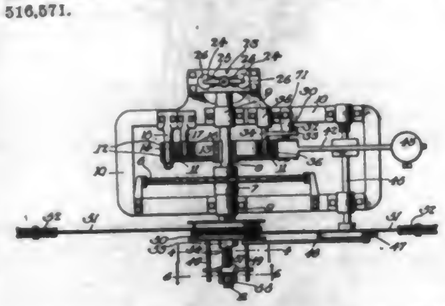
3. In combination, a casing, a revolving piston, an abutment slide movable in the casing with relation to the piston, means for controlling the slide and exerting pressure from the delivery side of the piston behind said slide, and means for placing said controlling means out of action and simultaneously relieving the pressure behind the abutment.

4. In combination, a casing, a revolving piston flanked by transition surfaces, a movable abutment in the casing coöperating with said piston and surfaces, means to load the abutment by fluid pressure and means acting to control the abutment loading fluid and simultaneously relieve the abutment of the load thereof.

5. In combination, a casing, a revolving piston mounted therein, cams flanking the piston, an abutment slidable in the casing and in operative relation to the piston and cams, means to supply motive fluid behind the abutment and a cut-off device in said supply automatically operated by the fluid delivered by said piston.

[Claims 6 to 32 not printed in the Gazette.]

974,914. ELEVATOR MECHANISM. JOSEPH W. POGUE, Sierra Madre, Cal. Filed Sept. 7, 1909. Serial No. 516,571.



1. A gravity operated elevator, comprising a shaft, a car connected with the shaft so that the descent of the car causes the rotation of the shaft, a brake drum on the shaft, a contracting brake band and an expanding brake band adapted to work on the drum, a governor mechanism connected with the shaft, connecting means between the governor mechanism and one of the brake bands, a stop mechanism on the shaft, and connecting means between the stop mechanism and the other brake band.

2. A gravity operated elevator, comprising a shaft, a wheel on the shaft, a flexible member passing over the wheel and depending on both sides thereof, a carrier attached to each end of the flexible member, a brake drum on the shaft, a pair of brake bands adapted to engage with the drum, a governor mechanism connected with the shaft, connecting means between the governor mechanism and one of the brake bands whereby the brake band is applied to the drum when the shaft exceeds a certain speed of revolution, a stop mechanism on the shaft, and connecting means between the stop mechanism and the other brake band whereby the brake band is applied to the drum after a certain amount of revolution by the shaft.

3. A gravity operated elevator, comprising a shaft, a wheel on the shaft, a flexible member passing over the wheel and depending on both sides thereof, a carrier connected to each of the depending ends of the flexible member, a brake drum mounted on the shaft, a pair of friction means adapted to be separately and independently applied to the brake drum, a speed governor mechanism connected to the shaft, connective means between the speed governor mechanism and one of the friction means, a stop mechanism connected with the shaft, connective means between the stop mechanism and the other friction means whereby the friction means is operated, and manual means for operating the last named friction means.

4. A gravity operated elevator, comprising a frame, a main shaft journaled in the frame, a wheel on the shaft, a flexible member passing over the wheel and depending from each side thereof, a carrier attached to each of the depending ends of the flexible member, a brake drum mounted on the shaft, a pair of brake bands adapted for engagement with the brake drum, a centrifugal speed governor mechanism connected with the shaft, connective means between the governor mechanism and one of the brake bands whereby the brake band is applied to the drum when the shaft exceeds a certain predetermined revolution speed, a lever attached to the other brake band, a weight mounted on the lever and adapted to normally apply the brake band to the drum, a cam shaft mounted on the frame, a cam on the shaft located beneath the lever, the cam being of such configuration that a rotation of the shaft causes the cam to engage with and raise the lever to release the brake band from the drum, stop means connected with the main shaft, connecting means between the stop means and the cam shaft whereby the cam shaft is rotated upon a certain predetermined amount of rotation by the main shaft, and manual means to rotate the cam shaft.

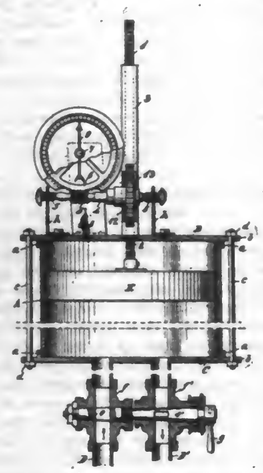
5. An elevator mechanism, comprising a shaft, means to rotate the shaft, a brake drum mounted on the shaft, a pair of brake bands engaging with the drum, a speed governor mechanism connected to the shaft to rotate therewith, connective means whereby the governor mechanism operates one of the brake bands, a stop mechanism connected with the shaft, and connective means whereby the other brake band is applied to the drum after a predetermined amount of rotation of the shaft.

[Claims 6 and 7 not printed in the Gazette.]

974,915. APPARATUS FOR MEASURING LIQUIDS. DAVID C. PUDERBAUGH, Huntingdon, Pa. Filed Feb. 15, 1907. Serial No. 357,521.

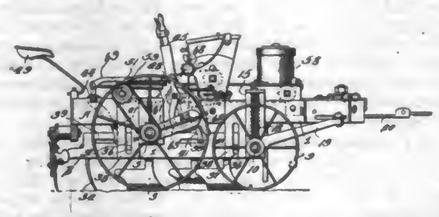
1. An apparatus for measuring liquids, comprising a liquid receptacle, a flanged cover for said receptacle, a piston within the receptacle, indicating means connected to and supported by the cover, means for supporting said indicating means above the cover, an inlet pipe and an outlet pipe secured to the bottom of the receptacle, a valve within the inlet and a valve within the outlet pipe, said inlet and outlet valve being connected with each other, a slotted casing connected to and supported by said flanged cover, a transversely arranged shaft adjustably supported above said cover, means for supporting said shaft above the cover, a gear wheel carried by said shaft, means on said shaft for operating the indicating mechanism, and a rack-bar passing through the slotted casing and secured to the piston and adapted to engage with the said gear-wheel, substantially as described.

2. An apparatus for measuring liquids including a liquid receptacle having a glass body, a removable metal top, a removable metal bottom, a plurality of threaded rods or bolts passing through both the top and bottom, a valved inlet and a valved outlet pipe connected to the bottom, a piston within the receptacle, indicating mechanism supported by the said top, means for supporting said indicating means above the cover, a slotted casing connected to and supported by said top and passing through said casing, a transversely arranged shaft adjustably supported above said top, means for supporting said shaft above the top, a gear wheel carried by said shaft, means on said shaft for operating the indicating mechanism, and a rack-bar secured to the piston and adapted to engage with the said gear-wheel.



3. An apparatus for measuring liquids comprising a liquid receptacle, a cover secured to said receptacle, a valved inlet and a valved outlet pipe connected to the bottom of the receptacle, a piston within the receptacle, a rack secured to the piston, an upright slotted casing secured to said receptacle cover and surrounding said rack, a gear-wheel engaging the rack, a shaft supporting said gear-wheel, and a worm on said shaft, and means operated by said worm for indicating the quantity of liquid drawn off from the liquid receptacle.

974,916. COMBINATION AGRICULTURAL IMPLEMENT. NIKLAUS RAEZ, St. Joseph, Mo. Filed Nov. 5, 1908. Serial No. 461,209.



1. In an agricultural implement of the class described, the combination of a main frame including side pieces having guide slots and a rear cross piece, front and rear transverse rock shafts journaled on said frame, a vertically adjustable supplemental frame disposed between the side pieces of the main frame and having guide members engaging said guide slots, said supplemental frame carrying tool supports, crank arms carried by the rock shafts, links pivotally connected with said arms and slidably and pivotally engaging the supplemental frame, a lever coupled to the front rock shaft and having a crank and link connection with the rear rock shaft, whereby said shafts are adapted to be rocked in unison, locking means embodying a pawl carried by the lever and a rack on the main frame for securing said lever in adjusted position, and supporting and cushioning springs having coils engaging the rear rock shaft and arms engaging the side pieces and rear cross piece of the main frame.

2. In an agricultural implement of the class described,

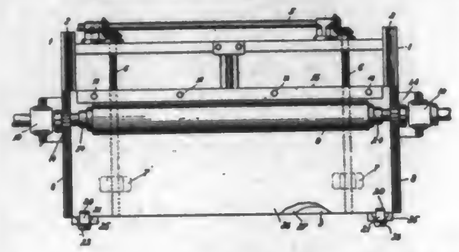
the combination of a main frame having side pieces provided with vertical guide slots, front and rear transverse rock shafts journaled on said frame, a vertically adjustable supplemental frame disposed between the side pieces of the main frame, said supplemental frame including side pieces having longitudinal slots and transverse tool-carrying rods connecting the side pieces, the front and rear rods having extended ends engaging said vertical guide slots in the main frame, crank arms upon the rock shafts, links pivotally connected with said arms and slidably and pivotally engaging the longitudinal slots in the supplemental frame, a lever connected with the front rock shaft, a crank and link connection between the lever and rear rock shaft, and yielding means for partially supporting and for cushioning the movements of the supplemental frame.

3. In an agricultural implement of the class described, the combination of a main frame having side pieces provided with vertical guide slots, front and rear transverse rock shafts journaled on said frame, a vertically adjustable supplemental frame disposed between the side pieces of the main frame, said supplemental frame including side pieces having longitudinal slots and transverse tool-carrying rods connecting the side pieces, the front and rear rods having extended ends engaging said vertical guide slots in the main frame, crank arms upon the rock shafts, links pivotally connected with said arms and slidably and pivotally engaging the longitudinal slots in the supplemental frame, a lever connected with the front rock shaft, a crank and link connection between the lever and rear rock shaft, and supporting and cushioning springs having coils engaging the rear rock shaft and arms engaging the side pieces and rear cross piece of the main frame.

4. In an agricultural implement of the character described, the combination of a main frame including side pieces having vertical guide slots, supporting and driving wheels, a clutch for throwing one of the driving wheels into and out of action, a spring shifter for normally holding said clutch retracted, front and rear transverse rock shafts journaled on said frame, a vertically adjustable supplemental frame disposed between the side pieces of the main frame and having guide members engaging said guide slots, said supplemental frame carrying tool supports, crank arms carried by the rock shaft, links pivotally connected with said arms and slidably and pivotally engaging the supplemental frame, a lever coupled to the front rock shaft and having a crank and link connection with the rear rock shaft, whereby said shafts are adapted to be rocked in unison, a cam arm adjusted by said lever for adjusting said spring shifter to throw the clutch into action when the supplemental frame is lowered and permitting said shifter to throw the clutch out of action when the supplemental frame is raised to a determined height, and locking devices on the main frame and lever for securing the latter in adjusted position.

5. In an agricultural implement of the character described, the combination of a main frame including side pieces having vertical guide slots, supporting and driving wheels, a clutch for throwing one of the driving wheels into and out of action, a spring shifter for normally holding said clutch retracted, front and rear transverse rock shafts journaled on said frame, a vertically adjustable supplemental frame disposed between the side pieces of the main frame and having guide members engaging said guide slots, said supplemental frame carrying tool supports, crank arms carried by the rock shafts, links pivotally connected with said arms and slidably and pivotally engaging the supplemental frame, a lever coupled to the front rock shaft and having a crank and link connection with the rear rock shaft, whereby said shafts are adapted to be rocked in unison, a cam arm actuated by said lever for adjusting said spring shifter to throw the clutch into action when the supplemental frame is lowered and permitting said shifter to throw the clutch out of action when the supplemental frame is raised to a determined height, locking devices on the main frame and lever for securing the latter in adjusted position, and springs arranged to partially support the supplemental frame and cushion the movements of said frame and said lever.

974,917. PRINTING-MACHINE. HENRY L. RECKARD, Hartford, Conn. Filed Oct. 5, 1909. Serial No. 521,148.



1. In a printing machine, the combination of a printing bed, a roller thereon, said printing bed having an exposed straight edge parallel to the axis of said roller, and supports having supporting surfaces for said roller extending beyond said bed and beginning at a plane passing through said edge and vertical to the surface of the bed at said edge, said bed being adapted to receive a printing plate having an exposed edge registering with said exposed straight edge and means for clamping the opposite edge of said printing plate to said bed.

2. In a printing machine, the combination of a printing bed, a roller thereon, said printing bed having a straight edge parallel to the axis of said roller and vertically adjustable supports having supporting surfaces for said roller parallel to said bed and beginning at a plane passing through said edge and vertical with the surface of said bed.

3. In a printing machine, the combination of a printing bed, a roller thereon having trunnions, said printing bed having an exposed straight edge parallel to the axis of said roller, and supports having supporting surfaces adapted to engage said trunnions, said supporting surfaces extending beyond said bed and beginning at a plane passing through said edge and vertical to the surface of said bed at said edge, said bed being adapted to receive a printing plate having an exposed edge registering with said exposed straight edge and means for clamping the opposite edge of said printing plate to said bed.

4. In a printing machine, the combination of a printing bed having a printing surface thereon, a roller engaging said printing surface, said bed having a straight edge at its finishing end and adjustable supports having supporting surfaces for said roller beginning at said straight edge and extending beyond said bed and vertical stop surfaces in line with said straight edge.

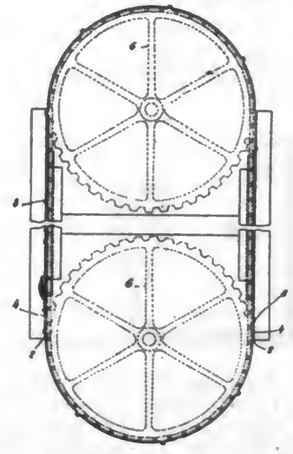
5. In a printing machine, the combination of a printing bed having a plane surface and an exposed straight edge, a printing sheet on said surface having an exposed edge registering with said exposed edge of said bed, a roller having its axis parallel to said edges and adapted to contact with said printing sheet on said surface, a clamping bar having a portion extending over both said plane surface and said printing sheet at the edge opposite the exposed edge of said sheet and adapted to clamp said sheet between said plane surface and the portion of the bar extending over said plane surface and securing devices for said bar.

[Claims 6 to 9 not printed in the Gazette.]

974,918. TRUCK-CONVEYER. JESSE W. RENO, New York, N. Y. Filed July 5, 1910. Serial No. 570,274.

1. In a truck conveyer the combination with a floor having a channel or groove formed therein, of cover plates secured to said floor above said channel and separated by a space to form a relatively narrow slot above said channel, a chain guide in said channel, a chain adapted to operate in said chain guide, lugs secured to said chain and extending across the plane of said slot.

2. In a truck conveyer the combination with a floor having a channel or groove formed therein, of cover plates secured to said floor above said channel and separated by a space to form a relatively narrow slot above said channel, a chain guide in said channel at one side of said slot, a chain adapted to operate in said chain guide, lugs secured to said chain and extending across the plane of said slot.

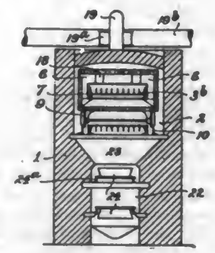


3. In a truck conveying apparatus the combination with a floor or deck having a slot formed therein, of a pair of horizontal chain-wheels rotatably mounted beneath said floor or deck, a chain operatively mounted on said chain-wheels, lugs secured to said chain in operative relation to said slot, and a truck having elastic engaging means secured thereto adapted to pass through said slot.

4. A truck provided with front and rear truck wheels and a lever pivoted to said truck adapted in one position to extend below the plane of the base of said truck wheels, and to be raised above said plane, and an elastic banking or stop adapted to engage said lever when it is in its lower position.

5. In a truck conveying apparatus the combination with a floor having a channel formed therein, of a flexible driving member provided with truck engaging means adapted to travel in said channel, a truck provided with front and rear wheels and with engaging means adapted to engage said truck engaging means, located near the forward truck wheels, whereby said truck will follow the line of said channel without the use of guides or tracks for the rear wheels.

974,919. APPARATUS FOR THE DISTILLATION OF COAL AND THE RECOVERY OF THE PRODUCTS. RICHARD SLOANE RICHARDS, Wraysbury, and ROBERT WILLIAM PRINGLE, Richmond, England. Filed June 10, 1910. Serial No. 566,201.



1. Apparatus for the partial carbonization and distillation of coal, comprising in combination a distilling chamber, a heating flue system enveloping the same, an endless conveyer whereof the upper stretch is closely enveloped by and adapted to travel through said distilling chamber and whereof the lower stretch is outside said heating flue system, means for imparting traveling motion to the conveyer, means for supplying coal to the upper stretch of the conveyer and an inclosing structure for the apparatus adapted to exclude the air substantially as described.

2. Apparatus for the partial carbonization and distillation of coal, comprising in combination a distilling chamber, a heating flue system enveloping the same, an endless conveyer whereof the upper stretch is closely enveloped by and adapted to travel through said distilling chamber and whereof the lower stretch is outside said heating flue system, means for imparting traveling motion to the conveyer, means for supplying coal to the upper stretch of the conveyer, an inclosing structure adapted to exclude the air, and means for carrying away and collecting the gaseous distillation products evolved, substantially as described.

3. Apparatus for the partial carbonization and distillation of coal, comprising in combination a distilling chamber, a heating flue system enveloping the same, an endless conveyer whereof the upper stretch is closely enveloped by and adapted to travel through said distilling chamber and whereof the lower stretch is outside said heating flue system, means for imparting traveling motion to the conveyer, means for supplying coal to the upper stretch of the conveyer, and an inclosing structure for the apparatus adapted to exclude the air, said distilling chamber and its heating flue system being an independent metal structure adapted to be run into and out of the inclosing structure, substantially as described.

4. Apparatus for the partial carbonization and distillation of coal, comprising in combination a distilling chamber, a heating flue system enveloping the same, an endless conveyer whereof the upper stretch is closely enveloped by and adapted to travel through said distilling chamber and whereof the lower stretch is outside said heating flue system, means for imparting traveling motion to the conveyer, means for supplying coal to the upper stretch of the conveyer, and an inclosing structure for the apparatus adapted to exclude the air, said distilling chamber and its heating flue system being an independent metal structure lined with refractory material, adapted to be run into and out of the inclosing structure, substantially as described.

5. Apparatus for the partial carbonization and distillation of coal, comprising in combination a distilling chamber, a heating flue system enveloping the same, an endless conveyer whereof the upper stretch is closely enveloped by and adapted to travel through said distilling chamber and whereof the lower stretch is outside said heating flue system, means for imparting traveling motion to the conveyer, means for supplying coal to the upper stretch of the conveyer, means for supplying coal to the upper stretch of the conveyer and an inclosing structure for the apparatus adapted to exclude the air substantially as described.

2. Apparatus for the partial carbonization and distillation of coal, comprising in combination a distilling chamber, a heating flue system enveloping the same, an endless conveyer whereof the upper stretch is closely enveloped by and adapted to travel through said distilling chamber and whereof the lower stretch is outside said heating flue system, means for imparting traveling motion to the conveyer, means for supplying coal to the upper stretch of the conveyer, an inclosing structure adapted to exclude the air, and means for carrying away and collecting the gaseous distillation products evolved, substantially as described.

3. Apparatus for the partial carbonization and distillation of coal, comprising in combination a distilling chamber, a heating flue system enveloping the same, an endless conveyer whereof the upper stretch is closely enveloped by and adapted to travel through said distilling chamber and whereof the lower stretch is outside said heating flue system, means for imparting traveling motion to the conveyer, means for supplying coal to the upper stretch of the conveyer, and an inclosing structure for the apparatus adapted to exclude the air, said distilling chamber and its heating flue system being an independent metal structure adapted to be run into and out of the inclosing structure, substantially as described.

4. Apparatus for the partial carbonization and distillation of coal, comprising in combination a distilling chamber, a heating flue system enveloping the same, an endless conveyer whereof the upper stretch is closely enveloped by and adapted to travel through said distilling chamber and whereof the lower stretch is outside said heating flue system, means for imparting traveling motion to the conveyer, means for supplying coal to the upper stretch of the conveyer, and an inclosing structure for the apparatus adapted to exclude the air, said distilling chamber and its heating flue system being an independent metal structure lined with refractory material, adapted to be run into and out of the inclosing structure, substantially as described.

5. Apparatus for the partial carbonization and distillation of coal, comprising in combination a distilling chamber, a heating flue system enveloping the same, an endless conveyer whereof the upper stretch is closely enveloped by and adapted to travel through said distilling chamber and whereof the lower stretch is outside said heating flue system, means for imparting traveling motion to the conveyer, means for supplying coal to the upper stretch of the conveyer and an inclosing structure for the apparatus adapted to exclude the air substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

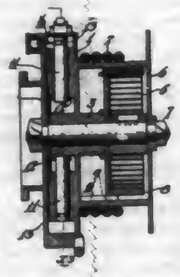
974,920. TROLLEY-CATCHER. JAMES R. RICKETTS, Longbeach, Cal., assignor to Los Angeles Trolley Catcher Company, Los Angeles, Cal. Filed Sept. 15, 1909. Serial No. 517,921.

1. A reel, a plurality of dogs slidable substantially radially of the reel, each dog adapted to drop by gravity as it passes through the upper portion of its orbital cycle, a stationary abutment adapted to be engaged by said dog when the reel moves faster than the dog can drop by gravity, and means for preventing retraction of a dog after it has engaged an abutment.

2. A reel, a plurality of dogs slidably mounted radially therein, a stationary abutment adapted to be engaged by any of said dogs when the reel moves faster than the dogs can drop by gravity, a track extending toward said abutment, said dogs being adapted to engage said track and being retained thereby in extended position when the reel moves faster than the dogs can drop by gravity.

3. A reel, a plurality of dogs slidable substantially radial thereof, a stationary abutment adapted to be

engaged by any of said dogs when the reel moves faster than a dog can drop by gravity, an eccentrically curved wire leading toward said abutment, each of said dogs having a groove near its outer end which is adapted to engage with said wire when a dog does not drop by gravity quickly enough to escape the wire.

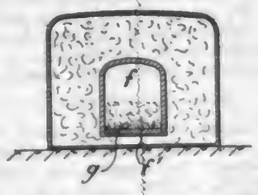


4. A reel, a plurality of dogs slidable substantially radial thereof, a stationary abutment adapted to be engaged by any of said dogs when the reel moves faster than a dog can drop by gravity, an eccentrically curved wire leading toward said abutment, each of said dogs having a groove near its outer end which is adapted to engage with said wire when a dog does not drop by gravity quickly enough to escape the wire, and cushioning means in front of said abutment adapted to be struck by a dog.

5. A reel, a plurality of dogs slidable substantially radial thereof, a stationary abutment adapted to be engaged by any of said dogs when the reel moves faster than a dog can drop by gravity, an eccentrically curved wire leading toward said abutment, each of said dogs having a groove near its outer end which is adapted to engage with said wire when a dog does not drop by gravity quickly enough to escape the wire, cushioning means in front of said abutment adapted to be struck by a dog, and a steel cap over said abutment preventing the same from chipping off.

[Claims 6 to 8 not printed in the Gazette.]

974,921. PROCESS OF MAKING BARIUM OXID. CHARLES ROLLIN, Newcastle-upon-Tyne, England, assignor to himself and Hedworth Barium Company Limited, Newcastle-upon-Tyne, England. Filed June 3, 1909. Serial No. 499,922.



1. A process for reducing barium oxid, said process consisting in heating anhydrous barium hydroxid with a barium compound capable of evolving gas when heated.

2. A process for producing barium oxid from barium hydroxid, said process consisting in intimately mixing with the barium hydroxid, in an amorphous anhydrous condition, a barium compound capable of evolving gas when heated and heating such mixture.

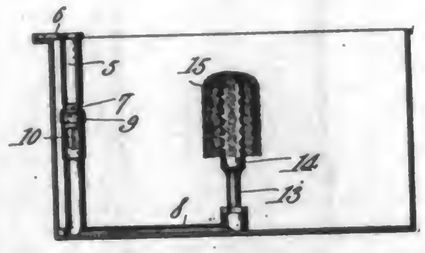
3. A process for producing barium oxid, said process consisting in heating amorphous anhydrous barium hydroxid with a barium compound capable of evolving an oxidizing gas when heated and of leaving a residue of barium oxid.

4. A process for producing barium oxid, said process consisting in heating barium peroxid to a high temperature with amorphous anhydrous barium hydroxid.

5. A process for producing barium oxid from barium hydroxid, said process consisting in mixing amorphous anhydrous barium hydroxid with a barium compound capable of evolving an oxidizing gas when heated, and heating the mixture to a temperature of at least 600° C.

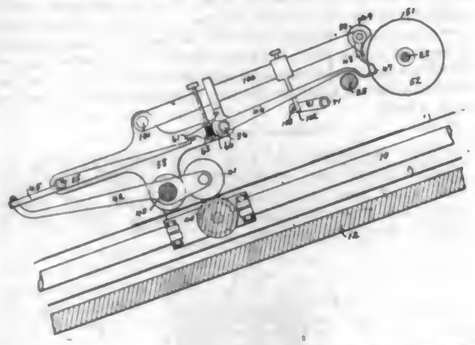
[Claims 6 and 7 not printed in the Gazette.]

974,922. BRUSH. JAMES BARTON ROSE, Victor, Colo. Filed Feb. 19, 1910. Serial No. 544,812.



A device of the class described comprising a member formed at its upper end with an attaching plate portion designed to be secured to the upper edge of one wall of a container in which the device is to be arranged, a tubular member telescoping the lower portion of the said first mentioned member, a set screw carried by the tubular member and holding the two members at relative adjustment, an arm projecting at right angles from the lower end of the tubular member and having a flattened under side designed to rest upon the bottom of the receptacle in which the device is arranged, the arm at its end being formed with a threaded collar portion, a brush having a shank, and a bushing fitted upon the lower end of the brush shank and removably threaded into said collar portion.

974,923. PAPER-FEEDING DEVICE. FRANK SCHILL, Milwaukee, Wis., assignor to Hugo Loewenbach, Milwaukee, Wis. Filed Aug. 14, 1905. Serial No. 274,151.



1. In a machine of the described class, the combination with a conveyer for sheets of paper, of a sheet stopping mechanism; an oscillatory member; means for depressing said member into contact with a sheet when the latter is at rest; said member being positioned for contact with the conveyer in the absence of the sheet when the member is depressed, and connections for transmitting motion from said member to stop the conveyer when the member is oscillated by contact with the conveyer.

2. In a machine of the described class, the combination with a conveyer for sheets of paper, of a sheet stopping mechanism and conveyer stopping mechanism; an oscillatory member; means for lowering and raising the same at intervals into and out of contact with the conveyer or with a sheet of paper thereon when engaged by the sheet stopping mechanism; said member being adapted to be oscillated by friction of the conveyer when in contact therewith; and connections for transmitting such oscillatory movement of said member to operate the conveyer stopping mechanism.

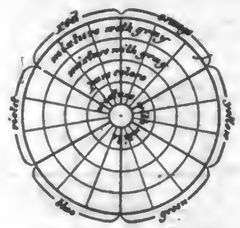
3. In a machine of the described class, the combination with a conveyer for sheets of paper; of a swinging support, with one end arranged to move automatically to and from the conveyer at intervals; a member mounted to oscillate on said support and adapted for contact with the conveyer; and conveyer stopping mechanism controlled by said member.

4. In a machine of the described class, the combination with a conveyer for sheets of paper; of a transversely disposed rotary shaft above the conveyer; a sheet stopping device actuated from said shaft at regular intervals into and out of the path of paper on the conveyer; a testing device actuated from said shaft and moved to and from the conveyer during the sheet stopping interval; said testing device being arranged for contact with a sheet held by the stopping device, and adapted to be actuated by the conveyer in the absence of a sheet during the sheet stopping interval; and connections, adapted to transmit motion from the testing device, when actuated by the conveyer, to stop the conveyer.

5. In a machine of the described class, the combination with a conveyer, of a transversely disposed rotary shaft; a testing lever pivotally connected with a support above the conveyer; a member mounted to oscillate on one end of the lever; a cam mounted on the rotary shaft; a cam actuated lever for transmitting motion to the testing lever to swing the oscillatory member to and from the conveyer and connections adapted to transmit motion from the oscillatory member to stop the conveyer.

[Claims 6 to 18 not printed in the Gazette.]

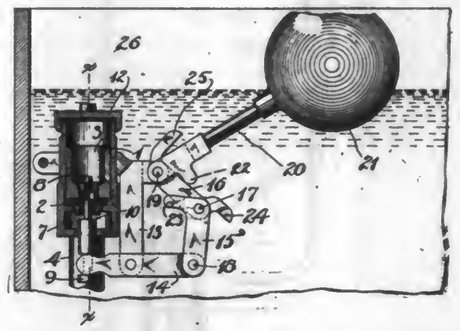
974,924. DEVICE FOR FINDING HARMONIC COLOR SHADES. CARL SCHNEBEL, Berlin, Germany. Filed May 10, 1909. Serial No. 495,205.



A device for finding harmonic color shades comprising a disk divided into a plurality of sectors of different colors and also divided into a series of concentric rings each of a different shade and varying in shade from the center outward, and a cover plate for said disk rotatably mounted thereon and having a plurality of openings each being of a size to expose a single shade of any one color, said openings being arranged at different distances from the center and out of alinement with each other, whereby upon placing one of said openings over a predetermined color complemental harmonic tints are exposed through the remaining openings.

974,925. VALVE MECHANISM. WILLIAM H. SCHULTE, Trenton, N. J. Filed Apr. 27, 1910. Serial No. 558,039.

1. In a valve construction, a casing having an inlet and an outlet, a passage leading from the inlet to the outlet, a main valve for said passage, a pressure chamber above said valve, a passage communicting from the inlet to said pressure chamber, an outlet from said pressure chamber, a relief valve therefor, lever mechanism for operating said relief valve, said lever mechanism including toggle links, and an operating pivoted lever capable of limited movement independently of said links but arranged to engage and operate said links at the ends of said limited movement in both directions.



2. In a valve construction, a casing having an inlet and an outlet, a passage leading from the inlet to the outlet, a main valve for said passage, a pressure chamber above said valve, a passage communicating from the inlet to said pressure chamber, an outlet from said pressure chamber, a relief valve therefor, lever mechanism for operating said relief valve, said lever mechanism including toggle links, a pivoted lever capable of limited movement independently of said links but arranged to engage and operate said links at the ends of said limited movement in both directions, and toggle lugs, one of said lugs being carried by said operating lever, the other lug being carried by one of said toggle links.

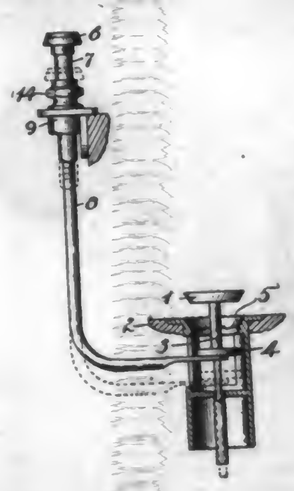
3. In a valve mechanism, a valve casing having a passage to be controlled, a main valve for said passage, a pressure chamber above the valve arranged to receive fluid under pressure to move said main valve in a direction to close said passage, a relief valve to release the pressure in said pressure chamber to permit said main valve to open by fluid pressure, a lever for controlling said relief valve, including link mechanism arranged between said lever and said relief valve, said lever operating said link mechanism to both open and close said valve quickly, said lever having a limited amount of movement independently of said link mechanism in both directions.

4. In a valve mechanism, a valve casing having a passage to be controlled, a main valve for said passage, a pressure chamber above the valve arranged to receive fluid under pressure to move the main valve in a direction to close said passage, a relief valve to release the pressure in said pressure chamber to permit said main valve to open by fluid pressure, a lever for controlling said relief valve, including link mechanism arranged between said lever and said relief valve, said lever operating said link mechanism to both open and close said relief valve quickly, said lever having a limited amount of movement independently of said link mechanism in both directions, said link mechanism including toggle links.

5. In a valve mechanism, a valve casing having a passage to be controlled, a main valve for said passage, a pressure chamber above the valve arranged to receive fluid under pressure to move the main valve in a direction to close said passage, a relief valve to release the pressure in said pressure chamber to permit said main valve to open by fluid pressure, a lever for controlling said relief valve, including link mechanism arranged between said lever and said relief valve, said lever operating said link mechanism to both open and close said relief valve quickly, said lever having a limited amount of movement independently of said link mechanism in both directions, said link mechanism including toggle links and toggle lugs.

[Claims 6 to 8 not printed in the Gazette.]

974,926. CONTROLLING DEVICE FOR WASTE-PLUGS. WILLIAM H. SCHULTE, Trenton, N. J. Filed May 13, 1910. Serial No. 561,056.



1. In a device of the character described, a valve to be operated, a reciprocating handle, a rod adjustably connecting said valve with said handle, the means of adjustment including a screw-threaded connection between said parts, a guide support for said handle in which said handle is capable of longitudinal and rotary movement, means for locking said handle against rotary movement therein, and means for frictionally resisting longitudinal movement therein.

2. In a device of the character described, a valve to be operated, a handle, a rod adjustably connecting said valve with said handle, a guide support for said handle in which said handle is capable of longitudinal and rotary movement, means for locking said handle against rotary movement therein, and means for frictionally resisting longitudinal movement therein.

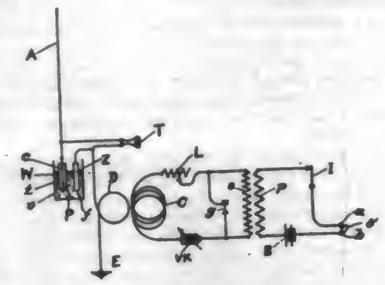
3. In a device of the character described, a valve to be operated, a handle, a rod adjustably connecting said valve with said handle, a guide support for said handle in which said handle is capable of longitudinal and rotary movement, means for locking said handle against rotary movement therein, and means for frictionally resisting longitudinal movement therein, said means comprising a split ring.

4. In a device of the character described, a valve to be operated, a handle, a rod adjustably connecting said valve with said handle, a guide support for said handle in which said handle is capable of longitudinal and rotary movement, means for locking said handle against rotary movement therein, and means for frictionally resisting longitudinal movement therein, all of said parts excepting said valve and rod being insertible in and removable from said support from above.

974,927. RECEIVING APPARATUS. HARRY SHOEMAKER, Jersey City, N. J., assignor to International Telegraph Construction Company, a Corporation of New York. Filed Dec. 11, 1906, Serial No. 347,272. Renewed Sept. 30, 1910. Serial No. 584,763.

1. In a signaling system, receiving apparatus comprising a wave-responsive device of normal sensitiveness associated with means for reproducing a signal, in combination with a local producer of high frequency impulses for rendering said wave-responsive device over-sensitive.

2. In a signaling system, receiving apparatus comprising a self-restoring wave-responsive device of normal sensitiveness associated with means for reproducing a signal, in combination with a local producer of high frequency oscillations for rendering said wave-responsive device over-sensitive.



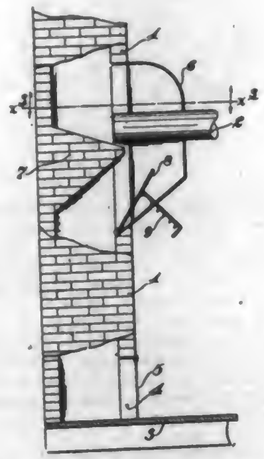
3. In a signaling system, receiving apparatus comprising a receiving conductor or circuit, a wave-responsive device of normal sensitiveness associated with means for reproducing a signal, and means for producing locally high frequency oscillations to render said wave-responsive device over-sensitive.

4. In a signaling system, receiving apparatus comprising a receiving circuit or conductor, a wave-responsive device of normal sensitiveness associated with means for reproducing a signal, and means for impressing upon said wave-responsive device locally generated high frequency oscillations for rendering said wave-responsive device over-sensitive.

5. In a signaling system, receiving apparatus comprising a receiving conductor or circuit, an electro-chemical wave-responsive device associated therewith, a signal translating instrument, and means for impressing upon said wave-responsive device locally generated high frequency oscillations.

[Claims 6 to 30 not printed in the Gazette.]

974,928. COMBINED HEATING AND VENTILATING SYSTEM. LEO C. SMITH, Minneapolis, Minn. Filed Oct. 27, 1909. Serial No. 524,777.

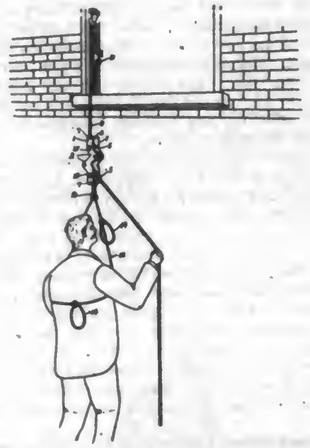


1. The combination with a chimney having a laterally projecting hood and a deflecting abutment coöperating with said hood to form a lateral bend in the chimney, of a smoke pipe extending into said hood and terminating at a point above said abutment, substantially as described.

2. The combination with a chimney having a laterally projecting hood and a deflecting abutment coöperating with said hood to form a lateral bend in the chimney, of a smoke pipe extending into said hood and terminating at a point above said abutment, and a damper at the lower portion of said hood movable toward and from said abutment, substantially as described.

3. The combination with a chimney having a laterally projecting hood and a deflecting abutment coöperating with said hood to form a lateral bend in the chimney, of a smoke pipe extending into said hood and terminating at a point above said abutment, the said hood, in horizontal plane of said smoke pipe and, on opposite sides of said smoke pipe, having air passages the aggregate conducting capacity of which equals that of said chimney, substantially as described.

974,929. FIRE-ESCAPE. WILLIAM SMITH, Harlem, Ontario, Canada. Filed Nov. 9, 1909. Serial No. 527,070.



1. In a device of the class described, in combination, a pair of side plates, spacing bars secured between said side plates at the ends thereof, a pair of pulleys journaled between said side plates in staggered arrangement one to the other, a pair of tiltable brake shoes pivotally secured between said plates toward the ends thereof and a rope threaded between said pulleys and said brake shoes on alternate sides thereof and controlling the tilt of said brake shoes.

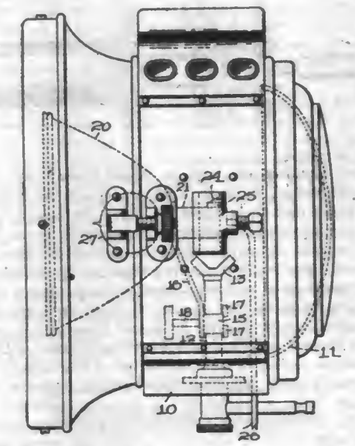
2. In a device of the class described, in combination, a pair of plates having the mid-portion thereof of zig-zag form, a pair of pulleys journaled at the offset portion of said zig-zag mid-portion, a pair of tiltable brake shoes having grooves in one side thereof and pivoted at a point to one side of said grooves between said plates toward the ends thereof and a rope threaded arcand the alternate outer sides of said pulleys and resting in the grooves in said brake shoes and controlling the tilt of said brake shoes on their pivotal bearings.

974,930. ELECTRIC-LIGHT ATTACHMENT FOR GAS-LAMPS. JASON C. STEARNS, Worcester, Mass. Filed Jan. 31, 1910. Serial No. 541,059.

1. As an article of manufacture an acetylene gas burner, having a reflector behind the burner, a parabolic reflector located above said burner, and an incandescent electric lamp located within the parabolic reflector.

2. As an article of manufacture a gas burner comprising a standard, a reflector behind said burner, a parabolic reflector removably mounted on said standard in front of the first named reflector and over the burner, and an incandescent electric lamp located within the parabolic reflector.

3. As an article of manufacture a burner comprising a standard, a reflector behind the burner, a parabolic reflector located above said burner, an incandescent electric lamp located within the parabolic reflector, a bracket on which said parabolic reflector is fixed, and means for removably attaching the bracket to the standard below the burner.

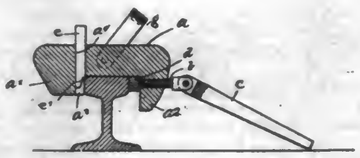


4. As an article of manufacture a burner having a fixed reflector located entirely behind said burner, an electric lamp removably mounted adjacent to the burner, and a second reflector removable with the electric lamp and extending above it and forward from it.

5. In a device of the class described, the combination of a gas burner having a standard, a bracket removably mounted on the standard and rigidly secured thereto, an incandescent electric lamp mounted on the bracket, and a reflector fixedly mounted on said bracket.

[Claims 6 to 10 not printed in the Gazette.]

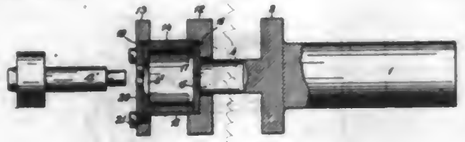
974,931. DEVICE FOR PREPARING RAILS FOR THE ATTACHMENT OF RAIL-BONDS. WILLIAM G. STUART, Newburyport, Mass., assignor to Chase-Shawmut Company, Newburyport, Mass., a Corporation of Maine. Filed Dec. 24, 1909. Serial No. 534,801.



1. In a device of the character described, a clamp comprising a body portion adapted to extend across the top of a rail, and jaw-members to engage opposite sides of the rail, one jaw-member having a recess in its rail-engaging face shaped to correspond to the shape of a chisel which is adapted to be movably placed therein, whereby the chisel is guided, and the body portion having a hole through it in line with said recess up through which the shank of the chisel extends, substantially as described.

2. In a device of the character described, a clamp comprising a body portion adapted to extend across the top of a rail and jaw-members to engage opposite sides of the rail, one jaw-member having a recess in its rail-engaging face extended throughout the length of the jaw and shaped to correspond to the shape of a chisel adapted to be movably placed therein, whereby the chisel is guided, and the body portion having a hole through it in continuation of and in line with said recess up through which the shank of the chisel extends, substantially as described.

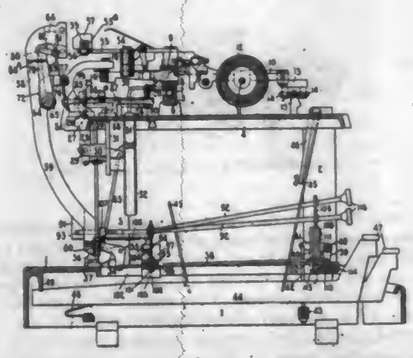
974,932. FINISHING-TOOL. EMIL TRAUB, Newark, N. J., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Sept. 9, 1907. Serial No. 391,922.



1. The combination with a cutter-holder for machine tools constructed with a head composed of axially arranged inner and outer disks of which the latter is formed with a circular cutter-receiving cavity in its outer face and with a central clearance aperture extending through the same, said disks being connected together by parallel longitudinal members at opposite sides of their centers to afford intermediate spaces for release of chips or cuttings, of a solid cutter-disk of smaller diameter than said cavity and disposed therein, said cutter-disk being formed with a central aperture having a circular series of convergent cutter-teeth formed with straight substantially parallel cutting edges and with a peripheral notch or aperture, and a steady pin disposed within the cutter-receiving cavity and entering said notch or aperture within the cutter-disk.

2. A cutter for machine tools comprising a plurality of flat-faced cutter-disks each formed with an annular series of inwardly extending cutter-teeth, in combination with a holder therefor provided with a receiving cavity of larger area than said cutter-disks and having a seat at its inner end to receive one of said cutter-disks, a spacing ring or bushing inserted within said cavity and having seats at opposite ends one of which rests upon the first-named cutter-disk and the other of which receives another of said cutter-disks, means engaging the second-named cutter disk for confining both cutter-disks and the intermediate spacing ring or bushing within said cavity, and means for locking both cutter-disks from turning within said cavity.

974,933. TYPE-WRITING MACHINE. EUGENE C. TROUSLOT, Prairie City, Ill., assignor to Remington Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed Jan. 11, 1909. Serial No. 471,626.



1. In a typewriting machine and tabulating mechanism, the combination of key levers, type bars, upwardly extending actuating links between said key levers and type bars, upright tabulator stop levers at the rear of the machine and which fan outwardly at the lower ends thereof, denominational stops moved by said stop levers, push rods extending horizontally above the key levers and between said upwardly extending actuating links, and finger keys mounted on the forward ends of said push rods and arranged at the front of the machine and above the level of the key board.

2. In a typewriting machine and tabulating mechanism, the combination of printing keys, type bars, upright connections between said printing keys and type bars, tabulator stops at the rear of the machine, tabulator keys at the front of the machine, substantially horizontally disposed connections between said tabulator keys and stops and which pass between the upright connections between the printing keys and type bars, and a guide plate at the front of the machine above the keyboard and through openings in which the horizontally disposed connections move and by which they are positioned at their front ends so as to maintain the tabulator keys in two banks above the keyboard of the machine.

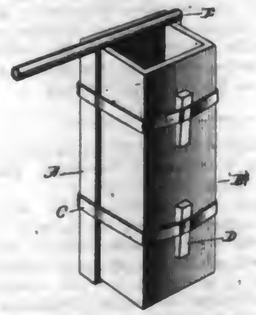
3. In a typewriting machine and tabulating mechanism, the combination of key levers, type bars, upwardly extending connections between said key levers and type bars, tabulator stop-levers at the rear of the machine fanning outwardly at their lower ends, tabulator keys at the front of the machine intermediate push rods between said tabulator keys and the lower ends of said tabulator stop-levers, said push rods passing horizontally between said upwardly extending connections and above said key levers, and a guide plate at the front of the machine and above the keyboard of the machine and through openings in which the push rods are adapted to move.

4. In a typewriting machine and tabulating mechanism, the combination of key levers, type bars, upwardly extending actuating links between said key levers and type bars, upright tabulator stop levers at the rear of the machine and which fan outwardly at their lower ends, denominational stops moved by said stop-levers, tabulator keys at the front of the machine above the key-board, push rods intermediate said tabulator keys and stop-levers, said push rods extending horizontally above the key levers and between said upwardly extending actuating links, and a perforated guide plate secured to the frame of the machine at the front thereof and above the key-board and through the perforations in which said push rods move and by which the tabulator keys are maintained in two banks above the key-board.

5. In a typewriting machine and tabulating mechanism, the combination with the main frame of the machine, of tabulating mechanism including tabulator stop-levers situated at the rear of the machine, a tabulator stop-lever frame in which said levers are pivoted, said stop lever frame being within the boundaries of the machine and wholly above the base thereof, and means for securing the stop-lever frame to the rear corner posts of the main frame.

[Claim 6 not printed in the Gazette.]

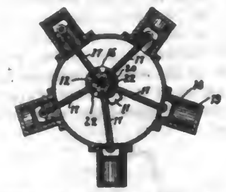
974,934. METHOD OF CASTING METAL. CHARLES H. UPSON, Waterbury, Conn. Filed Apr. 28, 1908, Serial No. 429,751. Renewed Apr. 9, 1910. Serial No. 554,529.



1. The method hereinbefore described of casting metal, consisting in supplying air under pressure to the metal while pouring the same.

2. The method hereinbefore described of casting metal, consisting in forcing air under pressure into a mold simultaneously with the pouring of the molten metal therein.

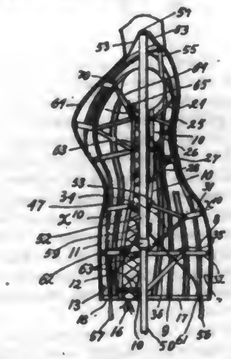
974,935. PISTON-ROD CONNECTION. PETER M. VAN BOSCH, Chicago, Ill., assignor of one-third to E. C. Ecker and one-third to W. Kabitzke, Chicago, Ill. Filed Dec. 16, 1909. Serial No. 533,321.



1. A crank shaft and cranks having circular channels and a crank pin, a central disk on the pin having a connecting rod in the plane thereof, and lateral disks on the pin having offset connecting rods in the plane of the first rod, and shoulders on each disk bearing in the channels and upon the outer rims of the other disks.

2. A crank chamber having a circumferential passage and opposite channels, a crank-pin in the chamber, a central disk on the pin with its connecting rod passing through the said passage, a pair of complemental inner disks and a pair of complemental outer disks on the pin and having their connecting rods offset to pass through said passage, and shoulders on each disk bearing in the channels of the chamber and upon the outer rims of the other disks.

974,936. MODEL-FORM FOR GARMENT-FITTING. ELIZABETH VAN DUSEN, Los Angeles, Cal. Filed June 24, 1909. Serial No. 504,184.



1. In a form for garment fitting, a body portion having a frame work provided with longitudinal strips of resilient metal, said strips consisting of upper and lower sections separated from each other by being spaced longitudinally apart at the waist line, a section of relatively soft more flexible metal uniting said sections at their adjacent ends, and a covering, said uniting section of metal being adapted to maintain the portion of the covering extending thereover in any curve to which it may be bent.

2. A model form for garment fitting comprising a covering consisting of sections spaced apart below the waist and outcurved along the edges next said space, resilient reinforcing strips extending along said edges, and internal tie-strips connecting upper and lower portions of said resilient strips to maintain the curve thereof, said resilient strips constituting selvage strips to maintain the contour of the edge portions of the covering of the form.

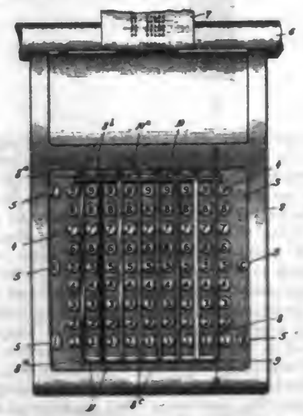
3. A model form for garment fitting having a relatively flexible covering, a resilient strip extending upwardly along the under side of said covering from the back portion of the form across the shoulder portion thereof and terminating at the chest, and a connection fastened to said strip and leading from the portion of said strip underlying the chest transversely of the form to another part of the form to maintain the curve of said strip where it underlies the shoulder.

4. In a form for garment fitting a supporting stem within said form, a covering therefor, a plurality of downwardly and outwardly radiating strips fastened to said stem, supporting means in the neck portion of said form to permit the same to swing thereon to a limited extent, said strips having slotted lower ends, and means at the bottom of said form in substantially the same plane with the covering thereof to engage said slots, said means being adjustable to different points along the slots to vary the inclination of the form.

5. A form for garment fitting provided with a joint having hollow sections, a strip of resilient material bent into a loop and having one of its ends placed flatwise upon the other and both fastened to one section of the joint, the bent portion of said loop engaging the interior of the other section of the joint to hold the same yieldingly in adjusted position.

[Claim 6 not printed in the Gazette.]

974,937. ADDING-MACHINE. CHARLES WALNE, Detroit, Mich., assignor to Burroughs Adding Machine Company, Detroit, Mich., a Corporation of Michigan. Filed Feb. 6, 1909. Serial No. 476,491.



1. In a machine of the character described, the combination with parallel rows of denominational keys; of indicators located between rows and adjustable singly to indicate subdivision.

2. In a machine of the character described, the combination with parallel rows of denominational keys; of strips extending between rows and adjustable singly to indicate subdivision.

3. In a machine of the character described, the combination with parallel rows of amount keys; of a strip extending between rows and having differently characterized sides separately exposable.

4. In a machine of the character described, the combination with parallel rows of denominational keys; of an indicating strip extending between rows and rotatably mounted.

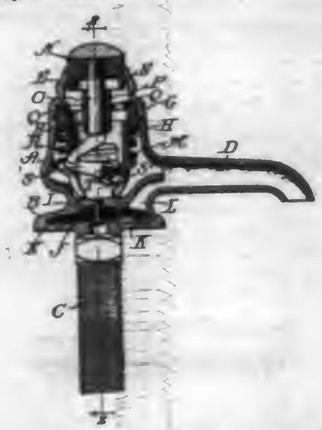
5. In a machine of the character described, the combination with parallel rows of denominational keys; of an indicating strip extending between rows and rotatably mounted and having a different surface characteristic on one side from another.

[Claims 6 to 14 not printed in the Gazette.]

974,938. BASIN-COCK. EARL G. WATROUS, Chicago, Ill. Filed Dec. 18, 1909. Serial No. 533,909.

1. In a basin-cock of the character described, the combination with the casing having an inlet opening in its bottom portion, of a valve controlling said inlet opening, a push-button located in the top of the casing, and means intermediate said push-button and valve adapted to lift and open the valve when the push button is depressed, substantially as described.

2. In a basin-cock of the character described, the combination with the casing having an inlet opening in its bottom portion, of a valve controlling said inlet opening, a spring for normally holding said valve to its seat, a push-button located in the top of the casing, and means intermediate said push button and valve adapted to lift and open the valve when the push button is depressed, substantially as described.



3. In a basin-cock of the character described, the combination with the casing having an inlet opening in its bottom portion, of a valve controlling said inlet opening, a spring for normally holding said valve to its seat, adjustable means for regulating the pressure of said spring upon the valve, a push-button located in the top of the casing, and means intermediate said push button and valve adapted to lift and open the valve when the push button is depressed, substantially as described.

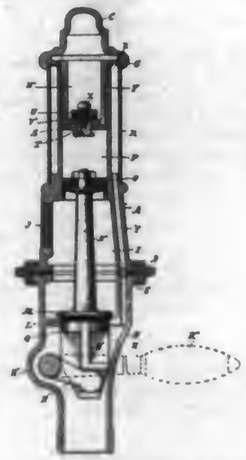
4. In a basin-cock of the character described, the combination of a casing having a laterally projecting discharge spout, a chamber formed in the lower portion of said casing and communicating with said discharge spout, a central chamber within the body of the casing separated from and above the first mentioned chamber and also communicating with the discharge spout, an inlet passage opening into the first-mentioned chamber, a valve controlling said passage, a push-button located in the top of the casing, and means intermediate said push-button and valve adapted to lift and open the valve when the push button is depressed and admit the water supply to the chamber.

5. In a basin-cock of the character described, the combination of a casing having a laterally projecting discharge spout, a chamber formed in the lower portion of said casing and communicating with said discharge spout, a central chamber within the body of the casing separated from and above the first mentioned chamber and also communicating with the discharge spout, an inlet passage opening into the first-mentioned chamber, a valve controlling said passage, a spring for normally holding said valve to its seat, a push-button located in the top of the casing, and means intermediate said push-button and valve adapted to lift and open the valve when the push button is depressed and admit the water supply to the chamber in the bottom of the casing and thence through its discharge passage into the spout, substantially as described.

[Claims 6 to 18 not printed in the Gazette.]

974,939. WATER-CLOSET VALVE. EARL G. WATROUS, Chicago, Ill. Filed Feb. 20, 1899. Serial No. 706,224.

1. In a water closet valve, a water inlet or pressure chamber to which the water supply under pressure is constantly admitted, a discharge chamber at one end thereof, open to the atmosphere and separated from the inlet chamber by the main valve and a controlling chamber at the opposite end of the inlet chamber and communicating with the discharge chamber by a passage independent of the main valve and the water inlet or pressure chamber and also communicating with the atmosphere and separated from the inlet chamber by a piston connected to and moving with the main valve and adapted to traverse said controlling chamber, whereby the pressure in the inlet chamber exerted in opposite directions upon the main valve and piston balances the valve and permits free opening movement of the same, in combination with means for preventing free back flow of water to the controlling chamber at the closing movement of the valve; substantially as described.



2. In a water closet valve, a water inlet or pressure chamber to which the water supply under pressure is admitted, a discharge chamber at one end thereof, a main valve separating said chambers, a controlling chamber at the other end of the inlet chamber, a piston separating the controlling and inlet chambers and connected to the main valve, said piston being arranged to traverse the controlling chamber, a reservoir chamber arranged beyond the controlling chamber and communicating with the discharge chamber by means of a passage extending direct thereto and independent of the inlet chamber, and means for permitting free flow from the controlling chamber to the reservoir chamber but restricting the flow in the opposite direction.

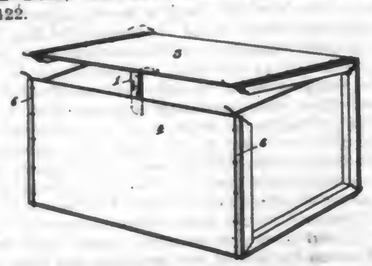
3. In a water-closet valve, a water inlet or pressure chamber to which the water supply under pressure is constantly admitted, a discharge chamber at one end thereof and separated therefrom by a main valve, a controlling chamber at the opposite end of the inlet chamber and separated and cut off therefrom by a piston connected to and moving with the main valve and adapted to traverse said controlling chamber, a reservoir chamber communicating with the controlling chamber and open to the atmosphere, and means permitting free outflow of water from the controlling chamber to the reservoir chamber at the opening movement of the main valve, but preventing free backflow to the controlling chamber at the closing movement of said valve, substantially as and for the purpose described.

4. In a water-closet valve, a water inlet or pressure chamber to which the water supply under pressure is constantly admitted, a discharge chamber at one end thereof and separated therefrom by the main valve, a controlling chamber at the opposite end of the inlet chamber and separated therefrom by a piston connected to and moving with the main valve and adapted to traverse said controlling chamber, a reservoir chamber at the end of the controlling chamber opposite to the inlet chamber, and a check valve and an always open port or by-pass between the controlling chamber and reservoir chamber whereby free passage of water from the controlling chamber to the reservoir chamber is permitted at the opening movement of the main valve but prevented at the closing movement thereof, substantially as and for the purpose described.

5. The herein described water-closet valve, comprising a casing having a middle inlet or pressure chamber to which the water supply under pressure is constantly admitted, a discharge chamber at one end of said inlet chamber and a controlling chamber at the opposite end of said inlet chamber and communicating directly with the discharge chamber through a passage extending around and independently of the inlet chamber, a valve stem extending longitudinally through said middle inlet chamber and carrying at one end the main valve controlling communication between the inlet chamber and discharge chamber, and carrying at its opposite end a piston separating the inlet and controlling chambers and adapted to traverse the controlling chamber, a reservoir chamber communicating with the controlling chamber, means for permitting a free outflow from the controlling chamber to the reservoir chamber at the movement of the piston accompanying the opening of the main valve and restricted inflow through an always open port to said chamber at the movement of said piston accompanying the closing of the main valve, and operating means for moving the main valve to open the same.

[Claims 6 to 25 not printed in the Gazette.]

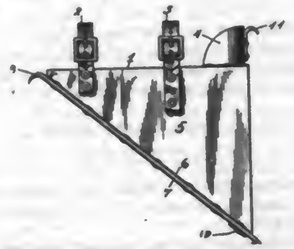
974,940. SEAL FOR BOXES. SAMUEL WHITEHALL, South Bend, Ind. Filed Nov. 5, 1909. Serial No. 526,422.



1. A flexible seal comprising a strip for attachment to the inside of the box proper and to the inner side of the lid thereof, said strip being creased intermediate its ends and at its ends on one side provided with adhesive substance, the strip being of a length to enable a partial opening movement of the lid without tearing the same and which is destroyed as a seal when the lid is completely opened, said strip being concealed within the box when the lid is closed.

2. The combination with a box including a lid, of a strip secured to the box and to the lid thereof, the strip being of a length to enable a partial opening movement of the lid without tearing the strip and which strip is destroyed as a seal only when the lid is operated to permit access to the box, said strip being concealed within the box when the lid is closed.

974,941. ROOF-CLIMBER. THURSTON A. WILKERSON, Bonham, Tex. Filed Aug. 8, 1910. Serial No. 576,125.

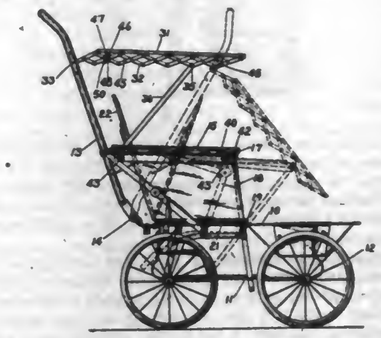


1. In a roof climber, a foot support, climbing rods secured to said support, a plurality of engaging points, on the ends of each rod, the points on one of the rod ends pointing in two directions so as to support the wearer in either of two positions.

2. In a roof climber, a foot support, climbing rods secured to said support, the front ends of said rods bent back on themselves and formed with a plurality of engaging points, the rear ends of the rods formed with a plurality of engaging points a part of which extend downwardly and the remainder rearwardly.

3. A roof climber comprising a foot support consisting of a horizontal portion provided with a heel socket and foot-securing means, and downwardly extending upright portions formed integral with the horizontal portion, the lower edges of said upright portions formed inclined, climbing rods secured to the inclined edges of said upright portions, the front ends of said rods bent back on themselves and formed with a plurality of engaging points, the rear ends of the rods formed with a plurality of engaging points part of which extend downwardly to coöperate with the points on the front end, and the remainder extend rearwardly, and an engaging point on the back of the heel socket to coöperate with the rearwardly extending points on the rear ends of the climbing rods.

974,942. CANOPY FOR FOLDING GO-CARTS. WILLIAM W. WILLIAMS, Indianapolis, Ind. Filed July 10, 1909. Serial No. 506,898.



1. In a perambulator, the combination with a collapsible structure comprising the main frame and a handle member, of a collapsible canopy, supporting members for supporting said canopy in extended condition over the seat portion of the collapsible structure when expanded, said supporting members being supported upon the collapsible structure, and members carried by portions of the collapsible structure which are movable relative to those portions to which the canopy supporting members are connected, said members being so formed as to engage the canopy supports and drive the same in canopy-collapsing direction before completion of collapsing movement of the first mentioned collapsible structure.

2. In a perambulator, the combination, with the main frame and handle member movable toward and from the main frame, of a canopy, a lazy-tongs support for the canopy, connected at one end to the handle member, and a strut connected to the canopy-support and to the main frame at a point other than the point of attachment of the handle with the main frame.

3. In a perambulator, the combination, with the main frame and handle member movable toward and from the main frame, of a canopy, a support for the canopy connected at one end to the handle member, a strut connected to the canopy-support and to the main frame, and means engaging said strut to hold the same during movement of the handle toward the main frame, to cause automatic collapse of the canopy-support.

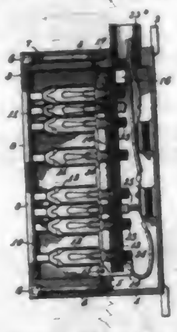
4. In a perambulator, the combination, with the main frame and handle member movable toward and from the frame, of a canopy, a lazy-tongs support for the canopy connected at one end to the handle member, a strut con-

nected to the canopy-support and to the main frame, and means engaging said strut to hold the same during movement of the handle toward the main frame, to cause automatic collapse of the canopy-support.

5. In a perambulator, the combination, with the main frame and the handle member pivoted thereto, of a collapsible lazy-tongs canopy supported on the handle member and extended over the main frame, and means connected with the main frame for engaging and collapsing the canopy when the handle is swung toward the main frame.

[Claims 6 to 9 not printed in the Gazette.]

974,943. ILLUMINATED ANNOUNCEMENT AND DISPLAY SIGNAL. FRANK W. WOOD, Newport News, Va., assignor to Charles Cory & Son, New York, N. Y. Filed June 17, 1908. Serial No. 438,898.



1. A monogrammic illuminated character device comprising lamp cells arranged to form the outline of a pair of adjacent rectangles, having a common side and one of said rectangles having a diagonal each side of said rectangles and said diagonal being formed of a continuous, straight bar of light.

2. A monogrammic illuminated character device capable of producing any digit and comprising elongated lamp cells, so arranged as to form a single pair of rectangular frames having a common side and one of said rectangular frames having a diagonal, a single cell constituting each side of each rectangle and said diagonal.

3. A monogrammic illuminated character device capable of producing any digit and comprising elongated lamp cells so arranged as to form a single pair of rectangular frames having a common side and a diagonal across one of said frames.

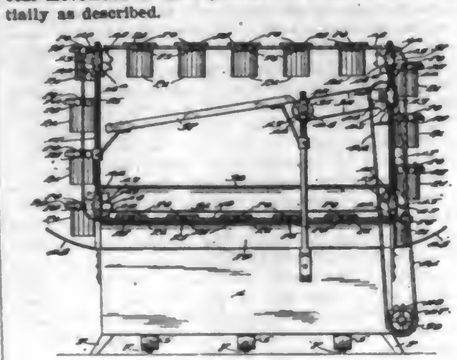
4. An illuminated character display device comprising lamp cells arranged to produce character forming elements, each element consisting of an elongated rectangle having pointed ends, said ends being symmetrically fitted together at each corner, and a lamp cell forming a diagonal of one of the rectangles.

5. In an illuminated electric signal device having a series of lamps, a composite plate comprising a metal face and insulating back, a series of lamp sockets adapted to receive the bases of said lamps and each comprising a helical coil of wire set into an opening in the metal face of said plate, pins projecting through the insulating backing of said plate opposite each opening and contacting with the bottom of said lamp bases, and wires secured to said pins so as to form one terminal for said lamps, the said metal face constituting a common conducting plate, and serving as the other terminals of said lamps.

[Claims 6 and 7 not printed in the Gazette.]

974,944. GLASS AND CUP WASHING APPARATUS. ULYSSES G. WORRALL, Philadelphia, Pa. Filed May 9, 1910. Serial No. 560,230.

1. In an apparatus of the character described, the combination with a tank, a nozzle in the tank, a pump in the tank constructed to force liquid through the nozzle and direct it upwardly, a conveyer movable over the nozzle, baskets pivotally mounted on said conveyer and adapted to be passed across the path of discharge from said nozzle, and means holding said baskets against pivotal movement in their passage over the nozzle, substantially as described.



2. In an apparatus of the character described, the combination with a tank, nozzles in the tank, pumps forcing liquid upwardly through the nozzles, an endless conveyer movable over the nozzles, baskets pivotally supported on the conveyer, and means adapted to move along the upper edge of the tank and hold the baskets against pivotal movement in their passage over the nozzles, substantially as described.

3. In an apparatus of the character described, the combination with a tank to contain cleansing fluid, a nozzle projecting upwardly in said tank, a rotary propeller submerged in the liquid in the tank and constructed to force the fluid upward through said nozzle, endless chains, shafts on said chains, baskets pivotally supported on said shafts and adapted to be moved across the path of discharge from said nozzle, and means holding said baskets against pivotal movement in their passage over the nozzle, and means for driving said propeller and moving said chains, substantially as described.

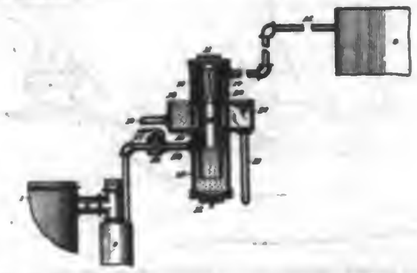
4. In an apparatus of the character described, the combination with a tank to contain cleansing fluid, a nozzle projecting upwardly in said tank, a rotary propeller submerged in the liquid in the tank and constructed to force the fluid upward through said nozzle, endless chains, shafts on said chains, baskets pivotally supported on said shafts and adapted to be moved across the path of discharge from said nozzle, and means holding said baskets against pivotal movement in their passage over the nozzle, an endless apron, means for moving the apron, and means for tilting the baskets to discharge their contents onto the apron, substantially as described.

5. In an apparatus of the character described, the combination with a tank to contain cleansing fluid, a nozzle projecting upwardly in said tank, a rotary propeller submerged in the liquid in the tank and constructed to force the fluid upward through said nozzle, endless chains, shafts on said chains, baskets pivotally supported on said shafts and adapted to be moved across the path of discharge from said nozzle, lugs fixed to move with the baskets, and moved along the edge of the tank preventing pivotal movement of the baskets, a fixed cam in the path of movement of the lugs whereby the baskets are tilted, and mechanism constructed to receive the articles from the baskets when they are tilted, substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

974,945. APPARATUS FOR MAKING PRODUCER-GAS. WALTER O. AMBLER, Pittsburg, Pa. Filed Apr. 17, 1906. Serial No. 312,121.

1. In a gas producer system, the combination, with the producer, of means for introducing into the producer a quantity of water directly proportional to the quantity of air, comprising a controlling-mechanism having a receptacle containing a column of water, said receptable disposed outside of the path of the generated gas, and a pipe in communication with the receptacle and with means in the system whereby the column of water is directly acted upon by the differences in pressure in the system to cause a variable flow of water from the receptacle into the producer.



2. In a gas producer system, a producer, a producer-gas outlet adapted to be connected with means for sucking air and water into the producer, a controlling-mechanism comprising a receptacle containing a column of water, said receptacle disposed outside of the path of the generated gas, and a pipe in communication with the receptacle and with means whereby the column of water is directly acted upon by the differences of pressure in the system to cause a variable flow of water from the receptacle into the producer.

3. In a gas producer system, the combination, with the producer, of means for introducing into the producer an equal proportion of air and steam comprising a controlling-mechanism having a receptacle containing a column of water, said receptacle disposed outside of the path of the generated gas, a pipe in communication with the receptacle and with means in the system whereby the column of water is directly acted upon to cause a variable flow of water from the receptacle, a vaporizer, means connecting the vaporizer and the controlling-mechanism, and means connecting the vaporizer and the producer.

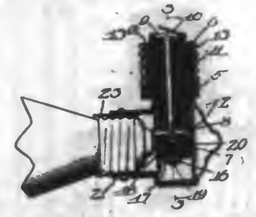
4. In a gas producer system, the combination with a producer, of means for supplying steam to the producer in proportion to the quantity of air introduced comprising a receptacle divided into two water compartments, a passage connecting the compartments, a pipe in communication with one compartment and with the producer exit, a vaporizer in communication with the producer, and a pipe in communication with one water compartment and with the vaporizer.

5. In a gas producer system, the combination with a producer, of means for supplying steam to the producer in proportion to the quantity of air introduced comprising a receptacle divided into water compartments, a passage formed with a weir connecting the compartments, a pipe in communication with one compartment and with the producer exit, a vaporizer in communication with the producer, and a pipe in communication with one water compartment and with the vaporizer.

[Claim 6 not printed in the Gazette.]

974,946. INCANDESCENT-LAMP SOCKET. REUBEN B. BENJAMIN, Chicago, Ill., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 4, 1907. Serial No. 360,560.

1. The combination of a base member having a flattened portion and a plug portion formed integral therewith, a center contact member on said plug portion, an outer contact member on said plug portion, a two-part housing inclosing the flattened portion of said base member, the parts of said housing being detachably secured together and one of the parts being provided with an opening for the reception of a lamp and the other part being provided with an opening for the admission of tapering conductors to the base, a lamp-holding device carried by the flattened portion of said base member and adapted to register with the opening of said housing, a lamp terminal engaging member associated with said lamp-holding device, said lamp-holding device and said lamp terminal engaging member being connected with the contact members of said plug portion, and binding terminals connected with said lamp holding device and said lamp terminal engaging member respectively.



2. A plug lamp socket comprising an insulating base formed with a plug portion at one end and having two longitudinal screw holes therein, a center contact carried by said plug portion, a threaded outer contact carried by said plug portion, said outer contact having a flange extending inwardly over the end of said plug portion, a threaded lamp-terminal engaging contact carried by the other end of said base and extending laterally therefrom, a screw contained in one of said screw holes and bearing with its head against the flange of said outer contact for connecting said outer contact and said threaded lamp-terminal engaging contact together, a center lamp-terminal engaging contact carried by said base, and a screw extending between said last mentioned contact and the center contact of said plug portion through said screw hole, said screw forming electrical connection between said contacts.

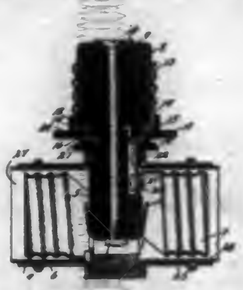
3. A plug lamp socket comprising an insulating base formed with a plug portion at one end, a center and an outer contact carried by said plug portion for engaging the corresponding contacts of a socket, a threaded lamp-terminal engaging contact carried by the other end of said base and extending laterally therefrom, said threaded contact being electrically connected with one of the contacts of said plug portion, a center lamp-terminal engaging contact carried by said base and connected with the other contact of said plug portion, binding terminals carried by said base and connected with said threaded lamp receiving contact and said center lamp terminal engaging contact respectively, and a two-part housing surrounding said lamp-terminal engaging contacts, the parts of said housing being separable, and one of said parts being formed with an opening for enabling tapping conductors to be connected to said binding terminals.

4. The combination of an elongated base having one of its ends formed as a plug, contacts on said plug, a lamp-holding device carried by said base, with its axis disposed at an angle with the axis of the plug; contacts associated with said lamp-holding device and electrically connected with the contacts of the plug, binding terminals connected with said last named contacts, and a casing for said device, said casing comprising a shell and a cover adapted to be detachably connected to said shell and formed with an opening for the passage of tapping conductors to be secured to said binding terminals.

974,947. ELECTRIC-LAMP SOCKET. REUBEN B. BENJAMIN, Chicago, Ill., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 11, 1907. Serial No. 367,657.

1. In a lamp-holding device, the combination of a base, a plug having a center contact adapted to coöperate with the center contact of a suitable receptacle, an outer contact-member rotatable on said plug and adapted to coöperate with the outer contact of said receptacle, a pair of plates clamped between said base and said plug, said outer contact member having a flange extending under one of

said plates, a lamp-receiving socket carried by said base and having lamp-terminal-engaging members associated therewith, electrical connection between one of said lamp-terminal-engaging members and the center contact of the plug and electrical connection between the other of said lamp-terminal-engaging members and the other of said plates.



2. In a lamp-holding device, the combination of a base, a plug, two plates clamped between said base and plug, a threaded shell arranged to rotate around said plug and having a portion extending under one of said plates, the base having a groove extending longitudinally thereof and the other of said plates having a tongue lying in said groove and arranged to conduct current to one of the terminals of a lamp, means for supporting the lamp, and means for conducting current to the other terminal of said lamp.

3. In a lamp-holding device, the combination of a base and plug made separable from each other, a pair of plates arranged between said base and plug, means for securing said base and plug together and clamping said plates therebetween, a rotatable threaded shell on said plug having a part extending under one of said plates, a lamp-holding device carried by said base, and a tongue on the other of said plates arranged to conduct current to one of the terminals of a lamp.

4. In a lamp-holding device, the combination with a base, of a plug having a center contact, a lamp-receiving socket carried by said base and disposed with its axis at an angle with the axis of said plug, a rotatable outer contact-member on said plug, said member having an inturned flange, a plate non-rotatably arranged on said plug and engaging the flange of said rotatable outer contact-member, a contact plate clamped between said base and said first-named plate and contacts associated with said socket and electrically connected one with the center contact of the plug, and the other with said last-named plate.

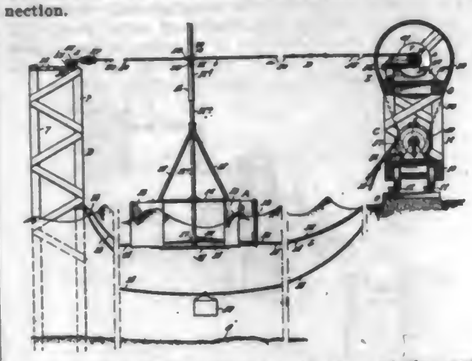
5. In a lamp-holding device, the combination of a base and plug separable from each other, a bolt extending longitudinally through said base and plug, two plates clamped between said base and plug, a rotatable outer contact on said plug arranged to have sliding contact with one of said plates, lamp-receiving shells upon opposite sides of said base, means extending through said base for securing said shells in position and electrically connecting them together, a center contact for one of said lamp-receiving shells electrically connected with said bolt, and means for making electrical connection between the other plate and one of said lamp-receiving shells.

[Claims 6 and 7 not printed in the Gazette.]

974,948. WAVE-MOTOR. WILLIAM KING BOWERMAN, Los Angeles, Cal. Filed Jan. 11, 1909. Serial No. 471,796.

1. Improved means for utilizing power of the waves, comprising an adjustable land support, a seaward support, a float disposed between said supports, a power consumer or transformer upon the land support, and transmission means extending between said supports and operatively connected with said float.

2. Improved means for utilizing power of the waves, comprising a land support, a seaward support, a float disposed between said supports, a power consumer or transformer upon the land support, and transmission means extending between said supports and operatively connected with said float; a clutch providing such operative connection.



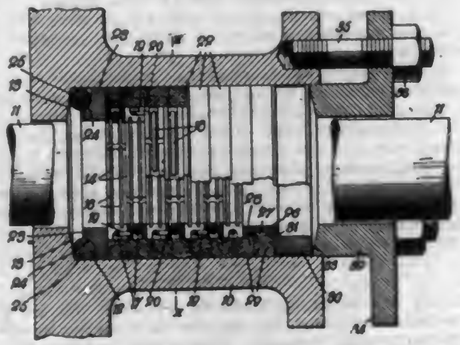
3. Improved means for utilizing power of the waves, comprising power transmission means, a power consumer or transformer operated by the same, and a float provided with a telescoping mast operatively connected with the transmission means.

4. Improved means for utilizing the power of the waves, comprising a power consumer or transformer, a float, and transmission means for operating the power consumer or transformer; said transmission means being operatively connected with the float and comprising means respectively for conducting primary and secondary gyrations of the float.

5. Improved means for utilizing power of the waves, comprising a power consumer or transformer, a float, and transmission means for operating the power consumer or transformer; said transmission means being operatively connected with the float and comprising means respectively for conducting primary and secondary gyrations of the float; said primary and secondary gyrations being substantially in planes cutting each other.

[Claims 6 to 14 not printed in the Gazette.]

974,949. PACKING. HARRY BROUSSEAU, New York, N. Y., assignor of one-half to Marcus Stern, New York, N. Y. Filed Sept. 21, 1909. Serial No. 518,820.



1. A packing comprising metallic and compressible members, and two relatively movable ring members one adapted to slide on the other and serving to compress the compressible members and adjust the metallic members.

2. A packing comprising compressible and non-compressible members, a ring member adapted to force the non-compressible members toward each other, and an independent annular member movable along the ring member and forcing the compressible packing inward and simultaneously moving the ring member to force the non-compressible members into close contact.

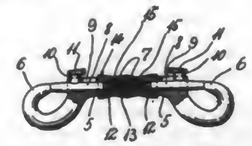
3. A packing comprising metallic and compressible members, and independent relatively movable members serving to force the metallic members lengthwise into close contact and the compressible members inward to adjust laterally the non-compressible members.

4. A packing of the character described, comprising a plurality of metallic members formed of a plurality of parts and adapted to fit about a piston rod, a plurality of compressible soft members arranged around the periphery of said metallic members and forming a seat therefor, an element arranged on one side of the metallic and compressible members and forming an abutment therefor, a ring element engaging the face of the outer metallic member and formed with a shoulder against which certain of the soft packing members may engage, and means for forcing the compressible members along said element so as to engage the shoulder to force the ring inward and at the same time compress the soft members to adjust the metallic members.

5. A packing of the character described, comprising a plurality of metallic and compressible members, a ring member of less exterior diameter for the greater part of its length than said metallic members and forming an enlarged chamber about the same, and an adjustable element serving to center the ring member and to compress the soft members.

[Claims 6 to 12 not printed in the Gazette.]

974,950. DOUBLE-ENDED SNAP-HOOK. KENNETH CARTER, Monrovia, Cal., assignor of one-third to Raymond B. Millard, Monrovia, Cal. Filed Jan. 3, 1910. Serial No. 535,942.



A double ended snap hook having bills at the ends thereof and having a shank divided transversely into sections, each of said sections being provided with a longitudinally extending bore, said bores communicating and having the same axis, a swivel sleeve connecting the sections of said shank and permitting an independent swiveling movement of said bills, keepers in the form of plungers sliding in said bores, and a spring disposed in said bores between said keepers thrusting against the inner ends of said keepers and normally maintaining the same in contact with said bills.

974,951. RAIL-JOINT. ALBERT L. CASADY, Fairfield, Iowa. Filed Apr. 19, 1910. Serial No. 556,307.

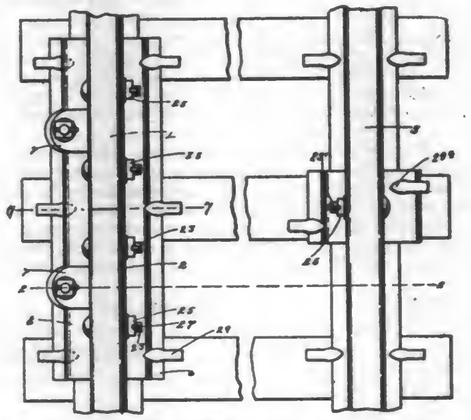
1. A rail joint comprising a chair, lugs on the chair, a splice bar forming part of said chair, recessed bosses on the splice bar adapted to receive said lugs, said bosses and lugs being formed with vertical registering apertures, and bolts passing through said apertures.

2. A rail joint comprising a chair, a base plate on said chair, a splice bar, means for securing said splice bar to the base plate, said base plate being formed with slots along its longitudinal median line, the side walls of said slots being inclined, and tie engaging elements depending through said slots.

3. A rail joint comprising a chair, a base plate formed on said chair, said base plate having apertures therein, converging side walls bounding said slots, said walls being beveled, and tie engaging elements having beveled edges engaging with said beveled walls.

4. A rail joint comprising a chair, said chair having slots formed therein, the side walls of said slots being beveled, and tie engaging members consisting of a horizontal member, a vertically depending member, and a brace member formed integrally therewith.

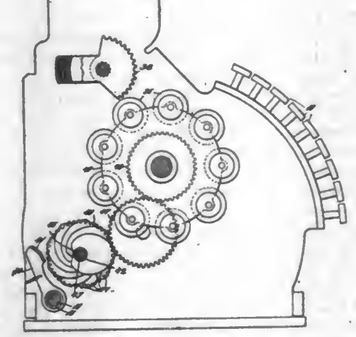
5. In a rail joint chair, a base plate having slots formed therein on opposite sides of the joint, the side walls of said slots being inwardly beveled, tie engaging elements each having a horizontal member provided with beveled edges adapted to engage with the beveled walls of the



slots, vertically depending members, and brace members, between and integral with the horizontal and vertical members.

[Claim 6 not printed in the Gazette.]

974,952. CASH-REGISTER. EDMUND S. CHURCH, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a Corporation of Ohio, (incorporated in 1906.) Filed Sept. 10, 1906. Serial No. 333,950.



1. In a cash register, the combination with a rotatable member and a plurality of counters mounted thereon, of a shaft for moving said member, a plurality of helically arranged heart cams mounted on said shaft, a lever and means for positioning said lever to engage any one of said cams to move the member differentially.

2. In a cash register, the combination with a rotatable carriage, and a plurality of accounting devices mounted thereon, of a shaft with connections to said carriage, a plurality of driving cams helically mounted on said shaft, a lever adapted to engage any desired one of said cams, means for moving said lever laterally to engage any desired driving cam, means for forcing said lever against its cam when so positioned, whereby to move the carriage differentially, and keys for controlling the position of said lever.

3. In a cash register, the combination with a carriage and a plurality of counters mounted thereon, of a shaft, a plurality of heart cams mounted on said shaft, connections between said shaft and carriage, means adapted to

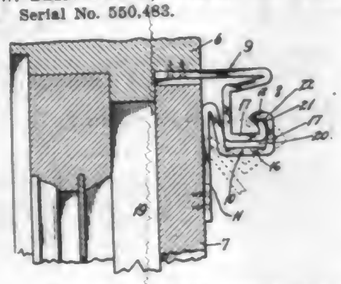
coöperate with any cam to set said carriage, means for moving said coöperating means differentially, and manipulative devices controlling the extent of such movement.

4. In a cash register, the combination with a plurality of counters, and common operating means for same, of means for bringing any desired counter into operative relation with said operating means, a plurality of heart cams controlling said means, said cams being helically arranged, a lever adapted to be moved to bring it into position to coöperate with any cam, and means for rocking the lever when so moved.

5. In a cash register, the combination with a plurality of accounting devices, and operating devices therefor, of means for bringing any desired accounting device into operative relation with the operating mechanism, cams controlling said means, and a common element adjustable to coöperate with any desired cam and movable to operate said cam, with means for moving and adjusting said element.

[Claims 6 to 28 not printed in the Gazette.]

974,953. STORM WINDOW OR SCREEN HANGER. GEORGE W. DARLINTON, Los Angeles, Cal. Filed Mar. 19, 1910. Serial No. 550,483.



1. A device of the class described, comprising a member adapted to be attached to a fixed support, a second member adapted to be attached to a movable support, said member having the same form as said first member, said members having interlocking hooks formed thereupon permitting a rotation of one of said members upon the other.

2. A device of the class described, comprising a member adapted to be fixed to the window frame and having a hook formed thereupon, said hook having a laterally disposed lip, a second member having the same form as said first member adapted to be attached to the screen having a hook adapted to interlock with said first hook and having a laterally disposed lip corresponding to said first lip and interlocking therewith.
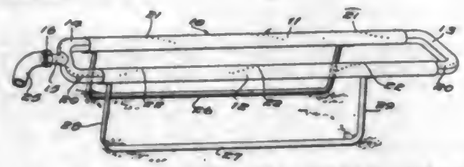
3. A device of the class described, comprising a member adapted to be fixed to the window frame and having a hook, a second member adapted to be attached to the screen having a hook adapted to interlock with said first hook, said hooks being arranged to permit a relative vertical movement therebetween when said screen is in its closed position and permitting an outward rotation of said screen upon an axis at the point of engagement of said hooks.

4. A device of the class described, comprising a member adapted to be fixed to the window frame and having a downwardly extending hook, a second member adapted to be attached to the screen and having an upwardly projecting hook, said hooks being adapted to engage each other at a point removed from the window frame, the engaging point forming an axis of rotation for the screen.

5. A device of the class described, comprising a member adapted to be fixed to the window frame having an outwardly projecting bill and having a downwardly disposed hook, a second member adapted to be attached to the screen having an upwardly projecting bill and having an outwardly projecting hook adapted to interlock with said first hook, the engaging point of said hooks forming an axis of rotation permitting the screen to be swung outwardly from the window frame.

[Claims 6 to 8 not printed in the Gazette.]

974,954. LAWN-SPRINKLER. HENRY LOUIS DIETCHER, Los Angeles, Cal. Filed Aug. 31, 1908. Serial No. 451,086.

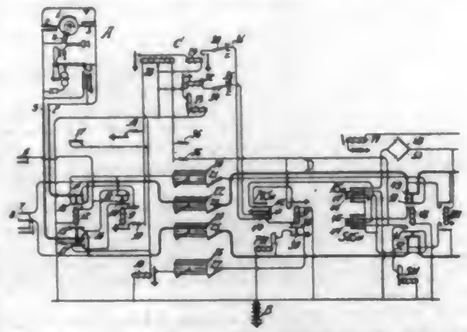


1. A lawn-sprinkler comprising a tubular parallelogram consisting of two long sides and two short sides, said sides being perforated, the two long sides being each formed of a single piece of sheet metal rolled into a tube and soldered, and the two short sides being each formed of two pieces of sheet metal stamped and curved and soldered to form double elbows, the ends of the elbows being soldered to the two long sides, and the two long sides being perforated on diagonal lines.

2. A lawn sprinkler comprising a tubular perforated parallelogram consisting of two long sides and two short sides, the two long sides being each formed of a single piece of sheet metal rolled into a tube and soldered, and the two short sides being each formed of two pieces of sheet metal stamped and curved and soldered to form double elbows, the ends of the elbows being soldered to the two long sides, and a nipple soldered to one of the short sides and adapted to be connected to a source of water supply.

3. A lawn sprinker comprising a tubular perforated parallelogram consisting of two long sides and two short sides, the two long sides being each formed of a single piece of sheet metal rolled into a tube and soldered, and the two short sides being each formed of two pieces of sheet metal stamped and curved and soldered to form double elbows, the ends of the elbows being soldered to the two long sides, a nipple secured to one of the sides and adapted to be attached to a source of water supply, and runners secured to the two long sides for supporting the parallelogram.

974,955. AUTOMATIC TELEPHONE SYSTEM. ALFRED H. DYSON, Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company, a Corporation of Illinois. Original application filed Nov. 13, 1906, Serial No. 343,255. Divided and this application filed Nov. 23, 1907. Serial No. 403,527.



1. An automatic telephone system including a plurality of telephone lines, a link-circuit having an electrically controlled selector at each end, a call register associated with one of said selectors and common to said lines, means for automatically adjusting said one of said selectors to connection with a calling line, a called subscriber's line, mechanism including said other selector and an electrically controlled connector for connecting the calling line to the called line, and means for recording upon said register against calling lines the number of completed calls made thereover.

2. An automatic telephone system including a plurality of telephone lines, a link-circuit having an electrically controlled selector at each end, a call register associated with one of said selectors and common to said lines, means for automatically adjusting said one of said selectors to connection with a calling line, a called subscriber's line, mechanism including said other selector and an electrically controlled connector for connecting the calling line to the called line, means for adjusting said register to operative relation with the calling line, and mechanism for recording a call against the calling line effective when the called subscriber responds.

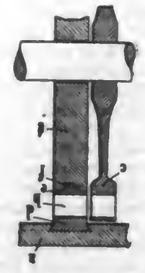
3. A telephone system including an electrically controlled selective switch, a plurality of telephone lines having definitely located terminals included in said switch, a type frame associated with said switch, a type for each line thereon, means for recording said types, mechanism for automatically causing said switch to execute primary and secondary switching movements to select any calling line of said plurality, apparatus controlled thereby for operatively associating the type of the particular calling line with said recording mechanism, and means for causing said mechanism to record the type of the calling line.

4. A telephone system including an electrically controlled selective switch, a plurality of telephone lines having definitely located terminals included in said switch, a type frame associated with said switch, a type for each line thereon, means for recording said types, mechanism for automatically causing said switch to execute primary and secondary switching movements to select any calling line of said plurality, apparatus controlled thereby for operatively associating the type of the particular calling line with said recording mechanism, a called line, a link-circuit associated with said selective switch for connecting the calling with the called line, and mechanism effective on the response to the called subscribed to record the type of the calling line.

5. A telephone system including an electrically controlled selective switch, a plurality of telephone lines having definitely located terminals included in said switch, a type frame associated with said switch, a type for each line thereon, means for recording said types, mechanism for automatically causing said switch to execute primary and secondary switching movements to select any calling line of said plurality, apparatus controlled thereby for operatively associating the type of the particular calling line with said recording mechanism, a called line, additional electrically controlled selective switches including a selector and a connector adapted to extend the circuit of the calling line to the called line, and means effective on the response of the called subscriber to record the type of the calling line.

[Claims 6 to 14 not printed in the Gazette.]

974,956. TURBINE. PAUL EMDEN and WALTER FRITZ, Berlin, Germany. Filed Sept. 7, 1909. Serial No. 516,537.



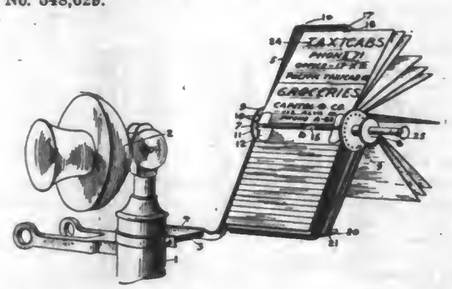
1. In a turbine, the combination with a casing and a partition of individual blades arranged adjacent to each other and connected directly with said casing and provided with heads fitted to and carrying said partition.

2. In a turbine, the combination with a casing and a partition, of segments formed of individual blades and solid segments alternating with them, all of said blades and of said solid segments being directly connected with said casing and provided with heads fitted to and carrying the partition.

3. In a turbine the combination with a carrying member and another member forming a partition, of individual blades each having an open recess and arranged adjacent to each other, said blades being connected rigidly with one of said members and provided with heads fitted to the other member, the one wall of one blade forming a wall for and closing the recess of the next preceding blade.

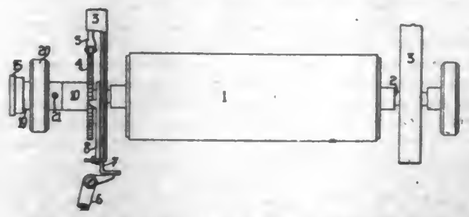
4. In a turbine the combination with a carrying member and another member forming a partition, of individual blades each having an open recess and connected with both of said members, said blades being arranged adjacent to each other so that the wall of one blade forms a wall for and closes the recess of the next preceding blade.

974,957. TELEPHONE-DIRECTORY. WALLACE G. FRENCH, Oakland, Cal. Filed Mar. 11, 1910. Serial No. 548,629.



In combination with a support provided with means for securing it to a stand or the like, upper and lower parallel members secured at one end to said support, the other ends of said members being free, a shaft rigidly secured at one end to said support and extending substantially parallel with said upper and lower members, the other end of said shaft being free, a tube rotatably and removably mounted on said shaft, disks secured upon said tube, each having a circular series of recesses, memorandum cards and metallic clips secured upon adjacent corners of said cards and having reduced ends in said recesses, substantially as described.

974,958. TYPE-WRITING MACHINE. HENRY GLAESER, Jersey City, N. J., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 19, 1910. Serial No. 550,449.



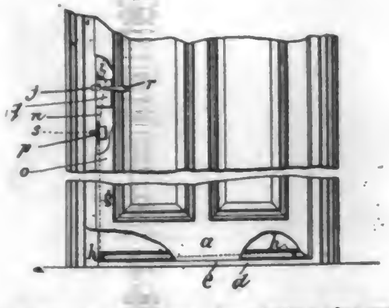
1. In a typewriting machine, the combination with a platen fixed on an axle, a line-space wheel relative to which the platen turns, of a dog to releasably connect the platen and line-space wheel, a clutch operator in contact with the dog, a finger-piece threaded to the clutch operator and engaging a stationary part, to control the dog and a stop adjustable about the axle, to arrest the rotation of the finger-piece.

2. In a typewriting machine, the combination with an axle having a platen fixed thereto, a line-space wheel relative to which the platen turns, of a dog to bite upon the

hub of the line-space wheel, a clutch operator to effect the engagement and disengagement of the dog and line-space wheel, a hand-wheel adjustable on the axle and having a hub, a finger-piece threaded on the clutch operator and having a stop, to be arrested by a shoulder on the hub of the wheel to prevent the disengagement of the finger-piece and clutch operator.

3. In a typewriting machine, the combination with an axle having a platen fixed thereto, a line-space wheel relative to which the platen turns, of a dog to bite upon the hub of the line-space wheel, a clutch operator to effect the engagement and disengagement of the dog and line-space wheel, a hand-wheel having a hub, a finger-piece threaded on the clutch operator and having a stop, to be arrested by a shoulder on the hub of the wheel to prevent the disengagement of the finger-piece and clutch operator.

974,959. DRAFT-EXCLUDER FOR DOORS. GEORG GÖTTE, Cassel, Germany. Filed June 3, 1909. Serial No. 500,025.

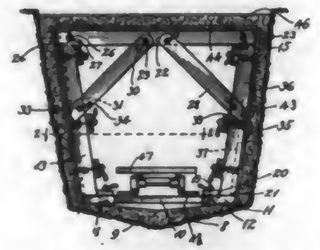


1. In combination, a door whose bottom edge presents a groove, a draft excluding strip located in the groove, a latch secured to the door and having a vertically sliding bolt, a tumbler automatically locking the bolt in its raised position and means for automatically releasing the bolt on closing of the door, a door lock located above the said latch, and a bent lever pivoted to the lock and having its one arm engaged by the latch bolt of the lock, flexible means connecting the other arm of the lever with the vertically sliding bolt, and flexible means engaging the draft excluding strip and attached to the lower end of said bolt, whereby on the latch bolt of the door lock being retracted the lever is turned, the vertically sliding bolt lifted and locked and the draft excluding strip withdrawn into the groove, while on closing of the door the said bolt is released and the draft excluding strip allowed to drop, substantially as described.

2. In combination, a door whose bottom edge presents a groove, a draft excluding strip located in the groove, a latch secured to the door and having a vertically sliding notched bolt, a horizontally sliding member and a pivotal weighted tumbler adapted to cause engagement between said member and bolt, and means for automatically releasing said member from the bolt on the door being closed, a door lock located above said latch, and a bent lever pivoted to the lock and having its one arm engaged by the latch bolt of the lock, flexible means connecting the other arm of the lever with the vertically sliding bolt, flexible means engaging the draft excluding strip and attached to the lower end of said bolt, and pulleys mounted in the groove, over which said latter flexible means runs, substantially as described.

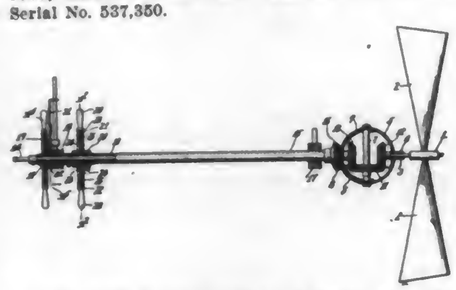
974,960. APPARATUS FOR MAKING CONDUITS AND TUNNELS. JOHN PHILLIP GROHS, Los Angeles, Cal. Filed Jan. 3, 1910. Serial No. 536,048.

1. A form of the class described, comprising a frame having a bottom sill, rotatable blocks on the upper side of said sill near the ends thereof, posts stepped on the ends of said sill and abutting the outer faces of said blocks, said posts diverging outwardly in an upper direction, the upper ends of said posts having seats formed thereupon, a beam resting on said seats, diagonal braces pivotally attached to said beam, means for detachably securing said diagonal braces to said posts, side-panels, and means for attaching the same to said posts.



2. In a conduit form, in combination, a plurality of bottom sills, side posts stepped on the ends of said sills, means on the upper sides of said sills for holding said posts against inward movement, said posts having seats formed at the upper ends thereof, beams resting upon said seats, means for detachably securing said beams to said posts, stringers extending longitudinally on the inner sides of said posts, panels disposed on the outer sides of said posts and forming the side walls of the form, and means for clamping said panels and said stringers on said posts.

974,961. GEARING FOR PROPELLERS. WILLIAM A. HALL, Los Angeles, Cal., assignor, by mesne assignments, to American Aerial Commercial Company, Los Angeles, Cal., a Corporation of Arizona. Filed Mar. 29, 1909, Serial No. 486,604. Renewed Jan. 10, 1910. Serial No. 537,350.



1. Two yokes pivoted together, a driven shaft in one yoke, a bevel gear on said shaft, an idle gear carried by one of said yokes meshing with the first gear, a driving shaft journaled in the other yoke, a bevel gear on the driving shaft meshing with the idle gear, a segment gear on the yoke which carries the driven shaft, an intermediate tube attached to the other yoke, an outer tube, and a gear on the outer tube meshing with the segment gear.

2. Two yokes pivoted together, a driven shaft in one yoke, a bevel gear on said shaft, an idle gear carried by one of said yokes meshing with the first gear, a driving shaft journaled in the other yoke, a bevel gear on the driving shaft meshing with the idle gear, a segment gear on the yoke which carries the driven shaft, an intermediate tube attached to the other yoke, an outer tube, a gear on the outer tube meshing with the segment gear, a wheel on the intermediate tube, and a wheel on the outer tube.

3. Two yokes pivoted together, a driven shaft in one yoke, a bevel gear on said shaft, an idle gear carried by one of said yokes meshing with the first gear, a driving shaft journaled in the other yoke, a bevel gear on the driving shaft meshing with the idle gear, a segment gear on the yoke which carries the driven shaft, an intermediate tube attached to the other yoke, an outer tube, a gear on the outer tube meshing with the segment gear, a wheel on the intermediate tube, a wheel on the outer tube, and means for detachably locking the latter wheel to the intermediate tube.

4. Two yokes pivoted together, a driven shaft in one yoke, a bevel gear on said shaft, an idle gear carried by one of said yokes meshing with the first gear, a driving shaft journaled in the other yoke, a bevel gear on the driving shaft meshing with the idle gear, a segment gear on the yoke which carries the driven shaft, an intermediate tube attached to the other yoke, an outer tube, a gear on the outer tube meshing with the segment gear, and means for detachably locking both tubes together.

5. Two yokes pivoted together, a driven shaft in one yoke, a bevel gear on said shaft, an idle gear carried by one of said yokes meshing with the first gear, a driving shaft journaled in the other yoke, a bevel gear on the driving shaft meshing with the idle gear, a segment gear on the yoke which carries the driven shaft, an intermediate tube attached to the other yoke, an outer tube, a gear on the outer tube meshing with the segment gear, a wheel on the intermediate tube, a wheel on the outer tube, a series of spring pressed slidable bolts in the latter wheel, the intermediate tube having holes adapted to be engaged by said bolts, handles on the bolts, and means for holding said handles at various distances from the axis of their wheel.

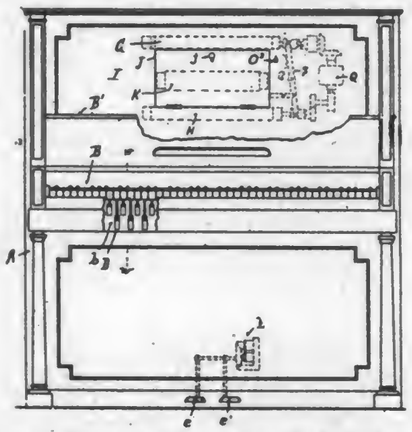
[Claim 6 not printed in the Gazette.]

974,962. METHOD OF PRESERVING WOOD. GEORG HARTMANN and OSKAR ALWIN SCHWEDTNER, Gross Schönau, near Zittau, Germany. Filed Jan. 17, 1910. Serial No. 538,548.

1. The method of preserving wood, which consists in applying thereto a solution of sodium zincate and sodium chlorid.

2. The method of preserving wood which consists in applying thereto at the ordinary temperature a solution of sodium zincate and sodium chlorid.

974,963. ELECTRICAL PIANO. DAVID J. HAUSS, Aurora, Ind. Filed Oct. 12, 1908. Serial No. 457,224.



1. In a mechanism of the character described, a perforated sheet, a pair of stationarily journaled sheet-feeding rollers, a series of contact fingers, a door hinged to the casing of the instrument and opening outwardly, a contact member mounted upon said door and adapted when said door is closed to engage and press the sheet into contact with said contact fingers, and a plurality of electrical circuits adapted to be closed by the contact of said fingers with said contact member.

2. In a mechanism of the character indicated, a supporting member, a perforated sheet, a pair of sheet feeding rollers rotatably supported upon said supporting member, a series of contact fingers, a door hinged to said supporting member, a contact member carried by said door and adapted when said door is closed to press the perforated sheet into engagement with said contact fingers, a motor, transmitting-mechanism receiving motion from said motor and adapted to rotate the respective sheet feeding rollers in opposite directions, and clutch mechanism actuated by the movements of said door to reverse the direction of feed of said sheet when said door is opened or closed.

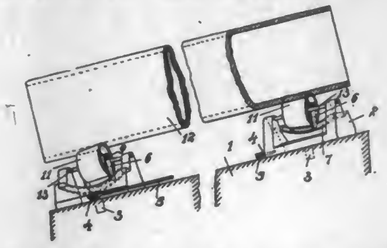
3. In a mechanism of the character indicated, a casing and supporting member, a perforated sheet, a pair of sheet-feeding rollers rotatably supported upon said supporting member, a bar carried by said supporting member, a series of contact-fingers pivotally supported by said bar, a movable contact adapted to press the sheet into contact with said contact fingers, and a detachable bar carrying a series of spring fingers, said spring fingers resting upon the pivotal portion of said contact fingers in electrical contact with said contact fingers.

4. In a mechanism of the character indicated, a supporting member, a sheet of music, a pair of sheet-feeding rollers rotatably supported upon said supporting member, a bar carried by said supporting member and adapted to be shifted endwise relative to said frame, means for shifting said bar, a series of contact fingers carried by and pivotally mounted on said bar, a series of spring fingers pressing upon the pivotal portion of said contact fingers to secure independent electrical contact with the respective contact fingers, and a movable contact member adapted to press said sheet into engagement with said contact fingers.

5. In a mechanism of the character indicated, a supporting member, a sheet of music, a pair of sheet-feeding rollers rotatably supported upon said supporting member, a bar of insulating material carried by said supporting member and provided with a series of vertical recesses, a series of contact fingers pivotally supported upon said bar and supported within and limited as to movement by said recesses, a bar of insulating material detachably supported in rear of said first named bar, a series of spring fingers carried by said last named bar, the free ends of said fingers resting on and establishing electrical contact with the pivotal portion of said fingers, and a movable contact member adapted to press said sheet into contact with said fingers.

[Claims 6 and 7 not printed in the Gazette.]

974,964. METHOD OF AND MEANS FOR SUPPORTING ROTARY DRUMS. ALBIN BERTHOLD HELBIG, Frankfort-on-the-Main, Germany, assignor to The Firm of Feilner & Ziegler, Frankfort-on-the-Main, Germany. Filed Dec. 22, 1908. Serial No. 468,768.



1. The combination of a rotary drum, supporting rollers for said drum, and means for changing the relative angle between each roller axis and the axis of the drum.

2. The combination of a rotary drum, supporting rollers for said drum, and means for changing the direction of each roller axis while leaving the drum axis unchanged.

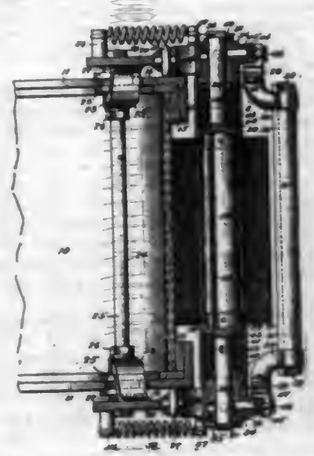
3. The combination of a rotary drum, supporting rollers for said drum, and an adjustable support for each roller, said adjustment being in the plane common to the roller axis and to the point of contact between roller and drum.

4. The combination of a rotary drum, segmental guides, slides movable in said guides and rollers rotatably mounted on said slides for supporting said drum.

5. The combination of a rotary drum, rollers for supporting said drum, slides on which said rollers are rotatably mounted, and segmental guides in which said slides are movable, the curve of each of said guides being struck from the point of contact between each roller and the drum.

[Claims 6 to 15 not printed in the Gazette.]

974,965. CURTAIN-SUPPORT FOR BLUE-PRINTING APPARATUS. REINHOLD HERMAN, Crafton, Pa. Filed Jan. 18, 1909. Serial No. 472,845.



1. In a blue-printing apparatus, the combination with a supporting frame, of a printing frame carried by said supporting frame, and having a printing cylinder formed of glass sections, spacing members between the sections, and end rings for the sections, the side edges of the glass being cushioned in a manner to provide compensation for expansion and contraction of the sections.

2. In a blue-printing apparatus, the combination with a supporting frame, of a printing frame carried by said supporting frame, and having a printing cylinder formed of glass sections, spacing members between the sections, said members having recesses to receive the side edges of the sections, said recesses being of greater width than the thickness of the sections, end rings for the sections, and cushions interposed between the edges of the sections and the opposing portions of the frame and spacing members, said cushions being out of contact with the sides of the sections adjacent the side edges.

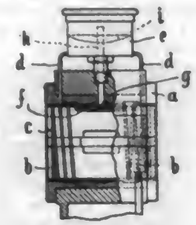
3. In a printing frame, glass sections, spacing members between the sections, each member having a section-receiving groove of greater width than the thickness of the section, and end rings, said rings being L-shaped in cross-section, the sides of the section within the groove being unsupported.

4. In a printing cylinder, glass sections, spacing members between the sections, end rings, said rings being L-shaped in cross section, and cushioning means interposed between the end edges and the outer face of the sections and the rings.

5. In a printing cylinder, glass sections, spacing members between said sections, said members each having longitudinally-extending recesses of greater width than the thickness of the sections, cushioning strips within said recesses for the side edges of the sections, end rings for the sections, said rings being L-shaped in cross-section to provide vertical and horizontally-extending portions in overlapping relation to the top and bottom edges of the sections, said rings being in cushioned contact with the sections.

[Claims 6 to 47 not printed in the Gazette.]

974,966. MEANS FOR LUBRICATING BEARINGS. WILHELM HOLTORP, Hamburg, Germany. Filed Aug. 21, 1908. Serial No. 449,704.

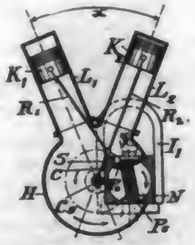


1. In a bearing, a bushing having a right and a left hand groove, a circular groove communicating with each of the spiral grooves at the outer ends thereof to provide for a continuous passage with relation to the corresponding spiral groove and to prevent escape of the lubricant from the bearing, an oil cup, means having communication with the oil cup and the spiral grooves at the outer ends of the latter to feed lubricant by gravity to said grooves, a passage at the top of the bushing in which the inner ends of said grooves terminate, and a passage between the aforesaid passage and the cup, whereby a circulation of the lubricant from both ends of the bearing toward its center and thence through the cup back to the outer ends of the spiral grooves is maintained.

2. In a bearing, a bushing having a right and a left hand groove, a circular groove communicating with each of the spiral grooves at the outer ends thereof to provide for a continuous passage with relation to the corresponding spiral groove and to prevent escape of the lubricant from the bearing, an oil cup, means having communication with the oil cup and the spiral grooves at the outer ends of the latter to feed the lubricant by gravity to said grooves, and a passage having communication with the inner ends of said grooves and with the cup, whereby a circulation of the lubricant from both ends of the bearing toward its center and thence upwardly through the cup back to the outer ends of the spiral grooves is maintained.

3. In a bearing, a bushing having a right and a left hand groove, an oil cup, means having communication with the oil cup and the spiral grooves at the outer ends of the latter to feed lubricant to said grooves, and a passage having communication with the cup and the inner ends of the spiral grooves, whereby a circulation of the lubricant from both ends of the bearing toward its center and thence upwardly through the cup back to the outer end of the spiral grooves is maintained.

974,967. MAGNETO-ELECTRIC GENERATOR. GOTTLOB HONOLD, Stuttgart, Germany. Filed Aug. 28, 1906. Serial No. 332,326.



1. The combination with a dynamo electric generator having means for producing a plurality of substantially equal maximum rates of change of flux at alternately longer and shorter intervals, of ignition circuits arranged to be energized by said changes of flux, and two explosive engines having igniters within the ignition circuits and arranged in intersecting planes.

2. The combination with two explosive engines having the axes of their cylinders inclined to each other, said engines being provided with igniters, of an electric generator having its armature driven by and at a fixed speed with relation to the engine, and having generator windings, means for producing an intermittent maximum rate of change of flux through the generator coils at alternately longer and shorter angular intervals corresponding to the angular intervals between the times of ignition and ignition circuits including the generator windings and the respective ignition devices of the engine, whereby a maximum voltage is produced at the igniter of each engine at the time of ignition.

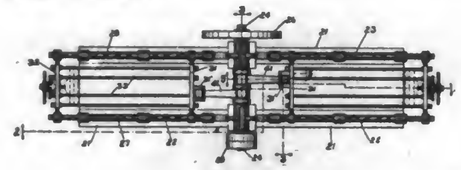
3. In a magneto electric generator, the combination with a rotatable armature having pole-pieces reduced on opposite sides of a plane perpendicular to the axis of the armature, the reduced portions of the pole pieces being on diametrically opposite sides of the axis, of a field magnet having pole-pieces reduced on opposite sides of a plane perpendicular to the axis of the armature, the reduced portions of the pole-pieces being on opposite sides of the axis, and an armature winding on said armature.

4. In a magneto electric generator, the combination with a rotatable armature having pole-pieces reduced on opposite sides of a plane perpendicular to the axis of the armature, of a field magnet having pole pieces reduced on opposite sides of a plane perpendicular to the axis of the armature, the reduced portions of the pole-pieces being on opposite sides of the axis, an armature coil, and means for taking off the current as set forth.

5. In a magneto electric generator, the combination with a rotatable armature having pole-pieces with parts of unequal width, forming wide and narrow portions disposed on opposite sides of a plane perpendicular to the axis of the armature, the wide portion of one pole-piece being diametrically opposite to the narrow portion of the other pole-piece, of a field magnet having pole-pieces with parts of unequal width, forming wide and narrow portions disposed on opposite sides of a plane perpendicular to the axis of the armature with the wide portion of one pole-piece facing the narrow portion of the other pole-piece, an armature winding, and means for leading off the current therefrom.

[Claims 6 to 8 not printed in the Gazette.]

974,968. SHAKER. ERNEST K. HOOD, Indianapolis, Ind., assignor to Climax Machinery Company, Indianapolis, Ind., a Corporation of Indiana. Filed Mar. 12, 1909. Serial No. 482,037.



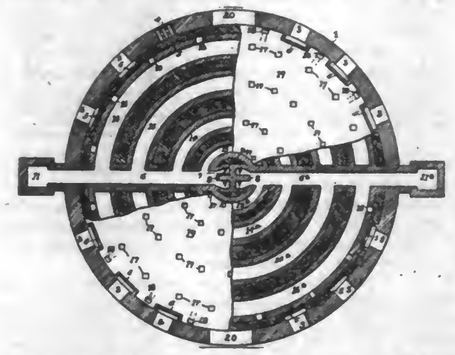
1. The combination, in a shaker, of a frame, a double crank shaft mounted centrally in said frame, slides at each side of said crank shaft carried by said frame, cages mounted on said slides, connecting rods connecting the heads of said cages with the cranks of said crank shaft, each connecting rod being provided with split bearings which engage the wrist pin, liners in said bearing capable of being removed and adjusted, and suitable take-up bolts for adjusting said bearings.

2. The combination, in a shaker, of a frame, a double crank shaft mounted centrally in said frame, slides at each side of said crank shaft carried by said frame, cages mounted on said slides, connecting rods connecting the heads of said cages with the cranks of said crank shaft, each connecting rod being provided with split bearings which engage the wrist pin, and suitable take-up bolts for adjusting said bearings.

3. The combination, in a shaker, of a frame, a crank shaft arranged centrally therein having two central opposed cranks, slides carried by said frame at each side of said crank shaft, a cage mounted on said slides at each side of said crank shaft, each cage being composed of two heads and rods connecting said heads, the means of connecting the heads and rods being a series of nuts, and one of each of said heads having countersunk openings surrounding the rods to receive the nuts on the inner side of the head, whereby projections on the surface of the head are avoided.

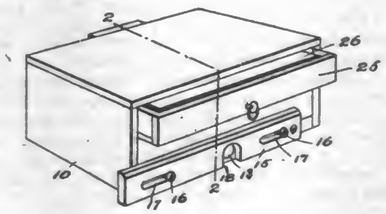
4. The combination, in a shaker, of a frame, a shaft mounted centrally in said frame and provided with two cranks opposed to each other, slides carried by said frame at each side of said crank shaft, cages each composed of two heads a series of bottom rods and two series of side rods mounted and adapted to reciprocally move said slides, pitmen connecting the cranks with the heads of the cages, and clamping devices secured in the opposite heads of the cages for clamping the cases of material to be treated therein.

974,969. BRICK-KILN. WILLIAM T. HUBB, Rochester borough, Pa. Filed June 23, 1909. Serial No. 503,786.



A kiln having, in combination, unconnected radial flues in its floor dividing said floor into segments, a vertical chimney leading from the outer end of each of said radial flues, means for regulating the draft in said chimneys, a series of concentric flues occupying each floor segment and extending from the circumference to the center thereof, the same ends of all the members of each series of concentric flues being closed and all the opposite ends opening into a radial flue, all the open ends of each series of concentric flues being adjacent all the closed ends of the next series of flues, and each radial flue communicating with but one series of concentric flues at one side thereof, and the floor having openings therethrough leading to said concentric flues.

974,970. CARD-PLAYING DEVICE. FORTUNATO EMILIO IORIO, Mount Vernon, N. Y. Filed Nov. 11, 1909. Serial No. 527,552.

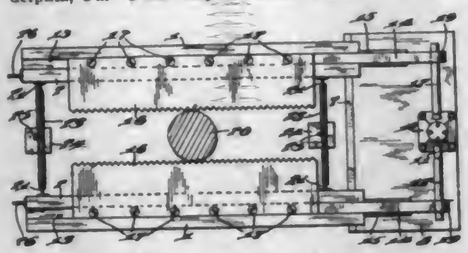


1. In a device of the class described, a receptacle provided with an inclined bottom, a recess in the bottom adjoining one side wall of the receptacle, an opening in such side wall adjoining the recess, a slide provided with an opening arranged to register at times with the opening first mentioned, a selector within the receptacle and operating over the recess in the bottom thereof, said selector

provided with an offset connecting portion passing through an aperture in the side wall and being connected with the slide, and a ledge projecting inwardly from the side wall for holding the selector in position.

2. In a device of the class described, a receptacle provided with an opening in one side wall thereof, a slide provided with an opening arranged to register at times with the opening first mentioned, a selector within the receptacle, said selector being provided with an offset connecting portion passing through an aperture in the side wall and being connected with the slide, and a ledge projecting inwardly from the side wall for holding the selector in position.

974,971. SAWING-MACHINE. JOHN H. IAWIN, Philadelphia, Pa. Filed July 21, 1910. Serial No. 572,978.



1. In a sawing machine, the combination with a frame, of two saws mounted on said frame, and disposed one at an elevation slightly above the other, said saws located in parallel planes with their teeth toward each other, and means for reciprocating said saws in opposite directions, substantially as described.

2. In a sawing machine, the combination with two frames movable toward and away from each other, saws mounted on said frames, one at an elevation slightly above the other, said saws located in parallel planes with their teeth toward each other, and means for reciprocating said saws in opposite directions, substantially as described.

3. In a sawing machine, the combination with two frames, wheels supporting said frames, bars mounted to reciprocate in said frames, saws secured on said bars, said saws located in parallel planes with their teeth toward each other, means for moving said frames toward each other, and means for reciprocating said saws in opposite directions, substantially as described.

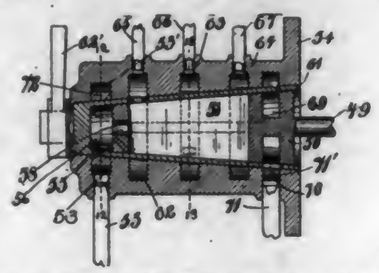
4. In a sawing machine, the combination with two frames and wheels supporting the frames, bars mounted to reciprocate in said frames, saws secured on said bars, and one of said saws located at a higher elevation than the other, said saws located in parallel planes with their teeth toward each other, means for reciprocating said bars in opposite directions, hooks on said frames, cables connecting said hooks and weights on said cables, substantially as described.

5. In a sawing machine, the combination with a platform having a dove-tailed flange thereon, of two parallel frames having dove-tailed grooves in one end movable on said flange, saws mounted to reciprocate on said frames and having their teeth projecting toward each other, wheels supporting said platform and frames, bars mounted to reciprocate in said frames, slotted yokes on said bars, eyes secured on said bars, an engine on said platform, a crank shaft turned by said engine and having long cranks positioned in said yokes, and means tending to draw said frames toward each other, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

974,972. STARTING MECHANISM FOR EXPLOSION-ENGINES. SZYMON JACHIMOVICZ, San Francisco, Cal., assignor of one-half to M. Grodin, Oakland, Cal. Filed Feb. 23, 1909. Serial No. 479,636.

1. In a starting mechanism for explosion engines, a valve casing, an oscillating valve in said casing, and a rotary valve in the oscillating valve, coöperating with the latter, to deliver timed discharges of compressed air to the engine cylinders, as set forth.



2. In an engine starter, a valve casing, a valve capable of a short oscillation therein, a revoluble valve in the first-mentioned valve, and coöperating with the latter to deliver timed discharges of compressed fluid to an engine cylinder, and means to change the position of the parts of the first valve with respect to the valve casing, as described.

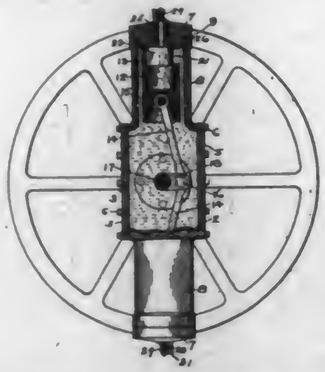
3. In an engine starter, a valve casing, a valve in said casing and capable of a short oscillation, a revoluble valve in the first-mentioned valve, and coöperating therewith to deliver timed charges of a compressed fluid to the engine cylinders, and means to secure the first valve in two operative and one inoperative positions.

4. In an engine starter, a valve casing, a valve in said casing and capable of a short oscillation, a revoluble valve in the first-mentioned valve, and coöperating therewith to deliver timed charges of compressed fluid to the engine cylinders, means to secure the first valve in two operative and one inoperative position, and means to deliver a compressed fluid to the valves, as set forth.

5. In an engine starter, the combination with an engine of the explosion type of a valve casing having ports therein, pipes leading from the valve casing to the cylinders of the engine, a valve in said casing capable of a short oscillation, a revoluble valve in the first-mentioned valve, and having ports which coöperate therewith, means to oscillate the first-mentioned valve, means to rotate the second valve to deliver timed charges of compressed fluid to the engine cylinders, and means to change the time of delivery of the charges from the inner valve to the cylinders, as set forth.

[Claims 6 to 26 not printed in the Gazette.]

974,973. FLUID SPEED-GOVERNING MECHANISM. JULIUS C. W. JÖRGENSEN, San Francisco, Cal. Filed Mar. 29, 1910. Serial No. 552,244.



1. The combination with a driving and a driven shaft of a cylindrical housing mounted on one shaft, a cylinder of lesser diameter arranged within the housing, a piston engaging the cylinder and connected to the other shaft, a by-pass connecting the spaces in the cylinder on opposite sides of the piston and means for regulating the flow of a liquid through the by-pass.

2. The combination with a driving shaft and a driven shaft of a cylindrical housing mounted on one shaft and arranged to rotate in the plane of rotation thereof, a cylinder of lesser diameter than the housing arranged radially within the housing, a piston connected to the other shaft and engaging in the cylinder, and means within the cylinder for varying the area of the outlet passage to the interior of the housing.

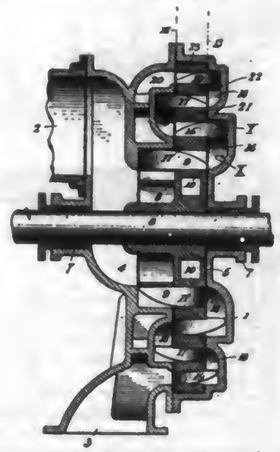
3. The combination with a driving shaft and a driven shaft of a cylindrical housing mounted on one shaft and arranged at right angles thereto and adapted to rotate with the shaft, a cylinder of lesser diameter mounted within the chamber formed by the housing, the inner end of the cylinder opening into the chamber, a piston engaging the cylinder and connected to the other shaft and means within the cylinder for varying the size of the passage between the outer end of the cylinder and the chamber.

4. The combination with a driving shaft and a driven shaft, of a housing mounted on one shaft comprising a plurality of radially disposed cylindrical sections, a cylinder in each section of less diameter than the section, pistons engaging in the cylinders and connected to the other shaft, each pair of oppositely disposed pistons adapted to move in opposite directions radially, a by-pass connecting the opposite ends of the cylinders on each side of the pistons and means for varying the area of the by-pass.

5. The combination with a driving shaft and a driven shaft of a casing adapted to be filled with a fluid attached to one shaft, said casing comprising a central portion and oppositely arranged radial cylindrical portions, cylinders in the radial portions of less diameter than the diameter thereof, pistons connected to the other shaft and engaging in said cylinders, ports in the cylinders at the outer ends and valves arranged at said ports to vary the size of the opening between the cylinder and the casing.

[Claims 6 and 7 not printed in the Gazette.]

974,974. PUMP. CHARLES A. KAISER, New York, N. Y., assignor of one-third to Frank N. Davison, New York, N. Y., and one-third to Hiram H. Hirsch, Philadelphia, Pa. Filed Jan. 7, 1907, Serial No. 351,075. Renewed Apr. 2, 1910. Serial No. 553,099.



1. A pump having a plurality of movable vanes and having a cavity containing fixed vanes, said cavity terminating in a wall normal to the direction of the fluid flow therein, and additional movable vanes moving through said cavity so as to impinge against the fluid and project it into movement at points immediately adjacent to said wall.

2. A pump having a plurality of movable vanes and having an annular cavity into which the fluid is propelled by said vanes, said cavity terminating in a wall normal to the direction of the fluid flow therein, and additional movable vanes moving through said cavity closely adjacent to said wall so as to impinge against the fluid and project it into movement at the instant that it has its velocity arrested by said wall.

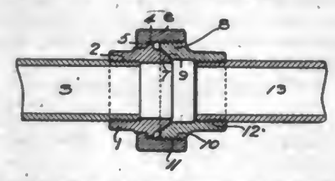
3. A pump having a plurality of movable vanes and having a cavity containing fixed vanes annularly arranged adjacent to said movable vanes, said cavity having a curved wall by which the fluid is deflected, and an additional wall normal to the path of the fluid flow in the cavity, and additional movable vanes moving through said cavity adjacent to said last mentioned wall so as to impinge against the fluid and project it into movement with the additional pressure due to its arrest by said wall.

4. A pump having a plurality of movable vanes and having an annular cavity containing fixed vanes, said cavity having a rounded wall against which the fluid initially strikes under the impulse of the movable vanes, and having an additional wall normal to the direction of the fluid flow by which the velocity of the fluid is checked and its pressure increased, and additional movable vanes revolving with said first mentioned vanes and moving closely adjacent to said last mentioned wall, so as to impinge against the fluid and again project it into movement.

5. In a pump, a revoluble element having a plurality of annular series of vanes, said vanes being inclined to the direction of movement of the element and projecting laterally beyond the revoluble element first on one side thereof and then on the other, and a casing having cavities into which said vanes project.

[Claims 6 to 10 not printed in the Gazette.]

974,975. PIPE-UNION. JOHN T. KELLY, Brooklyn, N. Y., assignor of one-half to George M. Jones, Pittsburg, Pa. Filed July 1, 1909. Serial No. 505,440.



1. In a pipe union, the combination of members having bearing faces adapted to be drawn into sealing contact, said members being formed of cast iron, and one of said members having a coating of copper deposited on the bearing face thereof.

2. In a pipe union, the combination of members having faces adapted to be drawn into sealing contact, said members being formed of cast iron and having a coating of copper deposited over the entire surface thereof.

974,976. CUFF-BUTTON. HENRY R. KOHLWEYER, Pittsburg, Pa. Filed Apr. 30, 1908, Serial No. 430,142. Renewed Mar. 2, 1909. Serial No. 480,968.



1. A button embodying heads having confronting flanges with oppositely disposed cut away portions, a U-shaped spring connecting said heads, an eyelet carried by the U-portion of said spring, a pin extending through said eyelet, a casing movably mounted upon the U-portion of said spring and having resilient ends adapted to enter and engage the cut away portions of said flanges, said cas-

ing having oppositely disposed slots formed therein to receive the ends of said pin, a curved pin carried by one of said heads, and a curved sleeve carried by the other of said heads for receiving said pin.

2. A button comprising heads, a spring connecting said heads, a casing slidably mounted upon said spring and having resilient ends detachably mounted in said heads, and telescopic shank members arranged between said heads.

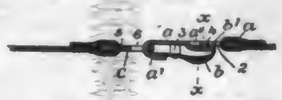
3. A button comprising heads, a spring connecting said heads, a casing slidably mounted upon said spring, and telescopic shank members arranged between said heads.

4. In a cuff button, a pair of head-members, a shank-member, carried by the inner face of each head-member, one of said shank-members telescoping the other shank-member, a spring connecting the head-members and acting to normally separate the same, and a casing slidably mounted on the spring and engaging the head-members, said casing acting to normally restrain the separation of the head-members under the action of said spring.

5. In a button, a pair of heads and a spring connecting said heads and arranged to cause separation of said heads in combination with a spring holding device adapted to engage the inner faces of said heads to lock said device in spring-holding position.

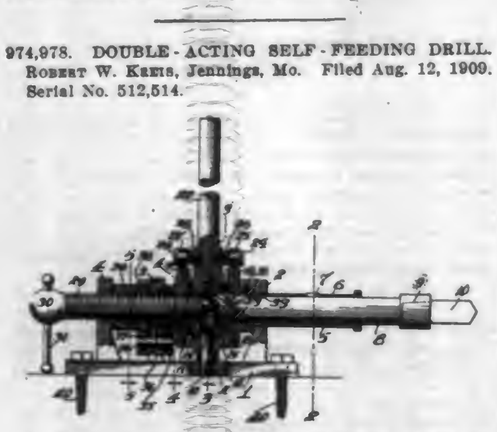
[Claims 6 and 7 not printed in the Gazette.]

974,977. CLASP OR BUCKLE. DANIEL KOPS, New York, N. Y., and JOHN J. BUCHANAN, Waterbury, Conn., assignors to Kops Bros., New York, N. Y., a Firm. Filed Jan. 3, 1910. Serial No. 536,210.



In a clasp or buckle the combination with an attachable eye-bar plate, of a hook-plate and spring clip plate, means for securely connecting the hook-plate and spring clip plate together and the latter having an integral stamped up portion which is convexed both longitudinally and transversely or arched to stiffen the same to withstand finger pressure in the operation thereof.
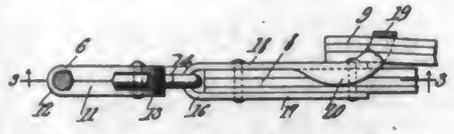
974,978. DOUBLE-ACTING SELF-FEEDING DRILL. ROBERT W. KEMS, Jennings, Mo. Filed Aug. 12, 1909. Serial No. 512,514.



1. In an apparatus of the class described, a base section, bearings carried by the base section, a sleeve carried by the bearings, a drill stem operating in said sleeve, a gear wheel secured to the sleeve, a gear wheel loosely carried by the sleeve, a gear wheel in mesh with each of the aforesaid gear wheels, a lever for actuating the gear wheels, means for connecting the gear wheels with said lever, whereby either stroke of the lever will rotate the drill stem in an effective direction, and means for automatically moving the drill stem longitudinally as it is being rotated.

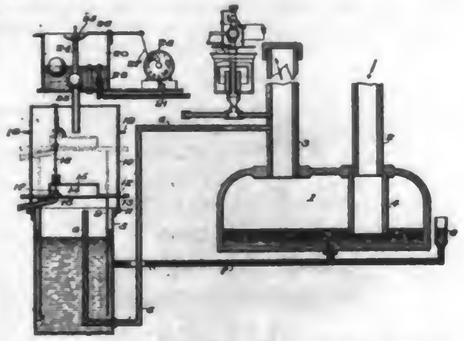
2. In an apparatus of the class described, a base section, bearings carried by the base section, a sleeve carried by the bearings, a drill stem operating in said sleeve, a gear wheel secured to the sleeve, a gear wheel loosely carried by the sleeve, a gear wheel in mesh with each of the aforesaid gear wheels, a bifurcated lever embracing said sleeve, means carried by the lever for actuating the gear wheels whereby either stroke of the lever will rotate the drill stem in an effective direction, means for automatically moving the drill stem longitudinally as it is being rotated, a ring embracing the sleeve and occupying the bifurcated end of the lever, and means connecting the ring and the base to prevent movement of said ring, whereby the lever is held out of engagement with the gear wheels carried by the sleeve.

974,979. BEAM AND TRACE CONNECTION. WILLIS EDWIN LAMB, Green Forest, Ark. Filed May 26, 1910. Serial No. 563,636.



In a device of the class described, a blank folded upon itself and having upon one face at each edge at each side of the fold, a lug, the lugs at each edge of the blank abutting when the blank is folded thereby to afford a pin-receiving opening between the fold and the ends of the lugs adjacent thereto, the blank being formed upon its said face at one end with a circular boss abutting at its flat face against the said face of the blank at the other end thereof, a strap-loop embracing and pivoting about said boss and confined therebetween and the ends of the lugs adjacent thereto, and a rivet secured axially through the boss and through that end of the blank against which the boss abuts.

974,980. AUTOMATIC GAS-CONTROLLER. JOSEPH C. LANDIS, Collegeville, Pa. Filed Jan. 29, 1908. Serial No. 413,310.



1. In a device of the character described, a reservoir, a gas inlet provided with an extension, a gas outlet, and time controlled means to seal said gas inlet at a predetermined time, whereby gas pressure in said reservoir is varied.

2. In a device of the character described, a reservoir, a gas inlet and outlet therefor, a chamber adjacent thereto, means to establish a liquid level between said reservoir and chamber, and time controlled means coöperating with said chamber to vary the gas pressure in said reservoir at a predetermined time.

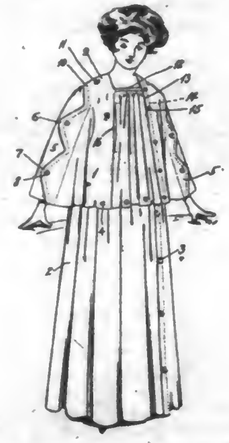
3. In a device of the character described, a reservoir, a gas inlet and outlet therefor, a chamber adjacent thereto, means to establish a liquid level between said reservoir and chamber and automatic means coöperating with said chamber to vary the gas pressure in said reservoir at a predetermined time.

4. In a device of the character described, a reservoir, a gas inlet and outlet therefor, a chamber adjacent thereto, a plurality of connections between said reservoir and chamber, and automatic means coöperating with said chamber to vary the gas pressure in said reservoir at a predetermined time.

5. In a device of the character described, a reservoir a gas inlet and outlet therefor, a chamber adjacent thereto, gas and liquid connections between said reservoir and chamber, a float for said chamber, and means to raise and lower said float at a predetermined time to vary the gas pressure in said reservoir.

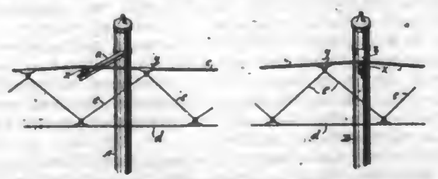
[Claims 6 to 8 not printed in the Gazette.]

974,981. COMBINATION-GARMENT. LULU SKINNER LEE, Los Angeles, Cal. Filed Feb. 7, 1910. Serial No. 542,636.



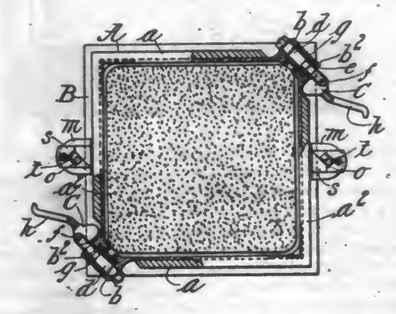
A maternity garment consisting of a body having sleeves with longitudinal openings extending throughout the length thereof, said openings extending over the shoulders of said body, buttons connecting the edges of said opening together, said body being divided in a line extending the entire length thereof and over one breast, buttons connecting the edges, said body being also formed with a slit over the opposite breast, said dividing line and slit being arranged so as to enable an infant to be nursed on either breast, a body extension detachably secured to the lower edge of said body by buttons and formed with a dividing line extending throughout the entire length thereof arranged to be held together by buttons.

974,982. CATENARY OVERHEAD SYSTEM FOR ELECTRIC RAILWAYS. WILLIAM ANDREW MCCALLUM, Cincinnati, Ohio. Filed May 13, 1909. Serial No. 495,662.



In a catenary suspension system for electric railways, a supporting or "messenger" cable; a trolley wire; a substantially continuous cable or wire interposed as the sole suspending element between said messenger cable and trolley wire arranged in zig-zag continuity; hooks or clamps fixedly connecting and supporting the said suspending element by its upper bights to the messenger cable; and trolley "ears" connecting and supporting the trolley wire upon and from the lower bights of said suspending element.

974,983. MOLDER'S FLASK. EDWARD T. MCHUGH, Holyoke, Mass. Filed Aug. 29, 1910. Serial No. 579,570.



1. A flask comprising a pair of right angled portions arranged to form the boundaries of a rectangular flask frame, the adjacent ends of members of the angular portions having obliquely outwardly extending lugs, a stud carried by one of each adjacent pair of lugs and projecting transversely of, and beyond the other lug, and having a lever-provided cam pivotally connected thereto, whereby by the operations of the cams at the diagonally opposite corners the separable portions of the flask may be brought to contracted relations or released to spread from each other, and springs for automatically spreading the angular portions of the flask when released therefor by the cams.

2. A flask comprising a pair of right angled portions arranged to form the boundaries of a rectangle, the adjacent ends of members of the angular portions having obliquely outwardly extending lugs, one of each having an aperture therethrough, while the other carries a stud projecting through and beyond such aperture, and having a lever-provided cam pivotally connected thereto, and arranged for impingement against the surface of the apertured lug, and springs in compression between the obliquely extending lugs of both pairs.

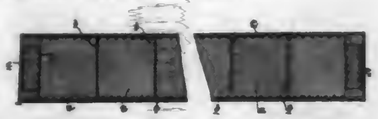
3. A flask comprising a pair of right angled portions arranged to form the boundaries of a rectangular flask frame, the adjacent ends of members of the angular portions having obliquely outwardly extending lugs, a stud carried by one of each adjacent pair of lugs, projecting transversely of, and beyond the other lug, and having a lever-provided cam pivotally connected thereto, springs between the pairs of corner lugs, exerting a separating pressure thereto, and a guard wall carried at the upper part of one lug of each pair and overhanging the other lug.

4. A flask comprising a pair of right angled portions arranged to form the boundaries of a rectangle, the adjacent ends of members of the angular portions having obliquely outwardly extending lugs, a stud carried by one of each adjacent pair of lugs projecting transversely of and beyond the other lug and a lever having a bifurcated inner extremity forming a two leaf cam embracing and pivotally connected to the extremity of each stud next outside of the lug, and springs interposed between the lugs of each pair, exerting a separating pressure thereto.

5. In combination the drag and cope sections of a flask, one having opposite outwardly extending apertured guide plates and the other having outstanding at its opposite sides vertical guiding dowels and one of said flask sections comprising a pair of right angled portions having rectangular arrangement, the adjacent ends of their members having obliquely outwardly extending lugs, one of each having an aperture therethrough while the other carries a stud projecting through and beyond such aperture and having a lever provided cam pivotally connected thereto arranged for coaction with the adjacent oblique lug

springs for automatically spreading the angular portions of the flask,—the apertures in the said guide plates having the lengths thereof arranged in oblique lines corresponding to the lengths of said studs.

974,984. WOODEN CORE AND METHOD OF MAKING THE SAME. DAVID C. MEEHAN, Columbus, Ohio. Filed Dec. 18, 1908. Serial No. 468,218.

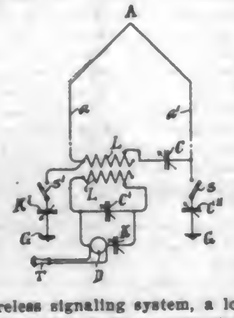


1. The method herein described of constructing a wooden core which consists, essentially, in assembling core pieces in parallel series and interposing in the joint between adjacent pieces, a compressible cushioning material differing in character from the wood and which has the capacity of adhesively joining opposed wood surfaces while allowing one surface to move relatively to the other.

2. The method herein described of constructing a wooden core which method consists, essentially, in assembling separate core pieces in parallel series and placing between the adjoining surfaces of the pieces a cushioning material of sheet form differing in character from the wood and having the capacity of adhesively joining opposed wood surfaces, and that will bodily creep and fail to rigidly join the opposed movable wood surfaces, whereby the joint serves to absorb expanding or shrinking movement of the wood and prevent the transfer of such movement from one core piece to another.

3. A wooden core consisting of parallel pieces having a strip of flexible material introduced between the edges of adjacent strips and glued thereto, said material being of a fibrous character whereby the portion between opposite glued sides will respond to the shrinking and swelling movements of the core pieces and will absorb the same, and prevent the movement of one piece being communicated to an adjacent piece.

974,985. RECEIVING APPARATUS. FREDERICK W. MIDGLEY, Jersey City, N. J., assignor to International Telegraph Construction Company, a Corporation of New York. Original application filed Jan. 26, 1906, Serial No. 297,957. Divided and this application filed Feb. 25, 1909, Serial No. 479,918. Renewed Sept. 30, 1910. Serial No. 584,764.



1. In a wireless signaling system, a looped aerial conductor, capacity and inductance connected in said loop to form a closed circuit, said closed circuit forming a single path through all the inductance in series, a circuit in inductive relation with said loop, and a wave-responsive device and a condenser serially connected in said associated circuit.

2. In a wireless signaling system, a looped aerial conductor, frequency determining elements of different kinds connected in said loop to form a closed circuit, a circuit in inductive relation with said loop, a wave-responsive device and a condenser serially connected in said associated circuit, and a connection from said looped aerial conductor to earth through another condenser.

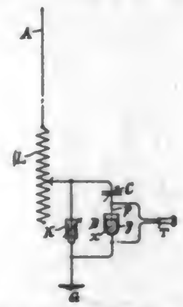
3. In a wireless signaling system, a looped aerial conductor, frequency determining elements of different kinds connected in said loop to form a closed circuit, a circuit in inductive relation to said loop, a condenser in said inductively related circuit, and a wave-responsive device connected in a path in parallel to said condenser.

4. In a wireless signaling system, a looped aerial conductor, frequency determining elements of different kinds connected in said loop to form a closed circuit, a circuit in inductive relation to said loop, a condenser in said inductively related circuit, a wave-responsive device connected in a path in parallel to said condenser, and a connection from said looped aerial conductor to earth through another condenser.

5. In a wireless signaling system, a looped aerial conductor, frequency determining elements of different kinds connected in said loop to form a closed circuit, a circuit in inductive relation with said loop, a condenser in said inductively related circuit, and a wave-responsive device and condenser serially connected in shunt to said condenser.

[Claims 6 to 11 not printed in the Gazette.]

974,986. RECEIVING APPARATUS. FREDERICK W. MIDGLEY, Jersey City, N. J., assignor to International Telegraph Construction Company, a Corporation of New York. Filed Mar. 5, 1906, Serial No. 304,218. Renewed Sept. 30, 1910. Serial No. 584,765.



1. In a wireless signaling system, receiving apparatus comprising an open aerial conductor, a condenser associated therewith, a non-inductive circuit connected in shunt to said condenser, a wave responsive device and a tuning condenser serially connected with each other in said shunt circuit, and a circuit including only said wave-responsive device and signal translating means.

2. In a wireless signaling system, an open aerial conductor, an inductance and a condenser serially connected between said aerial conductor and earth, and a non-inductive circuit in shunt to said condenser and including a condenser and a wave-responsive device.

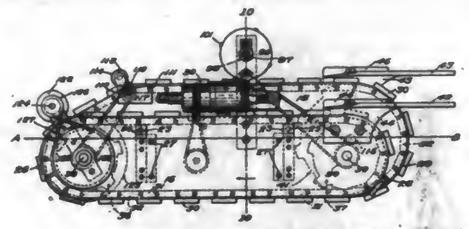
3. In a wireless signaling system, an aerial conductor, a condenser associated therewith, a circuit in shunt to said condenser including only a tuning condenser and a wave-responsive device, and a circuit including only said wave-responsive device and means for translating a signal.

4. In a wireless signaling system, an aerial conductor, an adjustable condenser associated therewith, a non-inductive circuit in shunt to said condenser including a wave-responsive device and an adjustable condenser, and a circuit including only said wave-responsive device and means for translating a signal.

5. In a wireless signaling system, an aerial conductor, an inductance associated therewith, an adjustable condenser associated with said inductance, a non-inductive circuit in shunt to said condenser including a wave-responsive device and an adjustable tuning condenser, and a circuit including only said wave-responsive device and means for translating a signal.

[Claims 6 to 13 not printed in the Gazette.]

974,987. APPARATUS FOR UNITING LEATHER BLANKS. JAMES A. MILLICAN, Cambridge, Mass. Filed Mar. 28, 1910. Serial No. 551,824.



1. In an apparatus for uniting blanks, two carriers for conveying blanks, mechanism for causing said carriers to travel in endless paths and to approach and pass each other at one point with a narrow space between, said carriers permitting the edges of the respective blanks conveyed by them to extend into said narrow space and to overlap, combined with means for securing together said overlapping edges.

2. In an apparatus for uniting blanks, two carriers for conveying blanks, mechanism for causing said carriers to travel in endless paths in the same general direction and to approach and pass each other at one point with a narrow space between, said carriers permitting the edges of the respective blanks conveyed by them to extend into said narrow space and to overlap, combined with means for securing together said overlapping edges.

3. In an apparatus for uniting blanks, two carriers for conveying blanks, mechanism for causing said carriers to travel in endless paths in different lengths and to approach and pass each other at one point with a narrow space between, said carriers permitting the edges of the respective blanks conveyed by them to extend into said narrow space and to overlap, combined with means for securing together said overlapping edges.

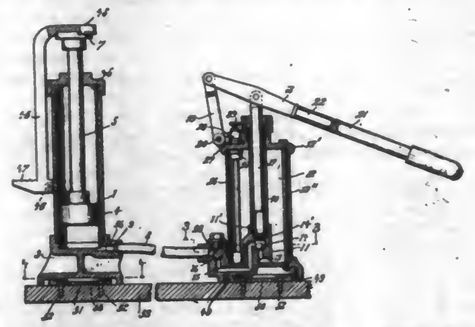
4. In an apparatus for uniting leather blanks, two endless tracks, two carriers for conveying blanks arranged to travel over said tracks, said tracks being in proximity at one point with a space between the same greater than twice the distance that either carrier projects into said space, said carriers permitting the edges of the respective blanks conveyed by them to extend into said space and to overlap, combined with mechanism for moving said carriers over said tracks and means for securing together said blanks by said overlapping edges.

5. In an apparatus for uniting leather blanks, two endless tracks of different lengths, two carriers for conveying blanks arranged to travel over said tracks, said tracks being in close proximity at one point and permitting the edges of the blanks conveyed by the carriers to come in contact and overlap two at a time, combined with mechanism for moving said carriers over said tracks, and means for securing together said blanks by said overlapping edges.

[Claims 6 to 18 not printed in the Gazette.]

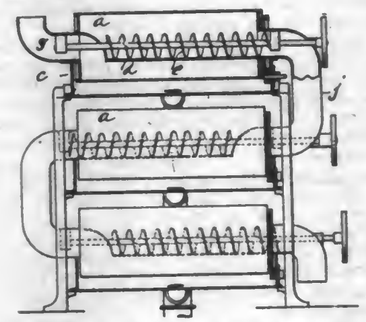
974,988. LIFTING-JACK. ROBERT J. NORTHAM, Los Angeles, Cal. Filed May 3, 1910. Serial No. 559,202.

1. In combination, a pump cylinder, a base on which the cylinder is mounted, said base having a slotted projection thereon, a reservoir mounted on said base and inclosing the cylinder, a valve controlled conduit leading from the reservoir to the cylinder, a second valve controlled conduit leading away from the cylinder, a by-pass leading from the second mentioned conduit to the reservoir, a valve controlling said by-pass, a stem for operating the valve, a spider formed on the stem near its lower end to keep the valve in alinement with the by-pass, a sleeve rotatably mounted on the cover of the reservoir and threaded into the upper end of the valve-stem, a ring encircling the sleeve and keyed thereto, a nut threaded onto the upper end of the sleeve and bearing against the ring, a handle on the ring whereby the ring and sleeve may be rotated, and means for preventing rotation of the valve stem when the sleeve is rotated, including a lug formed on the stem and bearing in the slotted projection on the base.



2. In a device of the class specified, in combination, a pump cylinder, a reservoir inclosing the cylinder, a valve controlled conduit leading from the reservoir to the cylinder, a second valve controlled conduit leading away from the cylinder, a by-pass leading from the second conduit to the reservoir, a valve for the by-pass, means to actuate the valve including a sleeve rotatively mounted in the cover of the reservoir, said sleeve provided with a passage leading from the upper part of the reservoir to the outer air, a valve in the sleeve operable to close the passageway.

974,989. MACHINE FOR COLLECTING SOLIDS FROM LIQUIDS. HOWARD PARKER, Nashua, N. H., assignor to Improved Paper Machinery Company, Nashua, N. H., a Corporation of Maine. Filed Sept. 17, 1908. Serial No. 453,509.

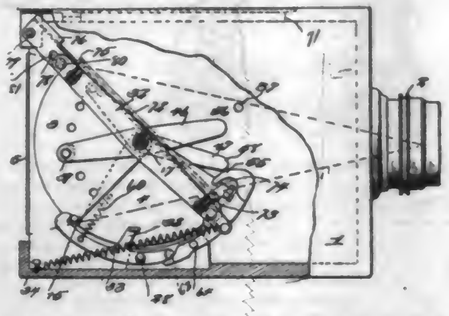


1. A machine of the character described comprising two or more vats, a cylinder rotatably mounted in each vat having the shells thereof pervious to fluids but impervious to solids, a horizontally-extending non-rotatable trough arranged axially of each cylinder, each trough discharging axially of its cylinder through one end thereof, an inlet for each cylinder through one end thereof, the corresponding end of the trough being closed to the inlet, a conveyer in each trough, connections between the discharge end of each trough and the interior of the next adjacent cylinder, an outlet from each vat intermediate the ends thereof, an outlet from the trough of the last cylinder and extending throughout the length of the cylinder, and a scoop carried by each cylinder, said scoop pervious to fluids and impervious to solids whereby the solids are collected on the inner faces of the shells and discharged into the troughs.

2. A machine of the character described comprising a vat, a rotatable cylinder therein, a non-rotatable trough axially-arranged within said cylinder and extending horizontally lengthwise thereof, an inlet into the interior of said cylinder through one end thereof, the corresponding end of the trough being closed to the inlet, a conveyer in

said trough, said cylinder having the shell thereof pervious to fluids but impervious to solids whereby the solids are collected on the inner face of the shell, a scoop extending the length of the cylinder and secured to the inner face of said shell and being pervious to fluids but impervious to solids to carry the collected solids above said trough and depositing them therein, and a spray arranged in operative relation to said shell at a point over said trough.

974,990. CAMERA. OLIVER W. PLANT, Providence, R. I. Filed Oct. 10, 1908. Serial No. 457,102.



1. In a camera having a focusing opening in the top, a movably mounted mirror adapted to close said opening, exposure sectors, and means slidably connected with the mirror for controlling the exposure sectors and for moving said mirror to closed position before making an exposure.

2. In a camera having a focusing opening in the top, exposure sectors, a movably mounted mirror adapted to close said opening, and a major swing arm controlling the exposure sectors and slidably connected with the mirror for controlling the movement thereof.

3. In a camera having a focusing opening in the top, exposure sectors, a movably mounted mirror adapted to close said opening, a movably mounted member slidably connected with the mirror, and devices connected with said member and sectors whereby said member first returns the mirror to its closed position and then releases the exposure sectors.

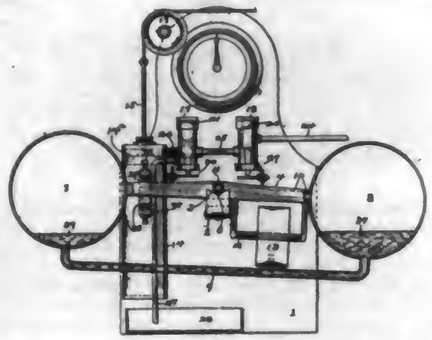
4. In a camera having a focusing opening in the top, a movably mounted mirror normally closing the focusing opening in the top of the camera box, exposure sectors, means for actuating and means for controlling the latter, the mirror and sector controlling means being operatively connected and means slidably connected with the mirror for moving said mirror to its closed position before the exposure commences.

5. In a camera, independently movable sectors, a movable mirror, holding means for said sectors, and a movably mounted member constructed to first return the mirror to its closed position and then release the sectors from the holding means.

[Claims 6 to 16 not printed in the Gazette.]

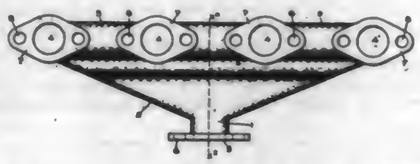
974,991. CONTROLLING DEVICE. JOHN E. RADIGAN, Cleveland, Ohio, assignor of one-fourth to John R. Quinn, one-fourth to James J. Quinn, and one-fourth to Alphonso J. Byrne, Cleveland, Ohio. Filed Dec. 7, 1907. Serial No. 405,607.

1. As a means for operating furnace dampers, the combination of a cylinder, a piston therein, means whereby the piston may be connected with the damper, and means for operating said piston to close the damper, said means comprising a fluid supply pipe connected to said cylinder, valves in said supply pipe, a beam pivoted intermediate of its ends and having at each end a closed receptacle, a pipe connecting the bottoms of said receptacles, said receptacles being provided with liquid partly filling the same and said beam being arranged to operatively engage said valves on opposite sides of its pivot as it tips to one side or the other, and a pressure supply pipe communicating with the central portion of said beam and, through one arm thereof, with one of said receptacles, substantially as specified.



2. As a means for operating the damper of a steam boiler furnace, the combination of a cylinder, a piston therein, connections whereby said piston may operate said damper, and means for moving said piston to open and close said damper, said means comprising a supply pipe communicating with one end of said cylinder, a valve casing in said pipe and having a valve therein and provided with a seat below the points of connection of said casing with said cylinder and said supply pipe, a waste pipe communicating with the valve casing below the valve seat, a second valve in said supply pipe and adapted to control the flow of fluid therethrough to the cylinder, and means for operating said valves, said means comprising a beam pivoted between the valve casings, means whereby the movement of said beam in opposite directions shall open said valves, a closed receptacle supported at each end of said beam and each having liquid therein partly filling the same, a pipe connecting the bottoms of said receptacles and adapted to permit liquid to flow from one of said receptacles to the other, and a connection for supplying steam from the boiler to one of said receptacles, substantially as specified.

974,992. MANIFOLD FOR INTERNAL-COMBUSTION ENGINES. MERRILL B. RICE, Los Angeles, Cal. Filed Mar. 26, 1910. Serial No. 551,786.



1. A manifold comprising an inlet portion, an elongated head provided with a plurality of outlets distributed along its length, and having an elongated inlet slot, and a distributing portion extending directly upward from the inlet portion to said elongated slot.

2. A manifold comprising an inlet portion, an elongated head provided with a plurality of outlet portions distributed along its length and provided with an elongated slot, and a distributing portion extending upwardly from the inlet portion to said elongated slot, said distributing portion diverging longitudinally upward so as to be longitudinally co-extensive with the elongated slot at its upper portion, and said distributing portion being upwardly convergent in a transverse direction so as to provide substantially the same cross section throughout its length.

3. A manifold comprising an inlet portion, an elongated head provided with a plurality of outlet portions distributed along its length, said elongated head having a depending extension formed with a longitudinal slot communicating with the upper end of said distributing means, and a distributing portion extending upwardly from the inlet portion to said elongated slot, said distributing portion diverging longitudinally upward so as to be longitudinally co-extensive with the elongated slot, and said distributing portion being upwardly convergent in a transverse direction so as to provide substantially the same cross section throughout its length.

4. A manifold for carbureters comprising an elongated head provided with a plurality of outlets for the respective cylinders and having an elongated slot forming a laterally constricted inlet to said head, and mixture supply means communicating with said slot.

974,993. PROCESS OF MAKING ANHYDROUS BARIUM HYDROXID. CHARLES ROLLIN, Newcastle-upon-Tyne, England, assignor to himself and Hedworth Barium Company Limited, Newcastle-upon-Tyne, England. Original application filed June 3, 1909, Serial No. 499,922. Divided and this application filed Feb. 23, 1910. Serial No. 545,387.

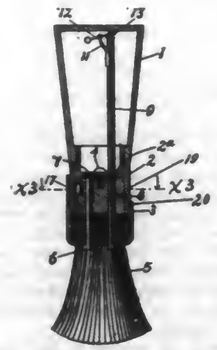
1. A process for producing anhydrous barium hydroxid in an amorphous condition from crystallized barium hydroxid, said process consisting in slowly and uniformly heating the crystallized barium hydroxid in comparatively thin layers in a partial vacuum.

2. A process for producing anhydrous amorphous barium hydroxid from crystallized barium hydroxid, said process consisting in slowly and uniformly heating the crystallized barium hydroxid in comparatively thin layers in a partial vacuum at a comparatively low temperature.

3. A process for producing anhydrous amorphous barium hydroxid from crystallized barium hydroxid, said process consisting in slowly and uniformly heating the crystallized barium hydroxid in comparatively thin layers in a partial vacuum at a temperature below two hundred degrees centigrade.

4. A process for producing anhydrous amorphous barium hydroxid from crystallized barium hydroxid, said process consisting in slowly and uniformly heating the crystallized barium hydroxid in comparatively thin layers in a partial vacuum corresponding to from eighteen to twenty inches of vacuum at a temperature less than two hundred degrees centigrade but not less than one hundred degrees centigrade.

974,994. FOUNTAIN TOILET-BRUSH. WALTER T. SCHAEFER, Los Angeles, and JOSEPH E. STEERS, San Francisco, Cal. Filed Sept. 20, 1909. Serial No. 518,694.



1. In a fountain brush, in combination, a hollow handle, bristles, means for feeding liquid from said handle to said bristles, and an air duct leading from the bristles to the interior of the handle.

2. In a fountain brush, a fluid container, a bristle-holding member, bristles attached to said member, fluid supply ducts in said member to supply fluid to said bristles, an air supply duct in said member, an air duct in said container, there being also feed passages in said container, said container and member being movable with relation to each other to bring said air ducts into and out of register with each other and also to bring said feed ducts in said member into and out of register with said feed passages in said container.

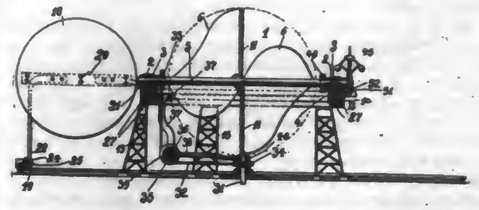
3. In a fountain brush, the combination with a container, bristles, and means for delivering fluid from said container to said bristles; and an air duct leading from said bristles into said container, of means, within said container, for closing said air duct when the bristles are in the uppermost position.

4. In a fountain brush, two members movable on a common axis with relation to each other, supply ducts formed in sections in said members, said members being circumferentially movable about a pivot to bring the sections of said ducts into and out of register with each other, and a spring for maintaining said ducts open or closed, said pivot constituting fastening means engaging each of said members and holding them closely together during their relative rotation.

5. In a fountain brush, a container, a bristle holding member pivoted to said container, bristles held by said bristle-holding member there being ducts for supplying fluid to the bristles, said ducts being formed in sections, a spring having oppositely disposed resilient arms carried by said member and extending circumferentially with relation thereto, and a projection carried by said container, to engage said arms to hold the bristle-holding member adjusted with said ducts open or closed.

[Claim 6 not printed in the Gazette.]

974,995. WIND-MOTOR. JOHN SCHIES, Anderson, Ind., assignor to International Aerial Power Company, Phoenix, Ariz., a Corporation of Arizona. Filed Oct. 15, 1909. Serial No. 522,862.



1. In a wind motor, the combination of a propulsion-wheel comprising a substantially horizontal central supporting shaft and wings arranged spirally and longitudinally about said central supporting shaft and extending longitudinally of the axis of rotation of said central supporting shaft, the said wings secured spirally along their longitudinal inner edges to said central supporting shaft and forming closed connection therewith, a supporting structure having a guideway thereon about said propulsion-wheel, a shifting member in which said propulsion-wheel is journaled having movement along said guideway, the outer edges of said wings describing a path of travel which resembles a sphere whose central horizontal perimeter is closely adjacent to and is substantially equidistant from said guideway at all points thereof irrespective of the direction in which the said axis of rotation of said propulsion-wheel extends, substantially as described.

2. In a wind motor, the combination of a supporting structure, a shifting-member, there being a guideway between said supporting structure and shifting-member adjacent their outer edges, the said shifting-member having rotary movement along said guideway, a propulsion-wheel having a substantially horizontal axis of rotation, said propulsion-wheel journaled in and movable with said shifting member and having propulsion-wings arranged spirally and longitudinally about said axis of rotation of said propulsion wheel, the outer edges of said wings describing a path of travel which resembles a sphere whose

central horizontal perimeter is closely adjacent to and is substantially equidistant from said guideway at all points thereof irrespective of the direction in which said axis of rotation of said propulsion-wheel extends, substantially as described.

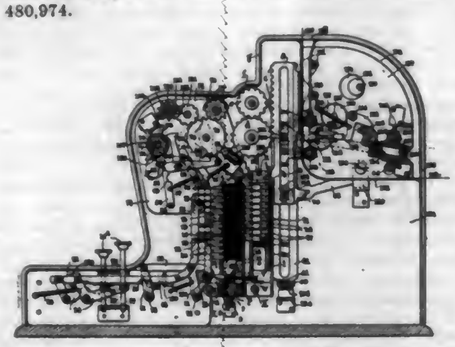
3. In a wind motor, the combination of a central elevated structure, a circular track around the same and distanced therefrom and located in substantially the horizontal plane of the base of said structure, said central elevated structure having a circular guideway at its top, a shifting-member having movement on said guideway, a propulsion-wheel journaled on said shifting-member, said propulsion-wheel comprising wings arranged spirally and longitudinally about the axis of rotation of said propulsion-wheel, the outer edges of said wings when rotating describing a path of travel which resembles a sphere whose central horizontal perimeter is substantially equidistant at all points from said circular guideway and is located in substantially coincident horizontal plane with said guideway, a hanger secured to said shifting-member and depending therefrom toward said track, anti-friction bearing means between said hanger and track, and an automatically acting directing-vane secured to said hanger and located vertically between said guideway and track and arranged for automatically shifting said shifting-member by the wind for automatically shifting the rotary axis of said propulsion-wheel into substantial parallelism with the direction of travel of said wind, substantially as described.

4. In a wind motor, the combination of a propulsion-wheel comprising wings arranged spirally about the axis of rotation of the propulsion-wheel and extending longitudinally of said axis, a shifting-member upon which said propulsion-wheel is journaled, a guide-way for said shifting-member, an upright shaft, a hanger suspended from said shifting-member, a brace pivoted about the axis of rotation of said upright shaft, sheaves supported at the junction of said hanger and brace, and flexible driving connection between said propulsion-wheel and upright shaft received about said sheaves.

5. In a wind motor, the combination of a propulsion-wheel comprising wings arranged spirally about the axis of rotation of the propulsion-wheel and extending longitudinally of said axis, a shifting-member upon which said propulsion-wheel is journaled, a guideway for said shifting-member closely adjacent to both ends of said propulsion-wheel, said guideway and the rotary axis of said propulsion-wheel being in substantially coincident horizontal planes, an operating shaft, driving connection between said propulsion-wheel and operating shaft, and controlling means for controlling the speed of rotation of said propulsion-wheel.

[Claims 6 and 7 not printed in the Gazette.]

974,996. ADDING AND LISTING MACHINE. WILLIAM SCHOOLING, Westminster, London, England, assignor to The Schooling Calculating Machine Company Limited, London, England. Filed Mar. 2, 1909. Serial No. 480,974.



1. In an adding machine, the combination of a plurality of racks each adapted to move under the action of gravity, a series of stops for limiting the movement of each rack, a stationary frame carrying said stops, a single series of spring-pressed plungers, a traveling carriage carrying said plungers, means carried by said carriage for effecting a step-by-step movement thereof and for successively releasing said racks, and a single series of keys for simultaneously operating said means and projecting said stops.

2. In an adding machine, the combination of a plurality of racks each adapted to move under the action of gravity, a series of stops for limiting the movement of each rack, a stationary frame carrying said stops, a single series of spring-pressed plungers, a traveling carriage carrying said plungers, detents for holding said racks in normal position, means carried by said carriage for effecting a step-by-step movement thereof and for successively engaging said detents to release said racks, a single series of keys for simultaneously operating said means and projecting said stops, and means for returning said detents to normal position upon the return of the racks.

3. In an adding machine, the combination of a plurality of racks, each adapted to move under the action of gravity, a series of stops for limiting the movement of each rack, a stationary frame carrying said stops, a single series of spring-pressed plungers, a traveling carriage carrying said plungers, means carried by said carriage for effecting a step-by-step movement thereof and for successively releasing said racks, a single series of keys for simultaneously operating said means and projecting said stops, and means for returning said carriage to its normal position.

4. In an adding machine, the combination of a plurality of racks, each adapted to move under the action of gravity, a series of stops for limiting the movement of each rack, a stationary frame carrying said stops, a single series of spring-pressed plungers, a traveling carriage carrying said plungers, means carried by said carriage for effecting a step-by-step movement thereof and for successively releasing said racks, a single series of keys for simultaneously operating said means and projecting said stops, means for returning said carriage to its normal position and a wiper adapted to return any stops projected on both the forward and backward movement of the carriage.

5. In an adding machine, the combination of a plurality of racks, each adapted to move under the action of gravity, a series of stops for limiting the movement of each rack, a stationary frame carrying said stops, a single series of spring-pressed plungers, a traveling carriage carrying said plungers, means carried by said carriage for effecting a step-by-step movement thereof and for successively releasing said racks, a single series of keys and means operated by said keys for simultaneously projecting a stop and operating said carriage-advancing and rack-releasing means.

[Claims 6 to 11 not printed in the Gazette.]

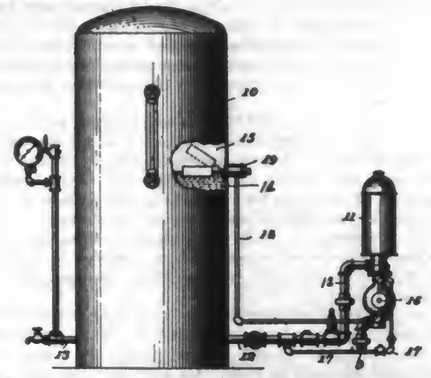
974,997. AIR-REGULATOR. WILLIAM A. SHOAB and GUY R. RODGERS, Decatur, Ill., assignors to Leader Iron Works, Decatur, Ill., a Corporation of Illinois. Filed Mar. 26, 1910. Serial No. 551,649.

1. An automatic air regulator for water supply tanks of air pressure systems comprising a means controlling the supply of fluid to the tank which is directly controlled both by air pressure and the level of the water in the tank.

2. An automatic air regulator for the water supply tanks of compressed air systems comprising a means directly controlling the supply of fluid to the tank which is controlled combinedly by the pressure in the tank and the volume of water therein.

3. An automatic air regulator for the water supply tanks of compressed air water supply systems comprising means controlling the supply of fluid to the tank which is directly controlled combinedly by the pressure of the tank and the relative volumes of air and water therein.

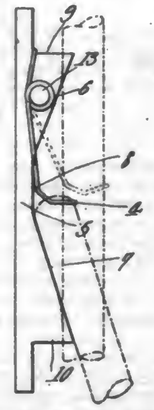
4. An automatic air regulator for water supply tanks of air pressure water systems comprising a means controlling the supply of fluid to the tank which is acted upon simultaneously by means responsive to pressure variations, and means responsive to change in water level in the tank.



5. An automatic air regulator for water supply tanks of air pressure systems comprising a means controlling the supply of fluid to the tank which is simultaneously acted upon by means responsive to variations in air pressure, and means responsive to changes in the volume of water in the tank.

[Claims 6 to 18 not printed in the Gazette.]

974,998. BROOM-HOLDER. CHRISTEN H. SORENSEN, Clinton, Minn. Filed May 17, 1910. Serial No. 561,833.

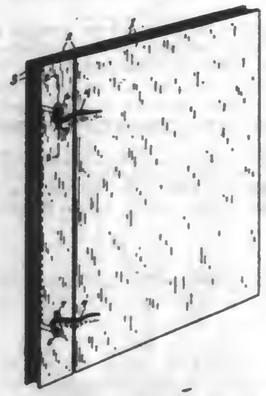


1. In a device of the class described, a member having a face formed with synclinal surfaces, and a resilient gripping member having its gripping portions seating between said surfaces.

2. In a device of the class described, a member having a face formed with synclinal surfaces, one face terminating in a shoulder, studs projecting from the sides of the member adjacent the shoulder, and a gripping member comprising a strand of resilient wire bent to afford an intermediate gripping portion and bent around the said studs with its terminal portions bent into engagement with the said shoulder, the gripping portion of the said member seating against said face between the said synclinal surfaces thereof.

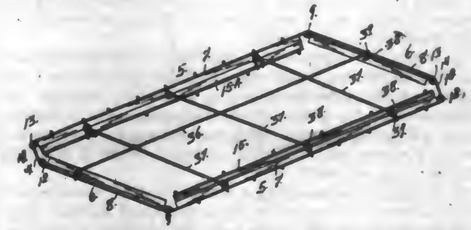
974,999. TEMPORARY BINDER OR LOOSE-SHEET HOLDER. JAMES A. STARKWEATHER and OTIS W. NOTTINGHAM, Kalamazoo, Mich. Filed Apr. 5, 1910. Serial No. 553,652.

1. In a binder, the combination of clamping members; a binding cord; a fastener for said cord formed of sheet metal comprising a central securing eyelet through one of said clamping members, a lateral engaging arm with upturned edges, and a bracing prong disposed opposite said arms and clenched through said member, coacting as specified.



2. In a binder, the combination of clamping members; a binding cord; a fastener for said cord formed of sheet metal comprising a central securing eyelet through one of said clamping members, a lateral engaging arm, and a bracing prong disposed opposite said arms, coacting as specified.

975,000. COLLAPSIBLE CRATE OR BOX. FRANK E. STERRETT, Denver, Colo. Filed Aug. 9, 1909. Serial No. 511,854.



1. A folding box or crate, whose four side walls are hinged to collapse, and transverse intersecting rods, pivotally connected at their extremities to the bottom of the side and end members of the box at such positions as to permit the box to fold, and arranged to support the bottom of the box thereon, substantially as described.

2. A folding crate or box, comprising a structure whose vertical side and end walls are hinged to permit the said walls to collapse, the top and bottom of the box having a hinged connection to the opposite side walls of the box, and adapted to fold thereinto, transverse rods provided with loops at their extremities, and connected with the side and end members of the box at such positions as to permit the box to fold, the said rods serving as braces and arranged to support the bottom of the box thereon, substantially as described.

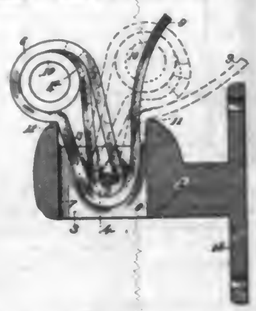
3. A collapsible or folding crate or box having its vertical side and end walls hinged to collapse, the box being provided at suitable intervals between the top and bottom with a flexible belt, and loops connecting the belt with the walls of the collapsible structure, substantially as described.

4. A folding box or crate whose vertical side and end walls are hinged to collapse, the sides and ends of the box at two of the opposite, diagonal corners being connected by links of sufficient length to span the thickness of the walls of the box when in the collapsed position, the bottom of the box being hinged to one side thereof and adapted to fold inwardly, the top of the box being hinged to one side and adapted to fold either inwardly or outwardly, and transverse intersecting rods, provided with loops at their

extremities, and connected with the side and end members of the box in such a way as to permit the box to collapse, the said rods being arranged to support the bottom of the box, and to serve as braces, for the side and end members of the box.

5. A folding box or crate whose vertical side and end walls are hinged to collapse, the top and bottom of the box being hinged to fold, the sides and ends of the box being connected at the bottom by intersecting wires, whose extremities are loosely attached to the connected parts to permit the latter to fold, substantially as described.

975,001. STRAP PIPE-VISE. WILBERT I. TRETHEWEY, Boston, Mass. Filed Nov. 15, 1909. Serial No. 527,986.

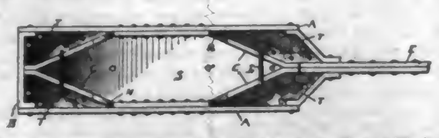


1. A pipe vise comprising a relatively fixed member having two shoulders and an intermediate slot extending through the head, a retaining means within said slot and a flexible strap connected thereto extending outwardly and thence reversely about said retaining means between it and said shoulders as set forth.

2. A pipe vise comprising a relatively fixed member having two shoulders, a depressed portion intermediate the same, and an intermediate slot extending through the head, a retaining means within said slot and a flexible strap connected thereto extending outwardly and thence reversely about said retaining means between it and said shoulders, as set forth.

3. A pipe vise comprising a relatively fixed member provided with two shoulders having a depressed portion intermediate the same and with means for securing a strap between the shoulders, and a strap secured at one end by said means and arranged to extend thence outwardly in the form of a loop, then inwardly between one shoulder and said end of the strap, and then reversely between the loop and the other shoulder.

975,002. RAILROAD-TIE. ERNEST LOUIS TSCHIRCH, Douglas county, Wash. Filed Feb. 25, 1909. Serial No. 480,063.



1. In a metallic railroad tie, the combination with built up compartments at either end of the tie, of wooden bearings adapted to fit in said compartments, of adjacent compartments for ballast and of openings for conducting said ballast to the under side of said tie, substantially as described.

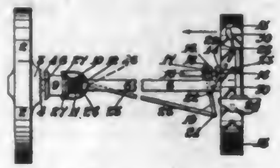
2. In a metallic railroad tie, the combination with built up compartments at either end of the tie, of wooden bearings adapted to fit in said compartments, of adjacent compartments for ballast, of openings for conducting said ballast to the under side of said tie, and of serrations on the bottom of the metallic compartments, substantially as described.

3. In a metallic railroad tie, the combination with built up compartments at either end of the tie, of wooden bearings adapted to fit in said compartments, of adjacent compartments for ballast, of openings for conducting said ballast to the under side of said tie, of serrations on the bottom of the metallic compartments, and of projections integral with the sides of the bearing compartment adapted to engage the rail plate and prevent rail spreading, substantially as described.

4. In a metallic railroad tie, the combination with built up compartments at either end of the tie, of wooden bearings adapted to fit in said compartments, of means for holding said bearings in place, of adjacent compartments for ballast, of openings for conducting said ballast to the under side of said tie, of serrations on the bottom of the metallic compartment, and of projections integral with the sides of the bearing compartment adapted to engage the rail plate and prevent rail spreading, substantially as described.

5. In a metallic railroad tie, the combination with built up compartments at either end of the tie, of wooden bearings adapted to fit in said compartments, of means for holding said bearings in place, of a resilient body between the wooden bearing and the bottom of the compartment holding the bearing, of adjacent compartments for ballast, and of openings for conducting said ballast to the under side of said tie, substantially as described.

975,003. STRIPPER-HARVESTER OR LIKE MACHINE. SAMUEL HAROLD TYERS, Lorquon, Victoria, Australia. Filed Aug. 5, 1909. Serial No. 511,304.

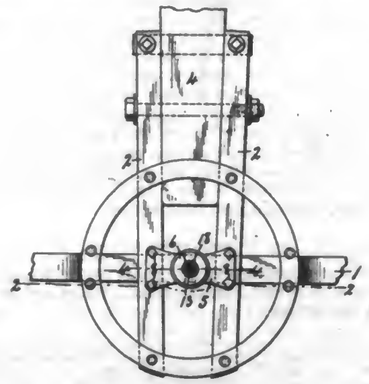


1. In stripper harvesters or like machines, the combination of an axle, a land wheel rigidly secured to and driving the axle, a crop wheel loose on said axle and of larger diameter than the land wheel, a clutch for locking the crop wheel to the axle, a driven shaft for operating the cutting mechanism, gearing for driving the said shaft from the land wheel, a clutch controlling the said gearing, and means for simultaneously shifting said clutches into or out of engagement, substantially as and for the purpose specified.

2. In combination, a live axle, a land wheel rigidly secured to and driving the axle and provided with an internal gear, a pinion meshing therewith, a driven shaft, a clutch on the driven shaft adapted to lock the same to the pinion; a crop wheel loosely mounted on the said axle and of larger diameter than the land wheel, a clutch on said axle for locking the crop wheel thereto, a rock shaft, a hand lever for operating the rock shaft, a connection between said rock shaft and the clutch on the driven shaft, and a connection between said rock shaft and a clutch on the axle, whereby said clutches may be simultaneously engaged or disengaged, substantially as and for the purpose set forth.

975,004. FIFTH-WHEEL FOR WAGONS. WALTER A. UNDERHILL, Auburn, N. Y. Filed Jan. 25, 1910. Serial No. 539,951.

1. In combination with a box and front axle of a vehicle, a lower fifth wheel section secured to the axle and provided with a central transverse rib on its upper side and with an aperture extending from its lower side through the top of the rib, said rib having its upper face rounding in cross section, an upper fifth wheel section secured to the under side of the box and provided with a central opening therethrough, an intermediate fifth wheel section journaled in said opening and provided with a central bolt opening and a transverse groove in its lower side of rounding cross-section for receiving said rib, whereby the rib is free to rock transversely in the groove, and a king bolt passed through the opening in the lower and intermediate section and having a head bearing against the under side of the rib in the rocking axis thereof.



2. In combination with a front axle and body of a vehicle, a fifth wheel section resting on the top of the axle and provided with a transverse rib of rounding cross-section and a transverse groove extending into the rib and open at the bottom forming an open sided bearing substantially coincident with the axis of the rib, an upper fifth wheel section secured to the under side of the body, an intermediate fifth wheel section journaled in said upper section and provided with a central vertical bolt opening and a transverse groove of rounding cross-section in its lower side receiving said rib, and a king bolt secured in the bolt opening in the intermediate section and provided at its lower end with a head seated in said open sided bearing.

3. In combination with a front axle and body of a vehicle, a fifth wheel section secured to the upper face of the axle and provided with a central recess opening from its under side and a superposed transverse rib of rounding cross-section rising from its top face, said rib having a lengthwise groove in its under side communicating with a recess and also provided with a transverse slot communicating with the groove and recess, said groove forming an open sided bearing, an upper fifth wheel section secured to the under side of the body, an intermediate fifth wheel section journaled in the upper section and provided in its lower side with a transverse groove of rounding cross-section and a bolt opening leading upwardly from said groove and registered with the slot and groove in the lower section, and a king bolt having a head seated in said groove and secured in the central opening in the intermediate section.

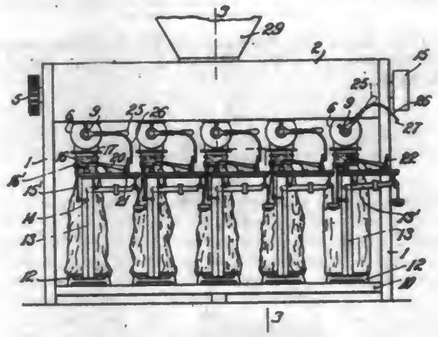
975,005. WEIGHING AND BAGGING MACHINE. GEORGE T. WADE, Rockland, Me. Filed Mar. 11, 1909. Serial No. 482,728.

1. In a device of the class described, a supply pin having a closed circuit and a plurality of discharge openings along the same and means for positively circulating the material therein through said circuit.

2. In a device of the class described, a supply bin, continuously communicating troughs therein and having a plurality of discharge openings and means for positively circulating material through said troughs.

3. In a device for filling receptacles, a pair of parallel troughs having communicating ends, and oppositely acting helicoids therein for positively circulating the material therethrough.

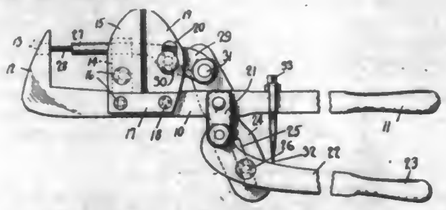
4. In a device for filling receptacles, a supply bin, means for positively circulating the material therein, a plurality of delivery chutes in the line of said circulation, and means for closing said chutes upon the delivery therefrom of a predetermined weight of material.



5. In a device for filling receptacles, a supply bin, means for positively circulating the material therein, a plurality of delivery chutes in the line of said circulation, a scale at each chute, a valve in each chute and an operative connection between said scales and valve for closing the latter upon the operation of the scales.

[Claim 6 not printed in the Gazette.]

975,006. PUNCH AND BOLT-CUTTER. ROBERT W. WEATHERMAN, Selmore, Mo., assignor of one-half to Floyd Hartley, Selmore, Mo. Filed Dec. 23, 1909. Serial No. 534,748.

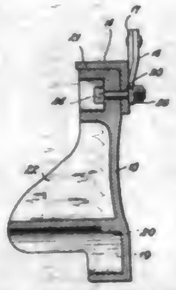


1. In a tool of the class described, a body comprising a handled bar having an arm projecting laterally therefrom, said arm having an opening formed therethrough, a blade fixed to said arm and bar, a second blade pivoted to the bar to swing to and from the fixed blade and provided with a longitudinally extending slot, a lever pivoted intermediate its ends to said bar and provided with a slot at one end, a member having a shank extending through the opening in said arm and slidable therein, a bolt passing through said member and the slot in the movable blade, a second bolt passing through said member and the end of the lever opposite the slot therein, a second arm projecting from said bar in the opposite direction to the first arm, a second lever fulcrumed to said second arm and provided with a handle, and a third bolt passing through said second lever and the slot in the first lever.

2. In a tool of the class described, a body comprising a handled bar having an arm projecting laterally therefrom, said arm having an opening formed therethrough, a blade fixed to said arm and bar, a second blade pivoted to the bar to swing to and from the fixed blade and provided with a longitudinally extending slot, a lever pivoted intermediate its ends to said bar and provided with a slot at one end, a member having a shank extending through the opening in said arm and slidable therein, a bolt passing through said member and the slot in the movable blade, a second bolt passing through said member and the end of the lever opposite the slot therein, a second arm projecting from said bar in the opposite direction to the first arm, a second lever fulcrumed to said second arm and provided with a handle,

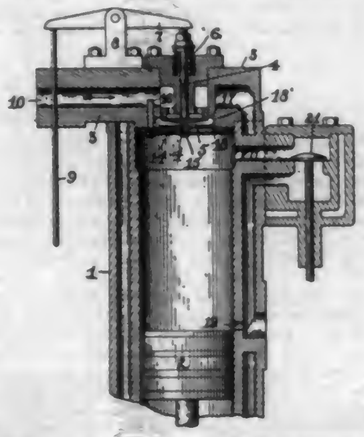
a third bolt passing through said second lever and the slot in the first lever, a stop for the second lever slidable on said bar, and means to hold said stop in adjusted position on the bar.

975,007. FOLDING WOVEN-WIRE SPRING. HARVEY N. WERNER, York, Pa. Filed Feb. 3, 1910. Serial No. 541,915.



The combination with the side rails and angle iron end rails of hinged bed spring sections, of risers connecting the side and end rails of each section adjacent the hinge, each riser having an angular socket at one end snugly fitting in the elbow of the angle iron end rail, and a bolt transversely disposed in the socket and connecting the socket, end rail and one member of the hinge, said socket forming a housing for the head of the bolt and a brace for the legs of the angle iron end rail.

975,008. METHOD OF OPERATING GAS-ENGINES AND APPARATUS THEREFOR. CHARLES WHITE, Baltimore, Md. Filed June 24, 1909, Serial No. 504,129. Renewed May 11, 1910. Serial No. 560,728.



1. The herein described method of operating a gas engine consisting in heating a single confined charge of oil by the heat generated by the explosion within the cylinder, delivering said highly heated charge of oil and releasing it from restraint on the exterior of and adjacent the induction valve to flash into vapor and to pass through the open induction valve with air into the cylinder.

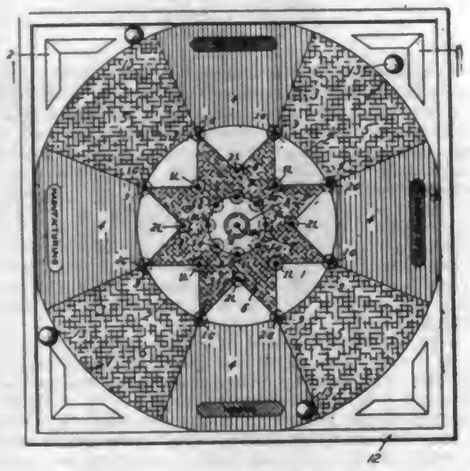
2. The herein described method of operating a gas engine consisting in heating a single confined charge of oil by the heat generated by the explosion within the cylinder forcing the highly heated charge of oil to the point of delivery by the incoming fresh charge and releasing it from restraint on the exterior of and adjacent to the induction valve to flash into vapor and to pass through the open valve with air into the cylinder, substantially as described.

3. In a petroleum engine, the combination of a cylinder and piston, an oil heater of a capacity to be completely filled by a charge of oil, and arranged to be heated by the explosion within the cylinder, and having a restricted outlet adjacent the induction valve, and means for forcing measured charges of oil to said heater, substantially as described.

4. The herein described method of operating a gas engine consisting in heating a single confined charge of oil, forcing the highly heated charge of oil to the point of delivery by the incoming fresh charge and releasing it from restraint on the exterior of and adjacent to the induction valve to flash into vapor and to pass through the open valve with air into the cylinder, substantially as described.

5. The herein described method of operating a gas engine consisting in heating a single confined charge of oil, forcing the highly heated oil to the point of delivery by the incoming fresh charge and releasing it from restraint in any suitable place outside the explosion chamber so the flash into vapor will be mixed with the incoming air into the cylinder, substantially as described.

975,009. GAME-BOARD. WILLIAM H. WRIGHT and ERNEST A. POWELL, Findlay, Ohio. Filed July 16, 1908. Serial No. 443,821.

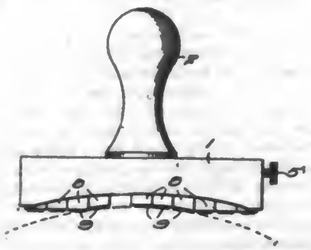


A game apparatus comprising a game board having an uninterrupted playing surface and its field marked with a plurality of concentric circles, the outermost circle serving as a base line for cue balls and being divided into a number of equal parts forming the bases for said cue ball, the several inner circles being correspondingly divided, the division points forming bases for object balls, the field of said board being further marked between the innermost concentric circles with a star whose points coincide with the division points of one of said innermost circles, the point of meeting of the sides of adjacent points of the star also constituting spots for object balls.

975,010. EGG-STAMP. HORACE G. YOUNG, Joppa, Ky. Filed Feb. 26, 1910. Serial No. 546,004.

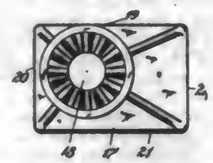
1. An egg stamp comprising a holder the lower surface of which is of a shape to correspond substantially to the contour of an egg, division walls forming a part of said holder providing longitudinally arranged adjacent pockets, binding screws passing through one of the end walls of said holder the ends of which project within the pockets, and type removably secured within said pockets by said screws, said type having yielding blocks carrying contacting printing faces which are adapted to operate independently of one another.

2. A type member for egg stamps comprising a block adapted to be engaged in a holder, a coil spring one end of which is attached to said block, a type block to which the opposite end of said spring is attached and a pin projecting from the first named block and located within the coil spring, the end of which is normally out of contact with the type block as and for the purpose described.



3. An egg stamp comprising a rectangular shaped holder, longitudinal partition walls forming a part of the same providing adjacent pockets, binding screws passing through one end of the holder the inner ends of which project within the pockets, type movably secured within the pockets against which the inner ends of the screws are adapted to be brought in contact, said type blocks being composed of two sections one of which is secured within the pockets of the holder and the other carrying a suitable printing face and means for yieldingly connecting said sections, the lower surface of said holder being properly shaped to conform substantially to the contour of an egg.

975,011. NUT-LOCK. JOHN R. ARMSTRONG, Providence, R. I., assignor to The O. K. Nut Lock Company, Providence, R. I., a Corporation of Rhode Island. Filed May 14, 1910. Serial No. 561,309.



1. In a nut lock, the combination with a nut and a washer, of locking means interposed between said parts, said washer having a plurality of stop edges at its perimeter, and a bolt-receiving bore arranged at different distances from said edges respectively.

2. In a nut lock, the combination with a nut and a washer therefor, of locking means interposed between said parts, said washer having a plurality of stop edges at its perimeter, each arranged at an angle to the adjacent edge, and a bolt-receiving bore arranged at different distances from said edges respectively.

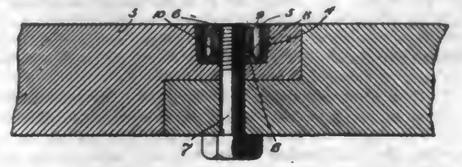
3. In a nut lock, the combination with a nut and a washer therefor, of locking means interposed between said parts, said washer being of substantially rectangular perimeter and having a bolt-receiving bore arranged at different distances from the sides of said perimeter.

4. In a nut lock, the combination with a nut and a washer therefor, of locking means interposed between said parts, said washer having a substantially rectangular perimeter and having a bolt-receiving bore arranged at different distances from adjacent sides of said perimeter.

5. In a nut lock, the combination with a nut and a washer therefor, of locking means interposed between said parts, said washer having a substantially rectangular perimeter and having a bore equidistant from opposite sides of said perimeter and at different distances from the adjacent sides of said perimeter.

[Claims 6 and 7 not printed in the Gazette.]

975,012. NUT-LOCK. JOHN R. ARMSTRONG, Providence, R. I., assignor to The O. K. Nut Lock Company, Providence, R. I., a Corporation of Rhode Island. Filed May 14, 1910. Serial No. 561,310.



1. In a nut lock, the combination of a nut, a cup shaped washer therefor adapted to be seated in a socket of the member to be secured, locking means interposed between the nut and the washer and means arranged exteriorly of the side walls of the washer adapted to engage the sides of said socket to prevent rotation of the washer.

2. In a nut lock, the combination of a nut, a cup shaped washer therefor adapted to be seated in a socket of the member to be secured, locking means interposed between the nut and the washer, and one or more holding ribs projecting exteriorly of the walls of said washer adapted to be embedded within the walls of said socket to prevent rotation of said washer.

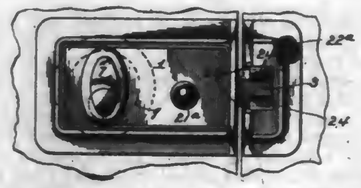
3. In a nut lock, the combination of a nut, a cup shaped washer therefor adapted to be seated in a socket of the member to be secured, locking means interposed between said nut and the washer, said washer having means at its perimeter to engage the walls of said socket to prevent rotation of said washer.

4. As an article of manufacture, a cup shaped washer adapted to be seated in a socket of the member to be secured, and having means at its perimeter to engage the walls of said socket to prevent rotation of the washer.

5. As an article of manufacture, a cup shaped washer adapted to be seated in a socket of the member to be secured, said washer having one or more ribs on its exterior walls adapted to be embedded in the walls of said socket to prevent rotation of the washer.

[Claim 6 not printed in the Gazette.]

975,013. COMBINED DEAD LOCK AND LATCH. PETER F. AUGENBRAUN, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Filed Aug. 12, 1909. Serial No. 512,609.



1. In a combined dead lock and latch, the combination with a bolt, a spring for automatically projecting same, means for retracting the bolt, a deadlocking lever always deadlocking the bolt when the latter is projected, and means connecting said lever and the bolt retracting means whereby when the retracting means are actuated, the deadlocking lever will be moved to release the bolt, of a strike having a part adapted to yield and allow the projected bolt to pass when closing the door, and adapted to engage the bolt and lock the door in closed position.

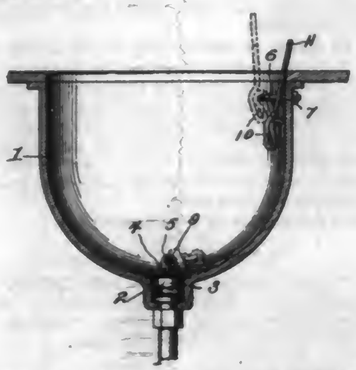
2. In a combined dead lock and latch, the combination with a bolt, a spring for automatically projecting same, and means for retracting the bolt, of a lever always dead locking the bolt when the latter is projected, means connecting said lever and the bolt retracting means whereby when the retracting means are actuated the dead locking lever will be moved to release the bolt, and means actuated from the inner side of the door for holding the bolt in its retracted position.

3. In a combined dead lock and latch, the combination with a spring actuated bolt, a lever always deadlocking said bolt when the latter is projected, and means for removing the deadlocking lever from the path of the bolt and for retracting the latter, of a strike plate comprising a housing and a hook shaped yielding keeper adapted to be moved out of the path of the bolt by the latter during the closing movement of the door and overhang the bolt when the door is closed.

4. In a combined dead lock and latch, the combination with a spring actuated bolt, a lever always deadlocking said bolt when the latter is projected, and means for removing the deadlocking lever from the path of the bolt and for retracting the latter, of a strike plate comprising a housing and two hook shaped yielding keepers adapted to be moved apart by the entrance of the bolt between them during the closing movement of the door and overlap the bolt when the door is closed.

5. The combination with a bolt V-shaped in cross section, means always deadlocking the bolt when the latter is projected and means for retracting the bolt, of a strike plate comprising a housing having two yielding keepers adapted to be moved apart by the bolt as the door is closed, and overhang said bolt and lock the door in its closed position while the bolt remains projected.

975,014. PLUG-LIFTER. HATTIE E. BENNETT, Star township, Coffey county, Kans. Filed June 19, 1909. Serial No. 503,137.



A vessel of the class set forth provided with the usual outlet opening, a plug for normally closing the opening, said plug being provided with the usual eye, a plug lifting member comprising a single strand of wire of a shape to correspond with the inner face of the vessel, said lifter having its end provided with an eye adapted to engage the eye of the plug member, and having its opposite end bent to provide a handle, the member further having its body portion bent to provide a projecting lip, and a bail member secured to the vessel and adapted to be engaged by the lip of the lifter member when the plug is to be sustained away from the outlet opening.

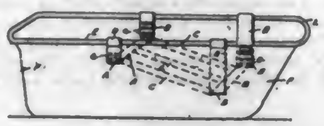
975,015. POCKET-KNIFE. DALTON W. BRYANT, Carbondale, Pa. Filed May 14, 1910. Serial No. 561,356.



1. In a knife, the combination of handle members, lining plates having their ends extending beyond the handle members and the projecting portions of the lining plates having separate openings, cap pieces at each end of the plates bearing against the projecting portions of the plates and each having projections engaging in one of the openings, one cap piece at each end having a screw receiving opening and the other cap piece at each end having a stud passing through the other openings of the lining plates, said studs being bored and tapped, screws passing through the screw receiving openings of the said cap pieces and engaging in the studs, and blades mounted pivotally on the studs.

2. In a knife, the combination of handle members, lining plates secured thereto and projecting beyond the ends of the members, a blade separating plate, said lining plates having alining openings, a cap piece bearing against one of the lining plates and having a stud extending through the openings of all the plates, a cap piece bearing against the other lining plate and having an opening, a screw passing through the opening and engaging in the stud, projections on the inner faces of the cap pieces, said lining plates having apertures into which the said projections engage for preventing turning of the cap pieces, and blades disposed between the lining and separating plates, said blades having openings through which the stud projects to form a pivot for the blades.

975,016. HAMMOCK FOR DOUCHE AND SIMILAR BATHS. GODFRIED L. HAGEN BÜRGER, Boston, Mass. Filed Nov. 3, 1908. Serial No. 461,240.

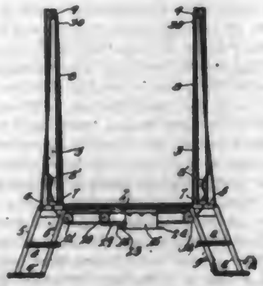


1. In a device of the class described, the combination with end supporting straps, of a plurality of straps connected at their ends to the end supporting straps and forming a hammock structure, said hammock structure being of a length to extend from the shoulders to the buttocks of the person to be supported, the end supporting straps being of such a length as to support a person in a recumbent position with the head lowermost.

2. A hammock of the class described comprising opposite end supporting straps for a person in a recumbent position, said straps being arranged to be supported at different heights relative to one another, and means on the higher of said end straps comprising a rest for the heels of the person occupying the hammock.

3. A hammock of the class described comprising opposite end supporting straps for a person in a recumbent position, said straps being arranged to be supported at different heights relative to one another, and means on the lower of said end straps comprising a rest for the head of the person occupying the hammock.

975,017. COMBINATION CAR-STEP AND GATE. BENEDETTO CAPRA, Los Angeles, Cal. Filed Aug. 16, 1909. Serial No. 513,201.



1. The combination with vertical guides, car steps mounted to be movable bodily along said vertical guides to raised or lowered position, of pneumatic operating means connected to raise and to lower said steps along said guides by reverse operation of the same operating means, and a controller for reversing the operation of the operating means.

2. The combination with car steps mounted to be movable to raised or lowered position, a cylinder provided with a piston, connections between the piston and the steps to raise or lower the steps in the reverse movements of the piston, a pneumatic pressure supply, and a controller for establishing connection from said supply to one or the other end of said cylinder.

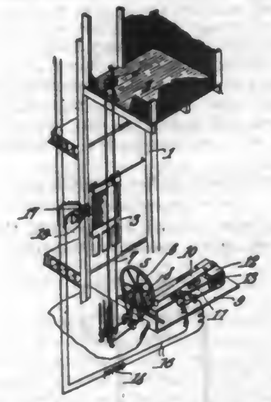
3. The combination with a car body, of cross bars movable vertically on said car body, hanger bars pivoted on said cross bars, steps extending between said hanger bars and pivoted thereto, lifting cables connected to said cross bars, and means for operating the cables for raising and lowering the steps.

4. The combination with a car body, of cross bars movable vertically on said body, hanger bars pivoted on said cross bars, steps extending between said hanger bars and pivoted thereto, stop means engaging with the inner end of the cross bars, a lifting cable connected to said cross bar, and means operating the cables for raising and lowering the steps, the cable being provided with a connection to the outer end of the cross bar and with a connection to the middle of the cross bar, the middle connection being slack when the steps are lowered.

5. The combination with a platform of a car, steps therefor comprising a plurality of treads, supports for the treads, means comprising a flexible connection extending upwardly from each support to a point above the platform, thence extending downwardly to a point at the platform for moving the said supports substantially vertically with respect to the platform to lift the steps bodily from a position below the platform to a position above the platform, means at the platform for operating the flexible connections and means for causing the steps to project laterally from the car when in their lowered position.

[Claim 6 not printed in the Gazette.]

975,018. SAFETY DEVICE FOR ELEVATORS. CLAUDE G. CARPENTER, Findlay, Ohio. Filed Sept. 27, 1909. Serial No. 519,835.

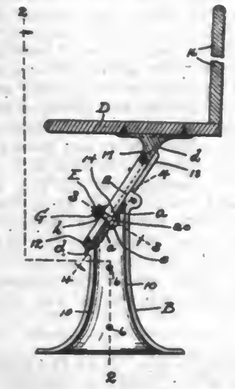


1. In a safety device for elevators, elevator controlling means and an electrically controlled lever having one end notched or recessed longitudinally, the controlling mechanism for the elevator having an arm movable into and out of coincidence with the notched end of the lever about an axis substantially parallel with said lever.

2. In a safety device for elevators, an electrically controlled lever having one end longitudinally notched or recessed and provided with lateral extensions on each side of the notch, and a controlling mechanism for the elevator having an arm movable into and out of coincidence with the notched end of the lever and into operative relation with the side extensions of said lever about an axis substantially parallel with said lever.

3. In a safety device for elevators, an electrically controlled lever carrying at one end an armature and at the other end overbalancing the armature end and provided with a longitudinal notch at the extremity and side extensions at the notched extremity, and a controlling mechanism for the elevator having an arm movable into and out of coincidence with the notched end of the lever and into operative relation to said side extensions thereof about an axis substantially parallel with said lever.

975,019. SCHOOL-SEAT. WILLIAM B. COGGER, Cleveland, Ohio, assignor to Theodor Kundtz, Cleveland, Ohio. Filed Feb. 9, 1910. Serial No. 542,831.



1. In a school-seat, an interiorly hollow pedestal provided on top with a forwardly and upwardly facing inclined seat and divided substantially centrally and vertically into two sections, said pedestal being provided at its upper end and internally with two oppositely arranged inwardly projecting members formed on opposite pedestal-sections respectively; a seat-section arranged above the pedestal and provided at its under side with a forwardly and downwardly projecting arm which rests on and is adjustable up and down the aforesaid inclined seat of the pedestal, which arm is provided with a slot arranged longitudinally of the arm; a bolt having its shank extending through the slot and between the aforesaid projecting members of the pedestal-sections, said bolt having a head overlapping the under sides of the said projecting members, and means whereby the aforesaid arm is clamped against the aforesaid inclined seat of the pedestal and the said bolt is tightened at its head against the said sides of the said projecting members of the pedestal.

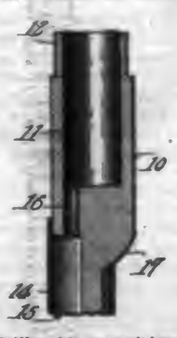
2. In a school-seat, an interiorly hollow pedestal provided on top with a forwardly and upwardly facing inclined seat and divided substantially centrally and vertically into two sections which are secured together, one of the pedestal-sections being provided at its upper end with a laterally and inwardly projecting flange, and the other pedestal-section being provided at its upper end and adjacent the central portion of the said flange with a laterally and inwardly projecting lug; a seat-section arranged above the pedestal and provided at its under side with a forwardly and downwardly projecting arm which rests upon and is adjustable up and down the aforesaid inclined seat of the pedestal, and means for securing the said arm in the desired adjustment of the seat-section to the aforesaid lug and flange.

3. In a school-seat, an interiorly hollow pedestal provided on top with a forwardly and upwardly facing inclined seat and divided substantially centrally and vertically into two sections, one of the pedestal-sections being provided at its upper end with a laterally and inwardly projecting flange having a recess which extends through the flange and is open at the side adjacent the other peda-

tal-section; a seat-section arranged above the pedestal and provided at its under side with a forwardly and downwardly projecting arm which rests on and is adjustable up and down the aforesaid inclined seat of the pedestal, which arm is provided with a slot arranged longitudinally of the arm and in registry with the aforesaid recess; a bolt having its shank extending through the said recess and through the said slot, which bolt has a head overlapping the under side of the aforesaid flange, and means whereby the said bolt is tightened at its head against the flange and the aforesaid arm is clamped against the aforesaid inclined seat.

4. In a school-seat, an interiorly hollow pedestal provided on top with a forwardly and upwardly facing inclined seat and divided substantially centrally and vertically into two sections, one of the pedestal-sections being provided at its upper end with a laterally and inwardly projecting flange having a recess which extends through the flange and is open at the side adjacent the other pedestal-section, and the last-mentioned pedestal-section being provided at its upper end and opposite the said recess with a laterally and inwardly projecting lug; a seat-section arranged above the pedestal and provided at its under side with a forwardly and downwardly projecting arm which rests upon and is adjustable up and down the aforesaid inclined seat of the pedestal, which arm is provided with a slot arranged longitudinally of the arm and in registry with the aforesaid recess; a bolt having its shank extending through the said recess and through the said slot, which bolt has a head overlapping the under sides of the aforesaid lug and flange; a nut mounted on the shank of the bolt at the upper side of the aforesaid arm, and a washer interposed between the nut and the said arm.

975,020. EARTH-DRILL. JOHN D. COPLEN, Globe, Ariz. Filed Oct. 28, 1909. Serial No. 525,108.



1. In an earth drill, a bit comprising a hollow body having an opening at its lower end, and provided at said end with curved radial wings, the aforesaid opening communicating at one end with the space between said wings, and at the opposite end communicating with the bore of the bit body, tubular operating rods connected to the bit body, and means for rotating the bit in either direction, rotation of the bit with the convex surface of the wings presented in the direction of rotation compressing the wall of the drill hole, and rotation in the opposite direction forcing the drillings into the bore of the bit through the aforesaid opening.

2. In an earth drill, a bit comprising a hollow body having an opening at its lower end, and provided at said end with curved radial wings, the aforesaid opening communicating at one end with the space between a pair of said wings, and at the opposite end communicating with the bore of the bit body, and the end of the bit body between the other wings being tapered, tubular operating rods connected to the bit body, and means for rotating the bit in either direction, rotation of the bit with the convex surface of the wings presented in the direction of rotation compressing the wall of the drill hole, and rotation in the opposite direction forcing the drillings into the bore of the bit through the aforesaid opening.

975,021. SUPPORTING MEANS FOR LAMP SHADES AND CHIMNEYS. MICHAEL DONOHOE, Philadelphia, Pa., assignor to Gill & Company, a Corporation of Pennsylvania. Filed July 27, 1910. Serial No. 574,144.



1. Supporting means for a lamp shade and chimney comprising a supporting ring having an exteriorly projecting flange, a neck exteriorly threaded, and an inwardly projecting portion at the top edge of the neck to receive the chimney; and a clamping ring having an exteriorly projecting flange, a neck interiorly threaded, and means adjacent the top edge of the neck adapted to be engaged by the attaching means of a burner frame.

2. Supporting means for a lamp shade and chimney comprising a supporting ring having an exteriorly projecting flange, a neck exteriorly threaded, and an inwardly projecting portion at the edge of the neck to receive the chimney; and a clamping ring having an exteriorly projecting flange, and a neck interiorly threaded and provided adjacent its top edge with open slots to receive projecting means in connection with a burner frame.

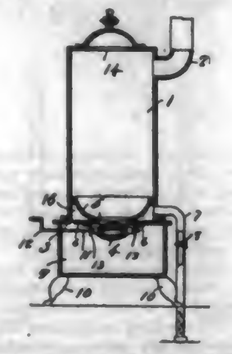
3. Supporting means for a lamp shade and chimney comprising a supporting ring having an exteriorly projecting flange, a neck exteriorly threaded, and an inwardly projecting portion at the edge of the neck to receive the chimney; and a clamping ring having a neck interiorly threaded and means adjacent the top edge of the neck adapted to be engaged by the attaching means of a burner frame.

4. Supporting means for a lamp shade and chimney comprising a supporting ring having an exteriorly projecting flange, a neck exteriorly threaded, and an inwardly projecting flange at the edge of the neck to receive the chimney; and a clamping ring having a neck interiorly threaded and provided adjacent its top edge with open slots to receive projecting means in connection with a burner frame.

5. The combination with a lamp shade having an opening, of a supporting ring with a flange 11, a neck exteriorly threaded, and an inwardly projecting flange to support a chimney; and a clamping ring having a neck interiorly threaded, and means adjacent the top edge of the neck adapted to be engaged by the attaching means of a burner frame.

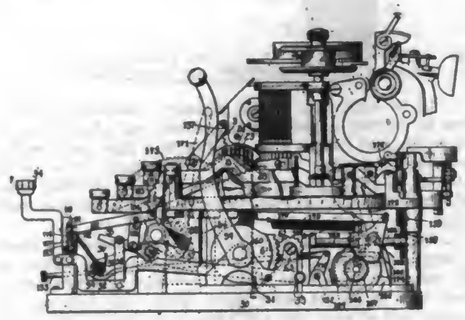
[Claim 6 not printed in the Gazette.]

975,022. HEATER. WILLIAM J. DOSSEY, Cornish, Okla. Filed Apr. 19, 1910. Serial No. 556,419.



A heater comprising an ash-box, a platform mounted on said ash-box and provided with a central perforation and other perforations about said central perforation for draft purposes, a drum mounted on said platform, a fuel pan mounted in said drum and spaced from said platform at the outer edge and provided with a central perforation registering with the perforation in said platform and meeting said platform about said perforation and forming an annular space above said platform, a grate mounted adjacent to and projecting within said central perforation, and a draft pipe connected to said drum and communicating with the annular space between said platform and fuel pan and extending out of the building.

975,023. ADDING AND RECORDING MACHINE. GEORGE WILSON DUDLEY, Staunton, Va., assignor, by mesne assignments, to Dudley Adding and Billing Machine Company, of Delaware. Filed Apr. 3, 1908, Serial No. 424,950. Renewed May 12, 1910. Serial No. 560,986.



1. In combination in an adding machine, adding disks, a series of selectors rotatable about a horizontal axis, a stop arm connected with the said selectors to rotate therewith, a series of pins arranged to be projected horizontally into the path of the said stop arm, key levers and connections between the said key levers and the said pins for projecting them, substantially as described.

2. In combination in an adding machine, adding disks, a series of selectors revoluble about a horizontal axis, a stop arm connected with said selectors, a series of horizontally slidable pins, a series of key levers, vertically extending levers for operating the pins and means for operating the vertically extending levers from the key levers, substantially as described.

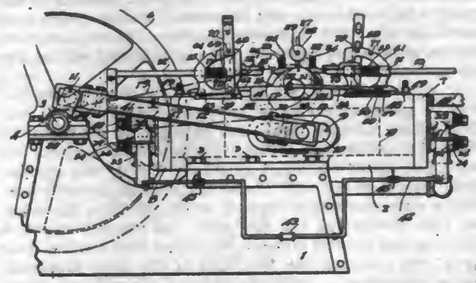
3. In combination in an adding machine, the number disks, a series of selectors for operating the same, a stop arm connected with the selectors, a series of pins to be projected into the path of the stop arm key levers and connections between the said key levers and the said pins comprising the bell-crank levers, the links, and the levers interposed between said links and the pins, substantially as described.

4. In combination, a series of number disks, a series of selector wheels disposed about the horizontal axis, a stop arm connected with the selector wheels, a series of horizontally movable pins to be projected into the path of the stop arm, a series of key levers arranged to one side of the selectors and stop pins and connections between the said key levers and the said stop pins, substantially as described.

5. In combination with a series of number disks, a series of selectors having rotary movement and axial shifting movement, a stop arm in connection with the selectors having rotary movement only, a series of stop pins arranged to be projected individually into the path of the said stop arm, key levers and connections between the said key levers and the said pins, substantially as described.

[Claims 6 to 27 not printed in the Gazette.]

975,024. GAS-ENGINE. CHARLES ERICKSON and JOHN PEARSON, Winnipeg, Manitoba, Canada. Filed Oct. 11, 1909. Serial No. 522,017.



1. In an engine of the class described the combination with a cylinder having suitable outlet ports controlled by normally closed valves located in the ends thereof, a reciprocating piston within the cylinder, and spark plugs located at the respective ends of the cylinder, of cam actuated rods controlling alternately the action of the spark plugs, a longitudinally slidable block carried by the cylinder, means designed to slide the block in opposite directions with each stroke of the piston, a set of longitudinally slidable spring pressed rods controlling the opening of the exhaust valves, and a governor bar carried by the slide block adapted to displace the latter rods longitudinally, as and for the purpose specified.

2. In an engine of the class described the combination with a cylinder having suitable outlet ports controlled by normally closed valves located in the ends thereof, a reciprocating piston within the cylinder, and spark plugs located at the respective ends of the cylinder, of cam actuated rods controlling alternately the action of the spark plugs, a longitudinally slidable block carried by the cylinder, means designed to slide the block in opposite directions with each stroke of the piston, a set of longitudinally slidable spring pressed rods controlling the opening of the exhaust valves, and a pivotally supported governor bar carried by the slide block adapted to hit or miss the adjoining ends of the latter rods according to the variations in the speed of rotation of the engine, as and for the purpose specified.

3. In an engine of the class described the combination with a cylinder having suitable outlet ports controlled by normally closed valves located in the ends thereof, a reciprocating piston within the cylinder, and spark plugs located at the respective ends of the cylinder, of a saddle permanently secured to the engine, a rotatable cross shaft mounted in the saddle, oppositely disposed cams located at the ends of the shaft, rods operated by the cams and controlling alternately the action of the spark plugs, a slide rod carried by the saddle having contact bars extending therefrom in opposite directions, cams secured on the shaft and engageable with the contact bars in their rotation, spring pressed longitudinally slidable rods abutting downwardly directed arms bearing on the exhaust valves, a pivotally supported governor bar carried by the slide block having a post extending therefrom with an adjustable weighted member thereon said governor bar being adapted to engage with the latter longitudinally extending rods, and spring means engaging with the governor bar adapted to minimize the oscillation thereof, as and for the purpose specified.

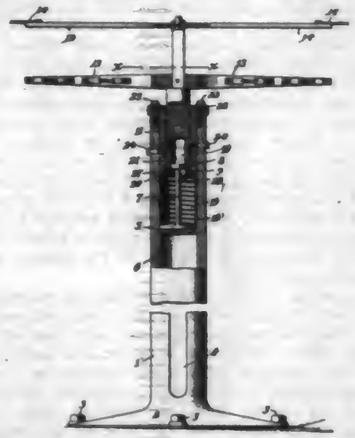
4. In an engine of the class described the combination with a cylinder having suitable exhaust ports normally closed by spring pressed valves at the ends thereof there being a reciprocating piston within the cylinder, of a governor comprising a longitudinally slidable block carried by the cylinder, means for sliding the block alternately backwardly and forwardly with each stroke of the piston, longitudinally extending spring pressed rods carried by the cylinder abutting downwardly directed pivotally supported arms located at their outer ends adapted to engage with the exhaust ports, with their inner ends notched, a

pivotally supported bar carried by the slide block having its ends tapered, stationary vertically directed bolts passing upwardly through openings provided in the bar and supplied at their upper ends with nuts, springs interposed between the nuts and the ends of the bar, and a post extending vertically and centrally from the bar and having an adjustable weighted member thereon, as and for the purpose specified.

5. In an engine of the class described the combination with a cylinder having a reciprocating piston therein, there being suitable means for introducing an explosive charge into either end of the cylinder and for igniting the same, and suitable exhaust valves controlling the exhaust ports located in the ends of the cylinder, of pivotally supported arms carried by brackets extending from the cylinder ends having one end resting on the exhaust valves, a set of spring pressed slidably supported rods having their outer ends abutting the free ends of the arms aforesaid, means consisting in levers for shifting the rods longitudinally, and an oscillating governor bar carried by a reciprocating slide block located on the cylinder, said governor bar being designed to engage alternatively with the rods, as and for the purpose specified.

[Claims 6 and 7 not printed in the Gazette.]

975,025. MAIL DELIVERING AND RECEIVING DEVICE. HAROLD G. EYNON, Lancaster, Pa., assignor of one-third to Thomas M. Eynon, Philadelphia, Pa., and one-third to Elmer L. Powl, Lancaster, Pa. Filed May 16, 1910. Serial No. 561,518.



1. In a device of the character stated, a standard, a spindle therein, a spring within the standard below the spindle, an abutment for the spring and means for causing rotation in one direction to move the spindle longitudinally toward the abutment and rotation in the opposite direction to move the abutment toward the spindle.

2. In a device of the character stated, a standard, a spindle therein, a bag receiving arm upon said spindle, a friction surface upon the lower end of the spindle, an elastic medium within the standard and below the spindle, a friction plate above said elastic medium and means for causing the rotation of the arm in either direction to compress the elastic material and cause frictional engagement of the relatively movable parts.

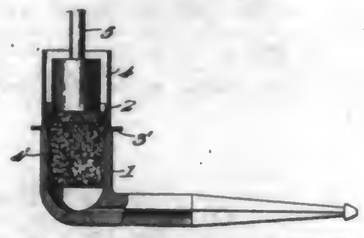
3. In a device of the character stated, a standard, a compressible medium therein, a spindle therein, a bag receiving arm upon the spindle, means for causing rotation of the spindle to compress the medium and frictional surfaces for engagement during the rotation of the spindle.

4. In a device of the character stated, a standard, a rotatable spindle therein, a bag receiving arm upon the spindle and a spring compressed by rotation of the spindle in either direction and to any extent throughout the circumference.

5. In a device of the character stated, a standard, a spindle therein, a compressible medium within the standard and below the spindle, a sleeve in the standard and threads upon the spindle engaging within the sleeve to cause compression of the spring with rotation in one direction.

[Claims 6 to 12 not printed in the Gazette.]

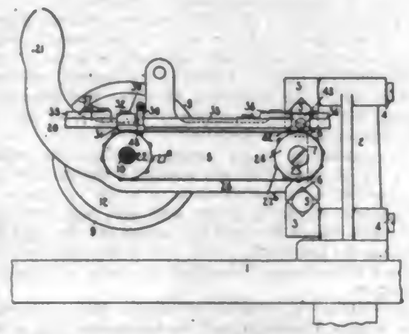
975,026. DEVICE FOR FILLING TOBACCO-PIPES. ARTHUR FALK, New York, N. Y., assignor to Falk Tobacco Co., Richmond, Va., a Corporation of New York. Filed June 6, 1910. Serial No. 565,294.



1. In an apparatus of the character described, a short cylinder having a broad flange at one end adapted to be seated on, and extend over the rim of a pipe bowl, and a cartridge consisting of a paper tube partly filled with tobacco, the unfilled portion of said tube extending over said cylinder and having its end resting against said flange.

2. In an apparatus of the character described, a short cylinder with a flange at one end adapted to be seated on the rim of a pipe bowl and a cartridge consisting of a short tube of glazed paper partly filled with tobacco, the unfilled end of said tube extending over said cylinder and having its lower end resting against said flange.

975,027. TYPE-WRITING MACHINE. JACOB FELBEL, New York, N. Y., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Sept. 12, 1908. Serial No. 452,785.



1. In a typewriting machine, the combination of a rotative platen, stops for arresting said platen, a band for moving certain of said stops, and a constantly maintained operative connection between said band and platen, said stops being adapted to be set to arrest the platen or to permit it to be rotated indefinitely in either direction.

2. In a typewriting machine, the combination of a rotative platen, stops for arresting said platen, a band for moving certain of said stops, and a constantly maintained operative connection between said band and platen, one of said stops being adapted to be moved into and out of coöperative relationship with another of said stops, whereby the platen may be turned freely to any desired extent or may be arrested by said stops.

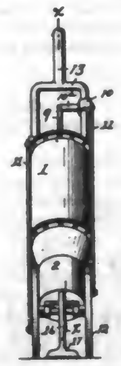
3. In a typewriting machine, the combination of a rotative platen, stops for arresting said platen, a band, and a constantly maintained operative connection between said band and platen, certain of said stops being removably carried by said band.

4. In a typewriting machine, the combination of a rotative platen, a platen frame, a band, a constantly maintained operative connection between said band and platen, and stops for arresting said platen, certain of said stops being normally held against movement on the platen frame and certain of said stops being adapted to be moved by said band.

5. In a typewriting machine, the combination of a rotative platen, a platen frame, a band, a constantly maintained operative connection between said band and platen, and stops for arresting said platen, certain of said stops being normally held against movement on the platen frame and certain of said stops being adapted to be moved by said band, certain of said stops being detachable from the band at will.

[Claims 6 to 28 not printed in the Gazette.]

975,028. VACUUM-CLEANER. JOHN A. FORNEY, Reading, Pa. Filed June 9, 1910. Serial No. 565,964.



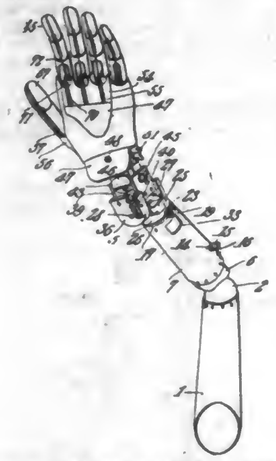
In a device of the character described the combination of a cylindrical casing, a pair of oppositely moving pistons located in said casing each of which is formed with a pair of valves, the valves in both pistons opening in the same direction; a hollow piston rod secured to one of the pistons, said rod having a vertical slot therein; a solid piston rod connected to the other piston and adapted to move in the hollow piston rod, said solid rod having an arm at its top adapted to move in said slot, cross-heads secured to said piston rods; outlet tubes from said casing, said tubes acting as guides for the cross-heads and also as an operating handle for the device; driving rods secured to said cross-heads; a pair of wheels on which the casing is mounted and to which the driving rods are connected at diametrically opposite points; an inlet tube to the casing passing through its bottom; and a deflector located in the casing immediately over the inner opening of the inlet tube.

975,029. ARTIFICIAL LIMB. JAMES A. GALVIN, Astoria, N. Y. Filed Jan. 13, 1910. Serial No. 537,900.

1. An artificial hand including pivoted fingers, elastic means for holding said fingers normally extended, and separate means for locking each finger out of normal position, said means being separately movable to release the respective fingers.

2. An artificial limb including a forearm portion, a hand portion, an articulated wrist portion constituting the connection between the forearm and hand portion and consisting of separately adjustable members, and separate means for holding the members of each joint of the wrist portion against relative movement.

3. An artificial limb including a forearm portion, a hand portion, an articulated wrist portion constituting the connection between the forearm and hand portions and consisting of separately adjustable members, said wrist portion being mounted for axial movement upon the forearm portion and means carried by said forearm portion for holding the wrist portion against axial movement.



4. An artificial limb including a forearm portion, a hand portion, and an articulated wrist portion constituting the connection between the forearm and hand portions, the wrist portion including a disk mounted for axial movement upon the forearm portion, means for clamping said disk to hold it against movement, a block upon the disk, a block pivotally connected to the hand portion, and a front wrist block interposed between said first mentioned blocks and pivotally connected to them, the respective pivots being disposed at right angles to each other.

5. An artificial limb including a forearm, a hand, an articulated wrist portion, said wrist portion including a disk mounted for axial movement upon the end of the forearm, a clamping device for frictionally engaging the disk to hold the same against movement, a block movable with said disk, a front wrist block pivotally connected to the first mentioned block, and a connecting block pivotally attached to the hand and to the front wrist block, and means for locking said blocks against movement relative to the adjoining blocks.

[Claims 6 and 7 not printed in the Gazette.]

975,030. EXPLOSIVE. LOTTUS GRAY, Cleveland, Ohio. Filed July 31, 1909. Serial No. 510,583.

1. As an explosive a dry, grained mixture of united granules of chlorate of potash and granules of a soluble carbohydrate, said chlorate granules being coated, shielded and protected by a dry filmiform layer composed of a gummy carbohydrate in admixture with some portion of said soluble carbohydrate, said shielding layer also acting as a grain-forming binder between adjacent granules of chlorate and of carbohydrate.

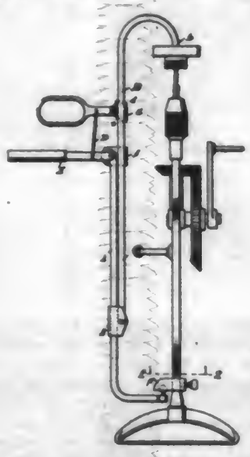
2. As an explosive a dry, grained mixture of united granules of chlorate of potash and granules of sugar, said chlorate granules being coated, shielded and protected by a dry filmiform layer composed of a gummy carbohydrate in admixture with some sugar, said shielding layer also acting as a grain-forming binder between adjacent granules of chlorate and of sugar.

3. As an explosive a dry, grained mixture of united granules of chlorate of potash and granules of sugar, said chlorate granules being coated, shielded and protected by a filmiform layer composed of gum arabic in admixture with some sugar, said shielding layer also acting as a grain-forming binder between adjacent granules of chlorate and of sugar.

4. An explosive compound consisting of granules of sugar and of chlorate of potash in substantially equal quantities and a coating on said granules of gummy carbohydrate binder present in limited amounts and uniting the said granules in grain form.

5. An explosive consisting of 60 to 40 per cent. of granular sugar, 40 to 60 per cent. of granular chlorate of potash, and gum arabic compounded and bonded in fixed grains in which the particles are united by adhesion, said gum arabic forming a filmiform coating on and binder between said particles.

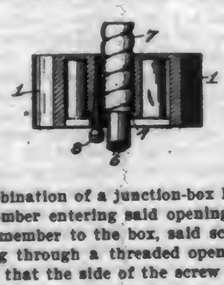
975,031. DRILL-FEED. WILLIAM HARVEY GREENE, Ann Arbor, Mich. Filed June 3, 1909. Serial No. 500,028.



1. A device of the class described, comprising a pair of slidably connected members, a drill connecting member hinged to one of said members, an anvil carried by the other member, and means to draw the anvil toward the connecting member.

2. A device of the class described, comprising a pair of slidably connected members, a drill connecting member having universal connection with one of the members, an anvil carried by the other member, a clutch slidably mounted on one of said members, and means pivoted to the other of said members and having connection with the clutch to draw the anvil toward the drill connecting member.

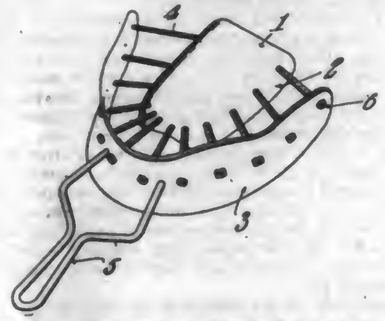
975,032. JUNCTION-BOX. EDWIN T. GREENFIELD, Kiamesha, N. Y. Filed Jan. 16, 1909. Serial No. 472,582.



1. The combination of a junction-box having an opening therein, a member entering said opening and a screw for securing the member to the box, said screw being tapered and extending through a threaded opening in the box in such position that the side of the screw engages the member, substantially as set forth.

2. The combination of a junction-box having therein an opening for a conductor and a threaded opening adjacent to said opening and inclined relatively thereto, a conductor entering the said opening therefor, and a tapered screw threaded into said threaded opening and having the side thereof engaging and wedging against said conductor, substantially as set forth.

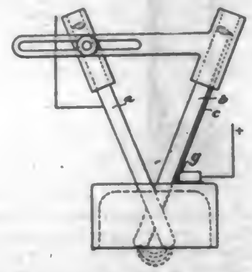
975,033. DENTAL IMPRESSION-CUP. JOHN H. GUMMO, Waverly, Kans. Filed Mar. 4, 1910. Serial No. 547,270.



1. In a device of the class described, a palate-piece; a rim surrounding the palate-piece and spaced therefrom; and a plurality of independently removable longitudinally adjustable connecting elements uniting the palate-piece and the rim.

2. In a device of the class described, a palate-piece; a rim surrounding the palate-piece and spaced therefrom; and screws uniting the palate-piece with the rim.

975,034. ARC-LAMP. PAUL HANISCH, Cologne-on-the-Rhine, Germany. Filed Sept. 15, 1908. Serial No. 453,147.



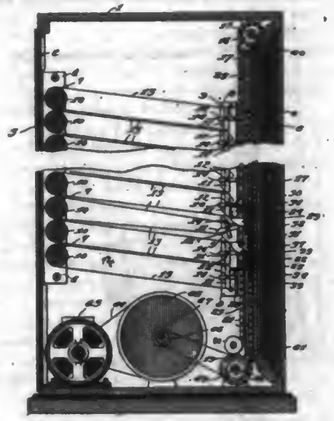
1. In an arc lamp having electrodes oppositely downwardly inclined and crossed above their lower ends, and automatic means constructed to permit movement of one of said electrodes to automatically increase the feed in accordance with increased current strength.

2. In an arc lamp having electrodes oppositely downwardly inclined and crossed above their lower ends, and automatic means constructed to permit movement of one of said electrodes and constructed to automatically increase the feed in accordance with increased current strength and to decrease the arc and diminish the feed under decreased current strength.

975,035. ADVERTISING-SIGN. EUGENE NELSON HEARD, Oakland, Cal. Filed Dec. 4, 1909. Serial No. 531,383.

1. An exhibitor comprising a casing having a transparent front, a plurality of endless exhibiting bands mounted for independent movement across said casing, and vertically moving means within said casing for automatically actuating said bands and concealing the same while being actuated.

2. An exhibitor comprising a casing having a transparent front, vertically arranged spaced apart horizontal rollers rotatably mounted at the rear of said casing, rotatable slats corresponding in number to said rollers and arranged at the front of said casing, a plurality of independent endless exhibiting bands corresponding in number with the slats and roller, each band being supported by a roller and one slat, and a shield mounted for vertical movement in said casing for intermittently and automatically rotating said slats and concealing the same while being rotated.



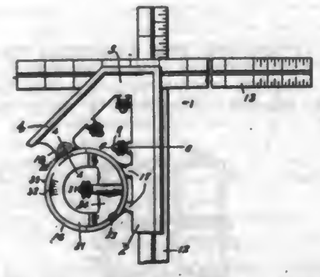
3. A changeable exhibitor comprising a casing, a plurality of independent endless exhibiting bands transversely mounted in said casing, a shield mounted for vertical movement in said casing, and means carried by said shield for automatically and intermittently actuating said bands, said shield concealing said bands while the latter are being actuated.

4. A changeable exhibitor comprising a casing having a transparent front, a plurality of exhibiting bands mounted for independent movement in said casing, a shield extending across the transparent front of said casing, means for moving said shield vertically in said casing, and means carried by said shield for automatically and intermittently actuating the bands while the shield is passing the same.

5. A changeable exhibitor comprising a casing having a transparent front, a plurality of independently supported spaced apart exhibiting bands movably mounted within said casing, a shield mounted in the front of said casing, means for moving the same vertically, and means carried by said shield for automatically and intermittently actuating said bands during one vertical movement of said shield.

[Claims 6 to 13 not printed in the Gazette.]

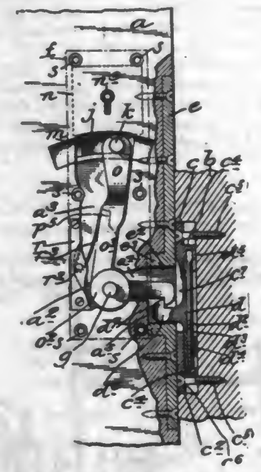
975,036. SQUARE AND PROTRACTOR. GEORGE HENNIGAR and ROY TENEYCK, North Lansing, Mich. Filed Dec. 21, 1909. Serial No. 534,272.



1. A device of the character described, comprising arms arranged at right angles to each other, an arm arranged at an angle of 45 degrees to one of said arms, blades mounted upon said arms and adapted to be moved longitudinally thereof, means connected to said arms for rotatably supporting a blade, said blade being adapted to be arranged at different angles to one of said arms, and means for clamping said last named blade at a desired angle to the last named arm.

2. A device of the character described, comprising arms arranged at right angles to each other, an arm at an angle of 45 degrees to one of said arms, said arms being provided with longitudinal grooves, blades arranged within said grooves and adapted to be adjusted longitudinally of said arms, means for clamping said blades to said arms, a ring-shaped section rigidly connected to the free ends of two of said arms, a plate rotatably mounted upon said ring-shaped section, a blade longitudinally movably mounted upon said plate, said ring-shaped section being provided with a pointer and said plate being provided with a scale for ascertaining the angle at which said last named blade is arranged.

975,037. SLIDING-DOOR LOCK. FREDERICK W. HETTWER, Brooklyn, N. Y. Filed July 19, 1910. Serial No. 572,696.



1. A lock of the class described, comprising two side plates and two vertically arranged yoke-shaped handles, a bolt passing through said side plates and into the lower arms of said handles, a bolt passing through said side plates and into the upper arms of said handles, said last named bolt being movable in transverse slots or openings formed in said side plates, a fork-shaped arm mounted on the first named bolt and through the upper end of which the other bolt passes, a crank lever mounted on the first named bolt between the side members of said arm, and provided with upwardly and outwardly directed members, and a spring for forcing said lever outwardly, said lever and said arm being provided with means for limiting said outward movement of said lever.

2. In a lock of the class described, two side plates, a bottom bolt passing through the bottom parts thereof, a top bolt passing through transverse slots in the top part of said plates and movable transversely in said slots, yoke-shaped handles mounted on the end portions of said bolts, slide plates mounted on the top bolt and adapted to close said slots, a fork-shaped arm mounted on the bottom bolt and through the upper end of which the top bolt passes, a crank lever mounted on the bottom bolt and one arm of which extends upwardly and the other outwardly, said arm and said crank lever being provided with means for limiting the outward movement of said lever, and springs for forcing said lever and said arm outwardly.

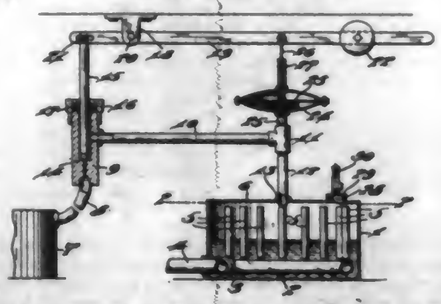
3. The combination with a sliding door of a lock device, said device consisting of two plates secured to the opposite sides of the door, a bolt passing through the bottom part of said plates and through said door, a top bolt passing through the top portions of said plates and through said door, arc-shaped handles mounted on the opposite end por-

tions of said bolts, the top bolt being also movable backwardly and forwardly in transverse slots or openings in said plates, slide plates mounted on said bolt and adapted to close said slots or openings, a fork-shaped arm mounted on the bottom bolt and through the upper end of which the top bolt passes, a crank lever mounted on the bottom bolt between the side portions of said arm and provided with upwardly directed and outwardly directed members, said lever and said arm being provided with means to limit the outward movement of the crank lever, a spring for forcing said crank lever outwardly and a spring for forcing said arm outwardly.

4. In a lock of the class described, two side plates, a bottom bolt passing through the bottom parts of said plates, a top bolt passing through transverse slots in the top part of said plates and movable transversely in said slots, handle members mounted on the end portions of said bolts, an arm mounted on the bottom bolt and through the upper end of which the top bolt passes, and a crank lever mounted on the bottom bolt and one arm of which extends upwardly and the other outwardly, said arm and said crank lever being provided with means for limiting the outward movement of said lever, and means for forcing said lever and said arm outwardly.

5. In a lock of the class described, a catch device comprising a casing having a front plate provided with an opening, a rod removably mounted back of said plate, and a block adjustable on said rod and provided with a catch arm which extends outwardly through said opening.

975,038. CARBURETER. GEORGE A. HOCKMAN, Chester, Pa. Filed Nov. 2, 1909. Serial No. 525,857.



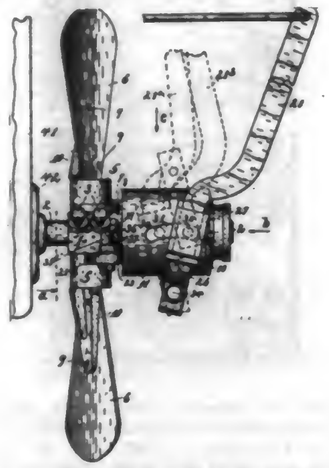
1. In a carbureter, the combination with a tank adapted to contain liquid hydro-carbon, of a gas outlet pipe having a closed end and bent into circular form adjacent the bottom portion of the tank, a series of vertical pipes communicating with the curved portion of said pipe and having their open upper ends projecting above the liquid level in said tank, means for supplying air under pressure to the center of said tank, means for automatically controlling said supply of air, a cap normally closing a hydro-carbon inlet in the top of said tank, and a safety pressure valve on said cap.

2. In a carbureter, the combination with a tank adapted to contain liquid hydro-carbon, of a gas outlet pipe having a closed end and bent into circular form adjacent the bottom portion of the tank, a series of vertical pipes communicating with the curved portion of said pipe and having their open upper ends projecting above the liquid level in said tank, and means for supplying air under pressure to the center of said tank, substantially as described.

975,039. REVERSIBLE PROPELLER FOR BOATS. PERCY W. HODGKINSON, Rochester, N. Y., assignor to Charles D. Camp, Rochester, N. Y. Filed Mar. 10, 1909. Serial No. 482,566.

1. In a propeller for boats, the combination with the blades, of controlling mechanism therefor embodying a pivotally mounted reversing yoke arranged wholly in the rear of the blades and on the propeller shaft.

2. In a propeller for boats, the combination with the blades, of controlling mechanism therefor embodying a pivotally mounted reversing yoke arranged wholly in the rear of the blades and on the propeller shaft and embodying a fulcrum and lever disposed between the end of said shaft and the blades.



3. In a propeller for boats, the combination with the blades, of controlling mechanism therefor embodying a pivotally mounted reversing yoke arranged wholly in the rear of the blades and on the propeller shaft and embodying a fulcrum and lever disposed between the end of said shaft and the blades, and means whereby said lever will be inclined in the direction in which the boat is to be moved.

4. In a propeller for boats, the combination with the blades, of a shifting mechanism embodying a pivotally mounted reversing yoke mounted on the propeller shaft to the rear of the blades.

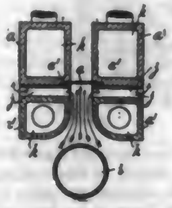
5. In a propeller for boats, the combination with the blades, of a shifting mechanism embodying a pivotally mounted reversing yoke, said yoke having a seat with lever-receiving opening at each end.

[Claims 6 to 25 not printed in the Gazette.]

975,040. PROCESS FOR REMOVING OXYGEN FROM VESSELS. ROBERT HOFFELT, Cologne-Klettenberg, Germany. Filed July 14, 1910. Serial No. 572,010.

Process for the elimination of oxygen from any desired containers by union of the oxygen with phosphorus, consisting in causing phosphorous-halogen gases mixed with hydrogen to ignite in the previously evacuated container.

975,041. APPARATUS FOR REMOVING THE HARDNESS FROM CERTAIN PORTIONS OF HARDENED STEEL STRIPS. HARRY FITZ MAURICE HUNTSMAN, Sheffield, England. Filed Mar. 7, 1910. Serial No. 547,829.



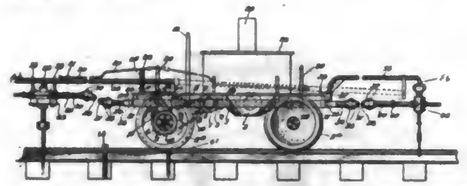
1. In an apparatus of the class described, in combination, a pair of guides adapted to receive the edge portions of a strip of hardened steel leaving the central portion thereof exposed and a source of heat positioned adjacent to the exposed portion of said strip, said strip and source of heat being movable with respect to one another.

2. In an apparatus of the class described, in combination, means adapted to receive a portion of a strip of hardened steel leaving a portion thereof exposed, and a source of heat positioned adjacent to the exposed portion of the strip for directing a heated medium against the same, said means provided with passages for allowing the heated medium to escape therethrough.

3. In an apparatus of the class described, in combination, oppositely positioned means adapted to receive the opposite edges of a strip of steel, said means being spaced from one another to leave the central portion of the strip exposed, and a source of heat positioned adjacent to the exposed portion of the strip.

4. In an apparatus of the class described, in combination, oppositely disposed pairs of guides adapted to receive the edges of a strip of steel, said pairs of guides being spaced from one another to leave a portion of the strip exposed, and a source of heat positioned at one side of said exposed portion, said guides being provided with passages for the escape of the heated gases emanating from said source of heat.

975,042. TRACK-CAR AND TOOL-DRIVING MACHINE. HENRY W. JACOBS, Topeka, Kans. Filed Nov. 23, 1908. Serial No. 464,051.



1. In a machine for track construction, the combination of a car, a motor thereon and power driven connections attached to said motor for simultaneously driving a plurality of tools at the rear end of the car and also a plurality of tools at the forward end thereof.

2. In a machine for track construction, the combination of a car, a motor thereon and power driven connections attached to said motor for driving a plurality of tools independently of one another at the rear end of the car and also a plurality of tools independently of one another at the forward end thereof.

3. In a machine for track construction, the combination of a car, a motor thereon and power driven connections attached to said motor for driving a plurality of tools simultaneously and independently of one another at the rear end of the car and also a plurality of tools simultaneously and independently of one another at the forward end thereof.

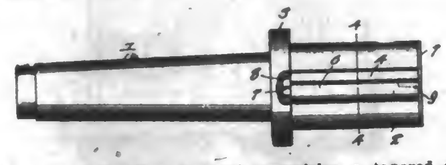
4. In a machine for track construction, the combination of a car, a motor thereon and one or more subsidiary shafts driven by said motor for simultaneously driving a plurality of tools at the rear end of the car and also a plurality of tools at the forward end thereof.

5. In a machine for track construction, the combination of a car, a motor thereon and one or more subsidiary shafts driven by said motor for driving a plurality of toools independently of one another at the rear end of the car and also a plurality of tools independently of one another at the forward end thereof.

[Claims 6 to 20 not printed in the Gazette.]

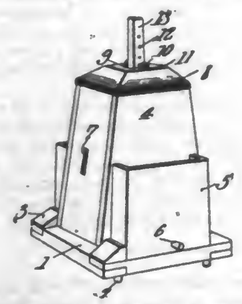
975,043. CLUTCH-GRIP MANDREL. MAXIMILLIAN JAEGER, New London, Conn., assignor of one-half to William F. Sword, Providence, R. I. Filed Jan. 14, 1910. Serial No. 538,096.

1. A work holding mandrel provided in a side with a longitudinal recess having its inner wall straight, said recess being deeper at one side than at the opposite side, and having end walls in which are formed slots extending parallel with the inner wall of said recess, and a roller clutch placed in said recess and having terminal journals fitted in said slots in the end walls of the recess, said roller clutch being of a diameter greater than the depth of the shallower side of the recess and of a diameter corresponding approximately to the depth of the deeper side of said recess.



2. A work holding mandrel comprising a tapered end portion, a cylindrical end portion, and an intermediate shoulder or annular enlargement, and having a recess formed in a side of the cylindrical portion and extending the entire length thereof, said recess being deeper at one side than at the opposite side and having its inner wall straight, the shoulder formed at the base of the cylindrical portion having a slot extending parallel with the inner straight wall of the recess, a roller arranged in said recess and having journals at its ends, one of the journals entering the slot in the shoulder formed at the base of the cylindrical portion of the mandrel, and a cap plate secured to the end of the mandrel and having a slot to receive the outer journals of said roller, said slot paralleling the inner wall of the recess.

975,044. CHURN. THOMAS JEFFERSON JARNAGIN, Princeton, Tex. Filed Apr. 14, 1910. Serial No. 555,341.



1. A churn dasher including a notched lever, blades seated within the notches and engaging the lever, a wedge like retaining strip extending across all of the blades, and means surrounding the strip and lever for detachably holding said strip upon the lever.

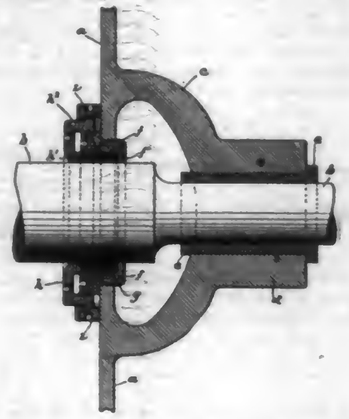
2. A churn dasher including a notched lever, blades seated within the notches and engaging the lever, a retaining strip extending across all of the blades, and means surrounding the strip and lever for detachably holding said strip upon the lever.

3. A churn dasher including a lever having notches therein, blades seated within said notches and having recesses for the reception of the adjoining portions of the lever, a centering pin extending from each blade and into the lever, bands extending around said lever, and a wedge shaped retaining strip seated within the bands and extending transversely of and contacting with the blades.

975,045. STUFFING-BOX. WILLS JOHNSON, Wilmington, Del., assignor to E. I. du Pont de Nemours Powder Company, Wilmington, Del., a Corporation of New Jersey. Filed Nov. 2, 1909. Serial No. 525,864.

1. In a stuffing box, in combination, a shaft, a box engaging the shaft and adapted to receive a packing, a gland engaging the shaft and box and adapted to hold

the packing in place and encircling the box, and a cover-ring encircling the gland and box.



2. In a stuffing box, in combination, a box adapted to inclose a packing, a gland adapted to engage said packing and hold it in place and having a flange extending around and engaging the box, and a cover-ring extending around and engaging the gland.

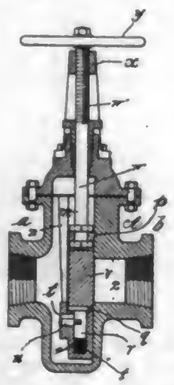
3. In a stuffing box, in combination, a box adapted to inclose a packing, a gland adapted to engage said packing and having a flange threaded on the outside of the box, and a cover ring threaded on the outside of the gland.

4. In a stuffing box, in combination, a box adapted to inclose a packing and having two external threads, a gland adapted to engage said packing and having a flange provided with an internal thread engaging one of the threads of the box and an external thread, and a cover-ring having an internal thread engaging the external thread on the gland.

5. In a stuffing box, in combination, a box having an internal flange at the outer end adapted to receive a packing, a gland at the inner end of the box having a flange extending within the box to hold the packing in place and a flange surrounding and engaging the box, and a cover ring surrounding and engaging the gland.

[Claims 6 to 12 not printed in the Gazette.]

975,046. SEATING ARRANGEMENT FOR STEAM AND OTHER VALVES. ANDERS P. KJÖLLER, South Hadley, Mass. Filed Jan. 27, 1909. Serial No. 474,616.

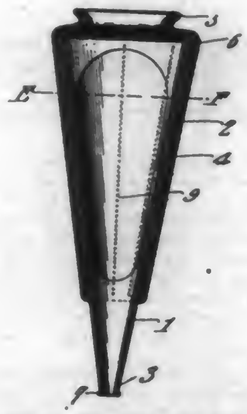


1. In a device of the character described, the combination with a casing having inlet and outlet openings, of a reciprocally movable valve mounted therein, means projecting from the casing for controlling the movement thereof, guides for retaining the valve in position, the valve having grooves formed therein in which said guides are received, a yieldably mounted seat for said valve, and means carried by the seat and engaged in a recess formed in the casing for limiting the movement of the seat.

2. In a device of the character described, the combination with a casing having a socket formed therein and a recess formed in the casing adjacent the socket and extending at right angles thereto, of a valve seat mounted in the casing above the socket, a spring mounted in the socket and bearing against the seat, a valve mounted in the casing and adapted to bear down upon the seat, and an abutment carried by the seat and engaged in the recess in the casing for limiting the movement of the seat.

3. The combination with a valve body, having a fluid way therethrough, comprising a wall through which the outlet way leads and said body comprising a socket below the margin of the outlet way with a slot in the wall of said socket, of a gate valve facewise movable at the inner side of the outlet way on said wall across and beyond the margin of said way, means for constraining the valve in its facewise relation to said wall, and means for operating the valve, and a follower in said socket having an edge thereof against the face of said wall, adjacent the outlet, a stud provided on the follower and engaging through said slot, and a spring for forcing the follower in a direction toward the margin of the outlet way.

975,047. TEAT-CUP. DANIEL KLEIN and DAVID BROWN, Spokane, Wash. Filed Sept. 22, 1909. Serial No. 518,934.



1. A teat cup having a one-piece body member for directly receiving and housing the teat and tapering from one end to the other and there formed to receive a milk conduit, said body member being substantially oval in cross section with the longer axis of the oval maintained constant and cut away on the sides traversed by the shorter axis, and an elastic envelop on the exterior of and embracing the said body member for a distance greater than the cut-away portion and extending beyond the wider end of said body member and there contracted to form a substantially circular seat for the root end of the teat.

2. A teat cup having a one piece body member for directly receiving and housing the teat and tapering from one end to the other and there formed to receive a milk conduit, said body member being substantially oval in cross section with the longer axis of the oval maintained constant and cut away on the sides traversed by the shorter axis, an elastic envelop on the exterior of and embracing the said body member for a distance greater than the cut-away portion and extending beyond the wider end of the body member and there contracted to form a substantially circular seat for the root end of the teat, and elastic strands in said envelop at the cut-away parts of the body member.

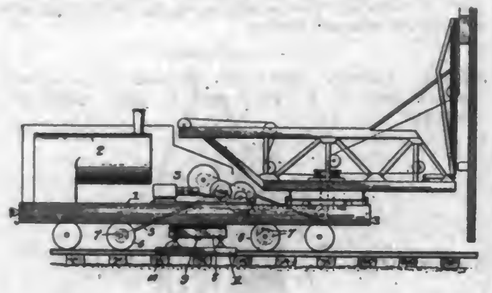
3. A teat cup having a one-piece body member for directly receiving and housing the teat and tapering gradually and constantly from one end to the other and there formed to receive a milk conduit, said body member being substantially oval in cross section with the longer axis of the oval maintained constant and cut away on the sides traversed by the shorter axis, and an elastic envelop on the exterior of and embracing the said body member for a distance greater than the cut-away portion and extending beyond the wider end of said body member and there contracted to form a substantially circular seat for the root end of the teat.

4. A teat cup having a one-piece body member for directly receiving and housing the teat and tapering gradually and constantly from one end to the other and there formed to receive a milk conduit, said body member being substantially oval in cross section with the longer axis of the oval maintained constant and cut away on the sides traversed by the shorter axis, an elastic envelop on the exterior of and embracing the said body member for a distance greater than the cut-away portion and extending beyond the wider end of said body member and there contracted to form a substantially circular seat for the root end of the teat, and elastic strands in said envelop in the cut-away parts of the body member.

5. A teat cup having a rigid metallic body portion cut away on opposite sides, and an envelop surrounding the body portion and covering the cut away parts, said envelop being elastic and collapsible at the cut away parts of the body portion and having elastic strands inserted in said envelop at the cut away parts of the body portion of the cup.

[Claims 6 and 7 not printed in the Gazette.]

975,048. TURN-TABLE MECHANISM FOR RAILWAY PILE-DRIVERS AND THE LIKE. SAMUEL L. GRISWOLD KNOX, Milwaukee, Wis. Filed Oct. 11, 1909. Serial No. 522,056.



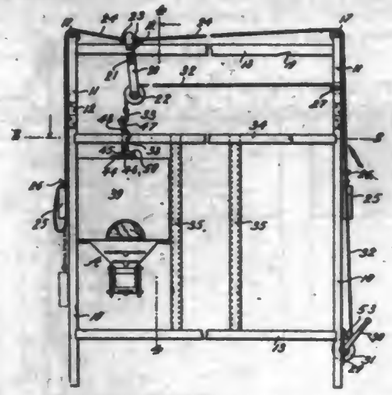
1. The combination of a car body, a turn table normally held out of contact with the track, and means by which the turn table and the car body may be elevated simultaneously.

2. The combination of a car body, a turn table carried thereby at the under portion thereof, and jacks by which the turn table and car body may be elevated simultaneously.

3. The combination of a wheeled car body, a turn table carried thereby at the under portion thereof and held out of contact with the track, and means in connection with said turn table to raise the same from the track as a foundation, with the car body supported thereon.

4. The combination of a car body having supporting wheels, a turn table carried by the car body at its under portion and normally held out of contact with the track, and jacks at the corners of the turn table, operable to elevate the turn table with the car body supported on the latter.

975,049. STORE FURNITURE. CHARLES C. KNUTTER, Henryetta, Okla. Filed May 27, 1910. Serial No. 563,753.



1. In a device of the class described, the combination with a frame, of a plurality of bins slidable vertically therein, a gravity hook carried by each of said bins, a bail carried by each of said bins adjacent to said hook, means adapted to coöperate with each bail to receive any one of said bins, and means whereby said last named means may automatically be released from said bail when the bin is in an elevated position.

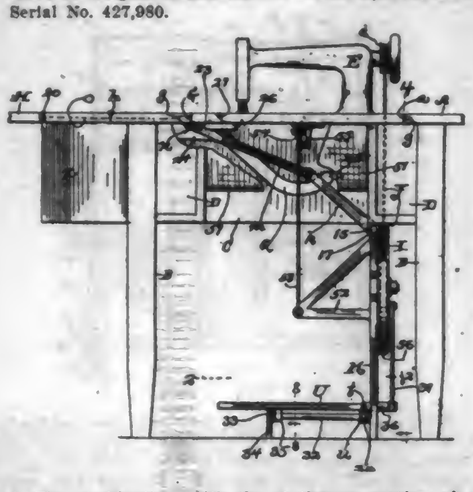
2. In a device of the class described, the combination with a frame, of a plurality of bins movably mounted therein, a longitudinal bar superposed above said bins and carried by said frame having a series of notches along its lower surface, a block slidably mounted on said bar, a pulley carried by said block, and hoisting means extending over said pulley to one side of said frame, said block adapted to engage said notches upon the operation of said hoisting means.

3. In a device of the class described, the combination with a frame, of a plurality of bins movable vertically therein, and hoisting means adapted to coöperate with any of said bins to elevate the same, and means whereby said bins will automatically be locked in an elevated position, said means adapted to automatically release said hoisting means upon lowering the same.

4. In a device of the class described, the combination with a frame, of bins movable vertically therein, a gravity hook carried by each of said bins, the upper portion of said gravity hook being beveled, a bail spanning said gravity hook, and a hoisting means adapted to elevate any one of said bins through the instrumentality of said bails, said hoisting means being automatically released by the beveled portion of said gravity hook upon the lowering thereof.

5. In a device of the class described, the combination with a frame, having a longitudinal bar located at the top thereof, said bar having a series of notches along its lower edge, and a pair of parallel bars disposed below said last named bar provided with a series of pins interposed therebetween, a series of bins movable vertically in said frame below said parallel bars, a gravity hook mounted on each bin adapted to automatically engage the pin between said parallel bars and retain said bins in elevated position, the upper end of said gravity hook being beveled, a bail adapted to span each of said hooks, a block and bail reciprocatingly mounted on said notched bar, the block adapted to engage said notches during the hoisting of any one of said bins, a flexible hoisting means operating over the pulley thereof, adapted to engage the teeth of any one of said bins, said flexible hoisting means adapted to be automatically released by the beveled portion of said hooks upon the loosening thereof, and means secured to each side of said block and extending to each end of said frame whereby said block may be caused to travel on said notched bar.

975,050. SEWING-MACHINE TABLE. THEODOR KUNDTS, Lakewood, and ALBERT SCHUSTER, Cleveland, Ohio; said Schuster assignor to said Kundts. Filed Apr. 20, 1908. Serial No. 427,980.



1. The combination, with the stationary portion of a sewing-machine table, which portion is adapted to rest on the floor and comprises a table-top, of a driving-wheel; a movable stand supporting the driving-wheel and pivotally connected to the said stationary portion under the right-hand end-portion of the table-top, which stand is arranged to either rest on the floor or swing upwardly to the left off the floor, and a treadle operatively connected with the driving-wheel, which treadle is free from the stationary portion of the table and supported from the stand and carried by the latter during the swinging of the stand to the left off the floor.

2. In a sewing-machine table, a stationary portion adapted to rest on the floor; a movable stand for carrying a driving-wheel, which stand is pivotally connected to the said stationary portion and arranged to swing in a vertical plane, said stand resting on or having been swung upwardly from the floor according as the stand is at the one or the other extremity of its range of movement and having a laterally projecting arm which when the stand rests on the floor is arranged below the axis of the stand; a platform movable up and down and supported from the stationary portion of the table and being in its upper or lower position according as the said stand rests on or has been swung upwardly from the floor, and a suitably guided flexible operative connection between the platform and the aforesaid arm.

3. In a sewing-machine table, a stationary portion adapted to rest on the floor; a stand for carrying a driving-wheel, which stand is pivotally connected to the said stationary portion and arranged to swing in a vertical plane, said stand being in an upright position or having been swung upwardly according as the stand is at the one or the other extremity of its range of movement and having a laterally projecting arm which in the said upright position of the stand is arranged below the axis of the stand; a vertically swinging platform supported from the stationary portion of the table and being in its upper or lower position according as the said stand is in its upright or upwardly swung position; a flexible operative connection between the platform and the aforesaid arm, and means for guiding said flexible connection.

4. In a sewing-machine table, a stationary portion comprising a table-top and stationary legs; a stand for carrying a driving-wheel, which stand is pivotally connected to the said stationary portion under the right-hand end-portion of the table-top and arranged to swing in a vertical plane, said stand being in an upright position or having been swung upwardly according as the stand is at the one or the other extremity of its range of movement and having a lever-arm which projects inwardly in the upright position of the stand; means whereby the said lever-arm may be actuated to swing the frame in the one or the other direction; a platform movable up and down and supported from the stationary portion of the table and being in its upper or lower position according as the said stand is in its upright or upwardly swung position, and means whereby the platform is actuated into its upper position during the swinging of the said stand into its upright position.

5. The combination, with the stationary portion of a sewing-machine table, which portion is adapted to rest on the floor of a movable stand for carrying a driving-wheel and a treadle, which stand is pivotally connected to the stationary portion of the table a suitable distance above the floor-line and between the central portion and the right-hand end of the table and arranged to either rest on the floor or swing upwardly to the left off the floor.

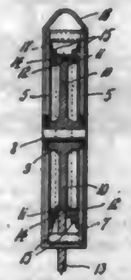
[Claims 6 to 17 not printed in the Gazette.]

975,051. LOOM-SHUTTLE. JOHN LA PALME, Central Falls, R. I. Filed July 8, 1909. Serial No. 506,570.



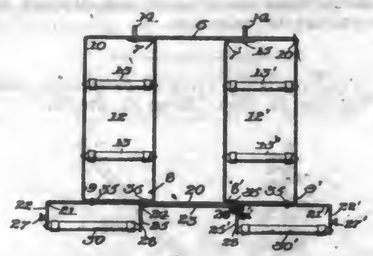
In a spring tension device for loom shuttles, the combination of a centrally longitudinally perforated pin extending across the throat of the shuttle and adjustably secured in recesses in the opposite walls thereof, said pin having oppositely disposed longitudinal slots communicating with said central perforation, and a bowed leaf spring having a straight portion at its forward extremity and an enlarged portion being equal in diameter to that of the perforation of the pin, and adapted to be received therein, each of the longitudinal slots being adapted to snugly receive a projecting portion of the spring on the opposite sides of the enlarged portion.

975,052. SAFETY-SHEAVE. WILLARD D. LOCKWOOD, Schenectady, N. Y. Filed Sept. 9, 1908. Serial No. 452,314.



As an article of manufacture, a sheave comprising spaced cheek plates and a connecting spindle, a wheel carried by the spindle and rotatably fitted between the cheek plates, the periphery of the wheel having a journal intermediate the ends of the wheel, an annular angle bar secured against the inner face of each cheek plate concentric with the wheel and each closely encircling an end portion of the periphery of the wheel and terminating short of the groove of the wheel to form a step, each of said angle bars having that portion that is secured to the corresponding cheek plate, directed from the wheel encircling portion away from the wheel, whereby a succession of steps from each cheek plate to the bottom of the groove of the wheel is provided and suspending means connected with the cheek plates.

975,053. SHELVING. PETER A. LORENS, Chicago, Ill. Filed May 31, 1906. Serial No. 319,543.



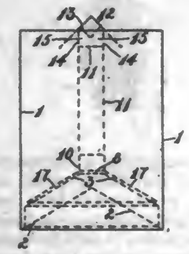
A roller shelf comprising two longitudinally-extending strips of metal of unequal length having offset portions at right angles to the body portion, means for securing the shorter of said strips within the longer to form a reinforcement therefor and whereby the offset portions of the shorter strip will associate with an offset portion of the elongated strip to provide a bearing, a roller journaled in each pair of bearings, a pair of spaced horizontally-extending rectangular frames formed from a single bar of metal and projecting from the inner face of said elongated strip and each positioned at a point inwardly of an end of said elongated strip, said frames coupled together at their inner ends by a portion of said bar, a plurality of transversely extending rollers journaled in each of said frames, supporting pins securing the ends of the bar to a portion thereof whereby the shape of the frames will be maintained and said pins projecting rearwardly from said frames for engagement in a support, and supporting pins projecting laterally from the offset portions of said elongated strip for engagement with a support.

975,054. GAS-SCRUBBER. WILLIAM MCARTHUR, Tenino, Wash. Original application filed Jan. 15, 1909, Serial No. 472,518. Divided and this application filed July 24, 1909. Serial No. 509,395.



A scrubber for the purpose described, comprising an upright casing 1 with heads 2 and 3 near its extremities, a conical hood 5 above the upper head and leading to a stack, a damper 9 communicating with the air space 30 beneath the lower head, a plate 4 extending completely across the casing above said head and having both perforations and holes through its body and forming a coke chamber 20 between it and the upper head and a drain chamber 40 between it and the lower head, a drain-off valve 16 opening from said drain chamber, a series of upright flues 7 extending through and fixed in both heads and passing between them through the holes in said intermediate plate, a gas inlet pipe 13 communicating with the drain chamber, a gas outlet pipe 14 entering the casing into the air space and leading thence upward through the drain chamber and throughout the coke chamber and communicating with the interior thereof near its upper end, and a mass of coke superimposed upon the perforated body of said plate 4 around the flues and rising nearly to the inner end of said outlet pipe.

975,055. WASHBOILER ATTACHMENT. JAMES MCGREGOR, Fordsburg, near Johannesburg, Transvaal. Filed June 12, 1909. Serial No. 501,860.



1. In a wash boiler attachment, in combination, a base member having on the underside a spiral passage for conducting the water from the outside to the center thereof, a tubular member in communication with said spiral passage, through which member the uprising current of water flows, a deflector at the top of said tubular member, and means on top of the aforesaid base member for conducting the down-flowing water to the outside of said base member and for imparting rotary motion thereto in the direction in which the water flows in its passage through the aforesaid spiral passage.

2. In a wash boiler attachment, in combination, a base member having on the underside a spiral passage for conducting the water from the outside to the center thereof, a tubular member in communication with said spiral passage, through which member the uprising current of water flows, a deflector at the top of said tubular member, curved vanes on top of the aforesaid base member for conducting the down-flowing water to the outside of said base member and for imparting rotary motion thereto in the direction in which the water flows in its passage through the aforesaid spiral passage, and a perforated guard above said vanes.

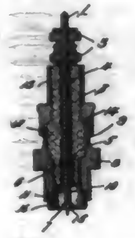
3. In a wash boiler attachment, in combination, a base member comprising a conical part having a central hole and a spiral member fixed to the underside of said conical part and providing a spiral passage for conducting the water from the outside of the conical part to the aforesaid central hole, a vertical tubular member fixed to the top of the conical part around the central hole through which tubular member the uprising current of water flows, curved vanes fixed on top of said conical part for conducting the down-flowing water to the base rim of said part and for imparting rotary motion thereto in the direction in which the water flows in its passage through the aforesaid spiral passage, a conical perforated guard above said vanes, and a deflector fixed to the top of the aforesaid tubular member.

975,056. SPARK-PLUG. WILLIAM H. MCNUTT, New York, N. Y. Filed Aug. 4, 1910. Serial No. 575,508.

1. A spark plug provided with a protruding electrode or pole piece, a foraminous metal cap inclosing said pole piece and having one orifice registering with the end thereof and forming the opposing electrode, the size of said pole piece being so proportioned to that of said orifice, that when the electrodes are operatively positioned the passage therebetween is of less than flame-passing magnitude, and all the other orifices of said foraminous cap being also of less than flame-passing magnitude.

2. A spark plug provided at one end with a foraminous cap or thimble, all but one of the orifices in said foraminous cap or thimble being too small to permit flame pas-

sage while one of said orifices is of larger size, a rod-like electrode supported substantially in the axis of said cap and insulated therefrom, and having one end positioned in spark-forming relationship to the relatively large orifice adapted to form a spark gap therewith of less than flame-passing magnitude.



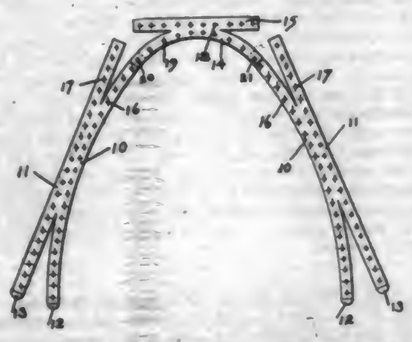
3. A spark plug comprising a multiperforated metal cap or thimble forming a sparking terminal, and a second electrode inclosed by and insulated from said terminal and having one end in spark-forming relationship to the edges of a relatively large orifice in said foraminous thimble, the gap therebetween being of less than flame-passing width, and the other orifices in said thimble also being so small as to prevent the passage of flame therethrough.

4. In a sparking plug, an electrode chamber comprising a foraminous metal cap or thimble and constituting one electrode, the majority of the orifices in the cap being so small as to prevent passage of flame therethrough, and a second adjustable electrode adapted to close the remainder of the orifices to an extent sufficient to prevent flame passage therethrough.

5. A spark plug provided at one end with a foraminous cap or thimble all but one of the orifices in said foraminous cap or thimble being too small to permit flame passage and the remaining orifice being relatively large and an insulated rod-like electrode supported in the axis of the plug with one end positioned in spark-forming relation to said foraminous thimble, and closing said relatively large orifice to an extent sufficient to prevent flame passage therethrough.

[Claims 6 to 9 not printed in the Gazette.]

975,057. PRUNING-GAGE. FREDERICK P. MEEKS, Ardmore, Pa. Filed June 20, 1910. Serial No. 567,911.



1. A device of the class described comprising side members formed of a curved portion and a straight portion provided respectively with a plurality of apertures spaced apart, a head member formed of a curved portion and a straight portion and each provided with a plurality of apertures spaced apart, and means operating through said apertures for adjustably uniting the parts.

2. A device of the class described comprising two members each formed of a curved portion and a straight portion and provided respectively with a plurality of apertures spaced apart, a lateral supporting foot connected to each of the side portions, a head member formed of a curved portion and a straight portion and provided respectively with apertures spaced apart, and clamping means operating through the apertures.

975,058. CULTIVATOR. CHARLES C. MEHLER, Ambler, Pa. Filed Aug. 12, 1910. Serial No. 576,904.



1. A cultivator for plants comprising a substantially horizontally-arranged body portion; a handle inclined upwardly from the rearward end of the body portion; a central tine extending downwardly from the body portion; a pair of tines extending downwardly from the body portion, one on one side and one on the other side thereof and forwardly of said central tine; said body portion having a rearwardly-extending opening between the tines of said pair; and outer tines extending downwardly from said body portion outwardly and rearwardly of said pair of tines.

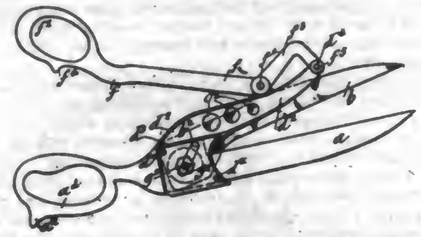
2. A cultivator for plants comprising a substantially horizontally-arranged body portion; a handle inclined upwardly from the rearward end of the body portion; a central tine extending downwardly from the body portion; a pair of tines extending downwardly from the body portion, one on one side and one on the other side thereof and forwardly of said central tine; said body portion having a rearwardly-extending opening between the tines of said pair; and said body portion forming a guard for said central tine forwardly thereof; and outer tines extending downwardly from said body portion outwardly and rearwardly of said pair of tines.

3. A cultivator for plants comprising a substantially horizontally-arranged body portion; a handle inclined upwardly from the rearward end of the body portion; a central tine extending downwardly from the body portion; a pair of tines extending downwardly from the body portion, one on one side and one on the other side thereof and forwardly of said central tine; said body portion having a rearwardly-extending opening between the tines of said pair; and outer tines extending downwardly from said body portion outwardly and rearwardly of said pair of tines; the side faces of said body portion extending rearwardly from the outer portions of said outer tines and curved inwardly.

4. A cultivator for plants comprising a substantially horizontally-arranged body portion; a handle inclined upwardly from the rearward end of the body portion; a central tine extending downwardly from the body portion; a pair of tines extending downwardly from the body portion, one on one side and one on the other side thereof and forwardly of said central tine; said body portion having a rearwardly-extending opening between the tines of said pair; and said body portion forming a guard for said central tine forwardly thereof; and outer tines extending downwardly from said body portion outwardly and rearwardly of said pair of tines; the side faces of said body portion extending rearwardly from the outer portions of said outer tines and curved inwardly.

5. A cultivator for plants comprising a substantially horizontally-arranged body portion; a handle inclined upwardly from the rearward end of the body portion; a central tine extending downwardly from the body portion; a pair of tines extending downwardly from the body portion, one on one side and one on the other side thereof and forwardly of said central tine; said body portion having a rearwardly-extending opening between the tines of said pair; and outer tines extending downwardly from said body portion outwardly and rearwardly of said pair of tines; said central tine being shorter than the other tines.

975,059. SHEARS AND SCISSORS. FRITZ MEISSNER, New York, N. Y. Filed Jan. 22, 1908, Serial No. 412,045. Renewed Feb. 23, 1910. Serial No. 545,497.



1. A pair of shears or scissors, consisting of a lower blade provided with a handle, an upper blade pivoted to the lower blade provided with an inclined slot in its shank, a face-plate attached to the lower blade and provided with a forwardly-extending supporting-arm, a pivot-screw connecting the blades and the lower portion of the face-plate, and a presser-lever provided with a handle at its rear-end and pivoted to the upper blade and the outer end of the supporting-arm of the face-plate.

2. A pair of shears or scissors, consisting of a lower blade provided with a handle, an upper blade pivoted to the lower blade and provided with an inclined slot, a face-plate attached to the lower blade and provided with a forwardly-extending supporting-arm, a pivot-screw connecting the blades and lower portion of the face-plate, and a presser-lever pivoted to the upper blade and provided with a handle at the rear-end and with an elbow-shaped front-end pivoted to the outer end of the supporting-arm of the face-plate.

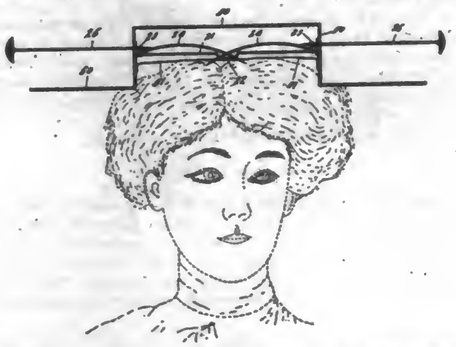
3. A pair of shears or scissors, consisting of a lower blade provided with a handle, an upper blade having a wider shank-portion and a perforated lug at its middle portion, a face-plate riveted to the shank of the lower blade and provided with a forwardly-extending supporting-arm, a pivot-screw connecting the blades and the lower portion of the face-plate, and a presser-lever pivoted to the lug of the upper blade and provided with a handle at its rear-end and an angular or elbow-shaped front-arm at its front-end and a pivot-connection between the outer end of the supporting arm and the front-end of the presser-lever.

4. A pair of shears or scissors, consisting of a lower blade provided with a handle, an upper blade having a wider shank-portion and provided with an inclined slot, a face-plate riveted to the lower blade and provided with a forwardly-extending supporting-arm, a pivot-screw passing through the inclined slot of the upper blade and registering holes in the lower blade and lower portion of the face-plate, said pivot-screw being provided with means for regulating the pressure between the blades, and a presser-lever provided with a handle at its rear-end and an angular or elbow-shaped arm at its front-end, said lever being pivoted to a perforated lug on the upper blade and at its front-end to the outer end of the supporting arm of the face-plate.

975,060. HAT-FASTENER. JOHN W. MORRIS, Indianapolis, Ind. Filed June 14, 1910. Serial No. 566,885.

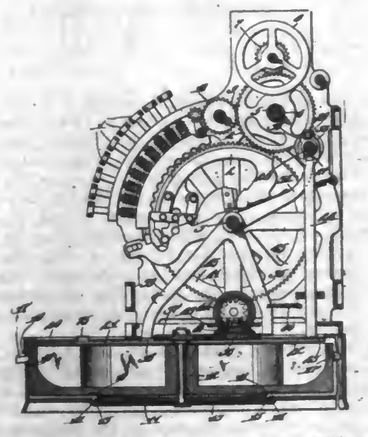
1. The combination, in a hat fastener, of a suitable frame adapted to secure within the hat, a perforated plate secured to said frame for guiding the points of the fasteners, the said fasteners slidably mounted on said frames, and operating rods adapted to extend to the outside of the hat for moving said fastener members.

2. The combination, in a hat fastener, of a frame work, fork-like engaging members slidably mounted on said frame work, nuts carried by said fork-like engaging members, and operating rods pointed and screw-threaded at their inner ends adapted to pass in through the sides of the hat and engage with the nuts of the fork-like engaging members.



3. The combination, in a hat fastener, of a frame work, fork-like engaging members slidably mounted on said frame work, nuts carried by said fork-like engaging members, and operating rods pointed and screw-threaded at their inner ends adapted to pass in through the sides of the hat and engage with the nuts of the fork-like engaging members, said nuts being loosely mounted on the respective engaging members whereby the parts are permitted a movement relative to each other.

975,061. CASH-REGISTER. WILLIAM H. MUZZY, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a Corporation of Ohio, (Incorporated in 1906.) Filed Oct. 26, 1907. Serial No. 399,260.



1. In a cash register, the combination with a series of accounting devices, of a cash receptacle divided for different clerks, means for moving the receptacle for exposing different portions thereof, and connections between the receptacle and the accounting devices, for giving said accounting devices movement corresponding to that given the receptacle.

2. In a cash register, the combination with a series of independent accounting devices, of a series of cash safes manually adjustable to positions exposing the contents of any desired safe, and connections for setting the accounting devices by the exposing movement of said safes.

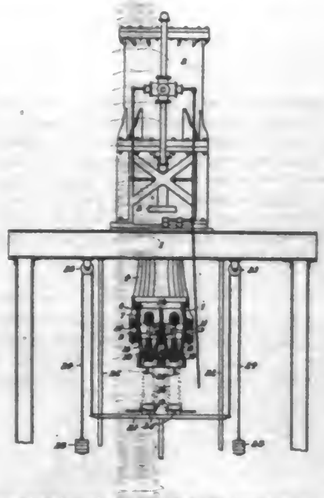
3. In a cash register, the combination with a series of totalizers, of a rotary cash receptacle divided for different clerks, and means controlled by the cash receptacle for selecting the proper totalizers.

4. In a cash register, the combination with an operating mechanism, of a movable cash drawer divided into compartments for different clerks and arranged to be operated independently of the operating mechanism, a lid covering the compartment to be exposed, and a lock for the receptacle controlled by the lid.

5. In a cash register, the combination with an operating mechanism therefor, of a plurality of totalizers actuated thereby and mounted to be shifted as a unit, and a manually operable cash receptacle divided into compartments, with permanent connections from said receptacle to said unit of totalizers.

[Claims 6 to 8 not printed in the Gazette.]

975,062. TILE-MAKING MACHINE. GEORGE M. MYERS, Toronto, Ohio. Filed Jan. 11, 1910. Serial No. 537,461.



1. In a pipe-forming machine, a hopper, a spider ring located beneath the hopper and having a cross-bar therein, rods depending from said cross-bar, one rod for each die, a removable extension ring beneath the spider ring having a divider therein forming openings in the extension-ring, pipe-dies beneath the extension-ring, one die for each opening in said extension ring, cores located within the dies and supported by the said rods depending from the said cross-bar, a plug to close the bottom of each die, and means to support the plugs and the pipes while they are forming the said hopper, the spider-ring, the extension-ring, and the pipe-dies being successively connected so as to form a casing.

2. In a pipe-forming machine, a hopper, a spider ring located beneath the hopper and having a cross-bar therein, rods depending from said cross-bar, one rod for each die, a removable extension ring beneath the spider ring having a divider therein forming openings in the extension-ring, removable pipe-dies beneath the extension-ring, one die for each opening in said extension ring, cores located within the dies and supported by the said rods depending from the said cross-bar, a plug to close the bottom of each die, and means to support the plugs and the pipes while they are forming the said hopper, the spider-ring, the extension-ring, and the pipe-dies being successively connected so as to form a casing.

3. In a pipe-forming machine, a hopper, a spider ring located beneath the hopper and having a cross-bar therein, rods pendent therefrom, one for each die, a die beneath the opening at each side of the cross-bar, a core in each die, secured to the lower end of each rod, and yielding means for supporting the pipes while they are forming the said hopper, the spider-ring, and the dies being successively connected so as to form a casing.

975,063. CLASP. BERNARD NELSON, Chicago, Ill. Filed Aug. 19, 1910. Serial No. 577,921.



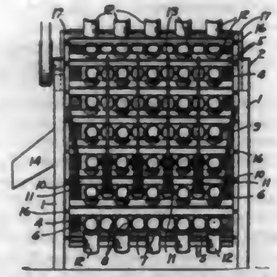
1. A clasp comprising a frame with a hinged bar to extend on one side of the frame at its opening and provided with alining eyes to project through said opening at the opposite side of the frame and receive the pin-member of a safety-pin.

2. A clasp comprising a frame with a hinged bar to extend on one side of the frame at its opening and provided on its inner face with relatively adjustable alining eyes to project through said opening at the opposite side of the frame and receive the pin-member of a safety-pin.

3. A clasp comprising a frame with a slotted hinged bar to extend on one side of the frame at its opening and provided with a fixed eye on its inner face and with an eye reciprocably confined in the bar-slot to aline with the fixed eye, said eyes projecting through the frame-opening when the clasp is closed to receive the pin-member of a safety-pin.

4. In combination, a clasp comprising a frame with a hinged bar to extend on one side of the frame at its opening and provided with alining eyes to project through said opening at the opposite side of the frame and receive the pin-member of a safety-pin, and a buckle extending from said frame.

975,064. SORTING-MACHINE. JOHN W. PEASE, Rochester, N. Y. Filed Jan. 17, 1910. Serial No. 538,528.



1. In a sorting machine, the combination of an endless carrier; means for moving the carrier arranged to cause it to travel upwardly during part of its course; a hopper adapted to discharge articles one at a time through a plurality of passages open on the carrier side, and located adjacent the upwardly directed course of the carrier; and means carried by the carrier in position to pass through said passages and take the articles from the passages, respectively.

2. In a sorting machine, the combination of an endless carrier; means for moving the carrier arranged to cause it to travel upwardly during part of its course; a hopper adapted to discharge articles one at a time through a plurality of passages open on the carrier side, and located adjacent the upwardly directed course of the carrier; and buckets carried by the carrier, in position to travel through said passages and take from them one at a time articles discharged into them from the hopper.

3. In a sorting machine, the combination of an endless carrier; means for moving the carrier arranged to cause it to travel upwardly during part of its course; a hopper adapted to discharge articles one at a time through a plurality of passages open on the carrier side, and located adjacent the upwardly directed course of the carrier; buckets carried by the carrier, and adapted to travel through said passages and take from them one at a time articles discharged into them from the hopper; and guards

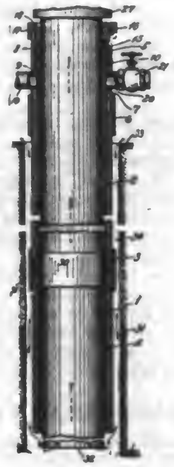
extending upwardly from said hopper, located between said passages, and adapted to dislodge articles wedged between the buckets.

4. In a sorting machine, a carrier comprising longitudinal supports, transverse rails in pairs, and rings in series, located between said rails and supported thereby.

5. In a sorting machine, an endless carrier, comprising a belt at each side, transverse rails in pairs, and rings in series across the carrier, located between said rails and supported thereby.

[Claims 6 to 12 not printed in the Gazette.]

975,065. PROCESS FOR DRILLING AND CEMENTING WELLS. WILMER W. PEDDER, Los Angeles, Cal. Filed Dec. 6, 1909. Serial No. 531,508.



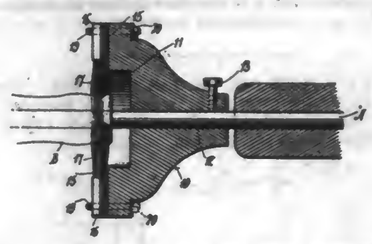
1. The process of drilling wells, which consists in sinking an outer casing into the earth to a suitable depth, then sinking an inner casing within said outer casing to a greater depth whereby an annular space is formed between said inner casing and said outer casing, circulating a fluid down said inner casing up the outer side thereof and up the outer side of said outer casing to keep the sides of said casings free from earth adhesions thus permitting the withdrawal of the outer casing, flowing cement down said annular space from above to seal off a water stratum at any point between the ground level and the lower orifice of said inner casing and withdrawing said outer casing before the cement sets.

2. The process of drilling wells which consists in sinking an outer casing into the earth to a suitable depth, then sinking an inner casing within said outer casing to a greater depth whereby an annular space is formed between said inner casing and said outer casing, circulating a fluid downwardly on the interior, and up the outer side of said outer casing to keep the side of said outer casing free from earth adhesions, flowing cement down said annular space from above to shut off a water stratum at any point between the ground level and the lower orifice of said inner casing, and withdrawing said outer casing before the cement sets.

975,066. NECK-CLEANING DEVICE FOR BOTTLE-WASHERS. WILLIAM PENMAN, Denison, Tex. Filed Aug. 4, 1910. Serial No. 575,474.

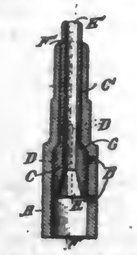
1. A neck cleaning device for bottle washers comprising a body provided with a recess in one end surrounded by a wall having grooves extending transversely of the edge of the wall, brushes having body portions mounted in the respective grooves, and clamps extending through said wall longitudinally of the head and engaging over the brush bodies.

2. A neck cleaning head for bottle washers comprising a body provided with a recess in one end surrounded by a wall having grooves extending transversely of the edge of the wall, said grooves having their axes tangential to a



circle surrounding the axis of the head, brushes having body portions mounted in respective grooves, and clamps extending through the wall longitudinally of the head and engaging over the brush bodies.

975,067. SWIVEL-SOCKET. JOHN E. PROSSER, Bartlesville, Okla., assignor of one-half to R. E. Markham, Tulsa, Okla. Filed June 21, 1909. Serial No. 503,551.



1. A well-drilling tool having a hollow socket member apertured through its wall to permit the escape of foreign matter, and a swivel member within said socket member having its outer surface bearing against and guided by the inner surface of the socket member and having said surface roughened or broken whereby the swivel member is guided by the wall of the socket member while at the same time passage-ways between the members are formed for the passage of foreign matter between the two members, substantially as described.

2. A well-drill tool having an outer apertured socket member and an inner swivel member having its exterior surface bearing against the inner face of the socket member whereby the swivel member is guided and having its surface exteriorly channeled to permit of the escape of foreign matter between the swivel member and the socket member, substantially as described.

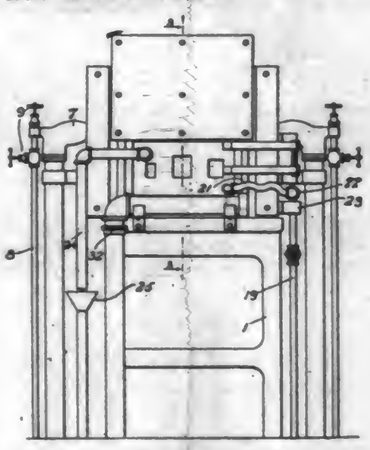
3. A well-drill tool having an outer socket member apertured through the side wall thereof, an inner rope-clamping swivel member longitudinally movable in the outer member bearing against and guided by the wall thereof and having longitudinally extending exterior channels formed on the exterior surface of the swivel member, substantially as described.

4. A well-drill tool comprising a hollow socket member having a shoulder, a swivel member loosely mounted in said socket member and adapted to abut against said shoulder, said swivel member having its exterior surface in contact with and guided by the wall of the said socket member, said surface being roughened or broken to interrupt the contact between the members to thereby permit the passage of foreign matter between their walls, said roughened or broken surface extending along the exterior of the swivel member beyond the point of engagement of said member with the shoulder, substantially as described.

5. A well-drill tool having an exteriorly shouldered member, a sliding swivel member adapted to fit within said shouldered member and having means to abut against said shoulder, said outer member provided at said shoul-

der with a roughened or broken surface in contact with the swivel member and said swivel member provided on its outer surface with a broken or interrupted surface portion adapted to bear against the inner surface of the socket member, said outer member having an escape aperture in its wall, substantially as described.

975,068. FUEL OIL OR GAS FURNACE. WIRT S. QUIGLEY, Jersey City, N. J., assignor to Rockwell Furnace Company, a Corporation of New York. Filed Aug. 19, 1908. Serial No. 449,239.



1. A liquid fuel or gas furnace having a water cooled tool holder adapted to receive a tool so that its end will project into the furnace chamber, the tool holder surrounding the outwardly projecting part of the tool to prevent overheating thereof, and means supporting the tool holder in active relation to the furnace and permitting removal thereof from the furnace, said means also supporting the tool holder during its removal from the furnace.

2. In combination with an oil fuel or gas furnace having an opening in one of its walls, a water cooled door acting as a closure to said opening and constituting a tool holder, a pivoted hinge bracket serving to support said door, and a sliding joint in the hinge bracket permitting the door to be freed of the opening and then swung to one side.

3. In combination with an oil fuel or gas furnace having an opening in one of its walls, a water cooled door acting as a closure to said opening and constituting a tool holder, a pivoted hinge bracket serving to support said door, and a sliding joint in the hinge bracket permitting the door to be freed of the opening and then swung to one side, and means for supplying the cooling fluid to the door.

4. In combination with an oil fuel or gas furnace having an opening in one of its walls, a water cooled door acting as a closure to said opening and constituting a tool holder, a pivoted hinge bracket serving to support said door, and a sliding joint in the hinge bracket permitting the door to be freed of the opening and then swung to one side, and a pipe for supplying fluid to the door, the supply pipe and the hinge bracket having a common center.

975,069. FOLDING BRACKET. CHARLES H. RICHARDSON and FERDINAND F. METZGER, Philadelphia, Pa. Filed Mar. 31, 1910. Serial No. 552,515.

1. In an extensible bracket, in combination, three or more arms pivoted one to the other, and means connecting alternate arms at or near their ends for causing a movement imparted to any one arm to move all of the other arms inwardly or outwardly simultaneously.

2. In an extensible bracket, in combination, three or more arms pivoted together at or near their ends, and means substantially parallel to the axis of the intermediate arm connecting alternate arms for causing all of them to open or close simultaneously from a fully extended position to one where the arms lie side by side close together.



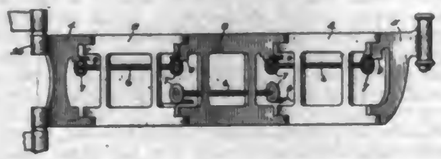
3. In an extensible bracket, in combination, three or more arms pivoted together at or near their ends, and means connecting said arms for causing them to open or close simultaneously, said means forming with the main arms elongated parallelograms, the long sides of the parallelograms formed of an arm and the connecting means and the two short sides formed by fractional lengths of the arms, or extensions of the arms, adjoining the first arm.

4. In an extensible bracket, in combination, three or more arms pivoted together at or near their ends, and controlling rods connecting alternate arms, the axis of said controlling rods and of the adjacent intermediate arms being substantially parallel, said controlling rods being pivoted to the alternate arms, or extensions on the arms, at points distant from the main pivots less than half the lengths of the arms.

5. In an extensible bracket, in combination, three or more main arms pivoted together at or near their ends, and controlling rods pivoted to and connecting alternate main arms without crossing the intermediate arm, the pivotal connection of said rods to said arms and the pivots securing said arms to the adjoining arms being in line.

[Claims 6 to 9 not printed in the Gazette.]

975,070. FOLDING BRACKET. CHARLES H. RICHARDSON and FERDINAND F. METZGER, Philadelphia, Pa. Filed Apr. 1, 1910. Serial No. 552,753.

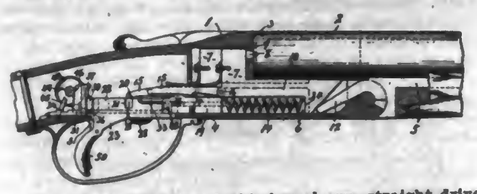


1. In an extensible bracket, in combination, three or more arms pivoted one to the other and gear operated means connecting alternate arms for causing a movement imparted to any one arm to move all of the other arms inwardly or outwardly simultaneously.

2. In an extensible bracket, in combination, three or more arms pivoted one to the other end to end, gears or segments carried by or forming part of said arms, shafts carried by said arms, and gear wheels carried by said shafts at or near their ends, said gear wheels upon said shafts meshing, the one, with the gear or segment carried by the arm pivoted to one end of the shaft carrying arm, the other with the gear or segment carried by the arm pivoted to the other end of this shaft carrying arm.

3. In an extensible bracket, in combination, three or more arms pivoted one to the other end to end, gears or segments carried by or forming part of said arms, shafts carried by the arms intermediate of the end arms, the shaft carried by any one arm being in a different plane from the shafts carried by adjoining arms, and gears carried upon each shaft near its ends, said gears meshing, the one, with the gear or segment carried by the arms pivoted to one end of the shaft carrying arm, the other with the gear or segment carried by the arm pivoted to the other end of this shaft carrying arm.

975,071. BREECH-LOADING GUN. JOHN A. RICKETTS, Ithaca, N. Y. Filed Feb. 23, 1909. Serial No. 479,563.



1. In a breech loading double barrel gun, straight drive hammers, one for each barrel, separate compression springs, one for each hammer, separate sears movable with the hammers, detents for the sears, a single trigger movable independently of the sears, and a sear tripping device slidable lengthwise of the trigger for engaging and tripping the sears.

2. In a breech loading gun, a frame and barrels, sliding hammers, one for each barrel, sears each pivoted to and movable with one of the hammers, a sear block having sear engaging shoulders for engaging the sears and holding the hammers in their cocked positions, a trigger for tripping the sears, and means for holding the tripped sear out of engagement with the trigger.

3. In a double barrel breech loading gun, a gun frame, barrels rockable on the frame, hammers, one for each barrel, sears on the hammers, detents for the sears, a trigger for tripping the sears, and means for holding the tripped sear out of engagement with the trigger as the latter is pulled.

4. In combination with the hammers, sears and hammer spring of a double barrel gun, detents for the sears to hold the hammers in their cocked positions, a single trigger for both sears, said trigger having slots with which portions of the sears register when the hammers are cocked, and a shift block slidable manually lengthwise of the trigger and having sear tripping shoulders movable into and out of registration with the slots to trip one of the sears independently of the other as the trigger is pulled.

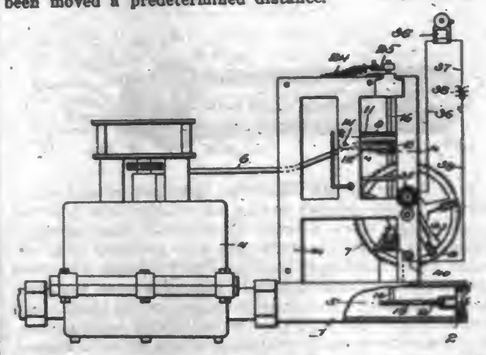
5. In combination with the hammers, sears and hammer springs of a double barrel gun, detents for the sears to hold the hammers in their cocked positions, a single trigger for both sears, said trigger having slots with which portions of the sears register when the hammers are cocked, and a shift block slidable manually lengthwise of the trigger and having sear tripping shoulders movable into and out of registration with the slots to trip one of the sears independently of the other as the trigger is pulled; a latch plate having escapement shoulders and a spring actuated latch-bar slidable on the shift block and successively engaging said shoulders as the trigger is pulled, said latch-bar having a portion thereof movable across the slot of the untripped sear to trip the latter as the trigger is pulled the second time after firing the first barrel.

[Claims 6 to 9 not printed in the Gazette.]

975,072. WATER-METER ALARM. ALPHONSE RIOUX, Nashua, N. H. Filed July 14, 1909. Serial No. 507,562.

1. In a meter alarm mechanism, the combination with a meter, of an arm connected therewith and designed to be reciprocated thereby, said arm being formed with a hook-shaped end, a wheel engaged by said hook-shaped end, and rotated thereby when the same is moved by the passage of water through said meter, an electrical alarm, contact for said electrical alarm closed by said wheel rotating a predetermined distance, and means for returning said wheel to its starting point without closing said contacts when less than a predetermined amount of water has passed through said meter.

2. In a meter alarm mechanism, the combination with a meter, of an arm actuated by said meter, a wheel rotated by said arm, means for throwing said arm into engagement with said wheel upon the movement of fluid through said meter, said means being designed to lift said arm from engagement with said wheel upon the ceasing of the flow of fluid through said meter, means for returning said wheel to its starting point when said arm has been lifted out of engagement therewith, an alarm and means for sounding said alarm when said wheel has been moved a predetermined distance.



3. In a meter alarm mechanism, the combination with a meter, of an arm extending therefrom and operated thereby, a rockable shaft, a cam mounted on said shaft, a pivotally mounted lever actuated by said cam for raising said arm, a spring connected with said shaft for causing said shaft to move said cam to such a position as to normally hold elevated said lever, a ping actuated by the water passing through said meter for moving said shaft against the action of said spring, whereby said cam is moved from beneath said lever, and said arm is permitted to move down by gravity, a wheel adapted to be engaged by said arm when the same has moved downward by gravity and designed to be rotated thereby as the arm is moved by said meter, an alarm mechanism connected with said wheel and operated at predetermined intervals during the flow of water through said meter.

4. In a meter alarm mechanism, the combination with a meter, of an arm actuated thereby upon the passage of fluid therethrough, a wheel actuated by said arm, means for permitting said arm to move by gravity into engagement with said wheel when fluid is passing through said meter, means for disengaging said arm from said wheel when the flow of fluid has ceased, means for sounding an alarm connected with said wheel and adapted to be operated upon the rotation of said wheel a predetermined distance, and means for returning said wheel to its original position without sounding an alarm when said wheel has not been rotated said predetermined distance and said fluid has ceased to flow through said meter.

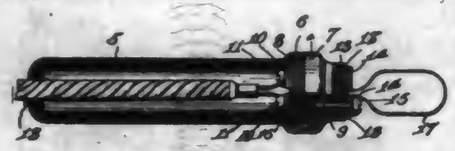
5. In a meter alarm mechanism, the combination with a meter, of an arm actuated by said meter upon the passage of fluid through said meter, a wheel actuated by said arm, means for returning said wheel to its original position, a pawl for normally preventing such return, a cam for lifting said arm and said pawl for permitting the return of said wheel to its original position, a spring for operating said cam for raising said arm and said pawl when fluid has ceased to flow through said meter, and an alarm connected with said wheel adapted to be operated when said wheel has been moved a predetermined distance, but designed not to be operated when moved less than a predetermined distance.

[Claim 6 not printed in the Gazette.]

975,073. ELECTRICAL HAIR-SINGEING DEVICE. ERNEST A. ROBERTS and NELS LAURENCE JOHNSON, Buhl, Minn. Filed Jan. 20, 1910. Serial No. 539,080.

1. A device of the character described comprising a tubular handle portion having an enlarged end, a head removably disposed in said end, metallic tubes extended through said head having plates at their inner ends disposed upon said head, securing screws extended through said plates into the head, said plates having terminal wires of an electric circuit connected thereto, a

cap disposed upon the outer end of said head, contact members carried by said cap extending into said tubes, and a wire loop having its ends secured to said contacts and adapted to be heated by the passage of the electrical current therethrough, substantially as and for the purpose set forth.



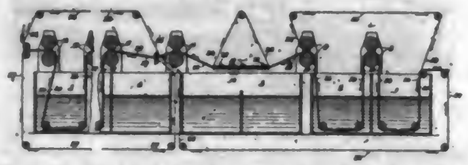
2. A device of the character described comprising a tubular handle member having an enlarged end provided with interior screw threads, a removable head having a reduced extension threaded into said enlarged end, metallic tubes extending longitudinally through the head having plates at their inner ends disposed upon the head, screws extending through said plates into the head, a cap disposed upon the outer end of said head carrying contact rods adapted to be positioned in said tubes to connect the electric circuit, said plates having terminal wires of the electric circuit connected thereto, plates on the outer ends of said rods disposed upon the end of the cap, screws securing said plates thereon, said handle member, head and cap, being formed of insulating material, and a wire loop having its ends connected to the plates on the end of said cap and adapted to be heated by the passage of the electrical current therethrough, substantially as and for the purpose set forth.

3. A device of the character described comprising a cylindrical tubular handle member having an enlarged end, a head removably engaged therein, metallic tubes extending longitudinally through said head having plates at their inner ends, said plates having the ends of the terminal wires of an electric circuit connected thereto, a cap disposed upon the outer end of said head, said cap carrying contact rods adapted to be removably positioned in said tubes, plates upon the outer face of said cap connected to the rods, said handle member, head and cap being formed of insulating material, and a wire loop having one of its ends secured to each of said plates and adapted to be heated by the passage of the electrical current therethrough, substantially as and for the purpose set forth.

4. A device of the character described comprising a cylindrical tubular handle member, a removable head engaged in one end of said member, metallic tubes carried by said head having plates at their inner ends disposed against the end of the head, screws securing said plates to the head, said plates having the terminal wires of an electric circuit connected thereto, a cap disposed against the outer end of said head, contact rods extending through said cap and adapted for removable engagement in the tubes to connect the electric circuit, said handle member, head and cap being formed of insulating material, and a wire loop carried by said cap adapted to be heated by the passage of the electrical current therethrough, substantially as and for the purpose set forth.

5. A device of the character described comprising a cylindrical tubular handle member, a head removably engaged in one end of said member, metallic tubes extending longitudinally through the head having plates at their inner ends, screws securing said plates to the head, said plates having the terminal wires of an electric circuit connected thereto, a cap disposed upon the outer end of said head, contact rods extending through said cap, said rods having split resilient outer ends adapted to be removably engaged in said tubes to connect the electric circuit, plates on the outer ends of said rods disposed upon the face of said cap, screws securing said plates to the cap, said handle member, head and cap being formed of insulating material, and a wire loop having one of its ends secured to each of said plates and adapted to be heated by the passage of the electrical current therethrough, substantially as and for the purpose set forth.

973,074. MACHINE FOR MERCERIZING, DYEING, OR LIKE TREATMENT OF LOOSE OR WOVEN COTTON OR OTHER VEGETABLE FIBER. JOHN H. ROBSON, Huddersfield, England. Filed July 22, 1910. Serial No. 573,297.

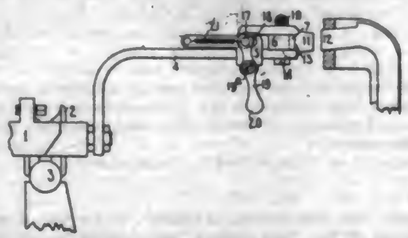


1. In a machine for treating fiber, the combination, with tanks, a carrier apron for supporting the fiber, and means for passing the carrier apron and fiber though the said tanks; of two series of rollers arranged respectively above and below the fiber and the carrier apron and between the said tanks, driving mechanism for revolving the said rollers positively, and means for applying liquid to the fiber while passing between the said rollers.

2. In a machine for treating fiber, the combination, with tanks, a carrier apron for supporting the fiber, and means for passing the carrier apron and fiber through the said tanks; of two series of rollers arranged respectively above and below the fiber and the carrier apron and between the said tanks, driving mechanism for revolving the said rollers positively, the rollers at the delivery end of the series being driven at a greater surface speed than those at the receiving end so as to stretch the fiber, and means for applying liquid to the fiber while passing between the said rollers.

3. In a machine for treating fiber, the combination, with tanks, a carrier apron for supporting the fiber, and means for passing the carrier apron and fiber through the said tanks; of two series of rollers arranged respectively above and below the fiber and the carrier apron and between the said tanks, driving mechanism for revolving the said rollers positively, an endless traveling apron having one of its stretches arranged between the upper series of rollers and the fiber, and means for applying liquid to the fiber while passing between the said rollers.

975,075. TYPE-WRITING MACHINE. WILLIAM JANSON ROCHE, New Bethlehem, Pa., assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y., a Corporation of New York. Filed Dec. 30, 1907. Serial No. 408,577.



1. In a typewriting machine and tabulating mechanism, the combination of a tabulating stop, a pivot that extends in the direction of the travel of the carriage and on which said tabulating stop is mounted to turn and to move longitudinally, means for securing the stop in its adjusted position, and means for moving said rod with relation to said securing means to secure or to loosen said stop.

2. In a typewriting machine and tabulating mechanism, the combination of a tabulating stop, a rod that extends in the direction of the travel of the carriage and along which said tabulating stop is adapted to move, a rack which is engaged by said stop, and means for moving said rod with relation to said rack to secure or loosen said stop.

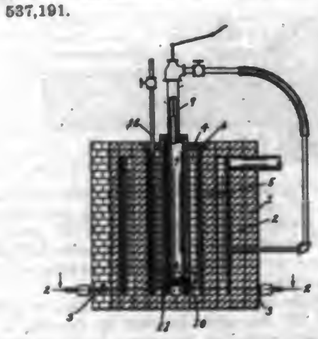
3. In a typewriting machine and tabulating mechanism, the combination of a carriage, a tabulating stop, a rod that extends in the direction of the travel of the carriage and on which said tabulating stop is mounted and along which the stop is adapted to be adjusted, a coöperative tabulating stop adapted to be moved into coöperation with said first mentioned stop to effect an arrest of the carriage, means for securing the first mentioned stop in its adjusted position, and means for moving said rod in a direction transverse to the travel of the carriage.

4. In a typewriting machine and tabulating mechanism, the combination of a tabulating stop, a rod that extends in the direction of the travel of the carriage and along which said tabulating stop is adapted to move, means for securing the stop in its adjusted position, means whereby a movement of said rod may be effected independently of the tabulating operation and in a direction transverse to the travel of the carriage, and a spring for holding the rod in normal position.

5. In a typewriting machine and tabulating mechanism, the combination of a tabulating stop, a rod that extends in the direction of the travel of the carriage and on which said tabulating stop is mounted to move longitudinally, means for securing the stop in its adjusted position, means whereby a movement of said rod may be effected independently of tabulating operation and in a direction transverse to the travel of the carriage, a spring for holding the rod in normal position, and hand actuated means operable at will to move said rod against the pressure of its spring.

[Claims 6 to 24 not printed in the Gazette.]

975,076. PROCESS OF CARBONIZING. ALBERT F. ROCKWELL, Bristol, Conn., assignor to The New Departure Manufacturing Company, Bristol, Conn., a Corporation of Connecticut. Filed Jan. 10, 1910. Serial No. 537,191.



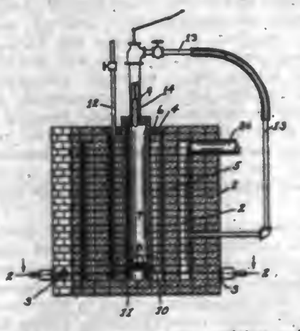
1. The process of carbonizing which consists in heating a carbon-carrying fluid to a temperature greater than that of the material being treated, supplying said fluid at such temperature to said material until the latter reaches carbonizing temperature, and then continuing to supply said fluid to said material at substantially the carbonizing temperature of the latter; substantially as described.

2. The process of carbonizing which consists in heating a carbon-carrying fluid to a temperature greater than that of the material being treated, bringing said fluid into contact with said material after the fluid is thus heated, and heating said material to carbonizing temperature; substantially as described.

3. The process of carbonizing which consists in introducing a carbon-bearing liquid in relatively small quantities into a closed and heated chamber whereby said liquid is converted into gas and said gas exerts pressure, permitting said heated gas to flow under such pressure into a flask communicating with said chamber and containing the material being treated, and heating said material to carbonizing temperature; substantially as described.

4. The process of carbonizing which consists in introducing a carbon-bearing liquid in relatively small quantities into a closed chamber which is heated to such a degree that the said liquid is converted into gas which exerts pressure and is at a temperature at least as great as that of the material being treated, permitting said gas at said temperature to flow under such pressure into a flask communicating with said chamber and containing the material being treated, and heating said material to carbonizing temperature; substantially as described.

975,077. CARBONIZING APPARATUS. ALBERT F. ROCKWELL, Bristol, Conn., assignor to The New Departure Manufacturing Company, Bristol, Conn., a Corporation of Connecticut. Filed Jan. 10, 1910. Serial No. 537,192.



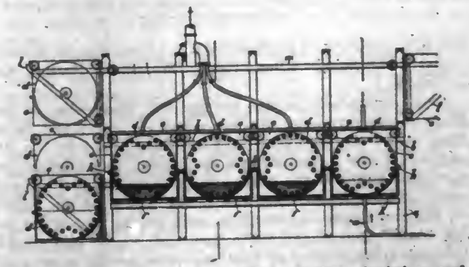
1. A carbonizing apparatus comprising a fire chamber, a flask, a heating chamber between said flask and said fire chamber, means for introducing a carbon-bearing fluid into said heating chamber and there heating said fluid, and means for introducing such heated fluid into said flask; substantially as described.

2. A carbonizing apparatus comprising a heating chamber, a flask surrounded by said chamber and having a fluid inlet opening into said chamber, and means for introducing a carbon-carrying fluid into said chamber; substantially as described.

3. A carbonizing apparatus comprising an air tight heating chamber, a flask in said chamber and having a fluid inlet opening into said chamber, and means for introducing a carbon-carrying fluid into said chamber; substantially as described.

4. A carbonizing apparatus comprising a flask, a heating chamber surrounding the same and having a fluid inlet opening into said flask, a fire chamber about said heating chamber, and means for introducing a carbon-carrying fluid into said heating chamber; substantially as described.

975,078. BENZIN APPARATUS FOR WASHING, RINSING, DRAINING, AND DRYING TEXTILE MATERIALS. ULRICH RÖTHLISBERGER, Basel, Switzerland. Filed May 24, 1910. Serial No. 563,162.



1. In an apparatus for washing, rinsing, draining and drying textile materials, the combination of displaceable boxes open at the lower end, means to allow of shifting of said boxes through the apparatus, revoluble drums in said boxes for the reception of the articles to be treated, means to revolve said drums either rapidly or slowly, and vertically movable receptacles placed beneath said boxes,

adapted to close them at the lower end when being in raised position, and some of which are designed to be charged with benzin, the whole being arranged in view of successively treating the articles in each drum with different benzin baths and draining and drying them by centrifugal force, substantially as and for the purpose described.

2. In an apparatus for washing, rinsing, draining and drying textile materials, the combination of displaceable boxes open at the lower end, means to allow of shifting of said boxes through the apparatus, revoluble drums in said boxes for the reception of the articles to be treated, means to revolve said drums either rapidly or slowly, vertically movable receptacles placed beneath said boxes, adapted to close them at the lower end when being in raised position, and some of which are designed to be charged with benzin, and a warm air circulation device connected to the last one of said receptacles, the whole being arranged in view of successively treating the articles in each drum with different benzin baths and draining and drying them by centrifugal force, whereby in the last receptacle the drying is completed by warm air admitted thereto, substantially as and for the purpose described.

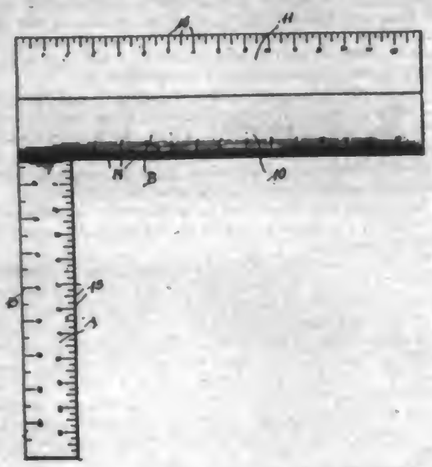
3. In an apparatus for washing, rinsing, draining and drying textile materials, the combination of displaceable boxes open at the lower end, means to allow of shifting of said boxes through the apparatus, revoluble drums in said boxes for the reception of the articles to be treated, means to revolve said drums either rapidly or slowly, vertically movable receptacles placed beneath said boxes, adapted to close them at the lower end when being in raised position and some of which are designed to be charged with benzin, and transport devices to allow of the transfer of the boxes with their drums from the exit end of the apparatus to the entrance end of the same, the whole being arranged in view of successively treating the articles in each drum with different benzin baths and draining and drying them by centrifugal force, whereby the drums after being emptied may be returned to the entrance end of the apparatus for a new passage through the same, substantially as and for the purpose described.

4. In an apparatus for washing, rinsing, draining and drying textile materials, the combination of displaceable boxes open at the lower end, means to allow of shifting of said boxes through the apparatus, revoluble drums in said boxes for the reception of the articles to be treated, means to revolve said drums either rapidly or slowly, vertically movable receptacles placed beneath said boxes, adapted to close them at the lower end when being in raised position, and some of which are designed to be charged with benzin, and a ventilating device to draw off the benzin vapors from boxes and receptacles, the whole being arranged in view of successively treating the articles in each drum with different benzin baths and draining and drying them by centrifugal force, under evacuation of benzin vapors, substantially as and for the purpose described.

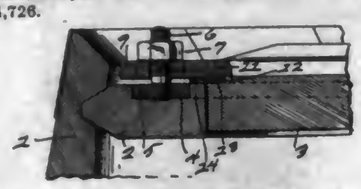
975,079. CARPENTER'S SQUARE. FORESTER W. ROYAL, Ballston, Oreg. Filed Apr. 22, 1910. Serial No. 556,941.

1. A carpenter's square having the inner edge of its blade scaled into equal divisions and the outer and inner edge of its tongue scaled into divisions equal to the divisions of the inner edge of the blade; and having the combined width of the tongue and the length of the blade equal to the square root of twice the square of the length of the inner edge of the blade, said tongue and blade being scaled throughout their combined width and length into the same number of equal divisions as the inner edge of the blade.

2. A square having the inner edge of its blade scaled into equal divisions and its tongue constructed of a prism having the cross section of an isosceles triangle, the edges of said tongue being scaled into divisions equal to the divisions of the inner edge of the blade; and having the combined width of the tongue and the length of the blade equal to the square root of twice the square of the length of the inner edge of the blade, said tongue and blade being scaled throughout their combined width and length into the same number of equal divisions as the inner edge of the blade.



975,080. BARREL-COVER FASTENER. HARRY U. RUEDY, Toledo, Ohio. Filed Apr. 2, 1908. Serial No. 424,726.



1. In a head for casks, barrels, and the like, an annular rim, a closure for the space inclosed by the rim, bolts and nuts carried by the rim but unexposed at the lower face of the rim for securing the closure to the rim and means rigidly connected to the closure and coöperating with the said bolts and nuts.

2. In a head for casks, barrels and the like, an annular rim, a closure for the space inclosed by the rim, a ring distinct from and carried by the rim; a series of upstanding bolts carried by said ring, and means carried by said closure and coöperating with said bolts to secure the closure to the rim.

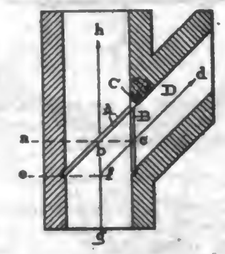
3. In a head for casks, barrels, and the like, an annular rim having an annular recess in its upper face, a closure for the space inclosed by the rim, a ring secured in the said recess, a series of upstanding bolts carried by said ring, and means carried by said closure and coöperating with said bolts to secure the closure to the rim.

4. In combination, a receptacle having its head provided with an opening, a metallic reinforcing member secured to the head and surrounding the opening thereof, bolts projecting from the head and secured thereto by said member, nuts carried by said bolts, a closure for the opening having a non-metallic inner surface and a surrounding external flange, said flange being provided with a plurality of coaxial segmental slots adapted to receive the securing bolts and each having an end enlarged to permit the bolt nuts to be drawn therethrough when the closure has been turned to place said enlargements in register therewith.

5. In combination, a receptacle having its head provided with an opening, bolts projecting outwardly from the head, nuts carried by the outer ends of said bolts, a closure for the opening having a surrounding external flange, said flange being provided with a plurality of coaxial segmental slots adapted to receive the securing bolts, and each having an end enlarged to permit the bolts and the nuts carried thereby to be drawn therethrough when the closure is turned to place said enlargements in register therewith.

[Claims 6 and 7 not printed in the Gazette.]

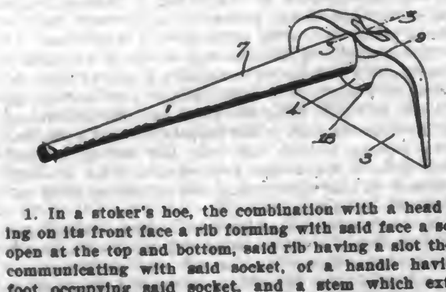
975,081. APPARATUS FOR REMOVING FAT FROM EFFLUENTS. RUDOLF SCHILLING, Dahlem, near Berlin, Germany. Filed Feb. 12, 1910. Serial No. 543,453.



1. In apparatus for removing fat-containing layers of liquid from effluents, the combination, with a main channel having a branch channel therefrom, of a vertically-adjustable deflector arranged transversely of the main channel at the branch channel, and a vertically-adjustable gate at the junction of the branch channel with the main channel closing part of the branch channel below the deflector.

2. In apparatus for removing fat-containing layers of liquid from effluents, the combination, with a main channel having a branch channel therefrom, of a vertically-adjustable deflector arranged transversely of the main channel at the branch channel, a vertically-adjustable gate at the junction of the branch channel with the main channel closing part of the branch channel below the deflector, and means for simultaneously adjusting the elevation of said deflector and gate.

975,082. STOKER'S HOE. WILLIAM E. SHEEHY, Newfields, N. H. Filed June 24, 1910. Serial No. 568,693.



1. In a stoker's hoe, the combination with a head having on its front face a rib forming with said face a socket open at the top and bottom, said rib having a slot therein communicating with said socket, of a handle having a foot occupying said socket, and a stem which extends through said slot, said rib having horns on either side of the slot which are bent over to embrace the handle.

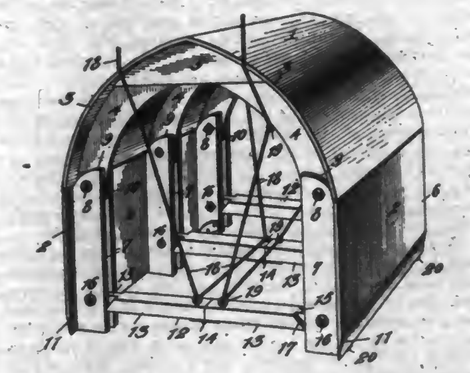
2. In a stoker's hoe, the combination with a head having on its front face a rib forming with said face a socket open at the top and bottom, said rib having a slot therein communicating with said socket, of a handle having a foot occupying said socket, and a stem which extends through said slot, said rib having horns on either side of the slot which are bent over to embrace the handle and said hoe head having at its top a projection which is bent over to overlie the top of the foot.

3. In a stoker's hoe, the combination with a head formed with a socket on its front face which is open at the top and which has a slot communicating therewith and horns on either side of the slot, of a handle having a foot occupying said socket, and a stem which extends through the slot, said horns being bent over to embrace the handle.

4. In a stoker's hoe, the combination with a head formed with a socket on its front face which is open at the top and which has a slot communicating therewith and horns on either side of the slot, of a handle having a foot occupying said socket, and a stem which extends through the slot, said horns being bent over to embrace the handle, said head also having at its top a projection which is bent over to overlie the top of the foot.

5. In a stoker's hoe, the combination with a head formed on its front face with a socket open at the top and bottom and with a slot leading to the socket, of a handle having a foot occupying said socket and exposed through the open bottom thereof, and a stem which extends through the slot, said head having an integral portion thereof bent over to overlie a portion of the handle and thus hold the latter in the socket.

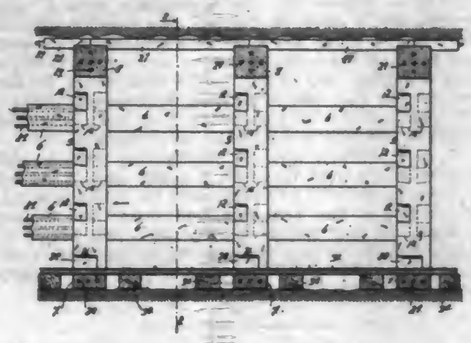
975,083. MOLD. STANLEY L. SHEPARD, Parishville, N. Y. Filed Feb. 2, 1910. Serial No. 541,481.



1. A mold of the character described comprising an arched top section provided with inwardly extending transverse flanges, inwardly folding side sections having body portions provided on their inner faces with pairs of spaced transversely extending flanges adapted to receive the flanges of the top section between them, pivots uniting the flanges of the two sections, folding braces uniting the lower portions of the side sections and consisting of half sections having their inner ends hinged together to permit the brace sections to swing upwardly, the outer ends of said brace sections having their opposite side portions cut away to form tongues to enter between the spaced flanges on the side sections of the mold, and pivots uniting said tongues to said flanges on the side sections of the mold.

2. A mold of the character described comprising an arched top section provided with inwardly extending transverse flanges, inwardly folding side sections having body portions provided on their inner faces with pairs of spaced transversely extending flanges adapted to receive the flanges of the top section between them, pivots uniting the flanges of the two sections, folding braces uniting the lower portions of the side sections and consisting of half sections having their inner ends hinged together to permit the brace sections to swing upwardly, the outer ends of said brace sections having their opposite side portions cut away to form tongues to enter between the spaced flanges on the side sections of the mold, pivots uniting said tongues to said flanges on the side sections of the mold, guide eyes upon the interior of the top mold section and upon the hingedly connected ends of the brace sections, and operating cords passed through said guide eyes and having one end connected to the section of the brace at one end of the mold.

975,084. CONCRETE TIMBERING FOR TUNNELS. THOMAS H. STANLEY, Denver, Colo. Filed Apr. 29, 1909. Serial No. 493,034.



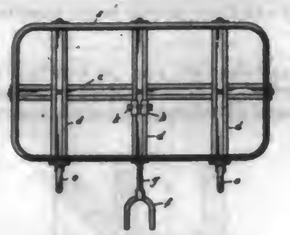
1. A concrete timbering structure for mines or other tunnels, comprising uprights having mortises formed in their sides, the said mortises being formed near the outer sides of the uprights, one set of mortises of each upright having laterally extending openings from their upper portions to the inner surfaces of the uprights, while the lower parts of the mortises are closed on their inner surface, near the outer edge of the uprights, the mortises on the opposite sides of the uprights being closed on the inner surface of the uprights, but having openings from the upper portion of the mortises, the said openings extending laterally toward the inner side of the uprights, and the said mortises adapted to receive tenons of side members, the mortises of the uprights being correspondingly shaped for engagement with the side members.

2. A concrete timbering structure, comprising uprights held in position by transverse bottom and top members, side bars mortised in suitable mortises formed on opposite sides of the uprights, the extremities of said side bars being tenoned, the outside of the tenons having a straight outer edge to lie flat against the outer side of the mortises in the upright members, and the inner sides of said tenons having an inclined surface toward the body portion of the side members, the mortises of the uprights being correspondingly shaped for engagement with the said side members.

3. A tunneling structure composed of uprights suitably separated, each upright having mortises on opposite sides, the said mortises being formed near the outer sides of the uprights, one set of mortises of each upright having laterally extending openings to the inner surface of the uprights, while the lower parts of the mortises are closed on the inner surface near the outer edge of the uprights, the mortises on the opposite sides of the uprights being closed on the inner surface of the uprights, but having openings from the upper portion of the mortises, the said openings extending laterally toward the inner side of the uprights, the outer sides of the mortises on the opposite sides of the post having a flat surface and the inner side of the said mortises having their sides inclined toward the center of the post, and side timbering members whose sides are tenoned to enter the mortises of the uprights, the said tenons having a straight outer edge adapted to lie flat against the corresponding flat surface of the outer side of the mortises, the opposite side of the tenon having an inclined surface toward the body portion of the side member and adapted to fit snugly against the inclined surface of the inner side of the said mortises, substantially as described.

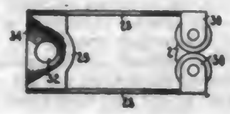
975,085. CARRIER FOR BICYCLES. CHARLES M. STARR, South Bend, Ind. Filed Dec. 1, 1908. Serial No. 465,568.

In a device of the character described, a basket-like receptacle, hooks connected to said receptacle and extending laterally and outwardly from one side of said receptacle, a brace rod longitudinally adjustably mounted upon said receptacle, the outer end of said brace rod being bifurcated, and the bifurcated end of said brace rod



and said hooks extending in the same direction so that the same may be removably arranged upon the head and handle bars of a bicycle respectively.

975,086. TYPE-WRITING MACHINE. ANDREW W. STEIGER, Bridgeport, Conn., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Nov. 12, 1909. Serial No. 527,628.



1. In a typewriting machine and in ribbon mechanism, the combination of a spring comprising a pair of arms and a yoke connecting said arms, said yoke being dished on one side, a support for said spring, and a screw passing through said yoke and having a head bearing against the dished part of said yoke, whereby the tension of said arms can be regulated by tightening or loosening said screw.

2. In a typewriting machine and in ribbon mechanism, the combination of a spring comprising a pair of arms and a yoke connecting said arms, said yoke being dished on one side, a support for said spring, and a screw passing through said yoke and having a head bearing against the dished part of said yoke, whereby the tension of said arms can be regulated by tightening or loosening said screw, said arms being arched to compensate for the cramping action due to the adjustment of said screw.

3. In a typewriting machine and in ribbon mechanism, the combination of a spring comprising a pair of arms under tension toward each other, and a yoke connecting said arms, said yoke being flat along one edge and dished along the opposite edge, a flat support for said yoke, and a screw passing through said yoke and having its head bearing against the dished part of said yoke, whereby the tension of said spring arms can be regulated by adjusting said screw.

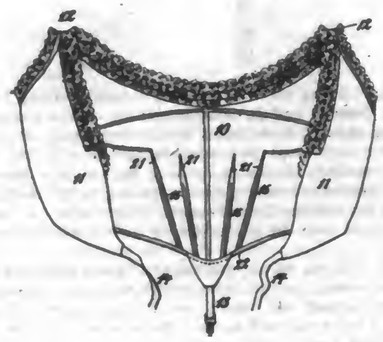
4. In a typewriting machine and in ribbon mechanism, the combination of a spring comprising a pair of arms under tension toward each other, and a yoke connecting said arms, said yoke being flat along one edge and dished along the opposite edge, a flat support for said yoke, and a screw passing through said yoke and having its head bearing against the dished part of said yoke, whereby the tension of said spring arms can be regulated by adjusting said screw, said arms being arched to compensate for the cramping action due to the adjustment of said screw.

5. In a typewriting machine and in ribbon mechanism, the combination of a shaft, a part mounted coaxially with said shaft and having a flat face the plane of which is parallel to the axis of said shaft, means for causing said part and shaft to turn together but allowing them freedom of relative motion lengthwise of said shaft, a spring mounted on said part and comprising a pair of arms and a yoke connecting said arms, said yoke lying against said flat face and being dished at one side, detents on said

arms engaging notches on opposite sides of said shaft, and a screw passing through said yoke and having its head bearing on said dished part, whereby the tension of said spring arms can be regulated by adjusting said screw.

[Claims 6 to 8 not printed in the Gazette.]

975,087. GARMENT. WILLIAM H. STEVENSON, Newark, N. J., assignor to Cain-Stevenson Company, Newark, N. J., a Corporation of New Jersey. Filed Apr. 27, 1909. Serial No. 492,471.



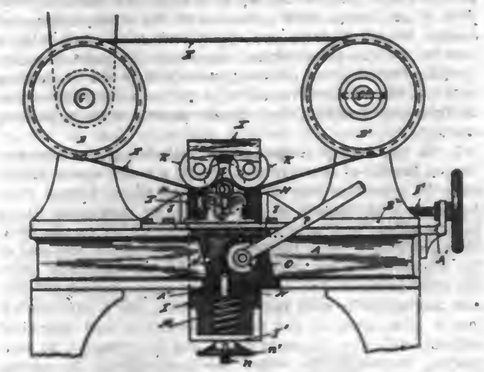
1. A garment including a piece of material containing a seam, and a bone pocket formed of extensions of the fabric in proximity to the seam, the edges of the said extensions being turned within the pocket, the said pocket being substantially parallel throughout the major portion of its length and gradually tapered at the upper part beyond the parallel portion, to a point.

2. A garment including a piece of material having a V-shaped cut formed therein and a seam for the said cut comprising a line of stitching through the goods when the material is so folded that the two cut edges are presented upon the same side of the garment, the line of stitching being parallel with said cut edges, and having a bone pocket formed by folding the goods parallel with the said seam upon lines at opposite sides thereof and with the said edges located within the fold, and by a line of stitching through the said goods for a distance parallel with the first said line of stitching and thereafter upon convergent lines to substantially a point; and a binding for the garment which closes the lower end of the said bone pocket.

3. A garment composed in part of a fabric having two cut edges united in parallel relation by a line of stitching parallel with the said edges and having a bone pocket formed by a line of stitching connecting the fabric together upon opposite sides of the first said line of stitching and parallel therewith, the said cut edges of the fabric being disposed within the pocket, the said pocket being closed at its upper and lower extremities and provided with a longitudinal slit near the upper end thereof through which a bone may be inserted and removed.

4. A garment including a piece of material having a V-shaped cut formed therein and a seam for the said cut comprising a line of stitching uniting the two edges of the goods presented upon the same side of the garment, and having a bone pocket formed by folding the goods parallel with the seam upon opposite sides thereof with the cut edges located within the fold, the goods being connected by a second line of stitching for a distance parallel with the first said line of stitching and thereafter upon convergent lines to substantially a point, the bone pocket being closed at the upper end by the said line of stitching, and a binding for the garment which closes the lower end of the said bone pocket, the said bone pocket being provided with a longitudinal slit near its upper end through which a bone may be inserted and removed.

975,088. POLISHING-MACHINE. ALFRED THOMPSON, Erie, Pa., assignor of one-half to Nels A. Johnson, Jamestown, N. Y. Filed Mar. 26, 1910. Serial No. 551,759.



1. The combination in a tube or rod polishing machine, of a polishing belt, pulleys for carrying and operating said belt, a pair of tube supporting rollers under said belt arranged diagonally to the line of the travel of said belt, pressure rollers mounted above said belt and the diagonal rollers thereunder, and means for raising and lowering said pressure rollers, substantially as set forth.

2. The combination in a tube or rod polishing machine of a polishing belt, pulleys adjustable away from and toward each other for carrying and operating said belt, tube supporting rollers mounted under said belt diagonally adjustable to the line of its travel, a vertically movable frame overhanging said belt, rollers mounted therein above said belt and over the diagonal supporting rollers, and means for raising said rollers out of contact with said belt, substantially as set forth.

975,089. GRINDING-WHEEL AND THE LIKE. LARS RICHARD LEANDER WALLÉN, Norrtelje, Sweden, assignor to Aktiebolaget Svenska Slipskifvor, Karsta, Sweden. Filed May 24, 1909. Serial No. 498,091.

1. A composition for grinding wheels and the like comprising a mixture of carborundum, emery, quartz, burnt magnesite and a solution of chlorid of magnesium.

2. A composition for grinding wheels and the like comprising a mixture of carborundum, emery, quartz, burnt magnesite, a solution of chlorid of magnesium and cement in substantially the proportions set forth.

3. A composition for grinding wheels and the like comprising a mixture of carborundum, emery, quartz, elektrit, and a cement.

4. A compound for the purpose described consisting of a mixture of carborundum, emery, elektrit, quartz, burnt magnesite and a solution of chlorid of magnesium.

975,090. ELECTRICAL COUPLING AND SWITCH. REINHOLD H. WAPPLER, New York, N. Y., assignor to American Cystoscope Makers, Inc., New York, N. Y., a Corporation of New York. Filed May 25, 1910. Serial No. 563,281.



1. In an electric coupling and switch, two series of axially engaging parts capable of rotation of one series with reference to the other series, and means extending

from one series and connecting with the other series and in the rotary movement making and breaking the circuit with a rubbing contact.

2. In an electric coupling and switch, two series of engaging parts adapted for axial engagement and for rotation of one series with reference to the other series, and means extending from one series and connecting with a member of the other series, oppositely disposed non-conducting contacts and other oppositely disposed conducting contacts circularly arranged and in the rotary movement making and breaking the circuit thereof with a rubbing contact.

3. In an electric coupling and switch and in combination, a handle of insulating material, a metal sleeve adapted to be connected therewith, a spring finger formed from and as a prolongation of said sleeve, an insulating lining to said sleeve and a tubular conductor lining to the insulating sleeve, a cable passing into said handle, the one of its wires connected electrically and mechanically with the tubular conductor and the other connected electrically and mechanically with the metal sleeve, and a part including a stem adapted for axial mechanical and electrical contact with the aforesaid parts and for rotation in connection therewith, in which the free end of the spring finger is adapted in the rotary movement of said part for making and breaking the circuit with a sliding or rubbing contact.

4. In an electric coupling and switch and in combination, a handle of insulating material, a metal sleeve adapted to be connected therewith, a spring finger formed from and as a prolongation of said sleeve, an insulating lining to said sleeve and a tubular conductor lining to the insulating sleeve, a cable passing into said handle, the one of its wires connected electrically and mechanically with the tubular conductor and the other connected electrically and mechanically with the metal sleeve, a split spring ring surrounding said metal sleeve and its spring finger and a part including a stem adapted for axial mechanical and electrical contact with the aforesaid parts and for rotation in connection therewith, in which the free end of the spring finger is adapted in the rotary movement of said part for making and breaking the circuit with a sliding or rubbing contact.

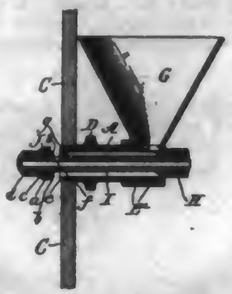
5. In an electric coupling and switch and in combination, an off-set sleeve provided with a circumferential groove, a plug passing diametrically across through said sleeve of insulating material and the sleeve and plug made tubular, an off-set sleeve of insulating material passing through said parts and fitting the same snugly, a stem of metal passing through said parts and continued beyond the same at either end and one of said ends provided with a U-shaped contact, a tubular conductor adapted to receive said metal stem at its end opposite to the end having the U-shaped contact, a metal sleeve and spring finger adapted at the free end thereof for a rubbing contact in the groove of the aforesaid off-set metal sleeve, an insulation between the tubular conductor and the metal sleeve and the wires of a cable secured mechanically and electrically to the said tubular conductor and metal sleeve.

[Claims 6 and 7 not printed in the Gazette.]

975,091. REFILLING-VALVE. EARL G. WATROUS, Chicago, Ill. Filed Dec. 26, 1907. Serial No. 407,995.

1. A re-filling valve, comprising a casing having a water supply passage extending through it, a funnel loosely hung upon said casing near its outer end and communicating with the passage therein, a valve at the opposite inner end of the casing for closing the passage through the same, and means for causing the movement of the funnel to upright position to open the valve and its movement therefrom to close it.

2. A re-filling valve, comprising a casing having a water supply passage extending through it, a funnel loosely hung upon said casing near its outer end and having threaded engagement therewith, and communicating with the passage therein, and a valve at the opposite inner end of the casing connected with said funnel and controlling the passage through the casing, whereby the turning of the funnel upon the casing serves to open and close the valve.



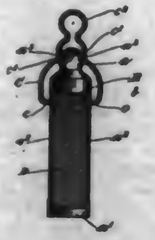
3. A re-filling valve, comprising a casing having a water supply passage and an independent air escape passage extending through it, a funnel loosely hung upon said casing near its outer end and communicating with the water supply passage therein, a valve at the opposite inner end of the casing controlling both passages in the casing, and means for causing the movement of the funnel to upright position to open the valve and its movement therefrom to close it.

4. A re-filling valve, comprising a casing having a water supply passage and an independent air escape passage extending through it, a funnel loosely hung upon said casing near its outer end and having threaded engagement therewith, said funnel communicating with the water supply passage in the casing, and a valve at the opposite inner end of the casing connected with said funnel and controlling both passages in the casing, whereby the turning of the funnel upon the casing serves to open and close the valve.

5. A re-filling valve comprising a casing, a funnel loosely hung thereon and communicating with the interior thereof, a valve stem carried by the funnel and provided with an air escape passage, a valve carried by said valve stem, and means for causing the turning of the funnel upon the casing to open and close the valve.

[Claims 6 to 10 not printed in the Gazette.]

975,092. HOLDER FOR TOILET-STICKS. ALFRED L. WEISSENTHANNER, New York, N. Y. Filed Feb. 17, 1909. Serial No. 478,426.



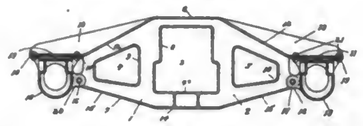
1. In a device of the character described, a casing provided with side slots, a stick-slide within said casing, and a bail having portions entered in said slots and pivoted to the slide.

2. In a device of the character described, a casing provided with side slots, a stick-slide having circumferential indentations, and a bail having portions entered in said slots and seated in said indentations.

3. In a device of the character described, a casing provided with a projecting end head and with side slots, a stick-slide within said casing, and a bail having portions entered in said slots and pivoted to the slide, the limbs of said bail being contracted to afford jaws or shoulders for engagement with the end head when the slide is in retracted position.

4. In a device of the character described, a casing provided with a projecting end head and with side slots, a stick-slide within said casing, and a bail having portions entered in said slots and pivoted to the slide, the limbs of said bail being contracted to afford jaws or shoulders for engagement with the end head when the slide is in retracted position, and also bent to form a suspension loop or eye beyond said jaws or shoulders.

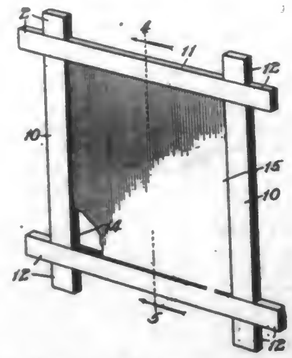
975,093. SIDE FRAME. ARTHUR H. WESTON, Baltimore county, Md. Filed Dec. 29, 1909. Serial No. 535,387.



1. In combination, in a car truck, cast steel side frames and malleable iron journal boxes, each frame consisting of a vertical web and lateral flanges, the latter forming an upper arch and a lower arch, the upper arch terminating at each end in a horizontal box plate, each box plate resting on a journal box, two ears, one at each end of the lower arch, flanges on each box to coöperate with the box plate, and ears thereon to coöperate with the ears on the frame, rivets permanently securing the flanges to the box plate, and other rivets likewise securing the ears on the boxes to the corresponding ears on the frame, a portion of the web overlying the extremities of the upper arch and the box plates.

2. In combination, in a car truck, side frames and journal boxes, each frame consisting of a vertical web and lateral flanges, the latter forming an upper arch and a supporting member, the upper arch terminating at each end in a horizontal box plate, each plate resting on a journal box, two ears, one at each end of the supporting member, ears on the boxes to coöperate with the ears on the frame, and means for permanently securing the plates to the boxes and the ears of the frame to the ears of the boxes.

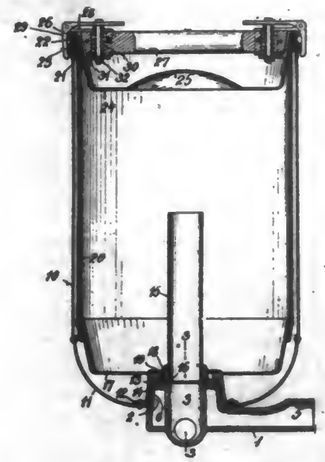
975,094. PICTURE-FRAME. FRANK W. WILLIAMS, Chicago, Ill. Filed Feb. 23, 1910. Serial No. 545,389.



1. A frame for a display-card, advertising picture, or the like, comprising a plurality of overlapping frame members, each of which is formed with recesses adapted to register with recesses in the members crossing the same and each of which has a groove formed in its inner edge portion, which groove terminates in the recesses therein, whereby when the display-card, advertising picture, or the like is partially inserted in place in the said frame one of its edges may be temporarily bent until the recesses in one of said members intermesh with the recesses of the member which it crosses, whereby all of the edges of said picture are confined within the grooves in said members and the picture is permanently secured in the frame.

2. In a frame for a display-card, advertising picture, or the like, the combination with side members, of bottom and top members, all of said members being provided with recesses adapted to receive an adhesive and to register with each other when the frame is assembled, of picture edge-receiving grooves formed on the inner sides of said members, such grooves terminating in the registering recesses therein, whereby a portion of the edges of the picture adjacent its corners will be exposed to the adhesive applied to the registering recesses of the several frame members and the picture permanently secured in the frame.

975,095. CLEANING APPARATUS. THOMAS J. WINANS and DANIEL M. WINANS, Binghamton, N. Y., assignors to The Winans Machine Company, Binghamton, N. Y., a Corporation of New York. Filed Apr. 14, 1910. Serial No. 555,448.



1. In a cleaning apparatus, the combination of a support having two passageways for air therethrough both of which are open at one end, a dust-collector mounted on said support, freely removable therefrom and having two openings for air through the wall thereof adapted, when the collector is mounted on the support, to register with the ends of the passageways through the support, and a strainer within the collector through which the air must pass in passing from one of said openings to the other, substantially as set forth.

2. In a cleaning apparatus, the combination of a support having two passageways therethrough and presenting a tapered surface, a dust-collector having a correspondingly tapered surface, said dust-collector being adapted to be removably mounted upon said support by bringing said tapered surfaces into coaction, and parts on said collector adapted to be connected with said passageways through the support when the collector is mounted upon the support, substantially as set forth.

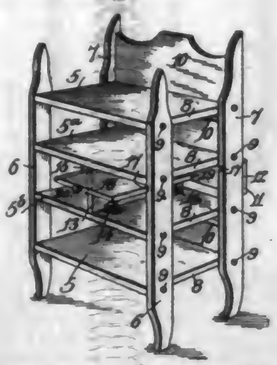
3. In a cleaning apparatus, the combination of a support having two passageways for air therethrough both of which are open at one end, a dust-collector mounted on said support, freely removable therefrom and having two openings for air through the wall thereof adapted, when the collector is mounted on the support, to register with the ends of the passageways through the support, one of said openings being located substantially centrally with respect to the collector and carrying the air flowing into the collector, and a strainer mounted within the collector adjacent to the side wall thereof through which the air passing from one of said openings to the other must pass, substantially as set forth.

4. In a cleaning apparatus, the combination of a support having two passageways for air therethrough both of which are open at one end, a dust-collector mounted on said support, freely removable therefrom and having two openings for air through the wall thereof adapted, when the collector is mounted on the support, to register with the ends of the passageways through the support, one of said openings being located substantially centrally with respect to the collector and carrying the air flowing into the collector, a tube mounted upon the collector and projecting inwardly thereof from said central opening, a strainer mounted within the collector adjacent to the side wall thereof and surrounding said tube, and a cover for the collector removably mounted opposite the end of said tube and shaped to form a deflector, substantially as set forth.

5. In a cleaning apparatus, the combination of a support having two passageways therethrough and presenting a tapered surface, a dust-collector having a correspondingly tapered surface, said dust-collector being adapted to be removably mounted upon said support by bringing said tapered surfaces into coaction, a connection on the collector adapted to connect one of said passageways to the central portion of the collector, and a connection from the collector to the other of said passageways, substantially as set forth.

[Claims 6 to 15 not printed in the Gazette.]

975,096. FOLDING DISPLAY STAND OR CASE. MANLEFF J. WEENN, High Point, N. C. Filed Dec. 7, 1909. Serial No. 531,822.



1. A folding case comprising spaced shelves, standards for supporting the shelves and to which they are severally pivoted, a transverse partition hinged to one of the shelves at an intermediate point and directly engaging the next adjacent shelf for retaining the case in its unfolded relation, and means for locking the said partition in such position.

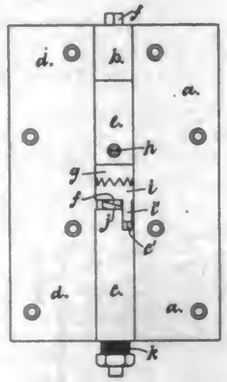
2. A folding case comprising spaced shelves, standards pivoted to the shelves, a transverse partition hinged to one of the shelves and co-acting with the shelf directly adjacent thereto for retaining the case in its unfolded relation, and a slidable shelf co-acting with the partition and the contiguous standard for locking the said partition in its operative position.

3. A folding case comprising spaced shelves, standards pivoted to the shelves, the standards at one side being provided on their inner sides with alined grooves, a transverse partition arranged between a pair of the shelves and hinged to the bottom one of the said pair, said partition having a longitudinal groove formed therein which corresponds with the grooves in the standards, an abutment for the partition secured to the upper shelf of the said pair, and a slidable and detachable shelf carried by the said grooves for locking the partition in its operative position against the abutment.

4. A folding case comprising a plurality of spaced shelves, front and rear standards pivoted to the ends of the shelves, the standards at one side being provided on their inner sides with alined grooves, a transverse partition centrally arranged between an intermediate pair of the shelves and hinged to the lower one thereof, said partition normally extending up to and co-acting with the upper shelf of the said pair to retain the case in its unfolded relation, the partition having a longitudinal groove formed in the upper corner, an abutment for the partition secured to the upper shelf of the said pair, and a detachable shelf slidably mounted in the grooves of the partition and standards for locking the partition in its operative position against the abutment.

5. A folding case comprising a plurality of spaced shelves, front and rear standards pivoted to the ends of the shelves, the standards at one side being provided on their inner sides with alined grooves, a transverse partition centrally arranged between an intermediate pair of the shelves and hinged to the lower one thereof, said partition normally extending up to and co-acting with the upper shelf of the said pair to retain the case in its unfolded relation, the partition having a longitudinal groove formed in the upper corner, an abutment for the partition secured to the upper shelf of the said pair, and a detachable shelf slidably mounted in the grooves of the partition and standards for locking the partition in its operative position against the abutment, a strip secured to the rear edges of the rear standards between the said intermediate pair of shelves and engaging the upper shelf of the said pair, said strip preventing the lateral movement of the said standards with respect to the shelves, and forming a stop for limiting the inward movement of the shelf.

975,097. HINGE. JOSEPH WRIGHT, Frodsham, England. Filed Mar. 26, 1910. Serial No. 551,646.

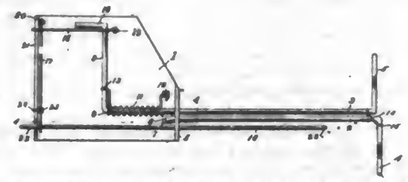


1. In leaf and barrel hinges of the type herein described, a clutch element detachably secured to a barrel; a second clutch element in engagement with a second barrel, with freedom to move in the longitudinal plane; and a spring wholly disposed within said second barrel.

2. In leaf and barrel hinges of the type herein described, a clutch element detachably secured to a barrel; a second clutch element in engagement with a second barrel, with freedom to move in the longitudinal plane; a spring wholly disposed within said second barrel; and means for adjusting the spring.

3. In leaf and barrel hinges of the type herein described, a clutch element detachably secured to a barrel; a second clutch element provided with projections; a barrel provided with recesses within which said clutch projections are disposed; a spring wholly disposed within said second mentioned barrel adapted to normally maintain said clutch elements in engagement; and means for adjusting said spring.

975,098. ANIMAL-TRAP. CHARLES ALBION WYMAN, Gaston, Oreg., assignor of one-half to William C. Emmerson, Gaston, Oreg. Filed Jan. 31, 1910. Serial No. 541,075.



1. An animal trap comprising a body or base, jaw members projecting therefrom, and having at their ends, opposing jaws adapted to be inserted in the hole of a burrowing animal, one of said members being rotatable whereby its jaw may swing toward and from the other jaw, a spring for actuating the rotatable member, in one direction, an arm on said rotatable member, a lever pivoted to the body to engage said arm, and hold the movable jaw in its open position, a second lever pivoted to the body and engaged with the first lever, and the shiftable trigger co-acting with said second lever.

2. An animal trap comprising a body or base, jaw members projecting therefrom, and having at their ends opposing jaws adapted to be inserted in the hole of a burrowing animal, one of said members being rotatable whereby its jaw may swing toward and from the other jaw, a spring for actuating the rotatable member in one direction, an arm on said rotatable member, a lever pivoted to the body to engage said arm and hold the movable jaw in its open position, a second lever pivoted to the body and engaged with the first lever and a trigger slidably arranged upon the body and having means at one end to releasably engage said second lever, and means at its other end arranged adjacent to the jaws for supporting the bait.

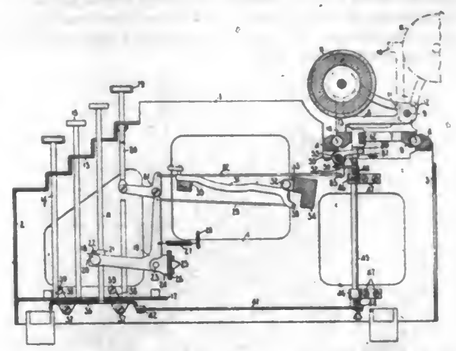
3. An animal trap comprising a body or base, jaw members projecting therefrom and having at their ends opposing jaws adapted to be inserted in the hole of a burrowing animal, one of said members being rotatable whereby its jaw may swing toward and from the other jaw, a spring for actuating the rotatable member in one direction, a holding means for said rotatable jaw including a pair of engaged levers, and a slidable trigger having a hook to engage one of said levers and a portion disposed adjacent to said jaws.

4. An animal trap comprising a body or base, jaw members projecting therefrom and having at their ends opposing jaws adapted to be inserted in the hole of a burrowing animal, one of said members being rotatable whereby its jaw may swing toward and from the other jaw, a spring for actuating the rotatable member in one direction, a holding means for said rotatable jaw including a pair of engaged levers, a slidable trigger having a hook portion to engage one of said levers and a portion disposed adjacent to said jaws, and a keeper member adapted to receive and hold the lever while the trap is being positioned for use.

5. An animal trap comprising a base plate, rods projecting therefrom and one being rotatably mounted, gripping jaws on the outer ends of said rods, an arm upon the inner end of the rotatable rod, a spring for actuating said rotatable rod, a lever pivoted on the base for engagement with said arm, a second lever pivoted on the base to engage the first lever, and a slidable trigger rod mounted on the base and having a hook portion to engage the second lever, and a projecting portion disposed adjacent to said jaws and adapted to be actuated by an animal.

975,099. TYPE-WRITING MACHINE. CLIO B. YAW, Arlington, N. J., assignor to Remington Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed July 16, 1909. Serial No. 507,920.

1. In a typewriting machine, the combination of a carriage, printing instrumentalities, key actuated devices therefor including key stems arranged in different rows, a locking plate adapted to be thrown into and out of the paths of all of said key stems, and automatically actuated means for moving said locking plate into the paths of the key stems when the carriage reaches the end of a line.



2. In a typewriting machine, the combination of a carriage, printing instrumentalities, key actuated devices therefor including key stems arranged in different rows, a locking plate with perforations therein, said plate being adapted to be moved to throw the perforations into and out of register with said key stems, and automatically actuated means for moving said locking plate into the paths of the key stems when the carriage reaches the end of a line.

3. In a typewriting machine, the combination of a carriage, printing instrumentalities, key actuated devices therefor including key stems, a locking plate mounted beneath the lower ends of said key stems, parallel links on which said locking plate is mounted and which are dead centered when the locking plate is in the locking position, and means controlled by the movement of the carriage for throwing said locking plate into and out of the paths of said key stems.

4. In a typewriting machine, the combination of a carriage, printing instrumentalities, key actuated devices therefor including key stems, a locking plate with perforations therein, said plate being adapted to be moved to throw the perforations into and out of register with said key stems, parallel links on which said locking plate is mounted and which are dead centered when the perforations are out of register with the key stems, and automatically actuated means controlled by the movement of the carriage, for throwing said locking plate into and out of the paths of said key stems.

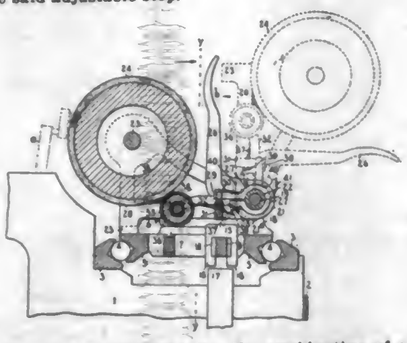
5. In a typewriting machine, the combination of a carriage, printing instrumentalities, key actuated means for operating the same including vertically movable key stems, guides for said key stems, a horizontally disposed locking plate situated beneath the key stems and perforated to allow the key stems to pass therethrough when the perforations are in register with the key stems and adapted to prevent a full depression of the key stems when the perforations are out of register with said key stems, and line lock mechanism controlled by the movement of the carriage for moving said locking plate horizontally into and out of locking position.

[Claims 6 to 14 not printed in the Gazette.]

975,100. TYPE-WRITING MACHINE. CLIO B. YAW, Arlington, N. J., assignor to Remington Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed July 30, 1909. Serial No. 510,405.

1. In a typewriting machine, the combination of a carriage, a platen carried by the carriage and mounted for swinging movement thereon, tabulator mechanism including an adjustable tabulator stop situated below the platen and accessible for the purpose of adjustment by swinging back said platen, and a coöperating stop normally out of the path of said tabulator stop.

2. In a front-strike typewriting machine, the combination of a carriage, a platen carried by and mounted for swinging movement thereon, an upwardly and rearwardly swinging type bar which strikes against the front face of the platen, tabulating mechanism including an adjustable tabulator stop situated below the platen and accessible for the purpose of adjustment by swinging back said platen, and a coöperating tabulator stop normally out of the path of the said adjustable stop.



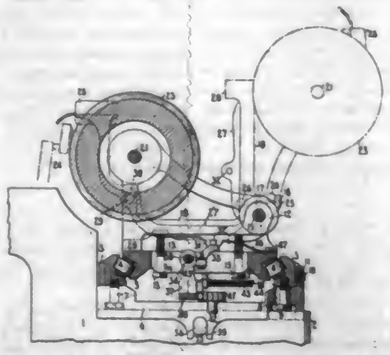
3. In a typewriting machine, the combination of a carriage truck, a platen frame mounted for swinging movement on said truck, and tabulating mechanism comprising a stop rod carried by the truck and mounted below the platen, a tabulating stop mounted on and adjustable along said stop and accessible for the purpose of adjustment by swinging back the platen, and a coöperating tabulator stop normally out of the path of said adjustable stop.

4. In a front strike typewriting machine, the combination of a horizontally arranged carriage truck, a platen frame pivotally supported at the rear side of said truck for upward and downward swinging movements and also supported at the front portion of said truck, a stop rod carried by said truck and under said platen frame and forward of its pivotally supported portion, adjustable and removable tabulator stops mounted on said stop rod, and a plurality of coöperating stops arranged below said stop rod and normally out of the path of said removable and adjustable tabulator stops.

5. In a typewriting machine, the combination of a swinging carriage, tabulating mechanism including an adjustable tabulator stop, and means for automatically locking said tabulator stop against displacement when the carriage is swung down into operative position.

[Claims 6 to 15 not printed in the Gazette.]

975,101. TYPE-WRITING MACHINE. CLIO B. YAW, Arlington, N. J., assignor to Remington Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed Nov. 19, 1909. Serial No. 528,964.



1. In a front-strike typewriting machine, the combination of a truck, a platen, a platen frame carrying said platen and pivoted to said truck to afford a swinging movement of the platen frame back to inoperative position, and a carriage release key that remains fixed against swinging movement when the platen frame is swung back and which at that time is operative to release the carriage.

2. In a front-strike typewriting machine, the combination of a truck, a platen, a platen frame carrying said platen and pivoted to said truck to afford a swinging movement of the platen back to inoperative position, a carriage release key that remains fixed against swinging movement when the platen is swung back and which at that time is operative to release the carriage, and a second carriage release key that swings with the platen frame.

3. In a front-strike typewriting machine, the combination of a carriage truck, a platen, a platen frame which carries said platen and which is pivoted to the truck to afford a swinging movement of the platen back to inoperative position, a carriage release key pivoted on said truck and disconnected from the platen frame, whereby when the platen frame is swung back the said release key remains at rest and is effective to release the carriage.

4. In a typewriting machine, the combination of a carriage truck, a platen, a platen frame which carries said platen and which is pivoted to afford a swinging movement of the platen to inoperative position, a feed rack, a rock shaft carried by said truck and carrying said feed rack, and a release key carried by said truck and disconnected from the platen frame for turning said rock shaft to release the carriage.

5. In a typewriting machine, the combination of a carriage truck, a platen, a platen frame which carries said platen and which is pivoted to afford a swinging movement of the platen to inoperative position, a feed rack, a rock shaft carried by said truck and carrying said feed rack, crank arms on said rock shaft, two carriage release keys one of which swings with the platen frame when the latter is swung back and the other of which remains at rest at that time and both of which are coöperative with said crank arms to rock the shaft and to release the carriage.

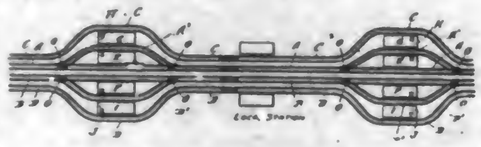
[Claims 6 to 10 not printed in the Gazette.]

975,102. CLASP. SOPHIA ZEUGSCHMIDT, Pittsburg, Pa. Filed July 24, 1909. Serial No. 509,255.



The combination with a securing button, of a member adapted to coöperate with the button and comprising a strap engaging portion and a button engaging loop integral therewith, and means for maintaining the button in such loop comprising a spring catch pivoted at one end to said member opposite the said securing button engaging end of the loop for lateral movement into and out of the said loop the said catch having its free end lying when in operative position within the sides of the loop so that the sides of the loop constitute stops to prevent the lateral movement of the catch.

975,103. RAILWAY SYSTEM. PAUL ZIRON, New York, N. Y. Filed Aug. 29, 1910. Serial No. 579,592.



1. A method of operating a railway having a main track, provided at each of several stations with a shunt or branch track, which latter is of sufficient length to accommodate a train and is connected, beyond the station, at each end, to the main track; the method consisting in operating trains in the same direction on the track between stations, guiding every other train onto the shunt at the stations so that the trains alternately enter the stations on the main track and on the shunt, and despatching the trains from each station in the order of the arrival of the trains at the station.

2. A railway having express stations at intervals along the line of the road, and local stations between the same, an up-town express track and a down-town express track, an up-town local track and a down-town local track, a shunt or branch for each express track at each express station, said shunts being of sufficient length to accommodate a train and being connected each to its respective express track at each side of the station, and the local tracks being depressed at the express stations to permit the local trains to pass the branched or divided express tracks.

3. A railway system comprising four tracks, local stations at intervals on the outer tracks; express stations at greater intervals on the inner tracks; each inner track, beyond one end of each of the stations thereon, being divided into a number of branches which pass the station in parallel, and which beyond the other end of the station converge again to the track from which they originally diverged, each of the divisions of each inner track being of a length sufficient to accommodate a train; and the outside or local tracks being diverted at the stations of the inner tracks to pass the divisions of the latter tracks.

4. A railway system comprising four tracks; local stations at intervals on the outer tracks; express stations at greater intervals on the inner tracks; each inner track, beyond one end of each of the stations thereon, being divided into a number of branches which pass the station in parallel, one on each side of the station platform, and which beyond the other end of the station converge again to the track from which they originally diverged, each of the divisions of each inner track being of a length sufficient to accommodate a train; and the outside or local tracks being diverted at the stations of the inner tracks to pass the divisions of the latter tracks.

5. A method of operating a railway having a main track, provided at each of several stations with a shunt or branch track, which latter is of sufficient length to accommodate a train and is connected, beyond the station, at each end, to the main track; the method consisting in operating trains in the same direction on the track between stations, guiding every other train onto the shunt at the stations so that the trains alternately enter the stations on the main track and on the shunt, and despatching the trains from each station in the order of the arrival of the trains at the station, and at fixed intervals which maintain the same running headway between the trains on the main track, from each of the several stations to the stations next beyond.

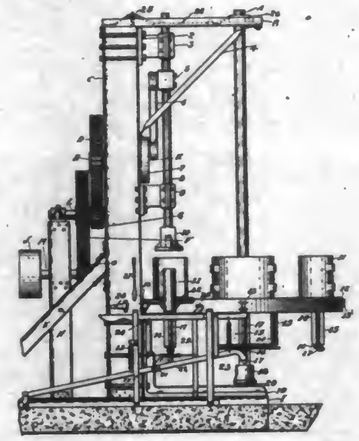
975,104. CONCRETE-BLOCK-MAKING MACHINERY. SAM ALLEN, Okmulgee, Okla. Filed Sept. 11, 1909. Serial No. 517,319.

1. In combination, a base frame, a vertical frame secured to said base frame, a horizontal frame carried at the upper extremity of said vertical frame, a vertical shaft interposed between said horizontal bar and said base frame, and means whereby the upper extremity of said vertical shaft is slidably mounted on said horizontal bar.

2. In combination, a base frame, a vertical frame secured to said base frame, a horizontal frame carried at the upper extremity of said vertical frame, a vertical shaft interposed between said horizontal bar and said base frame, a slidable mounting at the upper extremity of said shaft, and means whereby said slidable mounting may be reciprocated.

3. In combination, a base frame, a vertical frame secured to said base frame, a horizontal frame carried at the upper extremity of said vertical frame, a vertical shaft interposed between said horizontal bar and said base frame, a slidable mounting at the upper extremity of said shaft, a table carried by said shaft, a plurality of molds carried by said table, and cores projecting through said table into said mold.

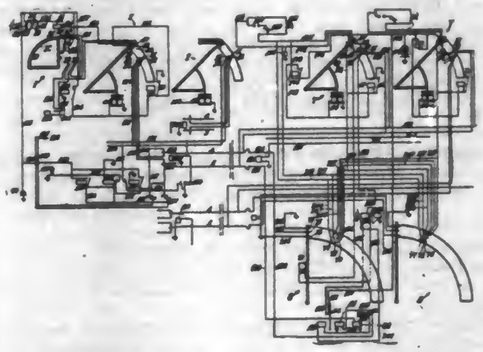
4. In combination, a base frame, a vertical frame secured to said base frame, a horizontal frame carried at the upper extremity of said vertical frame, a vertical shaft interposed between said horizontal bar and said base frame, a slidable mounting at the upper extremity of said shaft, a table carried by said shaft, a plurality of molds carried by said table, a plurality of cores projecting through said table and into said mold, and means whereby said cores may be removed.



5. In combination, a base frame, a vertical frame secured to said base frame, a horizontal frame carried at the upper extremity of said vertical frame, a vertical shaft interposed between said horizontal bar and said base frame, a slidable mounting at the upper extremity of said shaft, a table carried by said shaft, a plurality of molds carried by said table, a plurality of cores projecting through said table and into said mold, and means whereby said cores may be removed during the tamping of the succeeding mold.

[Claims 6 to 10 not printed in the Gazette.]

975,105. SEMI-AUTOMATIC TELEPHONE SYSTEM. CHARLES R. AUSTIN, Longbeach, Cal. Filed Apr. 30, 1907. Serial No. 371,188.



1. A telephone system, comprising a central station, a plurality of sub central stations, a plurality of subscriber's lines connected to each sub central station, each sub central station having automatic switch means responsive to selective impulses from the central station to connect one end of the subscriber's line to a line from the central station, a plurality of selective impulse transmitters at the central station, each selective transmitter being adapted to send a selective series of impulses corresponding to one of the subscriber's lines at the sub central station, and manual switch means at the central station having an individual connection for each of the selective impulse

transmitters, whereby the said manual switch means manually selects the selective impulse transmitter, and said transmitter automatically selects the subscriber's line.

2. A telephone system comprising a central station, a plurality of sub central stations, a plurality of trunk lines from the central station to each sub central station, and a plurality of subscriber's lines extending from each sub central station, an automatic switch in each sub central station, for each subscriber's line, for automatically connecting a subscriber's line to a trunk line which is not in use; a manual switch at the central station having an individual connection for each subscriber's line at the sub central station, and means controlled by such individual connection for sending selective impulses over a trunk line.

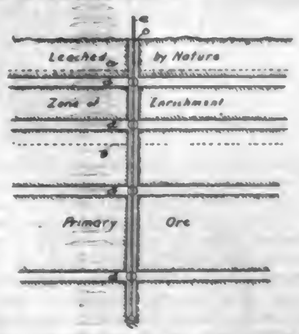
3. A telephone system comprising a central station, a plurality of sub central stations, a plurality of trunk lines from the central station to each sub central station, a plurality of subscriber's lines extending from the sub central station, an automatic switch in each sub central station, for connecting the subscriber's lines to a trunk line which is not in use, a plurality of trunk switches in each sub central station, responsive to the impulses from the trunk lines to automatically connect any trunk line to any of the subscriber's lines, a manual switch at the central station having individual connecting means for each subscriber's line at the sub central station, and means controlled by such individual connecting means for sending selected impulses over the trunk line.

4. A telephone system comprising a central station, a sub central station, a plurality of trunk lines from the central to the sub central station, a switch-board apparatus at the central station comprising spring-jacks and plugs, a selective impulse transmitter at the central station for each subscriber's line at the sub central station to send selective impulses over a trunk line for the selection of subscriber's line, means controlled by the operation of the spring-jack and plug to operate said selective impulse transmitter and an automatic switch at the sub central station controlled by the selective impulses to connect the operating trunk line to any subscriber's line at the sub central station.

5. A telephone system comprising a central station, a sub central station, a plurality of trunk lines connecting the central station and sub central station, means for grounding each trunk line at the central and at the sub central stations, automatic switches at the central and sub central stations for connecting the operating circuits at each station to a trunk line which is grounded at the other station, and means controlled by the operation of the automatic switch at each station to break the ground for the trunk line at that station.

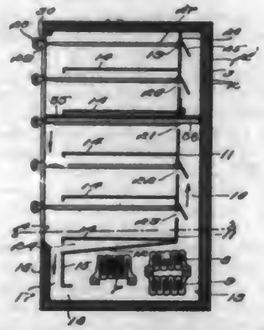
[Claims 6 to 12 not printed in the Gazette.]

975,106. PROCESS OF EXTRACTING COPPER FROM ORE. WILLIAM L. AUSTIN, Riverside, Cal. Filed Apr. 15, 1907. Serial No. 368,200.



The process of extracting copper from a bed of porous rock, which consists in creating an artificial drainage level below the natural drainage level of the bed; providing the entire bed with cross cuts and winzes at different levels; flushing the entire bed with water, whereby the water percolates through the entire bed above and below the natural drainage level, and collects at the artificial drainage level; and finally pumping out the water accumulated at said artificial level and extracting the copper therefrom.

975,107. ELECTRIC BAKING-OVEN. JAMES I. AYER, Cambridge, and HORACE B. GALE, Natick, Mass., assignors to Simplex Electric Heating Company, Cambridge, Mass., a Corporation of Massachusetts. Filed Nov. 11, 1909. Serial No. 527,396.



1. In combination, an electrically heated oven inclosure, a baking chamber therein, having a series of shelves spaced one above the other, a heating chamber below and separated from the baking chamber in said inclosure, electric heating elements in said heating chamber, a cool air flue from one portion of the baking chamber opening into the lower part of the heating chamber, and a hot air flue extending upward from the upper portion of the heating chamber to the baking chamber.

2. In combination, an electrically heated oven inclosure, a baking chamber therein, having a series of shelves spaced one above the other, a heating chamber below and separated from the baking chamber in said inclosure, electric heating elements in said heating chamber, a cool air flue from one portion of the baking chamber opening into the lower part of the heating chamber, a hot air flue extending upward from the upper portion of the heating chamber to the baking chamber, and means to regulate the delivery of hot air to the different shelves.

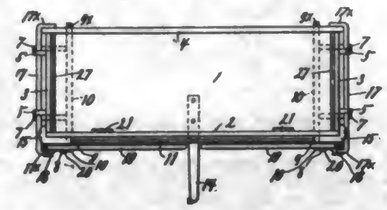
3. In combination, an electrically heated oven inclosure, a baking chamber therein, having a series of shelves spaced one above the other, a heating chamber below and separated from the baking chamber in said inclosure, electric heating elements in said heating chamber, a cool air flue from one portion of the baking chamber opening into the lower part of the heating chamber, a hot air flue extending upward from the upper portion of the heating chamber to the baking chamber, and independent heat regulating means for controlling the delivery of hot air from said hot air flue to the different shelves.

4. In combination, an electrically heated oven inclosure, a baking chamber therein, having a series of shelves spaced one above the other, a heating chamber below and separated from the baking chamber in said inclosure, electric heating elements in said heating chamber, a cool air flue from one portion of the baking chamber opening into the lower part of the heating chamber, a hot air flue extending upward from the upper portion of the heating chamber to the baking chamber, and means to regulate the temperature of the different shelves, consisting of air ports opening from said hot air flue into the baking chamber over said respective shelves graduated in size so as to present less area for the admission of air at the upper levels than at the lower levels.

5. In combination, an electrically heated oven inclosure, a baking chamber therein, having a series of shelves spaced one above the other, a heating chamber below and separated from the baking chamber in said inclosure, electric heating elements in said heating chamber, a cool air flue from one portion of the baking chamber opening into the lower part of the heating chamber, a hot air flue extending upward from the upper portion of the heating chamber to the baking chamber, and means to shut off the hot air from a given area of the baking chamber so as to diminish the heated space.

[Claims 6 to 15 not printed in the Gazette.]

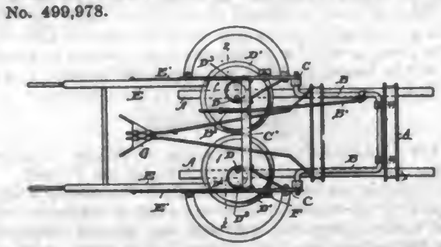
975,108. CEMENT-BLOCK MACHINE. HARRIE E. BAKER and WALTER R. JOHNSON, Inwood, Iowa. Filed May 26, 1909. Serial No. 498,587.



1. In a mold for building blocks, the combination with a support, of a molding box having its bottom hinged with one edge to the support and adapted to rest upon the latter, a front side wall hinged to the bottom and having at its ends hooks adapted to take over the end walls, two end walls hinged to the bottom, a removable side wall supported near the hinges by which the bottom is secured to the support, horizontal, slidable non-rotatable bars carried by the end walls and having their ends formed with hooks adapted to hold the side walls upright, levers pivoted to the hinged side wall and provided with cams adapted to be forced in between the side wall and the adjacent hooks of the said bars.

2. In a mold for building blocks, the combination with a support, of a molding box having its bottom hinged with one edge to the support and adapted to rest upon the latter, a front side wall hinged to the bottom and having at its ends hooks adapted to take over the end walls, two end walls hinged to the bottom, a removable side wall supported near the hinges by which the bottom is secured to the support, horizontal, slidable non-rotatable bars carried by the end walls and having their ends formed with hooks adapted to hold the side walls upright, levers pivoted to the hinged side wall and provided with cams adapted to be forced in between the side wall and the adjacent hooks of the said bars, and a lever secured to the bottom of the mold and extending transversely and laterally therefrom, for the purpose of turning the mold over on its hinges.

975,109. AGRICULTURAL IMPLEMENT. JOHN PAUL BALDWIN, Berea, Ohio. Filed June 3, 1909. Serial No. 499,978.



1. Apparatus of the character described comprising a vehicle frame having a traction link pivotally connected thereto and connected to a draw bar so as to permit the inclination of the draw bar to be varied at will, said bar being fixed to a frame having journaled therein a plurality of cutting disks, a steadying rod extending from near the forward end of the vehicle frame to the disk carrying frame, spring connections between said rod and disk frame for holding the latter yieldingly in position and manipulating handles connected with said disk frame.

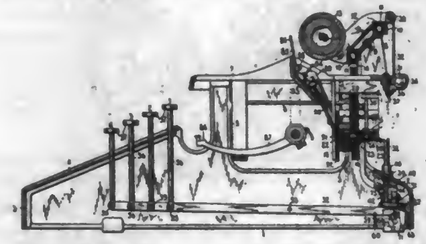
2. Apparatus of the character described having a vehicle frame, a transverse cutting disk with an upright spindle, link connection between the spindle and the vehicle frame permitting inclination of the spindle without adjustment, and a controlling handle connected to the spindle for inclining it at will.

3. Apparatus of the character described having a vehicle frame, a transverse cutting disk with an upright spindle, link connection between the spindle and the vehicle frame permitting inclination of the spindle without adjustment, and a controlling handle connected to the spindle for inclining it at will, a tension spring interposed between the spindle and the frame tending to hold the spindle in a definite upright position.

4. Apparatus of the character described having a vehicle frame, a transverse cutting disk with an upright spindle, link connection between the spindle and the vehicle frame permitting inclination of the spindle without adjustment, and a controlling handle connected to the spindle for inclining it at will, a tension spring interposed between the spindle and the frame tending to hold the spindle in a definite upright position, and means for regulating the tension of the spring.

5. Apparatus of the character described having a plurality of transverse disks with spindles eccentrically mounted in sleeves in a carrying frame, said sleeves being rotatable, and means for holding them in fixed position.

975,110. TYPE-WRITING MACHINE. JOHN H. BARR, Syracuse, N. Y., assignor to The Smith Premier Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Apr. 27, 1906. Serial No. 314,027.



1. In a typewriting machine, the combination with the carriage and escapement-mechanism, of tabulating mechanism comprising a series of column stops each adjustable to different letter space positions, said stops being in a straight row and projecting equal distances from their support, a counter-stop, and means to render the counter-stop, and a column stop behind that which proximately faces the counter-stop, effective at a single operation to arrest the carriage after it is released and before it is otherwise arrested by said tabulating mechanism.

2. In a typewriting machine, the combination with the carriage and escapement-mechanism, of tabulating mechanism comprising a series of column stops each adjustable to different letter space positions, said stops being in a straight row and projecting equal distances from their support, a counter-stop, and means including key actuated devices each operative to render the counter-stop, and a column stop behind that which proximately faces the counter-stop, effective at a single operation to arrest the carriage after it is released and before it is otherwise arrested by said tabulating mechanism.

3. In a typewriting machine, the combination with the carriage and escapement-mechanism, of tabulating mechanism comprising a stop support on the carriage, a series of column stops on said support, said stops being in a straight row and projecting equal distances from said support, a counter-stop supported by the frame of the machine, and key controlled means operative to render the counter-stop, and a column stop behind that which

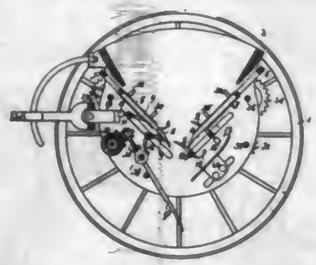
proximately faces the counter-stop effective at a single operation to arrest the carriage after it is released and before it is otherwise arrested by said tabulating mechanism.

4. In a typewriting machine, the combination with the carriage and escapement-mechanism, of tabulating mechanism comprising a series of column stops each adjustable to different letter space positions, said stops being in a straight row and projecting equal distances from their support, a counter-stop coöperative with each of said column stops, and means including a key actuated device operative to render the counter-stop and a column stop behind that which proximately faces the counter-stop, effective at a single operation to arrest the carriage after it is released and before it is otherwise arrested by said tabulating mechanism.

5. In a typewriting machine, the combination with the carriage and escapement-mechanism, of tabulating mechanism comprising a stop bar with tabulator stops thereon, said stops being in a straight row, a compound counter-stop having arms coöperative with said tabulator-stops, and key controlled means to render an arm of the counter-stop and a tabulator stop behind that which proximately faces the counter-stop, effective at a single operation to arrest the carriage after it is released and before it is otherwise arrested by said tabulating mechanism.

[Claims 6 to 74 not printed in the Gazette.]

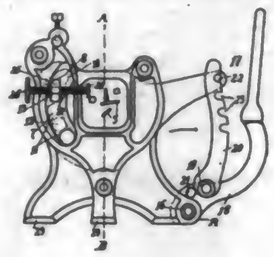
975,111. MANURE-DRILL. KARL BECKMANN, Schwerin, Germany. Filed Feb. 28, 1910. Serial No. 546,359.



An improved manure drill comprising in combination with the wheels and the axle of said wheels, a box which is open at the top and bottom, two grates downwardly inclined toward the middle of the bottom of the box so that a slot is left between their inner ends, means for adjusting the position of said grates in the end walls of the box in order to regulate the width of said slot, a pair of shafts fixed in connecting pieces and mounted below said grates, prongs mounted on said shafts so that they penetrate between the bars of the bottom grates when said shafts are moved toward the slot and means for returning said prongs which go back during the upward motion of said shafts, to the original position, a shaking plate under the rear grate destined to receive the manure which falls out of the slot and prongs animated by a lateral reciprocating motion destined to receive the manure thrown by said shaking plate to throw the same on the ground and means for transmitting motion to the various parts of the machine from the wheels which carry the main axle, substantially as described and shown and for the purpose set forth.

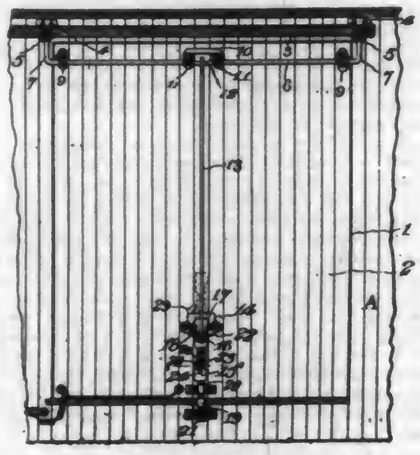
975,112. SHEARS FOR CUTTING PROFILE AND BAR IRONS. JOSEF BILGSIK, Budapest, Austria-Hungary. Filed Nov. 17, 1909. Serial No. 528,599.

Improved shears for cutting profile- and bar-irons comprising in combination with the usual frame of the machine a fixed supporting frame and a movable supporting frame the latter of which has curved slots at one end, an arm extending from the other end of said movable supporting frame, the cutter blades inserted in the supporting frames and having openings which are shaped according to the shape of the irons to be cut, cylindrical rollers which connect the movable supporting frame with the fixed frame and serve as pivots for said movable frame, a set screw guided in the machine frame and an abutment plate at the inner end of said screw for maintaining the iron bar in position, the hand-lever for operating the



movable frame pivoted with its lower end to an extension of the machine frame, studs laterally projecting from the arm of the movable frame, and connecting rods having notches destined to grip over said studs and pivoted with the lower ends on said hand-lever, substantially as described and shown and for the purpose set forth.

975,113. CAR-DOOR-LOCKING DEVICE. CHARLES W. BITNER, Oaxaca, Mexico. Filed Feb. 16, 1909. Serial No. 478,336.

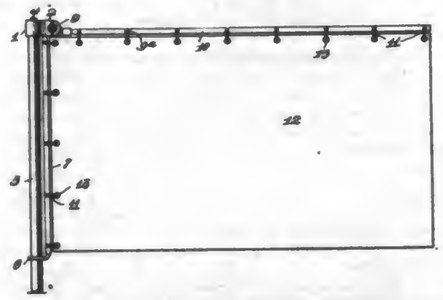


A combination of a door body having an opening, a door therein, means for suspending the door including a rock shaft, a vertically-disposed actuating rod connected with the shaft, a lever fulcrumed on the door, means for connecting the lever with the said rod, a locking bolt attached to the lever, means for holding the lever lowered to retain the bolt in locking position, and a retainer adapted to automatically act to hold the lever in raised position.

975,114. FLAG-HOLDER. GEORGE W. BLANK, Wilkinsburg, Pa. Filed July 26, 1910. Serial No. 573,865.

1. A device for the purpose set forth comprising a cap, adapted to be connected to a flag staff, a vertically disposed member connected with said cap, an arm connected with the cap and disposed at right angles with respect to said member, and means for connecting a flag to the inner and outer ends of the arms of the member and to points intermediate the ends of the arms of the member.

2. A device for the purpose set forth comprising a cap adapted to be mounted for rotation upon a flag staff, a member connected with and depending from the cap and provided with an eye adapted to surround the staff, an arm connected with the cap and extending at right angles with respect to the member, and means for coupling the inner end of a flag to said member and the top edge of the flag to said arm whereby the flag is prevented from wrapping around the staff.



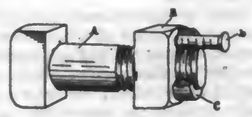
3. A flag holder comprising a cap adapted to be mounted for rotation upon a flag staff, a pair of rigid members disposed at right angles with respect to each other and connected with said cap, each of said members apertured throughout its length, in combination with a flag provided at its inner edge and its top edge with a plurality of eyelets, and means extending through the apertures of said member and the eyelets of the flag for coupling the latter to the members to prevent the flag wrapping around the staff.

4. A flag holder comprising a cap adapted to be mounted for rotation upon a flag staff, a pair of rigid members disposed at right angles with respect to each other and connected with said cap, each of said members apertured throughout its length, in combination with a flag provided at its inner edge and its top edge with a plurality of eyelets, and means extending through the apertures of said members and the eyelets of the flag for coupling the latter to the members to prevent the flag wrapping around the staff, one of said members provided with an eyelet through which is adapted to extend a staff.

5. A flag holder comprising a cap adapted to be mounted for rotation upon a flag staff, a pair of rigid members disposed at right angles with respect to each other and connected with said cap, each of said members apertured throughout its length, in combination with a flag provided at its inner edge and its top edge with a plurality of eyelets, and coupling devices in the form of split links extending through the apertures of said members and said eyelets for coupling the flag to the members whereby the flag is prevented from wrapping around the staff.

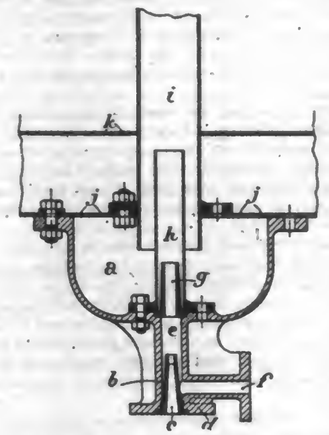
[Claim 6 not printed in the Gazette.]

975,115. NUT-LOCK. LOUIS BLESSING and ALFRED JOHNS, Jackson, Mich. Filed Apr. 10, 1909. Serial No. 489,040.



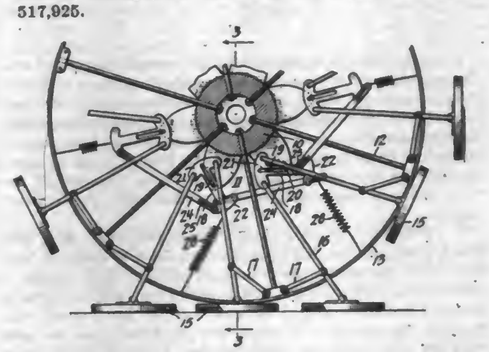
In a nut lock, the combination with a bolt of a holding nut, a nut lock having a central aperture adapted to pass freely over the bolt end with an interior segmental flange adapted to mesh with the bolt thread and a key way opposite the flange, and a locking key longitudinally movable in the nut lock and in a mating key way in the screw-threaded portion of the bolt adapted to hold the flange in mesh with the bolt threads, extending through the locking nut inwardly into contact with the face of the holding nut and engaging with the threads of the bolt to resist endwise displacement of the holding nut.

975,116. BUCKING APPARATUS. EMILE BONNIN, Kremlin-Bicêtre, France. Filed Mar. 17, 1908. Serial No. 421,648.



An improved bucking apparatus comprising in combination with the bucking tub and the rising tube for the lye and the perforated horizontal partition for the material to be treated, a cup below the bottom of the bucking tub, a cylindrical tube mounted on the center of said cup, a protecting tube of larger diameter and greater height than said cylindrical tube projecting through the bottom of the bucking tub and reaching up to some inches below the level of said perforated horizontal partition, a cylindrical chamber extending below the bottom of said lye cup in prolongation of the cylindrical tube, a conical nozzle connected with a steam supply in said chamber and a horizontal pipe connecting said chamber with an air reservoir, substantially as described and shown and for the purpose set forth.

975,117. WALKING TRACTION-WHEEL. SAMUEL M. BOWER, Chicago, Ill. Filed Sept. 15, 1909. Serial No. 517,925.



1. In a traction wheel, the combination of a hub, a plurality of rocking members thereon, feet operatively associated with said rocking members, and connections between the adjacent rocking members to effect positive movement in harmony of those feet which stand under pressure, arranged to leave idle or still the rocking members connected to feet not under pressure.

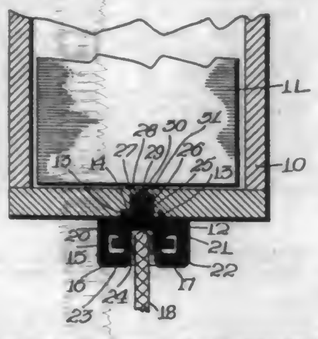
2. In a traction wheel, the combination of a hub, a plurality of rocking levers connected with said hub for radial displacement relative thereto and for rocking movement, means for normally holding said levers at their outer limits of radial movement, legs connected to said levers for movement inward or outward with the rocking of the levers, and lost motion link connections between the levers.

3. In a traction wheel, the combination of a hub, a plurality of rocking levers mounted thereon for bodily movement inwardly or outwardly and for rocking movement when in their inward position, legs connected to one end of the levers on opposite sides of the median line thereof for generally radial movement in response to rocking movement of the levers, and lost motion link connections between the ends of the levers opposite the leg connections.

4. In a traction wheel, the combination of a hub, rocking levers connected to said hub, legs connected to points at one end of each of said levers on opposite sides of the median line, feet connected to the ends of said legs, guiding means for the outer ends of said legs, and links connecting the end of each lever with the two levers next adjacent thereto throughout the series of levers.

5. In a traction wheel, the combination of a hub, pivot pins mounted on said hub, rocking levers upon said pins having radial slots therein whereby the levers may move radially upon the pins, means normally holding said levers at their outermost position, legs connected to the inner ends of said levers on opposite sides of the median lines thereof, and lost motion link connections between the outer ends of said levers throughout the series of levers.

975,118. ELECTRICAL CONNECTOR. JAMES J. BURNS, Worcester, Mass., assignor to W. H. Leland & Co., Worcester, Mass., a Copartnership. Filed Nov. 23, 1908. Serial No. 463,968.



1. In an electrical connector, the combination of a conducting support having an inset contact surface, a removable member having a projecting surface fitting the contact surface and having a longitudinal perforation therethrough for the reception of a conducting wire, and a clamping member carried by said support and located outside the contact surface for clamping the end of the wire between said removable member and the contact surface.

2. In an electrical connector, the combination of a conducting support having a contact surface, a member having a surface fitting said contact surface and having a perforation therethrough for a conductor, and adjustable means for clamping said member against the contact surface of the support, whereby the conductor can be held between said surfaces, said member having a projecting hollow cylinder concentric with said perforation through which said conductor passes.

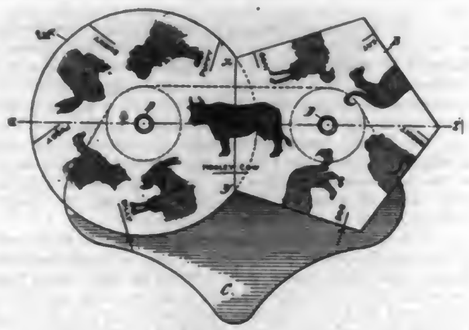
3. In an electrical connector, the combination of a conducting support having a screw-threaded part, a cylindrical member having a surface adapted to engage said support and having a perforation therethrough for a conductor, and a screw-threaded clamping member fitting the screw-threads on said support and having a perforation for receiving said cylindrical member, and provided with means whereby when it is screwed up on the support, said cylindrical member will be forced against the contact surface.

4. In an article of the class described, the combination of a support having a cylindrical screw-threaded part, a substantially cylindrical member having a circumferential shoulder at one end and provided with a central perforation for the reception of a conductor, and a hollow cylindrical clamping member having a screw-thread fitting the thread on the support and provided with an internal shoulder adapted to fit the shoulder on the cylindrical member and to hold the same in position whereby said cylindrical member may be clamped up against the support.

5. In an electrical connector or binding post, the combination of a conducting support adapted to be secured to the surface of a wall or the like and having on the opposite side thereof a continuous flat circular contact surface, a clamping member having a passage for the conductor, and a member located within the clamping member and extending therethrough and provided with a flat circular contact surface adapted to be brought into engagement with the first contact surface by the operation of the clamping member and provided with a central axial perforation therethrough perpendicular to said contact surface through which the end of the conductor may be introduced from the outer side thereof whereby the end of the conductor may be clamped between said contact surfaces.

975,119. TOY OR GAME. DONALD CAMPBELL, New York, N. Y. Filed June 16, 1910. Serial No. 567,129.

1. A toy or game comprising a pair of overlapping disks rotating about separated centers with a plurality of pictorial subjects applied thereto partly on each disk.



2. A toy or game comprising a pair of overlapping disks rotating about separated centers with a plurality of pictorial subjects applied thereto partly on each disk, the division of the several subjects being such that each subject portion will justify with the opposed portion of any other subject.

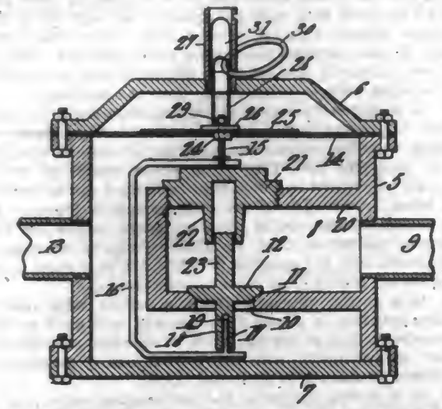
3. A toy or game comprising a pair of overlapping disks rotating about separated centers with a plurality of pictorial subjects applied thereto partly on each disk, the upper disk being polygonal.

4. As an article of manufacture, a toy or game comprising in combination a support to which disks are rotatively connected, a rotating disk connected to said support, a second rotating disk connected at a different point on said support so as to overlap the first disk at its edge, and a plurality of subjects printed or applied to said disks, each subject being partly on the first, partly on the second disk.

5. As an article of manufacture, a toy or game comprising in combination a support to which disks are rotatively connected, a rotating disk connected to said support, a second rotating disk connected at a different point on said support so as to overlap the first disk at its edge, and a plurality of subjects printed or applied to said disks, each subject being partly on the first, partly on the second disk; said second disk being polygonal so that the subject division lines are straight.

[Claims 6 to 9 not printed in the Gazette.]

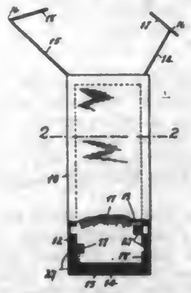
975,120. AUTOMATIC VALVE. HARRY CARLTON, Sapulpa, Okla. Filed June 3, 1910. Serial No. 564,806.



1. The combination with a casing having an outlet, and a chamber having an inlet, and an opening into the casing; of a valve controlling said opening, an apertured stem extending from the valve into the casing, a flexible diaphragm in the casing, a yoke carried by the diaphragm, and a stem on the yoke extending loosely into the aperture of the valve stem.

2. The combination with a casing having an outlet, and a chamber having an inlet, and an opening into the casing; of a valve controlling the opening, a flexible diaphragm in the casing, one side of said diaphragm being exposed to the pressure in the casing, and said casing having a vent tube on the other side of the diaphragm, said tube being slotted, a link carried by the diaphragm, and extending into the tube, and a ring connected to said link and passing through the slots of the tube, and a connection between the diaphragm and the valve.

975,121. BOX. JAMES H. CARTER, Chicago, Ill. Filed Jan. 27, 1910. Serial No. 540,412.



1. A folding box, comprising an inner and an outer wall, spacing members integral with the inner wall and abutting the outer wall, and closures integral with the inner and outer walls, respectively, some of said closures adapted to interlock with said spacing members.

2. A duplex box formed of a single piece of material and comprising two complete boxes, one of said boxes entirely inclosed within the other box and integral therewith, integral means for spacing the said boxes apart, integral closures for the boxes, and integral locking means for some of said closures.
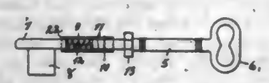
3. A duplex box formed of a single piece of flexible material and comprising an inner box, an outer box completely surrounding the said inner box and integral therewith, spacing means integral with the inner box, a plurality of closures for each of said boxes, the closures of the outer box being adapted to removably interlock with the spacing means on the inner box.

4. A duplex carton formed of a single piece of flexible material and comprising two complete boxes, one of said boxes containing the other box and integral therewith, means for spacing the said boxes apart, and a plurality of closures for each of said boxes, the closures of the outer box being adapted to interlock with portions of the inner box.

5. A box blank adapted to be folded to form a duplex container, said blank comprising two portions having different dimensions, foldable extensions on the larger portions provided with slots, tongues projecting from one margin of the smaller portion, and adapted to engage said slots when the blank is folded, spacing lugs on the smaller portion, and foldable extensions on said portion.

[Claims 6 to 11 not printed in the Gazette.]

975,122. DOOR-LOCKING DEVICE. FRANK S. CRABTREE, North Leeds, Me. Filed Apr. 11, 1910. Serial No. 554,657.



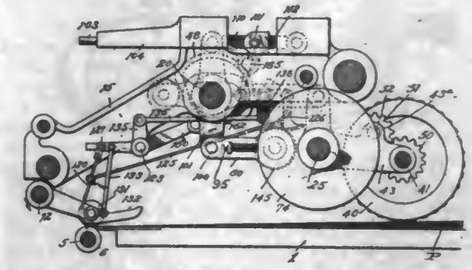
1. Key fastening means comprising a key formed in two sections, a spring normally holding said sections in extended relation, a sleeve embracing said sections, a squared member on one of the key sections, and an escutcheon plate adapted to engage said member when the key is in operative position without pressure and to release said member when the key is subjected to pressure.

2. Key fastening means, comprising a key formed in two sections, a spring normally holding said sections in extended relation, means slidably connecting said sections, a squared portion on the key, a key-hole plate adapted to be attached to a door, and a socket in the plate adapted to engage the squared portion of the key when the latter is applied to the lock without pressure, and to release said portion when inward pressure is exerted on the key.

3. Key fastening means, comprising a key formed in two sections slidably connected, a spring normally holding the said sections extended, a fixed nut attached to one of the sections, and means engaging said nut to prevent the turning of the key.

4. Key fastening means, comprising a key made in two sections one of said sections having the bit, and the other the bow portion, a sleeve secured to one of said sections and slidably engaging the other section, a spring arranged in said sleeve and normally holding said sections in extended rotation, means for limiting the extensibility of sections, an escutcheon having an opening and a recess therein and means on said key adapted to normally engage said opening and thereby prevent the turning of the key, and to enter said recess and thereby permit the turning of the key.

975,123. PAPER-FEEDING MACHINE. TALBOT C. DEXTER, Pearl River, N. Y., assignor to Dexter Folder Company, Pearl River, N. Y., a Corporation of New York. Filed Sept. 21, 1908. Serial No. 453,948.



1. In a paper feeding machine, the combination of a sheet support, with a sheet feeding instrument, a driving

shaft and planetary gear mechanism for operating said instrument, means for raising and lowering said instrument, and automatic means acting upon said planetary gear mechanism and adapted to arrest the operation of said instrument without stopping said shaft.

2. In a paper feeding machine, the combination of a sheet support, with a sheet feeding instrument, a driving shaft and planetary gear mechanism for operating said instrument, means for raising and lowering said instrument, automatic means acting upon said planetary gear mechanism and adapted to arrest the operation of said instrument without stopping said shaft, and suitable sheet delivery mechanism.

3. In a paper feeding machine, the combination of a sheet support, with a sheet feeding instrument, a driving shaft and planetary gear mechanism for operating said instrument, means for raising and lowering said instrument, and sheet-controlled means acting upon said planetary gear mechanism and adapted to arrest the operation of said instrument without stopping said shaft.

4. In a paper feeding machine, the combination of a sheet support, with a sheet feeding instrument, a driving shaft and planetary gear mechanism for operating said instrument, means for raising and lowering said instrument, sheet-controlled means acting upon said planetary gear mechanism and adapted to arrest the operation of said instrument without stopping said shaft, and suitable sheet delivery mechanism.

5. In a paper feeding machine, the combination with a sheet support, and a rotary sheet moving instrument, of automatically controlled driving mechanism constructed and arranged to arrest the rotation of said instrument without disconnecting any part of said driving mechanism from said instrument, and means for raising and lowering said instrument.

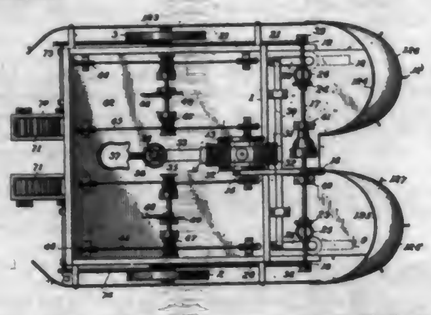
[Claims 6 to 39 not printed in the Gazette.]

975,124. ANTICORROSIVE COATING. FREDERICK E. DODGE, Malden, Mass. Filed Nov. 22, 1909. Serial No. 529,435.

1. The within described cement composed of red lead twenty parts; monoxid of lead twenty-five parts; white lead twenty-five parts; whiting eighteen parts; linseed oil two and one-half parts; Japan drier two parts; spirits of turpentine two parts, and China clay three parts.

2. The within described cement composed of red lead, unvitrified monoxid of lead, white lead and an inert earth in substantially equal proportions, and small amounts of boiled linseed oil, Japan drier and spirits of turpentine.

975,125. COTTON-HARVESTER. ROBERT L. EDWARDS, Darlington, S. C. Filed Feb. 27, 1908. Serial No. 418,133.



1. In a cotton harvester, the combination with the main frame, having a central cotton space of an armor surrounding said frame the front ends of said armor being rounded upon each side of the central cotton space, forwardly projecting conical extensions of said rounded ends of the armor at the bottom, and arms projecting from said extensions to the ground to engage and elevate fallen limbs of the cotton and direct them into the cotton space.

2. In a cotton harvester the combination with picking spindles, of means for rotating them, means for projecting them into the cotton space and for withdrawing them, and a wall provided with enlarged openings through which the spindles project tapering toward said cotton space, the edges of said openings being made sharp whereby trash is thrown outwardly against them by centrifugal action and is dislodged without being drawn into the machine.

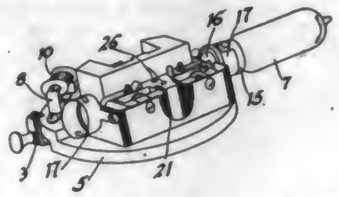
3. In a cotton harvester the combination with the main frame of the machine having a central cotton space, of picking spindles arranged at different elevations adapted to be projected into the cotton space, separated walls through which said spindles pass forming a cotton receiving space, at the side of the cotton space, a conveyer at the bottom of said cotton receiving space, means for discharging the cotton from the spindles within this space, and shields over the spindles in this space to protect them from cotton falling from spindles above.

4. In a cotton harvester the combination with rotary picking spindles, of means for subjecting each stalk to the successive action of different sets of spindles at different points longitudinally and vertically whereby practically all points of the stalks are acted upon.

5. In a cotton harvester the combination with rotary picking spindles, of means for projecting all of said spindles at once into the cotton space and means for subjecting each stalk to the successive action of different sets of spindles at different points longitudinally and vertically whereby practically all points of the stalks are acted upon.

[Claims 6 to 35 not printed in the Gazette.]

975,126. NERNST-LAMP BODY. OTTO FOELL and MAX HARRIS, Pittsburg, Pa., assignors, by mesne assignments, to Nernst Lamp Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Nov. 11, 1908. Serial No. 462,123.



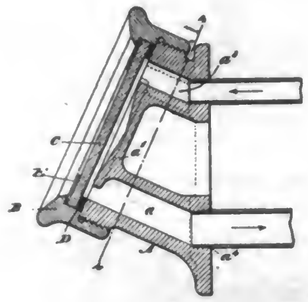
1. In combination in a body portion of a lamp of the class described, a circular insulating base, lamp terminals mounted on said base, a ballast terminal strip, a plurality of ballast tubes mounted on said strip, a cut-out device mounted on said insulating base, and terminal holes provided in said insulating base and adapted to receive terminal prongs.

2. In combination in a lamp body of the class described, a circular insulating base portion, lamp terminals mounted on said base, a ballast terminal and support strip mounted on said base, a plurality of ballast support sockets secured to said strip, ballast tubes mounted in said sockets and extending in substantially radial directions relative to said base portion, a cut-out device mounted on said base portion, and holes adapted to receive terminal plugs provided in said base portion and included in the lamp operating circuit.

3. In combination in a lamp body, an insulating base portion, lamp terminals mounted on said portion, a ballast terminal and support strip mounted on said portion, a plurality of ballast tube support sockets mounted on said strip, ballast tubes mounted in said sockets, and a spring terminal secured to said portion and contacting with the base of each ballast tube.

4. In combination in a lamp body, an insulating base portion, lamp terminals secured thereto, a ballast terminal and support strip mounted on said portion, a horizontally projecting ballast tube secured to said strip, and a cut-out device mounted on said portion and electrically connected to said strip.

975,127. SIGHT-FEED. LAWSON MAYO FULLER, Moline, Ill., assignor to Velie Motor Vehicle Company, Moline, Ill., a Corporation of Illinois. Filed July 31, 1909. Serial No. 510,632.



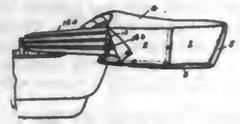
1. A device of the character described comprising a body having an inlet duct and a channel formed with an outlet opening through which said channel discharges said body having a dished surface bounded by said channel, a cover having a sight-opening and adapted for attachment to the body, and a transparent plate mounted in said cover to confront said dished surface and disposed at a desired distance therefrom to form a space for the passage of fluid, the transparent plate and dished surface causing the column of oil to spread in its passage under said plate, and the fluid passing over the edge of said dished surface into said channel.

2. A device of the character described comprising a body having an inlet duct and a circular channel in communication with an outlet port, the portion of the body surrounded by the circular channel having a conically dished surface, a cover having a sight opening and adapted for attachment to the body, a glass plate mounted in the cover and confronting the conically dished surface, a gasket interposed between the glass plate and body to space the former away from said conically dished surface to provide space for the passage of oil thereover said gasket being of any desired thickness the fluid space between the glass plate and conically dished surface being determined by the thickness of the gasket whereby the form of the column of oil flowing under the glass plate is changed when gaskets of different thicknesses are substituted one for the other.

3. A device of the character described comprising a body having a base flange and a screw-threaded top and formed with an arc-shaped channel partly surrounding a central core, the latter having an extension joining it with that portion of the body forming the outer wall of said channel, an inlet duct being located in said extension and extending throughout its depth from base to top, and an outlet opening being formed through the base and communicating with the arc-shaped channel, a cover having screw-threads to engage those of the body and having also a sight opening, a glass plate mounted in the cover and retained therein by the flange of the cover defining the sight opening, and a gasket interposed between the glass plate and the outer wall of the arc-shaped channel.

4. A device of the character described comprising a body portion having an inlet duct and a channel formed with an outlet opening and having also a surface bounded by said channel over which surface the oil spreads in its passage from the inlet to the outlet opening, a cover adapted for attachment to the body and formed with a sight-opening defined by a flange, a transparent plate mounted in said cover to confront said surface over which the oil spreads, and a ring mounted in said cover and having a portion of its surface exposed to view in said sight opening, said ring concealing from view the channel bounding said spreading surface.

975,128. AUTOMOBILE-HOOD. JOHN P. GORDON, Columbus, Ohio. Filed May 2, 1910. Serial No. 558,883.



1. A waterproof hood for automobile tops comprising a broad central strip, a narrow strip joined longitudinally to the edge thereof, a terminal strip similarly joined to the margin of the narrow strip, an apron strip similarly joined to the remaining margin of the central strip, smaller pieces at the respective extremities of the central strip and the narrow strip adapted to coöperate with the other strips and form a box-like inclosure when the cover is in a closed position, an elastic band in the terminal strip adapted to preserve a smooth external casing, means for securing the apron strip against the back of the seat, means for enwrapping the bows of the vehicle top and securing the cover in position.

2. In a hood for automobile tops, a plurality of waterproof strips joined along their parallel longitudinal margins, shorter rectangular pieces joined to the extremities of the interior strips and so united thereto as to form the several parts into a box-like inclosure when the hood is in a closed position, an elastic band adapted to preserve a smooth external casing, means for securing the parts in a closed position, means for binding the cover to the top of a vehicle, means for securing the apron against the back of the rear seat thereof.

3. In a hood for automobile tops, a broad strip adapted to form the top of a box-like inclosure therefor, an oppositely disposed strip adapted to form the bottom of the box, a narrow strip joined to the longitudinal margins of the broad strips respectively and to the ends thereof and terminating midway of the ends thereof adapted to connect the parallel side members of the box formation, short strips attached to the upper edges of the box adjacent to the termination of the narrow strips, means for securing said strips to complete the box-like inclosure, an apron strip joined to the broad strip and adapted to cover the back of the rear seat of the vehicle.

975,129. STABLE MIXTURE FOR PRODUCING HYDROGEN PEROXID. REINHOLD GRÜTER and HEINRICH POHL, Charlottenburg, Germany, assignors to Chemische Werke vorm. Dr. Heinrich Byk, Charlottenburg, Germany, a Corporation of Germany. Filed May 4, 1909. Serial No. 493,918.

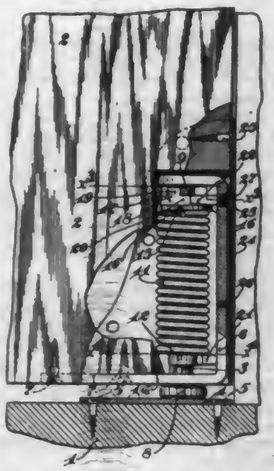
1. The herein described new, solid, stable mixtures of perborates containing a lesser quantity of water of crystallization than completely hydrated perborates and solid acid substances yielding hydrogen peroxid with water.

2. The new, solid, stable mixtures of finely ground perborates containing a lesser quantity of water of crystallization than completely hydrated perborates, and finely ground acid substances, which mixtures yield hydrogen peroxid when mixed with water.

975,130. DOUBLE-SWINGING-DOOR HINGE. OLE E. HALIN, Minneapolis, Minn. Filed Sept. 18, 1909. Serial No. 518,324.

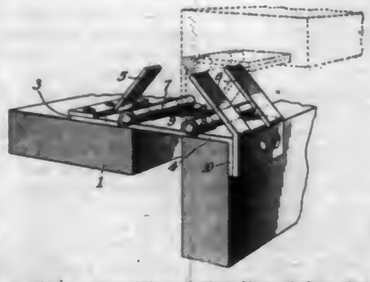
1. In a double swinging door hinge, the combination with a fixed spindle, of upper and lower hubs pivotally mounted on said spindle, a torsion spring tending to rotate said hubs in reverse directions, stops on said spindle limiting the reverse rotations thereof, a door bracket pivotally mounted on said spindle, presser feet carried by said door bracket and engageable with reversible acting shoulders of said upper and lower hubs, and set screws on said door bracket affording adjustable bases of reaction for said presser feet, substantially as described.

2. In a double swinging door hinge, the combination with a fixed spindle, of upper and lower hubs pivotally mounted on said spindle, one thereof having an adjustable section, a torsion spring reacting against said hubs and tending to rotate the same in reverse directions on said spindle, projecting stop pins on said spindle engaged by shoulders of said lower hub and the adjustable section of said upper hub and limiting the reverse rotations of said



hubs under tension of said spring, a door bracket pivotally mounted on said spindle, reversely extended upper and lower presser feet adjustably mounted on said door bracket and engageable with reversible acting shoulders of said lower hub and of the adjustable section of said upper hub, and set screws in said door bracket affording adjustable bases of reaction for said presser feet, substantially as described.

975,131. HINGE. JOSEPH HAUER, Chicago, Ill., assignor to Jerome L. Deimel, Chicago, Ill. Filed Mar. 14, 1910. Serial No. 549,169.



1. A hinge, comprising a plurality of flat plates hinged together on axes substantially parallel to the plane of one of the adjacent plates to permit relative movement in one plane with respect to a plurality of different joints, and stops projecting from one or more of said plates and abutting against others for limiting the movement at each of said joints.

2. A hinge, comprising a plurality of flat plates hinged together to permit relative movement in one plane with respect to a plurality of different joints, and stops projecting from one or more of said plates and abutting against others for limiting the movement at each of said joints, each of said stops being disposed at an angle to the plate to which it is secured and located to engage the joint between two other plates.

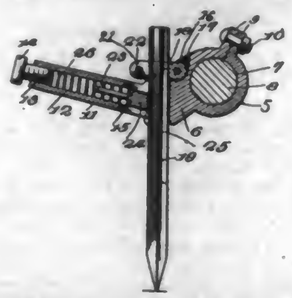
3. A hinge, comprising three plates hinged together end to end to permit relative motion about two joints spaced apart, a stop on one of said plates located to engage the joint between the other two for limiting the movement of said one plate with respect to another.

4. A hinge, comprising an inner plate and two outer plates respectively hinged to opposite ends of said inner plate, each of said outer plates having thereon a stop inclined at an angle thereto and adapted to engage said inner plate adjacent to its joint with the other outer plate.

5. A hinge, comprising an inner plate and two outer plates respectively hinged to opposite ends of said inner plate, one of said outer plates having thereon a stop inclined at an angle thereto and adapted to engage said inner plate adjacent to its joint with the other outer plate.

[Claims 6 and 7 not printed in the Gazette.]

975,132. HARROW-TOOTH HOLDER. JOHN H. HOARD, Purmela, Tex. Filed Oct. 20, 1909. Serial No. 523,662.



1. The combination with a supporting bar, of a tubular tooth holder mounted for rotary and longitudinal movement on the bar and provided with spaced laterally extending ears, a clamp carried by the holder and provided with spaced vertically disposed ears arranged on one side of said bar, a harrow tooth slidably mounted for vertical movement between the ears of the clamp and movable in a plane at substantially right angles to the supporting bar and independently of the latter, a fastening device extending horizontally through the ears of the clamp for securing the harrow tooth in different positions of vertical adjustment, and a fastening device piercing the ears of the tooth holder for clamping the latter in adjusted position on the supporting bar.

2. The combination with a supporting bar, of a holder mounted for longitudinal and rotary movement on the bar, a clamp pivotally mounted for vertical movement on the holder, a harrow tooth carried by the clamp mounted on the holder, and means for yieldably supporting the harrow tooth in normal position.

3. The combination with a supporting bar, of a holder mounted for longitudinal and rotary movement on the bar, a clamp pivotally mounted for vertical movement on the holder and a harrow tooth carried by and adjustable vertically of the clamp.

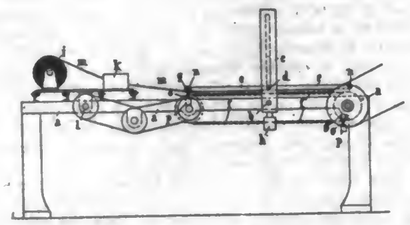
4. The combination with a supporting bar, of a holder carried by the bar, a clamp pivotally mounted on the holder, a harrow tooth carried by and adjustable vertically of the clamp, a spring actuated plunger normally bearing against the harrow tooth for holding the latter in operative position.

5. The combination with a supporting bar, of a holder secured to the bar and provided with a longitudinally disposed shank, a clamp pivotally mounted on the holder, a harrow tooth carried by the clamp and having its active end extending through the shank of the holder, and a spring mounted in the shank and normally bearing against the harrow tooth.

[Claims 6 to 11 not printed in the Gazette.]

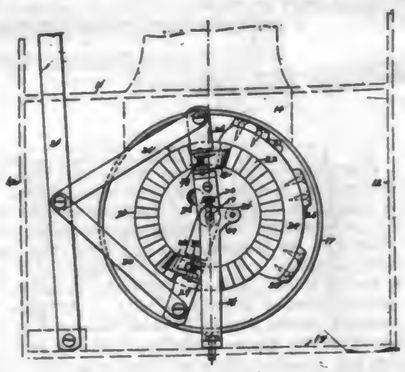
975,133. WINDING DEVICE. JULIUS JACOBSON, Berlin, Germany. Filed May 11, 1909. Serial No. 495,321.

1. A winding device comprising a main frame, slotted uprights pivoted thereto, a reel located between the uprights and having pintles engaging with the slots in the uprights, projections on the ends of the reel, an endless chain, and catches carried by the chain for engaging with the projections to rotate and displace the reel in the upright.



2. A winding device comprising a main frame, slotted uprights pivoted thereto, a reel located between said uprights and having pintles engaging with the slots, an endless chain, grippers carried thereby engaging within the ends of the reel for displacing and rotating the same with the uprights, and transversely slidable means for supporting the material to be wound on the reel.

975,134. STARTING DEVICE. WILLIS JOHNSTON, Schenectady, N. Y. Filed Aug. 15, 1910. Serial No. 577,186.



1. A motor starting device, including a rotor; and a rotatable friction block, eccentrically mounted with respect to said rotor and thereby engageable with said rotor during a portion only of the rotation of said block.

2. A motor starting device, including a crank shaft; a fly wheel on said shaft and formed with a concentric flange; and a rotatable friction block eccentrically mounted with respect to said flange and thereby engageable with said flange during a portion only of the rotation of said block.

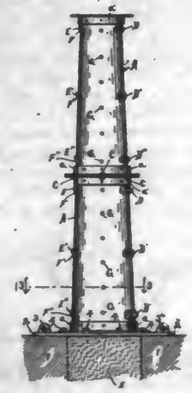
3. A motor starting device, including a crank shaft; a fly wheel on said shaft and formed with a concentric flange; and a rotatable friction block eccentrically mounted with respect to said flange and having a plurality of bearing surfaces successively engageable with said flange during a portion only of the rotation of said block.

4. A motor starting device, including a crank shaft; a fly wheel on said shaft and formed with a concentric flange; and a rotatable friction block eccentrically mounted with respect to said flange and having a spring supported bearing surface engageable with said flange during a portion only of the rotation of said block.

5. A motor starting device, including a crank shaft; a fly wheel on said shaft and formed with a concentric flange; and a rotatable friction block eccentrically mounted within said flange and thereby engageable with said flange during a portion only of the rotation of said block.

[Claims 6 to 10 not printed in the Gazette.]

975,135. POST OR POLE FORMING DEVICE. MATHER B. KELSEY and HENRY LAMAR MONARCH, Richmond, Ind. Filed Nov. 12, 1909. Serial No. 527,611.



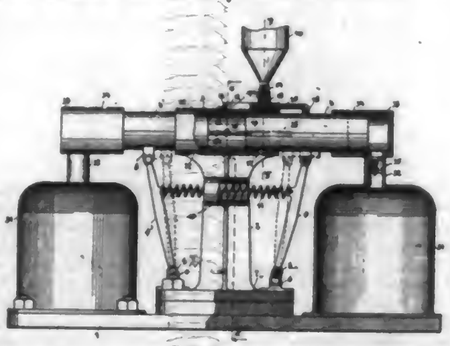
1. A post or pole forming device, comprising in combination, sections formed round in cross-section and tapering from bottom to top, each section being divided longitudinally into two equal members, separable two-part hinges for connecting two of the adjoining edges of the members, said hinges being adapted to lock together as the opposite edges of the members are brought toward each other, hooks for detachably securing the opposite edges of the members together, separable two-part collars disposed around the sections, the members of each of said collars being rigidly secured to the respective members of the section, means for locking the members of the collars together, a base-plate upon which the sections may rest and to which the lower end of the lower section may be detachably secured, and means (as by rods H) for forming apertures horizontally through the post or pole formed in the device, all substantially as shown and described.

2. A post or pole forming device, comprising in combination, a plurality of sections formed round in cross section and tapering from the lower end of the lower section to the top of the upper section, each of the sections being divided longitudinally into two equal members, separable two-part hinges for connecting together the adjoining edges of the two members, said hinges being adapted to lock together as the opposite edges of the members are brought together, hooks and pins for detachably securing the opposite edges of the members together, separable two-part collars disposed around the upper and the lower ends of the section, said collars being formed of angle-iron the members of each collar being secured to the respective members of the section, means for locking the members of the collars together, means for securing a plurality of said sections together pyramidically, a separable two-part base-plate, and means for securing the lower end of the lower section to said base-plate, all substantially as shown and described.

975,136. AIR-COMPRESSOR. JAMES J. KIELY, Chicago, Ill. Filed Dec. 8, 1909. Serial No. 531,973.

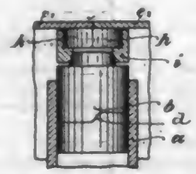
1. The combination in an air compressor of an explosion engine, air tanks mounted adjacent said engine, said engine comprising a horizontal stationary cylinder open at both ends, oppositely acting pistons mounted in the respective ends of said cylinder, levers fulcrumed at one end and having their opposite ends connected respectively to said pistons, resilient means interposed between said levers for normally holding said pistons at their inner extremities of movement, and means for automatically feeding a percussion-powder ball into said cylinder with each reciprocation of said pistons, and means co-acting with said pistons whereby, upon each reciprocation of said pistons, air is forced into said tanks, substantially as described.

2. The combination in an air compressor of an explosion engine, air tanks mounted adjacent said engine, said engine comprising a horizontal stationary cylinder open at both ends, oppositely acting pistons mounted in the respective ends of said cylinder, levers fulcrumed at their lower ends and having their upper ends connected respectively to said pistons, resilient means interposed between said levers for normally holding said pistons with their inner extremities contacting, said cylinder being provided substantially centrally in its upper side with an opening, a percussion-powder ball magazine, and means whereby, upon each reciprocation of said pistons a ball is fed to said opening, and means co-acting with said pistons whereby, upon each reciprocation thereof, air is forced into said tanks, substantially as described.



3. The combination in an air compressor of an explosion engine, air tanks mounted adjacent to said engine, said engine comprising a horizontal stationary cylinder open at both ends, oppositely acting pistons mounted in the respective ends of said cylinder, substantially vertically disposed levers having their lower ends fulcrumed and having their upper ends connected respectively to said pistons, a helical tension spring having its respective extremities connected to said levers for normally holding said pistons with their inner ends contacting, said cylinder being provided substantially centrally in its upper side with an opening, a percussion-powder ball magazine mounted above said cylinder, a channel leading from the lower exhaust end of said magazine to said opening, means carried by one of said pistons adapted, upon each reciprocation thereof, to remove a powder ball from said magazine and to force the same in said groove into said opening, means in said cylinder adapted to centrally position the ball dropped therein, a safety valve provided in the walls of said cylinder, means co-acting with said pistons whereby, upon each reciprocation of said pistons, air is forced into said tanks, and check valves provided in said tanks.

975,137. REMOVABLE WHEEL-RIM FOR PNEUMATIC TIRES. RUDOLF KRONENBERG, Ohligs, Germany. Filed Dec. 21, 1907. Serial No. 407,461.



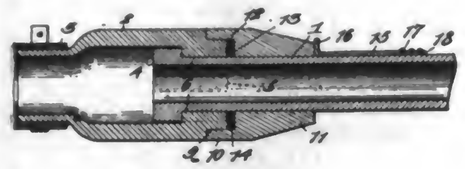
1. A wheel rim in halves provided with semi-circular projections extending radially inwardly, clamping rings fitting over said projections having socket holes in line with the spokes in combination with pins movably secured in the ends of the spokes and of means to force the heads of the pins into the socket holes substantially as described.

2. A wheel rim in halves provided with semi-circular projections extending radially inwardly, clamping rings fitting over said projections having socket-holes in line with the spokes in combination with spokes having pins in the ends thereof, said pins having a beveled inner face and of plugs with a beveled outer face firmly secured in the spokes in contact with the inner face of the pins substantially as described and for the purpose set forth.

3. A rim, a tubular threadless spoke, a bolt inserted within the spoke, and threadless bodily endwise movable means within the spoke acting upon the inner end of said bolt, one of said parts being rotatable in contact with the end of said bolt, whereby the bolt may be forced outward to connect the spoke with the rim.

4. The combination with a threadless tubular spoke, a detachable rim and a bolt slidably mounted within the spoke with coöperating interlocking engaging means between the rim and the outer end of the bolt, of means within the spoke for engagement with the inner end of the bolt, whereby rotative engagement between the inner end of the bolt and said means serves to force the bolt outward into interlocking engagement with the rim.

975,138. HOSE-COUPLING. LOUELLA LANCASTER, Quincy, Ky. Filed Mar. 23, 1910. Serial No. 551,039.



1. A device of the character set forth comprising inner and outer tubular members detachably engaged with each other, a guard sleeve slidable on the inner member to retain the outer member in position on the latter, and a latch pivoted on the inner member and adapted to engage said sleeve to retain it in its effective position.

2. A device of the character set forth comprising an outer member formed in its bore with a projection, an inner member having a head to enter the outer member and formed with a groove extending from end to end of said head and a seat of less length than said head, whereby the projection on the outer member may be passed through the groove in said head and brought into engagement with said seat, a guard sleeve slidable on the inner member and adapted to engage the outer member to retain the projection in said seat, and a locking means for said sleeve.

3. A device of the character set forth comprising an outer member formed in its bore with a projection, an inner member having a head to enter the outer member and formed with a groove extending from end to end of said head and a seat of less length than said head, whereby the projection on the outer member may be passed through the groove in said head and brought into engagement with said seat, a flanged guard sleeve slidable on the inner member and adapted to engage the outer member to retain the projection in said seat, a packing ring in said sleeve, and a locking means for said sleeve.

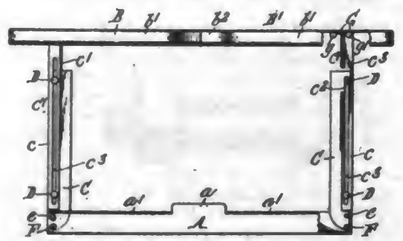
4. A device of the character set forth comprising an outer member formed in its bore with a projection, an inner member having a head to enter the outer member and formed with a groove extending from end to end of said head and a seat of less length than said head, whereby the projection on the outer member may be passed through the groove in said head and brought into engagement with said seat, a guard sleeve slidable on the inner member and adapted to engage the outer one to retain the projection in said seat, and a pivoted latch on the inner member to engage the guard sleeve and retain it in effective position.

975,139. LACE-FASTENER. HARRY F. LEVI, Pittsburg, Pa. Filed Mar. 16, 1909. Serial No. 483,700.



A lace fastener comprising a vertically-disposed body-portion having a right-angularly disposed shank at each end, said shanks extending in opposite directions with respect to each other, a tongue formed integral with each of said shanks and extending in opposite directions with respect to each other and at right angles to its respective shank, the inner edges of said tongues in connection with the side edges of the body-portion providing a pair of slits for the reception of a lace, each of said tongues at its juncture with its respective shank off-set, whereby each of said tongues will extend in a lateral plane to one side of the plane in which the body-portion extends, said body-portion having each of its outer corners cut-away and rounded, and each of said shanks having its longitudinal edge provided with a fastening prong.

975,140. BOOK-REST. EBASTUS C. LOCKWOOD, Cleveland, Ohio. Filed July 29, 1908. Serial No. 445,969.



1. A book rest adapted to rest and to be moved on a supporting surface and comprising connected front, back and side members, said back member being of greater height than said front member to support an open book in an inclined position, said side members adjustably and detachably connecting the front and back members to each other and permitting the relative adjustments of the front and back members to accommodate books of different sizes and enabling the parts of the rest to be disconnected and collapsed into compact form, substantially as set forth.

2. A book rest adapted to rest and to be moved on a supporting surface and comprising connected front, back and side members arranged to support an open book, said side members consisting of relatively movable sections whereby said front and back members may be adjusted relatively to each other, and means for clamping the sections of said side members in adjusted position, the opposite ends of the side members being movably connected to said front and back members, substantially as set forth.

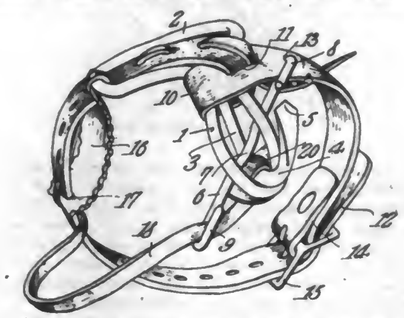
3. A book rest comprising connected front, back and side members arranged to support an open book, said side members adjustably and detachably connecting said front and back members, whereby said front and back members can be adjusted toward and from each other and can be disconnected for collapsing said rest, substantially as set forth.

4. A book rest comprising connected front, back and side members arranged to support an open book, said side members detachably connecting said front and back members, and said back member consisting of hinged sections adapted to be folded upon each other, substantially as set forth.

5. A book rest comprising connected front, back and side members arranged to support an open book, said side members consisting of sections detachably connected to each other and hinged to said front and back members, substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

975,141. CORN-HUSKER. THOMAS I. LUDWIG, Jackson, Mich. Filed June 11, 1909. Serial No. 501,625.



1. A corn husker consisting of a curved bearing portion, and a stem having all portions located within said bearing portion, said stem terminating in a hook outstanding from the bearing portion, an intermediate portion of the hook being constantly in contact with and supported by said bearing portion.

2. A corn husker including a non-flexible member having one end portion broadened to constitute a bearing for the hand, a stem within said member and a hook at one end of the stem and outstanding from and constantly bearing at an intermediate point upon the said member.

3. A corn husker including a non-flexible member having one end portion broadened to constitute an eye and a bearing for the hand, a stem within said member and extending from the eye portion, a hook at one end of the stem and outstanding from said member, the point of the hook being extended in the direction of the eye, a wrist strap extended through the eye and a thumb loop threaded into the strap.

4. A corn-husker including a wire bent into an elongated loop having a stem therein terminating in a pointed hook, said hook bearing upon the loop, flexible devices for attaching the wire to the hand, and a connecting rod interposed between the stem and loop and engaging said devices.

5. A corn-husker including a wire bent into an elongated loop having an eye at one end, a longitudinal stem within the loop and a hook at one end of the stem, said hook bearing upon the loop, flexible attaching means connected to the loop and eye, and a connecting rod interposed between the stem and loop and detachably connected to said attaching means.

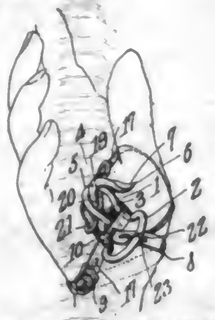
[Claims 6 to 16 not printed in the Gazette.]

975,142. CORN-HUSKER. THOMAS I. LUDWIG, Jackson, Mich. Filed Aug. 28, 1909. Serial No. 515,069.

1. A corn husker including an eye portion having a stem projecting therefrom, there being a hook at the free end of the stem, an attaching device looped about the stem and having one end portion extending through the eye, means upon said device for securing it about a wrist, and a thumb thong threaded through the attaching device and through the eye for securing said device to the eye, an intermediate portion of said thong being extended across the stem to constitute a cushion.

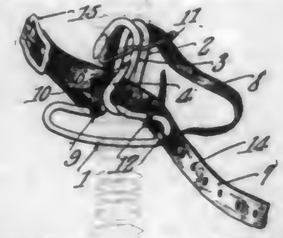
2. A corn husker including an eye portion having an elongated stem projecting therefrom, there being a hook upon the stem, a wrist strap wrapped about the stem and threaded through the eye, a thumb thong threaded

through the strap and eye for attaching said strap to the eye, a portion of said thong being extended across the stem to constitute means for holding the stem out of contact with the hand.



3. A corn husker including an eye portion, a stem extending therefrom and having a hook, a wrist strap wrapped about the stem and extending through the eye, a thumb thong threaded through the strap and eye for attaching said strap to the eye, said thong being extended under the stem to constitute means for holding the stem out of contact with the hand, and means engaging the stem for holding the thong in position thereunder.

975,143. CORN-HUSKER. THOMAS I. LUDWIG, Jackson, Mich. Filed Nov. 8, 1909. Serial No. 526,836.



1. A corn husker including a husking element, a hook extending therefrom, an attaching strap engaging said element and a strap protecting wear device adjacent the strap and extending between said element and the end of the hook.

2. A corn husker including a husking element having a hook upstanding therefrom, an attaching strap, a thong threaded through the strap for attaching the husker thereto, and a strap protecting wear device extending between said element and the end of the hook.

3. A husker including a husking element having a hook, flexible attaching means connected to the husker, and a wear device for protecting said means, said device extending between the element and the end of the hook and constituting means for preventing the attaching means from crowding into the hook.

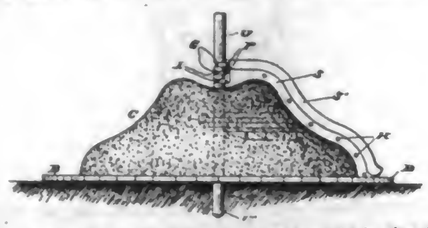
4. A husker including a husking element having a hook at one end, a wear device bearing downwardly on said element and below the end of the hook, and flexible attaching means, said wear device constituting means for holding the attaching means against movement into the hook.

5. A husker including an eye, an element extending therefrom, a member having a hook outstanding from said element, attaching means engaging said element and a wear device upon said element for holding the attaching means against movement into the hook.

[Claims 6 to 15 not printed in the Gazette.]

975,144. POTTERY-FORMER. THOMAS LUNN, Decatur, Ill. Filed Nov. 4, 1909. Serial No. 526,257.

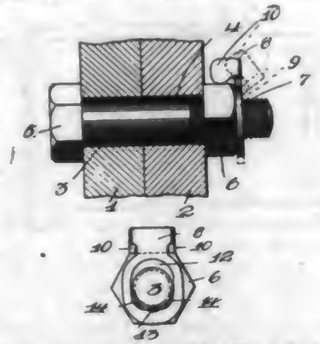
1. A pottery former comprising a rigid upright around which the material of the core is adapted to be piled, a scraper removably hinged to said upright and with its lower edge having the configuration it is desired to give the core and hence one side of the finished article, the scraper having holes through it for the purpose set forth, and a sweep removably hinged to said upright at a higher point and with its lower edge having the configuration it is desired to give the other side of the finished article.



2. A pottery former comprising an upright having three grooves, two like scrapers having eyes separately and removably hinged in the two lowermost grooves so that the scrapers shall swing around the upright in the same plane, the scrapers having transverse registering holes for the purpose set forth, and a sweep having an eye hinged in the uppermost groove, the lower edges of the scrapers and sweep having the desired configuration.

3. A pottery former comprising an upright, eyes encircling it, two like scrapers detachably connected with two of said eyes and adapted to swing in the same plane, the scrapers having transverse registering holes for the purpose set forth, and a sweep connected with another of said eyes and adapted to swing in a plane above the scrapers.

975,145. NUT-LOCK. THOMAS F. A. MAHER, Pittsburg, Pa. Filed Sept. 1, 1910. Serial No. 580,056.

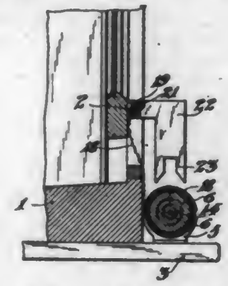


In a nut lock, the combination with a bolt and a nut screwed upon said bolt, of a washer adapted to fit upon said bolt against the outer side of said nut and retain said nut upon said bolt, said washer comprising an oval plate having an oval opening formed therein, a beveled teat carried by the lower wall of said opening, beveled diametrically opposed ribs carried by the side walls of said opening and adapted to be shifted into engagement with the threads of said nut by moving said washer upwardly, an extension carried by the upper edge of said washer, and diametrically opposed nut gripping lugs carried by the vertical edges of said extension, said extension and said lugs being bent whereby the lower edges of said lugs will engage one of the facets of said nut, substantially as, and for the purpose herein described.

975,146. WINDOW-SCREEN. LUDWIG MANELIUS, Philadelphia, Pa. Filed June 15, 1910. Serial No. 566,908.

1. A window screen comprising a spring roller having an angular spring rod, brackets adapted to be secured to a window sill and support said roller, and a screen secured at one end and wound on the roller, of a bar secured to the free end of the screen, and means on said bar constructed to engage said angular rod preventing turning of the latter, substantially as described.

2. In a window screen, the combination with a roller having a recess in one end, of a rod mounted to turn in said recess, a coiled spring around said rod in the recess secured at one end to the rod and at the other end to the roller, said rod projecting out beyond the end of the roller and having an annular groove therein, a split disk secured on the end of the roller and located in said groove, the outer end of said rod being of two diameters, both diameters angular in cross section, a screen secured to one end of said roller and wound thereon, brackets adapted to support said roller, a bar fixed to the free end of said screen and adapted to be connected to a window sash and means on said bar constructed to engage the larger angular diameter of the angular end of said rod and prevent rotary movement thereof when the sash is lowered, substantially as described.

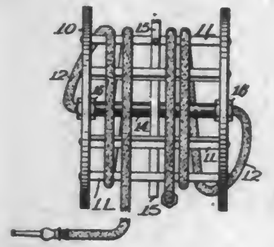


3. In a window screen, the combination with a roller, having a recess in one end, of a rod mounted to turn in said recess, a coiled spring around said rod in the recess secured at one end to the rod and at the other end to the roller, said rod projecting out beyond the end of the roller and having an annular groove therein, a split disk secured on the end of the roller and located in said groove, the outer end of said rod being of two diameters, both diameters angular in cross section, a screen secured to one end of said roller and wound thereon, a trunnion fixed to the opposite end of said roller, brackets constructed to support said roller, one bracket having a circular opening to receive said trunnion, the other bracket having a recess to receive the smaller diameter of the angular end of the rod, said bracket having a notch in the upper wall of the recess at its inner end, and a bar fixed to the free end of said screen and adapted to be secured to a sash, substantially as described.

4. In a window screen, the combination with a roller, having a recess in one end, of a rod mounted to turn in said recess, a coiled spring around said rod in the recess secured at one end to the rod and at the other end to the roller, said rod projecting out beyond the end of the roller and having an annular groove therein, a split disk secured on the end of the roller and located in said groove, the outer end of said rod being of two diameters, both diameters angular in cross section, a screen secured to one end of said roller and wound thereon, a trunnion fixed to the opposite end of said roller, brackets constructed to support said roller, one bracket having a circular opening to receive said trunnion, the other bracket having a recess to receive the smaller diameter of the angular end of the rod, said bracket having a notch in the upper wall of the recess at its inner end, a bar secured to the free end of said screen and comprising two sections having diagonal meeting faces with the wire netting secured between them, said bar having openings therein to receive hooks on a window sash, and a bracket fixed to said bar and having a forked or bifurcated lower end adapted to straddle and hold the said rod against rotary movement, substantially as described.

975,147. HOSE-REEL. STEPHEN M. MARSHALL, Clinton, Mass. Filed Sept. 9, 1909. Serial No. 516,909.

1. As an article of manufacture, a hose reel having a cylindrical space thereon for receiving the hose divided into two parts so that the hose can be wound on the reel from the center toward both ends simultaneously, whereby in unwinding one end by rotation of the reel, the other end will be unwound at an equal rate of speed; the reel having means for supporting a portion of the hose in rigid position.



2. As an article of manufacture, a hose reel having a central longitudinal tube, a hose passing through said tube, the ends of which extend therefrom at opposite ends of the reel, the reel being provided with two spaces on the outside, one for receiving each half of the hose.

3. As an article of manufacture, a hose reel having means extending longitudinally thereof for receiving the center of the hose and having passages through both ends through which the opposite ends of the hose are adapted to pass inwardly so that the hose passed through the center of the reel may be wound on the circumference thereof.

4. As an article of manufacture, a hose reel having a central longitudinal tube, and hose extending from the opposite ends of said tube, said reel having two spaces on the circumference for receiving the two parts of hose thereon.

5. As an article of manufacture, a hose reel adapted to roll along on the ground and provided with two circular ends, a cylindrical space between them for receiving the hose, a central pipe extending therethrough longitudinally between the ends, and a separating plate mounted on said pipe and extending toward the circumference of the reel to separate two portions of the hose to be wound thereon.

975,148. PROCESS FOR RECOVERING ANTIMONY FROM ORES AND THE LIKE. JOHN ROY MASSON, Melbourne, Victoria, Australia. Filed Oct. 26, 1909. Serial No. 524,667.

1. A process for recovering antimony consisting in subjecting the material to an alkali solution and then precipitating the antimony on aluminum.

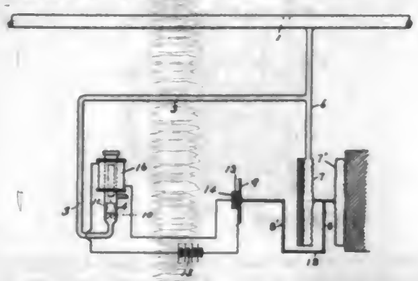
2. The herein described process for the recovery of antimony in a pure state from ores or concentrates or from tailings and slimes consisting in dissolving the antimonial contents with a solution of caustic alkali and then precipitating the antimony contained therein on aluminium—substantially as described.

975,149. AUTOMATIC GAS-FEED FOR VACUUM-TUBES. DANIEL MCFARLAN MOORE, Newark, N. J., assignor to Moore Electrical Co., New York, N. Y., a Corporation of New York. Filed Nov. 8, 1906. Serial No. 342,474.

1. The combination with a vacuum tube, of a gas passage connected therewith, electromagnetically operated means for controlling the flow of gas in said passage, devices subject to the varying elastic pressure of the gas or vapor within the tube, a variable resistance controlling the action of the electromagnetically operated devices, said variable resistance being in turn controlled by and responsive to the devices subject to the varying elastic pressure of the gas or vapor.

2. The combination of a vacuum tube, means for passing gas through a passage way connected to the tube, a controlling electromagnet, a variable resistance and operative devices of an aneroid manometer, operating on said resistance to vary the action of the electromagnet.

3. The combination of a vacuum tube, an electro-magnetically controlled valve controlling the passage leading to and from said tube, a variable resistance, devices subject to the varying elastic pressure of the gas or vapor in the tube, and means connecting said resistance and said devices, whereby said resistance will be varied in response to changes in the gas or vapor tension in the tube.

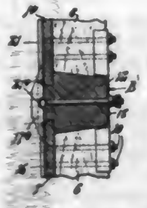


4. The combination of a vacuum tube, an electro-magnetically actuated valve controlling the passage leading to and from the tube, a mass of granular carbon in the circuit of the electro-magnet, a diaphragm subject to the varying elastic pressure of the gas or vapor within the tube and a disk acting on said carbon and mechanically connected with the diaphragm so as to vary the compression of the mass of granular carbon when a variation in the gas or vapor tension within the tube affects the diaphragm.

5. The combination of a vacuum tube, devices responsive to variations in the elastic pressure of the gases within the tube, means controlled thereby for feeding gas to the tube, and means for compensating for the changes of barometric pressure upon said devices.

[Claims 6 to 14 not printed in the Gazette.]

975,150. SHOW-WINDOW OR STORE-FRONT. DANIEL J. MURNANE, St. Louis, Mo. Filed Feb. 23, 1909. Serial No. 479,388.



1. In a window structure, an outside glass-clamping member which consists of a piece of sheet metal molding having a longitudinally extending rib pressed therein, a cap-piece mounted upon said molding and provided on its under side with a recess or notch for receiving said rib, and a device passing outwardly through said molding and engaging said cap-piece for causing said cap-piece to press the molding tightly against the glass.

2. In a window structure, an outside glass-clamping member consisting of a piece of sheet metal molding having a longitudinally extending rib pressed therein, a cap-piece mounted upon said molding and provided on its under side with a notch or recess that receives the rib on said molding, a shank projecting inwardly from said cap-piece through an opening formed in said rib, and an adjustable device on the inner end of said shank for drawing said cap-piece inwardly and thus causing it to clamp the molding tightly against the glass.

3. In a window structure, the combination of two outside glass-clamping members arranged at an angle to each other, a cap-piece that covers the joint between said members, said cap-piece being provided with a flange that projects inwardly toward the glass and which fits in the corner formed by the junction of said members, and means for drawing said cap-piece inwardly so as to cause it to force said clamping members tightly against the glass.

4. In a window structure, an outside glass-clamping member, a cap-piece mounted on said member and projecting laterally therefrom, said cap-piece having a rabbet in which said member lies, a non-metallic facing interposed between the laterally projecting portions of said cap-piece and the glass so that said cap-piece and clamping member will bear uniformly on the glass, an inside glass-clamping member provided with a long central portion that is curved inwardly slightly, said central portion having laterally projecting ears that have non-metallic facings, and a device passing through the curved portion of said inside clamping member and connected to said cap-piece for securing said parts together.

5. A glass-retaining means comprising a continuous corner angle that is adapted to cover the joint between two plates of glass, a cap-piece mounted upon said angle and projecting laterally beyond the side edges of same, and a device passing through said corner angle and connected to the under side of said cap-piece to retain it in position, the portions of said cap-pieces which project beyond said angle being provided on their under sides with pockets which receive a plastic substance that insures a uniform bearing of the corner angle and cap-piece on the glass.

[Claim 6 not printed in the Gazette.]

975,151. FORMIC ACID. MAX NEUMANN, Wiesbaden, Germany, assignor to General Chemical Company, New York, N. Y., a Corporation of New York. Filed June 9, 1910. Serial No. 566,077.

1. The process of making formic acid which consists in causing a formate and phosphoric acid to interact at a temperature below that at which the formic acid is decomposed, substantially as and for the purpose described.

2. In the process of making formic acid the step which consists in mixing a formate and phosphoric acid and allowing the same to interact without the addition of heat, substantially as and for the purpose described.

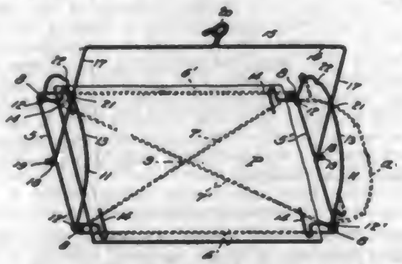
3. In the process of making formic acid the step which consists in mixing a formate and phosphoric acid and allowing the same to interact at a temperature below that at which the formic acid is decomposed, substantially as and for the purpose described.

4. The process of making formic acid which consists in causing a formate and phosphoric acid to interact without the addition of heat until there is no longer any rise in temperature due to the reaction, substantially as and for the purpose described.

5. The process of making formic acid which consists in causing a formate and phosphoric acid to interact without the addition of heat until there is no longer any rise in temperature due to the reaction, and then isolating the formic acid so produced, substantially as and for the purpose described.

[Claims 6 to 8 not printed in the Gazette.]

975,152. FLY-PAPER HOLDER. ALBIN OLSSON, Seattle, Wash. Filed Feb. 3, 1910. Serial No. 541,949.



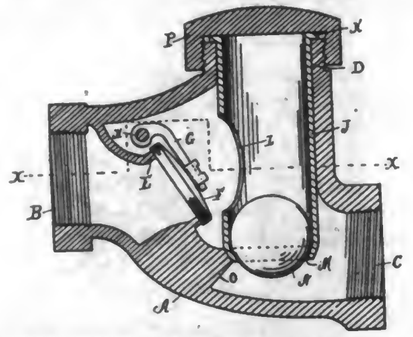
1. In a fly-paper holder, a frame, clamping members mounted on said frame and provided with offset portions

tiltable in contact with said frame, and a ball adapted to tilt said members into contact with said frame.

2. A fly-paper holder comprising a rectangular frame, a ball pivoted at each end of the frame, and clamping members at each end of the frame and urged into clamping relation therewith by pressure exerted by said ball.

3. A fly-paper holder comprising a frame, a ball pivoted at each end of the frame, and clamping members at each end of the frame and urged into clamping relation therewith by pressure exerted by said ball, said members being adapted to retain said ball in vertical or angular relations.

975,153. AUTOMATIC SAFETY CHECK-VALVE. JOSEPH C. O'NEILL and JOHN S. DYE, Trenton, N. J. Filed May 11, 1910. Serial No. 560,612.



1. In a check valve, a casing having an inlet, an outlet and an opening, an internal spout formed integral with the walls of the casing relatively near the inlet, a guide provided with an aperture and valve seat mounted in the opening, a float valve placed in said guide, a lid, and a swinging arm on the free end of which is mounted said lid, said lid adapted to close the spout for preventing back pressure and for holding the float valve up or down, depending upon the position of said float valve.

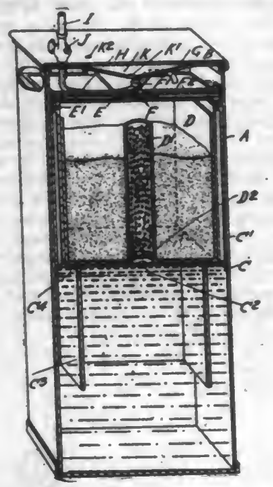
2. In a check valve, a casing having an inlet, an outlet and an opening, an internal spout formed integral with the walls of the casing relatively near the inlet, a guide provided with an aperture and valve seat mounted in the opening, a float valve placed in said guide, a bolt passing through the walls of the casing, an arm swingingly mounted thereon, a lid mounted upon the free end of said arm for closing the spout for holding the float valve up or down, depending upon the position of said float valve, and a cap threaded over the opening to hold the guide in place and prevent the passage of water through said opening.

3. In a check valve, a casing having a passageway therethrough, a guide having an inlet and an outlet at right angles to one another, said guide being mounted in the casing and extending into the passageway, and a float valve placed in said guide, said valve being at one time above and at another time below the line of the liquid flow.

4. In a check valve, a casing having an inlet and an outlet, a guide having a valve seat and an aperture at right angles to one another mounted in the casing, a float valve contained in said guide, said valve being at one time above and at another time below the aperture, and means for preventing the passage of the valve from one position to the other while the liquid remains under pressure in the casing.

975,154. ACETYLENE-GAS GENERATOR. WILLIAM HARTLEDGE PARKER, Toronto, Ontario, Canada. Filed Aug. 26, 1908. Serial No. 450,394.

1. The combination with the main casing adapted to contain water, of a float having the wall thereof corresponding in form to the wall of the casing and provided with a closed bottom having central orifice and a carbid chamber fitting the walls of the float and provided with a perforated tube extending upwardly from the bottom of the chamber as and for the purpose specified.



2. The combination with the main casing adapted to contain water, of a float having the wall thereof corresponding in form to the wall of the casing and provided with a closed bottom having orifice and a carbid chamber fitting the walls of the float and provided with a perforated tube extending upwardly from the bottom of the chamber and a suitable inclosing top for the top of the float and a service pipe leading therefrom as and for the purpose specified.

3. The combination with the main casing adapted to contain water, of a float having the wall thereof corresponding in form to the wall of the casing and provided with a closed bottom having orifice and a carbid chamber fitting the walls of the float and provided with a perforated tube and a suitable inclosing top for the top of the float, a pipe leading therethrough and a flexible pipe connecting the aforesaid pipe with the service pipe as and for the purpose specified.

4. The combination with the main casing adapted to contain water, of a float located therein and having a closed bottom provided with an orifice, and a carbid chamber located in the float and provided with a bottomless perforated tube extending upwardly from the bottom of the chamber as and for the purpose specified.

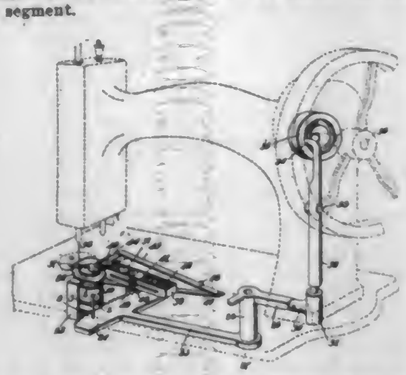
5. An acetylene gas generator comprising a casing adapted to contain water, a float in said casing provided with a closed bottom having a perforation and a removable closure at the top of the full diameter of the float, a removable carbid receptacle having an open top located in the float and provided with an orifice at the bottom, the said float having a downwardly extending wall surrounding the orifice in the bottom thereof, whereby the excess of gas generated lifts the float in the water and is stored in the chamber within the downwardly extending walls as specified.

[Claims 6 to 8 not printed in the Gazette.]

975,155. SEWING-MACHINE. WILLIAM PEPPERLING, Two Harbors, Minn. Filed Feb. 4, 1909. Serial No. 476,149.

1. In a sewing machine, a cylindrical shell provided on its inner surface with an annular shoulder, a second shell having a flange resting upon the shoulder, said second shell extending below the first shell, a pinion secured to the extended portion, a cylindrical pin within the second shell, said pin having on its upper end a projection, a thread cup or receptacle resting upon the end of the pin, said cup having one of its sides cut away, a shuttle of inverted cup shape resting upon the upper edge of the sec-

ond shell and inclosing the cup, said shuttle having a cut away portion normally registering with the cut away portion of the cup and having a curved slot extending through the side thereof to the center of the shuttle for permitting the passage of the thread, a spring crossing the slot, said shuttle having on one side a groove and a hook adjacent to the groove for engaging the thread of the needle, a pin on the second shell extending into the groove whereby to cause the shuttle to rotate with the shell, a magazine adjacent to the shell, said magazine being provided adjacent to the shell with a transverse chute whose one end registers with the side opening of the cup, a follower in the magazine normally spring pressed toward the chute, a slide movable through the chute, a gear segment meshing with the pinion, said segment being provided with a pin, an arm for moving the slide normally out of position for engagement by the pin on the segment, a rod connected with the arm and normally in position for engagement by the spring on the shuttle when said spring is not engaged by the thread in the cup and means for operating the segment.



2. In a sewing machine, an oscillating shuttle, a stationary thread receptacle or cup within the shuttle, said cup having a cut away portion at one side for receiving a ball of thread and a shuttle having a cut away portion normally registering with the cut away portion of the cup, a magazine for holding balls of thread adjacent to the shuttle and provided with a transverse chute registering with the cut away portion of the cup, a spring pressed follower in the magazine, a slide movable through the chute, means for oscillating the shuttle, means operated by said oscillating means for moving the slide through the chute, and normally disconnected therefrom, a spring connected with the shuttle for connecting the oscillating means with the slide moving means said spring being arranged in the path of movement of the thread passing from the shuttle, whereby to be moved out of engaging position when the shuttle is supplied with thread.

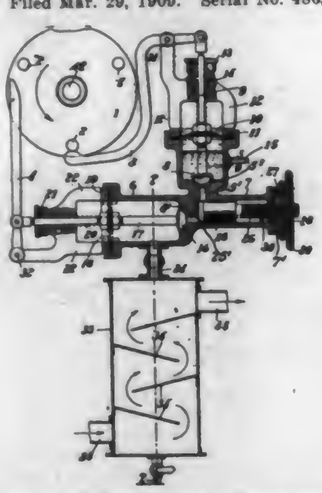
3. In a sewing machine, an oscillating shuttle, a thread receptacle within the shuttle said shuttle and receptacle being provided with normally registering openings for permitting the passage of a ball of thread, a magazine for supplying the balls of thread, means for moving the balls of thread from the magazine into the receptacle, means for oscillating the shuttle, means for connecting the oscillating means with the ball moving means, a spring in connection with the shuttle for operating said connecting means, said spring being arranged in the path of movement of the thread passing from the shuttle and adapted to be moved out of operative position when the shuttle is supplied with thread.

4. In a sewing machine, an oscillating shuttle, a thread receptacle within the shuttle, said shuttle and receptacle being provided with normally registering openings for permitting the passage of a ball of thread, a magazine for supplying the balls of thread, means for moving balls of thread from the magazine into the receptacle, means for oscillating the shuttle, normally inoperative means for connecting the oscillating means with the ball moving means, means for operating the connecting means, and means controlled by the passage of the thread from the receptacle, for restraining the operation of the means for operating the connecting means.

5. In a sewing machine, an oscillating shuttle, a thread receptacle within the shuttle, means for supplying balls of thread in succession to the receptacle, means for oscillating the shuttle, means for connecting the oscillating means with the ball supplying means whereby to operate the same, normally active means for actuating the connecting means to connect the oscillating means with the ball supplying means, and means controlled by the passage of the thread from the receptacle for restraining the operation of the said normally active means.

[Claim 6 not printed in the Gazette.]

975,156. CARBURETER. HENRI MAURICE PIÉPLU, Paris, France. Filed Mar. 29, 1909. Serial No. 486,558.



1. A device of the class described comprising in combination, a carbureter, an oil controlling device connected with said carbureter and with a source of supply of oil, said device including a controlling means for admitting oil, a discharging means communicating with the controlling means and independent thereof for controlling the discharge of oil, and adjusting means for controlling the volume of oil passing from said controlling to said discharging means and mechanism supplying air to said carbureter and operatively connected with said controlling and discharging means to operate the same.

2. A device of the class described comprising in combination, a carbureter, an oil controlling device connected with a source of supply and with the carbureter and providing a single path for the oil to flow by gravity through said device to said carbureter, said device including separate elements acting indepehdently and alternately with respect to each other for permitting passage of oil therethrough and mechanism for controlling the volume of oil passing therethrough, and means for supplying air to said carbureter and operatively connected with said elements.

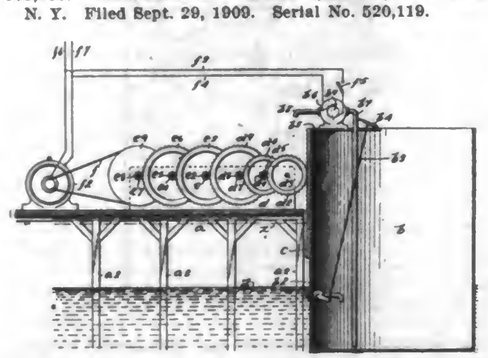
3. A device of the class described comprising in combination, a carbureter, an oil controlling device connected with a source of supply with said carbureter and providing a single path for the oil to flow by gravity to said carbureter, a plurality of valves acting independently and alternately for controlling the passage of oil through said path, means interposed between said valves for adjusting the quantity passing thereby, and mechanism for supplying air to said carbureter and operatively connected with said valve to operate the same intermittently.

4. A device of the class described comprising in combination, a carbureter, an oil controlling device connected with a source of supply and with said carbureter and providing a single path for the oil to flow therethrough by gravity to said carbureter, said device including a plurality of valves operated independently and controlling the passage of oil, an adjustable device interposed in the path of oil between said valves for regulating the passage of oil, and mechanism for supplying air to said carbureter and operatively connected with said valves.

5. A device of the class described comprising in combination, a carbureter, an oil controlling device located above and connected with said carbureter and comprising an oil inlet chamber connected with a source of supply, a second chamber communicating with said inlet chamber, an inlet valve for controlling the discharge from said inlet chamber to said second chamber, a discharge chamber connected with said second chamber and with said carbureter, a valve controlling passage of oil from said second chamber to said discharge chamber, an adjustable piston in said second chamber for adjusting its capacity, means for supplying air to said carbureter, and operative connections between said means and said valve.

[Claims 6 to 8 not printed in the Gazette.]

975,157. TIDE-MOTOR. GEORGE QUEDENS, New York, N. Y. Filed Sept. 29, 1909. Serial No. 520,119.



1. A tide motor, comprising a tank vertically movable by tide water, a train of gears in operative connection therewith, an electrical generator actuated by said gears, and means, operated by said generator, for causing tank movement during the lull between tides, at low water.

2. In a tide motor, a tank provided with a recess in the side thereof and extending to the center thereof, a rack vertically secured to said tank at the inner end of said recess and a train of gears in operative connection with said rack.

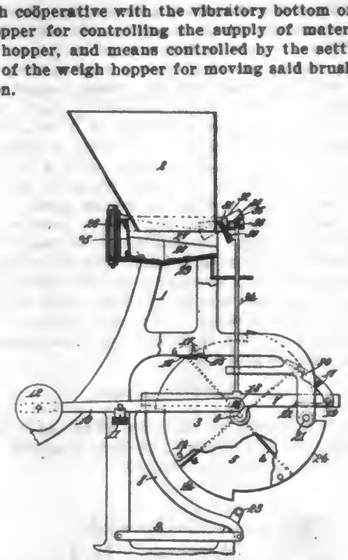
3. In a tide motor, a tank provided with a recess in the side and extending to the center thereof, a rack vertically secured at the inner end of said recess, a train of gears in operative connection with said rack, and an electrical generator operated by said gears in the tank movement.

975,158. WEIGHING-MACHINE. HENRY RICHARDSON, New York, N. Y. Filed Aug. 19, 1909. Serial No. 513,703.

1. A weighing machine comprising a supply hopper, a movably supported weigh hopper, a movably mounted brush coöperating with the supply hopper as a feed gate for controlling the flow of material to the weigh hopper, and means for controlling the opening and closing movements of the brush according to the movements of the weigh hopper.

2. A weighing machine comprising a counterpoised weigh hopper, a supply hopper, a brush coöperative with the supply hopper as a gate for controlling the flow of material to the weigh hopper, and means controlled by the rising and falling movements of the weigh hopper for operating said brush to regulate the supply of material to the hopper.

3. A weighing machine comprising a counterpoised weigh hopper, a supply hopper having a vibratory bottom, a brush coöperative with the vibratory bottom of said supply hopper for controlling the supply of material to the weigh hopper, and means controlled by the settling movements of the weigh hopper for moving said brush to closed position.

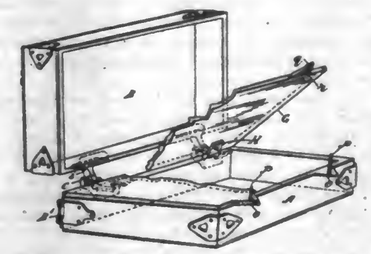


4. A weighing machine comprising a counterpoised reversible weigh hopper, a supply hopper having a vibratory outlet, and a movably mounted brush coöperative with the vibratory outlet of said supply hopper and controllable by the rising and falling of the weigh hopper for regulating the supply of material to the weigh hopper.

5. A weighing machine comprising a movably supported weigh hopper, a supply hopper having a vibratory outlet, a pivoted brush coöperative with said outlet of the supply hopper and controlled by the movements of the weigh hopper for regulating the supply of material thereto, and devices operative to produce a quick closing of said brush when the weigh hopper assumes a predetermined position.

[Claims 6 to 19 not printed in the Gazette.]

975,159. MOLDING-FLASK SLIDING HINGE. STANLEY DENNIS ROBINSON, Hamilton, Ontario, Canada. Filed July 25, 1910. Serial No. 573,785.

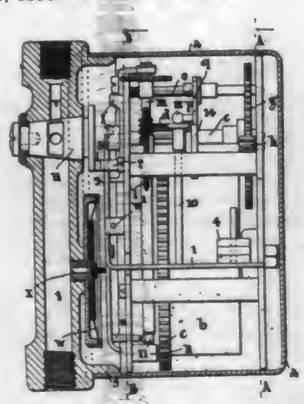


1. A double hinge for molding flasks comprising a female portion secured to one half of the flask and constructed with a projecting lug extending outward and upward, a central vertical opening through said lug, a vertical recess formed in the side walls on each side of the central opening, a male portion of the hinge formed with a circular shaped downwardly projecting lug for insertion in the central vertical opening, and a cylindrical axle being attached on each side of the lug to operate in the aforesaid recesses of the female portion when the matched pattern plate is between the two portions of the flask or withdrawn from the flask, substantially as set forth and for the purpose specified.

2. A double hinge for molding flasks with matched pattern plates, comprising a female portion secured to one half of a flask and constructed with a projecting l

extending outward, and upward, a central opening through said lug, an upright recess formed in the side walls on each side of the central opening, a notch formed in the rear of the back projections and a half circular recess formed in the rear of the said projections, a male portion of the hinge formed with a projecting lug, and a circular shaped axle or bearing on each side of it to operate in the said vertical recess in the female die, a hinge plate attached to the match-plate, formed with a cylindrical shaped end to operate in the small recess in the female part of the hinge, and a round projection made to extend into the central opening of the female portion of the hinge, and an upwardly extending rib or flange formed near the outer end of the said hinge plate to engage with the notches in the rear projections of the female part of the hinge, to prevent the match plate from coming in contact with the cope when it is raised previous to withdrawing the match-plate from the mold substantially as and for the purpose described.

975,160. AUTOMATIC GAS LIGHTER AND EXTINGUISHER. GEORGE ROBSON, London, England. Filed June 25, 1910. Serial No. 568,868.



1. In an automatic gas lighter and extinguisher, the combination of a motor, locking means, a gas controlling valve, a diaphragm, a double armed lever, one end resting on the diaphragm, a projecting pin on the said end, and means including a device located on the other end of the lever for releasing the locking means, and means with which the pin coöperates to immediately stop the motor after it is released.

2. In an automatic gas lighter and extinguisher the combination of a motor, locking means, a gas controlling valve a diaphragm under gas pressure, a double armed lever, one end of which rests on the diaphragm, a projecting pin on the said end and means including a device located on the other end of the lever for releasing the locking means, the said pin being in inoperative position previous to the operation of the diaphragm.

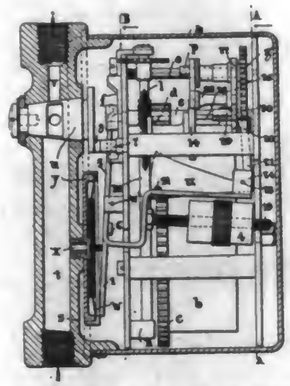
3. In an automatic gas lighter and extinguisher, the combination of a motor, locking means, a gas controlling valve, a diaphragm under gas pressure, a double armed lever, one end of which rests on the diaphragm, a projecting pin on the said end, means including a device located on the other end of the lever for releasing the locking means, and means whereby the said pin will be in engagement with the motor releasing mechanism after the motor releasing mechanism is operated.

4. An automatic gas lighter and extinguisher comprising in combination, a clockwork locking means therefor a gas controlling valve, an expansible diaphragm under gas pressure, a double armed weighted main lever, a pin on that end thereof which rests on the diaphragm, means on the other end of the lever for releasing the locking means, an auxiliary weighted lever having a portion overlapping and normally pressing upon a part of the main lever and a cam for freeing the main lever from the auxiliary weight.

5. An automatic gas lighter and extinguisher comprising in combination, a clockwork locking means therefor, a gas controlling valve, an expansible diaphragm under gas pressure, a double armed weighted main lever, a pin on that end thereof which rests on the diaphragm, means on the other end of the lever for releasing the locking means, an auxiliary weighted lever having a portion overlapping and normally pressing upon a part of the main lever, and a cam on the clockwork actuated gas valve spindle for freeing the main lever from the auxiliary weight.

[Claims 6 to 19 not printed in the Gazette.]

975,161. AUTOMATIC GAS LIGHTER AND EXTINGUISHER. GEORGE ROBSON, London, England. Filed June 25, 1910. Serial No. 568,869.



1. An automatic gas lighter and extinguisher comprising a gas valve, a motor for operating it, means for locking the motor, an expansible diaphragm, lever mechanism operated by the diaphragm, motor releasing means on the lever mechanism and two adjustable weights on said mechanism, whereby a rise of pressure in the gas main operates the diaphragm and releases the motor and actuates the gas valve.

2. An automatic gas lighter and extinguisher comprising in combination, a gas valve, a motor for actuating it, means for locking the motor, an expansible diaphragm, a pair of separable levers, a motor releasing pawl on one lever, and an adjustable weight on each lever, whereby a rise of pressure in the mains will operate the diaphragm and pawl, will release the locking means and start the motor and turn the valve.

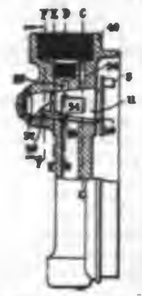
3. An automatic gas lighter and extinguisher comprising in combination a gas valve, a motor for actuating it, means for locking the motor, an expansible diaphragm, a pair of separable levers, a motor releasing pawl on one lever, an adjustable weight on each lever, and means for throwing the pawl out of operative position preceding the period the locking means is to again lock the motor.

4. An automatic gas lighter and extinguisher comprising in combination a gas valve, a motor for actuating it, means for locking the motor, a pair of separable levers, an expansible diaphragm in contact with one of the levers, a motor releasing pawl on the same lever, an adjustable weight on each lever, and means including a cam coöperating with the levers whereby lighting is effected at a pressure relatively higher than the extinguishing pressure, the gas valve being operated directly by a rise of pressure in the main.

5. An automatic gas lighter and extinguisher comprising in combination a gas valve, a motor for actuating it, means for locking the motor, a pair of separable levers, an adjustable weight on each lever, an expansible diaphragm normally influenced by the pair of weighted levers, a motor releasing pawl on one of the levers to operate the locking means, and cam means to remove the influence of one weight from off the diaphragm for the purpose described.

[Claims 6 to 17 not printed in the Gazette]

975,162. PLUG-COCK. GEORGE ROBSON, London, England. Filed June 25, 1910. Serial No. 568,870.

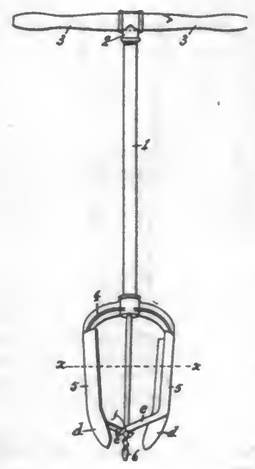


1. A device of the character described comprising a casing formed with an inlet opening and two exit openings and a plug valve seat between the inlet and outlet openings, a plug valve fitting in the seat; said plug valve having a concavity of sufficient width to register with the two exit openings, a circumferential groove formed in the periphery of the plug valve and communicating with one side of the concavity and being in the plane of but one of the outlet openings, a horizontal groove formed in the periphery of the plug valve and communicating with the concavity and the circumferential groove communicating therewith, a second circumferential groove formed in the plug valve and communicating with the opposite side of the longitudinal groove and extending beyond the plane of the end of the first mentioned circumferential groove, and a third circumferential groove formed in the plug valve and communicating with the longitudinal groove on the same side as the first mentioned circumferential groove and extending beyond the plane of the end of the second mentioned circumferential groove, the casing having ports with which the second and third mentioned circumferential grooves are adapted to communicate.

2. A device of the character described, comprising a casing formed with two outlet openings and an inlet opening and a valve seat formed between said inlet and outlet openings, the said casing also having a port on each side which registers with the valve seat, a plug valve fitting in the valve seat, said plug valve having a cavity formed on its periphery adapted to be brought into registry with the two outlet openings, a circumferential groove communicating with the concavity and in a plane with one of the outlet openings in the casing, two other circumferential grooves in the periphery of the plug valves, the two latter circumferential grooves adapted to be brought into registry with the ports in the sides of the casing, there being a longitudinal groove in the plug valve with which all the circumferential grooves communicate, the two circumferential grooves which register with the side ports in the casing communicating with the longitudinal groove on the opposite sides of the latter and are out of the plane of the two outlet openings.

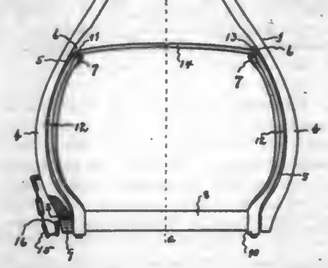
975,163. EARTH-AUGER. WILLIAM G. ROGERS, St. Thomas, Ontario, Canada. Filed July 6, 1909. Serial No. 506,093.

In a device of the class described, a head, blades secured thereto, said blades being cut away and provided with partly inclined ends and with inclined overlapping ends, and said inturned overlapping ends provided with holes, in combination with an auger bit which extends through said holes and is provided with a long shank which extends into said head, a washer in said head, and said long shank secured in said head by said washer



substantially as shown and described and for the purpose specified.

975,164. SAFETY-STIRRUP. DAVID SAMSON, Chamber Nebr. Filed Apr. 28, 1910. Serial No. 558,123.

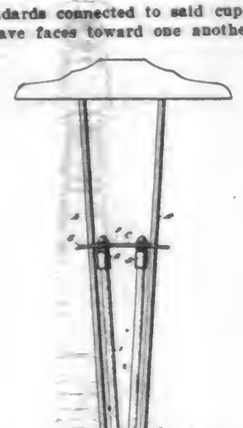


In devices as described, in combination with the yok arms of the stirrup, said arms having recesses formed their terminals and provided with longitudinal recess upon their inner sides, and having lugs formed inte mediate their ends; a tread-plate; a loop having its en secured upon the tread-plate, said loop being bent t tween its ends to form supporting arms and transver engaging arms, said tread-plate adapted to have a pivot mounting in the terminal recesses of the yoke arms, t supporting arms being disposed in said longitudinal cesses, said transverse arms engaging said lugs; a a flexible keeper-member connecting the tread-plate a one of said yoke-arms.

975,165. FLAMING-ARC LAMP. RALPH SCOTT, Newar N. J., assignor, by mesne assignments, to Scott El trical Company, New York, N. Y., a Corporation Maine. Filed June 21, 1907. Serial No. 380,006.

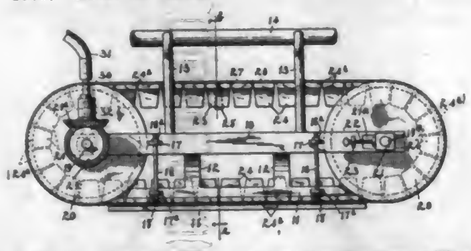
In a flaming arc lamp, a pair of downwardly co vergent electrodes, a cup through which said electrod project, and arcuate iron cheeks or bars having slend

depending standards connected to said cup and presenting their concave faces toward one another in a direc-



tion in the plane of the electrodes and below the lower extremities thereof.

975,166. SANDER OR POLISHING-MACHINE. HERBERT W. SELLNER, Faribault, Minn. Filed May 14, 1909. Serial No. 495,847.

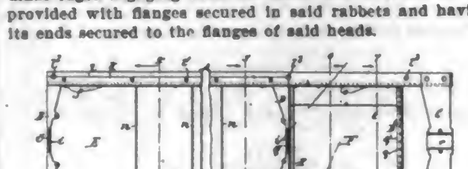


1. In a polishing machine, the combination with a frame, of a pair of axles journaled at opposite ends of the frame, means for adjusting one of said axles upon the frame, a pair of flanged wheels mounted upon each axle, an endless feeding bed comprising a series of connected bars supported at their ends upon the faces of said wheels, one of said bars having a longitudinal slot, an abrading member consisting of a layer of suitable material embracing the endless bed, and having its ends inserted in said slot, a wedge engaging the ends of the abrading member in the slot, and driving mechanism adapted to be attached to a source of power.

2. In a polishing machine, the combination with a frame, of a pair of axles journaled at opposite ends of the frame, means for adjusting one of said axles on the frame, a pair of flanged wheels mounted upon each axle, an endless feeding bed comprising a series of connected bars supported at their ends upon the faces of said wheels, one of said bars having a longitudinal slot, an abrading sheet embracing the endless bed and having its ends inserted in said slot, a wedge engaging the ends of the sheet in the slot, rigid presser rails engaging the lower course of the endless bed upon opposite sides, fenders yieldingly attached to the frame, and driving mechanism adapted to be attached to a source of power.

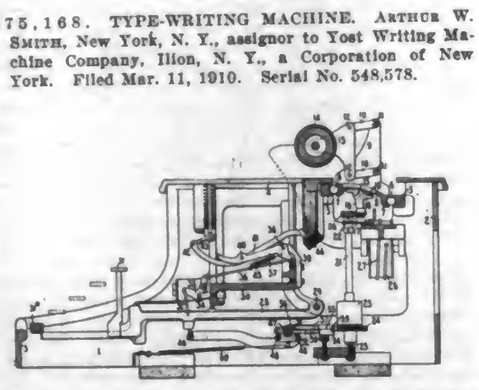
975,167. ENGINE-BASE. ALBERT B. SHULTZ, Buffalo, N. Y. Filed Feb. 14, 1910. Serial No. 543,783.

1. A base for explosion engines comprising two longitudinal side bars each of which has a rabbet on its upper side, transverse heads connected at opposite ends with said bars and provided with flanges on their opposing sides and a sheet metal trough-shaped shell having its longitudinal edges engaging with the inner side of said bar and provided with flanges secured in said rabbets and having its ends secured to the flanges of said heads.



2. A base for explosion engines comprising two longitudinal side bars, a front head connecting the bars at their front ends, a bracket connecting the bars at their rear ends, a rear head connecting the bars in front of said bracket, an intermediate head connecting said bars between the front and rear heads, a front sheet metal trough-shaped shell connected with the front parts of the bars and with the front and intermediate heads and a rear sheet metal trough-shaped shell connected with the rear parts of the side bars and the intermediate and rear heads.

975,168. TYPE-WRITING MACHINE. ARTHUR W. SMITH, New York, N. Y., assignor to Yost Writing Machine Company, Ilion, N. Y., a Corporation of New York. Filed Mar. 11, 1910. Serial No. 548,578.



1. In a typewriting machine, the combination of a power driven carriage, escapement devices which afford a free unretarded movement of the carriage at each letter feed movement thereof, and a shock absorbing spring intermediate the carriage and the final point of resistance to the power employed to move the carriage, said shock absorbing spring being free from pressure of the power driven carriage during its letter feed movement and resisting the power employed to move the carriage at the termination of each letter feed movement, whereby the carriage is allowed to travel freely during its letter feed movement and the shock due to the arrest of the carriage at the termination of each letter feed movement is absorbed.

2. In a typewriting machine, the combination of a carriage, a feed rack, one or more feed dogs, the construction of the parts being such that an intermittent step-by-step feed movement of the carriage is afforded by a "drop" between the feed rack and dog or dogs, and resilient means for receiving the weight of the carriage at each "drop."

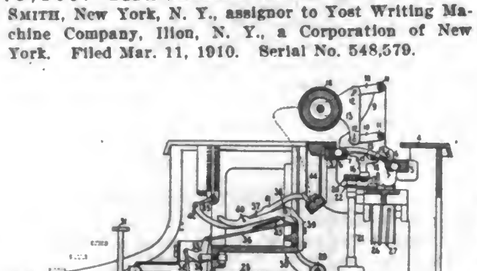
3. In a typewriting machine, the combination of a carriage, a feed rack, two feed dogs coöperative therewith, and spring means coöperative with both of said dogs to resist a movement thereof from normal position.

4. In a typewriting machine, the combination of a carriage, a feed rack, two feed dogs coöperative therewith, and spring means coöperative with both of said dogs to resist a movement thereof from normal position, the construction of the parts being such that a feed movement of the carriage is afforded by a relative "drop" between the feed rack and dogs.

5. In a typewriting machine, the combination of a carriage, a feed rack, two rigidly connected dogs, and spring means for affording and resisting a slight movement of both of said dogs due to the shock of arrest at the end of a stepping movement of said rack.

[Claims 6 to 35 not printed in the Gazette.]

975,169. TYPE-WRITING MACHINE. ARTHUR W. SMITH, New York, N. Y., assignor to Yost Writing Machine Company, Ilion, N. Y., a Corporation of New York. Filed Mar. 11, 1910. Serial No. 548,579.



1. In a typewriting machine, the combination of a power driven carriage; escapement devices including a feed dog, a dog rocker to which said dog is rigidly secured, and a rack; a spring; and means by which said spring is rendered effective to absorb the shock incidental to the letter feed movements of the carriage and when said rack is in engagement with said rigidly secured dog.

2. In a typewriting machine, the combination of a power driven carriage; escapement devices including feed dogs, a dog rocker to which said dogs are rigidly secured, and a rack; a spring; and means whereby said spring is effective to absorb the shock incidental to the relative letter feed movement between the rack and feed dogs and incidental to the impact of one of said last mentioned parts on the other.

3. In a typewriting machine, the combination of a power driven carriage, escapement devices which afford free movements of the carriage at letter feed operations, a spring separate from said escapement devices, and means whereby said spring is flexed and thereby arrests the carriage after each free letter feed movement thereof and after the said escapement devices have been brought into engagement to arrest the carriage.

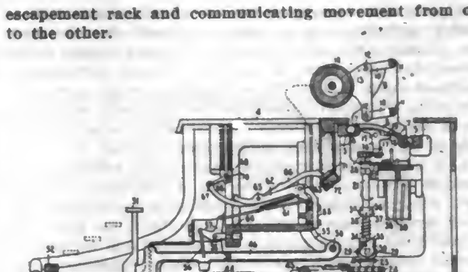
4. In a typewriting machine, the combination of a power driven carriage; escapement devices therefor including a holding dog and a rack which afford free movements of the carriage at letter space operations, one of said parts being mounted for bodily movement after they are engaged to arrest the carriage; and a spring separate from said movably mounted part and operative to resist the movement thereof after a letter feed movement of the carriage has taken place and thus absorb the shock at the termination of each letter feed movement of the carriage.

5. In a typewriting machine, the combination of a power driven carriage; escapement devices including an escapement rack and an escapement dog; a dog rocker mounted for movement in unison with the carriage and under the pressure of the power employed to move the carriage; and a spring to resist such movement.

[Claims 6 to 17 not printed in the Gazette.]

975,170. TYPE-WRITING MACHINE. ARTHUR W. SMITH, New York, N. Y., assignor to Yost Writing Machine Company, Ilion, N. Y., a Corporation of New York. Filed Mar. 18, 1910. Serial No. 550,129.

1. In a typewriting machine, the combination of a power driven carriage, an escapement rack, escapement means coöperative with said rack, and a spring constituting an operative connection between said carriage and escapement rack and communicating movement from one to the other.



2. In a typewriting machine, the combination of a power driven carriage, an escapement wheel, escapement means coöperative with said escapement wheel to afford a step-by-step feed movement of the carriage, means for communicating movement from said carriage to the escapement wheel, said last mentioned means including a spring through which the power of the carriage is communicated to the escapement wheel and which absorbs the shock incidental to each step-by-step movement of the carriage.

3. In a typewriting machine, the combination of a power driven carriage, escapement devices therefor, and resilient means which operatively and resiliently connects certain of said escapement devices to move in unison with the carriage in its letter feed movements.

4. In a typewriting machine, the combination of a power driven carriage, escapement devices therefor, pawl and ratchet mechanism between certain of said escapement devices and the carriage and which operatively connects the two to move in unison during letter feed movements, and a spring for resiliently connecting the pawl to the part which controls it.

5. In a typewriting machine, the combination of a power driven carriage, a feed rack carried thereby, a feed pinion with which said rack meshes, an escapement wheel, escapement means which coöperate with said escapement wheel, and intermediate connections between said feed pinion and escapement wheel, said intermediate connections including a spring through which motion is communicated from the feed pinion to the escapement wheel.

[Claims 6 to 11 not printed in the Gazette.]

975,171. NUT-LOCK. JEROME V. SOHN, Saybrook, Ill. Filed Apr. 13, 1909. Serial No. 489,714.



1. A nut-lock comprising a washer-plate adapted to be inserted between a rail and the nut of a securing bolt, said plate being provided with a longitudinal slot and oppositely arranged lugs at one end of said slot, the plate being tapered or gradually increasing in thickness from the end thereof containing the outer portion of the slot to the adjacent ends of said lugs, and tapering or decreasing in thickness from that point to the other ends of said lugs all for the purposes specified.

2. A nut-lock comprising a washer-plate adapted to be inserted between a rail and the nut of a securing bolt, said plate being provided with a longitudinal slot and oppositely arranged lugs at one end of said slot, the inner face of the plate being concave longitudinally, the plate being tapered or gradually increasing in thickness from the end thereof containing the outer portion of the slot to the adjacent ends of said lugs, and tapering or decreasing in thickness from that point to the other ends of said lugs all for the purposes specified.

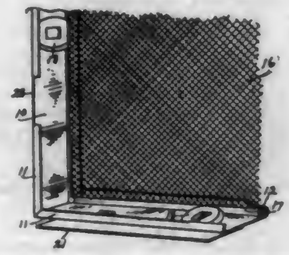
3. A nut-lock comprising a washer-plate adapted to be inserted between a rail and the nut of a securing bolt

said plate being provided with a longitudinal slot and oppositely arranged lugs at one end of said slot, the inner face of said plate between said lugs being convex transversely, the plate being tapered or gradually increasing in thickness from the end thereof containing the outer portion of the slot to the adjacent ends of said lugs, and tapering or decreasing in thickness from that point to the other ends of said lugs, all for the purposes specified.

4. A nut-lock comprising a washer-plate adapted to be inserted between a rail and the nut of a securing bolt, said plate being provided with a longitudinal slot and oppositely arranged lugs at one end of said slot, the inner face of said plate being concave longitudinally and the portion thereof between said lugs being convex transversely, the plate being tapered or gradually increasing in thickness from the end thereof containing the outer portion of the slot to the adjacent ends of said lugs, all for the purposes specified.

5. A nut-lock comprising a washer-plate adapted to be inserted between a rail and the nut of a securing bolt, said plate being provided with a longitudinal slot and oppositely arranged lugs at one end of said slot, the inner face of said plate being concave longitudinally and the portion thereof between said lugs being convex transversely, the plate being tapered or gradually increasing in thickness from the end thereof containing the outer portion of the slot to the adjacent ends of said lugs, and tapering or decreasing in thickness from that point to the other ends of said lugs, all for the purposes specified.

975,172. WINDOW-SCREEN. JACOB S. SPESS, Springfield, Mo. Filed Sept. 22, 1909. Serial No. 518,912.



1. A window screen including a frame provided with two longitudinally extending opposing flanges with a channel between them, a fabric with the edges thereof extending into said channel against one of said flanges, a rod in and extending longitudinally of said channel and resting upon the fabric, and means in said channel adapted to wedge between said rod and the opposing flange of said frame for securing the fabric to said frame.

2. A window screen including a frame provided with two longitudinally extending opposing flanges with a channel between them, a fabric with the edges thereof extending into said channel against one of said flanges, a rod in and extending longitudinally of said channel and resting upon the fabric, and oval disks adapted to be placed in said channel and when turned therein to wedge between said rod and the opposing flange of said frame for securing the fabric to said frame.

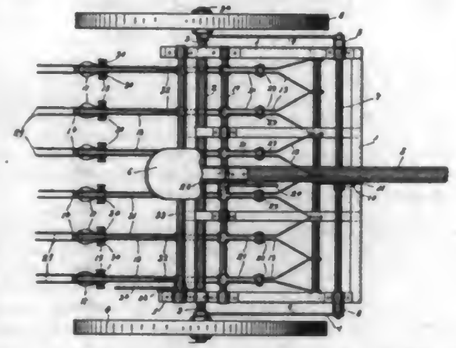
3. A window screen including a rectangular frame formed of a bar of sheet metal and having inwardly extending flanges along each edge to form a channel between them, certain corners of said frame being formed by bending said bar, a fabric with the edges thereof extending into said channel against one of said flanges, a rod in and extending longitudinally of said channel and resting upon the fabric, and means in said channel adapted to wedge between said rod and the opposing flange of said frame for securing the fabric to said frame.

4. A window screen including a frame provided with two longitudinally extending opposing flanges with a channel between them, one of said flanges being wider than the other and provided with an inner concave surface or groove, a fabric with the edges thereof extending over said wider flange and into said groove, a rod in and extending longitudinally of said channel and resting upon the fabric in the groove of said wider flange, and means in said channel adapted to wedge between said rod and the opposing flange of said frame for securing the fabric to said frame.

5. A window screen including a frame provided with two longitudinally extending opposing flanges with a channel between them, a fabric with the edges thereof extending into said channel against one of said flanges, a rod in and extending longitudinally of said channel and resting upon the fabric, and oval disks adapted to be placed in said channel and when turned therein to wedge between said rod and the opposing flange of said frame for securing the fabric to said frame, said disks being provided with central angular openings for the insertion of a wrench to turn the same.

[Claims 6 to 9 not printed in the Gazette.]

975,173. COMBINED GRASS-GRUBBER AND CULTIVATOR. CHARLES W. STARK, Mountain Lake, Minn. Filed Mar. 23, 1910. Serial No. 551,173.



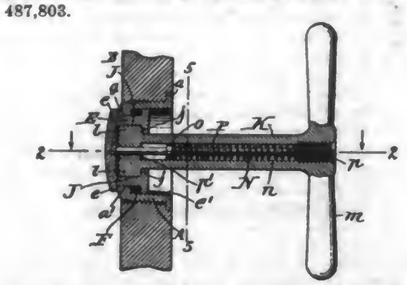
1. In a machine of the kind described, the combination with a frame and a wheel supporting the same, of drag bars attached to said frame, means for raising and lowering said drag bars, cultivating teeth on the rear ends of said drag bars, cleaning devices coöperating with said teeth, and means for operating said cleaning devices at will and independently of movements of said drag bars.

2. In a machine of the kind described, the combination with a frame and a wheel supporting the same, of drag bars attached to said frame, cultivating teeth on the rear ends of said drag bars, teeth-cleaning devices coöperating with said teeth, connections for automatically moving said cleaning devices over said teeth under vertical movements of said drag bars, and means for moving said cleaning devices over said teeth at will and independently of movements of said drag bars.

3. In a machine of the kind described, the combination with a frame and a wheel supporting the same, of drag bars attached to said frame at their front ends, means for raising and lowering said drag bars, cultivating teeth on the rear ends of said drag bars, cleaning devices in the form of laterally spaced bell cranks pivotally connected to and coöperating with said cultivating teeth, a lock segment on said frame, a latch lever coöperating therewith, and connections between said latch lever and the upwardly extended arms of said cleaning devices.

4. In a machine of the kind described, the combination with a frame and a wheel supporting the same, of drag bars connected to said frame at their front ends and provided with cultivating teeth at their rear ends, cleaning devices in the form of levers or laterally spaced arms pivotally connected to and coöperating with said cultivating teeth, a latch lever and a coöperating relatively fixed lock segment on said frame, connections between said lever and said drag bars for simultaneously raising and simultaneously lowering the same, yieldingly pressed laterally spaced pairs of bell cranks pivotally connected to and cooperating with said cultivating teeth, a second latch lever and a relatively fixed coöperating lock segment applied to said frame, and connections between said lever and the upper arms of said cleaning devices, substantially as described.

975,174. HANDLE FOR BUNGS, &c. ROBERT STOCK and AUGUSTA M. STOCK, Buffalo, N. Y., assignors to Robert Stock Manufacturing Co., Buffalo, N. Y., a Corporation of New York. Filed Apr. 3, 1909. Serial No. 487,803.



1. The combination of a movable body provided with an undercut socket, a handle having a shank provided with a laterally projecting wing adapted to engage with the undercut surface of said socket, and a yielding pressure device mounted on the handle and adapted to be strained upon inserting said handle into said socket, said pressure device comprising a rod separate from said handle and movable lengthwise on said shank and adapted to press its front end forwardly against the bottom of said socket, and a spring mounted on said handle and operating to hold said rod yieldingly in its projected position.

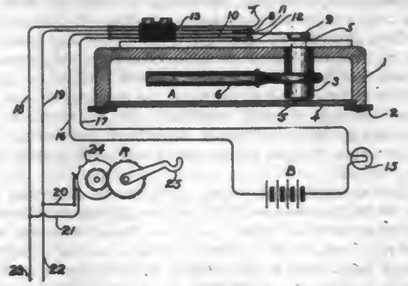
2. The combination of a movable body provided with an undercut socket, a handle having a shank provided with a pocket and a laterally projecting wing adapted to engage with the undercut surface of said socket, and a yielding pressure device mounted on the shank and adapted to be strained upon inserting said shank into said socket, said pressure device comprising a rod separate from said handle and movable lengthwise in the pocket in the shank of said handle and adapted to press forwardly at its front end against the bottom of said socket, and a spring arranged within the shank and adapted to hold the rod yieldingly in its forward position.

3. The combination of a movable body having an undercut socket, a handle having a shank provided with a pocket and a laterally projecting wing adapted to engage with the undercut surface of said socket and an internal undercut shoulder at the front end of the pocket, and a yielding pressure device mounted on the shank and adapted to be strained upon inserting said shank into said socket, said pressure device comprising a rod guided in a pocket in said shank and adapted to press forwardly at its front end against the bottom of said socket and having a collar within said pocket which is adapted to engage with said internal shoulder, a spring surrounding said rod and bearing at its front end against said collar, and a screw plug arranged at the rear end of said pocket and engaging with the rear end of said spring.

975,175. ALARM SYSTEM. WALTER J. ST. ONGE, Elyria, Ohio, assignor to The Dean Electric Company, Elyria, Ohio, a Corporation of Ohio. Filed July 5, 1910. Serial No. 570,301.

1. In a device of the class described, the combination of an electric circuit, means for controlling said circuit, a key, an inclosure in which said key is mounted, and means to cause the operation of said circuit controlling means before said key can be removed from the inclosure.

2. In a device of the class described, the combination of an electric circuit, means for controlling said circuit, a key, an inclosure in which said key is mounted, a fragile plate forming part of the inclosing walls and means to cause the operation of said circuit controlling means before said key can be removed from said inclosure.



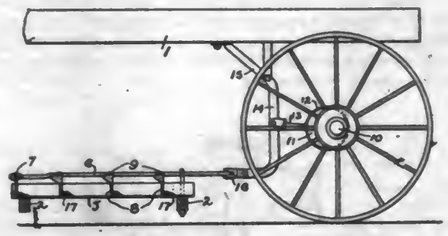
3. In a device of the class described, the combination of an electric circuit, means for controlling said circuit, a fragile plate controlling said means, a key and an inclosure therefor, said key adapted to crush said plate when the key is removed from said inclosure.

4. In a device of the class described, the combination of an electric circuit, a switch in said circuit controlling the same, a fragile plate controlling said switch and adapted when crushed to permit the operation thereof, a key and an inclosure therefor, said plate mounted in the walls of said inclosure, said key adapted when removed to crush said plate whereupon said switch is operated to control said circuit.

5. In a device of the class described, the combination of an electric circuit, a switch in said circuit, an inclosure, a fragile plate, means mounted in said inclosure controlling said switch spring, a spring pressing said means against said plate, a key housed in said inclosure adapted when removed to cause the crushing of said plate whereby said spring pressed means is released and said switch operated.

[Claims 6 to 13 not printed in the Gazette.]

975,176. GRADING AND DITCHING MACHINE. THOMAS F. STAOUD, Omaha, Nebr. Filed May 23, 1910. Serial No. 562,933.



1. In a grading or ditching machine, an elevating conveyer, which receives soil from a plow or digger; a scraper for freeing the lower roller of said elevating conveyer from adhering soil; and a dirt-pan, which is adapted to receive soil from said scraper; in combination with a pan-cleaner, comprising a reciprocating rod, which is connected with the rear wheel-axle of the machine, a number of hinged scraper-plates, which are carried by said reciprocating rod, and are adapted to work in said pan, and a terminal scraper-plate, which is rigidly attached to said reciprocating rod, and is adapted to guide and support the free end of said rod, and at the same time to scrape said dirt-pan alternately in opposite directions.

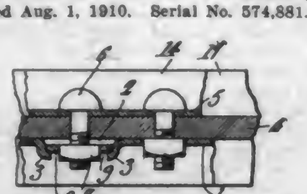
2. In a grading or ditching machine, an elevating conveyer, which receives soil from a plow or digger; a scraper for freeing said elevating conveyer from adhering soil; a dirt-pan for receiving soil from said scraper; and a pan-cleaner, comprising a number of hinged scraper-plates and a rigid scraper-plate, which are attached to

reciprocating rod, and are worked in said dirt-pan by said rod; in combination with an eccentric and eccentric strap, which are carried by the rear axle of the machine; and an operative connection, including a flexible joint, between said eccentric strap and said reciprocating rod.

3. In a grading or ditching machine of the described class, a dirt-pan, which is located between the leaves of the conveyer belt; a reciprocating rod, which is driven by the machine; and a plurality of transverse scraper-plates, working in said dirt-pan; one of said scraper-plates being rigidly attached to said reciprocating rod, and the other scraper-plates being attached to the same rod by hinges.

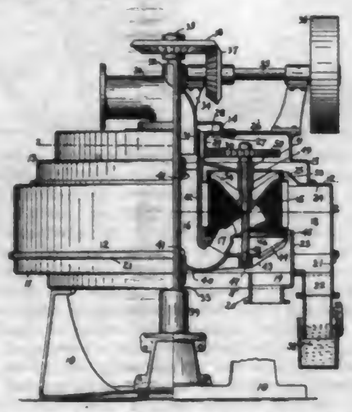
4. In a grading or ditching machine, an elevating conveyer, which receives soil from a plow or digger; a scraper for freeing said elevating conveyer from adhering soil; a dirt-pan, which is located between the leaves of the conveyer belt; and a rod, which is reciprocable between said belt leaves; in combination with a plurality of transverse scraper-plates, which are fitted to work back and forth in said pan, one of said scraper-plates being rigidly attached to said reciprocable rod, and the other of said scraper-plates being attached to said reciprocable rod by hinges.

975,177. NUT-LOCK. JOHN H. SUTHERLAND, Danville, Ill. Filed Aug. 1, 1910. Serial No. 574,881.



A nut lock including a plate having an elongated opening for the reception of a bolt, there being tongues in the plate at the ends of said opening; and a bifurcated locking member adapted to be inserted between the tongues and the body of the plate, to straddle the nut upon the bolt, and to engage said nut closely, the opening in the plate being extended entirely across the arms of the locking member.

975,178. CENTRIFUGAL PULP-SCREEN. CHARLES WALTER THOMAS, Edgewater, N. J., assignor of one-half to Charles Smith, Belleville, N. J. Filed Sept. 3, 1909. Serial No. 516,124.



1. In a centrifugal screening machine, a central vertical shaft, a series of individual vertical cylindrical screens mounted upon and revoluble on the axis of said shaft, vertical shafts extending through the individual screens and connected therewith, gear wheels on the upper ends of said shafts above said screens, idlers in mesh with said gear wheels, and a stationary gear in mesh with said idlers for imparting independent reverse rotary motion to said gear wheels and screens during the revoluble motion of the screens; substantially as set forth.

2. In a centrifugal screening machine, a central vertical shaft, a series of individual vertical cylindrical screens mounted upon and revoluble on the axis of said shaft, vertical shafts extending through the individual screens and connected therewith, gear wheels on the upper ends of said shafts above said screens, and a stationary gear for imparting independent rotary motion to said gear wheels and screens during the revoluble motion of the screens, the said screens each having a cover closing its upper end, combined with a feed hopper and discharge nozzles extending therefrom to within the screens, substantially as set forth.

3. In a centrifugal screening machine, a central vertical shaft, a series of individual vertical cylindrical screens mounted upon and revoluble on the axis of said shaft, vertical shafts extending through the individual screens and connected therewith, gear wheels on the upper ends of said shafts above said screens, and a stationary gear for imparting independent rotary motion to said gear wheels and screens during the revoluble motion of the screens, the said screens each having a cover closing its upper end, combined with a feed hopper and discharge nozzles extending therefrom upwardly on inclined lines through the open lower ends of the screens; substantially as set forth.

4. In a centrifugal screening machine, a central vertical shaft, a frame secured thereon, a series of vertical cylindrical screens carried by said frame, means for rotating said shaft and frame, vertical shafts extending through said screens and having a bearing in said frame and connected with the screens, means for rotating said screen-shafts and screens on their own axes, and means for feeding the stock to be screened to the interior of said screens, said frame having portions in close relation to the lower outer edges of said screens to resist centrifugal action tending to force the screens outwardly; substantially as set forth.

5. In a centrifugal screening machine, a central vertical shaft, a frame secured thereon, a series of vertical cylindrical screens carried by said frame, means for rotating said shaft and frame, vertical shafts extending through said screens and having a bearing in said frame and connected with the screens, means for rotating said screen-shafts and screens on their own axes, and means for feeding the stock to be screened to the interior of said screens, said frame having cup-sections below said screens, closely encompassing the lower ends of the same and receiving the lower end of the screen-shafts and having openings for the escape of stock which fails to pass through the screens; substantially as set forth.

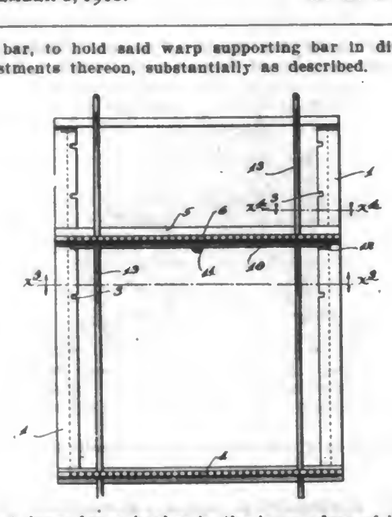
[Claims 6 to 10 not printed in the Gazette.]

975,179. HAND-LOOM. MARTHA P. TODD and DANA TODD, Minneapolis, Minn. Filed Nov. 11, 1909. Serial No. 527,377.

1. The combination with a loom frame provided with notches in its side bars, of a warp supporting bar mounted to slide on said frame while operatively connected thereto and provided with a pivoted lock bar engageable with the notches of said frame, to adjustably hold said warp supporting bar in different positions.

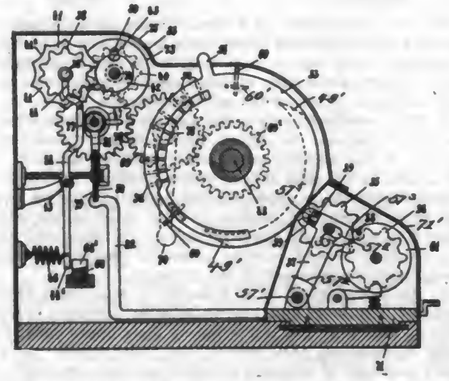
2. The combination with a loom frame having lock notches in the inner edges of its side bars, of a warp supporting bar mounted to slide on the notched side bars of said frame while operatively connected thereto and provided with a pivoted lock bar engageable with the notches of said side bars, to adjustably hold said warp supporting bar in different positions.

3. The combination with a loom frame having lock notches in the inner edges of its side bars, of a warp supporting bar mounted to slide upon the notched side bars of said frame while operatively connected thereto and provided with an intermediately pivoted lock bar, the ends of which are engageable with the notches in said side bar, to hold said warp supporting bar in different adjustments thereon, substantially as described.



4. A loom frame having in the inner edges of its side bars longitudinally extended grooves and longitudinally spaced lock notches and provided at one end with a fixed warp supporting bar in combination with an adjustable warp supporting bar having end projections arranged to embrace the said notched bars and to engage the longitudinal grooves thereof, and a lock bar intermediately pivoted to said warp supporting bar, engageable at its ends with the lock notches of said side bars and provided at its said ends with projecting stop lugs located on opposite sides of the coöperating notched side bars, substantially as described.

975,180. CALCULATING-MACHINE. FRANZ TRINKS, Brunswick, Germany. Filed June 13, 1907. Serial No. 378,854.



1. In a calculating machine, the combination with the main registering mechanism, its carriage, and an operating crank, of a counting mechanism comprising a plurality of counting elements indicating the crank revolutions, said counting mechanism being arranged separately from the main registering mechanism and its carriage and in the upper part of the machine above said registering mechanism, means to connect the crank with said counting elements, and means operated by the carriage to effect the connection between the crank and the proper counting element according to the position of said carriage.

2. In a calculating machine, the combination with the main registering mechanism, its carriage, and an operating crank, of a laterally stationary counting mechanism comprising a plurality of revolving counting elements indicating the crank revolutions, said counting mechanism being arranged separately from the main registering mechanism and its carriage and in the upper part of the machine above said registering mechanism, means to connect the crank with said counting elements, and means operated by the carriage mechanism to effect the connection between the crank and the proper counting element according to the position of said carriage.

3. In a calculating machine, the combination with the main registering mechanism, its carriage, and an operating crank, of a laterally stationary counting mechanism comprising a plurality of revolving counting elements indicating the crank revolutions, said counting mechanism being arranged separately from the main registering mechanism and its carriage and in the upper part of the machine above said registering mechanism, means to connect the crank with said counting elements, said means being slidable along the counting mechanism, and an operative connection between the carriage and said slidable connecting means and adapted to adjust the connecting means relatively to the counting elements so as to effect the connection between the crank and the proper counting element according to the position of said carriage.

4. In a calculating machine, the combination with the main registering mechanism, its carriage, and an operating crank, of a laterally stationary counting mechanism comprising a plurality of revolving counting elements indicating the crank revolutions, said counting mechanism being arranged separately from the main registering mechanism and its carriage and in the upper part of the machine above said registering mechanism, means to connect the crank with said counting elements, said means being slidable along said counting mechanism, and an operative connection between said carriage and the slidable connecting means and adapted to move the connecting means along the counting elements and to displace the same relatively to the counting elements so as to effect the connection between the crank and the proper counting element according to the position of said carriage.

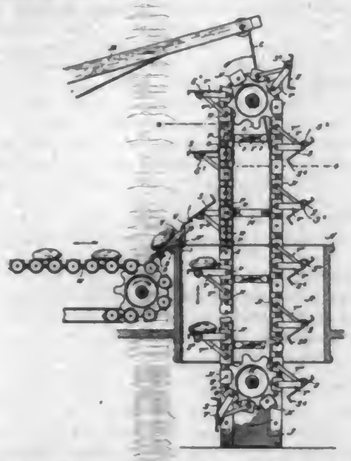
5. In a calculating machine, the combination with the main registering mechanism, its carriage, and an operating crank, of a counting mechanism comprising a plurality of counting elements indicating the crank revolutions, said counting mechanism being arranged separately from the main registering mechanism and its carriage, means to connect the crank of the machine with said counting mechanism elements, means operated by the carriage to effect the connection between the crank and the proper counting element according to the position of said carriage, tens transfer mechanism adapted to transmit the tens from one counting element to the next higher one and automatic means to throw said tens transfer mechanism out of operation when its counting element is operated from the crank.

[Claim 6 not printed in the Gazette.]

975,181. CONVEYER. WALTER J. TURNBULL, New Orleans, La. Filed Mar. 4, 1910. Serial No. 547,279.

1. A conveyer substantially—as herein described, comprising a conveyer frame having track ways, sprocket wheels supported in said frame, a conveyer chain comprising a series of channeled slats having back plates arranged on the outer side of the chain and provided in their side plates with openings for the passage of links and in their end plates with openings for axle bars, rollers on said bars alongside the ends of the slats and adapted to operate in the track ways of the frame and in connection with the sprocket wheels, solid links passed through the side plates of the alternate slats and having openings at their middles for their corresponding axle bars and also having at their ends beyond the slats lateral openings and the intervening slats having their side plates provided with openings for link sections and link sections having their outer ends hooked to engage with the solid links of the adjoining slats and having at their inner ends eyes lapping alongside each other and receiving their respective axle bars, brackets having lateral and strut bars carried by the axle bars of the adjoining slats, shelves pivoted to said brackets and having their rear portions overbalancing in weight their front portions and provided at their rear edges with up-turned flanges abut

ting the back plates of their respective slats, means on the shelves in advance of their pivots to engage with their brackets for limiting the tilting movement of the shelves and means for automatically tilting the shelves to discharge the load therefrom, substantially as and for the purposes set forth.



2. The combination of a series of channeled slats having side plates, solid links passed through the side plates of the alternate slats and having openings at their middles for axle bars and having their ends projecting beyond their respective slats, the intervening slats having their side plates provided with openings for link sections, and link sections having means at their outer ends for connection with the solid slinks of the adjoining slats and having at their inner ends eyes lapping alongside each other, within their respective slats for the reception of axle bars, substantially as set forth.

3. A chain comprising a series of hollow metallic slats open at one edge and closed at the other edge and links extending through their respective slats and connecting the adjacent slats, the links being composed of sections with the meeting ends thereof connected together within their respective slats, substantially as set forth.

4. The combination in a conveyer with the conveyer proper, of brackets having lateral and strut bars carried at their inner ends by the conveyer proper, shelves pivoted to said brackets and having in advance of their pivots downwardly projecting portions arranged to engage their respective strut bars and limit the tilting movement of the shelves, substantially as set forth.

5. A conveyer comprising a frame having channeled track ways, a chain having hollow pressed steel slats having spaced apart side plates and links extending through the spaced apart side plates of and connecting the said slats and provided with rollers operating in the channeled track ways of the frame, substantially as set forth.

[Claims 6 to 12 not printed in the Gazette.]

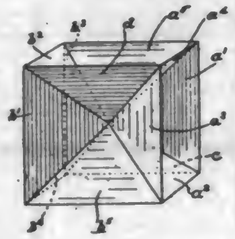
975,182. AERIAL TOY. ZOE D. UNDERHILL, Bedford Station, N. Y. Filed July 29, 1909. Serial No. 510,257.

1. A device of the character described, composed of a series of pockets, closed at their inner ends and open at their outer ends, and radiating outwardly from substantially a common point.

2. A device of the character described, composed of a series of open-ended pockets radiating outwardly from substantially a common point, said pockets enlarging toward their outer open ends.

3. A device of the character described, composed of a series of radiating pockets closed at their sides and open at their outer ends.

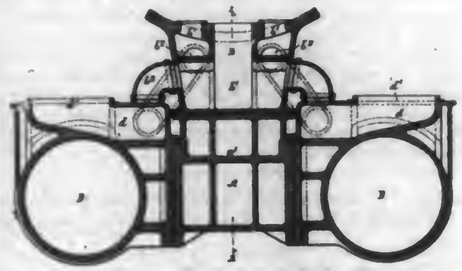
4. A device of the character described, composed of a series of wings radiating outwardly from substantially a common point and associated to form pockets, each wing forming walls of two adjacent pockets.



5. A device of the character described, composed of a series of wings radiating outwardly from substantially a common point and joined along their radiating edges to form a series of open ended pockets of similar size and shape.

[Claims 6 to 11 not printed in the Gazette.]

975,183. LOCOMOTIVE. SAMUEL M. VAUCLAIN, Philadelphia, Pa., assignor to Baldwin Locomotive Works, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 11, 1910. Serial No. 543,367.



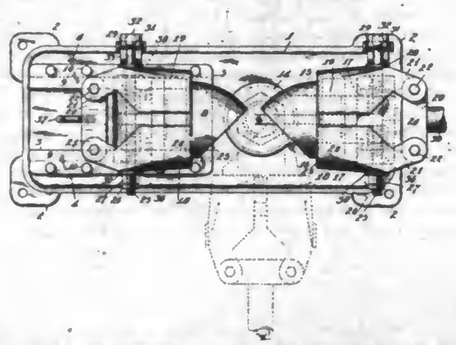
1. The combination of a front frame of a locomotive forming a continuation of the main frame, two cylindrical castings secured, one on each side of the said front frame, and a saddle detachably mounted on the front frame and supporting the forward end of the boiler.

2. The combination in a locomotive, of a front frame having rearwardly extending arms attached to the side frames of the locomotive, cylinder castings mounted on each side of the said frame, steam passages in the said cylinder castings, a saddle casting mounted directly upon the front frame and secured thereto, said saddle being shaped to support the forward end of the boiler and having steam inlet and exhaust passages therein communicating with the passages in the cylinders.

3. The combination in a locomotive, of a front frame made of cast steel and having exhaust passages therein open at each side and connected at their upper ends, cylinder castings on each side of the front frame, the exhaust passages of the said cylinder castings communicating with the passages of the front frame, and a cast iron saddle mounted upon and secured to the front frame and shaped to support the forward end of the boiler, said saddle having an exhaust passage communicating with the exhaust passage of said front frame, and having steam passages connected to the steam passages of the cylinders.

975,184. ELBOW-BENDING MACHINE. HARRY C. H. WALSH, Chicago, Ill., assignor of one-half to A. A. Kinne, Minneapolis, Minn. Filed Apr. 19, 1909. Serial No. 490,679.

1. In a pipe bending machine, the combination with a main frame provided with a guide way extending longitudinally thereof, of a bracket having sliding movement in said guide-way, a second bracket pivotally connected to the main frame by a fixed pivot, a mandrel rigidly mounted in each bracket, means for clamping a pipe on said mandrels, and leverage mechanism for rotating the second bracket, said parts being so arranged that the first bracket has sliding movement and the second bracket rotary movement during the operation of bending the pipe.



2. In a pipe bending machine, the combination with a main frame having a guide-way extending longitudinally thereof, of a bracket mounted to slide freely in said guide-way, a second bracket pivotally connected to the main frame by a fixed pivot, a mandrel carried by each bracket, means for clamping the pipe to each mandrel comprising a journal pin extending transversely through each bracket, a pair of clamping jaws carried by opposite ends of said pin, cam leverage mechanism for shifting said rod to force the jaws into clamping engagement with the mandrel, and springs seated in sockets formed in each bracket and normally forcing the clamping jaws out of engagement with the mandrel, and leverage mechanism for rotating the pivot bracket, said parts being so arranged that the first bracket slides freely in its guide-way and the second bracket rotates on its pivot during the operation of bending the pipe.

3. In a pipe bending machine, the combination with a main frame, of a mandrel having free sliding movement therein, a second mandrel pivotally mounted to the main frame by a stationary pivot, and locked against sliding movement, means for clamping a pipe to said mandrels, said parts being so arranged that said mandrels have different movements during the operation of bending the pipe, the first mandrel having sliding movement and the second rotary movement.

975,185. METAL-CREASING MACHINE. HARRY C. H. WALSH, Chicago, Ill., assignor of one-half to A. A. Kinne, Minneapolis, Minn. Filed Apr. 19, 1909. Serial No. 490,680.

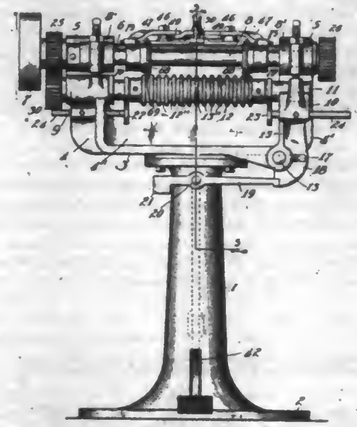
1. In a metal creasing machine, the combination with a rotating former member adapted to receive a tubular blank, of a bodily shiftable creasing die member, coöperating with the former, means for shifting the die over the face of former, and means for moving one of said members bodily to and from the other.

2. In a metal creasing machine, the combination with a rotating former, of a creasing die coöperating with said former, means for shifting the die over the face of the latter, and leverage mechanism for moving said die to and from the former.

3. In a creasing machine, the combination with a rotating former, of a creasing die coöperating therewith, step-by-step mechanism for shifting the die over the face of the former, and leverage mechanism for moving said die bodily to and from the former.

4. In a metal creasing machine, the combination with a main frame, of a pair of shafts journaled therein, a former carried by one of said shafts, a creasing die carried by the other, leverage mechanism for moving one of said shafts bodily to and from the other, and step-by-step mechanism for shifting the die over the face of the former.

5. In a metal creasing machine, the combination with a main frame, of a pair of shafts journaled therein, a former carried by one of said shafts, a pair of creasing dies carried by the other, step-by-step mechanism for



shifting the creasing dies over the face of the former, and leverage mechanism operatively connecting the creasing dies and step-by-step mechanism.

975,186. BURGLAR-ALARM SASH-LOCK. MORRIS WHEELER, Chicago, Ill. Filed Apr. 26, 1909. Serial No. 492,212.

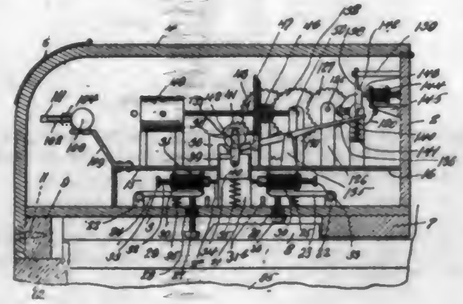


The combination with a window frame and a sash therefor, of a metallic casing on the window frame, a key-operable shaft journaled in said casing, a cam on said shaft and contacting with said sash, a contact-spring held by and insulated from said casing, an electric circuit connected to the contact-spring and to the casing, and an alarm in said circuit.

975,187. ELECTRICAL MECHANICAL PLAYER FOR MUSICAL INSTRUMENTS. JOHN F. WHITE, Pittsburg, Pa. Filed June 5, 1908. Serial No. 436,877.

1. A piano player embodying a casing, having an opening formed therein, horizontal partitions arranged in said casing, vertical partitions arranged in said casing and providing a central tracker compartment, two rows of pivoted solenoid supports arranged beneath said horizontal partitions, depending key-hammers carried by said supports, solenoids arranged upon said supports, rods adapted to be moved by energizing said solenoids, a vertically reciprocatory bar for engaging said rods, a motor mounted upon one of said horizontal partitions, a longitudinal shaft rotated by said motor, connections between said shaft and the bar for reciprocating said bar, a governor mechanism actuated by said shaft, a music sheet roll detachably and revolubly mounted in said tracker compartment, a take-up roll revolubly journaled in said tracker compartment, a

gear wheel actuated by said shaft and adapted to rotate said take-up roll, a rewind spring placed under tension by said music-sheet when the latter is rotating in one direction, a pawl for preventing the rotation of said music-sheet roll in the opposite direction, a control-rod extending into said compartment for engagement with said gear wheel and said pawl, a locking bar for locking said control-rod, an electro-magnet for releasing said control rod, a finger bar mounted for rocking movement in said compartment and actuated by said rod, a plurality of contact fingers carried by said bar and in circuit with said solenoids, a contact bar hinged in said compartment and in circuit with said solenoids and adapted to be engaged by said contact fingers, an expression mechanism located in said casing, said mechanism including solenoids each in circuit with one of said contact fingers, actuating levers pivotally connected at one end to said bar, vertically reciprocating means for holding the outer ends of said levers elevated when the bar is lowered, and means for energizing said solenoids and electro-magnet.



2. In a piano player, the combination with a suitable source of electrical energy, of a casing, horizontal partitions arranged in said casing, vertical partitions arranged in said casing and providing a central tracker compartment, two rows of pivoted solenoid supports arranged beneath said horizontal partitions, depending key hammers carried by said supports, solenoids arranged upon said supports, rods in said solenoids actuated by the energising of the solenoids, a vertically reciprocating horizontal bar for engaging said rods, a motor mounted upon one of said horizontal partitions, a longitudinal shaft rotated by said motor, connections between said shaft and the bar for reciprocating said bar, a governor mechanism actuated by said shaft, a music sheet roll detachably and revolubly mounted in said tracker compartment, a take-up roll revolubly journaled in said tracker compartment, a gear wheel actuated by said shaft for rotating said take-up roll, a rewind spring placed under tension by said music sheet roll when the latter is rotated in one direction, a pawl for preventing the rotation of said music sheet roll in the opposite direction, a control-rod extending into said compartment for engagement with said gear wheel and said pawl, a locking bar arranged in one of said vertical partitions for locking said rod, an electromagnet supported by one of said horizontal partitions and in circuit with said source of electrical energy for releasing said rod, a finger bar trunnioned in said compartment and engaged by said rod, a plurality of contact fingers carried by said bar and in circuit with said solenoids and said source of electrical energy, a contact bar hinged in said compartment and in circuit with said solenoids and said source of electrical energy and engaged by said contact fingers to establish the aforestated circuits, an expression mechanism located in said casing, said expression mechanism including solenoids each in circuit with one of said fingers and said source of electrical energy, and springs acting with said solenoids to actuate said horizontal bar.

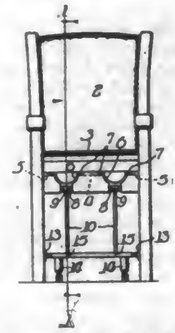
3. In a piano player, the combination with a suitable source of electrical energy, of a casing, partitions arranged in said casing and providing a tracker compartment, two rows of pivoted solenoid supports arranged within said casing, depending key hammers carried by said supports, solenoids arranged upon said supports and in circuit with said source of electrical energy, rods movable by the energising of said solenoids, a vertically reciprocating horizontal bar for engaging said rods, a motor arranged within said casing, a longitudinal shaft rotated by said motor, connections between said shaft and the bar for reciprocating the latter, a music sheet detachably and revolubly mounted in said tracker compartment, a take-up roll journaled in said tracker compartment, a gear wheel actuated by said shaft to rotate said take-up roll, a rewind spring placed under tension by said music sheet roll rotating in one direction, a pawl for preventing the rotation of said music sheet roll in the opposite direction, a control-rod extending into said compartment for engagement with said gear wheel and said pawl, a finger bar trunnioned in said compartment and engaged by said rod, locking means for normally holding said rod in a fixed position, a plurality of contact fingers carried by said bar and in circuit with said solenoids and said source of electrical energy, a contact bar hinged in said compartment and in circuit with said solenoids, and an expression mechanism located in said casing and including solenoids each in circuit with one of said fingers, and said source of electrical energy.

4. In a piano player, the combination with a suitable source of electrical energy, of a casing, partitions arranged in said casing and providing a tracker compartment, two rows of pivoted solenoid supports arranged within said casing, depending key hammers carried by said supports, solenoids arranged upon said supports and in circuit with said source of electrical energy, rods disposed to be moved by the energising of said solenoids, a vertically reciprocatory horisontal bar for engagement with said rods, a motor arranged within said casing, a longitudinal shaft rotated by said motor, connections between the shaft and the bar for reciprocating said bar, a music sheet detachably and revolubly mounted in said tracker compartment, a take-up roll journaled in said tracker compartment, a gear wheel actuated by said shaft for rotating said take-up roll, a rewind spring placed under tension by said music sheet roll when the latter is rotating in one direction, a control-rod extending into said compartment for actuating said gear wheel and said pawl, a finger bar trunnioned in said compartment and actuated by said rod, locking means for normally holding said rod in a fixed position, a plurality of contact fingers carried by said bar and in circuit with said solenoids and said source of electrical energy, a contact bar hinged in said compartment and in circuit with said solenoids, and an expression mechanism located in said casing and including solenoids each in circuit with one of said fingers, and said source of electrical energy.

5. In a piano player, the combination with a suitable source of electric energy, of a casing, partitions arranged in said casing and providing a tracker compartment, two rows of pivoted solenoid supports arranged within said casing, depending key hammers carried by said supports, solenoids carried by said supports and in circuit with said source of electrical energy, rods disposed to be actuated by the energising of said solenoids, a horizontally-disposed vertically reciprocatory bar coacting with said rods, a motor arranged within said casing, a longitudinal shaft rotated by said motor, connections between the shaft and the bar for reciprocating said bar, a music sheet roll detachably and revolubly mounted in said tracker compartment, a gear wheel actuated by said shaft for rotating said take-up roll, a rewind spring placed under tension by said music sheet roll when the latter is rotating in one direction, a control-rod extending into said compartment for engagement with said gear wheel and said pawl, a finger bar trunnioned in said compartment and mounted to be rocked by said rod, locking means for normally holding said rod in a fixed position, a plurality of contacts carried by said finger bar and in circuit with said solenoids and said source of electrical energy, and a contact bar hinged in said compartment and in circuit with said solenoids and said source of electrical energy.

[Claims 6 to 16 not printed in the Gazette.]

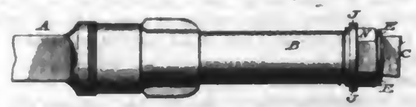
975,188. CHAIR. MARGARET B. WILLIAMS, Chicago, Ill. Filed June 10, 1910. Serial No. 566,150.



1. As an improvement in chairs, the combination with the seat thereof, of a pair of longitudinal guides disposed beneath said seat, an extensible leg rest operable in said guides, said leg rest having a recessed guide upon its under surface, a leg rest support movable in said recessed guide and an extensible platform 11 having a groove in its upper surface adapted to serve as a guide for the lower extremity of said leg rest support.

2. As an improvement in chairs, the combination with the seat thereof, of a pair of longitudinal guides disposed beneath said seat, an extensible leg rest operable in said guides, said leg rest having a recessed guide upon its under surface, a leg rest support movable in said recessed guide, a pair of lateral guides secured to the legs of the chair and a platform movable in said guides and provided upon its upper surface with a groove adapted as a guide for the lower extremity of the leg rest support.

975,189. AXLE-NUT. JOSEPH B. WISMER, Franconia, Pa. Filed Apr. 8, 1910. Serial No. 554,116.



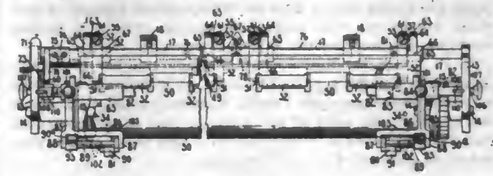
1. In an axle nut, an internally threaded nut formed with an annular flange and an externally smooth neck, an externally threaded and internally smooth sleeve fitted to slide upon the neck of the nut and having an annular flange, said nut and sleeve having means for permitting longitudinal and preventing rotary relative movement, and an internally threaded collar upon the threaded sleeve and engaging the flange of the nut.

2. In an axle nut, an internally threaded nut formed with an annular flange and an externally smooth neck having a longitudinal spline, an externally threaded and internally smooth sleeve fitting to slide upon the neck of the nut and formed with a longitudinal recess for the spline and with an annular flange, and an internally threaded collar upon the threaded sleeve and bearing against the flange of the nut.

975,190. TYPE-WRITING MACHINE. OSCAR WOODWARD, Montclair, N. J., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed May 21, 1908. Serial No. 434,131.

1. In a typewriting machine, the combination of a rotative platen, and a rigid paper guide carried by a fixed portion of the machine and normally held rigid against the action of the work sheets thereon and coöperative with the platen above the printing line.

2. In a front-strike typewriting machine, the combination of a rotative platen, and a rigid paper guide carried by a fixed portion of the machine and normally held rigid against the action of the work sheets thereon and coöperative with the platen above the printing point and extending below the platen.



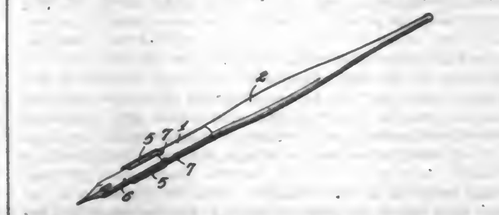
3. In a typewriting machine, the combination of a cylindrical shiftable platen, a paper guide carried by a fixed portion of the machine, and means for automatically moving said paper guide relatively to the platen when the platen is shifted.

4. In a typewriting machine, the combination of a cylindrically shiftable platen, a rigid paper guide carried by a fixed portion of the machine and coöperating with the platen above the printing line, said guide being normally held rigid against the action of the work sheets thereon and means for automatically moving said paper guide relatively to the platen when the platen is shifted.

5. In a typewriting machine, the combination of a cylindrical shiftable platen, a paper guide carried by a fixed portion of the machine, and means whereby said paper guide is automatically moved toward and away from the platen when the platen is shifted.

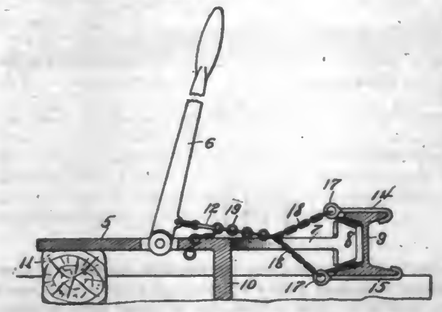
[Claims 6 to 65 not printed in the Gazette.]

975,191. PENHOLDER. HERMAN A. WULFF, St. Paul, Minn. Filed Apr. 20, 1910. Serial No. 556,585.



A penholder tip formed from a single length of resilient material shaped to provide a handle engaging sleeve, a pen rest, resilient clamping members carried by said rest and adapted to slidably retain a pen on said rest, and inwardly projecting biting spurs formed on the extreme inner ends of said clamping members and adapted to force said rest into binding engagement with a handle and also to provide stops for a pen.

975,192. RAIL BENDING AND STRAIGHTENING DEVICE. FRANK YOCH, Claytonia, Pa. Filed Aug. 5, 1910. Serial No. 575,616.

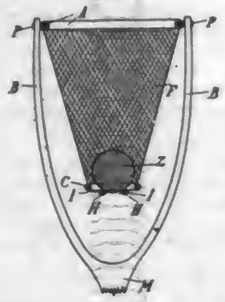


1. A rail bending device comprising a bar having a supporting foot at its inner end, a yoke carried by the inner

end of said bar and having the arms thereof provided at their free ends with heads, a lever pivoted in said bar at a point back of the supporting foot and carrying a hook at a point above the bar, a pair of rail-engaging clamps, and a chain connected with said hook of the lever and having branches connected with said rail-engaging clamps.

2. In a rail bending device, a supporting-bar terminating at one end in a yoke the arms of which are provided at their free ends with heads, a lever pivoted to the bar intermediate the ends of the latter, a pair of rail-engaging clamps, and a chain connected with the lever and having branches connected to said clamps.

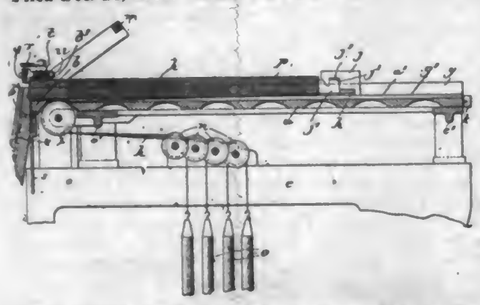
975,193. SLING FOR BALL GAMES. ARMAND D'ARREU, Paris, and ERICH SEYDEL, Enghien, France. Filed July 7, 1909. Serial No. 506,343.



1. A sling comprising a handle having a forked end, a basket comprising top and bottom rings, each of said rings being of greater diameter than the diameter of the ball with which the sling is used, a netting extending between the rings, means for pivoting the top ring between the ends of the fork, a plurality of hooks carried by the bottom ring, said hooks being spaced from one another, and an elastic ring engaging said hooks and extending across said bottom ring to retain the ball within the sling.

2. A sling comprising a handle having a forked end, a basket comprising top and bottom rings, each of said rings being of greater diameter than the diameter of the ball with which the sling is used, a netting extending between the rings, means for pivoting the top ring between the ends of the fork, four hooks carried by the bottom ring, said hooks being spaced from one another and an elastic ring engaging the hooks and extending across the bottom ring to retain the ball in the basket.

975,194. TYPE-SETTING MACHINE. EDWARD AUGUSTUS ADCOCK, Reading, England, assignor to The Pulsometer Engineering Company, Ltd., Reading, England. Filed Dec. 21, 1908. Serial No. 468,653.



1. In a type setting or distributing machine a type trough plate formed with a plurality of grooves each made of two widths in cross section, and strips of rigid material fixed in the narrower portions of said grooves so as to form with the upper surface of said plate a plurality of type troughs, the wider portions of the grooves forming channels for the reception of weight cords pertaining to the type followers for moving lines of type along said troughs.

2. In a type setting machine a normally stationary front type trough plate and a removable rear type trough plate, said rear plate being formed with a plurality of grooves each made of two widths in cross section, and strips of rigid material fixed in the narrower portions of said grooves so as to form with the upper surface of said plate a plurality of type troughs, the wider portions of the grooves forming channels for the reception of weight cords pertaining to the type followers for moving lines of types along said troughs.

3. In a type setting machine, a removable plate provided with a plurality of type troughs each having in its base at one side a longitudinal groove open at one end and adapted to receive a weighted cord attached to a type line follower for use in the trough and a cross bar fixed to said machine at a higher level than said bed plate and adapted to receive and hold type followers.

4. In a type setting machine, a removable plate provided with a plurality of type troughs each having in its base at one side a longitudinal groove open at one end, type line followers each arranged to work in one of said grooves, cords each extended through one of said grooves and connected at one end to one of said followers, pulleys over which said cords extend, weights attached to the lower ends of said cords, and a cross bar fixed above said trough plate and with which said followers with attached cords and weight can be engaged when it is desired to remove said trough plate.

5. In a type setting machine, a removable plate having therein a plurality of type troughs each formed with a longitudinal groove in its base to accommodate a weighted cord for the corresponding type line follower, a fixed trough plate having the type troughs therein registering with those in the removable trough plate, the sides of said troughs being formed by strips of rigid material, a type tilting device, a stop for limiting upward movement of displaced type, a transverse bridge piece arranged to retain the trough strips in the fixed plate, and adjustable stops fixed to said bridge piece and adapted to prevent accidental frictional displacement of type, said tilting device, stop and bridge piece being carried by said fixed trough plate.

975,195. SPECTACLES. LEO F. ADT, Albany, N. Y. Filed May 13, 1910. Serial No. 561,170.



1. In a spectacle mounting, the combination with lens attaching devices; of the following parts made from a strip of non resilient material of substantially uniform width, a bridging portion inclined to the plane of the lenses and pliable portions connecting the bridging portion and the lens attaching devices, the strip of material being provided with eyes in proximity to the extremities of the bridging portion; and nose rests having portions loosely engaging in the eyes.

2. In a spectacle mounting, the combination with lens attaching devices, of a single strip of non resilient material of substantially uniform width connecting them and embodying a pair of expanded perforated portions, a bridging portion between the perforated portions and pliable portions beyond the perforated portions, and nose rests having portions loosely engaging in the perforated portions.

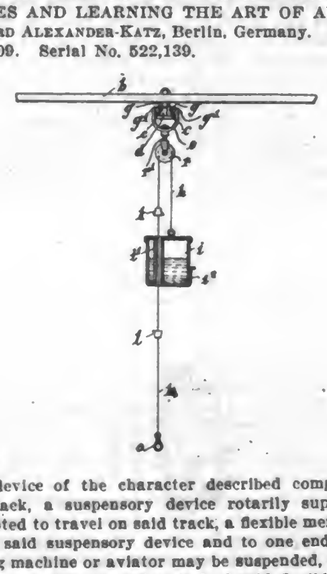
3. In a spectacle mounting, the combination with a bridging portion of non resilient material inclined to the plane of the lenses, lens attaching devices, and pliable portions connecting the bridging portion and the lens attaching devices, of perforated portions arranged between and in line with the bridging portions and the pliable portions, and nose rests having portions loosely engaging in the perforations.

4. In spectacles the combination of the lenses, a rigid bridge connecting them and nose engaging supporting pads loosely mounted on the bridge in fixed spaced relation but permitted a universal rocking movement thereon to conform to the forward and upward taper of the wearer's nose and temples connected to the lenses.

5. In spectacles the combination of the lenses, a rigid bridge connecting them and nose engaging supporting pads loosely mounted on the bridge in fixed spaced relation but permitted a universal rocking movement to conform to the forward and upward taper of the wearer's nose, said bridge having pliable portions connected to the lenses outwardly beyond the pads and temples connected to the lenses.

[Claims 6 to 10 not printed in the Gazette.]

975,196. APPARATUS FOR TESTING FLYING-MACHINES AND LEARNING THE ART OF AVIATION. RICHARD ALEXANDER-KATZ, Berlin, Germany. Filed Oct. 11, 1909. Serial No. 522,139.



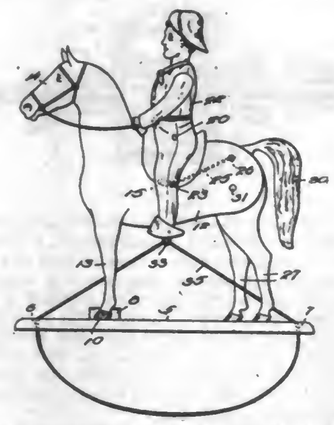
1. A device of the character described comprising an aerial track, a suspensory device rotarily supported by and adapted to travel on said track, a flexible member passing over said suspensory device and to one end of which the flying machine or aviator may be suspended, a counterweight attached to the other end of said flexible member, and means for limiting movements of ascent and descent of said counterweight and object suspended from said member.

2. A device of the character described comprising an aerial track, a trolley adapted to travel thereon, a swivel pulley rotatably supported by said trolley, a rope passing over said pulley to one end of which rope the flying machine or aviator may be suspended, a counterweight attached to the other end of said rope, and means carried by the latter for limiting movements of ascent and descent of said counterweight and object suspended from said rope.

3. A device of the character described comprising an aerial track, a trolley adapted to travel thereon, a swivel pulley rotatably supported by said trolley, a rope passing over said pulley to one end of which rope the flying machine or aviator may be suspended, a counterweight attached to the other end of said rope and provided with a channel through which a portion of the rope passes, and abutments on said rope coacting with the lower and upper portions of the counterweight to limit the movements of ascent and descent of the counterweight and object suspended from said rope.

4. A device of the character described comprising an aerial track, a suspensory device rotarily supported by and adapted to travel on said track, a flexible member passing over said suspensory device and to one end of which the flying machine or aviator may be suspended, a counterweight attached to the other end of said flexible member, said counterweight comprising a hollow body and loose ballast contained therein, and means for limiting movements of ascent and descent of said counterweight and object suspended from said member.

975,197. TOY. JOHN H. ALLEN, Moore Park, Manitoba, Canada. Filed Nov. 20, 1909. Serial No. 529,101.



1. In combination, a base, a body having fore legs pivotally secured to said base, rear legs pivotally secured to said body, a rider pivotally secured to said body, means for limiting the movement of said rider and a pliable connection secured to said rider for synchronously actuating said body and rider.

2. In combination, a base, a body having fore legs pivotally secured to said base, a rider pivotally secured to said body, rear legs pivotally secured to said body, means to pivotally connect said rear legs to said rider, means for limiting the movement of said rider and means connected to said rider for causing a movement of said rider and rear legs.

3. The combination with a suitable base, of a body having fore legs pivotally secured to said base, rear legs pivotally secured to said body, a rider pivotally secured to said body means to limit the pivotal movement of said rider means on the base and connected to the rider for moving said rider and means to pivotally connect said rear legs to said rider.

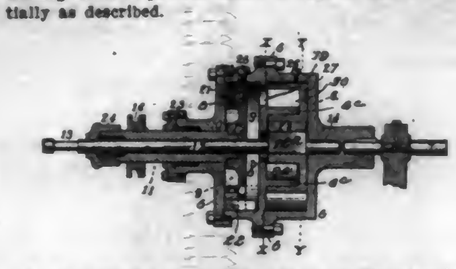
4. The combination with a suitable base, of an ear secured to said base, a member in the form of an animal's body having fore legs pivotally secured to said base, rear legs pivotally secured to said body, a rider pivotally secured to said body, said body being slotted, a pin carried by said rider and guided within said slot, a connection extending from said pin to said rear legs to pivotally connect these parts, and a pliable connection extending from said rider for synchronously actuating said body, rider and rear legs.

5. The combination with a base having oppositely positioned apertures, of an ear secured to said base, a member representing the body of an animal having fore legs pivotally secured to said ear, a rider pivotally secured to said body, a pin carried by said rider working within a suitable slot of said body rear legs pivotally secured to said body, means to pivotally connect said rear legs to said pin, and a pliable connection passing through said aperture and secured to said rider for synchronously actuating said body, rider, and rear legs.

975,198. VARIABLE-SPEED APPARATUS. WILLIAM B. ALLYN, Whitesboro, N. Y. Filed Aug. 26, 1909. Serial No. 514,826.

1. In a variable speed apparatus, an oscillating rotative pumping device comprising a driving element, a driven ele-

ment, a valve chamber consisting of a structure which is suitably connected with the casing of said pumping device, having a bearing on a rotatable and slidably mounted sleeve, ports for the passage of liquid to and from said valve chamber and pump, means for filling said valve chamber and pump casing with a liquid, and suitable stuffing boxes to prevent undue leakage of liquid, substantially as described.

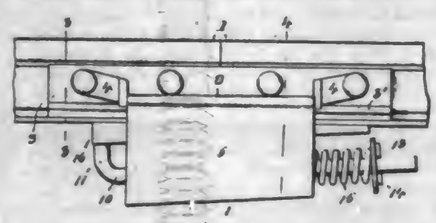


2. In a variable speed apparatus, an oscillating rotative pumping device comprising a driving element, a driven element, a disk valve mounted on or forming part of a sleeve which is rotatably and slidably mounted on a coöperating driven shaft, means to cause said valve to rotate in unison with the casing, means for imparting axial movement to said valve adapted to simultaneously open or close cooperating ports in the valve chamber for controlling the passage of liquid to and from said chamber and pump, and means for reducing pressure on said valve at the aforesaid ports, substantially as described.

3. A variable speed apparatus, comprising a driving shaft, and a cylindrical casing keyed thereon and having a transverse partition provided with ports, a valve which is slidable within the casing toward and from said partition, for closing the ports more or less, a driven shaft passing through the casing and an eccentric on said shaft, and a cylindrical piston mounted on said eccentric and made of less diameter than the casing chamber, and a device for guiding the piston and causing it to rotate with the casing, substantially as described.

4. In a variable speed apparatus of the character herein referred to, an oscillating rotative pump device comprising a driving element consisting of a cylindrical casing having an annular chamber with passages for the ingress and egress of liquid to and from said chamber, and a fixed abutment interposed between the aforesaid passages, a driven element consisting of a hollow slotted cylindrical piston, an eccentric on which said piston is mounted, and a driven shaft carrying the eccentric, substantially as described.

975,199. SPLICE ATTACHMENT. DAVIS AMBROSE, Louisville, Ky. Filed Apr. 29, 1910. Serial No. 558,330.

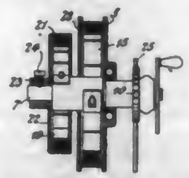


1. In a device for the purpose set forth, a pair of hinge members having longitudinally extending lips, a wedge for the said members, a pintle for the members being provided with a bent portion engaging the end of the wedge, and resilient means for retaining the bent portion in engagement with the edges and for preventing the opening of the hinge members.

2. In combination with the meeting ends of a pair of rails, splice bars for the rails, said splice bars being provided with pivoted clamping members, a support for the rails, and fish plates, said support comprising a pair of members, each of said members having its upper edge provided with a longitudinally extending bead, the said members being further provided with spaced inturned leaves, the leaves of one of the members adapted to alternate with the leaves of the second member, the central portions of said leaves being provided with alining openings, a longitudinally extending pintle for the openings, a wedge between the leaves and the base flanges of the rails, said wedge member having its enlarged end provided with a depression, the pintle having one of its ends bent and adapted to engage the depression, and resilient means for retaining the pintle into engagement with the wedge.

3. In combination with the meeting ends of a pair of rails and fish plates therefor, of a reinforcing device, said reinforcing device comprising a pair of sections, each of said sections having its upper edge provided with a longitudinally extending bead, the lower portions of the sections being provided with inturned spaced leaves, the upper faces of each of the leaves being depressed from its center toward the inner face of the section, the leaves being each centrally provided with alining openings, the tops of the said leaves being inclined from one of the ends of the sections to the opposite end thereof, a pintle engaging the openings of the leaves, said pintle having one of its ends bent and its opposite straight end provided with a plurality of openings, a wedge member having its enlarged end provided with a depression adapted to engage the bent end of the pintle, a helical spring upon the opposite end of the pintle, and a washer also upon the pintle and engaging the spring, and a removable element for one of the openings of the pintle.

975,200. TYPE-WRITING MACHINE. WALTER E. BARNARD, Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 17, 1910. Serial No. 549,968.



1. In a typewriting machine, the combination with the carriage, of a spring-drum consisting of two springs arranged side by side but reversely, a rotary coupling to which the inner ends of said springs are connected, a shaft on which said coupling is loosely mounted, a drum fast on said shaft, the outer end of one of said springs being fast to said drum, a drum loose on said shaft, the outer end of the other spring being fast to said loose drum, and a connection between said loose drum and the carriage.

2. In a typewriting machine, the combination with the carriage, of a spring-drum consisting of two springs arranged side by side but reversely, a rotary coupling to which the inner ends of said spring are connected, a rotary shaft on which said coupling is loosely mounted, a bracket provided with a bearing for said shaft, a ratchet-wheel on said shaft at one side of said bearing and an operating lever on said shaft at the other side of said bearing, a drum fast on said shaft and having the outer end of one of said springs fast thereto, a drum loose on said shaft and having the outer end of the other spring fast thereto, and connections between said loose drum and said carriage.

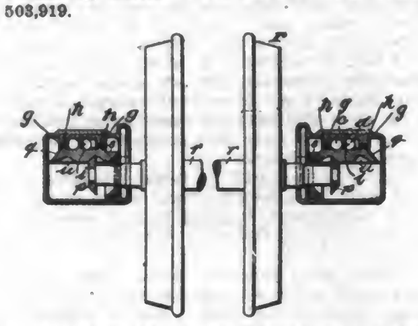
3. In a typewriting machine, the combination with the carriage, of a spring-drum consisting of two reverse clock-springs whose inner ends are connected together, a shaft passing through said springs, a bearing for said shaft, a shaft-turning lever at one side of said bracket and a ratchet-wheel on said shaft at the otner side thereof, one member of a ball-bearing adjacent to said ratchet-wheel, a drum provided with the other member of the ball-bearing, connections between said drum and the carriage, and a drum fast on said shaft, the outer ends of said springs being connected to said drums.

4. In a typewriting machine, the combination with the carriage, of a spring-drum consisting of reverse clock springs whose inner ends are connected with each other, a shaft passing through said springs, a bearing for said shaft, a ratchet-wheel on said shaft at one side and a shaft-operating lever on said shaft at the other side of said bearing, a drum fast to said shaft, a drum loose on said shaft, the outer ends of said springs being connected to said drums, and connections between said loose drum and said carriage.

5. In a typewriting machine, the combination with a carriage, of two reversely coiled springs connected at their inner ends, means for holding the outer end of one coiled spring stationary, and means for connecting the outer end of the other coiled spring to the carriage.

[Claims 6 and 7 not printed in the Gazette.]

975,201. ROLLER-BEARING. WILLIAM B. BARY, St. Petersburg, Russia. Filed June 23, 1909. Serial No. 503,919.



1. In a roller bearing, the combination of a base portion provided with an annular groove and having a boss integral therewith; a wheel supporting said base portion and operating in said groove; a plurality of balls supported on said base portion; a distributer plate for the balls; a top portion; and a tongue and groove connection between said top and base portion, substantially as described.

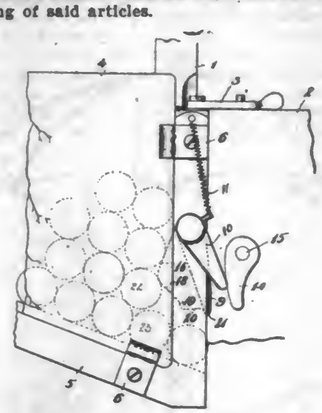
2. In a roller bearing the combination of an axle; a supporting wheel carried by said axle; a base portion provided with an integral boss and an annular groove in which said wheel operates; an annular projecting rim carried by said base portion; a top bearing portion provided with an annular groove fitting said rim; a plurality of balls carried by said base; and a distributer plate for the balls pivotally mounted on the top portion; said boss fitting between said balls and constituting a bearing surface, substantially as described.

975,202. MECHANICAL AGITATOR. CHARLES S. BATDORF, Brooklyn, N. Y., assignor to Automatic Coin Wrapping Machine Company, New York, N. Y., a Corporation of New York. Filed Dec. 11, 1909. Serial No. 532,543.

1. In a device of the character described, the combination with a feed chute, of an article agitator movable therein, said agitator having portions to successively agitate different parts of a group of articles in said feed chute.

2. In a device of the character described, the combination with a feed chute, of an agitator movably mounted therein, said agitator having parts to agitate different portions of a mass of articles in said chute successively from the upper to the lower portion of said mass.

3. In a device of the character described, the combination with a feed chute, of a swinging agitator mounted therein, means to swing said agitator in the plane of said chute, said agitator having a part arranged to contact with the upper portion of a mass of articles in said chute, a part to contact with the portion of said mass below said first portion and a part to contact with that portion of said mass located in the line of feed of said chute, whereby said portions will be successively agitated to facilitate the feeding of said articles.



4. In a device of the character described, the combination with a feed chute, of an oscillating agitator, means to oscillate said agitator in the plane of said chute, said agitator comprising a blade having an edge comprising an inclined part arranged to contact with an upper portion of a mass of articles in said chute, an oppositely inclined part arranged to contact with the next lower portion of said mass of articles and a depending part arranged to contact with that portion of said mass of articles located in the line of feed to facilitate the feeding operation.

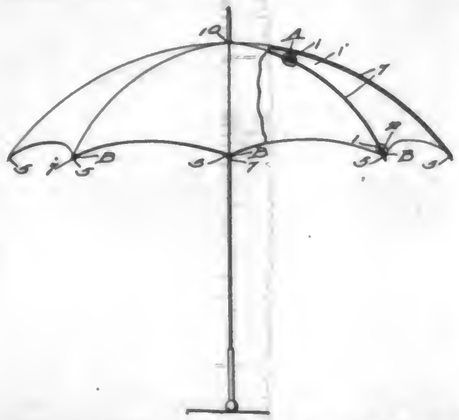
5. In a device of the character described, the combination with a feed chute, comprising an enlarged article receiving portion and a comparatively contracted feeding extension, of an oscillating agitator mounted at the junction of said enlarged portion and said extension, said agitator comprising a blade having an operating edge consisting of an inclined part arranged to operate upon the upper portion of a mass of articles within said enlarged portion and an oppositely inclined part arranged to thereafter operate upon a portion of said mass below said first portion and a depending part adapted thereafter to operate upon that portion of said articles located in the line of feed to said extension, whereby portions of said mass of coins may be successively agitated to facilitate the feeding operation.

975,203. DETACHABLE UMBRELLA-COVER. LEO BIRDSALL, Elm Hall, Mich. Filed June 4, 1910. Serial No. 564,961.

1. An umbrella including ribs, buttons secured to alternate ribs on the upper faces of said ribs, and near the middle portions, a cover comprising a fabric body having a series of eyelet members secured thereto, and disposed thereon, at points correlative with the said buttons and adapted to engage said buttons, a second set of buttons secured adjacent the free ends of the ribs, and a second set of eyelet members secured to the cover adjacent its outer edge, said eyelet members being provided with keyhole slots and adapted to engage said second named set of buttons, and having a downwardly projecting perforated portion adapted to engage the end of the rib.

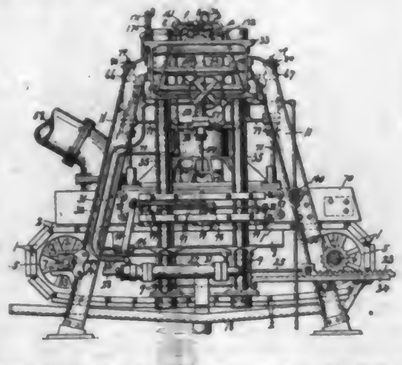
2. An umbrella including ribs, buttons secured to alternate ribs on the upper faces of said ribs, and near the middle portions, a cover comprising a fabric body having a series of eyelet members secured thereto and disposed thereon at points correlative with the said buttons and adapted to engage said buttons, said eyelet members being provided with keyhole slots, and second set of buttons secured adjacent the free ends of all the ribs, and a second set of eyelet members secured to the cover adjacent its outer edge, said eyelet members being provided with keyhole slots and adapted to engage said second named set of buttons, and having a downwardly projecting portion

near the outer edge of said member provided with an aperture adapted to receive therethrough the free end of a rib, said downwardly projecting portion serving to hold



the eyelet member rigidly against the upper face of the rib, and also as a finger gripping piece in applying or removing the cover.

975,204. PRESS. KIRK S. BLANCHARD, Philadelphia, Pa. Filed Apr. 2, 1909. Serial No. 487,379.



1. In a press of the character described, a bed, a press-box adjacent to the bed, a press-head movable toward and from the bed, and packing strips on opposite sides of the box co-acting with the bed to prevent leakage at the junction of the sides of the bed.

2. In a press of the character described, a bed, a press-head movable toward and from the bed, a press-box in which the press-head is movable, said box having opposite sides movable toward and from each other and provided with packing strips engaging the surface of the bed, means for moving the press-head, and additional means for operating the sides of the box.

3. In a press of the character described, a supporting bed for the material to be pressed, a press-box for confining said material, one side at least of said box comprising an outer plate having its inner face slotted and an inner perforated plate secured to said slotted face, a press-head movable toward and from the bed, and actuating means for the press-head.

4. In a press of the character described, a bed for supporting the material to be pressed, a press-box for confining such material on the bed and provided with opposite movable sides having packing strips slidably engaging the bed, means for actuating the press-head, and additional means for actuating the movable sides of the box.

5. In a press of the character described, a supporting bed for the material to be pressed, a confining box for the material having inlet and outlet gates, a press-head movable in the box toward and from the bed, hydraulic means for operating the press-head, and additional hydraulic means controlled by the movement of the press-head for operating the gates.

[Claims 6 to 26 not printed in the Gazette.]

975,205. HOLDER FOR DENTAL FLOSS. CHARLES F. BOOTH, Canandaigua, N. Y. Filed Jan. 4, 1910. Serial No. 536,425.



1. A holder for a bunch of cords, consisting of an elongated plate, perforated near one end to contain the cords, and having a pair of outwardly directed flanges to shield the cords; substantially as shown and described.

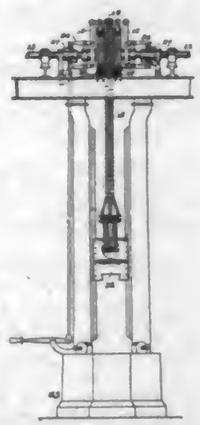
2. A holder for a bunch of cords, consisting of an elongated plate, perforated near one end to contain the cords, and having a pair of outwardly directed flanges to shield the cords with inwardly turned edges adapted to receive and retain a cover plate between them; substantially as shown and described.

3. A holder for a bunch of cords, consisting of an elongated plate, perforated near one end to contain the cords, and having on each side a pair of outwardly directed flanges to shield the cords; substantially as shown and described.

4. A holder for a bunch of cords, consisting of an elongated plate, perforated near one end to contain the cords, and having on each side a pair of outwardly directed flanges to shield the cords and the flanges of each pair having inwardly turned edges adapted to receive and retain between each pair of flanges a cover plate; substantially as shown and described.

5. A holder for a bunch of cords, consisting of an elongated plate, perforated near one end to contain the cords, and having on each side a pair of outwardly directed flanges to shield the cords, made from a single sheet-metal blank by depressing a portion centrally between sides bent at right angles thereto; substantially as shown and described.

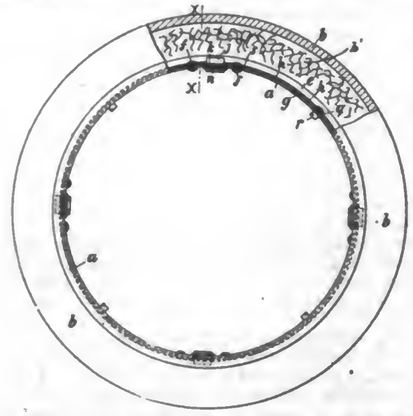
975,206. DROP-HAMMER. BERNARD BRETT and JOHN BRETT, Coventry, England. Filed Mar. 8, 1910. Serial No. 548,068.



1. In lifting mechanism for drop hammers, a shaft rotatable in one direction, a hoisting pulley mounted on the shaft for rotation therewith, a hammer block, a cable carrying the hammer block, a pulley freely rotatable about the shaft as a center and over which the cable is trained, a cross piece to which the end of the cable is attached, the cross piece having means to frictionally engage the hoisting pulley and being movable to establish or disestablish such engagement, and arms to which the cross piece is connected, the arms surrounding the shaft.

2. In lifting mechanism for drop hammers, a shaft rotatable in one direction, a pair of hoisting pulleys mounted on the shaft for rotation therewith, a freely revoluble pulley arranged between the hoisting pulleys, a hammer block, a cable carrying the hammer block and trained over the freely revoluble pulley, a cross piece to which the end of the cable is attached, the cross piece having means to frictionally engage the hoisting pulleys and being movable to establish or disestablish such engagement, arms surrounding the shaft, radially movable with respect thereto, and connected to the cross piece, the movement of the latter aforesaid being consequent to the movement of the arms, and means for producing the movement of the arms in either direction.

975,207. TIRE FOR ROAD-VEHICLE WHEELS. ROBERT JOHN CALDWELL, New Southgate, England, assignor, by mesne assignments, to Pneumatic (1910) Limited, London, England. Filed July 6, 1909. Serial No. 506,100.



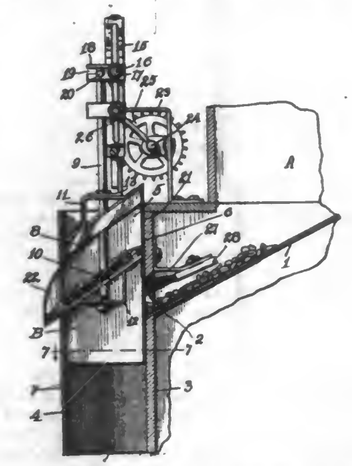
1. In a tire, an outer cover having a divided base, a rim, a segmental securing band, filling nipples arranged between the segments of the band, flanges on said nipples lodged in an air space provided between said rim and securing band, and a filling of elastic cellular material introduced within said outer cover through said filling nipples.

2. In a tire, an outer cover having a divided base, a filling of elastic cellular material, means for introducing said filling within said outer cover, a segmental securing band having vent holes formed therein, and plugs for closing said vent holes.

3. In a tire, a rim, an outer cover having a divided base, a perforated segmental band securing said outer cover to said rim, a filling of elastic cellular material, filling nozzles for admitting said elastic cellular material extending a short distance within the space between said outer cover and said segmental band, plugs closing said filling nozzles, and plugs closing air vent holes provided in said segmental band.

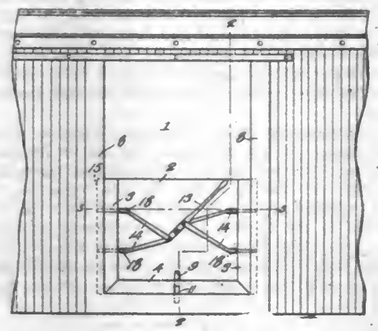
975,208. MEASURING-BIN. FRANK B. CARROLL and JOSEPH L. RICKS, Woodland, Miss. Filed Apr. 2, 1910. Serial No. 553,011.

1. In a device of the character described, a bin having an inclined bottom, a tubular casing adjacent to the bin and communicating with the latter through an aperture in the partition wall adjacent to the lower edge of the bottom, a measuring receptacle slidable in the tubular casing, said receptacle being composed of side walls, a rear wall and an inclined top member, a stem slidable through the top member and carrying an inclined follower and a slotted scale member firmly connected with the meaasuring receptacle, all of said inclined parts being inclined in the same direction, a slotted indicator adjustable upon the scale member, and a pin extending from the stem of the follower and engaging the slot of the indicator.



2. In a device of the character described, a measuring receptacle consisting of rear and side walls, an inclined top piece and an inclined follower carried by a stem, a rack extending upwardly from the top of the measuring receptacle, a scale member connected with the rack, an indicator adjustable upon the scale member, means connecting the indicator with the follower-carrying stem, and a suitably supported shaft carrying a pinion engaging the rack.

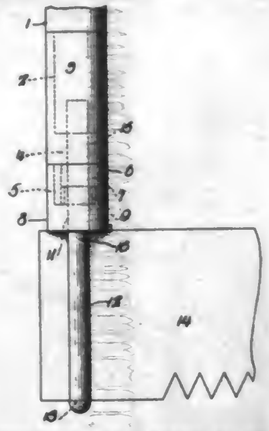
975,209. CAR-DOOR. CONRAD M. CHRISTENSEN, Leeds, N. D. Filed May 3, 1910. Serial No. 559,052.



In combination a car provided in its side with the usual door opening, a door for closing said opening having horizontal slots in opposite portions near its vertical edges, an operating lever pivoted to the outer side of the door, bolts pivoted to the operating lever and arranged upon the outside of the door and having offset portions near their outer ends passing through the horizontal slots of the door and having their terminal portions extending along the inner side of the door and adapted to engage the door jambs, and plates arranged upon the inner side of the door adjacent its vertical edges and having openings

through which the offset portions of the bolts pass, said plates serving to close said horizontal slots and to extend across the joints formed between the door and the jambs of the door opening.

975,210. TOOL. MICHAEL L. COCHRAN, Durbin, W. Va. Filed Nov. 23, 1909. Serial No. 529,645.



1. In combination with a handle having a ferrule provided with a threaded opening, a cap connected to the ferrule for rotation thereon independently thereof and provided with an opening presenting converging side walls, and a clamping bolt having a slot for the reception of the blade, a threaded portion for engagement with the threaded opening of the ferrule, and cams on opposite sides of the slot for engagement with said converging walls of the cap for clamping the walls of the slot against the blade.

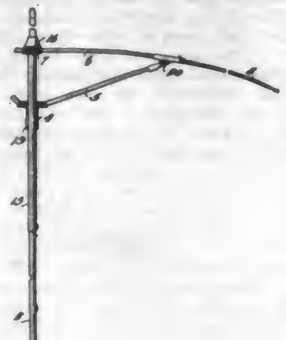
2. In combination with a handle having a ferrule provided with a threaded opening and an annulus, said ferrule presenting an outstanding shoulder at the base of the annulus, a cap chambered for the reception of the annulus and bearing against said shoulder, said cap being provided with an annular flange projecting into the annulus and with an opening communicating with said flange and the annulus, said opening presenting converging side walls, and a clamping bolt having a slot for the reception of the saw blade, a screw threaded portion projecting through the flange and annulus and engaging the threaded opening in the ferrule, and cams on opposite sides of the slot for engagement with said converging walls of the cap to clamp the walls of the slot against the saw blade

3. In combination with a handle having a threaded opening, and a cap mounted upon the handle for rotation independently thereof and provided with an opening, and a clamping bolt having a slot for the reception of the blade, a threaded portion for engagement with the threaded opening of the handle, and cam surfaces on opposite sides of the upper ends of the walls of the slot for cooperation with the walls of the opening in the cap, to clamp said portions of the walls of the slot against the blade.

975,211. FOLDING UMBRELLA. ALBERT R. COLGROVE, Pasadena, Cal. Filed Apr. 16, 1909. Serial No. 490,219.

1. In a folding umbrella, the combination with rib sections, a cap secured to one of the sections and hingedly connected with the adjacent section, a finger provided with an offset upon the cap, and a sliding member having a lip connected with one of the rib sections and adapted to engage the offset of the finger to lock the sections.

2. In a folding umbrella, the combination with rib sections, a substantially U-shaped cap having one of its ends secured to and overlapping the opposite section, said cap being provided with a downwardly projecting offset finger, and a sliding member provided with a lip adapted to engage the offset finger to lock the rib sections.



3. In a folding umbrella, the combination with adjacent rib sections, a cross sectional U-shaped cap secured to one of the rib sections and hingedly connected with the adjacent rib sections having its top portion provided with an opening, a finger having an offset secured upon the cap and projecting through the opening, and a sliding member positioned upon one of the sections and adapted to engage the offset finger to lock the rib sections.

4. In a folding umbrella, the combination with sectional ribs, one of said ribs having longitudinally extending guide ways, a cross sectional U-shaped cap secured to one of the rib sections and hingedly connected with the opposite rib section, this second rib section having its head provided with an opening, an offset finger upon the cap extending through this opening, a sliding member engaging the guide ways of one of the sections adapted to contact the offset finger to lock the rib sections and means for retaining the sliding member in engagement with the offset finger.

5. In a collapsible umbrella, the combination with a pair of rib sections, a cap rigidly secured to one of the rib sections and being hingedly connected with the adjacent rib section, said second rib section having its head provided with an opening and having its sides provided with inturned portions having upstanding edges, an inclined offset finger upon the cap extending through the opening of this section, a sliding member having oppositely disposed offset fingers engaging the unturned portions of the rib section, and means for forcing and retaining the sliding member in engagement with the offset finger to lock the rib sections together.

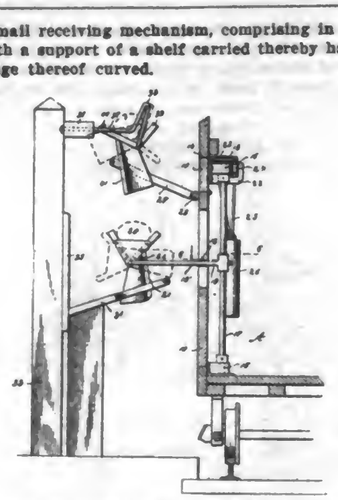
975,212. MAIL-TRANSFERRING APPARATUS. THOMAS R. COOK, Marion, Ind. Filed Aug. 1, 1910. Serial No. 574,848.

1. A mail delivering mechanism, comprising in combination, a pivotally mounted receptacle, and a projection carried by one side of said receptacle and adapted to normally gravitate the same to an operative position to retain an article.

2. A mail delivering mechanism, comprising in combination, a pivotally mounted trough, and a convexed projection carried by one side of said trough adapted to normally swing said trough to an operative position.

3. A mail delivering mechanism, comprising in combination, a pivotally mounted trough, a convexed projection carried by one side of said trough adapted to normally swing said trough to an operative position, and means adapted to operate against the convexed surface of said projection whereby said trough may be tilted.

4. A mail receiving mechanism, comprising in combination, with a support of a shelf carried thereby having the outer edge thereof curved.



5. A mail delivering and receiving apparatus adapted to be carried by a car, comprising in combination, a crane pivotally mounted on a car and adapted to be projected therefrom, an independently tilting mail delivery mechanism carried thereby, and means carried by the side of said car whereby mail may be received simultaneously with the movement of the delivering mechanism.

[Claims 6 to 25 not printed in the Gazette.]

975,213. MINING-MEASURE. ANTHONY CRONWELL, Sterling Run, Pa. Filed May 13, 1910. Serial No. 561,093.



1. In a measuring instrument, the combination with a body comprising pivotally connected sections, of a plurality of supporting members rotatably mounted on said body, said members having a plurality of feet and a plurality of sights pivotally mounted in said body, for the purposes herein set forth.

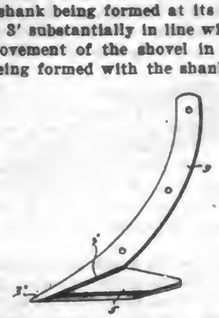
2. A measuring instrument comprising a section, supporting members connected with opposite ends of said section to position the same on the ground, said supporting members being pivotally connected to the section whereby the latter may be thrown bodily over a front supporting member to bring the rear supporting member in advance thereof and accomplish a progressive movement of the measure.

3. A measuring instrument comprising a measuring section, supporting members at its opposite ends, said measuring section being movable with a rearmost supporting member to advance the measure progressively by positioning such rear supporting member in advance of the front supporting member.

4. A measuring instrument comprising pivoted sections and supporting members at its opposite ends, said sections being movable with a rearmost supporting member to advance the measure progressively by positioning such rear supporting members in advance of the front supporting member, and sights carried by said sections adapted to be used after each measurement as hereinbefore set forth.

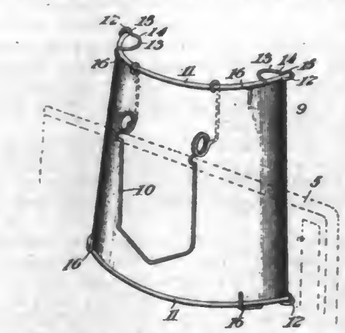
975,214. WEED-CUTTER FOR CULTIVATORS. CHARLES W. CROUSE, Thompson, Nebr. Filed Sept. 17, 1909. Serial No. 518,237.

The combination with a cultivator comprising a standard and a shovel secured to the lower end of said standard, of a weed cutting attachment comprising a shank bolted to the lower portion of the standard and extending downwardly in rear of the shovel and terminating in the point 3' located below the earth penetrating portion of the shovel, the shank being formed at its lower end with the edge portion 3' substantially in line with the direction of advancing movement of the shovel in the ground, an angular blade being formed with the shank and extending



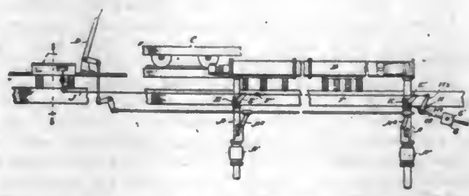
angularly therefrom at the edge portion 3' and inclined slightly upward toward its rear portion, the angular portion of the attachment formed by the blade adjoining the lower end of the shank being arranged in rear of the earth penetrating portion of the shovel and also substantially in line with the direction of strain incidental to the operation of the cutting blade beneath the surface of the ground.

975,215. REFLECTOR. JOHN C. CULLIGAN, Jordanville, N. Y. Filed Feb. 25, 1910. Serial No. 545,977.



The combination with a lantern having oppositely positioned air tubes and an oblong reflector; of hasps pivoted at one end to the corners of said reflector and having curved shanks to embrace said air tubes, and bent terminals to bear on the rear surface of the reflector.

975,216. SAFETY-STOP FOR SAWMILL-ENGINE. ANTHONY C. DEAN, Overhill, W. Va. Filed Nov. 9, 1909. Serial No. 527,080.



1. The combination with the steam feed for saw mill including the cylinder and the feed pipes leading thereto and valve mechanism controlling the feed of steam, of a movable sawyer's platform, supplemental valves in the feed pipes and intermediate connections between the supplemental valves and the sawyer's platform whereby the movement of the sawyer's platform may operate the supplemental valves, substantially as set forth.

2. In a steam feed for saw mills, the combination with the cylinder and the two feed pipes leading thereto, of supplemental valves in the feed pipes, a weight for closing said valves, a movable sawyer's platform and connections between said platform and the supplemental valves whereby the movement of the platform may open the valves in opposition to the closing weight, substantially as set forth.

3. The combination in a saw mill feed with the cylinder, and the feed pipes, of supplemental valves in the feed pipes and provided with crank arms, a connection between the crank arms of the supplemental valves, a weight operating to close said valves, a movable sawyer's platform, and devices connecting the sawyer's platform with one of the valves whereby the movement of the platform may operate the valves in opposition to the weight, substantially as set forth.

4. The combination in a saw mill feed with the cylinder and the feed pipes leading thereto, of supplemental valves in the feed pipes, a movable sawyer's platform, connections between the platform and the valves whereby the depression of the platform will operate to open the supplemental valves and means for closing the said valves when pressure on the platform is removed, substantially as set forth.

5. The combination in a saw mill feed with the cylinder and two feed pipes leading thereto, of supplemental valves in each of said pipes and a movable sawyer's platform connected with the supplemental valves to operate the same in one direction, and means for automatically re-adjusting the supplemental valves, substantially as set forth.

[Claim 6 not printed in the Gazette.]

975,217. TREATMENT OF ZINC ORES BY THE PRECIPITATION PROCESS. ADOLPHE DESGRAZ, Hanover, Germany, assignor to Imbert Process Company, New York, N. Y., a Corporation of New York. Filed Dec. 6, 1909. Serial No. 531,502.

1. A process for the extraction of zinc from zinc sulfid ores which consists in employing lead slag as a dissolvent for the ore and subsequently precipitating the zinc by a re-acting metal having a greater affinity for sulfur than has zinc.

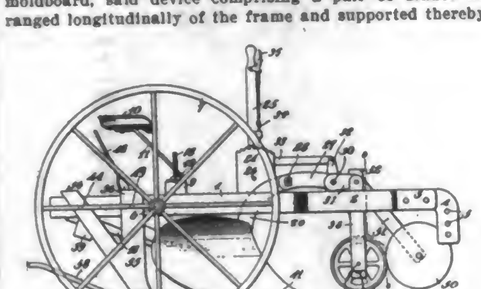
2. A process for the extraction of zinc from zinc sulfid ores, which consists in heating the ore with a suitable quantity of lead slag and a suitable flux until said ore becomes fluid, then precipitating the zinc from the fluid ore by a re-acting metal having a greater affinity for sulfur than has zinc.

3. A process for the extraction of zinc from zinc sulfid ores, which consists in heating the ore with a suitable quantity of lead slag and a suitable flux until said ore becomes fluid, then precipitating the zinc from the fluid ore by the addition of cast iron.

975,218. BEET TOPPER AND DIGGER. JOHN DEVEY, Lehi, JOHN DEVEY, Jr., Garland, and WALTER AVERY DEVEY, American Fork, Utah, assignors of one-eighth to Joseph Frankling Devey, Garland, Utah, and one-eighth to Alfred John Devey, Alpine, Utah. Filed Nov. 17, 1909. Serial No. 528,502.

1. A machine of the class described, comprising a main frame, wheels near the rear end of the frame for supporting the same, a moldboard provided with a cutting edge, an auxiliary frame pivoted on the main frame and to whose front end the moldboard is secured, weights adjustable on the auxiliary frame for balancing the moldboard, a shaft in front of the moldboard, wheels on the shaft, means for raising and lowering the shaft, a rolling colter in front of the shaft, a digging device behind the moldboard, said device comprising a pair of blades arranged longitudinally of the frame and supported thereby, said blades being parallel and spaced apart from each other.

2. A machine of the class described, comprising a main frame, wheels near the rear end of the frame for supporting the same, a moldboard provided with a cutting edge, an auxiliary frame pivoted on the main frame and to whose front end the moldboard is secured, weights adjustable on the auxiliary frame for balancing the moldboard, a shaft in front of the moldboard, wheels on the shaft, means for raising and lowering the shaft, a rolling colter in front of the shaft a digging device behind the moldboard, said device comprising a pair of blades arranged longitudinally of the frame and supported thereby.



3. A machine of the class described, comprising a main frame, wheels near the rear end of the frame for supporting the same, a moldboard provided with a cutting edge, an auxiliary frame pivoted on the main frame and to whose front end the moldboard is secured, weights adjustable on the auxiliary frame for balancing the moldboard, a shaft in front of the moldboard, wheels on the shaft, means for raising and lowering the shaft, a digging device behind the moldboard, said device comprising a pair of blades arranged longitudinally of the frame and supported thereby.

4. A machine of the class described, comprising a main frame, wheels near the rear end of the frame for supporting the same, a moldboard provided with a cutting edge, an auxiliary frame pivoted on the main frame and to whose front end the moldboard is secured, weights adjustable on the auxiliary frame for balancing the moldboard, a shaft in front of the moldboard, wheels on the shaft, means for raising and lowering the shaft, and a digging device behind the moldboard.

5. A machine of the class described, comprising a wheel supported main frame, an auxiliary frame pivoted on the main frame, a moldboard having a cutting edge secured to the front end thereof, a counterbalance for the moldboard, a shaft in front of the moldboard and supported from the frame, wheels on the shaft, means for raising and lowering the shaft, and a plurality of digging blades behind the moldboard.

[Claims 6 and 7 not printed in the Gazette.]

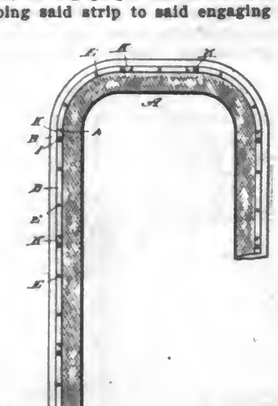
975,219. MEANS FOR ATTACHING VESTIBULE-DIAPHRAGMS. JAMES H. DONALDSON, Chicago, Ill., assignor to Percival Manchester, Chicago, Ill. Filed Feb. 1, 1909. Serial No. 475,381.

1. In combination, a car-vestibule diaphragm having one of its end faces stiffened along the outer edge thereof, an engaging member, and separated clamping devices distributed along said stiffened portion and in direct engagement therewith for clamping said stiffened portion to the said engaging member.

2. In combination, a car-vestibule diaphragm having a stiffened portion extending around one of the end faces thereof, an engaging member, and clamps for holding said member to said diaphragm, one part of each clamp being carried by the said member and the other part by said stiffened portion.

3. In combination, a car-vestibule diaphragm having a stiffened portion extending around one end face thereof, an engaging member, a series of shouldered studs extending from said engaging member, and a series of dogs on said stiffened portion for engaging with said studs.

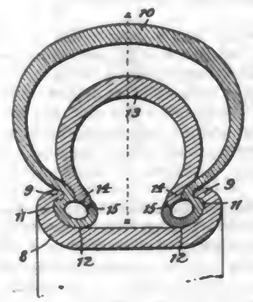
4. In combination, a car-vestibule diaphragm, a continuous metal strip extending along one leg and across a portion at least of the top of one end member of the diaphragm, means for rigidly uniting said strip to said end member, an engaging member, and means for detachably clamping said strip to said engaging member.



5. In combination, a car-vestibule diaphragm, a continuous metal strip extending along both legs and across the top of one of the end members of said diaphragm, an engaging member, and means for detachably clamping said strip to said engaging member.

[Claims 6 to 8 not printed in the Gazette.]

975,220. VEHICLE-TIRE. STEPHEN A. DOUGLAS, Ardmore, Okla., assignor of one-half to Charles Lee Anderson, Ardmore, Okla. Filed July 17, 1909. Serial No. 508,147.



1. A hollow metallic tire having beaded portions and recesses in the beaded portions, and a spreader of substantially U-shaped form in the tire having tenons seated in said recesses, said spreader being arranged to force the beaded portions of the tire against the flanges of a wheel-rim.

2. The combination with a hollow tire having beaded portions formed with recesses, of a substantially U-shaped spreader of spring material in the tire formed with tenons on its terminals, said tenons seating in said recesses, and said spreader being arranged to force said beaded portions against flanges of a wheel-rim.

3. A hollow tire formed with a series of recesses in each of its sides, and a series of substantially U-shaped spreaders of spring material radially arranged in the tire, one end of each spreader being seated in a recess in one side of the tire and the other end being seated in a recess in the other side of the tire, and each spreader operating by spring tendency of its material to spread its ends and thereby force the sides of the tire against flanges of a wheel-rim.

975,221. DISTILLATE-BURNING APPARATUS. CHARLES J. DUFF, San Bernardino, CROLY V. PHELPS, Rialto, and BENJAMIN W. PITTS, San Bernardino, Cal.; said Duff and Pitts assignors to Blue Flame Distillate Burner Company, Los Angeles, Cal., a Corporation. Filed July 28, 1908, Serial No. 445,797. Renewed Apr. 2, 1910. Serial No. 553,140.



1. In a burning apparatus, a looped generating tube formed of a bent piece of pipe, a base supporting said tube, a hollow cylindrical perforated burner body supported on said tube, an air inlet tube in the bottom of said burner, a valved nozzle on the end of the generating-tube to discharge into said air inlet tube, a fuel tank, a supply tube connecting the fuel tank with the generating tube, and means for pumping fuel from said tank through said supply tube to said generating tube.

2. A burner of hollow cylindrical form, provided with an air inlet at one end and with perforations in its sides, a U-shaped generating tube supporting said burner and connected with a fuel supply tank, a valved nozzle facing said air inlet, and a base forming a pan, said generating tube extending along the sides of the burner and around one end thereof and being between the pan and the burner.

3. In a burning apparatus, the combination of a base forming a pan, a U-shaped tube supported horizontally on the base, a supply-pipe connected with one end thereof, a nozzle at the other end of the tube, and a cylindrical burner resting horizontally upon said tube and provided with perforations along its side and with an air-inlet at its end facing said nozzle, said inlet communicating with the interior of the burner.

4. In a distillate burning apparatus, the combination with a fuel tank, a supply pipe, air pressure means and siphon means for forcing liquid fuel into and through said supply pipe, of a base forming a pan, a U-shaped tube supported horizontally thereon and connected with said supply pipe by a supply valve, a valved nozzle at the end of said U-shaped tube, a cylindrical burner resting horizontally upon said tube and provided with perforations along its sides, and an air inlet in its end facing said nozzle.

5. A burning apparatus comprising a pan, a tube carried by said pan, a hollow body provided with shoulders to rest on said tube and with perforations to direct jets upon said tube and provided with an inlet for gas or vapor, means connected with the tube to supply liquid fuel thereto, and means connected with the tube to discharge into the inlet a jet of gas or vapor and thereby entrain air and force the same into said hollow body.

[Claims 6 and 7 not printed in the Gazette.]

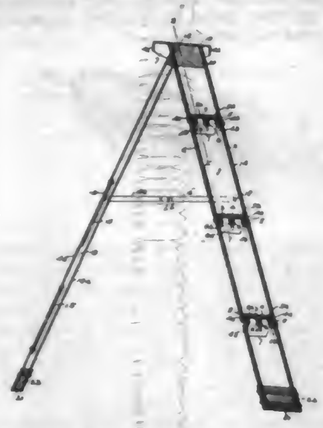
975,222. HAIR-CURLER. LOA DURBYELLE, San Francisco, Cal. Filed Apr. 13, 1910. Serial No. 555,163.



1. A hair curler having a middle metallic portion and at each end two spring fingers, and knobs on said fingers of non-conducting material, substantially as described.

2. A hair curler comprising thin narrow plates of spring steel tapering in width at their ends, said ends being bent outward, means securing said plates together at the middle portions, and knobs of non-conducting material upon the ends of said plates, substantially as described.

975,223. METALLIC LADDER. LYMAN FERGUSON, Ithaca, N. Y., assignor of one-half to J. William Ellis, Buffalo, N. Y., and one-half to Quincy W. Wellington, Corning, N. Y. Filed Feb. 6, 1904. Serial No. 192,262.



1. A step for ladders constructed of sheet metal with a tread part, with downwardly bent front and back parts, with upwardly bent parts extending to the tread part parallel with the front and back parts, and with horizontal parts connected together beneath the tread part so as to provide a reinforce for the step.

2. A step for ladders constructed of sheet metal with a tread part, with downwardly bent front and back parts, with upwardly bent parts extending to the tread part, parallel with the front and back parts, with a horizontal part having a depending part, and with a horizontal part having depending and upturned parts embracing the depending part so as to provide a reinforce for the step.

3. A ladder comprising a pair of side rails each constructed of sheet metal, with a side part, with inwardly bent front and back parts, and with outwardly bent parts extending to the side part parallel with the front and back parts, so as to provide reinforcing strips for the side rail of approximately the width of the front and back parts, steps, and means for securing the steps to the side rails.

4. In a ladder, sheet metal stiles, each having flanges at its edges, and an intermediate flange, said flanges being longitudinally parallel and each consisting of a section of the stile bent together, sheet metal steps, each having flanges at its edges, and an intermediate flange extending longitudinally of the step, each flange consisting of a section of the step bent together, the edge flanges of the step lying inside of and against the edge flanges of the stiles with the steps in horizontal planes, and connections between the steps and stiles, substantially as described.

5. In a ladder, stiles formed of sheet metal, bent upon itself to form flanges extending lengthwise of the stiles and substantially transverse to the cross section of the stiles, there being a flange at each edge of each of the stiles and an intermediate flange, and sheet metal steps secured between said stiles, substantially as described.

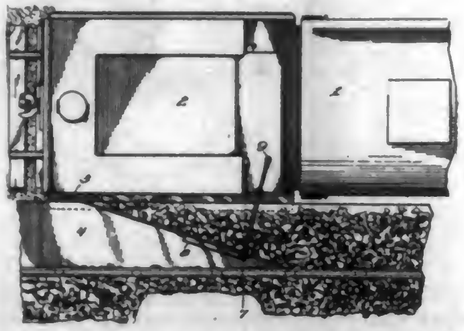
[Claims 6 and 7 not printed in the Gazette.]

975,224. PROCESS FOR OBTAINING PURE SHELLAC FROM STICK-LAC OR THE LIKE. GILBERT JOHN FOWLER, Urmston, near Manchester, England. Filed Nov. 19, 1908. Serial No. 463,437.

1. A process for obtaining pure shellac from stick lac or the like, which process consists in first extracting with cold solvent, then clarifying the extract, then distilling off the larger part of the solvent from the extract and then introducing steam into the still to expel the remaining solvent, and to prevent the dehydration of the shellac.

2. A process for obtaining pure shellac from stick-lac or the like which process consists in first extracting cold alcohol as a solvent, then clarifying the extract, then distilling off the larger part of the alcohol from the extract, and then introducing steam into the still to expel the remaining alcohol and to prevent dehydration of the shellac.

975,225. COAL-LOADING DEVICE. RICHARD M. FOX, Bluefield, W. Va., assignor of one-fourth to Robert M. Garrett, Bluefield, W. Va. Filed Nov. 23, 1909. Serial No. 529,617.



1. A coal loading device comprising a suitable guide or deflector, one end of which is movably attached to the tank or tender of the locomotive, and means for moving the free end of the guide or deflector into engagement with a suitable coal chute, for the purpose described.

2. A coal loading device comprising a suitable guide or deflector, one end of which is movably secured to the tank or tender of a locomotive and located on one side thereof, a suitable coal chute with which the free end of said guide or deflector is adapted to coöperate, and means for operating the said deflector as and for the purpose described.

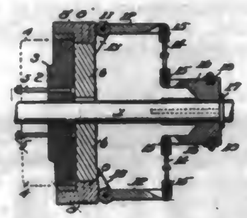
3. A coal loading device comprising a suitable guide or deflector, one end of which is movably attached to the tender or tank of a locomotive, a vertical shaft mounted in suitable bearings secured to said tank, said shaft having a downwardly projecting end slidingly located within a suitable slotted portion arranged along the length of said guide or deflector, and a lever forming a part of said shaft for operating the latter as and for the purpose described.

4. A coal loading device comprising a suitable guide or deflector, one end of which is movably secured to the rear end of the tank or tender of a locomotive, a suitable chute adapted to contain coal or other burning material, the free end of said guide or deflector being adapted to coöperate with said chute for properly guiding the coal or other material within the tank or tender of the locomotive, a vertical shaft mounted in suitable bearings attached to the said tender, a lever forming a part of said shaft for operating the latter, and a downwardly projecting end also forming a part of said shaft and coöperating with a suitable slot extending along the length of said guide or deflector as and for the purpose described.

975,226. FRICTION-CLUTCH. JOHN A. FRIDGEN, Leaf Mountain, Minn. Filed May 28, 1910. Serial No. 563,986.

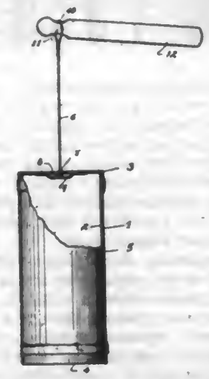
1. In a friction clutch of the type indicated, the combination with a shaft and a pulley carrier mounted loosely thereon, of a disk keyed adjacently on the shaft and provided with radial slots in its periphery, shoes arranged in said slots and projecting over the pulley carrier and provided with radial guides for the shoes, and adjusting devices for moving the shoes inward and outward in the guide slots, substantially as described.

2. In a friction clutch of the type indicated, the combination with a shaft and pulley carrier loose thereon, of a disk keyed on the shaft and provided with slots having radial grooves in their opposite sides, shoes projecting over the pulley carrier and having shanks which are toothed on their inner ends and provided laterally with straight ribs adapted to slide in the aforesaid grooves,



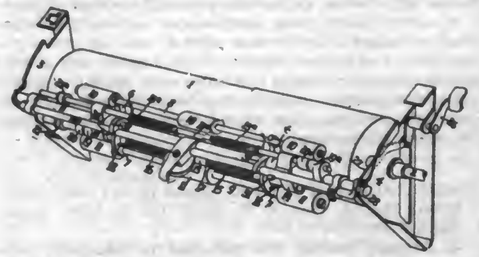
levers pivoted to the shoe carrier and having toothed segmental heads engaging the shoe shanks, a sleeve which is slidable on the shaft and rotatable therewith and provided with inwardly projecting arms, and screws and screw sockets adjustably connecting the sleeve with the aforesaid levers, substantially as described.

975,227. COMBINED PACKAGE AND TOY. FREDERICK GARDNER, Chicago, Ill., assignor to Theresa Gardner, Oak Park, Ill. Filed Aug. 22, 1908. Serial No. 449,804.



In a device of the character set forth, the combination of a receptacle having a removable cover, a string, having a loop, attached to the opposite end of the receptacle, and a handle having a resined portion for engagement with the loop in the string.

975,228. TYPE-WRITING MACHINE. CHARLES GIBBS, New York, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Jan. 14, 1910. Serial No. 538,054.



1. In a typewriting machine, the combination with a platen and a plurality of feed rolls, of a spring for urging the feed rolls against the platen, a rotatable tension

shaft with which the spring is connected, and a releasable clutch for holding the shaft against accidental rotation.

2. In a typewriting machine, the combination with a platen and a feed roll, of a tension device for effecting pressure of the roll against the platen, comprising a rotatable shaft, a spring on the shaft for pressing the roll against the platen, and a lock for holding the shaft against rotation, the shaft being movable endwise to throw the lock into and out of operation, and having at its outer end a head or part formed to receive a key.

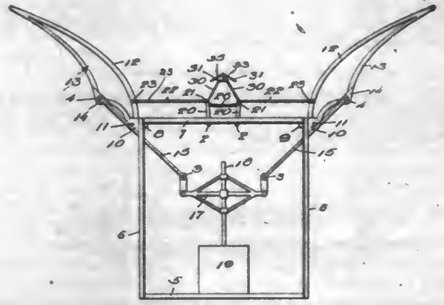
3. In a typewriting machine, the combination with a platen and a series of feed rolls, of a set of springs for effecting a uniform pressure of all the rolls against the platen, a single regulator for controlling the tension of the springs, and a releasable lock for the regulator.

4. In a typewriting machine, the combination with a platen and a series of feed rolls, of a set of springs for effecting a uniform pressure of all the rolls against the platen, a single rotatable shaft with which said springs are connected, and a releasable lock for maintaining the shaft against accidental rotation, to hold the springs at the adjusted tension.

5. In a typewriting machine, the combination with a platen and a series of feed rolls, springs for effecting a uniform pressure of all the rolls against the platen, a shaft with which the springs are connected, the shaft capable of longitudinal as well as rotary movement, a stationary ratchet, and a detent on the shaft meshing with the stationary ratchet to hold the shaft against back rotation and maintain the springs at their adjusted tension.

[Claims 6 to 13 not printed in the Gazette.]

975,229. FLYING-MACHINE. ROSCOE C. GOAR, Tecumseh, Nebr. Filed Nov. 22, 1909. Serial No. 529,392.



1. In a flying machine, a suitable frame, oppositely positioned beating planes movably secured to said frame, a plurality of oppositely positioned pivotally held rock bars, horizontally held carrying planes pivotally secured to each beating plane and to said rock bars, and two connected fin planes secured to said carrying planes.

2. In a flying machine, a suitable frame, oppositely positioned beating planes pivoted to the upper ends of said frame, means to synchronously actuate said beating planes, a plurality of oppositely positioned rock bars held in spaced relation and centrally between said beating planes, horizontally held carrying planes pivotally secured to each beating plane and to the nearest rock bars, and two connected upstanding fin planes secured at their lower edges to said carrying planes.

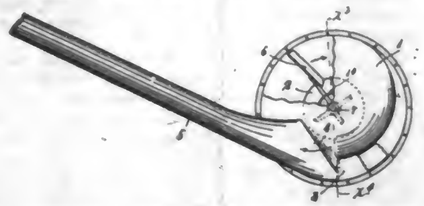
3. In a flying machine, a suitable frame, oppositely positioned beating planes, means to actuate said beating planes, a plurality of oppositely positioned rock bars, horizontally held carrying planes secured to each beating plane and carried by said rock bars, two connected upstanding fin planes secured at their lower edges to said carrying plane and means for resiliently connecting carrying planes.

4. In a flying machine, a suitable frame, oppositely positioned beating planes, means to actuate said beating planes, a plurality of oppositely positioned pivotally held rock bars held in spaced relation and centrally between said beating planes, a horizontally held vibrating carrying plane pivotally secured to each of the beating planes and to the nearest rock bar, two connected upstanding fin planes secured at their lower edges to said carrying frame, and valves carried by said fin planes and arranged to close on the down stroke of said fin planes.

5. In combination, two horizontally disposed carrying planes active through small arcs and adapted to travel in opposite directions, fin planes connected to said carrying planes, and beating planes for actuating said carrying planes.

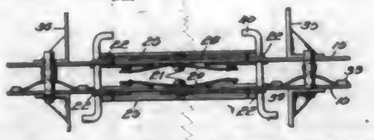
[Claim 6 not printed in the Gazette.]

975,230. PNEUMATIC STACKER. JOHN HAGEN, Hopkins, Minn. Filed June 28, 1909. Serial No. 504,687.



The combination with a fan case having a spiral discharge spout leading tangentially and laterally from the outer portion of one side thereof, of a stack forming a continuation of said spout and having a flaring open end located directly at the delivery portion of said spiral discharge spout and extending above the same, said case having a head mounted to rotate therein, the said fan case having a plate that extends nearly but not quite to the bottom thereof, adjacent to the open receiving end of said spout, substantially as described.

975,231. MACHINE FOR MOLDING CEMENT BLOCKS. ROBERT J. HAMILTON, Wichita, Kans. Filed Nov. 17, 1909. Serial No. 528,508.



1. A collapsible core including adjustably connected side plates having slots extending upwardly from their lower edges, pairs of levers pivoted exteriorly upon said side plates and projecting over the slots, and means for resiliently supporting said levers in an approximately horizontal position.

2. A collapsible core including adjustably connected side members having slots extending upwardly from their lower edges, pairs of levers pivoted upon the side members and projecting over the slots, links connecting said levers in pairs, and springs engaging the links to support the levers normally in an approximately horizontal position.

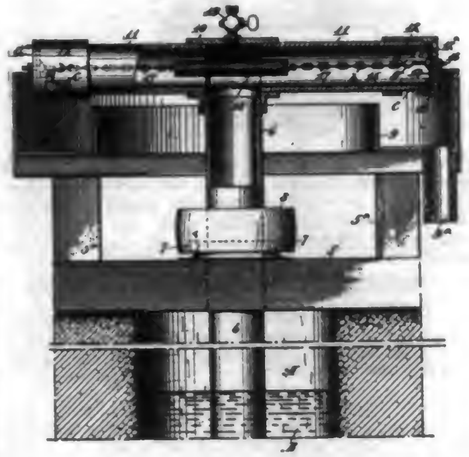
3. A collapsible core including adjustably connected side members having slots extending upwardly from their lower edges, notched shutters slidably engaging the side members, and means for projecting said shutters over the slots.

4. A collapsible core including adjustably connected side members having tie rod engaging slots extending upwardly from their lower edges, and resiliently supported tie rod supporting members pivotally connected with said side members.

5. A collapsible core including adjustably connected side members having tie rod engaging slots extending upwardly from their lower edges, resiliently supported tie rod supporting members pivotally connected with said side members, notched tie rod supporting shutters slidably connected with the side members, and means for manipulating the shutters.

[Claims 6 to 12 not printed in the Gazette.]

975,232. CENTRIFUGAL PUMP. GEORGE E. HANES and JOSEPH B. WALLER, Kansas City, Mo. Filed June 7, 1909. Serial No. 500,609.



1. A centrifugal pump, embodying a vertical and rotatably-supported suction pipe having its lower end submerged in a water supply, two oppositely-extended branch pipes on the upper end of the suction pipe, a cap-valve slidably mounted on the outer end of each branch pipe, said similar cap-valves each having a lateral opening therein, a spring, flexible connections between the ends of the spring and the cap-valves, and means for rotating the suction pipe and branch pipes.

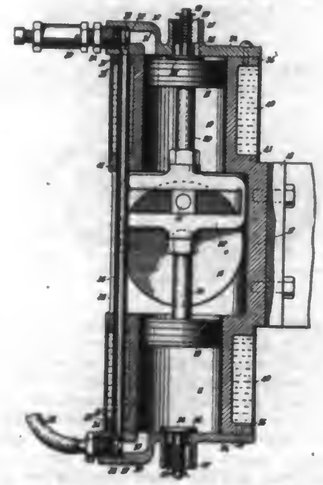
2. A centrifugal pump, embodying a vertically and rotatably-supported suction pipe, open at the lower end, the lower end being immersed in a water-supply, two oppositely-disposed branch pipes on the upper end of the suction pipe, a slidable cap-valve mounted on the outer end of each branch pipe, said cap valves each having a joint washer therein and also a lateral discharge opening, adjusting screw-bolts passing through the washer and the end wall of each cap-valve and having hooked ends, a coiled spring, and a flexible connection between the respective ends of said spring and the hooked ends of the adjusting bolts.

3. A centrifugal pump, comprising a suction pipe having at its upper end oppositely extending lateral branch pipes, a valve slidably mounted for movement toward and from the end of each of the branch pipes, for closing the same, a spring intermediate the valve, a flexible connection between each valve and the adjacent end of the spring, and means for rotating the suction pipe and the branch pipes.

4. A centrifugal pump, comprising a suction pipe, oppositely arranged lateral branch pipes at one end of the suction pipe, a cap valve slidable on the end of each of said branch pipes for closing the same and having a lateral opening, a yielding connection between the cap valves for normally retaining them closed, and means for varying the extent of the opening.

975,233. AIR-COMPRESSOR. JOHN HANNA and ALBERT HENRY HANNA, Troy, N. Y. Filed Oct. 29, 1909. Serial No. 525,278.

1. A pump having two cylinders in alinement with each other and each provided with an outwardly-extending flange at its outer end, an intermediate body portion integral with both of said cylinders and constituting annular flanges at the inner ends of said cylinders, cylinder heads at the outer ends of said cylinders, an outlet passage in each cylinder head, valves in said outlet passages, and a pipe connecting said outlet passages beyond said valves and extending through said flanges and said body portion.



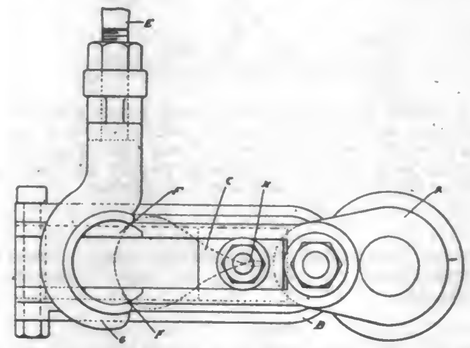
2. A pump having two cylinders in alinement with each other, pistons within said cylinders, means intermediate said cylinders for reciprocating the same simultaneously, each of said cylinders having an outwardly-extending flange adjacent its outer end, a cylinder head secured to each flange, an outwardly-extending boss upon each cylinder head, an outwardly-opening automatic outlet valve within each boss, and a conduit extending lengthwise of said cylinders and extending through said flanges and communicating with the interior of each of said bosses beyond the outlet valve in the latter.

3. A pump having two cylinders in alinement with each other, pistons within said cylinders, means intermediate said cylinders for reciprocating the same simultaneously, each of said cylinders having an outwardly-extending flange adjacent its outer end, a cylinder head secured to each flange, an outwardly-extending boss upon each cylinder head, an outwardly-opening automatic outlet valve within each boss, a conduit extending lengthwise of said cylinders and extending through said flanges and communicating with the interior of each of said bosses beyond the outlet valve in the latter, a delivery conduit connected to one of said bosses, and a safety valve connected to the other boss, said safety valve and said delivery conduit being interchangeable.

4. A pump having two cylinders in alinement with each other, an intermediate body portion, pistons within said cylinders, means within said body portion for reciprocating said pistons simultaneously in the same direction, a removable cylinder head for the outer end of each cylinder, each of said cylinder heads having an inwardly-opening inlet valve and a discharge passage, an outwardly-opening check valve within said cylinder head for controlling said passage, said passage having two branches beyond said check valve, a conduit supported by said cylinders and independent of said cylinder heads and having its opposite ends registering with one branch of each passage when said cylinder heads are in place, and a delivery conduit adapted to be connected to the other branch of either of said passages.

975,234. VALVE-GEAR FOR EXPLOSION-ENGINES. NORMAN T. HARRINGTON, Lansing, Mich. Filed Jan. 20, 1908. Serial No. 411,737.

1. A valve actuating mechanism comprising a continuously rotating crank, a member connected to and actuated by said crank, means engaging said member for determining the movement thereof so as to cause a point therein to traverse a double loop-shaped orbit, the width of one of said loops being relatively small, and a member connected concentrically to said point and extending substantially at right angles to the longitudinal axis of said loops whereby it is reciprocated during the trace of the longitudinal loop, and remains and is substantially free from longitudinal movement in a central or neutral position during the trace of the small loop.



2. A valve operating mechanism comprising a continuously rotating crank, a member connected to and actuated by said crank, means determining the movement of said member to cause a point therein to trace a double loop symmetrical to a common axis, the width of one of said loops being relatively small, and a member pivotally connected to said crank actuated member concentric to said point and extending at substantially right angles to the common axis of said loops whereby it is reciprocated longitudinally and oppositely from the neutral position during the trace of the longitudinal loop, and remains substantially in its neutral position during the trace of the small loop.

3. A valve operating mechanism comprising a continuously rotating crank, a pitman connected to and actuated by said crank, a stationary pivot slidably engaging said pitman, a valve operating rod connected to said pitman and extending at substantially right angles to the plane of the axes of said crank and stationary pivot, the point of connection of said rod to said pitman being so located as to pass the center of the stationary pivot during the rotation of said crank.

4. A valve operating mechanism comprising a continuously rotating crank, a longitudinally slotted pitman connected with and operated by said crank, a stationary pivot slidably engaging said slot in said pitman, segmental bearings on opposite sides of said slot, and a rod having an open segmental bearing engaging said bearing on said pitman and adapted during the movement of said pitman to have its center moved past the center of said stationary pivot.

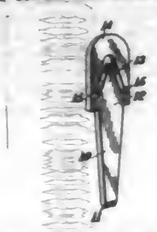
5. A valve operating mechanism comprising a continuously rotating crank, a pitman connected to and operated by said crank and being longitudinally slotted, a slidable bearing engaging said longitudinal slot, a stationary pivot engaging said slidable bearing, pivoted segments upon said pitman on opposite sides of said slot, and a bifurcated rod having open segmental bearings engaging said pivoted segments and passing in the movement of said pitman to embrace said stationary pivot.

975,235. NAIL. CHRISTIAN HANSEN, San Antonio, Tex. Filed Aug. 31, 1909. Serial No. 515,391.

1. A nail having a head provided with a part projecting therefrom, and a guard extending over and covering said part, and detachably associated with said head.

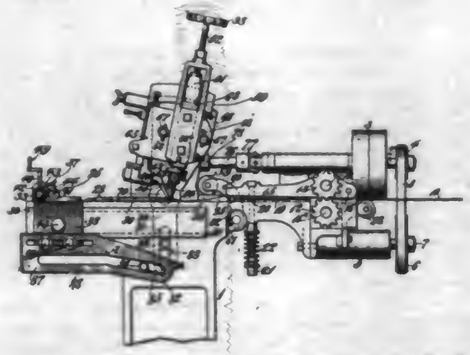
2. A nail having a head provided with a pointed projection, and a guard covering said pointed projection, said guard having a frangible connection with said head.

3. A nail, comprising a shank, a head, a spike rigid with said head, and a guard for said spike, said guard having a frangible connection with said head.



4. A nail, comprising a shank, a head, a spike rigid with said head, and a guard integral with said head and extending over said spike, said guard and said head having connecting parts of reduced thickness, whereby the connection of said guard with said head is frangible.

975,236. FILE-CUTTING MACHINE. JOHN A. HESS, Philadelphia, Pa. Filed Dec. 15, 1909. Serial No. 533,269.



1. In a device of the character stated, a support for the file, means for moving said support to feed the file to a cutting tool, a tool holder, a support for said tool holder pivotally mounted, a guide carried by and movable with said file support and having a groove therein, and means engaging with said groove and with said support beneath its pivotal point whereby the latter is moved, for varying the angle of movement of the tool during the cutting of the tapered end of the file and is then locked so that said tool is maintained in one position.

2. In a device of the character stated, a support for the file, means for moving said support to feed the file to a cutting tool, a tool holder, a rockable support for said tool holder having a slot therein, a guide carried by said file support and having a groove therein, and means seated in said groove and in said slot for controlling said rockable support.

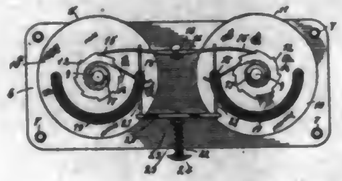
3. In a device of the character stated, a support for the file, means for moving said support to feed the file to the cutting tool, a tool holder, a rockable support for said tool holder pivotally mounted, a guide carried by said file support and a bell crank engaging said support and said guide for moving said rockable support on its pivot and for locking the same in a desired position.

4. In a device of the character stated, a support for the file, means for moving said file support to feed the file to the cutting tool, a tool holder, a rockable support for said tool holder, a guide carried by and movable with said file support, and means engaging said support and said guide for varying the angle of said tool holder whereby the tool will be properly presented to the file as it is fed thereto.

5. In a device of the character stated, a tool holder, means for reciprocating the same, a rotatably mounted bed plate for carrying the file, a support for said bed plate, an index wheel connected and movable with said bed plate, an adjustment lever fulcrumed at one end on the axle of said index wheel, means for adjusting the other end of said lever, and a pawl pivotally mounted on said lever for engagement with the teeth of the index wheel for locking the bed plate in its various positions.

[Claims 6 to 12 not printed in the Gazette.]

975,237. GAME-COUNTER. ERNEST R. HEUSSER, Murray, Utah. Filed Oct. 11, 1909. Serial No. 522,005.



1. In an indicating device, the combination with a suitable casing, of a disk rotatably mounted within said casing having a portion of its periphery projecting from the casing, and provided with a slot concentric with the axis of the disk, a stop pin passing through said slot, a ratchet wheel fixed on the disk, a flat spring detent rigidly secured at one end on said casing and having its free end engaging said ratchet wheel, a coiled spring having one end secured to the disk and the other engaging the said stop pin, and means guided by the stop pin for releasing said detent.

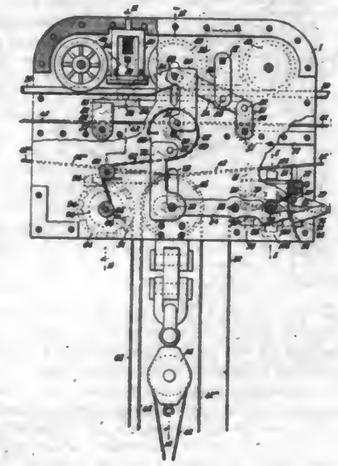
2. In an indicating device, the combination with a suitable casing, of a disk rotatably mounted within the casing and having a portion of its periphery projecting from the casing, said disk having a slot concentric with its axis, a stop pin fixed in said casing and passing through said slot, a ratchet wheel fixed on the disk, a spring detent arm engaging the ratchet and rigidly secured at one end, a coiled spring having one end secured to the disk and the other engaging the said stop-pin, a manually operable releasing member slidably supported on said pin and engaging said detent, and a spring for the said releasing member.

3. In an indicating device, the combination with a casing, of a pair of disks rotatably mounted and having a portion of their peripheries projecting externally to the casing, each of said disks having a slot arranged concentric with its axis, stop pins passing through said slots, ratchet wheels attached to the disks, a post arranged between the disks, a spring detent supported on said post and having its ends engaging the said ratchet wheels, a detent releasing device comprising rods slidably mounted in said stop pins, and attached to said pawls, a bar connecting said rods, a stem attached to the bar and projecting externally to the casing, and a spiral spring mounted on said stem.

975,238. PORTABLE TRAMWAY. OSCAR F. HEYDENREICH, New Orleans, La. Filed Oct. 18, 1909. Serial No. 523,206.

1. A portable tramway comprising a suspended tram cable; a carrier frame; carrying wheels mounted in said frame to track on said tram cable; a hoisting cable passing through said frame; brake jaws mounted in said frame adapted to engage said tram cable; holding jaws mounted in said frame adapted to engage said hoisting cable; and means embodying a hoisting mechanism for closing said brake jaws and said holding jaws alternately.

2. A portable tramway comprising a suspended tram cable; a carrier frame; carrying wheels mounted in said frame to track on said tram cable; a hoisting cable passing through said frame; elongated brake jaws disposed in parallel relation with said tram cable mounted in said frame and adapted to engage the tram cable; holding jaws mounted in said frame adapted to engage said hoisting cable; means embodying a hoisting mechanism for closing said brake jaws and said holding jaws alternately; and suspended weights for actuating the said means for closing the said jaws, said weights being adapted to be held out of operative position by the said hoisting mechanism.



3. A portable tramway comprising a suspended tram cable; a carrier frame; carrying wheels mounted in said frame to track on said tram cable; a hoisting cable passing through said frame; elongated brake jaws mounted in said frame in parallel relation to said tram cable and adapted to engage said tram cable; holding jaws mounted in said frame adapted to engage said hoisting cable; means for closing the said brake jaws and said holding jaws alternately embodying a rocking lever adapted to close the one set of jaws while opening the other; and a weight to rock said lever adapted to be lifted by the said hoisting mechanism when the bucket is raised to carrying position.

4. A portable tramway comprising a suspended tram cable; a carrier frame; carrying wheels mounted in said frame to track on said tram cable; a hoisting cable passing through said frame; elongated parallel jaws disposed in parallel arrangement on both sides of the said tram cable and joined by toggle levers; holding jaws mounted in said frame adapted to engage said hoisting cable; a wheel mounted in said frame; a rocking lever operatively engaged with said holding jaws; links connecting said wheel with said rocking lever and with said toggles to operate the one as the other is released; and a weight to rock said lever adapted to be lifted by the said hoisting mechanism when the bucket is raised to carrying position.

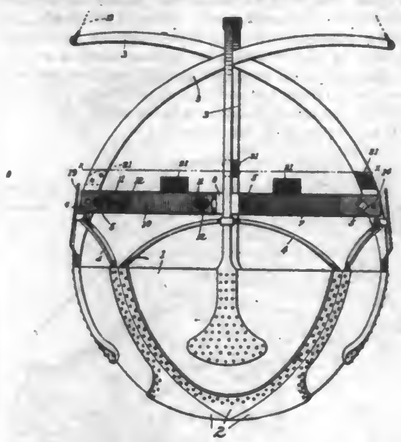
5. A portable tramway comprising a suspended tram cable; a carrier frame; carrying wheels mounted in said frame to track on said tram cable; a hoisting cable passing through said frame; elongated parallel jaws disposed in parallel arrangement on both sides of said tram cable; a stationary jaw disposed to engage said hoisting cable; a movable jaw alined with said stationary jaw; expanding members for elevating the said movable jaw to close on the said stationary jaw and said hoisting cable; and means for actuating said expanding members controlled by said hoisting cable.

[Claims 6 to 9 not printed in the Gazette.]

975,239. DREDGER-BUCKET. CHARLES M. HICKEY, Stockton, Cal. Filed Mar. 15, 1910. Serial No. 549,476.

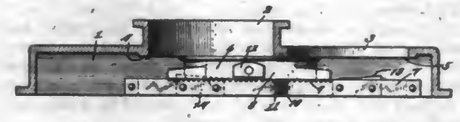
1. A dredger bucket comprising a frame having side members flexibly joined, means for holding said frame rigid, arms having bearings in said frame, and bucket sections on said arms.

2. A dredger bucket comprising a rectangular frame having opposite side members flexibly joined, means for fixing said opposed side members rigid with respect to one another, arms having flexible bearings in said frame, means for fixing said arms rigid with respect to said frame, and bucket sections on said arms.



3. A dredger bucket comprising a rectangular frame comprising rigid opposite side members, inwardly projecting arms on said side members, links flexibly connected with said arms, means for fixing said links rigid with respect to said arms, and a bucket means carried by said frame.

975,240. VALVE FOR BLOWERS. GEORGE C. HICKS, Jr., Connersville, Ind., assignor to The P. H. & F. M. Roots Company, Connersville, Ind. Filed July 9, 1910. Serial No. 571,154.



1. A valve for a blower comprising, a plate having through it two openings having surrounding valve-seats with their faces in a common plane, a gate-valve adapted to slide over said seats and close the openings alternatively, and means for sliding the valve upon the seats, combined substantially as set forth.

2. A valve for a blower comprising, a plate having through it two openings having surrounding valve-seats with their faces in a common plane, a gate-valve adapted to slide over said seats and close the openings alternatively, means for sliding the valve upon the seats and means for pressing the valve against the seat of the opening which it may be closing, combined substantially as set forth.

3. A valve for a blower comprising, a plate having through it two openings having surrounding valve-seats with their faces in a common plane, a gate-valve adapted to slide over said seats and close the openings alternatively, means for sliding the valve upon the seats, a track rigidly supported by the plate and adapted to guide the valve in close proximity to the valve-seat, and inclines rigidly supported by the plate in position to be engaged by the valve at either extremity of its travel and force the valve against the seat of the opening which it may be closing, combined substantially as set forth.

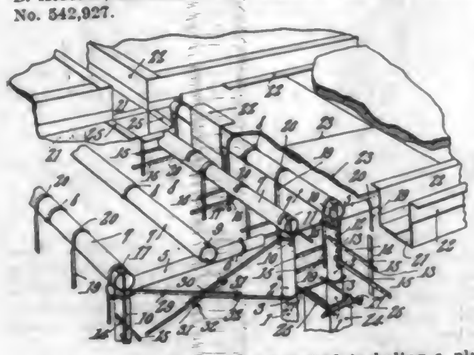
4. A valve for a blower comprising, an open-sided valve-casing adapted to form the outlet-plate of a blower and provided with two outlet openings having valve-seats within the casing, a valve adapted to slide on said seats and close either of the openings, and mechanism for shifting the valve from one seat to the other, combined substantially as set forth.

5. A valve for a blower comprising, an open-sided valve-casing adapted to form the outlet-plate of a blower and provided with two outlet openings having valve-seats.

within the casing, a valve adapted to slide on said seats and close either of the openings, mechanism for shifting the valve from one seat to the other, a rail carried by each side-wall of the casing and adapted to guide the valve in close proximity to the valve-seats, a projection from each side of the valves, and inclines carried by the rails and adapted to be engaged by said projections and force the valve against the seat of the opening which it may be closing, combined substantially as set forth.

[Claim 6 not printed in the Gazette.]

975,241. ADJUSTABLE CONCRETE-FORM. ROBERT B. HIGGINS, St. Louis, Mo. Filed Feb. 9, 1910. Serial No. 542,927.



1. A structure of the class described including a plurality of spaced separate units each including corner posts and cylindrical joists supported by the posts, hangers engaging the ends of the joists to hold said joists against rotation, connections between the opposed hangers of adjacent units, and beam forms supported by said connections and between the hangers.

2. In a device of the class described, a supporting post consisting of telescopically connected tubular members, a collar adjustably mounted upon the inner one of said members and normally bearing against the outer member to support the inner member, an upstanding pintle connected to and movable with the collar.

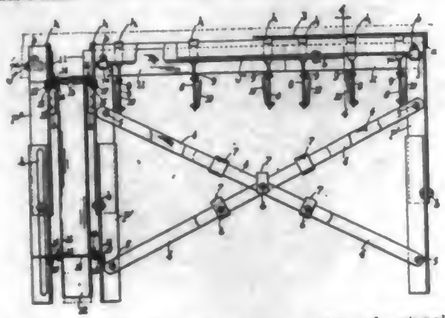
3. In a device of the class described the combination with supporting posts, of collars adjustably mounted thereon, crossed extensible braces connecting the collars of opposed posts, and means upon each brace for locking it against extension or contraction.

4. In a device of the class described, a form support consisting of joist engaging hangers, a supporting strip pivotally connected to each hanger, said strips being disposed one above the other and each having a slot therein, and means upon each hanger for engaging the slotted portion of one of the strips for binding said strip to the hanger.

975,242. ADJUSTABLE CONCRETE-FORM. ROBERT B. HIGGINS and HERMAN ALBERS, St. Louis, Mo. Filed Feb. 25, 1910. Serial No. 545,993.

1. In combination with an inner series of extensible posts, extensible joists mounted on the same, lapping sheets supported on the joists and forming a floor form, an outer series of extensible posts spaced apart from the inner series, extensible joists connecting the outer series of posts and disposed in the general direction of the adjacent joists supported by the inner series of posts, hangers suspended between each outer joist and inner joist contiguous thereto, and a decking supported on the hangers and forming a beam form.

2. In combination with an inner series of extensible posts, extensible joists mounted on the same, lapping sheets supported on the joists and forming a floor form, an outer series of extensible posts spaced apart from the inner series, extensible joists connecting the outer posts and disposed in the general direction of the adjacent joists supported by the inner series of posts, means for supporting a beam-form decking between the outer joists and joists contiguous thereto, and column-forms supported by the posts at the convergence of two contiguous beam-forms.



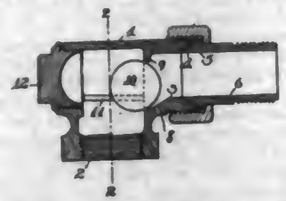
3. In combination with an inner series of extensible posts, extensible joists mounted on the same, lapping sheets supported on the joists and forming a floor form, an outer series of extensible posts spaced apart from the inner series, extensible joists connecting the outer posts and disposed parallel to the adjacent joists supported by the inner posts, means for supporting a beam-form decking between the outer joists and inner joists contiguous thereto, column-forms supported by the posts at the convergence of two contiguous beam forms, and means for adjusting the column-forms relatively to the center line of the beam-forms.

4. In combination with a pair of parallel joists having vertical flat members, spaced a suitable distance apart, a series of hangers comprising each a pair of vertical terminally hooked bars supported from the top edges of the members of the respective joists, a cross-bar pivotally connecting the vertical members at points below the lower edges of the joists and having one end extending beyond the vertical bar, a brace coupling the end of the extension to the adjacent vertical bar, the hangers being disposed with the braces pointing alternately in opposite directions.

5. In combination with a group of posts disposed about a fixed point, open frames disposed along said posts, and column-forms held in position by said frames between the posts.

[Claims 6 to 9 not printed in the Gazette.]

975,243. CHECK-VALVE. HARLYN HITCHCOCK, Atlanta, Ga. Filed July 8, 1909. Serial No. 506,505.



1. In a valve, the combination of a casing, said casing having a substantially vertical branch and a substantially horizontal branch, a valve seat formed at the junction of said branches, one or more guides extending across the vertical branch and inclined slightly downwardly toward the valve seat, and a rolling valve body on said guide or guides.

2. In a check valve, the combination of a casing having a substantially vertical branch and a substantially horizontal branch and having a circular seat at the junction of said branches, the plane of said seat being slightly inclined toward the axis of the horizontal branch, one or more guides provided in the vertical branch and leading toward the seat at substantially right angles thereto, and a spherical valve body adapted to roll on said guide or guides toward and from said seat.

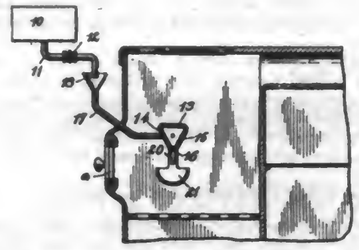
3. In a check valve, the combination of an angular valve casing having an outlet and a substantially horizontal inlet with a seat formed at the junction of the inlet and outlet, the bottom of the valve seat being at the bottom of an inclined surface formed on the bottom of the inlet branch, one or more guides extending away from said seat and inclined downwardly toward said seat, and a rolling valve body mounted on said guide or guides.

4. In a check valve, the combination of an angular casing having at one end an inlet branch and at its opposite end a removable plug and having an outlet branch at an angle to the inlet branch, a valve seat formed at the junction of the inlet and outlet branches, spaced guides extending from said seat across the outlet branch toward the removable plug, and a valve body adapted to roll on said guides and to engage said seat.

5. In a check valve, the combination of a casing having a substantially horisontal inlet connection and having a circular seat, the plane of said seat being slightly inclined from the vertical, a plurality of guides extending away from said seat and at right angles thereto, said guides having curved surfaces forming portions of a cylindrical surface the axis of which passes through the center of the valve seat, and a spherical valve body on said guides.

[Claims 6 to 11 not printed in the Gazette.]

975,244. OIL-BURNER. JAMES MONTGOMERY HOWZE, Stephenville, Tex. Filed Jan. 17, 1910. Serial No. 538,499.



1. An oil burner comprising a casing having inlet and outlet apertures, the latter opening downwardly, a drip pan having slotted arms, and connecting members extending through the slots of said arms and into the burner casing, whereby to suspend the drip pan below the casing for adjustment toward and from the same and to swing thereabout.

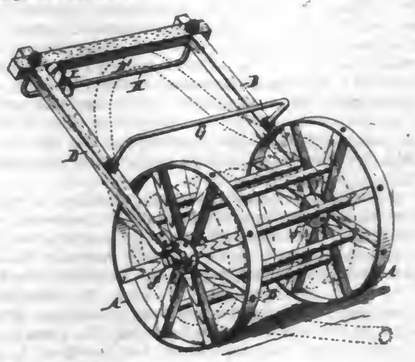
2. An oil burner comprising an elongated casing triangular in cross-section having a central inlet opening in one face, a longitudinal series of openings in another face, and a longitudinal series of discharge openings in the junction edge of said faces, and a drip pan having arms adjustably connected to the ends of said casing.

3. An oil burner comprising an elongated casing, triangular in cross-section, having a central inlet opening in one face, a longitudinal series of openings in another face, and a longitudinal series of discharge openings in the junction edge of said faces, a burner pipe connected at one end to said inlet opening and provided with a funnel-shaped opposite end, to receive oil from a feed pipe, a drip pan provided with slotted arms, and set screws extending through the slots in said arms and tapped into the ends of said casing.

975,245. HOSE-REEL. GEORGE M. HUGHES, Buffalo, N. Y. Filed Aug. 19, 1909. Serial No. 513,609.

1. A hose reel comprising a wheeled reel-body, a handle-frame attached thereto and having side-bars pivoted at their front ends to the reel-body, and a guide-bar for the hose carried by the rear portion of said handle-frame and extending from one of its side bars to the other, said guide bar being depressed below the plane of said bars.

2. A hose reel comprising a wheeled reel-body, a handle-frame attached thereto and having side-bars pivoted at their front ends to the reel-body, a cross-bar connecting the rear portions of said side-bars, and a guide-bar arranged transversely on the underside of said cross-bar and separated therefrom by an intervening space for the passage of the hose.



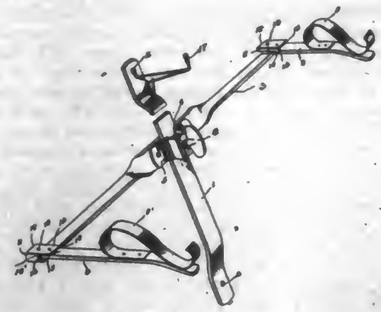
3. A hose reel comprising ground-wheels, rungs connecting said wheels and forming the reel-body, a handle-frame having side-bars arranged on the outer sides of said wheels and pivoted to the axle thereof, a cross-bar connecting the rear ends of said side-bars, and a guide-bar for the hose arranged transversely on the underside of said cross-bar and spaced therefrom.

4. A hose-reel, comprising a wheeled reel-body, a handle-frame attached thereto and having side bars pivoted at their front ends to said reel-body, a cross bar intersecting the rear ends of said side bars and a U-shaped guide bar for the hose arranged transversely on the underside of said frame, the ends of the guide-bar passing through the intersecting portions of said side and connecting bars.

5. A hose-reel, comprising a wheeled reel-body, a handle-frame attached thereto, a hold down bar extending across the upper side of said frame near the reel-body, and a guide bar extending across the lower side of said frame near its outer free end.

[Claim 6 not printed in the Gazette.]

975,246. GARMENT HOLDER OR RACK. ALFRED JOHNSON, Quincy, Ill. Filed June 3, 1910. Serial No. 564,843.



1. A device of the class described comprising a pair of spaced coat-supporting arms, means for mounting the arms to fold inwardly, stops for limiting the outward movement of the arms, and spring catches coöperating with the stops to normally hold the arms in outstanding position and arranged to yield as the arms move to and from said position.

2. A device of the class described comprising outstanding arms, supporting means for the arms, spring members fastened on the arms to coöperate therewith for holding a garment, pivots for mounting the arms on the said supporting means, and spring catches held in place

by the pivots and arranged to hold the arms yieldingly in outstanding position.

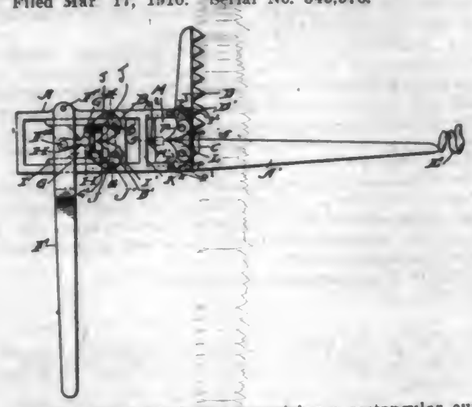
3. A device of the class described comprising a vertically-adjustable supporting member, arms pivotally mounted on the said member, spring catches for yieldingly holding the arms in outstanding position, and means on the arms for releasably holding a garment.

4. A device of the class described comprising a horizontally-disposed bar, a support on which the bar is mounted for vertical adjustment, garment-holding arms pivotally mounted on the ends of the bar and carried thereby, stops for limiting the outward movement of the arms, and yielding devices mounted on the bar to cooperate with the stops to hold the arms in outstanding position.

5. A device of the class described comprising a vertical supporting bar, a cross-bar adjustably connected with and extending from opposite sides of the supporting bar, the ends of the cross bar being bent laterally to form ears and stops, garment-holding arms pivotally connected with the ears and arranged to engage the stops when the arms are in outstanding position, and spring catches mounted on the ears to yieldingly engage the arms.

[Claims 6 and 7 not printed in the Gazette.]

975,247. WIRE-STRETCHER. JOSEPH E. JOHNSON, JOHN M. PERRY, and BIRD MCMAHON, Princeton, Mo.; said Perry and McMahon assignors to said Johnson. Filed Mar 17, 1910. Serial No. 549,976.

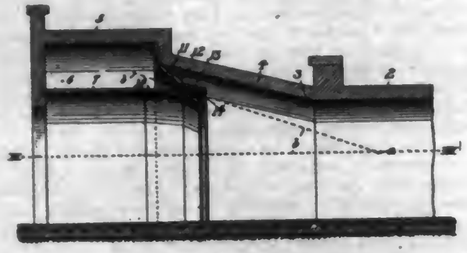


A wire stretching device comprising a rectangular outlined frame, a sliding member mounted between two of the opposite walls thereof, projections upon said member adapted to bear against the face of the frame, a lever pivoted to the latter, said member having integral arms, a block movable between and in contact with said arms and provided with a circular outlined recess in one end, a link pivoted to the lever and having a rounded end swiveled in said recess, laterally projecting arms upon said block, serrated jaws pivotally mounted upon the frame and having pivotal connection with said integral arms, a spring-pressed block mounted between the sides of the frame, lugs longitudinally arranged in pairs upon the latter, a second pair of jaws pivotally mounted upon said spring-pressed block and having each a projection extending between a pair of said lugs, a tongue fastened to said frame, and a serrated bar projecting from said frame.

975,248. APPARATUS FOR VENTILATING TUNNELS. THOMAS H. JOHNSON, Pittsburg, Pa. Filed July 25, 1910. Serial No. 573,804.

1. In a ventilating system for tunnels, the combination with a tunnel having a flaring extension, of an air chamber located outwardly beyond the clearance space required for the movement of trains and provided with an annularly arranged outlet aperture the general direction of which is inwardly clear of the flaring extension.

2. The combination with the tunnel wall extension, of an annularly arranged air chamber having an annular outlet nozzle formed by inner and outer walls approaching each other to a point and then diverging, the general central direction of said outlet aperture being inwardly away from and at a diverging angle to the inner face of the tunnel wall extension, substantially as set forth.



3. The combination with the tunnel, of an air box having an annular inwardly sloping delivery nozzle formed by inner and outer converging and diverging walls, substantially as set forth.

4. The combination with a tunnel having a laterally enlarged clearance cavity at the desired location; of an annularly arranged air chamber provided with annularly arranged inner and outer walls terminating in diverging terminals, located within said clearance space and laterally beyond the normal tunnel contour, substantially as set forth.

5. The combination with a tunnel having a laterally enlarged clearance cavity at the desired location; of an annularly arranged air chamber provided with annularly arranged inner and outer walls terminating in diverging terminals, located within said clearance space and laterally beyond the clearance space required for the movement of trains.

[Claims 6 and 7 not printed in the Gazette.]

975,249. SHOCK-ABSORBER. WILLIAM A. JOHNSON, Chicago, Ill. Filed June 8, 1910. Serial No. 565,789.



1. A shock absorber comprising a cylinder, a piston therein provided with a passage therethrough for fluid communication from one side to the other of the piston, a valve controlling said passage bodily movable in either direction with the portion of the passage which it controls, and also relatively movable in either direction to close said passage when at either extreme of said relative movement, and a stationary guide for said valve constantly engaged therewith frictionally to oppose its movement with the piston in either direction and thereby to occasion said relative movements of the valve to close the passage.

2. In a shock absorber, a cylinder, a piston therein providing an axial passage for communication between cylinder chambers on opposite sides of the piston, a valve within said passage bodily carried by the piston in both directions of the movement of the latter, and relatively movable in said passage to close the passage when in either extreme of said relative movement, and a guide rod with which said valve makes frictional engagement to oppose the movement of the valve with the piston in either direction and thereby to occasion its relative passage-closing movements, said guide rod being carried by the cylinder and said valve and rod being located on the axial line of the cylinder.

3. In a device of the character described, a cylinder, a piston therein, a piston rod extending through an end of the cylinder, said piston and piston rod structure providing an axial channel, enlarged within the piston to form a valve chamber, and providing openings for communication from said valve chamber to the cylinder chambers on both sides of the piston, a valve within and fitting loosely said axial chamber, adapted to close the opening for communication with either side of the piston, and an axial rod carried by the cylinder extending through the valve chamber and valve making frictional connection with the valve and extending into the axial bore of the piston rod, whatever the position of the piston.

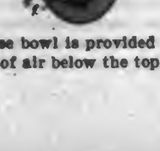
975,250. PIPE-GRAPPLE. CYRUS KASS, Galesville, Wis. Filed July 27, 1909. Serial No. 509,777.



1. A device of the class described comprising a tubular member having at one end a solid integral extension forming a head, said head having an inclined side forming a guideway and said head being provided with dovetailed side flanges, a hook shaped member extending laterally from the head to present the hook portion adjacent to the inclined guideway, a wedge movable upon the inclined guideway and having dovetail engagement with the side flanges, said wedge being provided with a longitudinal groove in the underside thereof, said groove being obstructed at one end, a stop screw inserted into the guideway with its head engaging the groove in the underside of the wedge and lying in the path of the closed end of said groove, and a rigid operating rod connected with the wedge and extending through the tube.

2. A device of the class described comprising a head having a tubular portion at one end and provided at the opposite end with a guide-way presenting an inclined side converging toward the lower end of the head, a hook jaw on said head disposed transversely with reference thereto and opposite said guide-way, a wedge-acting longitudinally movable jaw in said guide-way, a pipe connected to the tubular end of the head, an operating rod for the wedge-acting jaw extending through said pipe and the tubular portion of the head and a stop device on said rod.

975,251. TOBACCO-PIPE. WALTER M. KEENAN, Denver, Colo. Filed Aug. 23, 1909. Serial No. 514,280.



1. A pipe whose bowl is provided with a perforation for the introduction of air below the top thereof, and a circumferential metal band adjustably mounted on the bowl and having a perforation adapted to register with the outer extremity of the pipe-bowl perforation the latter having a metal lining whose inner extremity is upset to prevent burning the bowl adjacent the perforation, for the purpose set forth.

2. A pipe whose bowl is provided with perforations for the introduction of air below the top thereof, the said perforations being inclined downwardly as they extend inwardly, and provided with metal linings upset at the opposite extremities of the perforations, for the purpose set forth.

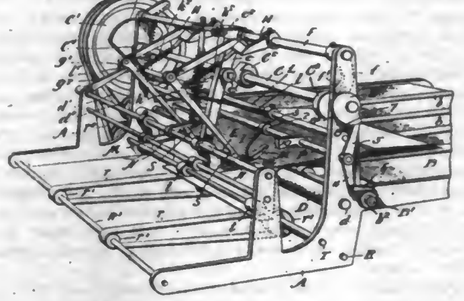
3. A pipe whose bowl is provided with perforations for the introduction of air below the top thereof, the said perforations being inclined downwardly as they extend inwardly, a circumferential metal band adjustably mounted on the bowl, the said band having a perforation adapted to register with the outer extremities of the pipe bowl perforations, and a circumferential flange integral with the pipe bowl for supporting the said band, substantially as described.

4. A pipe whose bowl is provided with relatively steep downwardly inclined perforations from the exterior surface of the bowl for the purpose of introducing air below the top thereof, the said perforations being metal lined, the inner extremities of the lining being upset to prevent the burning of the bowl adjacent the perforations, substantially as described.

5. A pipe whose bowl is provided with a relatively steep downwardly inclined perforation from the exterior surface of the bowl to the inner surface thereof, whereby air may be introduced into the bowl of the pipe and the contents of the latter prevented from sifting through the perforation, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

975,252. SHEET-FEEDING MACHINE. ROBERT E. KEMPER and ARTHUR KEMPER, Rensselaer, N. Y. Filed Apr. 4, 1910. Serial No. 553,391.



1. In a feeding device for sheets and like articles, the combination with a horizontally disposed conveyer, for supporting the articles in a fanned out condition, means for separating and feeding the bottom article, and clamping devices for holding the remaining articles from movement while the bottom article is drawn out, of actuating mechanism for said conveyer, including a continuously operating cam, pawl and ratchet mechanism operatively connected with said conveyer and having an actuating part for engaging said cam, a yielding device for normally holding said actuating part in engagement with said cam, and a detector finger rigidly connected to said actuating part, for determining its position in respect to the actuating grade of said cam, and movable transversely across the plane of the conveyer.

2. In a feeding device for sheets and like articles, the combination with a horizontally disposed conveyer for supporting the articles in a "fanned out" condition, means for separating and feeding the bottom article, and clamping devices for holding the remaining articles from

movement while the bottom article is drawn out, of actuating mechanism for said conveyer including an actuating cam, a rock-shaft, arms connected with said rock-shaft, carrying, the one an actuating part for engaging said cam, and the other a pawl, a ratchet wheel for said pawl, operatively connected with said conveyer, a detector finger connected with said rock-shaft and having a part having a normal movement across the plane of the conveyer, and yielding means for normally holding said actuating part in engagement with said actuating cam.

3. In a feeding device for sheets and like articles, the combination with a horizontally disposed conveyer, for supporting the articles in a "fanned out" condition, means for separating and feeding the bottom article, and clamping devices for holding the remaining articles from movement, provided with registering orifices, of actuating mechanism for said conveyer including an actuating cam, a rock shaft, arms connected with said rock shaft carrying the one, an actuating part to engage said cam, and the other a pawl, a ratchet wheel for said pawl, operatively connected with the said conveyer, a detector finger operatively connected with said rock shaft and having a part adapted to normally pass through the apertures in said clamping jaws, and yielding means for normally holding said actuating part in engagement with said actuating cam.

4. In a feeding device for sheets and like articles, the combination with a horizontally disposed conveyer, an actuating part for said conveyer provided with ratchet teeth, means for separating the forward edge of the bottom article, means for engaging and feeding the bottom article, means for holding the remaining articles against movement on the conveyer, a continuously rotating cam for operating said conveyer actuating part, a pivotally mounted part for engaging said cam, a pawl connected therewith for engaging the said actuating part and an oscillating detector finger located adjacent to the delivery end of said conveyer, rigidly connected with said pivotally mounted part and movable therewith, said detector finger being capable of swinging across the plane of the conveyer.

5. In a feeding device for sheets and like articles, the combination with a horizontally disposed conveyer, an actuating part for said conveyer provided with ratchet teeth, means for separating the forward edge of the bottom article, means for engaging and feeding the bottom article, means for holding the remaining articles against movement on the conveyer, a continuously rotating cam for operating said conveyer actuating part, a rock-shaft adjacent to the delivery end of the conveyer, an oscillating part secured thereto and provided with a cam engaging part for engaging said continuously operating cam, and a pawl for engaging said ratchet teeth, an oscillating detector finger secured rigidly to the said rock shaft, and capable of moving transversely across the plane of said conveyer, and yielding means connected with said rock shaft for normally holding said cam engaging part in engagement with the cam.

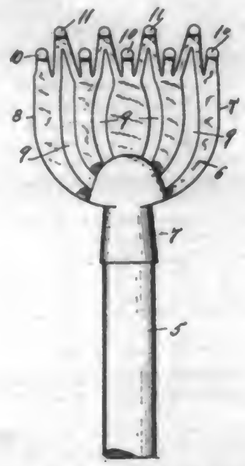
[Claims 6 and 7 not printed in the Gazette.]

975,253. GAS-BURNER. EUGENE P. KILLGORE, Berkeley, and ROBERT W. BOSWORTH, Oakland, Cal. Filed Apr. 23, 1910. Serial No. 557,289.



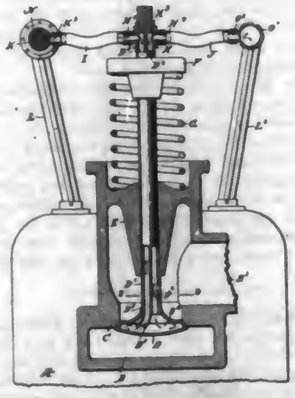
A gas burning heater comprising a chambered casing including a flat perforated top plate having a central opening to receive one end of a gas supply pipe, a tubular upright rising from the center of the top plate, and a deflector including a downwardly bulged bottom plate of greater diameter than the chambered casing and centrally secured to the upper end of the upright, a flat top plate, and an outwardly and downwardly inclined flange arranged on the peripheries of the top and bottom plates.

975,254. COMBINED RAKE AND HOE. ALICE A. KOHLER, Ashland, Ohio. Filed May 22, 1909. Serial No. 497,585.



A hoe having an arched back and a blade, said blade being formed with alternate prong-like and V shaped teeth arranged in separate parallel planes and having their free ends disposed in the same horizontal plane, said back being provided with a plurality of spaced longitudinal slots that extend into said blade and terminate in V shaped ends between the legs of said V shaped teeth to permit of the escape of earth through the back and blade.

975,255. EXHAUST-VALVE FOR INTERNAL-COMBUSTION ENGINES. THEODORE J. KOVEN, Jersey City, N. J. Filed Feb. 23, 1909. Serial No. 479,347.



A device for cooling valves of explosion engines comprising in combination a hollow valve, a stem connected therewith and having a plurality of longitudinal passages communicating with the interior of the valve, the inlet passage having a nipple extension in the said valve, the extension curving laterally away from the outlet passage,, a bracket at each side of the valve, a supply pipe supported on the bracket adjacent to the inlet passage, a discharge pipe supported on the bracket adjacent to the outlet passage, and a flexible connection between each of said pipes and the adjacent passage.

975,256. AUTOMATIC FIREARM. KARL KENKA, Hirtenberg, Austria-Hungary. Filed July 14, 1909. Serial No. 507,651.



1. In a magazine fire-arm, the combination with means for feeding the cartridges to the chamber, of a pivoted locking device adapted to engage the breech block and striker, and the cartridge holder journaled on the said locking device, substantially as described.

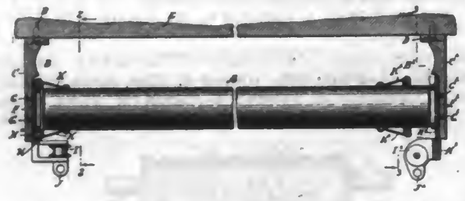
2. In a magazine fire-arm, the combination with means for feeding the cartridges to the chamber, of a pivoted locking device provided with two arms adapted to engage the breech block and striker, and the cartridge holder journaled on the said locking device, substantially as described.

3. A combined locking and cartridge holding mechanism for fire-arms, comprising a locking device *o* and a cartridge holder *p*, having the same turning axis as said locking device, substantially as described.

4. A combined locking and cartridge holding mechanism, comprising the locking device *o*, having two segmental projections 36 and 37 adapted to engage the breech block in the retracted position and to permit the emptying of the cartridge chamber, substantially as described.

5. A combined locking and cartridge holding mechanism, comprising the locking device *o*, having two segmental projections 36 and 37 adapted to engage the breech block in the retracted position and to permit the emptying of the cartridge chamber, and a spring impressed cartridge holder journaled on said locking device, substantially as described.

975,257. CURTAIN-POLE CARRIER. JOHN KRODER, New York, N. Y. Filed Apr. 9, 1907. Serial No. 367,187.



1. A curtain pole carrier comprising a disk having a peripheral screw thread and adapted to be fastened to a support, a pulley bracket provided with a pulley and having an eye fitting over the threaded peripheral face of the said disk, the said bracket eye being less in thickness than the said disk, and a retaining sleeve for engaging the end of the curtain pole and screwing on the threaded disk and against the said eye.

2. A curtain pole carrier comprising an attaching bracket provided with a disk having a peripheral screw thread, a pulley bracket provided with a pulley and having an eye fitting over the periphery of the said disk, and a retaining sleeve for engaging the curtain pole and screwing on the said threaded disk against the said pulley bracket, to clamp the latter in position between the sleeve and the said attaching bracket.

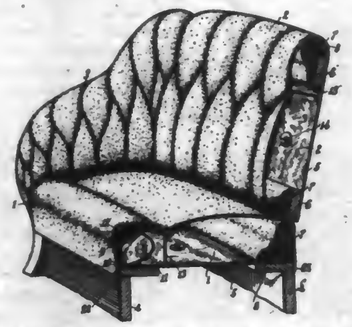
3. A curtain pole carrier comprising an attaching bracket, a disk having a peripheral screw thread, screws for securing the said disk to the said attaching bracket, a pulley bracket provided with a pulley and having an eye fitting over the periphery of the said disk, and a retaining sleeve for engaging the curtain pole and screwing on the said threaded disk against the said pulley bracket, to clamp the latter in position between the sleeve and the said attaching bracket.

4. A curtain pole carrier comprising an attaching member for attaching the carrier to a window frame, a door frame or the like, a pole member for engaging the pole and the said attaching member, and a pulley bracket clampingly held in place by the said attaching member and the said pole member.

5. A curtain pole carrier composed of two members and provided with a pulley attachment comprising a bracket, and a pulley journaled therein, the bracket having an eye clampingly engaged by the members of the said carrier, to hold the pulley bracket in any desired position on the said carrier.

[Claim 6 not printed in the Gazette.]

975,258. PNEUMATIC-CUSHION FURNITURE. WILLIAM E. KURTZ, Oakland, Cal. Filed Feb. 26, 1910. Serial No. 546,238.



1. An article of furniture having a supporting member formed of a pneumatic cushion, the sides of said pneumatic cushion being spaced apart by a resilient rubber spacing member.

2. An article of manufacture having a supporting member formed of a pneumatic cushion, the sides of said pneumatic cushion being spaced apart by a separating member, said separating member comprising wires spaced apart from each other, a plurality of springs secured to said wires and adapted to yieldingly hold said wires in spaced relation, and rubber coverings for portions of said springs.

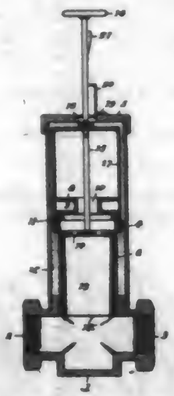
3. An article of manufacture comprising bottom, back and side supporting members, each of said supporting members being formed of pneumatic cushions, the sides thereof being spaced apart by spacing members, said spacing members being formed in part of solid resilient rubber and in part of wires held in spaced relation by resilient means.

975,259. AUTOMATIC CUT-OFF FOR GAS-MAINS. CHARLES EDUARD LAHMERS, New Philadelphia, Ohio. Filed Feb. 10, 1910. Serial No. 543,174.

1. An automatic cut-off comprising a casing having an inlet and an outlet, an inner cylinder secured at its lower end to said casing, the space between said inner cylinder and said casing constituting a mercury well, a cap for said inner cylinder having an annular overflow groove, a hollow valve arranged to close said inlet and said outlet openings, a valve stem therefor, arranged to extend through the upper part of said casing, a hollow float carried by said valve and exposed to the gas pressure, and automatic means for locking said valve in its lowered position.

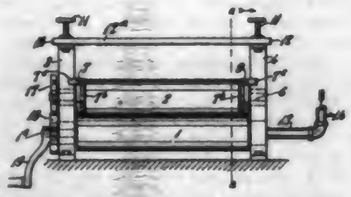
2. An automatic cut-off comprising a casing having an inlet and an outlet, an inner cylinder secured at its lower end to said casing, the space between said inner cylinder

and said casing constituting a mercury well, a cap for said inner cylinder having an annular overflow groove and a central opening, a hollow valve arranged to close said inlet and said outlet openings, said hollow valve being perforated at one end, a valve stem secured to said hollow valve arranged to pass through the opening in said overflow cap, and through the end of said casing, a hollow cylindrical float secured to said valve stem and having its lower end immersed in said mercury well and a spring locking member secured to said casing for locking the valve in its closed position.



3. An automatic cut-off comprising a casing having an inlet and outlet, an inner cylinder secured to said casing, the main body of the cylinder being spaced from said casing and constituting a mercury well, a cap for said inner cylinder having an annular overflow groove, a valve arranged to close said inlet and outlet openings, a valve stem therefor arranged to extend through the upper part of said casing, and a hollow float carried by said valve and exposed to the gas pressure.

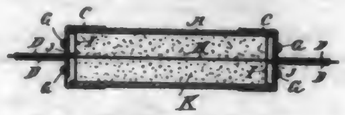
975,260. MANGLE. WILLIAM LEIST, Norwood, Ohio, assignor to Gustave Henry Jantz, Wyoming, Ohio. Filed Jan. 14, 1909. Serial No. 472,163.



1. In a mangle, the combination of an upper unheated roll, a lower, parallel heated roll of greater length than the latter and extended at its opposite ends beyond said unheated roll, a shaft extending at its opposite ends from said unheated roll, centrally-orificed and loosely-mounted disks on said extended ends of said shaft and having progressively-inclined and recessed formations thereon that are adapted for frictional-contact with the adjacent peripheral face of the extended ends of said lower heated roll, suitable supporting means and suitable roll-rotating means.

2. In a mangle, the combination of an upper unheated roll, a lower, parallel heated roll of greater length than the latter and extended beyond the said unheated roll, journals for the heated roll, shaft-extensions at the opposite ends of said unheated roll, centrally-orificed and loosely-mounted disks on the said shaft-extensions of the upper unheated roll and having a progressively inclined, recessed and detent formation thereon, journal-supporting means for both rolls, spring-pressure means for the upper unheated roll and driving-means for both rolls.

975,261. SAFETY-FUSE. SWAN J. LEVEEN and EDWARD A. MARTIN, Rock Island, Ill., assignors, by mesne assignments, to Trio Manufacturing Company, a Corporation of Illinois. Filed Dec. 4, 1907. Serial No. 405,066.



1. In a safety fuse, a case, a fuse element arranged therein, engaging means between the case and fuse element for locking these parts together, said fuse element having its ends extending beyond the ends of the case, and cups removably mounted on the ends of the case and carrying outwardly extending contact plates arranged to receive therebetween and to contact with the extending ends of the fuse element.

2. In a safety fuse, a case, a fuse element arranged therein engaging means between the case and fuse element for locking these parts together, having its ends extending beyond the case, a cup removably mounted on each end of the case, and outwardly extending contact plates carried by said cups to receive therebetween the projecting ends of the fuse element, said contact plates being independently and loosely mounted for relative movement whereby they adjust themselves to the fuse element ends.

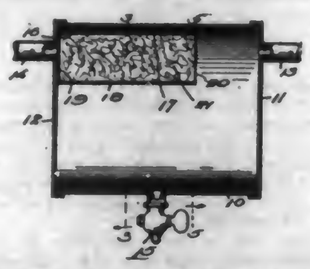
3. In a safety fuse, a case, a fuse element arranged therein and having its ends extending beyond the ends of the case, cups for the ends of the case, and self adjusting contact plates independently mounted on said cups, and arranged to receive therebetween the projecting ends of the fuse strip.

4. In a fuse, a case, a fusible strip arranged therein engaging means between the case and fuse strip for locking these parts together, said fuse strip having its ends extended beyond the ends of the case and removable cups for the ends of the case, said cups carrying outwardly extending loosely mounted contact plates to receive the extending ends of the fusible strip therebetween, and means for clamping said plates together whereby said contact plates are self adjusting to bearing contact against said ends.

5. In a fuse, a case, a continuous strip extending through the case, and independently and loosely mounted contact plates arranged at the ends of the case to receive the ends of the strip therebetween.

[Claims 6 to 15 not printed in the Gazette.]

975,262. GAS-FILTER. GEORGE S. LINN, Santa Barbara, Cal., assignor of one-half to Edwin S. Hicks, Santa Barbara, Cal. Filed Apr. 6, 1910. Serial No. 553,780.



In a device of the class described, the combination with a cylindrical casing disposed on a horizontal axis and having drain openings at its lower side, of closing heads at opposite ends thereof, inlet and outlet pipes leading respectively from the heads, one of said heads having upon the inner side thereof circumscribing the outlet pipe a transversely segmental strainer casing having a plane floor and arcuate upper wall concentric with the wall of the cylindrical casing, the inner end of said strainer casing being disposed intermediately of the cylindrical receptacle, a screen member carried across said strainer casing spaced from the supporting heads, a second screen hinged to the opposite end of the strainer casing and adapted to close said ends, said plane floor having perforations therethrough and permeable material carried in the casing for collection of moisture in gases passing therethrough for drainage by gravity through the openings in said floor.

975,263. INFLATED AEROPLANE. ARTHUR E. MAIDEN, Fort Lee, N. J., assignor of one-half to Edward L. Crane, New York, N. Y. Filed Aug. 7, 1909. Serial No. 511,670.



1. An aeroplane comprising an inflated plane, frame and net work for supporting said plane, and means for raising, propelling and steering the aeroplane.

2. An aeroplane comprising inflatable planes, frame and net work for supporting said planes, means for raising propelling and steering same, and means for assisting in raising, lowering and manipulating.

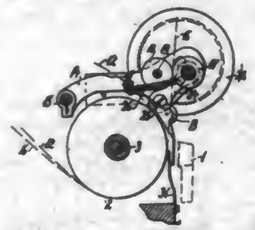
3. An aeroplane comprising inflatable horizontal planes, frame and net work for supporting said planes, a motor, a propeller driven by said motor, and a rudder.

4. An aeroplane comprising supporting frame work having a central vertical frame member, divided horizontal planes adapted to be inflated so arranged that one half is located at the left and one at the right of said vertical frame member, a motor, a propeller, adjustable vanes adapted to be set at various angles to the planes, and a rudder.

5. An aeroplane comprising supporting frame work having a central vertical frame member in form of network, divided horizontal planes arranged so that one half is at the right and one at the left of said central network, cord network around the planes secured to the frame work, a motor, a propeller, a rudder, and adjustable vanes one below each plane adapted to be set at various angles in relation thereto.

[Claims 6 to 9 not printed in the Gazette.]

975,264. TYPE-WRITING MACHINE. HARRY S. MCCORMACK, New Rochelle, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed July 7, 1908. Serial No. 442,361.

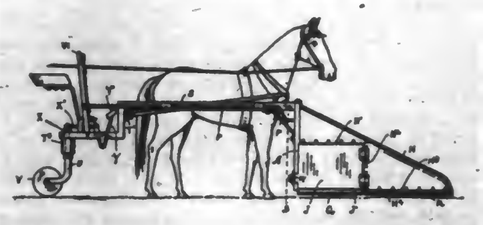


1. In a front strike writing machine, the combination with a carriage, a revoluble platen, and a line-space lever effective to run the carriage back to begin a new line, of means to press the side edges of a wide record sheet against the end portions of the platen to cause the sheet to advance with the platen, a set of paired rolls directly above the printing line on the platen to receive from the platen and feed up a relatively narrow multiple-check sheet, said set of rolls constituting the sole means for advancing the multiple-check sheet, and the platen being revoluble by said lever independently of the rolls, to advance the record sheet at the completion of a line of writing without line-spacing the check sheet; a finger-piece being connected to the rolls to turn the same, movement-multiplying gearing intervening between the finger-piece and the rolls, and a device to register with the printing line on the front of the platen, whereby said lever may first be operated to advance only the record sheet and return the carriage to begin a new line, and said finger-piece may then be operated to advance the check-sheet, independently of the platen and record sheet, a distance greater than the movement of the record sheet, and to bring the next ruled line or blank on the check sheet to register with said registering device.

2. In a front strike writing machine, the combination with a carriage, a revoluble platen, and a line-space lever effective to run the carriage back to begin a new line, of means to press the side edges of a wide record sheet against the end portions of the platen to cause the sheet to advance with the platen, a set of paired rolls directly above the printing line on the platen to receive from the platen and feed up a relatively narrow multiple-check sheet, said set of rolls constituting the sole means for advancing the multiple-check sheet, and the platen being revoluble by said lever independently of the rolls, to advance the record sheet at the completion of a line of writing without line-spacing the check sheet; a finger-piece being connected to the rolls to turn the same, movement-multiplying gearing intervening between the finger-piece and the rolls, and a device to register with the printing on the front of the platen, one of said rolls mounted on a shaft whose ends are carried upon swinging arms, and springs connected to said arms to cause the roll to press against the opposite roll.

3. In a front strike writing machine, the combination with a carriage, a revoluble platen, and a line-space lever effective to run the carriage back to begin a new line, of means to press the side edges of a wide record sheet against the end portions of the platen to cause the sheet to advance with the platen, a set of paired rolls directly above the printing line on the platen to receive from the platen and feed up a relatively narrow multiple-check sheet, said set of rolls constituting the sole means for advancing the multiple-check sheet, and the platen being revoluble by said lever independently of the rolls, to advance the record sheet at the completion of a line of writing without line-spacing the check sheet; a finger-piece being connected to the rolls to turn the same, movement-multiplying gearing intervening between the finger-piece and the rolls, and a device to register with the printing line on the front of the platen, one of said rolls mounted on a shaft whose ends are carried upon swinging arms, and springs connected to said arms to cause the roll to press against the opposite roll; said springs mounted to hold the roll released when said arms are swung down.

975,265. CORN-TURNER. CLAYTON I. MCCREERY, Muncie, Ind. Filed Sept. 11, 1909. Serial No. 517,226.



1. In an implement of the kind described, the combination of a spreader-body capable of being moved over the ground, spreader plates carried by the spreader-body and capable of being expanded to increase the width of the spreader-body, an upright rock-shaft disposed between the said spreader-plates and having a cross-arm, reach rods to connect the said spreader plates and the cross-arm,

said shafts having their forward ends secured to the said spreader-body and between which said side shafts a horse may work, a control lever carried on one of said side shafts, connections between the control lever and the rock-shaft.

2. In an implement of the kind described, the combination of a spreader-body capable of being moved over the ground, spreader-plates carried by the spreader-body and capable of being expanded to increase the width of the spreader-body, an upright rock shaft disposed between the said spreader-plates and having a cross arm, reach rods to connect the said spreader plates and the cross arm, side shafts having their forward ends secured to the said spreader body and between which said side shafts a horse may work, the rear portions of said shafts being bent downwardly thence toward each other and formed into a frame, a rudder wheel upon which said frame is supported, a control lever carried by the said frame, connections between the control lever and the said rock shaft.

3. In an implement of the kind described, a triangular shaped frame having a bogie wheel at its forward end, a pair of wheels to support said frame at its rear portion, spreader-plates hingedly connected to the sides of said frame, an upright rock-shaft carried by the frame and having a cross arm, reach rods to connect the said spreader-plates and the cross-arm, side shafts having their forward ends secured to the said frame one of said side shafts having a hinge and lock connection to permit of the entry of a horse between the side shafts, and said side shafts being brought together at their rearward ends and formed into a frame, a rudder wheel upon which said frame is supported, a foot lever carried by the frame, connections between the foot lever and the rudder wheel, a control lever carried by the frame, connections between the control lever and the aforesaid rock-shaft.

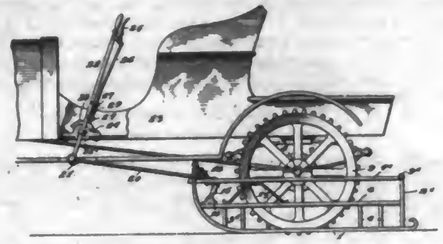
975,266. FASTENER. JOHN WESLEY MCKITRICK, St. Charles, Ill. Filed June 21, 1009. Serial No. 503,333.



1. A fastener consisting of two members, one of said members comprising a base plate having means projecting from one side thereof for attaching it to an article, a flat circular disk lying in direct contact with and rotatably confined upon the same side of said base plate, and means on said disk for turning it upon a central axis, said base plate and said disk having centrally-arranged elongated openings therein which are adapted to register, and the other fastener member being a stud having a flat, relatively thin T-head adapted to pass through said elongated openings.

2. The combination of two parts to be fastened together; a fastener member comprising a round flat base plate having on one side a flange which extends part way around the plate, and a plurality of lugs and attaching tangs on the edge of said flange, by means of which tangs said fastener member is secured to one of the parts to be fastened together, and which lugs are bent to lie in a plane substantially parallel with the plate, a disk lying in contact with the flanged side of said base plate and held by said lugs and said flange against displacement, means on said disk for turning it on a central axis, the ends of said flange constituting stops to limit the turning movements of said disk, said plate and said disk having centrally-arranged elongated openings adapted to register; and a stud member having a flat, relatively thin T-head adapted to pass through the registering openings and lie at the flanged side of said base plate, said head and said openings when in register extending longitudinally of the adjacent edges of the parts to be fastened together.

975,267. RUNNER FOR AUTOMOBILES. THOMAS MILLDOWN, Red Lodge, Mont. Filed Apr. 20, 1910. Serial No. 556,609.

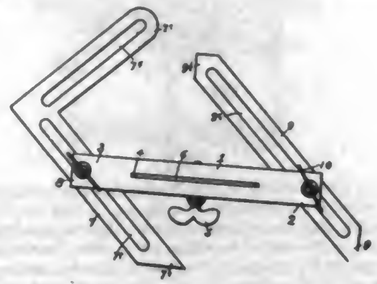


1. In an apparatus of the character described, a pair of runners mounted on the axle of an automobile, a toothed wheel mounted on each end of said axle and extending vertically through each of said runners and having a yielding support thereon, a crank shaft mechanism operatively connected with said yielding support, and means for locking said crank shaft mechanism.

2. In an apparatus of the character described, a pair of runners each adapted to be mounted on the axle of an automobile, each runner consisting of a bottom strip and parallel, spaced strips above said bottom strip, each of said strips having a longitudinal slot, a toothed wheel mounted on each end of the axle of an automobile said axle having its bearing in the upper top strip, and said toothed wheel extending through the slots in said strips, the upper strip being hinged at one end, a crank shaft mechanism having crank shaft members located beneath the forward end of said top strip, springs connecting said crank members with the runners, springs supporting said top strip, and means for operating said crank shaft mechanism.

3. In an apparatus of the character described, a pair of runners, each formed with a bottom runner having an upwardly-curved forward end, a longitudinal strip spaced above said bottom runner and connected thereto, a top strip spaced above said longitudinal strip and hinged at its rear end to the runner and having its forward end vertically movable and connected with the bottom runner, springs interposed between the top strip and the intermediate longitudinal strip, each of said strips having a longitudinal slot, bearings on the top strip of each runner for the axle of an automobile, a crank shaft mechanism mounted on the forward end of the runners and having a crank member at each end bearing against the under side of the top strip, and a spring connecting each of said crank members with the forward end of the lowest bottom strip of the runner.

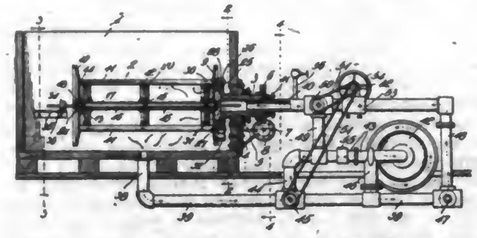
975,268. CARPENTER'S SQUARE. DAVID W. MONTAGUE, Shelley, Idaho. Filed June 21, 1909. Serial No. 503,455.



1. In an angle defining device, a handle having bifurcated ends and a slot disposed transversely of the slots of the bifurcated ends, a flat member adjustable in the transversely disposed slot, a right angular member having its legs slotted and adjustably secured on one of the bifurcated legs, and a flat member having a slot therein adjustably secured on the other bifurcated leg.

2. In combination, a handle having its ends slotted and a longitudinal slot formed in its center, a slotted member adjustably secured in the central slot, an angular member having slots therein adjustably secured to one of the slotted ends of the handle, and a slotted member secured adjustably to the other end of the handle.

975,269. COLLAPSIBLE REVOLVING-BEAM VACUUM DYEING-MACHINE. FRANK M. MORTON, Phoenix, Ala., assignor, by direct and mesne assignments, to Columbus Truck and Supply Mfg. Co., Columbus, Ga., a Corporation of Georgia. Filed Aug. 1, 1910. Serial No. 574,775.



1. The combination of a tank for the dye-liquor, a tubular trunnion journaled in one wall of the tank, a collapsible beam consisting of heads, a sleeve uniting said head, wheels arranged in said sleeve, radially movable slats arranged on said wheels and extending between said heads, a longitudinally shiftable shaft in said sleeve and provided with inclines, expanding frames for the slats and having members engaged with the inclines on said shaft, means for detachably connecting one of said heads to said trunnion, the last mentioned head having openings affording communication between the interior of the beam and the trunnion, means for supporting the opposite end of said shaft, means for rotating said trunnion, and means for causing the circulation of dye-liquor through the tank, the beam and the trunnion.

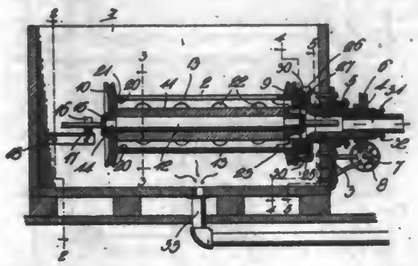
2. In a collapsible beam of the character set forth, the combination of a sleeve, heads at the ends of the sleeve, wheels on the sleeve, slats radially movable in the wheels, a longitudinally shiftable shaft in the sleeve and provided with inclines and expanding frames for the slats having members co-acting with the inclines on said shaft.

3. In a collapsible beam of the character set forth, the combination of a sleeve, a longitudinally shiftable shaft therein and provided with inclines, heads on said sleeve, radially movable slats between said heads, means for supporting and guiding said slats, stops to limit the outward movement of said slats, and expanding frames having members to co-act with the inclines on said shaft.

4. In a collapsible beam of the character set forth, the combination of a sleeve, a longitudinally shiftable shaft therein and provided with inclines, heads on said sleeve and formed with annular stop flanges, wheels fixed to the sleeve and provided with guide notches, slats radially movable in said guide notches and adapted to engage said stop flange on the heads, split expanding rings engaged with said heads, and radial rods extending inwardly from the expanding rings and co-acting with the inclines on said shaft.

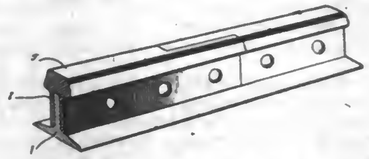
975,270. RIBBED REVOLVING VACUUM-BEAM FOR DYEING-MACHINES. FRANK M. MORTON, Phoenix, Ala., assignor, by direct and mesne assignments, to Columbus Truck and Supply Mfg. Co., Columbus, Ga., a Corporation of Georgia. Filed Aug. 1, 1910. Serial No. 574,776.

1. The combination of a tank for dye-liquor, a tubular trunnion journaled in one wall of the tank, said trunnion having at its inner end a radially projecting flange formed with an annular groove and notches, a ribbed beam to support the yarn and provided at one end with a head having dye-liquor openings, and an annular flange adapted to enter said groove in the flange of the trunnion, said head also having recesses, fastenings engaged with said recesses and notches in the flange of the trunnion whereby the beam is detachably secured to the trunnion, means for rotating said trunnion and means whereby the dye-liquor may circulate through the tank, the beam and the trunnion.



2. In a dyeing machine, a beam composed of a shaft, a sleeve arranged thereon, heads secured to the shaft at the ends of said sleeve, and provided on their opposing faces with inwardly extending flanges, one of said heads being formed with openings to permit of the passage of the liquor, and an annular series of longitudinally extending bars having notched ends to engage the flanges on said heads, the inner edges of said bars being engaged with said sleeve and formed with transverse notches.

975,271. RAILROAD-RAIL. MICHAEL P. MURRAY, Cresson, Pa. Filed Mar. 31, 1910. Serial No. 552,533.



1. A compound rail comprising a web section having oppositely disposed base flanges, said web having its upper edge provided with spaced pockets, a head section, said head section being provided with spaced flanges adapted to engage the sides of the web section, the ends of the head sections being cut away to provide projecting portions, and the under face of the head between the flanges being provided with projecting tongues adapted to engage with the pockets of the web.

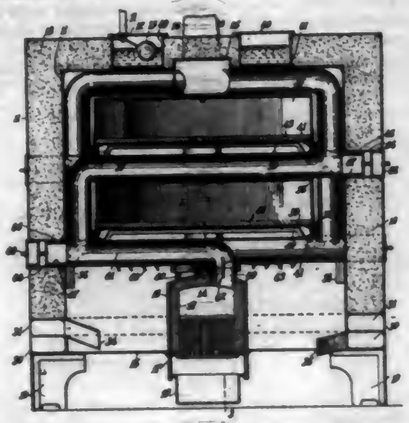
2. A compound rail comprising a web member provided with oppositely disposed base flanges, said web member being provided with a plurality of transverse openings and having its upper horizontal edge provided with spaced pockets, a tread member, said tread member being provided with spaced depending longitudinally extending flanges, the ends of the tread member being cut away to provide projecting portions upon its sides, said projecting portions as well as the cut away portions being provided with sockets, key members for the sockets, and the under face of the tread member between the flanges being provided with depending tongues adapted to engage with the pockets of the web.

975,272. BAKING-OVEN. BAPTISTE NINO, New York, N. Y. Filed Dec. 16, 1909. Serial No. 533,333.

1. In a baking oven, a furnace, and an air conduit having at one end an inlet, and extending around said oven, said air conduit having at the other end an outlet communicating with said furnace at the side thereof opposite to said inlet of said air conduit.

2. In a baking oven, a furnace, and air conduits having inlets and extending around the oven in opposite direc-

tions and communicating with said furnace at opposite sides thereof.



3. In a baking oven, an outer casing, a furnace within said outer casing, independent air conduits having inlet openings and extending around said furnace within said casing, said air conduits communicating with said furnace at opposite sides thereof and at points remote from their respective air inlets.

4. In a baking oven, a double-walled casing, a furnace within said casing near the lower part thereof, a baking chamber casing above said furnace, flues extending from said furnace around said baking chamber casing, and superposed air-conduits extending around said furnace between the double walls of the oven, each of said conduits having at one end an inlet and at the other end an outlet communicating with said furnace, each conduit having its respective inlet and outlet at opposite ends.

5. In a baking oven, an outer casing, a furnace therein, and a removable closed baking chamber casing within said outer casing adjacent to said furnace.

[Claims 6 to 14 not printed in the Gazette.]

975,273. EXTENSIBLE BRACKET. HENRY NOPPE, Grand Rapids, Mich. Filed Oct. 8, 1909. Serial No. 521,771.



1. An extensible bracket consisting of a supporting bracket, a standard revolubly mounted in said bracket, an arm pivotally secured to said standard, jointed braces secured to the standard and to the arm in position to support the arm and its load, and adapting the arm to be folded up parallel with the standard, a second arm made to telescope with the first arm, a latch to control the movement of the second arm, downwardly extending hooks pivoted to the arms and hooks pivoted to the first arm to swing sidewise.

2. An extensible bracket consisting of a supporting bracket, a standard revolubly supported in said bracket, an arm made of channel iron with the lower edges turned inward to form ledges, a channel iron arm made to slide inside of the first named arm, hooks pivotally secured to the sides of the first arm, hooks pivotally secured between the sides of the second arm, braces pivotally secured at one end to the standard and at the other end to the first arm, said first arm pivotally secured to the standard, joints in the braces arranged so the arms may be folded parallel with the standard, the first arm having openings for the reception of a latch, a latch on the second arm in position to enter said openings at the proper time.

3. An extensible bracket composed of a supporting bracket, a standard revolubly supported by said bracket, an arm made of channel iron with the lower edges turned inward, said arm pivotally secured to the standard, an arm made of channel iron to enter and telescope with the first arm, hooks pivotally secured to said arms, the first arm having openings in the upper surface, a latch on the second arm in position to engage said openings when the arms are in proper positions, and a trip for actuating said latch to disengage it from the first arm.

4. An extensible bracket composed of a supporting bracket, a standard revolubly supported by said bracket, an arm made of channel iron with the lower edges turned inward, said arms pivotally secured to the standard, and having openings in its upper surface, braces consisting of long wings pivoted to the arm and short wings pivoted to the standard, said long and short wings pivoted together so the arm and the standard may be folded to lie parallel, a channel iron arm made to telescope insdie of the first arm, a latch on said arm to pass through the openings in the first arm, a trip for actuating said latch, hooks pivotally secured to said arms, a mirror standard and mirror pivotally secured to the end of the second arm, all arranged to fold together to form a small, compact form substantially as and for the purpose set forth.

975,274. SPRING FOR FLEXIBLE CONNECTIONS. JAMES H. O'BRIEN, Ilion, N. Y. Filed Jan. 20, 1910. Serial No. 539,072.

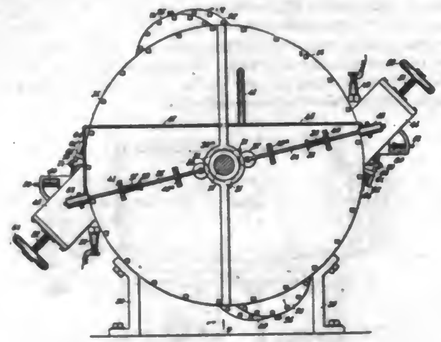


1. A device of the character described, comprising a longitudinal inelastic member, a guide plate disposed parallel therewith and bent back upon itself so as to form a return portion, said guide plate being provided with an eye to which said return portion is secured, another guide plate mounted upon a different portion of said inelastic member and reversed relatively to said first-mentioned guide plate, and a spring encircling portions of both of said guide plates and also a portion of said inelastic member.

2. The combination of a guide plate, provided with an eye and bent back upon itself so as to form a return portion, a strap threaded through said eye and bent around said guide plate and said return portion, another guide plate connected with a different portion of said strap and provided with a return portion, said return portions being disposed upon opposite sides of another portion of said strap, and a spring encircling said return portions of said guide plates and also encircling said last-mentioned portion of said strap.

3. A device of the character described, comprising a longitudinal strap, guide plates engaging the same and movable relatively to each other, each of said guide plates having a return portion and a compression spring encircling all of said return portions.

975,275. INTERNAL-COMBUSTION ENGINE. GEORGE MORTIMER PERLEWITZ, Chihuahua, Mexico. Filed Oct. 16, 1909. Serial No. 522,935.



1. An internal combustion engine, comprising a casing, a power wheel mounted therein and provided with a high pressure side and a low pressure side, means for supplying air into said low pressure side, mechanism for compressing said air thus supplied into said low pressure side, an explosion chamber connected with said high pressure side, means for conducting said air after receiving a compression into said explosion chamber, means for supplying a fuel into said explosion chamber, an igniting device for exploding a mixture of said fuel and said air under compression and allowing the gases of combustion to explode in said high pressure side, and means for conducting said gases after expansion in said high pressure side over to said low pressure side of said power wheel.

2. In an internal combustion engine, the combination of a casing, a power wheel mounted therein and revoluble relatively thereto, means controllable directly by said power wheel for taking a volume of air into said casing and giving the same a preliminary compression, other means controllable directly by said power wheel for receiving said charge of air and giving the same a further compression within said casing, an explosion chamber for receiving said charge of air after said further compression, means for admitting into said explosion chamber a fuel to be mixed with said charge of air, an exploding device for causing the mixture of compressed air and fuel to explode, thereby generating expansive gases of combustion, and means for directing the gases of combustion against said power wheel.

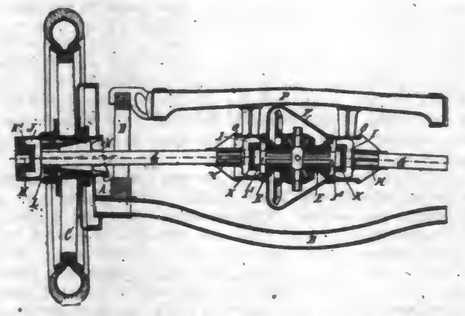
3. In an internal combustion engine, the combination of a casing, a power wheel revolubly mounted therein, mechanism carried by said power wheel and co-acting with said casing for compressing a charge of air, an explosion chamber for holding the charge of air thus compressed, means for admitting fuel into said explosion chamber, so as to mix the fuel with the air thus compressed, an igniting device for exploding the mixture within said explosion chamber, means for directing gases of combustion at high pressure against a portion of said power wheel in order to subject said portion to the expansive action of said gases, and mechanism for directing said gases when thus partially expanded against another portion of said power wheel so as to utilise a further expansion of said gases in turning said power wheel.

4. In an internal combustion engine, the combination of a casing provided with stationary abutments, a power wheel mounted within said casing and provided with pistons, said casing and said power wheel being together provided with a high pressure side and with a low pressure side, means for compressing charges of air in said low pressure side, connections from said low pressure side to said high pressure side for conveying into said high pressure side charges compressed in said low pressure side, and other connections from said high pressure side to said low pressure side for transferring gases of combustion partially expanded in said high pressure side into said low pressure side.

5. An internal combustion engine, comprising a casing, a power wheel mounted therein and provided with a high pressure side and a low pressure side, means for admitting air into said low pressure side, means co-acting with said power wheel for compressing said air within said low pressure side thereof, means for conveying said air to said high pressure side after compression in said low pressure side, mechanism for admitting fuel into said high pressure side and into contact with the compressed air therein, an igniting device for exploding the mixture of said fuel and compressed air, and means for directing the gases of combustion due to the explosion first against the portion of said power wheel in the high pressure side, and next against the portion of said power wheel in said low pressure side.

[Claims 6 and 7 not printed in the Gazette.]

975,276. SHAFT-DRIVEN AXLE FOR AUTOMOBILE VEHICLES. FRANCOIS PILAIN, Lyon, France. Filed Jan. 15, 1907. Serial No. 352,455.



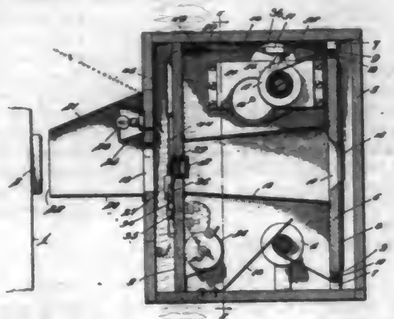
1. In a motor vehicle, the combination of a spring supported body, an axle having a hollow axle end, a wheel journaled upon the hollow axle end, driving mechanism supported by the body, and an intermediate shaft interposed between the driving mechanism and the wheel and extended through the hollow axle end and having universal joint connections at its ends with the driving mechanism and the outer end of the wheel hub respectively.

2. In a motor vehicle, the combination of a spring supported body, an axle having a hollow axle end, a wheel journaled upon the hollow axle end, driving mechanism supported by the body, a universal joint carried by the driving mechanism, a universal joint carried by the outer end of the wheel hub, and an intermediate shaft extended through the hollow axle end and engaging said universal joints.

3. In a motor vehicle, the combination of a spring supported body, an axle having a hollow axle end, a wheel journaled upon the hollow axle end, driving mechanism supported by the body, a universal joint carried by the driving mechanism, a universal joint carried by the outer end of the wheel hub, an intermediate shaft extended through the hollow axle end and engaging said universal joints, and means to compensate for the varying distances between the driving mechanism and the outer end of the wheel hub.

4. In a motor vehicle, the combination of a spring supported body, an axle having a hollow axle end, a wheel journaled upon the hollow axle end, driving mechanism supported by the body, a universal joint carried by the driving mechanism, a universal joint carried by the outer end of the wheel hub, an intermediate shaft extended through the hollow axle end and engaging the universal joints, and a removable cap engaging the outer end of the wheel hub and holding the universal joint in engagement therewith.

975,277. PHOTOGRAPHIC METER-READER. EDWARD C. POND, Petersburg, Va., assignor of one-half to Charles M. Patterson, White Plains, N. Y. Filed May 27, 1909. Serial No. 498,725. Renewed Apr. 27, 1910. Serial No. 558,003.



1. In a photographic meter reader, the combination of a camera casing provided with a lens and shutter, spools to which a roll of sensitized paper is attached, said paper being adapted to travel from one of said spools to the other, an electric light mounted on said casing, a lever, and connections whereby a single movement of said lever will close said circuit through said electric light and will operate said shutter, a strap attached to said lever, a spring carried by said strap, and gearing whereby the movement of said strap in one direction automatically feeds a certain amount of the film from one spool to the other, substantially as described.

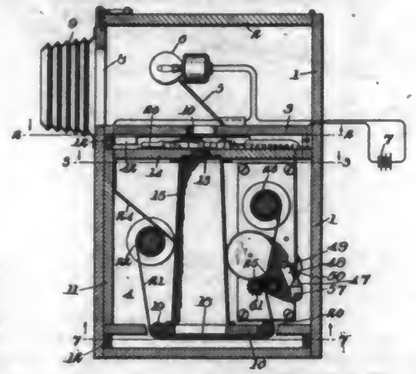
2. In a photographic meter reader, the combination of a casing provided with an electric lamp, a lens and a shutter, a pair of rolls carrying a sensitized film, a lever, and connections for operating said shutter and closing the circuit through said electric lamp, a flexible strap connected to said lever, a spring normally pressing said strap and said lever in one direction, and ratchet gearing connecting one end of said strap with one of the rolls carrying the sensitized film, whereby the movement of said lever will feed a predetermined portion of said sensitized film from one roll to the other, substantially as described.

3. In a photographic meter reader, the combination of a camera casing provided with a lens and shutter, rolls carrying a sensitized film, a lever, and connections whereby the movement of said lever in one direction will feed a predetermined amount of said film from one roll to the other, and connections whereby the movement of said lever will operate said shutter, including a spring attachment to said lever engaging said shutter and stops on said casing, said shutter being provided with suitable lugs and said lever being provided with an extension adapted to contact with some of said lugs and prevent the movement of said shutter until the proper instant, substantially as described.

975,278. PHOTOGRAPHIC METER-READER. EDWARD C. POND, Petersburg, Va., assignor of one-half to Charles M. Patterson, White Plains, N. Y. Filed Apr. 30, 1910. Serial No. 558,699.

1. In a photographic meter reader, the combination of a camera casing provided with a lens and shutter, spools to which the ends of a roll of sensitized paper are attached, said paper being adapted to travel from one of said spools to the other, an electric light mounted in said casing, a lever, connections whereby a single movement of said lever will close the circuit through said electric light and will operate said shutter, and means intermediate said spools for feeding the sensitized paper equal distances on each operation of the lever, said means also operating to take up the paper on one of said spools after the feeding movement, substantially as described.

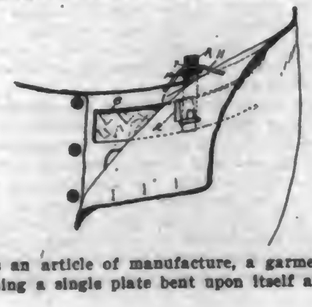
2. In a photographic meter reader, the combination of a camera casing provided with a lens and a shutter, spools to which a roll of sensitized paper is attached, said paper being adapted to travel from one of said spools to the other, an electric light mounted in said casing, a lever, connections whereby a single movement of said lever will close the circuit through said light and will operate said shutter, a strap attached to said lever, a spring operatively opposed to the movement of said lever, and gearing whereby the movement of said strap in one direction automatically feeds a certain amount of the sensitized paper, said gearing operating subsequently, under the action of said spring, to take up on the receiving spool the paper fed, substantially as described.



3. In a photographic meter reader, the combination of a casing provided with an electric lamp, a mirror, a lens, and a shutter, a pair of rolls carrying sensitized paper, a lever, connections for operating said shutter and closing the circuit through said electric lamp, a flexible strap connected to said lever, a spring normally pressing said strap and said lever in one direction, paper feeding devices located between said spools and gearing, operatively connected to said paper feeding devices and said receiving spool, whereby a definite length of paper is fed on each movement of the lever and afterward taken up on said receiving spool, substantially as described.

4. In a photographic meter reader, the combination of a camera casing provided with a flexible hood, a lens, a shutter, a mirror, and an electric lamp, rolls carrying sensitized paper, feeding devices for said paper adapted to operate on the paper between said rolls, a lever, a flexible strap connected to said lever, connections between said lever and said shutter, a spring normally pressing said strap and said lever in one direction, and gearing whereby the movement of said lever in one direction will operate said feeding devices to feed a definite amount of the paper off from the feeding roll, including ratchet gearing operating said feeding device on the movement of the lever to close the elctric circuit through the lamp, and other gearing whereby the spring, when the lever is released, will operate the take-up roll to wind upon it the part of the paper fed from the delivery roll, substantially as described.

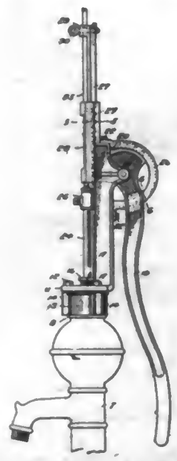
975,279. GARMENT-SUPPORT. JOSEPH R. RANDLE, Columbus, Miss. Filed Dec. 27, 1909. Serial No. 535,054.



1. As an article of manufacture, a garment supporter comprising a single plate bent upon itself at one end to form a hook adapted to take over the supporting means, the main portion of the supporter having spring tongues struck therefrom, and fastening devices removably held on the supporter by said spring tongues.

2. As an article of manufacture, a garment supporter comprising a single plate bent upon itself at one end to form a hook adapted to take over the supporting means, the main portion of the supporter having spring tongues struck therefrom, and fastening devices removably held on the supporter by said spring tongues, the plate and tongues at the bases of the latter crimped in opposite directions to receive the fastening means.

975,280. WINDMILL-PUMP. ALFRED RANDOLPH, Salem, Ohio, assignor to The Deming Company, Salem, Ohio, a Corporation of Ohio. Filed May 18, 1910. Serial No. 562,037.



1. In a pump the combination with a pump head, of a cover for said head, bolts for securing said head and cover together, and a ring surrounding the pump head and bolts for always retaining said bolts in operative position.

2. In a pump the combination with a pump head, of a cover for said head, bolts for securing said head and cover together, and an independent ring inclosing the pump head and bolts for always retaining said bolts in operative position.

3. In a pump the combination with a pump head, of a cover for said head, bolts for securing said head and cover together, a ring or collar surrounding the pump head and bolts and bolt pockets in said ring or collar for always retaining said bolts in operative position.

4. In a pump the combination with a pump head having a peripheral groove therein, of a cover for said head, bolts for engaging said groove and also the cover aforesaid, and a ring or collar surrounding the pump head for always retaining said bolts in operative position.

5. In a pump the combination with a pump head, of a cover for said head surmounted by a bearer integral therewith, bolts for securing said head and cover together, and a ring or collar inclosing the pump head and bolts for always retaining the latter in operative position.

[Claims 6 and 7 not printed in the Gazette.]

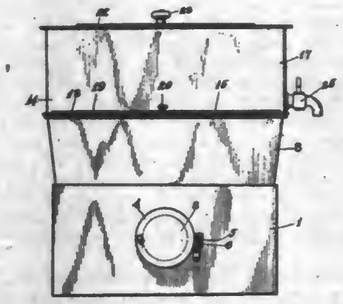
975,281. LIFE-SAVING DEVICE. JOHN J. RECTENWALD, Mount Oliver borough, Pa. Filed Apr. 29, 1910. Serial No. 558,387.

1. A life saving device comprising a cage adapted to be detachably connected to a parachute, a buoyant body at the bottom of said cage, a casing hinged to said cage and foldable thereagainst, a buoyant body carried by the bottom of said casing, and propelling means for the cage connected with the casing and the cage.



2. A life saving device comprising a cage adapted to be detachably connected to a parachute, a buoyant body at the bottom of said cage, a casing hinged to said cage and foldable thereagainst, a buoyant body carried by the bottom of said casing, and a foldable propelling means for the cage carried by the latter and said casing.

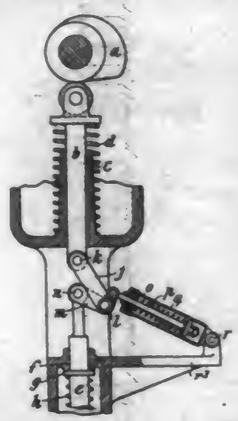
975,282. STERILIZER. GEORGE H. REEVES, Flat River, Mo., assignor of one-half to Edward Griffin, Flat River, Mo. Filed June 28, 1910. Serial No. 569,340.



1. A sterilizing apparatus comprising a base section forming a heating compartment, a central section forming a sterilizing pan, an instrument supporting tray removably mounted in the pan, a top section comprising a base forming a cover for the pan, and a water containing chamber carried by the base and of less width than the same, the portion of said base extending beyond said chamber having an opening therein and provided with a closure for said opening, and means for introducing water into and withdrawing it from the chamber.

2. A sterilizing apparatus comprising a base section forming a heating compartment, a central section forming a sterilizing pan, an instrument supporting tray removably mounted within said pan, a top section comprising a base forming a cover for the pan, and a heating chamber for water carried by the base, said chamber having a plurality of openings in its top, and being of less width than the base to leave a portion of the latter projecting, the said projecting portion of the base having an opening for communication with the pan, and a cover for closing said opening, and a cover for closing one of said openings in the chamber.

975,283. MECHANISM FOR TRANSMITTING RECIPROCATING MOTION. DAVID ROBERTS, Grantham, England. Filed Aug. 26, 1909. Serial No. 514,801.



1. The combination with a striker, and means for reciprocating it, of a part separated from the striker and positively actuated thereby at each reciprocation thereof, the separation of said parts providing lost motion between the said parts at each reciprocation of the striker, and devices interposed between said parts for taking up the lost motion, comprising parts movable transversely of the line of movement of the striker, and a yielding device connected therewith to resist said transverse movement, whereby at each reciprocation of the striker, the actuated part will be positively actuated by the striker through a shorter range of movement after the lost motion is taken up.

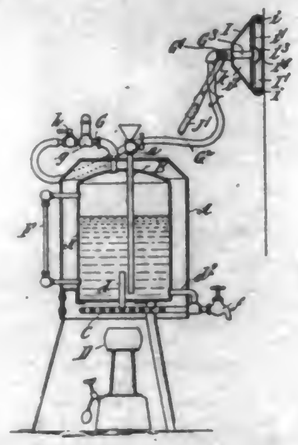
2. The combination with a reciprocating striker, of a reciprocating plunger in line therewith and separated therefrom and having a shorter range of movement than the striker, the separation of said parts providing a predetermined amount of lost motion between said parts at each reciprocation of the striker, devices interposed between the striker and plunger for taking up the lost motion, adapted to be moved laterally at each operation of the striker, and a spring connected with said devices to resist the lateral movement thereof, whereby the plunger will be positively actuated by the striker, through a shorter range of movement than that of the striker, after the lost motion is taken up, at each reciprocation of the striker.

3. The combination with a reciprocating striker, of a reciprocating plunger in line therewith separated therefrom and having a shorter range of movement than the striker, the separation of the parts providing a predetermined amount of lost motion between them at each reciprocation of the striker, connections for positively transmitting motion from the striker to the plunger at each reciprocation of the striker, having laterally movable portions to take up said lost motion, and a spring connected with said connections to resist said lateral movement thereof.

4. The combination with a reciprocating plunger, of a reciprocating striker in line therewith, means for giving said striker a longer reciprocation than the plunger at each operation of the same, a link pivotally connected to the plunger, a second link pivotally connected to the striker and to the first mentioned link, said second link being longer than the distance between the points of connection of said links with the striker and plunger, and a spring operatively connected with said links adjacent to their point of pivoting to each other, and exerting a pressure thereon in a direction away from said striker and plunger.

5. The combination with a reciprocating striker, of a reciprocating plunger in line therewith separated therefrom and having a shorter range of movement than the striker, the separation of said parts providing a predetermined amount of lost motion between them at each reciprocation of the striker, movable mechanical devices interposed between the striker and plunger, constructed to take up said lost motion, and to be operated at each reciprocation of the striker and a cushioning spring operatively connected with said movable devices to absorb the shock when the lost motion is taken up, whereby the plunger will be positively operated at each reciprocation of the striker, through a shorter range of movement than that of the striker.

975,284. APPARATUS FOR REMOVING OLD PAPER FROM WALLS. WAYNE C. ROBERTS and GEORGE E. CONARD, Holyoke, Mass. Filed Mar. 28, 1910. Serial No. 552,018.



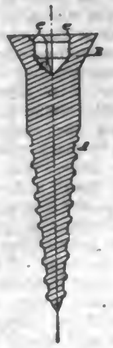
1. In an apparatus of the character described, the combination with a boiler having an outlet pipe, of a spiral coil of pipe disposed below the boiler bottom and having its ends in communication with the lower, interior portion of the boiler near the central and outer portions thereof, a heater disposed beneath said coil, and a flexible hose connected with said outlet pipe, and having a steaming head connected therewith.

2. In an apparatus of the class described, the combination with a boiler having an outlet pipe, of a spiral coil of pipe disposed below the boiler bottom and having its ends in communication with the lower interior portion of the boiler near the central and outer portions thereof, a heater disposed beneath said coil, and a stop-cock connected with said coil exteriorly of the boiler to permit the withdrawal of the water from the boiler and the coil, and a flexible hose connected with the outlet pipe and having a steaming head connected therewith.

3. In an apparatus of the class described, the combination with a boiler and a steam outlet pipe connected therewith, of a steaming tool comprising a hollow shell open at one side, a partition dividing the space of said shell into a steam space, and an air-space, the walls of said steam-space being edged with felt or similar material, a steam-pipe nipple extending into said steam-space and through the air-space, and a flexible pipe connecting said nipple with the steam outlet pipe of the boiler.

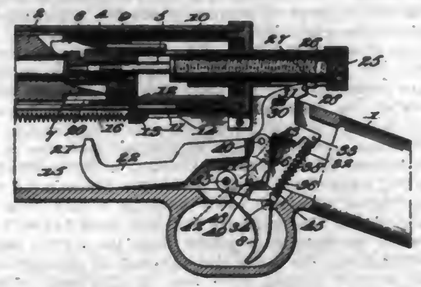
975,285. SCREW. PETER LYMBURNER ROBERTSON, Hamilton, Ontario, Canada. Filed Oct. 24, 1907. Serial No. 399,010.

A screw having a recess extending into its head, the outer portion thereof being prismatic to present four flat sides and the inner portion being pyramidal to also present four flat sides in continuation of and at angles of 45 degrees to the sides of the outer portion and the apex of the



pyramid being in the axial line of the prism and of the screw.

975,286. TRIGGER MECHANISM. CHARLES H. A. F. L. Ross, Balnagown Castle, Scotland. Filed Mar. 5, 1910. Serial No. 547,445.



1. In a trigger mechanism for fire arms the combination of a barrel; a breech block; a firing means; a sear controlling said means; a trigger controlling said sear; and means rigid with said sear and under the control of the trigger for preventing the piece from being fired before said block is locked to said barrel, substantially as described.

2. In a trigger mechanism for fire arms, the combination of a barrel; a breech block; a firing means; a pivoted sear controlling said means; a trigger controlling said sear; and pivoted means rigidly connected to said sear and under the control of the trigger for preventing the piece from being fired after being cocked but before said block is locked to said barrel, substantially as described.

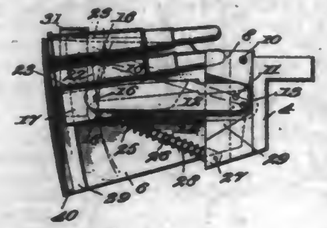
3. In a trigger mechanism for fire arms the combination of a lever having a sear; a trigger; connections between said trigger and sear by which the latter may be turned on its pivot upon pulling the trigger; means by which said connections are rendered inoperative to move said sear after the piece is fired and before the trigger is released, and means carried by said lever adapted to contact with the breech block and prevent the piece from being fired before said block is locked in place, substantially as described.

4. In a trigger mechanism for fire arms, the combination of a lever having a sear; a pivoted dog carried by said lever; a trigger adapted to engage said dog and to move said sear and lever; and means by which upon firing the piece the engagement between said trigger and said dog is rendered inoperative to move said sear, substantially as described.

5. In a trigger mechanism for fire arms the combination of a lever provided with a pivot and a slot and having a sear; a pivoted dog carried by said lever; a trigger adapted to engage said dog and to move said sear and lever; and means by which upon firing the piece the said sear and lever are moved longitudinally of said slot and the engagement between said trigger and said dog is rendered inoperative to move said sear; substantially as described.

[Claims 6 to 16 not printed in the Gazette.]

975,287. MAGAZINE FOR FIREARMS. CHARLES H. A. F. L. Ross, Balnagown Castle, Scotland. Filed Mar. 5, 1910. Serial No. 547,447.



1. In a magazine for fire arms, the combination of a support, a pair of arms pivoted to said support; and a cartridge lifter pivoted between said arms on independent pivots eccentrically located with relation to each other, substantially as described.

2. In a magazine for fire arms, the combination of a support; a pair of arms pivoted to said support; a cartridge lifter having non-alining pivots between said arms; and a spring adapted to move said lifter and arms, substantially as described.

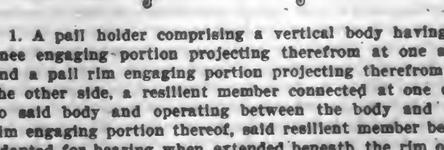
3. In a magazine for fire arms, the combination of a support; a pair of arms provided with non-registering pivots for said support; a cartridge lifter pivoted between said arms, and rigidly held against rotation on its own axis; and a spring for normally elevating said lifter and arms, substantially as described.

4. In a magazine for fire arms, the combination of a support; a pair of arms provided with non-registering pivots for said support; a lifter rigidly held against rotation on its own axis between said arms but adapted to move up and down substantially parallel to itself; and a casing in which said lifter is located, substantially as described.

5. In a magazine for fire arms the combination of a support; a pair of arms pivoted to said support; a lifter provided with non-registering pivots in said arms and rigidly held against rotation on its own axis between said arms but adapted to move up and down substantially parallel to itself; and a casing pivoted to said support in which said lifter is located, substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

975,288. MILK-PAIL HOLDER. ROLLO J. RUBLE, Fairmont, Minn. Filed Mar. 28, 1910. Serial No. 551,883.

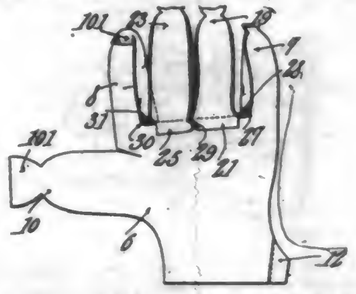


1. A pail holder comprising a vertical body having a knee engaging portion projecting therefrom at one side and a pail rim engaging portion projecting therefrom at the other side, a resilient member connected at one end to said body and operating between the body and the rim engaging portion thereof, said resilient member being adapted for bearing when extended beneath the rim of a pail, and means for releasing said resilient member.

2. A pail holder comprising a vertical body having a vertical slot and with a knee engaging portion projecting therefrom at one side and a pail rim engaging portion

projecting therefrom at the other side, a resilient member connected at one end to said body and adapted to bear when extended beneath the rim of a pail, and a holding bar connected to said resilient member and slidable through said slot and provided with a stop shoulder to limit its movement in one direction.

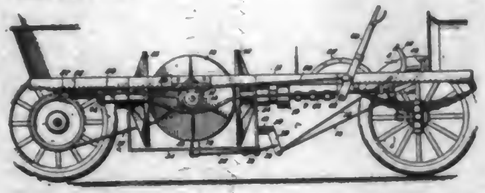
975,289. GLOVE. SOLOMON SACHS, Roanoke, Va. Filed Feb. 3, 1910. Serial No. 541,729.



1. In a glove, a palm and a finger-forming portion prolonged to overlie the palm upon the interior of the glove, the upper part of the palm being secured to the finger-forming portion, the free body of the palm being carried upwardly, folded upon itself, and brought downwardly to cover the place of union between the palm and the finger-forming portion, the palm presenting a continuous surface upon the exterior of the glove.

2. In a glove, a palm and a finger-forming portion having a tab to overlie the palm upon the interior of the glove, the upper part of the palm being secured to the tab, the free body of the palm being carried upwardly, folded upon itself, and brought downwardly to cover the place of union between the palm and the tab, the palm presenting a continuous surface upon the exterior of the glove, and the tab being beveled at its lower edge to present a smooth surface upon the interior of the glove.

975,290. DRIVING-GEAR FOR AUTOMOBILES. JOHN A. SCHARF, Richwood, Ohio. Filed June 23, 1909. Serial No. 503,827.



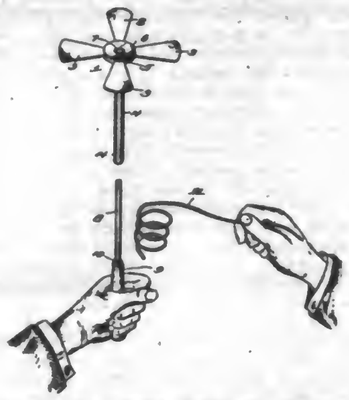
1. A driving gear for automobiles comprising a driving shaft mounted upon the body of the automobile; two friction driving disks fixedly mounted thereon in separated relation; two short shafts extended from between the said disks to the sides of the body of the automobile; a bearing for each of the said shafts mounted on the body of the automobile and pivoted to swing the said shafts in a horizontal plane; a swinging bearing for each of the said short shafts to support the inner ends thereof; a plurality of friction wheels one fixedly mounted on each of the said short shafts and disposed between the faces of the said driving disks and having a peripheral surface adapted to successively engage the faces of the said driving disks; a plurality of transmission gears one mounted on the outer end of each of said short shafts; a plurality of transmission gears one fixedly attached to each of the driving wheels of the automobile; a flexible connection between the said transmission gears; manually operated means connected with the inner ends of said short shafts to swing the same in directions opposite and substantially parallel to said driving shaft to cause each of the said wheels carried thereby to impinge upon one of the said friction driving disks; a plurality of levers pivotally mounted on the body of the automobile and engaged with the friction wheels to move the same longitudinally on the said short shafts; a rocking lever having arms extended oppositely from the pivot thereof, each of said arms being connected with the free end of one of said levers; a pivot plate supporting and pivotally connected with the said rocking lever, said plate being pivotally mounted upon the automobile frame; means for manually operating the said rocking lever to cause the said friction wheels to move toward and away from the center of said driving disks; and means embodying the steering gear for moving the said pivot plate on its pivot center to laterally shift the free ends of said levers.

2. A driving gear for automobiles comprising a driving shaft mounted upon the body of the automobile; two friction driving disks fixedly mounted thereon in separated relation; two short shafts extended from between the said disks to the sides of the body of the automobile; a bearing for each of the said shafts mounted on the body of the automobile and pivoted to swing the said shafts in a horizontal plane; a swinging bearing for each of the said short shafts to support the inner ends thereof; a plurality of friction wheels one fixedly mounted on each of the said short shafts and disposed between the faces of the said driving disks and having a peripheral surface adapted to successively engage the faces of the said disks; a plurality of transmission gears one mounted on the outer end of each of said short shafts; a plurality of transmission gears one fixedly attached to each of the driving wheels of the automobile; a flexible connection between the said transmission gears; manually operated means connected with the inner ends of said short shafts to swing the same in directions opposite and substantially parallel to said driving shaft to cause each of the said wheels carried thereby to impinge upon one of the said friction driving disks; a plurality of levers pivotally mounted on the body of the automobile and engaged with said friction wheels to move the same to and from the center of said driving disks; a rocking lever having arms extended in opposite directions from the pivotal center thereof; means for connecting the ends of said extended arms on said rocking lever and the free ends of said levers connected with the said wheels; a pivot plate pivotally connected with said rocking lever and pivoted at one end thereof to the body of the automobile; a suitable steering gear for the automobile; and transmission devices connected with said steering gear and with the said pivot plate to swing the said plate on its pivot and in unison with said steering gear.

3. In a motor vehicle, the combination with the frame, the steering wheels, and the driving wheels, of a driving shaft mounted on the frame, two confronting friction disks secured to the shaft, two driven shafts disposed transversely to the driving shaft between the friction disks so as to allow the inner ends to oscillate in a horizontal plane, driving connections between the outer ends of the driven shafts and the driving wheels, a friction wheel splined on each of said driven shafts, means connected to the inner ends of said driven shafts for moving them simultaneously transversely in opposite directions to bring the friction wheels alternately into contact with the confronting disks, means connected with the friction wheels to move them simultaneously in opposite directions along their respective shafts, and means connected to the last said means and also with the steering wheels for moving said friction wheels simultaneously in the same direction on their respective shafts, whereby steering movement of the steering wheels results in corresponding differential speed of the driving wheels.

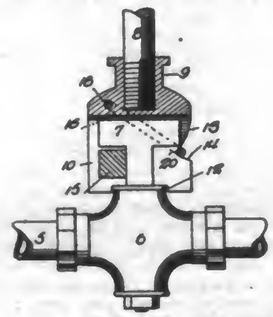
975,291. TOY. JOHN SCHRAMM, Chicago, Ill. Filed Dec. 28, 1909. Serial No. 535,235.

As a new article of manufacture, a toy embodying a hollow shaft, transversely disposed vanes at one end of the shaft, disks secured to the shaft and arranged in clamping engagement with the intermediate portions of the said vanes, one of the said disks being formed to provide spaced stop shoulders to hold the said vanes in



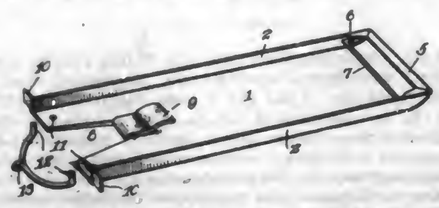
fixed position, and a support receiving and upon which the said shaft is rotatably and slidably mounted.

975,292. SELF-LOCKING ROD-CLAMP. JOHN SCHRAMM, Chicago, Ill. Filed Mar. 12, 1910. Serial No. 549,036.



A key of the class described comprising a pair of jaw members provided on one side with alining detents, a cross piece connecting said jaw members and located adjacent to the free ends of the jaws and at the sides remote from the detents, a substantially U-shaped loop pivotally secured to and embracing said jaw members, and having its medial portion normally arranged in said detents, for the purpose described.

975,293. SAMPLE-HOLDER. ANTHONY SCHUCH and GEORGE H. TEGMEIER, Edwardsville, Ill. Filed Feb. 26, 1910. Serial No. 546,087.

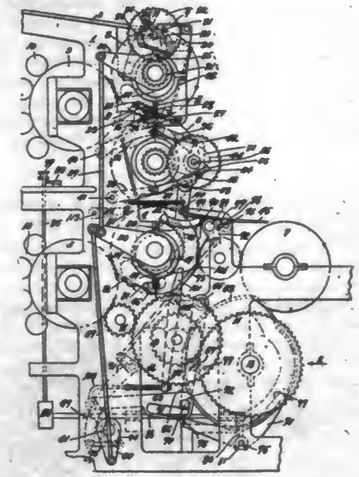


1. A sample holder comprising a rectangular strip of resilient metal, said strip having its longitudinal edges bent upwardly and one of its ends sharpened to provide an entering edge, a bale adjacent the entering edge, and the opposite edge being provided with a resilient tongue overlying the base between the upturned sides, substantially as and for the purpose set forth.

2. In a device for the purpose set forth, a resilient rectangular member, said member having its longitudinal edges bent upwardly to provide walls, the front edge of the base between the walls being slitted, the portion between the said slits being bent to provide a tongue, the opposite end of the device being bent to form an entering edge, and a bale trunnioned within the sides adjacent the entering edge.

3. In a device of the class described, a rectangular metal plate, said plate having its longitudinal edges bent upwardly to provide walls, the forward end of the device being slitted and the portion formed by said slit being bent to provide a tongue, a removable handle connected with this end of the device, and a bale connected with the side walls of the device adjacent the opposite end thereof.

975,294. MULTICOUPLE MULTIREVOLUTION PRINTING-MACHINE. WALTER SCOTT, Plainfield, N. J.; Isabella Scott and David John Scott executors of said Walter Scott, deceased. Filed Dec. 30, 1905. Serial No. 293,884.



1. In a multi-revolution printing machine, the combination with the form and impression members of a printing couple, of grippers adapted to hold the sheet on the impression member for more than one revolution, automatic means for tripping and untripping the impression at regular intervals to properly print the sheet, means for interrupting the action of the automatic means aforesaid whereby the members are maintained in their tripped position, and means for interrupting the normal operation of the grippers whereby the sheet is held on the impression member as long as the members are maintained in their tripped position.

2. In a multi-revolution printing machine, the combination with the form and impression members of a printing couple, of grippers adapted to hold the sheet on the impression member for more than one revolution, automatic means for tripping and untripping the impression at regular intervals to properly print the sheet, means for interrupting the action of the automatic means aforesaid before the sheet on the impression member is printed, whereby the members are maintained in their tripped position, and means for interrupting the normal operation of the grippers, whereby the sheet is held on the impression member without being printed as long as the members are maintained in their tripped position, and is printed after the automatic means regain control of the machine.

3. In a multi-revolution printing machine, the combination with the form and impression members of a printing couple, of automatic means for tripping and untripping

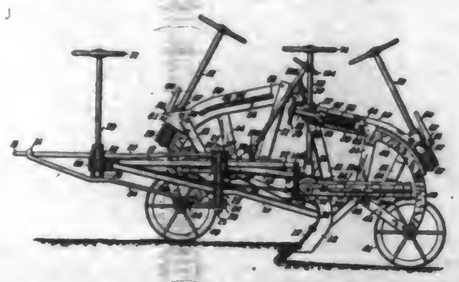
the impression at regular intervals, grippers on the impression member, means for opening the said grippers at a certain point once to a number of revolutions of the impression member, means for interrupting the action of the automatic means aforesaid, whereby the members of the couple are maintained in their tripped position, and for preventing the opening means for the grippers from acting on the latter, thereby holding the sheet on the impression member as long as the impression is tripped.

4. In a multi-revolution printing machine, the combination with the form and impression members of a printing couple, of automatic means for tripping and untripping the impression at regular intervals, grippers on the impression member, means for opening the said grippers at a certain point once to a number of revolutions of the impression member, means for positioning the opening means at intervals corresponding to the tripping of the impression, means for interrupting the action of the automatic means aforesaid, whereby the members are maintained in their tripped position, and means for preventing the positioning of the opening means adapted to act synchronously with the operation of the interrupting means.

5. In a printing machine, the combination with the form and impression members of a printing couple, of grippers on the impression member, means for tripping the impression, means adapted to be positioned to trip the grippers, and means to prevent the proper positioning of such tripping means for preventing the grippers from releasing the sheet as long as the impression remains tripped.

[Claims 6 to 10 not printed in the Gazette.]

975,295. ROAD-MACHINE. MARION MARCELLUS SICKLER, Los Angeles, Cal. Filed July 26, 1909. Serial No. 509,507.



1. A road machine, comprising a carrying frame having fixedly mounted thereon a grading blade, carrying wheels disposed in triangular arrangement under said frame, three circular rotary members provided with gear teeth peripherally disposed and forming bearings for the wheel supports; antifriction bearings for said circular members interposed between the same and said frame, rollers mounted on said circular bearings to carry same, said rollers being adjustable on said circular members, supporting frames for said wheels mounted on said circular members and extended above and below the same to form bearings for the said wheels at the lower end and attached to a gear operated shifting mechanism at the upper end, and a mechanism embodying worm gears mounted in a suitable frame upon said circular members to engage with the upper end of said supporting frames to reciprocate the same to raise and lower the wheel carrying ends of said frames.

2. A road machine, comprising a carrying frame having fixedly mounted thereon a grading blade, carrying wheels disposed in triangular arrangement under said frame, three circular rotary members provided with gear teeth peripherally disposed and forming bearings for the wheel supports, antifriction bearings for said circular members embodying an upper and lower row of rotary members to bear on opposite sides of said circular member, and a plurality of rollers mounted on said circular members to bear under said carrying frame to support the same, said rollers being adjustable on said circular members.

3. A road machine, comprising a plurality of rotary platforms, carrying wheel supports embodying frames pivotally mounted on said platforms and having an upper extension provided with a gear toothed quadrant formed concentric with the bearings of said supporting frames, rotary shafts each having a worm gear in toothed engagement with said quadrants, said shafts mounted tangentially to said quadrants and pivoted to be rotated out of engagement therewith, a supporting frame for said shafts and said quadrants mounted on said platforms, a locking device adapted to hold the said shafts in toothed engagement with the said quadrants, said device being adapted to release the said shaft, a buffer spring located at the rear of each of said quadrants to receive the thrust of the wheel when the said shaft is released by said locking device, and means for advancing and receding said springs to coincide with the adjustment of said quadrants.

4. A road machine, comprising a plurality of rotary platforms, carrying wheel supports embodying frames pivotally mounted on said platforms and having an upper extension provided with a gear toothed quadrant formed concentric with the bearings of said supporting frames, rotary shafts each having a worm gear in toothed engagement with said quadrants, said shafts mounted tangentially to said quadrants and pivoted to be rotated out of engagement therewith, a supporting frame for said shafts and said quadrants mounted on said platforms, a locking device adapted to hold the said shafts in toothed engagement with the said quadrants, said device being adapted to release the said shaft, a buffer spring located at the rear of each of said quadrants to receive the thrust of the wheel when the said shaft is released by the said locking device, and guide mountings for said spring guidedly mounted in the said frame and adjustable to move in unison with the said quadrants.

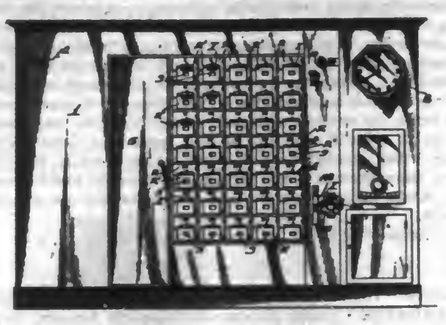
5. A road machine, comprising a plurality of rotary platforms, carrying wheel supports embodying frames pivotally mounted on said platforms and having an upper extension provided with a gear toothed quadrant formed concentric with the bearings of said supporting frames, rotary shafts each having a worm gear in toothed engagement with said quadrants, said shafts mounted tangentially to said quadrants and pivoted to be rotated out of engagement therewith, a supporting frame for said shafts and said quadrants mounted on said platforms, a locking device adapted to hold the said shafts in toothed engagement with the said quadrants, said device being adapted to release the said shaft, a buffer spring located at the rear of each of said quadrants to receive the thrust of the wheel when the said shaft is released by said locking device, mountings for said spring comprising an adjustable head adapted to bear against the said quadrant and held in guided relation with said frame, an elongated screw extended within said spring and rotatably mounted in said frame, a head threaded upon said screw and held in guided relation with said frame adapted to be moved by said screw to approach and recede from the first named head, and means for rotating the said screw.

[Claims 6 to 11 not printed in the Gazette.]

975,296. WORKMAN'S TIME AND WAGE COMPUTING AND RECORDING APPARATUS. FREDERICK SIMONS, St. Louis, Mo. Filed Apr. 3, 1908. Serial No. 424,904.

1. In an apparatus of the character described, a time controlled power mechanism, a series of individual wage computing mechanisms coöperable with said power mechanism, and pay list mechanisms separate from said computing mechanisms and coöperable therewith, substantially as set forth.

2. In an apparatus of the character described, a time controlled power mechanism, a series of individual wage computing mechanisms coöperable with said power mechanism, and pay list mechanisms separate from said computing mechanisms and coöperable therewith; said pay list mechanisms including impression members by which a record may be secured therefrom, substantially as set forth.



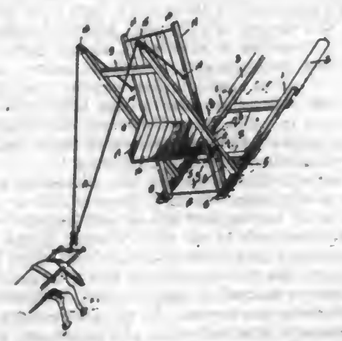
3. In an apparatus of the character described, the combination with a time controlled power mechanism, of a wage computing mechanism coöperable with said power mechanism, comprising a movable computing ribbon, driving and pressure rollers for feeding said ribbon; one of said rollers being movable to separate it from said ribbon, and means for moving said movable roller to said ribbon, substantially as set forth.

4. In an apparatus of the character described, the combination with a time controlled power mechanism, of a wage computing mechanism coöperable with said power mechanism, comprising a movable computing ribbon, driving and pressure rollers for feeding said ribbon; one of said rollers being movable to separate it from said ribbon, and means for moving said movable roller away from said ribbon, substantially as set forth.

5. In an apparatus of the character described, the combination with a time controlled power mechanism of a wage computing mechanism coöperable with said power mechanism, comprising a movable computing ribbon, driving and pressure rollers for feeding said ribbon; said pressure roller being movable to separate it from said ribbon, and means for moving said pressure roller to said ribbon, substantially as set forth.

[Claims 6 to 39 not printed in the Gazette.]

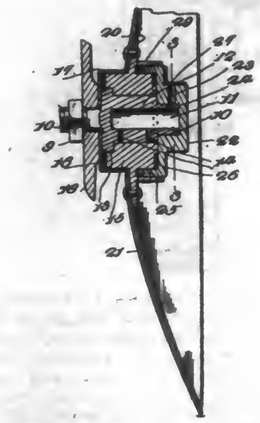
975,297. CAR AND WAGON LOADER. FREDERICK L. SIMPSON, Denver, Colo. Filed June 15, 1909. Serial No. 502,299.



1. In a loading apparatus, a pair of suitably connected sills, uprights connected therewith, a platform-carrying frame pivotally supported between the sills, a chute member slidably and adjustably connected with the platform-carrying frame, and suitably guided hoisting elements for elevating the platform-carrying frame.

2. In a loading apparatus, a base frame including suitably connected sills, uprights supported upon the sills, a frame pivotally supported between the sills and having a load-carrying platform connected therewith, said frame including longitudinally slotted side rails, a chute extension slidably supported with reference to the platform and having braces engaging the inner sides of the slotted frame bars, and connecting means including oppositely screw-threaded rods extending through the braces and through the slots in the frame bars and a turn buckle connecting said rods.

975,298. DISK-SUPPORT. CLARENCE S. SKINNER, Payne, Ohio. Filed July 6, 1909. Serial No. 506,165.



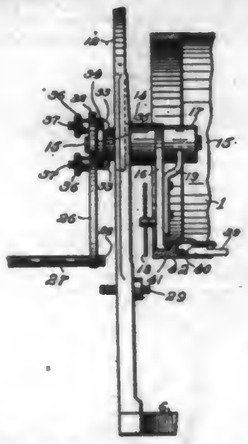
1. In combination with a rotating element, a hub carried by the rotating element and having an annular depression at one end thereof, a spindle engaged through said hub and having a drum formed centrally thereon for engagement against the inner face of said hub, said spindle also having a flange at one end thereof to engage in the depression in said hub and an opposite threaded extremity, and caps fitted upon the opposite ends of said spindle for engagement with the hub.

2. A device as specified including a spindle having a drum formed centrally thereon, and a flange formed at one end of the drum, a hub engaged upon the spindle over the drum and against the flange, said spindle having a bore formed in the outer end thereof and extending inwardly toward the opposite end of the same, said drum having channels extending downwardly therethrough and registering with the bore, caps disposed against the opposite ends of said hub and said drum, washers interposed between said caps and said hub and said drum, and an annular flange formed centrally on said hub to support an element.

3. A bearing including a spindle hollow at one end and having a drum with radial channels communicating with the hollow end of the spindle, caps engaging upon the opposite ends of said spindle against the drum, a hub rotatably disposed about the drum and engaged between said caps, washers arranged between said caps and said hub, and a cover hingedly disposed upon the outer face of the cap for engagement against the side of the nut to close the channel therein.

4. A bearing including a hollow spindle having a drum formed thereon, with channels therein communicating with the center of the spindle, a cap carried by the spindle and engaged against one end of the drum, said cap having a nut formed upon its outer face in threaded engagement with the spindle, said nut having a channel formed therein communicating with the interior of the spindle, a cover hingedly carried by said cap for engagement against the nut to close the channel, a hub mounted on the drum against said cap to support an element, a second cap engaged upon the opposite end of said spindle and against said hub, washers interposed between said caps and said hub, and means disposed upon the inner end of said spindle for supporting the same.

975,299. STENCILING-MACHINE. STEPHEN T. SMITH, Jr., Stamford, Conn., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 11, 1907. Serial No. 401,548.



1. A stenciling machine comprising a framework and a stencil cylinder, the stencil cylinder open at one end for the reception of an inking implement, and having at said open end a single radial arm, said framework including standards at the ends of the cylinder upon which the latter is journaled, the standard at the open end of the cylinder being in the form of a frame which extends to the top of the cylinder and is open to give access to the open end of the cylinder; an arm depending from the top of said open frame and provided with a journal for said radial arm.

2. A stenciling machine comprising a framework and a stencil cylinder, the stencil cylinder open at one end for the reception of an inking implement, and having at said open end a single radial arm, said framework including standards at the ends of the cylinder upon which the latter is journaled, the standard at the open end of the cylinder extending up to the upper part thereof and being constructed to leave said end uncovered, and provided with a single arm depending from the top of the standard and extending to the axis of the cylinder to support said radial arm, and disposed or constructed to leave the entire lower part of said cylinder end unobstructed for the insertion of said implement.

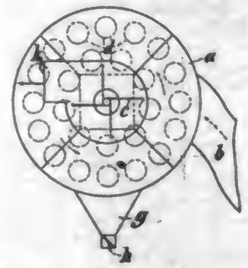
3. In a stenciling machine, the combination with a framework having standards and a stencil cylinder extending between said standards, of a shaft journaled in one standard, means for releasably securing one end of the cylinder to said shaft, and for mechanically determining the relative rotative positions of the cylinder and shaft, a handle or crank secured upon said shaft outside of the standard, and a stud mounted upon the other standard to support the other end of the cylinder said stud and said shaft being both mounted for withdrawal to permit the cylinder to be taken out of the machine.

4. In a stenciling machine, the combination with a framework having standards and a stencil cylinder extending between said standards, of a shaft journaled in one standard, means for releasably securing one end of the cylinder to said shaft, and for mechanically determining the relative rotative positions of the cylinder and shaft, a handle or crank secured upon said shaft outside of the standard, and a stud mounted upon the other standard to support the other end of the cylinder; said stud and said shaft being both mounted for withdrawal to permit the cylinder to be taken out of the machine; and said handle being mounted upon said shaft for independent rotative adjustment relatively to said cylinder to enable the handle to coöperate with a suitable stop upon the framework to determine the initial rotative position of the cylinder.

5. A stenciling machine comprising a framework and a stencil cylinder, the stencil cylinder open at one end for the reception of an inking implement, and having at said open end a single radial arm, said framework including standards at the ends of the cylinder upon which the latter is journaled, the standard at the open end of the cylinder rising to the upper part of the cylinder but being constructed to leave said end wholly uncovered, and provided with a single arm extending to the axis of the cylinder to support said radial arm, and disposed or constructed to leave the entire lower part of said cylinder end unobstructed for the insertion of said implement; said radial arm being secured upon a shaft which extends through said framework arm and is journaled therein, and a crank or handle being mounted upon the projecting end of said shaft.

[Claims 6 to 16 not printed in the Gazette.]

975,300. DUST COLLECTING AND SEPARATING APPARATUS. CHARLES HESSEY STUBLEY, Lincoln, England, assignor of one-half to Franklin White, Lincoln, England. Filed Apr. 23, 1909. Serial No. 491,773.



1. A portable dust collecting and separating apparatus comprising a filtering chamber having a pair of approximately vertical oppositely disposed walls provided with perforations, filtering sleeves extending approximately horizontally between said walls their ends coinciding with the perforations and the sleeves being supported by said walls, means for causing air to pass into said chamber around the outside of said sleeves, the purified air escaping from the ends of the sleeves and the dust being caught on the outside thereof, means located below said sleeves for collecting the dust falling therefrom.

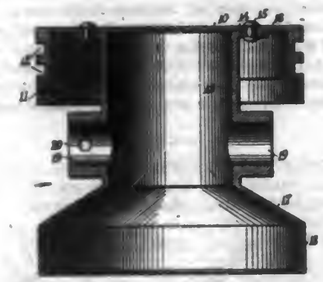
2. A portable dust collecting and separating apparatus comprising a filtering chamber having a pair of oppositely disposed walls provided with apertures, filtering sleeves extending approximately horizontally across said chamber, means forming part of the walls of said chamber for supporting said sleeves at their ends which coincide in position with apertures in said walls, spring means for supporting said members at intermediate points, means for causing the air to pass into the chamber around the outside of said sleeves, to pass through said sleeves and to escape from the ends thereof and the dust being caught on the outside thereof, means located below said sleeves for collecting the dust falling therefrom.

3. A portable dust collecting and separating apparatus comprising a filtering chamber, filtering sleeves extending approximately horizontally across said chamber and supported at their ends by the walls thereof, means for causing air to enter said chamber at both ends thereof and to pass through the filtering sleeves, and a transverse partition member arranged centrally in said chamber so as to prevent interference between the two streams of air.

4. A portable dust collecting and separating apparatus comprising a filter chamber, filtering sleeves extending approximately horizontally across said chamber and supported at their ends by the walls thereof, means for causing air to enter said chamber at both ends thereof and to pass through the filtering sleeves, a transverse partition member arranged centrally in said chamber, and strip springs attached to said sleeves and supported by said partition and the walls of the chamber.

5. A portable dust collecting and separating apparatus comprising a filtering chamber forming a spiral passage for dust laden air, means for causing air to flow along said passage, filtering sleeves arranged horizontally across said passage and having open ends so that the filtered air can escape while the dust is retained on the outsides of the sleeves, a dust collecting hopper arranged below the filtering chamber, and ducts leading from the lower part of each curve of the spiral passage to said hopper.

975,301. PISTON. ERNEST TALBOT, New York, N. Y. Filed Aug. 27, 1910. Serial No. 579,281.



1. A piston having a tubular body portion, a head secured to and closing one end of the tubular body portion, having a piston ring flange surrounding and relatively larger than the tubular body portion and forming in connection with the said tubular body portion, a cooling chamber, and piston pin bosses extending from the opposite sides of the tubular body portion, with the bosses terminating inwardly of the plane of the piston ring flange, and with the cooling chamber freely open at the inner side, whereby the passage of the cooling elements therein from around and about the bosses and against the inner wall of the cylinder is uninterrupted.

2. A piston having a tubular body portion, a head secured to and closing one end of the tubular body portion, having a piston ring flange surrounding and relatively larger than the tubular body portion and forming in connection with the said tubular body portion, a cooling chamber, and a skirt secured to the opposite end of the tubular body portion and of approximately the same diameter as the piston ring flange, the tubular body portion having piston pin bosses extending from the opposite sides thereof and terminating short of the said flange and skirt, the said cooling chamber open at its inner side and in free communication with the space externally of the tubular body between the flange and skirt, and with the inner wall of the cylinder in which the piston is placed.

975,302. TROLLEY. JOHN TARI, East Columbus, Ohio. Filed Aug. 14, 1909. Serial No. 512,908.

1. A trolley comprising a harp including a body portion having at each end a pair of vertically disposed arms and a pair of longitudinally disposed arms, a lateral arm projecting outwardly from each of the longitudinal arms, normally abutting retaining members pivoted in said vertical arms, means mounted upon the lateral arms and engaging said members for maintaining them in abutting position, said members arranged over the longitudinal arms, means connected to said lateral arms and constituting combined guards and stops for said means and members, a trolley wheel journaled in each pair of longitudinal arms, and a pole connected to said body portion.

2. A trolley comprising a harp including a body portion having at each end a pair of vertically disposed arms and a pair of longitudinally disposed arms, a lateral arm projecting outwardly from each of the longitudinal arms, normally abutting retaining members pivoted in said vertical arms, means mounted upon the lateral arms and engaging said members for maintaining them in abutting position, said members arranged over the longitudinal arms, means connected to said lateral arms and constituting combined guards and stops for said means and members, links arranged in pairs, means for connecting each link to a member, and means for operating the links to shift the members.

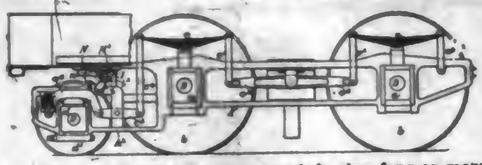
3. A trolley comprising a harp including a body portion having each end provided with a pair of longitudinally extending apertured arms, said body portion further provided at each end with a pair of vertically-extending arms, laterally-extending arms projecting from said longitudinally-extending arms at the inner portions thereof, a trolley wheel in each pair of longitudinal arms, normally abutting retaining members pivotally mounted in the upper ends of said vertical arms and projecting over said longitudinal arms, means mounted upon the lateral arms and engaging said members for maintaining them in abutting position, means carried by the laterally-extending arms and constituting guards and stops for said means and members, links arranged in pairs, means for connecting each link to a member, and means for operating the links to shift the members.

4. A trolley comprising a harp including a body portion having each end provided with a pair of longitudinally-extending apertured arms, said body portion further provided at each end with a pair of vertically-extending arms, laterally-extending arms projecting from said longitudinally-extending arms at the inner portions thereof, a trolley wheel in each pair of longitudinal arms, normally abutting retaining members pivotally mounted in the upper ends of said vertical arms and projecting over said longitudinal arms, means mounted upon the lateral arms and engaging said members for maintaining them in abutting position, means carried by the laterally-extending arms and constituting guards and stops for said means and members, and means connected with said members for shifting them.

5. A trolley comprising a harp including a body portion having each end provided with a pair of longitudinally extending apertured arms, said body portion further provided at each end with a pair of vertically-extending arms, laterally-extending arms projecting from said longitudinally-extending arms at the inner portions thereof, a trolley wheel in each pair of longitudinal arms, normally abutting retaining members pivotally mounted in the upper ends of said vertical arms and projecting over said longitudinal arms, means mounted upon the lateral arms and engaging said members for maintaining them in abutting position, means carried by the laterally-extending arms and constituting guards and stops for said means and members, links arranged in pairs, means for connecting each link to a member, and means for operating the links to shift the members, each of said lateral arms arranged to one side of the plane in which extends a vertical arm.

[Claim 6 not printed in the Gazette.]

975,303. CAR-TRUCK. SAMUEL M. VAUCLAIN, Philadelphia, Pa., assignor, by mesne assignments, to Baldwin Locomotive Works, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Dec. 12, 1908. Serial No. 467,185.



1. The combination in a car truck having four or more wheels, two main axles and wheels, a center bearing located between the two main axles, and two side bearings located at one end of the truck and approximately over two of the wheels, each side bearing consisting of a pivoted toothed segment and rack.

2. The combination in a car truck, of a frame, axles, wheels mounted on the axles, a pivot for the car truck mounted between two of the axles, a car body mounted on the truck, two side bearings located at one end of the truck approximately over two of the wheels, each side bearing consisting of a toothed segment and rack, one element mounted on the car body and the other element mounted on the truck.

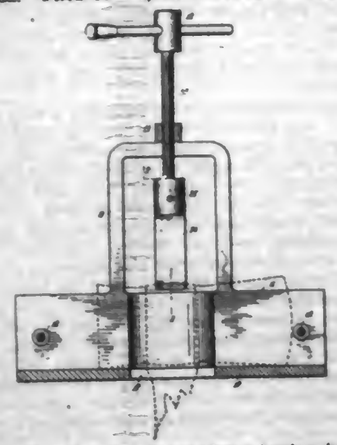
3. The combination in a car truck, of a frame, axles and wheels, a pivot for the truck, a car body mounted on the truck, two side bearings approximately over two of the wheels of the truck, each side bearing consisting of a toothed segment and a rack, and a pivot on the truck frame for the segment, the rack being secured to the underside of the car body.

4. The combination in a car truck having a frame, axles and wheels, of a car body to which the truck is pivoted, side bearings approximately over two of the wheels of the truck and each side bearing consisting of an eccentric segment having a series of teeth and a toothed rack, one element being mounted on the frame of the truck and the other element secured to the underside of the car body.

5. The combination of a car body, a truck having a frame, two main axles provided with wheels, the center bearing and pivot for the car truck being about midway between the two main axles, a supplemental axle at one end of the truck and having wheels thereon, and two side bearings approximately above the supplemental wheels, each side bearing consisting of a rack and toothed segment.

[Claim 6 not printed in the Gazette.]

975,304. HANDLE-EXTRACTOR FOR AXES, HAMMERS, &c. JAMES VENO, Vancouver, British Columbia, Canada. Filed Jan. 6, 1910. Serial No. 536,509.

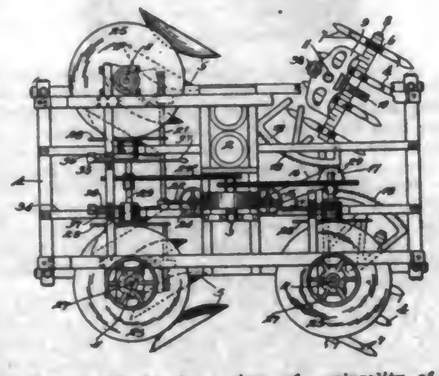


1. In a handle extractor, a clamp having jaws to bind on the tool at opposite sides, and a punch supported on the clamp, having means to force it in a direction to press the handle from the tool.

2. In a handle extractor, a clamp having jaws arranged to bind on the tool at the opposite sides, and a punch carried by the clamp and adjustable laterally crosswise thereof, having actuating means to force it in a direction to press the handle from the tool.

3. In a handle extractor, a trough clamp having sides relatively movable to and from each other and provided with screws arranged near the ends for drawing the sides together, each of said sides having a clamping jaw approximately centrally arranged, with the bottom of the clamp having an opening between said jaws, through which the handle of the tool is adapted to pass, yoke supports rigid with each of the jaws of the clamp, a cross-bar carried on the yoke supports, an actuating screw threaded through the cross-bar, and a punch arranged on the inner end of the screw in alinement with said opening.

975,305. SELF-PROPELLED PLOW. ORLIN WAIT, San Jose, Cal. Filed Feb. 23, 1909, Serial No. 479,368. Renewed Apr. 19, 1910. Serial No. 556,397.



1. The combination in a plow, of a plurality of independent, vertical shafts, disintegrating members and connections between the same and said shafts, a frame supporting a motor, and means whereby said shafts may be separately coupled to and driven by said motor, said means including driving friction disks, driven friction disks splined on said shafts, and means for moving the driving disks into and out of connection with the driven disks.

2. In an apparatus of the character described, a pair of independent steering shafts carrying suitable wheels, a supporting frame, shafts upon which are secured disintegrating members, a hand-wheel, connections between the hand-wheel and the steering-shafts whereby the latter may be adjusted, a motor carried upon the frame, countershafts connected to said motor, and means by which the steering-shafts and the shafts carrying the disintegrating members may be independently driven at various speeds by said countershafts, said last-named means including friction disks driven from the motor, vertical shafts, disks on the vertical shafts engaged by the first named disks, and means for vertically moving the second-named disks relatively to the first-named disks.

975,306. TREATMENT OF CALCIUM CARBID. CHARLES CHEERS WAKEFIELD, London, England. Filed Feb. 8, 1909. Serial No. 476,608.

1. The herein described process of treating calcium carbid, which consists in mixing together calcium carbid and a protecting and binding agent containing sulfur, and heating said sulfur whereby it is fused in the mixture.

2. The herein described process of treating calcium carbid, which consists in mixing together calcium carbid, sulfur and sugar, and heating said sulfur whereby it is fused throughout the mixture.

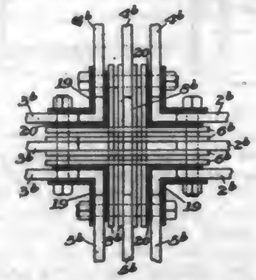
3. The herein described process of treating calcium carbid, which consists in thoroughly intermingling a mass of calcium carbid and sulfur at a temperature that will cause the sulfur to become fused and coat the carbid particles throughout the mass.

4. The herein described process of forming calcium carbid into blocks which consists in heating the calcium carbid, mixing it with a dry protecting and binding agent containing sulfur and sugar and heating the sulfur and sugar to fuse the same and compressing the mixture into blocks.

5. The herein described process of forming calcium carbid blocks, which consists in heating the calcium carbid, mixing it with a protecting and binding agent composed of sulfur and sugar, heating the sulfur and sugar to fuse throughout the mixture, compressing the mixture into blocks, and dipping said blocks into oil.

[Claims 6 and 7 not printed in the Gazette.]

975,307. REINFORCED CONCRETE STRUCTURE. HERBERT E. WHITE, Youngstown, Ohio, and WILLIAM H. HAM, New York, N. Y., assignors to The General Fireproofing Company, New York, N. Y., a Corporation of Ohio. Filed Sept. 28, 1906. Serial No. 336,529.



1. In reinforced concrete structures, a plurality of concrete beams arranged in pairs and meeting at a common connecting point, each beam having a metallic reinforce therein, and links connecting opposite reinforces, one link or set of links crossing another link or set of links and being placed on edge or with their greatest dimensions vertically; substantially as described.

2. In reinforced concrete structures, a vertical post or column, and a plurality of horizontal beams or girders joining the column and radiating therefrom in pairs, each beam or girder having metallic reinforcing elements embedded therein, each of said elements being connected with the element of the other beam by a link, said links extending within the column and crossing each other and being offset vertically at the points of crossing; substantially as described.

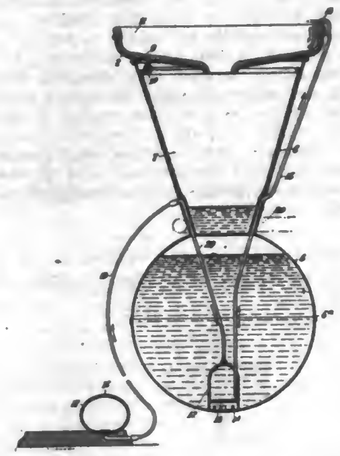
3. In reinforced concrete structures, a vertical post or column, and a plurality of horizontal beams or girders joining the column and radiating therefrom in pairs, each beam or girder having metallic reinforcing elements embedded therein, each of said elements being connected with the element of another and opposite beam by two parallel links extending within the column and crossing each other, and the column having vertically extending reinforcing members to which the links are also connected; substantially as described.

4. In reinforced concrete structures, a vertical post or column, and a plurality of horizontal beams or girders joining the column and radiating therefrom in pairs, each beam or girder having metallic reinforcing elements embedded therein, each of said elements being connected with the element of another beam by a link, said links extending within the column and crossing each other, the points of connection between the links and the reinforcing elements of the beams or girders being in the same plane, and the links being bent or offset in a vertical direction to permit them to pass each other; substantially as described.

5. In a reinforced concrete structure, a set of four beams or girders meeting at a column and each having a reinforcing element, and separate metallic pieces connecting the reinforcing elements in pairs, said pieces extending through the column and one set of them crossing the other set said pieces being edgewise disposed, or with their greatest dimensions vertical; substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

975,308. FOUNTAIN-CUSPIDOR. JAMES DAWSON WILSON, Webster Groves, Mo. Filed Aug. 11, 1909. Serial No. 512,330.



1. The combination in a cuspidor, of a saliva receptacle having a bowl discharging therein, a water reservoir, a water chamber having a discharge conduit passing to the bowl and provided with a valve-controlled inlet opening leading from the reservoir, and an air compressor discharging into the chamber to force the water therein through the conduit into the bowl.

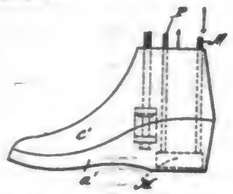
2. The combination in a cuspidor, of a saliva receptacle having a bowl discharging therein, a water reservoir on which the receptacle is seated, a water chamber within the reservoir, having a discharge conduit passing to the bowl, and an air compressor discharging into the chamber to force the water therein through the conduit into the bowl.

3. The combination in a cuspidor, of a saliva receptacle having a bowl discharging therein, a water reservoir arranged below the bowl, a water chamber arranged in the lower portion of the reservoir, having an inlet valve for the water, a conduit leading from the lower portion of the chamber to the bowl, and an air compressor discharging into the upper portion of the chamber.

4. The combination in a cuspidor, of a water reservoir, a saliva receptacle seated on the reservoir, a bowl supported over the receptacle and discharging therein, a water chamber arranged within the reservoir, having a valve-controlled inlet for the water, a conduit leading from the chamber to the bowl, and an air compressor discharging into the chamber to deliver the water from the chamber into the bowl through said conduit.

5. The combination in a cuspidor, of a water reservoir, a saliva receptacle arranged above the reservoir and having a bowl discharging therein, a casing arranged at the bottom of the reservoir, said casing having water inlet openings at the lower portion thereof and provided with a water chamber above said openings, with the bottom of the chamber having a water inlet valve, a compressible air bulb discharging into the upper portion of the chamber, and a conduit leading from the lower portion of the chamber to the bowl.

975,309. APPARATUS FOR VULCANIZING RUBBER BOOTS AND SHOES. PATRICK J. WREN and FREDERICK T. COMER, Woonsocket, R. I. Filed Jan. 22, 1909. Serial No. 473,696.



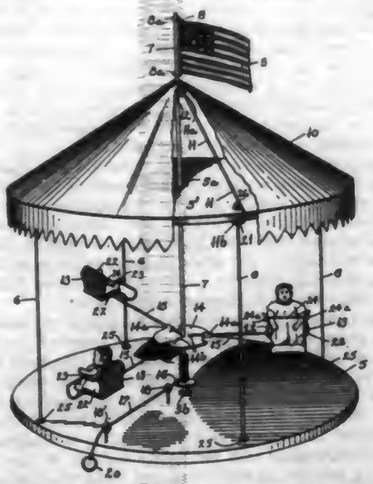
An apparatus for the purpose described, comprising a sectional mold, of rigid or unyielding material, the interior of which corresponds in contour to the outer side of a boot or shoe, and a last member comprising sections of rigid or unyielding material, each extending throughout its length and separable bodily throughout its length from the other section; said sections together corresponding in contour to and being slightly smaller than the interior of the sectional mold, and mechanical means extending beyond the mold for positively and unyieldingly separating the last section and thereby expanding the last member within the mold.

975,310. REMOVABLE NAIL. VINCENT G. DE YBARRONDO, Los Angeles, Cal. Filed Mar. 17, 1908. Serial No. 421,728.



A removable nail comprising a head, a shank, and a collar at their juncture integral with both, smaller than the head, larger than the shank, and having a flat shoulder around the latter, a flat-faced washer of the diameter of said head and removably but frictionally engaging the shank, and a series of spacing washers of the diameter of said collar and located on the shank between the shoulder of the collar and said flat-faced washer.

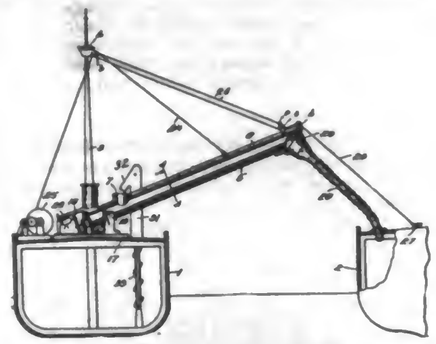
975,311. TOY ROUNDABOUT. JOSEPH L. ALLABOUGH, Lakewood, Ohio, assignor to The Shanafelt Manufacturing Company, Canton, Ohio, a Corporation of Ohio. Filed Mar. 22, 1910. Serial No. 550,839.



1. In a toy round-about, the combination of a fixed frame having bearings, a shaft mounted in said bearings, a disk fixed to the shaft and having holes and lips struck up adjacent said holes, and carrier arms the inner ends of which are bent to engage in said holes, the lips being bent over the arms, to hold the same in place.

2. In a toy round-about, the combination of an upright shaft, arms projecting therefrom, and carriers at the outer ends of the arms, the carriers having spring sides to grip an object placed therein.

975,312. COALING DEVICE. VAINO ANDERSON, Knappton, Wash. Filed Nov. 3, 1909. Serial No. 526,118.



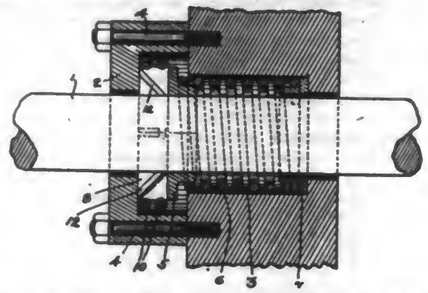
1. In means for transferring coal from one vessel to another, the combination of an elevator comprising a tube pivotally mounted upon the coaler and adapted to incline upwardly and outwardly therefrom, a flexible chute connected with the delivery end of the elevator and inclining outwardly and downwardly therefrom and connected with the vessel to be coaled, and a cable and pulley system between the two vessels and the said tube to automatically raise and lower the adjacent ends of the tube and chute to adapt them to the relative movements of the two vessels when riding the waves.

2. In means for transferring coal from one vessel to another, the combination of an elevator pivotally mounted upon the coaler and inclining upwardly and outwardly therefrom, hoisting means for raising or lowering the outer end of the elevator comprising a cable, a pulley and a windlass, a flexible chute pivotally connected with the delivery end of the elevator and inclining outwardly and downwardly therefrom and connected with the vessel to be coaled, and a cable and pulley system between the two vessels and the elevator to automatically raise or lower the adjacent ends of the elevator and chute to adapt the same to the relative positions of the two vessels when riding the waves.

3. In unloading mechanism of the character described, the combination of an elevator pivotally mounted upon the vessel to be unloaded and inclining upwardly and downwardly therefrom, said elevator comprising a tube or casing and a conveyer, a motor mounted upon the frame of the elevator and movable therewith, connecting means between the motor and conveyer, means for delivering the load from the hold of the vessel to the said elevator, a flexible chute inclining outwardly and downwardly from the elevator to effect delivery of the load therefrom to the vessel to be loaded, means for raising or lowering the elevator, and a cable and pulley system between the two vessels and the elevator for automatically raising or lowering the elevator at its delivery end to admit of self-adjustment of the elevator and chute and the relative positions of the vessels when riding the waves.

975,313. METALLIC ROD-PACKING. JOHN BADEKER, Omaha, Nebr., assignor of one-half to N. W. Anderson, Omaha, Nebr. Filed May 11, 1909. Serial No. 495,363.

1. In a metallic rod-packing, a gland, a packing ring having the transverse sectional area thereof reduced at a plural number of points therein, and means embracing the ring to press the same toward the rod, the reduced portions of the ring being of material capable of being upset by the pressure thereon and being adapted to complete a steam-tight connection between the rod and gland.



2. In a metallic rod-packing, a gland, a packing ring comprising a plural number of segments, means embracing the ring for pressing the segments toward the rod, and abutting ridges formed on the ends of the segments, the said ridges being of material capable of being upset by the compressive pressure thereon and being adapted to complete a steam-tight connection between the rod and gland.

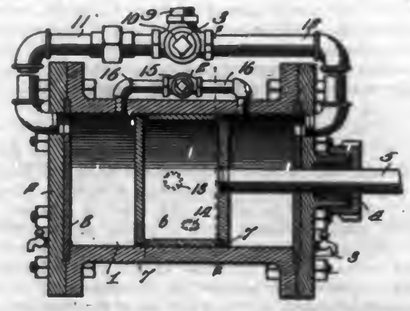
3. In a metallic rod-packing, a packing ring comprising a plural number of segments, means arranged to press the segments toward the rod, ridges formed across the ends of the segments, the said ridges being normally in abutment with each other, and flanges at one end of each of the segments, the said flanges overlapping the ends of the adjoining segments.

4. In a metallic rod-packing, the combination with a gland, and a spring-impressed follower arranged therein, of a packing ring arranged between the gland and follower, and means embracing the ring to hold the same in engagement with the rod, the ring having portions therein of reduced transverse sectional area capable of being upset by the pressure of the embracing means together with the steam pressure within the gland.

5. In a metallic rod-packing, the combination with an inclosing gland, of a packing ring arranged therein and encircling the rod, the said packing ring consisting of a plural number of segments divided on lines radial to the rod, the ends of the segments having ridges formed thereon of relatively soft material capable of distortion by pressure, and means arranged to press the segments toward the rod and hold said ridges normally in engagement with each other.

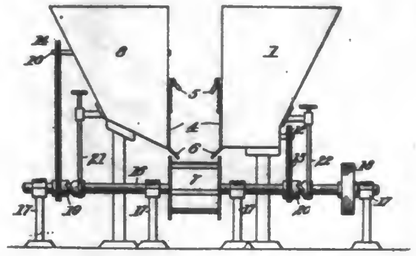
[Claim 6 not printed in the Gazette.]

975,314. ENGINE FOR GRATE-SHAKERS. WILLIAM F. BAKER, Antlers, Okla. Filed July 24, 1909. Serial No. 509,426.



In an engine for grate shakers, a cylinder having its head provided with cushioning elements, a fluid conveying pipe opening at its ends directly into the ends of the cylinder, a rock valve located in the said pipe, the said cylinder having spaced exhaust ports formed therein midway between its ends, a piston mounted for reciprocatory motion in the cylinder, a pipe having its ends extended into the cylinder at points adjacent to the said exhaust ports thereof and designed to distribute the working fluid to opposite ends of the cylinder to cause the piston to be positioned immediately between the ends of the cylinder in position to close the exhaust ports when the valve of the fluid inlet is closed, and a controlling valve located in the second named pipe.

975,315. MIXER AND CONVEYER. GEORGE E. BARNETTE, New Castle, Pa. Filed Jan. 12, 1910. Serial No. 537,761.



1. The combination, with a hopper having an inclined bottom and a discharge opening at the base of said incline, of a crusher arranged in said hopper, and means to reciprocate said crusher whereby the material is also fed by it through said discharge opening.

2. The combination, with a hopper having an inclined bottom and a discharge opening at the base of said incline, of a crusher arranged in said hopper and having its bottom end inclined to correspond with the bottom of the hopper, and means to reciprocate said crusher whereby the material is also fed by it through said discharge opening.

3. The combination, with an endless conveyer, of a shaft carrying one of the wheels over which the conveyer is passed, two hoppers arranged at opposite sides of said conveyer, a feed screw in one of said hoppers, a crusher in the other hopper, means for driving said feed screw and crusher from said shaft, and means for delivering material from said hoppers to the conveyer.

4. The combination, with an endless conveyer, of a shaft carrying one of the wheels over which the conveyer is passed, two hoppers arranged at opposite sides of said conveyer, a feed screw in one of said hoppers, a crusher in the other hopper, means for driving said feed screw and crusher from said shaft, clutches for separately disconnecting said driving means from the shaft, and means for delivering material from said hoppers to the conveyer.

975,316. GAME APPARATUS. HAROLD G. BARRETT, Wilmette, Ill. Filed Nov. 21, 1908, Serial No. 463,859. Renewed Aug. 30, 1910. Serial No. 579,749.

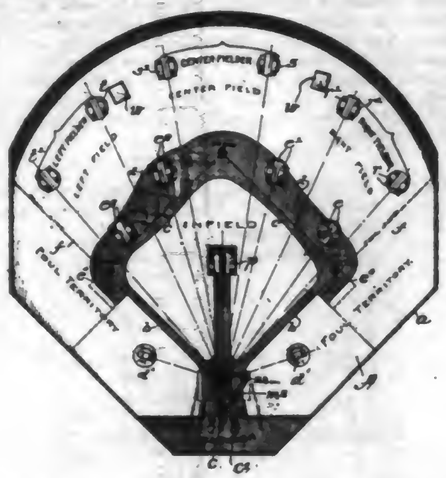
1. In game apparatus, the combination of a suitable board, and a ball-delivering device movable toward the surface of the board and adapted to strike the ball to one side; substantially as and for the purpose described.

2. In game apparatus, the combination of a suitable board, and a ball-delivering device tipped with friction material and movable toward the surface of the board and adapted to strike the ball to one side; substantially as and for the purpose described.

3. In game apparatus, the combination of a suitable board, and a ball-delivering device movable toward the surface of the board and adjustable to strike the ball at different points; substantially as and for the purpose described.

4. In game apparatus, the combination with a board having a grooved ball rest, of a ball-delivering device movable toward the surface of the latter and adapted

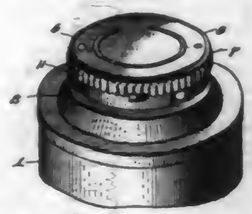
to strike the ball to one side; substantially as and for the purpose described.



5. In game apparatus, the combination of a suitable board having a grooved rest for a ball, and ball delivering means comprising an arm operating back of said rest movable toward the surface of the board and laterally adjustable to vary the point of impact against the ball; substantially as and for the purpose described.

[Claims 6 to 20 not printed in the Gazette.]

975,317. CAN-CLOSURE. OTTO BECHER, Copiague, N. Y., assignor to American Metal Cap Company, New York, N. Y., a Corporation of New York. Filed Jan. 11, 1910. Serial No. 537,569.



1. The combination with a receptacle having its neck portion provided with locking projections having inclined faces, of a cap having locking elements upon its flange to engage said faces, and provided with additional locking members for engagement with said projection to lock said cap against removal.

2. The combination with a receptacle having its neck portion provided with locking members formed with inclined faces, of a cap having its flange formed with locking projections to engage said inclined faces, said locking projections being separated at their upper edges from the flange and comprising substantially V-shaped instruck portions vertically disposed upon the flange with their upper edges horizontally arranged to engage the inclined faces.

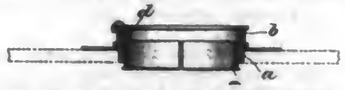
3. The combination with a receptacle having its neck portion provided with locking members formed with inclined faces, of a cap having its flange formed with locking projections to engage said inclined faces, each of said projections being separated at its upper edge from the body of the flange and comprising an inwardly offset V-shaped portion, the adjacent portion of the flange above said projection being bent inward to provide a bracing lip located between the side walls of said V-shaped portion.

4. The combination with a receptacle having its neck portion provided with locking members formed with inclined faces, of a bottle cap having its flange formed with an annular row of corrugations and provided below the same with locking projections to engage said inclined faces, said projections being separated from the adjacent corrugations or corrugation and bent inwardly substantially in V-form, the metal at the base of said adjacent corrugation or corrugations being bent inwardly to provide a bracing lip lying between the walls of the projections.

5. The combination with a receptacle having cam-shaped locking members thereon, of a cap provided with projections to engage said locking members and having tongues adapted to interlock with said locking members to prevent removal of the cap.

[Claims 6 to 9 not printed in the Gazette.]

975,318. DEVICE FOR SPINNING AND TWISTING YARN. VICTOR BÉLANGER, Sea View, Mass., assignor, by mesne assignments, to American Textile Company, a Corporation of Maine. Filed Oct. 8, 1906, Serial No. 337,869. Renewed Jan. 3, 1910. Serial No. 536,174.



1. A device of the class described embracing in combination a rotatable traveler ring, an underlying support provided with a flared aperture, and a rotatable retaining device arranged to engage said ring, the lower portion of said retaining device being expansible under the centrifugal action due to its rotation.

2. A device of the class described embracing in combination a support, a rotatable ring, an expansible and contractible hoop whose upper portion is confined against expansion by the traveler ring and whose lower portion is free to expand under the centrifugal force to increase its diameter at the bottom.

3. In a device for spinning and twisting yarn, the combination of a ring support, a rotatable traveler ring loosely resting on said support, a separate retaining device whose upper portion frictionally engages the interior of the traveler ring, said retaining device being expansible under the centrifugal action of its rotation to engage the ring support and retain the ring in proper operative position.

4. In a device of the class described the combination of a support for the traveler ring, a rotatable traveler ring loosely resting on said support, and a retaining device suspended from said ring and constructed to loosely engage the support in order to prevent displacement of the ring from operative position.

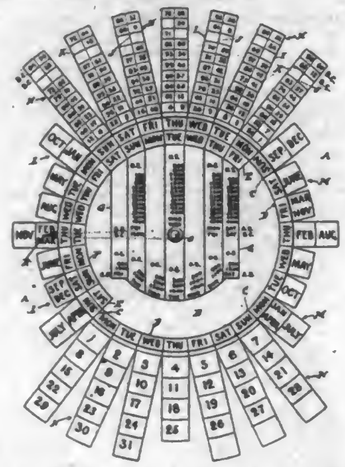
5. A device of the class described embracing in combination a support for the traveler ring, a rotatable traveler ring loosely resting thereon, a separate retaining device suspended from and frictionally engaging said ring and extending inside said support to form a retaining connection between the support and said ring.

[Claims 6 to 14 not printed in the Gazette.]

975,319. PERPETUAL CALENDAR. SILAS L. BERRY, Redlands, Cal. Filed June 28, 1909. Serial No. 504,721.

1. A perpetual calendar comprising a base on which is printed tabulated information arranged in columns, the bases of which columns form a circle, in combination with tabulated information arranged in radial columns around seven parallel columns and printed upon a revolving circular disk secured to the base, said circular disk being arranged within the circle of the base columns and said seven parallel columns being adapted to register with seven radial columns on the base.

2. A perpetual calendar comprising a base on which is printed in tabulated columns, at the top numerals representing the years from 1 to 99, common month columns at the left side and leap year month columns at the right side, and day columns at the bottom, said columns being so arranged that their bases form a circle, a revolving circular disk secured to said base within said columns, said disk having printed thereon at the circumference thereof week day designations arranged to read from right to left, and around half the circle and within the outer week day designations, other week day designations arranged to read from left to right, and also having seven century columns in the center thereof, said century columns registering with the right hand seven week day designations of the semi-circle.



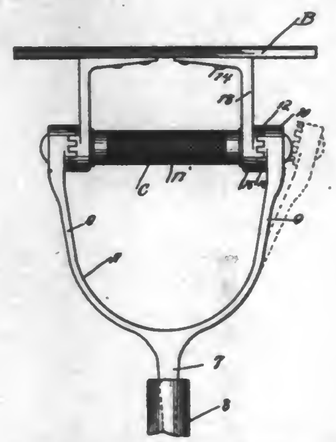
3. A perpetual calendar comprising a base on which is printed tabulated information arranged in columns the bases of which form a circle, said information comprising seven year columns at the top, seven ordinary month columns at the left, seven leap year month columns at the right, and seven day columns at the bottom, in combination with tabulated information printed upon a revolving circular disk secured to the base, within the columns of the base, said tabulated information comprising week day designations reading from right to left around the entire circumference of the disk, each week day registering with a column on the base, week day designations arranged around half the circumference of the disk and within the outer designations and reading from left to right, and seven century columns in the center of the disk, each column registering with one of the seven week day designations reading from left to right and being the seven on the right hand side of the semi-circle.

4. A perpetual calendar comprising a base on which is printed tabulated information arranged in columns, the bases of which form a circle, said tabulated information comprising seven year columns at the top, seven ordinary month columns at the left side, seven leap year columns at the right side, and seven day columns at the bottom thereof, in combination with a revolving circular disk secured to the base having week day designations printed thereon near the circumference thereof and a pointer revolubly mounted in the base and having the point thereof projecting beyond the disk.

975,320. HOE. JOHN C. BILSLAND, Azusa, Cal., assignor of one-fourth to John Mooney, Los Angeles, Cal. Filed Jan. 11, 1910. Serial No. 537,426.

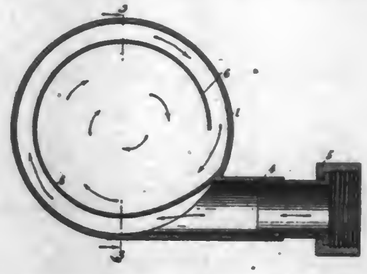
1. A hoe blade, having brackets provided with terminal eyes, the outer faces of which have radial serrations, a resilient yoke, the arms of which are provided with correspondingly serrated terminal eyes, and connecting means including right and left threaded bolts extending through the eyes, and a turn-buckle engaging the bolts.

2. In a hoe, a resilient yoke having its arms provided with terminal eyes radially serrated upon their inner faces, a blade having brackets provided with correspondingly serrated terminal eyes, right and left threaded bolts extending through the eyes, and a turn-buckle consisting of an externally milled tube having terminal threads engaging the bolts.



3. In a hoe, a resilient yoke having a prong and the arms of which are provided with terminal eyes having radially serrated faces, a blade having brackets provided with correspondingly serrated terminal eyes, right and left threaded bolts extending through the eyes, and a turn-buckle engaging the bolts to draw the serrated pairs of eyes into locking engagement.

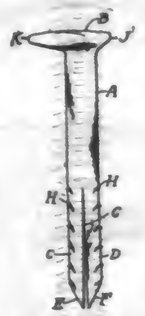
975,321. SPRINKLER. CHARLES A. BORGESON, San Francisco, Cal. Filed July 23, 1910. Serial No. 573,508.



1. A sprinkler, comprising a casing having a flat bottom with sides perpendicular thereto, a reëntrant nozzle connected to said casing, having an outlet located adjacent said flat bottom and having an upwardly and outwardly flaring outer surface, and means for admitting water adjacent the periphery of said casing, said nozzle forming with said bottom and said sides a chamber of right-angle triangular cross section, and a spiral projection dividing said chamber into inner and outer portions, whereby a circular motion is imparted to the water admitted thereto.

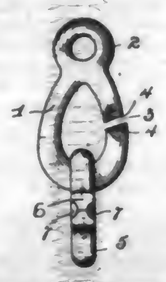
2. A sprinkler, comprising a cylindrical casing open at the top and having a flat bottom, a removable cover for said casing, having a screw-threaded connection therewith, said cover being in the form of an inverted conical horn having an outlet at the apex thereof, said apex being located adjacent said bottom, means for supplying water to said casing adjacent the periphery thereof, and a partition extending from said means in a circular manner within said casing, whereby a circular motion is imparted to the water admitted to said casing.

975,322. PRONGED SPIKE. WILFRED T. M. BRADY, Brooklyn, N. Y. Filed Oct. 16, 1909. Serial No. 523,076.



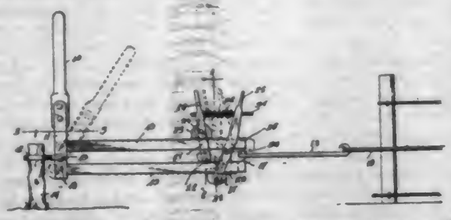
A spike consisting of a head and body and prongs extending from said body, said prongs being straight on their inner sides and being beveled on the outer sides of their ends to form points, the prongs being separated at no point of their length a distance greater than that between their lower ends, whereby the fibers between the prongs are compacted when the spike is driven into a tie.

975,323. CHAIN-COUPLING. JOHN M. BROWN, Jersey City Heights, N. J. Filed Nov. 6, 1909. Serial No. 526,644.



A coupling comprising a link member having an enlarged solid portion projecting from one side of the link and lying in the plane of the link body, said enlarged portion being provided with oppositely disposed grooves, the cross sectional area through the bottom of the grooves being equal to the cross sectional area through the non-enlarged body portion of the link, and a hook member having a transversely slotted side, the sides of the slot being tapered and adapted to pass through said grooves.

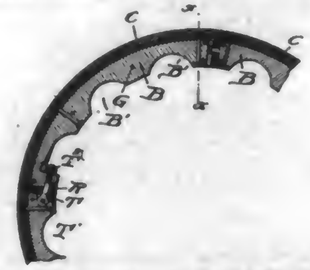
975,324. WIRE-STRETCHER. WILLIAM R. BUCHANAN, Shelbyville, Ill. Filed July 16, 1910. Serial No. 572,378.



1. A wire stretcher comprising a handle lever, a fulcrum adjacent one end of the lever, a pair of lateral arms pivotally connected to the lever on opposite sides of said fulcrum, a slide mounted between said arms, levers pivotally connected to said slide adjacent the opposed longitudinal edges thereof and extending transversely of said arms, pivoted dogs carried by said levers and bearing on the outer sides of said arms, and operating to alternately wedge said arms against said slide, and tension means operating to normally hold said jaws in operative position.

2. A wire stretcher comprising a handle lever, a fulcrum adjacent one end of the lever, a pair of lateral arms pivotally connected to the lever on opposite sides of said fulcrum, a slide mounted between said arms, levers arranged upon the same side of said arms and pivotally connected to said slide, one of said levers being terminally connected to said slide and the other of said levers being connected at its intermediate portion to said slide, dogs mounted on said levers and engaging the outer sides of said arms, said dogs being adapted to lock said arms alternately in contact with said slide whereby the slide is advanced in one direction between said arms during the movement of the handle lever in both directions, and a spring mounted between the free ends of said levers and operating to hold said jaws in operative position.

975,325. SECTIONAL EMERGENCY-TIRE. WILLIAM BUDESHEIM and JEFFERSON D. STINCHCOMB, Baltimore, Md. Filed Dec. 30, 1909. Serial No. 535,644.



1. A sectional emergency tire, comprising tire sections, tread surfaces, wires extending longitudinally through the latter, apertured plates at the ends of the tires in which the ends of said wires are fastened, the plates at corresponding ends of said sections being slotted, a headed lug upon the other end of each section adapted to engage said slot to hold the sections together, and means for drawing together the ends of the sections thus connected to hold the same against the circumference of the rim of a wheel.

2. A sectional emergency tire, comprising tire sections, tread surfaces, wires extending longitudinally through the latter, plates passing within said tread surface and provided with threaded apertures and bearing against the outer edges of said wires, bolts passing through apertures in the tire sections and having their threaded ends engage the holes in said plates, interlocking means for holding the sections together, and means for drawing the free ends of the sections thus connected against the rim of a wheel.

3. A sectional emergency tire, comprising tire sections, tread surfaces, wires extending longitudinally through the latter, plates passing within said tread surface and provided with threaded apertures and bearing against the outer edges of said wires, bolts passing through apertures in the tire sections and having their threaded ends engage the holes in said plates, interlocking means for holding the sections together, an eye bolt pivotally connected to one of said sections and passing through an aperture formed in the end of an adjacent section, and a nut mounted upon the threaded end of said eye bolt and adapted to bear against the shoulder of a recessed portion of the plate through which the threaded bolt passes, forming means for drawing the sections against the rim of a wheel.

4. A sectional emergency tire made up of sections, segment plates fastened to the opposite faces of the sections, a flanged plate fastened to the end of each section and slotted, the flanges of said plate being countersunken in the opposite faces of the tire sections and clamped by

said segment plates, bolts passing through registering apertures in the tire sections, segment and flanged plates, tread surfaces upon each section, wires passing through said tread surface and having their ends fastened in apertures in said flanged plates, a lug projecting from each end of the sections and adapted to engage slots formed in the plates and the ends of the adjacent section, an eye bolt seated in a recess in one end of one section, a bolt passing transversely through the tire section and engaging said eye, the end of the section adjacent to said eye bolt having an aperture therein for the reception of the shank portion of the eye bolt, and a nut mounted upon the threaded end of said eye bolt.

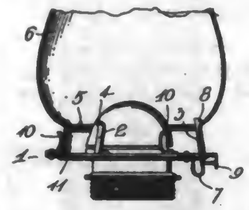
975,326. FENDER FOR CULTIVATORS. WALTER T. BYRD, Loganville, Ga. Filed July 22, 1910. Serial No. 573,276.



1. A fender including a frame comprising a front bar and side bars extending rearwardly therefrom and provided with apertures adjacent to their rear ends, a shaft supported for rotation in said apertures and having reduced terminally threaded portions extending beyond the side bars of the frame and forming spindles, fender disks secured upon the spindles, and a resilient draft bar connected with the front cross bar of the frame.

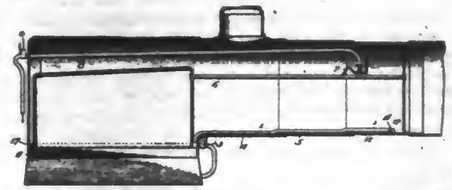
2. A fender including a frame comprising a front cross bar and rearwardly extending arms, a shaft supported for rotation by said arms and having reduced terminally threaded spindles, and fender disks having apertures and hubs each comprising two members, one of which is provided with projections and the other with recesses engaged by said projections through the apertures in the boxes, and nuts whereby the hubs are forced into engagement with the shoulders adjacent to the reduced spindles of the shaft.

975,327. GLOBE OR CHIMNEY HOLDER FOR LAMP-BURNERS. CHARLES W. CALDWELL, Roanoke, Va. Filed Feb. 7, 1910. Serial No. 542,468.



In a lamp burner, a chimney having a flared lower end and an inner annular shoulder, an inner series of spring catches secured to the burner and adapted to engage the inner side of said flaring end of the chimney, shoulder engaging lugs formed on the upper ends of said catches to engage the shoulder of the chimney, a spring formed in one of said catches, a knob arranged on said catch whereby the same is forced back against the pressure of said spring to disengage the lug thereon from the shoulder of the chimney, and an outer series of spring catches adapted to engage the outer side of the flaring end of the chimney, said catches having outwardly bent upper ends.

975,328. MECHANICAL BOILER-CLEANER. ALBERT C. CLARK, Chicago, Ill. Filed Mar. 10, 1909. Serial No. 482,552.



1. A mechanical boiler-cleaner comprising a draw-off head having a longitudinal passage and a series of openings communicating therewith, said openings being of substantially the same size and being spaced varying distances apart decreasing as the distance from one end increases.

2. A mechanical boiler-cleaner comprising a draw-off head having a longitudinal passage and a series of openings communicating therewith, said openings being elliptical in shape with the major axis running longitudinal of the head.

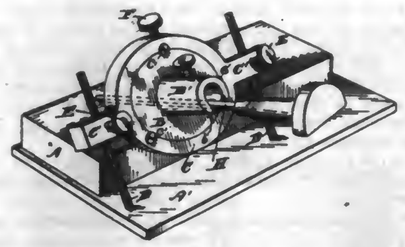
3. A mechanical boiler-cleaner comprising a draw-off head having a longitudinal passage and a series of openings communicating therewith, said head having depending portions located adjacent said openings and having spaces or cavities whose walls converge toward such openings.

4. A mechanical boiler-cleaner comprising a draw-off head having a longitudinal passage and a series of openings communicating therewith, said head having depending portions located adjacent said openings and having spaces or cavities whose walls converge toward such openings, certain of said depending portions having flanges forming means for attachment.

5. A mechanical boiler-cleaner comprising a draw-off head in the form of a pipe having a series of openings communicating with the interior of the pipe, said head having depending portions located adjacent said openings and having spaces whose walls converge toward such openings, said openings and depending portions being spaced apart varying distances decreasing as the distance from one end increases.

[Claims 6 and 7 not printed in the Gazette.]

975,329. HOLDER FOR SHARPENING GRAVERS OR OTHER TOOLS. MICHAEL J. COLLINS, Detroit, Mich. Filed Nov. 1, 1909. Serial No. 525,620.

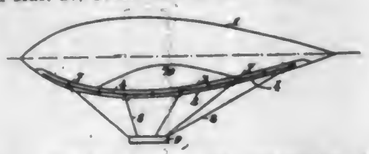


1. In a device for supporting and holding gravers while being ground, an annular supporting frame provided with projecting arms having perforations, legs passed through the perforations of the arms and having rounded lower ends, means whereby the legs may be adjustably held in the perforations of said arms, the annular frame being provided with a series of graduations and at one edge having an inwardly projecting flange, an annular disk adapted to be set in said frame and having one edge shouldered to provide a recess for the reception of said inwardly projecting flange to prevent lateral displacement of the disk in one direction with relation to the annular frame, means secured to the annular frame and

having portions adapted to engage the wall of the disk to secure it against lateral displacement in the opposite direction with relation to the frame, said disk having a projecting hollow hub provided with an internal angular depression in its inner annular wall extending throughout the length of the hub and the width of the disk, said angular depression being adapted to receive the shank of a projecting tool adapted to be set therein, an adjustable thumb screw passed through the wall of said hub and adapted to bear upon said tool to secure the latter against displacement, and means secured to the annular frame and adapted to bear against said disk intermediate the edges of the latter to secure the disk against rotation.

2. In a device for supporting and holding gravers while being ground, a supporting frame, legs mounted in the frame, means for adjusting the altitude of the frame with respect to said legs, a disk supported in said annular frame and free to rotate therein, the disk having a recess and the frame being provided with a tongue fitting the recess to prevent lateral displacement of the disk in one direction, said frame having sockets adjacent the periphery of the disk, and means operable in said sockets and having portions overlapping the disk at its periphery to prevent lateral displacement of the disk in the opposite direction with relation to the frame, said disk having a hub adapted to receive and support a projecting tool, means for securing the tool in said hub, and means whereby the disk may be secured against rotation in the frame.

975,330. CAR SUSPENSION FOR AIRSHIPS. GAETANO ARTURO CROCCO and OTTAVIO RICALDONI, Rome, Italy. Filed Mar. 27, 1909. Serial No. 486,124.



1. In a dirigible airship, the combination with the envelop, of a lattice work beam lying along the bottom of the envelop, said beam comprising a plurality of independent sections hinged together, the sections being substantially rectangular in form.

2. In a dirigible airship, the combination with the envelop, of a lattice work beam lying along the bottom of said envelop, said beam comprising a plurality of independent sections hinged together, the sections being substantially rectangular in form, and each being provided with diagonal braces.

3. In a dirigible airship, the combination with the envelop of the gas bag composed at the bottom of inner and outer layers, of a lattice work beam between the layers, and composed of a plurality of independent sections placed in longitudinal alinement, said sections being hinged to each other at their ends, a car below the envelop, and flexible supports extending from each end of the alternate hinge connections to the car.

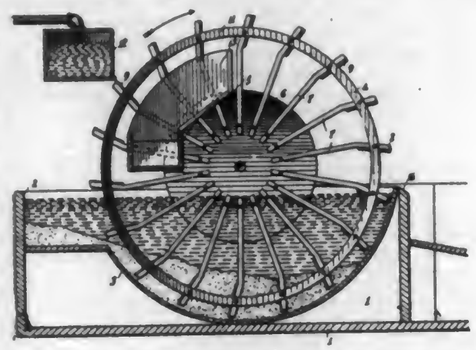
4. In a dirigible airship, the combination with the envelop of the gas bag composed at the bottom of inner and outer layers, of a lattice work beam between the layers, and composed of a plurality of independent sections placed in longitudinal alinement, said sections being hinged to each other at their ends.

5. The combination with the envelop of a dirigible airship, of a lattice work beam in the lower side of the envelop, said beam being divided transversely at regular intervals, into a plurality of sections, said sections being hinged at their abutting ends.

[Claim 6 not printed in the Gazette.]

975,331. SAND-WHEEL. GILBERT HENRY DAVIDSON, Morenci, Ariz. Filed Feb. 9, 1910. Serial No. 542,858.

1. A wheel adapted to scoop material from a receptacle containing a liquid, said wheel comprising a plurality of radially-extending arms and flat blades unobstructed on all sides secured to said arms, said arms having a bend therein intermediate their ends, whereby said blades are adapted to leave said liquid in a substantially horizontal position.



2. In a device of the class described, the combination with a wheel having a plurality of flat blades unobstructed on all sides, adapted to scoop material from a receptacle containing a liquid, said blades being adapted to extend at an even horizontal level when leaving the surface of said liquid, said wheel being open at one side, of a conveyer adapted to extend through said open side into the interior of said wheel and also adapted to receive the material scooped up by said blades, and a sprayer for flushing the material from said blades onto said conveyer, said blades being adapted to successively form inclined chutes between said sprayer and said conveyer.

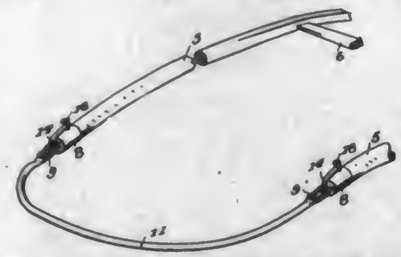
3. In a device of the class described, the combination with a wheel adapted to scoop material from a receptacle containing a liquid, said wheel having flat blades unobstructed on all sides, adapted to perform the scooping operation, said blades being adapted to extend substantially horizontal in leaving said liquid, of means for receiving the material scooped up by said blades.

4. A sand wheel for scooping up material, comprising a supporting member, a plurality of arms extending from said supporting member, said arms being bent to form supporting means for scooping blades, said arms further having flanges formed thereon, and a ring secured to said flanges for uniting said arms together.

5. The combination with a sand wheel adapted to scoop up material, comprising a plate, a plurality of arms extending radially from said plate, said arms being bent to form extensions and flanges, blades secured to said extensions, and a ring secured to said flanges and adapted to join said arms together, of a chute adapted to extend interiorly of said wheel and receive the material scooped up by said wheel.

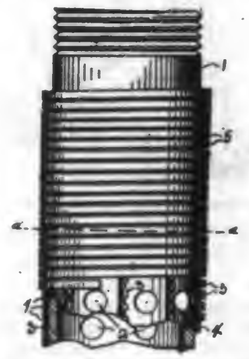
[Claim 6 not printed in the Gazette.]

975,332. SHAFT ATTACHMENT. JAMES F. DAVIS, Coalmont, Ind. Filed Nov. 30, 1909. Serial No. 530,609.



The combination with a pair of shafts, of caps fitting over the free ends of the shafts, and each provided with a reduced shank, a yoke connecting the caps, and having its opposite ends provided with flattened portions bearing against the lower faces of said shanks, spring locking members having their outer ends rigidly secured to the upper faces of the shanks and provided with locking lugs adapted to pass through the caps and engage the shafts, and fastening devices passing through the shanks, fixed ends of the spring locking members, and flattened portions of the yoke.

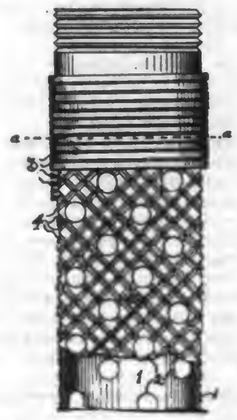
975,333. WELL-SCREEN. HARRY R. DECKER, Houston, Tex. Filed June 7, 1909. Serial No. 500,481.



1. A well screen comprising a perforated body, a plurality of ribs or spacers raised therefrom and integral therewith, said body being provided with longitudinal under-cut grooves adjacent to said ribs, and a strainer held in place by said ribs.

2. A well screen comprising a perforated pipe body, a plurality of edged ribs disposed exteriorly thereof, and integral therewith, and having their outer edges notched a strainer held in place by the said notches, said ribs being so raised from said pipe body by displacement as to provide longitudinal grooves along said body by the side of said ribs.

975,334. WELL-SCREEN. HARRY R. DECKER, Houston, Tex., and RUSSELL W. HOUK, Vinita, Okla. Filed June 7, 1909. Serial No. 500,511.

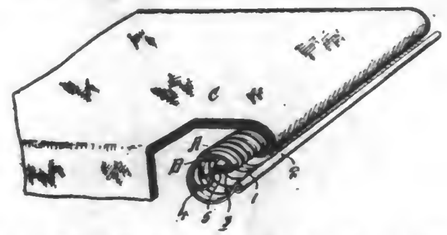


1. A well screen comprising a body with perforations spirally alined with each other around said body, a series of spiraled peripheral grooves connecting said perforations, a second series of grooves spiraled oppositely to the first series, and also connecting said perforations, and a strainer wire wound spirally around said body.

2. A well screen comprising a body with perforations therein, and having peripheral grooves connecting the perforations thereof, and also having intermediate grooves around said body not connecting the perforations thereof, and a strainer wound around said body.

3. A well screen comprising a body with perforations therein, spirally alined with each other around said body, said perforations being connected by peripheral grooves, said body also being provided with spiral grooves intermediate said first mentioned grooves, and a strainer wire wound around said body.

975,335. BED-COVER HOLDER. HOMER K. DIAL, Tifton, Ga. Filed Mar. 15, 1910. Serial No. 549,413.



1. A device of the class described comprising a holder made of a sheet rolled into tubular form with its opposite edges spaced apart to provide a mouth extending from one end to the other for receiving the marginal portion of bed covering and open at its ends, and a device mounted in the holder and manipulated through the open ends thereof for engaging the bed covering.

2. A device of the class described comprising a tubular holder having a longitudinal mouth, an internal bead formed in the mouth, and a removable jaw coöperating with the bead for gripping a bed covering.

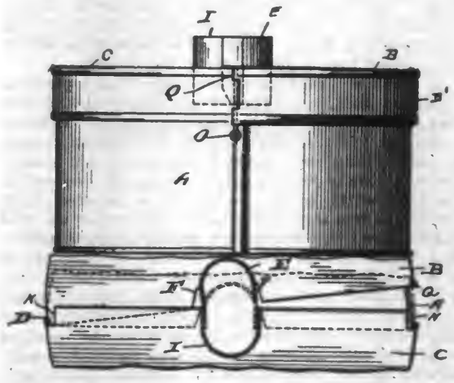
3. A device of the class described comprising a tubular holder having a longitudinal mouth, and a spring clamping jaw mounted in the holder and including a plurality of springs supporting and connected together by a bar arranged to grip a bed covering against the interior of the holder.

4. A device of the class described comprising a tubular holder having a longitudinal mouth, a spring clamping jaw mounted in the holder and including a plurality of springs supporting and connected together by a bar arranged to grip a bed covering against the holder, and handles at the ends of the jaw.

5. A device of the class described comprising a corrugated sheet metal tubular structure having open ends and a mouth extending from one open end to the other for receiving the end of a bed covering, and means mounted within the structure to grip the bed covering.

[Claims 6 and 7 not printed in the Gazette.]

975,336. GUARD FOR RECEPTACLES FOR WHIPPING CREAM. NORAH M. DOHERTY, Vernon Center, Conn. Filed Aug. 17, 1910. Serial No. 577,621.



A device for preventing whipped cream from sputtering comprising a cover adapted to fit over a receptacle, a top,

a portion of which is fixed and the other hinged, the meeting edges of the two sections adapted to overlap when in closed relation, each section having a concaved recess, a flange in each recess, the ends of which are adapted to overlap, the top adjacent to the end of the flange in the hinged section being recessed away and adapted to receive the flange upon the fixed part of the top.

975,337. WEATHER-STRIP. JOSEPH DUMONT, Gardner, Mass., assignor to Oliver Christian, Gardner, Mass. Filed Dec. 11, 1909. Serial No. 532,570.



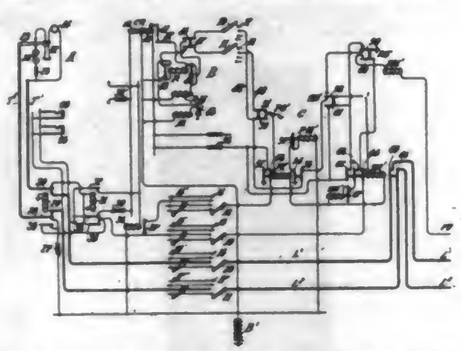
1. The combination with a door and casing, of a strip on the door having a tongue projecting at right angles thereto and provided with an inclined surface on the weather side free from reëntrant grooves, and a strip on the casing having a groove therein on the side toward the door for receiving said tongue, and a projection on the weather side of said groove for protecting the groove from the lodgment of snow and water when the door is open and for covering and protecting part of the weather side of the first named strip.

2. The combination with a door and casing, of a strip located on the door and spaced from the casing, provided with a projecting tongue and having a surface extending from the tongue on the side toward the casing in a direction substantially perpendicular to the door, and a weather surface on the other side free from grooves and indentations and located at an angle to the first named surface and to the door, and a strip fixed to the casing and provided with a projection engaging the first named surface of the strip of the door and filling one side of the space between said strip and casing, having a groove on the side opposite the weather side for receiving the tongue located adjacent to said projection, and having on the weather side of said groove, a projection fitting the inclined surface of the first named strip and protecting the same from the lodgment of snow and water while the door is closed and protecting the groove from snow and water when the door is open.

975,338. TELEPHONE SYSTEM. ALFRED H. DYSON, Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company, a Corporation of Illinois. Filed Dec. 4, 1906. Serial No. 346,265.

1. A telephone exchange system comprising a plurality of telephone lines, a plurality of selecting switches, each having access to said lines, a master-switch for selecting and starting idle selecting switches to establish connections with calling lines, means for restoring said master-switch to a definite position after each selecting operation, means actuated during the operation of an actuated selecting switch to free said master-switch for further use, and means for permitting the further operation of said master-switch during the use of said actuated selecting switch only in response to an additional call.

2. A telephone exchange system comprising a plurality of telephone lines, a plurality of selecting switches each having access to said lines, a master-switch for selecting and starting idle selecting switches to establish connections with calling lines, means for restoring said master-switch to a definite position after each selecting operation, a control switch associated with each of said lines for causing the operation of said master-switch, means actuated during the operation of any one selecting switch to free said master-switch for further use in selecting and starting a second selecting switch, and means for permitting such further operation of said master-switch during the use of said actuated selecting switch only in response to the manipulation of a second control switch.



3. A telephone exchange system comprising a plurality of telephone lines, a plurality of selecting switches, each having access to said lines, a master-switch for selecting and starting idle selecting switches to establish connections with said lines, means for restoring said master-switch to a definite position after each selecting operation, a plurality of control devices for individually causing the operation of said master-switch, means actuated during the operation of an actuated selecting switch to free said master switch for further use in selecting and starting another selecting switch, and means for permitting such further operation of said master-switch during the use of said actuated selecting switch only in response to the manipulation of a second control device.

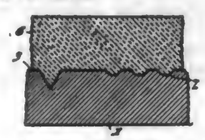
4. A telephone exchange system comprising a plurality of telephone lines, a plurality of associated interconnecting switches, a master-switch for selecting and starting idle ones of said switches, means for restoring said master-switch to a definite position after each selecting operation, a plurality of control devices for individually causing the operation of said master switch, means actuated during the operation of an actuated switch to free said master-switch for further operation in selecting and starting another idle interconnecting switch, and means for permitting such further operation during the use of said actuated selecting switch only in response to the manipulation of a second control device.

5. A telephone exchange system comprising a plurality of electrically controlled operating devices, a master-switch for selecting and starting idle ones of said devices, means for restoring said master-switch to a definite position after each selecting operation, a plurality of control devices for individually causing the operation of said master-switch, means actuated during the operation of an actuated operating device to free said master-switch for further operation in selecting and starting another idle operating device, and means for permitting such further operation during the use of said actuated operating device only in response to the manipulation of a second control device.

[Claims 6 to 18 not printed in the Gazette.]

975,339. PROCESS OF DUPLICATING TALKING-MACHINE RECORDS. THOMAS A. EDISON, Llewellyn Park, Orange, N. J. Filed Mar. 4, 1907. Serial No. 360,313.

1. The process of making a matrix from a disk-master formed in a wax-like material, which consists in coating the record surface with an excessively thin layer of a material not greatly water-repellent, in flowing thereover an emulsion of an excessively finely divided cement, in allowing the cement to set and harden, and in separating the resulting matrix from the master, substantially as and for the purposes set forth.

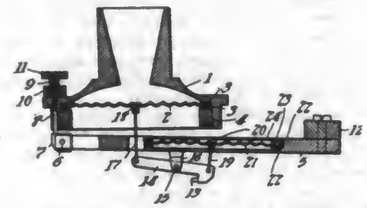


2. The process of making a matrix from a disk-master formed in a wax-like material, which consists in coating the record surface with an excessively thin layer of a material not greatly water-repellent, in flowing thereover a water emulsion of an excessively finely divided cement, in allowing the cement to set and harden, and in separating the resulting matrix from the master, substantially as and for the purposes set forth.

3. The process of making a matrix from a disk-master formed in a wax-like material, which consists in coating the record surface with an excessively thin layer of a material not greatly water-repellent, in flowing thereover a water emulsion of excessively finely divided Portland cement, in allowing the cement to set and harden, and in separating the resulting matrix from the master, substantially as set forth.

4. The process of duplicating talking machine records, which consists in forming a record groove in a wax-like material, then in coating the record surface with an excessively thin layer of a material not greatly water-repellent, then in flowing thereover an emulsion of an excessively finely divided cement, then in allowing the cement to set and harden, then in separating the resulting matrix from the master, and in finally forcibly impressing the matrix upon a mass of hot plastic material, substantially as set forth.

975,340. PHONOGRAPH-REPRODUCER. THOMAS A. EDISON, Llewellyn Park, Orange, N. J. Filed Mar. 23, 1908. Serial No. 422,651.



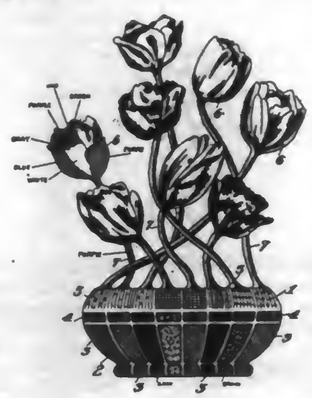
1. In a phonograph reproducer, the combination with the sound box, diaphragm, floating weight, stylus lever pivoted thereto, and stylus, of a diaphragm carried by said floating weight and connected to said stylus lever, substantially as set forth.

2. In a phonograph reproducer, the combination with the sound box, diaphragm, floating weight, stylus lever pivoted thereto and stylus, of a diaphragm carried by said floating weight and connected to said stylus lever on the opposite side of its fulcrum from the point at which the first diaphragm is connected, substantially as set forth.

3. In a phonograph reproducer, the combination with the sound box and diaphragm, of a floating weight provided with a recess, a diaphragm within said recess, a stylus lever pivotally secured to said weight, a stylus carried thereby, and connections from one end of the said lever to one diaphragm, and from the other end of the lever to the other diaphragm, substantially as set forth.

4. In a phonograph reproducer, the combination with the sound box and diaphragm, of a floating weight, a block to which said weight is pivoted, and means for adjusting the vertical position of said block comprising a threaded pin secured to said block and engaging within a recess in the sound box body, a nut mounted on said sound box and engaging said threaded pin, and means for preventing axial movement of said nut, substantially as set forth.

975,341. COLOR CHART OR GUIDE. EDMUND W. FAIRCHILD, Glen Ridge, N. J. Filed July 31, 1909. Serial No. 510,687.



1. A chart having thereon a predetermined primary color connected, by a line of corresponding color, with an object containing or displaying various shades of colors which harmonize with the primary color.

2. A color chart having thereon a plurality of primary colors, each primary color being connected, by a line of corresponding color, with an object containing or displaying various shades of colors which harmonize with the primary color with which it is connected.

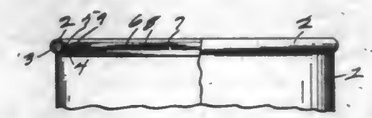
3. A chart having a plurality of primary color-spaces, comprising a suitable figure or object, each color-space being connected, by a line of corresponding color, with a flower containing or displaying various shades of colors which harmonize with the primary color with which it is connected.

4. A color chart having in representation a pot of flowers, the pot being divided into a number of primary color-spaces, each of said spaces being connected with a flower containing or displaying various shades of colors which harmonize with the particular primary color with which it is connected.

5. A color chart having in representation a pot of flowers, the pot being divided into a number of primary color-spaces, each of which is connected with a flower by a line of color corresponding with such space, each flower containing or displaying various shades of colors which harmonize with the particular color with which it is connected.

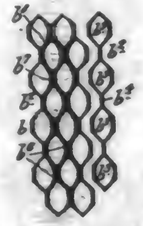
[Claim 6 not printed in the Gazette.]

975,342. METAL BARREL. FRANKLIN E. FIATH, Toledo, Ohio, assignor of one-third to Henry C. Roemer and one-third to Augustus Rasor, Toledo, Ohio. Filed Mar. 2, 1908. Serial No. 418,780.



The combination with a sheet metal body having a tubular margin, the free edge thereof extending from a point under the tubular margin inwardly and upwardly forming an inclined annular shoulder, and an annular channel under the tubular margin at the junction of said tubular and inclined portion, of a sheet metal head having its edge extending downwardly to enter the channel under the tubular margin, the said head having a corrugation concentric to the tubular margin and adjacent thereto.

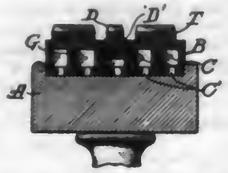
975,343. AUTOMOBILE-RADIATOR. JACOB FLEISCHMAN, Jersey City, N. J., assignor of one-half to Isdore Fleischman, Jersey City, N. J. Filed Dec. 17, 1909. Serial No. 533,549.



1. A radiator of the class described, composed of a plurality of sheet metal tubular units each having expanded hexagonal ends with an intervening portion of elliptical form, said central portions being separated by a web portion of two thicknesses of the metal, the said ends of the units being nested together and securely united, the said central portions of said members forming undulating or tortuous curved passages from top to bottom, such passages being closed at each side by the united expanded portions of said units, the union at the points at which the web portions are united with adjacent parts consisting of four thicknesses of metal.

2. A radiator of the class described, composed of a plurality of sections of sheet metal tubular units each having expanded hexagonal ends with an intervening or central portion of elliptical form, said central portions of the tubes being separated by a web of two thicknesses of metal, the said ends of the units being nested together and securely united, leaving passages between the central portions, the union at the points at which the web portions are secured to adjacent portions consisting of four thicknesses of metal, the said radiator having one or more sections in vertical alinement, the said passages being merged or connected by a space intervening between the alined sections, the united enlarged hexagonal portions forming the closing of said passages at the sides.

975,344. RUBBER TYPE-BASE. HARRY S. FOLGER, Chicago, Ill. Filed May 13, 1909. Serial No. 495,648.



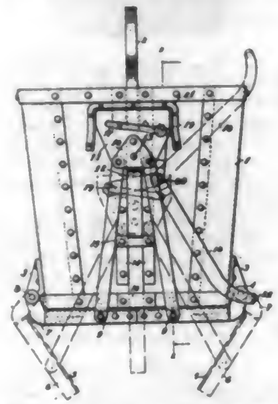
1. A cushion for a type base consisting of a sheet having a series of small openings in one side, which openings are expanded into enlarged chambers within the sheet, and said sheet having a dove-tailed recess molded in the side opposite said small openings.

2. A cushion for a type base consisting of an integral sheet of rubber having small openings in one face, which openings communicate with enlarged inner chambers, and having a type holding recess in the other face.

975,345. DUMPING-BUCKET. ALFRED WM. FRENCH, Buffalo, N. Y. Filed July 15, 1908. Serial No. 443,616.

1. In a dumping bucket, a door pivoted thereon to close the bottom of the bucket, a member adapted to move vertically along the side of the bucket, connections between the said member and the door, an operating lever pivoted upon the bucket and a link connection between the member and lever, said connection causing the doors to be locked when in closed position.

2. In a dumping bucket, a door for closing the bottom of the bucket, said door being pivoted upon the bucket, an operating member mounted on the bucket, a movable member to which the doors are connected, and a pin and slot connection between the operating member and the movable member, the pin occupying a position in the slot beyond the medium line of the movable member when the doors are closed, whereby the doors are locked.



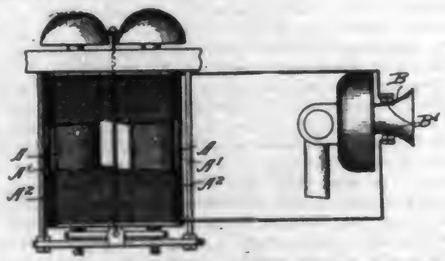
3. In a dumping bucket, a door for closing the bottom of the bucket and pivoted upon the bucket, an operating mechanism mounted on the bucket, a movable member to which the doors are connected, said movable member also having a cam slot, a pin engaging said slot, which pin was carried by the operating mechanism, the relation being such that the doors are locked when they are in closed position.

4. In a dumping bucket, a plurality of doors, pivoted thereon, operating levers pivoted upon opposite sides of said bucket, members upon opposite sides of the bucket adapted to slide vertically along the sides thereof, operative connections between the said levers and the said members, link connections between said doors and the said members, and a member connecting the outer free ends of said levers forming an operating handle, said lever connection to the sliding member causing the doors to be locked when in closed position.

5. In a dumping bucket, a door pivoted thereon, an operating lever pivoted upon said bucket for operating the door, a member adapted to slide vertically along the side of said bucket, a link connecting the door with the vertical sliding member, and a sliding connection between the operating lever and the vertically sliding member.

[Claims 6 to 15 not printed in the Gazette.]

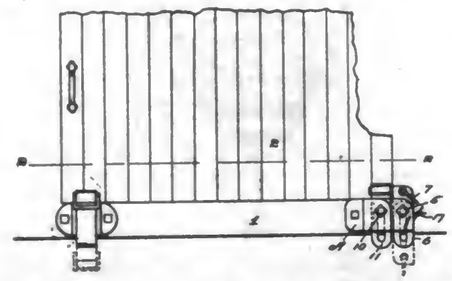
975,346. TELEPHONE-DISINFECTOR. BENJAMIN FULTON GARDNER, Chicago, Ill., assignor of one-half to S. R. Salinger, Chicago, Ill. Filed Aug. 29, 1910. Serial No. 579,616.



1. A telephone disinfector, comprising electrodes fixed in and insulated by the dielectric material of a mouthpiece and suitable means in the signal circuit of a telephone to cause sparks to pass in the gap between the electrodes when the signal is operated.

2. In a telephone disinfector a mouthpiece of dielectric material, electrodes arranged within the mouthpiece, terminal wires of a secondary coil in direct contact with said electrodes, said secondary coil mounted upon and around the ringer magnets whereby an induced current is established in the secondary coil when the ringer is operated causing sparks within the mouthpiece to sterilize the same.

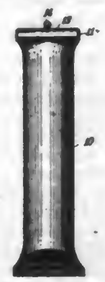
975,347. CAR-DOOR FASTENER. JOSEPH GAUTHIER, Gorham, N. H. Filed Jan. 22, 1910. Serial No. 539,563.



1. In a car door fastener, a block having a slot in one end thereof, a link having a longitudinal slot therein, the link being mounted in the slot of said block and adapted to lock the door in closed position, a pin passing through the block and the slot in said link, and operative means for preventing the outward displacement of the door.

2. In a car door fastener, a block having a slot in one end thereof, a slotted link mounted in the slot of the block, a pin passing through the block and through the slot in said link, a bracket on the block, the bracket having an arm extending parallel to the slot in the block, a second slotted link mounted in the bracket and adapted to prevent the outward displacement of the door, and a pin passing through the bracket and said second link.

975,348. DISCHARGE-HEAD FOR COLLAPSIBLE TUBES. OSCAR GERDTZEN, Valparaiso, Chile. Filed Apr. 15, 1910. Serial No. 555,708.

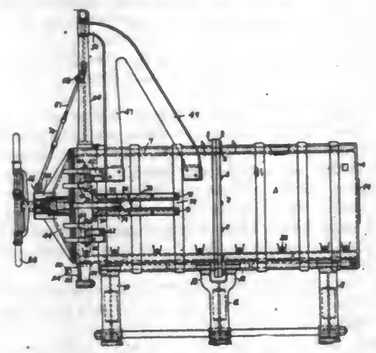


In combination with a collapsible tube for paste, a relatively long and narrow discharge head undercut at opposite sides, and a spring clip cover removably seating on the head over the discharge and engaging at the opposite sides of the head below the maximum width of the upper portion.

975,349. CLOTH-TREATING APPARATUS. DAVID GESSNER, Worcester, Mass. Filed Dec. 18, 1909. Serial No. 533,941.

1. In an apparatus for the treatment of cloth, a horizontally disposed steam jacketed chamber, comprising sections arranged end to end, said sections being substantially horse-shoe shaped in cross section, means for securing the sections together, and a standard for supporting the chamber having arms upon which the sections rest.

2. In an apparatus for the treatment of cloth, a horizontally disposed steam jacketed chamber comprising flanged sections arranged end to end with the respective flanges engaging each other, said sections being substantially horse-shoe shaped in cross section, means for securing the flanges together, supports for the ends of the sections, and an intermediate support having a yoke which bridges the connection between the sections and engages the latter on opposite sides of the flanges.



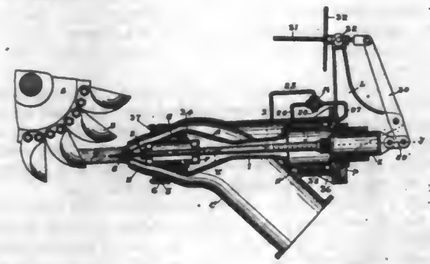
3. In an apparatus of the character described, a chamber, a door hinged to the chamber, means for preventing sagging of the door on its hinges comprising an elevated support, a bar connecting the door and support, said bar being rotatably mounted on the support, and means connecting the bar and the door at a point away from the connection between the bar and said door for maintaining the door in a vertical plane.

4. In an apparatus of the character described, a chamber, a door hinged to the chamber, an elevated support, a bar rotatably connected at one end to the support and at the other end to the door, and a bar connecting said first-named bar and the door, the point of connection of the second bar with the door being outside the vertical plane occupied by said first-named bar.

5. In an apparatus of the character described, a chamber, a door hinged to the chamber, an elevated support comprising a tripod frame mounted on the chamber, and a member connecting the tripod frame with the door whereby the latter is supported independently of its hinge connection, the connection between the frame and member being in line with the door hinge.

[Claims 6 to 51 not printed in the Gazette.]

975,350. VALVE FOR WATER-NOZZLES. FREDERICK GFELLER, Oakland, Cal. Filed Oct. 12, 1909. Serial No. 522,217.



1. The combination in a pressure discharge nozzle, of a convergent exterior shell and tip, an interior shell having its outer portion concentric with and approximating the shape of the outer end of the exterior shell, and having a cylindrical central opening, a pair of connected plungers fitting and reciprocal in the interior shell, and a convergent needle carried by the plunger and extending into the nozzle tip.

2. The combination in a pressure discharge nozzle, of a convergent exterior shell and tip, an interior shell having an outer portion concentric with the discharge of the exterior shell, a pair of connected alined plungers fitting the inner shell, a removable tapering needle carried with the plungers, and forming a substantial continuation of the interior shell, and means by which the plungers and needle may be advanced or retracted.

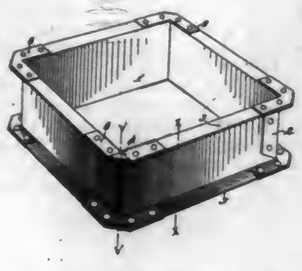
3. The combination in a pressure discharge nozzle, of exterior and interior shells, cylinders at the front and rear of the inner shell, axially alined plungers fitting said shells and having a connecting stem, a convergent needle carried by the forward plunger, and capable of varying the nozzle opening, a valve carried by the rear plunger, and a seat against which the valve closes.

4. The combination in a pressure discharge nozzle, of exterior and interior shells between which water is admitted, cylinders at the front and rear of the inner shell, plungers fitting said shells and having a connecting stem, a convergent needle carried by the forward plunger and movable therewith to vary the nozzle opening, mechanism by which said parts may be advanced or retracted, and means to admit water under its normal pressure to the inner shell to balance the plungers.

5. The combination in a pressure discharge nozzle, of an outer pipe and tip, an interior shell, said pipe and shell having concentric outer ends, a controlling valve having a convergent end, a cylinder, a plunger movable therein with which the shell is connected, a second plunger, connected to said valve, and means to admit fluid under pressure to reciprocate the first named plunger.

[Claims 6 to 8 not printed in the Gazette.]

975,351. SNAP-BAND FOR MOLDS. CHARLES H. GREEN, Chicago, Ill., assignor to The S. Obermayer Company, Cincinnati, Ohio, a Corporation of Ohio. Filed July 7, 1910. Serial No. 570,855.



1. A snap-band for molds comprising a frame, composed of walls formed of a single strip of sheet material, the edges being bent outwardly forming flanges separated at the corners, in combination with a flange brace for said corner flanges, comprising a cross bent upon itself to form a rectangular member secured to said flanges, one at each corner.

2. A snap-band for molds comprising a frame composed of side walls, with the edges thereof bent at right angles forming flanges in combination with a flange corner-brace comprising a U-shaped brace-plate with its limbs corresponding in outline with that of the flanges and overlapping and secured upon both sides thereof.

3. In a snap-band for molds, comprising side walls and edge flange extensions, a reinforcing brace for said flanges at their opposing ends formed of a cross of flexible material bent upon itself at the diagonal line into a rectangular structure, adapted to overlap and be secured to the flanges upon each side thereof.

4. In a snap-band for molds, of side walls and edge flange extensions thereof, a flange reinforcement at the intersection of the walls, comprising a U-shaped plate with its limbs extended to overlap and secured upon the surfaces of two wall flanges.

5. In a snap-band for molds, of side walls and edge flange extensions thereof, a flange reinforcement at the intersection of the walls, comprising a bent piece of material overlapped and secured to the flanges at a wall intersection, and of flange outline.

975,352. LAMP-EXTINGUISHER. ISIDOR GREENWALD and JOSEPH BLAUSTEIN, Pittsburg, and MORRIS Z. WEISS and MAX SELKOVITS, McKeesport, Pa. Filed May 14, 1910. Serial No. 561,340.



1. In a lamp extinguisher, the combination with a burner body, and a wick guide carried thereby, said guide provided with a rib, of coöperating shutters pivotally-mounted adjacent to said guide and adapted to inclose the upper end thereof, one of said shutters having a slotted extension, a pin carried by the other of said shutters and projecting in said slotted extension whereby said shutters are caused to close simultaneously when one is actuated, a lever carried by one of said shutters, an actuating member movably mounted upon said rib and adapted to move the lever when said member is shifted, and a weighted rod suspended from said burner body and adapted to elevate the actuating member.

2. In a lamp extinguisher, the combination with a burner body and a wick guide carried thereby, of coöperating shutters pivotally mounted adjacent to said guide and adapted to close the upper end thereof, each of said shutters provided with an extension, one of said extensions being slotted and the other provided with a pin, said pin projecting in the slot whereby the shutters are caused to close simultaneously when one of the shutters is actuated, a curved lever projecting from one of said extensions, and an actuating member movably mounted upon said wick guide for actuating the lever when said member is shifted, and a weighted rod suspended from said burner body and adapted when shifted to move said member.

3. In a lamp extinguisher, the combination with a burner body and a wick guide carried thereby, said guide provided with a rib, of coöperating shutters pivotally-mounted adjacent to said guide and adapted to inclose the upper end thereof, one of said shutters having a slotted extension, a pin carried by the other of said shutters and projecting in said slotted extension whereby said shutters are caused to close simultaneously when one is actuated, a lever carried by one of said shutters, an actuating member movably mounted upon said rib and adapted to move the lever when said member is shifted, said actuating member having its lower end provided with a right-angularly disposed portion, a weighted rod extending through said right-angularly disposed portion and provided with a head engaging with said portion for shifting the actuating member when the weighted rod is moved, and means for pivotally connecting said rod at a point above the head to the burner body.

4. In a lamp extinguisher, the combination with a burner body and a wick guide carried thereby, of coöperating shutters pivotally mounted adjacent to said guide and adapted to close the upper end thereof, each of said shutters provided with an extension, one of said extensions being slotted and the other provided with a pin, said pin projecting in the slot whereby the shutters are caused to close simultaneously when one of the shutters is actuated, a curved lever projecting from one of said extensions, an actuating member movably mounted upon said wick guide for actuating the lever when said member is shifted, said actuating member having its lower end provided with a right-angularly disposed portion, a weighted rod extending through said right-angularly disposed portion and provided with a head engaging with said portion for shifting the actuating member when the weighted rod is moved, and means for pivotally connecting said rod at a point above the head to the burner body.

975,353. STABLE MIXTURE FOR PRODUCING HYDROGEN PEROXID. REINHOLD GRÜTER and HEINRICH POHL, Charlottenburg, Germany, assignors to Chemische Werke vorm. Dr. Heinrich Byk, Charlottenburg, Germany, a Corporation of Germany. Original application filed May 4, 1909, Serial No. 493,918. Divided and this application filed July 14, 1910. Serial No. 572,004.

1. The herein described new solid stable mixtures of perborates containing a less quantity of water of crystallization than completely hydrated perborates, solid acid substances and sugar, yielding hydrogen peroxid with water.

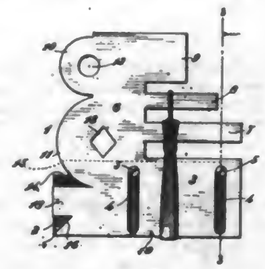
2. The herein described new solid stable mixture of finely ground perborates containing a lesser quantity of water of crystallization than the completely hydrated perborates, finely ground solid acid substances and sugar, said mixture yielding hydrogen peroxid with water.

975,354. STABLE MIXTURE FOR PRODUCING HYDROGEN PEROXID. REINHOLD GRÜTER and HEINRICH POHL, Charlottenburg, Germany, assignors to Chemische Werke vorm. Dr. Heinrich Byk, Charlottenburg, Germany, a Corporation of Germany. Original application filed May 4, 1909, Serial No. 493,918. Divided and this application filed July 14, 1910. Serial No. 572,005.

1. The herein described new solid stable mixtures of perborates containing a smaller quantity of water of crystallization than completely hydrated perborates, solid acid substances and salts having disinfecting or astringent properties, said mixtures yielding hydrogen peroxid with water.

2. The new solid stable mixtures of finely ground perborates containing a smaller quantity of water of crystallization than completely hydrated perborates, finely ground solid acid substances and dried salts having disinfecting or astringent properties, said mixtures yielding with water hydrogen peroxid.

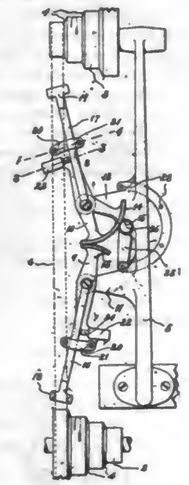
975,355. FRINGE-MAKING AND EMBROIDERING DEVICE. HELEN GURTLER, Rochester, N. Y. Filed Apr. 9, 1910. Serial No. 554,414.



1. A device of the character described comprising a base, an arm extending upwardly from one end of the base, a finger projecting from said arm above the remainder of the base, and an extension member adjustably secured to the base and adjustable below the lower edge thereof.

2. A device of the character described comprising a base, an arm extending upwardly from one end of the base, a plurality of fingers projecting from said arm above the remainder of the base, and an extension member adjustably secured to the base and adjustable below the lower edge thereof.

975,356. BELT-SHIFTER. BENGT M. W. HANSON, Hartford, Conn., assignor to Pratt & Whitney Company, Hartford, Conn., a Corporation of New Jersey. Filed Jan. 21, 1909. Serial No. 473,522.

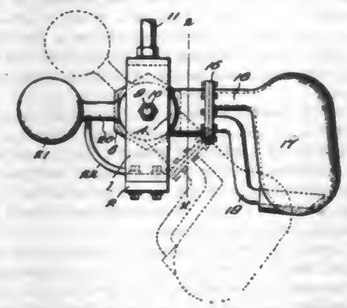


1. A belt shifter provided with rockers furnished with segments having intermeshing teeth, a rotary pinion meshing with one of said segments, movable belt shifting members supported by the respective rockers, and yieldable means acting oppositely against the respective belt shifting members.

2. A belt shifter having two rockers provided with segmehts having intermeshing teeth, arms pivoted to said rockers, the latter having means to cause the said arms to apply alternately rigid or positive and yieldable thrusts to the belt, and a rotary pinion meshing with one of said segments.

3. A belt shifter having two rockers, rigid belt-shifting arms connected with the rockers for swinging movement about their respective axes, the rockers having slots to receive said arms to guide and limit the movement of the same, spring plungers on the rockers acting oppositely against said arms, and means for moving the rockers together.

975,357. STEAM-TRAP. JOHANN J. HARPAIN, U. S. Navy. Filed Apr. 5, 1910. Serial No. 553,540.



A steam trap, comprising a supporting frame, a fixed part firmly secured to said frame, a movable part revolubly supported on said fixed part, bearings, one in said frame

2. The combination in a pressure discharge nozzle, of a convergent exterior shell and tip, an interior shell having an outer portion concentric with the discharge of the exterior shell, a pair of connected alined plungers fitting the inner shell, a removable tapering needle carried with the plungers, and forming a substantial continuation of the interior shell, and means by which the plungers and needle may be advanced or retracted.

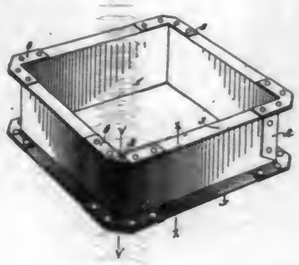
3. The combination in a pressure discharge nozzle, of exterior and interior shells, cylinders at the front and rear of the inner shell, axially alined plungers fitting said shells and having a connecting stem, a convergent needle carried by the forward plunger, and capable of varying the nozzle opening, a valve carried by the rear plunger, and a seat against which the valve closes.

4. The combination in a pressure discharge nozzle, of exterior and interior shells between which water is admitted, cylinders at the front and rear of the inner shell, plungers fitting said shells and having a connecting stem, a convergent needle carried by the forward plunger and movable therewith to vary the nozzle opening, mechanism by which said parts may be advanced or retracted, and means to admit water under its normal pressure to the inner shell to balance the plungers.

5. The combination in a pressure discharge nozzle, of an outer pipe and tip, an interior shell, said pipe and shell having concentric outer ends, a controlling valve having a convergent end, a cylinder, a plunger movable therein with which the shell is connected, a second plunger, connected to said valve, and means to admit fluid under pressure to reciprocate the first named plunger.

[Claims 6 to 8 not printed in the Gazette.]

975,351. SNAP-BAND FOR MOLDS. CHARLES H. GREEN, Chicago, Ill., assignor to The S. Obermayer Company, Cincinnati, Ohio, a Corporation of Ohio. Filed July 7, 1910. Serial No. 570,855.



1. A snap-band for molds comprising a frame, composed of walls formed of a single strip of sheet material, the edges being bent outwardly forming flanges separated at the corners, in combination with a flange brace for said corner flanges, comprising a cross bent upon itself to form a rectangular member secured to said flanges, one at each corner.

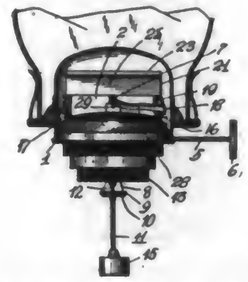
2. A snap-band for molds comprising a frame composed of side walls, with the edges thereof bent at right angles forming flanges in combination with a flange corner-brace comprising a U-shaped brace-plate with its limbs corresponding in outline with that of the flanges and overlapping and secured upon both sides thereof.

3. In a snap-band for molds, comprising side walls and edge flange extensions, a reinforcing brace for said flanges at their opposing ends formed of a cross of flexible material bent upon itself at the diagonal line into a rectangular structure, adapted to overlap and be secured to the flanges upon each side thereof.

4. In a snap-band for molds, of side walls and edge flange extensions thereof, a flange reinforcement at the intersection of the walls, comprising a U-shaped plate with its limbs extended to overlap and secured upon the surfaces of two wall flanges.

5. In a snap-band for molds, of side walls and edge flange extensions thereof, a flange reinforcement at the intersection of the walls, comprising a bent piece of material overlapped and secured to the flanges at a wall intersection, and of flange outline.

975,352. LAMP-EXTINGUISHER. ISIDOR GREENWALD and JOSEPH BLAUSTEIN, Pittsburg, and MORRIS Z. WEISS and MAX SELKOVITS, McKeesport, Pa. Filed May 14, 1910. Serial No. 561,340.



1. In a lamp extinguisher, the combination with a burner body, and a wick guide carried thereby, said guide provided with a rib, of coöperating shutters pivotally-mounted adjacent to said guide and adapted to inclose the upper end thereof, one of said shutters having a slotted extension, a pin carried by the other of said shutters and projecting in said slotted extension whereby said shutters are caused to close simultaneously when one is actuated, a lever carried by one of said shutters, an actuating member movably mounted upon said rib and adapted to move the lever when said member is shifted, and a weighted rod suspended from said burner body and adapted to elevate the actuating member.

2. In a lamp extinguisher, the combination with a burner body and a wick guide carried thereby, of coöperating shutters pivotally mounted adjacent to said guide and adapted to close the upper end thereof, each of said shutters provided with an extension, one of said extensions being slotted and the other provided with a pin, said pin projecting in the slot whereby the shutters are caused to close simultaneously when one of the shutters is actuated, a curved lever projecting from one of said extensions, and an actuating member movably mounted upon said wick guide for actuating the lever when said member is shifted, and a weighted rod suspended from said burner body and adapted when shifted to move said member.

3. In a lamp extinguisher, the combination with a burner body and a wick guide carried thereby, said guide provided with a rib, of coöperating shutters pivotally-mounted adjacent to said guide and adapted to inclose the upper end thereof, one of said shutters having a slotted extension, a pin carried by the other of said shutters and projecting in said slotted extension whereby said shutters are caused to close simultaneously when one is actuated, a lever carried by one of said shutters, an actuating member movably mounted upon said rib and adapted to move the lever when said member is shifted, said actuating member having its lower end provided with a right-angularly disposed portion, a weighted rod extending through said right-angularly disposed portion and provided with a head engaging with said portion for shifting the actuating member when the weighted rod is moved, and means for pivotally connecting said rod at a point above the head to the burner body.

4. In a lamp extinguisher, the combination with a burner body and a wick guide carried thereby, of coöperating shutters pivotally mounted adjacent to said guide and adapted to close the upper end thereof, each of said shutters provided with an extension, one of said extensions being slotted and the other provided with a pin, said pin projecting in the slot whereby the shutters are caused to close simultaneously when one of the shutters is actuated, a curved lever projecting from one of said extensions, an actuating member movably mounted upon said wick guide for actuating the lever when said member is shifted, said actuating member having its lower end provided with a right-angularly disposed portion, a weighted rod extending through said right-angularly disposed portion and provided with a head engaging with said portion for shifting the actuating member when the weighted rod is moved, and means for pivotally connecting said rod at a point above the head to the burner body.

975,353. STABLE MIXTURE FOR PRODUCING HYDROGEN PEROXID. REINHOLD GRÜTER and HEINRICH POHL, Charlottenburg, Germany, assignors to Chemische Werke vorm. Dr. Heinrich Byk, Charlottenburg, Germany, a Corporation of Germany. Original application filed May 4, 1909, Serial No. 493,918. Divided and this application filed July 14, 1910. Serial No. 572,004.

1. The herein described new solid stable mixtures of perborates containing a less quantity of water of crystallization than completely hydrated perborates, solid acid substances and sugar, yielding hydrogen peroxid with water.

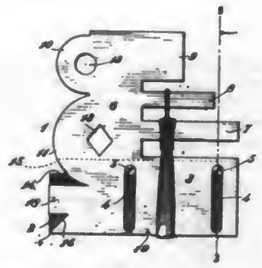
2. The herein described new solid stable mixture of finely ground perborates containing a lesser quantity of water of crystallization than the completely hydrated perborates, finely ground solid acid substances and sugar, said mixture yielding hydrogen peroxid with water.

975,354. STABLE MIXTURE FOR PRODUCING HYDROGEN PEROXID. REINHOLD GRÜTER and HEINRICH POHL, Charlottenburg, Germany, assignors to Chemische Werke vorm. Dr. Heinrich Byk, Charlottenburg, Germany, a Corporation of Germany. Original application filed May 4, 1909, Serial No. 493,918. Divided and this application filed July 14, 1910. Serial No. 572,005.

1. The herein described new solid stable mixtures of perborates containing a smaller quantity of water of crystallization than completely hydrated perborates, solid acid substances and salts having disinfecting or astringent properties, said mixtures yielding hydrogen peroxid with water.

2. The new solid stable mixtures of finely ground perborates containing a smaller quantity of water of crystallization than completely hydrated perborates, finely ground solid acid substances and dried salts having disinfecting or astringent properties, said mixtures yielding with water hydrogen peroxid.

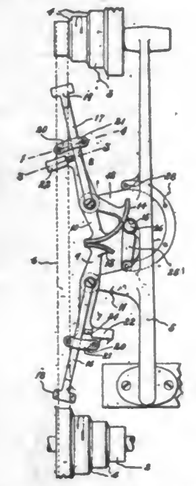
975,355. FRINGE-MAKING AND EMBROIDERING DEVICE. HELEN GUETLER, Rochester, N. Y. Filed Apr. 9, 1910. Serial No. 554,414.



1. A device of the character described comprising a base, an arm extending upwardly from one end of the base, a finger projecting from said arm above the remainder of the base, and an extension member adjustably secured to the base and adjustable below the lower edge thereof.

2. A device of the character described comprising a base, an arm extending upwardly from one end of the base, a plurality of fingers projecting from said arm above the remainder of the base, and an extension member adjustably secured to the base and adjustable below the lower edge thereof.

975,356. BELT-SHIFTER. BENGT M. W. HANSON, Hartford, Conn., assignor to Pratt & Whitney Company, Hartford, Conn., a Corporation of New Jersey. Filed Jan. 21, 1909. Serial No. 473,522.

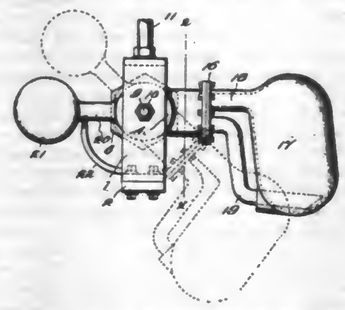


1. A belt shifter provided with rockers furnished with segments having intermeshing teeth, a rotary pinion meshing with one of said segments, movable belt shifting members supported by the respective rockers, and yieldable means acting oppositely against the respective belt shifting members.

2. A belt shifter having two rockers provided with segments having intermeshing teeth, arms pivoted to said rockers, the latter having means to cause the said arms to apply alternately rigid or positive and yieldable thrusts to the belt, and a rotary pinion meshing with one of said segments.

3. A belt shifter having two rockers, rigid belt-shifting arms connected with the rockers for swinging movement about their respective axes, the rockers having slots to receive said arms to guide and limit the movement of the same, spring plungers on the rockers acting oppositely against said arms, and means for moving the rockers together.

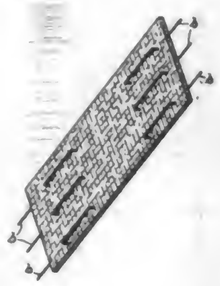
975,357. STEAM-TRAP. JOHANN J. HARPAIN, U. S. Navy. Filed Apr. 5, 1910. Serial No. 553,540.



A steam trap, comprising a supporting frame, a fixed part firmly secured to said frame, a movable part revolubly supported on said fixed part, bearings, one in said frame

and the other in said fixed and movable parts, for supporting said movable part, a weight secured to said movable part on one side, a bucket secured to said movable part on the opposite side, upper and lower pipes connecting said bucket with said movable part, and a brace connected to said frame for preventing said weight from falling below a horizontal position, said fixed part being provided with inlet and outlet passages arranged at right angles to each other, and with a large inlet passage arranged at right angles to said inlet passage, and with two discharge passages arranged at right angles to said outlet passage, said two discharge passages being connected together near the point where they join the main outlet passage, and said movable part being provided with a large steam inlet passage and a passage at right angles thereto in communication with the upper pipe leading to said bucket, and with two outlet passages and a passage leading therefrom to the lower pipe connected to said bucket, said two last named passages being connected together at the end farthest from the stationary part, substantially as described.

975,358. ELECTRICAL HEATER AND MANNER OF MANUFACTURING SAME IN THE FORM OF TEXTILES. MICHEL HEFTER, St. Petersburg, Russia, assignor to Leonard J. Lewery, New York, N. Y. Filed Feb. 1, 1910. Serial No. 541,399.



1. An electric heater consisting of woven filaments, the major part of the filaments being of non-conducting material while the balance are conductors of electricity adapted to be heated by the passage of an electric current along them, such conducting filaments being periodically brought to the surface of the fabric and floated over parts thereof.

2. An electrical heater comprising a woven fabric in which certain of the warp filaments are formed of conducting material, such filaments being brought to the surface of the fabric at intervals and floated over parts thereof.

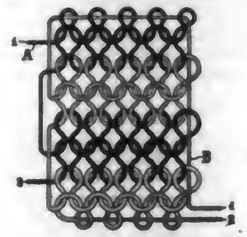
3. An electric heater consisting of a woven fabric, certain of the warp filaments of which are conductors of electricity, such conducting filaments being periodically brought to the surface of the fabric and floated over parts thereof, and such floated over portions of the several conducting filaments being in the same transverse sections of the fabric.

4. An electric heater consisting of a textile fabric, certain of the warp filaments of which are formed of wire, such wires being periodically brought to the surface of the fabric and floated over parts thereof, and each wire being accompanied by a warp thread or filament of non-conducting material, such accompanying thread being woven into the fabric continuously.

5. The herein described process of making an electric heater consisting in weaving a fabric out of non-conducting threads and introducing into such fabric by the weaving process as part of the warp, conducting wires, and periodically floating over the fabric said conducting wires.

[Claim 6 not printed in the Gazette.]

975,359. KNITTED ELECTRIC HEATING-BODY. MICHEL HEFTER, St. Petersburg, Russia, assignor to Leonard J. Lewery, New York, N. Y. Filed Feb. 1, 1910. Serial No. 541,400.



1. An electric heater consisting of a fabric in which is incorporated a filament adapted to conduct electricity and to be heated by the passage of a current thereof, the said filament being incorporated into successive transverse sections of the fabric, such sections being separated by other transverse sections of the fabric not including the said filament, and the filament being carried from one section into which it enters to the next along the edge of the fabric where it is left exposed.

2. An electric heater consisting of a fabric in which are incorporated a plurality of filaments adapted to conduct electricity and to be heated by the passage of a current thereof, the different filaments being incorporated into successive transverse sections of the fabric, those including one filament being separated by the sections including the other or others, and the conducting filaments being carried to an edge of the fabric where they extend from one section to the next and are there left exposed.

3. An electric heater consisting of a knitted fabric in which are incorporated as parts of the fabric a plurality of insulated electric conductors, the said conductors being independently knit into the fabric in successive short transverse sections thereof the said transverse sections formed by one conductor being separated from each other by other transverse sections of the fabric not including the said conductor, and each conductor being adapted to constitute part of an independent electric circuit and being carried from one transverse section into which it enters to the next in which it enters along the edge of the fabric.

4. An electric heater consisting of a knitted fabric into which is incorporated as a part of the fabric an insulated electric conductor, the said conductor being knitted into successive transverse sections of the fabric, said sections being separated by other knitted transverse sections not including the said conductor, and the conductor being carried from one section into which it enters to the next without being knitted into the fabric whereby it is left exposed so that a supply wire may be easily connected therewith.

975,360. FURNACE-HEAT-CONDUCTOR PIPE. CHARLES J. HOLUB, Newport, Ky., assignor to The Peck, Williamson Heating & Ventilating Company, Cincinnati, Ohio, a Corporation. Filed Sept. 22, 1909. Serial No. 518,967.

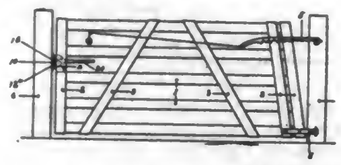


1. A pipe length formed of sheet metal, comprising four double-walled sections, each of the walls of said sections being formed at one end with a hooked bend, the walls of each section being separated intermediately and joined

at each end by the hooked bend of one engaging the straight edge of the other, and adapted to form telescoping connection with a second pipe length, the sides of the walls of two of said sections provided with off-set, hooked portions and the sides of the walls of the other two sections with right-angle, hooked portions adapted to be respectively slidably intermeshed with the off-set hooked portions of the walls of the first named sections, and arranged to form a continuous air chamber between the walls of the sections around the entire pipe section.

2. A pipe length formed of sheet metal, comprising four double walled sections, with the walls of each section separated intermediately and joined at each end and formed for telescopic connection with a second length, said sections having ports formed in the ends thereof, the sides of the walls of two of said sections provided with off-set, hooked portions and the sides of the walls of the other two sections with right-angle, hooked portions adapted to respectively slidably intermesh with the off-set, hooked portions of the walls of the first named sections, and arranged to form a continuous air chamber between the walls of the sections around the entire pipe length adapted to communicate with a similar chamber of a second pipe length through said ports.

975,361. LATCH. JOSEPH S. JOHNSON, Lodi, Ohio. Filed Oct. 5, 1909. Serial No. 521,074.



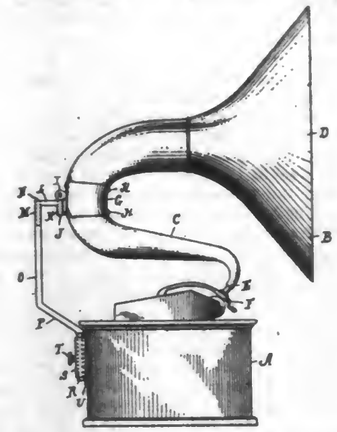
1. In a latch, a keeper, comprising a base-plate carrying brackets having oppositely disposed beveled sides provided with stop-flanges, inwardly extending spring-resisted keeper-plates pivoted at their outer sides to said brackets and having their marginal ends normally engaged by said stop-flanges, said keeper-plates having their inner adjacent sides set apart forming a latch-receiving recess between them, substantially as set forth.

2. In a latch, the combination with a keeper comprising a base plate carrying brackets having oppositely disposed inclined sides provided with stop flanges, of inwardly extending spring-resisted keeper-plates pivoted at their outer sides to said brackets, and having their marginal ends normally engaged by said stop-flanges, said keeper plates having their inner adjacent sides set apart forming a latch receiving recess between them, and a latch head adapted to enter said recess over one of said keeper-plates, substantially as set forth.

975,362. TALKING-MACHINE HORN AND BRACKET THEREFOR. FRANK KANE, Philadelphia, Pa. Filed Apr. 23, 1910. Serial No. 557,239.

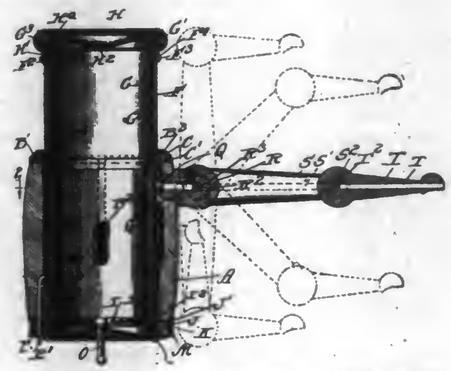
1. In a device of the character described, a support having a plate formed therewith provided with openings whereby it may be attached to the box of a talking machine, a thumb screw passing through the support, a collar adjustably mounted in the support, a leg bent at a desirable angle to form an extension and having its ends reduced in size, the lower end rotatably mounted in the collar, an arm having bearings formed with both ends thereof, one of which is rotatably mounted on the upper reduced portion of the leg, a band, screws passing through its ends for attaching it to a horn, a bifurcated attaching member mounted on the rear of said band, and a rod pivoted to said bifurcated attaching member and rotatably mounted in the other bearing formed with the arm.

2. In a bracket for talking machine horns, a support adapted to be secured to the box of a talking machine, a collar adjustably mounted in said support, a leg rotatably mounted in the collar, an arm rotatably mounted on the upper end of the leg, a band adapted to be fastened to a horn, a bifurcated attaching member secured to the rear



of the band, and a rod pivoted in said attaching member and rotatably mounted in the arm.

975,363. TOBACCO-PIPE. FREDERICK J. KIESER, Chicago, Ill., assignor to Kieser-Richter Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 30, 1908, Serial No. 430,249. Renewed Oct. 4, 1909. Serial No. 520,969.



1. In a tobacco pipe, the combination with a bowl having vertical channels, apertures adapted for a stem, a drain and air passages, and a stem in said stem aperture; of a flanged lining affixed in said bowl, having channels and apertures coincident with those in the bowl; an inner bowl affixed in said lining and partly spaced therefrom, having apertures coincident with the air apertures in said bowl and lining; a double cylinder having intermediate spiral ribs and a removable cap, said cylinder being adapted to be moved vertically in the space between said lining and inner bowl fixed therein; means supported on said bowl adapted to limit the vertical movement of said double member in said space; an asbestos ring; a ventilator ring and a grate supported in the lower part of said inner bowl; means in said bowl adapted to support said rings and grate; means for removing ashes from beneath said grate and regulating the passage of air through said bowls and grate as described.

2. In a tobacco pipe, the combination with a bowl and stem therein, said bowl having apertures adapted for a drain, and admission of air, and a lining affixed therein having apertures coincident with those in the bowl; of an inner bowl affixed in said lining, the upper part spaced therefrom, said bowl having air apertures coincident with

the apertures in said lining; a double cylinder slidably supported between said lining and bowl, said cylinder having intermediate ribs, and a removable cap; means attached to said lining adapted to limit the movement of said cylinder in said lining; a grate supported in said bowl; means for regulating the admission of air through said bowl; and means beneath said grate for the collection and removal of ashes, as described.

3. In a tobacco pipe, the combination with a bowl having a stem, drainage duct, and air holes; a lining and inner bowl spaced from said lining, having apertures coincident with those in the outer bowl; of a double cylindrical member, the walls thereof being spaced by spiral ribs, and provided with a movable cap, said member being adapted to slide vertically in the space between said lining and interior bowl, means attached to said bowl adapted to limit the vertical movement of said member in said space and produce an air tight sliding fit between said bowl and member; and a movable grate in said interior bowl; means supported in said bowl adapted to support and admit air to said grate; and means for regulating the admission of air, and for the collection and removal of ashes from beneath said grate as described.

4. In a tobacco pipe, the combination with a bowl having a stem, a drain duct and radial air holes; an interior bowl affixed within said bowl and spaced therefrom having air passages coincident with those in said bowl; a double walled cylindrical member having spiral ribs intermediate of the walls thereof; of a movable cap and perforated disk therein, said cap being adapted to fit on the outside of said member, and said disk being adapted to fit inside said member and permit smoke to pass up through said disk into said cap and down between said walls and spiral ribs into the stem; means in said inner bowl adapted to support and admit air to a grate therein; a grate supported in said bowl, and movable therein, and a bottom on said bowl adapted to hold the tobacco ash passing through said grate as described.

5. In a tobacco pipe, the combination with a bowl having a stem, a drainage duct and air passages, an interior bowl in and spaced from said outer bowl, having air apertures coincident with said air passages in said outer bowl; a double cylindrical member having intermediate spiral ribs, and a cap and perforated disk adjustable on said member; of a radially perforated base ring affixed to said bowls adapted to support a grate, said perforations in said ring being coincident with the air passages in said bowls; a grate supported on said ring, and means attached to said ring adapted to close the bottom of said bowls and hold ashes therein, and means for regulating the flow of air through said air passages, as described.

[Claims 6 to 20 not printed in the Gazette.]

975,364. HOSE-SUPPORTER. RUDOLPH H. KLAUDER, Philadelphia, Pa. Filed June 24, 1908. Serial No. 440,103.

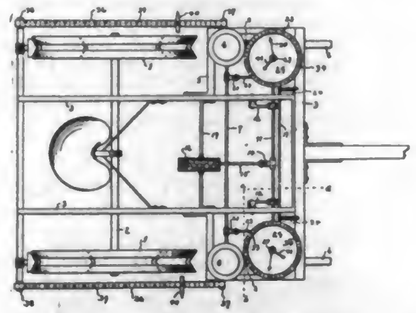


1. A hose supporter comprising a pair of resilient flexible strips having their intermediate portions in pivotal relation and having one end of each strip adapted to conform to the leg of the user and having the other end of each strip adapted to co-act with its mate to hold the top of a stocking, substantially as described.

2. A hose supporter comprising a pair of resilient flexible members each notched at one edge intermediate of its length and at the other edge near one of its ends, said intermediate notches being adapted for engagement with each other to constitute a pivotal connection and said other notches adapted to coact to engage a stocking, substantially as described.

3. A hose supporter comprising a pair of resilient flexible members having intermediate of their ends notches that engage each other and having one end of both strips bent to conform to the contour of the leg and having the other end of both strips crossed and notched for engaging a stocking, substantially as described.

975,365. WIRELESS CHECK-ROW PLANTER. SAMUEL H. KLINE, Earling, Iowa. Filed Aug. 15, 1910. Serial No. 577,292.



1. A planter of the class described, comprising, in combination with the seed-dropping shaft, a disk housing stationary upon the frame and bearing indicating devices; a vertically-adjustable, rotatable, toothed ground wheel supported by the frame; an upright spindle rotatable by the ground wheel; a horizontal indicating-disk mounted in said disk-housing and rotatable by the spindle; a lug-bearing rock-shaft connected with the seed-dropping shaft, and means upon the indicating-disk for actuating the rock shaft during its rotatable movement.

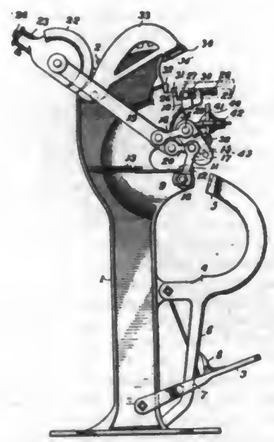
2. A planter of the class described, comprising, in combination with a seed-dropping shaft, a wing-bearing rock shaft connected therewith; means for actuating said rock shaft comprising a rotatable, vertically-adjustable ground wheel provided with a pinion, an upright spindle having a gear in engagement with the pinion of the ground wheel, a horizontal indication-disk rotated by the spindle, and means upon the indicating-disk for engaging the wing of the rock shaft during its rotatable movement.

3. A planter of the class described, comprising, in combination with the seed-dropping shaft thereof, a lug-bearing rock shaft connected therewith; numerical scale-strips disposed substantially parallel with the line of draft, rearwardly of the seed-dropping shaft; a pair of horizontally-disposed, disk-housing collars stationary upon the planter frame, each having a peripherally arranged numerical scale corresponding with said scale-strips; rotatable, toothed ground-wheels each provided with a gear and disposed adjacent to a disk-housing; a centrally-apertured, lug-bearing, indicating-disk seated in each of said disk-housings; an upright spindle slidably seated in the aperture of each of said disks and provided with a gear in engagement with the gear of one of said ground-wheels, the operation being that a movement of the ground-wheels cause engagement of the lugs of the indicating disks with the lugs of the rock shaft for actuating the seed-dropping shaft.

4. An improvement in planters, comprising, in combination with the double-bladed furrow-openers and with the seed-dropping shaft thereof, a winged rock-shaft connected with said shaft; toothed ground wheels each being provided with a gear and mounted between the blades of a furrow-opener; a pair of upright spindles each having a gear connected with the gear of one of the ground wheels; a pair of horizontal indicating-disks each being splined upon one of said spindles and provided with a contact-arm adapted to engage a wing of the rock-shaft; and means to vertically adjust the ground wheels to cause their engagement or disengagement with the ground.

5. An improvement in planters, comprising, in combination with the frame, the seed-dropping shaft and furrow-openers supported by the frame; a pair of hangers arranged for and disposed adjacent to the sides of said furrow-openers and supported by the frame, each having a supporting plate resiliently mounted and slidable thereon; a pair of toothed ground wheels each provided with a shaft and a gear; one of said ground wheels being disposed between the blades of each furrow-opener, its shaft having bearings in said supporting-plates; a pair of upright spindles each having a gear connected with the gear of one of the ground wheels; a pair of horizontal indicating-disks each being splined upon one of said spindles and provided with a contact-arm adapted to engage a wing of the rock-shaft; and means to control the slidable movements of said supporting-plates.

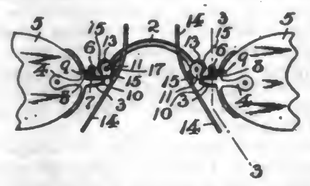
975,366. HORSESHOE-CALKING MACHINE. WILLIAM H. LEE, VICTOR T. SNOVER, and MILTON H. PALMER, Wyalusing, Pa. Filed Mar. 8, 1910. Serial No. 548,069.



1. In a machine for calking horseshoes, the combination with a frame, means to clamp a horseshoe thereon, a stationary die and a reciprocatory roller-die coacting therewith to form heel-calks, a toothed segment on said frame, a segmental flanged gear meshing therewith, an arm connected to said gear whereby it may be caused to roll on said segment, levers pivoted to the frame and to said gear and links connecting said levers to said roller-die, a second stationary die on said frame above said roller-die, arms pivoted to the frame and having a hammer-die at their free ends, the top surfaces of said arms constituting cams on which the flanges of said gear roll and thereby actuate said hammer-die.

2. In a machine for calking horseshoes, the combination with the frame, a die thereon and means to clamp a horseshoe in proper position relatively to said die, of levers pivoted on each side of said frame, arms carrying a roller-die and connected to said levers and to said frame by links, so that the swinging of said levers will cause said roller-die to move forward and backward over said first mentioned die, an arm pivoted to the frame and to the arms carrying the roller-die, a stem secured for vertical adjustment in the outer end of said arm, a gage pivoted to the lower end of said stem and having an arm resting on the pivotal connection of the arms carrying the roller-die and the links which connect said arms to said levers, whereby said gage is swung up out of the path of said roller-die as it reciprocates.

975,367. EYEGLASSES. GEORGE J. LOWRES, Newark, N. J., assignor to Lowres Optical Company, a Corporation of New Jersey. Filed Sept. 23, 1908. Serial No. 454,361.



1. In a mounting for eyeglasses, the combination with a bridge and lens-mount, of a supporting arm connected thereto, a nose-grip pivoted to rock on said arm, and means for immovably securing said nose-grip to said arm.

2. In a mounting for eyeglasses, the combination with a bridge and lens-mount, of a supporting arm connected thereto, a nose-grip pivoted to rock on said arm, said nose-grip having an extension provided with a cut-away portion, and means connected with said supporting arm adapted to be brought in engagement with said cut-away portion for immovably securing said nose-grip to said arm.

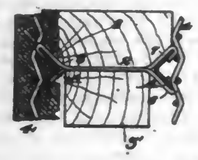
3. In a mounting for eyeglasses, the combination with a bridge and lens-mount, of a supporting arm connected thereto, a nose-grip pivoted to rock on said arm, said nose-grip having an extension provided with a cut-away portion, and a finger extending from said supporting arm adapted to be bent into and brought in engagement with said cut-away portion for immovably securing said nose-grip to said arm.

4. In a mounting for eye-glasses, the combination with a bridge and lens-mount, of a supporting arm connected thereto, said arm being provided with an angular part, a nose-grip having an extension provided with an angular part, a means of pivotal connection between said angular parts so that the nose-grip is adapted to rock on said arm, and means for immovably securing said nose-grip to said arm.

5. In a mounting for eye-glasses, the combination with a bridge and lens-mount, of a supporting arm connected thereto, said arm being provided with an angular part, a nose-grip having an extension provided with an angular part, a means of pivotal connection between said angular parts so that the nose-grip is adapted to rock on said arm, the angular part of said nose-grip being provided with a cut-away portion, and means connected with the angular part of said supporting arm adapted to be brought in engagement with said cut-away portion for immovably securing said nose-grip to said arm.

[Claims 6 to 8 not printed in the Gazette.]

975,368. CLIP AND STUDDING FOR FIREPROOF CONSTRUCTIONS. JOHN F. MAKOWSKI, San Francisco, Cal., assignor to The Perfection Steel Studding Co., San Francisco, Cal., a Corporation of California. Filed Apr. 4, 1910. Serial No. 553,167.



1. In building constructions, the combination with a suitable metal lath, of a support therefor, said support including a channel-bar with the mouth of the channel exposed to the lathing and supporting it, a supporting clip having oppositely bent prongs embracing the edges of the mouth of the channel, and a nailing-block fitting in behind the latter and held in place by a clip, and the face of said block flush with the lathing.

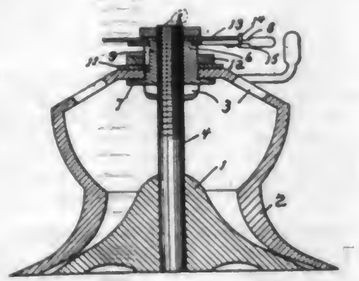
2. In building construction, a pair of channel-bars placed back to back and spaced from one another, a connecting clip having oppositely bent prongs embracing the edges of the channel-bars, and nailing-blocks inserted in between the clips and channel-bars, said nailing-blocks having their faces flush with the mouth edges of the channels.

3. In building construction, a V-shaped channel-bar, a supporting clip therefor, the clip having prongs bent to embrace the edges of the channel-bar, said clip lying in the plane of bi-section of the channel, and a nailing-block having a reduced end fitting in behind and supported against said channel-bar.

4. In building construction, a pair of V-shaped channel-bars placed back to back and separated from one another, connecting clips therefor, said clips lying in the plane of bi-section of the channels, and nailing-blocks with reduced ends fitting in behind said channel-bars.

5. The combination with a pair of V-shaped channels placed back to back and separated from one another, of clips standing in the plane of bisection of the channels, each of said clips having oppositely extending prongs at its ends embracing the lips of the channel-bars, and nailing-blocks with reduced ends fitting between the angle-bars, and said blocks disposed between the angle-bars and held in place thereby by the clips fitting grooves in the blocks.

975,369. QUARTZ-MILL. JAMES W. MYER, San Francisco, Cal. Filed Feb. 28, 1910. Serial No. 546,487.



1. In a quartz mill, a fixed grinding member, a runner, a post adapted to hold said runner in a given position with respect to the fixed member, a flanged nut adapted to hold the runner at a fixed distance away from the grinding member, means to lock said nut against rotation, a second nut adapted to prevent the runner from moving more than a given distance away from the grinding member and means to prevent the runner from bearing directly on said second nut, as set forth.

2. In a quartz mill, a fixed grinding member, a runner, a post adapted to hold said runner in a given position with respect to said grinding member, a flanged nut adapted to support the runner at a fixed distance away from the grinding member, a disk adapted to hold said nut from rotation, a second nut adapted to prevent the runner from moving away from the grinding member, and a fixed disk to prevent the rotation of said second nut, as set forth.

3. In a quartz mill, a fixed grinding member, a runner, a post, a nut on said post adapted to support the runner at a fixed distance away from the grinding member, a second nut adapted to prevent said runner from moving away from the grinding member more than a fixed distance, and means to prevent the movement of said first nut during the rotation of the runner, as set forth.

4. In a quartz mill, a fixed grinding member, a runner, a post adapted to hold the runner in a fixed relation with the grinding member, a flanged nut on said post adapted to support the runner a fixed distance above the grinding member, a nut on the first nut and adapted to prevent the runner from moving away from the grinding member, a fixed plate adapted to prevent the rotation of said second nut during the time of rotation of the runner, a second plate fixed against rotation and slidable on the post above the first nut, means to lock the first nut in any one of a number of positions with respect to said second plate, and a nut adapted to secure the second plate closely to the first nut, as set forth.

975,370. PROCESS OF PREPARING MANGANESE-STEEL INGOTS FOR ROLLING. WINFIELD S. POTTER, New York, N. Y. Filed June 16, 1910. Serial No. 567,331.

1. The process of preparing ingots of manganese steel for rolling, which consists in casting the ingot, equalizing the temperature within the ingot, slowly passing the temperature through a range lying between 600° C. and 750° C. until reconstruction is effected, and finally raising the temperature of the ingot to above 1100° C. for rolling; substantially as described.

2. The process of preparing ingots of manganese steel for rolling, which consists in casting the ingot, equalizing the temperature within the ingot, slowly passing the temperature through a range lying between 600° C. and 750° C. until reconstruction is effected, and finally raising the temperature of the ingot to about 1150° C. for rolling; substantially as described.

975,371. PRODUCTION, TREATING, AND ROLLING OF INGOTS OF MANGANESE STEEL. WINFIELD S. POTTER, New York, N. Y. Filed Oct. 7, 1910. Serial No. 585,796.

1. The method of preliminarily treating and subsequently rolling manganese steel ingots containing carbids, consisting in heating the ingot to temperatures above the change point at which the carbon begins to be rapidly absorbed from the carbids by the mix crystals and until the mix crystals have absorbed substantially the maximum amount of carbon that they are capable of abstracting at the temperature employed, and continuing the heating until the carbid residuals are recrystallized, forming with the mix crystals a gamma-iron structure, and then rolling the ingots; substantially as described.

2. The method of preliminarily treating and subsequently rolling manganese steel ingots containing carbids, consisting in heating the ingot to temperatures above the change point at which the carbon begins to be rapidly absorbed from the carbids by the mix crystals and until the mix crystals have absorbed substantially the maximum amount of carbon that they are capable of abstracting at the temperatures employed, and continuing the heating until the carbid residuals together with any undecomposed carbids are recrystallized, forming with the mix crystals a gamma-iron structure, and then rolling the ingots; substantially as described.

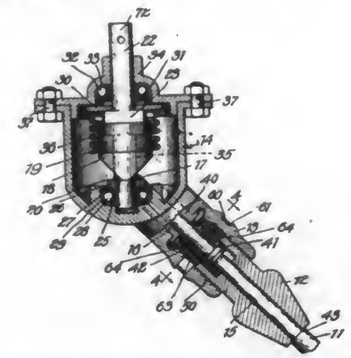
3. The method of preliminarily treating and subsequently rolling manganese steel ingots containing carbids, consisting in heating the ingot to temperatures above the change point at which the carbon begins to be rapidly absorbed from the carbids by the mix crystals and until the mix crystals have absorbed substantially the maximum amount of carbon that they are capable of abstracting at the temperatures employed, continuing the heating until the carbid residuals are recrystallized, forming with the mix crystals a gamma-iron structure, welding the gamma-iron crystals into a more cohesive ductile mass before subjecting the ingot to heavy reductions, and then rolling the ingot; substantially as described.

4. The method of casting, treating, and subsequently rolling manganese steel ingots containing carbids, consisting in pouring the metal at a temperature not more than 50° C. above its freezing point, freezing the metal at such a rate as to avoid considerable variations in composition between different localities of the ingot and so as to avoid considerable separation of carbids, heating the ingot to temperatures above the change point at which the carbon begins to be rapidly absorbed from the carbids by the mix crystals and until the mix crystals have absorbed substantially the maximum amount of carbon that they are capable of abstracting at the temperatures employed, and continuing the heating until the carbid residuals are recrystallized, forming with the mix crystals a gamma-iron structure, and then rolling the ingot; substantially as described.

5. The method of casting, treating, and subsequently rolling manganese steel ingots containing carbids, consisting in pouring the ingot from metal substantially free of oxids, and at a temperature not more than 50° C. above its freezing point, freezing the metal at such a rate as to avoid considerable variations in composition between different localities of the ingot and so as to avoid considerable separations of carbids, heating the ingot to temperatures above the change point at which the carbon begins to be rapidly absorbed from the carbids by the mix crystals and until the mix crystals have absorbed substantially the maximum amount of carbon that they are capable of abstracting at the temperatures employed, and continuing the heating until the carbid residuals are recrystallized, forming with the mix crystals a gamma-iron structure, and then rolling the ingot; substantially as described.

[Claims 6 to 19 not printed in the Gazette.]

975,372. STRIKING MECHANISM. HARRY A. SEDGWICK, Milwaukee, Wis., assignor to Ajax Electric Tool Company, Huron, S. D., a Corporation of South Dakota. Filed Apr. 25, 1908. Serial No. 429,116.



1. In a device of the class described, the combination with an element rotatable on its own axis having one or more striking projections integral with said element, a resilient support tending to maintain said rotatable element in a given path of rotation, and a reciprocating member interposed in the path of rotation of said striking projection or projections.

2. In a device of the class described, the combination of a driving spindle, a revolving element having one or more curved projections on its face slidably mounted on said spindle, a resilient support tending to maintain said revolving element in a given plane of rotation, and a reciprocating plunger having a part interposed in the plane of rotation of said curved projections and adapted to be struck thereby upon the rotation of the revolving element.

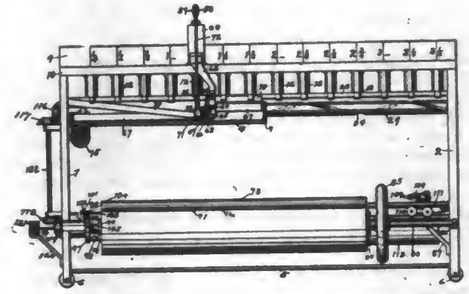
3. In a device of the class described, the combination of a revolving element having one or more projections at or near its periphery, a spindle for driving the revolving element, said revolving element being slidably mounted on said spindle, resilient means tending to maintain the revolving element in a fixed plane of rotation, and a reciprocating tool actuating member interposed in the plane of rotation of the projections on the rotating element.

4. In combination, a rotating disk with projections thereon, resilient means tending to hold said rotating disk in a fixed plane of rotation, and a reciprocating member having a part interposed in the normal plane of rotation of said projections.

5. In combination, a revolving hammer having one or more curved projections near its periphery, said revolving hammer being free to move longitudinally on its axis of rotation, a reciprocating tool actuating member interposed in the plane of rotation of said projections and adapted to be struck thereby, and resilient means adapted to cushion the recoil and return said revolving hammer to its normal plane of rotation after the projections impinge upon the reciprocating member.

[Claims 6 to 19 not printed in the Gazette.]

975,373. CLOTH MEASURING AND RECORDING DEVICE. MORRIS SHALANSKY, Indianapolis, Ind. Filed Sept. 27, 1909. Serial No. 519,897.



1. In a device of the kind described, the combination of a rotative measuring drum comprising a front end portion, a rear end portion, and a cylindrical body portion, the latter having two diametrically opposite longitudinally extending slots, armed portions slidably mounted in said longitudinally extending slots, a plurality of pointed projections secured to one of said armed portions to engage the cloth to be measured, a shaft rotative mounted inside of and near the axis of said measuring drum, a double lever secured near each end of said shaft, said double levers operatively connected with said armed portions, a circular slot being formed in said front end portion, a stud secured to one end of one of said double levers and extended through said circular slot, a handle secured to said stud, and means for removably securing said measuring drum.

2. In a device of the kind described, the combination of a rotative measuring drum comprising a front end portion, a rear end portion and a cylindrical body portion, the latter having two diametrically opposite longitudinally extending slots, armed portions slidably mounted in said longitudinally extending slots, a plurality of pointed projections secured to one of said armed portions to engage the cloth to be measured, a shaft rotatively mounted inside of and near the axis of said measuring drum, a double lever secured near each end of said shaft, said double levers are operatively connected with said armed portions, a circular slot being formed in said front end portion, a stud secured to one end of one of said double levers and extended through said circular slot, a handle secured to said stud, a supporting shaft provided with a tongue formed integral therewith, a grooved arbor formed on the outside of said front end portion to engage said tongue, and a slitted annular lock rotatably mounted on said grooved arbor and operatively secured to said stud to turn simultaneously with said double levers to lock said tongue in said grooved arbor when said armed portions are extended and to unlock said tongue in said grooved arbor when said armed portions are withdrawn substantially as set forth.

3. In a device of the kind described, the combination with a frame having a top plate, of a graduated gage secured on said top plate, a carriage, guides secured on said top plate to cause said carriage to traverse said top plate longitudinally, a pointer secured to said carriage, two vertically disposed tubes having spring returned piston and piston rods mounted in said carriage, a handle secured to the top ends of the piston rods of said vertically disposed tubes, and a means for locking said handle in its lowest position substantially as described.

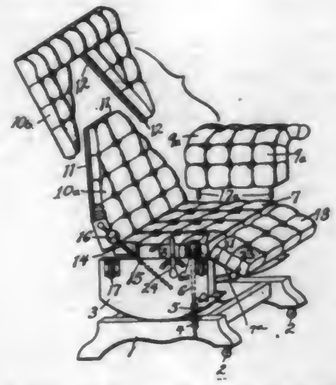
4. In a device of the kind described, the combination with a frame having a top plate, of a graduated gage secured thereon, a longitudinally traversing carriage having

a pointer and two simultaneously spring returned piston rods mounted on said top plate, a front row of depending tubes secured to said top late, a rear row of depending tubes secured to said top plate and in parallel relation with said front row of depending tubes, a spring returned piston rod in each tube of said front row and rear row of depending tubes, a type corresponding with the graduations on said graduated gage secured to the lower end of the piston rod of each tube of said front row of tubes, and a stop secured to the lower end of the piston rod of each tube of said rear row of depending tubes.

5. In a device of the kind described, the combination with a frame having a top plate, of a longitudinally traversing carriage mounted on said top plate, a front row and a rear parallel row of depending tubes secured to said top plate, a spring returned piston rod in each tube of said front row and said rear parallel row of depending tubes, a type secured to the lower end of the piston rod of each tube of said front row of depending tubes, a ribbon supported under said type, a record paper supported under said ribbon, and a table supported under said record paper as set forth.

[Claims 6 to 9 not printed in the Gazette.]

975,374. CONVERTIBLE CHAIR. MORRIS SHALANSKY, Indianapolis, Ind. Filed Dec. 13, 1909. Serial No. 532,750.

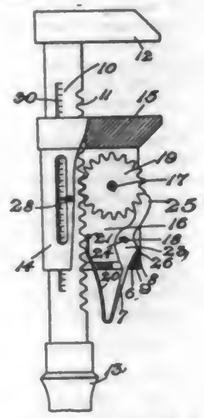


1. In a convertible chair of the kind described, an adjustable back portion composed of two parts, one of said parts hingedly connected to the seat portion thereof and formed with its top side shorter than its bottom side so that four or more of said convertible chairs may be used together to form a circular seat, and the other of said parts removably secured to the said first part substantially as set forth.

2. In a convertible chair, the combination with a rocker body, a base portion, a fixed seat portion, a hingedly connected seat portion, and a means for raising and lowering said hingedly connected seat portion, of a screw rod having a handle at its top end and operatively secured in said rocker body, a threaded plate secured in said base portion to be engaged by said screw rod, and an adjustable back portion composed of two parts, one of such parts hingedly connected to said fixed seat portion and formed with its top side shorter than its bottom side and the other of said parts removably secured to said first part.

975,375. WRENCH. JAMES N. SHAW, Volant, Pa., assignor of one-half to F. B. Moorehead, Volant, Pa. Filed Aug. 21, 1909. Serial No. 513,960.

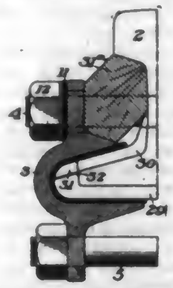
1. The combination with a rack-edged wrench bar having an outstanding jaw, of a sliding jaw having a slotted sleeve carried upon said bar, a stud carried by said sleeve, a pinion upon said stud, revolubly held within said slot in engagement with said rack, a supporting pin, and a dog carried by said pin having a rack head engaging said pinion, the end of said dog being curved to form a spring arm, the lower end of which is in resilient sliding contact with the rack of said bar.



2. The combination with a rack-edged wrench bar having an outstanding jaw, of a sliding jaw having a slotted sleeve carried upon said bar, a thrust block spanning said slot, a stud carried by said sleeve, a pinion upon said stud revolubly held within said slot in engagement with said rack, a supporting pin, and a dog carried by said pin having a rack head engaging said pinion, the end of said dog being recurved to form a spring arm, the lower end of which is in resilient sliding contact with the rack of said bar, said dog having a stop shoulder contacting with said thrust block.

3. The combination with a rack-edged wrench bar having an outstanding jaw, of a sliding jaw having a slotted sleeve carried upon said bar, a thrust block spanning said slot provided with a stop shoulder and an inner cam face, a pinion revolubly held within said slot, and engaging said rack, a supporting pin spanning said slot, a dog having a slotted head, said pin extending through the slot of said head, said dog having a rack head in engagement with said pinion, said dog being continued in the form of an operating stem ending in a spring member held in resilient sliding contact with said rack, said head being provided with a lip arranged to contact with said stop shoulder and cam face, as and for the purpose set forth.

975,376. RAIL-JOINT. WILLIAM P. THOMSON and SAMUEL G. THOMSON, Philadelphia, Pa., assignors to Thomson-Thomson Company, Philadelphia, Pa., a Partnership. Original application filed Dec. 27, 1907, Serial No. 408,295. Divided and this application filed Dec. 1, 1908. Serial No. 465,548.



1. In a rail joint, a pair of inner bars both of which contact with only one of the rails and on the same side of said rail, one of which bars has a portion lying above the plane of the bottom face of the rail foot and extending outwardly beyond the outer edge of the rail foot to form a seat for insulating material, and an outer bar insulated from said bars and clamping both of them to the rails.

2. In a rail joint, a pair of inner bars both of which contact with only one of the rails, and an outer bar insulated from said inner bars and clamping both of them to the rail by means of bolts, one of said inner bars contacting with an upper face of the rail base and extending beyond its outer edge and the other of said inner bars contacting with the lower face of the rail base.

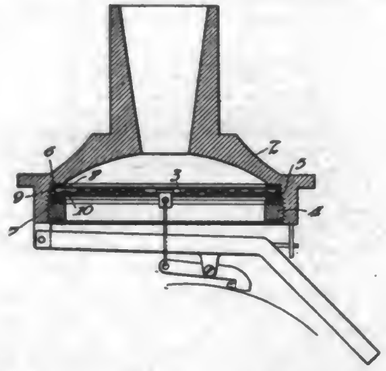
3. In a rail joint, a metallic bar or plate contacting with only one rail and terminating at the rail end, said bar to lie entirely below the top of the clamping bolts which pass through the rail web and having a portion above the bottom face of the rail base projecting outwardly beyond the outer edge of the rail base to form a seat on its under side for insulating material.

4. In a rail joint, a metallic inside bar or plate contacting with only one rail and only below the planes of the top faces of the rail base, said bar terminating at the rail end and extending beyond the outer edge of the rail base and above its bottom face, an outer bar overlying and underlying the rail base and clamping said inner bar in contact with the rail, and insulating means interposed between said bars.

5. In a rail joint, a metallic bar or plate contacting with one rail only and terminating at the rail end, said bar extending outwardly beyond both edges of the rail base and forming on its under side a seat for insulating material, a portion of said bar extending above the bottom face of the rail base.

[Claims 6 to 13 not printed in the Gazette.]

975,377. DIAPHRAGM FOR PHONOGRAPHS. PETER WEBER, Orange, N. J., assignor to New Jersey Patent Company, West Orange, N. J., a Corporation of New Jersey. Filed Mar. 22, 1907. Serial No. 363,814.



1. In a phonograph, a two part clamp, the clamping surfaces thereof being co-extensive and opposed to one another, and a diaphragm held in said clamp the said diaphragm being of such a conformation in the neighborhood of its edges that said clamp operates to simultaneously place the diaphragm under tension and hold it in place, substantially as set forth.

2. In a phonograph, a sound box body provided with a clamping surface, clamping means provided with a coöperative clamping surface opposite the clamping surface of the sound box body, a diaphragm provided with a marginal flange interposed between the said clamping surfaces, the clamping pressure being applied to the base of the marginal flange and to the outer edge of the diaphragm respectively, substantially as set forth.

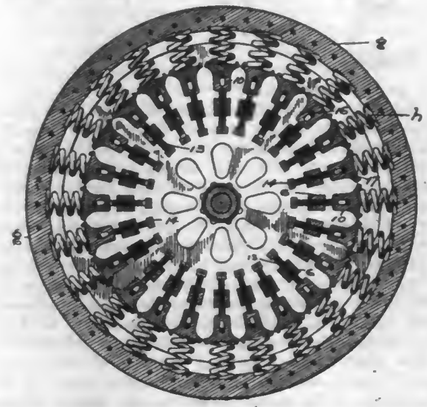
3. In a phonograph, the combination of a sound box body having a clamping surface, a diaphragm having a marginal flange and a shallow groove immediately inside the flange on the opposite side of the diaphragm, and means applied to the base of the said flange and opposite the clamping surface of the body for clamping the edge of the flanged portion of the diaphragm against the sound box body, substantially as set forth.

4. In a phonograph, the combination of a sound box body having a clamping surface, a corrugated diaphragm having a marginal flange and a shallow groove immediately inside the flange on the opposite side of the diaphragm, and means applied to the base of the said flange and opposite the clamping surface of the body for clamping the edge of the flanged portion of the diaphragm against the sound box body, substantially as set forth.

5. In a phonograph, the combination of a sound box body having a clamping surface, a diaphragm having a marginal flange and a shallow groove immediately inside the flange on the opposite side of the diaphragm, and means applied to the base of the said flange and opposite the clamping surface of the body for clamping the edge of the flanged portion of the diaphragm against the sound box body, and soft gaskets interposed between the diaphragm and the sound box body and between the diaphragm and the clamping means respectively, substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

975,378. VEHICLE-WHEEL. GEORGE E. WOODBURY, San Francisco, Cal.; A. M. Haines administrator of said George E. Woodbury, deceased. Filed Aug. 3, 1908. Serial No. 446,767.



1. In a vehicle-wheel, the combination of a hub, a web thereon composed of oppositely set rigid circular plates, felly-plates of leather united to the rim of the web, a tire or tread formed of a plurality of leather segments placed in close order in layers between the felly-plates and fastened in place by rivets passing through the felly-plates and the layers composing the tread and a set of radially disposed springs interposed between the tire and the web.

2. A vehicle-wheel having a web composed of oppositely placed rigid circular plates of curvilinear shape in cross-section, a centrally fixed hub therein, a tire composed of a plurality of layers of leather set edgewise, the felly-plates uniting the tire to the web, composed of annular plates of leather and having the said layers of the tire secured between them, and coiled springs behind the said tire having their outer ends bearing against the back of the tire and stationary supports for the opposite ends of the springs.

3. A vehicle wheel having a hub for the axle, a hollow web composed of oppositely set rigid circular plates secured to the hub, blocks located between the circular plates, at the rim of the web formed thereby, stiff felly plates of leather secured to the outer rim of the web, connecting bolts passing through and uniting the plates of the web, the blocks and the felly plates, a tread between the felly plates and united thereto, and coiled radially arranged springs between the tread and the said blocks.

4. A vehicle wheel having a hub, a web composed of rigid plates, a tread of leather plates, felly-plates of leather uniting the tread and the web, springs behind the tread bearing against the same on radial lines, adjustable

supports for the springs and means situated between and protected by the plates of the web for adjusting the supports for the springs.

5. A vehicle wheel having a hub, a web composed of oppositely set rigid plates spaced apart and secured to the hub, stiff felly-plates secured to the outer edges of the rigid plates of the web, respectively, a tread arranged between and secured to the felly-plates, springs having their outer ends bearing against the inner side of the tread, and means for adjusting the tension of the springs located in the space between the rigid plates of the webs; the felly-plates being sufficiently yielding to allow movements of the tread relative to the hub and web of the wheel.

975,379. ANTISLIPPING SANDAL. HENRY C. ASHBAUGH, Heppner, Oreg. Filed Aug. 20, 1908. Serial No. 449,475.



In a device of the kind described, a protective sole-plate comprising a single piece of sheet metal shaped to conform to the outline of the sole of a shoe and bent to conform to said sole, said plate having a rear edge adapted to bear against the breast of a shoe heel, said plate further being of greater width than the shoe sole to which it is adapted to be applied, upturned flanges formed on the side edges of said plate, said flanges being of uniform height throughout and extending uninterruptedly from one end of said plate to the other, projections extending from the bottom of said plate to constitute anti-slipping means; in combination with means to hold the plate on a shoe and cushion the flanges and edges of the shoe sole, said means comprising sections of leather each attached to and extending along the entire length of the inside of one of the flanges between said flange and the shoe sole, said sections having their forward portions conforming to the shoe upper and their rear portions adapted to extend around the counter of the shoe; and means to draw said sections together over the front and at the rear of the shoe.

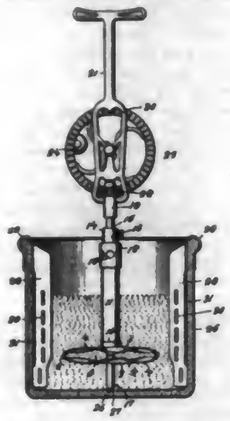
975,380. VACUUM CHURN APPARATUS. THOMAS BRANTSON, Pittsburg, Pa., assignor to J. Worth Carnahan, Washington, D. C., and F. C. Park, Pittsburg, Pa. Filed Apr. 1, 1910. Serial No. 552,887.

1. A churn apparatus including an aerating member comprising spaced plates, each plate being formed with alternate depressed and elevated portions, and means for connecting the plates in fixed relation.

2. A churn apparatus including an aerating member comprising spaced superimposed plates, each plate being formed with alternate depressions and elevations, and means for connecting the plates with the depressions of one vertically opposite the elevations of the other.

3. A churn apparatus including an aerating member having a central chamber, said chamber having an edge opening formed to alternately present widened and narrowed passages, a sleeve secured to the member and in open communication with the chamber, and a tubular section secured to the sleeve and formed with an inlet opening, said section being closed against the direct admission of the material in the churn.

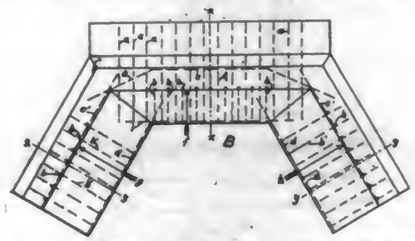
4. A churn apparatus including an aerating member having a central chamber, said chamber having an edge opening formed to alternately present widened and narrowed passages, a sleeve removably secured to the member and in open communication with the chamber, and a tubular section removably secured to the sleeve and formed with an inlet opening, said section being closed against the direct admission of the material in the churn.



5. A churn apparatus including an aerating member comprising spaced plates each formed with alternately depressed and elevated portions, a means carried by the free edges of the plates for connecting said plates in fixed relation.

[Claim 6 not printed in the Gazette.]

975,381. RETAINING-WALL. FRANK A. BONE, Cincinnati, Ohio. Filed Dec. 22, 1909. Serial No. 534,402.



1. In an abutment having wing walls at an angle to the face wall a series of longitudinal metal bars embedded within said walls being located near the front surface of the face wall, in its central portion and passing to near the rear surface of the wing walls thereby anchoring said walls together and at the same time reinforcing them at the points where tension occurs from the beam action required to support the retained material.

2. The combination with an abutment having wing walls at an angle with the face wall, a series of longitudinal metal bars located near the front surface of the face wall in its central portion and passing to near the rear surface of the wing walls and acting to prevent the outward force of the retained material from overturning, or sliding said abutment on its base.

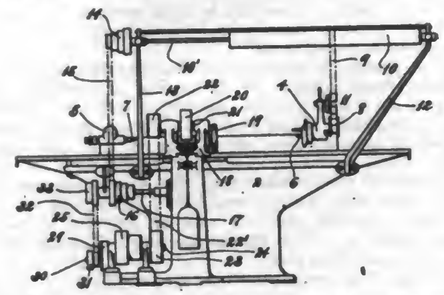
3. In an abutment having wing walls at an angle with the face wall the combination of a series of longitudinal metal bars near the front of the face wall and passing to the rear of the wing walls, with a series of vertical metal bars located in the back part of the walls and continuing down and back into the heel, all acting together to maintain the abutment in a vertical and stable position, substantially as described.

4. An abutment having wing walls at an angle with the face wall in combination with the longitudinal bars c c', the vertical bars b and the transverse bars a all embedded within said abutment substantially as shown and for the purposes set forth.

5. In a wing wall for retaining material a series of longitudinal reinforcing bars located in the back part of said wing wall and extending well into the abutment or main wall and thus acting both to anchor said wing to the abutment and also to reinforce the cantaliver beam action of the wing in supporting the retained material.

[Claim 6 not printed in the Gazette.]

975,382. GRINDING-MACHINE. BENOT M. W. HANSON, Hartford, Conn., assignor to Pratt & Whitney Company, Hartford, Conn., a Corporation of New Jersey. Original application filed Apr. 20, 1909, Serial No. 491,102. Divided and this application filed Sept. 2, 1909. Serial No. 515,907.



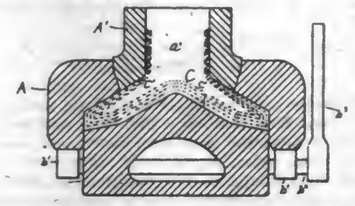
1. The combination of a base or bed, a work carriage reciprocatory longitudinally of said bed, a tool carriage movable transversely of said bed, a tool operating device coöperative with and for operating the tool on said tool carriage, a carriage reciprocating device for reciprocating the carriage, and mechanism for operating the tool operating device and the carriage reciprocating device, said mechanism involving means operable at will for increasing the speed of the tool operating device and for positively preventing an increase in speed of the carriage reciprocating device when the speed of the tool operating device is increased.

2. The combination of a bed, a work carriage reciprocatory on said bed, a tool carriage movable transversely of the bed, standards rising from the bed, a shaft supported by said standards, a drum connected with said shaft, the length of the drum equaling approximately the length of movement of said work carriage, a work supporting spindle on the work carriage, a pulley connected with said spindle and adapted to be driven by said drum through a belt in the different positions of the work carriage, a carriage reciprocating device, a tool operating device for operating the tool on the tool carriage, mechanism for operating said carriage reciprocating and tool operating devices, said mechanism involving hand operable means for increasing the speed of the tool operating device and for positively preventing an increase of speed of the carriage reciprocating device when the speed of the tool operating device is increased, and operative connections between one of said operating devices and said drum.

975,383. PROCESS OF MANUFACTURING CAR-WHEEL BLANKS. HERBERT R. KEITHLEY, Kansas City, Mo. Filed Aug. 19, 1909. Serial No. 513,701.

1. The method of producing an individual car wheel blank free from pipes and segregations which consists in casting a horizontal steel disk with a vertical column rising from the top thereof, the parts being so proportioned that the metal in the column remains fluid until the disk has solidified and the solidification of the disk progresses from the edge thereof toward the column, and then discarding the column.

2. The method of producing an individual car wheel blank free from pipes and segregations which consists in casting a horizontal steel disk with a vertical column of considerable cross-sectional area rising from the top thereof at the center, the column being so proportioned that the metal therein remains fluid until the disk has solidified and the disk being so shaped that solidification thereof progresses from the edge toward the center so as to avoid the formation of solidified portions in the disk between the fluid column and unsolidified portions of the disk, and then discarding the column.



3. The method of producing an individual car wheel blank free from pipes and segregations which consists in casting a horizontal steel disk which rises gradually toward the center and there merges into a vertical column extending directly upwardly therefrom, the parts being so proportioned that the column remains fluid until the disk has solidified, and solidification of the disk progresses from the edge thereof toward the center, and then discarding the column.

4. The method of producing an individual car wheel blank free from pipes and segregations which consists in casting a horizontal steel disk with a vertical column rising from the top thereof, the parts being so proportioned that the metal in the column remains fluid until the disk has solidified and the solidification of the disk progresses from the edge thereof toward the column, subjecting the disk to pressure while it is solidifying, and then discarding the column.

5. The method of producing an individual car wheel blank which consists in casting a horizontal shallow steel disk which rises gradually from the edge toward the center and there merges into a vertical column extending upwardly therefrom, the parts being so proportioned that the column remains fluid until the disk has solidified and solidification of the disk progressing from the edge thereof toward the center, and then discarding the column.

[Claims 6 to 14 not printed in the Gazette.]

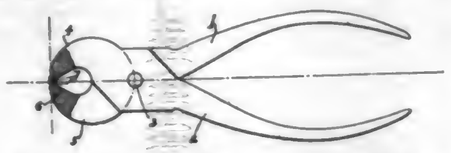
975,384. CORK-EXTRACTOR. FREDERICK L. NORMAN, Baltimore, Md., assignor of one-half to Herman Bealmear, Baltimore, Md. Filed Jan. 14, 1910. Serial No. 538,044.



1. A bottle closure consisting of a stopper and a flexible member in the form of two loops, a prong inserted in the center of the stopper base, the four ends of the two loops being joined to the prong and to each other, the stopper having a full circular cross section and the loops being opened so as to embrace the stopper at points widely spaced along its periphery and led upward at each side of the stopper above the bottle neck.

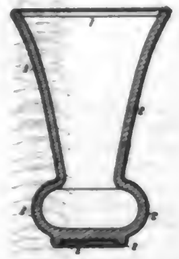
2. A bottle closure consisting of a plug inserted in the bottle neck and a flexible member, the latter consisting of a wire doubled upon itself and twisted to form two loops, one at each end of the twisted portion, the wire being bent at right angles to the twisted portion intermediately thereof to form a prong, the twisted portion of the wire extending across the base of the plug, the prong being inserted centrally thereof and the loops extending upward and at each side of the plug and protruding from the bottle neck.

975,385. PLIERS. JAMES M. CHAPPEL, Dallas, Tex. Filed Apr. 28, 1906. Serial No. 314,304.



In a pair of pliers, in combination, a pair of jaws having transverse sharp cutting edges which meet and are flush with the end faces of the jaws from which they taper inwardly, said faces being in the same plane with and at substantially right angles to the longitudinal axis of the pliers, and projections at the ends of said jaws and between the same for preventing the cutting edges from jamming against each other.

975,386. METHOD OF PRODUCING METALLIC ARTICLES BY ELECTRODEPOSITION. FRANK IOANS GIBBS, Birmingham, England. Filed Feb. 23, 1909. Serial No. 479,495.



A method of forming a rounded rim at an opening in a metal article consisting in continuing the prepared surface of the glass or pottery ware model to a definite line on the other side so that when the metal is electrodeposited thereon a rim will be formed around the top of the vessel from which the model can be removed, and then filling in the rim with suitable material and making it solid.

975,387. METHOD OF TREATING BAGASSE. THOMAS J. HUTCHINSON, Manchester, England. Filed Sept. 8, 1908. Serial No. 452,142.

1. A process of obtaining paper-making cellulose from bagasse, which consists in a succession of mild digestive treatments of the bagasse, each treatment being terminated when a portion of the non-cellulose constituents have been disassociated from the pure bagasse cellulose and before the latter becomes appreciably impaired by such treatment, and being followed by the immediate removal of such disassociated constituents by washing, substantially as described.

2. A process of obtaining cellulose suitable for paper-making from bagasse, which consists in subjecting the bagasse to mild digestive and reducing treatment under moderate heat and pressure for the purpose and with the result of liberating a portion of its non-cellulose constituents without injuriously affecting the cellulose, or decomposing any substantial amount thereof, washing such liberated constituents out of the mass before the cellulose fibers become recombined or impregnated therewith and thereafter repeating such mild digestive treatment and washing upon the resultant product until the said non-cellulose constituents have been sufficiently removed.

3. A process of producing half-stuff from bagasse which consists in digesting the bagasse for about one hour in a solution or solutions containing less than ten per cent. of alkali, taken with reference to the weight of the bagasse, and under a pressure above atmosphere of approximately ten pounds or less, until the greater part of the constituents not cellulose has become disassociated from the bagasse and removable by washing, washing out said constituents and thereafter further digesting the mass in a mild digestive solution.

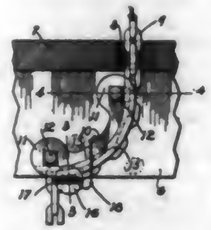
4. A process of obtaining cellulose suitable for paper-making from bagasse, which consists in mildly digesting the bagasse under moderate heat and pressure in a suitable reducing solution or solutions for such period of time, depending upon the effect thereof upon the bagasse, as will suffice to disassociate or liberate therefrom a portion of the non-cellulose constituents without impairing or destroying any substantial part of the cellulose of the bagasse and then separating such liberated constituents out of the mass by thorough washing and before the said cellulose becomes recombined or impregnated with said non-cellulose constituents.

5. A process of obtaining cellulose suitable for paper-making from bagasse, which consists in digesting the bagasse in a mildly active solution or solutions of moderate temperature and under a pressure above atmosphere of approximately ten pounds or less, continuing such treatment until a portion of the non-cellulose constituents are disassociated from the bagasse cellulose but before the same become appreciably recombined or impregnated therein and then washing the said liberated constituents out of the mass before such recombination or impregnation takes place.

[Claims 6 to 10 not printed in the Gazette.]

REISSUES.

13,164. LOAD-BINDER. ROBERT LEE BOYD, Alexandria, La. Filed Aug. 3, 1910. Serial No. 575,387. Original No. 931,710, dated Aug. 17, 1909, Serial No. 467,274.



1. A chain holder for load-binders, comprising a member having a grooved arcuate periphery, said groove being so shaped as to receive the links of a chain, and a pin extending transversely of the holder, and adapted to engage between alternate links of a chain.

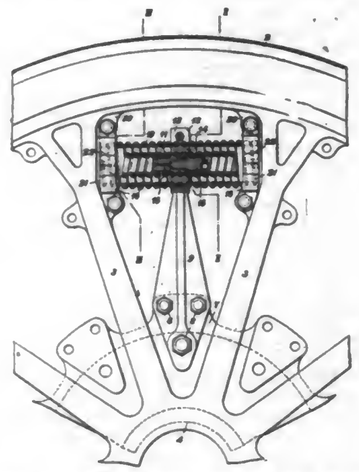
2. A chain holder for load-binders, comprising a member having a grooved arcuate periphery, the grooves being so shaped as to receive the links of a chain, said member being adapted to be attached to a sill and to support a pin, and a pin extending transversely of the holder adapted to engage between alternate links of a chain.

3. A chain holder for load-binders comprising a member having a chain groove on its outer side to receive the links of a chain, and a pin passing through said member adapted to hold a chain in the groove.

4. A chain holder for load-binders comprising an arcuate member having apertured ears spaced to receive a chain therebetween, a pin slidable through the apertures in said ears, to hold a chain to said member, between said ears.

5. A chain holder for load-binders, comprising an arcuate member having a chain groove in its outer surface and perforated ears on opposite sides of said groove, and a pin which is slidable through the perforations in said ears and across the groove to hold a chain therein.

13,165. RESILIENT CONNECTION. JOHN E. WEBSTER, Pittsburg, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., a Corporation of Pennsylvania. Filed June 25, 1910. Serial No. 568,949. Original No. 937,346, dated Oct. 19, 1909, Serial No. 426,344.



1. The combination with two relatively movable members, of a helical spring secured at its ends to one of the members and intermediate its ends to the other member, and another helical spring also secured intermediate its ends to the latter member and the extremities of which do not normally engage the former member.

2. The combination with two relatively movable members, of a helical spring secured at its ends to one of the members and intermediate its ends to the other member, and another spring also secured intermediate its ends to the latter member.

3. The combination with two relatively movable members, of a helical spring secured at its ends to one of the members and intermediate its ends to the other member, and another spring possessing a different degree of flexibility also secured intermediate its ends to the latter member.

4. The combination with two relatively movable members, of a helical spring secured at its ends to one of the members and intermediate its ends to the other member, of another spring possessing a lesser degree of flexibility and also secured intermediate its ends to the latter member.

5. The combination with two relatively movable members, of a plurality of concentric helical springs of different lengths secured intermediate their ends to one of the members, and means for securing the extremities of the longer spring to the other member.

6. The combination with two relatively movable members, of a plurality of concentric helical springs of different lengths, clamping devices applied to the springs intermediate their ends for securing the same to one of the members, and clamping devices applied to the ends of the longer spring for securing the same to the other member.

7. The combination with two relatively movable members, of a plurality of concentric helical springs of different lengths and different degrees of flexibility, means for securing the springs intermediate their ends to one of the members, and means for securing the extremities of the longer spring to the other member.

8. The combination with two relatively movable members, of a plurality of concentric helical springs of different lengths, concentric rings applied to the ends of the longer spring, means securing one of the rings at each end of the spring to one of the members, concentric rings applied to the springs intermediate their ends, one of which is carried by the other member, and means for clamping the springs between the concentric rings.

9. The combination with a vehicle wheel and a driving member, of a helical spring secured at its ends to the wheel, and intermediate its ends to the driving member, and another spring secured intermediate its ends to the driving member and the extremities of which do not normally engage the wheel.

10. The combination with a vehicle wheel and a driving member, of a helical spring secured at its ends to the wheel, and intermediate its ends to the driving member, and another spring possessing a different degree of flexibility secured intermediate its ends to the driving member and the extremities of which do not normally engage the wheel.

11. The combination with two concentrically mounted rotatable members, of an interposed helical spring and means for circumferentially gripping convolutions of said spring and clamping the same rigidly to the respective members.

12. The combination with two concentrically mounted rotatable members, of a plurality of interposed helical springs, and means for circumferentially gripping convolutions of each spring and rigidly clamping the same to the respective members.

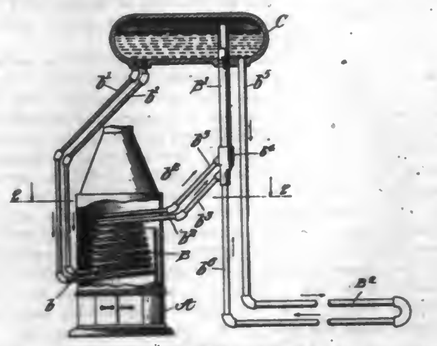
13. The combination with a driving member and a driven member each of which has substantially radial arms or spokes, of helical springs interposed between adjacent arms or spokes of the respective members, and clamps which circumferentially grip convolutions of said springs.

14. The combination with an electric motor having arms projecting radially from its rotatable member, of a wheel having spokes which alternate in position with said radial arms, helical springs interposed between said arms and said spokes, and clamps which circumferentially grip certain convolutions of said springs both interiorly and exteriorly and rigidly fasten the same to said arms and spokes.

15. The combination with a rotatable driving member and a concentrically mounted rotatable driven member, of a plurality of uniformly spaced helical springs interposed between said members, and clamping devices for circumferentially gripping convolutions of each spring and anchoring the same securely to the respective members.

16. The combination with two relatively movable members, of an interposed helical spring, and means for circumferentially gripping convolutions of said spring and clamping the same to the respective members.

13,166. WATER-HEATER. WILLIAM P. COSPER, Chicago, Ill., assignor to Roth Manufacturing Company, a Corporation of Illinois. Filed June 1, 1909. Serial No. 499,601. Original No. 867,480, dated Oct. 1, 1907, Serial No. 263,707.



1. In a device of the class described the combination with a circulating or expansion tank of a radiating pipe communicating therewith at one end below the water level

and discharging above the normal water level in said tank at its opposite end and a heating coil opening from said tank below the water level and discharging into the return portion of the radiating pipe tending to create a vacuum in the return portion of the radiating pipe.

2. In a device of the class described the combination with a circulating or expansion tank of a heating coil communicating therein at its intake end, a radiating pipe or coil communicating at both ends with said tank and adapted to discharge above normal water level in the tank, the discharge end of the heating coil communicating with the discharge portion of the radiating pipe to augment the circulation therein.

3. In a device of the class described the combination with a circulating or expansion tank of a heating pipe or coil connected at its intake end in the bottom thereof, a radiating pipe or coil communicating at both ends with said tank and the returning end of the heating coil connecting obliquely in the return portion of the radiating pipe and directed toward the tank to augment the circulation therein, said return end of the radiating pipe discharging above the normal water level in the tank.

4. The combination with an expansion and supply tank of a radiating circuit or coil connected at its ends therein and having its discharge end opening above the water level in said tank, a heating coil opening at its intake end in said tank independently of the radiating coil and at its outer end communicating with the discharge portion of the radiating coil or circuit adapted to heat the water in said coil and to force the same into the expansion chamber and a source of heat to which the heating coil is exposed.

5. In a heating apparatus the combination with an expansion tank or chamber of a radiating pipe or coil having both ends opening therein, the discharge end opening above the water level in said tank, a heating coil having one end opening into the expansion tank and its discharge end opening upwardly into the discharge portion of the radiating pipe and adapted to create a partial vacuum in said pipe and to force the fluid in the discharge pipe into the tank.

6. The combination with an expansion and supply tank of a radiating pipe communicating at both ends therewith, one or more heating coils communicating with said tank at their intake ends, and with the return portion of the radiating pipe with their discharge ends, said return portion of the radiating pipe being increased in size and extending above the normal water level in said tank.

7. The combination in a water heating system with the expansion or supply tank of a radiating pipe or coil communicating at its ends therein, the discharge end of said pipe extending above the bottom of the tank and being of relatively large size, one or more heating coils communicating at their intake ends with the tank, the discharge ends communicating with the return discharge portion of the radiating pipe at its point of enlargement and directed obliquely toward the tank and means heating the coil.

8. In a fluid heating system the combination with a tank of a radiating circuit communicating therein, a heating coil having its intake end communicating with the tank and having the discharge end connecting obliquely in the return portion of the radiating circuit in the direction of flow and acting to augment circulation, said discharge end of the radiating circuit extending above the normal water level in said tank and means heating said coil.

9. In a fluid heating system the combination with a radiating pipe of a heating coil, the discharge end thereof communicating with the return portion of the radiating pipe, an expansion tank opening into the inlet ends of said radiating pipe and heating coil, said radiating pipe discharging above the normal water level in said tank and means heating the fluid in the coil and radiating pipe.

10. In a device of the class described the combination with an expansion tank of a radiating pipe connected therein at its intake end and its discharge end opening therein above the normal water level and a heating coil communicating with the tank at one end and at its other end communicating obliquely with the discharge portion of the radiating pipe and adapted to create a vacuum in the discharge portion of said radiating pipe.

11. In a device of the class described the combination with a heater of an expansion tank above the same, a radiating pipe communicating with said tank at both ends, with the discharge end thereof opening above the normal water level, a heating coil connected in circuit with the radiating pipe and through which the fluid in the radiating pipe passes and a heating coil opening from the tank and communicating with the discharge portion of the radiating pipe adapted to create a vacuum in the discharge end of the radiating pipe.

12. In a device of the class described the combination with an expansion tank of a radiating coil communicating therewith and having its inlet end opening below the water level and its outlet end opening in the tank above the water level, means for heating said coil and a heating coil communicating with the tank and discharge portion of the radiating coil adapted to facilitate the circulation in the radiating coil.

13. In a device of the class described the combination with an expansion tank of a radiating pipe opening at its intake end below the water level in said tank and the discharge end thereof opening above the water level therein and a heating circuit communicating at one end with the expansion tank and discharging upwardly into the discharge portion of the radiating pipe and adapted to heat and force the circulating fluid into the tank.

14. In a device of the class described the combination with an expansion tank of a radiating pipe opening therefrom and thereinto with its discharge end opening above the water level in said tank, a coil communicating at one end with said tank and opening at its other end into the radiating pipe and adapted to heat the liquid in and accelerate the circulation through said radiating pipe and means for heating said coil.

15. In a hot water heating system, the combination with a radiating circuit comprising an expansion tank and a radiator, the return end of the radiator delivering into the expansion tank above the normal water level therein; of a water heating circuit which receives water from said radiating circuit and delivers it to the return end of said radiating circuit relative to said expansion tank.

16. A hot water heating system comprising an expansion tank, a radiator which opens out of the expansion tank below the normal water level therein and which discharges into said tank above said water level, and means for injecting highly heated water into the return end of said radiator near said expansion tank.

17. A hot water heating system comprising an expension tank, a radiator which opens out of said expansion tank below the normal water level therein and which discharges into said expansion tank above said water level, said expansion tank and radiator thus constituting a circuit for water, and means for withdrawing water from said circuit, heating the same and injecting it when highly heated into the return end of said radiator near said expansion tank.

18. In a hot water heating system, the combination with an expansion tank, of a radiating coil which leads from the expansion tank below the water level therein, the return end of which leads into said expansion tank above the water level, a heating coil adapted to receive a portion only of the water of said system, which heating coil delivers into the return end of said radiating coil near the expansion tank, and a heating device which heats the water in said heating coil.

DESIGNS.

40,968. BADGE. ALFRED SCHICKERLING, New York, N. Y. Filed July 13, 1910. Serial No. 571,857. Term of patent 7 years.



The ornamental design for a badge, as shown.

40,969. MEDAL OR SIMILAR ARTICLE. HARRY W. SHEPARD, New York, N. Y. Filed Mar. 16, 1910. Serial No. 549,803. Term of patent 7 years.



The ornamental design for a medal or similar article, as shown.

40,970. BACK OF HAIR-BRUSHES OR SIMILAR ARTICLES. GEORGE L. TURNER, Taunton, Mass. Filed Aug. 4, 1910. Serial No. 575,575. Term of patent 14 years.



The ornamental design for a back of a hair brush or similar article as shown.

40,971. HANDLE FOR SPOONS, FORKS, OR SIMILAR ARTICLES. BARTON PICKERING JENKS, Concord, N. H., assignor to Wm. B. Durgin Co., Concord, N. H., a Corporation of New Hampshire. Filed July 20, 1910. Serial No. 572,946. Term of patent 14 years.



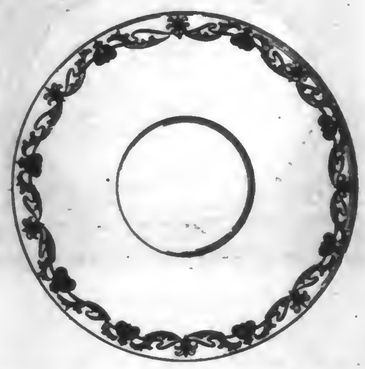
The ornamental design for a handle for spoons, forks or similar articles, as shown and described.

40,972. HANDLE FOR ALARM-CLOCKS. CHARLES PRESCOTT CATLIN, Duluth, Minn. Filed Apr. 21, 1910. Serial No. 556,908. Term of patent 14 years.



The ornamental design for a handle for alarm clocks as shown.

40,973. PLATE OR SIMILAR ARTICLE. JOHN J. MILLER, Newark, N. J. Filed Nov. 4, 1909. Serial No. 526,310. Term of patent 7 years.



The ornamental design for a plate or similar article as shown.

40,974. PICTURE-MOUNT. EVAN A. EVANS, Chicago, Ill., assignor to Carl Ernst & Co., New York, N. Y., a Firm. Filed July 22, 1910. Serial No. 573,354. Term of patent 3½ years.



The ornamental design for a picture mount, as shown.

40,975. PICTURE-MOUNT. EVAN A. EVANS, Chicago, Ill., assignor to Carl Ernst & Co., New York, N. Y., a Firm. Filed July 22, 1910. Serial No. 573,355. Term of patent 3½ years.



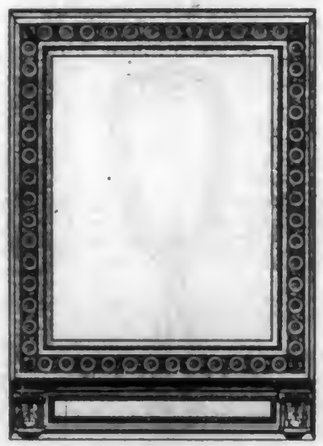
The ornamental design for a picture mount, as shown.

40,976. PICTURE-MOUNT. EVAN A. EVANS, Chicago, Ill., assignor to Carl Ernst & Co., New York, N. Y., a Firm. Filed July 22, 1910. Serial No. 573,356. Term of patent 3½ years.



The ornamental design for a picture mount, as shown.

40,977. PICTURE-MOUNT. EVAN A. EVANS, Chicago, Ill., assignor to Carl Ernst & Co., New York, N. Y., a Firm. Filed July 22, 1910. Serial No. 573,357. Term of patent 3½ years.



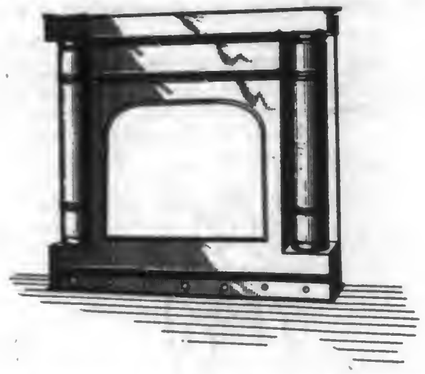
The ornamental design for a picture mount, as shown.

40,978. LIGHT-SHADE. ANDREW J. SANFORD, Newark, Ohio, assignor to A. H. Heisey & Co., Inc., Newark, Ohio, a Corporation of West Virginia. Filed Aug. 16, 1910. Serial No. 577,530. Term of patent 14 years.



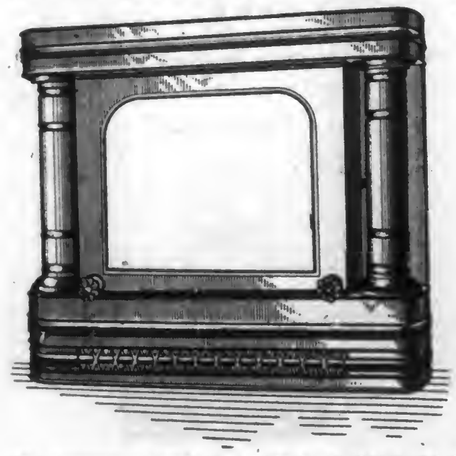
The ornamental design for a light shade, as shown and described.

40,979. HEATER-CASING. GEORGE H. MINIER and THADDEUS LOWE, South Pasadena, Cal. Filed Aug. 27, 1910. Serial No. 579,356. Term of patent 14 years.



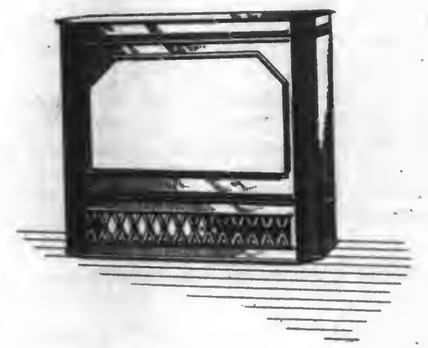
The ornamental design for a heater as shown and described.

40,980. HEATER-CASING. GEORGE H. MINIER and THADDEUS LOWE, South Pasadena, Cal. Filed Aug. 27, 1910. Serial No. 579,357. Term of patent 14 years.



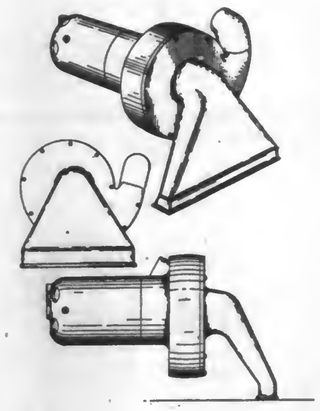
The ornamental design for a heater as shown and described.

40,981. HEATER-CASING. GEORGE H. MINIER and THADDEUS LOWE, South Pasadena, Cal. Filed Aug. 27, 1910. Serial No. 579,358. Term of patent 14 years.



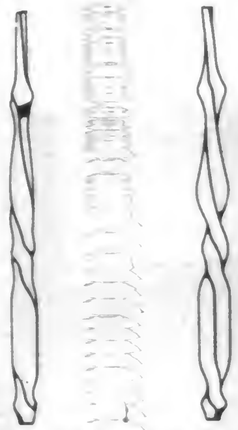
The ornamental design for a heater as shown and described.

40,982. CASING FOR PNEUMATIC CLEANING-MACHINES. ALFRED J. STECKER, Detroit, Mich., assignor to Fred Wardell, Detroit, Mich. Filed Apr. 8, 1910. Serial No. 554,298. Term of patent 7 years.



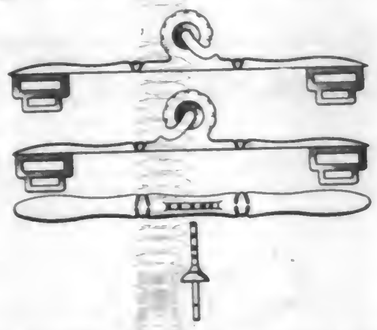
The ornamental design for a casing for a pneumatic cleaning machine, as shown.

40,983. POST FOR FURNITURE OR SIMILAR ARTICLES. PAUL PILON, Chicago, Ill. Filed June 25, 1910. Serial No. 568,944. Term of patent 14 years.



The ornamental design for a post for furniture or similar articles as shown.

40,984. LICENSE-PANEL BRACKET-ARM FOR AUTOMOBILES. THOMAS HARPER, Union Hill, N. J. Filed Sept. 2, 1910. Serial No. 580,267. Term of patent 3½ years.



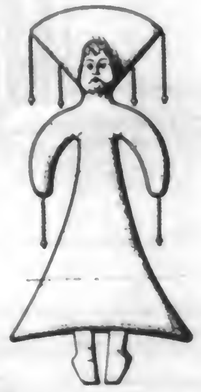
The ornamental design for a license-panel bracket-arm for automobiles, as shown.

40,985. DISPENSING-FONT. JOHN M. TRAVIS, St Louis, Mo. Filed Sept. 10, 1910. Serial No. 581,455. Term of patent 7 years.



The ornamental design for a dispensing font as shown.

40,986. DOLL. HENRY F. SAMSTAG, New York, N. Y. Filed Aug. 27, 1910. Serial No. 579,352. Term of patent 3½ years.



The ornamental design for a doll, as shown.

TRADE-MARKS

PUBLISHED NOVEMBER 8, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 17,331. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) OTIS COMPANY, Ware, Mass. Filed Feb. 24, 1906.

The representation of a palm-tree.

Particular description of goods.—Cotton Piece Goods.

Ser. No. 28,733. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) C. MEIJER & Co., Schiedam, Netherlands. Filed July 11, 1907.



The following words and phrases appearing on the drawing are hereby disclaimed as parts of the trade-mark

Ser. No. 28,734. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) C. MEIJER & Co., Schiedam, Netherlands. Filed July 11, 1907.



The following words and phrases are disclaimed as parts of the trade-mark to be registered: "C. Meijer & Co., The

to be registered: "C. Meijer & Co., Schiedam, The United Maltwine Proprietors," "International Exhibition, Gold Brand Medal, Capetown, 1905," "Hollandsche Genever, C. Meijer & Co., The United Maltwine Proprietors, Schiedam," "Purchasers are respectfully requested to take note of the name of our firm on cork and capsule, Schiedam (Holland)," the name "C. Meijer & Co." appearing at the bottom of the mark being a facsimile of the firm-name as written by Agatha Stepania Antonia Maria Meijer.

Particular description of goods.—Holland Geneva.

United Maltwine Proprietors, Schiedam," "International Exhibition, Gold Brand Medal, Capetown, 1905," "Celebrated Geneva, Superior Quality, the United Maltwine Proprietors, C. Meijer & Co., Directors, Schiedam," "Gold Medal, Capetown, 1905, Capetown Industrial Exhibition 1905, Gold Medal, C. Meijer & Co., Distillers Schiedam," "C. Meijer & Co.'s The Best Brand of Holland Geneva," "Purchasers are respectfully requested to take note of the name of our firm on cork and capsule, Schiedam (Holland)," the name "C. Meijer & Co." appearing at the bottom of the mark being a facsimile of the firm-name as written by Agatha Stepania Antonia Maria Meijer.

Particular description of goods.—Holland Geneva.

Ser. No. 39,813. (CLASS 1. RAW OR PARTLY-PREPARED MATERIALS.) HERMANN E. ENGELSMANN, St. Louis, Mo. Filed Jan. 11, 1909.

RELIANCE

Particular description of goods.—Lace-Leather.

Ser. No. 45,328. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) COLUMBIA COTTON OIL AND PROVISION CORPORATION, Relee, Va. Filed Oct. 14, 1909.



Particular description of goods.—A Compound of Cotton-Seed Oil and Oleo-Stearin.

Ser. No. 45,440. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) F. ALFRED REICHARDT, Elizabeth, N. J. Filed Oct. 21, 1909. Used ten years.

FARNY

Particular description of goods.—Razors, Safety-Razors, and Razor-Guards.

Ser. No. 45,762. (CLASS 39. CLOTHING.) RICE-STIX DRY GOODS COMPANY, St. Louis, Mo. Filed Nov. 8, 1909.

OUR MARVEL

Particular description of goods.—Hosiery.

Ser. No. 46,208. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) BEDELL PARKER, New York, N. Y. Filed Nov. 30, 1909.

DELPARK

Particular description of goods.—Belts, Neckties, Stocks, Cravats, Jabots, and Rabats.

Ser. No. 46,209. (CLASS 39. CLOTHING.) BEDELL PARKER, New York, N. Y. Filed Nov. 30, 1909.

DELPARK

Particular description of goods.—Dress-Shirts, Negligée Shirts, Vests, Undershirts, Drawers, Union Suits, Pajamas, Gloves, Hosiery, Collars, Shirt-Waists, and Women's Dress-Waists.

Ser. No. 46,600. (CLASS 44. DENTAL, MEDICAL, AND SURGICAL APPLIANCES.) THE OXYGENATOR CO., Buffalo, N. Y. Filed Dec. 18, 1909.

OXYPATHY

Particular description of goods.—Oxygenators.

Ser. No. 47,242. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) FREDERICK F. FROATZ, New York, N. Y. Filed Jan. 19, 1910.

ZANACEPTOL

Particular description of goods.—Remedies for the Treatment of Diseases of the Vagina, Ovaries, and Womb.

Ser. No. 47,920. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) AKTIEBOLAGET B. A. HJORTH & Co., Stockholm, Sweden. Filed Feb. 19, 1910.

PRIMUS

Particular description of goods.—Machine-Shafts, Machine-Axles, Apparatus for Grinding Knives and Scissors, Bellows, Blowing-Machines, Pulleys, Drills, Tying Apparatus, Wiring Apparatus, Reamers, Boring-Tools, Boring-Steels, Drilling or Boring Machines, Reversing-Gears for Motors, Bending-Machines, Chucks, Centering-Machines, Centering-Tools, Lifting-Jacks, Dish-Washing Machines, Pilot-Engines, Drawing-Dies, Ejectors, Wood-Chisels, Wood-Carving Tools, Wood-Turning Tools, Metal-Turning Tools, Mortising-Tools, Plumbers' Chisels, Plane-Irons, Cutting-Off Tools, Files, Fruit-Pickers, Fruit-Parers, Fruit-Peelers, Friction-Couplings, Milling-Tools, Milling-Machines, Filing-Machines, Thread-Cutting Tools, Casting-Machines, Mitering-Machines, Lawn-Mowers, Founders' Tools, Thread-Cutting Machines, Power-Hammers, Hoists, Elevators, Lifting-Tools, Hammers, Machine-Spindles, Wheel-Boxes, Cutting and Chipping Tools for Wood and Stone and also for Iron and other Metals, Picks, Hoes, Drop-Hammers, Pile-Drivers, Planes, Planing-Machines, Wheel-Shrinking Apparatus, Injectors, Coffee-Roasters, Corkscrews, Knives, Apparatus for Cleaning Table-Knives, Meat-Grinders, Crushers, Grinding-Mills, Clamps, Pinions for Gears, Carding-Engines, Pickaxes, Mattocks, Cranes, Soldering Apparatus, Unloading and Loading Machines, Shaft-Hangers with Bearings of All Kinds, Journal-Boxes, Box-Openers, Gas-Motors and Liquid-Fuel Motors, Machines and Apparatus for Paring Fruit and Extraction of Seeds, Dredging-Machines, Mechanical Power Transmissions, Cheese-Machines, Cheese-Knives, Oval Chucks, Boiler-Makers', Tin, and Copper Smiths' Tools, Tinmen's Shears, Tinmen's Punches, Tinmen's Grooving-Machines, Tinmen's Burring-Machines, Tinmen's Bending-Machines, Tinmen's Rolling-Machines, Tinmen's Circular Cutters, Guillotine Squaring-Shears, Tinmen's Paning-Down Machines, Tinmen's Beading and Swaging Machines, Tinmen's Wiring-On Machines, Tinmen's Folding-Machines, Pumps, Pneumatic Sweepers and Dusters, Potato-Peelers, Endless-Chain Elevators, Pneumatic Chipping and Riveting Tools,

Presses, Pipe-Cutters, Rasps, Belt-Pulleys, Pipe-Working Tools, Cream-Separators and Parts Belonging Thereto, Churns, Butter-Kneading and Butter-Washing Machines, Sweeping Apparatus, Sweeping-Machines, Grinding-Apparatus, Grinding-Machines, Sewing and Knitting Machines, Forging-Tools, Forging-Machines, Lubricating Apparatus, Saws, Vises, Wrenches, Ratchet-Braces, Ratchet-Drills, Scissors, Shears, Sledge-Hammers, Harvesting-Machines, Fire-Engines, Twyers, Graving-Tools, Stoneworking-Tools, Turning Appliances, Lathes, Sawing-Machines, Cutting-Tools for Wood, Stone, Iron, and other Metals, Stamping-Machines, Dies for Stamping and Punching, Lathe-Tools, Type-Writing Machines, Head-Stocks for Lathes, Spinning Machinery, Screw-Clamps, Cramps, Tool-Handles, Saw-Frames, Tongs or Nippers for Setting Saw-Teeth, Spades, Woodworking Machinery, Tongs, Pincers, Nippers, Forceps, Tube-Cleaners and Tube-Expanders, Woodworking-Tools, Gardening-Tools, Axes, Adzes, Hatchets, Machine-Tools, Winches, Weaving Machinery, Tool-Holders, Rakes, Garden-Rollers, Lawn-Mowers, Patchers, Corn-Planters, Grain and Fertilizer Drills, Fertilizer-Distributers, Corn-Sowing Machines, Mowing-Machines, Plows, Harrows, Cultivators, Threshing-Machines, and Winnowers.

Ser. No. 48,173. (CLASS 15. OILS AND GREASES.) BLIVEN & CARRINGTON, INC., New York, N. Y. Filed Mar. 4, 1910.

E.Z.

Particular description of goods.—Lubricating-Grease.

Ser. No. 48,426. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WOOLSON SPICE COMPANY, Toledo, Ohio. Filed Mar. 16, 1910.

GOLDEN SUN

Particular description of goods.—Blended Coffee.

Ser. No. 49,050. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) RUDOLPH VANDER MOLEN, Chicago, Ill. Filed Apr. 13, 1910.

ALOFA BREAD
HENRY'S BAKERY

The outer rectangular border being red and the panels blue, no claim being made to the use of the words "Alofa," "Bread," "Henry's Bakery."

Particular description of goods.—Bread.

Ser. No. 49,094. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) OLNEY & FLOYD, Westernville, N. Y. Filed Apr. 14, 1910.

BUTTERFLY BRAND

Particular description of goods.—Canned Vegetables.

Ser. No. 49,582. (CLASS 17. TOBACCO PRODUCTS.) THE WEIDEMAN COMPANY, Cleveland, Ohio. Filed May 7, 1910.

Euclid

Particular description of goods.—Cigars and Stogies.

Ser. No. 49,664. (CLASS 27. HOROLOGICAL INSTRUMENTS.) THE WESTERN CLOCK MFG. CO., Peru, Ill. Filed May 12, 1910.

BULL'S EYE

Particular description of goods.—Clocks and Watches.

Ser. No. 49,730. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE FREMONT KRAUT COMPANY, Fremont, Ohio. Filed May 14, 1910.

SNOW-FLOSS

Particular description of goods.—Canned Sauer-Kraut.

Ser. No. 49,852. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) GROVE, PRAGER & MILLER, Baltimore, Md. Filed May 21, 1910.

Particular description of goods.—Cream-Cheese.

Ser. No. 50,018. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) HENRY HALEY HIXSON, Chicago, Ill. Filed May 31, 1910.

MARK TWAIN



The portrait shown being that of Samuel L. Clemens, deceased.

Particular description of goods.—Tea, Coffee, and Spices.

Ser. No. 50,068. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE GOULDS MANUFACTURING COMPANY, Seneca Falls, N. Y. Filed June 2, 1910.

PYRAMID

Particular description of goods.—Double-Action-Piston Pumps.

Ser. No. 50,096. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) MCFADDEN COFFEE & SPICE CO., Dubuque, Iowa. Filed June 3, 1910.

FESTIVAL

Particular description of goods.—Blended Coffees, Teas, and Flavoring Extracts.

Ser. No. 50,219. (CLASS 39. CLOTHING.) MME. MARIETTE COMPANY, Chicago, Ill. Filed June 9, 1910.



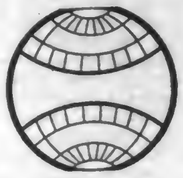
Particular description of goods.—Corsets.

Ser. No. 50,352. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CENTRAL CANDY COMPANY, Chicago, Ill. Filed June 17, 1910.

ALOHA

Particular description of goods.—Chocolate Candies.

Ser. No. 50,372. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) STOLLWERCK BROTHERS, INC., Stamford, Conn. Filed June 17, 1910.



Particular description of goods.—Cocoa and Chocolate.

Ser. No. 50,403. (CLASS 39. CLOTHING.) GLOBE KNITTING WORKS, Grand Rapids, Mich. Filed June 17, 1910.

Thornapple

Particular description of goods.—Knitted Underwear.

Ser. No. 50,559. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) ELSA DUAMI, New York, N. Y. Filed June 24, 1910.

VELVEDERMA



Particular description of goods.—Skin-Lotions.

Ser. No. 50,665. (CLASS 14. METALS AND METAL CASTINGS AND FORGINGS.) THE MANGANESE BRONZE & BRASS CO., LIMITED, London, England. Filed July 1, 1910.

TURBADIUM

Particular description of goods.—Bronze Alloys.

Ser. No. 50,977. (CLASS 38. PRINTS AND PUBLICATIONS.) FRED L. KIMBALL COMPANY, Waterloo, Iowa. Filed July 21, 1910. Used ten years.

THE CREAMERY JOURNAL

Particular description of goods.—A Periodical Publication, Published Weekly.

Ser. No. 51,040. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) GREEN & DE LAITTRE COMPANY, Minneapolis, Minn. Filed July 25, 1910.



Particular description of goods.—Roasted Coffee.

Ser. No. 51,054. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) MAX QUEISSER, Charlottenburg, Germany. Filed July 25, 1910.



Particular description of goods.—A Chemical Preparation for the Purpose of Cleaning Straw Hats.

Ser. No. 51,062. (CLASS 39. CLOTHING.) LEWIS MEIER & Co., Indianapolis, Ind. Filed July 26, 1910.



Particular description of goods.—Overalls, Trousers, Work-Shirts, and Negligée Shirts.

Ser. No. 51,103. (CLASS 2. RECEPTACLES.) ARTHUR G. LEONARD, New York, N. Y. Filed July 27, 1910. Used ten years.

SAFETY FIRE BUCKET TANK

Particular description of goods.—Tanks for Fire-Buckets.

Ser. No. 51,120. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CORN PRODUCTS REFINING COMPANY, Jersey City, N. J., and New York, N. Y. Filed July 28, 1910.

REX

Particular description of goods.—A Compound of Corn-Syrup and Refiner's Syrup, and Imitation Fruit-Jelly.

Ser. No. 51,121. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) WELSBACH COMPANY, Gloucester City, N. J. Filed July 28, 1910.

MULTI-FLEX

Particular description of goods.—Gas-Lamps and Gas-Lamp Fixtures.

Ser. No. 51,145. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) DIAMOND STEEL TRUCK CO., Grand Rapids, Mich. Filed July 29, 1910.

VELVET

Particular description of goods.—Furniture-Casters.

Ser. No. 51,151. (CLASS 35. BELTING, HOSE, MACHINERY PACKING, AND NON-METALLIC TIRES.) IMPERIAL RUBBER CO., New York, N. Y. Filed July 29, 1910. Used ten years.

SUPREME

Particular description of goods.—Cotton and Rubber Lined Hose, Linen Hose, Rubber Hose, Rubber and Fabric Hose, Rubber Tubing, Rubber, Cotton, and Leather Belting, Rubber Gaskets, Rubber Valves, and Machinery Packing in Sheet, Spiral, and Ring Form, Composed of Rubber, Rubber and Metal, Rubber and Asbestos, Rubber and Cloth, Rubber and Fiber, and Rubber and Flax.

Ser. No. 51,160. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) THE UNDERFEED STOKER COMPANY OF AMERICA, Chicago, Ill. Filed July 29, 1910.



Particular description of goods.—Furnaces.

Ser. No. 51,211. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WESTERN GROCER COMPANY, Marshalltown, Iowa. Filed Aug. 1, 1910.

HAVACUP

Particular description of goods.—Coffee.

Ser. No. 51,229. (CLASS 12. CONSTRUCTION MATERIALS.) MERCHANT & EVANS COMPANY, Philadelphia, Pa. Filed Aug. 2, 1910.

F/R

Particular description of goods.—Roofing-Paper.

Ser. No. 51,230. (CLASS 14. METALS AND METAL CASTINGS AND FORGINGS.) MERCHANT & EVANS COMPANY, Philadelphia, Pa. Filed Aug. 2, 1910.

F/R

Particular description of goods.—Tin-Plate.

Ser. No. 51,251. (CLASS 38. PRINTS AND PUBLICATIONS.) THE BANKER'S PUBLISHING CO., New York, N. Y. Filed Aug. 3, 1910. Used ten years.

The BANKERS MAGAZINE

Particular description of goods.—Monthly Magazines.

Ser. No. 51,327. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) GEORGE LUEDERS & Co., New York, N. Y. Filed Aug. 9, 1910.

PER-OXO

Particular description of goods.—Peroxid of Hydrogen.

Ser. No. 51,356. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) KORNFALFA FEED MILLING COMPANY, Kansas City, Mo. Filed Aug. 11, 1910.

KLUK

Particular description of goods.—Prepared Poultry Food.

Ser. No. 51,372. (CLASS 28. JEWELRY AND PRECIOUS-METAL WARE.) DIEGES & CLUST, New York, N. Y. Filed Aug. 12, 1910.



Particular description of goods.—Medals, Badges, Charms, and Rings.

Ser. No. 51,396. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WED. B. VAN DORSBURG, Mijdrecht and Amsterdam, Netherlands. Filed Aug. 13, 1910.

TRIC-TRAC

Particular description of goods.—Cake and Biscuits.

Ser. No. 51,422. (CLASS 39. CLOTHING.) BROWN DURRELL CO., Boston, Mass. Filed Aug. 16, 1910.



Particular description of goods.—Hosiery.

Ser. No. 51,525. (CLASS 15. OILS AND GREASES.) A. D. MILLER'S SONS CO., Pittsburg, Pa. Filed Aug. 24, 1910. Used ten years.

BRIGHT LIGHT



The picture being purely fanciful.

Particular description of goods.—Petroleum-Wax of Paraffin Nature.

Ser. No. 51,636. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) INTERNATIONAL IMPORT & EXPORT CO., New York, N. Y. Filed Aug. 31, 1910.

ROSEMARY

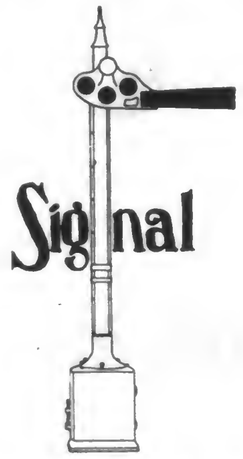
Particular description of goods.—Dried Fruits.

Ser. No. 51,637. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) ROUPEN K. YACOOBIAN, Philadelphia, Pa Filed Aug. 31, 1910.

"Dell-it"

Particular description of goods.—Candy.

Ser. No. 51,644. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) IMPERIAL RUBBER CO., New York, N. Y. Filed Sept. 1, 1910.



Particular description of goods.—Electrical Tapes, Electrical Insulating Compounds, Switchboard-Mats, Insulating-Mats, Electrical Bushings, Electrical Fiber for Insulating Purposes.

Ser. No. 51,688. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CLOSSET & DEVERS, Portland, Oreg. Filed Sept. 7, 1910. Used ten years.

EQUITY

Particular description of goods.—Coffee.

Ser. No. 51,690. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CLOSSET & DEVERS, Portland, Oreg. Filed Sept. 7, 1910. Used ten years.

CORAL

Particular description of goods.—Coffee.

Ser. No. 51,691. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CLOSSET & DEVERS, Portland, Oreg. Filed Sept. 7, 1910.

Gua-Sal

Particular description of goods.—Coffee.

Ser. No. 51,693. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CLOSSET & DEVERS, Portland, Oreg. Filed Sept. 7, 1910.

LEONA

Particular description of goods.—Coffee.

Ser. No. 51,694. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CLOSSET & DEVERS, Portland, Oreg. Filed Sept. 7, 1910.

NO 851

Particular description of goods.—Coffee.

Ser. No. 51,698. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CLOSSET & DEVERS, Portland, Oreg. Filed Sept. 7, 1910.

NO 512

Particular description of goods.—Coffee.

Ser. No. 51,718. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) PATRICK BRADY, New York, N. Y. Filed Sept. 8, 1910.



Particular description of goods.—Furniture-Polish.

Ser. No. 51,780. (CLASS 17. TOBACCO PRODUCTS.) THE HEMMETER CIGAR CO., Detroit, Mich. Filed Sept. 12, 1910.

MINNEHAHA

Particular description of goods.—Cigars.

Ser. No. 51,785. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) BOYNTON FURNACE COMPANY, New York, N. Y. Filed Sept. 13, 1910. Used ten years.

NEWPORT

Particular description of goods.—Cooking Stoves and Ranges and Furnaces.

Ser. No. 51,801. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) HILDRETH VARNISH CO., New York, N. Y. Filed Sept. 14, 1910. Used ten years.

HILDRETH

Particular description of goods.—Railway-Varnishes, Coach, Carriage, and Motor-Car Varnishes, Furniture-Varnishes, Color-Varnishes, Floor-Varnishes, Rub-Lead Japan, Architectural Varnishes, Spar-Varnishes, Japans, and Driers, Whip-Varnishes, Oil-Cloth Varnishes, Agricultural-Implement Varnishes, Graphite Paints, Pole-Paints, Roof-Paints, Floor-Paints, Bridge-Paints, Freight-Car and Coal-Car Paints, Iron and Steel Paints, and Fillers.

Ser. No. 51,856. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) RURAL HOME CHEMICAL COMPANY, Wellsboro, Pa. Filed Sept. 16, 1910.

KarBraK

Particular description of goods.—A Substance Adapted for Use as a Disinfectant, Deodorant, Germicide, and Insecticide.

Ser. No. 51,873. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE J. & G. BUTLER CO., Columbus, Ohio. Filed Sept. 19, 1910.

"Yours Truly"

Particular description of goods.—Blended Whisky.

Ser. No. 51,885. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) THE CABLE COMPANY, Chicago, Ill. Filed Sept. 19, 1910.

Aristocrat

Particular description of goods.—Pianos, Organs, Automatic Piano-Players, and Self-Playing Pianos.

Ser. No. 52,035. (CLASS 5. ADHESIVES.) HARRY I. FOCHT, Reading, Pa. Filed Sept. 30, 1910.

JEWEL

Particular description of goods.—Adhesive Cements.

Ser. No. 52,107. (CLASS 33. GLASSWARE.) ROYAL GLASS COMPANY, Centralia, Ill. Filed Oct. 4, 1910.

REGAL



BRAND

Particular description of goods.—Window-Glass, Ground Glass, Chipped Glass, and Enameled Glass.

Ser. No. 52,124. (CLASS 38. PRINTS AND PUBLICATIONS.) THE E. L. POWERS CO., New York, N. Y. Filed Oct. 5, 1910. Used ten years.

GOOD ROADS

Particular description of goods.—Monthly Publication.

Ser. No. 52,141. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) RICHARD CLAUS, East Orange, N. J. Filed Oct. 6, 1910.

KITSMENT

Particular description of goods.—Chemical Composition for Waterproofing Cement.

Ser. No. 52,175. (CLASS 38. PRINTS AND PUBLICATIONS.) ORANGE JUDD COMPANY, New York, N. Y. Filed Oct. 10, 1910.

SCHOOL AGRICULTURE

Particular description of goods.—Serial Magazines.

TRADE-MARKS

REGISTERED NOVEMBER 8, 1910.

80,100. SELF-RISING FLOUR. AKIN-ERSKINE MILLING COMPANY, Evansville, Ind.
Filed July 26, 1910. Serial No. 51,060. PUBLISHED SEPTEMBER 6, 1910.

80,101. LEATHER, RUBBER, AND CANVAS BOOTS AND SHOES. BEALS & TORREY SHOE CO., Milwaukee, Wis.
Filed November 29, 1905. Serial No. 15,068. PUBLISHED MARCH 3, 1908.

80,102. GREASE-CUPS, DISK WHEELS, AND SCREW-THREADING TAPS. CHARLES H. BESLY & COMPANY, Chicago, Ill.
Filed March 8, 1910. Serial No. 48,269. PUBLISHED SEPTEMBER 6, 1910.

80,103. PERFUME AND TOILET WATER. ROSS W. BLACK, Pittsburg, Pa.
Filed July 5, 1910. Serial No. 50,697. PUBLISHED SEPTEMBER 6, 1910.

80,104. IRON-ENAMEL. BLACK SILK STOVE POLISH WORKS, Sterling, Ill.
Filed November 23, 1909. Serial No. 46,083. PUBLISHED SEPTEMBER 6, 1910.

80,105. BRANDY. MAISON BOULESTIN, Cognac, France.
Filed May 5, 1910. Serial No. 49,521. PUBLISHED JUNE 7, 1910.

80,106. RUBBER BELTS AND RUBBER HOSE. BOWERS RUBBER WORKS, San Francisco, Cal.
Filed March 11, 1910. Serial No. 48,353. PUBLISHED MAY 3, 1910.

80,107. BASE-BALL GLOVES. CHICAGO SPORTING GOODS MFG. CO., Chicago, Ill.
Filed June 20, 1910. Serial No. 50,440. PUBLISHED SEPTEMBER 6, 1910.

80,108. CANNED FRUITS AND CANNED VEGETABLES. THE CONTINENTAL FRUIT PACKING CO., LIMITED, London, England.
Filed March 9, 1909. Serial No. 41,019. PUBLISHED MAY 25, 1909.

80,109. CANNED FRUITS AND CANNED VEGETABLES. THE CONTINENTAL FRUIT PACKING CO., LIMITED, London, England.
Filed March 9, 1909. Serial No. 41,020. PUBLISHED MAY 11, 1909.

80,110. WRAPPING-PAPER. CROWN-COLUMBIA PULP AND PAPER CO., San Francisco, Cal.
Filed November 11, 1909. Serial No. 45,838. PUBLISHED SEPTEMBER 6, 1910.

80,111. SALVES. THE DERMATO SALVE CO., Columbus, Ohio.
Filed May 13, 1910. Serial No. 49,706. PUBLISHED JULY 26, 1910.

80,112. MIXTURE OF GRASS-SEED AND MANURE. DORMANT SOD COMPANY, Chicago, Ill.
Filed July 20, 1910. Serial No. 50,923. PUBLISHED SEPTEMBER 6, 1910.

80,113. ADVERTISING-SIGNS. AMELIA M. ENGELHARD, Waterloo, Iowa.
Filed May 20, 1910. Serial No. 50,419. PUBLISHED SEPTEMBER 6, 1910.

80,114. GLYCOLYTIC EXTRACT OF PANCREAS. FAIRCHILD BROS. & FOSTER, New York, N. Y.
Filed July 29, 1910. Serial No. 51,142. PUBLISHED SEPTEMBER 6, 1910.

80,115. REMEDY FOR CERTAIN DISEASES. FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, Höchst-on-the-Main, Germany.
Filed February 23, 1909. Serial No. 40,735. PUBLISHED SEPTEMBER 6, 1910.

80,116. HAIR TONIC OR INVIGORATOR AND SCALP OR SKIN REMEDY. JULES FEROND, New York, N. Y.
Filed April 27, 1910. Serial No. 49,314. PUBLISHED SEPTEMBER 6, 1910.

80,117. CERTAIN MACHINERY AND PARTS THEREOF. THE FISHER GOVERNOR COMPANY, Marshalltown, Iowa.
Filed November 13, 1909. Serial No. 45,875. PUBLISHED SEPTEMBER 6, 1910.

80,118. FIRE-EXTINGUISHING APPARATUS. GENERAL FIRE EXTINGUISHER COMPANY, New York, N. Y., and Providence, R. I.
Filed July 31, 1909. Serial No. 43,919. PUBLISHED SEPTEMBER 6, 1910.

80,119. EGGS. GOLDEN AND COMPANY, Washington, D. C.
Filed July 21, 1910. Serial No. 50,973. PUBLISHED SEPTEMBER 6, 1910.

80,120. CHOCOLATES AND CANDIES. E. GREENFIELD'S SON & CO., New York, N. Y.
Filed August 12, 1905. Serial No. 11,564. PUBLISHED APRIL 27, 1909.

80,121. SHAVING-CREAM. FRANÇOIS HEDY, Berlin, Germany.
Filed April 9, 1908. Serial No. 33,965. PUBLISHED JULY 5, 1910.

80,122. POLISHING-CLOTH. LEOPOLD HAYMAN, New York, N. Y.
Filed January 17, 1910. Serial No. 47,214. PUBLISHED APRIL 26, 1910.

80,123. WRITING AND WRAPPING PAPERS. HOLLINGSWORTH & WHITNEY CO., Boston, Mass.
Filed July 14, 1910. Serial No. 50,838. PUBLISHED SEPTEMBER 6, 1910.

80,124. SOLDERING-FLUID COMPOUNDS. HARRY L. HUBBARD, Hayden Lake, Idaho.
Filed August 5, 1910. Serial No. 51,273. PUBLISHED SEPTEMBER 6, 1910.

80,125. CANNED SALMON. KELLEY-CLARKE CO., Seattle, Wash.
Filed April 4, 1910. Serial No. 48,838. PUBLISHED SEPTEMBER 6, 1910.

80,126. CANNED SALMON. KELLEY-CLARKE CO., Seattle, Wash.
Filed April 4, 1910. Serial No. 48,839. PUBLISHED SEPTEMBER 6, 1910.

80,127. SHAVING-SOAP. THE KELLS COMPANY, Newburgh, N. Y.
Filed March 28, 1910. Serial No. 48,698. PUBLISHED SEPTEMBER 6, 1910.

80,128. PERIODICAL PUBLICATION. FRED L. KIMBALL COMPANY, Waterloo, Iowa.
Filed July 21, 1910. Serial No. 50,976. PUBLISHED SEPTEMBER 6, 1910.

80,129. HAIR-TONICS. JOHN V. KLEIN, Battle Creek, Nebr.
Filed August 5, 1910. Serial No. 51,274. PUBLISHED SEPTEMBER 6, 1910.

80,130. MATCHES. FREDRIK EMIL KREUGER, London, England.
Filed July 20, 1910. Serial No. 50,935. PUBLISHED SEPTEMBER 6, 1910.

80,131. MATCHES. FREDRIK EMIL KREUGER, London, England.
Filed July 20, 1910. Serial No. 50,936. PUBLISHED SEPTEMBER 6, 1910.

80,132. BISCUIT. FRANCIS H. LEGGETT & CO., New York, N. Y.
Filed July 6, 1910. Serial No. 50,727. PUBLISHED SEPTEMBER 6, 1910.

80,133. CRACKERS AND BISCUIT. FRANCIS H. LEGGETT & CO., New York, N. Y.
Filed July 6, 1910. Serial No. 50,730. PUBLISHED SEPTEMBER 6, 1910.

80,134. CONDENSED MILK AND HONEY AND WHITE ROLLED OATS. FRANCIS H. LEGGETT & CO., New York, N. Y.
Filed July 6, 1910. Serial No. 50,733. PUBLISHED SEPTEMBER 6, 1910.

80,135. CASSAVA-CAKES, PLUM-PUDDING, AND CLAM-CHOWDER. FRANCIS H. LEGGETT & CO., New York, N. Y.
Filed July 6, 1910. Serial No. 50,736. PUBLISHED SEPTEMBER 6, 1910.

80,136. CIGARS, CIGARETTES, SMOKING AND CHEWING TOBACCO. HIRAM F. MARTIN, York, Pa.
Filed June 22, 1910. Serial No. 50,519. PUBLISHED SEPTEMBER 6, 1910.

80,137. BISCUITS. THE MARJENHOFF COMPANY, Charleston, S. C.
Filed June 16, 1910. Serial No. 50,345. PUBLISHED SEPTEMBER 6, 1910.

80,138. MANIFOLDING-BOOKS, CERTAIN SHEETS OF WHICH ARE CARBON-COATED. THE MCCASKEY REGISTER COMPANY, Alliance, Ohio.
Filed June 20, 1910. Serial No. 50,438. PUBLISHED SEPTEMBER 6, 1910.

80,139. MATERNITY-CORSETS. KABO CORSET COMPANY, Chicago, Ill.
Filed September 20, 1909. Serial No. 44,780. PUBLISHED DECEMBER 21, 1909.

80,140. LEATHER SHOES. THE MCDONALD & KILEY COMPANY, Cincinnati, Ohio.
Filed July 30, 1910. Serial No. 51,179. PUBLISHED SEPTEMBER 6, 1910.

80,141. OINTMENTS. CHARLES H. MCKEOWN, Cleveland, Ohio.
Filed April 15, 1910. Serial No. 49,115. PUBLISHED SEPTEMBER 6, 1910.

80,142. BUTTER. MERRELL-SOULE CO., Syracuse, N. Y.
Filed June 16, 1910. Serial No. 50,343. PUBLISHED SEPTEMBER 6, 1910.

80,143. CROSS-CHAINS AND HOOKS FOR ANTI-SKIDDING DEVICES. NEWHALL CHAIN FORGE & IRON CO., New York, N. Y.
Filed May 5, 1910. Serial No. 49,529. PUBLISHED AUGUST 23, 1910.

80,144. WEEKLY MAGAZINE. NEW YORK EVENING POST COMPANY, New York, N. Y.
Filed May 18, 1910. Serial No. 49,781. PUBLISHED SEPTEMBER 6, 1910.

80,145. WIRE SCREEN-CLOTH. NEW YORK WIRE CLOTH COMPANY, New York, N. Y., and York, Pa.
Filed July 9, 1910. Serial No. 50,769. PUBLISHED SEPTEMBER 6, 1910.

80,146. TOILET CREAMS, LOTIONS, AND PASTES. ISABEL NORRIS, New York, N. Y.
Filed December 9, 1909. Serial No. 46,374. PUBLISHED SEPTEMBER 6, 1910.

80,147. SHOE-POLISH. JOHN E. PETERSON, Titusville, Pa.
Filed July 9, 1910. Serial No. 50,761. PUBLISHED SEPTEMBER 6, 1910.

80,148. INSTRUMENTS FOR SURGICAL, DENTAL, AND VETERINARY USE. GEORGE P. PILLING & SON CO., Philadelphia, Pa.
Filed July 12, 1910. Serial No. 50,799. PUBLISHED SEPTEMBER 6, 1910.

80,149. PILE-OINTMENT. PILO OINTMENT CO., Baltimore, Md.
Filed June 7, 1910. Serial No. 50,179. PUBLISHED AUGUST 16, 1910.

80,150. ENAMEL METAL WARE. PORCELAIN ENAMELING ASS'N. OF AMERICA, Sheboygan, Wis.
Filed February 24, 1910. Serial No. 47,991. PUBLISHED SEPTEMBER 6, 1910.

80,151. CLEANING AND SCOURING TOOLS. THE RAPID KNIFE & FORK CLEANER CO., Long Island City, N. Y.
Filed June 30, 1910. Serial No. 50,638. PUBLISHED SEPTEMBER 6, 1910.

80,152. AXLE-GREASE AND LUBRICATING-GREASE. THE RED "C" OIL M'F'G CO. OF BALTIMORE CITY, Baltimore, Md.
Filed June 9, 1910. Serial No. 50,202. PUBLISHED SEPTEMBER 6, 1910.

80,153. MARINE PAINT. OLIVER REEDER & SON, Baltimore, Md.
Filed April 14, 1910. Serial No. 49,093. PUBLISHED SEPTEMBER 6, 1910.

80,154. LOOSE-LEAF BOOKS, BINDERS, AND BOND-PAPER. SAUGERTIES MANUFACTURING COMPANY, Saugerties, N. Y.
Filed July 23, 1910. Serial No. 51,003. PUBLISHED SEPTEMBER 6, 1910.

80,155. COTTON PIECE GOODS. KASSEL SIMON, New York, N. Y.
Filed July 19, 1910. Serial No. 50,906. PUBLISHED SEPTEMBER 6, 1910.

80,156. CERTAIN BUILDING MATERIALS. SIMONS BRICK COMPANY, Los Angeles, Cal.
Filed January 20, 1910. Serial No. 47,275. PUBLISHED SEPTEMBER 6, 1910.

80,157. WHEAT-FLOUR. J. ALLEN SMITH & COMPANY, Knoxville, Tenn.
Filed July 26, 1910. Serial No. 51,075. PUBLISHED SEPTEMBER 6, 1910.

80,158. ANTISEPTIC POWDER. SMITH, KLINE & FRENCH CO., Philadelphia, Pa.
Filed July 29, 1910. Serial No. 51,137. PUBLISHED SEPTEMBER 6, 1910.

80,159. REMEDIES FOR THE DISEASES OF HORSES. SMITH'S ORIGINAL REMEDY COMPANY, Brooklyn, N. Y.
Filed May 6, 1910. Serial No. 49,549. PUBLISHED SEPTEMBER 6, 1910.

80,160. CHEMICAL SOLVENTS. DAVID LEON SOLOMAN, St. Louis, Mo.
Filed May 7, 1910. Serial No. 49,563. PUBLISHED SEPTEMBER 6, 1910.

80,161. LAUNDRY WASHING-MACHINES. SWANSON-ERICSON MANUFACTURING COMPANY, Chicago, Ill.
Filed July 11, 1910. Serial No. 50,781. PUBLISHED SEPTEMBER 6, 1910.

80,162. CHOCOLATE CHIPS. WILLIAM S. TROWBRIDGE, Meadville, Pa.
Filed April 28, 1910. Serial No. 49,349. PUBLISHED SEPTEMBER 6, 1910.

80,163. ARTIFICIALLY-MADE RUBIES AND SAPPHIRES. WENDELL AND CO., Chicago, Ill., and New York, N. Y.
Filed July 15, 1910. Serial No. 50,850. PUBLISHED SEPTEMBER 6, 1910.

80,164. COOKING-SODA, BAKING-POWDER, AND LAUNDRY STARCH. WHITE, WILSON, DREW COMPANY, Memphis, Tenn.
Filed July 30, 1910. Serial No. 51,170. PUBLISHED SEPTEMBER 6, 1910.

LABELS

REGISTERED NOVEMBER 8, 1910.

15,382.—*Title:* "GRAPE CREME." (For a Beverage Made from Grape-Juice.) THE CONSUMERS COMPANY OF ROCHESTER, N. Y., Rochester, N. Y. Filed October 6, 1910.

15,383.—*Title:* "UNCLE SAM." (For Candy.) WALTER W. DE BEVOISE, Brooklyn, N. Y. Filed September 17, 1910.

15,384.—*Title:* "POPPY APPLE LABEL." (For Apples.) O. E. OLSEN LITHO CO., San Francisco, Cal. Filed September 26, 1910.

15,385.—*Title:* "BLOSSOM APPLE LABEL." (For Apples.) O. E. OLSEN LITHO CO., San Francisco, Cal. Filed September 26, 1910.

15,386.—*Title:* "VIRGIN." (For Head-Rice.) W. T. WELISCH & CO., INC., San Francisco, Cal. Filed October 26, 1910.

15,387.—*Title:* "E-Z-LAKS." (For Medicated Chocolates of a Laxative Nature.) UNION CO-OPERATIVE ASSOCIATION, Newark, N. J. Filed September 9, 1910.

15,388.—*Title:* "ROYAL SPELLING BOOK." (For Books or Tablets for Use in Writing Out Spelling Exercises.) OSBORN PAPER COMPANY, Marion, Ind. Filed October 5, 1910.

15,389.—*Title:* "BASE BALL SHOOTING GALLERY." (For Toy Shooting-Galleries.) BURTON B. BENNETT, Plymouth, Mich. Filed July 18, 1910.

PRINTS

REGISTERED NOVEMBER 8, 1910.

2,661.—*Title:* "A SWEETLY SOLEMN THOUGHT." (For Wheat Breakfast Food.) CREAM OF WHEAT CO., Minneapolis, Minn. Filed October 24, 1910.

2,662.—*Title:* "RONDA POTATO." (For Potatoes.) HENRY H. SCHULTE, East Orange, N. J. Filed October 7, 1910.

2,663.—*Title:* "THE NOISELESS TYPEWRITER." (For Type-Writers.) THE NOISELESS TYPEWRITER COMPANY, Middletown, Conn. Filed October 29, 1910.

2,664.—*Title:* "NEW ARROW NOTCH COLLARS." (For Collars.) CLUETT, PEABODY & COMPANY, Troy, N. Y. Filed October 22, 1910.

2,665.—*Title:* "THE DONCHESTER IS A CLUETT DRESS SHIRT." (For Shirts.) CLUETT, PEABODY & COMPANY, Troy, N. Y. Filed October 22, 1910.

2,666.—*Title:* "ARROW COLLARS AND CLUETT SHIRTS. (For Collars and Shirts.) CLUETT, PEABODY & COMPANY, Troy, N. Y. Filed October 22, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE HEATON MANUFACTURING COMPANY.

Decided October 24, 1910.

TRADE-MARKS—"BUYFLAT" FOR HOOKS AND EYES—DESCRIPTIVE.

The word "Buyflat" is not registrable as a trade-mark for hooks and eyes, since it is descriptive of the goods upon which it is used.

ON APPEAL.

TRADE-MARK FOR HOOKS AND EYES.

Mr. George H. Remington and *Mr. E. T. Brandenburg* for the applicant.

MOORE, *Commissioner:*

This is an appeal from the decision of the Examiner of Trade-Marks refusing to register the word "Buyflat" as a trade-mark for hooks and eyes.

The ground of this refusal is that the word is descriptive of the goods on which it is used, and its registration is therefore prohibited by section 5 of the Trade-Mark Act.

It is well known that some hooks and eyes are made flat in order to be more useful for certain purposes. The patents cited by the Examiner show hooks and eyes of this character.

The word "flat" as applied to hooks and eyes would be clearly descriptive, and it is believed that the word "buyflat" is no less so. The prefixing of the word "buy" to the word "flat" can have no other effect than of calling attention of the purchasing public to flat hooks and eyes. Within the ruling of the decisions cited by the Examiner this mark is clearly not registrable.

It may be stated that the argument as to the use of the word "merely" in the Trade-Mark Act was presented to the Court of Appeals of the District of Columbia in connection with the marks "Nextobeer" for a non-alcoholic beverage, "Kantleek" for water-bags, etc., and "Getwell" for a medicine, all of which were held not registrable. With reference to the former mark *in re Central Consumers Company* (140 O. G., 1211; 32 App. D. C., 523) the court said:

> It was evidently the intention of Congress in placing these restrictions in the Trade-Mark Act to prohibit any one from acquiring a property right, protected by law in its exclusive use, in a name possessing any inherent signification that would, of itself, enhance the sale or value of the article or articles to which it may be applied. In other words, it was intended to limit the selection to mere arbitrary words or designs, the value of which should consist alone in their becoming fixed in the public mind through continued use on the goods of the owner. It was not intended that the mark should lend value to the goods, but that the quality of the goods and the reputation of the owner should ultimately make the mark valuable as a symbol in the connection in which it may be used.

The decision of the Examiner is affirmed.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court of Appeals—Second Circuit.

UNION CARBIDE CO. *v.* AMERICAN CARBIDE CO.

Decided June 29, 1910.

PATENTABILITY—NOVELTY—CHEMICAL COMPOUND—CHANGE OF FORM.

"Patentable novelty in a case like the present may be founded upon superior efficiency; upon superior durability, including the ability to retain a permanent form when exposed to the atmosphere; upon a lesser tendency to breakage and loss; upon purity, and, in connection with other things, upon comparative cheapness. So, as supplementing other considerations, commercial success may properly be compared with mere laboratory experiments."

APPEAL from a decree dismissing the bill in a suit to restrain the alleged infringement of Letters Patent No. 541,138, granted June 18, 1895, to Thomas L. Willson for an alleged "new and useful product existing in the form of crystalline calcium carbid," and assigned to the complainant.

Mr. Edward N. Dickerson and *Mr. Louis C. Raegener* for the appellant.

Mr. Charles Neave and *Mr. Willis Fowler* for the appellee.

Before LACOMBE, COXE, and NOYES, Circuit Judges.

NOYES, *Cir. J.:*

The patentee states at the commencement of his specification:

> This invention relates to the production of a new form of crystalline calcium carbid.
>
> Before my invention calcium carbid had existed in an amorphous condition, due either to the method of its preparation or the impurities contained in it.
>
> By my invention herein described calcium carbid is produced in a new form, namely, in crystalline condition, having a bluish or purplish iridescence. The carbid so existing is in a condition particularly applicable, on account of its purity, for conversion into other compounds.

The specification then describes the process followed to obtain the product. The patentee states, in substance, that he takes mechanically-powdered coke and lime in the proportion of 35 per cent. of coke and 65 per cent. of lime, thoroughly mingles

them by mechanical means, and subjects them to the action of an electric current in a furnace. He further states that the action of the current upon the material is a smelting action, and that the fused calcium carbid when allowed to cool crystallizes, and, when broken, shows iridescent surfaces.

The patent contains but a single claim, which is as follows:

As a new product, crystalline calcium carbid existing as masses of aggregated crystals, substantially as described.

The defenses are:

(1) That the patent is invalid because there is no patentable novelty in the crystalline form of calcium carbid.

(2) That the patent is invalid because it is anticipated by the Woehler carbid.

(3) That the patent is invalid because the product was in public use more than two years prior to the filing of the application.

(4) That the defendant does not infringe.

Before examining the defenses, it will be well to consider briefly the chemical composition of the product in question, its properties, the uses to which it is put, and the forms which it takes.

Calcium carbid is a combination of calcium and carbon in the proportion of one part of calcium (Ca) to two parts of carbon (C) and is expressed in the chemical formula CaC_2. When calcium carbid (CaC_2) is placed in water (H_2O) the carbon unites with the hydrogen of the water and forms acetylene gas (C_2H_2) leaving lime (CaO) as the residue. Acetylene gas is employed for illuminating purposes, and has come into general use during the last decade. The principal use of calcium carbid is to make this gas.

In considering the form of the product we note at the outset that bodies in general are divided into two classes: (1) Crystalline and (2) non-crystalline or amorphous. A crystalline body consists of or is made of crystals and a crystal is defined in *Webster's Dictionary* as follows:

The regular form bounded by plain surfaces which a substance tends to assume in solidifying, through the inherent power of cohesive attraction.

It appears that calcium carbid under different conditions takes both the crystalline and the amorphous forms. The specification itself states, as we have seen, that the substance had existed in an amorphous form prior to the invention, and the patent relates solely to the crystalline form. Whether it is broad enough to entirely cover that form will later be considered.

Taking up now the different defenses, the defendant in the first place contends that, even if the patent broadly covers crystalline calcium carbid and even if all the calcium carbid of the prior art were amorphous, still crystalline carbid is not patentably novel. It is said that the patent is not for a new product, but for a new form of an old product, having the same composition, properties and uses as the old.

This contention requires us to examine to some extent the history of calcium carbid and to cover some of the ground of the second defense—the alleged anticipation by the Woehler product.

Acetylene gas made from substances other than calcium carbid was discovered in 1836 and different articles about it were later published. In 1862, Woehler, a German chemist, for the first time published in a chemistry year-book an article regarding the formation of acetylene from calcium carbid and to some extent indicated the process of making the latter product. This article is printed in full in the footnote,[1] but the especially material part of it is contained in the following lines at the beginning:

At a very high temperature a calcium carbid can be produced from the alloy of zinc and calcium prepared by Caron, in contact with carbon, whose mode of formation and characteristic will be given later.

As will be observed, the remainder of the article describes the properties of the compound—its decomposition with water and the formation of acetylene gas—and the characteristics of the gas, but says nothing more about the process of making the carbid. There is nothing to indicate that that which Woehler did was anything more than to make and describe a laboratory experiment, and, although his work was generally recognized in treatises upon chemistry, it does not appear that any appreciable amount of calcium carbid was made by any person before the present patentee came into the field.

Concededly the Woehler compound was the highest development of the prior art in calcium carbid, and so we recur to the question whether with that compound in the art—assumed to be amorphous for the purposes of the present discussion—there was patentable novelty in the crystalline form.

In determining the question of patentable novelty, there can be no hard and fast rule. Each case must be decided upon its own facts. Mere change of form in and of itself does not disclose novelty. A new article of commerce is not necessarily a new article patentable as such. But patentable novelty in a case like the present may be founded upon superior efficiency; upon superior durability, including the ability to retain a permanent form when exposed to the atmosphere; upon a lesser tendency to breakage and loss; upon purity, and, in connection with other things, upon comparative cheapness. So, as supplementing other considerations, commercial success may properly be compared with mere laboratory experiments.

Now, broadly comparing amorphous and crystalline carbids, we are convinced that the complainant's expert was substantially correct in testifying as follows:

Usually speaking the amorphous substance is less dense, more soluble, has a lower melting-point and less hardness. That would seem to mean that in all probability, even between equally pure compounds, that bulk for bulk, the yield of gas in the case of the amorphous compound would be smaller, that the tendency to breakage would be greater, both because the substance is more porous and less hard, that for such matters as transportation and dangerous dust the amorphous would be the inferior material even if equally pure. In my opinion, however, the amorphous carbid is far less likely to be pure or equally pure with the crystalline, because heterogeneity and quantity of impurity are great helps in formation of the amorphous compound. If more impure, it is obvious that the yield, bulk for bulk, is still less than with the pure material, and that the amount of residue after use is greater.

And, if we turn specifically to the Woehler product as it was made before the application for the patent in suit, we reach similar conclusions. The Woehler publication is meager. All that is said about the preparation of calcium is contained in a single sentence. No information is given concerning the proportions of the ingredients, their preparation, or other similar matters necessary to an understanding of the process. Still it seems that, whenever before the time of the present patent the compound was prepared in accordance with what information the article did furnish, the result was a black pulverulent mass. This powdery material was worthless commercially, and was never commercially used. It would be unfit for use in gas-generators, and we are satisfied would rapidly deteriorate when exposed to the air. The product of the patent is more durable. It is hard, compact, and so unlike the powdery mass as almost to amount to a new body. Moreover, we think the complainant correct on its contention that the iridescent surfaces of the crystalline carbid would protect it to some—although, perhaps slight—extent from atmospheric action.

It is also quite clear that Woehler published a mere result of a laboratory experiment which was put to no practical use. Crystalline carbid, on the other hand, has been a great commercial success, and has furnished the foundation for important industries.

Taking the Woehler compound as it was made before Willson applied for his patent, we are satisfied that the product of the patent marked a patentable advance over it. And if we also make comparisons in the light of the recent experiments made in behalf of the defendant—which we will consider later and will not now discuss—it is sufficient to say that our conclusion is not changed. We think that there is a patentable difference between the later product and the product of the patent, although such difference exists in less degree than in the case of the earlier Woehler product.

For these reasons, it is held that the product possesses the requisite patentable novelty. And we must regard this conclusion as not only well founded in law, but as most just. To hold an important discovery which has given to the world a commercially new product—a product the high utility of which must be conceded—not entitled to protection for want of novelty, would, as it seems to us, be applying the patent statute to defeat its fundamental purposes.

The defendant's second defense, as we have noted, is that the patent, if broadly for crystalline calcium carbid, is invalid, because it is anticipated by the Woehler carbid.

Our examination of the first defense covers most of the ground necessary to be examined in considering this defense. But there are essential distinctions. It was assumed in considering the first defense that the Woehler product was amorphous. But such assumption was for the purpose of testing that defense only. If the Woehler compound were amorphous, it manifestly did not anticipate the crystalline product in view of the differences between the forms already pointed out. To anticipate, the Woehler compound must be shown to be crystalline, and the defendant in the present defense strenuously insists that it is crystalline. It is not shown that any of the Woehler compound which was made before the application for the patent was crystalline, and, indeed, we think the testimony tends to show that it was amorphous. But it is contended that experiments made by the defendant's witnesses for the purposes of this suit demonstrate the crystallinity of the Woehler carbid. Now, as already pointed out, the Woehler article furnished very little information concerning the process of making calcium carbid. Practically, all it said was that at a high temperature calcium carbid could be produced from an alloy of zinc and calcium in contact with carbon. Woehler was making note of a laboratory experiment evidently employing minute amounts of material, and seems to have been more interested in the formation of acetylene from the carbid than in the formation of the carbid.

The defendant's experts in following the Woehler process used considerable amounts of material in a furnace, applied a high degree of heat for a long time, and obtained a hard, compact mass of material having no resemblance to the Woehler product as already described, viz., a black powdery substance. Without discussing the details of the experiments, it is enough to say that we are not at all satisfied that the defendant's experts in producing their compound did no more than follow the teachings of the Woehler article. Assuming, however, that this compound was produced by the Woehler process, the next question is whether the defendant has established its crystallinity. Upon this question, the testimony of the expert witnesses called by the defendant and complainant is wholly irreconcilable. The experts for the defendant testify that this compound does exist in a crystalline condition. On the other hand, the experts for the complainant testify that the calcium carbid is not crystalline, although they say that the compound does contain another substance—calcium cyanamid—in crystalline form. It would serve no useful purpose to review this conflicting testimony nor to discuss the reasons pro and con given by the experts. It is sufficient to say that upon careful consideration of the testimony we are not satisfied that the carbid of the experiments was crystalline. The burden is upon the defendant to establish crystallinity, not upon the complainant to disprove it, and, among other things, we cannot ig-

[1] At a very high temperature a calcium carbid can be produced from the alloy of zinc and calcium prepared by Caron, in contact with carbon, whose mode of formation and characteristic will be given later. This compound has the remarkable property to decompose with water into calcium hydrate and acetylene gas C_2H_2, the same hydrocarbon which was first discovered by Davy and which more recently has been produced by Berthelot, not only by the decomposition of different organic substances at a red heat, but also directly from carbon and hydrogen under the influence of the electric arc. The gas produced by means of this calcium carbid has not yet, it is true, been analysed, but it is characterised by the three distinguishing properties of acetylene, namely, to burn with a brilliant smoky flame, to explode with chlorin gas even in diffused light with the phenomenon of fire, and the separation of carbon, and to precipitate from an ammoniacal silver solution the compound which explodes so violently when heated.

nore the possibility that the defendant's witnesses may have attributed the crystallinity of the calcium cyanamid in the product to the calcium carbid. Consequently the Woehler product, whether correctly represented by the earlier compound or by the result of the recent experiments, must be held not to anticipate.

The defendant's third defense is that the patent in suit is invalid because the claimed product was in public use for more than two years prior to the filing of the application. The application for the patent is dated March 4, 1895, so that we must see whether a public use of the product prior to March 4, 1893, is established.

We find experimental uses of the product before that time. We find that Lord Kelvin in a foreign country put some of the carbid in water, and lighted the gas which was generated. We find that the patentee gave samples of the product to different persons for experimental purposes. But it is well settled that an inventor has the right to experiment in perfecting his invention and demonstrating its utility, and we are not satisfied that the patentee in this case did anything more. We think that the proof fails to establish that there was any public use of the invention more than two years prior to the application for the patent.

The fourth defense is that the defendant does not infringe, and the examination of this defense requires the consideration of the construction to be placed upon the claim of the patent. Ordinarily, in interpreting a claim, we should, at the outset, seek to ascertain its meaning from the language used. But in view of the contentions of the parties and of the decision of the circuit court, we think it preferable in this case to first trace the passage of the claims of the patent through the Patent Office.

The file-wrapper of the patent shows that Willson's original claim was as follows:

> As a new product, crystalline calcium carbid having a bluish iridescence, substantially as described.

This claim was rejected, and the applicant then filed an amendment stating two claims, as follows:

> 1. As a new product, crystalline calcium carbid existing as masses of aggregated crystals having a bluish iridescence, substantially as described.
> 2. As a new product, crystalline calcium carbid, existing as masses of aggregate crystals, substantially as described.

The Patent Office then said that the two claims were not patentably different and the applicant erased the first claim, leaving the second—the present form—as the single claim of the patent, which was thereupon issued.

It is strenuously urged by the defendant, and was held by the judge at circuit, that the defendant by amending his claim in consequence of the action of the Patent Office deprived it of any broad application. It is said that the applicant in his original application having broadly claimed crystalline calcium carbid and having acquiesced in the rejection of the claim cannot now contend that—

> crystalline calcium carbid existing as masses of aggregated crystals—

means nothing more than crystalline carbid. As we think, this contention is correct. The claim is undoubtedly limited to the form of crystalline carbid which exists as masses of aggregated crystals. There must be an aggregation. The claim does not cover an individual crystal nor any number of separate crystals not aggregated or joined together. To illustrate: Had there been a question whether the Woehler powdery substance was amorphous or composed of minute separate and distinct crystals, the claim as amended would have excluded it in either case, while the original claim would have been anticipated by it had it been composed of crystals. That this distinction might reasonably have been in the mind of the framer of the claim is shown by the statement in the defendant's brief that "crystalline powder" is well known.

But it is urged that the limitation of the word "crystalline" is not by the word "aggregated," but by the word "crystals." It is said that the phrase "masses of aggregated crystals" has a specific and limited meaning—*i. e.*, it means "crystal aggregate," which is a union of two or more fully-developed crystals as distinguished from "crystalline aggregate," which is a mass of crystal grains devoid of their characteristic forms and closely packed together. But we are by no means satisfied that any such fine distinction as this—based upon academic definitions in the Williams book—is so generally recognized by authorities upon crystallography or chemistry that we would be warranted in applying it in construing the claim in suit, especially when reading the claim in connection with the specification. To draw such a distinction is to say that there are two forms of crystalline calcium carbid: (1) Aggregations of perfect or well-faced crystals, and (2) aggregations of broken, confused crystals. But it is certain that masses of perfectly-developed crystals could not be produced by the process described in the patent, and it is not certain that they could be produced by any known process. To confine the claim of the patent to masses of perfectly-developed crystals would be, we think, by a strained construction to read out of the claim the only product producible by the process of the patent and to deny protection to a meritorious invention.

In our opinion the patent covers crystalline carbid when the crystals are aggregated in masses, whether such crystals be perfect or imperfect, and, as it is admitted that there are crystals in the defendant's carbid and as those crystals are so aggregated, we think that the product of the defendant infringes.

The decree of the circuit court is reversed, with costs, and the cause remanded, with instructions to enter a decree for the complainant for an injunction, an accounting, and costs.

ADJUDICATED PATENTS.

The Mead design patent, No. 39,347, for a design for a neckscarf, *Held* valid and infringed on a motion for a preliminary injunction. *Phoenix Knitting Works* v. *Grushlaw*, (C. C.,) 181 Fed. Rep., 166.

The Mead design patent, No. 39,347, for a design for a neckscarf, *Held* valid and infringed. *Phoenix Knitting Works* v. *Bradley Knitting Co.*, (C. C.,) 181 Fed. Rep., 163.

The Murray patent, No. 472,607, for an improvement in apparatus for elevating, distributing, and feeding seed-cotton to gins, *Held* not infringed. *Murray Co.* v. *Van Winkle Gin & Machine Works*, (C. C.,) 181 Fed. Rep., 111.

The Byerley patent, No. 524,130, for a process of making asphaltic petroleum products and such products as new articles of manufacture, *Held* valid and infringed. *Byerley* v. *Sun Co.*, (C. C.,) 181 Fed. Rep., 138.

The Willson patent, No. 541,138, for crystalline calcium carbid, *Held* valid and infringed. *Union Carbide Co.* v. *American Carbide Co.*, (C. C. A.,) 181 Fed. Rep., 104.

The Willson patent, No. 563,527, for a process of producing calcium carbid, *Held* not infringed. *Union Carbide Co.* v. *American Carbide Co.*, (C. C. A.,) 181 Fed. Rep., 111.

The Langan patent, No. 595,181, for a grab-hook, *Held* void as a mere aggregation of old parts. *Langan* v. *Warren Axe & Tool Co.*, (C. C.,) 181 Fed. Rep., 143.

The Van Wagenen patent, No. 699,262, for a dump-wagon, *Held* valid and infringed. *Eagle Wagon Works* v. *Columbia Wagon Co.*, (C. C.,) 181 Fed. Rep., 148.

The Von Bultzingslowen patent, No. 638,004, for a machine for making incandescent mantles, *Held* valid and infringed. *Welsbach Light Co.* v. *Cohn*, (C. C.,) 181 Fed. Rep., 122.

The Wilcomb patent, No. 645,676, for a circular-knitting machine, claims 4 and 8 *Held* void for anticipation. *Standard Mach. Co.* v. *Rambo & Regar*, (C. C.,) 181 Fed. Rep., 157.

The Shaw patent, No. 674,024, for a shaft-coupling, *Held* void for lack of patentable novelty. *Shaw* v. *Royersford Foundry & Machine Co.*, (C. C.,) 181 Fed. Rep., 168.

The Maag patent, No. 707,855, for a furnace-grate, *Held* not infringed. *XXth Century Heating & Ventilating Co.* v. *Taplin, Rice-Clerkin Co.*, (C. C. A.,) 181 Fed. Rep., 96.

The Houseman patent, No. 774,473, for a circular-knitting machine, claim 22 *Held* void for anticipation. *Standard Mach. Co.* v. *Rambo & Regar*, (C. C.,) 181 Fed. Rep., 157.

The McCaskey patent, No. 783,126, for account-recording appliances, *Held* not infringed. *McCaskey Register Co.* v. *Divens*, (C. C.,) 181 Fed. Rep., 171.

The Truffault reissue patent, No. 12,437, (original No. 695,508,) for a shock-absorber, *Held* valid and infringed. *Hartford* v. *Moore*, (C. C.,) 181 Fed. Rep., 132.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 27, 1910.

Henry Werner & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Bennett, Hollander & Lewis, of 947 Pennsylvania avenue, Pittsburg, Pa., for registration of a trade-mark and the trade-mark registration to Joseph Bennett & Company, of 713 Pennsylvania avenue, Pittsburg, Pa., registered April 10, 1900, No. 34,453, and Henry Werner & Company, of 366 Gratiot avenue, Detroit, Mich., registered March 26, 1895, No. 26,267, and the notice of such declaration sent by registered mail to the said Henry Werner & Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Henry Werner & Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 20, 1910.

Frederick M. Hall, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Maine Manufacturing Company, of Nashua, N. H., and the application of the Grand Rapids Refrigerator Company, 17 to 27 Ottawa street and 20 to 50 Clyde Park avenue, Grand Rapids, Mich., for registration of trade-marks and trade-mark registrations No. 36,235, dated April 9, 1901, to Christian Schmidt, 157 and 159 Springfield avenue, Newark, N. J., and No. 12,637, dated October 13, 1885, to Frederick M. Hall, 71 Randolph street, Chicago, Ill., and the notice sent by registered mail to the said Frederick M. Hall at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Frederick M. Hall, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 11, 1910.

Edward A. Donaldson, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the National Cleanser Mfg. Co., 347 Greenwich street, New York, N. Y., for registration of a trade-mark and trade-mark registration No. 23,634, dated September 19, 1893, to Edward A. Donaldson, of Galesburg, Ill., and the notice of such declaration sent by registered mail to the said Edward A. Donaldson at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Edward A. Donaldson, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 11, 1910.

Union Tubing Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Pennsylvania Flexible Metallic Tubing Company, 1305 Arch street, Philadelphia, Pa., for registration of a trade-mark and trade-mark registration No. 10,115, dated March 13, 1883, to the Union Tubing Company, of New York, N. Y., and the notice of such declaration sent by registered mail to the said Union Tubing Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Union Tubing Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 29, 1910.

George A. Knox, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of The Voegeli Brothers Drug Company, of No. 2 Washington avenue south, Minneapolis, Minn., for registration of a trade-mark and the trade-mark registration to George A. Knox, of Rochester, N. Y., and the notice of such declaration sent by registered mail to the said George A. Knox at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said George A. Knox, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 26, 1910.

Harry W. Russell, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Beall Brothers, of Alton, Ill., for registration of a trade-mark and the trade-mark registration to Harry W. Russell, of Huntsville, Ala., and the notice of such declaration sent by registered mail to the said Harry W. Russell at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Harry W. Russell, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 26, 1910.

Amman Iron Co., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Th. Goldschmidt, 16 Salkenberge Weg, Essen a. d. Ruhr, German Empire, for registration of a trade-mark and the trade-mark registration of the Amman Iron Co., of Swansea, county of Glamorgan, Wales, and the notice of such declaration sent by registered mail to the said Amman Iron Co. at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Amman Iron Co., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 23, 1910.

Samuel J. Brinkerhoff and George D. Brinkerhoff, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Theo. Noel Company, of Chicago, Ill., for registration of a trade-mark and the trade-mark registration of Samuel J. Brinkerhoff and George D. Brinkerhoff, of Minneapolis, Minn., and the notice of such declaration sent by registered mail to the said Samuel J. Brinkerhoff and George D. Brinkerhoff at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Samuel J. Brinkerhoff and George D. Brinkerhoff, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 23, 1910.

Charles C. Brooks, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Wehrman Medicine Company, 1260 Michigan avenue, Columbus, Ohio, and the application of G. H. Mullen, of Guyandotte, W. Va., for the registration of a trade-mark; the trade-mark registration of the Good Samaritan Ointment Company, 222 Broadway, Camden, N. J.; the trade-mark registrations of Samuel A. Richmond, of Tuscola, Ill.; and the trade-mark registration of Charles C. Brooks, of Waverly, N. Y., and the notice of such declaration sent by registered mail to the said Charles C. Brooks at the address given has been returned by the post-office as undeliverable.

Notice is therefore given to the said Charles C. Brooks, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

Newell Coal Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Hokkaido Tanko Kisen (Kabushiki) Kaisha, of Mororan, Japan, for registration of a trade-mark and the trade-mark registration of the Newell Coal Company, of Peoria, Ill., and the notice of such declaration sent by registered mail to the said Newell Coal Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Newell Coal Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., September 22, 1910.

James E. Blauvelt, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Edward Wright Dodes, No. 714 Washington Boulevard, Fort Wayne, Ind., for registration of a trade-mark and the trade-mark registration of James E. Blauvelt, No. 6 South Broadway, Nyack, N. Y., and the notice of such declaration sent by registered mail to the said James E. Blauvelt at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said James E. Blauvelt, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

C. C. BILLINGS, *Acting Commissioner.*

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CONTENTS.

	Page.		Page.
AMENDMENT TO RULES OF THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA	499	COMMISSIONER'S DECISIONS—	
APPLICATIONS UNDER EXAMINATION	500	Ex parte Mygatt	773
NOTICE	500	Dunlap *v.* Creveling *v.* Rector	774
PATENTS GRANTED	501	Topping *v.* Price	774
REISSUES	758	Ex parte Gugler	775
DESIGNS	760	Gilbert *v.* Gilbert and Lindley	775
TRADE-MARKS—REGISTRATION APPLIED FOR	763	White *v.* Powell	776
TRADE-MARKS—REGISTERED	769	ADJUDICATED PATENTS	777
TRADE-MARKS CANCELED	770	INTERFERENCE NOTICES	777
		ISSUE OF NOVEMBER 15, 1910	778

AMENDMENT TO RULES OF THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA.

The following amendment to the rules of the Court of Appeals of the District of Columbia is published for the information of those practicing before that court.

EDWARD B. MOORE,
Commissioner of Patents.

In view of the large number of cases on the calendar awaiting hearing, and in consideration of the time which must necessarily be consumed if the full four hours are taken in the argument as allowed by section 2 of Rule VIII, it is by the court this day ordered that said section 2 of Rule VIII be, and the same is hereby, amended, so as to read that only one hour on each side shall be allowed in the argument, unless by special leave the time is extended by the court before the argument is commenced; but counsel, in order to avail themselves of the opportunity to apply for additional time, must make request therefor to the court, accompanied by a copy of their printed brief, at least five days before the case is liable to be called for argument. The time may be apportioned between counsel on the same side, at their discretion. In all cases, however, a full and fair opening must be made.

PER CURIAM.

November 9, 1910.
Test:
HENRY W. HODGES, Clerk.
Promulgated November 9, 1910.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business November 8, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		New.	Amended	
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Sept. 24	Sept. 26	373
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Sept. 20	Sept. 24	187
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Oct. 10	Oct. 26	188
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Sept. 29	Sept. 30	436
167	5. Bookbinding; Harvesters; Jewelry; Music.	Aug. 12	Aug. 16	515
318	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	Sept. 12	Sept. 17	332
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	Sept. 17	Sept. 20	543
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Sept. 23	Sept. 26	378
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	Aug. 18	Sept. 6	326
235	10. Carriages and Wagons	Sept. 6	Sept. 12	696
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	Sept. 13	Sept. 13	383
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	Sept. 15	Sept. 16	661
329	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	Aug. 12	Sept. 26	530
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire-Working.	Oct. 3	Oct. 3	317
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	Sept. 20	Sept. 27	632
109	16. Telegraphy; Telephony	Aug. 17	Sept. 8	256
303	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Oct. 8	Oct. 12	201
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	Sept. 23	Sept. 10	225
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	Oct. 7	Sept. 22	368
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Sept. 17	Sept. 26	271
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	Aug. 18	Sept. 10	459
249	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	Aug. 13	Aug. 3	621
379	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	Sept. 16	Sept. 22	387

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		New.	Amended	
144	24. Apparel; Apparel Apparatus; Sewing-Machines.	Aug. 10	Aug. 27	507
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Oct. 10	Oct. 11	147
106	26. Electricity, Generation; Motive Power.	Sept. 19	Sept. 12	343
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Sept. 10	Oct. 1	300
65	28. Internal-Combustion Engines	Sept. 13	Aug. 31	384
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Wood-working; Woodworking-Tools.	Aug. 18	Oct. 4	397
152	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	Sept. 20	Oct. 4	354
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Oct. 10	Oct. 8	228
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	Sept. 3	Oct. 8	341
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	Oct. 13	Oct. 1	353
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	Sept. 9	Sept. 12	338
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Oct. 5	Oct. 13	508
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	Sept. 23	Sept. 16	655
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications	Aug. 24	Sept. 8	397
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	Sept. 12	Sept. 21	489
321	39. Water Distribution	Aug. 26	Aug. 1	414
220	40. Baggage; Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Oct. 1	Oct. 8	416
125	41. Railway Draft Appliances; Resilient Tires and Wheels	Aug. 8	Aug. 8	690
279	42. Electric Railways; Electric Signaling; Electricity, Medical and Surgical; Railway Signaling; Signals; Surgery.	Aug. 17	Aug. 8	632
282	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification	Aug. 23	Aug. 26	566

Oldest new case, Aug. 8; oldest amended, Aug. 1.

Total number of applications awaiting action..... 17,904

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	Oct. 3	Oct. 21	782
	Designs	Oct. 10	Oct. 17	139
	Labels and Prints	Nov. 3	Nov. 3	21

Notice.

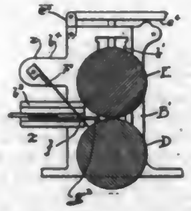
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PATENTS

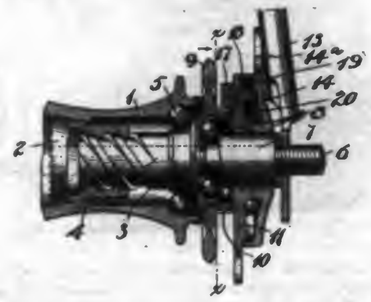
GRANTED NOVEMBER 15, 1910.

975,388. TOBACCO-WRINGER. HENRY J. AVERBECK and BLANCH W. GINN, Covington, Ky., assignors to The Lovell & Buffington Tobacco Company, Covington, Ky., a Corporation of Kentucky. Filed July 6, 1909. Serial No. 506,045.



In a tobacco wringer, the combination of rollers, means for holding the rollers in contact with each other with a regulated pressure, a guide plate for directing tobacco between the rollers and being slotted to pass the fingers of the feeder, the feeder having fingers spaced apart and adapted to pass through the guide plate to points adjacent the contact point of the rollers, and means for reciprocating the fingers simultaneously to separate and feed the tobacco between the rollers uniformly.

975,389. COASTER-BRAKE. WILLIAM ALLEN BARTELS, Erie, Pa., assignor to Charles Glover, New Britain, Conn. Filed Apr. 27, 1910. Serial No. 558,040.



1. In coaster brake apparatus, a hub, brake mechanism therefor, two independent manually operable means for operating said brake mechanism.

2. In coaster brake apparatus, a hub, brake mechanism, two independent manually operable means for operating said brake mechanism, one of said means being normally out of operative engagement therewith, the other being normally in engagement therewith.

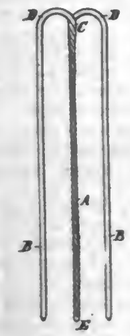
3. In coaster brake apparatus, a hub, a brake combined hub and brake clutch, two independent manually operable means for operating said clutch for braking purposes, one of said means including a rotatable hub driver, with connections between said driver and said brake to operate said brake when said driver is rotated in a reverse direction, and means independent of said driver for performing the same work on the same mechanism.

4. In coaster brake mechanism, a hub, a manually operable rotatable driver, said hub being capable of independent rotation relatively to said driver and arranged to be clutched therewith for simultaneous rotation in a forward direction, hub-brake mechanism operable by said driver when the latter is turned in a reverse direction, a second manually controllable means for operating said brake mechanism without the assistance of the driver.

5. In coaster brake mechanism, a hub, a manually operable rotatable driver, said hub being capable of independent rotation relatively to said driver and arranged to be coupled therewith for simultaneous rotation in a forward direction, a brake-actuator operable by said driver when the latter is turned in a reverse direction, a second manually controllable means for operating said brake-actuator without the assistance of the driver and including ratchet and pawl mechanism.

[Claims 6 to 8 not printed in the Gazette.]

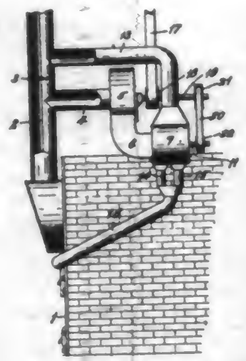
975,390. HAIR-PIN. LOUIS C. BELZ, Philadelphia, Pa. Filed May 19, 1910. Serial No. 562,131.



1. A hair pin having a plurality of prongs in substantially parallel alinement, formed of a single wire strand made with a plurality of integrally connected portions in its length, the adjacent portions of which have different cross sectional areas, and that portion having the smallest cross sectional area being twisted upon itself to form one of the prongs, and the rest of the wire strand, having the larger cross sectional area, forming the remainder of the plurality of prongs, and in which the twisted wire prong so formed is of substantially the size in cross section of the cross section of the untwisted remainder of the prongs.

2. A hair pin having a plurality of prongs in substantially parallel alinement and formed of a single wire strand providing in its length a plurality of different cross sectional areas connected by integral tapering portions of variable cross sectional area, that portion of the wire strand of the smallest cross sectional area being twisted upon itself to form one of the prongs, and the rest of the wire strand having the larger cross sectional area forming the remainder of the plurality of prongs branching from the twisted prong, and the twisted portion of the twisted prong immediately adjacent to the branching point being formed of the tapering portions of the wire strand, and in which the twisted wire prong so formed is of substantially the size in cross section of the cross section of the untwisted remainder of the prongs.

975,391. SMOKE-CONSUMER. JOHN ROSE BLAIK, Montreal, Quebec, Canada. Filed Aug. 3, 1907. Serial No. 386,914.



1. In a device of the character described, the combination with a furnace and its smoke stack of a damper located in said stack, a suction pipe leading from the stack, a blower adapted to withdraw the gases from the stack through said pipe, a separating chamber having therein a plurality of revolving screens adapted to separate the particles of carbon from the gases, and a second pipe leading from said chamber into the stack.

2. A smoke consumer comprising a pipe leading from the stack and having a suction fan therein, a separating chamber connected with said pipe having a plurality of revolving screens therein, brushes located in contact with said screens, and means for returning the particles of carbon to the furnace and the waste gases to the stack.

3. A smoke consumer comprising a suction pipe leading from the stack and having a blower adapted to force the stack gases into a separating chamber, a plurality of revolving screens in said separating chamber, brushes located in contact with said screens, and means for returning the particles of carbon to the furnace and the waste gases to the stack.

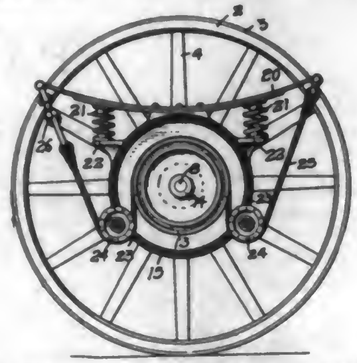
4. A device of the character described comprising a furnace, a smoke stack, a damper located therein, a pipe, connected with said stack below the damper, a blower in said pipe, a separating chamber connected with said pipe, a plurality of revolving screens in said separating chamber, means for preventing said screens from clogging, means for carrying the particles of carbon from said separating chamber, and a pipe connecting said separating chamber with the smoke stack, the entrance to said stack being located above the damper.

975,392. RUNNING-GEAR FOR VEHICLES. HERBERT E. BRADLEY, Kalispell, Mont. Filed Oct. 25, 1909. Serial No. 524,506.

1. A wheel and main axle therefor and means connecting the hub of said wheel with said axle, said means including a cable extending in a plane parallel substantially with the plane of said wheel and arranged to exert a downward pressure on said wheel., said cable sliding lengthwise and accommodating itself to the position of the wheel, and yielding means supported by said axle and attached to the ends of said cable.

2. A wheel and main axle therefor and means connecting the hub of said wheel with said axle, said means including a cable extending in a plane parallel substantially with the plane of said wheel and having a bearing intermediate to its ends arranged to exert a downward pressure on said wheel, and a spring carried by said axle and attached to the ends of said cable, for the purpose specified.

3. A wheel comprising a hub and stub axle journaled therein, a sheave secured on said stub axle, a main axle having a guide for said sheave, a cable arranged to exert a downward pressure on said sheave, and means attached to said cable and yieldingly resisting independent vertical movement of said sheave and said main axle and guide.

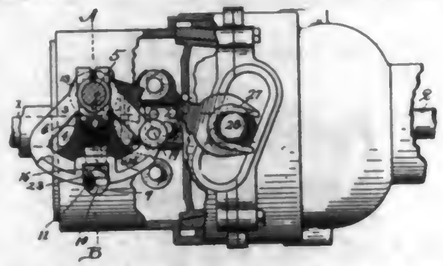


4. A wheel having a hub and stub axle journaled therein, and a sheave secured to said axle, a main axle and casing mounted thereon in which casing said sheave is adapted to slide, a cable arranged to exert a downward pressure on said sheave, and means attached to said cable and yieldingly resisting movement of said sheave in said casing.

5. A wheel having a hub and a stub axle journaled therein, a main axle and casing secured on said main axle and having a central opening in its wall to receive said stub axle, a sheave fitting within said casing and slidable therein, flexible means exerting a downward pressure on said sheave, and means yieldingly connecting said flexible means with said casing.

[Claims 6 to 8 not printed in the Gazette.]

975,393. CONTROLLING MECHANISM FOR CHANGE-SPEED AND REVERSING GEARING. ALANSON P. BAUSH, Detroit, Mich. Filed July 3, 1907. Serial No. 381,968.



1. In mechanism for operating change speed and reversing gearing, the combination of two operating members mounted to rock upon the same axis and having notches in their outer ends, a notched locking bar which normally lies within both of said notches and is movable in a direction parallel with the axis of said members, an operating arm pivoted on the same axis as said operating members and having a head which projects into the notch in the locking bar and into the notches in both of said operating members, means for rocking said operating arm and for moving it in an axis direction whereby its head as it is moved out of engagement with one of said operating members will by engaging the locking bar move it and thereby disengage it from the other of said operating members.

2. In mechanism for controlling change speed and reversing gearing, the combination of two operating members capable of rocking upon the same axis and having notches in their outer ends and one of said operating members having a wide opening through it between its outer end and its center of oscillation, an operating arm which is pivoted on the same axis and is curved and extended through the said opening through the adjacent operating member, said operating arm having a head which normally projects into the notches in the outer ends of both operating members, means for moving the operating arm in an axial direction to free it from either of said operating members.

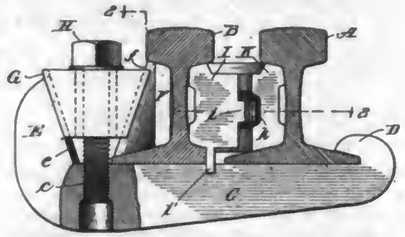
3. In mechanism for controlling change speed and reversing gearing, the combination of a tubular rock shaft having an arm in the outer end of which is a notch, a sleeve rotatably mounted upon said shaft and having an operating arm in the outer end of which is also a notch, a rock shaft rotatably mounted in said tubular rock shaft and having an arm fixed to it, which arm has a head which normally lies in the notches in both of said operating arms, the last named rock shaft being capable of rocking and of moving endwise relative to the tubular rock shaft, a spring within the tubular rock shaft engaging the solid rock shaft and resisting endwise movement thereof in one direction, a fixed bearing for the solid rock shaft, and a spring embracing the solid rock shaft and lying between said fixed bearing and the hub of the operating arm.

975,394. LIQUID WAX FINISH. JOSEPH D. BRYANT, Columbus, Ohio. Filed May 10, 1909. Serial No. 495,015.

1. A liquid wax finish compound consisting of the following ingredients in approximately the following proportions by weight, towit: twenty parts of kauri gum, thirty one parts of carnauba wax, eighteen parts of bees wax, thirty-one parts of stearic acid and seven times their combined weight of turpentine, substantially as described.

2. A liquid wax finish compound consisting of the following ingredients in approximately the following proportions by weight, towit: twenty parts of kauri gum, forty nine parts of wax, thirty one parts of stearic acid and seven times their combined weight of turpentine, substantially as described.

975,395. GUARD-RAIL CLAMP. MOSES BURPEE, Houlton, Me. Filed June 6, 1910. Serial No. 565,297.



1. In combination, a traffic rail and a guard rail, a base member underlying said rails, a jaw on said member overlying the base of the traffic rail, an upwardly and outwardly inclined projection on said member adjacent to the outer side of the guard rail, a spacing block between the rails, a rail brace engaging with the outer side of the guard rail and having an outwardly and downwardly inclined face, a wedge block lying between said inclined projection and the inclined face on said brace, and means for forcing said wedge block downwardly along said projection and said brace.

2. In combination, a traffic rail and a guard rail, a base member underlying said rails, said base member having a jaw overlying the base of the traffic rail, an abutment on said member adjacent to the outer side of the guard rail, a spacing block between the rails, a rail brace fitting under the head of the guard rail at the outer side thereof, the adjacent faces of said brace and of said abutment both being inclined and converging toward their lower ends, a wedge block engaging said faces, and means for drawing said wedge block downwardly along said faces.

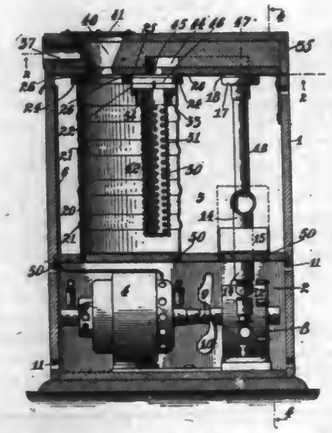
3. In combination, a traffic rail and a guard rail, a base member underlying said rails, a jaw on said member overlying the base of the traffic rail, an upwardly extending abutment on said member at the outer side of the guard rail, a spacing block between the rails, a brace arranged under the head of the guard rail at the outer side thereof, the adjacent faces of said brace and of said abutment both being inclined and converging toward their lower ends, a wedge block engaging with said faces, and an adjustable connection between said member and said wedge block.

4. In combination, a traffic rail and a guard rail, a base member underlying said rails, a jaw on said member overlying the base of the traffic rail, an upwardly extending abutment on said member at the outer side of the guard rail, a spacing block between the rails, a brace arranged under the head of the guard rail at the outer side thereof, the adjacent faces of said brace and of said abutment both being inclined and converging toward their lower ends, a wedge block engaging with said faces, and a bolt connecting said wedge block with said member for drawing the wedge block along said faces.

5. In combination, a traffic rail and a guard rail, a base member underlying said rails, a jaw on said member overlying the base of the traffic rail, an upwardly extending abutment on said member at the outer side of the guard rail, a spacing block between the rails, a brace arranged under the head of the guard rail at the outer side thereof, the adjacent faces of said brace and of said abutment both being inclined and converging toward their lower ends, a wedge block engaging with said faces, and an adjustable connection between said member and said wedge block, said wedge block being interlocked with said brace and said abutment to prevent displacement longitudinally of the rails.

[Claims 6 to 8 not printed in the Gazette.]

975,396. VACUUM CLEANING APPARATUS. FREDERIC B. COCHRAN, New York, N. Y. Filed July 8, 1909. Serial No. 506,524.



1. In a vacuum cleaning apparatus, the combination with a dust receptacle and separator, comprising a vessel provided with a partition extending partially across the upper portion thereof, dividing the vessel into two compartments, of a dust filter and a support therefor suspended from said partition and a cover provided with air inlet and outlet passages which are brought into operative relation to establish communication between said compartments through the filter when said cover is closed.

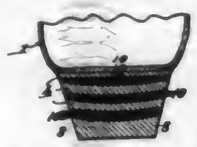
2. In a vacuum cleaning apparatus, a vessel provided with a peripheral flange at its top and having a compartment formed therein by a partition extending from the side of the vessel partially across its upper end, a transverse flange connected with said partition, a dust filter removably supported by said partition, a movable cover for said vessel provided with inlet and outlet passages com-

municating with said vessel on opposite sides of said partition when the cover is closed, and a gasket between said cover and said flanges.

3. In a vacuum cleaning apparatus, the combination of an inclosing case, a dust receptacle and separator therein comprising a vessel having two compartments, a dust filter comprising a support and a foraminous covering suspended in one of said compartments and opening into the other compartment, and a cover for said case provided with air inlet and outlet passages which are brought into operative relation to establish communication between said compartments through the filter when the cover is closed.

4. In a vacuum cleaning apparatus, the combination of an inclosing case, a suction producing device and operating means therefor located in the case, a suction pipe fixed in the case, one end of which is connected with the suction producing device and the other end of which opens at the top of the case, a dust separator within the case, comprising a vessel having two compartments, a dust filter suspended in one of said compartments and opening into the other of said compartments, and a cover for said case provided with air inlet and outlet passages, said inlet passage being brought into operative relation with one of said compartments, and said outlet passage being brought into operative connection at one end with the other of said compartments and at the other end with the suction pipe, by the closing of the cover.

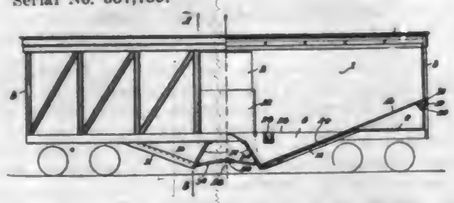
975,397. SHOE-HEEL. JOHN COLBERT, Arlington, S. C. Filed June 6, 1910. Serial No. 565,300.



1. A shoe heel of ordinary shape formed of a plurality of rubber lifts and a plurality of leather lifts arranged alternately, the rubber lifts being thicker at the center and forward ends and tapered toward the side and back edges and the bottom lift being of leather having thickened side and rear edges, substantially as described.

2. A shoe heel formed of a plurality of rubber lifts and a plurality of leather lifts arranged alternately, the rubber lifts each being formed of a number of thin laminations, the laminations increasing in number toward the center whereby said rubber lifts taper toward the side edges and back and the bottom lift being of leather having thickened side and rear edges, substantially as described.

975,398. FREIGHT-CAR. JAMES MCCUTCHEON COLEMAN, St. Lambert, Quebec, Canada. Filed Apr. 26, 1910. Serial No. 557,759.



1. In a freight car, a central longitudinal truss, a plurality of inclined ways movably arranged in the interior of the car and at one end adapted to be supported from the end walls of the car and terminating at the other end at the entrance to chute openings and there rigidly held, a plurality of chute side walls beneath the flooring level on each side of said truss, and a plurality of flooring sections hinged at the chute openings and adapted to be lowered between said chute walls and form continuation pieces of said inclined ways and separate therefrom and with said chute side walls complete the chutes leading to suitable discharge openings.

2. In a freight car, a central longitudinal truss, a car body having inner and outer chute walls below the flooring level, inclined ways hinged at the entrances to chute openings extending upwardly and suitably supported from the end walls of the car, intermediate floor sections hinged at the entrances to said chute openings and adapted to be lowered between said chute walls and form bottoms to said chutes and continuation pieces from said inclined ways and separate therefrom and mid sections to said flooring folding inwardly from the sides and in their upper position adapted to form half doors, and doors closing the openings at the lower ends of said chutes.

3. In a freight car, a body having side and end walls, a roof, flooring in sections and a plurality of tapering chute walls beneath the flooring level, said flooring sections comprising permanent sections at the ends thereof, mid sections folding inwardly from the sides and movable intermediate sections adapted in one position to cover in the chute openings in trap door style at the lower end of said chute walls and in the other position to form chute bottoms, and movable inclined ways supported from the end walls of the car at one end and at the other end supported at the entrances to the chute openings substantially flush with said intermediate sections in their lower positions and separate therefrom.

4. In a freight car, a car body having side and end walls, flooring in sections and a plurality of tapering chute walls beneath the flooring level having inturned and upwardly curved flanges at the lower ends, said flooring sections comprising permanent end sections, movable mid sections, movable intermediate sections having longitudinal downwardly turned flanges and extending from said end sections to said mid sections adapted in their lower position to form chute bottoms, and movable inclined ways extending from the ends of the cars to said chute bottoms.

5. In a freight car, a car body having side and end walls, flooring in sections and a plurality of tapering chute walls having longitudinal flanges at their lower ends, said flooring having movable longitudinal sections adapted to form in their lower position chute bottoms, inclined ways extending upwardly toward the end walls from said chute bottoms and adapted to be lowered level with the said longitudinal sections in their upper position and extension pieces secured to the end walls meeting said inclined ways.

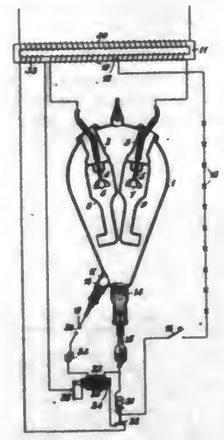
[Claims 6 to 8 not printed in the Gazette.]

975,399. STARTING MEANS FOR VAPOR-RECTIFYING DEVICES. FRANK CONRAD, Swissvale, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Sept. 20, 1906. Serial No. 335,527.

1. A vapor rectifying device for alternating current comprising a receptacle for the vapor, a negative terminal, and an auxiliary terminal, in combination with means for causing electrical discharges between the auxiliary and negative terminals, said means comprising inductively related primary and secondary circuits the latter of which is connected between the negative and auxiliary terminals, a condenser in the secondary circuit, and means for opening the primary circuit after the rectifying process has begun.

2. A vapor rectifying device for alternating current comprising a receptacle for the vapor, a negative terminal, and an auxiliary terminal, in combination with means for causing electrical discharges between the auxiliary and negative terminals, said means comprising inductively related primary and secondary circuits the latter of which is connected between the negative and auxiliary terminals, a discharge gap and a condenser in the secondary circuit, and means for opening the primary circuit after the rectifying process has begun.

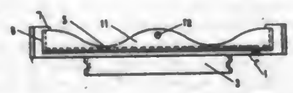
3. A vapor rectifying device for alternating current, comprising a receptacle for the vapor, a negative terminal, and an auxiliary terminal, in combination with means for causing electrical discharges between the auxiliary and negative terminals comprising a primary and a secondary circuit, means for opening the primary circuit when the alternating current circuit of the device is not established, and means for opening the primary circuit when the direct current circuit is established.



4. A vapor rectifying device for alternating current comprising a receptacle for the vapor, a negative terminal, and an auxiliary terminal, in combination with means for causing electrical discharges between the auxiliary and negative terminals, said means comprising inductively related primary and secondary circuits the latter of which is connected between the negative and auxiliary terminals, a discharge gap in the secondary circuit, and means for opening the primary circuit after the rectifying process has begun.

5. A vapor rectifying device for alternating current comprising a receptacle for the vapor, a negative terminal and an auxiliary terminal, in combination with means for causing electrical discharges between the auxiliary and negative terminals, said means comprising inductively related primary and secondary circuits the latter of which is connected between the negative and auxiliary terminals, an interrupter in the primary circuit, and means for opening the primary circuit after the rectifying process has begun.

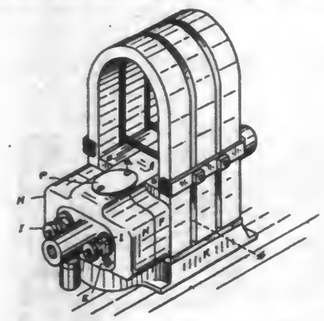
975,400. SLUICE-GATE. WILLIAM M. CREAGER and THOMAS C. HARRY, Dallas, Tex. Filed Jan. 15, 1910. Serial No. 538,307.



1. The combination with a sluice gate, tapering in construction from top to bottom, of a receiver for said gate, having a discharge outlet, and provided with downwardly tapering grooves to receive said gate, a collar encircling said outlet at one side of the receiver, and a flange encircling the aperture at the other side of the receiver, forming a seat.

2. The combination with a sluice gate having downwardly tapering walls at each side, of a receiver having a discharge outlet, downwardly tapering walls at each side of the receiver, inwardly extending portions at the rear extremity of said walls, a collar at the outlet side of the receiver adapted to receive a discharge pipe, and a seat for said gate at the inlet side of the receiver.

975,401. MAGNETO-ELECTRIC MACHINE. SHERMAN B. DAUGHERTY and SOLOMON F. JOHNSON, Indianapolis, Ind. Filed Mar. 21, 1910. Serial No. 550,668.



1. A frame for a machine of the kind described, comprising oppositely disposed longitudinal portions joined together at one end by a ring portion and at the other end by a transverse plate which carries a bearing, a rear-end portion which carries a bearing and is connected removably to the said ring-portion, and there being a rib-portion intermediate the ends of the frame and extending transversely from each side of the longitudinal portions, substantially as described.

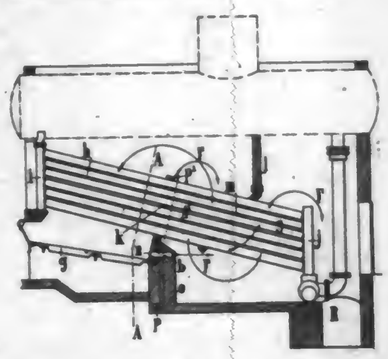
2. A frame for a machine of the kind described, comprising oppositely disposed longitudinal portions having continuous angular offsets in their opposite interior edges, the said longitudinal portions being joined together at one end by a ring-portion and at the other end by a transverse plate which carries a bearing, an end-portion that carries a bearing and that is connected removably to the said ring portion and there being a rib-portion intermediate the ends of the frame and extending transversely from each side of said longitudinal portions and having vertical webs, substantially as described and set forth.

3. A frame for a machine of the kind described, comprising oppositely disposed longitudinal portions joined together at one end by a ring-portion, and at the other end by a plate which carries a bearing, a rear-end portion which carries a bearing and is removably connected to the ring-portion, and there being a rib-portion intermediate the ends of the frame and extending transversely from each side of the said longitudinal portions, a removable cap to fit over the longitudinal portions to form a closure between the end transverse plate and the rib portions, substantially as described.

4. A frame for a machine of the kind described comprising the top and bottom portions A and B joined together at one end by the internally threaded ring portion C which carries a bearing, there being continuous offsets A^2 and B^2 in said top and bottom portions and which top and bottom portions are joined together at their front ends by the transverse plate E which carries a bearing and is provided with the openings E^1, a rear-end portion D which carries a bearing and is capable of being screwed into the ring-portion, rib-portions F having the webs F, and which extend transversely from and join together the top and bottom sections, the edges of the bottom portion between the rib-portions and the transverse plate having the beveled edges B^1, a removable cap having an open rear and bottom and provided with beveled faces H^1 to register with the aforesaid beveled faces B^1, and having an opening in its frontal side to close flush with the face of the transverse plate, substantially as and for the purposes described.

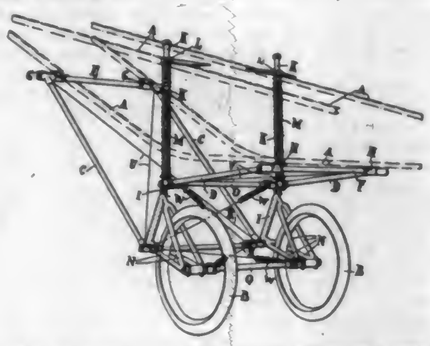
5. In a machine of the kind described, pole pieces therefor and means to force same toward each other, a frame for the support of the armature and brush holders which frame comprise oppositely disposed longitudinal portions having continuous offsets in their opposite interior edges, and end portions to join together the longitudinal portions and being extended transversely so as to engage the ends of the pole-pieces.

975,402. SMOKE-CONSUMER. CONSTANT DENIS, Fépin, France, assignor to Eugène Colignon, Paris, France. Filed Dec. 17, 1909. Serial No. 533,550.



In a smoke-consuming furnace, a grate a fire wall having apertures therethrough above the grate, a partition extending upwardly from the fire wall, a downwardly and forwardly extending partition to the rear of the fire wall, and means for admitting air to the rear of the forward partition.

975,403. AEROPLANE. JOHN WILLIAM DUNNE, London, England, assignor to Blair Atholl Aeroplane Syndicate, Limited, London, England. Filed June 20, 1910. Serial No. 567,949.



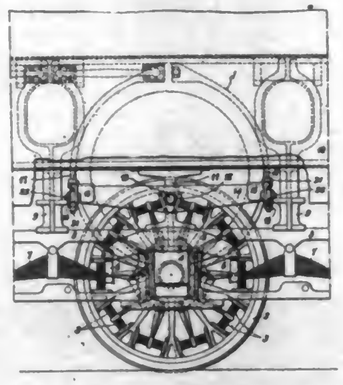
1. In an aeroplane, a system of supporting rods and shock absorbing means, such system including an aeroplane body, a member carrying supporting means such as wheels, radius rods pivoted to said aeroplane body at points fore and aft and to the lower and upper ends respectively of said member and a spring connection between the upper end of said member and a central point of said aeroplane body, as set forth.

2. In an aeroplane a system of supporting rods and shock absorbing means, such system including an aeroplane body, a member including triangular frames carrying wheels, radius rods pivoted to said aeroplane body at points fore and aft and to the lower and upper ends respectively of said member and a spring connection between the upper end of said member and a central point of said aeroplane body, as set forth.

3. In an aeroplane a system of supporting rods and shock absorbing means, such system including an aeroplane body, a member including triangular frames carrying wheels, radius rods pivoted to said aeroplane body at points fore and aft and to the lower and upper ends respectively of said member, rods pivoted to the upper end of said member and springs surrounding said rods and forming a connection between the upper end of said member and the central point of said aeroplane body, as set forth.

4. In an aeroplane a system of supporting rods and shock absorbing means, such system including an aeroplane body, a member including triangular frames carrying wheels, radius rods pivoted to said aeroplane body at points fore and aft and to the lower and upper ends respectively of said member, rods pivoted to the upper end of said member and passing through sockets placed at a central point of said aeroplane body and springs surrounding said rods and bearing against the upper end of said member and against said sockets, as set forth.

975,404. ELECTRIC LOCOMOTIVE. GEORGE M. EATON, Wilkinsburg, Pa., assignor to Westinghouse Electric and Manufacturing Company, a Corporation of Pennsylvania. Filed Mar. 15, 1900. Serial No. 483,635.



1. In an electrically propelled vehicle, the combination with a truck and a propelling motor, of a skeleton cradle in which the motor is mounted, standards supported upon one of the main structural elements of the truck and means for pivotally mounting said cradle in said standards.

2. In an electrically propelled vehicle, the combination with a truck and a propelling motor, of a pair of standards mounted on one of the main structural elements of the truck directly over the axle, a rectangular frame upon which the motor frame is rigidly supported, and means for pivotally supporting said frame in said standards.

3. In an electrically propelled vehicle, the combination with a truck and a cradle comprising side and end bars, of an electric motor mounted upon the side bars of the cradle, and means for vertically adjusting said cradle side bars.

4. In an electrically propelled vehicle, the combination with a truck and a cradle having its end members pivotally supported by the truck frame and provided with means for effecting vertical adjustments of its side members, of an electric motor supported by said cradle side members.

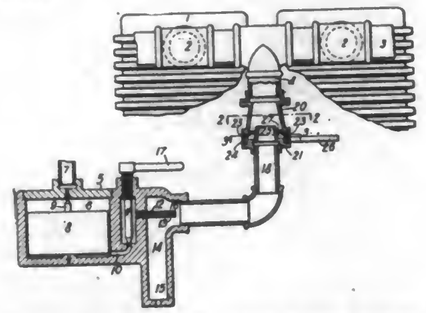
5. In an electrically propelled vehicle, the combination with a cradle having vertically adjustable side members, of a motor supported by said side members, and a truck upon which the end members of the cradle are pivotally supported at the normal center of oscillation.

[Claim 6 not printed in the Gazette.]

975,405. ANTISEPTIC AND PERFUMED BLOCK. LUCIEN EILBATSEN, Paris, France. Filed Aug. 20, 1904. Serial No. 221,545.

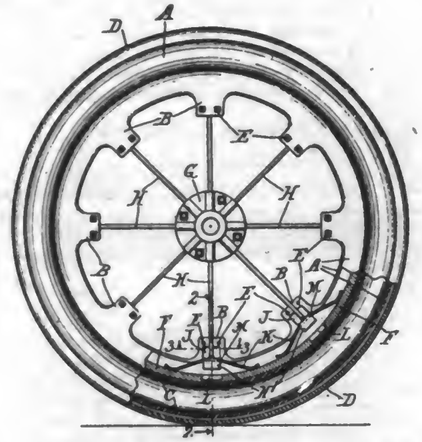
The hereindescribed process of manufacturing blocks for use as described which consists in dissolving nitrocellulose in a suitable solvent, such as described, adding thereto an active substance such as described which is adapted to form oxygenated water when in contact with water, mixing a substance agreeable in perfume and taste and also gum arabic with the solution, and evaporating the solvent.

975,406. EXPLOSIVE-ENGINE. GEORGE L. FOGLER, Baltimore, Md. Filed Mar. 29, 1909. Serial No. 486,308.



The combination with an explosive engine cylinder, of a vaporizer or carbureter, connections therefrom to the engine cylinder, and a mixer in said connections comprising a chamber having one end connected to the engine cylinder and provided with air openings in its other end, a nozzle connected to the vaporizer and projecting into the mixing chamber beyond the air openings, and a perforated plate between said nozzle and chamber walls in advance of the air openings.

975,407. WHEEL. FRELING C. FOSTER, Chicago, Ill. Filed Sept. 5, 1908. Serial No. 451,788.



1. In a wheel the combination of a hub with spokes radiating therefrom, said spokes flexible in the plane of the wheel but rigid in a direction perpendicular thereto, a pneumatic tire with an inner supporting rim therefor, a casing for said tire, slidable separate connections between each spoke and the casing, and a spring between the end of the spoke and the inner rim.

2. In a wheel the combination of a hub with spokes radiating therefrom, said spokes flexible in the plane of the wheel but rigid in a direction perpendicular thereto, an exterior casing to which each spoke is separately slidably connected and an interior elastic filling for the casing in opposition to said spokes.

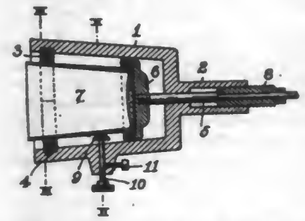
3. In a wheel the combination of a hub with spokes radiating therefrom, said spokes flexible in the plane of the wheel but rigid in a direction perpendicular thereto, an exterior casing to which each spoke is separately slidably connected, an interior elastic filling for the casing and an inner rim interposed between the spokes and the elastic filling.

4. In a wheel the combination of a hub with spokes radiating therefrom, an exterior casing to which each spoke is slidably connected, an inner elastic filling for the casing, an inner rim interposed between the spokes and the elastic filling and a series of springs interposed between the spokes and the inner rim.

5. In a wheel the combination of a hub with spokes radiating therefrom, said spokes flexible in the plane of the wheel but rigid in a direction perpendicular thereto, an exterior tubular casing consisting of two similar sections secured together, apertures in the casing through which the spokes slidably extend, a pneumatic tube within the casing and a spring on the end of each spoke and between such spoke and the tube.

[Claim 6 not printed in the Gazette.]

975,408. GRINDING-CHUCK. GEORGE W. FRY, Morgantown, W. Va. Filed Apr. 6, 1910. Serial No. 553,739.



1. A chuck for tumblers having in combination a cup, a removable frictional member adjacent to its open end adapted to engage the tumbler adjacent to its top and means within the cup for engaging and centering the rear end of the article and holding it as against lateral movement.

2. A chuck for tumblers having in combination, a cup, a removable frictional member adjacent to its open end a recessed disk within the cup for centering the rear end of the tumbler and means for adjusting the disk.

3. A chuck for tumblers having in combination, a cup, a removable frictional member adjacent to its open end variable means within the cup for holding the rear end of the tumbler as against lateral movement and adjustable intermediate supports for the tumbler.

4. A chuck for tumblers having in combination a cup, means adjacent to its open end for frictionally engaging the article, means within the cup for engaging the rear end of the article and means for adjusting such engaging means along the cup.

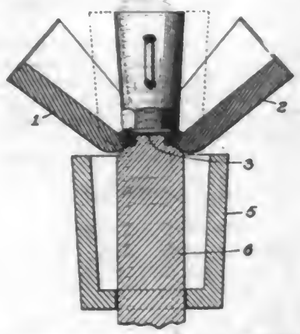
5. A chuck for tumblers having in combination a cup, removable means adjacent to the open end of the cup for frictionally engaging the article and a disk within the cup and provided with an easily removable material in which to form a recess for the reception of the end of the tumbler.

975,409. MOLD FOR GLASSWARE. GEORGE W. FRY, Morgantown, W. Va. Filed Apr. 6, 1910. Serial No. 553,740.

1. The combination of a mold formed of sections movable in planes substantially at right angles to the meeting faces of the sections and provided with a matrix extending between the meeting faces of the sections, abutments or bearings arranged to bear upon and hold the sections in closed position, and means for moving one of said parts relative to the other.

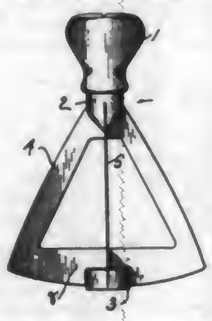
2. The combination of a punty plate or base, a mold formed of sections pivotally connected to the base and provided with a matrix extending between the meeting faces of the sections said sections having their pivotal axes at an angle to the axis of the mold and in planes substantially parallel with the meeting faces of the sections, means for shifting the base or punty plate, and stationary abutments or bearings for forcing the mold sections into closed position.

3. The combination of a base or punty plate mold sections hinged to the base, an annular block, means for shifting the punty plate and means for forcing the sections apart.



4. The combination of a mold formed of sections and provided with a matrix extending between the meeting faces of the sections, said sections being movable to and from closed position in planes substantially at right angles to their meeting faces, an annular block having internal transverse dimensions substantially equal to the external of the mold, and means for moving one of said parts relative to the other.

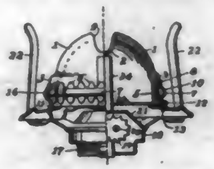
975,410. APPLE CUTTER AND CORER. BENJAMIN FULLMER and ALFRED HUGH POWELL, Alpine City, Utah. Filed Jan. 31, 1910. Serial No. 541,193.



An apple cutter and corer comprising a plurality of slicing blades of triangular form arranged with their apices upward and each formed with its central portion cut away to thereby provide a blade having an open and unobstructed central space above a lower transverse cutting portion, and said blades being also arranged in planes which intersect one another, said blades being each provided with a recess adjacent its upper end so located that the several recesses register and form a single recess when the blades are assembled; a nut within the recess formed as aforesaid; a handle; a bolt associated with said handle and the lower end of which is in engagement with said nut to thereby secure said blades and handle together; and an annular coring knife secured to the lower transverse cutting portions of said blades and centrally arranged with reference thereto and the cutting edge of which coring knife is in substantially the same plane as the cutting edges of the transverse cutting portions of said slicing blades.

975,411. KEROSENE-BURNER. EMIL F. GENNERT, New York, N. Y., assignor to Manhattan Brass Company, New York, N. Y., a Corporation of New York. Filed Jan. 22, 1907. Serial No. 353,563.

1. In a kerosene burner, a glass cone made in sections each having a bead, and means for securing the sections together consisting of a flexible strip which encircles the cone and is engaged with the beads and is provided with a series of elastic projections to bear upon the latter.



2. In a kerosene burner, a glass cone made in sections each having a bead, and means for securing the sections together consisting of a flexible strip which encircles the cone and is engaged with the beads and has its edges provided with series of elastic projections which bear upon the cone above and below the bead.

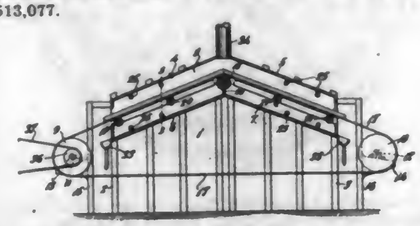
3. In a kerosene oil burner, a metallic body or burner of the type described, a glass cone in two sections, each section being a counterpart of the other, said cone sections being each provided with a recess and a peripheral bead extending on each side of said recess, a metallic strip provided at each edge with scallops and with means for fastening said strip around said cone sections when assembled, and fastening means to removably position said cone on said burner, substantially as described.

4. In a kerosene burner, a glass cone comprising a plurality of sections, and means for holding the sections together and removably upon the burner, consisting of a flexible strip adapted to encircle the cone and having means for separably connecting its ends with each other and also having means to determine the position of the cone.

5. In a kerosene burner, a glass cone comprising a plurality of sections, and means for holding the sections together and removably upon the burner, consisting of a flexible strip adapted to encircle the cone and having means for separably connecting its ends with each other and also having projecting yieldable fingers to engage the cone.

[Claims 6 to 8 not printed in the Gazette.]

975,412. TOBACCO-ORDERING MACHINE. BLANCH WALDEN GINN, Covington, Ky., assignor to Lovell & Buffington Tobacco Company, Covington, Ky., a Corporation of Kentucky. Filed Aug. 16, 1909. Serial No. 513,077.



1. In an apparatus of the character specified, a moistening chamber, provided with a floor sloping from the middle of the chamber to the front and rear, a perforated conveyer, to carry the tobacco leaves, passing through said chamber upwardly to the middle of the chamber and thence downwardly to the rear with steam pipes in said chamber extending across above and below the conveyer having perforations to distribute the steam through the chamber.

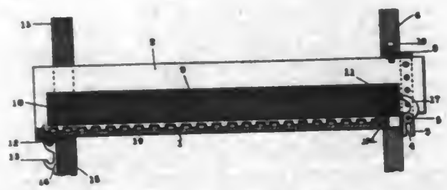
2. In an apparatus of the character specified, a moistening chamber, having an inclined floor from the central portion to the front and rear, an endless perforated conveyer traveling through said chamber in a path parallel with the floor and steam pipes in said chamber extending across above and below the conveyer to distribute steam on both sides thereof, with a water pipe at the highest point of said floor to supply flushing water for said chamber.

3. In an apparatus of the character specified, a moistening chamber, having a roof and a floor parallel with each other and both inclined from the central portion to the front and rear, an endless perforated conveyer in a path midway between floor and roof and parallel thereto, with steam pipes in said chamber extending across above and below the conveyer to distribute steam on both sides thereof, means for propelling the conveyer through the chamber from front to rear and a water pipe at the peak of said floor to flush the chamber with water.

4. In an apparatus of the character specified, a moistening chamber, provided with a floor sloping from the middle of the chamber to the front and rear, a perforated conveyer, to carry the tobacco leaves, passing through said chamber upwardly to the middle of the chamber and thence downwardly to the rear, with steam pipes in said chamber extending laterally across above and below the conveyer, having perforations to distribute the steam through the chamber, a pipe entering said chamber from the top to carry off the surplus steam, and a water pipe at the highest point of said floor to furnish flushing water therefor.

5. In an apparatus of the character specified, a moistening chamber, provided with a floor sloping from the middle of the chamber to the front and rear, a perforated conveyer, to carry the tobacco leaves, passing through said chamber upwardly to the middle of the chamber and thence downwardly to the rear with steam pipes in said chamber extending laterally across above and below the conveyer having perforations to distribute the steam through the chamber, and a water pipe at the highest point of said floor to furnish flushing water therefor, said steam and water pipes being connected outside the chamber with valves to control the flow whereby either steam or water or both may be supplied to said chamber.

975,413. SHAKING-GRIZZLY. CHARLES H. GUNN, Marysville, Cal. Filed Sept. 20, 1909. Serial No. 518,662.



1. A shaking grizzly comprising a shaft, a plurality of bars pivotally mounted on said shaft at one end, plates secured on each side of each free end of said bars and bearing one against the other, and means for oscillating said bars.

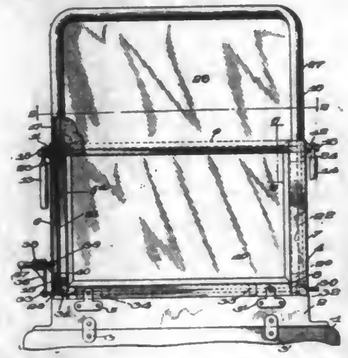
2. A shaking grizzly comprising a shaft, a plurality of bars pivotally mounted at one end upon such shaft, a stationary beam, the other end of said bars resting on said beam, a shaft mounted independently of said bars, and cams arranged on said shaft and adapted to engage the free ends of said bars.

3. A shaking grizzly comprising a shaft, a trough pivotally mounted at one end on said shaft, another shaft, said trough resting on said second shaft, a plurality of oscillating bars in said trough and means whereby the trough may be oscillated with said bars.

4. A shaking grizzly comprising two shafts journaled at spaced distances apart, a trough pivotally mounted on one of said shafts, a plurality of oscillating bars in said trough, and means on said trough adapted to coöperate with said bars for oscillating said trough.

5. A device of the character described comprising a trough pivoted at one end, a cross bar on top of said trough at the other end, oscillating bars in said trough, set screws disposed in said cross bar in alinement with said oscillating bars and cams engaging said oscillating bars.

975,414. WIND-SHIELD. JOSEPH HADKA, Chicago, Ill. Filed May 2, 1908. Serial No. 430,450.



1. A sectional shield for vehicles comprising a lower rectangular shield-section consisting of a panel and stiles formed of tubes, each tube having a longitudinal slot in its inner side, and said panel being secured to said tubes at one side of said slots; an upper shield-section consisting of a panel and stiles, the stiles of the upper shield-section lying within and being guided by the tubular stiles of the lower section, the vertical edge portions of the upper panel lying within the slots of the lower stiles, the lower stiles and the lower panel being of substantially equal height, said lower stiles serving to hold the upper shield-section rigidly against lateral movement out of a vertical plane parallel with the plane of the lower panel and means for securing the upper shield-section in operative position.

2. A sectional wind shield for vehicles comprising a shield section arranged to be secured to a vehicle, a second shield section having its ends in slidable engagement with the corresponding ends of the first mentioned shield section, threaded rods located within the first shield section and operatively engaging the second section, and means for rotating said rods.

3. A sectional wind shield for vehicles comprising a shield section arranged to be secured to a vehicle, a second shield section having its ends in slidable engagement with the corresponding ends of the first mentioned shield section, threaded rods located within the first shield section and operatively engaging the second section, means within the first section for operatively connecting said rods, and means for actuating said connection.

4. A sectional shield for vehicles comprising a shield section arranged to be secured to a vehicle, said section being provided with hollow upright stiles, and a hollow base rail, a second shield section having its ends slidably mounted in said stiles, threaded rods supported within said stiles and engaging the second section, a shaft in said base rail operatively connected with both of said rods, and means for rotating said shaft.

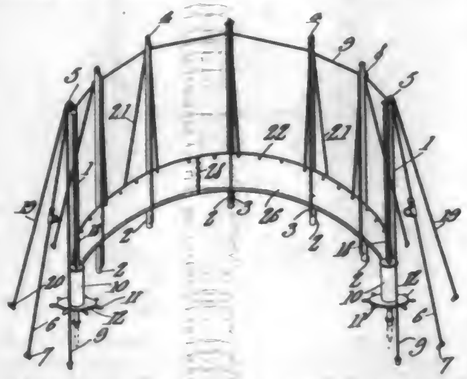
5. A sectional shield for vehicles comprising a shield section arranged to be secured to a vehicle, said section being provided with hollow upright stiles, and a hollow base rail, a second shield section having its ends slidably mounted in said stiles, said ends being also provided with stiles located within the stiles of the first section, threaded rods located within the stiles of the first section and engaging the stile of the second section, a shaft in the base rail operatively connecting said threaded rods, and means for rotating said shaft.

[Claim 6 not printed in the Gazette.]

975,415. STRAW-STACKER. GEORGE W. HALANE, Covell, Ill. Filed Apr. 27, 1910. Serial No. 557,941.

1. A device of the class described comprising spaced supports; a stretching device rotatable and slidable upon one of the supports; a flexible screen secured at one end

to the stretching device and at the other end slidable upon the other support; means for sliding the stretching device and the screen upon the supports; and means for holding the stretching device against rotation.



2. A device of the class described comprising spaced supports; a stretching device rotatable and slidable upon one of the supports; a flexible screen secured at one end to the stretching device and at the other end slidable upon the other support; a flexible member extended downwardly within the first named support and connected with the stretching device; and anti-friction means upon said support to receive the intermediate portion of the flexible member.

3. A device of the class described comprising a tubular support provided with a longitudinal slot; a stretching device rotatable and slidable upon the support; a flexible screen secured at one end to the stretching device; means for securing the other end of the flexible screen; a ratchet slidable upon the support and rotatably connected with the stretching device, the ratchet having a projection extending into the slot of the support; a pawl upon the stretching device adapted to engage the ratchet; and a flexible member located within the support and connected with the projection upon the ratchet.

4. A device of the class described comprising a tubular support; a stretching device rotatable and slidable upon the support; a ratchet slidable upon the support and rotatably connected with the stretching device, the ratchet being adapted to interlock with the support against rotation; a pawl located upon the stretching device and adapted to engage the ratchet; and means for sliding the stretching device upon the support.

5. A device of the class described comprising end supports; intermediate supports located between the end supports; stretching devices slidably and rotatably mounted upon the end supports; a flexible screen terminally secured to the stretching devices, and having its intermediate portion engaged by the intermediate supports; means for raising and lowering the stretching devices and the screen; and means for locking the stretching devices against rotation.

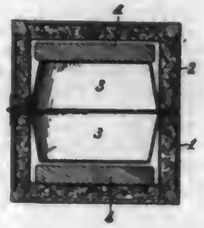
[Claim 6 not printed in the Gazette.]

975,416. FIRELESS COOKER. ARTHUR T. HALLOCK, Grand Rapids, Mich., assignor to Cookerette Company, Muskegon, Mich., a Corporation of Michigan. Filed Jan. 11, 1910. Serial No. 537,431.

1. A fireless cooker, comprising a case and cover, and a removable vessel within the case provided with a flange extending through the seam between the case and cover.

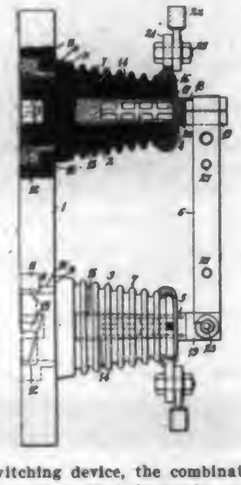
2. A fireless cooker comprising a case, a cover for the case, a fixed lining for the case, and a removable inner vessel in the case having a flange extending through the seam between the case and cover.

3. A fireless cooker, comprising two substantially equal parts forming the case and cover and provided with fixed linings, and two detached removable vessels being substantially duplicates and each having a flange extending through the seam between the case and cover, whereby



vapors from the food are discharged outside of the case and cover.

975,417. ELECTRIC-CIRCUIT SWITCH. FORD W. HARRIS, Wilkinsburg, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., a Corporation of Pennsylvania. Filed Jan. 10, 1908. Serial No. 410,248.

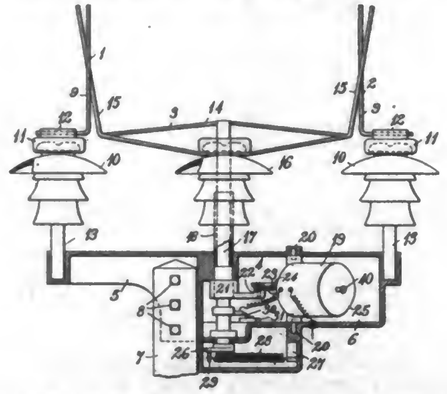


1. In a switching device, the combination with a supporting slab provided with holes having rear enlargements, frusto-conical insulating posts having recesses in their outer ends and substantially cylindrical inner ends provided with flanges and located in said holes, bodies of cement surrounding said parts within the holes, contact members comprising caps fitted over the outer ends of the posts and having projections located in said recesses and cemented therein, switch jaws projecting outwardly from the caps, and a switch-blade pivotally secured to one pair of the jaws.

2. In a switching device, the combination with a supporting slab having holes cut through it and countersunk at the rear, frusto conical insulating posts projecting outwardly from the face of the slab and having corrugated outer surfaces and end recesses and provided with cylindrical flanged inner ends which are cemented into said holes, of caps having projections cemented into the recesses in the posts, switch jaws projecting outwardly from the caps, and a switch-blade pivotally secured to one pair of jaws.

3. In a switching device, the combination with a supporting slab having holes cut through it and counter-sunk at the rear, frusto-conical insulating posts having corrugated outer surfaces, and substantially cylindrical flanged inner ends cemented into said holes, of contact members comprising caps fitted over the outer ends of the posts, projections cemented into recesses in the posts, switch jaws projecting from the caps, and a switch-blade pivotally secured to one pair of the jaws.

975,418. ELECTRIC SWITCHING DEVICE. FORD W. HARRIS, Wilkinsburg, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., a Corporation of Pennsylvania. Filed Mar. 9, 1908. Serial No. 420,061.



1. In a switching device, the combination with a supporting frame, pins projecting upwardly from the ends thereof and provided with insulators, and stationary contact members projecting upwardly from said insulators, of an insulator rotatably mounted substantially midway between the stationary contact members, a bridging member secured to the rotatable insulator and provided with upwardly projecting arms which are adapted to make sidewise engagement with said stationary contact members, a spring tending to hold the bridging member at one end of a 90° arc of rotation, and electromagnetic means for effecting an initial rotative movement of said bridging member from either of its extreme positions.

2. In a switching device, the combination with a hollow supporting frame, two insulators secured thereto and projecting upwardly therefrom, and stationary contact members projecting upwardly from said insulators, of a rotatably mounted intermediate insulator, a coöperating bridging member secured to the rotatably mounted insulator and provided with upwardly projecting contact arms which are adapted to make sidewise engagement with said stationary contact members, and operating means disposed in said hollow supporting frame.

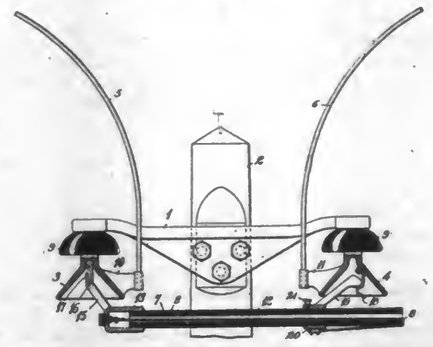
3. In a switching device, the combination with a hollow supporting frame, pins projecting upwardly therefrom and provided with insulators, and horn-shaped stationary contact members projecting upwardly from said insulators, of a shaft rotatably mounted between the stationary insulators and projecting into the hollow supporting frame, an insulator mounted on said shaft, a bridging member secured to the rotatable insulator and provided with upwardly projecting arms which are adapted to make sidewise engagement with said stationary contact members, and means disposed in the hollow frame for producing a rotative movement of the shaft through an angle of substantially ninety degrees.

4. In a switching device, the combination with a supporting frame, two insulators secured thereto and projecting upwardly therefrom, and horn-shaped stationary contact members projecting upwardly from said insulators, of a rotatably mounted intermediate insulator, a coöperating movable bridging member secured to said rotatably mounted insulator and having upwardly projecting contact arms which are adapted to make sidewise engagement with said stationary contact members, remotely controlled means for imparting an initial rotative movement to said rotatably mounted insulator, and a spring for continuing said movement through an angle of substantially ninety degrees.

5. In a switching device, the combination with a supporting frame, pins projecting upwardly from the ends thereof and provided with insulators, and stationary contact members projecting upwardly from said insulators, of a rotatable shaft located between the stationary contact members, a bridging member secured to the rotatable shaft and having upwardly projecting contact arms, a spring tending to hold the bridging member at one end of a ninety degree arc of rotation, a lever arm projecting laterally from said shaft, an electro-magnet rotatably mounted with its axis parallel to that of the shaft and having a movable contact member connected to the laterally projecting lever arm.

[Claim 6 not printed in the Gazette.]

975,419. ELECTRIC-CIRCUIT SWITCH. FORD W. HARRIS, Wilkinsburg, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 10, 1908. Serial No. 426,350.



1. A switch comprising a pair of stationary terminal members, and a substantially horizontal bridging member having a fusible element, and means for detachably suspending said bridging member from said terminal members, one of said means being a link hinge.

2. A switch comprising a pair of stationary terminal members, insulating supports therefor, and a substantially horizontal and longitudinally movable bridging member comprising an insulating tube, conducting members secured to the tube and detachably connected to and suspended from the stationary terminal members, and a fusible strip or wire extending through the insulating tube and connecting the conducting members together.

3. A switch comprising a pair of stationary bell-shaped terminal members having upwardly projecting horn-shaped arcing projections, a supporting bracket for the stationary members, insulators interposed between the arms of the bracket and said members, and a substantially horizontal and longitudinally movable bridging member comprising an insulating tube, a conducting cap at one end having a detachable hinge connection to one of the stationary terminal members, a conducting sleeve adjustably mounted on the tube near its opposite end, a fusible strip or wire extending through the tube and connecting the conducting sleeve with the conducting cap.

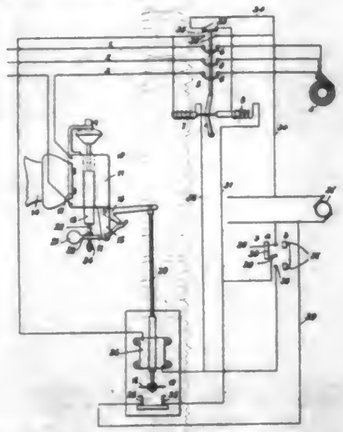
4. A switch comprising a pair of stationary terminal members, insulating supports therefor, and a substantially horizontal bridging member comprising an insulating tube, conducting members secured to the tube and detachably suspended from the stationary terminal members and a fusible strip or wire extending through the insulating tube and connecting the conducting members together, said bridging member being detached from one of its supports by the rupture of the fusible strip or wire.

5. A switch comprising a pair of stationary terminal members, insulating supports therefor, and a bridging member comprising an insulating tube closed at one end, conducting members secured to the tube near its ends and loosely suspended from said terminal members, and a fusible strip or wire extending through the tube and connecting the conducting members together, the arc

formed by rupturing the fusible wire or strip serving to give the bridging member sufficient end thrust to release it from one of the terminal members.

[Claim 6 not printed in the Gazette.]

975,420. SYSTEM OF ELECTRIC-CIRCUIT PROTECTION. FORD W. HARRIS, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Jan. 21, 1909. Serial No. 473,528.



1. The combination with a high-voltage electric circuit, a circuit interrupter therefor, a release magnet for the interrupter, and a relay switch for governing the release magnet, said switch comprising a movable contact member, a relatively long rod or bar secured thereto and an electro-magnet for raising the rod or bar, of a high-voltage electro-magnet depending upon the high-voltage circuit for its energy, a latch for holding the rod or bar and the movable contact member of the relay switch in an open circuit position, said high-voltage electro-magnet being adapted to release the holding means.

2. The combination with a high-voltage circuit, a circuit interrupter, a rod or bar for tripping the interrupter, electro-responsive means for raising the rod or bar and means for holding it in its raised position, of a high-voltage electro-magnet associated with the high-voltage circuit for releasing the holding means.

3. The combination with a high-voltage circuit, a circuit interrupter, a rod or bar for tripping the interrupter, electro-responsive means for raising the rod or bar and means for holding it in its raised position, of a high-voltage electro-magnet associated with the high-voltage circuit for releasing the holding means and an auxiliary switch operatively connected to the circuit interrupter for opening the circuit of the lifting magnet except when the circuit interrupter is open.

4. The combination with a high-voltage circuit, a circuit interrupter therefor, a low-voltage circuit, a release magnet for the interrupter adapted to be energized from the low-voltage circuit, a relay switch comprising stationary and movable contact members for governing the release magnet, and a rod or bar operatively connected to the movable contact member of the relay switch, of means for opening the relay switch and raising the rod or bar, a latch for restraining the rod or bar and an electro-magnet energized from the high-voltage circuit for releasing the rod or bar under predetermined conditions on the high-voltage circuit.

975,421. CIRCUIT-BREAKER. FORD W. HARRIS, Wilkinsburg, Pa., assignor to Westinghouse Electric and Manufacturing Company, a Corporation of Pennsylvania. Filed July 28, 1909. Serial No. 510,015.

1. A fusible device adapted to resist tensile strains and comprising a fuse wire and a combustible fibrous strand having greater tensile strength than said fuse wire.

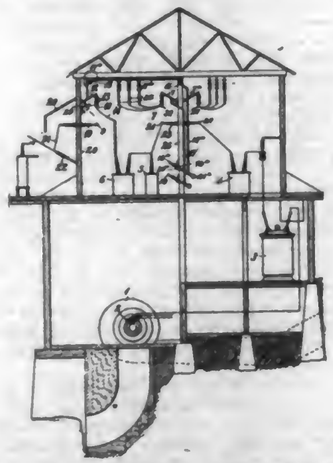


2. A fusible cord adapted to resist tensile strains and comprising a fuse wire and a strand or strands of combustible fibrous material.

3. A circuit breaker, the separable members of which are normally electrically and mechanically connected by a multiple strand fuse, one of the strands of which is fuse wire and the other strand or strands of which are of combustible fibrous material.

4. A fusible member for circuit breakers comprising a plurality of interwoven strands of fuse wire and combustible fibrous material.

975,422. DISCONNECTING-SWITCH FOR HIGH-POTENTIAL CIRCUITS. STEPHEN Q. HAYES, Pittsburg, Pa., assignor to Westinghouse Electric and Manufacturing Company, a Corporation of Pennsylvania. Filed Nov. 8, 1909. Serial No. 526,821.

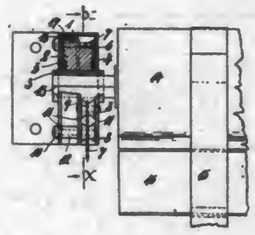


1. A disconnecting switch comprising a horizontally disposed insulating bushing having a contact terminal at one end, a lever pivotally supported above the bushing and a movable contact terminal freely suspended from the outer end of the lever, insulated therefrom and adapted to move vertically into and out of engagement with the stationary contact terminal.

2. A disconnecting switch comprising a horizontally disposed insulating bushing extending through a vertical wall or plate and supported thereby near its middle point, a stationary contact terminal secured to one end of the bushing, a line conductor extending through the bushing and connected to the contact terminal, a lever hinge-connected to the vertical wall or plate above the bushing, a movable contact terminal freely suspended from the outer end of the lever directly above the stationary contact terminal and adapted to move vertically into and out of engagement therewith, said movable contact terminal being electrically separated from the end of the arm by means of a suspension insulator.

3. A disconnecting switch comprising a stationary contact member, a lever pivotally supported above said member, a coöperating movable contact terminal freely suspended from the outer end of the lever and an interposed insulating structure comprising a series of insulators one above another, connected by link connections.

975,423. BLIND-STOP. JAKOB AUGUST HEDBERG, Gottenborg, Sweden. Filed Feb. 19, 1910. Serial No. 544,873.



1. In a blind stop, in combination with the top lath of the blind, a disk connected with the said lath and journaled in stationary brackets, a braking device surrounding said disk, and means for rotating the said disk, substantially as described and for the purpose set forth.

2. In a blind stop, in combination with the top lath of the blind, a disk connected with said lath and journaled in stationary brackets, a friction braking device acting upon said disk, and means for rotating said disk.

3. In a blind stop, in combination with the top lath of the blind, a rotatable disk connected with said lath, said disk being provided with a smooth periphery, a friction braking device acting upon said periphery, and means for rotating said disk.

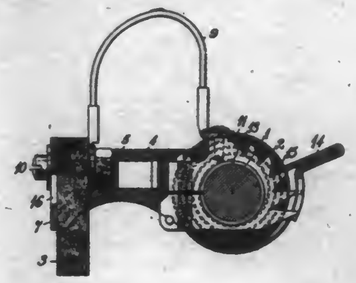
4. In a blind stop, in combination with the top lath of the blind, a disk connected with said lath, and journaled in brackets, a braking device acting upon said disk, means for varying the braking effect thereof and means for rotating same disk.

5. In a blind stop, in combination with the top lath of the blind, a circular disk, which is journaled in a stationary casing and the hub of which has a preferably square opening, the end pin of the said lath, inserted into the said opening, a groove provided in the periphery of the said disk, a chain or the like located in the said groove and fixed to the disk, a cylindrical surface provided on the disk, a brake-band inclosing the said surface, means connecting the ends of the said band, and means for preventing the band from rotating with the disk, substantially as described and for the purpose set forth.

[Claim 6 not printed in the Gazette.]

975,424. BRUSH-HOLDER. WILLIAM T. HENSLEY, Wilkinsburg, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., a Corporation of Pennsylvania. Filed Nov. 8, 1907. Serial No. 401,272.

1. A brush holder for dynamo-electric machines comprising a supporting rod or shaft, a ring provided with a plurality of peripheral projections and clamped to said rod or shaft, a double arm rotatably mounted on the rod or shaft at the respective sides of said ring, and having a brush secured to its outer extremity, a spiral spring surrounding said rod or shaft and having its inner end fastened to the brush arm, and means attached to the outer end of the spring to engage any one of the projections of the clamping ring in accordance with the spring pressure desired.



2. A brush-holder for dynamo-electric machines comprising a supporting rod or shaft, a clamping ring secured to the shaft and having a notched outer surface, an arm rotatably mounted on the rod or shaft, and a double spiral spring interposed between the arm and the rod.

3. A brush-holder for dynamo-electric machines comprising a supporting rod or shaft, a clamping ring secured to the rod or shaft and having a notched surface, a double arm rotatably mounted on the rod or shaft and having its side members located at opposite sides of the clamping ring, and a two-part spiral spring having its inner end secured to the arm and its outer end adjustably secured to the clamping ring.

4. A brush-holder for dynamo-electric machines comprising a rod or shaft, a clamping ring secured thereto and having a notched outer surface, a supporting arm rotatably mounted on the rod or shaft and having a brush located at its outer extremity, said arm comprising side portions, an end portion to which the brush is secured and a pair of hub projections mounted on the rod or shaft, and a two-part spiral spring the inner extremities of which are secured to the hubs of the supporting arm and the outer extremities of which are joined by a cross strip adapted to engage the notches on the outer surface of the clamping ring.

975,425. FIELD-WINDING COIL FOR DYNAMO-ELECTRIC MACHINES. WILLIAM T. HENSLEY, Wilkinsburg, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., a Corporation of Pennsylvania. Filed Mar. 9, 1908. Serial No. 420,076.



1. A wedge-shaped coil for electric apparatus having a plurality of single-layer turns of conducting material of varying widths and uniform cross-sectional area from one coil end to the other.

2. A field magnet coil for dynamo-electric machines comprising a plurality of rigid single-layer turns of conducting material, the turns at one end of the coil being wide and thin and the turns at the other end being narrow and thick.

3. A cast metal coil comprising a plurality of single-layer turns of gradually increasing thickness from one end of the coil to the other and of uniform cross-sectional area.

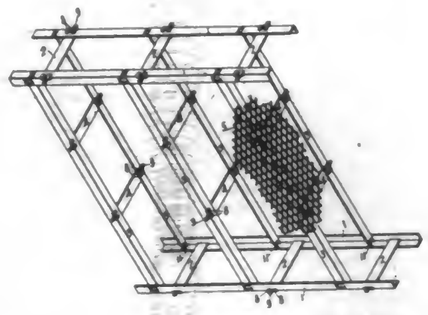
4. In a dynamo-electric machine, the combination with a cylindrical frame having main polar projections and

auxiliary polar projections the sides of which are tapered, and substantially rectangular coils mounted on the main polar projections, of coils for the auxiliary projections the turns of which gradually increase in thickness from one end of the coil to the other without change in cross sectional area.

5. In a dynamo-electric machine, the combination with a cylindrical frame having polar projections, of coils therefor having a plurality of single-layer turns of constantly varying cross sectional contour and of invariable cross sectional area from end to end, and cross connections between poles that extend from the end turns of the windings and are integral therewith.

[Claim 6 not printed in the Gazette.]

975,426. PARTITION CONSTRUCTION FOR FIREPROOF BUILDINGS. HERMANN HILL, Warwood, W. Va., assignor to Steel Fireproofing Company, Wheeling, W. Va., a Corporation of West Virginia. Filed Aug. 9, 1909. Serial No. 511,913.



1. A metallic partition construction comprising floor strings, ceiling strings, and studs connecting the floor and ceiling strings, said strings and studs each comprising a pair of longitudinal side members and cross connecting members extending transversely between the longitudinal members, said longitudinal members and cross connecting members of said strings and studs being interlocked by means of projections integral with said parts.

2. A metallic building construction comprising floor strings, ceiling strings, and studs connecting the floor and ceiling strings, said strings and studs each comprising a pair of side members and cross connecting lattice members, said parts being interlocked by means of projections integral therewith and being provided with lateral projecting portions for the attachment of the lath.

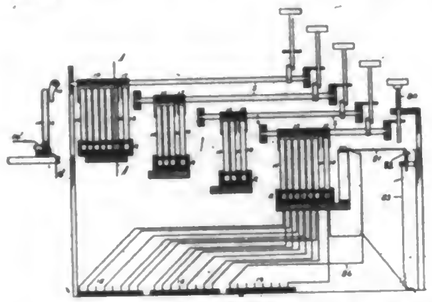
3. A metallic building construction comprising studs formed of flanged vertical members and cross-connecting members, and strings having vertical webs provided with tongues extending longitudinally of the said vertical webs and offset and spaced therefrom and arranged to embrace a flange on the vertical stud members.

4. A metallic building construction comprising metal studs provided with side flanges and a string having vertical flanges provided with tongues extending longitudinally of said vertical flanges and offset and spaced therefrom and arranged to embrace a flange of the studs, and having projections for preventing movement of the studs longitudinally of the strings.

5. A metallic building construction comprising metal studs of lattice construction having side flanges, and a string having vertical flanges provided with tongues extending longitudinally of said vertical flanges and offset and spaced therefrom and arranged to embrace the flanges of the studs, and projections integral with said strings and arranged to prevent movement of the studs longitudinally of the strings.

[Claims 6 to 9 not printed in the Gazette.]

975,427. KEYBOARD APPARATUS FOR PUNCHING TELEGRAPHIC TRANSMITTING-TAPES. ROMYN HITCHCOCK, New York, N. Y. Filed Aug. 2, 1906, Serial No. 328,829. Renewed Apr. 12, 1910. Serial No. 555,100.



1. In telegraphic tape punching apparatus, the combination of a series of keys, one for each letter and character, a plurality of electromagnetically controlled punches equal in number to the maximum number of perforations required to form any letter, means for intermittently drawing the tape forward, means whereby, on depression of a key, the circuits of punches adapted to punch the corresponding letter in the tape are selected, and partly completed, electromagnetic means also acting thereafter during depression of the key to complete the punch circuits and effect actuation of the selected punches, and means whereby when the punches have acted the paper drawing devices are automatically set into operation to draw forward the tape a length determined by the letter that has been perforated therein.

2. In telegraphic tape punching apparatus, the combination of a series of keys, one for each letter, a plurality of electromagnetically controlled punches equal in number to the maximum number of perforations required for any letter, means for intermittently drawing the tape forward, and devices, controlled on depression of the key, to select and partly complete the circuits required for operation of the punches corresponding with the key depressed and electromagnetic means also acting on depression of the key to complete said circuits to actuate the punches, and means automatically put into operation when the punches have acted to draw the tape forward a distance determined by the letter that has been punched therein.

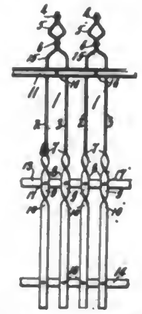
3. In telegraphic tape punching apparatus, the combination of a series of keys, one for each letter, a plurality of electromagnetically controlled punches equal in number to the maximum number of perforations required for any letter, means for intermittently drawing the tape forward, and devices, controlled on depression of the key, first to select and partly complete the circuits required for operation of the punches corresponding with the key depressed and second to electromagnetically complete said circuits to actuate the punches, means for automatically opening the punch circuits immediately the punches have acted and means automatically put into operation when the punches have acted to draw the tape forward a distance determined by the letter that has been punched therein.

4. In telegraphic tape perforating apparatus, the combination of keys, one for each letter, a plurality of punches equal in number to the maximum number of perforations required for any letter, electromagnetic devices for operating the respective punches, means for intermittently drawing the tape forward, two independent sources of electrical energy, devices acting, on depression of a key, to select the circuits operating the punches corresponding with the letter represented by the key and to connect the circuits of the punch operating magnets with one such source of electrical energy, electromagnetic means for completing the circuits of the selected punch magnets to effect operation of the punches, devices, also acting on depression of the same key to connect the circuit of such electromagnetic punch circuit closing devices with the other source of electrical energy, means whereby when the punches have acted the punch operating circuits and the circuit of the electromagnetic devices for completing such punch operating circuits are both automatically opened, and means then automatically acting to put the tape drawing devices into operation to draw forward a length of tape determined by the letter that has just been punched in the tape.

5. In telegraphic tape perforating apparatus, the combination of keys, one for each letter, a plurality of punches equal in number to the maximum number of perforations required for any letter, electromagnetic devices for operating the respective punches, means for intermittently drawing the tape forward, two independent sources of electrical energy, devices acting, on depression of a key, to select the circuits operating the punches corresponding with the letter represented by the key and to connect the circuits of the punch operating magnets with one such source of electrical energy, electromagnetic means for thereafter completing the circuits of the selected punch magnets to effect operation of the punches, devices, also acting on depression of the same key to connect the circuit of such electromagnetic punch circuit closing devices with the other source of electrical energy, means whereby when the punches have acted the circuits of the punch operating magnets and the circuit of the electromagnetic devices for completing such punch operating circuits are both automatically opened, electromagnetic devices controlling the tape drawing devices and means whereby when the punches have acted said last named electromagnetic devices are connected in circuit with the source of electrical energy first mentioned to thereby put the tape drawing devices into operation, and means automatically acting to interrupt the last named circuit when the required length of tape has been drawn forward.

[Claims 6 to 33 not printed in the Gazette.]

975,428. FENCE. SAMUEL HOHULIN, Goodfield, Ill. Filed Mar. 2. 1910. Serial No. 546,886.



1. In a fence, a picket comprising two flat metal bands, said bands being secured together at their upper ends with their flat faces in contact, and being bent in such a manner as to give to the upper end of the said picket in general outline the shape of a spear-head, each of said bands having approximately midway between the ends thereof, a three-quarters twist and having spaced therefrom by a short flat extent of the said band a half twist therein.

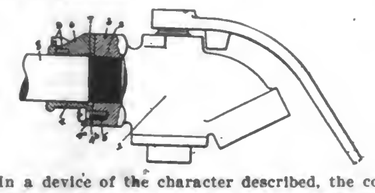
2. In a fence, a picket comprising two flat metal bands, said bands being secured together near the upper ends thereof with their flat faces in contact, and throughout the remainder of their extent being spaced apart, each of said bands being so twisted near the mid-point thereof that in the upper half of the said picket the bands lie with their flat faces adjacent while in the lower half of said picket the edges of said bands are adjacent.

3. In a fence, in combination, a plurality of pickets, each of said pickets comprising two flat metal bands, said bands having their upper ends riveted together with their flat faces in contact, and each of said bands being so bent near the upper end thereof that the general outline of the top of said pickets resembles the shape of a spear head, and each of said bands having near the mid-point thereof a three-quarters twist, said twist having a half-twist spaced therefrom by a short flat extent of said band, transverse metal beams for holding said pickets in the form of a fence, said beams consisting of a channel-beam and an angle-iron beam secured on opposite sides of said pickets near the upper ends thereof, an angle-iron beam secured to the pickets between the aforesaid three-quarters and half-twists, and an angle-iron beam secured to the pickets near the lower end thereof.

4. In a fence, in combination, a plurality of pickets, each of said pickets comprising two flat metal bands, said bands being secured together near the upper ends thereof with their flat faces in contact, and throughout the remainder of their extent being spaced apart, each of said bands being so twisted near the mid-point thereof that in the upper half of the said picket the bands lie with their flat faces adjacent, while in the lower half of said pickets the edges of said bands are adjacent, transverse metal beams for holding said pickets in the form of a fence, said beams consisting of a channel-beam and an angle-iron beam secured on opposite sides of said pickets near the upper ends thereof, an angle-iron beam secured to the pickets near the mid-points thereof and another angle-iron beam secured to the pickets near the lower ends thereof.

5. In a fence picket, in combination, two identically formed flat metal bands, means at the upper end of each of said bands for securing the same together with the flat face of one band in contact with the flat face of the other of said bands, bends below the points of contact of said bands for spacing the bands apart, from which bends each of the bands extends downwardly with the flat face of one band adjacent the flat face of the other band to approximately the mid-point thereof, a three-quarters twist in each of said bands at approximately the said mid-point, a short untwisted extent in each band below the said three-quarters twist, a half-twist below said untwisted portion, from which point each of said bands lies with its edge adjacent and parallel to the edge of the other band, throughout approximately the lower half of said picket.

975,429. VALVE-CASING AND PIPE CONNECTION. FRANK HORN, Columbus, Ohio, assignor of one-half to W. C. Althen, Columbus, Ohio. Filed May 21, 1910. Serial No. 562,564.



1. In a device of the character described, the combination with a valve casing having an internally threaded pipe attachment opening, of an unthreaded tubular member carried by the casing at the outer end of said internally threaded opening.

2. In a device of the character described, the combination with a valve casing having an internally threaded pipe attachment opening, of an unthreaded tubular member carried by the casing at the outer end of said internally threaded opening and having the inner portion of its central bore enlarged.

3. In a device of the character described, the combination with a valve casing having an internally threaded pipe attachment opening, of an unthreaded tubular member projecting from about the outer end of said internally threaded opening, a pipe passing through said tubular member and having its threaded terminal portion screwed into said pipe attachment opening, and means for locking the unthreaded portion of said pipe into engagement with said tubular member.

4. In a device of the character described, the combination with a valve casing body having an internally

threaded pipe attachment opening, of a tubular bracket detachably connected with the valve casing body and extending from about the threaded pipe attachment opening of the latter, said tubular bracket having a key-way communicating with the central bore thereof, and a key adapted to be driven into said key-way and frictionally engage the periphery of the pipe passing through said bracket and engaging said valve casing.

5. The combination with a valve casing having a pipe attaching member, a bracket provided with a flange adapted to bear against the adjacent end of the pipe attaching member, said bracket having a pipe bore therethrough, and means for rigidly connecting the bracket to the pipe attaching member of the casing.

[Claim 6 not printed in the Gazette.]

975,430. UMBRELLA-CARRIER. GERTRUDE V. HUMMA and CHARLOTTE M. HAFER, Reading, Pa. Filed Feb. 8, 1910. Serial No. 542,778.



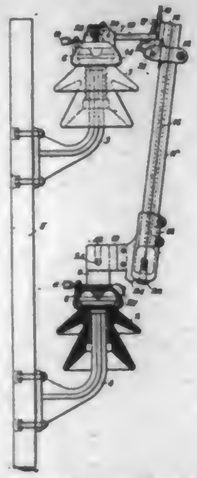
In an umbrella carrier, a main loop member of elastic material; a ring secured to both the upper and lower ends of said member; a wrist engaging loop member, smaller than the main member and secured to the ring in the upper end of the main member both of said loop members being shirred to permit the required elasticity; a chain permanently secured at one of its ends to the ring in the lower end of the main member and adapted to encircle the umbrella rod below its point of entrance into the handle and a spring ring secured to the opposite end of the chain and adapted to engage said lower ring.

975,431. ELECTRIC-CIRCUIT INTERRUPTER. RAY P. JACKSON, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Feb. 2, 1907. Serial No. 355,498.

1. In a circuit interrupter, the combination with a base and insulated contact terminals supported thereby, of an insulating tube having contact members attached to its respective ends to engage said contact terminals, a fusible strip or wire extending through the tube and connecting the contact members together, and means coöperating with the upper contact terminal and member to automatically separate said member from said terminal as soon as the fusible wire or strip is ruptured.

2. In a circuit interrupter, the combination with an insulating plate or slab, a pair of brackets supported by said slab or plate and provided with insulators, metal caps secured to the insulators, and a latch projecting from one of them, of an insulating tube having terminal members one of which is pivotally connected to one of said caps and the other of which is provided with a movable catch to be engaged by said latch, and a fusible conducting strip or wire located in the tube and interposed between the pivotally connected terminal member and the movable catch to hold the latter in locking relation with said latch until ruptured.

3. A circuit interrupter comprising stationary contact terminals, and a movable switch arm comprising an insulating tube having end contact members one of which is pivotally attached to one of the contact terminals, a latch connection between the other member and the other terminal, and a strip or wire of fusible conducting material located in said tube and serving to connect the end contact members together and to release the latch connection, when ruptured.

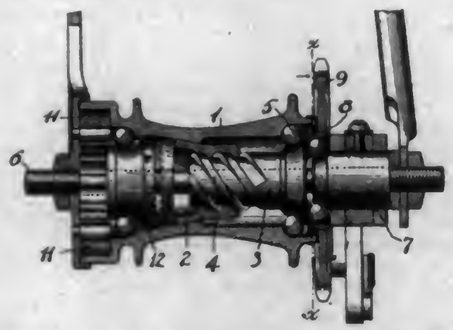


4. A circuit interrupter comprising stationary contact members, a switch arm pivotally mounted on one of the members and comprising an insulating tube and a fusible conductor contained therein, and means dependent upon the rupture of the fusible conductor for automatically separating one end of the tube from its engaging contact member.

5. A circuit interrupter comprising an insulating slab or base, angle brackets attached thereto, insulators mounted on the brackets, and caps of conducting material secured to the insulators, of a movable switch arm pivotally connected to one of the caps comprising an insulating tube and a fusible conductor contained therein, a pressure contact finger connecting the other cap with the switch arm, and means dependent upon the rupture of the fusible conductor for automatically separating the engaging end of the tube from the contact finger.

[Claims 6 to 8 not printed in the Gazette.]

975,432. AUXILIARY COASTER-BRAKE ATTACHMENT. HORACE K. JONES, Hartford, Conn., assignor to Charles Glover, New Britain, Conn. Filed Apr. 27, 1910. Serial No. 557,961.



1. In a coaster brake apparatus, a hub, a driver sprocket, a brake, means for connecting said driver sprocket with said brake for operating the latter in both a forward and a reverse direction, and an auxiliary means normally out of operative engagement with said sprocket for rotating said sprocket in a reverse direction only, said auxiliary means making operative connection with the periphery of said sprocket.

2. In a coaster brake apparatus, a hub, a driver sprocket, a brake, means for connecting said driver sprocket with said brake for operating the latter in both a forward and a reverse direction, and an auxiliary means normally out of operative engagement with said sprocket for rotating said sprocket in a reverse direction only, said auxiliary means making operative connection with the periphery of said sprocket, and including a hinged pawl carrier member, a pawl carried thereby, with means for tilting said pawl into and out of engagement with the periphery of said driver.

3. In a coaster brake, a hub, a brake therefor, a clutch for operative connection with said hub and with said brake independently, a driver sprocket operatively connected with said clutch for moving the same into operative engagement with the hub when rotated in one direction and into operative engagement with said brake when operated in a reverse direction, and an auxiliary mannally operable brake controlling device arranged for engagement with and disengagement from said driver sprocket, said auxiliary means comprising a hinged arm, a pawl pivoted thereto, sprocket engaging means carried by said pawl at one end and means for engaging another part of said pawl to control the position of said sprocket engaging end, said means being so arranged relatively to the movement of the pawl that movement of said pawl by said carrier in one direction will tilt said pawl into operative engagement with the driver sprocket, while movement in an opposite direction will disengage said pawl from said sprocket.

4. In a coaster brake, a hub, a brake therefor, a clutch for operative connection with said hub and with said brake independently, a driver sprocket operatively connected with said clutch for moving the same into operative engagement with the hub when rotated in one direction and into operative engagement with said brake when operated in a reverse direction, and an auxiliary manually operable brake controlling device arranged for engagement with and disengagement from said driver sprocket, said auxiliary means comprising an arm hinged concentrically with said driver sprocket, a pawl pivoted thereto, sprocket engaging means carried by said pawl at one end and means for engaging another part of said pawl to control the position of said sprocket engaging end, said means being so arranged relatively to the movement of the pawl that movement of said pawl by said carrier in one direction will tilt said pawl into operative engagement with the driver sprocket, while movement in an opposite direction will disengage said pawl from said sprocket.

975,433. LINE-CASTING MACHINE. DAVID S. KENNEDY, Brooklyn, N. Y., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed Mar. 22, 1910. Serial No. 550,979.

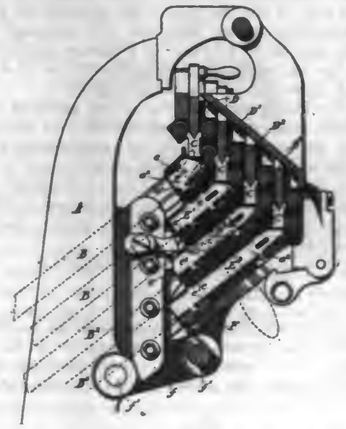
1. In a line casting machine, a plurality of magazines, distributers, and intermediate matrix-guiding throats, in combination with a movable support wherein the throats are mounted, and from which they are independently removable at will.

2. In a machine of the class described, the series of magazines and the corresponding series of distributers in combination with an intermediate swinging frame, and a series of matrix guiding throats mounted in and independently removable from said frame.

3. In a line-casting macine, a magazine, a distributer, and an intermediate matrix-guiding throat, in combination with a movable support wherein such throat is mounted, and from which it is independently removable at will.

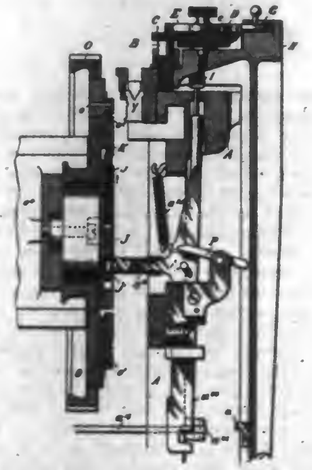
4. In combination with the series of magazines and distributers, an intermediate movable frame provided with a series of matrix guiding throats mounted to slide inward and outward, substantially as described.

5. In a machine of the class described, the series of magazines and distributers in combination with an intermediate swinging frame, a series of throats arranged to



slide into and out of said frame, and means for securing the throats in place.

975,434. LINE-CASTING MACHINE. DAVID S. KENNEDY, Brooklyn, N. Y., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed Apr. 25, 1910. Serial No. 557,495.



1. In a machine of the class described, the combination of a rotary disk provided with plural variant molds, mechanism for controlling the main driving clutch, and variant devices carried by the disk, one for each mold, to control the action of the clutch-controlling devices.

2. In a machine of the class described, the rotary disk provided with variant molds and adjacent surfaces K, peculiar to each mold, in combination with a member a^{22}, controlling the main driving clutch, and an intermediate member J, controlled by the surfaces K.

3. In a machine of the class described, the wheel, provided with variant molds, adapted to rotate and to move facewise, in combination with a non-rotating slide J, members K, peculiar to the respective molds, to adjust the slide J, and a clutch-controlling member a^{22}, actuated by the slide J; whereby the machine is brought to a stop in the event of a wrong mold being presented in the casting position.

4. In a machine of the class described, the rotary wheel provided with a series of molds, in combination with an

elevator N for presenting the matrices to the mold, and mechanism for throwing the main driving-clutch out of action, said mechanism subject to the control of the elevator, and also to the control of the members K, peculiar to the respective molds; whereby the stoppage of the machine is effected in the event of a matrix line being presented at an improper level, or in the event of a wrong mold being presented in the casting position.

5. The horizontal slide o^4, the wheel mounted thereon and provided with plural variant molds, and surfaces K, peculiar to the respective molds, in combination with the non-rotating slide J, its actuating spring j, and a clutch-controlling member a^{32}, arranged to be actuated by the slide J; whereby the presentation of a wrong mold at the casting level effects the disconnection of the clutch and the stoppage of the machine.

[Claims 6 to 10 not printed in the Gazette.]

975,435. VACUUM CLEANING APPARATUS. HERMAN G. KOTTEN, Englewood, N. J., assignor to H. G. Kotten Company, New York, N. Y., a Corporation of New York. Filed May 26, 1909. Serial No. 498,434.



1. In vacuum cleaning apparatus, a movable base provided with supporting rolls, brackets mounted on said base substantially in line with said rolls, a support oscillatingly mounted on said brackets, duplex suction pumps mounted at either end of said base to be operated by the movement of said support in either direction by the weight of an operator, said suction pumps each comprising heads secured to said support and base, a flexible bellows member connected to said heads, and valves, there being a suction passage formed by providing a slot in said base, a cover strip mounted in said base coöperating with said slot to close said suction passage, a separating receiver mounted on said base adjacent the central portion thereof and projecting through an aperture in said support and connected with said suction passage by a suction opening in said base, screens removably mounted in said receiver, a cover removably mounted on said receiver and having a flexible suction connection secured thereto, a suction nozzle and nozzle handle of such length as to be engaged by an operator upon said support, said nozzle being operatively connected with said flexible suction connection.

2. In vacuum cleaning apparatus, a movable base, brackets mounted on either side of said base, a support oscillatingly mounted on said brackets, duplex suction devices mounted at either end of said base to be operated by the movement of said support in either direction by the weight of an operator, a separating receiver mounted on said base adjacent the central portion thereof, located between said brackets, projecting through an aperture in said support and operatively connected with said suction devices, a suction nozzle operatively connected with said receiver and a connected nozzle handle of such length as to be engaged by an operator on said support.

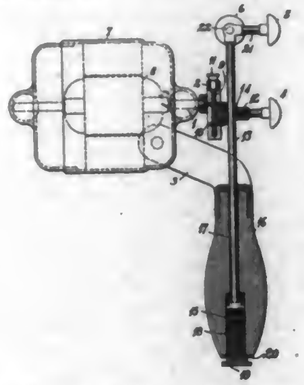
3. In vacuum cleaning apparatus, a movable base provided with supporting rolls, brackets mounted on said base, a support oscillatingly mounted on said brackets, duplex suction pumps mounted at either end of said base to be operated by the movement of said support by the weight of an operator, said suction pumps each comprising heads, a flexible bellows member and valves, a separating receiver mounted on said base adjacent the central portion thereof and projecting above said support and connected with said suction pumps, a screen removably mounted in said receiver, a suction nozzle operatively connected with said receiver and a connected nozzle handle of such length as to be engaged by the operator on said support.

4. In vacuum cleaning apparatus, a movable base, a support oscillatingly mounted on said base, duplex suction devices mounted at either end of said base to be operated by the movement of said support in either direction, a separating receiver connected with said suction devices, a suction nozzle operatively connected with said receiver and having a connected nozzle handle.

5. In vacuum cleaning apparatus, a movable base, a support oscillatingly mounted on said base to be engaged at separated points by each of the feet of the operator and oscillated by his weight, a suction device operatively connected to said support, a separating receiver mounted on said base and connected with said suction device, a suction nozzle and handle operatively connected with said receiver, said nozzle handle having such length as to extend from the surface on which said base rests and be engaged by said operator and partly sustain his weight as said support is oscillated.

[Claims 6 to 10 not printed in the Gazette.]

975,436. VIBRATORY MASSAGE APPARATUS. FRED R. KUNKEL, Edgewood Park, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., a Corporation of Pennsylvania. Filed Jan. 10, 1908. Serial No. 410,219.



1. In a massage implement, the combination with a driving shaft, an eccentric member disposed parallel thereto and actuated thereby, a rod laterally disposed with reference to said member and operating through a hole therein, of applicators secured to one extremity of the rod and to the outer end of the projection, respectively.

2. In a massage implement, the combination with a driving shaft, an eccentric member disposed parallel thereto and actuated thereby, a rod laterally disposed with reference to said member and operating through a hole therein, and an adjustable bearing to which one extremity of the rod is pivotally secured, of means for adjusting the degree of eccentricity of the eccentric member, and applicators secured to the extremities of the rod and said member, respectively.

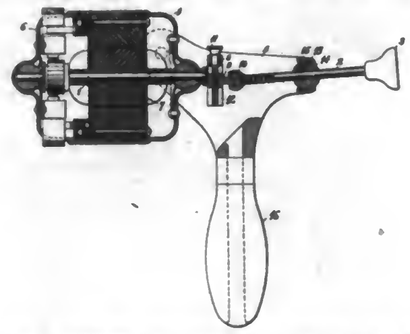
3. In a massage implement, the combination with a driving shaft, a disk secured to one end of the shaft and having a radial slot, an eccentric member attached to one end of the driving shaft, means for adjusting the degree of eccentricity of said member, a stationary frame having a handle the center line of which is substantially perpendicular to the center line of the driving shaft, and an applicator secured to the outer end of the eccentric member, of a rod substantially perpendicular to the eccentric member and operating through a hole therein and an adjustable bearing near the extremity of the handle, one end of said rod being pivotally secured to the adjustable bearing, and applicators projecting laterally from the other end of the rod.

4. In a massage implement, the combination with a stationary frame, a shaft rotatably mounted thereon, a driving motor therefor and a disk secured to one extremity of the shaft and having a radial slot, of a block adjustably mounted in the radial slot, an eccentric member rotatably supported by the adjustable block in a line substantially parallel to the driving shaft, a rod perpendicular to the eccentric member and operating through a hole therein, a bearing to which one end of the rod is pivotally secured and applicators projecting laterally from the other end of the rod.

5. In a massage implement, the combination with a driving shaft having an eccentric end member, of a laterally disposed rod having a pivotal support and an applicator at its respective ends and having a loose intermediate connection to said eccentric end member.

[Claims 6 to 8 not printed in the Gazette.]

975,437. VIBRATORY MASSAGE APPARATUS. FRED R. KUNKEL, Edgewood Park, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., a Corporation of Pennsylvania. Filed Jan. 10, 1908. Serial No. 410,220.



1. In a massage implement, the combination with a driving shaft and a driven shaft having a laterally adjustable pivotal connection to the driving shaft, an intermediate bearing for the driven shaft, and means for adjusting the position of the bearing to vary the angle between the center lines of the shafts.

2. In a massage implement, the combination with a driving shaft, a laterally adjustable projection operatively connected to one end thereof, and a driven shaft pivotally secured to the projection, of a laterally adjustable intermediate bearing for the driven shaft.

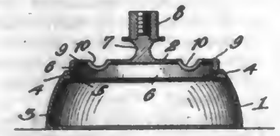
3. In a massage implement, the combination with a relatively stationary frame, a driving shaft, a laterally adjustable projection operatively connected to one end of the driving shaft, and a driven shaft pivotally secured to the projection, of a laterally adjustable intermediate bearing for the driven shaft.

4. In a massage implement, the combination with a relatively stationary frame, a driving shaft supported thereby and a driven shaft pivotally connected to the driving shaft, of an intermediate bearing for the driven shaft, and a supporting bracket for the driven shaft, said bracket being revolubly adjustable relative to the stationary frame.

5. In a massage implement, the combination with a driving shaft, a ball projection operatively connected to one end of said shaft, means for laterally adjusting said projection, and a driven shaft pivotally secured thereto, of an intermediate bearing, the position of which is laterally adjustable.

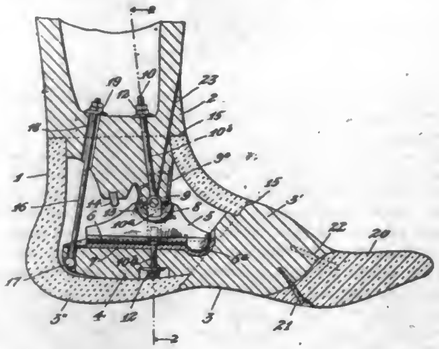
[Claim 6 not printed in the Gazette.]

975,438. MATCH-STAND AND ASH-RECEIVER. EUGENE LAFLEUR, Montclair, N. J. Filed Feb. 28, 1910. Serial No. 546,364.



The herein described device comprising a circular base section having an upwardly and inwardly inclined surrounding wall formed with an internally screw-threaded, inwardly-extending rim, a flat top section having a depending annular flange with an externally screw threaded portion to screw into said rim on the upright wall of the base section, the flat top section being formed on opposite sides of its center with elongated openings and with cigar receiving channels or seats stamped in the same at opposite ends of and communicating with said elongated openings, the center of said top section being formed with a standard having a reduced screw threaded stem at its top and a match box holder arranged on said screw threaded stem to serve as a handle for the device.

975,439. ARTIFICIAL LIMB. THEODORE M. LAWRENCE, Seattle, Wash., assignor of forty-nine one-hundredths to George H. McDannel, Seattle, Wash. Filed May 31, 1910. Serial No. 564,305.



1. An artificial limb comprising a leg section, a foot section, and an ankle joint between said leg and foot sections comprising an ankle block provided on its under side with a journal part rotatably seated on said foot section and formed in its upper face with a bearing extending at right angles to said journal part, a journal part on the lower end of said leg section engaging in the bearing of said ankle block, and means for securing said foot section and ankle block to said leg section.

2. An artificial limb comprising a leg section, a foot section, an ankle block provided with a depending journal part rotatably seated on said foot section and formed in its upper face with a bearing extending at right angles to said journal part, said leg section having its lower end reduced to form a second journal part arranged to engage in the bearing of said ankle block, and an articulated rod extending through said ankle block and secured to leg and foot sections.

3. An artificial limb comprising a leg section, a foot section including a body portion having an extension projecting rearwardly beneath said leg section and formed with a longitudinal bearing, an ankle block having a depending journal part engaged in the bearing of said extension, and a joint between said ankle block and said leg section permitting of rocking of said foot section in forward and rearward directions.

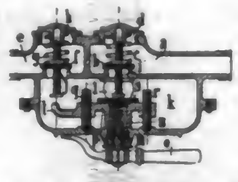
4. An artificial limb comprising a leg section, a foot section including a body portion having an extension pro-

jecting rearwardly beneath said leg section and formed with a longitudinal bearing, an ankle block having a depending journal part engaged in the bearing of said extension, said ankle block being formed in its upper face with a bearing extending at right angles to said journal part, a journal part on said leg section engaged in the bearing of said ankle block, and an articulated rod extending through said ankle block and being secured to said leg and foot sections.

5. An artificial limb comprising leg and foot sections, and a joint therebetween including an ankle block having joint parts arranged at an angle to one another and engaging coöperating joint parts on said leg and foot sections, and a rod comprising an intermediate section formed angular in cross section and engaging in a correspondingly formed opening in said ankle block, and end sections pivotally connected to said intermediate section on opposite sides of said ankle block, one of said end sections being secured to said foot section and the other extending upwardly into said leg section and being provided on its upper end with a securing means.

[Claim 6 not printed in the Gazette.]

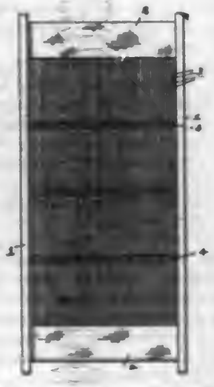
975,440. VALVE-COCK. JULIEN ALBERT LEMÉTAIS, Paris, France. Filed Jan. 23, 1910. Serial No. 540,032.



1. In a cock for mixing liquids, a mixing chamber, valves controlling ports for hot and cold water, a piece working first on the valve controlling the port for the cold water and working afterward on the valve controlling the port for the hot water to cause the mixing of the two waters, a disk, the progressive interception of the cold water being caused by means of said disk whereby there may be the distribution of the hot water alone.

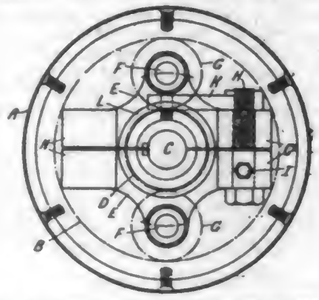
2. Chambers one for hot water and the other for cold water, valves for said chambers, a plate movably guided, means for moving said plate, and a lateral extension on said plate out of the plane of said plate to contact with the stem of one of said valves by continuous movement of said plate after the latter has moved the other valve.

975,441. SCREEN. DOUGLAS LEWIS, Renton, Wash., assignor to The Ceramic Supply & Construction Company, Columbus, Ohio, a Corporation of Ohio. Filed Jan. 5, 1910. Serial No. 536,521.



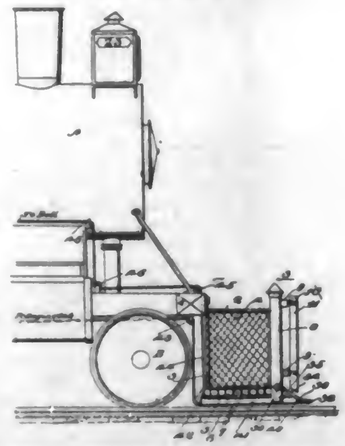
In a screen, the combination with a frame and a plurality of parallel wires extending between opposing members of said frame, of strips crossing the wires of said frame at intervals, said strips being soldered to said wires, and a filling of solder between the wires opposite said strips.

975,442. VARIABLE-SPEED GEARING. ROBERT LINDSAY, Dundee, Scotland. Filed May 3, 1910. Serial No. 559,086.



In an epicyclic gearing, the combination of a driving gear wheel and a driven gear wheel, planet wheels meshing with said driving and driven gear wheels, means to carry said planet wheels, said means and planet wheels together constituting a movable connection for transmitting a variable movement from the driving gear wheel to the driven gear wheel, and variable pressure giving devices acting to move the planet wheels concentrically in opposite directions and so to cause pressure to bear in opposite directions on both the driving and the driven gear wheels by means of the teeth of the planet wheels.

975,443. FENDER FOR LOCOMOTIVES AND OTHER VEHICLES. MICHAEL LO CELSO, Chicago, Ill. Filed Sept. 16, 1909. Serial No. 518,078.



1. A fender for vehicles, including a receptacle having an open front, a plurality of resilient arms extending across the open front of the receptacle and adapted to be moved inward upon the impact with an object.

2. A fender for vehicles, including a receptacle having an open front, and a plurality of yielding arms mounted to extend transversely across the open front, said arms being composed of a plurality of joints, the joints turning resiliently inward.

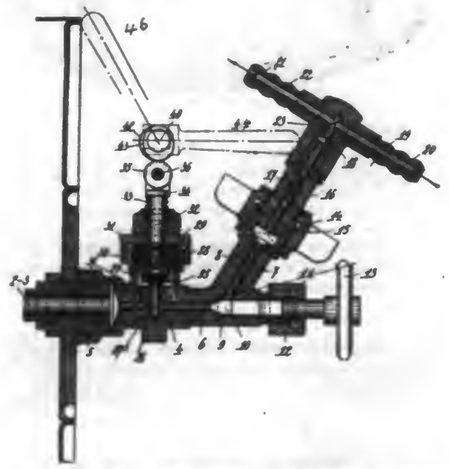
3. A fender for vehicles, including a receptacle, open at its front, a plurality of jointed arms extending across the front of the receptacle and yieldable inwardly, means for returning the arms to their original position, and stops for preventing a forward movement of the arms beyond their original position.

4. A fender for vehicles, including a receptacle having an open front, a plurality of arms mounted transversely across the open front of the receptacle, each arm being composed of a plurality of jointed sections pivoted to each other for an inwardly turning movement, means engaging with all of the jointed sections for yieldingly holding them in alinement, and stops for preventing the forward movement of the jointed sections out of alinement.

5. A car fender including a receptacle having an open front, a plurality of arms extending across the receptacle from opposite sides, each arm composed of a plurality of tubular jointed sections, a cord for each arm, extending from one end to the other through the jointed sections and attached to the outermost jointed sections, and means for keeping the cord under tension.

[Claims 6 to 12 not printed in the Gazette.]

975,444. REGULATING DEVICE FOR GAS-MIXERS. PRIMO LULLI, Uccle, near Brussels, Belgium, assignor, by mesne assignments, to The American Oxhydric Company, a Corporation of Wisconsin. Filed Mar. 10, 1908. Serial No. 420,139.



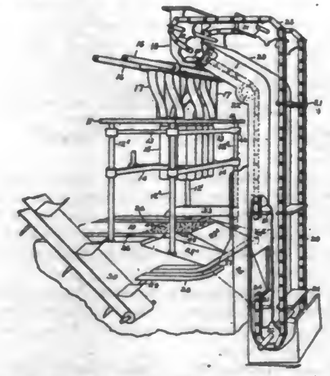
1. In an apparatus for controlling the flow of fluids to burners, a pair of pipes having valves, valve members normally resiliently impelled to open said valves, a shaft having a pair of cams, means for rocking said shaft to positively close said valves separately, and additional separate means for cutting off the flow of fluid individually in said pipes.

2. In a device of the character described, in combination a gas mixer, an oxygen supply pipe, a hydrogen supply pipe, both pipes being connected to the gas mixer, means for regulating the supply of gas to each pipe, a valve interposed in each supply pipe between the gas mixer and the supply regulating means, said valve comprising a rubber plug, a piece of hardened material located in said plug a rod adapted to act on the rubber plug, a spring surrounding said rod and a roller at the end of the said rod; a shaft extending horizontally above the valve rods, bearings for said shaft and cams on said shaft, the said cams being related to each other so as to open the valves in a predetermined order on rotation of the cam shaft substantially as described.

3. In a device of the character described in combination, a gas mixer, an oxygen supply pipe, a hydrogen supply pipe, both pipes being connected to the gas mixer, means for regulating the supply of gas to each pipe, a valve interposed in each supply pipe between the gas mixer and the supply regulating means, a single actuating device for both oxygen and hydrogen valves, whereby said valves are adapted to be opened in a predetermined order and a branch 21 on the oxygen supply pipe whereby oxygen can be supplied directly to a cutting apparatus substantially as and for the purpose described.

4. In a device of the character described in combination a gas mixer, an oxygen supply pipe, a hydrogen supply pipe, both pipes being connected to the gas mixer, a regulating device interposed in the oxygen supply pipe, the said regulating device comprising a tubular body 4, a branch 7 provided on said tubular body, a chamber 9 at the junction of said branch 7 and tubular body 4, a regulating screw 10 acting in said chamber, a gas supply 18—19 connected to the branch 7, a branch 21 provided on said gas supply 18—19, a valve 27 located in a chamber 25 of the tubular body 4 and a spring actuated rod 32 for said valve; a regulating device interposed in the hydrogen supply pipe, the said device comprising a tubular body 4, means for regulating the supply of gas to said tubular body and a valve substantially similar to the valve 27 of the oxygen regulating device and a single actuating device for both oxygen and hydrogen valves, whereby the said valves are adapted to be opened and closed in a predetermined order, substantially as and for the purpose described.

975,445. TENPIN-SETTER. JOHN C. MCFARLAND, Spokane, Wash. Filed Dec. 29, 1909. Serial No. 535,507.



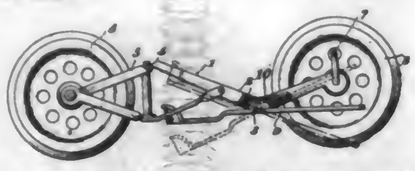
1. In a ten pin setter, the combination of two sets of tubes adjustably anchored above an alley floor, one above the other, the tubes of the lower set being arranged directly above the places designed for the setting of the pins, a hopper above the upper set of tubes having a rod horizontally arranged across the same, horizontal and vertical sets of rods, means for adjusting the upper set of tubes horizontally and means for adjusting the lower set of tubes vertically upon the horizontal and vertical rods, respectively, a horizontally rotating arm underneath the tubes and above the alley floor, an elevator at the rear of the alley floor, inclined planes reaching from the alley floor to the elevator, such elevator adapted to carry pins from the lower ends of the inclined planes below the level of the alley floor to a position above the hopper, all operated by continuously moving machinery and self-adjusting parts.

2. In a ten pin setter, the combination of two sets of tubes adjustably anchored above an alley floor, one above the other, the tubes of the lower set being arranged directly above the places designed for the setting of the pins, a hopper above the upper set of tubes having a rod horizontally arranged across the same, horizontal and vertical sets of rods, means for adjusting the upper set of tubes horizontally and means for adjusting the lower set of tubes vertically upon the horizontal and vertical rods, respectively, a horizontally rotating arm underneath the tubes and above the alley floor, an elevator at the rear of the alley floor, inclined planes reaching from the alley floor to the elevator, such elevator adapted to carry pins from the lower ends of the inclined planes below the level of the alley floor to a position above the hopper, all operated by continuously moving machinery and self-adjust-

ing parts, together with a subjacently arranged platform provided with perpendicular rods adapted to penetrate openings through the alley floor, continuously moving machinery for raising and lowering the same, and means for bringing said machinery into operative relation with said platform.

3. In a ten pin setter, the combination of two sets of tubes adjustably anchored above an alley floor, one above the other, the tubes of the lower set being arranged directly above the places designed for the setting of the pins, a hopper above the upper set of tubes having a rod horizontally arranged across the same, horizontal and vertical sets of rods, means for adjusting the upper set of tubes horizontally and means for adjusting the lower set of tubes vertically upon the horizontal and vertical rods, respectively, the said lower set of tubes provided at their upper ends with lug and lever tripping device coöperating with means for adjusting the upper set of tubes and provided at their lower ends with the lug and spring tripping device as means for dropping a set of pins therefrom to the alley floor.

975,446. ROLLER OR WHEELED SKATE. MENNO S. MISHLER, Akron, Ohio. Filed Nov. 22, 1909. Serial No. 529,323.



1. A roller skate comprising a frame, supporting-wheels, and a foot rest pivotally suspended beneath said frame.

2. A roller skate comprising a frame, supporting-wheels, and a foot-rest mounted beneath the frame so that either its front or rear end may be brought in contact with the ground.

3. A roller skate comprising a frame, a supporting-wheel at the rear end thereof, a pair of supporting-wheels at the front end, and an intermediately pivoted foot-rest suspended beneath the frame.

4. A roller skate comprising a frame, supporting-wheels, a foot-rest pivoted beneath the frame so that either its front or rear end may be brought in contact with the ground, and a spring engaging said foot-rest and tending to hold it normally in horizontal position.

975,447. PROCESS FOR EMULSIFYING OILS, FATS, AND THE LIKE. ARMAND MÜLLER-JACOBS, Huntington, and REINHARD C. F. A. C. BERNHARDI, New York, N. Y., assignors to The Arabol Manufacturing Company, New York, N. Y., a Corporation of New York. Filed June 7, 1909. Serial No. 500,539.

1. The herein described process of producing stable and neutral emulsions of oils, fats, and the like, which consists in intimately mixing the same with a suitable plant slime swelled in the desired quantity of water to which has been added the desired quantity of a suitable aldehyde.

2. The herein described process of producing stable and neutral emulsions of oils, fats, and the like, which consists in intimately mixing the same with the slime derived from sea tang swelled in the desired quantity of water to which has been added the desired quantity of a suitable aldehyde.

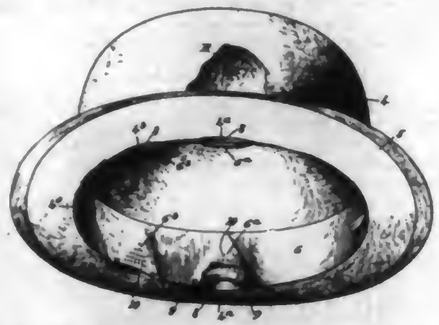
3. The herein described process of producing stable and neutral emulsions of oils, fats, and the like, which consists in intimately mixing the same with the slime derived from "*Laminaria digitata*" swelled in the desired quantity of water to which has been added the desired quantity of formaldehyde.

4. The herein described process of producing stable and neutral emulsions of oils, fats, and the like, which consists in intimately mixing the same with a prepared emulsifier composed of plant slime, water, and formaldehyde.

5. The herein described process of producing stable and neutral emulsions of oils, fats, and the like, which consists in intimately mixing the same with a prepared emulsifier composed of plant slime, water, and 1 to 2% of formaldehyde.

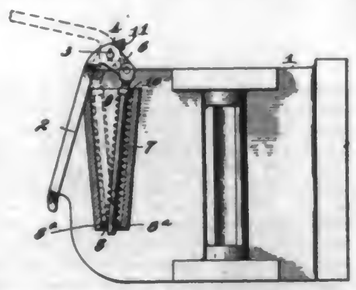
[Claims 6 to 19 not printed in the Gazette.]

975,448. HAT. SAMUEL NEWMAN, Cincinnati, Ohio. Filed Jan. 9, 1909. Serial No. 471,429.



In a hat, the combination of a crown provided with a swell, a sweat band disposed within said crown and immediately adjacent to said swell, and a spring of substantially arcuate form connected by its ends with the inner surface of said sweat band, said spring being comparatively weak and causing the portion of said sweat band intermediate said ends to flex slightly inward, thereby presenting a normally convex surface to the wearer's head when said hat is not in use.

975,449. JOURNAL-BOX. JOHN E. OSMER, Chicago, Ill. Filed Sept. 21, 1908. Serial No. 453,985.



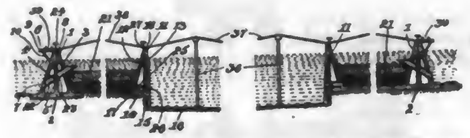
1. The combination, with a journal box having a top wall and vertical side walls, of a pivotally mounted lid for closing an opening in the forward side of the box, said lid having a crank arm fixed thereto at one side of the lid; a rod attached at its upper end to said arm; a perforated portion on the outside of one of the side walls of the box, through which portion the lower end of said rod extends, said perforated portion forming a fulcrum for said rod, said rod having a shoulder on its upper portion; and a coiled spring surrounding said rod and bearing at one end against said shoulder and at the other end against said perforated portion.

2. The combination, with a journal box having a top wall and vertical side walls, of a pivotally mounted lid for closing an opening in the forward side of the box, said lid having an arm at one side thereof; a housing on the outer side of one of the side walls of the box; a rod connected to said arm and pivotally supported within said housing, said rod having a shoulder thereon; a coiled spring surrounding said rod and bearing at one end against said shoulder and at the other end against the bottom of the housing, said arm being arranged to throw to opposite sides of its pivot; and a stop attached to said lid.

3. The combination, with a journal box having a top wall and vertical side walls and an opening in its forward side, said top wall having pintle-supporting means near its forward edge, of a lid for closing said opening, said lid having pintle-engaging means upon its upper edge; a pintle extending through said pintle-supporting means and pintle-engaging means; a stop fixed with relation to said lid and adapted to contact said top wall to limit the opening movement of the lid; a crank arm fixed to said lid near its axis of oscillation and at one side edge of the lid; a rod movably attached at its upper end to said arm; a portion on the outer side of one of the side walls through which said rod extends loosely and by which it is pivotally connected to the box; and a coiled spring surrounding said rod and interposed between said portion and the upper part of said rod, said spring being arranged to throw said crank arm to either side of its pivotal center.

4. The combination, with a journal box, of a pivotally mounted lid having a crank arm at one end thereof; a housing on one side of the box, said housing having an opening in its lower end, upwardly flaring walls, and an open end; a rod connected at its upper end to said crank arm, said rod extending through said housing and its lower end lying in the opening in the lower end of said housing, said rod having a shoulder thereon; a coiled spring surrounding said rod and bearing at one end against said shoulder and at its other end against the bottom of said housing, said arm being arranged to throw to opposite sides of its pivot; and a stop attached to said lid.

975,450. FILTRATION SYSTEM. SÉRAPHIN OUIMET, Montreal, Quebec, Canada. Filed Feb. 25, 1910. Serial No. 545,999.



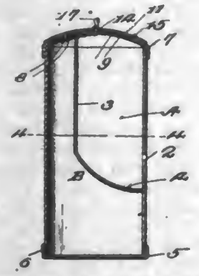
1. In a filtration system, the combination with a surrounding body of water and a well or basin formed by an excavation in the bed of said body of water, of an outer concrete wall extending upwardly from the bed of said body of water above the surface level and having a plurality of ingress openings therethrough below the said surface level suitable spaced, a plurality of concrete walls extending laterally and inwardly from said outer wall to the edge of said well or basin between ingress openings, an inner concrete wall extending upwardly from the bed of said well or basin to the level of said outer wall and joined to the inner ends of the lateral walls and having egress openings from filter chambers formed by the outer, lateral and inner walls, said chambers being all on the same level and having the bed of the body of water as their bottoms, and filtering substance contained in said chambers.

2. In a filtering system, the combination with a surrounding body of water and a well or basin formed by an excavation in the bed of said body of water, of an outer concrete wall extending upwardly from the bed of said body of water above the surface level and having a plurality of ingress openings therethrough below the said surface level suitably spaced, a plurality of concrete walls extending laterally and inwardly from said outer wall to the edge of said well or basin between ingress openings, an inner concrete wall extending upwardly from the bed of said well or basin to the level of said outer wall and joined to the inner ends of the lateral walls and having egress openings from filter chambers formed by the outer, lateral and inner walls, said chambers being all on the same level and having the bed of the body of water as their bottoms, filtering substance contained in said chambers, valves controlling the flow of water through said openings, operating rods extending downwardly through suitable rod holes in the walls, a roof covering over said chambers, and a roof covering over the central basin.

3. In a filtering system, the combination with a surrounding body of water and a well or basin formed by an excavation in the bed of said body of water, of an outer concrete wall extending upwardly from the bed of said body of water above the surface level and having a plurality of ingress openings therethrough below the said surface level suitably spaced, a plurality of concrete walls extending laterally and inwardly from said outer wall to the edge of said well or basin between ingress openings, an inner concrete wall extending upwardly from the bed of said well or basin to the level of said outer wall and joined to the inner ends of the lateral walls and having egress openings from filter chambers formed by the outer, lateral and inner walls, said chambers being all on the same level and having the bed of the body of water as their bottoms, filtering substance contained in said chambers, valves controlling the flow of water through said openings, suitable roofing over said chambers and said basin, a main supply pipe, and branch supply pipes extending from said basin.

4. In a filtering system, the combination with a surrounding body of water and a well or basin formed by an excavation in the bed of said body of water, of an outer concrete wall extending upwardly from the bed of said body of water above the surface level and having a plurality of ingress openings therethrough below the said surface level suitably spaced, a plurality of concrete walls extending laterally and inwardly from said outer wall to the edge of said well or basin between ingress openings, an inner concrete wall extending upwardly from the bed of said well or basin to the level of said outer wall and joined to the inner ends of the lateral walls and having egress openings from filter chambers formed by the outer, lateral and inner walls, said chambers being all on the same level and having the bed of the body of water as their bottoms, filtering substance contained in said chambers, the aforesaid outer wall having a platform extending outwardly therefrom at the upper end, a rail way extending completely around said platform, valves controlling the flow of water through said openings, suitable roofing over said chambers and basin, and supply pipes extending from said filter basin.

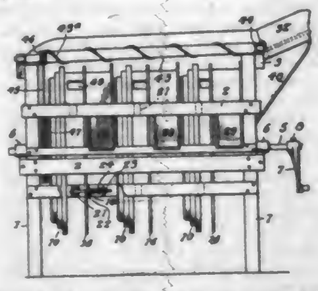
975,451. SALT AND PEPPER SHAKER. MARTIN F. PANE, Murdocksville, Pa. Filed Nov. 4, 1909. Serial No. 526,235.



A utensil of the character described, comprising a cylindrical receptacle open at both ends, said receptacle having a partition wall extending across the receptacle to one side of its center, the lower end of said wall about the middle of the receptacle being outwardly and downwardly inclined, thus dividing the receptacle into two unequal compartments, one of which has a contracted upper end and an enlarged lower end, the other of which is equal in cross sectional area through its whole extent, a screw-cover for the lower end of the receptacle and forming a closure for the compartment having the contracted upper

end, a screw-cover for the upper end of the receptacle extending over and forming a closure for both of the compartments, said cover being provided with two sets of perforations, one set of relatively small diameter being located over the upper end of the compartment having the contracted upper end, the other set of relatively large perforations being located over the other of said compartments, and a disk mounted on the cover and having two sets of perforations, one set adapted to register with the small perforations when the disk is turned in one position, and the other with the large perforations when the disk is turned into the other position.

975,452. FRUIT CLEANER AND GRADER. IRVING W. PECK, Bradentown, Fla. Filed Nov. 23, 1909. Serial No. 529,526.



1. A machine of the class described, comprising a supporting frame, a shaft journaled thereon, a plurality of wheels secured to the shaft in spaced relation, each of said wheels having upon one face an annular groove, provided with bristles, a ring support opposite each of said grooves, means for mounting said support to yield toward and from the corresponding wheel, each of said supports having near its top a plurality of transverse openings spaced apart from each other, a deflecting plate between the openings on the side adjacent to the wheel, a feed trough parallel with the shaft and having in its bottom toward the shaft a cut away portion forming a passage, said passage gradually increasing in width from the entrance end of the trough, a plate below the trough and provided with a lateral extension for each support and extending alongside the opposite face of the wheel from the groove, said plate and extension having flanged edges, and being inclined downwardly from the trough and transversely with respect to the frame, a deflecting rib on each extension between the openings, a roller provided with a spiral vane journaled on the frame, at the inner edge of the feed trough, means for rotating the shaft, and a driving connection between the roller and the shaft.

2. A machine of the class described, comprising a frame, a shaft journaled thereon, a plurality of wheels secured to the shaft in spaced relation, each of said wheels having upon one face an annular groove concentric with the wheel and said groove provided on its bottom with a brush, a ring opposite each groove and mounted for yielding movement with respect thereto, means for adjusting the ring toward the groove, a deflecting plate on the face of the support adjacent to the wheel for deflecting the articles to be cleaned from the groove, means for grading the articles according to size, and means for receiving the articles from said means, and conducting them to the respective cleaning devices.

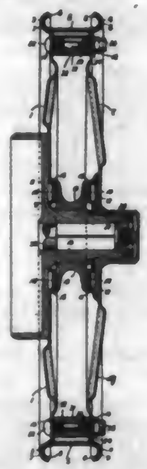
3. In a machine of the class described, means for grading the articles according to size, a plurality of cleaning devices, each comprising a rotatable wheel having in one face an annular groove provided with cleaning means concentric with the wheel means for holding the article in the groove, said means being yieldingly mounted, means whereby said holding means may be adjusted toward or from the groove, and means for receiving the articles from the grading means and conducting them to the respective cleaning devices.

4. In a machine of the class described, a cleaning device, comprising a rotatable wheel having in one face an annular groove concentric with the wheel and provided with bristles, a support comprising a ring arranged opposite the groove, and mounted to yield toward and from the wheel, said ring having near its upper end a plurality of openings spaced apart from each other, means for delivering the articles to be cleaned through one of the openings, and a deflecting plate adjacent to the other opening, for deflecting the articles therethrough.

5. In a machine of the class described, a cleaning device, comprising a rotatable wheel having in one face an annular groove concentric with the wheel, and provided with bristles, a support comprising a ring arranged opposite the groove, and mounted to yield toward and from the wheel, said ring having near its upper end a plurality of openings spaced apart from each other, means for supplying the articles to be cleaned through one of the openings, and means for deflecting them through the other opening after cleaning.

[Claims 6 to 13 not printed in the Gazette.]

975,453. WHEEL FOR MOTOR AND OTHER ROAD VEHICLES. HARRY PERRINS, Smethwick, England. Filed Jan. 27, 1909. Serial No. 474,505.



1. A stamped wheel comprising a hub, a distance piece thereon, two disks located one on each side of said piece, separating bushes at the extremities of said disks, screws passing through the bushes, the ends of the wheel flanges being turned inward, and a detachable rim gripped by and formed to the contour of the inturned flanges on the disks and adapted to support and retain a tire.

2. In a road vehicle wheel the combination of two stamped sheet metal side disks the adjacent face of each of which has a circumferential groove at or near its periphery, a central hub or axle box on which the disks are mounted furnished with one fixed and one removable flange outside said disks and a detachable distance block mounted on said hub or axle box so as not to turn thereon between said disks which latter are stamped with projections engaging in recesses in the distance block to prevent the disks turning on the hub or axle box or turning independently of one another, substantially as set forth.

975,454. BODY-BRACE. HARRY M. POWERS, Baltimore, Md. Filed Apr. 21, 1910. Serial No. 556,753.

1. In a body brace, chest straps joining at the small of the back passing under the arms and over the chest, shoulder straps joined to the chest straps at the small of the back passing over the shoulders, a securing means for each shoulder strap carried upon the chest strap over the chest, and thigh straps secured to the lower extremity of the shoulder and chest straps at the back passing around the opposite thighs of the wearer.



2. In a body brace, chest straps extending from the small of the back over the chest, shoulder straps secured to the chest straps at the small of the back passing over the shoulders attached to the chest straps in front and out of engagement with the arms, thigh straps, each thigh strap secured by an elastic member to the chest strap and opposite shoulder straps at the small of the back.

3. In a body brace, straps encircling the chest under the arms, straps secured at the back to the chest straps passing over the shoulders attached to said straps over the chest, thigh straps, elastic members connecting each thigh strap to the opposite shoulder strap and to the chest straps, and a spacing member connecting the thigh straps adjacent the elastic connecting member.

975,455. LOCKING MECHANISM. ARTHUR J. PREVOST, Rochester, N. Y., assignor to Caldwell Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed Feb. 26, 1910. Serial No. 546,290.



1. Locking mechanism having, in combination with a door, a latch and a keeper arranged in coöperating position, one of said members mounted upon the door, and a trip adapted to be set to engage the latch and hold the latter normally free from the keeper so long as the door remains in closed position, the latch being formed and arranged to engage the trip when the door is opened and again closed, and to throw the trip into inoperative position to permit the latch to interlock with the keeper.

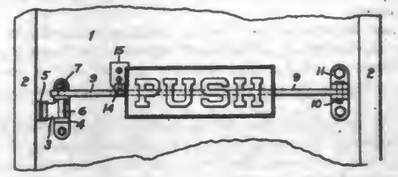
2. Locking mechanism having, in combination with a door, a latch and a keeper arranged in coöperating position, the latch being mounted upon the door, and a trip adapted to be set to engage the latch and hold the latter normally free from the keeper, so long as the door remains in closed position, the latch having an inclined surface formed to ride over the keeper and engage the trip and throw the latter out of operative position, when the door is moved from open to closed position to permit the latch to interlock with the keeper.

3. Locking mechanism having, in combination with a door, a latch movably mounted on the door, a stationary keeper arranged in position to coöperate with the latch, a slide, and a trip pivotally mounted upon the slide and adapted to coöperate with the latch, said latch having a notch adapted to be engaged by the trip when the latter is operated in one direction whereby the latch will be raised from the keeper, and the latch also having a surface arranged to engage the trip and throw the latter into inoperative position when the latch is moved by the closing of the door.

4. Locking mechanism having, in combination with a door, a latch movably mounted on the door, a stationary keeper arranged to coöperate with the latch, the latch having a shoulder formed to engage the rear surface of the keeper and thus to interlock the latch and the keeper, a slide arranged to move below the latch, and a trip pivotally mounted upon the slide in the rear of the keeper and extending upwardly therefrom in position for its extremity to engage and coöperate with the rear surface of the keeper and the extremity of the latch when the slide is moved in the direction of the keeper, whereby to free the latch from the keeper.

5. Locking mechanism having, in combination, a spring-controlled latch, a keeper coöperating with the latch, means for tripping the latch, and a detent arranged to engage the latch in front of the keeper and to frictionally oppose the movement of the latch into and out of engagement with the keeper.

975,456. LOCKING MECHANISM FOR EMERGENCY-DOORS. ARTHUR J. PREVOST, Rochester, N. Y., assignor to Caldwell Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed Feb. 26, 1910. Serial No. 546,291.



1. In combination with an outwardly-opening door, a lock connected with the door and constructed and arranged to be moved, when released, toward inoperative position by the force of the door against it when pressed outwardly from within, and detent mechanism comprising a releasing member operable by pressure from within the door, the detent mechanism normally retaining the lock in operative position but acting, when the releasing member is moved, first to release the lock and then to assist in moving the lock to inoperative position.

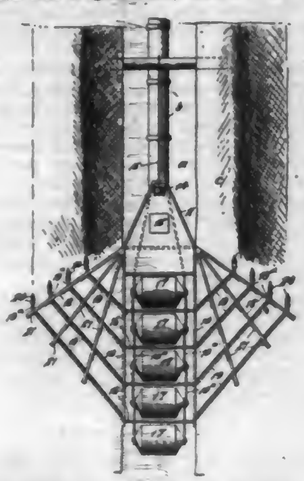
2. In combination with an outwardly-opening door, a lock pivotally mounted upon the door and movable into inoperative position by the opening movement of the door, and detent mechanism comprising a releasing arm pivoted upon the inner surface of the door and having a portion engaging the lock and normally operating to retain the lock in operative position.

3. In combination with an outwardly-opening door, a lock pivoted to said door and constructed and arranged to be moved when released toward inoperative position by the opening movement of the door, a releasing member pivoted on the door, and a pin-and-slot connection between the lock and the releasing member comprising a detent for retaining the lock in locked position and a detent for retaining the lock in unlocked position.

975,457. APPARATUS FOR FILLING TRENCHES. ERNEST LESLIE RANSOME, New York, N. Y. Filed Jan. 28, 1909. Serial No. 474,853.

1. An apparatus for filling trenches comprising a gang of obliquely disposed shoveling members of varying length and means for guiding the same on one side of the trench longitudinally thereof and for preventing sidewise displacement of said members.

2. A means for filling trenches comprising two obliquely disposed gangs of shoveling members of varying length said gangs adapted to move respectively at opposite sides of the trench and longitudinally thereof.



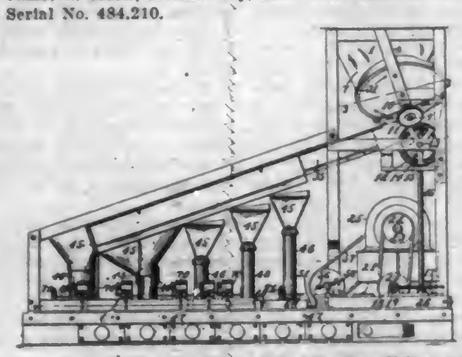
3. An apparatus for filling trenches adapted to move longitudinally of the trench and having a shoveling member to throw the earth into the trench and a tamping or compression member acting on the earth when thrown into the trench.

4. An apparatus for filling trenches adapted to move along the trench longitudinally thereof and having means for throwing the earth into the trench and a tamping roller running on the earth in the trench to compress the same.

5. An apparatus for filling trenches comprising means for throwing the earth into the trench and a gang of tamping devices following each other in the trench to compress the earth thrown thereinto.

[Claims 6 to 19 not printed in the Gazette.]

975,458. COIN ASSORTING AND COUNTING MACHINE. PERLEY E. REES, Kansas City, Mo., assignor to James R. Steele, Kansas City, Mo. Filed Mar. 18, 1909. Serial No. 484,210.



1. In combination an inclined distributing disk, means for rotating the same, a fixed rim extending about the rotary disk, a partition extending part way over and fixed in relation to the rotary disk and substantially radially inward from the rim and forming with said rim a hopper space to receive the coin, said partition dividing the face of the disk into said hopper portion and a discharge section, and arms on the distributing disk to take the coins from the lower end of the hopper space and elevate and discharge the same over the upper end of the partition, substantially as described.

2. In combination a rotating distributing disk having arms, a partition fixed relatively to the rotary disk and extending part way over the same and dividing the face of the disk into receiving and discharge sections and stirring or agitating lugs on the disk, said partition having an opening for the passage of the said lugs, substantially as described.

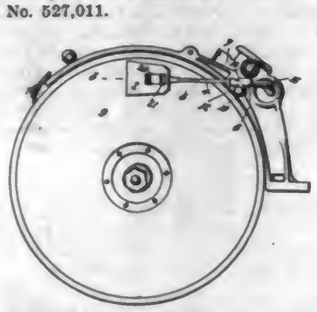
3. In combination a distributing disk, having arms, with spaces between, a fixed partition over the disk and a detent device for preventing the coins from passing through beneath the partition, substantially as described.

4. In combination a distributing disk, having arms, with spaces between, a fixed partition over the disk and a pivoted detent device for preventing the coins from passing through beneath the partition, substantially as described.

5. In combination a distributing disk having arms, a cross bar extending over the disk, a partition plate extending down from the bar and part way over the distributing plate, leaving a free space at the end for the passage of the coins, said partition plate dividing the face of the disk into a pocket portion and a discharge portion, substantially as described.

[Claims 6 to 29 not printed in the Gazette.]

975,459. SCRAPER DEVICE FOR DISK DRILLS. OTTO GEORGE RIESKE and THOMAS BRENNAN, Jr., St. Louis Park, and SPENCER H. PHELPS and EDWIN R. BEEMAN, Minneapolis, Minn., assignors to Monitor Drill Company, a Corporation of Minnesota. Filed Nov. 9, 1909. Serial No. 527,011.



1. In combination with the frame and opening disks, scraper arm holders pivoted between their ends to the frame on opposite sides of the latter and adapted to rock to and from the disks, said holders being provided with longitudinal bearing sockets, scraper arms mounted at their forward ends in said sockets and movable therein around the longitudinal axes of the arms, means on the arms and holders adapted to retain the same in permanent engagement, scraper blades connected to the rear ends of said arms in fixed relations thereto, and a spring mounted between the forward ends of the scraper arm holders and acting to maintain the scraper blades yieldingly in contact with the disks.

2. In a disk scraper, the combination with a scraper-arm holder provided with a bearing socket and a confining finger, of a scraper arm mounted in the bearing socket and formed with a peripheral groove in which the confining finger loosely engages, and a scraper blade carried by the arm.

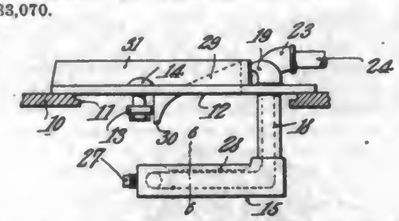
3. In a disk scraper, the combination with a scraper blade provided with a plurality of alined slots and a connecting portion therebetween, of a scraper arm extending through said slots from one side to the other and engaging said connecting portion for interlocking detachably with said blade, the said slots being elongated in the direction of the longitudinal axis of the arm to admit of the engagement or disengagement of the parts.

4. In a disk scraper, the combination with a scraper blade provided with a plurality of alined slots and a connecting portion therebetween, of a scraper arm extending through said slots from one side to the other and engaging said connecting portion for interlocking detachably with said blade, and bearing with spring pressure on opposite sides of said blade.

5. In a disk scraper, the combination of a scraper blade provided with alined elongated slots, a scraper arm adapted at its end to be passed through said slots and provided with an offset portion and a terminal finger acting by endwise movement of the blade, to forcibly engage the latter respectively on opposite sides, and also to disengage the same.

[Claim 6 not printed in the Gazette.]

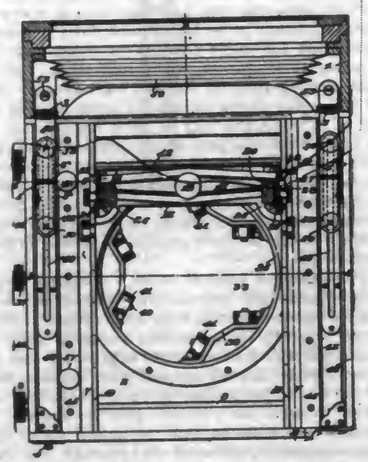
975,460. LIQUID-FUEL BURNER. JOHN P. ROBERTS, Los Angeles, Cal. Filed Dec. 14, 1909. Serial No. 533,070.



1. In a liquid fuel burner, a plate having an opening, a hood surmounting said opening, and having a top wall extending at an oblique angle to the plate, a burner tip presented into the open end of the hood, a generator beneath the plate, a supply connection to the generator, an outlet from the generator to the burner, and a deflector on the bottom of the plate forming a continuation of the aforesaid wall of the hood, said deflector being presented in the direction of the generator.

2. In a liquid fuel burner, a plate having an opening, a hood surmounting said opening, and having a top wall extending at an oblique angle to the plate, a burner tip presented into the open end of the hood, a generator beneath the plate, a supply connection to the generator, an outlet from the generator to the burner, and a deflector on the bottom of the plate, said deflector having a curved surface forming a continuation of the inner surface of the top wall of the hood, and said curved surface being presented in the direction of the generator.

975,461. CAMERA. JOHN A. ROBERTSON, Rochester, N. Y., assignor to Eastman Kodak Co., Rochester, N. Y., a Corporation of New York. Filed Oct. 2, 1907. Serial No. 395,483.



1. In a camera, the combination with a body and a bed hinged thereto having ways thereon, of a carriage movable on the ways, a lens board supported on the carriage and capable of a swinging movement relatively to the bed and means for securing the lens board in an angular position relatively to the latter, said lens board being adapted to automatically fold against the bed when said securing means are released and the bed is folded against the body.

2. In a camera, the combination with a body and a bed hinged thereto having ways thereon, of a carriage movable on the ways and a lens, board pivotally mounted on the carriage and adapted to swing into a folded position against the bed upon an axis movable into substantial coincidence with the axis of movement of the bed and body.

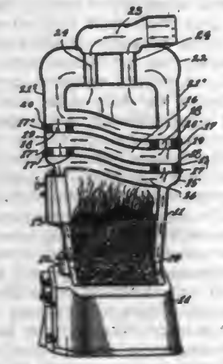
3. In a camera, the combination with a body and a bed hinged thereto having parallel guides thereon forming ways, of a carriage movable on the ways and a lens board pivoted to the carriage and foldable in a forward direction to a position against the bed and between the guides in which its pivotal connection with the carriage lies between it and the hinged connection of the bed and body.

4. In a camera, the combination with a body and a bed hinged thereto, of an extension member on the bed having ways thereon, a carriage movable on the ways and a lens board pivoted to the carriage and foldable in a forward direction against the bed in which its pivotal connection with the carriage lies between it and the hinged connection of the bed and body.

5. In a camera, the combination with a body and a bed hinged thereto, of an extensible frame carried by the bed having ways thereon, a carriage movable on the ways and a lens board pivoted to the carriage and foldable in a forward direction to a position within the frame in which its pivotal connection with the carriage lies between it and the hinged connection of the bed and body.

[Claims 6 to 13 not printed in the Gazette.]

975,462. STEAM AND HOT-WATER BOILER. RICHARD ROUSE, Jr., Elizabeth, N. J., assignor to Boynton Furnace Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 2, 1910. Serial No. 541,421.



1. A boiler of the kind described, having its body portion made up of a series of generally circular cast sections superposed, each section being connected by cross curved water tubes, and water connections between adjacent sections at their highest and lowest points.

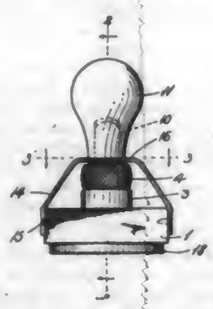
2. A cast metal boiler generally circular in cross section, comprising superposed water-carrying cast sections and curved cross tubes connecting opposite parts of each section, each tube being wider at the bottom than at the top.

3. A boiler of the kind described comprising a series of generally circular cast and inclined sections, cross tubes extending from the higher to the lower parts of each section and so arranged that the tubes of the several sections shall vertically aline, and water connections between the several sections at their highest and lowest points.

4. A boiler of the kind described, comprising a cast water-carrying bottom section containing a fire-pot, and superposed cast sections seated one above the other above the fire-pot section, cross tubes connecting the lower and higher parts of each section, said tubes being arranged so that the tubes of the several sections shall vertically aline, and water connections between the highest and lowest parts of the several sections and between the lower of the sections and the base section of the boiler.

5. A cast metal boiler comprising a base water-carrying section containing a fire-pot and provided with curved cross tubes extending from the highest to the lowest side of the said base section, inclined superposed sections resting on the base section, water connections between the several sections and the base section at the highest and lowest points, cross tubes on the several sections, the tubes being in vertical alinement, and the top or dome section having cross tubes, and water connections between the top section and the lower and intervening sections.

975,463. STAMP. ELMER H. SANBORN, Los Angeles, Cal. Filed Mar. 7, 1910. Serial No. 547,640.



1. A stamp of the class described having a body with fixed centrally and outwardly disposed characters maintained constantly in a single fixed position with respect to said body, and having a fixed indicating pointer adapted to impress the paper, and a rotatable date ring coöperating with said pointer, having numbers arranged consecutively corresponding to the days of the month adapted to impress the paper simultaneously, said outwardly disposed characters being arranged in a ring around said date ring, and said indicating pointer being arranged so that the number indicated thereby is in an upright position with respect to said outwardly disposed characters.

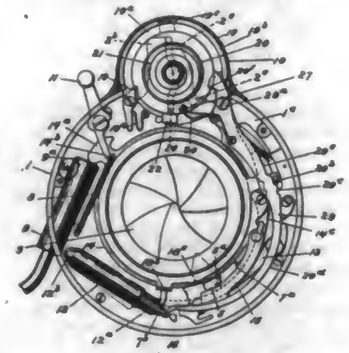
2. A stamp of the class described having a body, a centrally disposed type with an indicating pointer adapted to impress the paper and fixed with respect to said body, a date ring rotatably mounted and having divisions numbered consecutively to correspond with the days in the month, the body of said stamp also having characters arranged in a ring around said date ring having a single fixed position and adapted to be read from the same side as the number of said date ring which lies opposite said pointer.

3. A stamp of the class described having a body, a rotatably mounted sleeve in said body, a centrally disposed stem having a stud with an angular neck, said stem holding said sleeve rotatably in said body, a yoke rigidly attached to said body and having a horizontal portion with an angular opening to engage the angular neck of said stem, a handle adapted to screw upon said stud and securing said sleeve in said body, and characters rigidly attached to the under faces of said body sleeve and stem adapted to impress the paper.

4. A stamp of the class described having a body, a centrally disposed type having an indicating pointer adapted to impress the paper and fixed with respect to said body, a date ring rotatably mounted and having divisions numbered consecutively to correspond with the days in the months, the body of said stamp also having a complete outer ring surrounding said first ring and bearing characters, said outer ring having a single fixed position and adapted to be read from the same side as the number of said ring which lies opposite said pointer.

5. A stamp of the class described having a body, a centrally disposed type with an indicating pointer adapted to impress the paper and fixed with respect to said body, a ring rotatably mounted and having divisions bearing numbers arranged in progressive order, the body of said stamp also having an outer ring with circumferentially arranged characters thereupon, said outer ring having a single fixed position and adapted to be read from the same side as the number of said inner ring which lies opposite said pointer.

975,464. PHOTOGRAPHIC-CAMERA SHUTTER. FREDERICK C. SCHMID and CHARLES F. DEWEY, New York, N. Y., assignors to C. P. Goerz American Optical Company, New York, N. Y., a Corporation of New York. Filed May 14, 1909. Serial No. 495,851.



1. A photographic camera shutter comprising shutter blades, their actuating ring provided with a cam-way the intermediate portion of which is substantially concentric to a center and the outer portions extended away therefrom, and a motor device turning about said center and having a part that travels through the cam-way, whereby the first effect of the motor device part in an outer portion of said cam-way is to move the ring to open the shutter, which remains open while the part of the motor device is traversing the concentric portion of the cam-way, and the final effect is to close the shutter.

2. A photographic camera shutter comprising shutter blades, their actuating ring provided with a cam-way the intermediate portion of which is substantially concentric to a center and the outer portions extended away therefrom, a motor device turning about said center and having a part that travels through the cam-way, whereby the first effect of the motor device part in an outer portion of said cam-way is to move the ring to open the shutter, which remains open while the part of the motor device is traversing the concentric portion of the cam-way, and the final effect is to close the shutter, and means acting automatically to disengage the motor part from the final portion of the cam-way when the movement of the ring is completed so that the shutter may be operated by means other than the motor device.

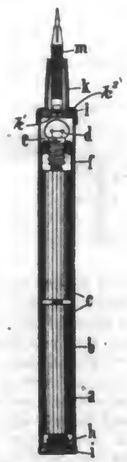
3. A photographic camera shutter comprising shutter blades, their actuating ring provided with a cam-way the intermediate portion of which is substantially concentric to a center and the outer portions extended away therefrom, a motor device turning about said center and having a part that travels through the cam-way, whereby the first effect of the motor device part in an outer portion of said cam-way is to move the ring to open the shutter, which remains open while the part of the motor device is traversing the concentric portion of the cam-way, and the final effect is to close the shutter, and means for resetting the motor device for another motor actuated exposure operation of the shutter.

4. A photographic camera shutter comprising shutter blades, their actuating ring provided with a cam-way the intermediate portion of which is substantially concentric to a center and the outer portions extended away therefrom, a motor device turning about said center and having a part that travels through the cam-way, whereby the first effect of the motor device part in an outer portion of said cam-way is to move the ring to open the shutter, which remains open while the part of the motor device is traversing the concentric portion of the cam-way, and the final effect is to close the shutter, means for disengaging the motor part from the final portion of the cam-way when the movement of the ring is completed and adjustable means for automatically determining the time of exposure (or shutter opening) so effected.

5. A photographic camera shutter comprising shutter blades, their actuating ring provided with a cam-way the intermediate portion of which is substantially concentric to a center and the outer portions extended away therefrom, a motor device turning about said center and having a part that travels through the cam-way, whereby the first effect of the motor device part in an outer portion of said cam-way is to move the ring to open the shutter, which remains open while the part of the motor device is traversing the concentric portion of the cam-way, and the final effect is to close the shutter, an adjustable time exposure lever, a dash-pot to the piston of which one end of the lever is connected and a cam-piece carried by the motor device that operates upon the other end of the lever while said part of the motor is traversing the concentric part of the cam-way.

[Claims 6 to 11 not printed in the Gazette.]

975,465. PEN AND PENCIL HOLDER. XAVERA FRANZISKA, SCHNAPKA, Breslau, Germany, assignor to Franz Lissy, Kattowitz, Germany. Filed July 15, 1909. Serial No. 507,747.



1. In a pen or pencil holder, comprising a source of electricity within the holder, an incandescent lamp also within the holder, electric connections from the said source of electricity to the said lamp and means for making and breaking the circuit the combination of a translucent closure to the end of the holder and means for supporting the writing utensil substantially in the center thereof, the said translucent closure being adapted to distribute the light on all sides of the writing utensil.

2. In a pen or pencil holder comprising a source of electricity within the holder, a lamp also mounted within the said holder, electric connections from said source of electricity to the said holder, the combination of a contact plate intermediate of the lamp and source of electricty a rotary sleeve externally of the holder and means in connection therewith for making contact to the lamp when the said sleeve is turned on the said holder, a translucent closure to the said holder having means to support the writing utensil substantially in the center thereof the said translucent closure being adapted to distribute the light on all sides of the writing utensil.

975,466. KNITTING-MACHINE NEEDLE. ROBERT W. SCOTT, Leeds Point, N. J., assignor, by direct and mesne assignments, to Scott & Williams, Incorporated, Camden, N. J., a Corporation of New Jersey. Filed May 12, 1908. Serial No. 432,491.



1. A knitting machine needle having a wire shank bent to form a projecting butt above its lower end and having at said lower end a reversely bent finger terminating such distance below the upper butt to form a lower butt whose upper face is adapted for engagement with a hook-like operating member of the machine in the plane of the needle, whereby the needle can be operated.

2. A knitting machine needle having a wire shank bent to form, above its lower end, a projecting butt having its members secured together and below said butt a second butt whose upper face is adapted for engaging a hook-like operating member of the machine in the plane of the needle, whereby the needle can be operated, said second butt comprising a reversely bent finger terminating such distance below the upper butt to permit said hook-like operating member to engage said butt in the plane of the needle.

3. A knitting machine needle having a wire shank bent to form a projecting butt above its lower end, and having, at said lower end, a reversely bent finger secured to the shank of the needle and constituting a lower butt whose upper face is adapted for engagement with a hook-like operating member of the machine in the plane of the needle, whereby the needle can be operated.

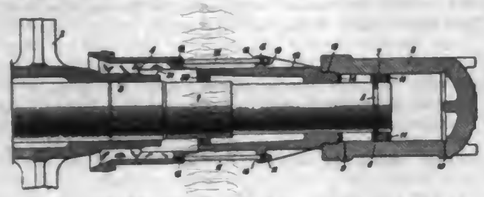
4. A knitting machine needle having a wire shank bent above its lower end to form a projecting butt having its members secured together, said shank having at the lower end a reversely bent finger lying alongside of and secured to said shank and constituting a lower butt whose upper face is adapted for engagement with a hook-like operating member of the machine in the plane of the needle, whereby the needle can be operated.

975,467. FLUID-PRESSURE APPLIANCE. THOMAS S. SCOTT, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Dec. 14, 1908. Serial No. 467,462.

1. The combination with a shaft, and an annular piston mounted immovably upon one end thereof, of a cylinder for said piston having a fluid-inlet port and means for connecting said cylinder to a part to be moved along said shaft.

2. The combination with a shaft having an annular groove near one end, a ring in said groove, and an annular piston surrounding said shaft and engaging said ring,

of a cylinder for said piston having a fluid-inlet port, and means for connecting said piston to a part to be moved along said shaft.

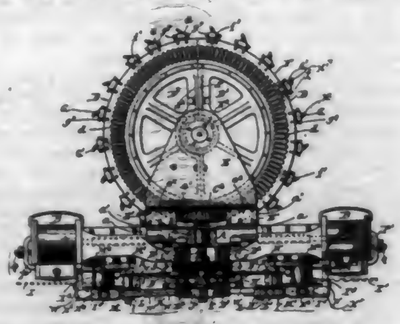


3. The combination with a shaft, an annular piston surrounding said shaft near one end thereof and means for locking said piston against movement along the shaft, of a cylinder for said piston having a fluid-inlet port, and means for connecting said cylinder to a part to be moved along the shaft.

4. The combination with a shaft and an annular piston fastened to one end thereof, of a cylinder for said piston having a fluid-inlet port, a sleeve fitted to said shaft and fastened to one end of the cylinder and to a member which is to be moved along the shaft.

5. The combination with a shaft and an annular piston attached to one end thereof, a cylinder for said piston having a fluid-inlet port adjacent to each of its ends, and means for connecting the cylinder to a shaft-supported member in order to force it to operative position or to withdraw it therefrom.

975,468. MINING-MACHINE. FRANK L. SESSIONS, Columbus, Ohio, assignor, by mesne assignments, to The Jeffrey Manufacturing Company, a Corporation of Ohio. Filed Nov. 16, 1903. Serial No. 181,431.



1. In a mining machine, the combination of the relatively long bed frame, the reciprocating engines secured to the opposite ends thereof having their connecting rods arranged in the same vertical plane, the crank shafts for the engines transversely mounted in bearings on the said bed frame arranged near the center thereof, the main power shaft likewise transversely mounted in bearings on the said frame, the driving gearing between the crank shaft and the said power shafts, the laterally projecting cutter wheel mounted centrally of the frame, and the bevel drive gear secured to the main power shaft and adapted to drive the said cutter wheel, substantially as set forth.

2. In a mining machine, the combination of the relatively long bed frame, the opposed reciprocating engines mounted at the opposite ends thereof and having their cylinders arranged in the same vertical plane, the parallel crank shafts for the engines transversely mounted in bearings on the said frame arranged near the center thereof, the main power shaft mounted in bearings below the crank shafts and having its axis of rotation in a vertical plane midway between the vertical planes of the axes of rotation of the crank shafts, the driving gearing between the crank shafts and the driving shaft, a laterally projecting cutter wheel mounted centrally of the frame, and a beveled drive gear secured to the main power shaft and adapted to drive said cutter wheel, substantially as set forth.

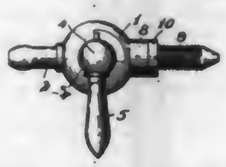
3. In a mining machine, the combination of the relatively long bed frame, the opposed reciprocating engines secured to the opposite ends and on the same side thereof, the transverse crank shafts for the engines mounted in bearings secured near the center of said frame, the cranks on the said crank shafts arranged in the same vertical plane, the main power shaft mounted transversely in bearings at the center of said bed frame and below the said crank shafts, a laterally projecting cutter wheel mounted centrally of the bed frame, and the pinion secured to the said driving shaft and adapted to drive said cutter wheel, substantially as set forth.

4. In a mining machine, the combination of the relatively long bed frame, the reciprocating engines secured to the opposite ends thereof arranged in the same vertical and horizontal planes and provided with transverse crank shafts mounted in bearings secured near the center of the said bed frame, the transversely mounted power shaft having its axis of rotation in planes parallel to the vertical and longitudinal planes of the axes of rotation of the said crank shafts, the driving gear secured to the said driving shaft, the driving pinions one on either crank shaft and adapted to mesh with said driving gear, the laterally projecting cutter wheel, and the pinion secured to the main driving shaft and adapted to drive said cutter wheel, substantially as set forth.

5. A cutter wheel for mining machines having a peripherally grooved rim, the flanges on either side of said groove having notches adapted to receive the shank of the bit, and bit holders having their shanks inserted in said groove detachably secured to the said rim, substantially as set forth.

[Claims 6 to 9 not printed in the Gazette.]

975,469. COMBINED COCK AND NEEDLE VALVE. LOUIS E. SHAW, New York, N. Y., assignor to J. B. Colt Company, New York, N. Y., a Corporation of New Jersey. Filed Aug. 21, 1909. Serial No. 513,958.



1. The combination of a cut-off valve with a regulating valve connected in series therewith and a common means for operating said valve asynchronously, so that said cut-off valve is opened before said regulating valve is opened.

2. The combination of a cut-off valve with a needle valve connected in series therewith, and a common means for operating said valves asynchronously, so that said needle valve is closed before said cut-off valve is closed.

3. The combination of a cock valve with a regulating valve connected in series therewith and a common means for operating said valves asynchronously, so that said cock valve is opened before said regulating valve is opened, and said regulating valve is closed before said cock valve is closed.

4. The combination of a cut-off valve with a regulating valve connected in series therewith, the movable portions of said valves being interlocked so as to prevent the opening of said regulating valve until after said cut-off valve is open.

5. A combined cock and needle valve comprising a cock valve casing, a plug therein, a needle valve casing connected to said cock valve casing and a needle therein, said plug and needle being interlocked so as to move asynchronously, whereby said cock valve is opened prior to the opening of said needle valve.

[Claims 6 to 12 not printed in the Gazette.]

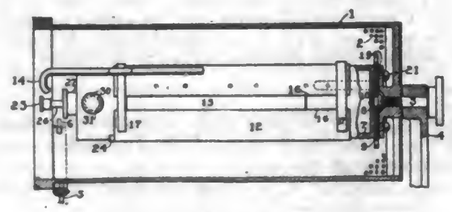
975,470. SCREEN. CHARLES D. SHRADY, Allentown, Pa. Filed Sept. 28, 1909. Serial No. 519,085.



1. The combination of a window-frame having a window therein and a screen consisting of a rectangular supporting-frame and an opaque covering thereon, said screen coacting with the adjacent faces of the side-members of the window-frame to removably support the screen therein with a portion of the screen displaced laterally from the frame of the window, substantially as set forth.

2. The combination of a window-frame having a window therein and a screen consisting of a rectangular supporting-frame the longitudinal members of which are resilient and an opaque covering mounted thereon, said screen coacting with the adjacent faces of the side-members of the window-frame to removably support the screen therein and said resilient members of the supporting-frame being bowed away from the plane of the window, substantially as set forth.

975,471. STENCILING-MACHINE. ALEXANDER J. SMITH, Stamford, Conn., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Aug. 18, 1909. Serial No. 513,377.



1. In a stenciling machine, the combination with a stencil cylinder having one end open and the other closed, of an ink fountain in the form of a long closed box within said cylinder and extending along the same and secured only at its inner end.

2. In a stenciling machine, the combination with a stencil cylinder having one end open and the other closed, of an ink fountain in the form of a long closed box within said cylinder and extending along the same and secured only at its inner end, said fountain being attached to the closed end of said cylinder.

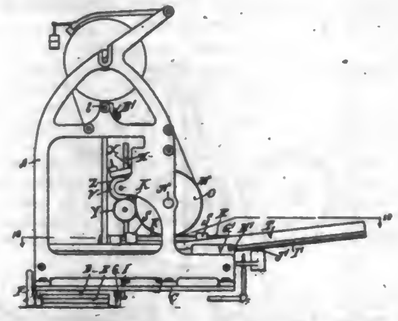
3. In a stenciling machine, the combination with a stencil cylinder open at one end and closed at the other, of an ink fountain in the form of a long closed box extending from end to end of the cylinder and at one end detachably connected to the closed end of said cylinder, and wholly supported by said cylinder end.

4. In a stenciling machine, the combination with a stencil cylinder, of an ink fountain in the form of a long closed box extending from end to end of the cylinder and at one end removably attached to the cylinder end, said cylinder being open at one end and having at the other end a hub or support to which the end of said ink fountain is attached, said hub forming the sole support of said fountain.

5. In a stenciling machine, the combination with a stencil cylinder open at one end and having a hub or head at the other end, of an ink fountain within said cylinder and at one end secured to said head or hub, the latter forming the sole support of the fountain.

[Claims 6 to 11 not printed in the Gazette.]

975,472. MACHINE FOR PACKAGING METALLIC LEAF IN ROLLS. CHARLES E. SMITH, Oak Lawn, R. I. Filed Mar. 17, 1909, Serial No. 484,072. Renewed Feb. 26, 1910. Serial No. 546,255.



1. In a machine for packaging metallic leaf in rolls, the combination of means for feeding the supporting paper strip intermittently forward, and a hand operated table for lapping the sheets of metallic leaf upon the paper strip.

2. In a machine for packaging metallic leaf in rolls, the combination of means for feeding the supporting paper strip intermittently forward, a hand operated table for lapping the sheets of metallic leaf upon the paper strip, and means for subsequently carrying the table forward to deposit the sheet of metallic leaf from the table upon the strip.

3. In a machine for packaging metallic leaf in rolls, the combination of means for feeding the supporting paper strip intermittently forward, with means for applying an adhesive material in lines transversely of the paper strip to secure the metallic leaf at intervals thereon.

4. In a machine for packaging metallic leaf in rolls, the combination of a table upon which the book of metallic leaf is placed, a spring-actuated means for tilting the forward end of the table downward, a pivoted stop for limiting the forward movement of the table, a reciprocating rack and means for causing the engagement of the table with the rack whenever the table is raised by the operator to cause the lapping of the sheets of metallic leaf upon the supporting strip.

5. In a machine for packaging metallic leaf in rolls, the combination of means for winding up the supporting paper strip and metallic leaf into a package roll, with a tilting table for lapping the sheets of metallic leaf upon the paper strip.

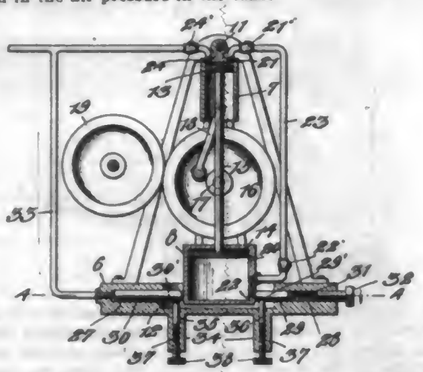
[Claim 6 not printed in the Gazette.]

975,473. AIR-PUMP. GREGORY J. SPOHARR, Franklin, Pa. Filed June 2, 1910. Serial No. 564,576.

1. In an air pump, the combination with a frame, of spaced cylinders rigidly connected together, said cylinders being pivotally mounted in the frame for oscillatory movement, a piston in each of said cylinders, a piston rod connecting said pistons, means for reciprocating said piston rod and operating means therefor, a pipe connecting said cylinders, an air conducting pipe extending from one of said cylinders to a supply tank, and means for automatically moving the pumping mechanism to its operative and inoperative positions upon variation in air pressure in the tank to a predetermined point.

2. In an air pump, the combination with a frame comprising a base having parallel standards rising therefrom, of rigidly connected spaced cylinders pivotally mounted between the upper ends of said standards for oscillatory movement, a piston arranged to reciprocate in each of the cylinders, a piston rod connecting said pistons, means arranged between the cylinders and connected to the piston rod for reciprocating the same, operating means for said piston actuating means, an air conducting

pipe connected to one of said cylinders and extending to the pressure supply tank, a pipe connecting said cylinders to conduct air under pressure from one to the other, and means arranged in said base for automatically oscillating said cylinders and the piston actuating means to move the latter into and out of operative position upon variation in the air pressure in the tank.



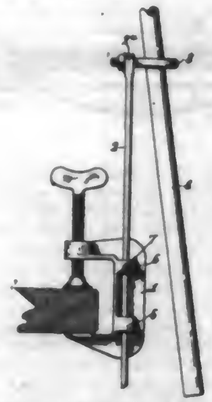
3. In an air pump, the combination with a frame comprising parallel standards, of rigidly connected cylinders of different capacity pivoted between the upper ends of the standards for oscillatory movement, a driven wheel rotatably mounted between the cylinders and movable therewith, pistons in said cylinders, means connecting the pistons and said driven wheel, a driving wheel to frictionally engage the driven wheel and actuate the pistons, an air conducting pipe between one of the cylinders and a pressure supply tank, a pipe connecting said cylinders to conduct air under pressure from one to the other, and means for automatically moving said cylinders and the piston actuating wheel into and out of contact with the driving wheel upon variation of air pressure in the supply tank to a predetermined point.

4. In an air pump, the combination with a base and parallel standards rising therefrom, or cylinders of different capacity arranged in longitudinal alinement and rigidly connected together, said cylinders being pivotally mounted in said frame for oscillatory movement, a driven wheel rotatably mounted between the cylinders and movable therewith, reciprocatory pistons in said cylinders, means connecting said pistons and the driven wheel whereby the pistons are actuated, a driving wheel to engage said driven wheel and rotate the same, an air conducting pipe between one of said cylinders, and a pressure supply tank, a pipe connecting said cylinders, and opposed plungers movably arranged in the base to engage one of said cylinders and move the driven wheel into and out of contact with the driving wheel upon variation of air pressure in the tank to a predetermined point.

5. In an air pump, the combination with a base and parallel standards rising therefrom, of a pumping mechanism mounted between said standards for oscillatory movement, said mechanism comprising upper and lower cylinders rigidly connected together, a piston in each of said cylinders, and a piston rod connecting said pistons, a driven wheel rotatably mounted intermediate of the cylinders and connected to the piston rod to actuate the same, operating means for said pumping mechanism, an air conducting pipe between the upper cylinder and the pressure supply tank, a pipe connecting said cylinders, an air actuated plunger mounted in the base to engage with the other cylinder and oscillate said cylinders and the driven wheel to move the same to an inoperative position upon the rise of pressure in the tank to a predetermined point, and a spring pressed plunger mounted in said base opposite to the first named plunger to return the pumping mechanism to its operative position upon decrease of air pressure in the tank to a predetermined point.

[Claims 6 to 8 not printed in the Gazette.]

975,474. WINDOW-CLEANER. WILLIAM STADT and WARREN VELTMAN, Grand Rapids, Mich. Filed Mar. 11, 1910. Serial No. 548,715.

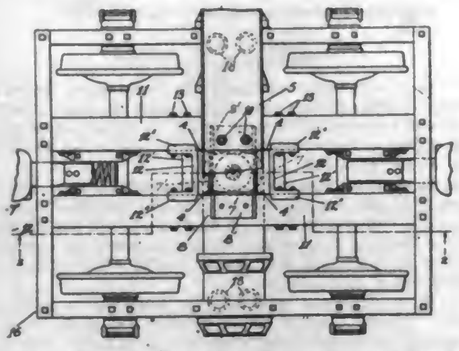


1. A window cleaner, comprising a clamp, a rod supported by the clamp, a guide member supported by the rod, and a handle slidable and pivotally movable in said guide member, and carrying a cleaning appliance.

2. A window cleaner, comprising a clamp adapted to be attached to a window sill, a rod supported by the clamp and vertically adjustable, an eyebolt journaled in the upper end of the rod, and a handle longitudinally movable in the eyebolt and carrying a cleaning appliance at the upper end.

3. A window cleaner comprising a clamp, lugs on the clamp, a rod adjustable in the lugs, an eyebolt journaled in the upper end of the rod, a handle slidable in the eyebolt, and a cleaning appliance carried by the handle.

975,475. TRUCK CONNECTION. EVIN STEVENS, Park, Wash. Filed Mar. 30, 1910. Serial No. 552,431.



1. In combination with a truck and a rotatably supported bunk thereon, a locking device comprising interlocking means on said truck and bunk, the interlocking means of said truck overlapping the interlocking means of said bunk, whereby said bunk is held against upward displacement while being free for rotation.

2. In combination with the truck and a rotatably supported bunk thereon, spaced locking elements on said truck, and spaced locking elements on said bunk normally engaging under said first named locking elements.

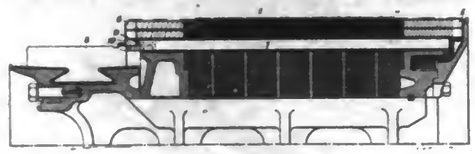
3. In combination with the truck and a rotatably supported bunk thereon, a plurality of locking elements on said truck, and locking elements on said bunk arranged in spaced relation and normally engaging under said first named locking elements, said first named locking elements being spaced for reception of said last named locking elements therebetween.

4. In combination with the truck and the bunk, a hub on one thereof provided with outwardly projecting shoulders, a pivot on the other thereof journaled in said hub, and relatively fixed lugs on opposite sides of said pivot engaging over the shoulders of said hub.

5. In combination with the truck and the bunk, a pivot on said truck, a hub on said bunk receiving said pivot, opposite outwardly projecting shoulders on said hub, and spaced lugs on said truck normally receiving the shoulders of said hub thereunder.

[Claims 6 to 8 not printed in the Gazette.]

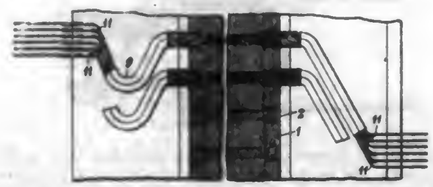
975,476. ARMATURE-WINDING FOR DYNAMO-ELECTRIC MACHINES. NORMAN W. STORER, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Jan. 3, 1906. Serial No. 294,428.



1. The combination with a slotted armature core, a winding located in the core slots, reversely bent relatively high-resistance conductors located in the core slots beneath the said winding, and a commutator cylinder, of conductors of lower resistance and less width than the aforesaid conductors connected to the opposite ends thereof and respectively to the armature winding and the commutator cylinder segments and arranged in two concentric rows.

2. The combination with a slotted armature core, a winding located in the core slots, reversely bent relatively high-resistance conductors located in the core slots beneath the said winding, and a commutator cylinder, of conductors of lower resistance than the aforesaid conductors connected to the opposite ends thereof and respectively to the armature winding and the commutator cylinder segments and arranged in two concentric rows.

975,477. ARMATURE-WINDING FOR DYNAMO-ELECTRIC MACHINES. NORMAN W. STORER, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Jan. 3, 1906. Serial No. 294,429.



1. The combination with a commutator cylinder, an armature winding comprising a plurality of groups of coils, and resistance conductors for connecting the winding to the commutator cylinder segments, of strips of good heat-conducting material placed between adjacent resistance conductors and electrically insulated therefrom.

2. The combination with a commutator cylinder, a slotted armature core, a winding therefor comprising a plurality of groups of coils located in the outer portions of the core slots, and resistance conductors for connecting the winding to the commutator cylinder segments said resistance conductors being arranged in groups and located in the innermost portions of the core slots, of strips of good heat-conducting material placed between the resistance conductors and electrically insulated therefrom.

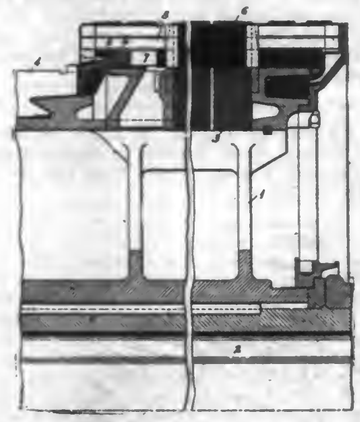
3. The combination with a commutator cylinder, an armature winding and conductors for connecting the winding to the commutator cylinder segments, of strips of good heat-conducting material placed adjacent to said conductors and insulated therefrom.

4. The combination with a commutator cylinder, an armature winding and conductors for connecting the winding to the commutator cylinder segments, of stripe of sheet metal located adjacent to, but insulated from, said conductors.

5. The combination with a commutator cylinder, a slotted armature core, a winding therefor comprising a plurality of coils located in the outer portions thereof, and conductors located in the inner portions of the core slots and serving to connect the winding to the commutator cylinder, of strips of good heat-conducting material located adjacent to, but insulated from, said conductors.

[Claims 6 to 8 not printed in the Gazette.]

975,478. ARMATURE-WINDING FOR DYNAMO-ELECTRIC MACHINES. NORMAN W. STORER, Pittsburg, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., a Corporation of Pennsylvania. Filed Mar. 2, 1908. Serial No. 418,897.



1. The combination with an armature winding, and a commutator cylinder, of resistance conductors interposed in circuit between the winding and the cylinder segments and having reduced end portions provided with means for increasing their conductivity.

2. The combination with an armature winding, and a commutator cylinder, of resistance conductors interposed in circuit between the winding and the cylinder segments and having reduced end portions provided with coatings of conducting material for increasing their conductivity.

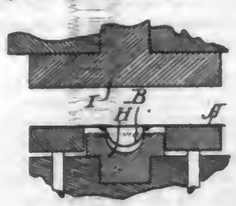
3. A resistance conductor having portions of reduced section and coatings of relatively high conductivity to increase the current-carrying capacity of said portions.

4. The combination with an armature winding, and a commutator cylinder, of resistance conductors interposed in circuit between the winding and the commutator cylinder segments, and having reduced end portions provided with electrolytically deposited copper coatings for increasing their conductivity.

975,479. METHOD OF FORMING BAIL-EARS ON SHEET-METAL VESSELS. SVEN SVENSON, La Crosse, Wis., assignor of one-half to Martin C. Munson, La Crosse, Wis. Filed July 2, 1909. Serial No. 505,590.

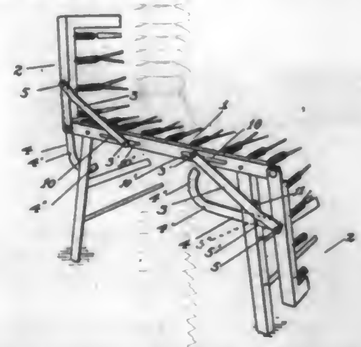
1. The method of securing a bail ear to a metal vessel consisting in stamping a marginal bead on the body of the vessel with a recess within said bead, leaving the portion of the bail within said bead imperforate and even with the original surface of the pail, forming a bail

ear with an outwardly extending base flange, assembling the parts with the ear in said recess and the bead surrounding said base flange and finally applying pressure to the parts to turn said bead over said flange, leaving a smooth inner surface on the body and causing the metal to flow inwardly as regards said bead.



2. The method of securing a bail ear to a metal vessel, consisting in forming an outwardly extending crown and a concentric ridge at the base of said crown in the body of the vessel, stamping said crown and ridge into a circular bead with an imperforate recess within said bead, stamping a bail ear with a marginal base flange, assembling the parts with the ear in said recess and the bead surrounding said base flange and finally applying pressure to the parts to interlock said marginal bead and flange; whereby the inner surface of said body is left substantially smooth and even and the portion of the body within the bead equivalent to the original surface of the pail, and the metal is caused to flow inwardly as regards the bead during each step of manipulating said bead.

975,480. EXTENSION COUCH OR BED. WILLIAM M. TAYLOR, Tacoma, Wash., assignor to Carman Manufacturing Company, Tacoma, Wash. Filed Feb. 24, 1910. Serial No. 545,748.

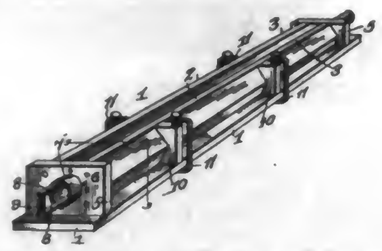


1. In an extension couch or bed, an end frame including angularly disposed members each formed with a guide slot provided with a shoulder, an extension frame pivoted to said end frame, and a catch contrivance comprising members pivoted to said extension frame and each provided with an engaging part, said members being each slidably engaged in a respective guide slot of said end frame and one thereof being connected with said extension frame for movement therewith across its center of movement.

2. In an extension couch or bed, an end frame, an extension frame pivoted thereto, a catch contrivance comprising a stay and a brace pivoted on one of said frames, said stay being connected for movement across the center of movement of said extension frame, and releasable connecting means between said stay and brace and the other of said frames, engaging the stay for operation when said extension frame is in elevated position and engaging said brace for operation when said extension frame is in horizontal and lowered positions.

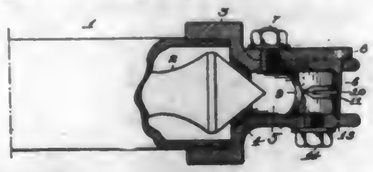
3. In an extension couch or bed, an end frame including angularly disposed upper and lower frame members formed with guide slots, an extension frame pivoted to said end frame, a stay pivoted to said extension frame and provided on its free end portion with an engaging part and slidably engaged in the slot of the upper member of said end frame, said guide slot being formed with a catch shoulder arranged to be engaged by said engaging part of said stay when said extension frame is in elevated position, a brace pivoted to said extension frame and slidably engaged in the guide slot of the lower member of said end frame, said last named guide slot being provided with a catch shoulder, said brace having spaced engaging parts for engagement with the catch shoulder of said last named guide slot for holding said extension frame in horizontal and lowered positions, the same when in the last named position holding the engaging part of said stay out of engagement with its catch shoulder.

975,481. TELEGRAPH-POLE OR FENCE-POST MOLD. FREDERICK H. TIDNAM, Oklahoma, Okla. Filed Sept. 4, 1909. Serial No. 516,170.



In a post mold, a pallet, a pair of mold sides each comprising a pair of strips extending longitudinally of the pallet and arranged at an angle to each other, said strips tapering from one end to the other and being loosely supported on said pallet, said strips further being of uniform thickness throughout whereby the exterior and interior angles are equal, pairs of freely movable supporting blocks each having an edge formed with a reëntrant angle corresponding to the angle of the strips, and clamps securing said blocks on said pallet.

975,482. OIL-BURNER. EDWIN W. TUCKER, San Francisco, Cal. Filed May 26, 1908. Serial No. 435,039. Renewed Apr. 16, 1910. Serial No. 555,933.



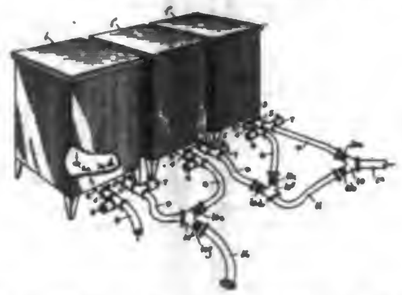
1. In an oil burner, a nozzle cap provided with a discharge neck, the wall of which is provided with a groove, and a transversely arranged hollow burner tip located in said neck and provided with an internally beveled outlet opening, said tip being tapered and having one end fitting in said groove, and means for preventing displacement of said tip.

2. In an oil burner, a nozzle cap provided with a discharge neck, a transversely arranged burner tip located in said neck and provided with an internally beveled outlet opening, the opposite edges of said opening being arranged at different angles, said tip being provided with a flange resting upon one wall of said neck, and means for securing said flange to said wall.

3. In an oil burner, a nozzle cap provided with a discharge neck, a transversely arranged burner tip located in said neck and provided with an internally beveled outlet opening, the opposite edges of said opening being arranged at different angles with the narrowest point at the center, said tip being provided with a flange resting upon one wall of said neck, and means for securing said flange to said wall.

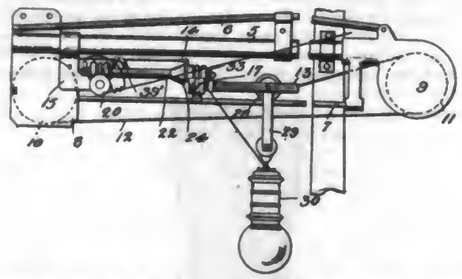
4. In an oil burner, a nozzle cap provided with a discharge neck, a transversely arranged burner tip located in said neck and provided with an internally beveled outlet opening, said tip being provided with a flange resting upon the top wall of said neck, and means for securing said flange to said neck.

975,483. FILTER SYSTEM. FERDINAND TUREK, Cleveland, Ohio. Filed Dec. 17, 1909. Serial No. 533,525.



A filter system consisting of a series of filter units each having inlet and outlet pipes provided respectively with valved supply and discharge branches for a cleaning fluid, a supply pipe, a valved Y between the supply pipe and the inlet pipe of the first unit, valved Y's connecting the outlet pipe of one unit to the inlet pipe of another, and a movable by-pass pipe arranged for connection between the various Y's, to pass the fluid to be filtered around any desired unit.

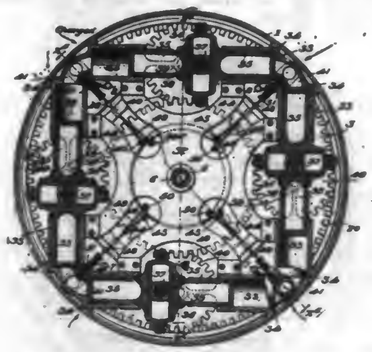
975,484. CUT-OUT AND SHUNT SWITCH FOR ELECTRIC LAMPS. FRANK F. WAGNER and NATHAN W. MCDONALD, Elizabeth, Pa. Filed Mar. 27, 1909. Serial No. 486,121.



In a device of the character described, the combination with a horizontal supporting arm, of a horizontal rod carried thereby, a lamp carrying yoke, a pulley mounted therein and traveling upon said rod, a transverse spacing bar connected to said yoke, a pair of plug rods mounted upon said spacing bar, a fixed spacing bar supported at the outer end of the horizontal arm, conductive tubes supported by the fixed spacing bar and adapted to receive the plug rods, contact members carried by one of said tubes, a switch arm pivotally connected to the other of said tubes, an L shaped extension carried by said switch arm and a member having a vertical extension carried by the movable spacing bar, said L-shaped extension moving in the arc of a circle and into engagement with said vertical extension as the plug rods enter said conductive tubes.

975,485. ROTARY MULTIPLE-CYLINDER INTERNAL-COMBUSTION ENGINE. JOHN A. WALTMAN, Los Angeles, Cal. Filed Jan. 26, 1910. Serial No. 540,190.

1. In an engine, the combination with a rotary wheel, of concentric gears mounted for rotation independently of each other and independently of the wheel, a motor carried by the wheel, a pinion meshing with said concentric gears and operated by the motor, and operable means for holding either of said concentric gears against rotation.



2. In an engine, the combination with a rotary wheel, of concentric gears mounted for rotation independently of each other and independently of the wheel, operable means for holding either of said concentric gears against rotation, a plurality of cylinders carried by said wheel, a plurality of pistons for said cylinders, and a plurality of pinions carried by the wheel and engaged with the gears and operated by the respective pistons.

3. In an engine, the combination with a rotary wheel, of concentric gears mounted for rotation independently of each other and independently of the wheel, operable means for holding either of said concentric gears against rotation, a plurality of cylinders carried by said wheel, a plurality of pistons for said cylinders, a plurality of pinions carried by the frame and engaged with the gears and operated by the respective cylinders, means for supplying motive fluid pressure to said cylinders and exhausting it therefrom, and valve mechanism for controlling the admission and exhaust of the motive fluid pressure to said cylinders.

4. In an engine, the combination with a rotary wheel, of concentric gears mounted for rotation independently of each other and independently of the wheel, operable means for holding either of said concentric gears against rotation, a motor carried by the wheel, a pinion engaged with the gears aforesaid, a cam, valve mechanism operated by the cam controlling the supply and exhaust for the motor aforesaid, and a source of motive fluid pressure supply for the motor.

5. In an engine, the combination with a rotary wheel, of concentric gears mounted for rotation independently of each other and independently of the wheel, operable means for holding either of said concentric gears against rotation, a plurality of motors carried by the wheel, a plurality of pinions carried by the wheel and engaged with the gears aforesaid and operated by the respective motors, supply and exhaust valve gear for the respective motors, cams for operating the valve gear in sets, and a source of motive fluid pressure supply leading to the respective motors.

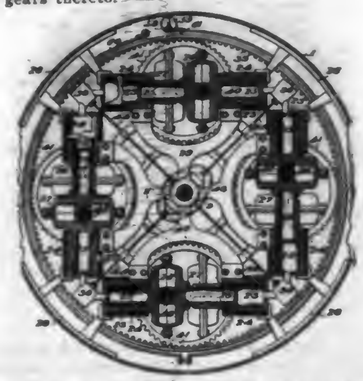
[Claims 6 to 18 not printed in the Gazette.]

975,486. ROTARY MULTIPLE-CYLINDER STEAM-ENGINE. JOHN A. WALTMAN, Los Angeles, Cal. Filed Jan. 26, 1910. Serial No. 540,200.

1. In an engine, the combination with a rotary wheel, of gears mounted for rotation independently of each other and independently of the wheel, a motor carried by the wheel, a pinion meshing with said gears and operated by the motor, operable means for holding either of said gears against rotation, and independent means for coupling one of said gears to the wheel.

2. In an engine, the combination with a rotary wheel, of gears mounted for rotation independently of each other

and independently of the wheel, a motor carried by the wheel, a pinion meshing with said gears and operated by the motor, operable means for holding either of said gears against rotation, and an independently operable friction strap carried by the wheel and adapted for locking one of said gears thereto.



3. In an engine, the combination with a rotary wheel, of an inner gear, an outer internal gear, said gears being mounted for rotation independently of each other and independently of the wheel, a motor carried by the wheel, a pinion meshing with said gears and operated by the motor, operable means for holding either of said gears against rotation, and a friction strap brake carried by the wheel and adapted to engage and lock the internal gear thereto.

4. In an engine, the combination with a rotary wheel, of a motor carried thereby, gears mounted for rotation independently of each other and independently of the wheel, a pinion operated by the motor and meshing with said gears, friction strap brakes for holding the respective gears against rotation, a rocker for operating said friction strap brakes so that one or the other will be tight or both of them loose, an independent friction strap brake for coupling one of the gears to the wheel, and an independent rocker for actuating said last-named brake.

5. In an engine, the combination with a rotary wheel, of a motor carried thereby, gears arranged mounted for rotation independently of each other and independently of the wheel, a pinion operated by the motor and meshing with said gears, friction strap brakes for holding either of said gears against rotation, a friction strap brake for locking one of the gears to the wheel, an actuating rod for said last-named friction strap brake, and a rocker having a cam adapted to coact with said actuating rod to release or tighten the brake.

[Claims 6 to 10 not printed in the Gazette.]

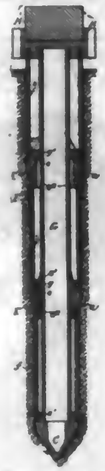
975,487. PILE AND MEANS FOR DRIVING THE SAME. LOUIS E. WELSH, Philadelphia, Pa., assignor, by direct and mesne assignments, to American Concrete Piling Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed June 19, 1909. Serial No. 503,179.

1. The combination of an inner and an outer pile form, the outer form having a series of internal shoulders and the inner form having flanges engaging the upper surfaces of said shoulders to exert a downward pressure, whereby the driving blow will be distributed over a plurality of points.

2. The combination of a non-expanding outer form, an inner form, a point on which both forms rest, the outer form having an internal shoulder disposed between said point and the upper or butt end of said form and the inner form having a portion engaging said shoulder so as to exert a downward pressure when the forms are driven.

3. The combination of an inner and an outer driving form, each having a series of engaging shoulders and being disconnected so that after they are driven the inner form can be removed without disturbing the outer form.

4. In a pile, the combination of inner and outer driving forms, each having shoulders located between the point and butt end of the pile, the shoulders of the inner form resting upon the shoulders of the outer form so as to distribute the driving blow and the shoulders of the inner form being such that said form can be withdrawn without disturbing the outer form.



5. In a pile, the combination of an outer from, an inner form and a point, said inner form being provided with laterally extended portions for driving engagement with the outer form at one or more places between the point and butt whereby a driving blow imparted to said inner form to force the structure into the ground is transmitted to the outer form at a plurality of points.

[Claims 6 to 15 not printed in the Gazette.]

975,488. PILE. LOUIS E. WELSH, Philadelphia, Pa., assignor, by direct and mesne assignments, to American Concrete Piling Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 20, 1909, Serial No. 479,142. Renewed Sept. 26, 1910. Serial No. 583,912.

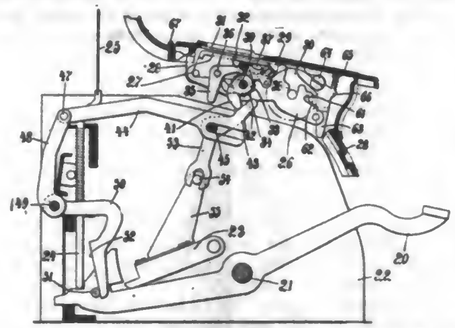


1. A pile having a driving point, a series of concrete shells, a series of rings interposed between the shells, and a body of concrete filling the center of the pile.

2. A pile having a driving point, a plurality of concrete shells, a series of rings increasing in diameter from the point and separated by said shells, and a body of concrete filling the center of the pile.

3. A pile having a driving point, a series of concrete shells successively increasing in diameter from the point, a series of rings separating said shells, and a body of concrete filling the center of the pile.

975,489. CASH AND AUTOGRAPHIC REGISTER. JOHN A. WERNER, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a Corporation of Ohio, (incorporated in 1906.) Filed Mar. 14, 1910. Serial No. 549,077.



1. In a cash register having amount keys, special keys and a main actuator operated thereby; the combination with an autographic device having a feeding mechanism for record material said feeding mechanism comprising a movable shaft and a feeding arm carried thereby; driving means for said shaft operated by said special keys; a second driving means for said shaft operated by the main actuator; and means slidable longitudinally of the shaft and capable of adjustment to establish a coöperative relation between said shaft and either of its driving means.

2. In a cash register having amount keys, special keys and a main actuator operated thereby; the combination with an autographic device having a feeding mechanism for record material said feeding mechanism comprising a movable shaft and a feeding arm carried thereby; driving means for said shaft operated by said special keys; a second driving means for said shaft operated by the main actuator; means slidable longitudinally of the shaft and capable of adjustment to establish a coöperative relation between said shaft and either of its driving means and means for holding said adjustable means in adjusted position.

3. In a cash register having amount keys, special keys and a main actuator operated thereby; the combination with an autographic device having a feeding mechanism for record material said feeding mechanism comprising a movable shaft and a feeding arm carried thereby; driving means for said shaft operated by said special keys; a second driving means for said shaft operated by the main actuator; and means slidable longitudinally of the shaft and capable of adjustment to establish a coöperative relation between said shaft and either of its driving means and means for holding said adjustable means in adjusted position or in a position preventing any such coöperative relation and consequent feeding of the record material.

4. In a cash register having amount keys, special keys and a main actuator operated thereby; the combination with an autographic device having a feeding mechanism for record material said feeding mechanism comprising a movable shaft and a feeding arm carried thereby; driving means for said shaft operated by said special keys; a second driving means for said shaft operated by the main actuator; means slidable longitudinally of the shaft and capable of adjustment to establish a coöperative relation between said shaft and either of its driving means and means for holding said adjustable means in adjusted position or in a position preventing any such coöperative relation and consequent feeding of the record material and spring means for holding said adjustable means in adjusted position.

975,490. VISUAL INDICATOR FOR KEY-OPERATED SWITCHES. JOSEPH J. WESLEY, Hackensack, N. J. Filed June 9, 1909. Serial No. 501,130.

1. A wall switch having an actuating rocker and longitudinally corrugated stems pivotally connected thereto and protruding through corrugated apertures to points where they are just visible at the face of the switch when fully projected, and a corrugated key coöperating therewith.



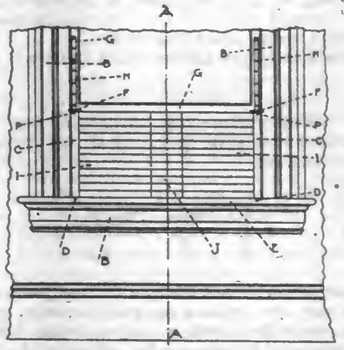
2. A wall switch having a rocker, stems connected thereto, and a pivoted shutter engaged by one of said stems and adapted to be displaced by the movement thereof, said shutter being exposed from the exterior of the switch.

3. A wall switch having a rocker, stems connected thereto, a pivoted shutter engaged by one of said stems and displaced thereby to alternate positions of throw, and a face plate or cover having an aperture through which said shutter is exposed.

4. A wall switch having a rocker, stems connected thereto, a shutter engaged by one of said stems and displaced thereby in one direction, a spring for displacing the shutter in the other direction, and a cover plate having an aperture through which said shutter is exposed.

5. A wall switch having a rocker, stems connected thereto, and a shutter adapted to be displaced by the movement of one of said parts, said shutter being exposed from the exterior of the switch.

975,491. VENTILATING-BLIND. HOLMAN K. WHEELER, Malden, Mass. Filed Feb. 2, 1910. Serial No. 541,654.



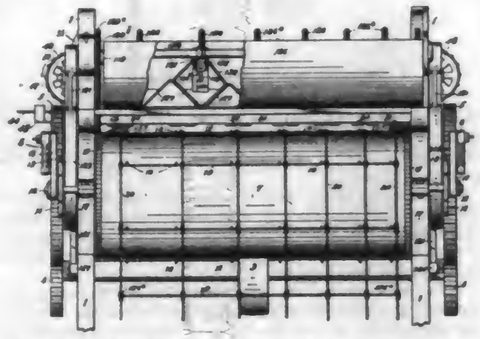
In a ventilating-blind structure, upright frames, pairs of telescoping slats disposed between and supported by said frames, and means, carried by said frames, for preventing telescoping of said slats while the blinds are in place, and separate means, also carried by said frames, for locking said frames in engagement with a window-casing.

975,492. WIRE-FABRIC MACHINE. FREDERICK E. WILLITS, Kansas City, Mo., assignor of one-fourth to William M. Roop, Kansas City, Mo. Filed Feb. 15, 1909. Serial No. 478,323.

1. A wire fence machine, consisting of automatic means for feeding a number of strand-wires, an endless carrier embodying jaws, means for automatically closing the jaws upon a wire so they will conduct the latter transversely to the strand-wires, a knife for severing the transverse wire into suitable lengths, and means for securing the resultant stay-wires upon the strand wires.

2. A wire fence machine, consisting of automatic means for feeding a number of strand-wires, an endless carrier embodying jaws, angle-irons for closing the jaws upon a transverse wire, means for severing said wire into suitable lengths, and means for securing the resultant stay-wires at intervals upon the strand-wires.

3. A wire fence machine, consisting of automatic means for feeding a number of strand-wires, an endless carrier embodying jaws arranged in pairs, adjustable angle-irons for closing the jaws upon a transverse wire, means for severing said wire into suitable lengths, and means for securing the resultant stay-wires at intervals upon the strand-wires.



4. A wire fence machine, consisting of automatic means for feeding a number of strand-wires, an endless carrier embodying jaws, means for limiting the movement of said jaws, angle-irons for closing the jaws upon a transverse wire, means for severing said wire into suitable lengths, and means for securing the resultant stay-wires at intervals upon the strand-wires.

5. In a wire fence machine, means for feeding a number of strand-wires, a crimping-bar adapted to crimp the strand-wires at intervals, and a channel-bar through which the strand-wires pass and in which the crimping-bar reciprocates across said strand-wires.

[Claims 6 to 32 not printed in the Gazette.]

975,493. SUPPORTER FOR COLLARS, &c. WILLIAM H. WILSON, New York, N. Y. Filed Dec. 17, 1909. Serial No. 533,546.



A collar supporter comprising a flat resilient strip, having adjacent each end and integral therewith, oppositely disposed inwardly turned piercing prongs forming T-shaped spaces, the prongs being separated to permit a fold of cloth to be inserted and spread flat to engage said prongs.

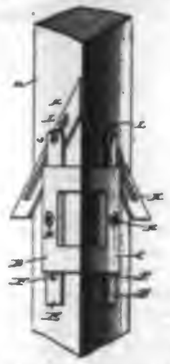
975,494. WOODWORKING-TOOL. RALPH NORTON ADAMS, Corvallis, Oreg. Filed Oct. 14, 1909. Serial No. 522,667.

1. A woodworker's tool, comprising a stock having two sides meeting each other at an angle, a longitudinally adjustable member carried by each side of the stock and projecting from one end thereof, means pivotally and adjustably secured to said members, and means for locking the various parts in adjusted position.

2. A tool, having a stock composed of two sides meeting at an angle, slides adjustably secured to said sides and projecting from one end thereof, and guide members having angularly pointed ends adjustably secured to the slides, said angular ends permitting the close adjustment of the members with reference to each other.

3. In a woodworker's tool, the combination with a stock comprising two sides meeting at an angle and having a longitudinally disposed groove formed in the work contacting face of each of the sides, of slides mounted in the grooves, and adjustable guide members carried by the ends of the slides.

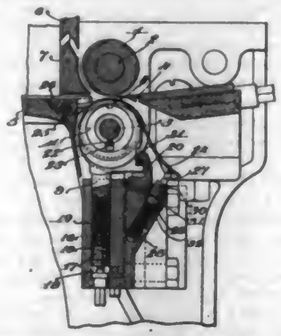
4. In a woodworker's tool, the combination with a stock comprising two sides meeting at an angle and each having a longitudinally disposed groove formed in its work contacting face, of slides mounted in the grooves, and adjustable guide members carried by the ends of the slides, the depth of said grooves being equal to the thickness of the slide and guide member to permit both the stock and guide member to lie flat upon the work.



5. In a device of the character described, the combination with a stock having a plurality of work contacting converging faces each having a groove formed therein and extending longitudinally thereof, of a slide mounted in each groove, means for adjustably securing said slide in position, the slides being each provided with a slot in which the securing means moves, and a guide member pivotally secured to the outer end of each slide and slidably adjustable with respect thereto.

[Claim 6 not printed in the Gazette.]

975,495. PRESSURE DEVICE FOR LEATHER-SKIVING MACHINES. CHARLES H. BAYLEY, Boston, and BENJAMIN F. MAYO, Salem, Mass., assignors to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Sept. 23, 1907. Serial No. 394,084.



1. A pressure device for leather skiving machines, having, in combination, a series of pressure disks, a separate carrier for each disk in which the disk is journaled, a rotary shaft passing through the disks, connections between the shaft and disks for rotating the disks while permitting the disks to move transversely to the shaft, and means for yieldingly supporting the disks.

2. A pressure device for leather skiving machines, having, in combination, a series of pressure disks, a separate carrier for each disk in which the disk is journaled, a rotary shaft passing through the disks, connections between the shaft and disks for rotating the disks while permitting the disks to move transversely to the shaft, a separate spring supporting each carrier, and means for adjusting the tension of the springs independently.

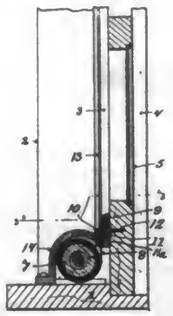
3. A pressure device for leather skiving machines, having, in combination, a series of pressure disks, a separate carrier for each disk in which the disk is journaled, a rotary shaft passing through the disks, connections between the shaft and disks for rotating the disks while permitting the disks to move transversely to the shaft, springs supporting the carriers, and adjustable stops to limit the movement of the carriers.

4. A pressure device for leather skiving machines, having, in combination, a series of pressure disks, a separate slide for each disk provided with a head in which the disk is journaled and a guiding stem, means for yieldingly supporting the slides, a rotary shaft passing through the disks, and connections between the shaft and disks for rotating the disks while permitting the disks to move transversely to the shaft.

5. A leather skiving machine, having, in combination, a skiving knife, a series of pressure disks, a device cooperating therewith to hold the work in position to be acted upon by the skiving knife, and a series of strippers located between the disks in position to remove a skiving from the disks, said strippers being arranged to yield radially of the disks and extending between the disks and the said coöperating device.

[Claims 6 to 9 not printed in the Gazette.]

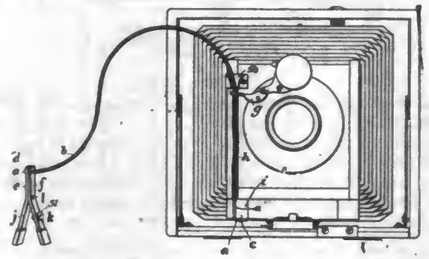
975,496. SCREEN ATTACHMENT FOR WINDOW-SASH. EINAR J. BECK and AUGUST KEHLSTROM, Racine, Wis. Filed Sept. 2, 1909. Serial No. 515,942.



1. In combination with a sliding window-sash having a casing and inner and outer beads, a screen attachment comprising brackets secured to the casing, a spring-controlled roller mounted in the brackets, a sector shield for the roller secured to the casing, the shield being extended over the roller and having its terminal edges in approximately the same vertical plane as that of the adjacent face of the roller, said shield being spaced a predetermined distance from the lower sash-rail, a strip having key-hole sockets therein, headed screws carried by said sash-rail adapted to have interlocking engagement with the key-hole sockets, a screen having one end secured to the spring-controlled roller, the opposite end being fitted to the outer face of the strip, a clamping bead for the screen edge secured to the aforesaid strip, the strip and bead being of different widths and of a combined thickness approximately equal to the space between the edges of said shield and sash-rail, whereby said strip and bead are adapted to enter the space therebetween to form a closure having a continuous molding effect with relation to the adjacent sash-rail and shield when the former is in its closed position.

2. In combination with a sliding window-sash having a casing and inner and outer beads, a screen attachment comprising brackets secured to the casing, a spring-controlled roller mounted in the brackets, a sector-shield for the roller secured to the casing, a strip having key-hole sockets therein, slotted plates secured to the strip and partially covering the sockets therein, screws carried by the lower sash-rail having rectangular heads fitted into the key-hole slots, whereby said strip is detachably interlocked with the sash-rail, a screen having one end secured to the spring-controlled roller and its opposite end fitted to the outer face of the aforesaid strip, and a clamping bead for securing the end of the screen to the strip.

975,497. CAMERA-SHUTTER-OPERATING MECHANISM. JOSEPH BECKER, Washington, D. C., assignor to Eastman Kodak Company, Rochester, N. Y., a Corporation of New York. Filed June 26, 1901. Serial No. 66,159.



1. In camera shutters, an actuating mechanism comprising the combination with means for exerting a push and an equal pull of positive means for transmitting the push to the operating finger of the shutter, and positive means for transmitting the pull to the camera or shutter frame.

2. In combination with a frame, having relatively light mechanism mounted thereon, a flexible push element adapted to bear against the light mechanism, and a flexible pull element inclosed in the push element and adapted to act on the frame.

3. The combination with a camera shutter and its operating finger, of a shutter actuating mechanism comprising a flexible tube for pushing upon the said finger and a wire inclosed in the tube and adapted to exert an equal and opposite effort on the camera or shutter frame.

4. A camera shutter operating mechanism comprising a flexible push element adapted to bear upon the part to be moved at the receiving end, and a tension element inclosed in the push element and attached at its receiving end to the frame which supports the movable parts.

5. The combination with a camera shutter and a finger adapted to be moved to bring about an actuation of the shutter; of a flexible tension element having one end attached in fixed relation to the shutter frame; a spring adapted to push the said finger along the said tension element in a direction away from its attached end; and, a flexible tube mounted on the tension element to bear on the said finger in opposition to the said spring.

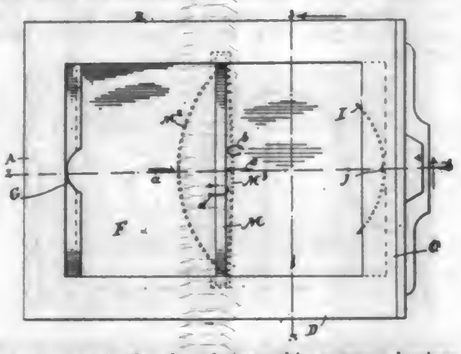
[Claims 6 to 15 not printed in the Gazette.]

975,498. PHOTOGRAPHIC-PLATE HOLDER. JOSEPH BECKER, Washington, D. C. Filed Dec. 23, 1903. Serial No. 186,297.

1. The combination with a plate holder for photographic cameras having a plate receiving chamber comprising a bottom and walls: of a back spring for the plates to be held in said chamber, said spring extending from one wall of the plate holding chamber to another wall of the said chamber; and abutments fixed with relation to said chamber walls; said spring having ends engaged under the said abutments and also having an intermediate point resting against the bottom of the said plate holding chamber.

2. A plate holder for photographic cameras having a back spring for the plates, said spring extending from one wall of the plate holding chamber to another wall of the said plate holding chamber and abutment surfaces in fixed relation to said chamber walls, said spring being adapted to press outwardly against said abutment surfaces and inwardly at an intermediate point against the bottom of the said plate holding chamber.

3. A plate holder for photographic cameras having a back spring for the plates, said spring extending from one wall of the plate holding chamber to another wall of the said plate holding chamber and abutment surfaces formed by recessing said chamber walls, said spring being adapted to press outwardly against said abutment surfaces and inwardly at an intermediate point against the bottom of the said plate holding chamber.

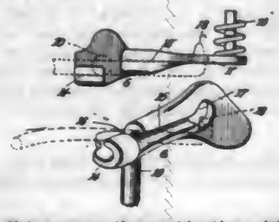


4. A plate holder for photographic cameras having a back spring for the plates, said spring extending from one wall of the plate holding chamber to the opposite wall of the said plate holding chamber and abutment surfaces in fixed relation to said chamber walls, said spring being adapted to press outwardly against said abutments and inwardly at an intermediate point against the bottom of the said plate holding chamber.

5. A plate holder for photographic cameras having a back spring for the plates, said spring extending from one wall of the plate holding chamber to the opposite wall of the said plate holding chamber and abutment surfaces formed by recessing said chamber walls, said spring being adapted to press outwardly against said abutment surfaces and inwardly at an intermediate point against the bottom of the said plate holding chamber.

[Claims 6 to 9 not printed in the Gazette.]

975,499. SCRAPER FOR DISK OPENERS. EDWIN R. BEEMAN, Minneapolis, Minn., assignor to Monitor Drill Company, a Corporation of Minnesota. Filed Feb. 16, 1910. Serial No. 544,159.



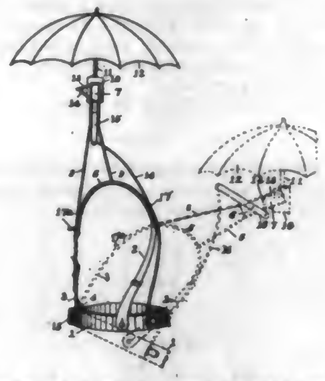
1. In a disk scraper, the combination with a scraper arm holder provided with a bearing socket, of a scraper arm detachably engaged in said socket and adapted to be disengaged by a tipping motion of one of the parts relatively to the other, and a blade connected with the arm.

2. In a disk scraper, the combination with a scraper arm holder provided with a bearing socket, of a scraper arm detachably engaged in said socket and adapted to be disengaged by a tipping motion of the arm relative to the holder, and a blade carried by the arm.

3. In a disk scraper, the combination with a scraper arm holder formed with an open longitudinal bearing socket and a transverse slot, of a scraper arm seated in the socket and removable sidewise therefrom and having a lateral projection extending in the slot, whereby the arm will be allowed to swivel but will be prevented from escaping endwise from the socket, and a scraper blade carried by the arm.

4. In a disk scraper, the combination with a scraper arm holder provided with an opening and with a bearing socket having walls adapted to engage the arm respectively on opposite sides and respectively at different points in its length, the said walls being separated longitudinally by an intervening space, a scraper arm seated between the opposing walls of the scraper and having a projection extending in the opening in the holder, whereby the arm will be prevented by the projection from escaping endwise from the holder, but may be disengaged by a tipping movement to withdraw the projection and enable the arm to pass through the space between the walls of the socket, and a scraper blade carried by the arm.

975,500. SELF-ADJUSTING UMBRELLA-HOLDER. JOSEPH E. BELL, Mesquite, Tex. Filed Apr. 8, 1910. Serial No. 554,258.



1. In a device of the character described, the combination with the stem of an umbrella, of a socket receiving said stem, means for pivotally supporting said socket, a crank arm projecting from one of the pivots of the socket, a lever pivoted upon said means supporting said socket, a link attaching one extremity of said lever to the crank arm, and a connection between the other extremity of said lever and the belt of the wearer.

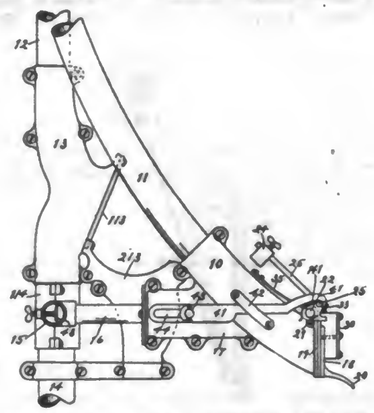
2. In a device of the character described, the combination with the stem of an umbrella, of a socket receiving the same, means for pivotally supporting said socket, a belt encircling the waist of the wearer, shoulder straps secured to said belt, wires holding the socket supporting means at an elevation above the shoulder straps, a crank arm rigid upon one of the socket pivots, a lever pivoted upon the socket supporting means, a link securing one extremity of said lever to said crank arm, and a wire attached to the other extremity of said lever having its lower extremity secured to said belt.

975,501. PNEUMATIC-DESPATCH APPARATUS. THOMAS BEMIS, Indianapolis, Ind., assignor to Taisey Pneumatic Service Company, Indianapolis, Ind., a Company of Indiana. Filed Jan. 31, 1907. Serial No. 355,120.

1. A pneumatic despatch apparatus including an air exhaust despatch tube having a carrier inlet opening, a valve for closing said opening, and means entirely on said valve for automatically closing the same.

2. A pneumatic despatch apparatus including an exhaust despatch tube with a single inlet opening for both air and carriers, a valve for closing said air and carrier opening, and which is held closed normally by a partial vacuum, and mechanism mounted entirely upon said valve for holding said valve open for a predetermined period.

3. A pneumatic despatch apparatus including an air exhaust despatch tube with no inlet opening except for the introduction of carriers, a valve for closing said inlet opening, and which is held closed normally by a partial vacuum, and mechanism mounted entirely upon said valve for holding said valve open a predetermined period.

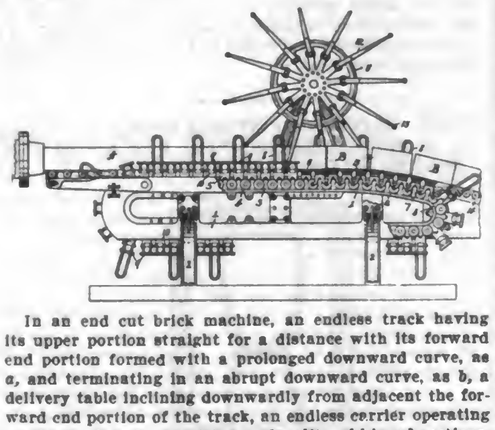


4. A pneumatic despatch apparatus including a despatch tube with a carrier and inlet opening, a valve for closing said opening and means for timing the closing of the valve after it has been opened and which is entirely carried by the valve.

5. A pneumatic despatch apparatus including a despatch tube with an inlet opening, a valve for closing said opening, and means controlled by the air in said despatch tube for engaging and opening said valve, said opening means being adapted to disengage said valve as soon as the valve has been completely opened.

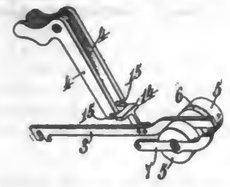
[Claims 6 to 20 not printed in the Gazette.]

975,502. END-CUT BRICK-MACHINE. JACOB BENSING, Malinta, Ohio. Filed Feb. 17, 1910. Serial No. 544,512.



In an end cut brick machine, an endless track having its upper portion straight for a distance with its forward end portion formed with a prolonged downward curve, as *a*, and terminating in an abrupt downward curve, as *b*, a delivery table inclining downwardly from adjacent the forward end portion of the track, an endless carrier operating on the track and comprising a plurality of hinged sections, a rotary cutter operative to sever a column carried by the carrier in immediate advance of each third carrier section whereby three carrier sections are disposed beneath each column section, the center carrier section of each set remaining in constant flat contact with the bottom of the supported column section until the forward end of the column section moves upon the delivery table, which table is arranged to support the forward end of the column section immediately before the center carrier section of a set drops from contact with a column section by following the curved portion *b* of the track, the rear carrier section of a set then supporting the rear end of the column section, in contact therewith until over half the length of the latter section has moved upon the delivery-table, substantially as described.

975,503. MATRIX-DELIVERY MECHANISM FOR MONOLINE COMPOSING-MACHINES. WILLIAM E. BERTRAM, Brooklyn, N. Y., assignor to Mergenthaler Linotype Company, New York, N. Y., a Corporation of New York. Filed Aug. 6, 1909, Serial No. 511,581. Renewed Mar. 25, 1910. Serial No. 551,584.



1. In a monoline composing machine, the combination of a plurality of magazine pawls for controlling the delivery of matrices of different fonts, series of devices for controlling the movements of said pawls, those of one series having operating portions located differently with respect to those of another series, a keyboard, and means for altering the relation between the keyboard and the operating portions of the pawl controlling devices whereby matrices of one of a plurality of fonts may be delivered.

2. In a composing machine of the class described, the combination of a plurality of magazine pawls, series of devices arranged in a row for controlling the movements of said pawls, the pawl controlling devices of one series having notches arranged differently with respect to those of another series, a keyboard, and means forming an operative connection between the keyboard and the pawl controlling devices, said means being adjustable relatively to said notched portions of the pawl controlling devices whereby either one of said pawls may be released without releasing the other.

3. In a composing machine of the class described, the combination of a plurality of magazine pawls for controlling the delivery of matrices of different fonts, series of devices arranged in a single row, the pawl controlling devices of one series having portions located differently with respect to those of another series for controlling the movements of said pawls, a keyboard having links for actuating the pawl controlling devices, and means for altering the relation between said links and the operating portions of the pawl controlling devices whereby only one of said pawls may be released by each link.

4. In a composing machine of the class described, the combination of a plurality of magazine pawls for controlling the delivery of matrices of different fonts, a row of detent levers for controlling the movements of said pawls, certain of said levers in said row having operating portions located differently with respect to others, a keyboard having links, and tripping devices operative by said links, each tripping device being common to a plurality of detent levers and capable of adjustment relatively to the operating portions of said levers whereby it may actuate any one of a plurality of detent levers.

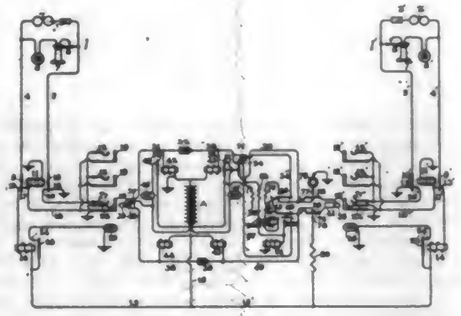
5. In a composing machine of the class described, the combination of a plurality of series of gates for controlling the delivery of matrices of different fonts, detents for controlling the movements of said gates, detent levers arranged in a row and coöperative with said detents, certain of the detent levers in said row having differently located operating portions and actuating means for the detent levers capable of adjustment relatively to said operating portions of the detent levers whereby said means may operate such levers as will permit the delivery of matrices of one of a plurality of fonts.

[Claims 6 to 9 not printed in the Gazette.]

975,504. TELEPHONE SYSTEM. CLIFFORD C. BRADLEY, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 16, 1907. Serial No. 397,653.

1. In a telephone system, the combination with a telephone line, of a cut-off relay associated therewith, a cord

circuit to connect with the line for conversation, a pair of supervisory signals for the cord circuit adapted to be actuated over a circuit independent of the talking circuit and of the coil of the cut-off relay when the cord is connected to said line plug and jack contacts included in said circuit, a pair of supervisory relays bridged across said cord circuit, each relay controlling contacts in the circuit of one of said supervisory signals, substantially as described.



2. In a telephone system, the combination with a telephone line, of a pair of contacts at the central office in the talking circuit of the line, a third contact for the line connected with a conductor independent of the talking circuit, a cord circuit having a pair of talking contacts and a third contact adapted to register with the contacts of the jack, a source of current, a pair of supervisory signals normally connected between said source and said third contact of the cord circuit adapted to be displayed when the cord is connected with an idle line, a pair of supervisory relays under the control of the subscribers, each controlling the circuit of one of said supervisory signals, substantially as described.

3. In a telephone system, the combination with calling and called telephone lines, of a cord circuit adapted to connect them for conversation, answering and calling supervisory signals for the cord circuit, the circuit of said signals being completed over a path independent of the talking circuit and including contacts of the answering plug and jack when the answering plug is connected with the answering jack, the circuit of one of said signals being also under the control of the calling subscriber and the circuit of the other signal being also under the control of the answering subscriber, substantially as described.

4. In a telephone system, the combination with a telephone line having two talking contacts at the central office, a third contact independent of the talking contacts, a cord circuit having talking contacts to register with the talking contacts of the line, and a third contact to register with the third contact of the jack, a source of current, a pair of supervisory signals in the circuit of said third contact and said source, and means under the control of the subscribers for interrupting the circuits of said signals during a complete connection, substantially as described.

5. In a telephone system, the combination with a telephone line, of a cut-off relay for the line, a cord circuit adapted to be connected with the line, a supervisory signal in a circuit associated with the cord circuit, a manually operated switch at the central office having contacts closed by the connection of said cord with said line, contacts of said switch being independent of connection with the talking circuit and of the coil of said cut-off relay, a second switch in the circuit of said supervisory signal permanently associated with the cord circuit and under the control of the subscriber when the cord is connected with the line, substantially as described.

[Claims 6 to 15 not printed in the Gazette.]

975,505. ADJUSTABLE DERRICK. GEORGE W. BROWN, Somerville, Mass.; Otto C. Scales, administrator of said Brown, deceased, assignor to William H. Breen, Boston, Mass. Filed Dec. 23, 1909. Serial No. 534,620.

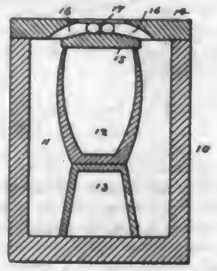


1. The combination in a derrick of the character described, of a pair of side trusses, embodying inclined risers having upwardly projecting pins at their ends, a cross-beam having openings therethrough adjacent its ends to receive said pins, and guard plates secured to said trusses adjacent the pins and having portions overlying the same.

2. The combination in a derrick of the character described, of a pair of side trusses embodying inclined risers, a cross-beam having an intermediate apertured plate, means to interlockingly engage portions of said risers at the ends thereof, and a pole having a forked tip to engage said plate and force said cross beam upwardly upon said risers.

3. The combination in a derrick of the character described, of a cross-beam having a central depending block hanger, a block having a hook to engage said hanger, a pair of pulleys mounted upon said cross-beam, one of said pulleys being immediately adjacent said hanger, and a rope trained over said pulley and having one end looped about said block hook.

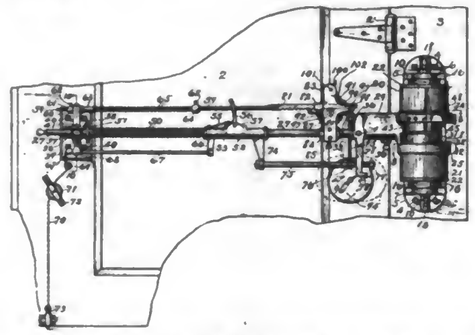
975,506. COVER FOR CRUCIBLE-FURNACES. JULIAN L. R. BROWN, Bridgeport, Conn. Filed Apr. 28, 1909. Serial No. 492,741.



1. A cover for crucible furnaces having a central imperforate table adapted to be engaged by the top of a crucible whereby the crucible is closed to the products of combustion, said cover having a plurality of passages therethrough outside of said table and disposed around the same to permit the escape of the products of combustion.

2. A cover for crucible furnaces having a central imperforate table adapted to be engaged by the top of a crucible whereby the crucible is closed to the products of combustion and passages outside said table and within the cover which converge and lead into a central opening for the escape of the products of combustion.

975,507. DOOR OPENING AND CLOSING DEVICE. HENRY C. BUNDY, Watertown, N. Y., assignor to Milton H. Hart, Akron, Ohio. Filed July 16, 1910. Serial No. 572,320.



1. A door opening and closing device, comprising a pair of main-springs adapted for mounting on the frame of a door, a lever pivoted between said main-springs, and operatively connected to the door, said lever adapted to be operated in one direction by the power of one of said main-springs, and in the opposite direction by the power of the other of said main-springs, means for preventing the simultaneous operation of said main-springs, a latch-bolt carried by said lever adapted to engage a casing surrounding one of said springs for effecting the opening of the door, a lug carried by the casing of the second main-spring adapted to engage said lever for closing the door, after the said latch-bolt is released, and a spring-actuated sleeve carried by said lever adapted for releasing said latch-bolt.

2. A door opening and closing device, comprising a pair of reversely operable main-springs inclosed in separate casings supported by the frame of a door, a lever pivoted between said casings and capable of being swung in opposite directions alternately by engagement with said casings, the said lever operatively connected with the door, a clock-work for measuring the time between the operations of said lever by the said main-spring casings, a spring for actuating said clock-work, and a spring for releasing said lever from engagement with one of said casings after the first spring has spent its force.

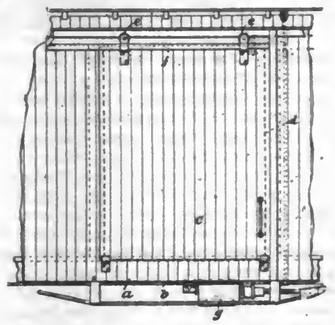
3. A door opening and closing device, comprising a pair of reversely operable main-springs inclosed in separate casings supported by the frame of a door, a lever pivoted between said casings and capable of being swung in opposite directions alternately by engagement with said casings, the said lever operatively connected with the door, a clock-work for measuring the time between the operations of said lever by the said main-spring casings, a spring for actutaing said clock-work, a spring for releasing said lever from engagement with one of said casings after the first spring has spent its force, and means for automatically locking the door in open position during the interval said clock-work is being actuated.

4. A device of the class described, comprising a pair of main-springs arranged to exert their tension in opposite directions, a cylindrical casing for inclosing each main-spring tube-like arbors disposed concentrically in said casings for supporting said springs, a bracket for supporting said casings adjacent to a door, a bolt piercing said arbors and also said bracket for pivotally mounting said casings, a rocking-pawl pivoted in said bracket, said pawl having oppositely arranged arms adapted to alternately engage a notch in one casing and a recess in the other casing for permitting or preventing the recoil of said main-springs, and a spring carried by one of said casings and normally engaging one arm of said pawl, adapted for releasing the opposite arm of said pawl from the notch of the other casing.

5. In a door opening and closing device, the combination with an opening and a closing spring, and a bracket for mounting said springs on the frame of a door, of an operating-lever pivoted at one end to said bracket and capable of being swung in opposite directions by said springs, means for positively connecting said lever with the opening spring, a guide-bracket for connecting the opposite end of said lever to the door, a sleeve carried by said lever, a catch for normally holding said sleeve stationary on the operating-lever, a spring carried by said lever and engaging said sleeve adapted for operating said sleeve upon the releasing of said catch, means for releasing said sleeve, and means coöperating with said sleeve for disconnecting said operating-lever from the opening-spring for permitting the closing-spring to close the door.

[Claims 6 to 12 not printed in the Gazette.]

975,508. MEANS FOR PROTECTING FREIGHT-CARS AND THE LIKE FROM ENTRY. JAMES A. CAMPBELL, Paterson, N. J. Filed Aug. 2, 1909. Serial No. 510,767.

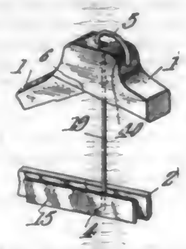


1. The combination of a compartment having an opening affording access thereto, a member movable to obstruct and expose said opening, a hollow structure having a port affording communication between the interior of said structure and the atmosphere, an alarm device located at said port, means for maintaining a pressure within different from that outside of said structure, a valve arranged in said structure between said port and said means and movable to permit or prevent flow through said structure, and means for coupling said member and valve together for simultaneous movement when said member approximates the obstructing position, whereby movement of said member in either direction will be imparted to the valve, substantially as described.

2. The combination of a compartment having an opening affording access thereto, a member movable to obstruct and expose said opening, a hollow structure having a port affording communication between the interior of said structure and the atmosphere, an alarm device located at said port, means for maintaining a pressure within different from that outside of said structure, a valve arranged in said structure between said port and said means and movable to permit or prevent flow through said structure, a loop arranged horizontally on said member and having the side thereof which corresponds to the direction from which said member moves when opening higher than the opposite side thereof, a lever having one end movable into the path of movement of the high side of said loop, and means for connecting the lever and the valve, substantially as described.

3. The combination of a car having a running board on the top thereof, an alarm device located under said running board, a shield secured to the car and inclosing the alarm device, a member movable to obstruct and expose an opening in the car, a hollow structure having a port affording communication with the alarm device, means for maintaining a pressure within different from that outside of said structure, and a valve controlled by said member and arranged in said structure between said port and said means and movable to permit or prevent flow through said structure, substantially as described.

975,509. COMBINATION COAT AND TROUSERS HANGER. JOSEPH E. CARROLL, Portsmouth, Ohio. Filed May 26, 1910. Serial No. 563,577.



1. In a garment hanger, a body; a spring secured at its ends to the body; and a member slidably and rotatably mounted in the body and having a finger adapted to be positioned between the spring and the body, the said member having a suspension device constituting a manually engageable means for rotating the member to cause the finger to lift the spring.

2. In a garment hanger, a body; a spring secured at its ends to the body; and a member slidable and rotatable in the body, and having a finger adapted to be positioned between the spring and the body, the said member having a suspension device at one end, constituting a manually engageable means for rotating the said member to cause the finger to lift the spring; the spring being arched, intermediate its ends, to provide for the insertion of the finger between the spring and the body.

3. In a garment hanger, a body; a rod mounted in the body and having a suspension device at one end; the rod being permanently secured in the body for limited sliding movement to position the suspension device in close proximity to the body; and means for engaging the rod to maintain the suspension device in close proximity to the body.

4. In a garment hanger, a body; a rod mounted in the body and having a suspension device at one end; the rod being permanently secured in the body for limited sliding movement to position the suspension device in close proximity to the body; and a spring adapted to engage the rod to maintain the suspension device in close proximity to the body.

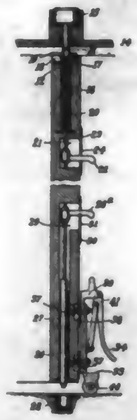
5. In a garment hanger, a body; a rod mounted in the body and having a suspension device at one end; the rod being permanently secured in the body for limited sliding movement to position the suspension device in close proximity to the body; and a spring upon the body, normally spaced from the rod, the rod being slidable into engagement with the spring, to maintain the suspension device in close proximity to the body.

[Claim 6 not printed in the Gazette.]

975,510. REVOLVING DOOR. FREDERICK CLYMER, Belmar, and JULIUS DEGEN, Trenton, N. J., assignors to United Revolving Door Company, a Corporation of New Jersey. Filed July 27, 1907, Serial No. 385,919. Renewed Apr. 4, 1910. Serial No. 553,295.

1. The combination of a housing, a door revoluble therein, upper pivot-devices connecting the door with the roof of the housing and constructed to be disengaged by vertical and lateral movement of the door, and lower pivot-devices detachably connecting the door with the floor of the housing, whereby the door can be removed from its revolving position; and a lifting and transporting device having means detachably engaging the door and having a member provided with a roller bearing on the floor of the housing to enable the device to lift and transport the door; as set forth.

2. The combination of a housing, a door revoluble therein, upper pivot-devices connecting the door with the roof of the housing and constructed to be disengaged by vertical and lateral movement of the door, and a lifting device for lifting the door to accomplish the disengagement of the pivot devices, comprising a member having laterally extending means detachably engaging the door, a member slidable on the first member and having a roller to bear on the floor of the housing, a handle pivoted to one of the members, and links connecting the handle with the other member, as set forth.



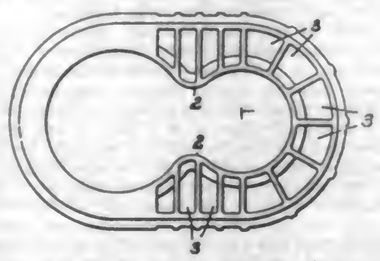
3. A lifting device for a revolving door, comprising in combination, a member having a laterally projecting stud adapted to engage detachably a coöperating member on the door, a member slidable on the first and having a roller to bear on the floor below the door, a handle pivoted to one of the members, and a link connecting the handle with the other member, as set forth.

4. The combination of a revolving door adapted to be disconnected from its upper pivot connection by an operation involving lifting the door, said door having an aperture near its bottom, an apertured plate secured over said aperture, and a manually actuated lifting device having a stud engaging said plate in the aperture thereof, as set forth.

5. The combination of a revolving door and a housing therefor, pivot devices connecting the door with the roof of the housing and constructed to be disengaged by an operation involving lateral movement of the door, a vertical bolt at the axis of the door, extending into said pivot-devices and locking the same together, the door being provided with a recess at the lower end of the bolt, a handle in the recess, secured to the bolt and extending outside of the recess, and a plate covering the recess and having an aperture through which the said handle extends, as set forth.

[Claims 6 to 10 not printed in the Gazette.]

975,511. INGOT-MOLD. WILLIAM H. CONNELL, Pittsburg, Pa. Filed Mar. 5, 1910. Serial No. 547,429.

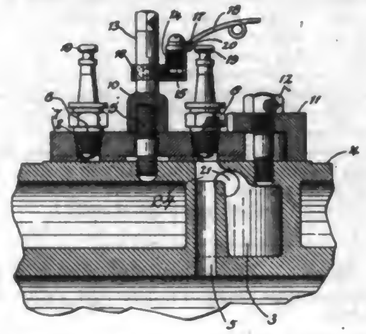


1. A mold for ingots provided with vertical inwardly projecting wings extending substantially the full height of the mold, thereby dividing the mold into two compartments, the walls of one of said compartments being formed with vertical passages for the circulation of a cooling medium whereby the cooling of the metal in said compartment may be accelerated.

2. A mold for ingots provided with vertical inwardly projecting wings or abutments extending substantially the full height of the mold, thereby forming a comparatively narrow throat for the horizontal flow of the metal from one portion of the mold to another during the entire teeming operation.

3. A mold for ingots provided with inwardly projecting wings or abutments having passages for the circulation of a cooling medium.

975,512. IGNITION MEANS FOR INTERNAL-COMBUSTION ENGINES. MARK B. CRIST, Pittsburg, Pa., assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed Feb. 15, 1906. Serial No. 301,228.



1. In combination with an internal combustion engine, a spark plug mounting disk provided with a plurality of openings adapted to receive spark plugs and means for locking said disk in different positions, said means carrying a terminal support for said igniter plugs.

2. In high voltage ignition apparatus for internal combustion engines, a spark plug, a mounting disk for said spark plug, a locking means for said disk and a terminal support for said ignition apparatus carried by the locking means.

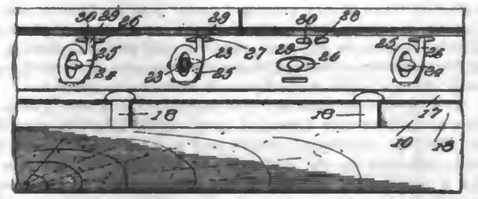
3. In combination with a cylinder of an internal combustion engine, an ignition system, a plurality of spark plugs, a movable mounting member for said plugs, and locking means for said member, carrying a terminal in said ignition apparatus.

4. In combination with an internal combustion engine, an ignition chamber, a cylinder, a firing tube connecting said ignition chamber and cylinder, a movably mounted carrier provided with holes for two or more spark plugs, two or more spark plugs mounted in said carrier, an aperture provided in said cylinder walls and placed so as to successively communicate with each of said spark plugs as said movable carrier is rotated, a pivot stud about which said movable carrier is rotatable, a lock nut for said carrier on said pivot stud, provided with a cylindrical top, and a terminal for said spark plug secured by non-conducting material to said lock nut in such a position that when said movable carrier is locked the terminal closes the electric circuit of said spark plug and when said carrier is released by said lock nut said terminal is moved to break the electric circuit.

5. In combination with an internal combustion engine, an ignition chamber, a cylinder, a firing tube connecting said ignition chamber and cylinder, a movably mounted carrier with holes for two or more spark plugs, two or more spark plugs mounted in said carrier, an aperture provided in said cylinder walls and located so as to successively communicate with each of said spark plugs as said movable carrier is rotated, a pivot stud about which said movable carrier is rotatable, a lock nut for said carrier, and a terminal for said spark plug secured to said lock nut in such a position that when said movable carrier is locked the terminal closes the electric circuit of said spark plug and when said carrier is released by said lock nut said terminal is moved to break the electric circuit.

[Claim 6 not printed in the Gazette.]

975,513. COMBINATION RAIL-JOINT AND NUT-LOCK. HOMER H. CAUISE, Starr, Ohio., Filed June 20, 1910. Serial No. 568,046.



1. A rail joint including a pair of side-plates engaging against the opposite sides of the meeting ends of the rails, keys engaging through the plates and rails and having slots formed at their opposite sides and adjacent their outer extremities to form stops thereon, locking rings engaging over the keys and behind the stops and having tongues for holding the same in locked position, and locking ribs formed upon the outer face of the adjacent side-plate for the reception of the tongues of said locking rings to hold the rings from rotation.

2. A rail joint including side-plates for engagement against the opposite sides of the adjoining ends of rails, keys engaging through the plates and the rails and being of substantially elliptical cross-section, the outer extremities of the keys being slotted in their opposite sides to form stops upon their extremities, locking rings of corresponding form engaging over the keys and seating in the slots when turned at right angles, and retaining means carried by one of the side-plates and engaging with the rings for holding the same in a locked position.

3. A rail joint including side-plates engaging against the sides of the rail, keys engaging through the plates and being of substantially elliptical form in cross-section, said keys having stops upon their outer ends, locking members engaging over the keys and against the stops when turned upon the keys, and means carried by the adjacent one of said side-plates to retain the locking members against the stops.

4. A rail joint including clamping plates engaging against the sides of the rail, keys engaging through the clamping plates and the rail and being of flattened form, the keys having slots in their edges and adjacent their extremities to form stops outwardly of the adjacent side-plate, and locking means carried by the adjacent plate and connected to the keys for holding the same in position.

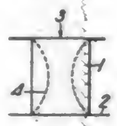
5. A rail joint including clamping plates for engagement against the sides of a rail, spaced keys loosely engaging through the clamping plates and the rail, locking members engaging over the outer ends of the keys and adapted to interlock thereon upon the rotation of the keys, and locking ribs formed upon the adjacent side-plate to interlock with said locking members for holding the same from rotation.

[Claims 6 to 8 not printed in the Gazette.]

975,514. REINFORCED-CONCRETE PILE OR COLUMN. ROBERT A. CUMMINGS, Beaver, Pa. Filed June 11, 1909. Serial No. 501,628.

1. A pile or column comprising a series of laminæ of concrete and metal, said laminæ being disposed alternately, and the metal laminæ each comprising a substantial portion of the cross-section of the pile or column in any one plane thereof and being located horizontally therein and located sufficiently close together to reduce surface fracture and arranged to take care of lateral tension stresses

in substantially all transverse directions induced by compressive loads on the pile or column.



2. A reinforced concrete pile or column comprising a series of transversely arranged metal reinforcements comprising a substantial portion of the cross-section of the pile or column in any one plane thereof and embedded in the cementitious material and spaced apart a distance less than the diameter or thickness of said pile or column.

3. A reinforced concrete pile or column comprising a series of horizontally arranged metal mesh members placed in different horizontal planes and located close together and embedded in the cementitious material and comprising a substantial portion of the cross-section of the pile or column in any one plane and in order to take care of lateral tension stresses in substantially all transverse directions induced by compressive loads on the pile or column.

4. A reinforced concrete pile or column provided with longitudinal metal reinforcement members and with a series of transversely reinforcing members each comprising a substantial portion of the cross-section of the pile or column in any one plane thereof and embedded in the cementitious material in order to take care of lateral tension stresses induced by compressive loads on the pile or column and spaced sufficiently close together to reduce surface fracture.

5. A reinforced concrete pile provided at its upper end with a series of transverse reinforcements each comprising a substantial portion of the cross-section of the pile or column in any one horizontal plane and spaced sufficiently close together to reduce surface fracture and embedded in the cementitious material and arranged to take care of lateral tension stresses induced by compressive loads on the pile.

[Claims 6 to 9 not printed in the Gazette.]

975,515. SHEARS. FREDERICK D. DAVIES, New York, N. Y., assignor to Davies Automatic Shear Company, New York, N. Y., a Corporation of New York. Filed Feb. 5, 1909. Serial No. 476,218.



1. Shears having a pivot provided with a resilient head bearing against one blade and a lateral recess, and an adjusting screw for fine adjustment pertaining to the other blade, disposed angularly with reference to said pivot, its end portion bearing against the outer wall of the recess whereby movement of the screw varies the tension between the blades, and whereby damage to the shear edges and to the screw and pivot is prevented by the cushioning action of the interposed resilient head.

2. Shears having a pivot rotatable in both blades provided with a resilient head bearing against one blade and an annular groove the outer wall of which is inclined, and an adjusting screw pertaining to the other blade disposed angularly with reference to said pivot, its end portion bearing against the outer wall of the recess whereby movement of the screw varies the tension between the blades, and whereby damage to the shear edges and to the screw and pivot is prevented by the cushioning action of the interposed resilient head.

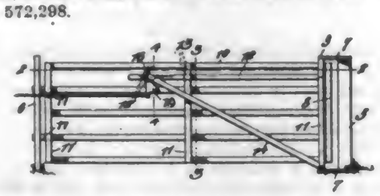
3. Shears having a pivot rotatable in both blades provided with a resilient head bearing against one blade and an eccentric annular groove the outer wall of which is inclined, and an adjusting screw pertaining to the other blade disposed angularly with reference to said pivot, its end portion bearing against the outer wall of the recess whereby movement of the screw varies the tension between the blades, and whereby damage to the shear edges and to the screw and pivot is prevented by the cushioning action of the interposed resilient head.

4. Shears having a pivot rotatable in both blades provided with a resilient head bearing against one blade and an eccentric annular groove the outer wall of which is inclined and knurled, and an adjusting screw pertaining to the other blade disposed angularly with reference to said pivot, its end portion bearing against the outer wall of the recess whereby movement of the screw varies the tension between the blades, and whereby damage to the shear edges and to the screw and pivot is prevented by the cushioning action of the interposed resilient head.

5. Shears having a pivot provided with a resilient head bearing against one blade and an annular groove, and an adjusting screw for fine adjustment pertaining to the other blade, disposed angularly with reference to said pivot, its end portion bearing against the outer wall of the groove whereby movement of the screw varies the tension between the blades, and whereby damage to the shear edges and to the screw and pivot is prevented by the cushioning action of the interposed resilient head, said pivot having also extending between said groove and the end of the pivot a longitudinal passage through which the end portion of the screw may be withdrawn.

[Claims 6 to 10 not printed in the Gazette.]

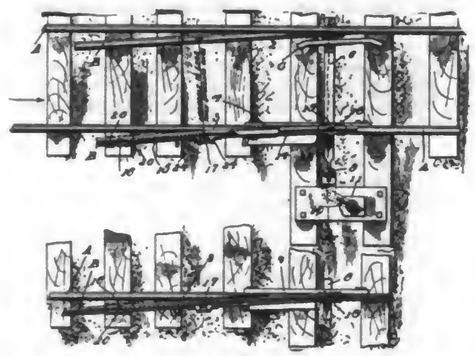
975,516. GATE. HOMER V. DOTY and MILTON H. KIRKLAND, Benton Ridge, Ohio. Filed July 16, 1910. Serial No. 572,298.



1. The combination with a gate consisting of a plurality of horizontal bars and vertical bars comprising spaced members arranged on opposite sides of the horizontal bars at each end thereof and at their centers, of a gate post, pivoted guide bars arranged adjacent to the gate post, one end of the gate being movably disposed between said guide bars, a horizontal rack bar pivoted at one end between the guide bars and between adjacent horizontal gate bars, the other end of said rack bar extending between the intermediate vertical gate bars, rollers mounted between said vertical bars engaging the upper and lower longitudinal edges of the rack bar, rack teeth formed upon the upper edge of said bar at its outer end, diagonal bars extending upon opposite sides of the gate and pivoted at their lower ends to the lower ends of said guide bars, a block arranged between the upper ends of the diagonal bars and having an opening therein through which said rack bar is movably disposed, a pivot pin extending through said block and its opening and through the ends of the diagonal bars, said pin being adapted to engage with the teeth of the rack bar to support said gate in an angular position for swinging movement, and a pivoted manually actuated trip member carried by the gate to engage the block and release the pin from engagement with the rack teeth to lower the gate.

2. The combination with a gate consisting of a plurality of horizontal bars and vertical bars comprising spaced members arranged upon opposite sides of the horizontal bars, of inner and outer gate posts, arms secured to the inner gate post, spaced guide bars pivoted between said arms, the inner end of said gate being movable between the bars, a rack bar pivoted at one end between the guide bars, guide rollers carried by the gate engaging upon the longitudinal edges of the rack bar, rack teeth formed on the upper edge of the rack bar at its outer end, movable diagonal bars arranged upon opposite sides of the gate and pivoted to the guide bars at their lower ends, a guide member arranged between the upper ends of the diagonal bars, said rack bar being movable in the guide member, means securing the guide member between the diagonal bars adapted to engage with the rack teeth to support the gate in an inclined position with relation to the guide bars, a trip pivoted to one of the horizontal bars of the gate and engaging with said guide member to elevate the same and the diagonal bars and release the rack bar to lower the gate, and a flexible operating element connected to said trip and extending through a guide eye on the gate.

975,517. RAILROAD-SWITCH. WILLIAM F. EDWARDS, Cedartown, Ga. Filed Jan. 22, 1910. Serial No. 539,483.



1. In a railway switch, main track rails, side track rails, and a movable switch point, a guard rail located inwardly of the switch point and against which it bears in its opposite position, a rotatable switch operating member having a crank, an actuating bar connected to the point, and a U-shaped resilient connecting member attached at one end to the actuating bar, and at its other end pivoted to said crank said actuating bar being reduced at its end and passing through one end of the U-shaped connecting member and provided with nuts on each side of the member, whereby the actuating bar may be adjusted relative to the member.

2. In a railway switch, main track rails, in alinement with each other, a fixed point interposed between the main track rails, a side track rail and a yielding rail attached at one end to the side track rail in alinement therewith, and at its other end to the main line rail in alinement therewith, said yielding rail being composed of sections jointed to each other, and springs mounted upon the main track rail and the side track rail and bearing against the outer ends of the yielding rail, acting normally to force the yielding rail sections into contact with the fixed point.

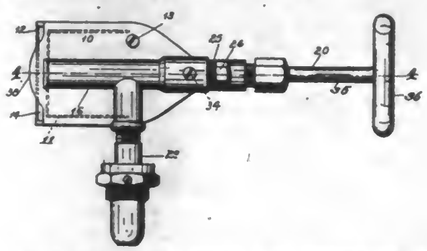
3. In a railway switch, main track rails in alinement with each other, a fixed point interposed between the main line rails, a side track rail, and a yielding rail attached at one end to the side track rail and at its other end to the main track rail, said yielding rail being made of two sections jointed to each other and jointed to the main line and side track rails, and springs attached to the inner ends of the main line rail, and the side track rails projecting over the ends of the jointed rail and operating to force the jointed rail normally into contact with the extremity of the fixed point.

4. In a railway switch, main line rails in alinement with each other, a fixed point interposed between the main line rails, a side track rail, and a yielding rail attached at one end to the side track rail and at its other end to the main line rail, said yielding rail being made into two sections, angle irons on the adjacent ends of the two sections, and a coupling bar connecting said angle irons, said bar and its extremities being slotted, and bolts passed through said slots and through the angle irons.

5. In a railway switch, main line rails, a fixed point interposed between the main line rails, a side track rail, a yielding rail connected at one end to the side track rail and at its other end to the main track rail, said yielding rail being made in two sections jointed to each other at their adjacent ends for yielding movement, and springs carried on the ends of the main track rail and the side track rail, and bearing against the sections of the yielding rail forcing said sections inward and into contact with the extremity of the fixed point.

[Claims 6 to 8 not printed in the Gazette.]

975,518. BURNER. JAMES EDWARD FLITCROFT, Ocean Grove, N. J., assignor to Otto Bernz, Newark, N. J. Filed Oct. 13, 1908. Serial No. 457,474.



1. In a hydrocarbon burner, the combination of an elongated burner plate having an interior channel closed at its front end and open at its rear, a plug in said channel having in its outer surface a winding groove opening at the inner end of the plug into said channel and said plug having also an interior passage leading from its inner end to the rear of the burner plate channel, a valve beneath the burner plate for controlling the fuel discharge and directing it beneath said burner plate, means connecting the chamber of said valve with one end of the duct formed by said winding groove and interior passage of the plug, and fuel supply means leading to the other end of said duct.

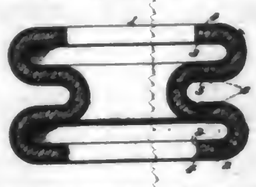
2. In a hydrocarbou burner, the combination of a burner plate having a longitudinal interior channel closed at the front end and open at the rear, a plug screwed into the mouth of said channel and having an annular groove therein and an inner end portion terminating short of the forward end of the channel and provided with an exterior winding groove opening at the forward end of the plug into said channel, said plug also having an interior passage leading from its forward end rearwardly to said annular groove, a valve beneath the burner plate for controlling the fuel discharge and directing it against said burner plate, means placing the chamber of said valve in communication with said annular groove of the plug, and fuel supply means leading to the rearward end of the winding groove of the plug.

3. In a hydrocarbon burner, the combination of a burner plate having a longitudinal interior channel closed at the front end and open at the rear, a plug fitted tightly into the mouth of said channel and having thereat an annular groove, said plug terminating short of the inner end of the channel and having an exterior winding groove opening into said channel and an interior passage leading from its front end to said annular groove, an integral offset extending downwardly at the rear end of the burner plate, a needle valve casing supported by said offset substantially parallel to the burner plate, a needle valve in said casing, said casing having a discharge outlet at its front end and said casing and offset having a duct connecting the valve chamber with the annular groove of the plug, and fuel supply means leading to the rearward end of the winding groove of the plug.

4. In a hydrocarbon burner, the combination with a body portion having an ignition chamber and adjacent to said ignition chamber an interior channel closed at its front end and open at its rear, said channel being interiorly threaded adjacent to its rear end, a plug exteriorly threaded at its rear end to engage said interior threads of the

channel and slidably fitting at the outer surface of its forward portion against the interior surface of the unthreaded inner portion of said channel, said plug having an axial central passage with a lateral outlet adjacent the rear end of the plug and a winding groove in the outer surface of its slidably fitting portion forward of the screw threads, said passage and groove both opening at the inner end of the plug into the said channel of the body portion and forming together a vaporizing duct, a valve for controlling the fuel discharge and directing it into said ignition chamber, means connecting the chamber of said valve with one end of said vaporizing duct, and fuel supply means leading to the other end of said duct.

975,519. COLLAPSIBLE AND EXPANSIBLE VESSEL. WESTON M. FULTON, Knoxville, Tenn., assignor to The Fulton Company, Knoxville, Tenn., a Corporation of Maine. Filed July 19, 1904. Serial No. 217,286.



1. A wall for an expansible and collapsible vessel consisting of a corrugated wrought metal tube having one of the surface portions of the wrought tube removed opposite the bends in the corrugations.

2. A wall for an expansible and collapsible vessel consisting of a corrugated seamless wrought metal tube having the interior and exterior surface portions of the wrought tube removed opposite the bends in the corrugations.

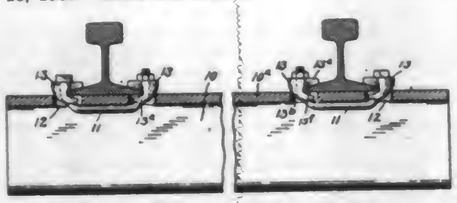
3. A wall for an expansible and collapsible vessel consisting of a corrugated drawn metal tube having one of the surface portions of the drawn tube removed opposite the bends in the corrugations.

4. A wall for an expansible and collapsible vessel consisting of a corrugated drawn metal tube having the interior and exterior surface portions of the drawn tube removed opposite the bends in the corrugations.

5. A wall for an expansible and collapsible vessel consisting of a corrugated seamless wrought metal tube having one of its surface portions removed.

[Claims 6 and 7 not printed in the Gazette.]

975,520. METALLIC RAILROAD-TIE AND RAIL-CLAMP. JOHN GALAMBOS, Lorain, Ohio. Filed Dec. 18, 1907. Serial No. 406,988.



1. A hollow metallic tie formed of a single sheet of metal and having parallel top and bottom portions, sides inclined outwardly from the top, and free side portions in the tie and inclined upwardly and outwardly into the angles formed by the top and sides.

2. A hollow metallic tie formed of a single plate or sheet of metal and having parallel top and bottom portions, side portions inclined outward toward the bottom and free side portions in the tie, said free side portions being bent from the bottom outward and upward and engaging the top in the angles formed by the latter and the inclined sides.

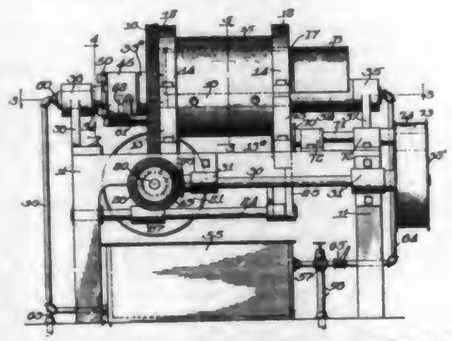
3. In combination with a hollow metallic tie, a rail resting thereon, a rail clamp comprising a bolt having a portion extending across the bottom of the rail within the tie and end portions extending through the top of the tie on both sides of the rail, clamping members having portions extending over the flanges of the rail, and portions extending into the top of the tie, said clamping members having slots or grooves which receive the end portions of the bolt and the walls of which form seats therefor, the backs or rear portions of the clamping members being inclined to the surface of the tie whereby when the clamp is tightened the clamping members on the ends of the bolt are drawn inward toward the flanges of the rail.

4. In combination with a hollow metallic tie, a rail resting thereon, a rail clamp comprising a bolt having a straight portion bearing against the inner face of the top of the tie and end portions extending through the top on each side of the rail, and clamping members on the ends of the bolt, said clamping members having lugs or projections which extend over the flanges of the rail and portions extending into the top of the tie the last named portions having slots or grooves which receive the end portions of the bolt and have bottom walls which form seats for the bolt, the backs or rear portions of the clamping members which bear against the top of the tie being curved or rounded.

5. In combination with a hollow metallic tie, a rail, and rail clamp comprising a bolt extending across the bottom of the rail within the tie and bent upward at its ends through the top of the tie on each side of the rail, clamping members on the ends of said bolt, each of said clamping members having a portion extending over the flange of the rail and a portion extending into the top of the tie, said last named portion having a passageway for the bolt open toward the rail and forming a seat for the bend of the corresponding end portion of the bolt, and means for drawing the clamping members and bolt against the flange of the rail.

[Claim 6 not printed in the Gazette.]

975,521. COMBINED PLATE SHAVING, TRIMMING, AND TAIL-CUTTING MACHINE. SAMUEL G. GOSS, Chicago, Ill., assignor to The Goss Printing Press Company, Chicago, Ill., a Corporation of Illinois. Filed June 14, 1909. Serial No. 502,132.



1. In combination, a supporting frame, a shell mounted thereon, plate finishing mechanism, means for operatively moving said shell and said plate finishing means relatively to each other, and means for supplying cooling fluid to said shell.

2. In combination, a supporting frame, a shell mounted thereon, plate finishing mechanism, means for operatively moving said shell and said plate finishing means relatively to each other, means for supplying cooling fluid to said shell, and a spraying device adapted to spray the plate during the finishing operation.

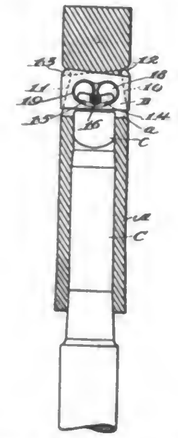
3. The combination with a support for a stereotype plate, a tail-cutting knife, and means for operatively moving said support and said tail-cutting knife relatively to each other, of means for forcing a cooling fluid through said plate support during the tail-cutting operation.

4. The combination with a support adapted to hold a stereotype plate, a tail-cutting knife, shaving and trimming knives, and mechanism for operatively moving said support and said tail-cutting shaving and trimming knives relatively to each other, of means for forcing a cooling fluid through said plate support during the tail-cutting trimming and shaving operation.

5. The combination with a support adapted to hold a stereotype plate, plate-finishing mechanism, and mechanism for moving said support and said plate-finishing mechanism relative to each other, of means for forcing a cooling fluid through said plate support, and means for spraying a cooling fluid upon the exposed side of said plate, during said plate-finishing operation.

[Claims 6 to 12 not printed in the Gazette.]

975,522. SOCKET AND DRIFTING-KEY FOR TANG-DRIVEN TOOLS. GEORGE H. GROSS and ELMER S. GROSS, Harrisburg, Pa. Filed Nov. 11, 1909. Serial No. 527,490.



1. The combination, with a tool socket having a drifting slot, the upper face of which is formed with oppositely inclined axially parallel guides, of a drifting key having the upper face of its working portion formed at one side thereof of corresponding inclination to and for conformable engagement with the guides.

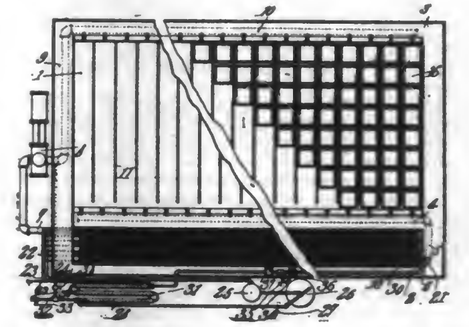
2. The combination, with a tool socket having a drifting slot, the upper face of which is formed with oppositely inclined axially parallel channels, of a drifting key having the upper face of its working portion formed of corresponding inclination and cross section to the channels.

3. The combination with a tool socket having a drifting slot of a wedge-shaped drifting key normally fitted in the slot for relative lateral movement and a spring for restoring the key to a normal position after each movement therein.

4. The combination with a tool socket having a drifting slot of a wedge-shaped drifting key fitted in the slot for relative lateral movement, the key having a slot therein, a pin passed through the slot in the key and fitted in the socket and a spring associated with the pin and bearing upon the key.

975,523. ICE-MAKING APPARATUS. WILLIAM H. A. HALSALL, Charleston, S. C. Filed July 26, 1909. Serial No. 509,623.

1. The combination of a brine cooling tank, cooling coils within the said tank, a storage tank, a pipe leading from the cooling coils to the said storage tank, an absorber connected with the said storage tank, a brine conveying pipe connecting with the tank, and a weak liquor coil inclosing the said pipe and connected with the absorber.



2. An ice making apparatus comprising two brine circuits, a common cooling means for said brine circuits, means for cutting out the brine from one of said brine circuits, and means for feeding a different cooling medium to said last mentioned circuit when the brine is cut out.

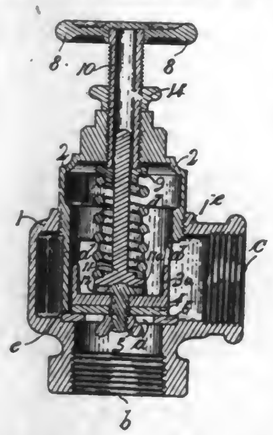
3. The combination with a brine cooling tank, of a brine conveying pipe connected with the discharge from said tank and entering the inlet end thereof, an absorber, and a poor liquor coil inclosing said brine conveying pipe and connected with the absorber.

4. The combination of a brine cooling tank, an absorber, a poor liquor coil connected with the absorber, a pipe passing through said coil and connected with the tank and with the absorber, and means whereby brine may be sent through said pipe to the tank or gas may be sent therethrough to the absorber.

5. An ice making apparatus having a primary brine circuit, a secondary brine circuit, a common cooling tank for said brine circuits, weak liquor cooling means combined with said secondary brine circuit, means for cutting out the brine from said secondary brine circuit, and means for supplying an expansible cooling medium to said secondary brine circuit when the brine is cut therefrom.

[Claims 6 and 7 not printed in the Gazette.]

975,524. VALVE. WILLIAM L. HAMILTON, Bangor, Mich. Filed Jan. 22, 1909. Serial No. 473,749.



1. In a valve mechanism, a valve casing, a bonnet screwed into said casing and having legs with openings co-extensive with said legs, a valve slidably fitted in said bonnet and having legs with openings co-extensive with said legs, and a valve-stem yieldingly and loosely seated on said valve.

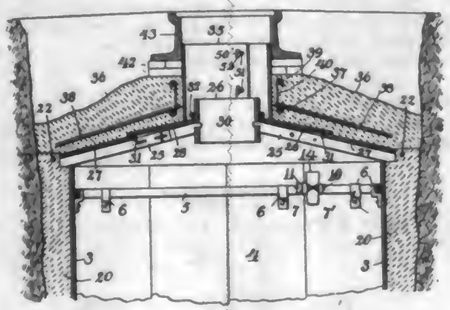
2. In a valve mechanism, a valve casing, a bonnet screwed into said casing and having legs and openings extending to the inner end of said bonnet, a valve arranged within said bonnet and having legs adapted to slide on the inner face of the bonnet legs, a reversible face plate removably secured to said valve, a valve stem yieldingly and loosely seated on said valve, and means for regulating the pressure of said stem on said valve.

3. In a valve-mechanism, a valve-casing, a bonnet screwed into said casing and having downwardly extending legs with openings extending to the ends of said legs, a valve having upwardly extending legs slidably fitting within the legs of the bonnet, a valve-stem having a head loosely seated on the valve, a spring holding said head in operative engagement with the valve, and means for adjusting the tension of said spring on said head.

4. In a valve-mechanism, a valve-casing, a bonnet screwed into said casing and having openings in its side extending to the inner end of the bonnet, a valve slidably fitting said bonnet, a removable and invertible valve-face plate, a bolt securing said face plate to the valve, said bolt having a rounded head, a valve-stem loosely seated on said bolt head, a spring adapted to hold said valve-stem on its seat, and means for controlling the tension of said spring on said stem.

5. In a valve-mechanism, a valve-casing, a flat disk valve-seat removably arranged in said casing, a bonnet secured in said casing and having spaced legs the inner ends of which bear against said seat, openings between said legs extending to said seat, a valve slidably arranged in said bonnet, a flat disk removably secured to said valve and forming a face therefor, a valve-stem loosely seated on said valve, a spring engaging said stem, means for adjusting the tension of said spring, said means adapted to form a guide for said stem.

975,525. FORM FOR MANHOLES. PARROTT G. HARSHBARGER, Hyde Park, Mass. Filed Apr. 8, 1909. Serial No. 488,549.



1. A form for walls, comprising vertical form plates, L-shaped locking bars therefor each having an elbow at each end, in one of which elbows of each locking bar is a bolt hole and in the other of which is a bolt-receiving notch, a bolt in each bolt hole engaging the notch in the adjacent elbow of the next locking bar, and a nut on each bolt; whereby said locking bars can be instantly detached and removed after slightly unloosening said nuts and without disconnecting the bolts from the bolt holes.

2. A means for locking up form plates, comprising L-shaped locking bars each having an elbow at each end, in one of which elbows is a bolt hole and in the other is a bolt-receiving notch, a bolt having a nut thereon in each said bolt hole engaging the notch in an adjacent elbow of the next locking-bar whereby the locking-bars can be tightened, and a wedge for receiving pressure between each two adjacent elbows.

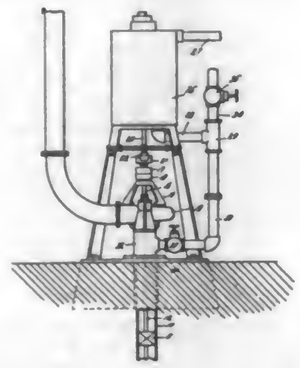
3. A roof supporting form comprising radially arranged rafters, and lateral braces connecting said rafters, each of said lateral braces being capable of forcible longitudinal adjustment, and each detachably fastened at one end to the inner end of one rafter and at its other end to the outer end of an adjacent rafter.

4. A roof supporting form comprising radially arranged rafters, plates located upon the same, and lateral braces connecting said rafters; each of the lateral braces being capable of forcible longitudinal adjustment and formed with terminal notches, and detachably fastened at one end to the inner end of one rafter and at its other end to the outer end of an adjacent rafter, the fastening means comprising bolts penetrating said rafters and entering said terminal notches, and thumb nuts on said bolts.

5. A roof supporting form comprising a cylindrical center ring and an adjustable shoulder ring on its outer surface, plates pressing at their inner edges against said center ring beneath said shoulder ring, and abutments for the outer edges of said plates, said outer edges being substantially lower than the inner edges.

[Claims 6 to 8 not printed in the Gazette.]

975,526. PROPELLER TURBINE-PUMP. ERNEST K. HOOD, Indianapolis, Ind. Filed Sept. 15, 1910. Serial No. 582,120.



1. A fluid pumping mechanism consisting of a screw-propeller lifting-member, a centrifugal pumping-element arranged in alinement with the lifting-element and in position to receive the discharge from the lifting-element, and a motor connected with said lifting and pumping elements and arranged in alinement therewith.

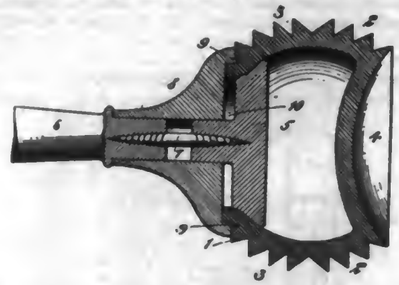
2. A fluid pumping mechanism consisting of a screw-propeller lifting-member, a centrifugal pumping-element arranged in position to receive the discharge from the lifting-element, and a motor connected with said lifting and pumping elements.

3. A fluid pumping mechanism comprising a screw-propeller lifting-element, a centrifugal pumping-element arranged to receive the discharge from the lifting element, a steam motor connected to said lifting and pumping elements, and a connection between the exhaust of said steam motor and the line of flow of fluid whereby the motor may exhaust into, and the exhaust be condensed by, the fluid stream.

4. A liquid pumping mechanism comprising a screw-propeller lifting-element, a centrifugal pumping-element arranged in alinement with the lifting-element and receiving the discharge therefrom, a steam turbine arranged in alinement with the lifting-element and pumping-element and connected thereto, and a connection between the exhaust side of the steam turbine and the interior of the lifting and pumping elements.

5. A liquid pumping mechanism comprising a screw propeller lifting-element, a centrifugal pumping-element arranged in alinement with the lifting-element and receiving the discharge therefrom, and a steam turbine arranged in alinement with the lifting-element and pumping element and connected thereto.

975,527. COMBINED PNEUMATIC CLEANER AND FORCE-CUP. LEWIS O. HOWELL, Philadelphia, Pa., assignor to Florence S. Howell, Philadelphia, Pa. Filed May 17, 1907, Serial No. 374,169. Renewed Apr. 6, 1910. Serial No. 553,867.



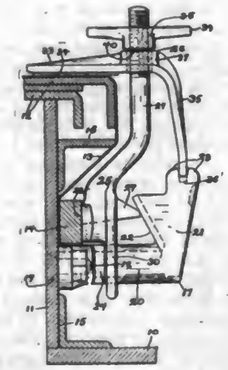
1. As a new article of manufacture, a combined pneumatic cleaner and force cup in which is comprised a hollow body open at its upper side only, and having its exterior provided with circumferential corrugations or ridges, substantially as shown and described.

2. A combined pneumatic cleaner and force cup, in which is comprised a hollow and compressible body provided with exterior corrugations arranged in two sets or series, one set facing in one direction, and the other set facing in the opposite direction, and having a concavity in its outer face, in combination with a manipulating handle, substantially as shown and described.

3. A combined pneumatic cleaner and force cup, in which is comprised a hollow and compressible body provided with corrugations, and having a concavity in its outer face, in combination with a manipulating handle, substantially as shown and described.

4. A combined cleaning implement and force cup of the class recited, comprising a hollow compressible body apertured at one side and concave at the other, and having corrugations located between said sides, in combination with a manipulating handle, substantially as shown and described.

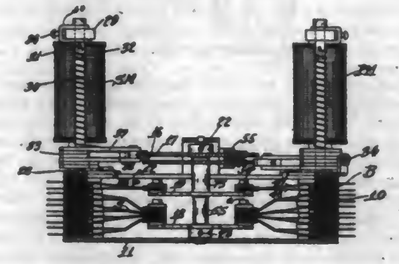
975,528. HATCH-FASTENER. ALEXANDER HYND, Cleveland, Ohio. Filed Nov. 11, 1908. Serial No. 462,113.



1. In a hatch cover and tarpaulin clamping device, a bracket, a pair of independently movable clamping members, said bracket having a fulcrum support for one of said members and an inclined face or abutment for the other, and means on one of said clamping members and engaging the other for forcing one of the same downward onto the hatch cover and the other in engagement with said inclined face and hence laterally toward the coaming.

2. In a device for clamping in position a hatch cover and tarpaulin, a bracket secured to the coaming, said bracket having a projection provided with an inclined face and a notched portion forming a seat, a pair of independently movable clamping members, one of said members being substantially L-shaped and adapted to engage the hatch cover and said seat, the other member having a threaded shank passing through an opening in the first member and having a nose or projection adapted to engage said inclined face on the bracket, and a nut on said shank serving to force said first member down upon the hatch cover and the second member upward into engagement with the inclined face and hence laterally so as to clamp the edge of the tarpaulin to the coaming.

975,529. SWITCH. WILLIAM KAISLING, Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company, a Corporation of Illinois. Filed Feb. 6, 1909. Serial No. 476,511.



1. A telephone switch comprising primary and secondary concentric shafts, electromagnetically actuating step-by-step mechanism for independently rotating said shafts, wipers carried by and extending radially outward from said shafts, and coöperating bank contacts extending toward said shafts and engageable by said wipers during their step by step movement.

2. A telephone switch comprising primary and secondary concentric shafts, electromagnetically actuated step-by-step mechanism for independently rotating said shafts, wipers carried by and extending radially outward from said shafts, and an arcuate bank of coöperating contacts, adapted to be engaged by said wipers during their step by step movement.

3. A telephone switch comprising an arcuate bank of fixed contacts, rotating wipers individually engageable during rotation with different ones of said contacts, and electromagnetically actuated step-by-step mechanism for individually rotating said wipers.

4. A telephone switch comprising an arcuate bank of fixed contacts, rotating primary and secondary wipers individually engageable during rotation with different ones of said contacts, primary and secondary shafts carrying said primary and secondary wipers respectively, and electromagnetically actuated step-by-step mechanism for individually rotating said shafts.

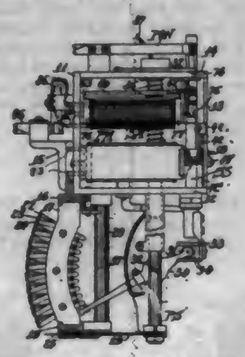
5. A telephone switch comprising upper and lower frame members, an arcuate bank of fixed contacts located between and firmly secured to said members, two concentric shafts rotatably supported by said members, wipers carried by said shafts and adapted to engage said fixed contacts as said shafts are rotated, and electromagnetically actuated step-by-step mechanism located above and secured to said upper frame member and operative to individually rotate said shafts.

[Claims 6 to 27 not printed in the Gazette.]

975,530. SWITCH. WILLIAM KAISLING, Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company, a Corporation of Illinois. Filed Feb. 18, 1909. Serial No. 478,665.

1. An automatic telephone switch structure comprising a frame, a bank of contacts secured to said frame, a coöperating wiper, means for advancing said wiper to said contacts, means for releasing said wiper and restoring it to normal, and electromagnets for controlling said advanc-

ing and releasing means individually detachably secured to said frame and having their terminals all exposed for connection at one and the same side of the switch structure.



2. An automatic telephone switch structure comprising a frame, a bank of contacts secured to said frame and having their connecting ends exposed for connection at one side of the switch structure, a coöperating wiper, means for advancing said wiper to said contacts, means for releasing said wiper and restoring it to normal, and electromagnets for controlling said advancing and releasing means individually detachably secured to said frame and having their terminals all exposed at the same side of the switch structure as the connecting ends of said bank contacts.

3. An automatic telephone switch structure comprising a frame, bank contacts arranged in a plurality of rows, a coöperating wiper, means for advancing said wiper by a primary motion to the different rows of bank contacts, means for subsequently advancing said wiper by a secondary motion to the contacts of a selected row, means for releasing said wiper and restoring it to normal, and three electromagnets for controlling respectively said primary and secondary advancing and said releasing means, individually detachably secured to said frame and having their terminals all exposed for connection at one and the same side of the switch structure.

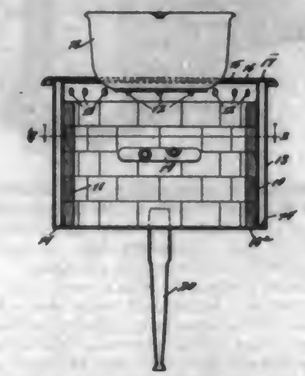
4. An automatic telephone switch structure comprising a frame, bank contacts arranged in a plurality of rows and having their connecting ends exposed for connection at one side of the switch structure, a coöperating wiper, means for advancing said wiper by a primary motion to the different rows of said contacts, means for advancing said wiper by a secondary motion to the contacts of a selected row, means for releasing said wiper and restoring it to normal, and three electromagnets for controlling respectively said primary and secondary advancing and said releasing means, individually detachably secured to said frame and having their terminals all exposed for connection at the same side of said frame as the connecting ends of said bank contacts.

5. An automatic telephone switch structure comprising a frame, a bank of contacts secured to said frame, a coöperating wiper, means for advancing said wiper to said contacts, means for releasing said wiper and restoring it to normal, electromagnets for controlling said advancing and releasing means individually detachably secured to said frame and having their terminals all exposed for connection at one and the same side of the switch structure, a row of jacks on the same side of said structure, and conductors electrically connecting said terminals and jacks.

[Claims 6 to 35 not printed in the Gazette.]

975,531. FURNACE. EDWARD KATZINGER, Chicago, Ill. Filed Dec. 17, 1908. Serial No. 467,923.

1. A furnace of the character described, comprising a casing having an open bottom and formed of spaced annular members of uniform height and having their lower extremities integrally connected, a lining for the furnace, means for supporting the lining from the inner annular member, said lining terminating short of the top of the last said member, the latter being provided with openings therethrough above the lining to form communication between the space between the annular members and the interior of the furnace, an annular member resting upon the top of the first said members to form a closure for the space therebetween, and also a support for a receptacle, means for supporting the furnace and a source of heat within the casing, the space between the first said annular members having communication with the outside atmosphere adjacent the bottom of the casing.

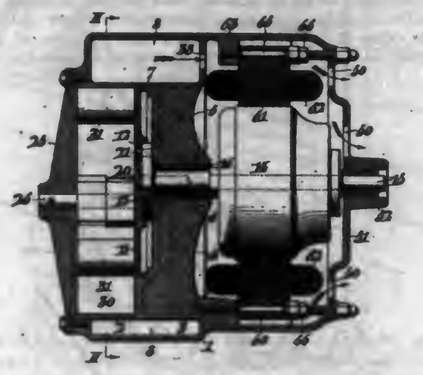


2. A furnace of the character described, comprising a casing having an open bottom and formed of spaced annular members of uniform height and having their lower extremities integrally connected, a lining for the furnace, means for supporting the lining from the inner annular member, said lining terminating short of the top of the last said member, the latter being provided with openings therethrough above the lining to form communication between the space between the annular members and the interior of the furnace, an annular member resting upon the top of the first said members to form a closure for the space therebetween and also a support for a receptacle, means for supporting the furnace, the connecting portion of the first said annular members being provided with openings to form communication between the space between the members and the atmosphere through the bottom of the casing and a source of heat within the casing.

3. A furnace of the character described comprising a casing having an open bottom and formed of spaced annular members of uniform height and having their lower extremities integrally connected, a lining for the furnace, means for removably supporting the lining from the inner annular member, said lining terminating short of the top of the last said member, the latter being provided with openings therethrough above the lining to form communication between the space between the annular members and the interior of the furnace, an annular member resting upon the top of the first said members to form a closure for the space therebetween, a plurality of annular members coöperating with the last said annular member for varying the size of the opening in the top of the furnace, and a source of heat within the casing, the connecting portion of the first said annular members being provided with openings therethrough to form communication between the space between the members and the atmosphere through the bottom of the casing.

975,532. MOTOR SUCTION-PUMP. WILLIAM H. KELLER, Philadelphia, Pa., assignor to Keller Manufacturing Company, Philadelphia, Pa., a Corporation of Delaware. Filed Feb. 17, 1909. Serial No. 478,424.

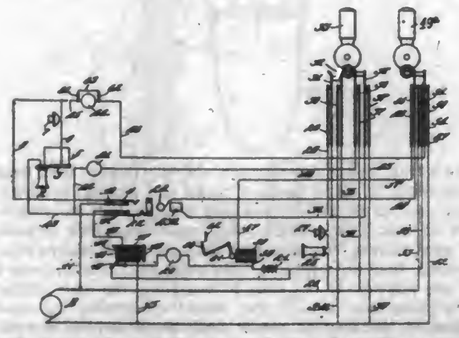
1. A motor suction pump comprising a casing, a partition located within said casing intermediate its ends, a cap for closing one end of said casing and forming a pump chamber, a rotary piston located within said chamber and having means for engaging the walls of said chamber for positively forcing air through said pump, an inlet port leading to said pump chamber, an exhaust port leading from said chamber through said partition to the other side thereof a motor mounted on the opposite side of said partition from said pump chamber, a cap for the other end of said casing, openings formed in said cap forming an outlet for the exhaust from said pump.



2. A motor suction pump comprising a casing, a partition located intermediate the ends of said casing, a pump chamber on one side of said partition, a rotary piston mounted in said chamber and having means for engaging the walls of said chamber for positively forcing air through said pump, a motor located within said casing on the other side of said partition, said casing having passages formed therein and connecting said pump chamber with the chamber for the motor, said motor including a field frame separated from the casing so as to provide a passage for the exhaust air from the pump, a rotating armature and a common shaft for supporting said rotary piston and said rotary armature.

3. A casing for a motor suction pump cylindrical in form and provided with a central partition dividing it into two parallel chambers, one for an electric motor and the other for the rotary pump; separate cover parts fastened to the ends of the casing; and a circuitous muffler passage formed within the walls of that part of the casing which surrounds the pump through which the exhaust from the pump is discharged into the compartment which contains the motor.

975,533. STORE-SERVICE CREDIT-SYSTEM APPARATUS. CHARLES F. KETTERING, Dayton, Ohio, assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio, a Corporation of Ohio, (Incorporated in 1906.) Filed Dec. 14, 1904. Serial No. 236,893.



1. In a system of the character described, the combination of a distant signaling means, means for transmitting messages between the signal sending and receiving stations, a marking device at the sending station controlled as to operation from the receiving station through the medium of the message transmitting agency, and means preventing or permitting the operation of the marking device at will.

2. In a system of the character described, the combination of a distant signaling means, means for transmitting messages between the signal sending and receiving stations, and a marking device at the sending station controlled as to operation from the receiving station through the medium of the message transmitting and the signaling agencies.

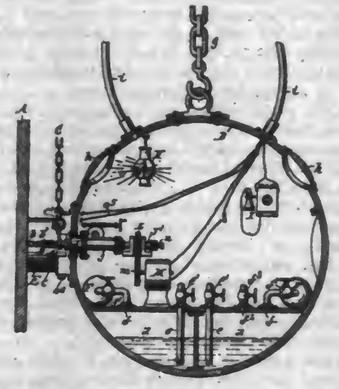
3. The combination with a telephone system including signal and talking circuits alternately operable, of a marking device at one station arranged to be operated from the other end of the line through the medium of the telephone connections under either signal or talking adjustments.

4. In a system of the character described, the combination of a distant signal means, means for transmitting messages between the signal sending and receiving stations, a marking device at the sending station controlled as to operation from the receiving station through the medium of the message transmitting and the signaling agencies, and means preventing or permitting the operation of the marking device at will.

5. The combination with a telephone system including signal and talking circuits alternately operable, of a marking device at one station arranged to be operated from the other end of the line through the medium of the telephone connections under either signal or talking adjustments, and means preventing or permitting the operation of the marking device at will.

[Claims 6 to 25 not printed in the Gazette.]

975,534. METHOD AND APPARATUS FOR WRECKING BODIES SUNK IN WATER. ROBERT OWEN KING, Buffalo, N. Y. Filed Feb. 18, 1909. Serial No. 478,638.



1. An apparatus for wrecking bodies sunk in water, comprising a support, an electro-magnet pivoted on said support and adapted to attach itself to said body, and a drilling device mounted on said support.

2. An apparatus for wrecking bodies sunk in water, comprising a support, a drilling device mounted on said support, and electro-magnets pivotally mounted on said support on opposite sides of the drilling device and adapted to attach themselves to said body.

3. An apparatus for wrecking bodies sunk in water, comprising a support, a drilling device mounted on said support, and electro-magnets pivoted on said support on horizontally opposite sides of said drilling device so as to be capable of turning horizontally and adapting themselves to the side of the body to which they are to be attached.

4. An apparatus for wrecking bodies sunk in water, comprising an inclosing shell having an opening in its side, a supporting sleeve slidable through said opening, a

drill spindle journaled in said sleeve and provided at its outer end with a socket adapted to receive a bit, and a push rod slidable lengthwise in the spindle and adapted to disengage said bit from said socket.

975,535. SAFETY-RAZOR. LEON KNASTER, Hoboken, N. J. Filed Jan. 19, 1910. Serial No. 538,371.



1. A safety razor comprising a head consisting of a piece of metal bent upon itself between its ends to form a longitudinal seat, having its ends extended in opposite directions from the seat to constitute blade supporting members, blades thereon, said blade supporting members being provided with means for positioning the blade thereon, a key consisting of a piece of metal bent between its ends to provide a body movable in the seat of the head, and the ends of the key being extended to form clips to engage the blades and prevent displacement thereof.

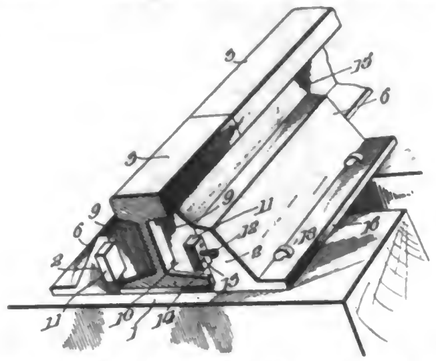
2. A safety razor comprising a blade supporting head made from a piece of sheet metal folded to form a longitudinal seat and having an end portion extending from the seat and forming a blade supporting member, a blade thereon, said blade supporting member being provided with means for positioning the blade thereon, and a locking key movable in the seat of the head and consisting of a piece of metal bent to form a body received by said seat and from which body extends a yieldable clip for engaging the blade to prevent displacement thereof.

3. A safety razor comprising a clip made of a piece of sheet metal folded intermediate of its ends to provide a hollow seat tapering toward one end thereof, opposite end portions of the piece of metal being projected in opposite directions from the head to form blade supporting members, blades carried by said members, guides at the ends of the blade supporting members for positioning the blades thereon, and a key slidable longitudinally in the seat of the head and consisting of a piece of metal folded between its ends to provide a body portion movable in the seat, the ends of the key being curved outwardly to provide oppositely extending clips for engagement with the blades to prevent displacement thereof.

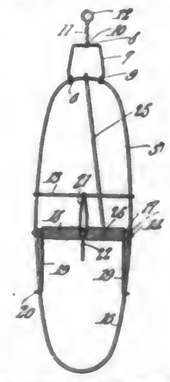
4. As a new article of manufacture, a safety razor comprising a head made from a single piece of sheet metal, bent centrally thereof to provide a hollow tapering seat and the opposite ends of the metal being projected in opposite directions to form blade supporting members, said blade supporting members having end flanges constituting guides, and also having guards at their outer edges and a locking key for the blades consisting of a core provided with finger pieces at its opposite ends and a piece of sheet metal bent about the core and having its ends bent outwardly in opposite directions to form clips overstanding the blades and preventing displacement thereof.

975,536. RAIL-CHAIR. FRED KNOBEL and EDWARD F. ASAY, Odessa, Nebr. Filed Aug. 17, 1909. Serial No. 513,355.

The combination of the abutting ends of a pair of rails which are recessed at the corners of the basal flanges, a base plate fitting under the rail ends and formed with upstanding cheeks located upon opposite sides of the rails, the inner faces of the upstanding cheeks being substantially vertical and the space between the same corresponding to the width of the base of the rails to admit of the rails being readily lowered into position or lifted therefrom, the base plate being provided at its middle portion between the said cheeks with a pair of lugs which are received within the recessed corners of the basal flanges of the rails and serve to prevent longitudinal creeping of the rails, clamping bars fitted between the cheeks and opposite sides of the rails, the inner face of each of the clamping bars engaging the web of the rails and being received between the basal flanges and heads thereof, while the outer face of each of the clamping bars abuts against the inner face of the cheek, the abutting faces of the cheek and clamping bar being formed with corresponding longitudinal grooves, wedges driven longitudinally into the corresponding grooves to force the clamping bars inwardly and cause them to firmly engage the rail ends, the wedges upon opposite sides of the joint being driven in opposite directions and the extremities of the wedges being provided with a series of openings, and pins engaging the openings to lock the wedges against withdrawal.

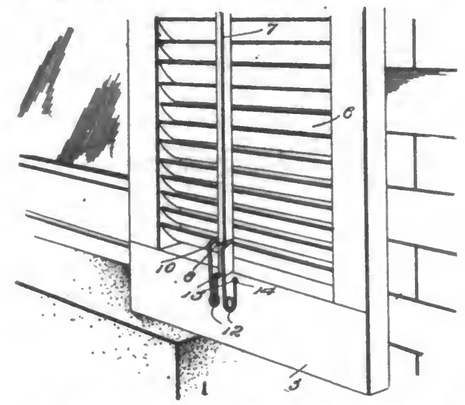


975,537. TRAP. JOHN KUBES, Broadview, Mont. Filed Oct. 27, 1909. Serial No. 524,930.



In a trap, a base comprising a single strand of wire bent upon itself to afford an open frame and having its terminals secured to its opposite end portions by the formation of eyes, a suspension yoke formed from two strands of wire having corresponding end portions intertwisted whereby they are connected and whereby there is formed an eye midway of the ends of the yoke, the ends of the yoke being bent around the strand comprising the base frame of the trap at points directly outwardly of each terminal of the strand and in engagement with the said terminals whereby the yoke will be held against slipping upon the strand, and a suspending stem swiveled at its lower end in the eye in the yoke.

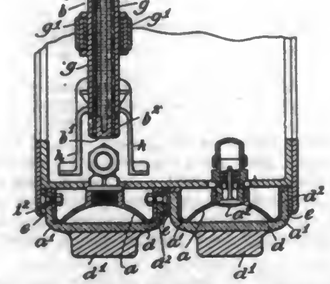
975,538. CLAMPING DEVICE FOR SHUTTERS. WILLIAM KYLER, Houston, Tex. Filed Nov. 22, 1909. Serial No. 529,374.



1. A clamping device for shutters formed of a single piece of wire having its intermediate portion bent to produce a substantially horizontally disposed socket, the wire being thence bent laterally and continued downwardly in a plane at substantially right angles to said socket to form spaced depending bars, the wire being thence bent upon itself to produce coincident spring coils and thence extended upwardly in spaced relation to the bars to form vertically disposed attaching arms.

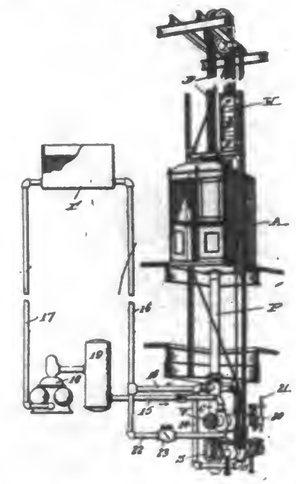
2. A clamping device for shutters formed of a single piece of wire having its intermediate portion bent to produce a horizontally disposed substantially V-shaped socket, the wire being thence bent laterally in the same plane with the socket and continued downwardly in a plane at substantially right angles to said socket to form spaced depending bars, the wire being thence bent upon itself to produce coincident spring coils and thence extended upwardly in spaced relation to the bars and beneath the socket to form vertically disposed attaching arms, the ends of which are bent to produce terminal eyes, the wire forming the inner walls of the socket being provided with incisions, and the metal at said incisions bent laterally to produce oppositely disposed impaling spurs.

975,539. RESILIENT TIRE. FREDERICK LAMPLOUGH, London, England. Filed Apr. 22, 1910. Serial No. 556,954.



In a resilient tired wheel, the combination of a channel rim, a flexible diaphragm fixed to the edges of the channel rim and forming a fluid chamber, a running surface on said flexible diaphragm, a pipe connected at one end to the channel rim, a hollow disk connected to the other end of said pipe and comprising an outer central ring, a flexible diaphragm on each side of said ring and rings clamping said diaphragms to the central ring, disks acting upon the last mentioned diaphragms and springs acting against said disks, substantially as shown and described.

975,540. PLUNGER-ELEVATOR SYSTEM. THURE LARSSON, Worcester, Mass., assignor to himself, William E. D. Stokes, New York, N. Y., and Fred A. Jones, Worcester, Mass. Filed Apr. 3, 1905. Serial No. 253,571.



1. In an elevator system, the combination of a cylinder, a plunger therefor, a car, a counter-balance for part of the weight of the car and plunger, a to-and-from connection opening into the cylinder, a storage tank connected thereto and located at such elevation that its static pressure assists in balancing the preponderance of weight of plunger and car over the counter-balance, a pressure tank, and means for admitting supply from the storage tank to the cylinder when anti-bounding action is required.

2. In a plunger elevator system, the combination of a cylinder, a plunger therefor, a counter-balance for a part of the weight of the plunger and elevator car, a to-and-from connection opening into the cylinder, a storage tank connected therewith and located at such elevation that its static pressure will assist in counter-balancing the preponderance in weight of plunger and car over the counter-balance, a pressure tank, a pump intermediate the pressure tank and storage tank, and means for admitting supply from the storage tank to the cylinder without passing through the pump when anti-bounding action is required.

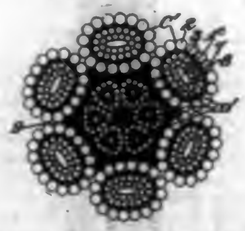
3. In a direct plunger elevator system, the combination of a vertical cylinder, a plunger working therein, a car on the upper end of the plunger, a counterbalance for part of the weight of the car and plunger, a to-and-from pipe opening into the upper end of the cylinder, a storage tank connected thereto and located at such elevation that its static pressure will assist in balancing the preponderance in weight of plunger and car over the counterbalance, a pressure tank, a pump intermediate the storage tank and pressure tank, and means for admitting supply from the storage tank to the cylinder without passing through the pump when anti-bounding action is required.

4. In a plunger elevator system, the combination of a cylinder, a plunger therefor, a car, a counter-balance for part of the weight of the plunger and car, a to-and-from pipe connected with the cylinder, an elevated storage tank, an outlet pipe leading to the storage tank, a pressure tank, a pump between the pressure tank and storage tank, an inlet pipe from the pressure tank to the to-and-

from pipe, a main valve for connecting the to-and-from pipe with the inlet pipe or outlet pipe as required, and means for admitting supply from the outlet pipe to the cylinder when the main valve is closed.

5. In a direct plunger elevator system, the combination of a vertical cylinder, a plunger working therein, a car on the upper end of the plunger, a counterbalance for the greater part of the weight of the car and plunger, a main valve, a to-and-from pipe opening into the upper end of the cylinder, a storage tank connected thereto and located at an elevation such that its static pressure will aid in balancing the preponderance in weight of car and plunger over the counterbalance, a pressure tank, a pump intermediate the storage tank and pressure tank, and means for admitting supply from the storage tank to the cylinder for anti-bounding action.

975,541. WIRE ROPE. HENRY LESCHEN, St. Louis, Mo. Filed Apr. 26, 1909. Serial No. 492,138.



1. A wire rope having its outermost strands exposed to view and an annular layer of fibrous and lubricant material underlying said outermost strands.

2. A wire rope having its outermost wires uncovered and an annular layer of fibrous and lubricant material underlying the same.

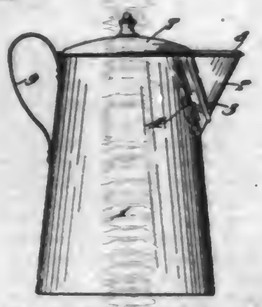
3. A wire rope comprising a plurality of uncovered strands each consisting of a plurality of wires, and an annular layer of fibrous material underlying the outermost wires of each strand.

4. A wire rope comprising a plurality of uncovered strands each consisting of a plurality of wires, and an annular layer of fibrous and lubricant material underlying the outermost wires of each strand.

5. A wire rope comprising a core of fibrous material and a plurality of layers of strands surrounding said core, the strands of the outer layer being uncovered, and an annular layer of fibrous material underlying the outermost layer of strands.

[Claims 6 to 12 not printed in the Gazette.]

975,542. COFFEE AND TEA POT. WILLIAM V. LETHERBURY, Hagerstown, Md. Filed Sept. 14, 1909. Serial No. 517,559.



A pot of the character described, comprising a body, a spout integral with the body, projecting outward from the body at its upper portion, and said spout bent forming an internal groove extending around the spout at a point removed from the body, and on a line approximately parallel with the line of demarcation between the spout and the body portion, a removable strainer located in the groove in the spout, a cover on said body, having an extension projecting over the grooved portion of the spout and disposed above the strainer, and a hinged section on said cover normally closing the outer end of the spout, substantially as described.

975,543. ANCHOR FOR GUY-WIRES, &c. ERICH H. LICHTENBERG, Chicago, Ill., assignor of one-half to Henry B. Burr, Milwaukee, Wis. Filed May 12, 1909. Serial No. 495,410.



1. In an anchor, a central anchor rod and a plurality of anchor members pivoted to the rod to swing about the axis of the rod as a common center.

2. In an anchor, a central anchor rod and a plurality of anchor members arranged in superposed planes and provided at their inner ends with alined apertures through which said rod extends, whereby said members are pivoted to said rod to swing about the same to expand and to close the anchor.

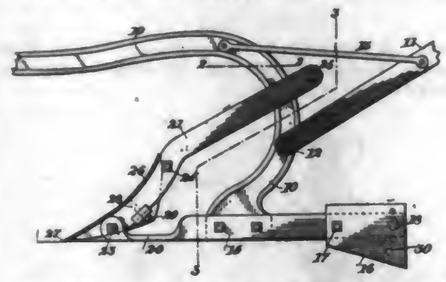
3. In a device of the class described, an anchor and earth engaging means assembled with the anchor and comprising a master blade and another blade actuable thereby.

4. In an anchor, a master earth engaging blade and another earth engaging blade actuable thereby.

5. In an anchor, a swinging master earth engaging blade and another swinging earth engaging blade actuable thereby.

[Claims 6 to 16 not printed in the Gazette.]

975,544. PLOW. WILLIAM F. LINDSEY, Sadler, Tex. Filed July 10, 1908. Serial No. 442,914.



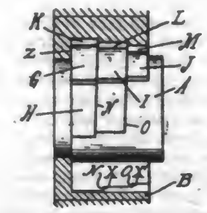
In a plow, the combination with a beam, of runners provided at their forward ends with upstanding transversely perforated ears; a pair of outwardly and downwardly extending shoe members formed integral with said runners adjacent said ears for presenting an enlarged horizontal surface to the soil; a pair of cutters pivoted to the rear ends of said runners; and means for adjusting said cutters so that their cutting edges may be projected downwardly to a greater or less extent.

975,545. NUT-LOCK. NATHANIEL LITTLE, Des Moines, Iowa. Filed May 4, 1910. Serial No. 559,843.

A nut-lock, comprising a nut formed with alining passages intersecting the bore of the nut and also formed with notches in some of its faces intersecting the passages, a locking pin adapted to be seated in one of said passages, said locking pin formed with a central transverse edge on one end adapted to bite the thread of a bolt on which the nut is used, said locking pin also formed with a lateral lip adapted to enter and be spaced from the bottom of one of the notches in the nut, the outer end portion of said pin formed with oppositely inclined faces separated by a flattened face or plateau, said oppositely inclined faces at right angles to each other and adapted to be arranged flush with the faces of the nut, the nut also formed with notches centrally and transversely of its faces and of less length than the width of the nut and open at one end thereof, which notches are cut under on one side, and a spring bent angularly at its center and formed with hooks on its ends adapted to engage in pairs of said notches.



975,546. CLOSURE-LOCKING MEANS. CARL J. LJUNGGREN, Providence, R. I. Filed Mar. 21, 1910. Serial No. 550,593.



1. In a device of the type set forth, the combination with the stationary member, of a closure body, and a segment upon the body comprising stepped portions, said stepped portions being graduated radially, longitudinally, and diagonally.

2. In a device of the type set forth, the combination with the stationary member, of a closure body, and a segment upon the body comprising a plurality of radially graduated portions disposed in diagonal series, the graduated portions being of gradually lessening radii longitudinally of the body.

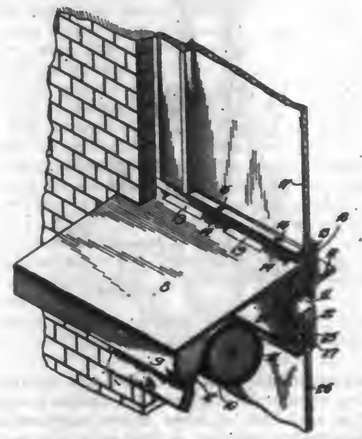
3. In a device of the type set forth, the combination with the stationary member, of a closure body, and a segment upon the body comprising a plurality of radially graduated portions disposed in diagonal series, said portions being also graduated longitudinally of the body and having a pitched relation thereto.

4. In a device of the type set forth, the combination with the stationary member, of a closure body, and a segment upon the body comprising a plurality of radially graduated portions disposed in diagonal series, said portions being also graduated longitudinally of the body and pitched with relation thereto, the end faces of the diagonal series being circumferentially inclined.

5. In a device of the type set forth, the combination with the stationary member, of a closure body, and a segment upon the body comprising a plurality of radially graduated portions disposed in diagonal series, said portions being also graduated longitudinally of the body and pitched with relation thereto and provided with peripheral faces inclined toward the axis of the body, the end faces of the diagonal series being diagonally inclined.

[Claims 6 to 8 not printed in the Gazette.]

975,547. AWNING-SASH CONSTRUCTION. JOY LOVE, Aurora, Ill., assignor to Love Brothers, Incorporated, Aurora, Ill., a Corporation of Illinois. Filed Dec. 22, 1909. Serial No. 534,475.



1. An awning sash construction having a hollow body portion and a solid plate portion projecting outwardly from above the body portion to serve as a shield for an awning disposed beneath the same.

2. An integral cast awning sash bar having a longitudinal portion of hollow formation, provisions for the attachment of a window glass thereto, and an integral awning cover projecting outwardly therefrom and providing an inclined shield for the protection of an awning, substantially as described.

3. An awning sash bar having a longitudinal portion provided with openings therethrough for the purpose of ventilation, an awning cover projecting outwardly and downwardly therefrom to serve as a shield for a rolled up awning, and means extending upwardly from the main portion and above said awning cover, to provide transom seats and a plurality of drain and ventilating openings between the seats, substantially as described.

4. An awning sash bar having a longitudinal portion provided with extensions above and beneath for the attachment of window glass thereto, and having a plurality of ventilating openings through the main portion, and an awning cover inclined outwardly therefrom to serve as a protection for an awning disposed beneath the same, substantially as described.

5. An awning sash bar comprising a main portion of hollow formation, having a plurality of ventilating openings therethrough, a downwardly extending portion to which window glass may be secured, an inwardly projecting rib, and an integral outwardly extending awning cover adapted to serve as a protection for a rolled up awning underneath, substantially as described.

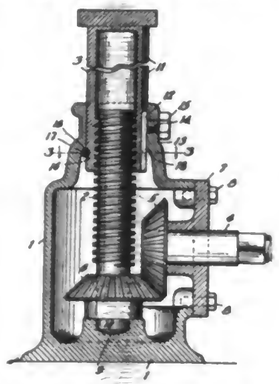
[Claims 6 to 11 not printed in the Gazette.]

975,548. LIFTING-JACK. THOMAS H. LOVEJOY, Chicago, Ill. Filed Mar. 2, 1910. Serial No. 546,772.

1. In a screw lifting jack, the combination with a base, of a lifting screw rotatably mounted on said base, a screw sleeve surrounding said screw and slidably mounted on said base and a removable segmental stop ring surrounding said sleeve and carried thereby to limit the extent of its upward movement, said base having a stop shoulder above said ring for engagement therewith, substantially as specified.

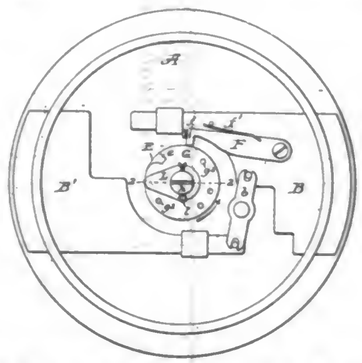
2. In a screw lifting jack, the combination with a base, of a lifting screw rotatably mounted on said base, a screw sleeve surrounding said screw and slidably mounted on said base and a removable segmental stop ring surrounding said sleeve and carried thereby to limit the extent of its upward movement, said screw sleeve having an ex-

ternal annular groove to receive said stop ring, and the base having a shoulder above said ring for engagement with said stop ring, substantially as specified.



3. In a screw lifting jack, the combination with a hollow base having a removable cap, of a lifting screw rotatively mounted on said base, a screw sleeve surrounding said screw and slidably mounted on said base and an operating shaft journaled in said removable cap, said screw sleeve having an annular groove near its lower end, a removable segmental stop ring fitting in said groove on said screw sleeve, said base having a stop shoulder above said ring engaging said stop ring, substantially as specified.

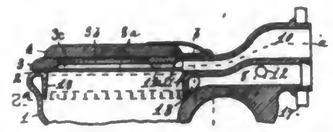
975,549. PERMUTATION-LOCK. HARVEY C. LOWRIE, New York, N. Y. Filed Mar. 19, 1909. Serial No. 484,486.



In a permutation lock, the combination with an operating spindle, of a dial carried thereby, a notched circular disk provided with a plurality of holes arranged on a line concentric with the axis of the disk, a screw securing said disk to said spindle, said screw having a cylindrical head, a rigid arm loosely mounted on the head of said screw, a pin carried by said arm and adapted to project through one of said holes and engage a second disk, detachable means for holding said arm on the screw-head, and a second disk adapted to be moved by said pin.

975,550. WATER-CLOSET BOWL. ANTON T. LUECKENBACH, Neenah, Wis. Filed May 29, 1908. Serial No. 435,664.

1. In a water closet bowl having a ventilating duct, the mouth of which is above the entrance to the flushing channel, said duct being integral with the bowl, and a flushing channel around the bowl arranged in a horizontal plane below said ventilating duct, the combination with said bowl of a seat therefor, a plurality of cushioning plugs upon the lower side of the seat which space the seat above the bowl top, a seat opening, a concave space upon the lower side of the seat around said opening upon the front and sides of the seat, and a channel from said concave space at the rear end of the seat, horizontally arranged and leading to the mouth of said ventilating duct.

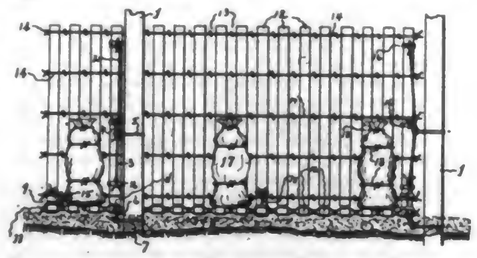


2. In a water closet bowl having flushing water inlet and a ventilating duct above the inlet, both being formed integral with the bowl, the mouth of said ventilating duct being in a horizontal plane above the flushing water inlet, the combination with the bowl of a seat hinged to the bowl top, the upper surface and rear end of the seat and upper surface and front end of said ventilating duct forming when the seat is closed, a close joint with each other, a plurality of cushioning plugs upon the lower side of said seat which space the seat above the bowl top, a seat opening, a concave space upon the lower side of the seat around said opening upon the front and sides of the seat, and a channel at its rear end leading in a horizontal plane from the upper surface of said concave space around the seat, into the mouth of said ventilating duct.

3. In combination in a water closet bowl, a ventilating duct, a flushing channel around the bowl top, the mouth of which duct is above the entrance to the flushing channel, the ventilating duct, flushing channel and bowl being integral, a seat hinged to the bowl top, an opening in the seat, the upper surface and rear end of the seat and upper surface and front end of the ventilating duct forming when the seat is closed down, a close joint with each other, a plurality of cushioning plugs upon the lower side of the seat which space the seat above the bowl top, a concave space upon the lower side of the seat around its opening upon the front and rear sides of the seat, and a channel at the rear end of the seat leading in a horizontal plane from the upper surface of said concave space around the seat into the mouth of the ventilating duct.

4. A water closet bowl having an integral ventilating duct, the inlet end of which communicates with the interior of said bowl above the rim of the bowl.

975,551. RIPRAPPING SYSTEM. JAMES M. MAHER, Fremont, Nebr. Filed Apr. 23, 1910. Serial No. 557,117.



1. A fascine comprising a flexible body, weights secured to the face at the lower portion of said body, anchoring cables secured to said flexible body and leading forward therefrom, and metallic piling located in advance of said flexible body to which said cables are secured.

2. A fascine comprising a flexible body, consisting of a plurality of slat members spaced in suitable relation and connected by means of strands, weights secured to the face of said flexible body and anchoring cables secured to said flexible body for anchoring the same in an upright position in a stream.

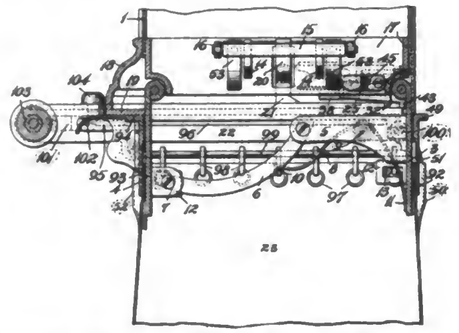
3. A fascine comprising a flexible vertical body, wires transversely engaging said body, and weights secured to the face of said vertical body at its lower end.

4. A fascine composed of a flexible body, weighted elements secured near the base of said body, and anchoring cables secured to said flexible body.

5. A fascine comprising a plurality of suitably spaced wires, slat members interwoven between said wires, weighted elements secured to the front face of said slat members, and anchoring cables secured to the front faces thereof.

[Claims 6 to 11 not printed in the Gazette.]

975,552. DEVICE FOR RECEIVING AND COLLECTING MAIL. RUDOLPH MARTINI, St. Louis, Mo. Filed Jan. 17, 1910. Serial No. 538,493.



1. The combination with a letter box which is arranged to have the frame of a collecting-bag attached thereto and having a pair of outwardly opening doors in its bottom, of a lock adapted to hold said doors normally closed, said lock comprising a horizontal rocking member having hooked members thereon which are adapted to engage keepers on the inner faces of said doors, a lever-arm on said rocking member, said lever-arm being arranged in the path of a cam-projection on said bag-frame whereby, when said bag-frame is attached to the letter box, said cam-projection thereon raises said lever-arm, and a controlling device for the lock, said controlling device comprising a reciprocatory member which is adapted to normally engage said lever-arm to prevent the actuation of the same, said controlling member having a projection adapted to engage a key-seat on said bag-frame, said key-seat being so located with respect to the cam-projection on the bag-frame that said controlling member is released from said lever-arm as the cam-projection passes thereunder.

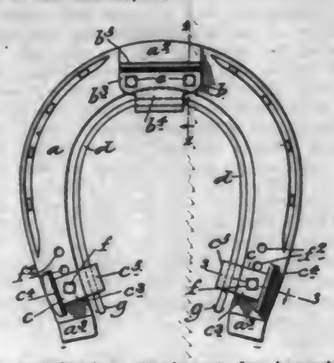
2. The combination with a letter box which is arranged to have the frame of a collecting-bag attached thereto, said letter box having a pair of outwardly opening doors in its bottom, of a lock arranged to hold said doors normally closed, said lock comprising a rocking member having hooked portions which are adapted to engage keepers on the inner side of said doors, a lever-arm on said rocking member arranged in the path of a cam-projection on said bag-frame whereby, when said bag-frame is attached to the letter box, the cam-projection is moved under said lever-arm and thereby releases the hooked portions of the rocking member from the keepers on the inner side of the doors, a controlling device for said lock, said controlling device comprising a reciprocatory member which is adapted to normally engage said lever-arm, said controlling member having a projection arranged in the path of a key-seat on said bag-frame, a second controlling member coöperatively associated with said first mentioned controlling member and adapted to lock the same in its normal position, said second controlling member having a projection in the path of a key-seat on said bag-frame, said key-seats being so arranged with respect to each other and to said cam-projection on said bag-frame that said controlling members are actuated to release said lever-arm as the cam-projection passes thereunder.

3. The combination with a letter box which is arranged to have a frame of a collecting-bag attached thereto, said letter box having a pair of outwardly opening doors in its bottom, said doors being operatively connected so as to move simultaneously and having a spring arranged so as to exert its force to open said doors, of a lock adapted to hold said doors normally closed, said lock comprising a rocking member having hooked portions which are adapted to engage keepers on said doors, a lever-arm on said rocking member arranged in the path of a cam-projection on said bag-frame whereby it is raised and the hooked portions of the rocking member are released from the keepers on the doors when the bag-frame is attached to said letter box, and a cam-projection on the outer face of one of said doors, said cam-projection being arranged so as to coöperate with said bag-frame as the same is detached from the letter box, whereby said doors are closed.

4. The combination with a letter box which is arranged to have the frame of a collecting-bag attached thereto, the bottom of said letter box comprising an outwardly opening door, of a lock adapted to hold said door normally closed, said lock comprising a rocking member having a hooked portion which is arranged to engage a keeper on the inner side of said door, a lever-arm on said rocking member arranged so that its end lies in the path of a cam-projection on the bag-frame, whereby said rocking member is rocked and the hooked member is released from said keeper as the bag-frame is attached to the letter box, a controlling device for said lock comprising a reciprocatory member which is adapted to normally engage said lever-arm and hold the same against actuation, a projection on said reciprocatory member arranged in the path of a key-seat on the bag-frame, a second reciprocatory member located in coöperative relation to said first mentioned reciprocatory member and adapted to normally lock the same in normal position, a projection on said second reciprocatory member arranged in the path of a key-seat on said bag-frame, said key-seats being so arranged with respect to each other and to the cam-projection which coöperates with said lever-arm, that said second reciprocatory controlling member is initially moved to release said first controlling member and thereby release the same from said lever-arm as the cam-projection passes thereunder, and resilient means for restoring all of said parts as the bag-frame is removed from the letter box.

5. The combination with a letter box which is arranged to have the frame of a collecting-bag attached thereto, the bottom of said letter box comprising an outwardly opening door, of a lock adapted to hold said door normally closed, said lock comprising a rocking member having a hooked portion which is adapted to engage a keeper on the inner side of said door, a lever-arm on said rocking member arranged so that its end lies in the path of a cam-projection on said bag-frame, and a locking device for said lever-arm comprising a reciprocatory plate having a projection which is adapted to normally engage said lever-arm and lock the same in normal position, a second reciprocatory plate arranged alongside of said first mentioned plate and coöperating with a latch member thereon to normally lock said first mentioned plate in normal position, said reciprocatory plates each having projections thereon which are arranged so as to engage key-seats on said bag-frame, said key-seats being so located with respect to each other and to the cam-projection which coöperates with said lever-arm that said second locking plate is initially moved to release said first mentioned locking plate and then to move said two plates simultaneously to release the first mentioned plate from said lever-arm as the cam-projection passes thereunder, resilient means for restoring all of said locking elements to normal position, a spring catch arranged to engage the first mentioned locking plate after the same has been actuated to release the lever-arm, and means on the inner side of said door for releasing said spring catch as the door is closed.

975,553. ANTISLIPPING ATTACHMENT FOR HORSESHOES. JAMES J. MAY, Mineola, N. Y. Filed Aug. 3, 1910. Serial No. 575,314.

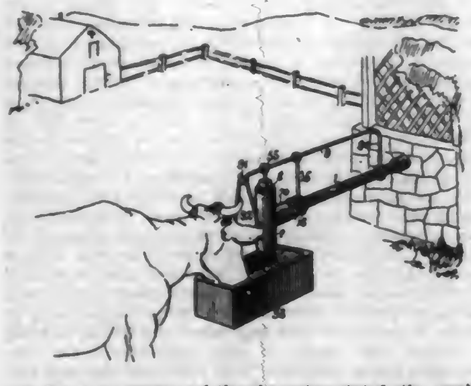


1. An anti-slipping attachment for horseshoes, comprising a toe member and two heel members, said members being U-shaped in form, and side rods connected with the toe member and parallel with the sides of the shoe, and on which the heel members are adjustable.

2. An anti-slipping attachment for horseshoes, comprising a toe member and two heel members, said members being U-shaped in form and being connected by a rod passed through the head of the toe member and through the heads of the heel members, and said members being provided with calks, and the heel members being adjustable on the side portions of said rod.

3. An anti-slipping attachment for horseshoes, comprising a toe member and two heel members, said members being U-shaped in form and being connected by a rod passed through the head of the toe member and through the heads of the heel members, and said members being provided with calks, and the heel members being adjustable on the side portions of said rod, and said attachment being adapted to be secured to a shoe by screws passed upwardly through the bottom portions of the heel and toe members and into the shoe.

975,554. AUTOMATIC WATERING-TROUGH. MOORE D. MCDOUGALL, Watsonville, Cal. Filed July 8, 1910. Serial No. 571,047.



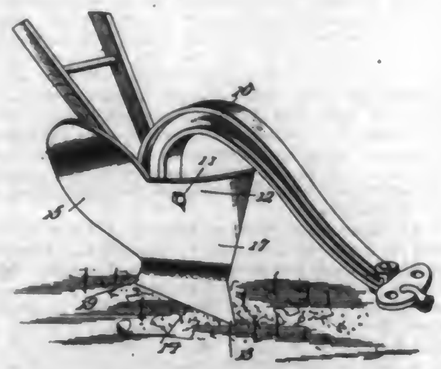
1. In an apparatus of the character stated, the combination with a water supply pipe, and a closure for the discharge end having a discharging orifice and a valve seat surrounding the said orifice; of a valve for coöperating with the seat, a spring arm disposed in a plane parallel with the pipe, a tension regulator mounted on the pipe that engages the spring arm, a stem for the valve connected to and movable with the spring arm and a water collecting trough suspended from the spring arm.

2. An apparatus of the character stated, comprising a casing attachable to the discharge end of a water delivering pipe, a closure cap within the casing for fitting over the discharge end of the water pipe, said cap having a valve seat, and a discharge through the seat, a trough into which the casing discharges, a valve for coöperating with the seat and the water feed, a tension device mounted on the pipe, and a hanger that connects with the said tension device, the stem of the controlling valve being connected to and movable with the tension device, for the purposes stated.

3. In an apparatus of the character stated, the combination with a water supply pipe, a closure cap removably mounted on the discharge end of the pipe and having a discharge orifice with a surrounding valve seat, a T-shaped casing removably mounted on the pipe to inclose the capped end, an apertured plug in one end of the casing, a valve stem guided through said plug having a valve for coöperating with the valve seat in the cap member, a spring arm disposed in a plane parallel with the pipe and supported by the pipe, a connection for coupling the valve stem and the said arm, a water receiving trough and a supporting bail for the trough that hangs from the spring arm.

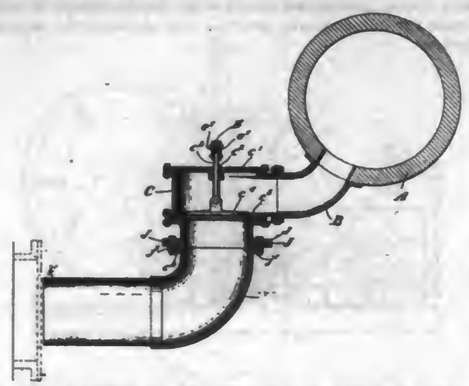
4. In an apparatus of the character stated, the combination with a water supply pipe, a closure cap removably mounted on the discharge end of the pipe and having a discharge orifice with a surrounding valve seat, a T-shaped casing removably mounted on the pipe to inclose the capped end, an apertured plug in one end of the casing, a valve stem guided through said plug having a valve for coöperating with the valve seat in the cap member, a spring arm disposed in a plane parallel with the pipe and supported by the pipe, a connection for coupling the valve stem and the said arm, a water receiving trough and a supporting bail for the trough that hangs from the spring arm, and a tension regulator adjustably mounted on the service pipe and connected with the spring arm for increasing or diminishing its tension.

975,555. PLOW-POINT. MURRAY F. MCELVEEN, Osyka, Miss. Filed Aug. 3, 1909. Serial No. 511,046.



A plow blade including a sheet of metal cut to form a point at its lower end, one edge of the sheet of metal extending from the point upwardly a short distance then outwardly to the upper edge of the blade to provide a wing thereon, the opposite edge of the sheet of metal extending outwardly and slightly upwardly a short distance when it curves abruptly in an upward direction and outwardly to the top of the blade, the opposite edge further extending upwardly and curving inwardly and downwardly to the upper edge of the blade to form the moldboard thereof, the sheet of metal being transversely curved to present a convexed outer face and being curved forwardly at its lower end.

975,556. BLAST-FURNACE-STOVE GAS-BURNER. ARTHUR G. MCKEE, Cleveland, Ohio. Filed Dec. 11, 1909. Serial No. 532,515.



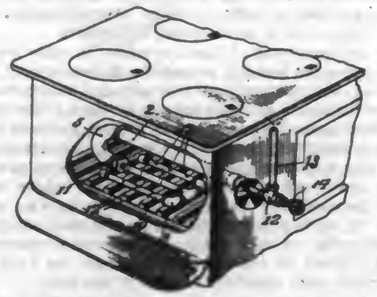
1. In a device of the character described, the combination of a gas main; a valve casing fixedly connected with said main; and a nozzle suspended from said casing, and movable about an axis.

2. In a device of the character described, the combination of a gas main; a valve connected with said main; means for opening and closing said valve; a nozzle connected with said valve, and comprising two legs having their axes at right angles; and means for causing said nozzle to swing about one of said axes.

3. In a device of the character described, the combination of a gas main; a valve connected with said main; means for opening and closing said valve; a nozzle connected with said valve, and comprising two legs having their axes at an angle; and means comprising a gear segment and pinion, adapted to swing said nozzle about one of said axes.

4. In a device of the character described, the combination of a gas main; a valve connected with said main; means for opening and closing said valve; a gear segment rotatably mounted upon said valve; a right angled nozzle having one end connected with said valve, and fixedly suspended from said segment; and means for rotating said segment.

975,557. HYDROCARBON VAPORIZER AND BURNER. CHARLES MENDELL, Moran, Kans. Filed Dec. 17, 1909. Serial No. 533,618.



1. A hydrocarbon burner including a relatively large cylindrical generating chamber connected at one end to a relatively small feed pipe, an elbow forming a continuation of the other end of the generating chamber and extending to a point below the same, an intermediate small pipe extending from the lower end of the elbow parallel to the generating chamber and beneath the same, a T on the extremity of the intermediate small pipe, and perforated burner pipes connected to the ends of the T and extending toward the other end of the intermediate small pipe and parallel to the same.

2. An oil burner of the class described, comprising a generating chamber, a relatively small feed pipe entering said chamber, provided with a valve, a return bend connected to the end of the generating chamber and extending downward, the lower end of the return bend being stopped by a plug, a pipe extending parallel with the generator and screw threaded into the plug, and opposed parallel burner pipes connected to the outlet end of the first named pipe and formed with jet perforations directed toward the generator.

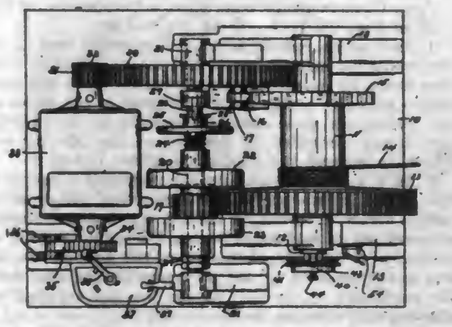
3. A hydrocarbon burner of the character described, comprising a cylindrical generating chamber, a relatively small feed pipe entering said chamber, provided with a valve, a return bend attached to the end of the generating chamber and having the same size as said chamber, said return bend extending downward to a point below the generating chamber, a plug closing the lower end of the return bend, a conducting pipe inserted into said plug and extending along beneath the generating chamber, a tee carried upon the end of said pipe, opposed elbows connected to the tee, and burner pipes extending toward the return bend from said elbows, said burner pipes being provided each with a plurality of perforations directed toward the generating chamber.

4. In a burner of the character described, a relatively large cylindrical generator, a supply pipe connected to said generator, opposed return bends attached to the opposite extremities of the generator and extending down therefrom to a point below the same, plugs closing the ends of the return bends, said return bends having the same size as the generator, a relatively small conducting pipe extending from the end of each of the return bends, in alinement with the generator, and reversely extending opposed parallel burner pipes connected to the end of each of the conducting pipes, said burner pipes being provided with perforations directed toward the generator.

5. A hydrocarbon burner, including a relatively large generating chamber, an inlet pipe leading directly into the end of the chamber, the inlet pipe being in alinement with said chamber, an elbow of approximately the same diameter as the generating chamber attached to the end of the generating chamber opposite to the inlet pipe and extending dwonward to a point below the generating chamber, a relatively small pipe connected to the elbow and extending parallel to the generating chamber, elbows on the end of said pipe, and parallel burner pipes attached to said last named elbow and extending toward the first named elbow and each provided with perforations along its whole extent directed toward the generating chamber, said burner pipes acting as supports for the burner.

[Claim 6 not printed in the Gazette.]

975,558. WINCH. FREDERICK METCALF and JOHN E. CARSON, Cleveland, Ohio, assignors to The Chase Machine Company, Cleveland, Ohio, a Corporation of Ohio. Filed Aug. 28, 1909. Serial No. 514,982.



1. In a winch, a drum, an electric motor for driving said drum, power transmitting mechanism forming an

operative connection between said drum and said electric motor, a friction clutch arranged in said power transmitting mechanism and adapted to carry a load less than the carrying power of the said electric motor and means controlled by the movemeat of the drum for starting the operation of the motive device when the load on the drum exceeds the power of the clutch and the line is paid out by the rotation of the drum and for stopping the operation of the motive device when the drum is relieved of the overload and the line so paid out rewound on the drum.

2. In a winch, a winding drum, an electric motor for operating the drum, means operatively connecting the motor and drum comprising suitable gearing and a friction clutch, means for preventing the reversal of the motor when the load becomes excessive, and switching mechanism operated by the movement of the drum when the load becomes excessive and the clutch slips so that the line is paid out, for automatically closing the motor circuit so as to supply current thereto, and for automatically opening the motor circuit so as to shut off the current supply after the overload falls off and all the line paid out has been rewound on the drum.

3. In a winch, a winding drum, a motive device adapted to operate the drum, a friction clutch between the drum and motive device, means normally preventing the reversal of the motive device, and means for automatically starting the motive device in operation when the load on the drum exceeds the power of the clutch and the line pays out and for automatically stopping the operation of the motive device when all the line paid out has been rewound on the drum and the overload has fallen off.

4. In a winch, a winding drum, an electric motor for operating the drum in one direction, a friction clutch between the drum and motor, means normally preventing the reversal of the motor when the load on the drum exceeds the power of the clutch, and means operated by the movement of the drum when the line pays out on the occurrence of an overload for starting the operation of the motor and for again stopping the operation of the motor when the overload falls of and the line has been rewound on the drum.

5. In a winch, a winding drum, an electric motor for operating the drum, means operatively connecting the motor and drum comprising suitable gearing and a friction clutch, means for holding the motor stationary when the load is normal and for preventing its reversal when the load becomes excessive, and switching mechanism operated by the movement of the drum when the load becomes excessive and the clutch slips so that the line is paid out, for automatically closing the motor circuit so as to supply current thereto, and for automatically opening the motor circuit so as to shut off the current supply after the overload falls off and all the line paid out has been rewound on the drum.

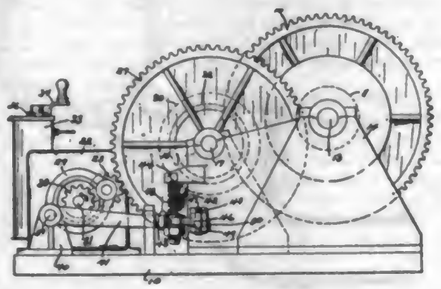
[Claims 6 to 8 not printed in the Gazette.]

975,559. WINCH. FREDERICK METCALF and JOHN E. CARSON, Cleveland, Ohio, assignors to The Chase Machine Company, Cleveland, Ohio, a Corporation of Ohio. Filed Aug. 28, 1909. Serial No. 514,983.

1. In a winch, a drum adapted to receive a line, an electric motor for operating the drum, means including a friction clutch for operatively connecting the drum and motor, means normally preventing the reversal of the motor and for holding the same against movement in one direction, and means controlled by the pull on the line for automatically opening and closing the motor circuit.

2. In a winch, a drum adapted to receive a line, a motive device, means operatively connecting the drum and motive device comprising a friction clutch and a plurality of gears one of said gears having a movable support and having a position depending upon the pull on the line, and means operated by the movement of said gear due to the variations in the pull on the line for automatically starting and stopping the motive device.

3. In a winch, a drum adapted to receive a line, a motor for operating the drum, means operatively connecting the motor and drum comprising a friction clutch and gearing including an idler gear, a swinging frame for said idler gear adapted to be shifted by variations in the pull on the line, yieldable means resisting the movement of said frame, and means operated by the movement of said frame for automatically starting and stopping the motive device.



4. In a winch, a drum adapted to receive a line, a counter-shaft geared to said drum and provided with an adjustable friction clutch, an electric motor, gearing connecting said motor and counter shaft, said gearing including an idler pinion, an oscillatory or swinging frame carrying said pinion and adapted to be shifted by variations in the load on the drum, yieldable means normally resisting the movement of said frame, means for normally preventing the movement of the motor in one direction, an arm movable with said swinging frame, and switch mechanism operated by movements of said arm for automatically opening and closing the motor circuit.

975,560. CONVEYER-BELT. WILLIAM M. METZLER, Akron, Ohio. Filed Nov. 22, 1909. Serial No. 529,329.

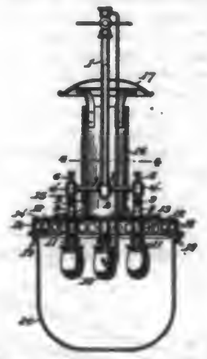


1. A belt composed of rubber and layers of fabric formed by doubling or folding the fabric at the longitudinal edges of the belt, the folds at the edges of the belt being widely separated relatively to the layers proper, a cementing medium for uniting the layers, and rubber on the faces, and edges of the belt and in the spaces between said edge-folds to provide protecting-portions of considerable extent for the fabric-layers at the edges of the belt.

2. A belt composed of fabric arranged in folds lying one within the other forming a plurality of flat parallel layers extending longitudinally of the belt, the connecting-portions of the layers at the longitudinal edges of the belt being widely separated relatively to the flat portions of said layers, a cementing medium for uniting the flat portions of the layers, a covering of rubber on the faces and edges of the belt, and protecting-portions of rubber in the spaces between the connecting-portions of the several layers, the spaces formed by separating said connecting-portions being of such extent as to provide rubber protecting-portions of considerable thickness for each layer of fabric at each longitudinal edge of the belt.

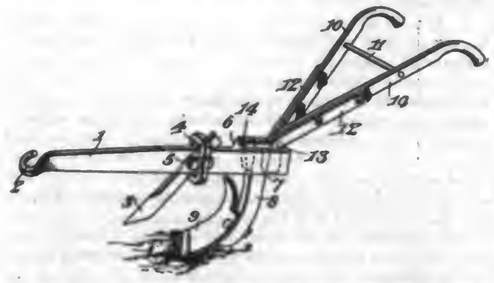
975,561. INCANDESCENT GAS-LAMP. EDWARD MINEER, Wheeling, W. Va. Filed Mar. 12, 1909. Serial No. 482,992.

1. In a gas lamp, a pendent supply-pipe, a plurality of radial conducting arms threaded into said pipe, an integral regulator box carried by each arm, a heat-deflecting shield suspended from said arms, vertical mantle-supporting tubes depending from said shield, mixing tubes suspended from said regulator boxes and having their lower ends received in said mantle-supporting tubes, and a casing for receiving and discharging the products of combustion at a point remote from the mixing tubes.



2. In a gas lamp, a pendent supply-pipe, a plurality of radial conducting arms connected to said pipe, regulating means carried by said arms, a heat-deflecting shield suspended in a substantially horizontal position below said arms, vertical mantle-supporting tubes depending from said shield, mixing tubes suspended from said regulating means with their air openings located above said shield and having their lower ends received within said mantle-supporting tubes, and a casing mounted centrally upon said shield for conducting the products of combustion away from the mixing tubes.

975,562. PLOW. SAM JACKSON MINYARD, Brookeland, Tex., assignor of one-half to T. S. Richardson, Kirbyville, Tex. Filed July 28, 1910. Serial No. 574,384.

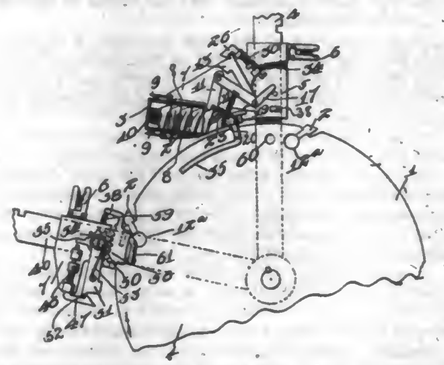


In a plow, the combination of a beam having a longitudinal vertically disposed slot at its rear end, a plow standard having its upper end inserted through the said slot, a bracket consisting of a solid body fitted in the said slot between the rear wall of the same and the standard, and diverging arms extending upward, outward and rearward from the said body, handles secured to the inner sides of the said diverging arms, and a wedge-shaped key inserted downward in the longitudinal slot in the beam between the front wall of the said slot and the standard.

975,563. BIT-CHANGING MEANS FOR ROTARY CUTTERS. EDMUND C. MORGAN, Chicago, Ill. Filed Aug. 5, 1905, Serial No. 272,901. Renewed May 9, 1910. Serial No. 560,314.

1. In a machine for the purpose described, the combination of a movable bit stock having a bit socket, means for holding one or more bits contiguous to the line of movement of said socket in readiness to be inserted thereinto, and means for inserting a bit into said socket.

2. In a machine for the purpose described, the combination of a movable bit stock having a bit socket, means for holding one or more bits contiguous to the line of movement of said socket in readiness to be inserted thereinto, means for forcing the bits into said socket, and means for causing the bit-inserting means to move in unison with the stock a limited distance while inserting the bit.



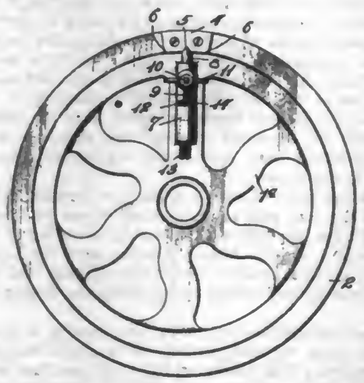
3. In a machine for the purpose described, the combination of a movable bit stock having a bit socket, means for holding one or more bits contiguous to the line of movement of said socket in readiness to be inserted thereinto, means for forcing a bit into said socket, means for causing the bit-inserting means to move in unison with the bit stock a limited distance in one direction, and means for returning said bit-inserting means in the opposite direction to its starting position.

4. In a machine for the purpose described, the combination of a movable bit stock having a bit socket, means for holding one or more bits contiguous to the line of movement of said socket in readiness to be inserted thereinto, means for forcing a bit into said socket, and means operatively related to said stock for actuating the last said means.

5. In a machine for the purpose described, the combination of a rotary bit stock having one or more bit sockets, means for holding a supply of bits in line with said sockets, a plunger for inserting the bits into said sockets, and means operatively related to said stock for actuating said plunger.

[Claims 6 to 20 not printed in the Gazette.]

975,564. YIELDABLE PULLEY. HARRY P. MOTTER, Harrisburg, Pa., assignor of one-half to J. W. Bowman, Harrisburg, Pa. Filed Jan. 12, 1910. Serial No. 537,750.



1. In a cash carrier apparatus, a constantly rotating member, a grooved slip ring mounted thereon, a yielding pin on the rotating member, which pin engages a portion of the slip ring, and means for regulating the degree of pressure of the yielding member against the slip ring.

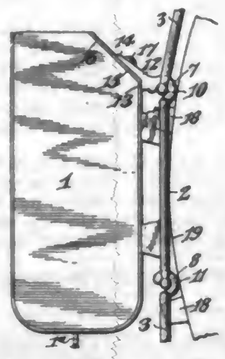
2. In a cash carrier apparatus a constantly rotating member, a grooved slip ring carried thereby, a yielding adjustable member forming a connection between the constantly rotating member and the slip ring and means whereby the yielding member may be locked in engagement with the slip ring.

3. In an apparatus of the class described, a pulley, a grooved slip ring loosely mounted on said pulley, a lug on the slip ring in which lug is formed a notch, and a spring-pressed pin carried by the pulley, the point of which pin normally engages in the notch in the lug.

4. In an apparatus of the class described, a pulley, a grooved slip ring carried thereby, a notched projection on the slip ring, a spring-pressed member, the point of which normally engages in the notch, means whereby said spring-pressed member may be held out of engagement with the notched lug, and means whereby the pin may be locked in engagement with said notched lug.

5. In an apparatus of the class described, a pulley, a grooved slip ring carried thereby, a sliding member on the pulley, the outer end of which is adapted to engage with a portion of the slip ring, a spring bearing against the sliding member, means for regulating the tension of the spring, means for holding the sliding member disengaged from the slip ring, and means for locking said sliding member in engagement with the slip ring.

975,565. CONVEYER MECHANISM. JACOB MUSSELL, Caldwell, Idaho. Filed Jan. 27, 1910. Serial No. 540,444.



1. The combination with a bucket, of a chain including a bucket carrying link having a hook at one end and provided between its ends with means for securing it to the bucket, and a support receiving and secured to the bucket and formed integral with and strengthening the hook.

2. The combination with a bucket, of a chain including a bucket carrying link having a hook at one end and provided between its ends with means for securing it to the bucket, and a support formed integral with the hook and increasing the thickness thereof and provided with a bucket receiving seat, and means for securing the said support to the bucket.

3. The combination with a bucket, of a chain including a bucket carrying link having a hook at one end and provided between its ends with means for securing it to the bucket, and a support formed integral with the hook and having angularly related faces fitted against and receiving the bucket, and means for securing the bucket to the support.

4. The combination with a bucket provided at the back with an upper inclined portion, of a chain including a bucket carrying link having a hook and provided with an integral bucket supporting bracket consisting of an upper portion having a face arranged in parallelism with the link and fitted against the back of the bucket, and an outer angularly disposed arm fitted against the upper inclined portion of the bucket, and means for securing the bracket to the bucket.

5. The combination with a bucket provided at the back with an upper inclined portion, of a chain including a bucket carrying link comprising spaced side bars, front and rear off-set webs connecting the side bars at points between the ends thereof and fitted against and rigidly secured to the bucket, a lower or rear end connecting the side bars at the back of the link, a hook connecting the side bars at the front of the link, and a bucket supporting bracket formed integral with the hook and composed of an inner portion or seat, and an outer inclined arm, the seat being fitted against the back of the bucket and the arm against the inclined upper portion thereof, and means for securing the bracket to the bucket.

975,566. FLOOR-SET. FRANK NORTON, Shirley Mills, Me. Filed Dec. 18, 1909. Serial No. 533,839.



1. In a floor set, a frame having its ends bent to form guides and provided with a slot, a plunger rod slidable on the guide ends of the frame and provided with a widened end having a transversely extending groove adapted to engage a board tenon, said rod being further provided with a longitudinally disposed slot, ears secured to opposite sides of the frame adjacent to the slot thereof, a lever pivoted to the ears having an end projecting through the frame slot to engage the slot of the plunger rod, a prong on the frame adapted to pierce a board, and a screw on the frame adapted to hold the plunger rod against movement on the frame, said screw engaging the upper face of the rod.

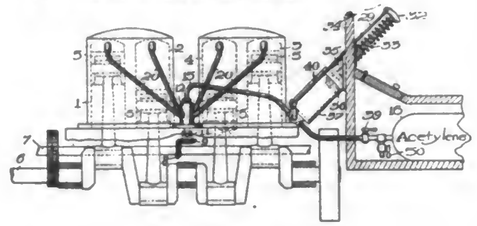
2. A floor set, comprising a one piece elongated frame having at each end downwardly extending portions with registering apertures therein, a plunger rod circular in cross section slidable in said apertures, and provided with a widened end having a transversely extending groove adapted to engage a board tenon, said rod having a longitudinally disposed slot having its end walls inclined, said frame having a slot adjacent one end thereof and provided with detachable angular plates arranged on each side of the slot forming ears, a lever pivoted between the ears and provided with a V-shaped end arranged at an angle to the remainder of the lever and adapted to extend into the slot of the plunger rod, said V-shaped end being adapted to coöperate with the inclined wall of the slot of the rod and to prevent the plunging rod from rotating, said frame having one of its downwardly extending portions provided with prongs to engage a joist, and a screw threaded in the forward end of the frame adapted to engage the upper face of the rod to hold the plunger rod against movement through the apertures, as and for the purpose specified.

975,567. APPARATUS FOR STARTING GAS-ENGINES. CHARLES H. OSLUND, Worcester, Mass. Filed Mar. 16, 1909. Serial No. 483,694.

1. In a device for starting gas engines, the combination with the gas engine, of a receptacle for gas under pressure, a cylinder for receiving a charge of gas from said receptacle, and a valve having passages for simultaneously disconnecting said cylinder from the gas receptacle and connecting it with a cylinder of the engine.

2. In a device for starting gas engines, the combination of a source of gas pressure, a conductor for connecting said source of pressure with the engine, a valve in said conductor, a cylinder adapted to be connected by said valve either with the source of gas pressure or with the engine, and a piston in said cylinder for forcing the gas into the engine.

3. In a device for starting gas engines, the combination of a source of gas pressure, a conductor communicating therewith and with the gas engine, a valve in said conductor for closing direct communication between the source of gas pressure and the engine, a cylinder adapted to be connected by said valve either with the source of gas pressure or with the engine, a piston in said cylinder, and means for forcing said piston toward the valve to force the charge of gas to the engine.

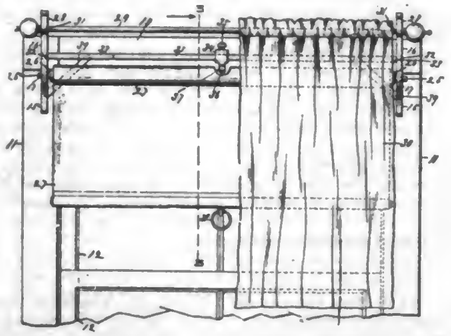


4. In a device for starting gas engines, the combination of a source of gas pressure, a conductor communicating therewith and with the gas engine, a valve in said conductor for closing direct communication between the source of gas pressure and the engine, a receptacle connected with said valve, and means for turning said valve to simultaneously shut off communication between the cylinder and source of gas pressure and connect the cylinder with the engine.

5. The combination with a gas engine, of a source of gas pressure connected with the several cylinders of said engine, means for opening the connection between said source of gas pressure the cylinder which is ready to receive a charge, and means for controlling the connection of said source of supply with said cylinders comprising a valve, a rod for operating the valve, and a spring for normally holding the valve closed and a device for opening the valve and positively forcing the gas along said connection.

[Claims 6 to 12 not printed in the Gazette.]

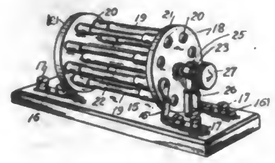
975,568. CURTAIN AND SHADE FIXTURE. EUGENE PAGE, Danvers, and FRANK TREMBLAY, Beverly, Mass. Filed June 7, 1910. Serial No. 565,655.



1. In a shade fixture, two supporting-brackets each provided with means for supporting the opposite ends of the spindle of the shade, a connection between the two said brackets, and a sliding block adapted to be supported by said connection in a central position said block being provided with a downward extension formed with a horizontal groove adapted to catch the ring or handle of the shade when the said shade flies upward.

2. In a shade fixture, two supporting-brackets each provided with means for supporting the opposite ends of the spindle of the shade, a connection between the two said brackets, and a sliding block adapted to be supported by said connections in a central position, said block being provided with a downward extension formed with horizontal grooves on its front and rear surfaces adapted to catch the ring or handle of the shade when the said shade flies upward.

975,569. MULTIPLE FUSIBLE CUT-OUT FOR ELECTRICAL CIRCUITS. ALBERT EDWARD PARTINGTON, Sydney, New South Wales, Australia. Filed May 6, 1910. Serial No. 559,679.

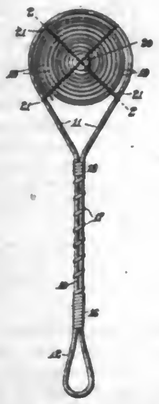


1. In a multiple fusible cut-out for electrical circuits, a revoluble barrel of non-conducting material consisting of two apertured end disks spaced by a barrel tube and separably held in their assembled condition by removable fastening means, fuses removably supported by the apertured end disks with their metallic ends protruding beyond the barrel ends, contacts engaging the metallic fuse ends, and means removably and revolubly supporting the barrel.

2. In a multiple fusible cut-out for electrical circuits, a revoluble barrel of non-conducting material consisting of two apertured end disks spaced by a barrel tube and held in their assembled condition by removable fastening means, fuses removably supported by the apertured end disks with their metallic ends protruding beyond the barrel ends, contacts engaging the metallic fuse ends, and means supporting the barrel consisting of a base, and bearings secured thereto in which are mounted the spindles of the barrel.

3. In a multiple fusible cut-out for electrical circuits, a revoluble barrel of non-conducting material, a plurality of fuses removably contained therein and having metallic contacts protruding beyond the barrel ends, supporting means removably holding the barrel, spring contacts held by the supporting means engaging the metallic contacts of the fuses, and means for rotating the barrel consisting of an extension spindle for one of the barrel spindles, a pinion therefor, and a ratchet lever engaging the pinion.

975,570. FLY-KILLER. CYRUS HERBERT PORTER, Mattapoisett, Mass. Filed Nov. 4, 1909. Serial No. 526,480.



1. A device of the class described, comprising a frame, a flexible member confined within one end of said frame and so bent that portions of it are parallel, and means extend-

ing from one portion of said frame to a diametrically opposite portion thereof for retaining said parallel portions separated and securing them to said frame, said means surrounding and being connected together between said parallel portions of said flexible member.

2. A device of the class described, comprising a frame, a flexible member confined within one end of said frame and so bent that portions of it are parallel, and a plurality of threads surrounding said portions of the flexible member and secured to diametrically opposed portions of said frame for retaining said member in position, said threads being connected between the various parallel portions of said flexible member.

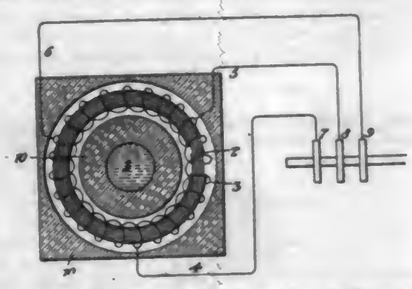
3. A device of the class described, comprising a frame separated at one end to form a loop and secured together at the opposite end to form a handle, a flexible spiral within said loop, and members secured to diametrically opposed portions of said loop and surrounding alined portions of said spiral member to secure it to said frame, said members being connected together between such alined portions of said spiral member.

4. A device of the class described, comprising a frame separated at one end to form a loop and secured together at the opposite end to form a handle, a flexible spiral member of fibrous material within said loop, and members secured to diametrically opposed portions of said loop and surrounding alined portions of said spiral member to secure it to said frame, said members being connected together between such alined portions of said spiral member.

5. A device of the class described, comprising a frame separated at one end to form a loop secured together at the opposite end to form a handle, a flexible spiral member within said loop, a plurality of threads extending diametrically of said spiral member and interwoven therewith and secured to the frame, and a disk of flexible material centrally disposed within said spiral.

[Claims 6 to 9 not printed in the Gazette.]

975,571. ELECTRIC FURNACE WITH MAGNETICALLY-ROTATED CHARGE. HENRY NOEL POTTER, New Rochelle, N. Y., assignor to Geo. Westinghouse, Pittsburg, Pa. Original application filed July 25, 1904, Serial No. 217,954. Divided and this application filed July 1, 1905. Serial No. 267,914.

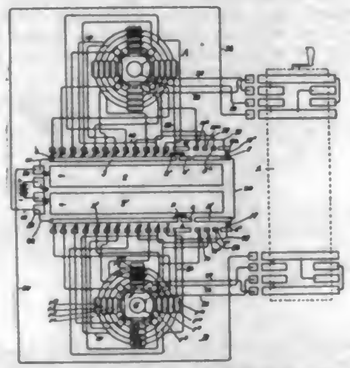


1. The method of causing a circulation of conducting molten material in an electric furnace which consists in inducing secondary currents within the body of the molten material and producing a rotating force upon the induced currents by subjecting them to the action of an alternating rotating magnetic field.

2. The method of stirring highly heated, fused, conducting material, which consists in maintaining an alternating rotating magnetic field in inducing relation thereto.

975,572. SYSTEM OF MOTOR CONTROL. FRANK B. RAE, Boston, Mass. Filed Feb. 18, 1910. Serial No. 544,540.

1. The combination with a plurality of series motors, each having field windings consisting of a plurality of groups of coils, each group being composed of a different number of turns wound to have each a predetermined ohmic resistance, of a controlling switch, connections between said controlling switch and said motors for cutting said groups of coils out successively and progressively while the motors are in series and means for connecting the motors in parallel after first replacing all of said coils in circuit.



2. In series parallel series motor control, the combination with a plurality of motors each having field coils wound in groups of different resistances, and means for removing said groups progressively to increase the speed of said motors while connected in series, of means for restoring said groups and connecting the motors in parallel, and means for then removing said groups progressively to further increase the speed.

3. In series parallel series motor control, the combination with a plurality of motors each having field coils wound in groups of different resistances, and means for removing said groups progressively to increase the speed of said motors while connected in series, of means for restoring said groups and connecting the motors in parallel, means for preventing abnormal flow of current while changing from series to parallel, and means for then removing said groups progressively to further increase the speed.

4. In series parallel series motor control, the combination with a plurality of series motors each having field coils wound in groups of differing resistances, and means for removing said groups progressively to increase the speed while the motors are connected in series, of means for restoring said groups and connecting the motors in parallel without opening the circuit, and means for then removing said groups progressively when connected in parallel, to further increase the speed.

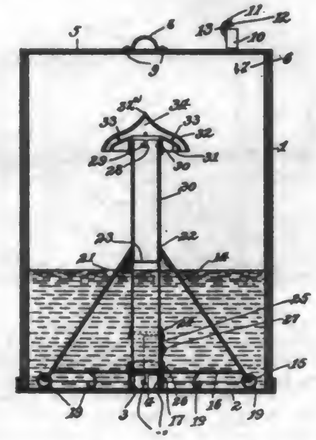
5. In series parallel series motor control, the combination with a plurality of series motors, each having interpoles in series with the armature and field coils wound in groups, and means for removing said groups progressively to increase the speed and the interpole magnetization while the motors are connected in series, of means for restoring said groups and connecting said motors in parallel, and means for then removing said groups progressively when connected in parallel, to still further increase the speed.

[Claim 6 not printed in the Gazette.]

975,573. WASHBOILER. GEORGIANA ROBINSON, New York, N. Y. Filed Apr. 12, 1905. Serial No. 255,087.

1. A wash-boiler comprising a holding-vessel, a fountain-body set in said vessel and having a flared open bottom, and means for spacing said bottom from and rigidly supporting the same on the bottom of said vessel, whereby free circulation through and around said body is provided for water and steam, said means including supporting devices attached to the fountain-body for engagement with the bottom of the holding-vessel and a centrally disposed pin and slot connection between the fountain-body and said vessel, the construction and disposition of parts being such that the supporting devices engage the bottom of the holding-vessel simultaneously with the bottoming of the pins in said slots.

2. In combination, in a wash-boiler, a holding-vessel; a fountain-attachment; means for supporting said attachment in said vessel with its bottom spaced from the bottom of said vessel; said attachment consisting of a conical body-portion, a pipe passing through the latter and having means at its top for delivering fluid into said vessel, and said pipe having a foraminous section closed at top and bottom, for holding soap, within said body-portion, so as to be confined and submerged in the fluid within the latter.



3. In combination, in a wash-boiler, a holding-vessel; a fountain-attachment; means for supporting said attachment in said vessel with its bottom spaced from the bottom of said vessel; said attachment comprising a conical body-portion having means at its top for delivering fluid into the vessel, and a foraminous pipe-section located within the said body-portion, said pipe-section having a door for the admission of soap thereto located near the bottom of said body-portion.

4. As an article of manufacture, a fountain-attachment for wash-boilers consisting of a conical body-portion having means for delivering downwardly a continuous stream of fluid, a transverse brace or bar connected to said body-portion above its bottom and within the same, a stem sustained by said brace and extending through the vertex of said body-portion, and means, on the bottom of said brace, for securing the attachment to a suitable holding-vessel.

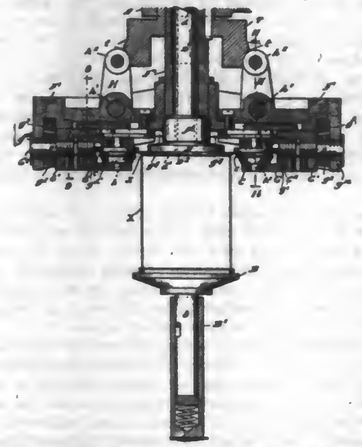
975,574. DOUBLE-SEAMING MACHINE. FRANK RUDOLPHI, Chicago, Ill. Filed Feb. 23, 1909. Serial No. 479,308.

1. In a double seaming machine, the combination with a rotating seaming head, of a plurality of seaming rollers, a plurality of seaming roller holders each having an adjustable member, a plurality of adjusting screws connecting said holders and their adjusting members and means for simultaneously turning said adjusting screws to effect simultaneous and similar adjustment of all the seaming rollers, substantially as specified.

2. The combination with a rotary seaming head, of means for actuating the seaming rollers to form the seam, and unitary means to adjust equally and simultaneously all the seaming rollers for operation upon cans of different diameters without disturbing the relative individual adjustment of the rollers in respect to each other, substantially as specified.

3. A rotary seaming head having a plurality of seaming rollers, a plurality of seaming roller slides each furnished with an adjustable member and with an adjusting screw, and means for simultaneously and equally turning said screws, substantially as specified.

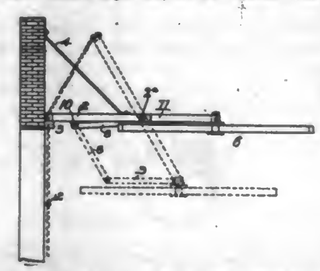
4. A rotary seaming head having a plurality of seaming rollers, a plurality of seaming roller slides each furnished with an adjustable member and with an adjusting screw, and means for simultaneously and equally turning said screws, said adjusting screws having right and left threads, substantially as specified.



5. A rotary seaming head having a plurality of seaming rollers, a plurality of seaming roller slides, each furnished with an adjustable member and with an adjusting screw provided with a gear, and a common gear meshing with the gears of all of said screws to cause them to turn in unison, substantially as specified.

[Claims 6 to 12 not printed in the Gazette.]

975,575. CLOTHES-DRIER. GEORGE SCROGGIE, San Diego, Cal. Filed Apr. 18, 1910. Serial No. 556,227.



1. A clothes drier, comprising main supports, a swinging frame pivotally mounted thereon, a clothes reel vertically and horizontally pivoted on said frame, double arms attached to the main supports and to the reel pivot piece, all substantially as set forth.

2. A clothes drier, comprising a supporting frame, another frame centrally pivoted thereon, a cross piece pivoted in the outer extending ends of said last mentioned frame, a clothes reel pivoted vertically thereon, double arm means for holding said reel in a horizontal position at all times, a cable attached to the inward extending end of the pivoted frame extending downward and adapted to be attached to a hook, all substantially as set forth.

975,576. INNERSOLE. DANIEL SEXTON, Kansas City, Mo. Filed Sept. 14, 1908. Serial No. 452,973.



1. An insole for shoes having a flat even upper side and a recess in its under side, the insole being of a substan-

tially non-resilient material such that in use the pressure of a salient part of the foot upon the upper side of the recessed portion will form therein a permanent depression conforming to said salient part.

2. An insole adapted to extend the full length of the interior of a shoe and having a flat even upper side and a recess in its under side, the greatest depth of the recess being adjacent to the inner edge of the insole, the insole consisting in a single piece having, excepting at the recessed portion, a substantially uniform thickness, and the material of the insole being substantially non-resilient, whereby when in use the pressure of a salient part of the foot upon the upper side of the recessed portion will form therein a permanent depression conforming to the salient part.

3. An insole for shoes having a flat even upper side and a recess in the under side of the portion adapted to support the heel of the foot, the insole being of a substantially non-resilient material, whereby when in use the pressure of a salient part of the heel upon the upper side of the recessed portion will form therein a permanent depression conforming to said salient part.

4. An insole for shoes having a flat even upper side and a recess in the under side of the portion adapted to support the ball of the foot, the insole being of a substantially non-resilient material, whereby when in use the pressure of a salient part of the ball of the foot upon the upper side of the recessed portion will form therein a permanent depression conforming to said salient part.

5. An insole for shoes having a flat even upper side and two recesses in the under sides respectively of the portions adapted to respectively support the heel and ball of the foot, the insole being of a substantially non-resilient material, whereby when in use the pressure of the salient parts of the heel and ball of the foot upon the upper sides of the recessed portions respectively will form therein permanent depressions conforming respectively to said salient parts.

975,577. DISK PLOW-SCRAPER. JAMES J. SHACKELFORD, Putnam, Tex. Filed May 21, 1910. Serial No. 562,622.

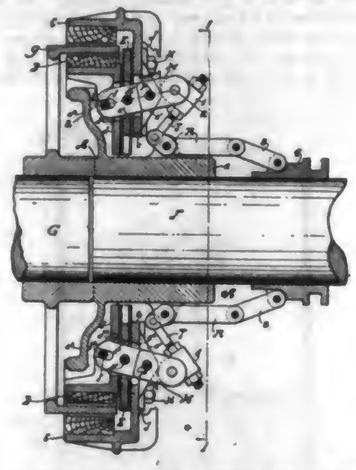


In a disk plow scraper, a disk block, a concaved scraper disk connected to the block, a boxing in which the block is journaled, a support, a boss extending from the boxing and having a roughened portion, a shank adjustably connected to the support, a coupling member secured on the lower end of the shank and having a roughened portion in engagement with the like portion of the boss, and a connection for holding the roughened portions of the boss and the member in engagement.

975,578. FRICTION-CLUTCH. HARRY J. SMITH, Lakewood, Ohio, assignor to The Hill Clutch Company, a Corporation of Ohio. Filed Mar. 11, 1909. Serial No. 482,648.

1. In a friction clutch, the combination of a supporting member, a fulcrum plate detachably secured to the supporting member and having radial guide faces on its front and rear sides, inner and outer jaws sliding on the rear and front guide faces, respectively, of the fulcrum plate, and means for operating said jaws.

2. In a friction clutch, the combination of a supporting member having a radial arm, a fulcrum plate detachably secured to the front side of said arm so as to be removable forwardly therefrom and having radial guide faces on its front and rear sides, an inner jaw having a shank arranged in front of said arm and sliding on the rear guide face of said plate, an outer jaw having a shank sliding on the front guide face of the fulcrum plate, and means for operating said jaws comprising a rocker pivoted on said plate and operatively connected with said jaws.



3. In a friction clutch, the combination of inner and outer clutch jaws each of which has a shank, a supporting member having an arm provided with guide faces on its front side on which the shank of the inner jaw slides, a fulcrum plate secured to said supporting member and extending across the front side of the inner jaw shank and having guide faces on its front side on which the outer jaw shank slides, and a rocker pivotally connected with said jaw shanks and fulcrum plate.

4. In a friction clutch, the combination of a supporting member, two inversely and radially movable jaws, a fulcrum plate removably secured to said supporting member and forming with it a guide-way for the inner jaw, and being itself provided with guide-ways for the outer jaw, a rocker supported on said fulcrum plate and connected with said jaws, and means for operating said rocker.

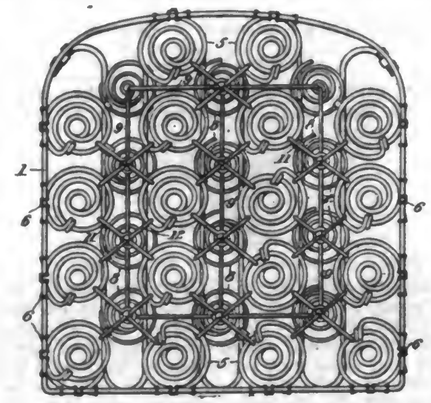
5. In a friction clutch, the combination of a supporting member, a fulcrum plate removably secured to said supporting member and forming between it and the supporting member a guide-way for the shank of the inner jaw, a jaw having a shank which is mounted in said guide-way and has a hole through it and rearwardly extended ears, a pin secured to said ears, said fulcrum plate having through it a hole in the sides of which are laterally extended notches, gibs secured to said fulcrum plate and forming with it guide-ways for the shank of the outer jaw, an outer jaw having a shank which is movable in said guide-ways, a rocker having a pivot pin which projects laterally from its sides and is adapted to enter the said notches in the fulcrum plate, said rocker having a forked rear end adapted to embrace the pin on the inner jaw shank, and a removable pin engaging the outer jaw shank and the rocker.

[Claim 6 not printed in the Gazette.]

975,579. SPRING CONSTRUCTION. WATSON R. SMITH, Jackson, Mich., assignor to Jackson Cushion Spring Co., Jackson, Mich. Filed July 30, 1909. Serial No. 510,476.

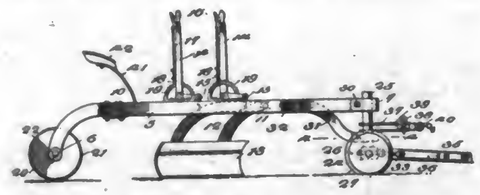
1. In a spring construction, a frame, main springs in the frame, auxiliary springs arranged for coöperation with the main springs to catch and sustain extra weight, sets of links connected to the main springs, each set of main spring connecting links embodying one link provided with an integral eye with which the inner ends of the remaining links of each set engage.

2. In a spring construction, a frame, main springs in the frame, auxiliary springs arranged for coöperation with the main springs to catch and sustain extra weight, connections between the auxiliary springs, and sets of links connected to the main springs, each set of main spring connecting links embodying one link provided with an integral eye with which the inner ends of the remaining links of each set engage.



3. In a spring construction, a frame, springs in the frame, and sets of links connected to the springs, each set of links embodying one link provided with an integral eye with which the inner ends of the remaining links of each set engage.

975,580. ROAD-MACHINE. WALTER K. STEBBINS, Fairmount, N. D. Filed Jan. 22, 1910. Serial No. 539,524.

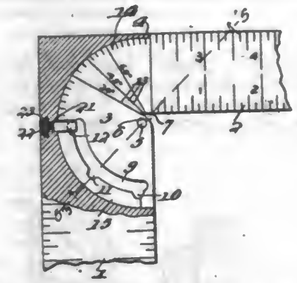


1. A road machine including a supporting frame having spaced side bars, the forward ends of which are united and the rear ends thereof curved outwardly and downwardly and provided with terminal bearings, a brace interposed between the side bars and provided with oppositely disposed laterally extending attaching lugs for engagement with the inner faces of the side bars, a roller mounted for rotation between the side bars at the rear end of the supporting frame, a scraping blade depending from said supporting frame, and a truck for supporting the forward end of said frame.

2. A road machine including a supporting frame having spaced side bars, the forward ends of which are united to form a socket, a scraping blade depending from the supporting frame, a yoke secured to the supporting frame at the front end thereof and spaced from the socket, an axle having ground wheels and provided with a standard extending through the yoke and socket, respectively, a draft tongue operatively connected with the axle, and an arm supported by the yoke and provided with means for attachment to a draft animal.

3. A road machine including a supporting frame having spaced side bars, the forward ends of which are disposed on converging lines to form a socket, a scraping blade depending from the supporting frame, a head block seated in the socket, a yoke secured to the side bars at the converging ends thereof and spaced vertically from the socket, a truck having a standard secured thereto and extending through the yoke and head block, respectively, and means carried by the truck for attachment to a draft animal.

975,581. JOINTED SQUARE. ARTHUR STEVENS, Clifton Springs, N. Y. Filed Sept. 29, 1909. Serial No. 520,228.



1. In a jointed square, a main part, a tongue pivoted therein and having a semi-circular part of less thickness than the tongue and itself having a still thinner portion with a curved slot, and means held in the main part and coöperating with one wall of said slot to hold the tongue in adjusted positions.

2. In a jointed square, a main part, a tongue pivoted therein and having a semi-circular part of less thickness than the tongue and itself having a still thinner portion with a curved slot, means held in the main part and coöperating with one wall of said slot to hold the tongue in adjusted positions, and means for adjusting said means.

3. In a jointed square, a main part, a tongue pivoted therein and having a semi-circular part of less thickness than the tongue and itself having a still thinner portion with a curved slot, means held in the main part and coöperating with one wall of said slot to hold the tongue in adjusted positions, and means for adjusting said means, said adjusting means being confined within the main part.

4. In a jointed square, a main part and a tongue pivoted therein and having a semi-circular part of less thickness than the tongue and itself having a still thinner portion with a curved slot and notches, and means carried by the main part and engageable with said notches.

5. In a jointed square, a main part and a tongue pivoted therein and having a semi-circular part of less thickness than the tongue and itself having a thinner portion with a curved slot and notches, and a locking bolt having a member movable over said thinner portion and a hook to engage said notches.

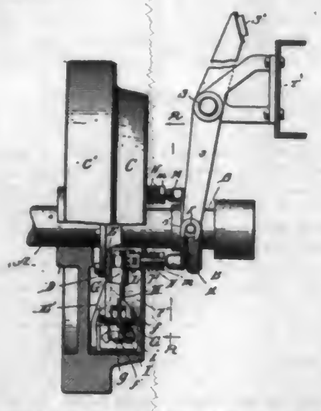
975,582. STOCKING-CAP. ETTA SWINDELL, Nashville, Tenn., assignor to Charles Swindell, Nashville, Tenn. Filed Feb. 28, 1910. Serial No. 546,425.



A stocking cap of the character described comprising a resilient knit fabric tube closed at one end and having a pair of spaced parallel slits cut therein, at a distance from the closed end, the open end of the tube being folded in-

wardly intermediate the two slits to bring the edges of said slits into alinement, and means for securing the edges of said slits together whereby a single reinforced opening is formed.

975,583. CLUTCH. ROBERT SYMMONDS, Jr., Kenosha, Wis., assignor, by mesne assignments, to Kate E. Jeffery, Charles T. Jeffery, and Harold W. Jeffery, executors of Thomas B. Jeffery, deceased. Filed May 3, 1909. Serial No. 493,501.



1. In a clutch, a drum, a spider adjacent to said drum, a friction shoe lying in proximity to said drum and connected at one end to said spider, a rock shaft journaled on said spider and extending transversely of the axis of said drum with one end lying adjacent to the free end of said shoe and the other end extending toward said axis, actuating means for said shoe arranged between the free end thereof and the adjacent end of the rock shaft, and means for oscillating said shaft.

2. In a clutch, a drum, a spider adjacent to said drum, a friction shoe lying in proximity to said drum and connected at one end to said spider, a rock shaft journaled on said spider and extending transversely of the axis of said drum with one end lying adjacent to the free end of said shoe and the other end extending toward said axis, a crank arm on the outer end of the rock shaft, a connecting member between said crank arm and the free end of said shoe, and means for oscillating said rock shaft.

3. In a clutch, a drum, a revoluble member, a friction shoe movably mounted on said member in position to be carried into and out of engagement with said drum, a rock shaft extending inwardly from a point adjacent to said drum toward said member, crank arms on said rock shaft, a connection between one of the said arms and said friction shoe, a sleeve mounted on said member so as to be slidable axially thereof, a connection between said sleeve and the other crank arm, and means for actuating said sleeve.

4. In a clutch, a drum, a revoluble member having a spider extending into the drum, a friction shoe mounted on said spider so as to be movable into and out of engagement with the interior of said drum, a rock shaft mounted on said spider and extending inwardly from a point adjacent to said drum toward the axis of said member, crank arms on said shaft, a link connected at its ends with said shoe and with one of the said crank arms and forming therewith an obtuse angle, and means cooperating with the other of said crank arms for rocking said shaft.

5. In a clutch, a drum, a revoluble member having a spider extending into the drum, a friction shoe mounted on said spider on one side of said member so as to be movable into and out of engagement with the interior of said drum, a rock shaft mounted on said spider on the opposite side of said member and extending transversely of the axis of said member, crank arms on said shaft, a link connected at its ends with said shoe and with one of the said crank arms and forming therewith an obtuse angle, a sleeve mounted on said member so as to be slidable axially thereof, a connection between said sleeve and the other crank arm, and means for actuating said sleeve.

[Claims 6 to 16 not printed in the Gazette.]

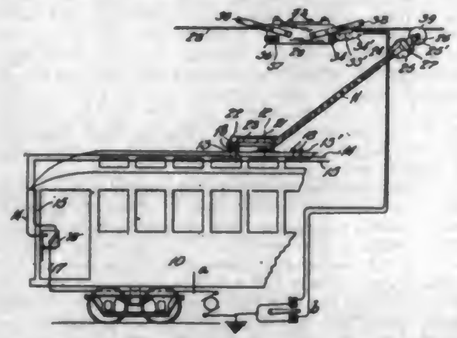
975,584. PIPE ATTACHMENT. WILFRED ELLIOTT TAIT, Beverly, Mass. Filed Jan. 11, 1910. Serial No. 537,448.



1. An attachment for smoking pipes consisting of a sheet metal, perforated, concavo-convex, saucer-like bowl, flat, integral pipe bowl cleaning spring arms at opposite sides of the upper edge of said attachment flaring outward toward their upper ends, and the upper ends of said arms bent outward and upward, forming finger holds free from contact with the pipe bowl, whereby when said finger holds are moved to turn the attachment said arms will cut the cake from the inside of the bowl, substantially as described.

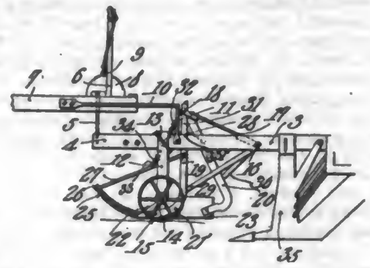
2. In combination with a smoking pipe having a bowl, the wall of which tapers inward from its upper to its lower end, of an attachment in said bowl comprising a concavo-convex, perforated, sheet metal, saucer-like bowl, pipe bowl cleaning spring arms at opposite sides of said attachment bowl bearing against the inclined tapering surface of said pipe bowl, and the upper ends of said arms bent outward and upward and engaging over the upper edge of said pipe bowl forming finger holds free from contact with the pipe bowl, whereby when said finger holds are moved to turn the attachment said arms will cut the cake from the inside of the pipe bowl, substantially as described.

975,585. ELECTRIC-CIRCUIT CONTROLLER FOR RAILWAY-SWITCHES. GUY M. THOMPSON, Seattle, Wash., assignor to The G. M. Thompson Railway Switch Company, Seattle, Wash., a Corporation of Washington. Filed May 18, 1909. Serial No. 496,707.



A trolley actuated circuit closer, comprising, in combination, an insulated housing supported by the trolley wire including spaced longitudinal side members, trolley guides secured to and oppositely projected from either end of the housing, longitudinally arranged resilient contact plates secured to the side members of the housing and insulated from each other, a magnetic track switch, and a normally open electrical circuit including said plates and said track switch and adapted to be closed by the trolley frictionally engaging said plates.

975,586. BEET-HARVESTER. MALKOM H. WADHAMS, Las Animas, Colo. Filed June 15, 1909. Serial No. 502,310.



1. The combination with a frame, of a topping blade mounted to swing with relation thereto, forwardly and upwardly extended runners movably mounted in front of the blade, the intermediate runners being shorter than the side runners, and means for yieldingly pressing the runners upon the ground.

2. The combination with a supporting frame, of a topping blade, said blade being movable with relation to the frame, and a foot board movable with the blade.

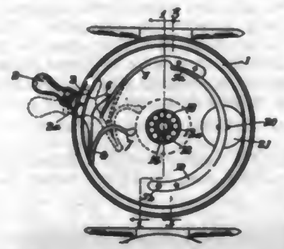
3. The combination with a supporting structure, of a topping blade, a deflecting blade in rear thereof and movable therewith, said blade being arranged to swing with relation to the structure, and a foot board connected to and movable with the blade.

4. The combination with a supporting structure, of hangers mounted to swing with relation thereto, a topping blade connected to one of the hangers, a deflecting blade connected to the other hanger in rear of and movable with the topping blade, means for limiting the downward movement of the hangers, and a foot board movable with said hangers.

5. The combination with a supporting structure, of a foot board mounted to swing thereon, hangers pivotally connected to and depending from the foot board, a topping blade secured to one of the hangers, a deflecting blade secured to the other hanger and movable with the topping blade, braces connecting the hangers with the pivotal portion of the foot board, and means adjustably engaging one of the hangers and coöperating with the supporting structure to limit the downward movement of the blade.

[Claim 6 not printed in the Gazette.]

975,587. FISHING-REEL. PERCY FRANK WADHAM, Newport, Isle of Wight, England. Filed June 28, 1909. Serial No. 504,836.



1. In a fishing reel, the combination with a rotating member for the line, a relatively fixed element rotatively supporting said member, a manually operable device carried by said element and provided with a yielding extension engaging a portion of said rotating member and formed and arranged to assume arresting and release positions with respect thereto, and means normally acting on said device to thrust said extension into an arresting position.

2. In a fishing reel, the combination with a rotating member for the line having a circular roughened surface, a relatively fixed element rotatively supporting said member, a pivoted trigger on said element provided with a yielding extension engaging said roughened surface and formed and arranged to assume arresting and release positions with respect thereto, and a spring acting on said trigger to normally thrust said extension into an arresting position.

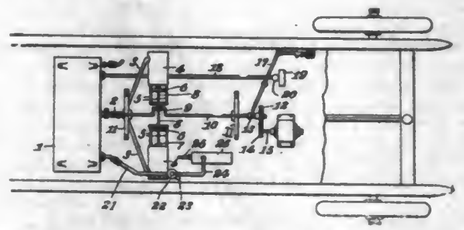
3. In a fishing reel, the combination with a rotating member for the line, a relatively fixed element rotatively supporting said member, and a manually operable device carried by said element and provided with means engaging a portion of said rotating member for imparting thereto an initial rapid rotary movement when casting.

4. In a fishing reel, the combination with a rotating member for the line, a relatively fixed element rotatively supporting said member, and a manually operable device carried by said element and provided with yielding means engaging a portion of said rotating member for imparting thereto an initial rapid rotary movement when casting.

5. In a fishing reel, the combination with a rotating member for the line, a relatively fixed element rotatively supporting said member, a manually operable device carried by said element and provided with means engaging a portion of said member for imparting thereto an initial rapid rotary movement when casting and also formed and arranged to assume an arresting position for retarding movement of said member, and means normally acting on said device to thrust said means into an arresting position.

[Claims 6 to 8 not printed in the Gazette.]

975,588. PNEUMATIC SYSTEM FOR AUTOMOBILES. ROBERT S. WALLACE, Forney, Tex., assignor of one-third to Grover G. Fix, Forney, Tex. Filed Dec. 23, 1908. Serial No. 469,024.

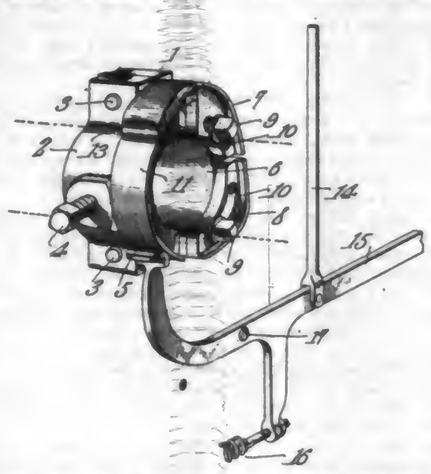


The combination of a rotary drive shaft, a motor for rotating said shaft, a pinion fixed on the shaft, a driven shaft formed with a crank, a sleeve rotatable with the driven shaft and slidable longitudinally thereon, a gear wheel carried by the sleeve and adapted to mesh with the pinion to transmit power from the drive shaft to the driven shaft, a lever for sliding the sleeve on the driven shaft to move the gear wheel into and out of mesh with the pinion, a pair of compressor cylinders extending transversely on opposite sides of the driven shaft, pistons having reciprocatory movement within the cylinders, piston rods secured to the pistons and projecting through the adjacent ends of the cylinders, guides provided at the adjacent ends of the cylinders, cross heads secured to the projecting portions of the piston rods and movable in the respective guides, pitmen connecting both piston rods to the crank, a reservoir for compressed air, and a pipe coupled at one end to the reservoir and bifurcating at its other end with the bifurcations communicating with the remote ends of the compressor cylinders.

975,589. CAM. GEORGE T. WATKINS, Kannapolis, N. C. Filed Oct. 8, 1909. Serial No. 521,658.

A cam for actuating the lifting rod in a loom stop motion, the same comprising two members each of which carries its body portion, one body portion having a sub-

stantially plane surface extending to the high point of the cam and a projection on its face extending away from said high point and growing thicker to the remote end of the projection where the latter has an abrupt shoulder



merging into said plane surface, two face portions adjustably secured to the other body portion, means for connecting the members, and means for securing the cam to a shaft.

975,590. CABINET-FINISHING TOOL. JOHN F. WEBER, West Allis, Wis. Filed Feb. 1, 1909. Serial No. 475,342.

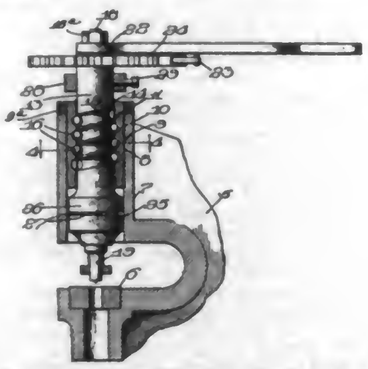


1. In a cabinet finishing tool, a frame, a handle mounted thereon, flanges on the frame, a sandpaper block provided with flanges to coöperate with the flanges of the frame to clamp the edges of sandpaper between them, a projection on the sandpaper block, a clamping member pivotally mounted on the frame and adapted to engage the projection of the sandpaper block, and a set screw threaded on the frame and engaging the clamping member to cause it to swing and draw the sandpaper block toward the frame to clamp the edges of the sandpaper between the flanges.

2. A cabinet finishing tool, comprising a frame, a handle pivotally mounted thereon, a projection on the frame, a set screw on the handle engaging the projection to lock the handle in angular adjustments on the frame, flanges on the other side of the frame, a sandpaper block having flanges fitting with the flanges of the frame to clamp the edges of sandpaper between them, a projection on the sandpaper block, a clamping member pivotally mounted on the frame and adapted to engage the projection of the sandpaper block, and a set screw threaded on the frame and engaging the clamping member to cause it to draw the sandpaper block toward the frame.

3. A cabinet finishing tool, comprising a frame, a yoked handle pivotally mounted thereon, a projection on the frame, set screws on the handle engaging the projection to lock the handle in various angular adjustments on the frame, flanges on the opposite side of the frame, a sandpaper block having flanges coöperating with the flanges of the frame to hold the edges of sandpaper between them, an arched projection on the sandpaper block, there being an opening in the frame through which the arched projection of the sandpaper block passes and sockets at the ends of said opening, a clamping member having trunnions fitting in the sockets and being adapted to engage the arched projection, lugs on the projection of the frame closing the sockets, and a set screw threaded on the frame and engaging the clamping member to cause it to draw the sandpaper block toward the frame.

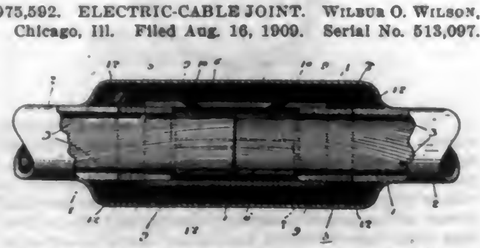
975,591. MECHANICAL MOVEMENT. WILLIAM A. WHITNEY, Rockford, Ill. Filed July 30, 1908. Serial No. 446,054.



1. A mechanical movement comprising a spirally grooved spindle, a spirally grooved casing containing said spindle, a series of balls lying in said grooves and free to travel along said grooves, the length of said series being less than the length of said grooves, and means to hold the series of balls together so that the series may reciprocate along and rotate around the spindle as a unit.

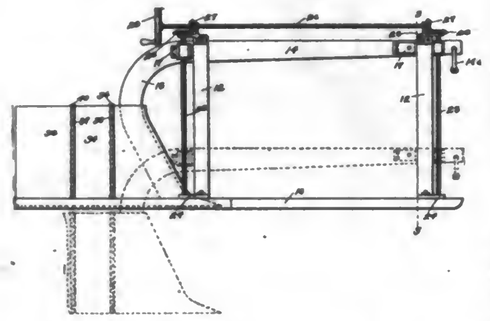
2. A mechanical movement comprising a spirally grooved spindle, a spirally grooved casing containing said spindle, a cylinder rotatably surrounding said spindle within said casing and movable longitudinally of said casing and said spindle, said cylinder having a spiral series of openings formed therethrough, and balls in said openings lying in the grooves of said spindle and said casing, the length of the series of balls being less than the length of the grooves, said cylinder serving to hold the series of balls together so that the series may reciprocate along and rotate around the spindle as a unit.

975,592. ELECTRIC-CABLE JOINT. WILBUR O. WILSON, Chicago, Ill. Filed Aug. 16, 1909. Serial No. 513,097.



In a joint of the class described, two cables each having an electric conductor and an insulation therefor, lead coverings for the insulation of the cables, a lead jacket having reduced ends soldered to said lead coverings, a copper sleeve inclosing the ends of the conductors and soldered thereto, a layer of paraffin surrounding said copper sleeve, paper sleeves surrounding the ends of said insulation, a paper sleeve surrounding said layer of paraffin and a portion of said paper sleeves, said paper sleeve being provided with apertures through which said paraffin is adapted to flow when in a molten condition, and a filling of paraffin in the annular space between the walls of said paper sleeve and the walls of said jacket, substantially as described.

975,593. DITCHING-MACHINE. FREDERICK B. WINKELMAN, Churdan, Iowa. Filed Apr. 5, 1910. Serial No. 553,666.



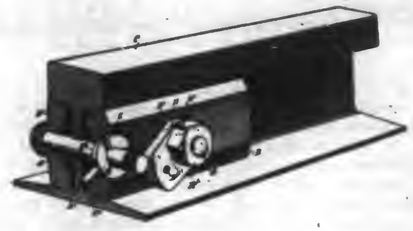
1. In a tile ditcher of the class described, the combination of a supporting frame to be advanced over a field, a beam carried by said frame and vertically adjustable relative to it, a cutting plate connected with the beam and having its sides diverge outwardly and rearwardly relative to each other, two plates hinged to the rear edges of said cutting plate, and two spacing plates hinged to the rear ends of said latter plates, and means between the said spacing plates to hold them separated from each other.

2. In a tile ditcher of the class described, the combination of a supporting frame to be advanced over a field, a beam carried by said frame and vertically adjustable relative to it, a cutting plate connected with the beam and having its sides diverge outwardly and rearwardly relative to each other, two plates hinged to the rear edges of said cutting plate, and two spacing plates hinged to the rear ends of said latter plates, and adjustable means between the said spacing plates to hold them separated from each other.

3. In a tile ditcher of the class described, the combination of a supporting frame to be advanced over a field, a beam carried by said frame and vertically adjustable relative to it, a cutting plate connected with the beam and having its sides diverge outwardly and rearwardly relative to each other, two plates hinged to the rear edges of said cutting plate, two spacing plates hinged to the rear ends of said latter plates, means between the said spacing plates to hold them separated from each other, said means comprising two bars secured to each plate in upright positions near the forward and rear ends thereof, each bar being provided with screw threaded tubular extensions, two bars fixed to the opposite plate and provided with sockets, screw threaded rods in said sockets and inserted in said tubular extensions and provided with integral nuts for adjusting them in the sockets whereby the forward and rear ends of said plates may be adjusted independently relative to each other, for the purposes stated.

4. In a ditching machine of the class described, the combination of a platform having an opening at its rear, two uprights mounted upon said platform and each having a vertical slot, a beam slidingly mounted in the said slotted uprights, two brackets fixed to the beam, a screw threaded bearing block pivoted in each bracket, screw threaded shafts in vertical positions rotatably supported on the frame and extended through said screw threaded blocks, a beveled pinion at the top of each of said shafts, a horizontally arranged shaft supported on said uprights and having beveled pinions thereon to mesh with the beveled pinions on the upright shaft, a handwheel on said horizontally arranged shaft for turning it, a clevis applied to the forward end of the beam, and a ditch digging plate fixed to said beam and designed to be extended through an opening at the rear of the frame, for the purposes stated.

975,594. NUT-LOCK AND TIGHTENING DEVICE. JOHN G. WOLFE, New York, N. Y. Filed Mar. 7, 1910. Serial No. 547,656.



1. A nut lock and tightening device for locking the nuts on bolts and for automatically tightening the connected parts, comprising cams having contacting cam faces and interposed between the nut and a fixed part, and means for exerting pressure on the said cams in opposite directions for moving the cams apart.

2. A nut lock and tightening device for locking the nuts on bolts and for automatically tightening the connected parts, comprising a pair of cams loose on the bolt between the bolt nut and a fixed part, the cams having contacting cam faces, and pressure means for exerting pressure on the cams for turning the same in opposite directions to move the cams apart in the direction of the length of the bolt.

3. A nut lock and tightening device for locking a nut on a bolt and for automatically taking up loose motion between the parts fastened together by the bolt and nut, comprising a pair of cams mounted to turn loosely on the bolt and interposed between the bolt nut and one of the parts, the said cams having contacting cam faces and sidewise extensions, and a spring interposed between the said extensions.

4. A nut lock and tightening device for locking a nut on a bolt and for automatically taking up loose motion between the parts fastened together by the bolt and nut, comprising a pair of cams mounted to turn loosely on the bolt and interposed between the bolt nut and one of the parts, the said cams having contacting cam faces and sidewise extensions, a spring interposed between the said extensions, and manually-controlled means for temporarily locking the cams together.

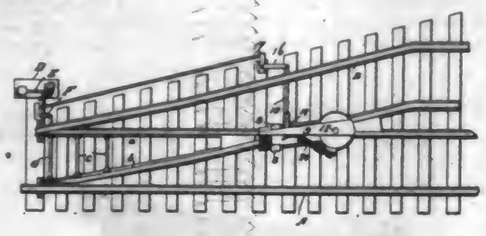
5. A nut lock and tightening device for locking a nut on a bolt and for automatically taking up loose motion between the parts fastened together by the bolt and nut, comprising a pair of cams mounted to turn loosely on the bolt and interposed between the bolt nut and one of the parts, the said cams having contacting cam faces and sidewise extensions, a spring interposed between the said extensions, manually-controlled means for temporarily locking the cams together, and a locking pin insertible on the cam adjacent to the nut, and having an angular arm for engagement with a side of the nut.

[Claims 6 to 8 not printed in the Gazette.]

975,595. RAILWAY-SWITCH. JAMES F. YOHO and DANIEL O'NEIL, Sharon, and JAMES LAURENCE KIESTER, Kiester, Pa. Filed July 15, 1909. Serial No. 507,812.

1. In a railway switch, a frog consisting of a base plate having an annular bearing groove in one end and its other end cut away to form a shoulder, an undercut

groove in said shoulder, a frog point mounted on said plate, an annular bead on the under side of one end of the point and engaging the annular groove aforesaid, a hook on the underside of its other end and engaging the undercut groove aforesaid, and a spring secured to the base plate and engaging the frog point to hold it normally in position.



2. In a railway switch, a frog consisting of a base plate having a circular bearing at one end with an annular groove therein, the other end of the base plate cut away to form a shoulder, said shoulder provided with an undercut groove therein, a frog point having a circular bearing surface to engage the bearing surface on the base, an annular bead on the underside of the frog point and engaging said annular groove, a pivot pin secured through said frog point and base centrally of the annular groove and bead, the free end of the frog point having a hook to engage the undercut groove in the shoulder, and a leaf spring secured to the base plate and engaging the frog point to hold it normally in position.

975,596. ACOUSTIC DIAPHRAGM. WILLIAM W. YOUNG, Springfield, Mass. Filed Mar. 28, 1910. Serial No. 552,017.



1. A disk, for a diaphragm of the class described, consisting of a pitted member having burs thereon and holes therethrough independent of the bur openings.

2. A disk, for a diaphragm of the class described, consisting of a member having its structure broken up throughout approximately its entire area, provided with burs, and having holes independent of the bur openings.

3. A disk, for a diaphragm of the class described, consisting of a member having protuberances over approximately the entire superficial area of its sides, provided with burs, and having holes independent of the bur openings.

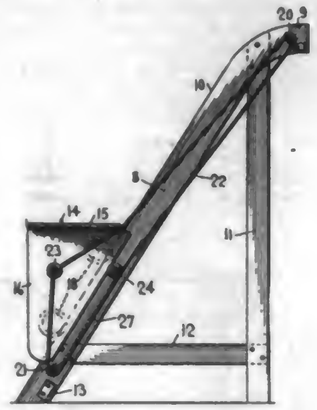
4. A disk, for a diaphragm of the class described, consisting of a pitted member having burs thereon and holes therethrough independent of the bur openings, and provided with a dished center, such burs and holes being located between said dished center and the periphery of said member.

5. A diaphragm, of the class described, consisting of a pitted disk having burs thereon and holes therethrough independent of the bur openings, covering material on such disk for such holes, and a hard overlaying coating on said disk and covering material and in the disk perforations and uniting said covering material with the disk.

[Claims 6 and 7 not printed in the Gazette.]

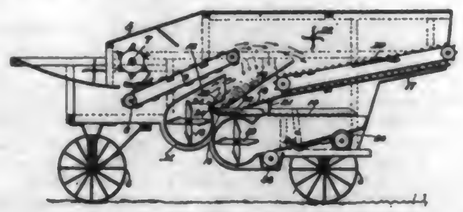
975,597. PORTABLE ELEVATOR. ADOLPH ZIKMUND, Ord, Nebr. Filed Nov. 18, 1908. Serial No. 463,195.

An elevator comprising an inclined frame having spaced guide rails forming tracks, rollers journaled in the guide rails at opposite ends thereof, a movable carrier having side members, a cross rod connecting said side members and disposed outwardly of the center of a section of the side members taken on a plane passing through said cross rod at right angles to the guide rails, flanged rollers journaled on said side members and engaging the tracks,



a cable passing over the upper and lower rollers and having its terminals connected to the cross rod, and means for moving the cable longitudinally to raise and lower the carrier.

975,598. GRAIN-SEPARATOR. FRANK AYLER, Winona, Wash. Filed Jan. 19, 1910. Serial No. 538,939.



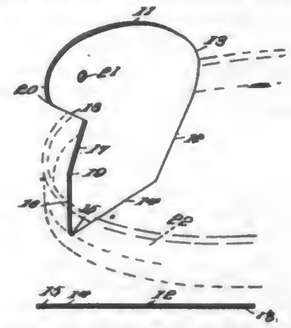
1. A threshing machine including spaced conveyers, a fan for directing a blast of air on the straw as the latter travels from one conveyer to the other, a receiving pan, an inclined plate having its upper end extended above the lower end of the rear conveyer, and its lower end disposed above the receiving pan, a floor arranged beneath the rear conveyer and provided with an extension projecting in the direction of said receiving pan, and a flexible guard depending from said inclined extension and disposed at the rear end of the receiving pan.

2. A threshing machine including spaced conveyers disposed in different inclined planes, a fan casing having a spout extending upwardly between said conveyers and provided with a movable wall, a fan mounted for rotation in the casing for directing a blast of air on the straw as the latter travels from one conveyer to the other, a receiving pan, an inclined plate having its lower end disposed above the receiving pan and its upper end extended above the inner end of the rear conveyer to form a partial barrier for the straw, a beater mounted for rotation above the upper end of the inclined plate, a floor disposed beneath the rear conveyer and provided with a downwardly inclined extension, and a flexible guard depending from the extension of the floor at the rear of the receiving pan.

975,599. PAN-SCRAPER. GEORGE M. BATES, Lebanon, Mo. Filed Sept. 10, 1909. Serial No. 517,070.

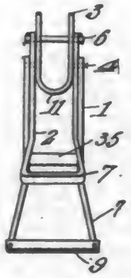
A scraper including a sheet of metal stamped to form a point at its lower end, the edges of the sheet extending upwardly from the point at an acute angle, one of the

edges terminating in an inwardly beveled edge which in turn merges into a second inwardly beveled edge extending outwardly from the body of the sheet at an obtuse angle to the first inwardly beveled edge, the second beveled edge extending outwardly to a rounded upper



edge for the reception of the hand of the operator, the opposite side of the sheet having a diagonal edge extending downwardly and inwardly from the adjacent end of the upper rounded edge to the opposite lower edge terminating in a point.

975,600. AUTO-TIRE-PROTECTOR JACK. GEORGE M. BEARD, Lagrange, Ind. Filed June 6, 1910. Serial No. 565,238.



1. A vehicle jack consisting of a bail shaped yoke; and a removable attachment therefor, consisting of a bail shaped body adapted to fit within the yoke, there being a curvilinear finger upon the body depending upon one side of the yoke and, lugs upon the body adapted to interlock behind the other edge of the yoke; a support; and means upon the support for raising and lowering the yoke.

2. A device of the class described consisting of three bail shaped members adapted to fit within one another in longitudinally alined relation, the inner of said members being adjustably pivoted to the ends of the intermediate member, and the intermediate member being pivoted between its ends to the outer member; a stop upon the outer member to engage the intermediate member when the members are alined; and a hook adapted to be removably seated in the inner member to project substantially at right angles thereto.

3. A device of the class described comprising three bail shaped members, fitting one within the other, the inner member being adjustably pivoted to one end of the intermediate member and adapted to receive a vehicle hub, the intermediate member being pivoted between its ends to the outer member and constituting a lever for the manipulation of the hub-engaging member; and a bar connecting opposite points upon the outer member to serve as a stop for the intermediate member when the hub-engaging member is elevated.

4. A device of the class described comprising three bail shaped members fitting closely one within the other, the inner member being adjustably pivoted to one end of the intermediate member and being adapted to receive a vehicle hub to hold the same against movement parallel to the plane of the wheel of which the hub is a part, the intermediate member being pivoted between its ends in the outer member, and constituting a lever for the manipulation of the hub-receiving member; the outer member being flared adjacent its lower end, to broaden the base of the device, and the intermediate member being flared adjacent its lower end to receive the foot of the operator.

975,601. CAMERA-SHUTTER-OPERATING MECHANISM. JOSEPH BECKER, Washington, D. C., assignor to Eastman Kodak Company, New York, N. Y., a Corporation of New York. Original application filed June 26, 1901, Serial No. 66,159. Divided and this application filed Nov. 16, 1907. Serial No. 402,518.



1. The combination with a flexible means for positively transmitting motion having a flexible but longitudinally inextensible tension element closely bound throughout its length with a flexible but longitudinally incompressible compression element; of a sender at one end of such transmission for simultaneously exerting a direct pull on the end of said tension element and a substantially equal and directly opposed push against the end of said compression element, said sender comprising a pusher for exerting a pushing effort along the tangentially produced axis of the said flexible transmission and a puller for exerting pulling efforts at points situated on opposite sides of the said pusher.

2. The combination with a flexible means for positively transmitting motion having a flexible but longitudinally inextensible tension element closely bound throughout its length with a flexible but longitudinally incompressible compression element; of a sender at one end of such transmission for simultaneously exerting a direct pull on the end of said tension element and a substantially equal and directly opposed push against the end of said compression element, said sender comprising a pusher for exerting a pushing effort along the tangentially produced axis of the said flexible transmission and a puller for exerting pulling efforts at points situated on opposite sides of the said pusher, the surface of application of the said pulling efforts being formed as an annular surface of revolution about the same said axis.

3. The combination with a flexible means for positively transmitting motion having a flexible but longitudinally inextensible tension element closely bound throughout its length with a flexible but longitudinally incompressible compression element; of a sender at one end of such transmission for simultaneously exerting a direct pull on the end of said tension element and a substantially equal

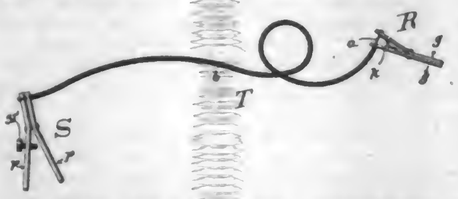
and directly opposed push against the end of said compression element, said sender comprising a pusher for exerting a pushing effort along the tangentially produced axis of the said flexible transmission and a puller for exerting pulling efforts at points situated on opposite sides of the said pusher, the surfaces of application of the said pushing and pulling efforts being formed as surfaces of revolution about the same said axis.

4. The combination with a flexible means for positively transmitting motion having a transversely flexible but longitudinally inextensible tension element and a transversely flexible but longitudinally incompressible tubular compression element, said tension element passing longitudinally through the said compression element; of a sender at one end of such transmission for simultaneously exerting a direct pull on the end of said tension element and a substantially equal and directly opposed push against the end of said compression element, said sender comprising two conaxial telescoping parts, the outer telescoping part being connected with the said internal tension element as puller, and the inner telescoping part being adapted to bear against the said external compression element as pusher.

5. The combination with a flexible means for positively transmitting motion having a transversely flexible but longitudinally inextensible tension element and a transversely flexible but longitudinally incompressible tubular compression element, said tension element passing longitudinally through the said compression element; of a sender at one end of such transmission for simultaneously exerting a direct pull on the end of said tension element and a substantially equal and directly opposed push against the end of said compression element, said sender comprising two conaxial telescoping parts, the outer telescoping part being connected with the said internal tension element as puller, and the inner telescoping part being adapted to bear against the said external compression element as pusher, the said puller being shorter than the said pusher and provided with a circular outwardly projecting flange to serve as pulling surface.

[Claims 6 and 7 not printed in the Gazette.]

975,602. ATTACHMENT FOR OPERATING CAMERA-SHUTTERS. JOSEPH BECKER, Washington, D. C., assignor to Eastman Kodak Company, Rochester, N. Y., a Corporation of New York. Original application filed June 26, 1901, Serial No. 66,159. Divided and this application filed Mar. 11, 1910. Serial No. 548,530.



1. As an attachment for operating camera shutters, the combination with a sender for simultaneously exerting a thrust and an equal pull, of a receiver adapted to receive and be operated by said thrust and pull, a flexible connection between said sender and receiver for transmitting the said stresses said flexible connection comprising a longitudinally inextensible pull element bound throughout its length with a longitudinally incompressible compression element, and in the receiver a spring adapted to resist the stresses and to tend to keep all parts in their normal relative position of rest.

2. As an attachment for operating camera shutters, the combination with a sender for simultaneously exerting a thrust and an equal pull, of a receiver adapted to receive and be operated by said thrust and pull, a flexible connection between said sender and receiver for transmitting the said stresses said flexible connection comprising a longitudinally inextensible pull element bound throughout its length with a longitudinally incompressible compression element, and in the receiver a spring adapted to resist the stresses and to tend to keep all parts in their normal relative position of rest, said receiver being provided with means for fastening it to a camera or camera shutter.

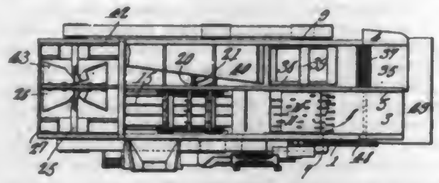
3. As an attachment for operating camera shutters, the combination with a sender for simultaneously exerting a thrust and an equal pull, of a receiver adapted to receive and be operated by said thrust and pull, a flexible connection between said sender and receiver for transmitting the said stresses, said flexible connection comprising a longitudinally inextensible pull element bound throughout its length with a longitudinally incompressible compression element, a spring in the receiver adapted to resist the stresses and to tend to keep all parts in their normal relative position of rest, and an adjustable stop on the sender to limit the extent of motion to be transmitted.

4. As an attachment for operating camera shutters, the combination with a sender for simultaneously exerting a thrust and an equal pull, of a receiver adapted to receive and be operated by said thrust and pull, a flexible connection between said sender and receiver for transmitting the said stresses said flexible connection comprising a longitudinally inextensible pull element bound throughout its length with a longitudinally incompressible compression element, and in the receiver a spring adapted to resist the stresses and to tend to keep all parts in their normal relative position of rest, said receiver being provided with means for fastening it to a camera or camera shutter and adapted to exert either a spreading or a closing action.

5. As an attachment for operating camera shutters, the combination with a sender for simultaneously exerting a push and an equal pull; of a transmission comprising a transversely flexible but longitudinally inextensible pull element for transmitting said pull bound throughout its length with a transversely flexible but longitudinally incompressible compression element for transmitting the said push; the receiving end of said pull element being provided with means for attaching it to a point in fixed relation to a shutter or camera frame and said push element being adapted to act on a finger or other part of the camera or camera shutter that must be actuated to produce an exposure.

[Claims 6 to 8 not printed in the Gazette.]

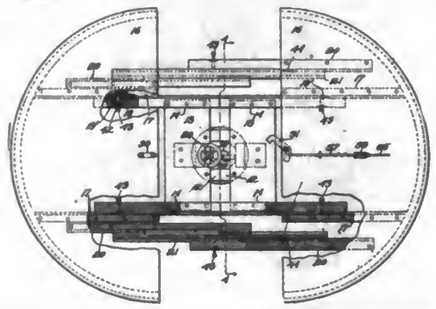
975,603. COMBINED VINE-THRESHER AND STALK-CUTTER. CHARLES BOZILE, Manawa, Wis., assignor of one-half to George Bozile, Manawa, Wis. Filed Apr. 16, 1910. Serial No. 555,790.



1. A machine of the character indicated comprising a body, a stalk handling means, a vine handling means, an air blast device adapted to act in common for supplying air to both the stalk handling and vine handling means, and delivery chutes for the vines and stalks and means common to the stalk handling means and vine handling means for carrying the material through said delivery chute.

2. In a machine of the character indicated comprising a body, a partition located in the body and dividing the same into adjacent throats, a stalk handling means located in one throat, a vine handling means located in the other throat, the edge of said partition adapted to serve as means for separating intertwined vines from stalks when portions of the vines and portions of the stalks are fed to their respective handling means, an air blast device adapted to act in common to deliver blasts of air to the material passing from both of said throats, and delivery chutes adapted to receive said material and means for forcing the material through said delivery chutes.

975,604. PEDESTAL EXTENSION-TABLE. CHARLES J. BROWN, Newton, Mass. Filed May 5, 1909, Serial No. 494,201. Renewed Sept. 10, 1910. Serial No. 581,447.



1. A knock down pedestal extension table comprising separable pedestal sections, independent relatively movable top sections, slides connecting each top section with its corresponding pedestal section, said slides being constructed to permit said top sections to move relatively to each other and to said pedestal sections, and means for limiting the relative movement of said top sections, said limiting means being manually operable to permit the disconnection of said top sections from said pedestal sections.

2. A knock down pedestal extension table comprising separate relatively movable pedestal sections, separate relatively movable top sections, leaf supporting slides connecting the top sections, slides independent of the leaf supporting slides and connecting each top section to its corresponding pedestal section, whereby the top sections are movable with reference to each other and to their respective pedestal sections, and manually operable spring-pressed stop bolts on said last-mentioned slides which normally limit the movement of said top sections with reference to the pedestal sections said stops being withdrawable to permit the disconnection and removal of the pedestal sections from the top sections.

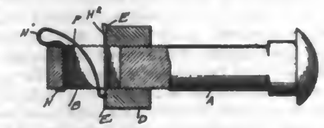
3. A knock down pedestal extension table comprising separate relatively movable pedestal sections, separate relatively movable top sections, leaf supporting slides connecting the top sections, slides independent of the leaf supporting slides and connecting each top section to its corresponding pedestal section, whereby the top sections are movable with reference to each other and to their respective pedestal sections, and manually operable stops on said leaf supporting slides and said top connecting slides and located normally to limit the separating movement of said top sections, said stop bolts being manually withdrawable, whereby said top sections may be disconnected from said pedestal sections and from each other.

4. A knock down pedestal extension table comprising separate relatively movable pedestal sections, separate relatively movable top sections, leaf supporting slides connecting the top sections, and slides independent of the leaf supporting slides and connecting each top section to its corresponding pedestal section, whereby the top sections are movable with reference to each other and to their respective pedestal sections.

5. A knock-down pedestal extension table comprising a pedestal, independent top sections movable toward and from each other and movable relatively to the pedestal, slides carried by said pedestal, slides secured rigidly to said top sections and telescoping with those of the pedestal, said slides being constructed to permit said top sections to be separated and to be moved relatively to said pedestal to allow the insertion of one or more extension leaves, and spring pressed stop bolts for limiting the separating movement of said slides, said stop bolts being manually withdrawable to permit a continued movement of said top sections in opposite directions so as to separate them from the pedestal.

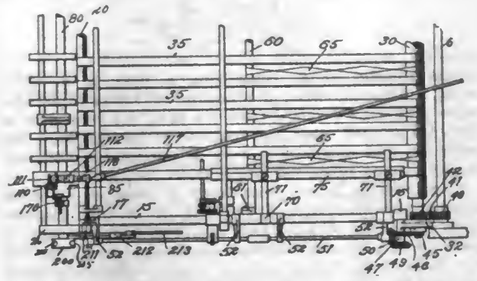
[Claims 6 to 9 not printed in the Gazette.]

975,605. NUT-LOCK. ROBERT COOPER, Chicago, Ill. Filed Sept. 7, 1910. Serial No. 580,875.



A nut lock comprising a bolt having a longitudinal slot therein, a nut mounted upon the threaded bolt and having ratchet teeth in the face thereof, a spring having one end bent at an angle engaging over one marginal edge of the slot and bent to form a bowed portion engaging the other marginal edge of the slot, a portion of the spring extending diagonally through the slot and bent upon itself forming a flat portion engaging the ratchet teeth.

975,606. SHEET-REGISTERING MECHANISM FOR PAPER-FEEDING MACHINES. TALBOT C. DEXTER, Pearl River, N. Y., assignor to Dexter Folder Company, Pearl River, N. Y., a Corporation of New York. Filed June 9, 1909. Serial No. 501,092.



1. The combination in a sheet conveying machine, of the preliminary and final side registering devices arranged progressively in the path of sheets, said preliminary side registering device comprising means for imparting a sidewise movement to a sheet while it is traveling to place the sheet within the range of action of said final side registering device, and said final side registering device comprising a side gaging member and a laterally acting sheet moving member to accurately complete the side registering operation.

2. The combination in a sheet conveying machine, of the preliminary and final side registering devices arranged progressively in the path of sheets, and front gages for arresting the travel of sheets, said preliminary side registering device comprising a preliminary side registering gage and means for imparting a preliminary sidewise adjustment of a sheet while it is traveling to place the sheet within the range of action of said final side registering device, and said final side registering device comprising an independent side gaging member and an independent laterally acting sheet moving member adapted to accurately complete the side registering operation after the sheet is arrested by said front gages.

3. The combination with a sheet conveyer, of the preliminary and final side registering devices arranged progressively in the path of sheets, said preliminary registering device being adapted to shift the sheet laterally, as it

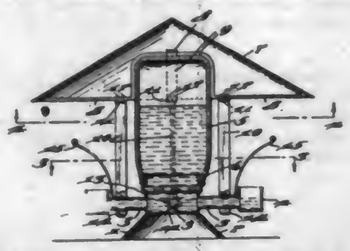
travels through said conveyer to place it within the range of action of said final registering device, and said final registering device comprising a rotary sheet engaging member and a gage member.

4. The combination with a sheet conveyer, of means for shifting the sheet laterally as it travels through said conveyer, a preliminary side registering gage adapted to limit the lateral movement of the traveling sheets, front gages for arresting the forward travel of sheets, a final side registering gage, and a rotary final registering device adapted to act upon a sheet after it has been arrested by said front gage to move it into final registered position against said final side registering gage.

5. The combination with a sheet conveyer having main sheet conveying tapes, and auxiliary twisted tapes for shifting a sheet laterally as it travels through said conveyer, means for limiting the lateral movement of the traveling sheets, front gages for arresting the travel of the sheets, and a final registering device acting upon the sheet after it is arrested by the gages, and comprising an independent side gaging member and coöperating laterally acting sheet moving member, substantially as set forth.

[Claims 6 to 14 not printed in the Gazette.]

975,607. POULTRY-FOUNT. GEORGE W. DUNCAN, Audubon, N. J. Filed May 31, 1910. Serial No. 564,028.



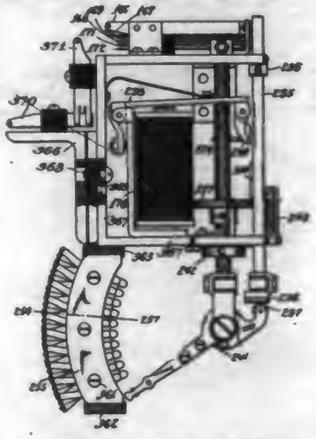
1. A poultry fount comprising a base, a reservoir screwed onto the base, a plurality of radially disposed tubes projecting outward from the base, drinking cups on the ends of said tubes, an umbrella or awning over said reservoir, and uprights secured to the awning and supported on said tubes, substantially as described.

2. A poultry fount comprising a base, a revervoir screwed onto the base, a plurality of radially disposed tubes projecting outward from the base, drinking cups on the ends of said tubes, a conical umbrella or awning over the fount, crossed bars secured to said umbrella or awning and bowed upward at their intermediate portions to receive the reservoir, and uprights secured to said bars, and comprising two strips of spring metal secured together, bent at their lower ends forming clamps engaging over said tubes, substantially as described.

3. A poultry fount, comprising a base, a reservoir screwed onto the base, a plurality of radially disposed tubes projecting outward from the base, drinking cups on the ends of said tubes, a conical umbrella or awning over the fount, crossed bars secured to said umbrella or awning and bowed upward at their intermediate portions to receive the reservoir, uprights secured to said bars and comprising two strips of spring metal secured together, bent at their lower ends forming clamps engaging over said tubes, and wires secured to said uprights and projecting above and over said cups, substantially as described.

975,608. SWITCH FOR AUTOMATIC TELEPHONE SYSTEMS. ALFRED H. DYSON, Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company, a Corporation of Illinois. Original application filed Oct. 31, 1905, Serial No. 285,321. Divided and this application filed July 5, 1907. Serial No. 382,244.

1. In an electrical switching mechanism, passive contacts arranged in rows, movable arms having contact ends adapted to engage said contacts, an electromagnet and apparatus controlled thereby for rotating said contact ends to select a row, and an electromagnet and apparatus controlled thereby for rotating said contact ends in an intersecting plane to select a contact of a row.



2. In an electrical switching mechanism, passive contacts arranged in rows, movable arms having contact ends adapted to engage said contacts, a primary shaft and a magnet therefor for rotating said ends in one plane to select a row, and a secondary shaft and a magnet therefor for rotating said ends in a selected intersecting plane to select a contact of a row.

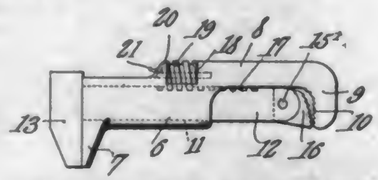
3. In an electrical switching mechanism, passive contacts arranged in rows, movable arms having contact ends adapted to engage said contacts, a primary shaft and a magnet therefor for rotating said ends in one plane to select a row, a secondary shaft and a magnet therefor for rotating said ends in a selected intersecting plane to select a contact of a row, and an off-normal switch actuated on the first movement of the primary shaft and a second off-normal switch actuated on the first movement of the secondary shaft.

4. In an electrical switching mechanism, the combination with passive contacts arranged in groups of switching mechanism for connecting with said contacts, a moving member carrying contacts to select a group of contacts, a second moving member carrying said contacts to select contacts of a group, an off-normal switch actuated by said first member and a second off-normal switch actuated by said second member.

5. In an electrical switching mechanism, movable contact arms, apparatus for causing said arms to move in a plane, a shaft for moving said arms in an intersecting plane, and a broad lug associated with said shaft in operative relation with said arms in whatever position they may be moved in said first plane.

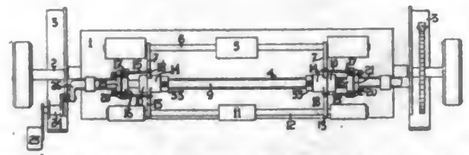
[Claims 6 to 34 not printed in the Gazette.]

975,609. WRENCH. JOHN H. FERGUSON, Dayton, Ohio. Filed Feb. 26, 1910. Serial No. 546,059.



A wrench comprising a stock comparatively broad throughout a portion of its length and formed at the outer end of its broad portion with a jaw, the stock having the remaining portion of its length off-set with respect to the broad portion, the said broad portion being formed with a slot and the off-set portion being formed at its outer end with a jaw, the inner edge of the off-set portion being in alinement with the adjacent edge of the slot in the broad portion of the stock, the said stock being recessed at the point of juncture of its broad and off-set portions, a shank slidably fitted through the slot in the broadened portion of the stock and having that edge which is presented toward the edge of the off-set portion of the stock of rack formation, a jaw carried at one end of the said shank and coöperating with the first mentioned jaw, a jaw carried at the other end of the shank and coöperating with the last mentioned jaw of the stock, and an adjusting nut mounted for rotation in the recess and coöperating with the rack edge of the shank, the last mentioned jaw upon the shank being off-set in a direction away from the said inner edge of the off-set portion of the stock whereby to prevent withdrawal of the shank from the slot in the broadened portion of the stock.

975,610. TYPE-WRITING MACHINE. BENJAMIN P. FORTIN, Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 16, 1910. Serial No. 544,152.



1. In a typewriting machine, the combination with a platen, of a feed roll device including front and rear feed rolls, arms having hinges and rocking independently of each other and supporting the rolls, springs for pressing the rolls toward the platen, casting off and restoring mechanism engaging the arms at their hinges to drop the rolls from the platen, and means to prevent the arms from swinging toward each other.

2. In a typewriting machine, the combination with a platen, of a feed roll device including forward and rear feed rolls, hinged arms supporting the rolls, springs for pressing the rolls toward the platen, mechanism to drop the arms to release the rolls from the platen, means to maintain the arms apart as they are dropped and restored, including antifriction rollers on the arms and guides on which the rollers run.

3. In a typewriting machine, the combination with a platen frame having a tie rod and a platen, of a feed roll device including forward and rear rolls, springs for pressing the rolls toward the platen, hinged arms lying on opposite sides of the tie rod and supporting the rolls, mechanism to drop the arms and rolls from the platen, and parts on the arms to engage the tie rod to hold the arms apart.

4. In a typewriting machine, the combination with a platen, of a feed roll device including forward and rear rolls, arms supporting the rolls, springs to press the rolls toward the platen, a rock shaft on which the arms are mounted, and means associated with the arms and operated by the rock shaft, to cast off the rolls from the platen.

5. In a typewriting machine, the combination with a platen, of a feed roll device including forward and rear feed rolls, casting off and restoring mechanism therefor, including a rock shaft, and roll supporting arms hinged on and operated by the rock shaft.

[Claims 6 to 13 not printed in the Gazette.]

975,611. ORCHARD-HEATER. THOMAS E. FULGHUM, Grand Junction, Colo., assignor to The National Orchard Heater Co., Grand Junction, Colo. Filed Mar. 7, 1910. Serial No. 547,764.

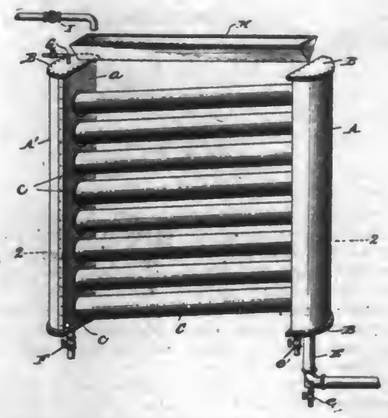
1. An orchard heater including a fuel receptacle open at the top and having a plurality of notches in the upper edge of the wall thereof, an inverted conical member supported within and spaced from the wall of the receptacle and having central air receiving apertures, and a cover removably and adjustably mounted upon the receptacle, said cover including depending portions for engaging the receptacle.



2. An orchard heater including a fuel receptacle open at the top and having a plurality of notches in the upper edge of the walls thereof, an inverted conical member within and concentric with the upper portion of the receptacle and spaced from the wall thereof, said member having central air receiving apertures, means extending across the lower face of the conical member and beyond the periphery thereof for engaging the notched wall of the receptacle to support the member within the receptacle, and a cover removably and adjustably mounted on the receptacle.

3. An orchard heater including a fuel receptacle open at the top and having notches in the upper edge of its walls, an inverted conical member supported within and concentric with the upper portion of the receptacle and spaced from the wall thereof, said member having air receiving apertures in the apex portion thereof, crossed supporting rods threaded through the peripheral portion of the member and extending along the lower face of said member, said rods extending beyond the periphery of the member and having downwardly extended end portions for engaging the notched portion of the wall of the receptacle, and a cover removably and adjustably mounted on the receptacle, and having depending receptacle engaging portions.

975,612. CONDENSER. DAVID G. GALBRAITH, Mineral Wells, Tex., assignor to Nannie L. Galbraith, Mineral Wells, Tex. Filed Aug. 4, 1909. Serial No. 511,136.



A condenser for the production of potable water from engine exhaust steam, having a small number of tubes each of large sectional area and embodying headers formed of sheet metal with their proximate faces flat, tubes each of large sectional area, formed of sheet metal and at their ends extending through the flat faces of the headers, said tubes being slightly inclined from the inlet header down to the discharge header and the ends of the tubes in the inlet header being provided with extensions having curved flanges lying in a substantially vertical plane, a steam inlet in one header, a water outlet at the bottom of the other header, and means for supplying cooling water to the exterior of the condenser tubes.

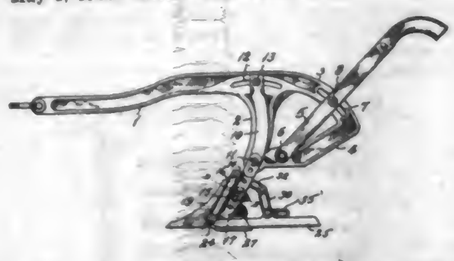
975,613. PROCESS OF PURIFYING CHLORATES. RUDOLF GARTENMEISTER, Elberfeld, Germany. Filed Aug. 10, 1908. Serial No. 447,838.

1. The process of purifying chlorates manufactured by an electro-chemical process, of that impurity of uncertain constitution not identical with potassium chlorate and which is composed of potassium, oxygen, and an uncertain halogen element, which consists in dissolving the chlorate containing the impurity to be eliminated, adding to the solution the amount of hydrochloric acid necessary for effecting the destruction of the impurity, boiling the solution, and removing the chlorate from the solution in the usual manner.

2. The process of purifying chlorates manufactured by an electro-chemical process, of that impurity of uncertain constitution not identical with potassium chlorate and which is composed of potassium, oxygen, and an uncertain halogen element, which consists in dissolving the chlorate containing the impurity to be eliminated, adding to the solution the amount of hydrochloric acid necessary for effecting the destruction of the imuprity, adding an agent for the purpose of eliminating the active chlorin formed during the reaction which ensues, boiling the solution, and removing the chlorate from the solution in the usual manner.

3. The process of purifying chlorates manufactured by an electro-chemical process, of that impurity of uncertain constitution not identical with potassium chlorate and which is composed of potassium, oxygen, and an uncertain halogen element, which consists in dissolving the chlorate containing the impurity to be eliminated, adding to the solution the amount of hydrochloric acid necessary for effecting the destruction of the impurity, adding a necessary amount of alcohol for eliminating the active chlorin formed during the reaction which ensues, boiling the solution, and removing the chlorate from the solution in the usual manner.

975,614. PLOW. CHARLIE L. HALL, Bryan, Tex. Filed May 6, 1910. Serial No. 559,687.



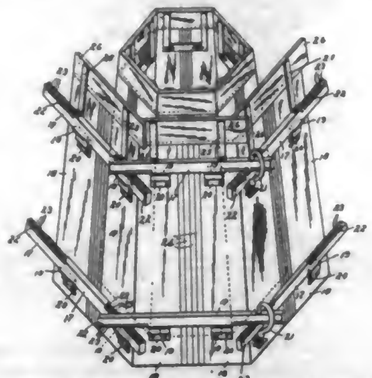
1. In a plow, the combination with a beam having a depending stock, transversely spaced standard members pivoted to the stock, flange links having flanges engaging between the standard members, a fastening device passing through the standard members and the flanges of the flange links, a slide shoe pivotally connected to the lower ends of the flange links, and a plurality of links hinged together and pivotally connecting the upper ends of the flange links and the slide shoe.

2. In a plow, the combination with a beam, and standard members mounted on the beam, of a pair of links, a flange having a slot and extending from one of the edges of each link, said flanges being engaged between the standard members, and a fastening device passing transversely through the standards and the slots of the flanges.

3. In a plow, the combination with a beam, and standard members provided with a plurality of transversely alined openings and supported on the beam, of a pair of links, an elongated flange extending from each link and provided with a slot substantially parallel to the link, said flanges engaging between the standard members, a pair of fastening devices passed through the openings of the standard members and the slots of the flanges, and a plow bolt extending between the flanges and the fastening devices.

4. In a plow, the combination with a beam, and standard members provided with a plurality of transversely alined openings and supported on the beam, of a pair of links, an elongated flange extending from each link and provided with a slot substantially parallel to the link, said flanges engaging between the standard members, a pair of fastening devices passed through the openings of the standard members and the slots of the flanges, a plow frog having a boss arranged to engage either between the links or the standard members, and a stem extending from the boss between the flanges and the fastening devices.

975,615. CEMENT-MOLD. ROBERT F. HANNEMAN, Detroit, Mich. Filed Mar. 14, 1908. Serial No. 421,077.



1. A mold for cement poles or the like comprising, in combination, a plurality of mold-sections to be placed one upon the other pyramidically and decreasing in size from bottom to top, each of said sections being composed of right-angular and interchangeable corner members and a plurality of interchangeable leaves connecting each two of the corners, dowels for detachably retaining the members of each section together, clamps for positively locking the members of the sections together and dowels for retaining the sections in alinement with each other.

2. A mold for concrete poles or the like comprising a plurality of upwardly decreasing superimposed mold-sections each composed of four right angular corner members formed identical with each other, a plurality of leaves connecting two of the corner members, dowels for retaining the corner members and the leaves of each section in alinement with their complementary members, a plurality of separable clamps surrounding each section to retain the members positively against pressure from within the mold, and dowels for connecting the sections together in alinement with each other.

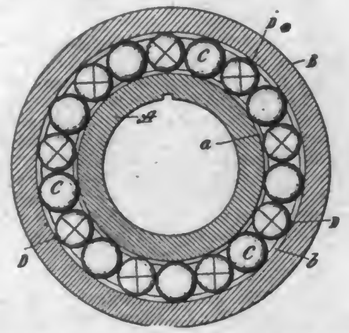
3. A mold for forming cement poles or the like, comprising a plurality of upwardly extending sections resting one upon the other, each section comprising angular corner members formed identical with each other and separated by intervening leaves formed identical with each other and connecting each two of the corner members, means for detachably connecting the leaves together between each two corner members and with their adjoining members, means for connecting the sections together, and means for securing each of the sections against pressure within the mold.

4. A mold for forming cement poles, comprising a plurality of upwardly extending sections resting one upon the other and so formed as to provide a mold decreasing in diameter from bottom to top, means for retaining the sections in alinement with each other, and means for securing the mold against pressure from within.

5. In a mold for the purpose specified, a polygonal form divided transversely into two equal sections, each consisting of corner members whose angle edges are inclined to the section axis, a plurality of longitudinally disposed spacing strips removably secured between the adjacent parallel margins of each pair of corner pieces, forming therewith the facets of the section, and clamping members secured to the corner members adapted to clamp the corners and strips together, adjustable in length to accommodate different numbers of strips.

[Claims 6 to 11 not printed in the Gazette.]

975,616. BALL-BEARING. HENRY HESS, Wawa, Pa. Filed Oct. 19, 1907. Serial No. 398,181.

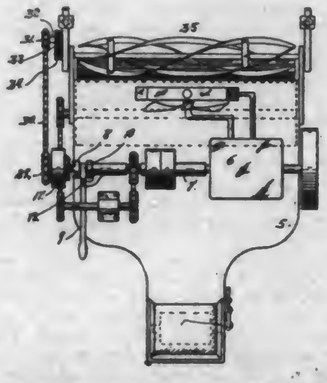


1. In a ball bearing, the combination of the casing members formed with tracks or ways and substantially inelastic and non-deformable load-bearing balls located therein, together with elastic and deformable spherical separators interposed between the load-bearing balls, the said separators being capable of introduction into and removal from the tracks or ways by elastic deformation.

2. A separator for ball bearings, spherical in form, and comprising a core, and an external elastic and deformable casing connected thereto.

3. A separator for ball bearings, spherical in form and comprising a core and an elastic casing formed in sections and connected thereto.

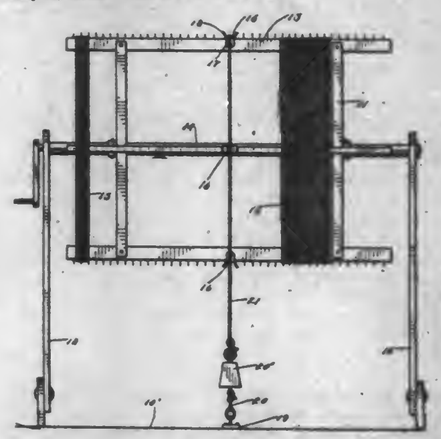
975,617. LAWN-MOWER. ALFRED HILL, Denver, Colo., assignor to The Kendrick and Hill Manufacturing Company, Denver, Colo. Filed June 3, 1907. Serial No. 376,929.



1. In a lawn mower, the combination with a rotary cutter, and a stationary cutter and an operating shaft, of a ratchet wheel, loose on the shaft, an operative connection between the ratchet wheel and the said cutter, a clutch member slidable on the operating shaft, and a second clutch member loose on the operating shaft and carrying pawls arranged to engage with the teeth of the ratchet wheel, the said pawls being capable of adjustment to reverse the action of the rotary cutter, when the rotation of the said shaft is reversed.

2. In a lawn mower, the combination with the rotary cutter, and a stationary cutter and a power shaft, of a ratchet wheel loose on the power shaft, an operative connection between the ratchet wheel and the rotary cutter, a clutch member slidable on the operating shaft, and a second clutch member loose on the operating shaft and carrying pawls arranged to coöperate with the teeth of the ratchet wheel, and suitable means for regulating the position of the pawls, whereby when the pawl carrying clutch member is turned in one direction through the medium of the operating shaft and its coöperating clutch member, the ratchet wheel and the rotary cutter are correspondingly rotated, while when the said parts are turned in the opposite direction, the ratchet wheel and rotary cutter are given the reverse movement, substantially as described.

975,618. TENSION FOR WARP-REELS AND HAND-LOOMS. ROSELIA P. HILL, Charles City, Iowa. Filed May 4, 1910. Serial No. 559,262.



1. In a device of the class described, the combination with a reel having a plurality of spaced arms, of guide members carried upon each arm, a flexible member stretched over certain of the guide members and extending over the top of the reel, an anchor member, one end of said flexible member being attached to the anchor member and adjustable tension means carried at the opposite end of the flexible member.

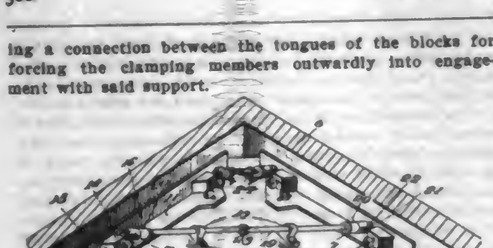
2. In a device of the class described, the combination with a reel comprising a revoluble frame including a plurality of longitudinally extending laterally spaced supporting arms, guide members carried by each arm, a flexible retarding member extended over said reel and resting in said guide members, one end of the flexible member being anchored, and adjustable tension means carried by the opposite end thereof, as and for the purpose described.

3. In a device of the class described, the combination with a reel comprising a revoluble frame including a plurality of longitudinally extending laterally spaced supporting arms, guide members carried by each arm, a flexible retarding member extended over said reel and resting in said guide members, one end of the flexible member being anchored, a chain carried at the other, an anchor therebeneath and a resilient member connected to the anchor and having a hook thereon adjustably engaged with the chain.

975,619. CORNER-SHELF. THERON W. HOLLANDER, Fairfield, Iowa. Filed Apr. 1, 1910. Serial No. 552,863.

1. The combination with a shelf, of clamping members, each having a pin and slot connection with the bottom of the shelf, blocks secured to the clamping members and provided with terminal tongues, fastening devices extending through the blocks and adjacent clamping members for engagement with a support, and turn buckles form-

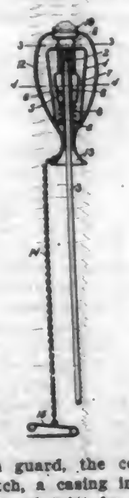
ing a connection between the tongues of the blocks for forcing the clamping members outwardly into engagement with said support.



2. The combination with a shelf, of angularly disposed clamping members slidably mounted on the bottom of the shelf and each provided with spaced inwardly extending ears having slots formed therein, fastening devices extending through the slots in the ears for engagement with the shelf, spaced blocks mounted on each clamping member, screws extending through the blocks and adjacent clamping member for engagement with a support, and turn buckles connecting the blocks on said clamping members.

3. The combination with a shelf, of clamping members of angular cross sectional formation slidably mounted on the bottom of the shelf, spaced blocks secured to each clamping member and provided with terminal tongues, screws extending through the blocks and adjacent clamping member for engagement with a support, eyes secured to the bottom of the shelf, rods mounted for rotation in the eyes and having their opposite ends threaded, collars engaging the threaded ends of the rods and provided with spaced ears embracing the adjacent tongues, and pins extending through the ears and tongues and forming a pivotal connection between the same.

975,620. HAT-PIN GUARD. WILLIAM NEPEAU HUTCHISON and JAMES ARCHIBALD ANDREW, Victoria, British Columbia, Canada. Filed Apr. 1, 1910. Serial No. 552,928.

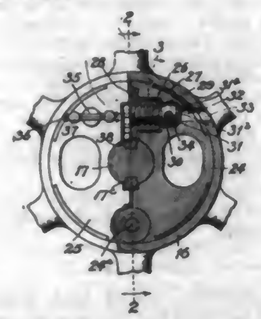


1. As a hatpin guard, the combination with a cone operated ball clutch, a casing inclosing said clutch said casing having a flared inlet for the insertion of the pin and a push button projecting through the other end of the casing for releasing the clutch.

2. As a hatpin guard, the combination with a tube loosely fitting on the point of the pin, small balls inwardly projecting through apertures in the tube and into engagement with a pin inserted in it, a hollow cone slidable on the tube outside of the balls the smaller end of which cone is toward the end of the tube through which the pin is inserted, an open frame secured to and closing one end of the tube and extending on each side outside of the cone toward the open end of the tube to which it is secured, a spring between the smaller end of the cone and the adjacent end of the open frame, a push button beyond the closed end of the tube having members slidable through the adjacent end of the open frame and secured to the larger end of the cone, a casing inclosing the mechanism of the tube said casing having at one end an aperture through which the push button projects and at the other end a flared inlet to the tube, and means for removably securing the guard to a hat or other convenient part of the attire.

3. As a hat pin guard, the combination with a tube loosely fitting on the point of the pin, a hollow cone slidable on said tube, balls in said hollow cone, said tube having slots through which said balls project to grip a pin, a frame supported by said tube and embracing said cone, said frame having slots, bars projecting through said slots and secured to said cone, a push button carried by said bars in virtue of which said cone may be moved along said tube in one direction, a spring on said tube for moving said cone in an opposite direction to cause the balls to clutch a pin when inserted in said tube.

975,621. FRICTION-CLUTCH. HENRY W. JACOBS and HOWARD H. LANNING, Topeka, Kans. Filed Apr. 8, 1910. Serial No. 554,134.



1. In a device of the character described, a driven element, a driving element divided into parts, a screw attached to each part, a threaded member fitted to a pair of said screws, one on each part and having opposite threads, and removable means by which each screw is attached to its part of the driving element, each part of the driving element having an aperture to permit access to the screw attached to it for effecting adjustment of the same, said driven element having an aperture to permit access to the aperture in the driving element.

2. In a friction clutch, a driving element, a driven element, movably mounted friction members, a sleeve having interior right and left screw threads at its opposite ends, right and left screws seated in bearings in said friction elements and engaging said screw threaded sleeve, said screws having angularly disposed transverse openings, lock pins adapted to pass through said openings, and through openings in said friction elements, means for holding said pins in place, said driven element and friction members being provided with openings adapted to register for permitting access to said screws for adjustment thereof, a spur gear rigid with said sleeve and a rack engaging said gear.

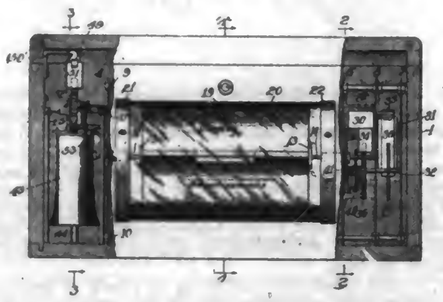
3. In a friction clutch, a hollow cylindrical driven element, a driving shaft, movably mounted friction elements within said cylindrical driven element and non-rotatably engaging said shaft, a sleeve having interior right and left screw-threads at its opposite ends, a gear wheel rigid with said sleeve, a rack meshing with said gear wheel, screws having spherical heads seated in spherical recesses in said friction elements, and engaging said screw-threaded sleeve, said friction elements having openings extending from said spherical recesses to the outside thereof, said cylindrical driven element being also provided with openings adapted to register with said first mentioned openings for permitting access to said screws to permit adjustment thereof.

4. In a friction clutch, a driving shaft, a slotted inner ring encircling said shaft and having a conical outer surface, an outer ring having an interior conical surface fitted to said inner ring, means for forcing said rings together to clamp them to each other and to said shaft, a hollow cylindrical driven member, friction members within said driven member and pivoted to each other and to said outer ring, and means for forcing said friction members outward against said driven member and for withdrawing them therefrom.

5. In a friction clutch, a driving shaft, a slotted inner ring encircling said shaft and having a conical outer surface, an outer ring having an interior conical surface fitted to said inner ring, means for forcing said rings together to clamp them to each other and to said shaft, a hollow cylindrical driven member, friction members within said driven member and pivoted to each other and to said outer ring, oppositely screw threaded members having spherical heads seated in spherical seats in said friction members, pins engaging openings in said oppositely threaded members and in said friction members, an operating member having opposite screw threads engaging said screw threaded members, a pinion rigid with said operating member, and a rack extending longitudinally of said shaft through the slot in said inner ring and engaging said pinion.

[Claim 6 not printed in the Gazette.]

975,622. ADVERTISING DEVICE. NELS JOLEEN, Chicago, Ill. Filed Feb. 9, 1910. Serial No. 542,997.



1. In an advertising device, the combination of a pendulum mounted to swing horizontally in a plurality of directions and having a shoulder extending around its center of oscillation, a thrust rod having a laterally extended part normally engaging said shoulder at a plurality of points, and an advertising display arranged to be operated by the movement of said thrust rod.

2. In an advertising device, the combination of a bell-shaped pendulum, a standard extending into said pendulum and supporting the same, a thrust rod having a laterally extended portion at its lower end, the pendulum having a shoulder normally engaging said extended portion at a plurality of points, and an advertising display arranged to be operated by the movements of said thrust rod.

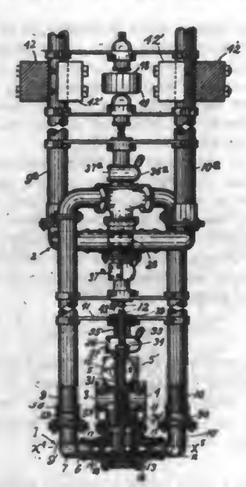
3. In an advertising device, the combination of a pendulum mounted to swing horizontally in a plurality of directions and having at its upper end a shoulder extending around and symmetrical with respect to its center of oscillation, a thrust rod having a substantially flat laterally extended part adapted to coact with said shoulder to move said thrust rod longitudinally through the oscillation of said pendulum, and an advertising display arranged to be operated by the movement of said thrust rod.

4. In an advertising device, the combination of a pendulum mounted to swing horizontally in a plurality of directions, a vertically disposed thrust rod mounted to reciprocate vertically in substantial alinement with the center of oscillation of said pendulum, said pendulum having at its upper end a substantially flat annular surface symmetrically placed with respect to the vertical center line of the pendulum, and said thrust rod having a laterally extending, substantially flat surface adapted to coact with the edges of said surface on said pendulum to move said thrust rod vertically, and an advertising display arranged to be operated by the movement of said thrust rod.

5. In an advertising device, the combination of a bell-shaped pendulum having a hollow interior with a conical seat at its upper end, an upright support pointed at its upper end and seated in said seat, said pendulum having at its upper end an annular shoulder lying in a plane substantially at right angles to the vertical center line of the pendulum, a vertically disposed thrust rod mounted to slide vertically and having at its lower end a substantially flat disk adapted to coact with said shoulder to move said rod vertically through the oscillation of said pendulum in any direction, and an advertising display arranged to be operated by the movement of said thrust rod.

[Claim 6 not printed in the Gazette.]

975,623. CENTRIFUGAL PUMPING APPARATUS. DAVID W. JONES and EARL W. KOPPE, Los Angeles, Cal. Filed Aug. 28, 1907. Serial No. 390,435.



1. In a centrifugal pump, a runner having a plurality of discharge channels, said channels having ports extending outwardly through the top of the runner; and means to control the discharge through said ports.

2. In a centrifugal pump, a runner having a plurality of discharge channels, said channels having ports extending outwardly through the bottom of the runner; and means to control the discharge through said ports.

3. In a centrifugal pump, a runner having a plurality of discharge channels, said channels having ports extending outwardly through the top of the runner; and a regulating ring mounted on said runner revolubly with relation thereto, said ring having ports which may be brought into or out of register with said ports in the runner to partly or wholly open or close the same.

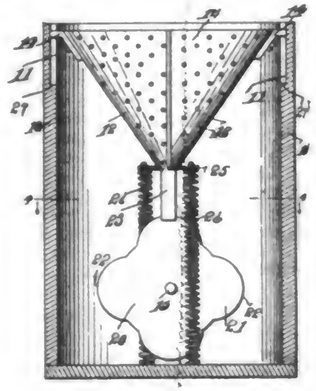
4. In a centrifugal pump, a runner having a plurality of discharge channels, said channels having ports extending outwardly through the bottom of the runner; and a regulating ring mounted on said runner revolubly with relation thereto, said ring having ports which may be brought into or out of register with said ports in the runner to open or close the same.

5. In combination, a case, a centrifugal pump runner

adapted to rotate in said case, and extensions adapted to be fastened to the periphery of said runner when the runner is in place in said case.

[Claims 6 to 14 not printed in the Gazette.]

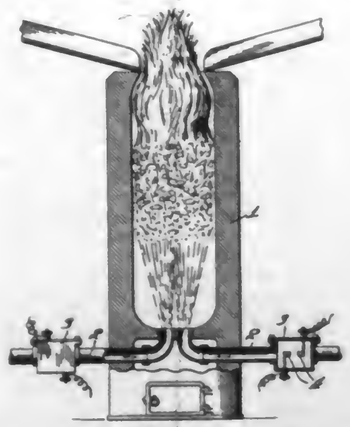
975,624. CLOTHES-WRINGER. AUGUST N. KEIL, Cincinnati, Ohio. Filed Aug. 9, 1910. Serial No. 576,279.



1. In a device of the class described, a vat, a cam disk rotatably mounted within the vat, a container mounted for longitudinal sliding movement within the vat, a lug secured to said container and engageable with said cam disk for elevating the receptacle, and tension means assembled with the receptacle operating to return the same to its lower limit of movement.

2. A device of the class described comprising a vat, a receptacle within the vat having outlet openings, guide elements assembled with the receptacle and engaging said vat, a rotatable cam disk mounted within the vat, a lug assembled with said receptacle and engaging said disk for moving the receptacle upwardly, and springs secured to said receptacle and operating to hold the same in its lowest limit of movement.

975,625. PROCESS OF EXTRACTING IRON FROM ITS ORES. STEPHEN G. MARTIN, Chicago, Ill., assignor of one-third to William O. Bartholomew, St. Louis, Mo., and one-third to Edward Schaaf, St. Marys, Mo. Filed Jan. 14, 1909. Serial No. 472,167.



1. The herein described process of smelting, which consists in converting a portion of the nitrogen of the air into nitrogen peroxid gas and reducing the ore by heat in the presence of said nitrogen peroxid gas.

2. The herein described process of smelting ores, which comprises the step of passing into the furnace containing the ores, a gaseous medium containing peroxid of nitrogen.

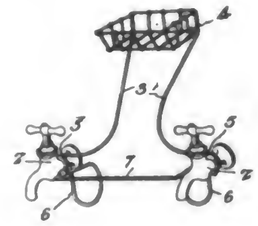
3. The herein described process of smelting ores in blast furnaces, which consists in subjecting the ore while in process of decomposition by heat, to the action of a blast containing peroxid of nitrogen.

4. A step in processes of smelting ores in blast furnaces, which step consists in heating the ore and subjecting the ore while hot to the action of a gaseous medium, consisting of pure air and nitrogen peroxid.

5. The herein described process of smelting ores which consists in subjecting a mixture of fluxed ores to the action of heat and a gaseous medium consisting of pure air and nitrogen peroxid.

[Claim 6 not printed in the Gazette.]

975,626. SINK ATTACHMENT. ALBERT T. MCCANLIS, Richmond Hill, N. Y., assignor of one-half to Louis Leder, Rockville Center, N. Y. Filed May 26, 1910. Serial No. 563,529.



1. The herein described device comprising a rack formed of a single strand of wire and having oppositely located clip portions adapted for engagement with the usual pair of faucets, looped portions forming a continuation of said strand and adapted to bear against the back of the basin from which the faucets project, a continuous connecting bar forming a part of the strand and projecting outwardly forming a rack, and a soap holder attached to the upper free ends of the attachment for supporting said holder in rear of the rack.

2. A sink attachment consisting of a pair of upwardly extending arms adapted to support a receptacle, each of said arms being curved outwardly and bent to embrace a faucet, said arms terminating in loops adapted to engage the portion of a sink adjacent the faucets and a bar connecting said loops.

3. As an article of manufacture the herein described device comprising a rack composed of a bar, looped portion forming a continuation of said bar and projecting inwardly the continuation of said looped portion being properly curved and recurved to form oppositely located clips adapted for engagement with a pair of faucets, and a soap holder secured to and supported by the upwardly projecting ends of the rack thus formed, as and for the purpose described.

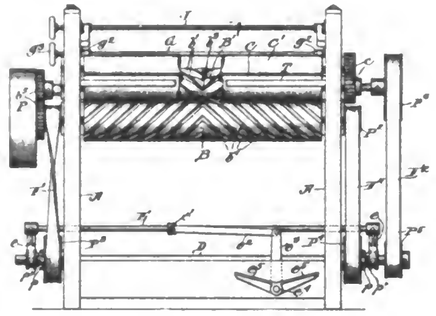
4. A sink attachment comprising a rack formed from a single strand of wire forming two upright supporting arms, oppositely located terminal clipped portions forming a continuation of the strand and recurved to form two contacting looped portions in rear of said clips, a connecting bar projecting a suitable distance from the looped portions and connecting the same, and a soap holder secured to the free ends of the supporting arms and adapted to hold the same at a suitable distance above the rack and in rear thereof, whereby the attachment thus formed is adapted to be removably supported between a pair of faucets and in yielding contact with the back or body portion of the basin from which the faucets project.

975,627. ENVELOP. WILLIAM A. MCCLOY, Ada, Ohio. Filed Feb. 24, 1910. Serial No. 545,595.



A detachable and removable pocket for envelops comprising a single piece of material shaped to provide a front wall and a rear wall connected to each other at one side and the bottom, the rear wall being provided with an upwardly-extended flap adapted to be folded rearwardly and downwardly upon said rear wall and adapted to be detachably hooked over an edge portion of the envelop.

975,628. LEATHER-WORKING MACHINE. GORDON MCKEEN, Peabody, Mass., assignor of one-half to Ernest A. Woelfel, Peabody, Mass. Filed Mar. 18, 1909. Serial No. 484,265.

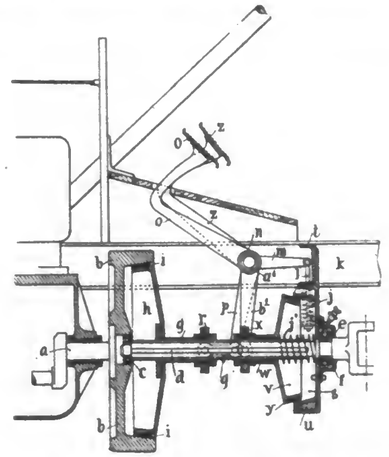


1. In a machine of the character described, a pair of rolls, one of which is provided with diverging right and left handed helical ribs or projections and the other of which is provided with corresponding helical grooves, means to rotate said rolls with the ribs or projections of the former roll in the grooves of the latter roll, one of said rolls being mounted in a movable bearing, springs normally urging said rolls apart, and adjustable means to limit the extent of the separation of said rolls.

2. In a machine of the character described, a pair of work rolls provided respectively with diverging helical ribs or projections and corresponding helical grooves, the ribs or projections of the one extending into the grooves of the other, a pair of feed rolls to deliver and hold a skin, means to rotate said feed rolls in opposite directions to feed the skin toward the work rolls, means to rotate said work rolls in opposite directions at a higher surface speed than the surface speed of the feed rolls, and means to reverse the direction of rotation of said feed rolls.

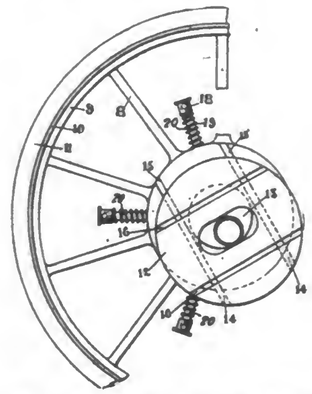
975,629. COMBINED CLUTCH AND BRAKE. DOMINIQUE MIOLANS, Paris, France. Filed Dec. 22, 1908. Serial No. 468,787.

In a clutch and brake mechanism, a frame, a brake block fastened to the said frame, a driving shaft, a fly-wheel mounted on said driving shaft and provided at its center with a shaft bearing, a driven shaft mounted at one end in said fly-wheel bearing, a bearing for the other end of the driven shaft fastened to the brake-block, longitudinally displaceable clutch and brake disks carried by the driven shaft, springs holding the clutch members normally engaged and the brake members normally disengaged, in combination with separately operated levers



controlling the clutch and brake springs, substantially as set forth.

975,630. SPRING-WHEEL. ALFRED MOORE, Detroit, Mich. Filed Aug. 22, 1908. Serial No. 449,757.

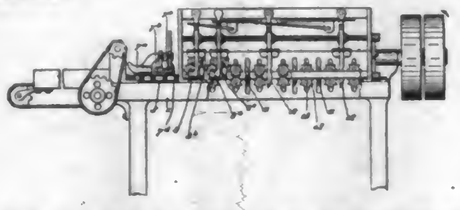


A spring wheel having a main hub, a floating hub encircling the main hub, means in sliding frictional engagement with each hub adapted to lock the hubs positively to turn together and to permit oscillation of one on to the other, adjusting means for changing the degree of friction between the interlocking means and the hubs, pairs of radially disposed main springs secured at their inner ends to the main hub, and radially disposed auxiliary springs between the main springs secured at their inner ends to the floating hub and at their outer ends to the main springs.

975,631. MACHINE FOR CUTTING GREEN CORN FROM THE COB. SAMUEL E. MORRAL and WILLIAM W. MORRAL, Morral, Ohio. Filed May 4, 1908. Serial No. 430,733.

1. In a machine for cutting green corn from the cob, the combination with means for automatically feeding the ear into the machine in the direction of the longitudinal axis of the ear, a pair of opposingly arranged guides to act on different sides of the ear, a pair of cutters having their cutting edges parallel to each other and said cutters being in tandem connection with each of said guides, said

cutters also arranged to cut in a direction parallel to the axis of the ear and at different sides of the ear, the forward of the cutters in each pair being located to cut in lines more remote from the axis of the ear than the lines of the cut or the rear cutter, whereby portions only of the kernels of the ear are removed by the forward cutter of each pair and the remainder of the severed kernels are removed by the rear cutter of each pair, substantially as described.

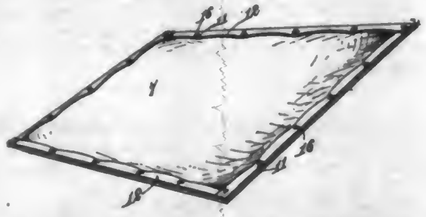


2. In a machine for cutting green corn from the cob, the combination with means for automatically feeding the ear into the machine in the direction of the longitudinal axis of the ear, a pair of opposingly arranged guides to act on two opposite sides of the ear, a pair of cutters having their cutting edges parallel to each other and said cutters being in tandem connection with each of said guides, said cutters also arranged to cut in a direction parallel to the axis of the ear and at opposite sides of the ear, the forward of the cutters in each pair being located to cut in lines more remote from the axis of the ear than the lines of the cut of the rear cutter, and two pairs of similarly arranged cutters in the machine in rear of the first mentioned cutters to similarly cut kernels in lines left uncut by said first mentioned cutters whereby portions only of the kernels of the ear are removed by the forward cutter of each pair and the remainder of the severed kernels are removed by the rear cutter of each pair of cutters, substantially as described.

3. In a machine for cutting green corn from the cob, a cutter consisting of a curved blade having one of its curved edges formed as the cutting edge, said blade provided with an attaching shank projecting from one of the side or non-cutting edges of the blade and in a direction approximately at right angles to a chord subtending the aforesaid curved cutting edge.

4. In a machine for cutting green corn from the cob, the combination with a guide having a shank, of a pair of cutters secured to said shank one arranged in advance of and beyond the other, each of said cutters consisting of a transversely curved blade having one of its curved edges constituting the cutting edge, and an attaching shank projecting from one of the side or non-cutting edges of the blade and in a direction approximately at right angles to a chord subtending the aforesaid curved cutting edge.

975,632. CHAIR-SEAT. CLAIR MUNSON and JOHN JACKSON, Clinton, Iowa; said Jackson assignor to said Munson. Filed Aug. 16, 1906. Serial No. 330,902.



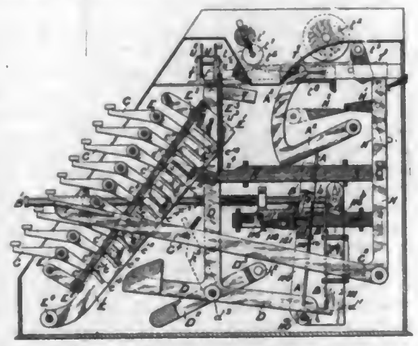
1. A portable seat provided with gimp and a series of pairs of openings, one of the openings of each pair adapted to receive hold-fast devices with enlarged heads, hold-fast devices extending through the other of the openings and clenched to the side for securing the gimp thereto, said hold-fast devices for securing the gimp adapted to be concealed by the heads of the hold-fast devices for securing the seat in position.

2. A portable seat comprising a base provided with a series of pairs of openings, the openings of each pair being arranged in close proximity to each other, a cover inclosing the base, gimp positioned upon the margin of the seat, means extending through an opening of each of the pairs of openings and secured to the base for connecting the gimp to the cover, the other of said openings of said pair of openings adapted to receive hold-fast devices for securing the seat to a chair, said hold-fast devices for securing the seat to the chair adapted to conceal the hold-fast devices for connecting the gimp to the cover.

3. A portable seat comprising a base provided with a series of pairs of openings arranged entirely around the perimeter thereof, the openings of each pair arranged in close proximity to each other, one of said openings of each pair of openings adapted to have hold-fast devices extending therethrough for securing the seat to a support, a cover inclosing the base and connected thereto, gimp mounted in proximity to the edge of the seat, and gimp securing means extending through the other of said openings, of each pair of openings and adapted to be concealed by the hold-fast devices for securing the seat in position.

4. A portable seat comprising a base provided with a series of pairs of openings arranged entirely around the perimeter thereof, the openings of each pair arranged in close proximity to each other, one of said openings of each pair of openings adapted to have hold-fast devices extending therethrough for securing the seat to a support, a cover inclosing the base and connected thereto, gimp mounted in proximity to the edge of the seat, and hold-fast devices extending through the gimp, cover and the other opening of each pair of openings and clenched to the base, thereby securing the gimp to the cover, said last mentioned hold-fast devices adapted to be concealed by the hold-fast devices for securing the seat in position.

975,633. MACHINE FOR CALCULATING. BENJAMIN THOMPSON O'BRIEN and WALTER HENRY BROWNING, Liverpool, England; said Browning assignor to said O'Brien. Filed Jan. 31, 1905. Serial No. 243,579.



1. Apparatus for calculating comprising in its construction a plurality of vertically sliding plates raised a given distance for each unit, a cross head with lifting pin to raise one of the sliding plates, a rocking lever to engage with and lift the crosshead, a set of keys of one denomination, each of different value, any one of which on being struck allows the rocking lever to oscillate a distance equivalent to the value of the key struck, and raise the crosshead a corresponding distance substantially as described.

2. In adding or calculating machines the combination with the sliding calculating plates, A and A', of a movable frame in which they are carried, a sliding cross head by which one is raised, and a sliding bolt, 116, moving transversely, by which the carry on from one denomination to another is effected substantially as described.

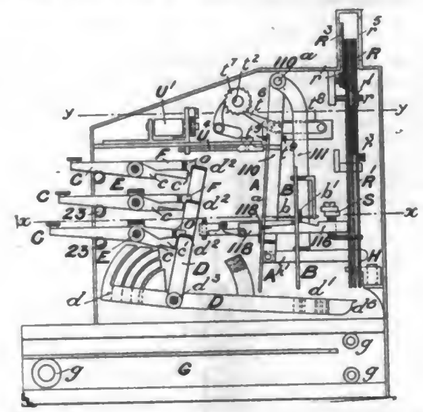
3. In apparatus for calculating the combination with a plurality of operating keys C, of rocking levers D, oscillated when a key is struck, cross heads B raised by the levers D, pins b thereon, and perforated plates A with which the pins engage to raise the plates with the cross heads substantially as described.

4. In apparatus for calculating the combination with the operating keys C, of oscillating levers D oscillated when a key is struck, crossheads B raised by the levers D pins b thereon, perforated plates A with which the pins engage to raise the plates, auxiliary plates A', a sliding bolt 116, and means for operating the plate A' when the plate A has been raised to the top of the lift substantially as described.

5. In calculating apparatus the combination with the operating keys C, the rocking lever D, oscillated when a key is struck, the cross head B, raised by the lever D, the pin b projecting therefrom, the perforated calculating plate A the auxiliary plate A', the swinging frame 110, and the swinging frame 111, the sliding bolt 116, a lever 117 pivoted to the sliding bolt, and a projecting pin thereon which receives the plate A from the pin b substantially as described.

[Claims 6 to 13 not printed in the Gazette.]

975,634. MACHINE FOR CALCULATING. BENJAMIN THOMPSON O'BRIEN and WALTER HENRY BROWNING, Liverpool, England; said Browning assignor to said O'Brien. Filed Jan. 31, 1905. Serial No. 243,580.



1. In calculating apparatus the combination with the operating keys C, of rocking levers D oscillated when a key is struck, crossheads B raised by the levers, the calculating plates A A' operated by the cross heads B, and means for locking the keys substantially as described.

2. In calculating apparatus the combination with the operating keys C, of rocking levers D oscillated when a key is struck, crossheads B raised by the levers, the calculating plates A A' operated by the crossheads B, and locking levers F pivoted at the sides of the keys provided with, cross rails o which rest upon the top of the keys and lock them substantially as described.

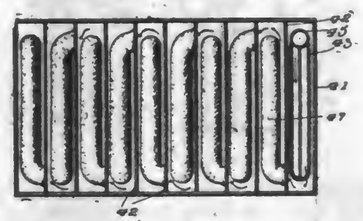
3. In calculating apparatus the combination with the operating keys C, of rocking levers D oscillated when a key is struck, crossheads B raised by the levers, the calculating plates A A' operated by the crossheads B, a cash drawer G, means for releasing the drawer, and a resetting lever D^2 which brings all the levers D^2 resting upon the levers D back to zero, substantially as described.

4. In calculating apparatus the combination with the operating keys C, of rocking levers D oscillated when a key is struck, crossheads B raised by the levers, the calculating plates A A' operated by the crossheads B, a cash drawer G, a pawl G' to hold the drawer, a rod K, capable of being raised a hook k pivoted near its lower end, and means for raising the rod K substantially as described.

5. In calculating apparatus the combination with the operating keys C, of rocking levers D oscillated when a key is struck, crossheads B raised by the levers, the calculating plates A A' operated by the crossheads B, a cash drawer G placed below the rocking levers D means for holding and releasing the drawer, and the rod M placed at one side of the keys capable of being lifted, means for raising the rod, a hook m pivoted thereto, a lever M' with which the hook engages, extending along the side of the machine, a resetting lever D^2, a pawl m' pivoted thereto and depending therefrom, and a fixed rack M^2 with which the pawl engages substantially as described.

[Claims 6 to 14 not printed in the Gazette.]

975,635. CARBURETER. WALTER H. POTTHAST, Manning, Iowa. Filed Nov. 17, 1909. Serial No. 528,524.



1. A carbureter including a source of air supply, a housing for receiving the air from said supply, a plurality of partitions located in spaced relation within said housing to form compartments therein, foraminous receptacles located within said compartments and terminated in said partitions, feeders depending from said receptacles in said housing to conduct a liquid to said receptacles, the air from said source of supply being passed consecutively to the receptacles and the compartments, and a gas pipe extending from the end of said housing and from one of the compartments.

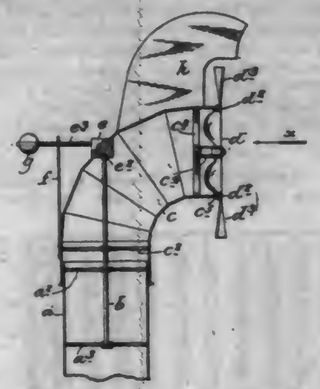
2. A carbureter including a housing, a plurality of partitions located in said housing to form compartments therein, receptacles formed of textile material positioned in the compartments and terminating in said partitions to open into the adjacent compartment, an air supply connected to one end of said housing, an outlet pipe connected to the opposite end of said housing, and means disposed in the housing for feeding a volatile liquid to the said receptacles.

3. A carbureter including a housing having a plurality of compartments therein, an air inlet pipe communicating with the forward end of the housing and the foremost of the compartments, an outlet pipe communicating with the inner end of the housing and the last compartment, fabric receptacles arranged in the compartments, the receptacle located in the first compartment opening into the inlet pipe, spaced rings arranged within the receptacles to support the same, spaced rods carried across the rings for holding the same in position, and feeders depending from the receptacles and depending into the lower ends of the compartments, the compartments being adapted to contain a volatile substance.

975,636. CHIMNEY-COWL. EARLE CHESTER POWERS, Orange, N. J., assignor to Autoforce Ventilating System, Boston, Mass, a Corporation of South Dakota. Filed May 18, 1908, Serial No. 433,415. Renewed Apr. 4, 1910. Serial No. 553,292.

1. A rotatable cowl for use in connection with a chimney flue or other ventilating tube, comprising an elbow-shaped pipe, one end of which communicates with the flue and the other end of which extends approximately horizontally and is provided at its mouth with a vertical wind wheel having a set of draft-producing blades and a set of propeller blades standing in approximately the same vertical plane, the former being confined to the open mouth of said elbow tube and the latter projecting radially beyond the rim of said open mouth of the tube

for rotating the wind wheel and thereby enabling the draft-producing blades to promote ventilation, a rim secured to and encircling said draft-producing blades and carrying said propeller blades, and a wind vane adjacent the discharge end of the cowl by which the cowl may be rotated.



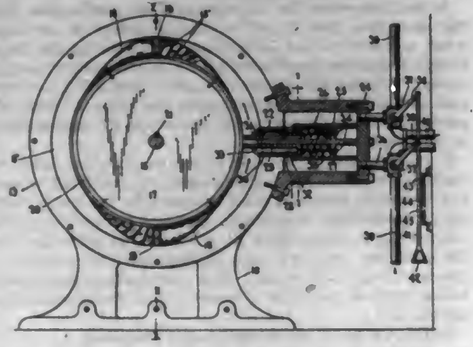
2. A rotatable cowl for use in connection with a chimney flue or other ventilating tube, comprising an elbow-shaped pipe, one end of which communicates with the flue and the other end of which extends approximately horizontally and is provided at its mouth with a vertical wind wheel fitting over said open mouth and provided with radially arranged blades, those adjacent the center at the mouth of the pipe being turned obliquely to create a draft when rotated, and those peripherally beyond the draft producing blades extending radially beyond the rim of the pipe in an oblique direction to propel the wheel by the engagement therewith of the external wind, a rim secured to said wheel encircling said former blades and carrying the latter blades, and a wind vane adjacent the discharge end of the cowl by which the cowl may be rotated.

3. A rotatable cowl for use in connection with a chimney flue or other ventilating tube comprising an elbow-shaped or curved pipe, one end of which incloses the flue, and the other end of which is provided with a wind operated suction propeller which fits therein and is provided with an annular rim having radially arranged blades forming a wind wheel by which the propeller is operated, the discharge end of the cowl being also provided at the top thereof with a vertically arranged wind vane by which it may be rotated.

4. A cowl device comprising an elbow-shaped pipe, one end of which is adapted to inclose a chimney flue or ventilating tube, and the discharge end of which is provided with a suction wind operated propeller which fits therein and is provided with an annular rim having radially arranged blades forming a wind wheel by which the propeller is operated, said flue or tube being provided with a centrally arranged rod which passes upwardly into the cowl device, and said cowl device being provided centrally of the top portion thereof with a pivot block in which said rod rests, and said block being provided with a backwardly directed arm, and a balancing weight mounted on said arm, and said cowl device being also provided at the top of the discharge end thereof with a vertically arranged vane.

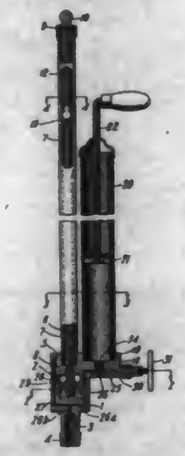
975,637. ROTARY ENGINE. ANDREW RENIK, Kenosha, Wis. Filed July 16, 1910. Serial No. 572,330.

1. In a rotary engine, a stator having an annular steam chamber, a steam chest having a pair of spaced openings communicating with said chamber, a partition in said steam chest between said openings, a casing on each side of said partition provided with a lateral steam port, a pair of hollow abutments each mounted to slide in one of said casings and provided with a steam passage having a lateral port adapted to register with the port of the respective casing, a rotor provided with means for moving said abutments outward, springs in said casings urging said abutments inward, steam pipes communicating with the valve casing on each side of the partition, and means to control the direction of flow through said steam pipes.



2. In a rotary engine, a stator having an annular steam passage, a rotor revoluble in said stator and provided with a piston moving in said passage, a cam rib leading from said piston and provided with a series of lateral disposed wings, and an abutment slidable into and out of said passage, and means to supply steam to the passage between the abutment and piston.

975,638. COMBINATION TESTING-GAGE AND PUMP. WILLIAM H. ROWSWELL, Pittsburg, Pa., assignor of one-half to George H. Bailey, Pittsburg, Pa. Filed Nov. 20, 1909. Serial No. 529,092.



1. A combined testing gage and pump comprising a base or connecting member provided with a mercury chamber, with a pump attachment, and with an outlet connection, a barometric column extending into said mercury chamber, and a pump cylinder attached directly to said base or connecting member, said base or connecting member being provided with passages extending from the pump to the mercury chamber and to the outlet connection.

2. A combined testing gage and pump comprising a base or connecting member provided with a mercury chamber, with a pump attachment, with an outlet connection, with a passage extending from the pump to the mercury chamber and with an outlet connection, a valve in said passage between the pump and outlet connection, a barometric column extending into the mercury chamber, and a pump cylinder attached directly to said base or connecting member.

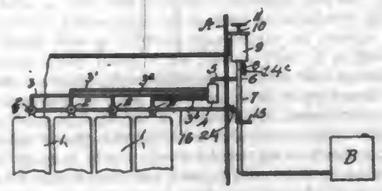
3. A testing gage comprising a base or connecting member provided with a mercury chamber, with a pump connection, with a threaded outlet connection, and with a passage leading from the pump connection to the threaded outlet connection and to the mercury chamber, means in said passage leading to said mercury chamber for permitting the air to pass to the mercury chamber but preventing the mercury from escaping through said passages, a barometric column extending down into the mercury chamber and sealed thereinto.

4. A combined testing gage and pump comprising a base or connecting member provided with a mercury chamber, with a pump connection, with a threaded outlet connection, and with a passage leading from the pump connection to the threaded outlet connection and to the mercury chamber, means in said passage leading to said mercury chamber for permitting the air to pass to the mercury chamber but preventing the mercury from escaping through said passage, a barometric column extending down into the mercury chamber and sealed thereinto, and a pump cylinder connected directly to said base or connecting member.

5. A testing gage comprising a base or connecting member provided with a mercury chamber, with an outlet connection, with a pump connection, and with a passage leading from the pump connection to the outlet connection and to the mercury chamber, a valve in said passage between the pump connection and the outlet connection, means in the passage leading to the mercury chamber arranged to permit the air to pass therethrough but preventing the mercury from passing therethrough, a barometric tube projecting into the mercury chamber and sealed thereto, and a felt or similar washer closing the upper end of the barometric tube.

[Claims 6 and 7 not printed in the Gazette.]

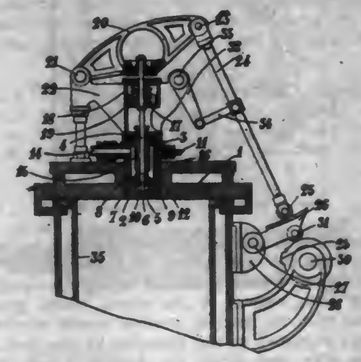
975,639. PRIMING DEVICE FOR EXPLOSIVE-ENGINES. BERNARD RUCKDESCHEL, Philadelphia, Pa., assignor of one-third to David P. Moore, Washington, D. C. Filed Jan. 21, 1910. Serial No. 539,415.



1. The combination with an engine, and an explosive fluid reservoir, of a priming device comprising a valve for each cylinder of the engine, a rod for operating all the valves simultaneously, a pump in communication with the reservoir for drawing liquid therefrom, means to prevent the liquid from flowing back into the reservoir, an equalizing chamber adapted to receive the liquid drawn from the reservoir, means to prevent the liquid from flowing to the pump after entering the chamber, and a series of conduits leading from the chamber to the valves of the cylinders, whereby said cylinders are fed simultaneously.

2. The combination with an engine, and an explosive fluid reservoir, of a priming device comprising a priming cock for each cylinder of the engine and having ports leading to the cylinder and for a drain, a valve for each cock having a port adapted to register either with the drain or the other port, a rod for operating all of the valves simultaneously to permit liquid to flow either into the cylinders of the engine or through the drain ports, and a pump interposed between the priming cocks and the reservoir whereby liquid from the reservoir is fed simultaneously to all priming cocks.

975,640. INTERNAL-COMBUSTION ENGINE AND METHOD OF OPERATING THE SAME. LOUIS GASTON SABATHÉ, Paris, France, assignor to The Societe des Moteurs Sabathe, Saint-Etienne, Loire, France, a Corporation of France. Filed June 10, 1908. Serial No. 437,651.



1. The method of operating an internal combustion engine, which consists in admitting to the cylinder and igniting a fuel charge during the time that the piston is at or near the dead point and also when, on the same stroke of the piston, the latter moves away from the dead point and thereby substantially increases the volume of the combustion chamber, and in admitting to the cylinder and igniting a second and additional fuel charge simultaneously with the continuance of the first charge when the volume of the combustion chamber is increased as indicated.

2. The method of operating an internal combustion engine, which consists in admitting to the cylinder and igniting a charge of fuel during the time that the piston approaches the dead point, while the piston is at the dead point and until the piston has moved slightly away from the dead point in the reciprocal direction, continuing the supply of fuel during the further movement of the piston at the same stroke, and, during such further movement of the piston, admitting to the cylinder and igniting simultaneously with the continuance of the first charge, an additional charge of fuel.

3. In an internal combustion engine, the combination with the cylinder, of means to admit fuel into the cylinder while the piston is near the dead point or stroke limit, and other means to admit a further charge of fuel into the cylinder during the time that the piston moves away from the dead point and thereby increases the volume of the combustion chamber.

4. In an internal combustion engine, the combination with the cylinder, of a valve to admit fuel into the cylinder during the time that the piston is near its dead point or stroke limit, and a valve to increase the fuel supply when the piston moves away from the dead point and substantially increases the volume of the combustion chamber.

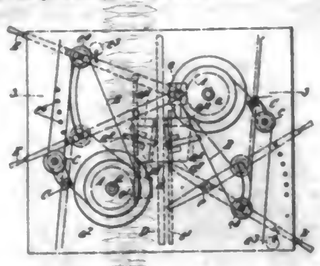
5. In an internal combustion engine, successively acting valves to admit the fuel charge, one of such valves admitting fuel when the piston is near the dead point, and the other valve being opened and acting conjointly with the first to admit an increased charge of fuel when the piston moves away from the dead point.

[Claims 6 to 12 not printed in the Gazette.]

975,641. CONTINUOUS-WIRE-DRAWING MACHINE. HARRY SAVILLE, Manchester, England, assignor to The British Steel & Wire Company, Limited, Manchester, England. Filed May 13, 1910. Serial No. 561,206.

1. In a continuous wire drawing machine, the combination with the dies and drums, of a plurality of driving cones, friction devices arranged to be traversed longi-

tudinally with respect to the cones, and means whereby the pull exerted upon the wire by one drum controls such traversing of the friction devices for regulating the speed at which the preceding drum is driven.



2. In a continuous wire drawing machine, the combination with the dies and drums, of a plurality of driving cones, friction devices arranged to be traversed longitudinally with respect to the cones, levers operatively connected with the friction devices, means whereby said levers are actuated in one direction by the pull exerted upon the wire, and means for exerting a pull upon the levers in opposition to the pull exerted by the wire.

3. In a continuous wire drawing machine, the combination with the dies and drums, of a plurality of driving cones, friction devices arranged to be traversed longitudinally with respect to the cones, levers operatively connected with the friction devices, a pulley carried by each lever, said pulley being adapted to have a loop of wire bent therearound in the passage of the wire from one drum to the next succeeding drum, and means for exerting a pull upon the levers in opposition to the pull exerted by the wire.

4. In a continuous wire drawing machine, the combination with the dies and drums, of a plurality of driving cones, a friction driving band encircling one cone and arranged to make frictional contact with an adjacent cone, a lever operatively connected with each driving band to traverse the latter longitudinally with respect to the cones, a pulley carried by each lever, said pulley being adapted to have a loop of wire bent therearound in the passage of the wire from one drum to the next succeeding drum, and means for exerting a pull upon the levers in opposition to the pull exerted by the wire.

5. In a continuous wire drawing machine, the combination with the dies and drums, of a plurality of driving cones, a plurality of driven cones arranged adjacent thereto, pivoted arms for carrying the driven cones, friction driving bands encircling the driven cones, means for compressing the friction driving bands between the driving and the driven cones, means for rotating the drums from the driven cones, and means whereby the pull exerted upon the wire by one drum controls the position of the friction device between the driving and the driven cones for regulating the speed at which the preceding drum is driven.

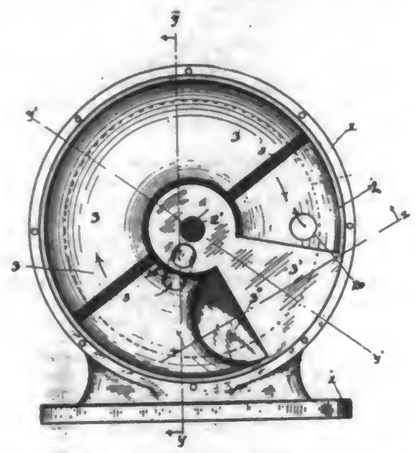
[Claims 6 and 7 not printed in the Gazette.]

975,642. NUT-LOCKING DEVICE. ERNST LUIS JOHANN SCHAFFELKE, Stolp, Germany. Filed Nov. 18, 1909. Serial No. 528,745.



A nut lock of the character described, comprising nuts having square projections, a channeled plate having apertures adapted to receive said projections so as to lock the nuts, screw-threaded bolts having an angular portion next to the screw-thread and being adapted to be screwed into the locked nuts, a plate mounted in the channel of said aforementioned plate so as to allow of being moved after the screw has been tightened and having key-hole apertures for the bolts allowing the latter to turn in one position of the plate and locking them in another position of the same through engagement with their angular portion, and a screw-threaded bolt on the latter plate projecting through a slot in the former for locking the plates together.

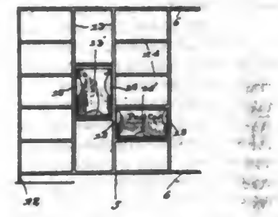
975,643. ROTARY ENGINE. GEORGE B. SEITZ, Hammond, Ind. Filed Jan. 15, 1910. Serial No. 538,274.



1. A rotary engine comprising a casing; a member rotatably mounted in said casing and provided in one face with an intake recess and in its other face with an annular chamber the ends of which are supported by a partition, there being an intake port leading from said recess to said annular chamber adjacent one side of said partition; an intake plate secured to said casing to close said intake recess; an intake pipe secured to said intake plate and leading to said recess; an exhaust plate secured to said casing and adapted to close said annular chamber, said exhaust plate being provided with an exhaust recess and a gate recess, there being a continuous port leading from said annular chamber adjacent the side of said partition opposite to said intake port to said exhaust recess; a swinging gate pivoted in said gate recess and of a contour to nicely fit said annular chamber; spring means for normally holding said gate in operative position in said annular chamber; and a power shaft secured to said rotatable member.

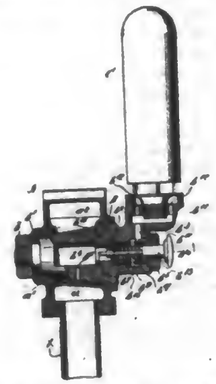
2. A rotary engine comprising a casing; a member rotatably mounted in said casing and provided in one face with a circular intake recess and in the other face with an annular chamber the ends of which are separated by a partition beveled on one side, there being an intake port leading from said circular recess to said annular chamber adjacent the other side of said partition; an intake plate secured to said casing to close said intake recess; an intake pipe secured to said intake plate and leading to said recess; an exhaust plate secured to said casing and adapted to close said annular chamber, said exhaust plate being provided with a small annular exhaust recess and oppositely disposed gate recesses, there being a continuous port leading from said annular chamber adjacent the beveled side of said partition to said exhaust recess; oppositely disposed swinging gates pivoted in said gate recess and of a contour to nicely fit said annular chamber; spring means for normally holding said gates in operative position in said annular chamber; and a power shaft secured to said rotatable member, substantially as described.

975,644. CARD-DISPLAY CASE. HARRY A. SHANNON, Appleton, Wis. Filed Apr. 25, 1910. Serial No. 557,474.



In a device of the class described, the combination of two hinged main frames provided with subordinate frames therein, the said subordinate frames being provided with L-shaped slots in their sides; one or more intermediate hinged leaves having subordinate frames therein provided with pivotal perforations in their sides; and card pockets provided with pins fitting within said slots and perforations, substantially as described.

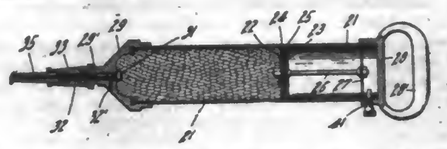
975,645. SIGNAL-COCK. CHARLES W. SHERBURNE, Boston, Mass. Filed Sept. 25, 1908. Serial No. 454,721.



1. In a cock of the character specified, the combination of a body having inlet and outlet passages and a valve chamber between said passages, a main valve operable within said valve chamber, a whistle, said main valve having a cross passage through it forming a connection between said inlet and outlet passages when said valve is open, said main valve having also a by-passage extending from said inlet passage to said cross passage when said main valve is in a closed position and a further passage extending from said cross passage and connecting with said whistle, an auxiliary valve for controlling the aforesaid passage connecting with said whistle, and means for controlling said auxiliary valve whereby it may assume a normally closed position or be opened as occasion may require.

2. In a cock of the character specified, the combination of a body having inlet and outlet passages and a valve chamber interposed between said passages, a valve having a passage extending through it and arranged to connect said inlet and outlet passages when said valve is in an open position, said valve also having a by-passage through it by which air from the inlet passage may be directed into the interior of the valve when the valve is in a closed position, a whistle connecting with the head of said valve and serving as a handle for operating it, said whistle being in communication with the interior of said valve by which air let into the same may be directed to said whistle, a chambered plug fitting into the head of said valve and connecting with the interior thereof, the chamber of said plug forming a part or portion of the connection for directing air from the interior of said valve to said whistle, a piston arranged to slide within the chamber of said plug and be manually controlled to slide from outside the same, a rod carried by said piston and extending through the chamber of the plug and through the end thereof, an auxiliary valve arranged upon said rod and adapted to close against the end of said plug for a valve seat for controlling the passage through the same, and means for holding said auxiliary valve in a normally closed position controlled by said sliding piston.

975,646. AUTOMATIC-DISCHARGE LUBRICATOR. WILLIAM E. SIDNEY, Kokomo, Ind., assignor of one-third to William J. Golightly and one-third to Frederick W. Jackson, Kokomo, Ind. Filed Sept. 24, 1908. Serial No. 454,635.



1. The combination of a container, and a discharge valve thereto, said discharge valve having a tubular exteriorly screw-threaded valve-stem with an opening thereinto below the valve head, and an interiorly screw-threaded sleeve surrounding and engaging said valve-stem whereby the movement thereof may be adjustably controlled.

2. The combination of a container, a discharge valve thereto, said discharge valve having a tubular exteriorly screw-threaded valve-stem with an opening thereinto below the valve head, a stud engaging a groove in said valve-stem whereby it is prevented from turning, and an interiorly screw-threaded sleeve surrounding and engaging said valve-stem whereby the movement thereof may be adjustably controlled.

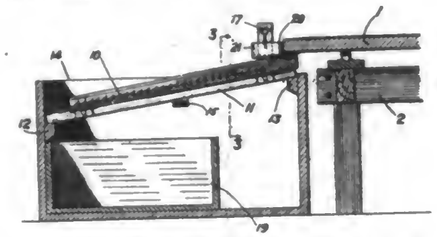
975,647. WEFT-FORK SPRING. REUBEN SMITH, Spray, N. C. Filed Feb. 12, 1910. Serial No. 543,536.



1. In a device of the kind described, a weft fork carrier having a pair of spaced arms, a pivot pin spanning the space between said arms, a stop bar connecting said arms behind said pivot pin, a second stop bar connecting said arms in front of and above said pivot pin, a weft fork carried on said pivot pin and provided with a shank adapted to lie between said arms, a hook projecting downward from said shank and adapted to be engaged by a wiper, and a spring having one end hooked and engaging the second stop bar, said spring being coiled around the pivot pin and extending backward and engaging the shank of the weft fork to hold said shank yieldingly against the first stop bar.

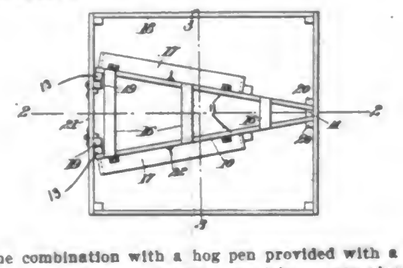
2. In a device of the kind described, a weft fork carrier having a pair of spaced arms, a pivot pin spanning the space between said arms, a stop bar connecting said arms behind said pivot pin, a second stop bar connecting said arms in front of and above said pivot pin, a weft fork carried on said pivot pin and provided with a shank adapted to lie between said arms, a hook projecting downward from said shank and adapted to be engaged by a wiper, and a spring having one end hooked and engaging the second stop bar, said spring being coiled around the pivot pin and extending backward and engaging the shank of the weft fork to hold said shank yieldingly against the first stop bar, said spring comprising a plurality of light spring steel wires soldered together from end to end and lying side by side in the direction across the space between said arms.

975,648. ATTACHMENT FOR WILFLEY TABLES. WALTER F. SMITH, Philadelphia, Pa., assignor to Carolinas Monazite Company, Gloucester City, N. J., a Corporation of New Jersey. Filed Mar. 19, 1909. Serial No. 484,451.



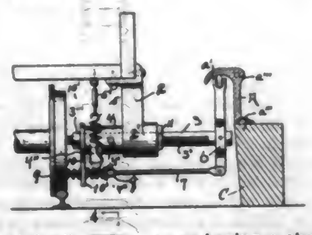
The combination of a shaking concentrating table with a stationary rifled chute, the discharge end of the former overlapping the upper end of the chute and the two provided with co-acting rubbing surfaces, the chute being adjustable transversely of the end of the table.

975,649. FARROWING-PEN FOR SWINE. RICHARD D. SPELTS, Lincoln, Nebr. Filed Feb. 17, 1910. Serial No. 544,476.



The combination with a hog pen provided with a door, of an inner skeleton frame comprising converging side members, hinged boards connected to said side members, means for supporting said hinged boards in an elevated position and means for supporting said boards in an outwardly inclined position; upright posts secured to the forward and rear extremities of said side members, blocks secured to the inner face of the front end of said pen on either side of said door, adapted to be engaged by the posts at the forward extremities of the side members and blocks secured to the inner face of the rear end of said pen adapted to engage the angled end of said frame, whereby said frame will be slidably retained within said pen.

975,650. LATERAL TROLLEY FOR ELECTRIC RAILWAYS. ALBERT J. STEINWEG, Chicago, Ill. Filed Apr. 1, 1907. Serial No. 365,714.



1. In a third-rail system, a car having a shaft-bearing attached thereto, a shaft rotatable in and laterally shiftable through said bearing, means on said bearing engaging with the shaft to hold it when shifted, and a trolley-arm supported on said shaft.

2. In a third-rail system, a car having a shaft-bearing attached thereto, a shaft rotatable in and laterally shiftable through said bearing, a latch on said bearing engaging with the shaft to hold it when shifted, a trolley-arm supported on said shaft, a sleeve through which the shaft passes and to which it is splined, and means acting on the sleeve to hold it and the shaft from rotating.

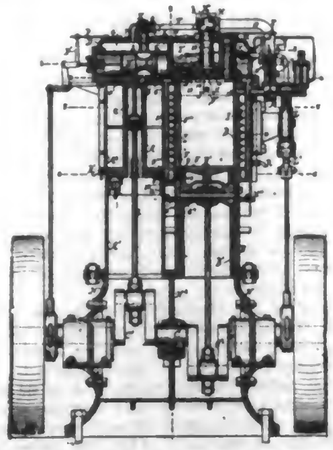
3. In a third-rail system, a car having a shaft-bearing attached thereto, a shaft rotatable in and laterally shiftable through said bearing, a latch on said bearing engaging with the shaft to hold it when shifted in one direction, a trolley-arm supported on said shaft, a sleeve through which the shaft passes and to which it is splined, oppositely-disposed lugs projecting from the sleeve, and oppositely-acting contractile springs attached to said lugs, and acting to prevent the rotation of the sleeve in either direction.

4. In a third-rail system, a car having a depending bracket carrying a bearing, a shaft rotatable in and laterally shiftable through said bearing, a sleeve through which the shaft passes located rearward of the bearing and independent thereof, said sleeve being splined to the shaft, means acting to prevent the rotation of the sleeve in either direction, a trolley-arm pivoted to the forward end of the shaft for a movement parallel to the shaft, and means coöperating with said trolley-arm tending to hold it in a vertical position but permitting it to have lateral movement relatively to said shaft.

5. In a third-rail system, a car having a depending bracket carrying a bearing, a shaft rotatable in and laterally shiftable through said bearing, a sleeve through which the shaft passes located rearward of the bearing and independent thereof, said sleeve being splined to the shaft, oppositely-disposed lugs projecting from the sleeve, oppositely-acting contractile springs attached to said lugs and acting to prevent the rotation of the sleeve in either direction, a plate attached to the rear end of the shaft and having a downwardly-projecting arm, a trolley-arm pivoted to the forward end of the shaft for a movement parallel to the shaft, a rod pivoted to the trolley-arm and passing through said plate, and springs surrounding the said rod on either side of the plate and engaging therewith to restrain movement of the said rod in either direction.

[Claim 6 not printed in the Gazette.]

975,651. THERMODYNAMIC MOTOR. PHILIP K. STERN, New York, N. Y. Filed Nov. 19, 1900. Serial No. 36,993.



1. The combination of an explosive engine, a liquid fuel supply exposed to the heat of the cylinder of said engine, an expansion engine connected to said supply to be driven by the vapor developed from said fuel, and connections leading the exhaust of the expansion engine to the charge inlet of the explosive engine.

2. In a thermodynamic motor, a combustion and expansion chamber, a liquid fuel receptacle, a combustible liquid power medium in contact with the combustion chamber carried by the said receptacle adapted to operate the motor by the vaporization thereof through the transfer of heat from the combustion chamber, a connection between the said receptacle and the expansion chamber, means for controlling the admission and cut-off of the vapor in the expenditure of the energy thereof within the said expansion chamber in the performance of mechanical work and for controlling the exhaust thereof, together with means for conflagrating a quantity of the spent vapor within the combustion chamber in the further performance of mechanical work.

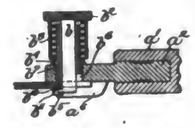
3. In a heat engine, the combination of an explosion cylinder having a fuel supply receptacle in contact therewith, the fuel therefor adapted to be heated by a surplus of the cylinder heat of the explosion cylinder, an expansion cylinder, pistons within each of the cylinders, the piston within the expansion cylinder being operated by the fuel heated by the surplus heat of the explosion cylinder, a connection between the two cylinders for permitting the transfer of the said heated fuel, and a valve and valve-gear for controlling the exhaust of the expansion cylinder into the explosion cylinder.

4. In a heat engine, the combination of an explosive engine and a fuel supply receptacle therefor, the same being adapted to contain a quantity of fuel and subject the same to the heat of the cylinder, and an expansion cylinder adapted to receive said heated fuel and wherein the same is adapted to expand in the further operation of the motor, the explosive cylinder having a greater piston area than the expansion cylinder, a connection between the exhaust of the expansion cylinder and the charge inlet of the explosive cylinder, for permitting the escape of the exhaust of the expansion chamber to the charge inlet of the explosive cylinder.

5. In a heat engine, the combination of an explosive engine having a fuel supply receptacle carried by its cylinder and adapted to subject the same to the action of the heat thereof, and an expansion cylinder co-acting with the explosive engine and operated by the expansion of the heated fuel, a connection between the exhaust of the expansion cylinder and the charge inlet of the explosive cylinder, a fuel mixing device interposed therein having controlling valves operated by the engine for mixing and controlling the fuel supply of the explosive engine.

[Claims 6 to 17 not printed in the Gazette.]

975,652. MACHINE FOR CUTTING IRREGULAR FORMS. ALLISON M. STICKNEY, Medford, Mass., assignor to Wellman Company, Medford, Mass., a Corporation of Maine. Filed Mar. 24, 1910. Serial No. 551,393.



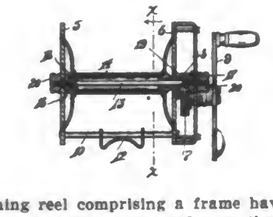
1. In a machine for cutting irregular forms the combination of a slide having a threaded opening; a bolt-carrying sleeve threaded at one end and screwed into said opening; a bolt mounted in the sleeve so as to rotate and move endwise, said bolt being made with a head at its upper end and a laterally-projecting lug at its lower end; a spring engaging the head of the bolt so as to hold the bolt yieldingly in its retracted position; a leader removably mounted on the slide and made with an aperture to permit the passage of the lower end of the bolt and lug, and also made with a socket on the under side thereof within which the lug is held by the spring so as to positively hold the bolt against rotation when in its locking position.

2. A leader locking attachment for machines for cutting irregular forms comprising a sleeve adapted at one end to be connected with the leader-carrying slide of the machine; a bolt mounted within said sleeve so as to be rotatable and endwise movable, said bolt being made at one end with a head and at its lower end with a laterally-extending lug, and a spring surrounding the sleeve and engaging the head of the bolt so as to hold the latter yieldingly in its retracted position.

3. A leader locking attachment for machines for cutting irregular forms comprising a sleeve adapted at one end to be connected with the leader-carrying slide of the machine; a bolt mounted within said sleeve so as to be rotatable and endwise movable, said bolt being made at one end with a head having a depending skirt and at its lower end with a laterally-extending lug, and a spring surrounding the sleeve within the skirt and engaging the head of the bolt so as to hold the latter yieldingly in its retracted position.

4. In a machine for cutting irregular forms the combination of a leader; a slide carrying the leader; a sleeve threaded at one end to engage the leader-carrying slide and having a flange to engage said slide and thereby determine the proper position of said sleeve in said slide; a bolt mounted within said sleeve so as to be rotatable and endwise movable in said sleeve as its bearing, said bolt being removably connected at one end with a head, which head has a depending skirt and said bolt having at its lower end a laterally-extending lug; and a spring within the skirt and surrounding, and guided by, the sleeve and engaging the head of the bolt so as to hold the latter yieldingly in its retracted position.

975,653. FISHING-REEL. WILLIAM F. STOCKFORD, South Bend, Ind. Filed Feb. 16, 1910. Serial No. 544,285.



1. A fishing reel comprising a frame having oppositely disposed head members connected near their lower edges, a central stay rod passing through apertures in said heads, a spool mounted on said stay rod having bearings at the ends of its hollow barrel, bearings mounted on the stay rod and adapted for obtaining the proper adjustment between the same and the spool bearings and the spool disks and head members by a single adjustment, and means for clamping the head members against the adjustable bearings to prevent movement thereof.

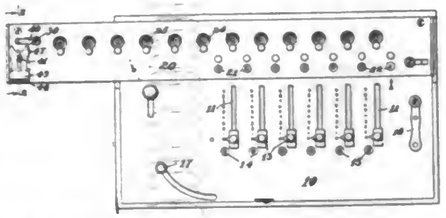
2. A fishing reel comprising a frame having oppositely disposed head members connected near their lower edges, a central stay rod passing through apertures in said head members, a spool mounted on the stay rod between said head members and having bearings formed at the ends of its hollow barrel, adjustable bearings mounted on the stay rod and engaging the spool bearings and the head members with their opposite ends to hold the head members in spaced relation with the spool disks, and means for clamping the head members against the adjustable bearings to hold the same against movement.

975,654. CALCULATING-MACHINE. JACOB SULEDER, Brooklyn, N. Y., assignor to The Keuffel & Esser Company, Hoboken, N. J., a Corporation of New Jersey. Filed Apr. 2, 1910. Serial No. 553,102.

1. In a machine of the character described, an upper plate provided with sight apertures, numeral wheels in series arranged beneath the same, a bar adapted to simultaneously move all the wheels to register zero through the slight openings, means comprising a handle for manually moving the bar, and means for locking the handle to hold all the wheels at zero, the same means serving to prevent the handle being moved from a zero setting position.

2. In a machine of the character described, the combination with a canceling bar and its handle of a manually

movable plate adapted to be interposed to prevent its movement to a certain position and which plate is provided with means to lock the handle at such position if it is moved thereto.

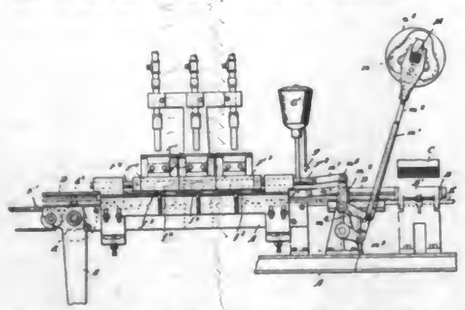


3. In a machine of the character described, the combination with a canceling bar and its handle of a manually movable plate adapted to be interposed to prevent its movement to a certain position comprising a sliding plate having a finger piece and set screw.

4. In a machine of the character described, the combination with a canceling bar and its handle of a manually movable plate adapted to be interposed to prevent its movement to a certain position and which plate is provided with means to lock the handle at such position if it is moved thereto comprising a plate provided with a recess.

5. In a machine of the character described, the combination with a canceling bar and its handle of a manually movable plate adapted to be interposed to prevent its movement to a certain position and which plate is provided with means to lock the handle at such position if it is moved thereto comprising a plate provided with a recess, the edge of the plate contacting with the handle to limit its movement and the recess embracing the handle to hold it in position.

975,655. CAN-BODY-MAKING MACHINE. EDWIN V. SWANGREN, Maywood, Ill., assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 11, 1907. Serial No. 356,706.



1. In a lock seam can body making machine, the combination with the body former horn, body formers and bumper, of a soldering horn extending from the body former horn and having an open longitudinal slot at its upper part registering with the lock seam groove of the body former horn, of a can body feeder or carrier for moving the can bodies along the soldering horn by a step by step movement, and a plurality of up and down movable and horizontally reciprocating soldering irons or shoes engaging the can bodies while they are at rest on the soldering horn, and a wire solder feed roller or device for feeding a plurality of solder wires under the first soldering iron when it is in its raised position, substantially as specified.

2. In a can body making machine, the combination with a body former horn and a soldering horn extending therefrom around and along which the can bodies pass on at one end and off at the other, of an intermittently movable carrier for moving the can bodies along the soldering horn, and a longitudinally reciprocating soldering iron, substantially as specified.

3. The combination with a soldering horn around and along which the can bodies pass on at one end and off at the other having an open slot at its upper part, of means for moving the can bodies along the soldering horn by a step by step movement, and a longitudinally reciprocating soldering iron, substantially as specified.

4. The combination with a soldering horn around and along which the can bodies pass on at one end and off at the other, of means for moving the can bodies along the same by a step by step movement, of an up and down movable and horizontally longitudinally reciprocating soldering iron, substantially as specified.

5. In a can body machine, the combination with a soldering horn around and along which the can bodies pass on at one end and off at the other, of an up and down movable longitudinally reciprocating soldering iron and means for feeding the solder wire to the seam of the can under the soldering iron while the soldering iron is in its raised position, substantially as specified.

[Claims 6 to 36 not printed in the Gazette.]

975,656. PROCESS OF CONVERTING STARCHY MATERIAL INTO SUGAR. JOKICHI TAKAMINE, New York, N. Y. Filed Jan. 20, 1906. Serial No. 297,039.

1. The process of converting starchy material into sugar which consists in treating said starchy material with a starch liquefying agent to liquefy the starch, then adding to the liquefied starch a starch saccharifying agent having substantially no starch liquefying action.

2. The process of converting starchy material into sugar, which consists in treating said material with a weak acid at a suitable temperature to liquefy the starch present or convert the same into a soluble condition, and then treating said material with a starch-saccharifying material having substantially no starch liquefying action.

3. The process of converting starchy material into sugar, which consists in taking a portion of the starchy material to be converted, making a watery extract of the same, mixing the portion subjected to extraction with the unextracted portion, cooking the mass to liberate the starch, adding a weak acid to said mass to liquefy or convert the starch present into a soluble condition, and then adding the desired quantity of the aforesaid extract to the mass.

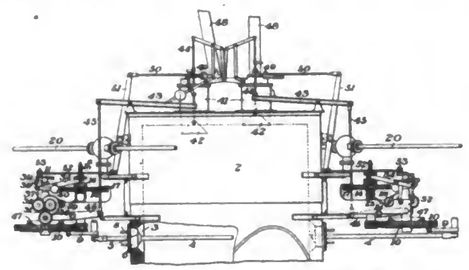
4. The process of converting starchy material into sugar, which consists in cooking said material to liberate its starch, treating said material with a weak acid at a suitable temperature to convert said starchy material into a soluble or liquefied condition, extracting a mass of grains or roots of the character specified, or of such material from which the whole or a portion of their starchy constituents have been removed, with water and adding the extract so obtained in desired quantity to the starchy material treated as above described.

5. The process of converting starchy material into sugar which consists in taking one-fourth to one-half of the mass of starchy material to be converted, extracting said portion with water, collecting the extract, mixing the extracted and unextracted portions together, adding thereto acidified water, cooking the mixture, neutralizing the acid, and then adding to the mass the aforesaid extract collected from the extracted portion of the starchy material.

975,657. GAS-PRODUCING APPARATUS. FRANCIS H. TREAT, Cleveland, Ohio. Filed Apr. 12, 1909. Serial No. 489,361.

1. In a gas producer, a poker fulcrumed on one of the side walls and arranged to extend through said wall into the producer, and means for imparting a lateral sweeping or swinging movement to the poker in a substantially horizontal plane within the fuel bed of the producer, the actuating means also guiding and restricting the poker in and to such movement substantially as described.

2. In a gas producer, a poker fulcrumed on one of the side walls and arranged to extend through said wall into the producer, and means for imparting a lateral sweeping or swinging movement to the poker in a substantially horizontal plane within the fuel bed of the producer, the actuating means also guiding and restricting the poker in and to such movement, the actuating means being further arranged to advance and retract the poker; substantially as described.



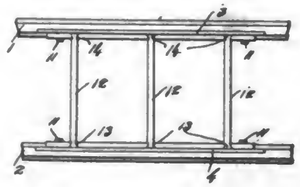
3. In a gas producer, a poker fulcrumed on one of the side walls and arranged to extend through said wall into the producer, and means for periodically imparting a lateral sweeping or swinging movement to the poker in a substantially horizontal plane within the fuel bed of the producer, the actuating means also guiding and restricting the poker in and to such movement; substantially as described.

4. In a gas producer, a plurality of pokers fulcrumed in the lateral wall of the producer, and mechanism for swinging the pokers in a substantially horizontal plane within the fuel bed of the producer, said pokers each operating in a different segment or section of such bed, and the actuating mechanisms having timing means for causing the pokers to act in successive order; substantially as described.

5. In a gas producer, a poker fulcrumed in and extending through one of the side walls of the producer, and mechanism for actuating said poker periodically to advance it into and withdraw it from the fuel bed of the producer, and for swinging the poker within the producer, said movements being all in a substantially horizontal plane, and successive movements being in the same portion or segment of the fuel bed; substantialy as described.

[Claims 6 to 25 not printed in the Gazette.]

975,658. HOSE-BRIDGE. MARTIN E. TROUTT, Fort Worth, Tex., assignor of one-half to Jerry Harwell, Fort Worth, Tex. Filed Feb. 2, 1910. Serial No. 541,655.

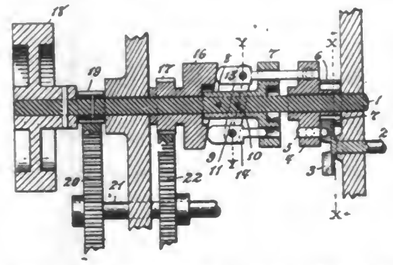


1. A hose bridge comprising arch rails in combination with the rails of a railway, said arch rails having body portions with cut outs thereunder for hose and depending flanges flush throughout their length with the rail balls of said rail, bolts binding said flanges to said railway rail balls, and ties having their ends dovetailed into the bodies of said arch rails.

2. A hose bridge comprising arch rails in combination with the rails of a railway, said arch rails having body portions with cut-outs thereunder for lines of hose and vertical grooves in said body portion on the inner sides with undercut edges and having depending flanges flush with the inside of the railway rail balls, screw bolts binding said flanges to said rail balls, and ties having their ends dovetailed into said grooves to lock said arch rails in operative positions.

3. A hose bridge comprising arch rails in combination with the rails of a railway, said arch rails having body portions resting on the balls of the railway rail balls and depending flanges flush throughout their length with the inner sides of the railway rail balls and having balls in line with the railway rail balls, said body portions having cut-outs for lines of hose and having vertical grooves with undercut edges, ties having their ends dovetailed into said grooves, and bolts binding said flanges to said railway rails.

975,659. MECHANICAL MOVEMENT. CHARLES R. UEBELMESSER, New York, N. Y., assignor to American Moving Picture Machine Company, a Corporation of New York. Filed Mar. 24, 1908. Serial No. 422,906.



1. A driven disk provided with radial channels, a driving shaft, a pin mounted thereon so as to turn with said driving shaft and to move longitudinally in relation thereto, and means actuated by said shaft for moving said pin back and forth, out of and into engagement with said channels.

2. A driven disk provided with radial channels, a driving shaft, a collar slidably mounted upon and arranged to rotate with said shaft, a driving pin projecting from said collar, and means actuated by said shaft for sliding said collar back and forth on its shaft to thereby move the driving pin out of and into engagement with said channels.

3. A driven disk provided with radial channels having tapered parallel sides, a driving shaft, a collar slidably mounted thereon, and an adjustable driving pin in said collar.

4. A driven disk provided with radial channels having tapered parallel sides, a driving shaft, a collar slidably mounted thereon and arranged to rotate with said shaft, a tapered pin adjustably supported by said collar, and means for sliding said collar back and forth on its shaft to thereby move the driving pin out of and into engagement with said channels.

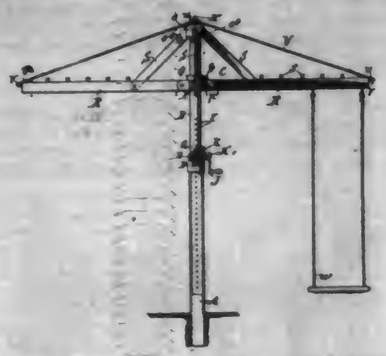
5. A driven disk provided with radial channels, a driving shaft, a collar slidably mounted upon and arranged to rotate with said shaft, a driving pin projecting from said collar, a sliding pin attached to the collar, guiding means for the sliding pin affixed to the shaft, and a cam acting upon the sliding pin to reciprocate it.

[Claims 6 to 13 not printed in the Gazette.]

975,660. REEL FOR DRYING CLOTHES, &c. SAMUEL T. WAGGONER and THOMAS T. HEARD, Buffalo, N. Y. Filed Mar. 21, 1910. Serial No. 550,561.

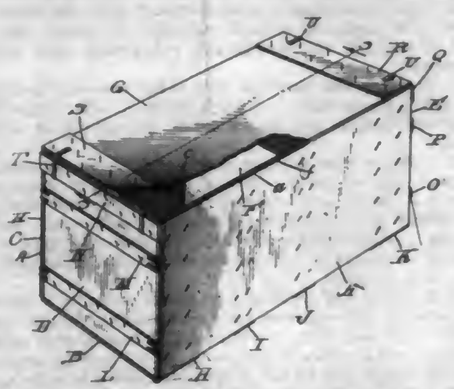
1. A reel comprising a post having a lower tubular section adapted to be supported on the ground, an upper section movable vertically in the lower section and provided with a vertical row of openings, and means for raising said upper post section comprising a bracket having a cap secured on the upper end of the lower post section and arms projecting laterally from said cap and provided with bearings, a shaft journaled in said bearings, a gear wheel mounted on said shaft between said bearings and engaging its teeth with said openings of the upper

post section, and a crank handle secured to one end of said shaft, said shaft having a flat sided part which engages with a correspondingly shaped bore of the gear wheel, a journal of larger diameter than said flat sided part on one side thereof and turning in the bearing of one bracket arm, and a journal of smaller diameter than said flat sided part on the other side of the latter and turning in the bearing of the other bracket arm.



2. A reel comprising a post, a cap secured to the upper end of said post, a centering pin secured at its lower end to said cap and provided above the cap with a cylindrical neck and above the neck with an enlargement or collar, a cup-shaped hub having a top resting on said cap and engaging with the underside of said enlargement and provided with a central opening which receives said neck, a runner mounted on the post, sweeps radiating from the runner and braces connecting said hub and sweeps.

975,661. CRATE. ENOS L. WALKER, Cape Girardeau, Mo. Filed June 20, 1906, Serial No. 322,508. Renewed Oct. 3, 1910. Serial No. 585,155.



1. A knockdown box or egg crate comprising inner and outer sheets of material separated by transverse spacing strips to form sides having air spaces therein, a bottom flexibly connected with the ends of said strips whereby said double wall sides are flexibly connected with said bottom, transverse walls for said box, provided on their vertical edges with side portions engaging between the inner and outer sheets of said sides to fix the said transverse walls in position between the said sides, and a suitable cover the said said sides and bottom being formed from a blank distinct from said transverse walls, as set forth.

2. A knock-down box or egg crate, having folding double sides, each providing a plurality of air spaces, a suitable bottom, and transverse walls provided on their vertical edges with means engaging between the inner and outer thicknesses of said sides, to hold the latter in place, whereby said transverse wall serves as a binder to hold the box together, said walls removable to permit the sides and bottom to be shipped flat, as described.

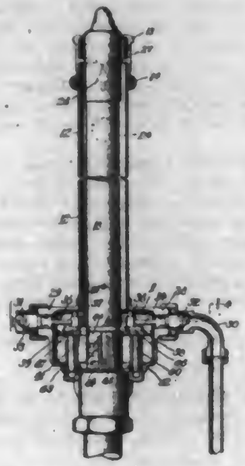
3. In an egg crate, hollow sides, a bottom, and transverse walls each provided on the vertical edges thereof with means for engaging between the inner and outer thicknesses of said sides, said walls removable to permit the sides and bottom to be shipped flat, as described.

4. In a box, sides made of thin sheets of wood with the grain running lengthwise thereof, each side consisting of inner and outer sheets, vertical strips interposed between the said inner and outer sheets, with the grain of the wood running at right angles thereto, means for fastening said sheets and strips together, a bottom having transverse strips flexibly connected with the lower ends of the said strips in the sides, and transverse walls for binding the box together, said walls having means for removably engaging the said sides, as set forth.

5. In a box, folding side and bottom walls flexibly connected together at their edges, and removable transverse walls having means for removably engaging the sides to lock the box together, the sides being flush and smooth on their outer surfaces.

[Claims 6 to 8 not printed in the Gazette.]

975,662. FIXTURE FOR BATH-TUBS AND LAVATORIES. EARL G. WATROUS, Chicago, Ill. Filed Jan. 15, 1903. Serial No. 139,183.



1. A bath tub fixture having a combined supply and discharge pipe connected at one end with the tub, said pipe containing passages for the admission and discharge of the water, and valve mechanism arranged toward the other end of said pipe for controlling the independent admission and discharge of water through one or the other of said passages; substantially as described.

2. A bath tub fixture having a combined supply and discharge pipe connected with the tub, said pipe containing separate passages for the admission and discharge of the water, a supply valve for controlling the admission of the water to the tub through one of said passages, a discharge valve for controlling its escape or discharge therefrom through the other of said passages, and a handle common to the supply valve and the discharge valve for operating them independently of each other; substantially as described.

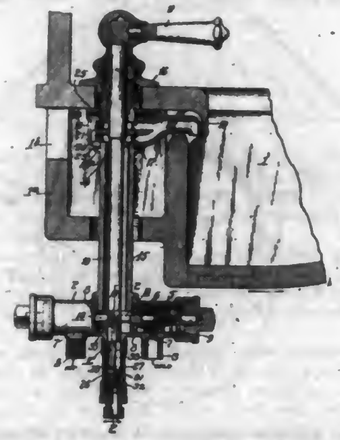
3. A bath tub fixture connected with the tub by a single pipe, a horizontal partition or diaphragm separating it into upper and lower passages, a supply valve controlling the admission of water to the tub through the upper one of said passages, a discharge valve controlling the escape of water from the tub through the lower one of the passages, and manually operated means common to both of said valves for independently operating them; substantially as described.

4. A bath tub fixture connected with the tub by a single pipe, a horizontal partition or diaphragm separating it into upper and lower passages, a supply valve controlling the admission of water to the tub through the upper one of said passages, a discharge valve controlling the escape of water from the tub through the lower one of said passages, and an operating handle for said valve having a rotary movement for opening and closing the supply valve and a vertical movement for opening and closing the discharge valve; substantially as described.

5. A bath tub fixture comprising a casing connected with the tub by a combined supply and discharge pipe, inlet and discharge valves arranged in said casing for controlling the admission and discharge of water through said pipe, an outer tube extending upwardly from said casing and communicating with said supply and discharge pipe, an inner tube arranged within said outer tube operatively connected with said inlet and outlet valves and provided with an operating handle whereby water may be admitted to the tub by one movement of the handle and discharged therefrom by another, said inner tube being provided with an overflow opening at the high water level of the tub and its interior being in communication with the discharge opening.

[Claims 6 to 34 not printed in the Gazette.]

975,663. LAVATORY-FIXTURE. EARL G. WATROUS, Chicago, Ill. Filed Dec. 4, 1906. Serial No. 346,287.



1. In a lavatory fixture, the combination, with valve mechanism for controlling the admission of water, of a water supply tube or pipe supporting and communicating with such valve mechanism, an operating rod extending through said tube for operating the valve mechanism, a water spout connected with said pipe and adjustable angularly with respect thereto to any predetermined position, and means for securing said pipe and spout in any such adjusted position.

2. In a lavatory fixture, the combination, with valve mechanism for controlling the admission of water, of a water supply tube or pipe supporting and communicating with such valve mechanism, an operating rod extending through said tube for operating the valve mechanism, a water spout connected with said pipe and adjustable angularly with respect thereto, said spout having a portion encircling and communicating with said pipe, and means for clamping said pipe and spout together.

3. In a lavatory fixture, the combination, with valve mechanism for controlling the admission of water, of a water supply tube or pipe supporting and communicating with such valve mechanism, an operating rod extending through said tube for operating the valve mechanism, a water spout connected with said pipe and adjustable angularly with respect thereto, said pipe being screw threaded at its upper end, and a clamping nut for clamping the pipe and spout together and also clamping the pipe in position.

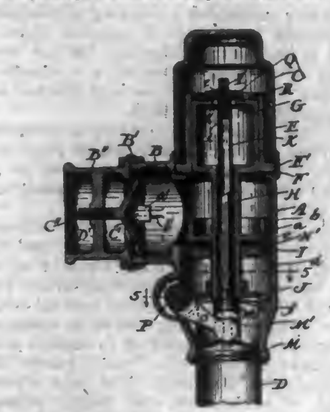
4. In combination with the basin and with valve mechanism for controlling the admission of water, a water supply tube or pipe communicating with said mechanism and passing through an opening in the basin, said pipe having a flange intermediate its length, an operating rod extending through said tube for operating the valve mechanism, a water spout encircling said pipe and bearing on said flange, and a clamping nut engaging said pipe and arranged to clamp the pipe and spout together and to the basin.

5. In combination with the basin and with valve mechanism for controlling the admission of water, a water supply tube or pipe communicating with said mechanism and passing through an opening in the basin, said pipe having a flange intermediate its length, a water spout encircling said pipe and bearing on said flange, a clamping nut engaging said pipe and arranged to clamp the pipe and spout together and to the basin, and a valve operating rod extending centrally through said nut and pipe to the valve mechanism.

[Claims 6 to 22 not printed in the Gazette.]

975,664. WATER-CLOSET VALVE. EARL G. WATROUS, Chicago, Ill. Filed June 21, 1899. Serial No. 721,330.

1. A water closet valve having inlet, discharge and retarding chambers, the latter two chambers having a communicating escape passage and a separate by pass or restricted passage; substantially as described.



2. In a water closet valve having inlet, discharge and retarding chambers, an exhaust passage between the latter two chambers a supply passage or by-pass for the retarding chamber connecting such chamber with the discharge chamber and controlling the closing movement of the valve, and means for gradually reducing the water pressure in the discharge chamber as the valve closes, substantially as described.

3. In a water closet valve having inlet, discharge and retarding chambers, an exhaust or escape passage connecting the retarding chamber with the discharge chamber, a valve controlling such passage and operating to open the same at the opening movement of the main valve and to close the same at the closing movement of the main valve, and a supply passage or by-pass for the retarding chamber connecting such chamber with the discharge chamber and serving to control the closing movement of the main valve, substantially as described.

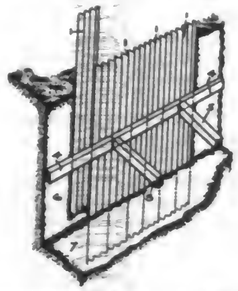
4. In a water closet valve having inlet, discharge and retarding chambers, an exhaust or escape passage for the

retarding chamber communicating with the discharge chamber, a valve controlling the same, a supply passage or by-pass for the retarding chamber connecting the same with the discharge chamber, and means for reducing the water pressure in the discharge chamber as the main valve closes, substantially as described.

5. In a water closet valve having inlet, discharge and retarding chambers arranged in axial line with each other, a central supply passage or by-pass which is restricted and extends through the inlet chamber, connecting the retarding chamber with the discharge chamber, and a separate exhaust passage between the retarding and discharge chambers; substantially as described.

[Claims 6 to 47 not printed in the Gazette.]

975,665. SHORING. JULIUS R. WEMLINGER, New York, N. Y. Filed Sept. 23, 1907, Serial No. 394,109. Renewed Apr. 25, 1910. Serial No. 557,593.



1. A wall shoring comprising a plurality of independent sheet metal sections, having curved adjacent edges, and with the edge of one section engaging, but not locking with, the curve of the adjacent section, a removable bar or wale extending transversely across said sections and a strut bearing against said bar or wale.

2. A wall shoring comprising a plurality of independent corrugated sections, and with a longitudinal ridge of one section engaging with a corresponding recess of an adjacent section, and a removable bar or wale extending transversely across said sections.

3. A wall shoring comprising a plurality of independent corrugated sections, and with a longitudinal ridge of one section engaging with a corresponding recess of an adjacent section a bar or wale extending transversely across said sections, and a brace bearing against said bar or wale.

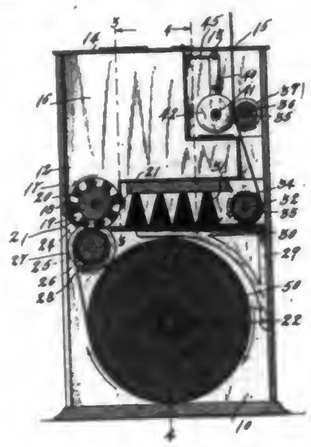
4. A metallic shoring comprising a series of independent longitudinal corrugated plates adapted to support a bank of earth or similar material with their adjacent edges laterally overlapping to the extent of at least a part of one corrugation, in combination with waling pieces arranged against the free surface of said piling, and supporting means abutting said waling pieces for holding same and the piling in position.

5. A wall shoring comprising a series of independent vertically arranged, corrugated plates, assembled with their adjacent edges in lateral contact and overlapping; the exposed surfaces of said plates being supported by transverse waling pieces and struts, to form substantially water-tight joints and permit the ready disengagement of said plates when the supports are removed.

[Claim 6 not printed in the Gazette.]

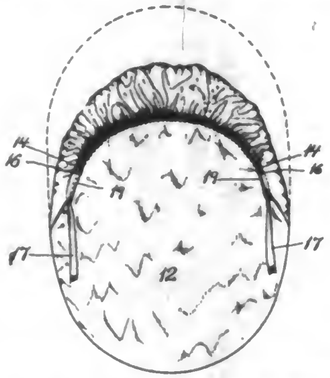
975,666. PASTING AND TRIMMING MACHINE. WILLIAM J. WILLIAMS, St. Joseph, Mo. Filed Apr. 20, 1909. Serial No. 491,112.

In a device of the kind described, a casing, a paper roll support held therein, a guide roll, a paste receptacle, a paste applying roll, a paste distributing table, a paste distributing brush mounted thereabove, a second guide roll provided with a rubber cover having longitudinal serrations thereon, a platen roll provided with a pair of spaced guides, and a yieldable shaft supported to press toward



the platen roll and provided with a pair of spaced knife members.

975,667. HAT-PROTECTOR. LEONARD F. WOLFE, Weymouth, Mass. Filed Nov. 27, 1909. Serial No. 530,192.



A hat protector comprising a sheet of flexible material having one edge provided with a pocket, an elastic cord having its ends permanently secured within said pocket whereby the material is caused to gather between said ends to form a brim engaging hood which is adjustable for hat brims of different sizes, and nonelastic strings secured to said material at opposite sides thereof and adapted to constrict the body portion of said material at the rear of the hat brim.

975,668. METHOD OF MAKING DIAPHRAGMS FOR TALKING-MACHINES. WILLIAM W. YOUNG, Springfield, Mass. Filed Dec. 1, 1908. Serial No. 465,474.



1. The method of making diaphragms, for talking-machines, consisting in introducing as a filler into porous material a deposit from a silicate, an alkali and a neutral mineral in solution, and in hardening such filled material.

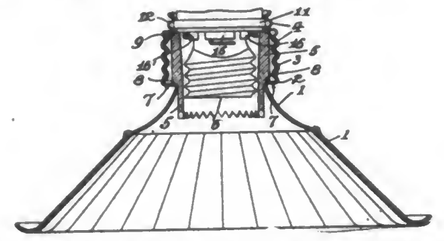
2. The method of making diaphragms, for talking-machines, consisting in introducing as a filler into porous material a deposit from a silicate, an alkali and a neutral mineral in solution, and in compressing and drying such filled material.

3. The method of making diaphragms, for talking-machines, consisting in perforating a piece of fibrous material, in immersing such perforated material in a filling compound, and in compressing between hard imporous surfaces and drying the filled material.

4. The method of making diaphragms, for talking-machines, consisting in immersing porous material in a filling bath, then in partially drying the material thus treated, then in powdering such material, then in compressing the same, then in subjecting it to heat, then in coating with the filler and powdering once more, then in partially drying again, then in compressing again, and finally in subjecting to heat again.

5. The method of making diaphragms, for talking-machines, consisting in immersing porous material in a filling bath, in compressing such filled material between hard plates having openings therein arranged and adapted to afford room for the expansion of such portion of the material as is adjacent to such openings, and in drying said material.

975,669. LAMP-REFLECTOR. HENRY ZIAWAS, Yonkers, N. Y. Filed Jan. 3, 1910. Serial No. 536,134.



1. A metallic reflector having integral with itself at its upper part a screw-thread, an outer socket shell having a lower thread engaged by said reflector thread, in combination with an insulating portion, firmly carried by the reflector screw-thread.

2. A lamp reflector having integral with itself at its upper end a screw thread, an outer socket shell having a lower thread engaged by said reflector thread, in combination with an insulated portion, firmly carried by the reflector thread.

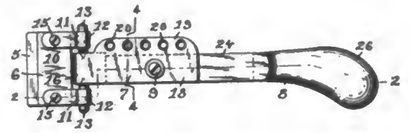
3. In a lamp fixture, a double screw-threaded outer socket shell, in combination with a metallic reflector provided with a screw integral therewith engaging the lower screw thread of the said socket shell and supporting within its screw thread the portion insulating the outer socket shell and the reflector from the current carrying devices, substantially as set forth.

4. In a lamp fixture, a screw threaded outer socket shell, an insulated screw-thread internally engaging said socket shell, in combination with a lamp reflector held by said insulated screw and protected from contact with the current carrying devices thereby, substantially as set forth.

5. In a lamp fixture, a reflector, an outer screw-threaded socket-shell, a screw engaging said socket-shell and supporting the reflector, in combination with an insulator having projections and indentations engaging similar parts on the screw supporting the reflector, substantially as set forth.

975,670. PIANO-PEDAL. ALBERT JOSEPH BACHAND, Providence, R. I. Filed Apr. 26, 1910. Serial No. 557,760.

1. A separable piano pedal consisting of a pivot member having integral parallel arms, one of the arms having a side extension in which is a series of holes, a toe member having an arm adapted to enter between the parallel arms on the pivot member, and means for detachably securing the arm on the toe member to the pivot member, whereby the toe member is clamped between the parallel arms of the pivot member.



2. A separable piano pedal comprising a pivot block, a pivot member having parallel arms forming a longitudinal slot between the arms, one of the arms having a side extension in which is a plurality of holes, a toe member having an arm adapted to have a sliding fit in the slot between the parallel arms of the pivot member, means for detachably securing the arm on the toe member to the pivot member whereby the arm on the toe member is clamped between the parallel arms of the pivot member and means for pivotally securing the pivot member to the pivot block.

3. A separable piano pedal consisting of a pivot member having upper and lower parallel arms forming a longitudinal slot between the arms, the upper arm having a side extension in which is a series of holes and the lower arm having inwardly beveled edges, a toe member having a toe end and an arm with a longitudinal groove in its under side, the edges of the groove being outwardly beveled, said arm having a sliding fit in the slot between the parallel arms on the pivot member, and means for detachably securing the arm on the toe member to the pivot member, whereby the arm on the toe member is clamped between the parallel arms of the pivot member.

4. In combination, a separable piano pedal comprising a pivot block, a pivot frame stamped from sheet metal and shaped to form a plate with two arms each of which are shaped to have cylindrical ends, the arms being bent back on the plate, a pivot pin having a pointed end and adjustably clamped in each of the cylindrical ends of the arms and screws which extend through holes in the arms and plate and into the pivot block, a pivot pedal member having a pivot end in opposite sides of which are holes which the pointed ends of the pivot pins enter and parallel upper and lower arms, the upper arm having a side extension in which is a series of holes and the lower arm having inwardly beveled edges, a toe pedal member having a conventional toe shape end and an arm with a longitudinal groove in its under side, the edges of the groove being outwardly beveled, said arm having a sliding fit between the parallel arms on the pivot pedal member, and means for detachably securing the arm on the toe member to the pivot member, whereby the arm of the toe member is clamped between the parallel arms of the pivot member, consisting of a screw which passes from the top downward through holes in the arms of the pivot and toe members and is screw-threaded into the lower arm of the pivot member.

975,671. WRENCH. WALTER F. BAILEY, Los Angeles, Cal., assignor of one-half to Mitchell S. Mickelson and Andrew P. Jensen, Los Angeles, Cal. Filed July 8, 1909. Serial No. 506,482.

1. In a wrench in combination, a fixed jaw having a shank, a movable member sliding on said shank and having a tapered recess with an inclined face, an eccentric pivotally mounted on said movable member, a link connected with said eccentric extending into said recess, a roller journaled in the free end of said link and adapted to jam between said shank and said inclined face, and means for actuating said eccentric.

2. In a wrench, the combination with a shank having a fixed jaw thereon, of a movable member provided with a recess therein mounted upon said shank, said member provided with a jaw at one end thereof and integral with the said member, an eccentric pivotally mounted on said movable member, a link pivoted to said eccentric and having

a longitudinal movement in said recess, a roller journaled in the free end of said link, said roller adapted to contact with a wall of the recess and an edge of the shank, and an operating thumb piece secured to said eccentric.



975,672. ADJUSTMENT FOR TELESCOPES. HENRY BAUSCH, Rochester, N. Y., assignor, by mesne assignments, to Bausch & Lomb Optical Company, (No. 2,) a Corporation of New York. Filed Oct. 10, 1905. Serial No. 282,089.



1. The combination with a telescope, of a non-rotatable eyepiece mounted to operate longitudinally thereof, a rotatable adjusting device surrounding the eyepiece for operating it and a guiding portion surrounding the adjusting device and adapted for attachment to the telescope.

2. In a telescope, the combination with the tube or casing, and a longitudinally movable eyepiece carried thereby, of an attaching portion within the telescope tube for preventing rotation of the eyepiece, and a rotatable adjusting device working within said attaching portion for moving the eyepiece longitudinally of the telescope.

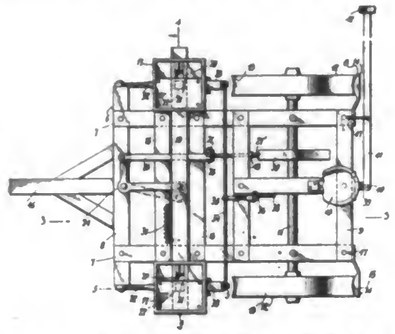
3. The combination with a telescope having a portion extending into the telescope tube and provided with an axially arranged slot, and an eyepiece having a projection thereon coöperating with said slot, of an adjusting device inclosed within said portion for operating the eyepiece axially of the telescope.

4. The combination with a telescope having a sleeve suitably attached thereto and provided with an axially-arranged slot, and an eyepiece having a projection cooperating with said slot, of a rotatable adjusting device inclosed by said sleeve and having a cam thereon cooperating with the projection of the eyepiece for adjusting the latter axially of the telescope.

5. The combination with a telescope, a portion adapted to be attached thereto and provided with an axially-arranged slot, and an eyepiece having a projection coöperating with said slot, of a rotatable adjusting device fitted to operate within the said attaching portion and having a helical slot coöperating with the projection of the eyepiece for adjusting the latter axially of the telescope.

[Claims 6 and 7 not printed in the Gazette.]

975,673. CORN-PLANTER. FRANK W. BOOTH, Royalton, Minn. Filed May 2, 1910. Serial No. 558,801.



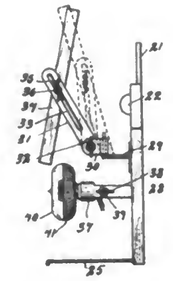
1. In a planter, a main frame, a wheeled axle supporting the frame, seed boxes superimposed upon the frame and having delivery tubes depending therefrom, a seed valve intersecting the communication between the delivery tubes and the seed boxes, a trip lever pivoted to the frame and an upstanding end pivotally connected with the slide valve, a duplex cam fixed to the axle and actuating said trip lever, and means movable into the path of the trip lever to hold it out of engagement with the duplex cam.

2. In a planter, a frame, a seed box thereon, having a delivery opening, a seed valve controlling the opening, an angular trip lever having a long and short arm pivoted by its short arm to the seed valve and pivotally supported on the frame, a wheeled shaft, a cam mounted on the shaft having opposite portions adapted to engage the long arm of the lever, and a lever pivoted for vertical movement on the frame adapted to laterally displace the trip lever relative to the cam.

3. In a corn planter, a frame, seed boxes mounted on opposite sides of the forward part of the frame, seed valves for controlling the delivery openings of the seed boxes, a slide bar operating through the seed boxes and connected with the seed valves and arranged transversely on the frame, a pin mounted on said slide bar, a horizontally moving lever having a long and short arm, the long arm having an oblong slot and being pivotally connected with the pin of the slide bar and the short arm being disposed transversely of the frame and forwardly of the long arm, a link member pivotally connected with the outer end of the short arm and extending rearwardly thereof, a lever having a long and short arm pivoted for vertical movement to the frame, the short arm of said last lever extending vertically and being pivotally connected to the forward end of the link member and the long arm thereof extended forwardly of said short arm, a wheeled supporting shaft for the frame, a cam member mounted on the shaft to engage the terminal of the long arm of the second lever, said cam member having tapering ends, and a spring secured at one end to the other frame and at the other end to the slide bar.

975,674. COMBINED LAMP AND MIRROR. LEROY A. BUELL, Kalamazoo, Mich. Filed Sept. 22, 1909. Serial No. 518,093.

1. In a combined lamp and mirror, a suitable support; a lamp provided with a reflector arranged to illuminate the user by the direct rays of said lamp; and a mirror arranged to project partially in front of said reflector to screen the eyes of the user from the direct rays of the lamp, while illuminating the part to be reflected, as specified.



2. The combination with a support having an adjustable hanger, of a lamp with a reflector mounted on said support, arranged to illuminate the user by the direct rays of said lamp; and a mirror mounted on said support to be vertically adjusted and tilted in front of said reflector to screen the eyes of the user while illuminating the part to be reflected, for the purpose specified.

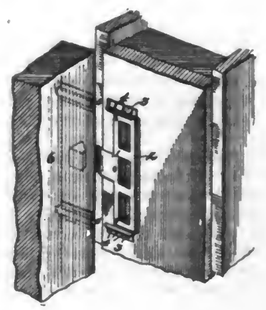
3. The combination with a support, of a lamp with a reflector mounted on said support arranged to illuminate the user by the direct rays of said lamp; and a mirror mounted on said support to be vertically adjusted and tilted in front of said reflector, for the purpose specified.

4. A combined lamp and mirror comprising a support; a mirror adjustably mounted on said support; a lamp adjustably mounted on said support so arranged as to cast its rays of light directly upon the person of the user; and means to protect the eyes of the user from said direct light rays.

5. A combined lamp and mirror comprising a support; a mirror adjustably mounted on said support; a lamp mounted on said support back of and projecting below said mirror, said mirror intercepting the forwardly directed rays from the upper portion of said lamp, to protect the eyes of the user.

[Claim 6 not printed in the Gazette.]

975,675. LOCK-STRIKE. EUGENE J. BUMILLER, Chicago, Ill. Filed Mar. 12, 1910. Serial No. 549,014.



In a door lock the combination with a strike-plate provided with a guard flange at its outer side; separate angle members secured to the door jamb adjacent the top and bottom ends of said plate; and channel members secured in the end of the door and adapted to receive the outwardly extending flange of said angle members, substantially as described.

975,676. FINGER-MOISTENER. HARRY S. CATES, Escanaba, Mich., assignor of one-half to Delevan A. Brotherton, Escanaba, Mich. Filed Feb. 18, 1910. Serial No. 544,564.



1. A finger moistener comprising a holder for an absorbent material adapted to be placed in the palm of the hand, and a relatively narrow resilient band secured to the holder, and extending therefrom between two fingers of the hand, said band having a return bend terminating at the back of the hand, and engageable therewith.

2. A finger moistener comprising a holder for an absorbent material adapted to be placed in the palm of the hand, and an attaching member for the holder, said member comprising a looped resilient band secured at one end to the holder, the other end of the band being free and opposite the back of the holder, and spaced therefrom, the tension of the band being such that its free end tends to spring in the direction of the back of the holder.

975,677. NUT-LOCKING TOOL. RUSSELL A. CLARK, Pittsburg, Pa. Filed June 20, 1910. Serial No. 567,849.



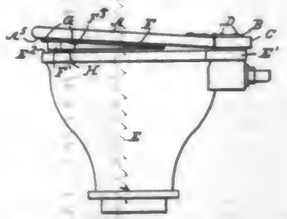
A nut-locking tool, comprising a shank having a wedge-shaped lower portion, the lower edge having a central convex spreading tooth, a pointed swaging spur at one side of the tooth, and a blunt fulcruming spur at the other side of the spreading tooth adapted to have a rocking bearing on the face of a nut as described.

975,678. WATER-CLOSET. PETER A. CURTIN, Buffalo, N. Y., assignor of one-half to Thomas F. Gaynor, New York, N. Y. Filed June 18, 1906. Serial No. 322,128.

1. In a water closet, the combination of a bowl, a seat, and a support secured to the under surface of the seat and arranged so as to be wholly within the outline of the seat and above the bowl rim and adapted to cause the adjacent surfaces of the seat and bowl rim to slant toward each other from front to rear when brought together, substantially as described.

2. In a water closet, the combination of a bowl, a seat, and a support secured to the under surface of the seat and arranged so as to be wholly within the outline of the seat and above the bowl rim and adapted to cause the upper surface of the seat to slant downwardly and backwardly from front to rear when the seat is in its normal position on the bowl, substantially as described.

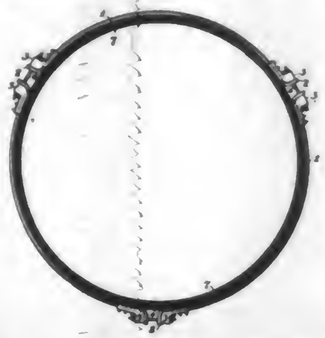
3. In a water closet, the combination of a bowl, a seat, and a support secured to the under surface of the seat and arranged between the bowl and the seat so as to be wholly within the outline of the seat and above the bowl rim, and adapted to cause the adjacent surfaces of the seat and bowl rim to slant toward each other from front to rear when in the normal position for use, substantially as described.



4. In a water closet, the combination of a bowl, a seat, and a support curved to correspond with the curvature of the seat and bowl rim and secured to the under surface of the seat and being wholly within the outline of the seat and above the bowl rim, and adapted to give the seat a slanting position downwardly from front to rear, substantially as described.

5. In a water closet, the combination of a bowl having a level top, a seat having a hinged connection with the bowl, and a support curved to correspond with the opening in the seat and secured to the under surface of the seat and adapted to give the seat a slant downwardly from front to rear, substantially as described.

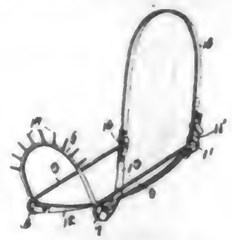
975,679. HOOP. JAMES DUPREE, Chicago, Ill. Filed Dec. 29, 1909. Serial No. 535,534.



A tank hoop comprising hoop sections having flat inner faces and semi-cylindrical outer faces, the ends of said sections being turned outwardly at substantially right angles and the edges thereof thickened to give said ends a rectangular cross section, reinforcing members secured to said sections adjacent each end thereof, each of said members comprising a body portion and an outwardly extending head, said body portion having a concave inner face fitting snugly the outer face of the hoop section adjacent its end and a flat outer face parallel with the inner face of said hoop, bolts extending through said body portion and hoop securing the same together, said head being rectangular in cross section and fitting snugly against the adjacent face of the rectangular outturned ends and the respective heads of the reinforcing members, substantially as described.

975,680. WEANER. MATHIAS EIDE, Clinton, Minn. Filed Feb. 9, 1910. Serial No. 542,844.

The herein described animal weaner comprising a head piece formed with a vertical arch and a pair of parallel arms extending rearwardly from the ends of the arch, said arms having attaching devices at their front and rear ends and said arch having spurs, a neck strap having its ends attached to the attaching devices at the rear ends of said



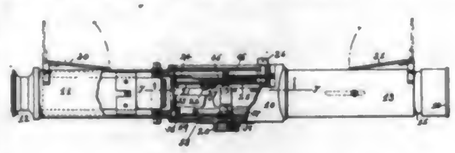
arms, and a pair of lower jaw straps, crossed and having their ends respectively connected to the attaching devices at the front and rear ends of said arms.

975,681. CACHOU-HOLDER. ANDREW M. EANSBERGER, New York, N. Y. Filed Apr. 5, 1909. Serial No. 487,869.



As an article of manufacture, a cachou holder in which is comprised a body portion provided with a receptacle for cachous, a disk secured to the back of said body, a movable disk having a perforation therein, and carrying a manipulating ear projecting beyond the periphery of the body, and an eyelet passing through the two disks and body, and on which the movable disk is rotatably mounted.

975,682. SURVEYING INSTRUMENT. PHILIP FERBER, Hoboken, N. J., assignor to The Keuffel & Esser Company, Hoboken, N. J., a Corporation of New Jersey. Filed Feb. 27, 1909. Serial No. 480,404.



1. In an instrument of the kind described, the combination with means for viewing a distant object on a limited field, of a suitably located center wire within the instrument, and a scale adapted to be optically projected in the same field and graduated to read vertical angles in terms of degrees or slope, and means whereby there may be read in the same field an indication of the distance of the object looked at.

2. In an instrument of the kind described, the combination with means for viewing a distant object on a limited field, of a suitably located center wire within the instrument, and a scale adapted to be optically projected in the same field and graduated to read vertical angles in terms of degrees or slope, and means whereby there may be read in the same field an indication of the distance of the object looked at, consisting of stadia wires contained within the instrument.

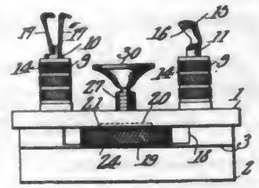
3. In an instrument of the character described, a transparent or translucent clinometer scale graduated in terms of degrees and slope to read vertical angles, in combination with means for holding it normally rigid and means whereby it may be released when desired and assume a vertical position under the influence of gravity.

4. In an instrument of the character described, a transparent or translucent clinometer scale graduated in terms of degrees and slope to read vertical angles, in combination with a supporting frame on which the scale is mounted, means adapted normally to lock the frame against movement and means for unlocking the frame.

5. In an instrument of the character described, a transparent or translucent clinometer scale graduated in terms of degrees and slope to read vertical angles, in combination with a supporting frame on which the scale is mounted, comprising a circular scale supporting member, a weight pivotally and adjustably secured thereto and a brake band carried by the frame.

[Claims 6 to 10 not printed in the Gazette.]

975,683. SPOON-HOLDER. GEORGE C. FOLCKEMER, Weston, W. Va. Filed Apr. 27, 1910. Serial No. 557,921.



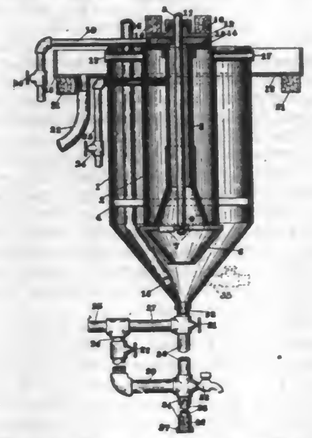
1. A work holder comprising a base and a nut having recesses; a washer removably held against rotation in the recess of the base and extended into the recess of the nut to form a mounting upon which the nut may rotate; a screw extended through the washer and the base and engaged by the nut, the washer and the screw having cooperating elements to hold the screw for sliding movement only; and a gripping member upon the base coöperating with the screw to hold an article.

2. A work holder comprising a base; threaded members upstanding above the base and slidably mounted therein; collars located upon the threaded members and rotatable to bind upon the base to hold the threaded members against sliding movement; gripping elements removably inserted into the upper ends of the collars and provided with circumferential elements; adjustable means in the collars to interlock with said circumferential elements to hold the gripping elements rotatably within the collars; and adjustable means mounted in the base between the gripping elements, for maintaining an article within the hold of the gripping elements.

975,684. PLACER-SEPARATOR. DUDLEY J. FORBES, Portland, Oreg., assignor to The Hydraulic Gravity Separator Co., Portland, Oreg. Filed July 7, 1908. Serial No. 442,378.

1. The herein described separator, comprising the combination with an over-flow tank, of a drain pipe extending from said tank, a drum carried by said tank and extending above said tank having a conical bottom, a settling pipe extending from the bottom of said drum, a water supply pipe communicating with said settling pipe, a feed pipe entering said drum and entering tangentially within said bottom, an open ended cylinder held with said drum and above said conical bottom and ending in alinement with the top of said drum, escape pipes extending from said cylinder and entering into said over-flow tank, a pump casing positioned above said cylinder, a tube extending from said pump casing and held within said cylinder, a bell extending from said tube and ending in alinement with said cylinder, a rotary pump head within said casing, a driving shaft extending through said casing, pump head and below said bell, a frusto-conical lifting head at the lower end of said shaft having a slotted bottom of a diameter greater than said cylinder and held proximal to the lower end thereof, obliquely held downwardly extending agitating blades within said slots, an outlet pipe extending from the upper end of said tube, and an escape pipe extending from said pump casing.

2. The herein described separator comprising a drum having a conical bottom, a settling tube extending from said bottom, means for supplying water to said settling tube, a discharge pipe entering said drum, an over-flow tank secured to the upper end of said drum, an open ended cylinder within said drum, escape pipes extending from said cylinder and emptying into said over-flow tank, a pump head above said cylinder, a tube extending from said pump head and ending above said settling pipe, a lifting pump at the lower end of said cylinder and communicating with said tube all arranged substantially as and for the purpose set forth.



3. The herein described separator comprising a drum, a settling tube extending from said drum, means for supplying water to said settling tube, a discharge pipe entering said drum, an overflow tank secured to the upper end of said drum, an open ended cylinder within said drum, escape pipes extending from said cylinder and emptying into said overflow tank, a pump head above said cylinder, a tube extending from said pump head and ending above said settling pipe, a lifting pump at the lower end of said cylinder and communicating with said tube, and a discharge pipe extending from said tube.

4. The herein described separator comprising a drum, a settling tube extending from said drum, means for supplying water to said settling tube, a discharge pipe entering said drum, an overflow tank secured to the upper end of said drum, an open ended tube within said drum, an escape pipe extending from said drum, a pump secured to the upper end of said tube, a pump secured to the lower end of said tube, and means to simultaneously operate said two pumps.

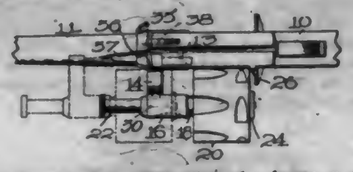
5. A device of the character described consisting of a drum, a settling chamber forming the lower end of said drum, a cylinder within the latter and having overflow outlets and a lower opened end, a tube within the cylinder, a lifting pump located within the lower portion of the drum and below the cylinder and delivering to the tube, said pump being formed to extend horizontally beyond the open end of the cylinder and substantially closing said cylinder except for the annular slit formed by slightly spacing the pump from the cylinder, and means for operating said pump as and for the purpose described.

[Claims 6 to 8 not printed in the Gazette.]

975,685. REVOLVER. ANDREW FYBERG, Hopkinton, Mass. Filed Dec. 11, 1909. Serial No. 532,520.

1. In a firearm, the combination of a frame having a side opening at the front thereof, a cylinder support in said opening pivoted at the top, and a cylinder rotatably mounted on said support, the frame having a vertical notch in said opening, and said cylinder support having a projection adapted to engage said notch when the support is in closed position.

2. In a firearm, the combination of a frame, a cylinder support provided with a horizontal pin on which said support is pivoted, and a barrel having a notch therein in line with said pin for receiving the pin and permitting the support to be removed from the frame by the forward motion of the support.

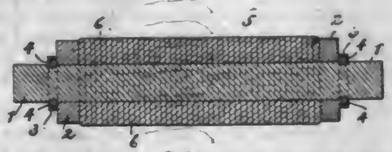


3. In a firearm, the combination of a frame, a cylinder support pivotally mounted thereon near the top and front thereof on a horizontal axis, a barrel on the frame, and a guard rotatably mounted on the barrel, said guard having a notch therethrough for permitting the removal of said support when the guard is in a certain position.

4. In a firearm, the combination of a frame, a cylinder support pivoted to the frame on a horizontal pin at the top of the frame, a barrel having a notch therein for receiving said pin and permitting said support to be removed from the frame by a forward motion when the support is swung outwardly, and movable means for preventing the support from being removed when said means is in a certain position.

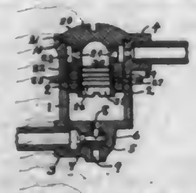
5. In a firearm, the combination of a frame, a support pivoted thereon on a horizontal axis near the front of the frame, a guard mounted to turn and having a notch therein for receiving the support when the latter is moved to open position, said guard being movable to a position in which said notch is opposite the pivotal point of the support, whereby said support can be removed longitudinally.

975,686. CALENDER-ROLL. WILLIAM S. GRANGER, Providence, R. I. Filed Nov. 22, 1909. Serial No. 529,184.



In a calender-roll, the combination with the mandrel, of disks upon the mandrel, each disk comprising compressed silk noils, and means for retaining the disks in contact with each other.

975,687. STRAINER. EMMET P. GRAY, Detroit, Mich. Filed Dec. 20, 1909. Serial No. 534,198.

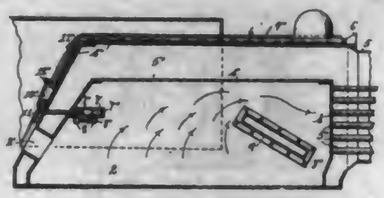


1. In a strainer, the combination of a cylindrical body having a threaded interior ring intermediate its ends and an inlet connection and a drain passage at its lower end, a valve to control the flow through said passages, a cap for the upper end of said body and a shell below said cap having a plurality of screens mounted within its bore and having its end threaded to engage the threaded ring of the strainer body, said body having an outlet for the strained liquids and said shell having passages to permit the liquid to pass through the same.

2. In a strainer, the combination of a body having an inlet connection and a drain passage at its lower end, a valve to control the flow through said passages, a cap for the upper end of said body, and a shell below said cap having a plurality of screens mounted within its bore, said body having an outlet passage for the strained liquids and said shell having passages to permit the liquids to pass through the same.

3. In a strainer, the combination of a hollow body having a closed end and having inlet and outlet passages, a removable cap for said body, a shell connected to said cap and having a passage connecting its interior to the outlet passage of the body, a series of spacing rings mounted within the shell, and a screen between each two rings.

975,688. SMOKE-CONSUMER. JOHN S. GREEN, Philadelphia, Pa. Filed Nov. 26, 1909. Serial No. 529,908.



1. In combination with a fire-box and boiler, the former having a water-space extending along the top and downwardly along the opposite sides thereof, a tubular support, arranged continuously crosswise in said fire-box, near the rear wall and above the fuel-bed thereof, and communicating at its opposite ends with the water-space aforenamed; a hollow distributer, forming an elongated expansion chamber having a contracted discharge opening, said distributer being replaceably seated by its own gravity directly on said support, with its expansion chamber arranged parallel therewith, and held by said support against forward displacement; and means for conducting outside air to and into said expansion chamber for ultimate delivery into said fire-box.

2. In combination with a fire-box and boiler, the former having a water-space extending along its top and downwardly along the opposite sides and rear end thereof, a tubular support, arranged continuously crosswise in said fire-box, near the rear wall and above the fuel-bed thereof, and communicating at its opposite ends with the water-space aforenamed; a hollow, superheating distributer, seated by its own gravity upon, and held against forward displacement by, said support; and an intake fluid conduit, the latter communicating with said distributer, extending rearwardly therefrom through and beyond the water-space at the rear of said fire-box, thence upwardly along the rear end of said boiler, exteriorly thereof, and thence merging into an initial intake portion, which extends along the top of said boiler, lies wholly in close juxtaposition thereto, and carries at its free end a flared mouth-piece.

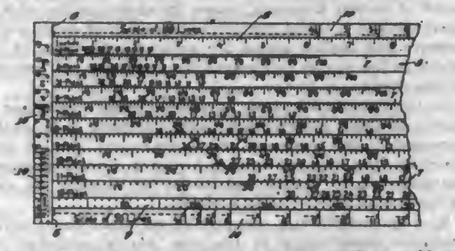
3. In combination with a fire-box and boiler, the former having a water-space extending along its top and downwardly along the opposite sides and rear end thereof, a tubular support, arranged continuously crosswise in said fire-box, near the rear wall, and above the fuel-bed thereof, and communicating at its opposite ends with the water-space aforenamed, a super-heating distributer, seated by its own gravity directly upon, and held against forward displacement by, said support; and a fluid intake conduit, the latter establishing communication between said distributer and the outside air, and comprising an initial intake portion which extends sinuously along the top of said boiler, lies wholly in close juxtaposition thereto, and carries at its free end a flared mouthpiece.

4. In combination with a fire-box and boiler, the former having a water-space extending along the top and downwardly along the opposite sides thereof, a tubular support, arranged continuously crosswise in said fire-box, near the rear wall and above the fuel-bed thereof, and communicating at its opposite ends with the water-space aforenamed; a super-heating distributer, forming an elongated expansion chamber having a contracted discharge opening, said distributer being replaceably seated by its own gravity directly upon said support, with its expansion chamber arranged parallel therewith, and held by said support against forward displacement; an accelerating drum, arranged exteriorly of said boiler, and adapted to receive outside air; a conduit establishing communication between said drum and said distributer; and a valve-controlled subsidiary conduit, the latter establishing communication between said drum and a suitable supply of fluid under pressure.

5. In combination with a fire-box and boiler, the former having a water-space extending along its top and downwardly along the opposite sides thereof, a tubular support arranged continuously crosswise in said fire-box, near the rear wall and above the fuel-bed thereof, and communicating at its opposite ends with the water-space aforenamed; a super-heating distributer, forming an elongated expansion chamber having a contracted discharge opening, said distributer being replaceably seated by its own gravity directly upon said support, with its expansion chamber arranged parallel therewith, and held by said support against forward displacement; an an intact, hollow box-like baffle-wall, the latter arranged continuously crosswise within said fire-box, removed somewhat rearwardly from the flue-sheet thereof, inclined upwardly and rearwardly therein, and freely communicating at opposite points with the water-space aforenamed, said baffle-wall being adapted to deflect all products of combustion arising within the area defined by its rear face into the path of the fluid incoming by way of said distributer.

[Claims 6 and 7 not printed in the Gazette.]

975,689. TYPE-SCALE. WILLISTON W. GREENWOOD, Los Angeles, Cal. Filed Sept. 11, 1907. Serial No. 392,286.



1. A type-scale comprising a material surface, said surface having a line ruled thereon, said line being denominated for a specific size of type; and, further, having an origin-point located in said line and divisional points laid off along said line, said points being respectively denominated for various column-widths in which type may be set, said points marking off along said line from said origin distances equal respectively to the various column-lengths of a constant quantity of said type set in the respective column-widths indicated by the said divisional denominations, all of said column-lengths being laid off starting from said origin and, overlapping each other, terminating respectively with said divisional points.

2. The combination, in a type-scale comprising a material surface and having a line ruled thereon denominated for a specific size of type, of a series of divisional points laid off on one side of said line and denominated respectively for various column-widths in which type may be set, said divisional points marking off from a common origin-point in said line distances equal respectively to the various column-lengths of a unit-quantity of type of said size when set in columns of the widths indicated; with a series of equal divisions laid off on the other side of said line, said divisions being equal to a lineal em of said specific size of type, and said divisions being determined by divisional points consecutively numbered from said origin-point; substantially as shown and described.

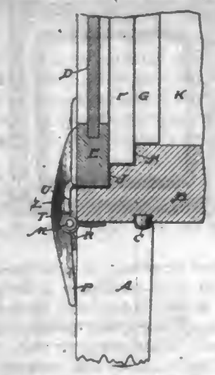
3. A type-scale comprising a material surface, said surface having ruled thereon:—a transverse baseline as the origin of measurement and a plurality of longitudinal lines starting from said baseline, said longitudinal lines being denominated respectively for different sizes of type; each of said lines having divisional points respectively denominated for different column-widths, said points marking off from said baseline distances equal respectively to the various column-lengths of a unit-quantity of type of the column-widths and sizes indicated.

4. A type-scale comprising a material surface, said surface having a line ruled thereon, said line being designated for a certain size of type, and having an origin-point designated on said line, and having divisional points on said line designated for different widths of column, said divisional points being laid off at distances from said origin-point respectively equal to the different column-lengths which a constant number of ems of the said size of type would occupy when arranged in the said designated widths of column; each of said column-lengths, beginning at said origin-point and terminating at its said respective divisional point, constituting a single unit of measurement for type of the size and column-width indicated respectively by its line- and divisional-point designations.

5. A type-scale comprising a material surface, said surface having a plurality of lines ruled thereon, said lines being respectively designated for different sizes of type, and having an origin-point designated on each of said lines, and having divisional points on each of said lines designated for different widths of column, said divisional points being laid off at distances from said origin-points respectively equal to the various column-lengths which a constant number of ems of the said sizes of type will occupy when arranged in said designated widths of column; each of said column-lengths, beginning at its said origin-point and terminating at its said respective divisional point, constituting a single unit of measurement for type of the size and column-width indicated respectively by its line- and divisional-point designations.

[Claim 6 not printed in the Gazette.]

975,690. COMBINED HINGE AND RECEPTACLE. WALTER D. HODSON, Janesville, Wis. Filed June 10, 1909. Serial No. 501,220.



1. In a combined hinge and receptacle, a receptacle provided with a recess near its opening, a door adapted to be received into such recess to close it, a hinge bar pivoted on the receptacle, rigidly secured to the door at one end and provided with a free projecting point at the other, a buffer on the receptacle to engage such projecting point when the door is open, and a spring acting between the hinge bar and receptacle to keep the door closed.

2. In a combined hinge and receptacle, a receptacle provided with a recess near its opening, a door adapted to be received into such recess to close it, a hinge bar pivoted on the receptacle at a distance from the recess about equal to the depth of said recess, rigidly secured to the door at one end and provided with a free projecting point at the other, a buffer on the receptacle to engage such projecting point when the door is open, and a spring acting

between the hinge bar and receptacle to keep the door closed.

3. In a combined hinge and receptacle, a receptacle provided with a recess near its opening, a door adapted to be received into such recess to close it, a hinge bar pivoted on the receptacle at the lower edge thereof and rigidly secured above to the door and provided below with a free projecting point, a buffer on the bottom of the receptacle in the path of such point to engage the same when the door is open, and a spring engaging the bottom of the receptacle and the hinge bar, and acting to hold the door closed.

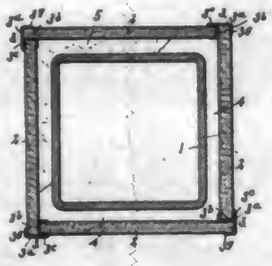
4. In a combined hinge and receptacle, a receptacle provided with a recess near its opening, a door adapted to be received into such recess to close it, a hinge bar centrally pivoted on the receptacle, said bar rigidly secured to the door at one end and provided with a projecting point at the other, a buffer on the receptacle to engage such projecting point when the door is open, and a spring acting between the hinge bar and receptacle to keep the door closed.

975,691. PROCESS OF PRODUCING A MOLDED MASS. ADOLF HOF, Witten, and ANTON PIEPER, Schmallenberg, Germany. Filed July 7, 1908. Serial No. 442,424.

1. Process of producing a molded mass which consists in charging a filling material with a solvent adapted to be polymerized in contact with a binding agent, adding said binding agent and heating the mass to about 300° Celsius under the exclusion of air.

2. Process of producing a molded mass, which consists in drying a filling material, adding a solvent such as petroleum residue adapted to be polymerized in contact with a hydrocarbon binding agent, adding said hydrocarbon binding agent, and then heating the mass to about 300° Celsius under the exclusion of air.

975,692. BUILDING CONSTRUCTION. HARRY IRWIN JEFFERS, Fort Smith, Ark, assignor of one-half to William F. May, Fort Smith, Ark. Filed Oct. 25, 1909. Serial No. 524,495.



1. In a fire-proof structure, a sheet metal support comprising a body and sides forming a U-shaped block receiving channel, one of said sides being longer than the other and bent back upon itself and projecting therefrom beyond the body and terminating in ears, said ears being bendable over at right angles and parallel to said body to form a U-shaped channel therewith.

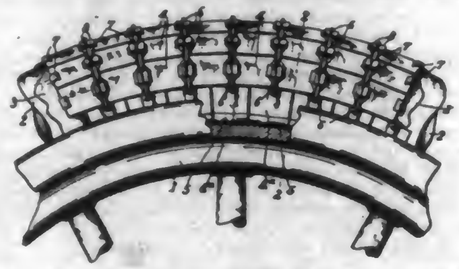
2. In a fire-proof structure, a sheet metal support comprising a body and sides forming a U-shaped block receiving channel, one of said sides being longer than the other and bent back upon itself and projecting therefrom beyond the body and terminating in ears, said ears being bendable over at right angles and parallel to said body to form a U-shape channel therewith and at right angles to said first channel.

3. In a fire-proof structure, a sheet metal support comprising a body and sides forming a U-shaped block receiving channel, one of said sides being longer than the other and bent back upon itself and projecting therefrom beyond the body and terminating in ears, said ears being bendable over at right angles and parallel to said body to form a U-shape channel therewith and at right angles to said first channel, and fire-proof blocks held in said channels.

4. A fire-proof column construction, a plurality of walls and corner supports uniting the same, said supports comprising members formed of a single piece of sheet metal and bent to form two U-shaped wall receiving channels at substantially right angles to one another.

5. A fire-proof column construction, a plurality of walls and corner supports uniting the same, said supports comprising members formed of a single piece of sheet metal and bent to form two U-shaped wall receiving channels at substantially right angles to one another and including bendable ears to clasp certain of the edges of said walls.

975,693. METALLIC CASING FOR PNEUMATIC TIRES. BERA J. KINGSTON and JOHN H. LANE, Jackson, Mich., assignors of one-third to Le Roy Northrup, Jackson, Mich. Filed Feb. 12, 1910. Serial No. 543,466.



1. A pneumatic tire comprising an inner air retaining tube, a covering partially surrounding the inner tube, chains extending transversely of the covering and spaced apart at regular intervals, means for attaching the ends of the chains to a wheel rim transverse rows of small plates between the chains, means for attaching the ends of the plates to the chains and means for attaching the covering to the chains.

2. In a pneumatic tire, an outer casing consisting of numerous small plates having hooks at their ends, chains arranged transversely of the casing and having each alternate link engaged by said hooks to pivotally connect the plates to the chains, and means for securing the ends of the chains to the rim of a wheel.

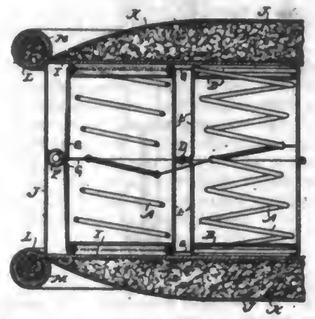
3. A pneumatic tire, comprising an inner tube, chains arranged transversely of the tire, plates extending between the chains, hooks on the respective ends of the plates engaging the links of the chain, a covering interposed between the inner tube and the plates, and fasteners extending through the covering and outward through the chain and clenched down upon the same.

975,694. AUTOMOBILE-TOOL. FRANK KNIGHT, New Haven, Conn. Filed Nov. 12, 1909. Serial No. 527,709.



A tool of the crossed handle plier type comprising handle members one of which is provided with a pivot pin, the other being provided with a slot having spaced apart recesses to receive said pin, whereby an adjustable pivot connection is formed, one of said handle members being provided with a tapering lug forming a cotter pin remover, the other handle being provided with a shortened tool extremity, the last mentioned handle being of such length that it will be protected by the projecting cotter pin remover on the other handle when the pivot pin is in one recess, the jaws of said tool being adapted to contact when the pivot pin is in the other recess, whereby the handle members are held apart and the said shortened tool extremity of one handle forms a guard for the cotter pin remover on the other handle.

975,695. SPRING-CUSHION. PETER KNUPPEN, Milwaukee, Wis. Filed Oct. 7, 1909. Serial No. 521,610.



1. In a cushion, a series of metallic coils formed of resilient material, upper and lower flexible coverings folded about, and secured to, the top and bottom turns of each of said coils, said coverings being folded inwardly between the coils and connected with each other at the sides of the coil, a second covering for said stitched and connecting coverings, a third covering comprising suitable ticking, and a filling of yielding material interposed between the second covering and the third covering.

2. In a cushion, a series of metallic coils formed of resilient material, upper and lower flexible coverings folded about, and secured to, the top and bottom turns of each of said coils, said coverings being folded inwardly between the coils and connected with each other at the sides of the coil, a second covering for said stitched and connecting coverings, a third covering comprising suitable ticking, and a filling of yielding material interposed between the second covering and the third covering, together with a cable extending around said series of resilient coils and secured to the margins of said first mentioned coverings.

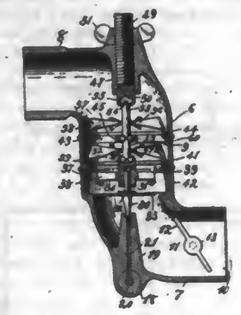
3. In a cushion, a series of resilient metallic coils, a flexible covering for the upper and lower ends of said coils loosely gathered into the coils and stitched to the top and bottom turns thereof, and fastenings securing the upper and lower portions of the covering to each other between the coils, said flexible covering being folded inwardly between the coils and brought into substantial contact with each other at the fastening points.

4. In a cushion, the combination of a series of metallic coiled springs, upper and lower flexible coverings folded about and secured to the top and bottom turns of each of said springs, said coverings being folded inwardly between the springs in a position to pocket the springs between the inwardly folded portions of the coverings, a resilient cable extending around the series of springs, a set of stays connected with the cable and with the springs, together with means for holding the folded coverings in position between the springs, an outer covering and a filling of yielding material interposed between the springs and the outer covering.

975,696. CARBURETER. JOHN H. KOONTZ, Culver, Ind. Filed Mar. 11, 1907. Serial No. 361,686.

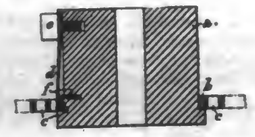
1. A fluid mixing device, including a casing, a plurality of fan wheels mounted concentric to the casing, the alternate wheels having their blades oppositely inclined and the peripheral margins of the blades extending inwardly and inclined toward the center of the passageway.

2. A fluid mixing device, comprising a cylindrical casing, a plurality of fan-wheels, each of said wheels having its blades oppositely inclined and the ends of said blades bent



inwardly and inclined relatively to the walls of the casing, and anti-frictional bearings for said wheels.

975,697. HAIR-SPRING COLLET FOR TIMEPIECES. RICHARD LANGE, Glashütte, Germany. Filed Mar. 8, 1910. Serial No. 546,984.



1. In hair-spring collets for time pieces or watches, the combination with a collet provided with a groove, and a hair-spring inserted with its inner end flatly in said groove, of a thin cover plate or tongue attached to the outer surface of the collet and covering the flat side of the inner coil of the spring and means for pressing the said inner coil of the spring down together with the plate or tongue, substantially as and for the purpose specified.

2. In hair-spring collets for time pieces or watches, the combination with a collet provided with a groove and a hair-spring having its inner end inserted flatly in said collet groove, of a thin cover plate or tongue attached to the outer surface of the collet and covering the flat side of the inner coil of the spring and a set screw for pressing the said inner coil of the spring down together with the cover plate or tongue, substantially as and for the purpose specified.

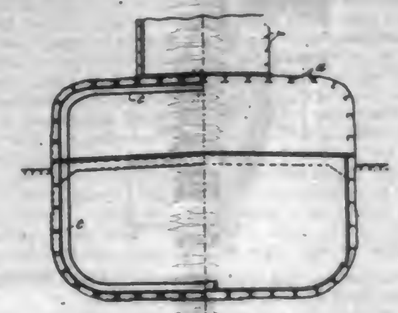
975,698. MEANS FOR REMOVING COVERS. DAVID R. LEVIN, Chicago, Ill. Filed Feb. 7, 1910. Serial No. 542,609.



1. The combination with a box provided with an annular recess in its outer circumference, of a wire bent into hook and pivot portions, said wire being located in said recess a finger-piece in the form of a lever pivoted on said pivot portion to swing parallel to the vertical side of the box, said lever having a spur to engage the rim of the box cover as set forth.

2. The combination with a box or can having an annular channel 5, of a band normally seated in said channel and having hooks at its ends adapted to removably engage each other to fasten the band in said channel, an outturned pivot portion 8 on said band, the lever 10, provided with a finger-piece 11 mounted to swing against the sides of the box on said portion 8, and an inwardly projecting spur on said lever adapted to engage the edge of the cover for the can or box, substantially as described.

975,699. SHIP OR VESSEL. CARL JOHAN FREDRIK MALCOLM LILLIEHÖÖK, Stockholm, Sweden, assignor, by mesne assignments, to Emma Ida Bertholde Craggs, Middlesbrough, England. Filed June 9, 1904. Serial No. 211,761.



1. A metal ship constructed with a plurality of continuous longitudinal beams directly attached to the deck plating, and a plurality of cross-beams disposed under the inner edges of the longitudinal deck beams; substantially as described.

2. A metal ship constructed with a plurality of continuous longitudinal beams directly attached to the deck plating, and a plurality of cross beams disposed under the inner edges of the longitudinal deck beams; the upper longitudinal beams of the vessel being in preponderant number in relation to the cross beams, substantially as described.

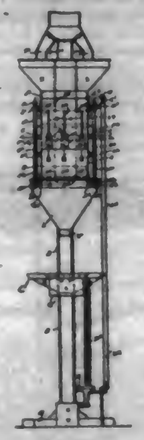
3. A metal ship constructed of longitudinal metal beams at the deck, sides, and bottom, to one edge of which the plating is connected, and transverse beams, the longitudinal beams being in a preponderant number in relation to the cross beams, and the latter being placed at great distances from each other, said longitudinal beams being connected to said cross beams and to the skin of the ship.

975,700. GARMENT-SUPPORTER. FRANK M. LINGO and EDWARD J. KAUFMAN, Columbus, Ohio. Filed July 2, 1909. Serial No. 505,595.



In a support of the character described, the combination with a strap, an end link on each terminal of said strap, said end link having a stop lug thereon, of a garment engaging hook member pivotally connected with each of said strap terminal links, the head of said hook member having a shoulder adapted to engage the projecting lug of said link and limit the swinging movement of said hook member in one direction.

975,701. DRY MEASURER. JOHN JAMES MARSHALL, Leeds, England. Filed Dec. 18, 1907. Serial No. 407,087.



An apparatus of the class described comprising a measuring chamber which is divided into compartments, vertically adjustable slides mounted in said measuring chamber, screw rods connected to the slides and measuring chamber, the latter having a detachable front and a contracted upper inlet portion, a superposed hopper having an oscillatory inlet controlling valve, the lower portion of said chamber constituting an outlet, an oscillatory valve for controlling said outlet, extensible couplings connecting the said valves, resilient means joined to the outlet valve and the sides of the measuring chamber, an actuating lever connected to said couplings, and a separate filler removably located below said outlet.

975,702. MASSAGING APPARATUS. EUGENE J. MCCARTHY, New York, N. Y. Filed Mar. 28, 1910. Serial No. 551,986.



1. A device of the class described comprising a band adapted to bear over the head, guide pulleys carried by said band, a flexible massage member, and draw cables connected to said flexible massage member and extending over said pulleys.

2. A device of the class described comprising a band adapted to bear over the head, a strap connected to said band and adapted to bear around the head, guide pulleys carried by said band, a flexible massage member, and draw cables connected to said flexible massage member and extending over said pulleys.

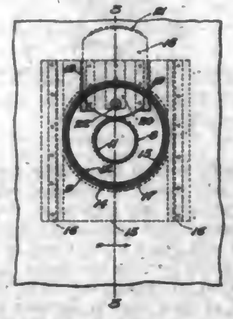
3. A device of the class described comprising a band for bearing over the head, pads connected to said band, brackets extending from said band and having cable guide pulleys, a flexible massage member, and draw cables connected to said flexible massage member and extending over said pulleys.

4. A device of the class described comprising a band for extending over the head, a strap connected to said band for bearing around the head, another strap connected at its ends to said first mentioned strap and extending over the head and connected to the band, guide pulleys carried by said band, a flexible massage member, and draw cables connected to said flexible massage member and extending over said pulleys.

5. In a device of the class described, a flexible massage member comprising end frames having inwardly directed ears, flexible side members connected at their ends in said ears, a plurality of shafts spaced apart and extending between said side members, balls mounted for rotation upon said shafts, a band for bearing over the head, guide pulleys carried by said band, and draw cables connected to said end frames and leading over said guide pulleys.

[Claim 6 not printed in the Gazette.]

975,703. ADJUSTABLE FLUE-RECEIVER. JOHN J. MCDONALD, Lynn, Mass. Filed Feb. 28, 1910. Serial No. 546,341.



1. The combination with a chimney and a distinct independent wall separated from each other by an air space, of an apertured plate supported upon said chimney and having its rear face disposed against the face of said chimney, a sleeve extending horizontally into said chimney, a sleeve extending horizontally into said wall from the aperture of said plate, and means located on the front face of said plate forming an adjustable connection between said sleeves and permitting relative vertical movement of said chimney and said wall carrying said sleeves respectively therewith.

2. The combination with a chimney and a wall, of a sleeve extending horizontally into said chimney, a sleeve extending horizontally into said wall, a plate secured to the first-mentioned sleeve, said plate being supported on said chimney and having its rear face disposed against the face of said chimney, and interengaging means on the front face of said plate and the rear end of the second-mentioned sleeve permitting a relative vertical sliding movement of said sleeves.

3. The combination with a chimney and a distinct independent wall separated from each other by an air space, of an apertured plate supported upon said chimney and having its rear face disposed against the face of said chimney, a sleeve extending horizontally into said chimney, a sleeve extending horizontally into said wall from the aperture of said plate, means located on the front face of said plate forming an adjustable connection between said sleeves and permitting relative vertical movement thereof, and means located between the front face of said plate and said wall to close the opening in the first-mentioned sleeve.

4. The combination with a chimney and a wall, of a plate having an aperture therein, said plate being supported upon said chimney and having its rear face disposed against said chimney, two tubes located on opposite sides, respectively, of said plate and communicating with each other through said aperture, one of said tubes being secured to said plate and extending into said chimney and the other extending into said wall, and means located between the front face of said plate and said wall forming an adjustable connection between the last-mentioned tube and said plate and permitting relative movement of said tubes in a direction parallel to the plane of said plate.

5. The combination with a chimney and a wall, of a plate having an aperture therein, said plate being supported upon said chimney and having its rear face disposed against said chimney, two tubes located on opposite sides, respectively, of said plate and communicating with each other through said aperture, one of said tubes being secured to said plate and extending into said chimney and the other extending into said wall, a laterally extending flange on the other of said tubes, and means on the front face of said plate forming guides for said flange extending parallel to the plane of said plate.

[Claims 6 to 12 not printed in the Gazette.]

975,704. AMALGAMATOR. JOSEPH H. MCNEIL, East Saugus, Mass. Filed May 11, 1908. Serial No. 432,297.



1. An amalgamator, having, in combination, a substantially flat bottomed mercury trough, a rotary drum provided with feeding blades extending across the trough, and deflectors in front of said drum to guide the auriferous matter away from the spaces at the ends of the drum and into contact with the feeding blades, said deflectors extending outwardly from the sides of the trough and downwardly below the lowermost portion of the surface of the drum to the trough bottom.

2. An amalgamator, having, in combination, an elongated mercury trough, means in the forward portion of the trough for feeding the auriferous matter through the mercury, a water pipe above the mercury extending across the trough at its rear end and beyond the feeding means, a plurality of discharge nozzles extending downwardly from said pipe and into the mercury, and means for agitating said nozzles as the water is being discharged.

3. An amalgamator, having, in combination, a mercury trough, a supply hopper, and means for feeding the auriferous matter through the amalgamator comprising a rotary drum in the hopper, rotary drums in the trough, a supplementary feeding device operating in the trough in a supply passage formed between the hopper and trough drums, and means for operating said drums and feeding device.

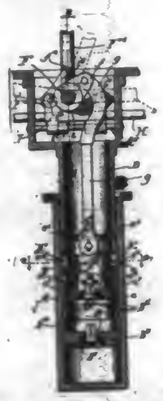
4. In an amalgamator, a mercury trough, a supply chute, and a reciprocatory feeder between the discharge end of the chute and the mercury adapted to force the auriferous matter beneath the mercury, said feeder having a centrally pivoted feeding blade constructed and arranged to swing into position to engage the materials with its flat surface on the feeding stroke and weighted to swing by gravity into position to pass edgewise through the materials on its return stroke.

5. An amalgamator, comprising, in combination, a mercury trough, a plurality of feeding drums in said trough, a supply hopper at one end of the trough above said drums, a feeding drum in said hopper, a trap at the other end of the trough below said drums, a feeding drum in said trap, means beyond the drums to supply water to agitate the matter and wash out the tailings into the

trap, supplementary means to assist the hopper drum in supplying auriferous matter to a point where it will be engaged by the feeding drums, and supplementary means to assist the water to agitate the matter.

[Claims 6 to 9 not printed in the Gazette.]

975,705. HYDRAULIC CHAIR. EDWARD MELCHIOR, Chicago, Ill. Filed Dec. 9, 1909. Serial No. 532,227.



1. In a hydraulic chair, the combination of a cylinder, a plunger movable therein, a pump-piston operating in the plunger, a lever connected to said piston, dogs in the plunger for securing the plunger in the cylinder, and means on the piston for operating the dogs, said means being formed to permit the piston to be moved in the plunger when the dogs are in position to secure the plunger.

2. In a hydraulic chair, the combination of a cylinder, a plunger movable therein, a pump-piston operating in the plunger, a lever connected to said piston, dogs in the plunger for securing the plunger in the cylinder, and yielding means on the piston, for operating the dogs, and whereby the piston may be operated in the plunger when the latter is held by the dogs.

3. In a hydraulic chair, the combination of a cylinder, a plunger movable therein, a pump-piston operating in the plunger, a lever connected to said pistou, dogs in the plunger for securing the plunger in the cylinder, and cams on the piston for operating the dogs to engage the cylinder and secure the plunger, and means below the cam, formed to permit the piston to move in the plunger when the latter is secured in the cylinder by the dogs.

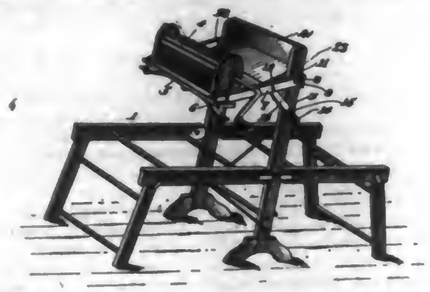
4. In a hydraulic chair, the combination of a cylinder, a plunger movable therein, a pump-piston operating in the plunger, a lever connected to said piston, dogs in the plunger for securing the plunger in the cylinder, and yielding strips on the piston for shifting said dogs, formed to permit the piston to move in the plunger when the latter is secured in the cylinder by the dogs.

5. In a hydraulic chair, the combination of a cylinder, a plunger movable therein, a pump-piston operating in the plunger, a lever connected to said piston, dogs in the plunger for securing the plunger in the cylinder, and yielding strips on the piston having cam-portions for shifting the dogs to secure the plunger in the cylinder, and surfaces which permit the piston to move in the plunger when the latter is held by the dogs.

[Claims 6 to 12 not printed in the Gazette.]

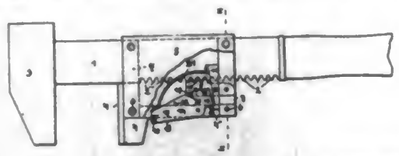
975,706. LAUNDRY APPARATUS. REX C. MERRITT, Constantine, Mich., assignor of one-half to M. J. Harris, Pilot Point, Tex. Filed Feb. 3, 1910. Serial No. 541,751.

A washing machine head comprising washing mechanism, a pair of arms secured to opposite ends of said mechanism, and a brace pivoted to each arm, the outer terminals of the arms and braces having open-ended slots, means for temporarily closing the slots of the arms whereby the head may be detachably positioned on a sup-



port as a unitary structure by a movement longitudinally of the arms, and means for adjustably securing the braces to the support to permit variations in position of the head relative to the top of the wash tub.

975,707. ADJUSTABLE WRENCH. WILLIAM S. MIEHLE, Chicago, Ill. Filed Dec. 1, 1909. Serial No. 530,841.



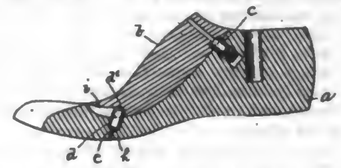
1. An adjustable wrench comprising a toothed shank; a fixed jaw on said shank; a U-shaped casing embracing said shank; a movable jaw secured at the upper end of said casing; distance bars interposed between each end of said casing and said shank at each end of said casing; a toothed dog pivoted between the lower of said distance bars and arranged to engage the teeth on said shank; catches pivoted at their central portions to each side of said dog and having upturned projections at their outer ends; levers pivoted in each side of said casing with their lower ends engaging said upturned projections and their upper ends projecting from the front of said casing; and springs interposed between the upper ends of said levers and the inner ends of said catches, substantially as described.

2. An adjustable wrench comprising a toothed shank; a fixed jaw on said shank; a U-shaped casing embracing said shank; a movable jaw secured at the upper end of said casing; distance bars interposed between each end of said casing and said shank at each end of said casing; a toothed dog pivoted between the lower of said distance bars and arranged to engage the teeth on said shank; catches pivoted at their central portions to each side of said dog and having upturned projections at their outer ends; levers pivoted in each side of said casing with their lower ends engaging said upturned projections and their upper ends projecting from the front of said casing; a self-locking notch and pin connection between said dog and said lever; a pin connecting the projecting upper ends of said levers; and springs interposed between the upper ends of said levers and the inner ends of said catches, substantially as described.

975,708. LAST. FREDERICK W. MILLAY, Haverhill, Mass. Filed Dec. 11, 1908. Serial No. 466,945.

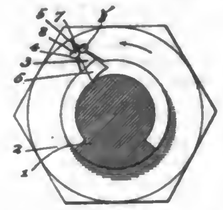
A last comprising the main body portion and its block, said body portion having an aperture extending therethrough beneath the front portion of the block, the diameter of the lower portion of said aperture being materially less than that of the upper portion to provide a shoulder therebetween, and a metal block-holding pin tightly fitted in the portion of said aperture of larger diameter, seating

at its lower end against said shoulder, and having at its lower end a threaded extension screwed into said aperture



of small diameter, the opposite end of said pin protruding to engage the block, substantially as described.

975,709. NUT-LOCK. ISAAC L. MILLER, New York, N. Y. Filed Apr. 17, 1909. Serial No. 490,443.



1. A nut lock comprising a member triangular in cross section, the one side of which is curved and grooved to the curve and pitch of the screw thread of the nut; a nut having a triangular recess extending through the full length of the nut; pins extended from said triangular member at the edge thereof removed from the bolt; extensions from the wall of the said recess in the nut, said extensions protruded into the path of said pins to prevent the withdrawal of the triangular member from the said recess.

2. A nut lock comprising a nut having a recess therein which extends the length thereof, and a locking member located in said recess and having a pin extending from each end thereof, and means formed integral with the nut and engaging said pins to hold the locking member in position.

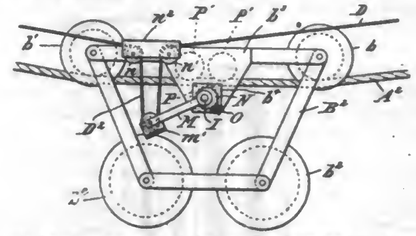
3. A nut lock comprising a member triangular in cross section, the one side of which is curved and grooved to the curve and pitch of the screw thread of the nut and extending less than the depth of the thread of the nut when in its unlocked position on a bolt, a nut having a triangular recess extending through the full length of the nut, pins extended from said triangular member at each end thereof, and means connected to the nut and engaging said pins to prevent the withdrawal of the locking member from the recess in the nut.

4. A nut lock comprising a nut having a recess extending its length, a swinging locking member located in said recess and having a pin extending from each end thereof, and means connected to said nut and engaging said pins to prevent withdrawal of said locking member from said recess.

975,710. GRIPPING MECHANISM. CHARLES A. MORRIS, Montclair, N. J. Filed Apr. 29, 1909. Serial No. 492,892.

1. In an apparatus of the class described, an aerial track, a load-supporting carriage adapted to travel thereon, a power cable for operating the carriage in either direction on the track, gripping mechanism supported by said carriage for coöperation with the track, and a cable for operating said gripping mechanism and at a point distant from the carriage, whereby the carriage may be held stationary relative to the track and at any point of its travel thereon.

2. In an apparatus of the class described, an aerial track, a load-supporting carriage adapted to travel thereon and to support a load extending below the track, gripping mechanism supported by said carriage for coöperation with said track, means associated with said gripping mechanism for normally releasing it from engagement with the track, and cable-operated means for closing the gripping mechanism whereby the carriage may be held in a fixed position on the track.



3. In an apparatus of the class described, an aerial track, a carriage adapted to travel thereon, a power cable for operating the carriage in either direction relative to the track, gripping mechanism supported on the carriage, and means for operating the gripping mechanism at a point distant from the carriage, said gripping mechanism including oppositely movable shoes adapted for engagement with the track and a cam shaft connected with said shoes for operating the same.

4. In an apparatus of the class described, an aerial track, a carriage adapted to travel thereon, a power cable for operating the carriage in either direction on the track, gripping mechanism supported on the carriage for engagement with said track, means for operating said gripping mechanism to release it from the track, and a separate cable adapted for closing the gripping mechanism into frictional engagement with the track.

5. In an apparatus of the class described, an aerial track, a carriage adapted to travel thereon, gripping mechanism supported on the carriage for engagement with said track, means for operating said gripping mechanism to release it from the track, separate means adapted for closing the gripping mechanism into frictional engagement with the track, and a manually controlled operating cable associated with one of said means whereby the gripping mechanism may be controlled at a point distant from said carriage.

[Claims 6 to 26 not printed in the Gazette.]

975,711. TARGET. JOHN P. NEWBOLD, Cape May, N. J. Filed Apr. 9, 1909. Serial No. 488,945.



1. A target consisting of a hollow device of soluble glass having a moisture-proof coating over its surface.

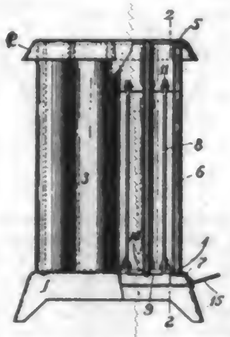
2. A target consisting of a hollow device of soluble glass from which the air has been exhausted and in which is inclosed a substance which is adapted to float when the taget is broken and the surface of the said target being coated with a thin layer of moisture-proof material.

3. As an article of manufacture, a target consisting of a device of soluble frangible material having a moisture-proof coating over its surface.

975,712. ELECTRIC HEATER. LEON F. PARKHURST and HARRY G. WEEKS, Binghamton, N. Y., assignors to Diamond Electric Company, Binghamton, N. Y., a Corporation of New York. Filed Sept. 27, 1909. Serial No. 519,811.

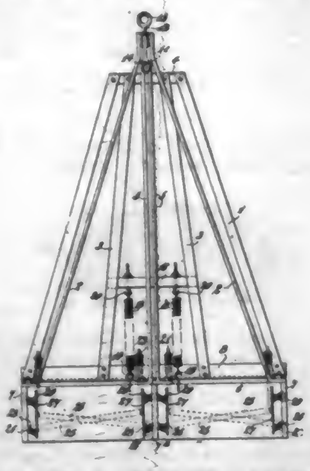
1. An electric heater comprising a base, a top, a plurality of open flues supported on said base and support-

ing said top, supporting brackets in each flue an electric heating element supported in each flue by said brackets and insulated therefrom, said element comprising a flat slab of non-insulating and refractory material having an electric resistance conductor spirally wound thereon in double length whereby the terminals of said resistance conductors are brought to the same end of said heating element.



2. A portable electric heater comprising a base, a top, a plurality of open flues mounted on said base and supporting said top, supporting brackets in each flue an electric heating element supported within said flue or flues on said brackets and insulated therefrom and comprising a flat slab of insulating and refractory material and an electric resistance element spirally wound thereon from one end to the other and returning from the second to the first end in a similar spiral whereby the terminals of said element are brought to the same end of said support.

975,713. MACHINE FOR HANDLING BRICKS. RAYMOND C. PENFIELD, New York, N. Y. Filed Nov. 6, 1908. Serial No. 461,369.

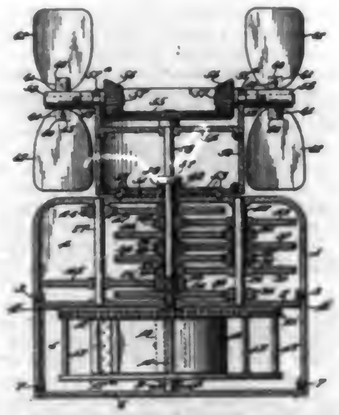


1. A machine for handling bricks, comprising a frame, laterally extended clamp plates carried by the lower end of said frame, crank arms pivotally connected to said plates for operating the same, rock shafts carrying said crank arms, a lever mechanism for operating the crank arms and applying the clamping power, a lever mechanism at the top of the frame for enabling the initial lifting movement to automatically actuate the clamping plates, all arranged so that the mass to be lifted and transported may be gripped at two points which are opposite to each other and at a third point intermediate of the last two points.

2. A machine for handling bricks, comprising a frame, clamps carried thereby, rock shafts carrying arms pivoted to said clamps, a lever mechanism for actuating the crank arms, a lever mechanism at the top of the frame for enabling the initial lifting movement to automatically actuate the clamping plates, a vertically movable frame carrying the clamps, a yielding connection between it and the main frame, and yielding means for taking up looseness between the clamps and the bricks and compensating for inequalities in the bricks.

3. A machine for handling bricks, comprising a vertically-disposed frame having a laterally turned upper arm, a lever device pivoted thereto, suspension means acting on said lever device, a vertically-movable frame pivoted to the end of said lever, clamps acting against the ends of a basic layer of bricks which is shorter than the superposed mass, and also acting at a point intermediate in the length of said layer of bricks, pairs of levers whose members are arranged crosswise of each other and are arranged to operate said clamping members, vertical spring-provided rods for connecting the ends of said operating levers with the lower end of the vertically-movable frame, all combined and arranged to operate substantially as set forth.

975,714. SPRING-MOTOR-DRIVEN TABLE-FAN. DANIEL M. PFAUTZ, Philadelphia, Pa., assignor to William H. Tigerman, Philadelphia, Pa. Filed Jan. 26, 1910. Serial No. 540,194.



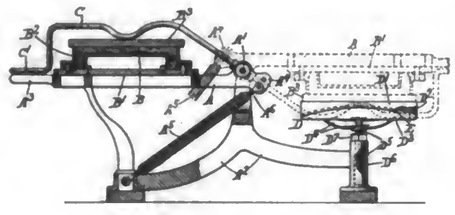
1. In a fan, the combination with a casing, of a rotary head on the casing, fans on said head, a spring driven shaft in the casing, a fan driving shaft in the casing projecting up into the head, means for transmitting rotary motion from the fan driving shaft to the fans, a train of gearing connecting the spring driven shaft and fan driving shaft, a sleeve keyed to the head and projecting into the casing, and a train of gearing transmitting motion from the spring driven shaft to said sleeve.

2. In a fan, the combination with a casing, of a rotary head on the casing, fans supported at opposite sides of the head, a shaft projecting through said head and into the casing, and around which said head turns, a large gear on the upper end of said shaft, fan driving pinions meshing with said large gear, a sleeve secured to the head located around said shaft, and projecting into the casing, a spring, and gearing between said spring and said shaft for revolving the fans, and between said spring and said sleeve, for turning the head, substantially as described.

3. In a fan, the combination with a casing, of a rotary head on the casing, fans at opposite sides of the head, a shaft projecting through the head and into the casing, devices at the upper end of said shaft for turning the fans, a sleeve secured to said head and located around said shaft, and projecting into the casing, gears on said shaft and said sleeve in the casing, shafts in the casing parallel with the first mentioned shaft, a gear on one of said shafts engaging with the gear on the first mentioned shaft, a gear on the other of said shafts engaging the gear on the sleeve, and a spring in said casing transmitting motion to both of said last mentioned shafts, substantially as described.

4. In a fan, the combination with a casing, of a rotary head on the casing, fans at opposite sides of the head, a shaft projecting through the head and into the casing, devices at the upper end of said shaft for turning the fans, a sleeve secured to said head and located around said shaft, and projecting into the casing, gears on said shaft and said sleeve in the casing, shafts in the casing parallel with the first mentioned shaft, a gear on one of said shafts engaging with the gear on the first mentioned shaft, a gear on the other of said shafts engaging the gear on the sleeve, a spring in said casing, a short shaft turned by said spring, gears connecting said short shaft with the two last mentioned shafts, and means for winding said spring, substantially as described.

975,715. MOLDING-MACHINE. HENRY E. PRIDMORE, Chicago, Ill. Filed Feb. 4, 1907. Serial No. 355,602.



1. A molding machine comprising a frame, a pattern carrier hinged thereto, a receiving device comprising a plurality of sliding supporting parts each provided with a bearing surface for the flask free to move longitudinally independent of the rest of said support and adapted to move in vertical planes to adjust themselves to irregularities in the bottom of the flask.

2. A molding machine comprising a frame, a pattern carrier hinged thereto, a receiving device comprising a plurality of supporting devices each comprising a supporting part having a curved face, a support for each supporting part having an opposed curved face, said supporting parts free to move along the curved faces of said supports to adjust themselves to irregularities in the bottom of the flask, and means for moving said supporting parts bodily.

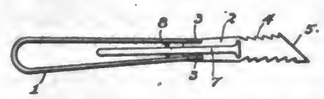
3. A molding machine comprising a frame, a receiving device for the flask connected to said frame and comprising a plurality of supporting parts each provided with a straight face and a curved face, one acting as a bearing surface for the flask and adapted to swing in vertical planes and means for limiting said movement.

4. A molding machine comprising a frame, a receiving device for the flask connected to said frame and comprising a plurality of two-part supporting devices each provided with a bearing surface for the flask and adapted to swing in vertical planes, and means for moving said supporting parts up or down.

5. A molding machine comprising a receiving device, a plurality of supporting parts connected with said receiving device and adapted to receive the flask, said supporting parts mounted so as to be free to swing in vertical planes parallel to each other, and independent of each other, to compensate for irregularities in the bottom board of the flask supports for said supporting parts, the supporting parts having a loose sliding connection with said supports.

[Claims 6 to 8 not printed in the Gazette.]

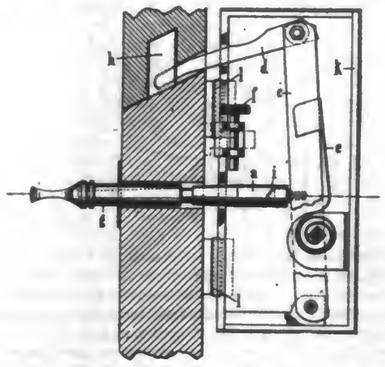
975,716. DISH-WASHER AND POT-CLEANER. BELLE QUARELES, San Francisco, Cal., assignor of one-fourth to Thomas J. Kisner, San Francisco, Cal. Filed Mar. 16, 1910. Serial No. 549,790.



1. In a pot cleaner and scraper, a blade having its end cut diagonally, and having teeth on the sides thereof, a handle for said blade, a foot bearing on said blade, and a spring adapted to press said foot against said blade, to secure a cloth to said blade, as set forth.

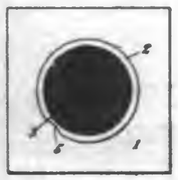
2. In a pot cleaner and scraper, a blade having the end thereof cut diagonally and having teeth on the sides thereof, a handle secured thereto, a presser foot bearing on said blade, a handle for said presser foot and a spring integral with the blade and bearing on the handle to hold the latter in contact with said blade, as set forth.

975,717. SAFETY-LOCK. NIKOLAUS REINEHR, Schöneberg, near Berlin, Germany. Filed June 24, 1909. Serial No. 504,116.



In a safety lock of the character described, the combination with the locking bolt, of a case tiltably secured at the rear of the lock casing, a swinging lever fulcrumed therein, a pin carried by the said lever and adapted to engage the said locking bolt, a key for operating the latter, an extension removably secured in said key and adapted when passed through the keyhole to operate the swinging lever and means for securing the said case in working position.

975,718. SEMISOLID-PAINT PACKAGE. LOUIS REUSCHE, New York, N. Y. Filed Mar. 25, 1910. Serial No. 551,431.



1. A semi-solid paint package, comprising a slab of vitrified material, a mass of semi-solid paint embodying a vehicle substantially such as described, and a relatively flat cover inclosing said paint between it and the slab and secured to said slab by the same vehicle that is used for mixing said paint.

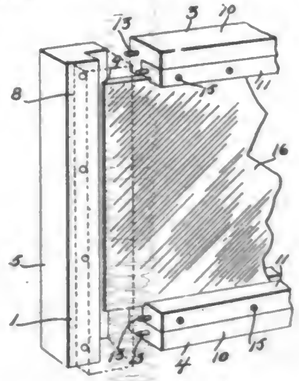
2. A semi-solid paint package, comprising a slab of vitrified material, a mass of semi-solid paint; and a relatively

flat cover inclosing said paint between it and the slab and secured to said slab by an adhesive material and having at one point in its edge a relatively long, narrow opening between it and said slab.

3. A semi-solid paint package, comprising a slab of vitrified material, a mass of semi-solid paint, and a relatively flat cover inclosing said paint between it and the slab and secured to said slab by fat-oil.

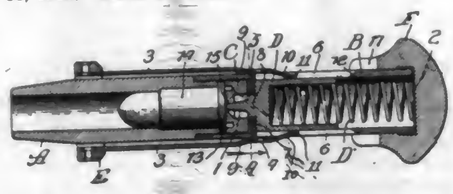
4. A semi-solid paint package, comprising a slab of vitrified material, a mass of semi-solid paint, and a relatively flat cover inclosing said paint between it and the slab and secured to said slab by fat-oil and having at one point in its edge a relatively narrow opening between it and said slab.

975,719. WINDOW-SASH. JAMES J. RICHARDSON, Savanne, Ontario, Canada. Filed Mar. 25, 1909. Serial No. 485,773.



A window sash comprising stiles formed in two sections, grooves formed on one of the edges of each section and extending the full length of the same, the inner sections being provided with rabbeted edges terminating at a suitable distance from the ends of said sections, top and bottom rails likewise formed of two sections, said latter sections having one of their edges rabbeted along its entire length, suitable fastening devices inserted from the inside stiles and rails and into the outer ones for securing the frames together, tenons provided upon the ends of each of the sections of said rails and adapted to be received by openings formed in the adjacent edges of both sections of the stiles adjacent to the ends thereof, whereby a continuous rabbet is formed for removably receiving the glass to be secured between the frames, and said glass being removable by detaching the inner frame by removing the fastening devices.

975,720. FIREARM. ARTHUR I. RISSER, Chicago, Ill., assignor to George S. Webber, Chicago, Ill. Filed Apr. 11, 1910. Serial No. 554,593.

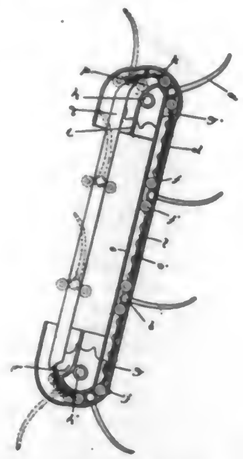


1. A fire-arm comprising a tubular frame, a barrel supported thereby, a spring-held plunger in said frame equipped at its front end with a seat for a ring, a ring secured on said seat and provided with lateral projections extending through lateral slots in said tubular frame, and a slide-ring encircling said barrel and provided with rearwardly extending spring-arms having extremities entering the slots of said tubular frame and having also slots adapted to engage said lateral projections.

2. A fire-arm comprising a tubular frame, a barrel supported thereby, a spring-held plunger in said frame, having at its front end a reduced portion carrying a firing-pin, a ring seated on the reduced portion of said plunger and riveted thereon, said ring having lateral projections extending through lateral slots in said tubular frame, and a slide-ring encircling said barrel and provided with rearwardly-extending spring-arms having inwardly-bent extremities entering said slots and having also slots receiving said lateral projections, the walls at the rear ends of the slots in said tubular frame adapted to serve as cams for spreading said spring-arms to release the plunger.

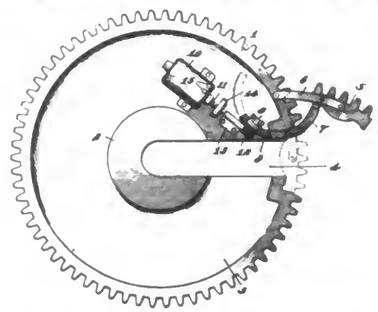
3. A fire-arm comprising a tubular frame, a plunger therein having a bore in its rear end and equipped at its front end with a forwardly-projecting firing-pin, a coiled spring having its front end entered in the bore in said plunger and its rear end bearing against the rear end of said tubular frame, said tubular frame having lateral longitudinal slots, a barrel carried by said tubular frame, a slide-ring mounted on said barrel and equipped with rearwardly-extending spring-arms having inwardly-bent extremities entering said slots, and catch-means between said spring-arms and plunger, for the purpose set forth.

975,721. CONVEYER. JAMES FRANKLIN RUSSELL, Woodstock, Ontario, Canada, assignor to Sarah Elizabeth Russell, Hamilton, Ontario, Canada. Filed Aug. 28, 1909. Serial No. 515,118.



The hereinbefore described device comprising two endless chains, said chains having journal links forming part thereof, shafts mounted to turn in the journal links having forked ends with guide rollers thereon, conveyer fingers fixed on the shafts, and two sets of guide ways engaging the guide rollers, one set of guide ways consisting of parallel guides engaging the guide rollers and holding them in line lengthwise to maintain the conveyer fingers at an angle to the surface along which they are moving, and the other set of guide ways consisting of single rails arranged to enter between the guide rollers and cause them to travel abreast, maintaining the conveyer fingers in substantially parallel relation with the surface along which they are then moving, cams at one end of the guideways to turn the guide rollers shafts and fingers one-fourth of a revolution to bring them into parallel relation, and cams at the other end of the guide ways to turn the same parts three-fourths of a revolution and bring them into angular relation, with the surface along which they are traveling.

975,722. GAPPED GEAR. WILLARD T. SEARS, Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed July 21, 1910. Serial No. 573,024.



1. A gapped gear comprising, a gear-body having a gap extending through its rim and inwardly therefrom, a displaceable patch completing the rim at the gap, a motor carried by the gear, and transmitting connections between the motor and the patch to cause the motor to move the patch into and out of the gap in the rim, combined substantially as set forth.

2. A gapped gear comprising, a gear-body having a gap extending through its rim and inwardly therefrom, a displaceable patch hinged to and completing the rim at the gap, a motor carried by the gear, and transmitting connections between the motor and the patch to cause the motor to move the patch into and out of the gap in the rim, combined substantially as set forth.

3. A gapped gear comprising, a gear-body having a gap extending through its rim and inwardly therefrom, a displaceable patch completing the rim at the gap, a rotary motor carried by the gear, and transmitting connections between the motor and the patch to cause the motor to move the patch into and out of the gap in the rim, combined substantially as set forth.

4. A gapped gear comprising, a gear-body having a gap extending through its rim and inwardly therefrom, a displaceable patch completing the rim at the gap, an electric motor carried by the gear, and transmitting connections between the motor and the patch to cause the motor to move the patch into and out of the gap in the rim, combined substantially as set forth.

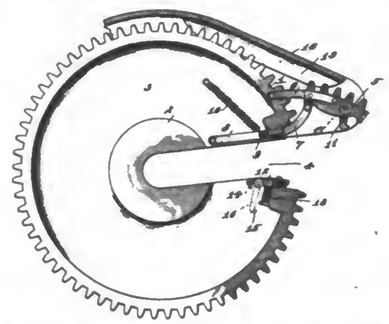
5. A gapped gear comprising, a gear-body having a gap extending through its rim and inwardly therefrom, a displaceable patch completing the rim at the gap, a motor carried by the gear, transmitting connections between the motor and the patch to cause the motor to move the patch into and out of the gap in the rim, and a friction coupling included in said transmitting connections, combined substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

975,723. GAPPED GEAR. WILLARD T. SEARS, Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed July 21, 1910. Serial No. 573,025.

1. A gapped gear comprising, a gear-body having a gap extending through its rim and inwardly therefrom, a displaceable patch supported by the gear and adapted to bridge the gap in the rim, a spring carried by the gear and connected to the patch and adapted to put the patch into open position, a cam supported near the gear, a projection from the patch to engage the cam and cause the patch to be forced to closed position as the gear rotates, and latching mechanism to lock the patch in closed position, combined substantially as set forth.

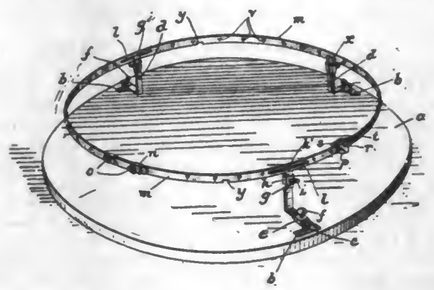
2. A gapped gear comprising, a gear-body having a gap extending through its rim and inwardly therefrom, a displaceable patch supported by the gear and adapted to bridge the gap in the rim, a spring carried by the gear and connected to the patch and adapted to put the patch into open position, a cam supported near the gear, a projection from the patch to engage the cam and cause the patch to be forced to closed position as the gear rotates, latching mechanism carried by the gear to lock the patch in closed position, and a projection disposed in the path of a part of the latching mechanism and adapted to disengage the latch as the gear rotates, combined substantially as set forth.



3. A gapped gear comprising, a gear-body having a gap extending through its rim and inwardly therefrom, a displaceable patch hinged to the gear and adapted to bridge the gap in the rim, a toggle connected to the patch and extending inwardly therefrom and connected to the gear in such manner as to be in flexed condition when the patch is in closed position, a spring carried by the gear and connected with the toggle and tending to straighten it and to open the patch, a cam supported near the gear, a projection from the patch to engage the cam and cause the patch to be forced to closed position as the gear rotates, and latching mechanism to lock the patch in closed position, combined substantially as set forth.

4. A gapped gear comprising, a gear-body having a gap extending through its rim and inwardly therefrom, a displaceable patch hinged to the gear and adapted to bridge the gap in the rim, a toggle connected to the patch and extending inwardly therefrom and connected to the gear in such manner as to be in flexed condition when the patch is in closed position a spring carried by the gear and connected with the toggle and tending to straighten it and to open the patch, a cam supported near the gear, a projection from the patch to engage the cam and cause the patch to be forced to closed position as the gear rotates, a latching mechanism to lock the patch in closed position, and a projection supported near the gear in the path of a part of the latching mechanism to release the latch as the gear rotates, combined substantially as set forth.

975,724. SKIRT-FORM. HARRY D. SHAIFFER, Philadelphia, Pa. Filed Aug. 10, 1909. Serial No. 512,110.



1. A skirt form comprising an expansible and contractible ring, a plurality of fixed standards, vertically and radially adjustable devices mounted on said standards and slidably engaging said ring, thereby permitting the latter

to move circumferentially relatively to said devices when the latter are adjusted radially and enabling the height, circumference and angle of the form to be varied.

2. A skirt form comprising an expansible and contractible ring, a plurality of standards, and a plurality of devices mounted on said standards and engaging said ring at points about its circumference and upon which said ring is circumferentially slidable, said devices each comprising members adjustable radially and vertically relatively to the corresponding standard, whereby the height, circumference and angle of the form may be varied.

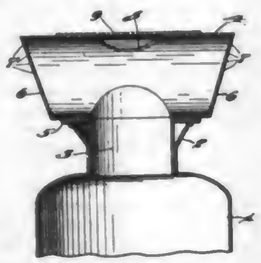
3. A skirt form comprising a plurality of fixed standards, a plurality of members horizontally adjustable thereon, a plurality of members vertically adjustable on the horizontally adjustable members, and an expansible and contractible ring engaging said vertically adjustable members and circumferentially slidable relatively thereto.

4. A skirt form comprising an expansible and contractible ring, a base, and a plurality of ring-supports, said supports including members fixedly secured to the base, and members with which said ring engages and upon which said ring is circumferentially slidable and which are adjustable vertically and radially relatively to said base to vary the height, circumference and angle of the form.

5. A skirt form comprising a base, a plurality of standards secured thereto, horizontally adjustable members respectively mounted on the standards, vertically adjustable members respectively mounted on the horizontally adjustable members, and an expansible and contractible ring engaging said vertically adjustable members and circumferentially slidable relatively thereto.

[Claims 6 to 8 not printed in the Gazette.]

975,725. AERATING-COVER FOR MILK-CANS. SAMUEL SHAPIRO, Philadelphia, Pa. Filed May 11, 1910. Serial No. 560,622.

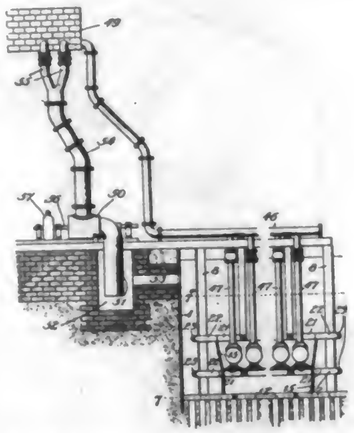


1. An aerating cover for milk cans, comprising two sections or members having communication with each other, one member adapted to fit into the neck of a milk can, and the other member supported thereon, of substantially the same diameter and located at right angles thereto, and having openings in its ends whereby an air passage is provided across the other member, substantially as described.

2. An aerating cover for milk cans, comprising two members communicating with each other, one member adapted to fit in the neck of a milk can, the other member projecting at right angles thereto having perforations in its ends, also having an opening in its top in register with the member to be positioned in the can, and a hinged cover normally closing said opening, substantially as described.

3. An aerating cover for milk cans, comprising two members secured together and communicating with each other, one member adapted to be positioned in the neck of a milk can, the other member projecting at right angles thereto, an annular flange around the first mentioned member adapted to project over the upper end of the milk can neck, the ends of said last mentioned member inclining inward from their upper to their outer ends, and perforated in their upper halves, said last mentioned member having an opening in its top, and a hinged cover normally closing said opening, substantially as described.

975,726. TIDE-MOTOR. ELIEL L. SHARPNECK and MATTHEW C. SHARPNECK, Boston, Mass. Filed June 23, 1909. Serial No. 503,847.



1. In a tide-motor, a power-generating float having a deck, an air-tight compartment beneath the deck open at its under side to the water, means operating, when the float is lowered and the tide falls, to charge said compartment with air, an air-vent valve for said compartment, and means actuated by the rise of the float to a predetermined height to open said valve, for the purpose set forth.

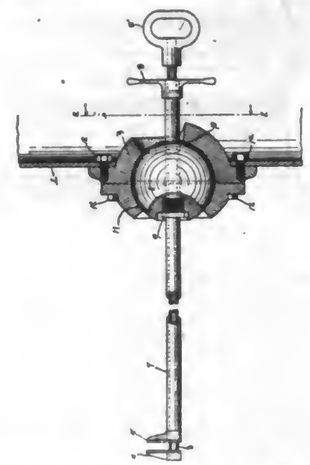
2. In a tide-motor, a power-generating float having a deck, an air-tight compartment beneath the deck open at its under side to the water, means operating, when the float is lowered and the tide falls, to charge said compartment with air, an air-vent valve for said compartment, means actuated by the rise of the float to a predetermined height to open said valve, and means operating to close said valve when the air has escaped from said compartment.

3. In a tide-motor, a power-generating float having a deck, an air-tight compartment beneath the deck open at its under side to the water, means operating, when the float is lowered and the tide falls, to charge said compartment with air, an air-vent valve for said compartment, means actuated by the rise of the float to a predetermined height to open said valve, and closing mechanism for said valve actuated by the rise of water in said compartment upon the escape of the air.

4. In a tide-motor, a power-generating float having a deck, an air-tight compartment beneath the deck open at its under side to the water, means operating, when the float is lowered and the tide falls, to charge said compartment with air, an air-vent valve for said compartment, an air-pressure tank, a pipe extending from said compartment to said tank, a check-valve in said pipe, a cylinder, a piston in the cylinder controlling said air-vent valve, means actuated by the rise of the float, to a predetermined height, to direct air-pressure from said tank to said cylinder at one side of the piston to open said vent-valve, and means operated by the rise of water in said compartment upon the escape of the air to direct pressure from said tank to said cylinder against the piston to close said vent-valve, substantially as and for the purpose set forth.

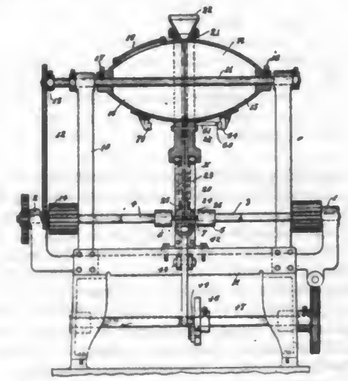
975,727. DIVING APPARATUS. GEORGE W. SMITH, Milwaukee, Wis., assignor to Marine Salvage Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Mar. 21, 1910. Serial No. 550,591.

1. In a ball and socket joint for diving apparatus, the combination of a ball provided with slidable bearings for the reception of a slidable shaft, a slidable shaft located in said bearings, a socket for the reception of said ball provided upon two opposing sides with an aperture for the reception of said shaft, the inner walls of such socket being extended upwardly from the lower side of said ball to a point at or near its horizontal center, whereby the upward extension of said socket forms a resisting wall to the direct inward pressure of the water against said ball, while the upper side of said aperture permits of the required inclination and movement of said shaft.



2. In a ball and socket joint for diving apparatus, the combination of a ball provided with slidable bearings for the reception of a slidable shaft, a slidable shaft located in said bearings, a socket for the reception of said ball provided upon its inner side with a semi-circular aperture for the reception of said shaft, the base or lower side of said aperture terminating at or slightly below the horizontal center of said ball and socket, whereby space is provided in said aperture for the upward inclination of said shaft, while the lower side of said socket forms a resisting wall to the direct inward pressure of the water against said ball, means for retaining said ball in said socket, and means for securing said ball and socket to the exterior walls of the diving bell, all substantially as and for the purpose specified.

975,728. NUT-FEED FOR TAPPING-MACHINES. OSCAR A. SMITH, Cleveland, Ohio, assignor to The National-Acme Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Dec. 6, 1909. Serial No. 531,527.



1. A feeding device for blanks comprising a frame, a receptacle rotatable in the frame, a feeding chute having its opening adjacent the receptacle, the receptacle having an opening registering with the opening in the chute during the rotation of the receptacle, the chute having a partition in its bore providing two passages, and partitions in the chute causing the passages where entering the receptacle to extend in opposite directions in the plane of rotation of the receptacle.

2. A feeding device for blanks comprising a frame, a receptacle rotatable in the frame, a feeding chute having its opening adjacent the receptacle, the receptacle having an opening registering with the opening in the chute during the rotation of the receptacle, means for rotating the receptacle in opposite directions, the chute having a partition in its bore providing two passages, and partitions in the chute causing the passages where entering the receptacle to extend in opposite directions in the plane of rotation of the receptacle.

3. In an automatic machine for operating upon blanks, the combination of a tool operating device, a chute arranged to feed the blanks to the tool, a receptacle supported to rotate above the chute and having an annular opening therein, the chute having an extension inclosing the said opening in the receptacle with the bore of the chute registering with said opening during rotation of the receptacle, the extension having a hopper portion at the top leading to said opening in the receptacle.

4. In an automatic machine for operating upon blanks, the combination of a tool operating device, a chute arranged to feed the blanks to the tool, a receptacle supported to rotate above the chute and having an annular opening therein, the chute having an extension inclosing the said opening in the receptacle with the bore of the chute registering with said opening during rotation of the receptacle, the bore of the chute having a partition forming two passages therein, walls in said passages where they open into the receptacle causing one passage to connect with the opening in the receptacle at a tangent on one side, and the other passage leading into the receptacle and extending at a tangent on the opposite side.

5. In an automatic machine for feeding blanks, the combination of a shaft rotatably mounted on the frame, a pair of cup shaped members both axially secured on the shaft with their rims alining and arranged in proximity forming thereby complemental members of a receptacle supported to rotate, a chute member arranged below the receptacle having an annular extension surrounding the rim portions of the members to inclose the receptacle with the opening in the receptacle between the rims registering with the bore of the chute during rotation of the receptacle, the said extension having a hopper portion for feeding blanks into the receptacle.

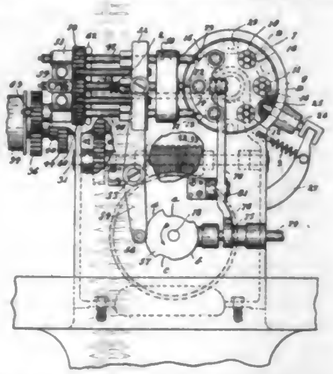
[Claims 6 and 7 not printed in the Gazette.]

975,729. MULTIPLE-DRILLING MACHINE. OSCAR A. SMITH, Cleveland, Ohio, assignor to The National-Acme Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Dec. 15, 1909. Serial No. 533,157.

1. The combination with a frame, a head rotatable in the frame and carrying a circular series of bushings parallel to the axis of the head, and means for indexing the head around, of a plurality of spindles arranged with their axes parallel in a plane perpendicular to the axis of the head and organized to advance the tools to each engage one of the articles in the bushings respectively whereby upon indexing the head around each article in the bushing will thereby be successively engaged by one of the tools.

2. The combination with a frame, a head rotatable in the frame and carrying a circular series of bushings parallel to the axis of the head, means for indexing the head around, of a plurality of spindles arranged with their axes parallel in a plane perpendicular to the axis of the head and organized to advance the tools to each engage one of the articles in the bushings respectively, whereby upon indexing the head around each article in the bushing will thereby be successively engaged by one of the tools, means for simultaneously moving the tools to and from

the articles held in the bushings, and means for causing the continuous operation of the tool spindles during said reciprocation, said latter means being operatively connected with the head indexing means and organized to permit a reverse movement of the tool advancing means without causing a reverse movement of the tool spindles.



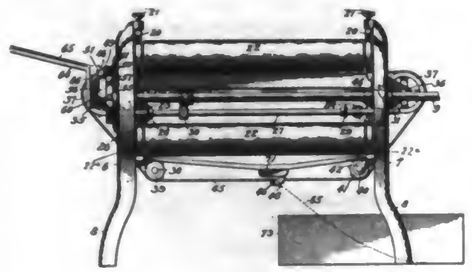
3. The combination with a frame, a head rotatable in the frame and carrying a circular series of bushings parallel to the axis of the head, a driving member, means connected with the driving member for indexing the head around, a series of spindles rotatably supported in a plane transverse to the axis of the head whereby advance of the spindles in their axes will cause them to engage articles in the bushings respectively, means connected with the driving member for causing a reciprocation of the spindles to engage the articles between each index movement of the head, means connecting said driving member with the spindles for causing continuous rotation of the spindles throughout their said reciprocation by said means, said latter means including a clutch permitting reverse movement of the driving member without causing reverse movement of the spindles.

4. The combination with a frame, a head rotatable in the frame and carrying a circular series of bushings parallel to the axis of the head, of a driving member, means connected with the driving member for indexing the head, a plurality of tool spindles arranged in a plane perpendicular to the axis of the head with their axes parallel, the spindles being endwise movable, means connected with the driving member for simultaneously moving the spindles endwise, means connected with the driving member for rotating the spindles between each indexing of the head including a clutch device permitting reverse movement of the driving member without causing reverse movement of the spindles.

5. The combination with a frame, a head rotatable in the frame and carrying a circular series of bushings parallel to the axis of the head, and means for indexing the head around, of a plurality of spindles arranged with their axes parallel in a plane perpendicular to the axis of the head and organized to advance the tools to each engage one of the articles in the bushings respectively whereby upon indexing the head around each article in the bushing will thereby be successively engaged by one of the tools, said tool advancing means being arranged to advance the tool part-way of its path of travel thereupon retract the tool a short distance, and then further advance the tool to complete the operation.

975,730. PRINTING-PRESS. HAZOR J. SMITH, Chicago, Ill., assignor to Automatic Letter Machine Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 3, 1910. Serial No. 541,793.

1. In a printing-machine, the combination with a type-bed, of an impression-roller and means for moving it along a path extending in one direction across the type-bed, a sheet-feeder, sheet-engaging and releasing means on the feeder, and means for moving the feeder across the type-bed along a path extending transversely of the path of the impression-roller.



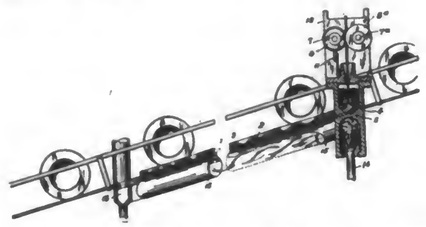
2. In a printing-machine, the combination with a type-bed of an impression-roller and means for moving it along a path extending in one direction across the type-bed, a sheet-feeder, sheet-engaging and releasing means on the feeder and intermittently-actuated means for moving the feeder, intermediate the printing operations of the impression-roller, across the type-bed along a path extending transversely of the path of the impression-roller.

3. In a printing-machine, the combination with a type-bed and drive-shaft, of impression-rollers mounted equidistant apart and geared to the drive-shaft to move continuously along an endless path extending in one direction across the type-bed, sheet-feeding mechanism comprising parallel, endless chains, movable in a path extending transversely of the path of the impression-rollers, and sheet-engaging clips mounted equidistant apart along the chains, intermittent-driving mechanism for the chains actuated, by rotation of the drive-shaft, to move the clips, intermediate the printing-operations of successive impression-rollers, a distance equal to that between successive clips, first to sheet-receiving, then to sheet-positioning, and then to sheet-discharging, positions, means for opening the clips as they reach the sheet-receiving position, means for causing closure thereof before they leave said position, and means adjacent to their discharging-position for opening the clips.

4. In a printing-machine, the combination with a type-bed, an impression-roller and means for moving it along a path extending in one direction across the type-bed, of sheet-feeding mechanism comprising a pair of endless parallel chains passing adjacent to opposite edges of the type-bed in a direction transversely of the path of the impression-roller, a plurality of normally-closed, sheet-engaging clips carried by the chains, intermittently-actuated chain-moving means operating to advance the clips successively into sheet-receiving position, and then across the type-bed intermediate the printing operations, means in the path of the clips for engaging and opening them as they near their sheet-receiving position, and means actuated by the impression-roller in its printing movement to effect closure of the clips before they leave said position.

5. In a printing-machine, the combination with a type-bed, an impression-roller and means for moving it along a path extending in one direction across the type-bed, of sheet-feeding mechanism comprising a pair of endless, parallel chains, passing adjacent to opposite edges of the type-bed in a direction transversely of the path of the impression-roller, a plurality of normally-closed, sheet-engaging clips carried by the chains, intermittently-actuated chain-moving means operating to advance the clips successively into sheet-receiving position, and then across the type-bed intermediate the printing operations, a printing-ribbon, ribbon-winding rollers, and actuating-means for said winding rollers timed to operate intermediate the printing movements of the impression-roller.

975,731. MEANS FOR APPLYING FLUID METALS. WILLIAM H. SMYTH, Berkeley, Cal. Filed Dec. 14, 1903. Serial No. 185,147.



1. A guideway suitably arranged to effect the travel of a can or the like, a solder trough arranged to effect the longitudinal flow of fluid therein, in contact with the traveling can.

2. A guideway suitably arranged to effect the travel of a can or the like, solder troughs arranged to effect the longitudinal flow of solder therein, in contact simultaneously with both cover joints of the can.

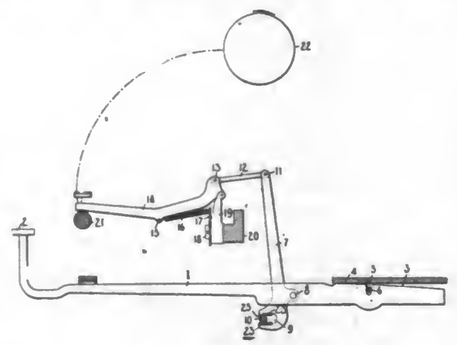
3. A guideway suitably arranged to effect the rolling travel of a can or the like, a solder trough arranged to effect the longitudinal flow of solder therein, in contact with the traveling can.

4. A guideway suitably arranged to effect the rolling travel of a can or the like, solder troughs arranged to effect the longitudinal flow of solder therein, in contact simultaneously with both cover joints of the can.

5. A device for applying fluid metals to cans or the like comprising gravity means adapted to effect the travel of cans and fluid metal in contact with each other whereby the fluid is applied to the can.

[Claims 6 to 44 not printed in the Gazette.]

975,732. TYPE-WRITING MACHINE. HERBERT H. STEELE, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed June 22, 1907. Serial No. 380,325.



1. In a typewriting machine, the combination of a sub-lever having a slot therein and a part that has a bearing in said slot, said sub-lever having a flange along said slot to increase the width of the bearing surface.

2. In a type action, a key operated lever having an elongated slot therein and a pair of separate oppositely disposed bearing shoes forming walls of said slot and co-operative with the fulcrum of said lever and broader than the lever is thick.

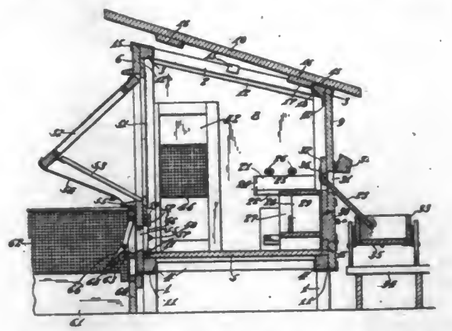
3. In a type action, a slotted sheet metal key operated lever having a pair of oppositely disposed bearing shoes formed integral therewith, said shoes having flat wearing faces which are broader than the thickness of the metal from which said lever is formed and which coöperate with the fulcrum of said lever.

4. In a typewriting machine, the combination of a slotted sheet metal key operated lever having a pair of oppositely disposed separate bearing shoes formed integral therewith and extending at right angles to the plane of said lever, said shoes having parallel contact faces which are broader than the thickness of the metal of which said lever is formed, and a fulcrum rod against which said contact faces bear.

5. In a typewriting machine, the combination of a fulcrum rod, and a plurality of key actuated levers fulcrumed on said rod and the planes of which are differently disposed with reference to said fulcrum rod, each of said levers having a bearing shoe which extends at substantially right angles to the plane of its lever and which is broader than the lever is thick and has a contact face that coöperates with said fulcrum rod.

[Claims 6 to 21 not printed in the Gazette.]

975,733. POULTRY-HOUSE. WALTER G. STOUT, Philadelphia, Pa. Filed Apr. 7, 1909. Serial No. 488,498.



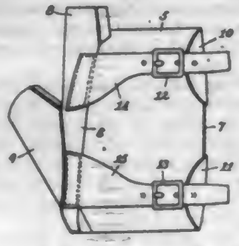
1. In combination with a four walled structure, a top or roof, tongues on said top or roof, and the rear wall of said structure having recesses to receive said tongues, eyes on the forward lower face of said top or roof, hooks on the front wall of the structure, adapted to engage said eyes and lock the roof in closed position, and a hook on said front adapted to engage one of said eyes, and hold the roof in an elevated or partly open position.

2. In a device of the class described, a frame comprising a plurality of vertical members, horizontal members connecting the same adjacent the lower ends thereof and substantially horizontal members connecting the upper ends of said vertical members forming a substantially rectangular open structure, panels for closing the spaces between said vertical and horizontal members, transverse members secured to the inner faces of said panels and adapted to fit snugly between the respective frame members, a hook shaped bracket secured to each of the lower horizontal members of the frame and adapted to extend upwardly on the outer face of the respective panels, a detachable metal clip securing the upper horizontal frame members and the upper ends of the panels together, and hook and eye connections between the edges of adjacent panels, substantially as described.

975,734. HAND-SHIELD. LEWIS B. TEBEAU, Concord, N. H. Filed Aug. 17, 1909. Serial No. 513,241.

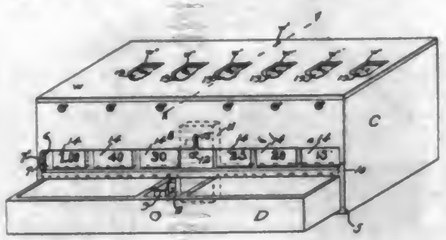
As a new article of manufacture, a hand shield having a palm protecting portion terminating at opposite sides in lateral edges and adapted to cover the side of the hand between the base of the thumb and the index finger, said palm protecting portion being provided with an integral finger piece to encircle a portion of the index finger of the hand, a thumb piece formed of a separate piece of sheet material secured to said palm protecting portion and adapted to encircle a portion of the thumb including the base thereof, and a pair of adjustable straps formed of

separate pieces of sheet material attached to said palm protecting portion adjacent to opposite sides thereof and arranged to extend across the back of the hand, each of



said straps consisting of two parts which are widened toward their respective points of attachment with the edges of said palm protecting portion.

975,735. CASH-REGISTER. REUBEN TREBER, Portland, Oreg. Filed June 27, 1910. Serial No. 569,159.



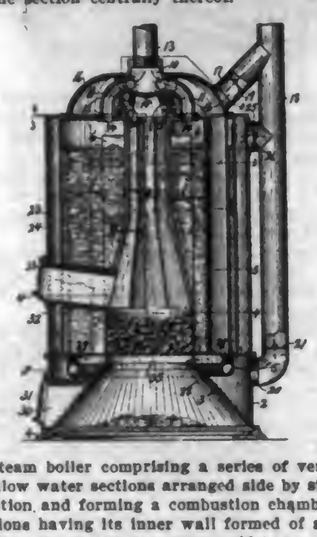
1. In a cash register box having a securable lid, the combination of a drawer having a longitudinal central compartment, a spring catch within the compartment and a recoil spring, with a transverse bar vertically slidable immediately in the rear of the front wall of the box, said bar having means to raise it and a vertical locking arm in its center which extends downward into the central compartment of said drawer and is in engagement with the said spring catch when the drawer is shut, substantially as described.

2. In a cash register box provided with a securable lid and a drawer having means to lock and open it; registering mechanism comprising a series of register bars bearing numerals, slidable and placed in horizontal grooves formed in the box beneath the lid, said bars having ratchets in their edges, and movable pawl bars extending without the box and within it horizontally alongside the register bars, said pawl bars being provided with pawls in position to engage the register bar ratchets, also with recoil springs, substantially as described.

3. In a cash register box having a longitudinal opening in its front wall, a securable lid and a drawer with means to lock and open it; signal mechanism comprising a series of signal blocks bearing numerals, placed within and vertically movable in a space immediately back of the front box wall, right angled spring catches in the rear of the blocks in position to lock them when raised, a horizontal lever having a recoil spring, extending without the box and through a groove within it, having an arm dependent from it in position to engage and release the box catches and drop the blocks into position visible through the box opening, and means to raise the signal blocks singly or together into locked position, substantially as described.

975,736. STEAM-BOILER. WILLARD S. TUTTLE, Philadelphia, Pa. Filed Mar. 15, 1909. Serial No. 483,500.

1. A steam boiler comprising a series of vertically-disposed hollow water sections arranged side by side in close juxtaposition and forming a combustion chamber, each of said sections having its inner wall formed of an upper, a lower and an intermediate portion, said lower portion segment-shaped in contour and arranged to one side of the intermediate portion, said intermediate portion inclining upwardly toward the axis of the combustion chamber and said upper portion arranged inwardly of the plane of the lower portion and said upper and intermediate portions diverging from their vertical centers laterally in opposite directions and toward the side walls of the sections, and each of said sections furthermore provided with a vertically-disposed radiating plate formed integral with and projecting centrally from the inner face of the inner wall of the section centrally thereof.



2. A steam boiler comprising a series of vertically-disposed hollow water sections arranged side by side in close juxtaposition and forming a combustion chamber, each of said sections having its inner wall formed of an upper, a lower and an intermediate portion, said lower portion segment-shaped in contour and arranged to one side of the intermediate portion, said intermediate portion inclining upwardly toward the axis of the combustion chamber and said upper portion arranged inwardly of the plane of the lower portion and said upper and intermediate portions diverging from their vertical centers laterally in opposite directions and toward the side walls of the sections, each of said sections furthermore provided with a vertically-disposed radiating plate formed integral with and projecting centrally from the inner face of the inner wall of the section centrally thereof, and each of said sections having each of its side walls formed with an inwardly-extending portion, the inwardly-extending portions of one section registering with the inwardly-extending portions of adjacent sections, thereby providing channels substantially heart-shaped in section and constituting flues for products of combustion.

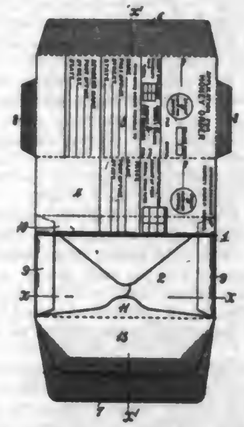
3. A steam boiler comprising a series of vertically-disposed hollow upright water sections arranged side by side in close juxtaposition forming a combustion chamber, the side walls of said sections provided with means to constitute flues, the inner walls of each of said sections formed of an upper, a lower and an intermediate portion, said lower portion segment-shaped in contour and arranged to one side of the intermediate portion, said intermediate portion inclining upwardly toward the axis of the combustion chamber and said upper portion arranged inwardly of the plane of the lower portion and said upper and intermediate portions diverging from their vertical centers laterally in opposite directions with respect to each other, and further having projecting from its inner face a vertically-disposed radiating plate.

4. A steam boiler comprising a series of vertically-disposed hollow upright water sections arranged side by side in close juxtaposition forming a combustion chamber, the side walls of said sections provided with means to constitute flues, the inner walls of each of said sections formed of an upper, a lower and an intermediate portion, said lower portion segment-shaped in contour and arranged to one side of the intermediate portion, said intermediate portion inclining upwardly toward the axis of the combustion chamber and said upper portion arranged inwardly of the plane of the lower portion and said upper and intermediate portions diverging from their vertical centers laterally in opposite directions with respect to each other, and further having projecting from its inner face a vertically-disposed radiating plate, a closure for the top of each of said sections, a steam dome, and means communicating with the dome and extending through said closures for establishing communication between the sections and dome.

5. In a steam boiler, means to constitute an ash-pit, a frame surrounding said means and in connection therewith forming a chamber, a series of hollow upright water sections arranged side by side in close juxtaposition and forming a combustion chamber, each of said sections having its inner wall formed of an upper, a lower and an intermediate portion, said lower portion segment-shaped in contour and arranged to one side of the intermediate portion, said intermediate portion inclining upwardly toward the axis of the combustion chamber and said upper portion arranged inwardly of the plane of the lower portion and said upper and intermediate portions diverging from their vertical centers laterally in opposite directions and toward the side walls of the sections, said sections having the side walls thereof provided with means to constitute flues for the products of combustion, a steam dome communicating with the upper ends of the water sections and having an outlet, a water ring arranged within said chamber and surrounding said ash-pit and provided with nipples communicating with the lower ends of the water sections, a return flow pipe opening into said water ring, a dome for the products of combustion communicating with the upper ends of the smoke flues, said flues communicating at their lower ends with said chamber, and outlets for the smoke dome and said chamber.

[Claims 6 to 8 not printed in the Gazette.]

975,737. POSTAL-MONEY-ORDER PACKET. JAMES S. UTLEY, Chicago, Ill. Filed Mar. 16, 1908. Serial No. 421,453.



1. A postal money packet comprising a series of sections flexibly connected together into a sheet and provided with sealing flaps on the respective outer sections, one of said sections bearing an address on one side and a printed application blank on the other side, another section having on one side blanks for the address of the party for whom the packet is intended, an inner pocket, and an outer sealable pocket attached in common to the last mentioned section, substantially as set forth.

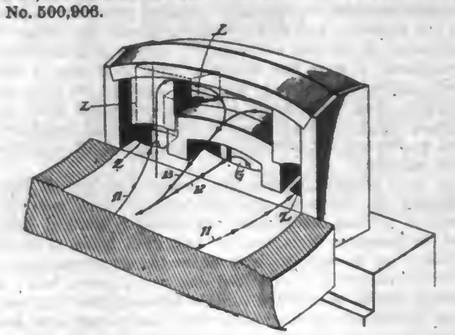
2. A postal money packet comprising a series of sections flexibly connected together into a sheet and provided with sealing flaps on the respective outer sections, one of said sections bearing an address on one side and a printed application blank on the other side, another section having

one side of the intermediate portion, said intermediate portion inclining upwardly toward the axis of the combustion chamber and said upper portion arranged inwardly of the plane of the lower portion and said upper and intermediate portions diverging from their vertical centers laterally in opposite directions with respect to each other, and further having projecting from its inner face a vertically-disposed radiating plate, a closure for the top of each of said sections, a steam dome, and means communicating with the dome and extending through said closures for establishing communication between the sections and dome.

5. In a steam boiler, means to constitute an ash-pit, a frame surrounding said means and in connection therewith forming a chamber, a series of hollow upright water sections arranged side by side in close juxtaposition and forming a combustion chamber, each of said sections having its inner wall formed of an upper, a lower and an intermediate portion, said lower portion segment-shaped in contour and arranged to one side of the intermediate portion, said intermediate portion inclining upwardly toward the axis of the combustion chamber and said upper portion arranged inwardly of the plane of the lower portion and said upper and intermediate portions diverging from their vertical centers laterally in opposite directions and toward the side walls of the sections, said sections having the side walls thereof provided with means to constitute flues for the products of combustion, a steam dome communicating with the upper ends of the water sections and having an outlet, a water ring arranged within said chamber and surrounding said ash-pit and provided with nipples communicating with the lower ends of the water sections, a return flow pipe opening into said water ring, a dome for the products of combustion communicating with the upper ends of the smoke flues, said flues communicating at their lower ends with said chamber, and outlets for the smoke dome and said chamber.

[Claims 6 to 8 not printed in the Gazette.]

975,738. FURNACE-HEAD FOR GAS-FURNACES WITH CHANGING DIRECTION OF FLAMES. BRUNO VENSEN, Dortmund, Germany. Filed June 8, 1909. Serial No. 500,906.

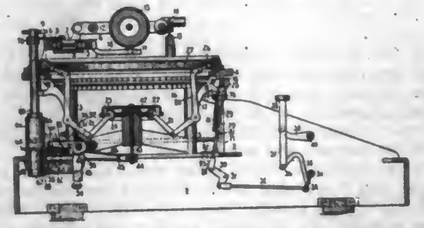


1. In a furnace head of the class described the combination of lateral air flues and a central gas flue, said lateral flues opening into the furnace in a common port above the port of said central flue, and branch flues extending from said lateral flues into the furnace below said common port.

2. In a furnace head of the class described the combination of lateral air flues and a central gas flue, said lateral flues opening into the furnace in a common port above the port of said central gas flue and branch flues extending from said lateral flues and opening into the furnace at the height of the port of said gas flue.

3. In a furnace head of the class described the combination of lateral air flues and a central gas flue, said lateral flues opening into the furnace in a common port above the port of the gas flue, branch flues extending from said lateral flues and opening into the furnace at the height of the port of said gas flue, and cooling pipes embedded in the wall portions between the common port and the port of the gas flue, in the wall portions between the lateral flues and the branch flues, and in lateral walls of the furnace head, said cooling pipes being adapted to serve as reinforcing means for the furnace head.

975,739. TYPE-WRITING MACHINE. CASPER D. WALLACE, Bridgeport, Conn., assignor to Yost Writing Machine Company, Ilion, N. Y., a Corporation of New York. Filed May 10, 1904. Serial No. 207,271.



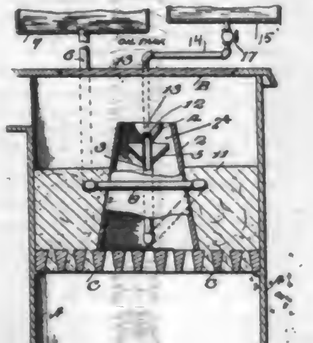
1. In a typewriting machine having letter spacing mechanism appropriate to two degrees of spacing and to set of types of different widths, the combination of a type guide provided with a guide opening, key controlled type carriers having a complete set of capital letter types uniform in size, adapted to one only of said degrees of letter spacing, other key controlled type carriers having a complete set of smaller capital letter types uniform in size, the types of the second set being different in width

from the corresponding types of the first set and occupying only a part of the length of face of their type blocks, each of said smaller capital letter types being arranged in one corner of its associate type block, and adapted to the other of said two degrees of spacing, the type blocks of all the types being of uniform size so that said type blocks may properly engage with the guide opening in said type guide.

2. In a typewriting machine having two sets of types differing in character, the combination of a carriage; carriage feeding mechanism comprising a toothed wheel and coöperating dogs, one of said dogs being pivotally mounted on its support; and means for regulating the extent of movement of the dog on its pivot, said regulating means comprising a slide bar co-active with said dog, a rock shaft, crank arms fixed to said rock shaft at its ends, one of said crank arms being pivotally connected with said slide, a link pivotally connected with the other crank arm, and a pivoted key-controlled rocker pivotally connected with said link.

3. In a typewriting machine having two sets of types differing in character, the combination of a carriage; carriage feeding mechanism comprising a toothed wheel and coöperating dogs, one of said dogs being pivotally mounted on its support; and means for regulating the extent of movement of said feed dog on its pivot, said regulating means comprising a slide bar co-active with said dogs, a pivoted key-controlled rocker connected with said slide, stops for limiting the movement of said rocker in both directions, and a spring detent for maintaining said regulating means in one or another of a plurality of adjusted positions.

975,740. CRUDE-OIL BURNER. GEORGE C. YALE, Boynton, Okla. Filed Nov. 22, 1909. Serial No. 529,398.



1. An oil burner including a casing open at both ends and forming a combustion chamber, a burning trough carried in the upper end of the combustion chamber, but spaced from the walls thereof, and an oil supply pipe coiled around the combustion chamber, then extending into the chamber and entering said trough.

2. An oil burner including an outer casing open at its upper and lower ends and inclosing a combustion chamber, superposed burning troughs carried in said combustion chamber, the uppermost trough being coincident with the upper end of said combustion chamber and nearly filling the upper opening of the same chamber, but being spaced from the walls thereof, the lower trough being larger than the upper, and a supply pipe leading to the upper trough.

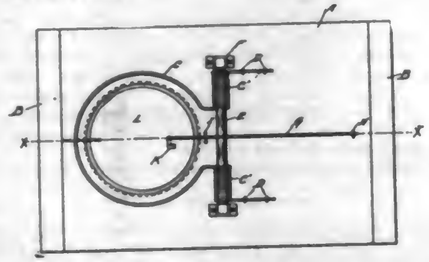
3. An oil burner including an outer casing open at its upper and lower ends and inclosing a combustion chamber, superposed burning troughs carried within said combustion chamber, the uppermost trough being coincident with the upper end of the combustion chamber and nearly filling the upper opening of the same, but being spaced from the walls thereof, the lower trough being larger than the upper, and a supply pipe extending into the lower end of the combustion chamber, passing up through and supporting the lower trough and opening into the upper trough.

4. The combination with a stove, of a combustion chamber located within the stove, a burner located within the upper part of the combustion chamber, a supply pipe passing into said stove and around the exterior of the combustion chamber, then extended out of said stove, and then returned into the stove, into the combustion chamber and to the burner, and a regulating valve located in said supply pipe exteriorly to the stove.

5. In an oil stove, a casing open at its upper and lower ends, a burner coincident with the upper end of the casing, a supply pipe extending through the casing and to the burner, a regulating valve located in said supply pipe exterior to the casing, and means for heating oil prior to its passage through the regulating valve.

[Claims 6 to 12 not printed in the Gazette.]

975,741. ANIMAL-TRAP. ELI M. ALDERMAN, Hickory township, Mercer county, Pa. Filed June 21, 1909. Serial No. 503,452.



1. In an animal trap, the combination of a base having a circular aperture therein pivotal supports in said aperture a circular platform in said aperture adapted to swing on said pivotal supports, an L shaped catch extending up from said platform, a substantially circular spring adapted, when sprung, to surround said aperture, a catch wire coöperating with the platform catch to hold said spring under tension; said pivotal supports, catch, and catch wire being in alinement when the trap is set; and standards located on either side of the catch wire for preventing the lateral play of the latter when the platform is tilted, substantially as shown and described.

2. In an animal trap, a substantially circular spring, a member upon which said spring is mounted and adapted to rotate means for holding said spring under tension a circular platform, axles lying in line with the retaining means, upon which said platform is tilted in either direction to release the spring, substantially as shown and described.

3. In an animal trap, a trap spring, a member upon which said spring is mounted and adapted to rotate, means for holding said spring under tension, a platform provided with a catch for said means, axles in line with the diameter of said platform, and upon which said platform is pivoted whereby a tilting of the platform by pressure on either side of the axles will release the spring, substantially as shown and described.

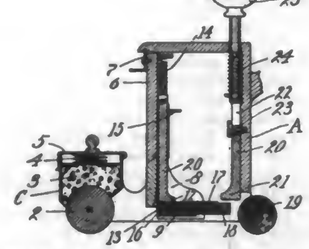
4. In an animal trap, the combination of a base board provided with a circular aperture near one end, a circular platform having a smaller diameter than the latter, pivoted at the two ends of one of its diameters within the aperture, a substantially circular spring adapted, when sprung, to surround said aperture, a member upon which said spring is mounted and adapted to rotate means comprising a wire and catch for retaining said spring under tension, said catch being fixed to the platform and standards positioned on either side of said retaining wire

for preventing the lateral play thereof, substantially as shown and described.

5. In an animal trap, the combination of the base board A, provided with a circular aperture near one end, the circular platform L swinging in said aperture on the pivotal supports M, a wire spring comprising the circular loop C and the helical windings C', the retaining wire G for holding said loop C in tensioned position, said wire G and supports M being in line with each other the standards I for preventing lateral play of the wire G, and the catch K, fixed to the platform and adapted to lock the wire G, as and for the purpose set forth.

[Claim 6 not printed in the Gazette.]

975,742. STAMP-AFFIXING MACHINE. HARRY A. BENEDICT, Blaisdell, N. D. Filed Apr. 17, 1909. Serial No. 490,565.



1. A stamp affixing machine comprising a frame having in its front wall a removable plate, a stamp magazine secured upon the inner side of said plate and adapted to hold a pile of stamps with their ends projecting rearwardly therefrom, a stamp affixer in position to be thrust down upon the projecting ends of the stamps, a moistening device arranged in front of the magazine and a sealing device at the rear of the stamp affixer.

2. In a stamp affixing machine the combination, with a moistening device and a sealing roller, of an intermediately arranged stamp magazine open at the rear and adapted to hold a pile of stamps with their ends projecting rearwardly therefrom, a spring pressure foot for holding the stamps within the magazine, and a stamp affixer in position to be pressed down upon the projecting ends of the stamps.

3. In a stamp affixing machine, the combination, with a moistening device and a sealing roller, of an intermediately arranged stamp magazine open toward the rear and having a resilient bottom independent of the sides thereof, a spring pressure foot for holding stamps against said resilient bottom, and a stamp affixer in position to be pressed down upon the rearwardly projecting ends of the stamps.

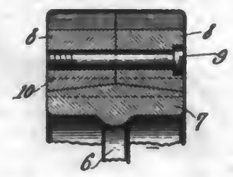
4. In a stamp affixing machine, the combination, with moistening and sealing rollers, of an intermediately arranged stamp magazine, said magazine having a resilient bottom independent of the sides thereof, a spring pressure foot slidably arranged within the magazine, and a stamp affixer having movable support within the machine.

5. In a stamp affixing machine, the combination, with moistening and sealing rollers spaced apart and arranged in alinement, of moistening means held in contact with said moistening roller, a stamp magazine arranged between the rollers in position to hold a pile of stamps with their ends projecting rearwardly toward the sealing roller, spring pressed means for holding the stamps within the magazine, and a stamp affixer in position to be thrust down upon the projecting ends of the stamps, for the purpose set forth.

[Claim 6 not printed in the Gazette.]

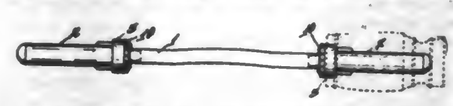
975,743. GEAR-WHEEL. RUSSELL C. BLOOMFIELD, Cincinnati, Ohio. Filed Jan. 17, 1910. Serial No. 538,520.

1. A gear wheel comprising a main body, and a rim consisting of a series of removable sections mounted on the periphery of the main body, said periphery being bevel in opposite directions from the center, and the contiguo surface of the rim being shaped to fit said beveled su faces, and means for locking the rim against turning on t main body.



2. A gear wheel comprising a main body, and a rim co sisting of a series of sections arranged side by side on t periphery of the main body, said periphery being bevel from its center, and the contiguous surfaces of the ri sections being shaped to fit the beveled surface of the p riphery, means for clamping the rim sections to said be eled surface, and means for locking the rim against tur ing on the main body.

975,744. WHEEL-JOURNAL. WALTER L. BODMAN, Co ington, Ky. Filed June 7, 1909. Serial No. 500,701.



1. A wheel journal, an axle provided with an elongate peripheral groove, a two-part annular abutment, having flange extension upon each side thereof, adapted to se within said annular groove, bearing rings telescopicall engaged over said flanges upon each side of the abutmen to maintain the same in position upon the axle, and separable housing inclosing said abutment and ring an against which the same engages.

2. A wheel journal, an axle provided with an elongate peripheral groove, a two-part annular abutment, having flange extension upon each side thereof, adapted to se within said annular groove, bearing rings telescopicall engaged over said flanges upon each side of the abutmen to maintain the same in position upon the axle, a sleev axle-box within which the axle journals provided with cup-shaped end, a sleeve nut screw-threaded within sai cup-shaped end, and anti-friction rings interposed betwee said abutment and axle-box, and abutment and nut.

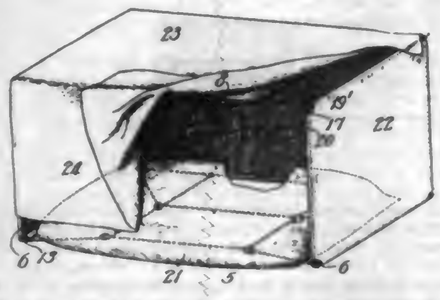
3. A wheel journal, an axle provided with an elongate peripheral groove, a two-part annular abutment, having flange extension upon each side thereof, adapted to se within said annular groove, bearing rings telescopicall engaged over said flanges upon each side of the abutmen to maintain the same in position upon the axle, a sleev axle-box within which the axle journals provided with cup-shaped end, a cup-shaped nut encircling said axle an screw-threaded within said cup-shaped axle-box end, ant friction rings interposed between said abutment and axle box, and abutment and nut, and a packing interposed be tween the anti-friction rings and nut, substantially as an for the purpose specified.

975,745. HEAD-ENVELOP, ROBERT A. BOWER, Chicago Ill. Filed July 1, 1910. Serial No. 569,951.

1. A head-envelop for the purpose set forth, comprisin a collapsible covered frame having folding walls adjustabl into chamber form with an open front and a flexible pillow supporting base, and means for separably fastening to gether the walls and base in their chamber-forming rela tion, the device being adapted to rest upon a couch.

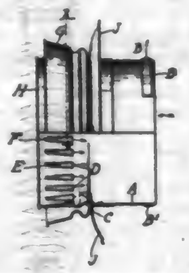
2. A head-envelop for the purpose set forth, comprisin a collapsible covered frame forming folding end, back, to and bottom walls adjustable into chamber form with a

open front, the bottom wall forming a pillow-supporting base, means for separably fastening together said walls in their chamber-forming relation, and a curtain for said open side, the device being adapted to rest upon a couch.



3. A collapsible head-envelop for the purpose set forth, comprising a wire frame composed of a back formed with corner-loops, ends having rear eyes engaging said loops and forward corner-loops, a top having rear eyes engaging corner-loops of the back and forward corner-loops, and a pillow-supporting base formed of flexibly-connected sections, means separably connecting the top and base with the ends at the corner-loops, a cloth covering about said walls and a curtain.

975,746. STOVEPIPE-THIMBLE. JOHN A. BRODIN, Chicago, Ill., assignor to Brodin Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed May 13, 1909. Serial No. 495,644.



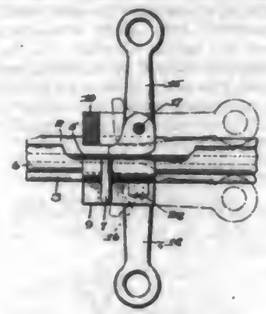
1. A chimney hole thimble open at one end, closed at the other, and having a series of ventilating holes through the sides of the thimble, the thimble having an interior deflector intermediate the holes and the open end of the thimble.

2. A chimney hole thimble open at one end, closed at the other, and having a series of ventilating holes through the sides of the thimble, in combination with an outer laterally projecting flange, the thimble having an interior deflector, both the flange and the deflector being intermediate the holes and the open end of the thimble.

3. A chimney hole thimble open at one end, closed at the other and having a series of ventilating holes through the sides of the thimble the thimble having an interior deflector intermediate the holes and the open end of the thimble, such ventilating holes formed by transversely slitting the body of the thimble and crimping it so as to open such slits and form grooves leading thereto.

4. A chimney hole thimble open at one end, closed at the other, and having a series of ventilating holes through the sides of the thimble, in combination with an outer laterally projecting flange, the thimble having an interior deflector, both the flange and deflector being intermediate the holes and the open end of the thimble, said ventilating holes formed by transversely slitting the body of the thimble and crimping it so as to open such slits and form grooves leading thereto.

975,747. RAILROAD-RAIL ANCHOR. GRANVILLE N. BUZBY, Philadelphia, Pa., and WILLIAM S. HUKILL, Wilmington, Del. Filed Mar. 8, 1910. Serial No. 548,045.



1. In a railroad rail anchor, the combination of a railroad rail; a frame extending on each side of the rail; and an arm pivoted to said frame on one side of the rail, the outer end of said arm being provided with means for receiving a connecting device and the inner end of said arm being arranged to engage and bind against the rail when the outer portion of the arm is moved in one direction longitudinally of the rail and to disengage from the rail when the outer portion of the arm is moved in the opposite direction longitudinally of the rail.

2. In a railroad rail anchor, the combination of a railroad rail; a frame extending on each side of the rail; a pair of arms pivoted to said frame, one on one side of the rail and one on the other side thereof, the inner ends of said arms being arranged to engage and bind against the rail when the outer portions of the arms are moved in one direction longitudinally of the rail and to disengage from the rail when the outer portions of the arms are moved in the opposite direction longitudinally of the rail; and means connecting the outer portions of said arms.

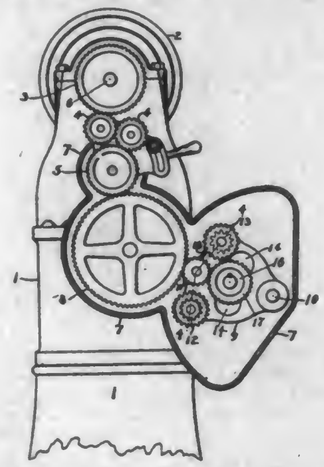
3. In a railroad rail anchor, the combination of a railroad rail; a frame extending on each side of the rail; a pair of arms pivoted to said frame, one on one side of the rail and one on the other side thereof, the inner ends of said arms being arranged to engage and bind against the rail when the outer portions of the arms are moved in one direction longitudinally of the rail and to disengage from the rail when the outer portions of the arms are moved in the opposite direction longitudinally of the rail; a chain extending from the outer portion of one arm and a chain extending from the outer portion of the other arm and connected to the first named chain.

4. In a railroad rail anchor, the combination of a railroad rail having a vertical web and a head; a frame extending over said head and downwardly on each side of said web; and an arm pivoted to said frame on one side of the rail web, the inner end of said arm being arranged to pass under the rail head and engage and bind against the rail web when the outer portion of the arm is moved in one direction longitudinally of the rail and to disengage from the rail web when the outer portion of the arm is moved in the opposite direction longitudinally of the rail.

5. In a railroad rail anchor, the combination of a railroad rail having a vertical web and a head; a frame extending over said head and downwardly on each side of said web; a pair of arms pivoted to said frame, one on one side of the rail web and one on the other side thereof, the inner ends of said arms being arranged to pass under the rail head and engage and bind against the rail web when the outer portions of the arms are moved in one direction longitudinally of the rail and to disengage from the rail web when the outer portions of the arms are moved in the opposite direction longitudinally of the rail; and means connecting the outer portions of said arms.

[Claim 6 not printed in the Gazette.]

975,748. GEARING FOR LATHES. ARTHUR V. CARROLL, Batavia, Ohio. Filed June 3, 1909. Serial No. 499,077.



1. The combination of a driven shaft; a cone of gears fixed thereto; a frame; a gear mounted thereon; a casing pivoted concentrically therewith, a shaft mounted to slide in the casing; a gear fixed to the sliding shaft and adapted to engage with the gears of the cone; a gear mounted on and adapted to drive the shaft but held against movement longitudinally of the shaft; connections whereby said gear may be driven from the gear mounted on the frame; means for adjusting the casing and moving the sliding shaft to bring its fixed gear into mesh with any desired gear of the cone; and means for holding the casing and the sliding shaft in their adjusted positions.

2. The combination of a driven shaft; a cone of gears fixed thereto; a frame; a gear mounted thereon; a casing pivoted concentrically therewith; a driving gear mounted in the casing and adapted to be driven by the first mentioned gear; a shaft mounted to slide in the casing; a gear fixed to the sliding shaft and adapted to engage with the gears of the cone; a gear mounted on and adapted to drive the sliding shaft but held against movement longitudinally of the shaft; connections whereby said gear may be driven from the driving gear; means for adjusting the casing and sliding the shaft to bring its fixed gear into mesh with any desired gear in the cone; and means for holding the casing and the sliding shaft in their adjusted positions.

3. The combination of a driven shaft; a cone of gears fixed thereto; a frame; a gear mounted thereon; a casing pivoted concentrically therewith; a driving gear mounted in the casing and adapted to be driven by the gear on the frame; a shaft slidably mounted in the casing; a gear fixed to the shaft and adapted to engage with the gears of the cone, a gear sleeved and splined on, and adapted to drive the shaft; a bracket pivotally mounted in the casing, having a slot or opening embracing the shaft and movable relatively to the driving gear and the gear which drives the sliding shaft; compound gears so mounted on the bracket that one member of each compound gear may be brought into mesh with the driving gear, and the other member into mesh with the gear which drives the sliding shaft; means for moving the bracket to bring the desired gear into engagement; means for holding the bracket in its adjusted positions; means for adjusting the casing and sliding the shaft to bring its fixed gear into mesh with any desired gear of the cone; and means for holding the casing and the shaft in their adjusted positions.

4. The combination of a driven shaft; a cone of gears fixed thereto; a frame; a gear mounted thereon; a casing pivoted concentrically therewith; a driving gear mounted in the casing and adapted to be driven by the gear on the frame; a shaft slidably mounted in the casing; a gear fixed to the shaft and adapted to engage with the gears of the cone, a gear sleeved and splined on, and adapted to drive, the shaft; a bracket pivotally mounted in the casing, having a slot or opening embracing the shaft and movable relatively to the driving gear and the gear which drives the sliding shaft; an intermediate gear, and compound gears mounted on the bracket; means for moving the bracket to bring the intermediate gear or either compound gear into mesh with the driving gear and the gear which drives the sliding shaft; means for holding the bracket in its adjusted positions; means for adjusting the casing and sliding the shaft to bring its fixed gear into mesh with any desired gear of the cone; and means for holding the casing and the shaft in their adjusted positions.

5. The combination of a driven shaft; a cone of gears fixed thereto; a frame; a gear mounted thereon; a casing pivoted concentrically therewith; a shaft mounted to slide in the casing; a gear fixed to the sliding shaft and adapted to engage with the gears of the cone; a gear sleeved and splined to and adapted to drive the sliding shaft; connections whereby said gear may be driven by the gear on the frame; a plate mounted on the frame, adjacent to the cone, and having a series of holes corresponding in number and position to the gears on the cone; a plate fixed to the casing; a carriage mounted to travel on said plate and attached to the sliding shaft; a pin adapted to engage the carriage with selected holes in the plate attached to the frame; and means for lifting the casing and moving the carriage.

[Claim 6 not printed in the Gazette.]

975,749. CAR-DOOR. HENRY A. CHRISTY, Kenilworth, Ill. Filed Aug. 1, 1910. Serial No. 574,995.



1. In a construction of the character described, the combination of a car door adapted to close the doorway of a railway car, a rail at the bottom of said doorway on which said door is adapted to slide, said door having an opening at its lower edge, and a closure for said opening coöperating with said rail, the latter assisting in maintaining said closure in proper position over the opening, substantially as described.

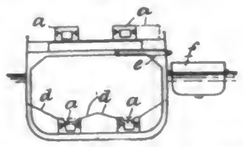
2. In a construction of the character described, the combination of a car door adapted to close the doorway of a railway car, a rail at the bottom of said doorway on which said door is adapted to slide, said door having an opening at its lower edge, a closure for said port coöperating with said rail, the latter assisting in maintaining said closure in proper position over the opening, and an eccentric shaft coacting with said closure to hold the same against the door, substantialy as described.

3. In a construction of the character described, the combination of a car door adapted to close the doorway of a railway car, a rail at the bottom of said doorway on which said door is adapted to slide, said door having an

opening at its lower edge, a closure for said opening adapted to overlap the inside of said rail and at its top edge to overlap the outer side of said door, and means to hold the top portion of said closure against the outer face of said door, substantially as described.

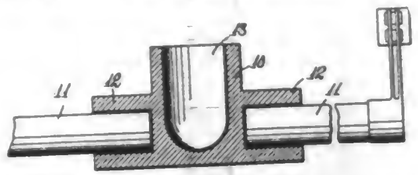
4. In a construction of the character described, the combination of a car door adapted to close the doorway of a railway car, a rail at the bottom of said doorway on which said door is adapted to slide, said door having an opening at its lower edge, a closure for said opening adapted to overlap the inner side of said rail and at its upper portion to overlap the outer side of said door, and an eccentric shaft mounted on the door and adapted to hold the upper portion of said closure against the outer face of the door, substantially as described.

975,750. VESSEL FOR CARRYING BULK CARGO. PEETE BASIL CLARKE, Liverpool, England. Filed June 10, 1910. Serial No. 566,243.



A bulk cargo sea-going vessel provided with longitudinally disposed endless conveyers having upper parts capable of being moved laterally of their length and disposed close to the deck of the vessel, and lower portions disposed longitudinally in the bottom of the vessel, and means for transferring the conveyed cargo to the side of the vessel.

975,751. METHOD OF CHARGING MELTING-FURNACES. MICHAEL R. CONLEY, New York, N. Y., assignor to J. Esdaile Florence, trustee, New York, N. Y. Filed Feb. 14, 1910. Serial No. 543,830.



1. The improved method of melting metals, which consists in producing a metallic cartridge shaped to fit the wall of a melting furnace, loading the charge into the cartridge, and then depositing the cartridge in the furnace.

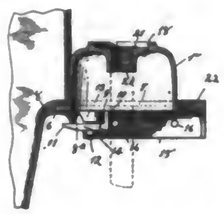
2. The improved method of charging melting furnaces which consists in loading the charge into a meltable cartridge of the same shape and size as the interior of the furnace, and then depositing the cartridge and its charge in the furnace.

3. The improved method of melting metals which consists in inclosing the metal to be melted in a containing cartridge of a known analysis and of a shape to essentially fit the interior of the furnace in which it is to be melted and adapted to contact with the inner walls thereof, and then melting the cartridge and its contents together.

975,752. PUMP-BASE. JOHN J. DIVEKEY, Aurora, Ill. Filed Mar. 30, 1910. Serial No. 552,355.

1. An attachment for sinks, consisting of a plate having a downwardly curved lip along one edge and an upstanding flange at its other edges, a pump-base extending upwardly from said plate and formed integrally therewith, said base having a valve seat, means for attaching a supply pipe and means for attaching a pump thereto, and means for supporting said plate.

2. An attachment for sinks, consisting of a plate having a lip adapted to engage and overhange the end of the sink, and having a portion adapted to form a shelf, a hollow pump-base extending above the plane of said plate and formed integrally with the plate, said base having a valve-seat formed therein, means integral with said base for attaching a supply pipe, and a pump casing, and means for supporting said plate.

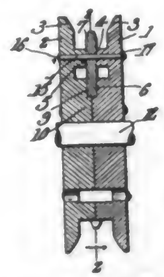


3. An attachment for sinks consisting of a plate forming a shelf having a flange adapted to engage, rest upon and overhang the margin of a sink, a pump-base integrally formed with said shelf and having a valve-seat and a pipe connection, and means for removably connecting said shelf with a sink.

4. An attachment for sinks consisting of a plate forming a shelf having a portion overhanging the end of the sink, a pump-base formed integrally with said plate, means for connecting a pump and a supply pipe to said base, means detachably connecting said plate with a sink, and means for supporting said plate independently of the sink.

5. In a pump base adapted to be attached to a sink, the combination of a plate, a raised pump seat formed integral with the plate, a lip adapted to engage the margin of a sink, stop lugs on the plate coöperating with the said lip to engage the sink margin, an adjustable clamp for the plate, and an attaching flange on the plate.

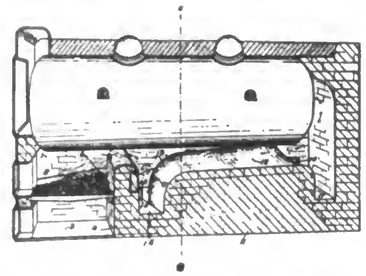
975,753. SPROCKET. WILLIAM DORTON and JOHN S. BOYER, Leadwood, Mo. Filed Apr. 15, 1910. Serial No. 555,633.



1. A sprocket wheel having a disk provided with a beveled periphery, a flange formed with radial slots, and a projecting hub formed with radial slots, the slots of said hub and said flange being in alinement with each other, and a plurality of sprocket members having enlarged heads formed with shoulders bearing against the outer surface of said flange, and shank members fitted into the alined slots of said hub and said flange.

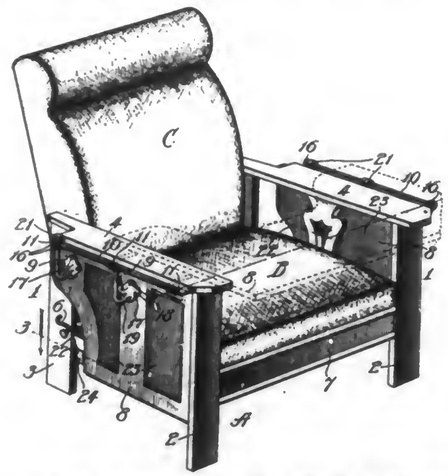
2. A sprocket wheel having a pair of oppositely facing disks each formed at the inner portion of its outer edge with a beveled surface, each of said disks having on its inner face a polygonal flange formed with a plurality of radial slots, and each of said disks also having a projecting hub member formed with a plurality of radial slots in alinement with the slots of said polygonal flange, a plurality of sprocket members each having an enlarged head serving as a sprocket tooth, said head having a pair of flanges bearing against the outer surface of the polygonal flange, each sprocket member having a shank formed integral therewith and extending through one of the pairs of alined slots of the polygonal flange and hub, and a bolt connected with one of said disks and the shank of said sprocket member for securing the same in position.

975,754. FURNACE STRUCTURE. JAMES EGGINS, Ottawa, Ontario, Canada. Filed Dec. 5, 1908, Serial No. 466,180. Renewed Oct. 8, 1910. Serial No. 586,106.



In a furnace structure, the combination with the fire-box and bridge-wall thereof, of a hot-air box embedded in said bridge-wall and extending laterally of said furnace structure and having the rear face thereof flush with the rear face of said bridge-wall and having a plurality of orifices from the rear side thereof toward the top and openings at the lower corners of the front side thereof, flues having an uninterrupted passage and extending direct from the front plate of said furnace structure to the openings in said hot-air box, said flues being inclined upwardly toward said box and having one side thereof exposed to said fire-box and of greater thickness than the remaining sides and a raised bed having a concave upper surface extending over the greater portion of the length of said furnace structure toward the rear thereof dipped downwardly adjacent to said bridge wall and forming an auxiliary combustion chamber between the rear of said bridge-wall and said raised bed.

975,755. TABLE ATTACHMENT FOR CHAIRS. ANTON G. EYLES, Cedar Rapids, Iowa. Filed Mar. 12, 1909. Serial No. 482,991.



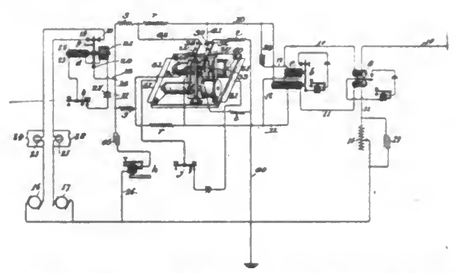
1. In means of the character set forth, the combination with a chair equipped with arms, of bracket arms adjustably connected with the lower surfaces of the chair arms and projecting laterally from the chair arms, said bracket-arms adjustable inwardly and outwardly, rods carried by said bracket arms, a pair of table sections, and bracket arms secured to said table sections and pivotally and slidably connected with said rods, said table-sections adapted to meet and mutually brace each other when swung to a position above the chair.

2. In means of the character set forth, the combination with a chair equipped with arms, bracket arms secured thereto and equipped with rods extending substantially parallel to each other, a pair of table sections, and bracket arms secured to said table-sections and equipped with angular shanks pivotally and slidably connected with said rods, said table sections adapted to meet and mutually brace each other when swung to a position above said chair.

3. In means of the character set forth, the combination with a chair equipped with arms, of bracket arms secured to the lower surfaces of the chair arms and having up-curved extremities located near the outer edges of the chair arms, rods supported by the up-curved extremities of said bracket-arms, table sections normally housed beneath the chair arms, and bracket-arms having base portions secured to the outer surfaces of the upper portions of said table-sections and equipped with shanks having upturned extremities pivotally and slidably mounted on said rods.

4. In means of the character set forth, the combination with a chair equipped with arms, of a pair of table-sections normally housed beneath said arms and pivotally connected therewith, said table-sections having complemental recesses at their rear edges, and locking devices secured to the sides of the chair-frame and normally engaging said table-sections at their recessed portions.

975,756. MULTIPLEX-TELEGRAPH APPARATUS. STEPHEN DUDLEY FIELD, Stockbridge, Mass. Filed Mar. 25, 1910. Serial No. 551,429.



1. In a multiplex telegraph the combination of a main line connecting separated stations, two separate and independent receiving instruments at one station, a transmitter branch, means for rendering said receiving instruments irresponsive to outgoing signals, two identical transmitters, one in the main line, the other in the artificial line, and means for operating said transmitters simultaneously.

2. In a multiplex telegraph, the combination of receiving instruments at one station, receiving instruments at a second station, a main line connecting said stations, a transmitter branch at each station, means for rendering said receiving instruments irresponsive to outgoing signals, a self-adjusting transmitter in each transmitter branch, a pair of identical self-adjusting transmitters at each station and means for operating each pair of transmitters simultaneously.

3. In a multiplex telegraph, the combination of a polarized receiving instrument at each station, a neutral receiving instrument at each station, means for rendering said instruments irresponsive to outgoing current at each station including an artificial line; a transmitter branch at each station, a pole changer in each transmitter branch, and at each station a pair of current varying transmitters, one in the main line and one in the artificial line, and

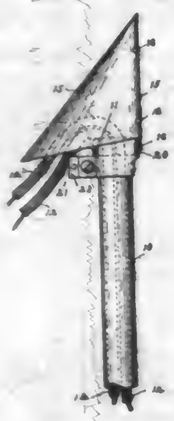
means for operating each pair of transmitters simultaneously.

4. In a multiplex telegraph, the combination at one station of a differential polarized relay, a differential neutral relay, an artificial line, a transmitter branch, a pole changing transmitter in said branch, a current varying transmitter in the artificial line, an identical current varying transmitter in the main line, and means for operating the last named transmitters simultaneously.

5. In a multiple telegraph the combination of a main line, an artificial line, suitable balanced receiving instruments and a self-adjusting transmitter consisting of a pivoted armature bar, a quick-acting magnet, and a slow-acting magnet arranged to move said lever in opposite directions respectively, and a suitable circuit including said magnets.

[Claims 6 to 24 not printed in the Gazette.]

975,757. CONDUIT-HOOD. LOUIS A. FLEURY, JR., Indianapolis, Ind., assignor, by direct and mesne assignments, of one-fourth to Henry C. Dippel, Indianapolis, Ind. Filed Oct. 8, 1909. Serial No. 521,728.



1. A conduit hood comprising a closure, and means for attaching the same to a conduit, all stamped from one piece of metal.

2. A conduit hood comprising a closure, means for attaching the same to a conduit, and a shoulder connecting said closure and attaching means, all composed of an integral structure.

3. A conduit hood comprising a closure, a shoulder extending therefrom, and a collar associated with said shoulder, all comprising an integral structure, the meeting ends of said collar being adapted to be secured together at different points and adjusted to conduits of varying diameters.

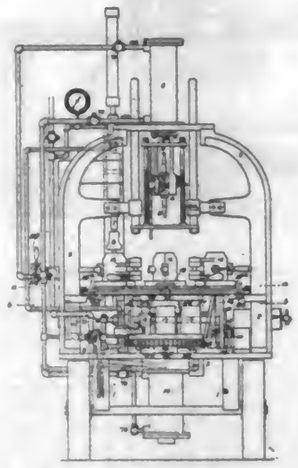
4. A conduit hood comprising an integrally formed closure having meeting ends, a shoulder, and a collar having meeting ends, means for securing the meeting ends of said closure together, and means for adjustably securing the meeting ends of said collar.

5. A conduit hood comprising a closure embodying meeting ends, means for attaching said meeting ends together, a collar embodying adjustably attachable meeting ends, means for securing the ends of said collar together, and a shoulder connecting said closure and collar.

[Claim 6 not printed in the Gazette.]

975,758. GLASS-BLOWING MACHINE. WILLIAM DAYTON FREDRICK, Bridgeton, N. J., assignor to Millville Machine Company, Millville, N. J., a Corporation of New Jersey. Filed June 6, 1905. Serial No. 263,978.

1. In a glass blowing machine, the combination of a rotatable carrier, a series of blow-molds mounted thereon, a second rotating carrier, a series of blank or press-molds mounted therein, means for rotating said second carrier from the first carrier whereby the blank-molds will be brought into registry beneath the blow-molds, sliding bottoms for said blow-molds, means brought into action automatically by the movement of the carrier for withdrawing the same, a cylinder, and a fluid operated piston in said cylinder arranged to move the blank-molds into and out of the blow-molds after such withdrawal.



2. In a glass blowing machine, the combination of a rotatable carrier, a series of blow-molds mounted thereon, a second rotating carrier, a series of blank or press-molds mounted therein, a gear wheel on said press-mold carrier, a gear wheel driven with the blow-mold carrier and meshing therewith whereby the blank molds will be brought into registry beneath the blow-molds, sliding bottoms for said blow molds, means brought into action automatically by the movement of the carrier for withdrawing the same, a cylinder, and a fluid operated piston in said cylinder arranged to move the blank molds into and out of the blow-molds after such withdrawal.

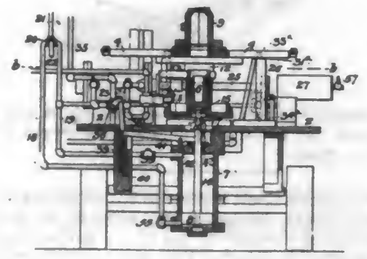
3. In a glass blowing machine, the combination of a rotatable blow-mold carrier having a hub, a central stem or journal upon which said hub rotates, a crank arm journaled on said hub, said carrier having a series of apertures, a pin carried by said crank arm and adapted to enter one of said apertures, means for moving said crank arm in the arc of a circle, and fluid-controlled means for automatically retarding the movement of said crank arm.

4. In a glass blowing machine, the combination of a rotatable blow-mold carrier having a hub, a central stem or journal upon which said hub rotates, a crank arm journaled on said hub, said carrier having a series of apertures, a pin carried by said crank arm and adapted to enter one of said apertures, a spring for raising said pin, a piston rod, means for moving the same, a connection between it and said crank arm for moving the latter in the arc of a circle, and means for automatically retarding the movement of said piston rod.

5. In a glass blowing machine, the combination of a rotating blow-mold carrier having a hub journaled on a central stem, a crank arm journaled on said hub, a pin carried by said crank arm in operative engagement with the carrier at certain times, a reciprocating piston rod, means for moving the same, and a connection between said arm and rod whereby the carrier may be moved by the engagement of the pin when the piston rod is moving in one direction, and means for automatically retarding the movement of said piston rod.

[Claims 6 to 17 not printed in the Gazette.]

975,759. GLASS-BLOWING MACHINE. WILLIAM DAYTON FREDRICK, Bridgeton, N. J., assignor to Millville Machine Company, Millville, N. J., a Corporation of New Jersey. Original application filed June 6, 1905, Serial No. 263,978. Divided and this application filed Dec. 29, 1905. Serial No. 293,858.



1. In a glass blowing machine, the combination of a blow-mold carrier and a press-mold carrier movable in unison to bring a set of their respective molds in registry, means for moving the press-molds into and out of the blow-molds, means for moving the carriers, and means operated by the press-mold operating means for controlling the movement of the carriers.

2. In a glass blowing machine, the combination of a blow-mold carrier and a press-mold carrier movable in unison to bring a set of their respective molds in registry, means for moving the press-molds into and out of the blow-molds, means actuated by fluid pressure for moving the carriers, and means operated by the return of the press-mold operating means for directing the fluid pressure to effect the movement of the carriers.

3. In a glass blowing machine, the combination of a blow-mold carrier and a press-mold carrier movable in unison one by the other to bring a set of their respective molds in registry, a plunger for moving the press-molds into and out of the blow-molds, means for moving the carriers, means controlling movement of the carriers, and means operated by the press-mold operating means for actuating said controlling means.

4. In a glass blowing machine, the combination of a blow-mold carrier and a press-mold carrier movable in unison one by the other to bring a set of their respective molds in registry, a fluid actuated plunger for moving the press-molds into and out of the blow-molds, means actuated by fluid pressure for moving the carriers, a valve controlling the fluid pressure to effect the movement of the carriers, and means operated by the return of the press-mold operating means for shifting said valve.

5. In a glass blowing machine, the combination of a blow-mold carrier and a press-mold carrier movable in unison to bring a set of their respective molds in registry, a plunger for moving the press-molds into and out of the blow-molds, a piston for moving said plunger, means for moving the carriers, means controlling the movement of the carriers, and a lever operatively connected at one end to the controlling means and having its opposite end in line with the press-mold plunger whereby when said plunger returns the controlling means are actuated.

[Claims 6 to 11 not printed in the Gazette.]

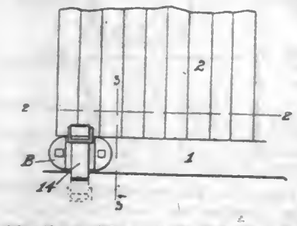
975,760. DOOR-GUARD. OTTO FREYBERG, Leipzig, Germany. Filed July 27, 1909. Serial No. 509,870.

1. A door guard comprising in combination an open-ended tube and means comprising pins projecting in the axial line of the door hinges, said pins engaging the ends of the tube.

2. A door guard comprising in combination an open-ended telescopic tube and means comprising pins projecting in the axial line of the door hinges, said pins engaging the ends of the tube.

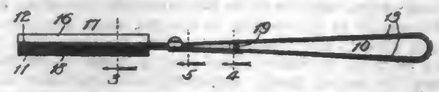


975,761. GUIDE-BRACKET FOR SLIDING DOORS. JOSEPH GAUTHIER, Gorham, N. H. Original application filed Jan. 22, 1910, Serial No. 539,563. Divided and this application filed June 13, 1910. Serial No. 566,577.



The combination with a car, and a door designed to be movably mounted thereon, of a guide bracket comprising a block secured to the car body below the door and having outwardly projecting apertured ears, a wedge plate formed with an elongated slot slidably mounted between said ears and a retaining pin adapted to be passed through said apertured ears and said slotted plate whereby the door is prevented from outward displacement in the normal position of the wedge plate and permitted to be moved outwardly when said plate is moved upwardly and outwardly.

975,762. RAZOR-BLADE HOLDER. FRANK C. GORHAM, Chicago, Ill. Filed Feb. 12, 1910. Serial No. 543,444.



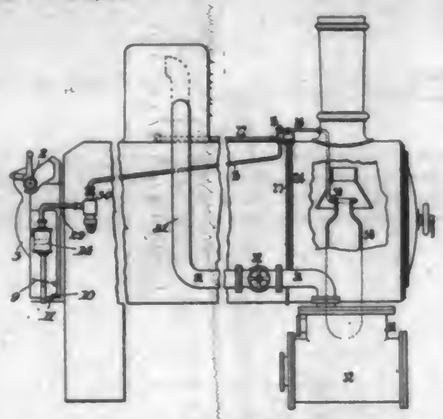
1. A device for holding razor-blades in stropping, comprising two resilient handle-sections and companion razor-blade clamping-members, an abutment on one of said handle-sections between said clamping-members and the end of said sections and engaging the other handle-section when the parts are clamped together, and means for releasably clamping said handle-sections together between said abutment and clamping-members.

2. A device for holding razor-blades in stropping, comprising two resilient handle-sections and companion razor-blade clamping-members, an abutment-forming stud on one of said handle-sections engaging the other handle-section when the parts are clamped together, and a latch pivoted to one of said handle-sections and provided with a

hook having a contracted throat, for releasably clamping the handle-sections together between said abutment and clamping-members.

3. A device for holding razor-blades in stropping, comprising a resilient metal strip bent between its ends to form companion handle-sections and companion razor-blade clamping-members, an abutment-forming stud provided with a shoulder resting against one handle-section to which it is secured, said abutment engaging the other handle-section when the parts are in clamped relation, and a latch pivoted to one end of said stud, and provided with a hook having a contracted throat for releasably clamping the handle-sections together between said abutment and clamping-members.

975,763. BOILER-FURNACE. GUSTAV DE GRAHL, Zehlendorf, near Berlin, Germany. Filed June 30, 1909. Serial No. 505,241.

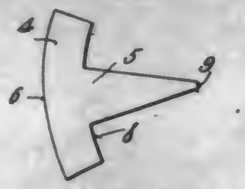


1. In an apparatus for automatically regulating the draft in boiler furnaces the combination of an air duct leading into the fire box of the furnace, a valve in said air duct, adapted to be automatically opened by and in proportion to the vacuum in the fire box, a steam duct, a main blast in said steam duct, a valve for controlling the main blast, an auxiliary steam blast, a second steam duct, means for automatically connecting said auxiliary blast with said second steam duct, when the valve controlling the main blast is being closed, said means serving for disconnecting said auxiliary blast from said second steam duct when said valve controlling the main blast is being opened and means for automatically opening the valve in the air duct when the valve controlling the main blast is closed.

2. In an apparatus for automatically regulating the draft in boiler furnaces the combination of a pair of air ducts leading into the fire box of the furnace, a valve in said air ducts, adapted to be automatically opened by and in proportion to the vacuum in the fire box, a steam duct, a main blast in said steam duct, a valve for controlling the main blast, an auxiliary steam blast, a second steam duct, means for automatically connecting said auxiliary blast with said second steam duct when the valve controlling the main blast is being closed, said means serving for disconnecting said auxiliary blast from said second steam duct when said last named valve is being opened, means for automatically opening the valve in the air duct when the valve controlling the main blast is closed and means for connecting said auxiliary blast and said second steam duct when the valve controlling the main blast is open.

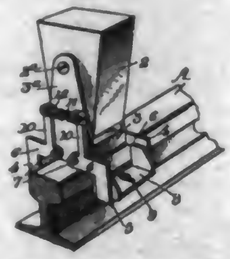
975,764. HEEL-PLATE. EDWARD W. GRAY, Jacksonville, Fla. Filed Aug. 25, 1909. Serial No. 514,616.

A heel plate consisting of a curved head, wedge shaped in cross section and having its outer wedge face disposed at right angles to the driving face of the head, there being a blunted triangular shank projecting from the inner wedge face of the head, toward the center of curvature of the head, and in a common plane with the head, the shank



being triangular in cross section and having its lower edge curved from the lower edge of the head toward the free end of the shank.

975,765. JACK-BLOCK FOR TRACK-LEVELINGS. HARLEY M. HARRIS, Goodwine, Ill., assignor, by mesne assignments, of one-half to Harvey A. Harris, Goodwine, Ill. Original application filed Jan. 14, 1909, Serial No. 472,365. Divided and this application filed Feb. 1, 1910. Serial No. 541,295.



1. A sighting piece for track leveling having a supporting frame adapted to rest upon a rail, and a sighting block pivoted within the frame for a lateral swinging movement, the sighting block below the pivot being weighted.

2. A sighting piece for track leveling comprising a supporting frame adapted to rest upon a rail, a sighting block pivotally supported in the frame for a lateral swinging movement, and a rail-engaging clamp pivotally mounted on the supporting frame.

3. A sighting piece for track leveling having a depending clamp, a spring for forcing said clamp inward against the side of a rail, and a movable jaw mounted in the clamp and inwardly adjustable.

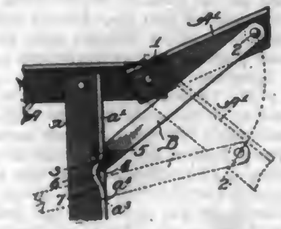
4. A sighting piece for track leveling comprising a frame having a base adapted to rest upon the tread of a rail and provided with upwardly extending ends, a sighting block pivoted between said ends for a lateral swinging movement, said block being weighted below the pivot thereof, rail clamps depending below the base of the frame, one of said clamps being inwardly movable against the face of the rail, and a spring for forcing said clamp inward.

5. A sighting piece for track leveling comprising a supporting frame having a base adapted to rest upon the tread of a rail, said base being provided with upwardly projecting end portions, a sighting block pivoted between said end portions and weighted below its point of pivotal support, opposed U-shaped rail clamping members pivoted on opposite sides of the base and depending below the base, and a spring for forcing one of said clamps into engagement with the side of the rail.

[Claim 6 not printed in the Gazette.]

975,766. LEAF-SUPPORT. THEODORE HAUSER, Chicago, Ill., assignor to The Garvy Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 13, 1909. Serial No. 512,701.

1. In a structure of the character set forth, the combination of a frame having an upright provided with a guide, a cam on said frame flanking said guide and immovable with relation to the frame, a leaf pivotally connected to said frame, a leaf-supporting link pivotally connected to said leaf and provided with a locking shoulder engaging said guide and a laterally projecting part adapted to engage the cam member on the frame, for the purpose set forth.

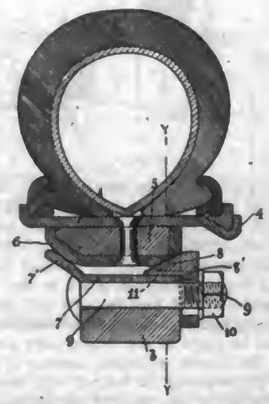


2. In a structure of the character set forth, the combination of a frame having an upright provided with a guide, a stationary locking shoulder, a cam on said frame immovable with relation thereto and flanking said guide, a leaf pivotally connected to said frame, a leaf-supporting link provided with a locking shoulder, and a laterally extending cam-projection carried by the link and adapted to ride on the cam of the frame, for the purpose set forth.

3. In a structure of the character set forth, the combination of a frame having an upright provided with a guide-slot, said upright having the material thereof struck inwardly at one side of said guide-slot to afford a cam-member, a leaf pivotally connected to said frame, and a leaf-supporting link pivotally connected to said leaf and provided at its free extremity with a locking-shoulder, and a lateral cam-member adapted to engage said first-named cam-member, for the purpose set forth.

4. In a structure of the character set forth, a frame having an upright provided with a guide, a cam on said frame flanking said guide and immovable with relation thereto, a leaf pivotally connected with said frame, a leaf-supporting link pivotally connected to said leaf and provided with a locking shoulder engaging said guide and carrying a laterally extending part adapted to engage the cam-member on the frame, the face of said cam-member being so positioned relative to the locking shoulder and cam-engaging member on the link as to cause said link to pass through the guide without engagement of its shoulder therewith when the leaf is dropped from a plane above that of the frame of the structure, for the purpose set forth.

975,767. DEMOUNTABLE WHEEL-RIM. RAYMOND HEALY, Brooklyn, N. Y. Filed Apr. 17, 1909. Serial No. 490,559.

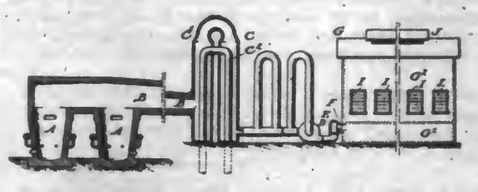


1. In a device of the character described, the combination with a wheel, a felly fixed to said wheel, a demountable tire-holding rim, a felly fixed to said rim, a plurality of transverse metallic bands fixed to said rim felly provided with surfaces at each side inclined to the inner periphery of the felly and clamping means secured to said wheel felly and adapted to engage the inclined surfaces of said transverse bands.

2. In a device of the character described, the combination with a wheel, a felly fixed to said wheel, a demountable tire-holding rim, a felly fixed to said rim, a plurality of transverse metallic bands fixed to said rim and provided with surfaces inclined to the inner periphery of the felly and located opposite said wheel felly, means secured to said wheel felly and adapted to engage said rim felly at one side and a plurality of wedges secured to said wheel felly and adapted to be inserted between said fellies on the opposite side and to engage an inclined surface of said bands.

3. In a device of the character described, the combination with a wheel, a felly fixed to said wheel, a demountable tire-holding rim, a felly fixed to said rim, a plurality of transverse metallic bands fixed to said rim felly and provided with surfaces inclined to the inner periphery of the felly, lugs secured to said bands on both sides of one of said inclined surfaces, means secured to the wheel felly and adapted to engage the inclined surface at one side of said rim felly and clamps secured to said wheel felly and adapted to engage the other inclined surface of said bands, between and in engagement with said lugs.

975,768. APPARATUS FOR MANUFACTURING SUBLIMED WHITE LEAD. LOUIS S. HUGHES, Joplin, Mo., assignor to Picher Lead Company, Joplin, Mo., a Corporation of Missouri. Filed Nov. 19, 1909. Serial No. 528,853.



1. In combination with a furnace or furnaces for producing lead sulfate fume and a system of cooling flues to reduce the temperature of the furnace gases and fume, a screen system consisting of a bag house containing fabric bags into which the gases are led from the flues, said bag house having closed walls and gas exit openings only at its top above the tops of the bags.

2. In combination with a furnace or furnaces for producing lead sulfate fume and a system of cooling flues to reduce the temperature of the furnace gases and fume, a screen system consisting of a bag house containing fabric bags into which the gases are led from the flues, said bag house having closed walls and gas exit openings only at its top above the tops of the bags and means for causing the atmosphere of the bag house to circulate about in the bag house and maintain uniformity of temperature therein.

975,769. PROCESS OF MAKING MANTLES FOR INCANDESCENT GAS-LAMPS. OTTO KAUFMAN, Youngstown, Ohio, assignor to Block Light Company, Youngstown, Ohio, a Corporation of New York. Original application filed Oct. 21, 1905, Serial No. 283,743. Divided and this application filed Nov. 10, 1909. Serial No. 527,152.



1. The process of manufacturing mantles, consisting in forming a tube of fabric, impregnating said fabric with

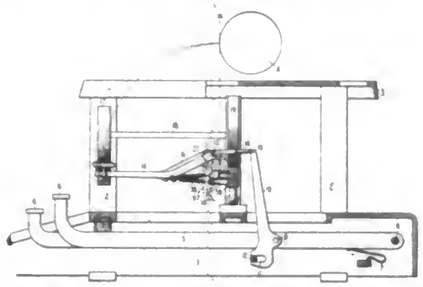
an incandescing material, severing said fabric transversely of its length so as to form a plurality of cut and rounded edges, securing said edges together, and then burning said mantle over a Bunsen burner to set the fabric in its final shape.

2. The process of manufacturing mantles, consisting in forming a tube of fabric, impregnating said fabric with an incandescing material, severing said fabric transversely of its length so as to form a plurality of cut and rounded edges, securing said edges together, subjecting said mantle to the action of a column of burning gas and air emanating from a Bunsen tube to set the fabric in its final shape, and then applying an adhesive and combustible covering to the burned and set fabric.

3. The process of manufacturing mantles, consisting in forming a tube of fabric, impregnating said fabric with an incandescing material, severing said fabric transversely of its length so as to form a plurality of cut and rounded edges, securing said edges together to form seams, turning said mantle inside out and then burning said mantle over a Bunsen burner to set the fabric in its final shape, and stiffen the seams within the mantle.

4. The process of manufacturing mantles consisting in forming a tube of fabric, impregnating said fabric with an incandescing material, severing said fabric transversely of its length so as to form a plurality of cut and rounded edges, securing said edges together, then turning the mantle inside out, then subjecting said mantle to the action of a column of burning gas and air emanating from a Bunsen burner, forming internal stiffened seams, and then applying an adhesive and combustibe covering to the burned and set fabric.

975,770. TYPE-WRITING MACHINE. NELSON F. KNOX, Brooklyn, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed May 24, 1904. Serial No. 209,474.



1. In a front-strike typewriting machine, the combination of a substantially vertically disposed segment, a set of type bars mounted in individual hangers secured at one side of said segment, and another set of type bars mounted in individual hangers secured at the same side of said segment, the pivots of the type bars of one set being contained in a single plane and the pivots of the type bars of the other set being contained in another and different plane, the hangers of the two sets being arranged so that they overlap, and the type bars of one set being bent or recessed near their pivots so that when normally at rest they arch over the tops of the hangers of the other set.

2. In a front-strike typewriting machine, the combination of a substantially vertically disposed segment, a set of type bars mounted in individual hangers at one side of said segment, another set of type bars mounted in individual hangers at the same side of said segment, and screws securing said sets of hangers to said segment, said screws having a staggered arrangement, the screws of one set being arranged between the stems of the hangers of the other set, the type bars of one set being bent or recessed near their pivots so that in normal position they arch over the tops of the hangers of the other set.

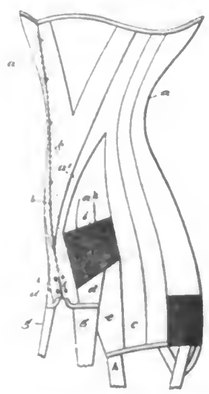
3. In a front-strike typewriting machine, the combination of a substantially vertically disposed segment, a set of type bars mounted in individual hangers at one side of said segment, another set of type bars mounted in individual hangers at the same side of said segment, and means by which the two sets of hangers are secured to the segment, said means having a staggered arrangement, the securing means for one set of hangers being arranged between the stems of the hangers of the other set, said hangers being arranged so that they overlap and the type bars of one set being bent or recessed near their pivots so that in normal position they arch over the tops of the hangers of the other set.

4. In front strike typewriting machine, the combination of a substantially vertically disposed segment, a set of type bars mounted in individual hangers secured at one side of said segment and another set of type bars mounted in individual hangers secured at the same side of the said segment, the pivots of all the type bars of one set being in one substantially vertical plane and the pivots of all the type bars of the other set being in another and different substantially vertical plane, and the bars of one set being bent or recessed near their pivots so that in normal position they arch over the tops of the hangers of the other set.

5. In a typewriting machine, the combination of a segment, a set of type bars mounted in individual hangers secured to the surface of the front face of said segment, and another set of type bars mounted in individual hangers also secured to the surface of the front face of said segment, the pivots of all the type bars of one set being in one substantially vertical plane and the pivots of all the type bars of the other set being in another and different substantially vertical plane, and the bars of one set being bent or recessed near their pivots so that in normal position they arch over the tops of the hangers of the other set.

[Claims 6 to 32 not printed in the Gazette.]

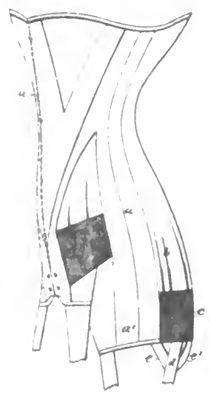
975,771. APPAREL-CORSET. DANIEL KOPS, New York, N. Y. Filed May 13, 1910. Serial No. 561,027.



1. In an apparel corset and in each half thereof at the front, an elastic webbing member at its distant upright edges connected to parts of the fabric body, and the fabric body located wholly on one side of the elastic webbing member divided across the line of tension to permit the elastic webbing member to yield when in use.

2. In an apparel corset and in each half thereof at the front, an elastic webbing member at its distant upright edges connected to parts of the fabric body and the fabric body crossing the elastic webbing member divided on the same side of the webbing to permit the elastic webbing member to yield under tension, and the divided fabric body continued below the elastic webbing member as strap members disconnected from one another and adapted to receive hose supporters connected thereto.

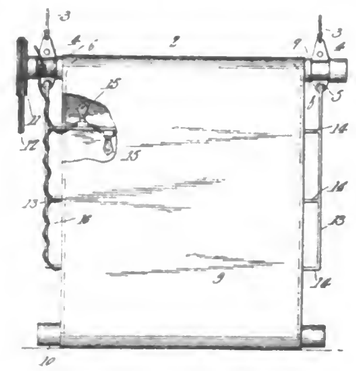
975,772. APPAREL-CORSET. DANIEL KOPS, New York, N. Y. Filed May 13, 1910. Serial No. 561,028.



1. In a long body skirt extension apparel corset and in each half thereof, the combination with an intermediate fabric section, of a fabric body extending below said section and divided at the lower end of said section, providing a substantially rectangular gap and a substantially rectangular elastic webbing section in the back portion of the corset filling this gap and extending slightly above the lower end of the aforesaid intermediate section and at its upright edges secured to the edges of the fabric body and adapted for tension around over the thigh.

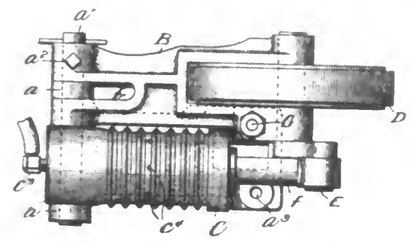
2. In a long body apparel corset and in each half thereof, the combination with an intermediate fabric section, of a skirt extension having its lower edge longer or deeper than the said fabric section and the skirt extension divided and provided with a substantially rectangular gap at the lower end of the said fabric section and a substantially rectangular elastic webbing section in the back portion of the corset filling this gap and at its upright edges secured to the edges of the skirt extension, and the said fabric section continued below the upper edge of the elastic webbing section and coming behind the same, and an elastic webbing hose supporter connected to the lower end of the said fabric section and extending down behind the elastic webbing section.

975,773. SCENIC CURTAIN. FERDINAND FAUNT LE ROY, Hoquiam, Wash. Filed May 28, 1910. Serial No. 563,962.



A curtain structure comprising a supporting pole having sections of reduced diameter, an endless curtain mounted upon said pole, bearings receiving the reduced sections of the pole, means for rotating the pole in said bearings, hoisting cables attached to the said bearings, battens located between the inner and outer runs of the curtain and supported from said bearings, light fixtures mounted upon the battens, and current wires extending from the bearings to said light fixtures.

975,774. TIRE-INFLATING PUMP. CHARLES LEWIS, Auburn, N. Y., assignor of one-half to Henry Wegman, Auburn, N. Y. Filed May 12, 1910. Serial No. 560,991.



1. A tire inflating pump having a main frame, a secondary frame, a crank shaft and actuating wheel carried thereby, and a single bolt or shaft securing the said secondary frame and the cylinder of the pump to the main frame, whereby the said secondary frame and pump cylinder can be detached from the main frame by removing said bolt or shaft.

2. A tire inflating pump having a main frame, a secondary frame, a crank shaft and actuating wheel carried thereby, a piston rod connected to the crank of the crank shaft, and a single bolt or shaft connecting the said secondary frame and the pump cylinder to the main frame whereby the pump cylinder, piston and crank shaft can be detached from the main frame by removing said bolt or shaft.

3. A tire inflating pump having a main frame, a secondary frame carrying an actuating wheel, and an oscillating pump cylinder, the said secondary frame and the pump cylinder being pivoted to the main frame by a single bolt or shaft.

4. A tire inflating pump having a main frame, a secondary frame carrying an actuating wheel and crank shaft, an oscillating pump cylinder, the said secondary frame and the pump cylinder being pivoted to the main frame by a single bolt or shaft, and the said crank shaft being journaled in said secondary frame and connected with the pump piston, whereby the pump cylinder and the said secondary frame can be detached from the main frame by removing the said bolt or shaft.

5. A tire inflating pump having a main frame, a reversible crank shaft, an actuating wheel detachably mounted on said shaft, a pump cylinder, a piston therefor, removably connected with the crank of said shaft and means whereby the said cylinder may be connected to said main frame on the right or left side of the main frame.

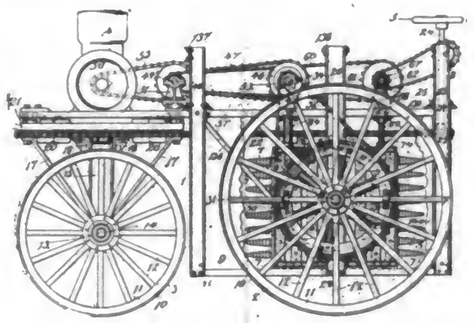
[Claims 6 to 9 not printed in the Gazette.]

975,775. COTTON-HARVESTER. GEORGE LISPENARD, New York, N. Y., assignor to Solomon K. Lichtenstein, trustee, New York, N. Y. Filed Sept. 11, 1906. Serial No. 334,092.

1. In a machine of the class described, the combination of a plurality of pickers and means for supporting and operating the same so that said pickers may be positively given both a rotary and a rectilinear movement longitudinally of and relative to the machine, or only a rotary movement.

2. In a machine of the class described, a plurality of pickers mounted in parallel rows, means for causing said pickers in each row to rotate in unison, an extended shaft in one of said pickers, a worm gear on said shaft, a worm meshing with said gear, means for supporting said worm perpendicular to said row of pickers, and means for rotating said worm.

3. In a machine of the class described, a plurality of pickers mounted in parallel vertical rows, a housing for each row of pickers, spindles mounted in said housings and supporting said pickers, one spindle for each picker, means for causing said spindles to rotate in unison independently of the movement of said housings, means for supporting said housings, and means for moving said housings.



4. In a machine of the class described, a plurality of pickers and means for supporting the same, means independent of the movement of the machine for giving said pickers a rotating movement, and means for giving said pickers a movement from front to rear of the machine when said pickers are in their operative position.

5. In a machine of the class described, a plurality of pickers mounted in parallel vertical rows and means for supporting the same, means for causing each row of pickers to move from front to rear of the machine while said pickers are in their operative position at the same velocity at which the machine moves forward, and means for rotating said pickers independently of the movement of the machine.

[Claims 6 to 28 not printed in the Gazette.]

975,776. BRUSH. SAMUEL B. MCHENRY, Chicago, Ill. Filed May 11, 1910. Serial No. 560,629.



1. A brush comprising a channel member having perforations in its sides; bristles in said channel member with both of their ends projecting therefrom; and a securing member placed in said channel over the central portions of said bristles, the said securing member having side projections passed through said perforations and clenched against the outer sides of said channel member, substantially as described.

2. A brush comprising a channel member having perforations in its sides and downwardly and outwardly inclined ends; bristles in said channel member with both of their ends projecting therefrom; and a securing member placed in said channel over the central portions of said bristles and said securing member having side projections passed through said perforations and clenched against the outer sides of said channel member, the end projections having an upward and inward inclination, substantially as described.

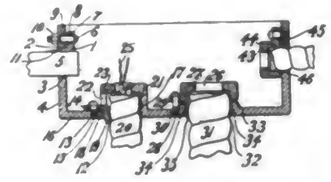
3. A brush comprising a channel member having downwardly and outwardly inclined flanges provided with perforations therein and downwardly and outwardly inclined ends; bristles in said channel member with both of their ends projecting therefrom; and a securing member placed in said channel over the central portions of said bristles, the said securing member having side projections passed through said perforations and clenched against the outer sides of said channel member, the end projections having an upward and inward inclination, substantially as described.

4. A brush comprising a metallic channel member having perforations in its sides; bristles in said channel member with both of their ends projecting therefrom; and a securing member placed in said channel over the central portions of said bristles, the said securing member consisting of an inner wooden strip and an outer metallic plate, the said plate being provided with side projections passed through said perforations and clenched against the outer sides of said channel, substantially as described.

5. A brush comprising a metallic channel member having perforations in its sides and downwardly and outwardly inclined ends; bristles in said channel member with both of their ends projecting therefrom; and a securing member placed in said channel over the central portions of said bristles, the said securing member consisting of an inner wooden strip and an outer metallic plate, the said plate being provided with side projections passed through said perforations and clenched against the outer sides of said channel, the said projections being in channel form with upwardly projecting flanges at the inner portions of each of their sides and the outer of said projections being upwardly and inwardly inclined, substantially as described.

[Claim 6 not printed in the Gazette.]

975,777. ATTACHMENT FOR ELECTRICAL CONDUITS. ADNAH MCMURTRIE, New York, N. Y., assignor to Thomas & Betts Company, New York, N. Y., a Corporation of New York. Filed Apr. 25, 1907. Serial No. 370,117.



1. The combination with a plate apertured to pass an electrical conductor and an armor sheath therefor, of an attaching member comprising a wedge and means to move said wedge through said plate co-axially with respect to said sheath to force the latter into binding engagement with the opposite wall of said aperture, substantially as described.

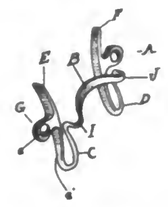
2. An attaching member for the purpose set forth, comprising a wedge to enter a sheath-receiving aperture in an outlet box between said sheath and the wall of said aperture, and means to drive said wedge through said wall co-axially with respect to said sheath, to force said sheath into direct physical and electrical contact with the opposite wall of said aperture, substantially as described.

3. An attaching member for the purpose set forth; comprising a wedge to enter a sheath-receiving aperture in the wall of an outlet box between said sheath and the wall of said aperture, means to drive said wedge through said wall co-axially with respect to said sheath, to force said sheath into direct physical and electrical contact with the opposite wall of said aperture, and a sheath-end-housing carried by said wedge.

975,778. SPECTACLE-MOUNTING. PAUL MOEWS, Detroit, Mich. Filed July 18, 1908. Serial No. 444,259.

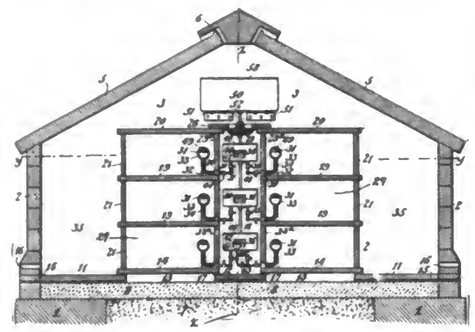
A lens mounting comprising a saddle bridge having reflexed end portions, elongated vertical loops, and lens

braces, the loops and reflexed portions being bendable and positioned to permit a relative lateral adjustment be-



tween the braces and bridge and vertical rocking movement of the latter to compensate for the adjustment.

975,779. MAUSOLEUM. THOMAS J. MOORE, New York, N. Y. Filed July 23, 1910. Serial No. 573,556.

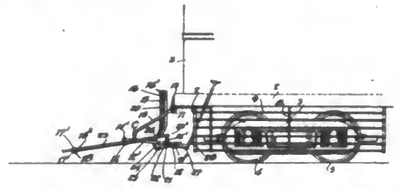


1. In a mausoleum adapted for the reception of a plurality of bodies, the combination of catacombs arranged in series of tiers, each series spaced apart a predetermined distance, a tank for holding a disinfectant supported at one end of the said space and outside the catacombs on a line with each tier, pipes extending from each tank and running horizontally outside the catacombs, each catacomb being provided with an interior recess and groove extending therefrom to its exterior, branch pipes from the aforesaid pipes entering each catacomb through said groove, and cups connected to the ends of said pipes within the catacombs, said cups being contained within said interior recesses and adapted to hold disinfecting material supplied from said tanks and conveyed through said pipes and cocks in the respective pipes by means of which the supply of the disinfectant to each catacomb may be regulated.

2. In a mausoleum adapted for the reception of a plurality of bodies, the combination of catacombs arranged in series of tiers, each series spaced apart a predetermined distance which space is closed at the front and back forming an air space between the series of catacombs, a tank for holding a disinfectant supported outside said air space, pipes extending from said tank through openings in the back wall of said air space and running horizontally outside the catacombs within said air space, branch pipes extending horizontally from the aforesaid pipes and bent up at right angles within said air space, receptacles connected at the upper ends of such branch pipes for holding disinfecting material, and cocks in said branch pipes for turning on or off the supply of said disinfectant.

3. In a mausoleum adapted for the reception of a plurality of bodies, the combination of catacombs arranged in series of tiers, each series spaced apart a predetermined distance, a tank for holding a disinfectant supported at one end of the space between the series of catacombs and outside the same on a line with each tier, pipes extending from each tank and running horizontally outside the catacombs, branch pipes from the aforesaid pipes entering each catacomb through an opening in its rear, cups at the ends of said branch pipes within the catacombs adapted to hold disinfecting material supplied from said tanks and conveyed through said pipes, and a reservoir from which each of the aforesaid tanks is supplied with a disinfectant.

975,780. CAR-FENDER. JOHN MILFORD MOORHOUSE, Winnipeg, Manitoba, Canada. Filed June 2, 1910. Serial No. 564,645.



1. In a car fender the combination with a car, of a set of forwardly extending and united supporting rods detachably secured to the car, a swingable bail pivotally carried by one of the rods, a tiltable fender resting on the swingable bail and automatic means for tilting the fender, as and for the purpose specified.

2. In a car fender, the combination with a car, of a set of supporting rods passing forwardly therefrom and which are united, said rods being releasably secured to the car, a swingable bail pivotally secured to the extending ends of one of the rods, a tiltable fender resting on the bail, a suitably supported feeler bar having a portion thereof extending forwardly of the fender, and means actuated by the feeler bar for tilting the fender, as and for the purpose specified.

3. In a car fender the combination with a car, of an upper and a lower rod connected together and detachably secured to the car and having their ends extending forwardly, a swingable bail having its ends directed upwardly and pivotally secured to the extending ends of the lower rod, a fender resting on the bail, a feeler bar supported forwardly by the fender and means secured to the rear ends of the feeler bar adapted to tilt the fender when the feeler bar is moved rearwardly, as and for the purpose specified.

4. In a car fender the combination with a car, of an upper and a lower supporting rod connected together and releasably secured to the car, said rods having their ends extending forwardly, a swingable bail having upwardly directed ends pivotally secured to the extending ends of the lower rod, a fender resting on the said bail and carrying a roller at its forward edge, a crank shaft carried by the lower rod, a feeler bar passing forwardly of the fender and supported thereby, the ends of said bar being pivotally secured to the crank shaft, and means connecting the crank shaft with the fender to tilt the same when the feeler bar is moved backwardly, as and for the purpose specified.

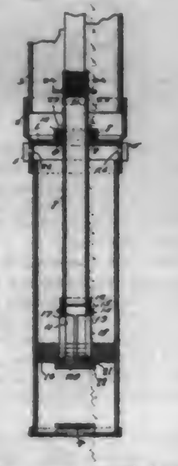
5. In a car fender the combination with a car, of an upper and lower rod connected together and releasably secured to the car and having their ends extending forwardly, a swingable bail having upwardly directed ends pivotally secured to the extending ends of the lower rod, a fender resting on the swingable bail and carrying forwardly a roller, a rotatable crank shaft secured to the lower rod and having its crank ends upwardly directed, a feeler bar extending forwardly of the fender and supported thereby, said feeler bar having its ends pivotally secured to the crank ends of the crank shaft, arms extending forwardly from the crank shaft and links pivotally secured to the arms and to the sides of the fender, as and for the purpose specified.

[Claim 6 not printed in the Gazette.]

975,781. SUBMERGED DOUBLE-ACTING PUMP. ANDREW P. MORRIS, Snyder, Tex. Filed May 21, 1910. Serial No. 562,778.

1. In a double acting pump provided with a barrel and a lead pipe; a sleeve connecting said lead pipe and said

barrel, a perforated cap having left threads screwed into said sleeve and closing the passage between said barrel and lead pipe and having an upwardly projecting nipple, a stuffing box cap provided with right threads screwed on said nipple, a leather washer interposed between said nipple and its cap, lugs formed on said stuffing box cap, a tubular piston rod moving through said first mentioned cap, bits carried by said piston rod for engaging said lugs, said piston rod having discharge ports above said caps, a spool attached to the lower end of said piston rod, a piston head carried by and movable on said spool, and intake valves for said barrel.



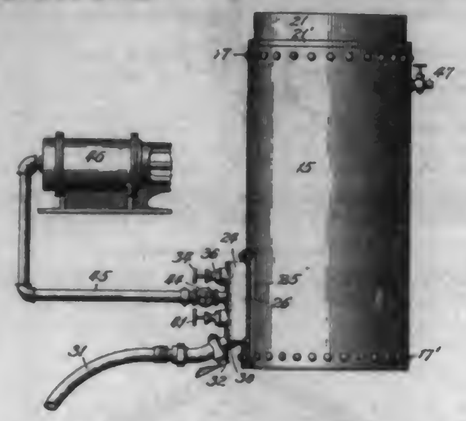
2. In a double acting pump provided with a barrel and a lead pipe; a sleeve connecting said lead pipe and said barrel, a perforated cap having left threads screwed into said sleeve and closing the passage between said barrel and said lead pipe and having an upwardly projecting nipple, a stuffing box cap provided with right threads screwed on said nipple, a leather washer interposed between said nipple and its cap, lugs formed on said stuffing box cap, a tubular piston rod moving through said first mentioned cap, bits carried by said piston rod for engaging said lugs, said piston rod having discharge ports above said caps, a piston carried by said piston rod, provision for admitting water into said piston rod above said piston, and intake valves for said barrel above and below said pistou.

3. In a double acting pump provided with a barrel and a lead pipe; a sleeve having a reduced portion and connecting said lead pipe and said barrel, a perforated cap closing the passage between said barrel and said lead pipe, a tubular piston rod moving through said cap and provided with discharge ports above said cap, a stuffing box for said piston rod attached to said cap, a piston head, a spool attached to said piston rod and carrying said piston head, said piston head being movable on said spool, an intake valve for the lower end of said barrel, and pocket intake valves for the upper end of said barrel, each consisting of a casing having an intake port in the lower part thereof and a recess in one side, a ball valve normally closing said port and moving into said recess during an inflow of water, a guard for directing said valve into said recess, and a nipple integral with said case screwed into said sleeve.

975,782. SAND-BLAST APPARATUS. WILLIAM P. MOTT, Chicago, Ill. Filed Oct. 9, 1909. Serial No. 521,908.

1. In a device of the class described, a sand chamber having an opening in its top wall, a valve to control said opening, a cross arm carrying the valve, and inclined guides for the ends of the cross arm.

2. In an apparatus of the character described, the combination with a chamber containing a cleaning or scouring material, of an outlet conduit for said material, two compressed air supply conduits for controlling the discharge of material from said chamber to said outlet conduit, and means for relatively varying the supply of compressed air through said two conduits and thereby regulating the discharge of material from said chamber to said outlet conduit.



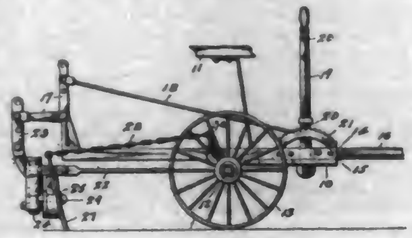
3. In an apparatus of the character described, the combination with a chamber containing a cleaning or scouring material, of an outlet conduit for said material, two compressed air supply conduits for controlling the discharge of material from said chamber to said outlet conduit, valves separately controlling said compressed air supply conduits for relatively varying the supply of compressed air therethrough and thereby regulating the force and proportions of air and material discharged from said chamber through said outlet conduit.

4. In an apparatus of the character described, the combination with a chamber containing a cleaning or scouring material, of an outlet conduit from said chamber, a compressed air supply conduit projecting into said chamber and directed toward said outlet conduit, and means for controlling the flow of compressed air through said supply conduit.

5. In an apparatus of the character described, the combination with a chamber adapted to contain a cleaning or scouring material, of an outlet conduit from said chamber, a compressed air supply conduit projecting into said chamber and directed toward said outlet conduit, a second compressed air supply conduit communicating with said outlet conduit adjacent said chamber, and means for relatively varying the supply of compressed air through said air supply conduits, thereby regulating the discharge of the material from said chamber through said outlet conduit.

[Claims 6 to 12 not printed in the Gazette.]

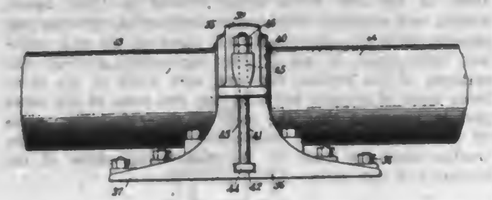
975,783. ROAD-MACHINE. HARRISON B. MOULTHROP and HENRY C. MOULTHROP, Conneautville, Pa. Filed Mar. 10, 1910. Serial No. 548,431.



1. The combination with a wheeled frame embodying a vertically adjustable part, means to adjust the same, and upstanding slotted posts adjacent the sides thereof, the adjustable part having a depending post, of a scraper blade arranged transversely of the frame, an intermediate plate having a portion journaled upon said post and to which said blade is vertically adjustably secured, and chains extending from blade for engagement with said slotted frame posts to secure said blade in selected angular adjustment upon said post.

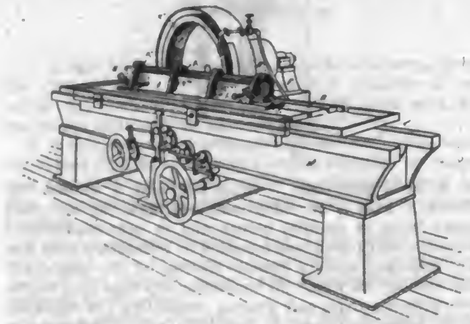
2. The combination of a frame comprising a platform, an axle secured thereto and projecting therefrom at its ends, wheels journaled upon the axle ends, a U-shaped frame in the rear of the platform, having its ends journaled upon said axle between the wheels and said platform, and means to raise and lower said U-shaped frame, a scraper blade vertically and angularly adjustable upon and below, said U-shaped frame, and means to secure said blade in selected angular and vertical adjustment.

975,784. CYLINDER-MOUNTING FOR CARRIAGE-FEEDS. CLAYTON PITTINGER MYER, Houston, Tex. Filed May 4, 1910. Serial No. 559,247.



The combination, with a carriage feed having a fluid pressure cylinder, a piston therein, and a piston rod associated with said piston and adapted to be connected to the carriage, of a cylinder mounting comprising a bearing rotatably supporting said cylinder, and having means for clamping upon said cylinder to hold the same in any desired rotated position.

975,785. ATTACHMENT FOR FLAT-SURFACE GRINDING-MACHINES. MARTIN JOHN NEUMUTH, New York, N. Y. Filed Jan. 29, 1910. Serial No. 540,786.

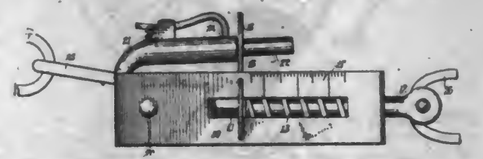


1. An attachment for grinding machines having a revoluble cup wheel and a carriage mounted to travel across the face of the wheel, comprising a vertical support adapted to be fastened to the carriage, a face plate pivoted at its upper end to the upper end of the said support to hold the article to be ground by the said wheel at a desired angle to the grinding face of the wheel, means for adjusting the face plate toward and from the support, means for locking the face plate in the adjusted position on the said support, and a pointer and scale for indicating the angular position of the said face plate relative to the grinding surface of the grinding wheel.

2. An attachment for grinding machines having a revoluble cup wheel and a carriage mounted to travel across the face of the wheel, comprising a vertical support adapted to be fastened to the carriage, a face plate pivoted at its upper end to the upper end of the said support to hold the article to be ground by the said wheel at a desired angle to the grinding face of the wheel, a slotted foot engaging the lower free end of the face plate, and a screw passing through the slot of the foot into the face plate, whereby the foot may be held projected beyond the face plate or flush therewith.

3. An attachment for grinding machines having a revoluble cup wheel and a carriage mounted to travel across the face of the wheel, comprising a vertical support adapted to be fastened to the carriage, a face plate pivoted at its upper end to the upper end of the said support to hold the article to be ground by the said wheel at a desired angle to the grinding face of the wheel, adjusting screws screwing in the said support, a ball and socket connection between the end of each bolt and the said face plate, arms having segmental slots and attached to the ends of the face plate, and clamping bolts on the said support and engaging the said arms.

975,786. CLEVIS. NELS A. NIEMIE, McKenzie, N. D. Filed Apr. 6, 1910. Serial No. 553,714.



1. A clevis comprising a frame, a pull rod on the frame, a clevy bar hingedly mounted on the frame, a locking plate secured to the pull rod and adapted to slide on the frame, with the said clevy bar removably engaging the plate, and means on the clevy bar for adjusting the same.

2. A clevis comprising a frame, a pull rod on the frame, an adjustable clevy bar hingedly mounted on the frame, a locking plate secured to the pull rod and adapted to slide on the frame, with the said clevy bar removably engaging the plate, and spring-controlled means in the clevy bar for adjusting the length of the same.

3. A clevis comprising a U-shaped frame, a pull rod on the frame, a clevy bar hingedly mounted on the frame, a locking plate secured to the pull rod and adapted to slide in the frame, with the said clevy bar removably engaging the plate, and spring-controlled means on the clevy bar for adjusting the length of the same.

4. A clevis comprising a U-shaped frame, a spring-controlled pull rod on the frame, a clevy bar hingedly mounted on the frame, a locking plate secured to the pull rod and adapted to slide on the frame, with the clevy bar removably engaging the plate, and means on the clevy bar for adjusting the same.

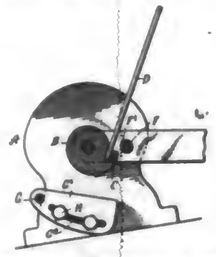
5. A clevis comprising a U-shaped frame, a spring-controlled pull rod on the frame, an adjustable clevy bar hingedly mounted on the frame, a locking plate secured to the pull rod and adapted to slide on the frame, with the clevy bar removably engaging the plate, and spring-controlled means on the clevy bar for adjusting the same.

[Claims 6 to 8 not printed in the Gazette.]

975,787. BENDING-MACHINE. EMIL THEODORE PALMENBERG, New York, N. Y. Filed Feb. 4, 1910. Serial No. 542,046.

1. A bending machine, comprising a fixed mandrel having an upper cylindrical face, and a longitudinally extending shoulder at one side of the mandrel provided with a recess opening at the top of the shoulder at the inner side thereof and forming a seat extending lengthwise on the peripheral face of the mandrel to receive the ends of the rods to be bent, the inner wall of said recess merging into the upper cylindrical face of the mandrel, and a lever fulcrumed on the ends of the fixed mandrel and having a bar adjacent to said mandrel and extending parallel thereto, the said bar being adapted to engage the rods to bend the same around the cylindrical upper surface of the mandrel on imparting a swinging motion to the lever.

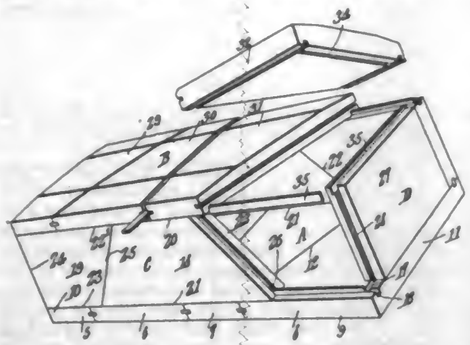
2. A bending machine comprising a fixed mandrel having an upper cylindrical face and a longitudinally extending shoulder at one side provided with a recess opening at the top of the shoulder at its inner edge and forming a seat extending lengthwise on the peripheral face of the mandrel to receive the ends of the rods to be bent, the inner wall of said recess merging into the upper cylindrical face of the mandrel, the said mandrel having reduced ends, a double armed lever fulcrumed on the reduced ends of the mandrel and having a bar extending parallel to the mandrel and adapted to engage the rods to bend the same around the cylindrical upper surface of the mandrel on imparting a swinging motion to the lever, and an abutment bar parallel to the mandrel, and located, on the side of the mandrel opposite the side having the said seat, for engagement by the said rods on bending the latter around the mandrel.



3. A bending machine, comprising a fixed mandrel having a seat extending lengthwise on the peripheral face of the mandrel to receive the ends of the rods to be bent, a lever having a bar extending parallel to the said mandrel and adapted to engage the rods to bend the same around the mandrel on imparting a swinging motion to the said lever, an abutment bar parallel to the mandrel and located on the side of the mandrel opposite the one having the said seat, for engagement by the said rods on bending the latter around the mandrel, and adjustable arms carrying the said abutment bar.

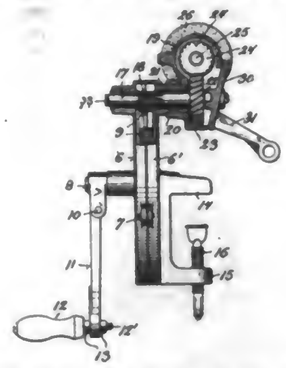
4. A bending machine, comprising a frame, a mandrel fixed on the said frame and having a seat extending lengthwise along one side of the mandrel at the peripheral face thereof to receive the ends of the rods to be bent and to hold the rods in a tangential position relative to the mandrel, a lever fulcrumed on the said mandrel and provided with a bar extending parallel to the said mandrel and spaced from the same, an abutment bar having slotted arms, and bolts for adjustably fastening the said arms to the said frame to hold the abutment bar in position.

75,788. VAULT. HERBERT L. PANGBORN, Maquoketa, Iowa. Filed July 27, 1909. Serial No. 509,819.



A burial vault having a bottom wall, a top wall, side walls, and end walls, the said bottom wall consisting of a plurality of sections fitted together edge to edge and having their said edges formed with registering grooves, the upper faces of the said sections being each formed with a groove parallel and adjacent to each side edge, the said grooves at each side of the said bottom wall registering at their ends, each of the said side walls of the vault consisting of a plurality of sections formed in their lower edges with grooves registering with the grooves in the upper faces of the sections of the bottom wall, the top wall also consisting of a plurality of sections disposed at their side edges upon the upper edges of the sections of the side walls of the vault and formed in their under faces adjacent and parallel to their side edges with grooves, the upper edges of the sections of the side walls of the vault being formed with grooves registering with the said grooves in the under faces of the sections of the top wall of the vault, the end walls of the vault consisting each of a single section formed in its upper, lower and side edges with grooves, the end sections of the bottom wall, the end sections of the top wall, and the end sections of the side walls being formed in their upper, under, and opposed faces respectively with grooves registering with the grooves in the edges of the end walls, and bars fitted in all of the registering grooves, the sections of the bottom, top, and side walls of the vault being each of greater width at one end than at the other and so arranged that the ends of the registering edges of the sections of the side walls will be out of registration with the ends of the registering edges of the bottom and top walls.

975,789. GEARING. THOMAS A. PANTARD, Milwaukee, Wis. Filed July 2, 1910. Serial No. 570,059.



1. A main gear-case, a drive-axle and a spindle for which said case is provided with bearings, the axle and spindle being in parallel planes and in gear-connection; a supplementary gear-case mounted in connection with the main gear-case upon a spindle-bearing of the same, another spindle for which the supplementary gear-case is provided with bearings, and gearing connecting the spindles.

2. A main gear-case, a drive-axle and a spindle for which said case is provided with bearings, the axle and spindle being in parallel planes and in gear-connection; a supplementary gear-case in rotary adjustable connection with a spindle-bearing of the main gear-case, means for holding the supplementary gear-case in adjusted position, another spindle for which said supplementary gear-case is provided with bearings, and gearing connecting the spindles.

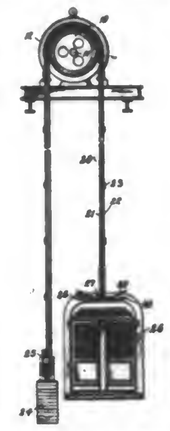
3. A main gear-case, a drive-axle, and a spindle for which said case is provided with bearings, the axle and spindle being in parallel planes and in gear-connection; a supplementary gear-case mounted in connection with the main gear-case and having a bearing-arm extension, another spindle arranged to turn in the auxiliary gear-case and said arm of same beyond which it extends, and gearing connecting the spindles.

4. A main gear-case, a drive-axle and a spindle for which said case is provided with bearings, the axle and spindle being in parallel planes and in gear-connection; a supplementary gear-case mounted in connection with the main gear-case upon a spindle-bearing of same and provided with a centering stud engaged by said spindle, another spindle for which the supplementary gear-case is provided with bearings, and gearing connecting the spindles.

5. A separable main gear-case, a drive-axle and a spindle for which said case is provided with bearings, the spindle being shouldered and longitudinally milled upon its greatest circumference adjacent to its bearing portion of least diameter to provide a spur-pinion, a spur-wheel on said axle in mesh with said pinion, a supplementary gear-case mounted in connection with a main gear-case section upon a spindle-bearing of the same, a spindle for which the supplementary gear-case is provided with bearings, and gearing connecting the spindles.

[Claim 6 not printed in the Gazette.]

975,790. MULTIPLE METALLIC BELT FOR TRACTION-ELEVATORS. CHARLES O. PEARSON, New York, N. Y. Filed Nov. 25, 1908. Serial No. 464,417.



1. A belt comprising a flat flexible metallic strip, brackets affixed thereto at intervals, and a plurality of narrower flat metallic strips superimposed upon said first mentioned strip within said brackets.

2. A belt comprising a flat flexible metallic strip, brackets affixed thereto at intervals, and a plurality of thinner and narrower flat metallic strips superimposed upon said first mentioned strip and loosely held thereon by said brackets.

3. In a traction elevator, a car, a belt connected therewith, said belt comprising a plurality of superimposed parallel flat metallic strips, and independent fastenings for each of the strips.

4. In a traction elevator, a car, a belt connected therewith, said belt comprising a plurality of superimposed parallel flat metallic strips, and independent means for adjusting the tension on each of the strips.

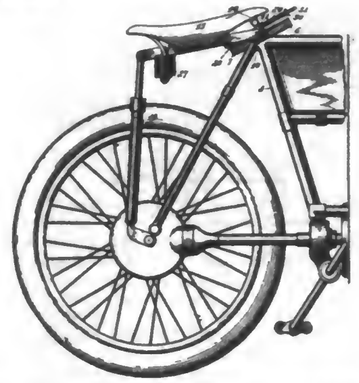
5. In a traction elevator, a car, a belt connected therewith, said belt comprising a plurality of superimposed parallel flat metallic strips, and independent adjustable fastenings for each of the strips.

[Claims 6 to 15 not printed in the Gazette.]

975,791. SADDLE-SUPPORT. EMERSON H. PINKHAM, New York, N. Y. Filed July 1, 1910. Serial No. 569,893.

1. The combination of a cycle frame, a downwardly and rearwardly-inclined guide carried by the frame, cushion posts fulcrumed to swing forwardly and rearwardly, saddle-supporting members carried on the posts and slidable on the guide, a shock-absorbing spring forcing the said members forwardly, and a recoil spring forcing the said members rearwardly.

2. The combination of a cycle frame, a downwardly and rearwardly-inclined guide carried by the frame, a cushion post fulcrumed on the frame to swing forwardly and rearwardly, and a saddle slidably supported at its forward portion on the guide and supported at the rear thereof from the post.



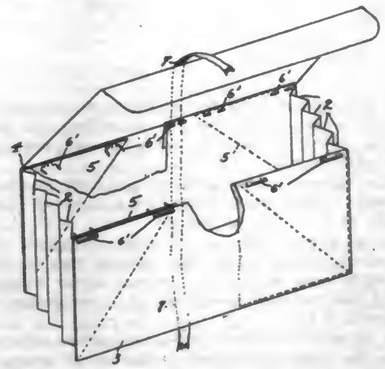
3. The combination of a cycle frame, a guide carried by the frame, cushion posts fulcrumed on the frame to swing forwardly and rearwardly, a slide seating on the guide, and saddle-supporting bars connected to the posts and to the slide.

4. The combination of a cycle frame, a downwardly and rearwardly-inclined guide carried by the frame, a cushion post fulcrumed on the frame to swing forwardly and rearwardly, a slide seated on the guide, a saddle-supporting member connecting the post to the slide, and a shock-absorbing spring normally forcing the guide forwardly.

5. The combination of a cycle frame, a downwardly and rearwardly-inclined guide carried by the frame, a slide seated on the guide, a rod fixed relatively to the guide and passing through the slide, a shock-absorbing spring arranged on the rod and forcing the guide forwardly, a recoil spring arranged on the rod and forcing the guide rearwardly, the rod having a nut for adjusting the tension on the spring, a cushion post fulcrumed to the frame to swing forwardly and rearwardly, and a saddle-supporting bar connecting the guide to the post.

[Claims 6 to 10 not printed in the Gazette.]

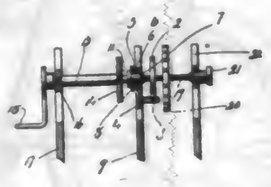
975,792. EXPANSION-ENVELOP. REINHART W. PITTMAN, New York, N. Y. Filed Feb. 16, 1910. Serial No. 544,236.



An expansion envelop embodying a flap, bottom and end plaits, envelop sides, triangular corner folds and an inner reinforce folded down over two contiguous corner

folds, all integral with the material of the plaits, combined with a second reinforce separate from the flap and folded down over the remaining two corner folds, and means for securing the parts together.

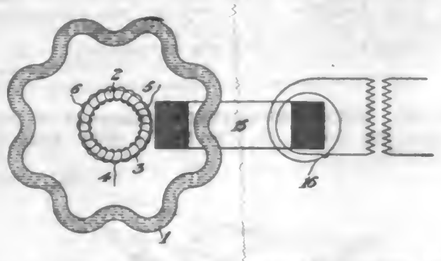
975,793. REGULATOR FOR CLOCKS. WILSON E. PORTER, New Haven, Conn., assignor to New Haven Clock Co., New Haven, Conn., a Corporation. Filed Sept. 6, 1910. Serial No. 580,665.



1. In a regulator for clocks, the combination with a balance-spring, of a regulator-loop engaging with the spring, an oscillating-plate in which the said loop is mounted, coupling-studs mounted in the said plate, a coupling-piece receiving the said studs, a shaft secured at its inner end to the said coupling-piece by means of which it is coupled with the regulator-plate, and means applied to the outer end of the shaft for operating the same.

2. In a regulator for clocks, the combination with a balance-spring, of a regulator-loop engaging with the said spring, an oscillating-plate in which the said loop is mounted, coupling studs mounted in the said oscillating-plate and formed with coupling-pins, a coupling-piece receiving the said coupling-pins, a shaft upon the inner end of which the coupling-piece is mounted, and means applied to the opposite ends of the shaft for oscillating the same.

975,794. ELECTRIC FURNACE WITH MAGNETICALLY-ROTATED CHARGE. HENRY NOEL POTTER, New Rochelle, N. Y., assignor to George Westinghouse, Pittsburg, Pa. Filed July 25, 1904. Serial No. 217,054.



1. In a furnace, means for producing a rotatory magnetic field within a chamber for containing the molten metal, the molten metal chamber being traversed by induced electric current.

2. In a furnace, an alternating induction stator having a space within which molten metal adapted to serve as a rotor therefor may be located.

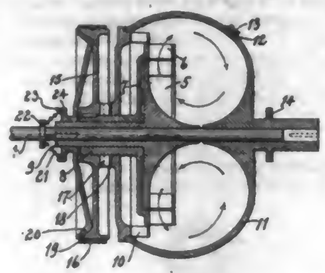
3. In an electric furnace, a stator having a space within which molten conducting material may be placed in operative relation thereto, the said stator acting inductively through said space through a constantly varying magnetic field.

4. In an electric furnace, the combination with a receptacle for fused conducting material, of means for producing an alternating inductive field arranged in operative proximity thereto and means for causing a magnetization progressive in space of the said field.

5. An electric furnace comprising a space for receiving a bath of molten material and means for producing a rotating alternating magnetic field through the space within which the molten material is to be located.

[Claims 6 to 11 not printed in the Gazette.]

975,795. HYDRAULIC POWER-TRANSMITTING APPARATUS. CARLTON R. RADCLIFFE, New York, N. Y., assignor, by mesne assignments, to The Scientific Research Co., New York, N. Y., a Corporation of New York. Filed Oct. 21, 1908. Serial No. 458,871.



1. In a hydraulic power transmitting apparatus, the combination with a primary turbine wheel, of a plurality of secondary turbine wheels adapted to rotate independently of each other and of said primary wheel, and means for locking together all of said wheels or some of said wheels at will.

2. In a hydraulic power transmitting apparatus, the combination with a primary turbine wheel, of a plurality of secondary turbine wheels adapted to rotate independently of each other and of said primary wheel, means for locking together all of said wheels or some of said wheels at will, and means for arresting the rotation of one of said secondary wheels to reverse the direction of rotation of another of said secondary wheels.

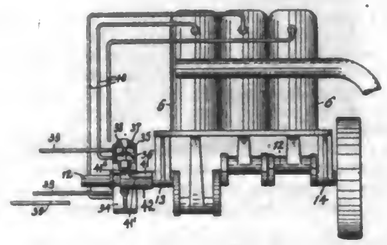
3. In a hydraulic power transmitting apparatus, the combination with a driving member, of a driven member, a primary turbine wheel secured to said driving member, a secondary turbine wheel attached to said driven member, a second secondary turbine wheel interposed between said primary and said first secondary wheel, and means whereby the operating liquid is directed through the passages of said interposed secondary wheel or through the passages of both of said secondary wheels at will.

4. In a hydraulic power transmitting apparatus, the combination with a driving member, of a driven member, a primary turbine wheel secured to said driving member, a secondary turbine wheel attached to said driven member, a second secondary turbine wheel interposed between said primary and said first secondary wheel and adapted to be locked to said driven member, means for arresting the rotation of said interposed secondary wheel at will, and means whereby the operating liquid is directed through the passages of said interposed secondary wheel, whereby the driven member rotates in the direction of rotation of the driving member, or directed through the passages of both of said secondary wheels, whereby the rotation of the driven member is reversed relatively to said driving member when the interposed secondary wheel is locked against rotation.

5. In a hydraulic power transmitting apparatus, the combination with a driving member, of a longitudinally shiftable driven member, a primary turbine wheel secured to said driving member, a secondary turbine wheel attached to said driven member, a second secondary turbine wheel interposed between said primary and said first secondary wheel, means adapted to lock said secondary wheels together, whereby the driven member is rotated in the direction of rotation of the driving member, means for arresting the rotation of said interposed secondary wheel, and means producing the longitudinal movement of said driven member, whereby the passages of the said secondary wheels register, reversing thus said driven member when said interposed secondary wheel is locked against rotation.

[Claims 6 to 13 not printed in the Gazette.]

975,796. INTERNAL-COMBUSTION ENGINE. CARLTON R. RADCLIFFE, New York, N. Y., assignor to The Scientific Research Co., New York, N. Y., a Corporation of New York. Filed June 30, 1909. Serial No. 505,203.



1. In an internal combustion engine, the combination with the cylinders of an engine having inlets through which pure air is supplied to the same, of a single means for forming an overrich mixture of air and hydrocarbon under pressure, and means common to all of the cylinders of the engine adapted to direct the flow of said mixture to said cylinders during a predetermined time between the end of the exhaust stroke and the point of ignition.

2. In an internal combustion engine, the combination with the cylinders of an engine having inlets through which pure air is supplied to the same, of a single means for forming an overrich mixture of air and hydrocarbon under pressure, and means common to all of the cylinders of the engine adapted to direct the flow of said mixture to said cylinders in an order in which the same are firing.

3. In an internal combustion engine, the combination with the cylinders of an engine having inlets through which pure air is supplied to the same, of a mixing chamber, means for furnishing an overrich mixture of air and hydrocarbon under pressure to said mixing chamber, a communication between each cylinder and said chamber, and means adapted to control said communications between said chamber and said cylinders.

4. In an internal combustion engine, the combination with the cylinders of an engine having inlets through which pure air is supplied to the same, of a mixing chamber, means for furnishing an overrich mixture of air and hydrocarbon under pressure to said mixing chamber, a communication between each cylinder and said chamber, a valve in each communication, and means for operating said valves.

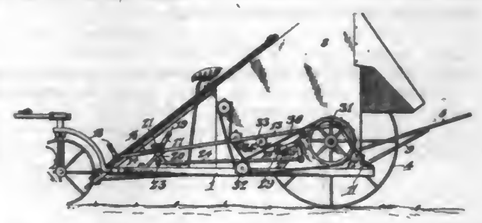
5. In an internal combustion engine, the combination with the cylinders of an engine having inlets through which pure air is supplied to the same, of a mixing chamber, means for furnishing an overrich mixture of air and hydrocarbon under pressure to said mixing chamber, a communication between each cylinder and said chamber, a valve in each communication, and a cam for operating said valves.

[Claims 6 to 35 not printed in the Gazette.]

975,797. CORN-HARVESTER. BENJAMIN ERNEST REED, Goldsboro, Md. Filed Aug. 31, 1909. Serial No. 515,462.

1. A machine of the class described including a dumping table or platform, an endless carrier located in advance of the dumping table or platform, and manually operable means for simultaneously dumping the table or platform and for operating the endless carrier.

2. A machine of the class described including a frame, a dumping table or platform extending rearwardly from the frame, an endless carrier located in advance of the dumping table or platform and extending entirely across the frame, said endless carrier being normally stationary, and means for simultaneously dumping the table or platform and for operating the endless carrier.



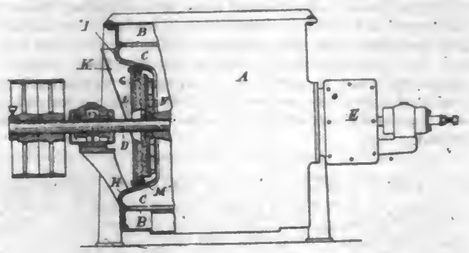
3. A machine of the class described including a dumping table or platform, an endless conveyer located in advance of the same, gearing for operating the endless carrier, and manually operable means for dumping the table or platform and for throwing the gearing into mesh to operate the endless carrier simultaneously with the dumping of the table or platform.

4. A machine of the class described including a dumping table or platform elevated with respect to the frame, an inclined endless carrier extending downwardly and forwardly with respect to the dumping table or platform, and means for simultaneously dumping the table or platform and for operating the endless carrier.

5. A machine of the class described including a dumping table or platform, an endless carrier located in advance of the dumping table or platform, gearing for operating the endless carrier having an element movable into and out of mesh, a manually operable lever, and connections between the same and the dumping table or platform and the said element for simultaneously dumping the table or platform and for moving the said element into mesh to operate the endless carrier.

[Claims 6 to 16 not printed in the Gazette.]

975,798. MACHINE FOR TREATING PULP. HALLVARD BERTRAND SÆTER, Stavanger, Norway. Filed Mar. 1, 1910. Serial No. 546,712.



1. The combination with a cylindrical strainer and means for throwing pulp against the same, of a refiner, and means to feed the unstrained pulp to the refiner.

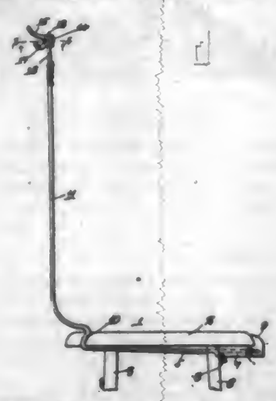
2. In combination with a strainer having a cylindrical straining surface and wings throwing pulp against the same of a refiner means to feed the material not brought to pass through the strainer plate to the refiner and means to feed the material treated by the refiner back to the strainer.

3. A combined strainer and refiner having a common shaft carrying the wings of the strainer and the moving member of the refiner, the stationary member of the refiner being mounted in the end wall of the strainer and a channel connecting the peripheral part of the interior of the strainer with the central part of the refiner, the peripheral part of the refiner freely communicating with the interior of the strainer at a point between the center and the periphery.

4. A machine for treating pulp comprising a casing having a lateral discharge aperture, a cylindrical screen

mounted in the casing, beater blades revoluble within the screen, an annular grinding member, a rotary grinding member coöperating with the latter and a chute to convey pulp discharged from the discharge aperture to the aperture in the annular grinding member.

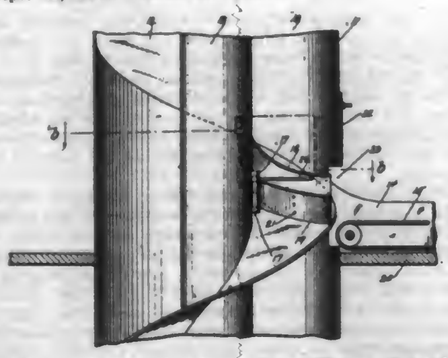
975,799. GARMENT-RACK. JOSEPH C. SASSENBERG, Chicago, Ill. Filed July 15, 1910. Serial No. 572,109.



1. The combination with a chair of a garment rack, said rack being formed of a single piece of wire which is bent back on itself, the ends of said wire extending under the seat of said chair, said ends being formed adjacent their extremities with engaging jaws, a movable jaw adjustably mounted upon said extremities of said ends, said movable jaw co-acting with said before mentioned jaws to clamp said rack to said seat, an upwardly extending portion, and a garment supporting hook at the upper end of said upwardly extending portion, substantially as described.

2. The combination of a garment rack, said rack being formed of a single piece of wire which is bent back on itself, the ends of said wire being downwardly divergent and extending under the seat of said chair where they are brought together and extended forwardly parallelly to each other, said ends being formed with jaws engaging the rear portion of said seat at either side, a movable jaw adjustably mounted upon the extremities of said ends, said movable jaw coacting with said before mentioned jaws to clamp said rack to said seat, an upwardly extending portion, and a garment supporting hook at the upper end of said upwardly extending portion, substantially as described.

975,800. DEFLECTOR FOR GRAVITY-CONVEYERS. MARTIN C. SCHWAB, Chicago, Ill., assignor to Gravity Conveyor Company, a Corporation of New York. Filed Apr. 23, 1908. Serial No. 428,703.



1. In a conveyer, the combination with a casing, of a core therein, an inclined conveying surface between the core and casing, and a deflector plate having a hinge connection intermediate its ends to the core.

2. In a conveyer, the combination with a casing formed with an opening therein, of a core within the casing, an inclined conveying surface between the core and casing, and a deflector plate having a hinge connection intermediate its ends to the core and movable into position to deflect articles from said surface out of the opening.

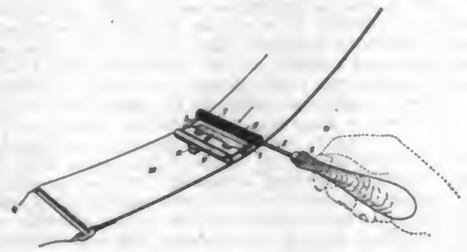
3. In a conveyer, the combination with a casing, of a core, a conveying surface, and a deflector hinged intermediate its ends and movable into position to extend from the core to the casing.

4. In a conveyer, the combination with a vertical casing formed with a discharge opening therein, of a core, a spiral conveying surface, and a vertically disposed deflector plate hinged intermediate its ends and movable into position with its inner edge in contact with the core and its outer edge in contact with the casing at the side of said opening.

5. In a conveyer, the combination with a casing, of a core, a conveying surface, a deflector plate having a hinge connection intermediate its ends to the core, and an operating arm extending from the hinge to a point outside the casing.

[Claims 6 to 11 not printed in the Gazette.]

975,801. RAZOR-STROPPING DEVICE. WILMER HENRY SHATTUCK, Bridgewater Corners, Vt., assignor of one-third to Leonard Samuel Bradley, White River Junction, Vt., and one-third to Henry Ellsworth Vaughan, Brooklyn, N. Y. Filed June 14, 1910. Serial No. 566,735.



1. In a razor stropping device, a rod, a roller mounted for rotating on the rod, pins secured to the roller, a razor blade holder pivoted to the pins, and a spring means for holding the razor blade holder yieldingly relative to the roller.

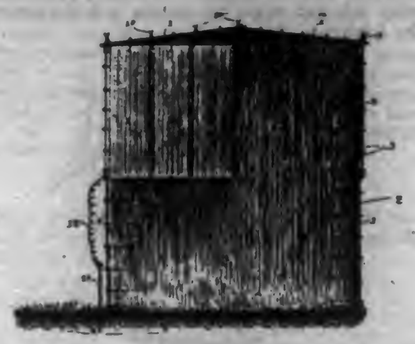
2. In a razor stropping device, a rod, a roller mounted for rotating on the rod, pins secured to the roller, a razor blade holder pivoted to the pins, a razor blade secured in the holder, the razor blade holder being weighted for holding the edge of the razor upward, and a spring means connecting the razor blade holder and the roller.

3. In a razor stropping device, a rod, a roller mounted for rotating on the rod, pins secured to the roller, a razor blade holder pivoted to the pins, a leaf spring secured to the roller and disposed longitudinally thereof, and a member connecting the spring and the razor blade holder.

4. In a razor stropping device, a rod, a roller mounted for rotating on the rod, pins secured to the roller, a razor blade holder pivoted to the pins, the razor blade holder having two members, with flanges pivoted together, a spring for pressing the members toward each other, and lugs on one of the flanges, which are normally disposed in openings in the companion flange.

5. In a razor stropping device, a rod, a roller mounted for rotating on the rod, pins secured to the roller, having split resilient terminals, a razor blade holder, and pivots secured to the razor blade holder having flattened surfaces disposed between the split sides of the pins respectively.

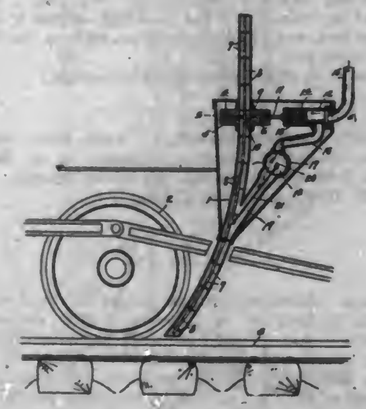
975,802. STACK-COVER. CHARLES B. SHEDD, Chicago, Ill. Filed Feb. 3, 1910. Serial No. 541,867.



1. In a stack cover, a plurality of interchangeably elongated rectangular sections arranged in rows on the stack, and securing means therefor, each section being corrugated longitudinally and provided with a series of perforations adjacent the edges thereof adapted to engage said securing means, the latter consisting of pins adapted to pierce the stack, substantially as described.

2. In a stack cover, a plurality of elongated metallic sections arranged in rows on the top, sides and end of the stack and securing means therefor, each section being corrugated longitudinally and provided with a series of symmetrically arranged perforations adjacent the edges thereof adapted to engage said securing means, the latter consisting of pins having looped heads and barbed ends, substantially as described.

975,803. TRACK-SANDER. WILLIAM HENRY SMITH, Connellsville, Pa. Filed July 25, 1910. Serial No. 573,610.



1. In a track sander, the combination of a sand pipe communicating with a lateral passage, agitating means mounted within the sand pipe so as to reciprocate therein, a rod entering the sand pipe through the lateral passage and having an operative connection with the agitating means, and means coöperating with the rod to reciprocate the agitating means.

2. In a track sander, the combination of a sand pipe, agitating means mounted within the sand pipe, a turbine, an air pipe leading from the exhaust of the turbine to one side of the sand pipe, and a rod arranged within the air pipe, the said rod producing an operative connection between the turbine and the agitating means within the sand pipe.

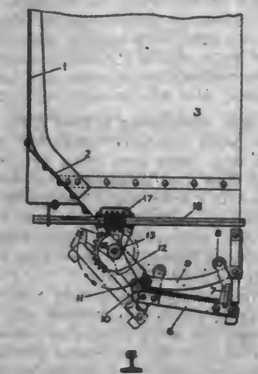
3. In a track sander, the combination of a sand pipe, a valve for the sand pipe, and agitating means arranged within the sand pipe, the said agitating means being constructed independent of the valve and extending upon both sides of the same.

4. In a track sander, the combination of a sand pipe, a jointed agitating rod mounted within the sand pipe so as to reciprocate therein, a turbine wheel, and an operative connection between the turbine wheel and the jointed agitating rod.

5. In a track sander, the combination of a sand pipe, and a jointed agitating rod arranged within the sand pipe, the various joints of the agitating rod having axes at angles to each other.

[Claims 6 to 13 not printed in the Gazette.]

975,804. DUMPING-DOOR FOR RAILWAY-CARS. EDGAR W. SUMMERS, Pittsburg, Pa. Filed Nov. 13, 1909. Serial No. 527,812.



1. A railway dump car comprising a body provided with a bottom discharge opening, a bodily movable door therefor, supports upon which said door moves and arranged to lower one edge of the door as it moves to open position, and a crank connected to the other edge of the door and serving to support said edge when the door is closed and to lift said edge as the door moves to open position.

2. A railway dump car comprising a body provided with a bottom discharge opening, a bodily movable longitudinal door therefor closing toward the center line of the car, supports upon which said door moves, and a crank connected to the outer edge of the door and serving to support said edge when the door is closed and also as a means for opening and closing the door.

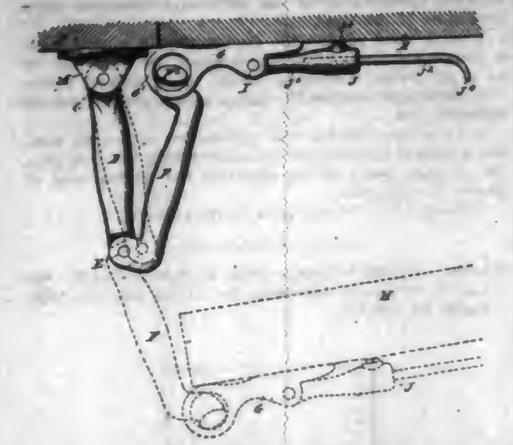
3. A railway dump car comprising a body provided with a bottom discharge opening, a bodily movable longitudinal door therefor closing toward the center line of the car, a hanger connected to each end of the door, supports upon which said hangers move, and a crank connected to the outer edge of the door and serving to support said edge when the door is closed and also as a means for opening and closing the door.

4. A railway dump car comprising a body provided with a bottom discharge opening, a bodily movable longitudinal door therefor closing toward the center line of the car, a roller on each end of the door, tracks on which said rollers move, and a crank connected to the outer edge of the door and serving to support said edge when the door is closed and also as a means for opening and closing the door.

5. A railway dump car comprising a body provided with a bottom discharge opening, a bodily movable door therefor, supports upon which said door moves, a crank connected directly to the edge of the door at each end thereof, a shaft provided with said cranks, and means for rotating said shaft.

[Claims 6 to 20 not printed in the Gazette.]

975,805. DOOR-CHECK. JACOB SOTER, Jersey City, N. J. Filed Aug. 3, 1910. Serial No. 575,301.



1. A door check, comprising a door arm, a door jamb arm, the arms being pivotally connected with one another, and the door jamb arm being pivoted to a door jamb while the door arm is adapted for detachable pivotal connection with a door, and a locking device for holding the said arms in locked position at the time the door is closed, the said locking device being attached to the door and adapted to engage the door arm at its pivotal connection with the door jamb arm.

2. A door check, comprising a door arm, a door jamb arm, the arms being pivotally connected with one another, and the door jamb arm being pivoted to a door jamb while the door arm is adapted for detachable pivotal connection with a door, and a locking bar pivoted to the door and having a hook adapted to engage the door arm at its pivotal connection with the door jamb arm.

3. A door check, comprising a door arm, a door jamb arm, the arms being pivotally connected with one another, and the door jamb arm being pivoted to a door jamb while the door arm is adapted for detachable pivotal connection with a door, a locking bar pivoted to the door and having a hook adapted to engage the door arm at its pivotal connection with the door jamb arm, and a spring engaging the heel of the said locking bar to hold the bar in either locked or unlocked position.

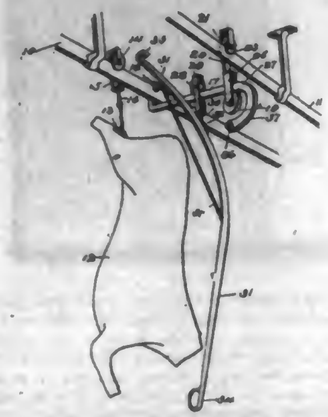
4. A door check, comprising a door arm, a door jamb arm, the arms being pivotally connected with one another, and the door jamb arm being pivoted to a door jamb, while the door arm is adapted for detachable pivotal connection with a door, and a locking bar pivoted to the door and having a hook adapted to engage the door arm at its pivotal connection with the door jamb arm, the said locking bar being made in sections one adjustable on the other.

5. A door check, comprising a door arm, a door jamb arm, the arms being pivotally connected with one another, and the door jamb arm being pivoted to a door jamb, while the door arm is adapted for detachable pivotal connection with a door, a locking bar pivoted to the door and having a hook adapted to engage the door arm at its pivotal connection with the door jamb arm, the said locking bar being made in sections one adjustable on the other, and a spring engaging the heel of the pivotal end of the said locking bar to hold the bar in either locked or unlocked position.

975,806. BEEF-JACK. AMOS B. TERRIL and MICHAEL CANNING, Denver, Colo. Filed Jan. 26, 1910. Serial No. 540,258.

1. In a device of the class described, the combination with adjacent parallel rails, of a cross rail having a rigid hook at one end for engaging one rail, and a trolley at the opposite end for engaging the opposite rail.

2. The combination with adjacent rails, of a cross rail having a hook at one end adapted to engage one of the rails, a trolley at the opposite end adapted to engage the opposite rail, and means for placing and displacing the trolley relative to the rail.



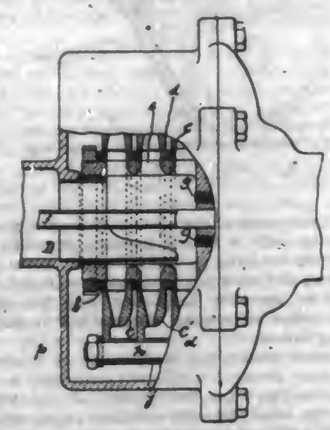
3. The combination with adjacent rails, of a cross rail, means at one end of the cross rail for engaging one of the rails, a trolley at the opposite end of the cross rail adapted to engage the other rail, such trolley embodying a sheave having one flange of greater diameter than the other.

4. The combination with adjacent rails, of a cross rail having means at one end for engaging one of the rails, a trolley disposed at the opposite end of the rail and embodying one flange greater in diameter than the other flange, and means for placing and displacing the trolley relative to the rail.

5. The combination with adjacent tracks, of a cross track having means at one end for engaging a rail, a trolley at the other end of the cross rail adapted to engage the other rail, and pivotal connection between the trolley and the cross rail.

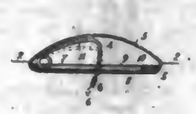
[Claims 6 to 18 not printed in the Gazette.]

975,807. GRINDING-MILL. KARL OTTO SAMUEL THORS, Stockholm, Sweden, assignor to A. Karlson Metall & Maskin Aktiebolag, Stockholm, Sweden. Filed Oct. 27, 1909. Serial No. 524,864.



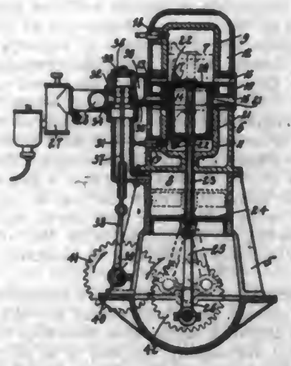
In combination with a fixed cylinder provided with an inlet opening in its side and grinding mechanism secured to an inner wall thereof, rotary grinding mechanism within said casing comprising a rotary cylinder having an open end and openings in its periphery and provided with grinding disks, and a horizontal chute fixed in said inlet opening in a fixed cylinder and extending into the end opening into said rotary cylinder and having an inwardly extending tapering scoop-form portion arranged parallel to and slightly above the bottom of the interior of said cylinder, the inclination of its edges approximating that of the body of the material which enters through said chute but low enough to permit this material to spill over said sides substantially as set forth.

975,808. BUTTON. NELS TWEET, Hillsboro, N. D., assignor of one-half to Jorgen Howard, Hillsboro, N. D. Filed Feb. 25, 1910. Serial No. 545,909.



A button, comprising a hollow body portion, and a spring wire member disposed within said hollow body, and having a coil section, extended legs, an arch, and a shank extended from said arch provided with an eyelet disposed beyond said body portion.

975,809. INTERNAL-COMBUSTION ENGINE. THOMAS VEITCH, Dumont, N. J., assignor to The Scientific Research Co., New York, N. Y., a Corporation of New York. Filed May 18, 1909. Serial No. 496,842.



1. In a double acting internal combustion engine, the combination with a plurality of working cylinders, of a piston operating in each cylinder and dividing the same into two combustion chambers, a pump cylinder located co-axially with each working cylinder, a single acting piston operating in each pump cylinder and being rigidly connected with its corresponding working piston, and a communicating passage from all of said pump cylinders to all of said combustion chambers.

2. In a double acting internal combustion engine, the combination with a plurality of working cylinders, of a piston operating in each cylinder and dividing the same into two combustion chambers, a pump cylinder located coaxially with each working cylinder, a single acting piston operating in each pump cylinder, a piston rod connecting each pump piston with its corresponding working piston, and a communicating passage from all of said pump cylinders to all of said combustion chambers.

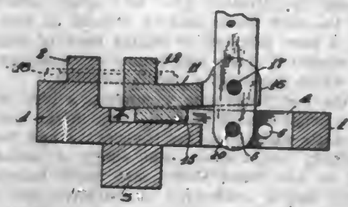
3. In a double acting internal combustion engine, the combination with a plurality of working cylinders, of a piston operating in each cylinder and dividing the same into two combustion chambers, a pump cylinder located coaxially with each working cylinder, a single acting piston operating in each pump cylinder and being rigidly connected with its corresponding working piston, a supply chamber adapted to communicate with all of said pump cylinders, a distributing chamber, a passage for each pump cylinder leading from said distributing chamber to said pump cylinder, means in each passage for controlling the communications between said supply chamber and pump cylinder and said pump cylinder and distributing chamber, and a piston controlled passage leading from each combustion chamber to said distributing chamber.

4. In a double acting internal combustion engine, the combination with a plurality of working cylinders, of a piston operating in each cylinder and dividing the same into two combustion chambers, a pump cylinder located coaxially with each working cylinuer, a single acting piston operating in each pump cylinder and being rigidly connected with the corresponding working piston, a supply chamber adapted to communicate with all of said pump cylinders, a distributing chamber, a passage for each pump cylinder leading from said distributing chamber to said pump cylinder, a single valve in each passage for controlling the communications between said supply chamber and pump cylinder and said pump cylinder and distributing chamber, and a piston controlled passage leading from each combustion chamber to said distributing chamber.

5. In a double acting internal combustion engine, the combination with a plurality of working cylinders, of a piston operating in each cylinder and dividing the same into two combustion chambers, a pump cylinder located coaxially with each working cylinder, a single acting piston operating in each pump cylinder and being rigidly connected with the corresponding working piston, a supply chamber adapted to communicate with all of said pump cylinders, a distributing chamber, a passage for each pump cylinder leading from said distributing chamber to said pump cylinder, mechanically operated means in each passage for controlling the communications between said supply chamber and pump cylinder and said pump cylinder and distributing chamber, and a piston controlled passage leading from each combustion chamber to said distributing chamber.

[Claim 6 not printed in the Gazette.]

975,810. HORSESHOE-SPREADER. CHRISTIAN VESTERGAARD, Chicago, Ill. Filed Mar. 28, 1910. Serial No. 552,091.



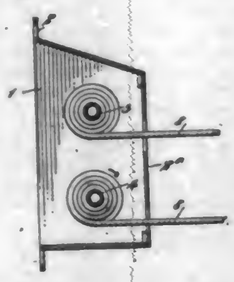
1. In a device of the class described, the combination with a body member of a horn projecting therefrom; a lever pivoted in said body member; and a draft member connected with said lever and provided with a horn adapted to coöperate with said first mentioned horn to spread a horseshoe, substantially as described.

2. In a device of the class described, the combination with a body member of a horn projecting from the top thereof; a securing lug on the bottom of said body member adapted to be engaged by the jaws of a vise; a lever pivoted in a central slot in said body member; a draft link slidable in said slot and pivoted to said lever; and a horn on said link adapted to coöperate with said first mentioned horn to spread a horseshoe, substantially as described.

3. In a device of the class described, the combination with a body member of a horn projecting from the top thereof; a securing lug on the bottom of said body member adapted to be engaged by the jaws of a vise, the upper portion of said lug having flat parallel sides adapted to be engaged by the vise jaws and the lower portion thereof being enlarged to constitute a stop; a lever pivoted in a central slot in said body member; a draft link slidable in said slot and pivoted to said lever; and a horn on said link adapted to coöperate with said first mentioned horn to spread a horseshoe, substantially as described.

4. In a device of the class described, the combination with a body member comprising a single casting having an upwardly projecting horn, a downwardly projecting securing lug and a central longitudinal slot, there being two bolt holes traversing said body member at said slot and at different distances from said horn; a lever adapted to enter said slot and provided with a bolt hole adapted to register with either of said first mentioned bolt holes and a second bolt hole above said body member; a link comprising a single casting having an upwardly projecting horn adapted to coöperate with said first mentioned horn, a downwardly projecting guide lug slidable in said slot and a bifurcated end, there being a bolt hole traversing said bifurcated end; and bolts adapted to pass through said bolt holes, substantially as described.

975,811. CLOTHES-LINE. WILLIAM JAMES WALSH, Jersey City, N. J., assignor of one-half to John Cummings Farrow, New York, N. Y. Filed Apr. 22, 1910. Serial No. 557,082.



1. A line reel comprising a support, a pair of shafts mounted therein, a gear slidably mounted on the end of one of said shafts but arranged to turn therewith, means for moving the slidable gear said gears intermeshing whereby the said shafts will be rotated in opposite directions, a pawl adapted to engage each of said gears, and an operating crank adapted to be connected to the shaft on which the slidable gear is mounted.

2. A line reel comprising a support, a pair of shafts therein, a longitudinally movable plug in the end of one of said shafts and projecting beyond the end thereof, a gear slidably mounted on said shaft, a similar gear mounted on the other shaft, said gears intermeshing, means for rigidly connecting the slidable gear to said plug whereby the plug, the gear, and the shaft will be secured together for rotation, a pawl for each of said gears, and an operating crank adapted to be fitted to the shaft on which the slidable gear is mounted.

3. A line reel comprising a support, a pair of shafts therein, a longitudinally movable plug in the end of one of said shafts and projecting beyond the end thereof, a gear slidably mounted on said shaft, a similar gear mounted on the other shaft, said gears intermeshing, means for rigidly connecting the slidable gear to said plug whereby the plug, the gear, and the shaft will be secured together for rotation, a pawl for each of said gears, an operating crank adapted to be fitted to the shaft on which the slidable gear is mounted and a spring interposed between said gear and said crank to hold the gears normally in mesh.

975,812. OPERATING CONNECTION FOR WATER-CLOSET VALVES. EARL G. WATROUS, Chicago, Ill. Original application filed June 21, 1899, Serial No. 721,330. Divided and this application filed May 12, 1910. Serial No. 560,886.



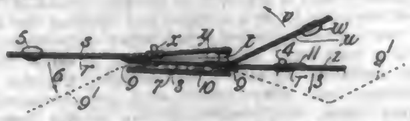
1. The combination of the closet F, the spring-pressed rocking sleeve D suitably supported thereon and provided with the forwardly projecting arm J, the hinged seat K resting upon the arm J, and a valve mechanism connected to and operated by the sleeve D, substantially as described.

2. The combination of the closet F, supports E, rocking-sleeve D mounted thereon and provided with the forwardly extending arm J and the rearwardly projecting arm C, a spring operative on the sleeve D to press the arm J upward, the hinged seat K resting upon the arm J, and a valve mechanism connected with the arm C so as to be operated by the seat K, substantially as described.

3. The combination of the closet F, supports E, sleeve D journaled therein, rod G extending through sleeve D and having a threaded engagement therewith at one end, the lock-nut I for locking the rod G to sleeve D, the spring H surrounding rod G and connected thereto at one end and at its opposite end to a fixed point, the seat K having the hinges L hung at their rear ends upon the opposite ends of the sleeve D, the arm J projecting forward from the sleeve D beneath the seat K, and the arm C projecting rearwardly from said sleeve, and a valve mechanism having a connection with the arm C and automatically operated by the seat K, substantially as described.

4. The combination of the closet F, supports E, sleeve D journaled therein, rod G extending through sleeve D and having a threaded engagement therewith at one end, the lock nut I for locking the rod G to sleeve D, the spring H surrounding rod G and connected thereto at one end and at its opposite end to a fixed point, the seat K having hinges hung at their rear ends upon the opposite ends of the sleeve D and arranged upon its depression to rock said sleeve, and a valve mechanism connected to and operated by the sleeve D; substantially as described.

975,813. PURSE OR BILL-FOLDER. LUTHER B. WEISSBROD, Greenfield, Mass. Filed Apr. 21, 1910. Serial No. 556,705.

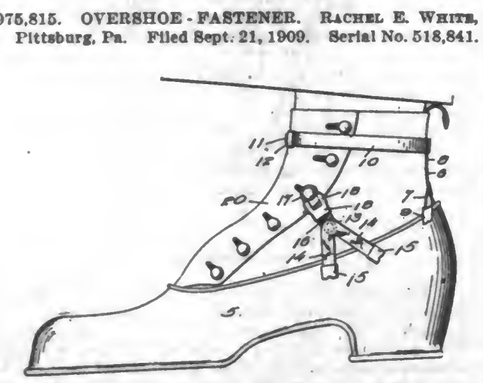


A purse or bill-folder comprising a one-piece member extending from end to end of the purse and constituting the bill-receiving side, means attached to said member for preventing the lateral displacement of the bills, flap pieces attached to the one-piece member for closing the bill-receiving compartment, a compartment oppositely disposed in relation to the bill compartment, the flap for closing said oppositely located compartment being integral with one of the bill flaps for closing the bill compartment, and the outer portion of said oppositely located compartment being integral with the outer flaps for closing the bill-receiving compartment, and suitable fastening means for said flaps.

975,814. MOUTH-TABLET. ALBERT WESTLAKE, New York, N. Y. Filed Mar. 29, 1906. Serial No. 308,701.

A self-acting mouth tablet compounded of a solution of hydrogen dioxid and sufficient alkaline and neutral ingredients to absorb the same, and pressed into the form of a tablet, which will dissolve with effervescence in the mouth with a temporary acid reaction followed by a permanent alkaline reaction, whereby the teeth are automatically cleansed and the mouth purified.

975,815. OVERSHOE-FASTENER. RACHEL E. WHITE, Pittsburg, Pa. Filed Sept. 21, 1909. Serial No. 518,841.



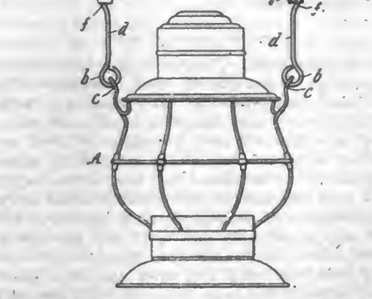
The combination with an overshoe, of an elastic attaching member, said member comprising a length of elastic material having diverging end portions, metallic securing members secured to said end portions adapted to be inserted through the rear portion of the overshoe adjacent to the upper edge thereof, an elastic band secured to the upper end of said strip and adapted to encircle a shoe above the ankle of the wearer, said band having a hook and eye secured to its opposite ends for engagement with each other, an attaching member adapted to be secured to one side of an overshoe adjacent to its upper edge, said member comprising a length of elastic material having diverging end portions, said end portions having metallic securing members secured thereto, said members having prongs integrally formed therewith and adapted to pierce the overshoe and to be disposed against the inner side thereof, an eye secured to the free end of said member adapted to engage over the button of a shoe, and a hook secured to said member adapted to engage with the edge of a shoe upper.

975,816. VEHICLE-TIRE. ADONIRAM J. WILSON, Westfield, N. J. Filed Dec. 15, 1909. Serial No. 533,160.

1. In a wheel-tire, the combination of a shoe having provision for mechanically securing it to a wheel rim; a floating ring within the shoe adapted and designed to surround said rim and so as to leave an open or clearance space between said ring and rim; and a plurality of springs normally under radial tension located between said ring and shoe, and arranged to yield radially to compression.

2. In a wheel-tire, the combination of a shoe secured to a rim; a floating ring within the shoe adapted and designed to surround said rim and so as to leave an open or clearance space between said ring and rim; and a series of radially disposed spring means normally under tension located between said ring and shoe.

3. In a wheel-tire, the combination of a shoe secured to a rim; a floating ring within the shoe adapted and designed to surround said rim and so as to leave an open or clearance space between said ring and rim; and a series of radially disposed coil springs located between said ring and shoe.



4. In a wheel-tire, the combination of a shoe having provision for mechanically securing it to a wheel rim; a floating ring within the shoe adapted and designed to surround said rim and so as to leave an open or clearance space between said ring and rim; and a plurality of unattached spring means normally under radial tension located between said ring and shoe, and arranged to yield radially to compression.

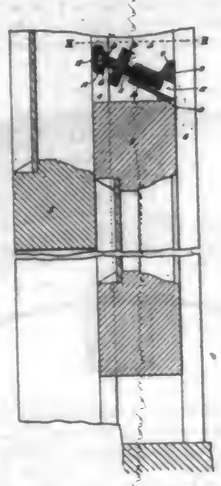
5. In a wheel-tire, the combination of a shoe secured to a rim; a floating ring within the shoe adapted and designed to surround said rim and so as to leave an open or clearance space between said ring and rim; and a series of separate unattached radially disposed springs normally under tension located between said ring and shoe.

[Claims 6 to 8 not printed in the Gazette.]

975,817. BAIL FOR LANTERNS, &c. FREDERICK E. WRIGHT, Syracuse, N. Y. Filed Mar. 24, 1909. Serial No. 485,379.

A composite bail comprising an outer wire bail having an arched main portion and straight side portions extending from the ends thereof, and a gripping strip having corresponding arched main portion and straight side portions, said strip having in its outer side a longitudinal groove in which the wire bail is embedded, whereby the arched main portion of the strip serves to hold the parts in close contact and the straight side portions prevent lengthwise displacement of the parts, substantially as set forth.

975,818. WINDOW-LOCK. FRED G. ANDREWS, Coraopolis, Pa. Filed Mar. 14, 1910. Serial No. 549,273.



1. A sash lock consisting of a bearing shoe having right angled faces adapted for insertion against the sash rail and head respectively and having an adjusting screw threaded into said shoe and provided with a separately attached bearing terminal at its opposite end for engagement of the face of the other sash, substantially as set forth.

2. A sash lock consisting of a bearing shoe adapted for insertion against the sash rail and bead having an adjusting screw provided with an opposite bearing terminal loosely mounted on the end of the adjusting screw.

3. A sash lock consisting of a bearing shoe adapted for insertion against the sash rail and bead having an adjusting screw provided with a thumb screw extension and an opposite bearing terminal loosely mounted on the end of the adjusting screw beyond said extension, substantially as set forth.

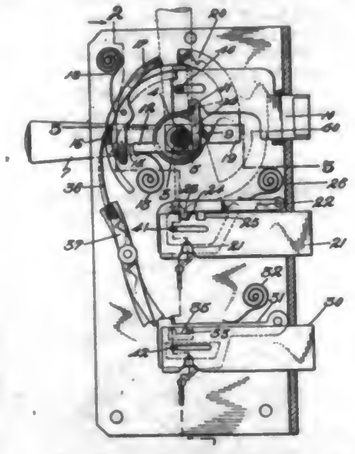
4. In a sash lock, the combination of a shoe having bearing faces adapted for insertion against the sash rail and bead and an integral extension having a screw bearing extending longitudinally and centrally of said extension, and an adjusting screw mounted in said bearing provided with a thumb-screw extension and a terminal bearing adapted for engagement of the face of the other sash, substantially as set forth.

975,819. DOOR-LOCK. FRIEDRICH ASSMANN, Stenglingsen, Germany. Filed Dec. 13, 1909. Serial No. 532,787.

1. In a door-lock, inner and outer handles a latch and connections thereto from the said handles whereby said latch may be withdrawn by a movement of either handle, a detent for said latch and means for setting same controlled by one of the handles, a bolt normally key-operated, a stop for said bolt and means for setting same controlled by the last-mentioned handle, whereby, when the said detent and stop are set, the said latch and bolt are locked against movement until released by the said handle.

2. In a door-lock, inner and outer handles a latch and means for withdrawing same operative by a movement of either handle in one direction, a detent for locking said latch in forward position, means for setting said detent operative by a movement of one of said handles in its opposite direction, whereby the latch may be locked against movement by the other handle, a bolt normally key-operated, a stop therefor, and means for setting said stop controlled by the same handle ah the detent, whereby said bolt may be locked against movement by the key.

3. In a door-lock, a latch, a device for withdrawing same, a two-part axle, a connection between one of said parts and said latch-withdrawing device, a clutch between the two parts of said axle adapted to permit the other part of the axle to operate the latch when moved in one direction and to have a limited free movement in its opposite direction, a detent for the latch, means for inserting same in the path of the latch operated by said other part of the axle in its said limited free movement, a bolt normally key-operated, a stop therefor, means for setting said stop also operated by said other part of the axle in its said limited movement, whereby said bolt may be locked against movement.



4. In a door-lock, a latch, an axle for operating same having outer and inner members, a latch-retracting device attached to the outer member, a clutch connecting the outer and inner members operating to cause both said members to turn together in one direction and to allow the inner member to move free in the opposite direction, a detent for the latch and means for setting same operated by the said free movement of the inner axle member, a bolt normally key-operated, a stop therefor, and means for setting said stop operated by said inner member in its said free movement, whereby said bolt may be locked against movement by the key.

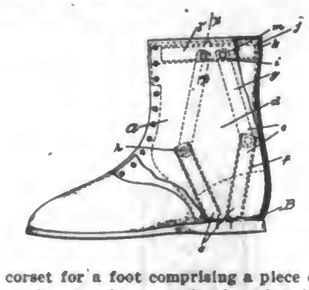
5. In a door-lock, a latch, a two-part hollow axle for operating same having an inner and outer member, an axle pin secured to the outer member and projecting through the inner member, a latch-retracting device connected to the outer member, a clutch connecting said inner and outer members comprising stubs attached to the inner ends of each of said members, which pass by each other, a lever attached to and turning with the inner member, a latch-detent adapted to be actuated by said lever, a bolt normally key-operated, an arm attached to and turning with the inner member, and a bolt-stop adapted to be set by said arm, the said parts so combined and operating that a movement of either of said axle members in one direction will operate to retract the latch, while a movement of the inner axle member in its opposite direction will set said latch-detent and bolt-stop.

[Claims 6 to 13 not printed in the Gazette.]

975,820. CORSET FOR SHOES. SANTO AZZARA, New York, N. Y. Filed Jan. 10, 1910. Serial No. 537,297.

1. A foot support comprising strips of suitable resilient material to adapt it to the shape of the foot, each of said strips composed of a lower section and an upper section and a pin rotatably connecting the upper section to the lower section at a point thereon approximately equal in height to the ankle of the wearer of the support.

2. A foot support comprising strips of suitable flat material resilient in a transverse direction to adapt it to the shape of the foot, each of said strips composed of a lower section and an upper section and a pin rotatably connecting the upper section to the lower section upon their flat faces at a point approximately equal in height to the ankle of the wearer of the support.



3. A corset for a foot comprising a piece of fabric suitably shaped to conform to the foot forming the corset body, stiffening strips of suitable material, each strip composed of sections, the lower section of each strip secured to the corset body in fixed position, and the upper section rotatably pinned at its lower end to the upper end of the respective lower section.

4. A corset for a foot comprising a piece of fabric suitably shaped to conform to the foot forming the corset body, a plurality of stiffening strips secured in fixed positions to the lower part of the corset body, a plurality of stiffening strips rotatably pinned each at its lower end to an upper end of one of the first mentioned strips, and having its upper end secured to the upper part of the corset body.

5. A corset for a foot comprising a piece of fabric suitably shaped to conform to the foot and forming the corset body, a plurality of stiffening strips secured in fixed positions to the lower part of the corset body, a plurality of stiffening strips rotatably pinned each at its lower end to an upper end of one of the first mentioned strips, a slot in the upper end of each of the upper strips, and pins secured to the corset to engage the said slots.

[Claim 6 not printed in the Gazette.]

975,821. WINDING-MACHINE REEL. LATIMER H. BALLOU, Lawrence, Mass. Filed Apr. 11, 1910. Serial No. 554,609.



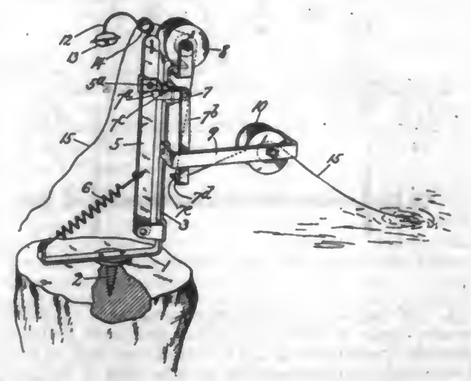
1. A winding machine having, in combination, a winding shaft, a second shaft movable relatively to said winding shaft, means for driving said shafts, and a reel supported and rotated between said shafts, the reel comprising two parallel bars spaced from one another and adapted to removably support a cloth board between them, the bars being detachably supported upon the opposite ends of the shafts and adapted to allow the cloth board to be inserted between them from one side of the bars when the reel is assembled in operative position and whereby the cloth board and reel may be easily removed from the machine at the conclusion of the winding operation, substantially as described.

2. A winding machine, having, in combination, a winding shaft, a second shaft movable relatively to said winding shaft, means for driving said shafts, and a reel supported and rotated between said shafts, the reel comprising a pair of oppositely disposed angle bars adapted to receive and support a cloth board between them, one side of each of the angle bars adapted to protect opposite edges of the cloth board about which the bolt of cloth is wound, substantially as described.

3. A winding machine, having, in combination, a winding shaft, a second shaft movable relatively to said winding shaft, means for driving said shafts, heads mounted upon the inner ends of each of the said shafts and comprising transverse bars having recesses adjacent the ends thereof, and a reel comprising a pair of oppositely disposed angle bars, the opposite ends of said angle bars being inserted in said recesses whereby the reel is detachably supported and rotated between the ends of the two shafts, substantially as described.

4. A winding machine, having, in combination, a winding shaft, a second shaft movable relatively to said winding shaft, means for driving the shafts, transverse bars supported upon the inner ends of the said shafts, a longitudinal row of recesses formed upon the face of each transverse bar, and a pair of oppositely disposed angle bars the opposite ends of which are adapted to be inserted in the recesses whereby the angle bars may be held at varying distances apart to support different widths of cloth board between them, substantially as described.

975,822. AUTOMATIC FISH-CATCHING DEVICE. FREDERICK BECKER and JOHN E. POGGENSEE, Chicago, Ill. Filed Oct. 20, 1909. Serial No. 523,559.



1. An automatic fish catcher comprising a standard; a line-jerking lever fulcrumed on the standard and adapted for attachment of the fisherman's line; a spring for retracting the lever; a detent for locking it against such retraction; two guides on the standard to which the line runs from the lever, the detent having an arm which swings toward a direct line from guide to guide in the lever-releasing action of the detent, such arm being adapted for engagement of the line intermediate the guides.

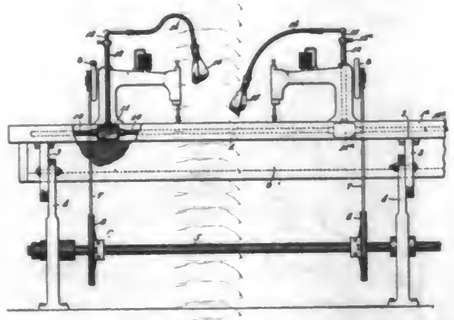
2. An automatic fish catcher, comprising a standard and means for securing it; a line-jerking lever fulcrumed on the standard adapted for attachment of the fisherman's line; a spring for retracting the lever for so actuating the line; a detent for locking the lever against such retraction; two cord guides carried by the standard, the detent being a bell-crank, one arm engaging the line-jerking lever, the other arm extending in position offset from the direct line from cord-guide to cord-guide, the movement of said arm moving in the lever-releasing action of the detent being toward said direct line, and the arm being adapted for engagement of the cord to deflect it out of such direct line between the guides.

3. An automatic fish catcher, comprising an L-shaped, or angular standard, having a horizontal member provided with a tang for engaging a support; a line-jerking lever fulcrumed on the standard; a contractile spring connected to said lever and to the horizontal arm of the standard at a point remote from the angle for retracting a lever downward toward horizontal position; a detent pivoted on the upstanding arm of the standard for engaging the lever to lock it at erect position; a cord guide at the top of the standard; an arm projecting off from the standard in the

opposite direction from the downward swinging movement of the lever, and a second cord guide on said arm, the detent being a bell crank having an arm which at locking position of the detent depends from its fulcrum at the side toward the standard of a direct line from cord-guide to cord-guide, for engagement of the fisherman's line to deflect it from said direct line intermediate the cord guides.

4. An automatic fish-catcher comprising a line-jerking lever to which the line is attached, two fixed guides over which successively the line runs from the lever to the hook, a detent for locking the lever and a spring for retracting it from locked position, the detent having an arm provided with a cord guide positioned for receiving the cord between the first mentioned guides and which at the lever-locking position of the detent is out of line with said first mentioned cord guides, and which moves toward said line for releasing the lever.

975,823. LIGHTING-FIXTURE. GEORGE D. BEINERT, New York, N. Y. Filed Dec. 19, 1908. Serial No. 468,290.



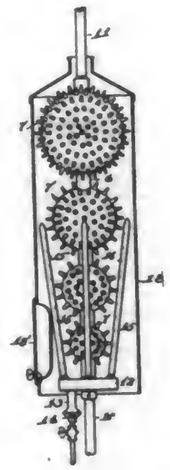
1. The combination with a work table made up of independent units set end to end, of junction boxes having removable covers fastened to one edge of each unit, two-part alined sockets projecting from opposite sides of said junction box, one part of each socket being formed on the junction box cover, a lamp bracket supported by each junction box, and a conduit for electric wires formed of a plurality of pipe sections extending between the junction boxes and supported by the divided sockets so that the number of units comprising said work table may be altered without removing the junction boxes.

2. The combination with a pair of parallel work tables and a work supporting trough between them, of a series of junction boxes secured to the edges of said tables above said trough, a lamp bracket supported on each junction box, and a conduit for electric wires formed of a plurality of pipe sections extending between the junction boxes of each table, and a section connecting the two conduits.

3. A junction box comprising a body and a cover portion, sockets at each end of said box, said sockets being formed partly on the body and partly on the cover portion of the box, flanges on both sections of each socket to receive screws for fastening the cover on the box, pipe sections carrying electric wires having their ends fitted in such sockets, insulated plates secured in said box to which said wires are removably connected, another socket at the top of said box and formed wholly in the body portion thereof, such socket being adapted to receive a lamp support standard and wires forming a shunt circuit connected to said insulated plates.

975,824. WATER-HEATER. CHARLES A. BOREIN, Oakland, Cal. Filed Oct. 16, 1908, Serial No. 458,115. Renewed Apr. 28, 1910. Serial No. 558,286.

1. A water heater consisting of a series of intercommunicating globular chambers with spinous heating surfaces, and inlet and outlet service connections; and a burner consisting of an inlet neck, a mixing chamber, and a plurality of perforated burner tubes extending upward from the mixing chamber, and communicating with the latter, said burner tubes being arranged to direct flames against said series of globular chambers, and a jacket inclosing said globular chambers and said burner.



2. A water heater consisting of a series of intercommunicating globular chambers with spinous heating surfaces, and inlet and outlet service connections, and a burner with perforated burner tubes communicating therewith and arranged to direct flames against said globular chambers, and a jacket inclosing said globular chambers and said burner.

3. A water heater comprising a series of intercommunicating globular chambers placed one above another and successively increasing in diameter, and a burner provided with a mixing chamber located below said heater and having upwardly extended, diverging burner tubes communicating with said mixing chamber and surrounding the chambers of said heater.

4. A water heater formed of a series of intercommunicating globular chambers placed one above another, said chambers successively increasing in diameter and being each provided with exterior spines.

975,825. EXPLOSIVE. FRANK H. BRIGGS, Elyria, Ohio, assignor to The American Dynalite Company, Cleveland, Ohio, a Corporation of Ohio. Filed Apr. 29, 1909. Serial No. 492,832.

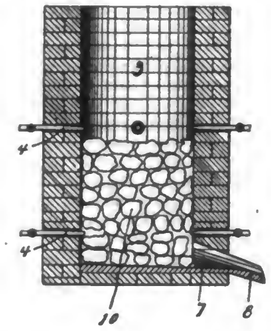
1. An explosive compound consisting of an intimate mixture of chlorate of potash, mirbane oil, pulverized slate, and nitrate of potash, in substantially the stated proportions.

2. An explosive compound consisting of an intimate mixture of chlorate of potash, mirbane oil, pulverized slate, nitrate of potash, and powdered charcoal, in substantially the stated proportions.

3. The herein described process of producing an explosive which consists in first making an explosive compound by mixing chlorate of potash and mirbane oil together, and then adding a pulverized inert absorbent mineral, and in then adding to this mixture nitrate of potash, substantially as specified.

4. The herein described process of producing an explosive which consists in first making an explosive compound by mixing chlorate of potash and mirbane oil together, and then adding a pulverized inert absorbent mineral, and in then adding to this mixture nitrate of potash and charcoal, substantially as specified.

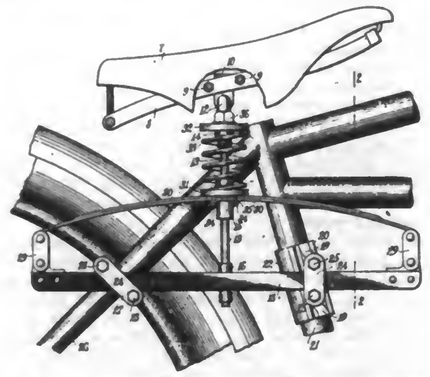
975,826. OIL-HEATED MELTING-FURNACE. ARTHUR T. BROWN, San Francisco, Cal. Filed Mar. 9, 1910. Serial No. 548,303.



1. In a melting furnace, a stack, a series of refractory bodies in said stack and having a considerable space thereabout, a series of burners near the lower portion of the stack and adapted to heat said refractory bodies, a second series of burners above the first set and adapted to melt the material above said bodies, and a tap hole in said stack, as set forth.

2. In a melting furnace, a stack, a series of refractory bodies in said stack at the bottom thereof, a series of burners above the bottom of the stack and below the top of said refractory bodies, a second series of burners in said stack and above the top of said refractory bodies, and a tap hole in the bottom of said stack for the removal of the melted materials therefrom, as set forth.

975,827. MOUNTING FOR MOTOR-CYCLE SADDLES. SAMUEL BUSCH, New York, N. Y. Filed July 26, 1910. Serial No. 573,940.



1. A mounting for motorcycle saddles, comprising a cross bar having a plurality of depending guide rod extensions; a plurality of buffer springs infolding said extensions to support said cross bar; a plurality of leaf springs arranged to support said buffer springs; a rigid supporting frame for said leaf springs; means for clamping said supporting frame on the motorcycle; means for guiding the said extensions of said cross bar in the vibration thereof; and swinging connections between the said supporting frame and said leaf springs.

2. A mounting for motorcycle saddles, comprising a cross bar having a plurality of depending guide rod extensions; a plurality of buffer springs infolding said extensions to support said cross bar; a plurality of leaf springs arranged to support said buffer springs; a rigid supporting frame for said leaf springs; a plurality of clamping clip blocks arranged to be adjustably mounted on the frame of the motorcycle to hold the said supporting frame fixedly thereon at different elevations; and means for guiding the said extensions of said cross bar in the vibration thereof.

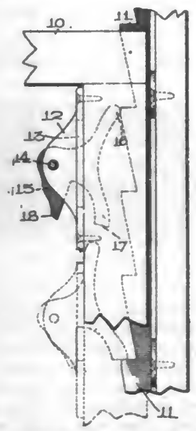
3. A mounting for motorcycle saddles, comprising a cross bar having a plurality of depending guide rod extensions; a plurality of buffer springs infolding said extensions to support said cross bar; a plurality of leaf springs arranged to support said buffer springs; a rigid supporting frame for said leaf springs; a plurality of clamping clip blocks arranged to be adjustably mounted on the frame of the motorcycle to hold the said supporting frame fixedly thereon at different elevations; swinging connections between the said supporting frame and said leaf springs; and means for guiding the said extensions of said cross bar in the vibration thereof.

4. A mounting for motorcycle saddles, comprising a cross bar having a plurality of depending guide rod extensions; a plurality of buffer springs infolding said extensions to support said cross bar; a plurality of leaf springs arranged to support said buffer springs; a rigid supporting frame for said leaf springs; means for clamping said supporting frame on the motorcycle; a plurality of guide sockets fixedly mounted on said supporting frame to guide the movement of said extensions during the vibration of the saddle and mounting therefor; and a plurality of thimble guides rigidly mounted on said leaf springs and slidably infolding said extensions, said thimble guides being disposed in line with said sockets.

5. A mounting for motorcycle saddles, comprising a cross bar having a plurality of depending guide rod extensions; a plurality of buffer springs infolding said extensions to support said cross bar; a plurality of leaf springs arranged to support said buffer springs; a plurality of side bars arranged to support said leaf springs; swinging connections between said side bars and said leaf springs; a clip block adapted to be fixedly mounted upon the vertical brace of the motorcycle and having cross arms extended to aline with said side bars; clamping plates arranged to infold said side bars and to clamp the same rigidly to said cross arms; a plurality of clamping clips arranged in holding relation with the rear forks of the motorcycle frame to receive in holding relation the said side bars; and means for guiding the said extensions of said cross bar in the vibration thereof.

[Claim 6 not printed in the Gazette.]

975,828. ELEVATOR SAFETY DEVICE. AUGUSTUS L. BUSH, Worcester, Mass. Filed May 7, 1910. Serial No. 559,895.

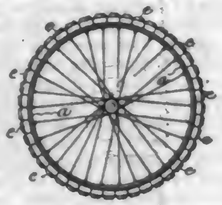


1. In an elevator safety device, the combination with an elevator car and a single rack along the side thereof, of a latch pivoted on the car and having an upwardly

extending arm adapted to engage and be operated by the teeth of the rack as the car moves and provided with a downwardly extending arm in the same plane as the upwardly extending arm, and beyond the plane of the edges of the teeth of the rack during the ordinary operation of the car, but in position to be thrown out into engagement with said teeth when the car drops suddenly.

2. In a safety device for elevators, the combination of a bracket adapted to be mounted on a car, a horizontal pivot pin thereon, a latch consisting of a single integral piece of metal pivoted on said pin and having an upper and a lower arm in the same plane projecting outwardly therefrom toward the adjacent wall of the elevator well, both of said arms being on the same side of the pivot, whereby gravity will swing the latch over in position for the upper arm to project beyond the lower arm, and a rack along the elevator well in position to engage both arms.

975,829. TIRE OF WHEELS OF VEHICLES. JOHN CAIRNS, Willenhall, England. Original application filed July 29, 1908, Serial No. 446,005. Divided and this application filed Aug. 18, 1909. Serial No. 513,441.



1. A vehicle wheel tire strucure comprising in combination, a plurality of hollow studs of solid yielding material each provided with an annular groove near its base, a plurality of circular shells receiving the bases of said studs and having flanges engaging the grooves therein for securing said studs and confining air therein, and a rim supporting said shells.

2. A vehicle wheel tire structure comprising in combination, a plurality of hollow studs of solid yielding material each provided with an annular groove near its base, a circular shell receiving the base of each stud and provided with a flange engaging the groove thereof for securing said stud and confining air therein, holders provided with end and side flanges to which said shells are secured, a rim provided with side flanges and a partition engaging the flanges of said holder, and means securing the end flanges of said holders to said partition.

975,830. LEVEL. HENRY J. CARRIGAN, Buffalo, N. Y. Filed Nov. 14, 1908. Serial No. 462,686.

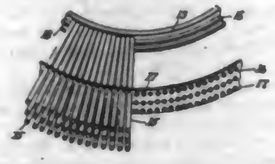


1. A level comprising a stock provided with an opening, an indicator-frame set into said opening and having graduated faces exposed on opposite sides of said stock, a pintle mounted in said frame, index-fingers secured to opposite ends of said pintle, a hanger formed of wire passed through said pintle, and inclined in opposite directions with its extremities recurved to form opposite hooks, a tube hung upon said hooks and sealed at the ends to prevent disengagement of said hooks from said tube, said tube containing a fluid retained by sealing the ends of said tube.

2. A level comprising a stock provided with a transverse opening and a pocket extending inward from one edge of said stock and in connection with said opening, an indicator-frame rotatable within said opening and having a graduated face, an adjusting-screw in said pocket connected at its inner end to said indicator-frame, an index-finger coöperating with the graduations on the face of said frame, and an oscillating-member within said frame controlling the movements of said index-finger.

3. A level comprising a stock provided with a transverse opening and a pocket extending inward from one edge of said stock and in connection with said opening, an indicator-frame rotatable within said opening and having a graduated face, a rotatable block in said pocket, an adjusting-screw threaded through said block at a right-angle to its axis and connected at its inner end to said indicator-frame, an index-finger coöperating with said indicator-frame, and an oscillating-member within said frame controlling the movements of said index-finger.

975,831. IMPALING-ROLL. EMORY LEROY CHADDOCK, Fresno, Cal. Filed Feb. 8, 1908. Serial No. 414,918.



1. An impaling cylinder, comprising a plurality of separable sections, each consisting of a core portion, a member separated therefrom and comprising a perforated sheet, pins held at said core portion and extending through the perforations of said sheet, said core portion constituting a means for spacing said pins, said pins radiating from said core portion and being contiguous at their inner ends, a filling between said member and said core portion and consisting of an easily fusible substance, and means for assembling said sections.

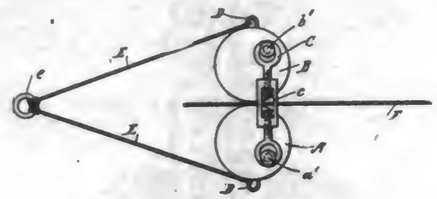
2. A device of the class described, comprising a plurality of separable sections, a spindle for assembling said sections, each of said sections including pins radiating from the axis of said spindle, separate means engaging each of said pins at separated points to space said pins one from the other, and a body formed from an easily fusible substance, each of said pins being embedded in said body between said spindle and the outer one of said pin engaging means.

3. A device of the class described, comprising a core portion, pins arranged radially about said core portion, said pins at their inner ends each being contiguous with adjacent pins, means for holding said pins spaced at points remote from the inner ends, and a filling embedding said pins between their inner ends and said means.

4. A device of the class described, comprising a plurality of separable sections, and means for assembling said sections, each of said sections consisting of layers of radiating pins, annular spacing members between said layers at the inner ends of said pins, a cylindrical shell around said annular members and spaced therefrom, said shell consisting of a perforated sheet, said pins extending through said sheet and beyond the same and being spaced thereby, and a body between said annular members and said shell and serving to embed said pins, said body consisting of an easily fusible substance.

5. A device of the class described, comprising a substantially cylindrical body encompassed by a perforated shell, the perforations of said shell being spaced, said body being composed of a fusible metal, and a plurality of pins embedded in said body and extending radially through the perforations of said shell, said pins being contiguous at the end remote from said shell.

975,832. CLAMPING DEVICE. WITHROW CLORE, Waveland, Ind., assignor of one-half to Frank C. Milligan, Waveland, Ind. Filed Dec. 23, 1909. Serial No. 534,598.



In a gripping device, the combination, with two cylinders for engaging with the fence-wires, of eccentric pins provided with heads and projecting from the ends of the cylinders, bolts provided with eyes which slip over the said heads and engage with the said pins, turnbuckles connecting the said bolts together in pairs, fastening eyes projecting from the peripheries of the cylinders, and means for connecting the said fastening eyes with a fence-wire stretcher.

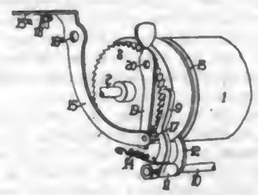
975,833. ARTIFICIAL BAIT. EDWARD LAFAYETTE COX, Alamosa, Colo. Filed Mar. 29, 1909. Serial No. 486,371.



1. In an artificial bait, a water-tight quill forming the body of the bait, and a relatively light material filling and supporting the walls of the quill.

2. In an artificial bait, a quill forming the body of the bait, and means bound about the ends of the quill, gathering it together and closing it at these points.

975,834. TYPE-WRITING MACHINE. HARRY CRUTCHLEY, Jersey City, N. J., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of Delaware. Filed Apr. 14, 1910. Serial No. 555,871.



1. In a typewriting machine, the combination with a rotatable platen, of a paper-end indicator including means to lock the platen against turning, releasing means to effect the temporary disengagement of the locking means, and a device to disconnect the locking means and hold it in idle position.

2. In a typewriting machine, the combination with a rotatable platen having a ratchet, a paper-controlled locking dog to engage the ratchet and lock the platen against turning, a rocking finger having an interponent to engage and disengage the locking dog from the ratchet, and a detent into whose path the interponent projects; said detent movable to operate the interponent to disengage the locking dog from the ratchet, and effective to hold the locking dog in idle position.

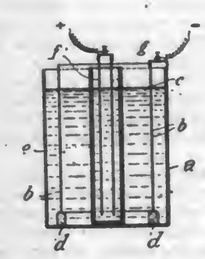
3. In a typewriting machine, the combination with a platen and line-space mechanism therefor, of a paper-end indicating device including a paper-controlled trip, a platen-locking mechanism controlled by the trip, and a normally inoperative lock releasing arm having a finger-piece lying in position to be engaged when inserting paper into the machine, to temporarily disengage the platen-locking mechanism.

4. In a typewriting machine, the combination with a platen and line-space mechanism therefor, of a paper-end indicating device including a paper-controlled trip, a platen-locking mechanism controlled by the trip, a normally inoperative lock releasing arm having a finger-piece lying in position to be engaged when inserting paper into the machine, to temporarily disengage the platen-locking mechanism, and a detent to maintain the locking mechanism in a position of disuse.

5. In a typewriting machine, the combination with a platen, a ratchet thereon, and a paper-controlled dog tending to engage the ratchet to lock the platen against rotation, of a pivoted dog releaser, one end of which lies in position to be operated when inserting paper into the machine, and a spring to return the dog releaser to inoperative position.

[Claim 6 not printed in the Gazette.]

975,835. PROCESS OF ELECTROLYTICALLY TREATING TANNIC INFUSIONS OF PLANTS. HERMANN DAMKÖHLER and HUGO SCHWINDT, Bremen, Germany. Filed June 16, 1909. Serial No. 502,423.



1. The herein described process of treating tannic infusions of plants, such for example as the bark of the mangrove, which consists in subjecting the said infusions to the electrolysis within a cell, in which the tannic infusion forms a bath for the cathode which is separated from the anode by a porous partition wall, and in which the baths for the electrodes contain solutions of metal salts the metals of which are those of the electrodes.

2. The herein described process of treating tannic infusions of plants, for example those obtained from the bark of the mangrove, which consists in subjecting the said infusions to the electrolysis within a cell the anode and cathode of which both consist of aluminum and zinc, and the electrolytes contain a solution of a sulfate of aluminum and sulfate of zinc.

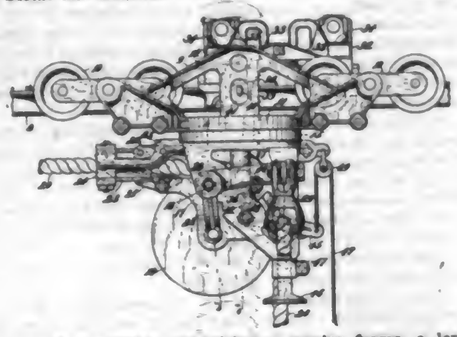
3. The process of treating extracts containing tannin, which consists in subjecting them to electrolysis in the presence of dissolved salts of the metals of which the electrodes are composed.

4. The process of treating extracts containing tannin, which consists in subjecting them to electrolysis with electrodes each of which consists of a plurality of metals and in the presence of dissolved salts of the metals of which the electrodes are composed.

5. The process of treating extracts containing tannin which consists in separating such extracts by a porous wall and subjecting them to electrolysis in the presence of dissolved salts of the metals composing the electrodes.

[Claims 6 and 7 not printed in the Gazette.]

975,836. HAY-CARRIER. IRVIN W. DAVIS and MORGAN J. EVANS, Milwaukee, Wis., assignors to Stowell Manufacturing and Foundry Company, South Milwaukee, Wis., a Corporation of Wisconsin. Filed Sept. 3, 1909. Serial No. 516,122.



1. A hay carrier, comprising a carrier frame, a lever pivoted to one side thereof, a bell-crank lever connected to the lever and having a portion on the opposite side of the frame, and a rope engaging the lever and extending transversely across the carrier frame and engaging the portion of the bell-crank lever on the opposite side of the carrier frame.

2. A hay carrier, comprising a carrier frame, a lever pivoted to one side of the carrier frame, a bell-crank lever connected to the lever and having a portion on the opposite side thereof, a pulley mounted on one portion of the lever, and a rope engaging the lever on one side of the carrier frame and extending transversely across the carrier frame and passing over the pulley.

3. A hay carrier, comprising a carrier frame, a lever pivoted to one side of the carrier frame and having a portion on the opposite side thereof, a pulley mounted on one portion of the lever, a rope connected to one portion of the lever and extending transversely across the carrier frame and passing over the pulley, and means coacting with the lever for clamping the rope to the carrier frame.

4. A hay carrier, comprising a carrier frame, a lever frame swiveled to the carrier frame, a locking lever pivoted to one side of the lever frame and having a portion extending to the opposite side thereof, a rope clamping jaw connected to the locking lever, a pulley mounted on one portion of the locking lever, a rope connected to one portion of the lever and extending transversely across the carrier frame and over the pulley and positioned to be engaged by the clamping jaw, and means controlling the movement of the locking lever.

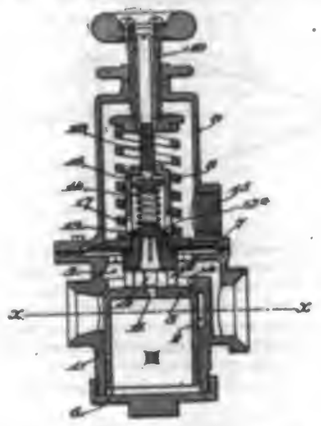
5. A hay carrier, comprising a main frame, a lever frame swiveled to the main frame, a locking lever pivoted to one side of the lever frame and having a portion extending to the opposite side thereof, a rope clamping jaw connected to the locking lever, a pulley mounted on one portion of the locking lever, a rope connected to one portion of the lever and extending transversely across the lever frame and over the pulley and positioned to be engaged by the clamping jaw, a stop dog for locking the carrier to its supporting track and to hold the locking lever in unlocked position, and a locking dog pivoted to the lever frame for holding the stop dog in locked position.

[Claims 6 to 15 not printed in the Gazette.]

975,837. SYSTEM OF HEATING BY MEANS OF RADIO-INCANDESCENT BODIES. MARCEL DELAGE, Paris, France. Filed Oct. 24, 1905. Serial No. 284,255.

As an article of manufacture, a refractory product for heating by radiation, comprising a support of refractory material the surface of which is covered with material having a content of oxid of cerium in such quantity that the amount of radiant energy emitted by said surface in the form of light is insufficient for lighting purposes, the bulk of said energy being emitted as radiant heat.

975,838. REDUCING-VALVE. JOHN H. DERBY, New York, N. Y., assignor to General Fire Extinguisher Company, New York, N. Y., a Corporation of New York. Filed May 29, 1908. Serial No. 435,719.



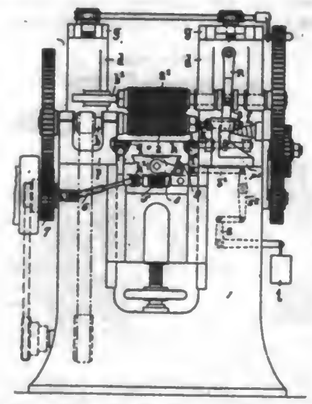
1. A reducing valve, having, in combination, a body provided with a high-pressure chamber, a low-pressure chamber, a passage connecting said chambers, a relief chamber, and a cylindrical chamber extending out from the high-pressure chamber, a cylindrical valve closing the passage between the high and low-pressure chambers and fitting closely in the cylindrical chamber, and a diaphragm between the low-pressure chamber and the relief chamber connected to the cylindrical valve, the said valve having a passage therethrough opening at its upper and lower ends into the relief chamber and the cylindrical chamber respectively and connected at an intermediate point with the low-pressure chamber, and a spring-operated relief valve closing the upper end of the passage, substantially as described.

2. A reducing valve, having, in combination, a body provided with a high-pressure chamber, a low-pressure chamber, a passage connecting the chambers, and a relief chamber having an opening therein, a main valve controlling the said passage, a diaphragm between the low-pressure chamber and the relief chamber and connected with the main valve, a cylindrical spring in the relief chamber bearing against the diaphragm to force the main valve open upon a fall of pressure against the diaphragm, a hollow stem projecting from the diaphragm and inclosed within the said spring, a relief valve seated in the upper part of the main valve member and within the hollow stem, and a spring located within the hollow stem and bearing against the relief valve to hold the same closed, the main valve and the hollow stem having passages to permit the passage of fluid through the relief valve, substantially as described.

3. A reducing valve, having, in combination, a body provided with a high-pressure chamber, a low-pressure chamber, a passage connecting the chamber, and a relief chamber having a relief opening therein, a main valve controlling the said passage, a diaphragm separating the low-pressure chamber and the relief chamber and connected with the main valve, a helical spring in the relief chamber bearing against the diaphragm, a hollow stem projecting from the diaphragm and inclosed within the said spring, a relief valve seated in the upper part of the main valve member and within the hollow stem, a spring located in the hollow stem and bearing against the relief valve, a hollow adjusting screw threaded into the body for adjusting the main valve spring, and an adjusting screw projecting into the said hollow screw and threaded into the hollow stem for adjusting the relief valve spring, substantially as described.

4. A reducing valve, having, in combination, a body provided with a high-pressure chamber, a low-pressure chamber, a passage connecting said chambers, a cylindrical chamber extending out from the high-pressure chamber, a valve closing the passage between the high and low-pressure chambers and having a portion extending into and closely fitting the cylindrical chamber, a leak passage connecting the cylindrical chamber with the low-pressure chamber, and a pop relief valve connected with the low-pressure chamber, substantially as described.

975,839. MACHINE FOR MILLING SLICING-KNIVES. VICTOR EUGEN DOBBS, Köthen, Germany. Filed Feb. 8, 1910. Serial No. 542,799.



1. A machine for milling beet slicing knives and other steel slicing knives, comprising two milling rollers arranged one above the other, and each consisting of a plurality of annular milling edges each of which is formed by a plurality of cutting teeth separated by intervals.

2. A machine for milling beet slicing knives and other steel slicing knives, comprising two milling rollers arranged one above the other, and each consisting of a plurality of annular milling edges, each of which is formed by a plurality of cutting teeth separated by intervals, the two milling rollers being staggered relatively to each other by half the pitch, so that the interval between them describes a zig zag line.

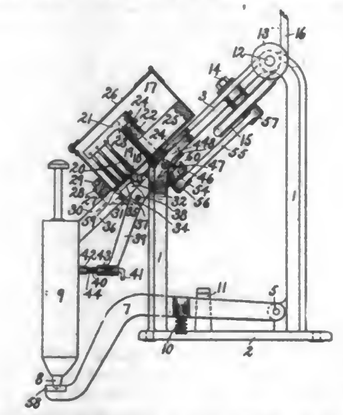
3. A machine for milling beet slicing knives and other steel slicing knives, comprising the combination of two milling rollers arranged one above the other, and each consisting of a plurality of annular milling edges, each consisting of a plurality of cutting teeth separated by intervals, and means for clamping the blank, so that the under side, front side and upper side of the part of the blank to be milled are free for the simultaneous milling action of the rollers.

4. A machine for milling beet slicing knives and other steel slicing knives, comprising the combination of two milling rollers arranged one above the other and each consisting of a plurality of annular milling edges each of which has a plurality of teeth separated by intervals, the two milling rollers being staggered relatively to each other by half the pitch, and means for clamping the blank, so that the under side, front side and upper side of the part of the blank to be milled are free for the simultaneous milling action of the rollers.

5. A machine for milling beet slicing knives and other steel slicing knives, comprising two milling rollers arranged one above the other and each consisting of a plurality of annular milling edges, each of which has a plurality of teeth separated by intervals, a blank carrying carriage, a lower carriage on which the blank-carrying carriage is moved horizontally at right angles to the axes of the rollers, the said lower carriage being movable on the main frame of the machine in a direction parallel with the axes of the rollers, and adapted to be rigidly fixed on the main frame, and two curved sliding members detachably mounted on the upper carriage, and adapted to move respectively the carriage and one of the milling rollers laterally in a direction parallel to the axes of the rollers.

[Claims 6 to 11 not printed in the Gazette.]

975,840. TACK-LOADER. JOHN J. DOIDGE, South Framingham, Mass. Filed June 1, 1909. Serial No. 499,271.



1. The combination, in a tack loader, with a suitable hopper provided with a raceway, of a gate forming part of the mouth of said raceway and having the raceway continued therethrough and provided with normally-contacting but separable springs located between the walls of the raceway in said gate and having outwardly-flaring free terminals, such gate being adapted to have connected therewith and disconnected therefrom the raceway of a tack driver, and such springs being adapted to be separated or to have their normally-contacting parts opened by the driver raceway when thrust between them and to be closed upon the withdrawal of said driver raceway.

2. An inclined hopper, for a tack loader, having a raceway in the floor thereof, and provided in the upper portion with an abutment which bars the tacks from such upper portion and means in said hopper adapted to play in the space unoccupied by said abutment to actuate the tacks into said raceway.

3. The combination, in a tack loader, with a suitable tack receptacle provided with a raceway, and a gate forming part of the mouth of said raceway, such gate having ears spaced apart and provided with inwardly-directed pins to receive and hold the nose of the raceway of a tack driver, of a pivotally-mounted upwardly-tensioned arm adapted to support said driver and retain it with the nose of its raceway in engagement with said gate.

4. The combination, in a tack loader, of a suitable frame, a tack receptacle supported by such frame and provided with engaging means for the nose of the raceway of a tack driver, a pivotally-mounted upwardly-tensioned arm adapted to support said driver and retain it with the nose of its raceway in engagement with said engaging means, an agitator for tacks in such receptacle, driving mechanism including clutch members for such agitator, and a pivotally-mounted lever having one terminal in engagement with one of such clutch members and the other terminal in operative relation to said driver when supported on said arm.

5. The combination, in a tack loader, with an agitator for tacks, and driving mechanism including clutch members for such agitator, of a pivotally-mounted operating lever for such clutch members, and a yielding member carried by and slidingly mounted in relation to said lever and located in operative relation to the body of a tack driver when connected with the loader.

[Claim 6 not printed in the Gazette.]

975,841. WORK-SUPPORT FOR WELT-BEATERS. JOHN J. DOIDGE, South Framingham, Mass. Filed July 27, 1909. Serial No. 509,859.



1. The combination, in a welt beater, with a suitable supporting member, an upwardly-tensioned plunger mounted in such support and provided with an arm, an adjusting screw in engagement with said arm and said member and adapted to increase or decrease the amount of throw imparted to said plunger by the tension means, and means to prevent said plunger from rotating, of a second arm, means to secure said second arm to said plunger, and a work support carried by said second arm.

2. The combination, in a welt beater, with a suitable supporting member, an upwardly-tensioned plunger mounted in such supporting member and provided with a rigidly-attached arm, means of adjustment for said plunger, and a guide member between said arm and said member to prevent the former from turning and the plunger from being rotated, of a second arm, means to secure said second arm to said plunger, and a work support carried by said second arm.

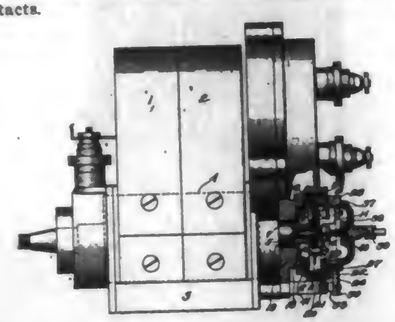
3. The combination, in a welt beater, of a suitable supporting member, an upwardly-tensioned plunger mounted in such supporting member and provided with a rigidly-attached arm outside of such member, an adjusting screw in engagement with said arm and said member and adapted to increase or decrease the amount of throw imparted to said plunger by the tension means, a guide member between said arm and said supporting member to prevent the former from turning and the plunger from rotating, a second arm, means to secure said last-mentioned member adjustably to said plunger, and a work support carried by said second arm.

975,842. MAGNETO-INTERRUPTER. WILLARD E. DOW, Braintree, Mass. Filed June 16, 1908. Serial No. 438,758.

1. In a magneto, a rotary part, a current interrupter, having its terminals rotated by said part, and means for adjusting said terminals toward and from each other while they are being rotated.

2. In a magneto, an interrupter having coöperating make-and-break terminals, means including a rotary part for operating said terminals, an operating cam having the double function of determining the separating distance of said terminals and of regulating the timing of the interruptions, an externally operable adjusting ring threaded onto an adjacent part for moving said cam in one direction to regulate the separation of said terminals, and externally operable rotary means for moving said cam in another direction for regulating the timing.

3. In a magneto, an interrupter, comprising a fixed contact and a movable contact, yielding means supporting the movable contact, a cam projection for operating said movable contact, said cam projection being movable with relation to said contacts in two directions, one for varying the timing and the other for varying the separating distances of the contacts, means for relatively rotating said contacts and said cam projection to operate the interrupter, external means for changing the operating position of said cam projection with relation to said contacts without relatively moving said contacts for varying the timing of the magneto, said external means being adjustable while the magneto is running, adjustable stops for said timing means, to permit of a maximum throw of the latter, or a minimum throw, as desired, and means for relatively moving said cam and said contacts to regulate the separating distance of the contacts.

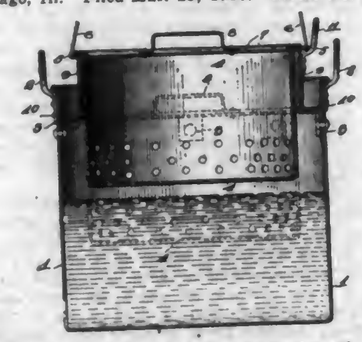


4. In a magneto, an interrupter, comprising a fixed contact and a coöperating movable contact, spring means yieldingly supporting said movable contact, having two oppositely extending curved portions fixedly supported at their ends opposite the contacts, whereby the movable contact is rendered capable of moving longitudinally toward and from the fixed contact, and is held at all times in unchanging axial alinement with said fixed contact, and coöperating adjusting means for adjusting the normal position of said movable contact toward or from said fixed contact.

5. In a magneto, an interrupter, having a fixed contact, a movable contact, a yielding supporting means for the latter, a tripping-cam ring for operating said movable contact, means for relatively rotating said contacts and said ring, guiding means for guiding said ring in an unvarying path of adjustment, said guiding means including a stiff, thin flange riding in an annular groove, and timing means adjusting said ring to change the timing of the magneto.

[Claims 6 and 7 not printed in the Gazette.]

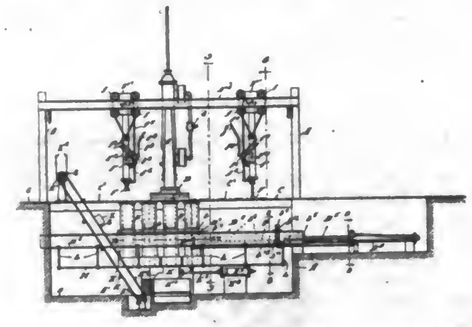
975,843. COOKING UTENSIL. MATTHEW T. DUFFY, Chicago, Ill. Filed Mar. 25, 1910. Serial No. 551,462.



1. In a cooking utensil, the combination of a boiler, stops secured to the interior of said boiler near its top; a removable supporting member arranged to rest upon said stops; and a foraminated food vessel of a size to pass said stops but provided at its upper end with an outwardly extending flange of a size to rest either upon said removable supporting member or upon said stops, substantially as described.

2. In a cooking utensil, the combination of a boiler; brackets secured to the interior of said boiler near its top; a cylindrical supporting member having a flange at its lower edge adapted to rest upon said brackets; and a foraminated food containing vessel having a flange at its upper edge adapted to rest upon said brackets or upon the upper edge of said supporting member, substantially as described.

975,844. METAL-SCRAP COMPRESSOR. SOLOMON W. EGBERT, Joliet, Ill., assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 16, 1908. Serial No. 421,561.



1. In a metal scrap compressor, the combination with a compressing hammer, of a pair of movable tamping plungers, one on each side of the compressing hammer, a longitudinally reciprocatory mold carriage furnished with a plurality of molds, an anvil, a movable anvil block and a stationary bottom plate having an opening therein in line with the compressing hammer, substantially as specified.

2. In a metal scrap compressor, the combination with a compressing hammer, of a pair of movable tamping plungers, one on each side of the compressing hammer, a longitudinally reciprocatory mold carriage furnished with a plurality of molds, an anvil, a movable anvil block, a stationary plate closing the lower end of said molds when under said tamping plungers and having an opening therein in line with the compressing hammer, and a conveyer upon which the solid or compressed blocks of scrap are delivered as they are discharged from the mold by the compressing hammer and movable anvil block, substantially as specified.

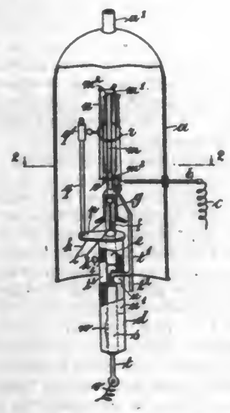
3. In a scrap compressor, the combination with a compressing hammer, of a reciprocatory slide or carriage furnished with a series of molds, a cylinder and piston for reciprocating said mold carriage, registering means for registering each mold with the compressing hammer, a stationary bottom plate having an opening registering with the compressing hammer and closing the lower end of said molds when in filling position, an anvil, a movable anvil block, a tamping plunger, a cylinder and piston for operating said tamping plunger, a wheeled truck carrying said tamping plunger and its operating cylinder and piston, and a track for said wheeled truck to enable the tamping plunger to be alternately brought over a plurality of molds being filled, substantially as specified.

4. In a scrap compressor, the combination with a compressing hammer, of a reciprocatory slide or carriage furnished with a series of molds, a cylinder and piston for reciprocating said mold carriage, registering means for registering each mold with the compressing hammer, a stationary bottom plate having an opening registering with the compressing hammer and closing the lower end of said molds when in filling position, an anvil, a movable anvil block, a cylinder and piston for operating said movable anvil block, a tamping plunger, a cylinder and piston for operating said tamping plunger, a wheeled truck carrying said tamping plunger and its operating cylinder and piston, a track for said wheeled truck to enable the tamping plunger to be alternately brought over a plurality of molds being filled, and a second tamping plunger and operating cylinder, piston and wheeled truck therefor, one of said tamping plungers being on each side of the compressing hammer, substantially as specified.

5. In a scrap compressor, the combination with a compressing hammer, of a reciprocatory slide or carriage furnished with a series of molds, a cylinder and piston for reciprocating said mold carriage, reciprocating means for registering each mold with the compressing hammer, a stationary bottom plate having an opening registering with the compressing hammer and closing the lower end of said molds when in filling position, an anvil, a movable anvil block, stationary rails or bars upon which said mold carriage reciprocates, said bottom plates being suspended or supported from said rails or bars, substantially as specified.

[Claim 6 not printed in the Gazette.]

975,845. WELDING METALLIC FILAMENTS TO LEAD-WIRES. KARL FARKAS, New York, N. Y., assignor of one-half to Guy V. Williams, New York, N. Y. Filed Oct. 4, 1909. Serial No. 520,882.



1. An appliance for welding electric conductors to metallic filaments, comprising a supporting member for the filament carrying stem, an electrode operatively connected to said supporting member, and a second electrode for forming the small fusing arc.

2. An appliance for welding electric conductors to metallic filaments, comprising a supporting member, an electrode and support clamp operatively connected to the supporting member and forming a permanent part thereof, and a second electrode for forming the small fusing arc.

3. An appliance for welding electric conductors to metallic filaments, comprising a supporting member, a clamp for said conductors operatively connected to said supporting member and forming one electrode, and a stationary second electrode for forming the small fusing arc when the first electrode is close by.

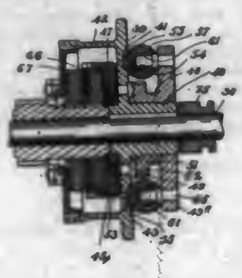
4. An appliance for welding electric conductors to metallic filaments, comprising a supporting member for the filament carrying stem, means thereon for slightly bulging out the filaments to make contact with the conductors, a clamp for the electric conductors operatively and permanently connected to the supporting member and forming an electrode, and a second electrode for turning the small fusing arc.

5. An appliance for welding electric conductors to metallic filaments, comprising a supporting member for the

filament carrying stem, an adjustable open ring with support on said supporting member adapted to be placed in a horizontal and vertical position for slightly bulging out the filament, a clamp for the electric conductors operatively and permanently connected to the supporting member and forming an electrode, and a second electrode for forming the small fusing arc.

[Claims 6 to 9 not printed in the Gazette.]

975,846. FRICTION-CLUTCH. CHARLES JOSEPH FENSOM, Toronto, Ontario, Canada. Filed Feb. 15, 1909. Serial No. 478,024.



1. In a friction clutch, a main driving member having inclined surfaces, a member loosely mounted and rotating with said main driving member and having inclined surfaces engaging the inclined surfaces of the aforesaid member, springs connecting the said loose member to said main driving member, rotatable friction members arranged adjacent to the aforesaid members, and means for bringing said friction members into engagement with the aforesaid members under pressure.

2. In a friction clutch, a main driving member having inclined surfaces projecting from one of its faces and a lateral flange or rim, a friction disk slidably supported from said rim, bolts extending through said main driving member and said friction disk, means for drawing on said bolts to draw said friction toward said main driving member, a friction member loosely mounted adjacent to said main driving member and having inclined surfaces engaging the inclined surfaces of said main driving member, springs connected to said friction member and to said main driving member, and a friction disk having suitable friction faces supported between said friction member and said slidable friction disk and clamped therebetween.

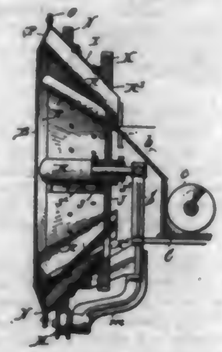
3. In a friction clutch, a main driving member having inclined surfaces projecting from one of its faces and a lateral flange or rim, a friction disk slidably supported from said rim, bolts extending through said main driving member and said friction disk, toggle levers connected to said bolts, means for operating said toggle levers, a friction member loosely mounted adjacent to said main driving member and having inclined surfaces engaging the inclined surfaces of said main driving member, springs connected to said friction member and to said main driving member, and a friction disk having suitable friction faces supported between said friction member and said slidable friction disk and clamped therebetween.

4. In a friction clutch, the combination with a shaft, of a main driving member fixedly secured to said shaft having inclined surfaces projecting from one of its faces and a lateral flange or rim, a friction disk slidably supported from said rim, bolts extending through said main driving member and said friction disk, crank shafts journaled in suitable bearings supported from said main driving member, said crank shafts having crank pins pivotally secured to said bolts, a sleeve slidably supported on said shaft, toggle levers connected to said crank shafts and to said sleeve, a friction member loosely mounted adjacent to said main driving member and having inclined surfaces engaging the inclined surfaces of said main driving member, springs connected to said friction member and to said main driving member, and a friction disk having suitable friction faces supported between said friction member and said slidable friction disk and clamped therebetween.

5. In a friction clutch, a main driving member having inclined surfaces projecting from one of its faces and a lateral flange or rim, a friction disk slidably supported from said rim, means for drawing said friction disk toward said main driving member, a friction member loosely mounted adjacent to said main driving member and having inclined surfaces engaging the inclined surfaces of said main driving member, a friction disk supported between the aforesaid friction disk and said friction member, a ring loosely mounted on said main driving member and rigidly secured to said friction member, said ring having an arm extending radially therefrom, a cylindrical casing pivotally supported from said main driving member, said casing having caps closing the ends and a longitudinal slot in the side wall, a reciprocatory member centrally arranged in said casing, springs inclosed within said casing and abutting each end of said reciprocatory member and the closed ends of said casing, and a pin secured to and extending laterally from the radial arm of said ring through the longitudinal slot in said casing and connected to said reciprocatory member.

[Claims 6 to 8 not printed in the Gazette.]

975,847. MIXING-MACHINE. CHESTER T. FOOTE, Nunda, N. Y., assignor to Foote Manufacturing Company, Nunda, N. Y., a Copartnership. Filed Mar. 30, 1909. Serial No. 486,764.

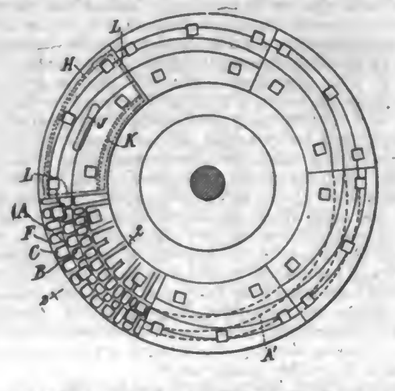


1. A charging-apparatus for mixing-machines comprising a shell of the shape of a truncated cone closed at its small end and provided with a circular series of gear-teeth at said end, a retaining-rim secured to the large end of said shell, and delivery-troughs secured to the inner side of said shell and extending out through the closed end of the same.

2. A charging-apparatus for mixing-machines comprising a substantially conical casing, a disk closing the small end of said casing and having peripheral teeth thereon and openings adjacent the wall of said casing, a retaining-rim inclined in a direction opposite to that of the wall of said casing and secured to the large end of the latter, and delivery-troughs secured to the inner side of said casing and extending from said rim through said openings.

3. The combination with a mixing-machine, of a charging-apparatus rotatably mounted and adapted to deliver material from a low point to a higher point and discharge the same into the mixing-machine, said apparatus comprising a conical casing, a conical retaining-rim inclined in a direction opposite that of the wall of said casing and secured to the large end of the latter, and delivery-troughs secured to the inner side of said casing which assume positions inclining toward the mixing-machine when moved to a predetermined point in the rotation of said apparatus.

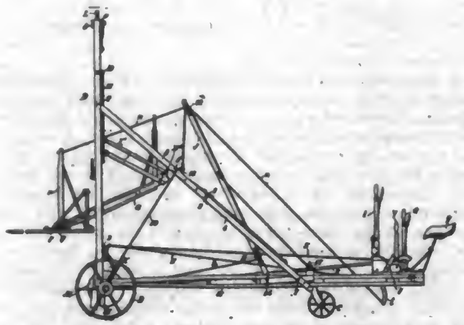
975,848. GRINDING-PLATE FOR ATTRITION-MILLS. SPENCER L. FRASER and AXEL E. JACOBSON, Minneapolis, Minn. Filed Oct. 14, 1909. Serial No. 522,509.



1. A grinding plate for attrition mills having on its face ribs which are spiral continuously in one direction around the face of the plate, and radial ribs between said spiral ribs.

2. A grinding plate for attrition mills having on its face ribs which are spiral continuously in one direction around the face of the plate, and radial ribs between said spiral ribs which divide the face of the plate into a series of pockets, the corners of said pockets being rounded, and said ribs being tapered toward their outer faces so as to cause an increased surface to be exposed as the ribs wear.

975,849. LOADER AND STACKER. ROBERT BARTON FULTON, Red Cloud, Nebr. Filed July 17, 1909. Serial No. 508,154.



1. A machine of the character described, comprising a wheeled base, an upright guide frame, a frame slidable vertically on said guide frame, a rocker pivoted to the slidable frame, a load holding device pivotally carried by said rocker, means for causing the rocker to move on its pivot when the slidable frame is raised and lowered, means for moving said slidable frame vertically, and means for tilting said load holding device.

2. A machine of the character described, comprising a wheeled base, an upright guide frame, a rocker slidable vertically on said guide frame, means for raising and lowering said rocker, a load acquiring and holding device tiltably mounted at one end of the rocker and projecting forward from said wheeled base, a link connection between the other end of said rocker and the guide frame, and means for controlling the tilting of said load-holding device.

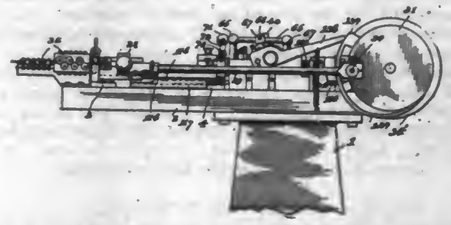
3. A machine of the character described, comprising a supporting structure having an upright guide portion, a rocker slidable vertically on said guide portion, means for raising and lowering said rocker, a load holding device tiltably mounted on said rocker at one side of said guide portion, and a link member pivoted at one end to the part of said rocker at the other side of said guide portion and at its other end to said guide portion.

4. A machine of the character described, comprising a supporting structure having an upright guide portion, a frame slidable vertically in engagement with said guide portion, a rocker pivotally supported by said frame, a load holding device tiltably mounted on said rocker at one side of said guide portion, means for controlling the tilting of said device, and a link member pivoted at one end to the part of said rocker at the other side of said guide portion and at its other end to said guide portion.

5. A machine of the character described, comprising a wheeled base, an upright guide frame, a frame slidable vertically thereon, a rocker pivoted to said slidable frame, a hoisting drum and a clutch for coupling and uncoupling said drum with respect to a wheel of said wheeled base, a load holding device supported tiltably from the forward end of said rocker, means for controlling the tilting of said load holding device, and a link connection between the rear end of said rocker and the guide frame.

[Claims 6 to 14 not printed in the Gazette.]

975,850. FABRIC-CHAIN MACHINE. JOHN F. GAIL, Kenosha, Wis., assignor to The Simmons Manufacturing Company, Kenosha, Wis., a Corporation of Wisconsin. Filed Aug. 2, 1909. Serial No. 510,765.



1. In a machine of the class described, the combination of a supporting frame having a forming channel, means for feeding wire across said channel, means for engaging the wire at a middle point and drawing it bodily longitudinally through said channel to bring the wire halves together, means for forming a loop at the bend of the wire, and means for turning over the ends of the halves to form a hook.

2. In a machine of the class described, the combination of a supporting frame having a narrow forming channel, means for feeding wire across said channel, means for separating the wire into sections, means for engaging a section at its middle point and drawing it bodily longitudinally through said channel to bring the section halves together, means for forming a loop at the bend of the section, means for turning over the ends of the halves to form a hook, and means whereby a next section of wire is applied through the hook after formation thereof.

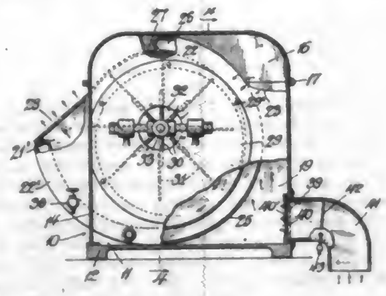
3. In a machine of the class described, the combination of a supporting frame having a narrow forming channel, means for feeding wire across one end of said channel, means for separating the wire into sections, an arm having a forming lug, means for moving said arm through said channel to cause its forming lug to engage a wire section at its middle and to draw said section through the channel to cause its halves to be brought together by the sides of the channel, forming plates adjacent said channel, means for bringing said forming plates together after said section has been drawn through said channel to bring the halves close together and to draw the material at the section bend closely about the forming lug to form a loop, and means for turning over the ends of the halves to form a hook.

4. In a machine of the class described, the combination of a supporting frame having a narrow forming channel, feed mechanism for feeding wire across the front of said channel, means for cutting the end sections from the wire, a finger adapted to be moved forwardly to the front of said channel to be associated with a wire section at its middle and to be drawn rearwardly to carry with it said section whereby the halves of the section are bent together upon engagement with the sides of the channel, means for turning over the ends of the halves to form a hook, the succeeding section of wire being applied through said hook, and a forming lug at the end of said finger, said forming lug engaging with the outer end of said hook so that when the finger is moved rearwardly, the preceding formed section will be drawn rearwardly to carry with it the succeeding section, whereupon the succeeding section also has its halves brought together.

5. In a machine of the class described, the combination of a supporting frame having a narrow forming channel, feed mechanism for feeding wire across the front of said channel, means for cutting the end sections from the wire, a finger adapted to be moved forwardly to the front of said channel to be associated with a wire section at its middle and to be drawn rearwardly to carry with it said section whereby the halves of the section are bent together upon engagement with the sides of the channel, means for turning over the ends of the halves to form a hook, the succeeding section of wire being applied through said hook, a forming lug at the end of said finger, said forming lug engaging with the outer end of said hook so that when the finger is moved rearwardly, the preceding formed section will be drawn rearwardly to carry with it the succeeding section whereupon the succeeding section also has its halves brought together, and forming plates adjacent said channel adapted to be brought together against the halves of a section after it has been drawn through the channel to bring said halves closely together and to draw the wire at the bend tightly about the forming lug of the finger to form a loop.

[Claims 6 to 13 not printed in the Gazette.]

975,851. VENTILATING APPARATUS. JAMES G. GARDNER, Chicago, Ill. Filed May 17, 1909. Serial No. 496,527.



1. An air heating and propelling instrumentality comprising a centrifugal fan wheel, a fan casing surrounding said wheel providing a hollow scroll for receiving a heating medium to heat the interior and exterior surfaces of the scroll, and an exterior casing surrounding the fan casing, said exterior and fan casings having non-registering inlet openings, and the fan casing having an outlet in its periphery leading to outside the exterior casing.

2. In a ventilating apparatus, a fan providing a hollow shell for the reception of a heating medium, said fan having an air inlet to its interior and means constituting a containing casing for the fan as a whole providing an inlet and a path from the casing inlet to the fan inlet, arranged to direct air into contact with the heated exterior of said shell before it reaches the fan inlet.

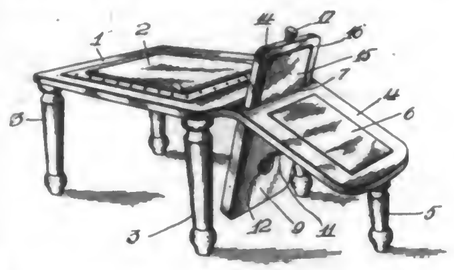
3. In a ventilating apparatus, an exterior casing having an inlet opening therein, an interior fan casing having an axial inlet opening, and having an outlet opening leading to outside the exterior casing, a fan in the interior casing for driving the air through said casings and forcing it into contact with the circumferential wall of the fan casing, and means for heating the interior and exterior surfaces of the circumferential wall of the fan casing.

4. In a self-contained ventilating apparatus, a scroll-shaped fan shell with a heating chamber in its peripheral wall, said shell having its outlet end at the greatest radial distance from its axis, and having an inlet, a motor for driving the fan, and an exterior casing for the fan enveloping part of the shell, and having protruding therefrom the outlet portion of the scroll, said casing providing an air inlet, and being otherwise substantially closed.

5. In a self-contained ventilating apparatus, a casing internally divided into a plurality of transverse compartments and provided with an air inlet to the fan compartment, a centrifugal fan in one compartment, having its inlet within the casing and an outlet to the exterior air, said fan being provided with a chamber in its shell to receive a heating medium, and a motor for driving said fan arranged in another compartment.

[Claims 6 to 11 not printed in the Gazette.]

975,852. SHOE-SALESMAN'S STOOL. JACOB GASSEL, Pittsburg, Pa. Filed Mar. 5, 1910. Serial No. 547,560.

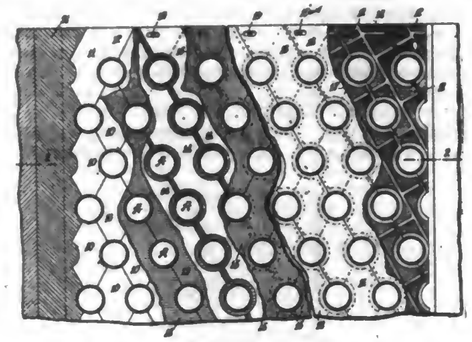


A shoe salesman's stool comprising a seat, supporting means therefor, a rest projecting from said seat and inclining downwardly and provided at its upper terminus with a transversely-extending rectangular slot, a support for the free end of the rest, a rectangular casing arranged below the rest and having a bottom, side and end walls and further having an open top extending transversely with respect to the rest and communicating with the opening, means connected at one end to the casing and at its other end to the lower face of the rest for fixedly securing the casing in position, and a mirror shiftably-mounted within the casing and adapted to extend when partially withdrawn from the casing through said opening and transversely of the rest whereby a customer can observe the front appearance of a shoe while being fitted, said casing depending at an inclination with respect to the seat and said slot having its side walls inclining and forming a continuation of the inner face of the side walls of the casing.

975,853. FLAME OR BAFFLE BRIDGE FOR WATER-TUBE BOILERS. AUGUST P. GERALD, Jersey City, N. J. Filed Dec. 16, 1909. Serial No. 533,334.

1. The combination with the water tubes of a water-tube boiler, of a flame bridge made up of a plurality of layers, one of said layers including tiles disposed between the tubes, another of said layers including a series of strips of heat-resisting material, and another of said layers comprising a plurality of metal plates.

2. The combination with the water tubes of a water-tube boiler, of a flame bridge made up of a plurality of superimposed layers, one of said layers including a series of strips of heat-resisting material extending between the tubes in one direction, and another of said layers comprising a series of strips of heat-resisting material extending between said tubes at an angle to the first-mentioned strips and in a plane parallel thereto.



3. The combination with the water tubes of a water-tube boiler, of a flame bridge made up of a plurality of superimposed layers, one of said layers including a series of strips of heat-resisting material extending between the tubes in one direction, and another of said layers comprising a series of strips of heat-resisting material extending between said tubes at an angle to the first-mentioned strips and in a plane parallel thereto, and a series of metal plates in engagement with one of said layers of strips.

4. The combination with the water tubes of a water-tube boiler, of a flame bridge made up of a plurality of superimposed layers, one of said layers including a series of strips of heat-resisting material extending between the tubes in one direction and another of said layers comprising a series of strips of heat-resisting material extending between said tubes at an angle to the first-mentioned strips and in a plane parallel thereto, and a series of tiles in engagement with one of said layers of strips.

5. The combination with the water tubes of a water-tube boiler, of a flame bridge made up of a plurality of superimposed layers, one of said layers including a series of strips of heat-resisting material extending between the tubes in one direction and another of said layers comprising a series of strips of heat-resisting material extending between said tubes at an angle to the first-mentioned strips and in a plane parallel thereto, a series of metal plates in engagement with one of said layers of strips, and a series of tiles in engagement with one of said layers of strips.

[Claims 6 to 11 not printed in the Gazette.]

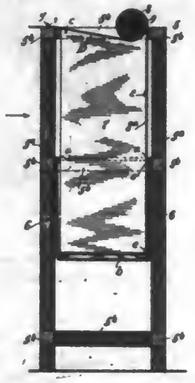
975,854. RECEPTACLE FOR SPUTUM. WILLIAM L. GERARD, Bellingham, Wash. Filed Feb. 1, 1910. Serial No. 541,267.

1. In a device of the character described, the combination with a frame, of a detachable receptacle pendent in the frame, and paper sheets hung on the inside of the frame at the top thereof and extending downward into the receptacle for receiving sputum.

2. In a device of the character described, the combination with a frame, of a rectangular detachable receptacle pendent in the frame, a paper roll rotatable on the frame, and means for unwrapping pendent portions of paper from said roll.

3. In a device of the character described, the combination with an upright rectangular frame, paper sheets hung within the frame, a removable rectangular receptacle pendent within the frame into which the paper sheets hang, a paper roll rotatably mounted on the frame having a free end portion extended down into the receptacle, and means for the manual rotation of the paper roll.

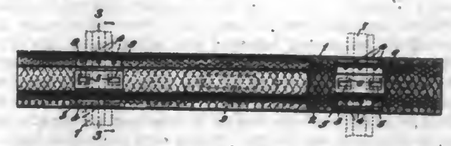
4. In a device of the character described, the combination with a frame, and a receptacle hung in the frame, of a shaft having a crank handle on one end thereof and rotatable on the upper end of the frame, a paper roll on the shaft, a cord wrapped on the shaft between the turns of the paper roll, weight strips on the paper roll disposed at intervals on one side thereof, and means to indicate the extent of cord and paper unwrapped from the roll when said cord is pulled upon at its free end.



5. In a device of the character described, the combination with a rectangular skeleton frame, of a rectangular receptacle hung on said frame below the top thereof, paper sheets pendent from the upper part of said frame and extending downward into the receptacle at two opposite sides thereof, and a paper roll mounted to turn on the upper part of the frame and having an end portion adapted to extend over the bottom and one of the other sides of the said receptacle.

[Claim 6 not printed in the Gazette.]

975,855. CONCRETE-METAL RAILWAY-TIE. LESTER R. GIFFORD, Westmont borough, Pa. Filed Aug. 17, 1907. Serial No. 388,946.



1. A railway-tie of concrete reinforced by a steel plate consisting of solid sections constituting rail-seats and a section of expanded metal integral therewith.

2. A railway-tie of concrete, reinforced by a steel plate consisting of solid sections constituting rail-seats with openings therein for rail-fasteners, and a section of expanded metal integral with said solid section.

3. A railway-tie of concrete reinforced throughout its length by an expanded metal plate provided with solid sections forming rail-seats.

4. A railway-tie of concrete reinforced throughout its entire length and sides, with an expanded metal plate provided with solid sections forming rail-seats.

5. A railway-tie of concrete reinforced throughout its length and sides with a metal plate provided with sections forming rail-seats, said sections having openings therein for rail-fasteners.

[Claims 6 to 11 not printed in the Gazette.]

975,856. INK-FOUNTAIN FOR PRINTING-PRESSES. RICHARD J. GREENWAY, Westerly, R. I., assignor to C. B. Cottrell & Sons Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 27, 1909. Serial No. 492,463.

An ink fountain comprising a fountain roll, a blade having its edge normally spaced from the roll, a series of approximately arranged blade adjusting screws located beneath the blade and loose caps interposed between the upper ends of the screws and the under face of the blade

for increasing the bearing surfaces of the screws upon the blade and thereby eliminating the tendency of the



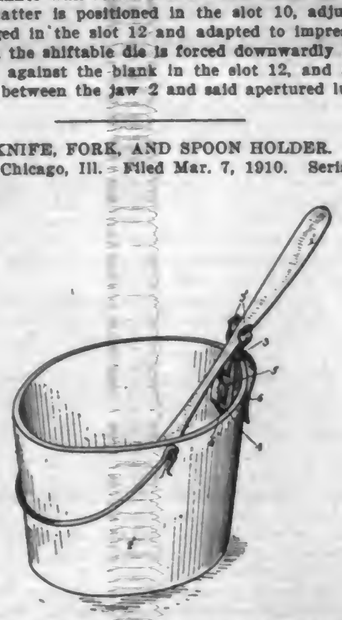
blade to spring away from the roll at the points between the screws.

975,857. SEALING-TOOL. AMOS E. GROOM, Pittsburg, DAVID S. MCFALL, Avalon, and WILLIAM J. NOAH, Ben Avon, Pa. Filed Nov. 11, 1909. Serial No. 527,505.



A sealing tool comprising a handle having one end enlarged to provide a jaw 5 and further having an opening in proximity to said jaw, a handle extending through said opening and pivotally connected to the first mentioned handle and having its pivoted end terminating in a jaw 2 extending above and clear of the jaw 5, said jaw 5 formed in its lower portion with a slot 12 and in its upper portion with an opening 11 opposing the slot 12, and said jaw 5 further provided with a slot 10 intermediate its ends and disposed at right angles with respect to the opening 11 and slot 12, a shiftable die mounted in said opening 11 and adapted to project in the slot 10, said die provided at its upper end with an apertured lug, said slot 10 adapted to receive a blank and having its inner wall rounded and which abuts the blank when the latter is positioned in the slot 10, adjustable dies arranged in the slot 12 and adapted to impress the blank when the shiftable die is forced downwardly in the opening 11 against the blank in the slot 12, and a link connection between the jaw 2 and said apertured lug.

975,858. KNIFE, FORK, AND SPOON HOLDER. ROSS C. GUY, Chicago, Ill. Filed Mar. 7, 1910. Serial No. 547,731.



1. In a device of the class described, a flexible substantially U-shaped clip adapted to engage the rim of a vessel, a struck up loop in said clip, a utensil supporting member, and a tongue formed in said member and adapted to engage said loop, substantially as described.

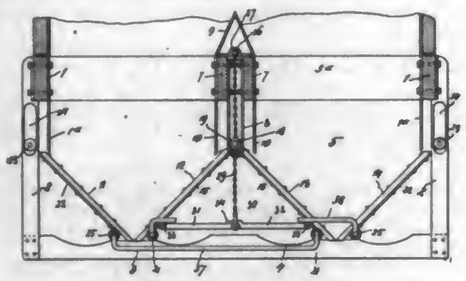
2. In a device of the class described, a substantially U-shaped clip and a loop struck up therein, a twisted vertically disposed utensil support having a tongue inclined thereto and adapted to engage said loop, and two loops integral with said support and arranged on the same side thereof, substantially as described.

975,859. BURNER. WILLIAM JOSEPH HACKMANN, Pittsburg, Pa. Filed Aug. 24, 1910. Serial No. 578,736.



A gas burner comprising a curved back piece made of a single piece of material and having the edges thereof bent forwardly and shaped to provide a groove around the forward edges of said back piece, a curved face-board supported in the groove of said back piece and arranged in parallelism with said back-piece, said face-board having apertures formed therein and in conjunction with said back piece providing a gas receiving box, asbestos fiber secured to said face-board, a forwardly extending bracket carried by the lower edge of said back piece, a heat disseminating element mounted upon said bracket in front of said asbestos fiber, an air mixer carried by the lower edge of said back piece and in communication with said gas receiving box, and curved deflectors arranged in said box, substantially as, and for the purpose herein described.

975,860. DOOR-OPERATING MECHANISM. PATRICK J. HARRIGAN, McKeesport, Pa. Filed Dec. 14, 1908. Serial No. 467,433.



1. The combination with a car body, of a frame suspended beneath said car body, inner and outer doors forming the bottom of said frame, means for movably supporting the bottom edges of said doors, links connecting the lower edges of said inner doors with the lower edges of said outer doors, and means arranged above said doors for moving all of said doors in unison.

2. In a door operating mechanism, the combination of inner and outer doors, means for supporting said doors, said means including suspension members, tracks, stirrups, revoluble rollers carried by said doors and engaging said tracks, members and stirrups, and a shaft for simultaneously moving said doors.

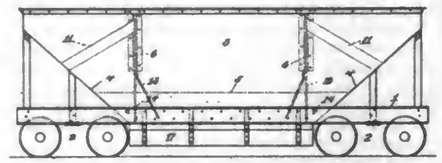
3. In a door operating mechanism, the combination of doors, horizontal tracks movably supporting the lower edges of said doors, means for guiding the upper edges of said doors in a plane at right angles to said tracks, means for coupling the lower edges of said doors whereby said doors will move in unison, and means for operating said doors.

4. In a door operating mechanism, the combination of doors, horizontal tracks movably supporting the lower edges of said doors, means for guiding the upper edges of said doors in a plane at right angles to the tracks, and means for coupling the lower edges of said doors whereby said doors will move in unison.

5. The combination of inner and outer doors controlling the discharge of a car opening, horizontal tracks movably supporting the lower edges of said doors, said tracks having depressions formed therein for accelerating and retarding the movement of said doors, means for simultaneously moving said doors, and means for guiding the upper edges of said doors.

[Claims 6 to 33 not printed in the Gazette.]

975,861. DUMP CAR AND VEHICLE. PATRICK J. HARRIGAN, McKeesport, Pa. Filed Mar. 19, 1909. Serial No. 484,433.



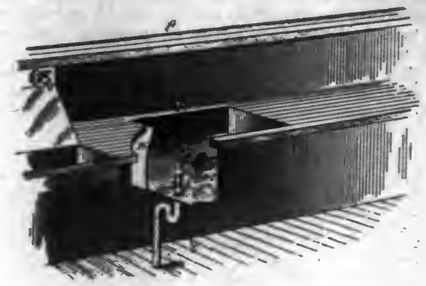
1. A car of the type described, comprising a body provided with a discharge opening in the bottom thereof, fixed partitions dividing said body into compartments, doors hinged to the lower edges of said partitions and adapted to be held in a closed position by a portion of the lading for retaining another portion of the lading within said body, said doors free to open automatically under the pressure of the lading in one compartment when the lading in another compartment is discharged, and each compartment discharging direct through the discharge opening without passing through any other compartment.

2. A car of the type described, comprising a body provided with a discharge opening and having a fixed partition forming compartments, doors controlling the discharge of a load from said compartments, and a second door hinged to said fixed partition and arranged to be held closed by the weight of the load in one of the compartments, and being free to open automatically when the load in the last-named compartment is discharged, each compartment discharging direct through the discharge opening without passing through any other compartment.

3. A car of the type described, comprising a body having a discharge opening and having fixed partitions dividing the car into compartments, and hinged doors carried by said partitions and adapted to be held in a closed position by a portion of the load within said body, said hinged doors being free to open when the door-holding portion of the load is discharged, and each compartment discharging direct through the discharge opening without passing through any other compartment.

4. In a dump car, a car body of hopper form having a bottom discharge opening, and swinging doors disposed transversely of the car body within the same and directly above the discharge opening adjacent the ends of the latter forming a central compartment and end compartments in the car body, the end compartments being in direct communication with the bottom discharge opening when the doors swing open.

975,862. GLASS-CLEANER. LOUIS GEORGE HATOSY, Jr., New York, N. Y. Filed Apr. 18, 1910. Serial No. 556,079.



A bar having a washing tank provided with an overflow pipe rising from its bottom and a brush having a stem terminating in spring jaws engaging the over-flow pipe at the bottom of the tank, and an arm extending at an angle from the stem and terminating in spring jaws engaging the overflow pipe intermediate of its ends.

975,863. ANTHRAQUINONE DERIVATIVES AND PROCESS OF MAKING SAME. EDUARD HEPP, Frankfort-on-the-Main, and CHRISTOPH HAETMANN, Höchst-on-theMain, Germany, assignors to Farbwerke vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed Feb. 25, 1910. Serial No. 545,858.

1. The process of producing new anthraquinone dyestuffs which consists in heating an amidoanthranol, preferably in presence of a solvent, and then isolating the resulting dyestiff, substantially as hereinbefore described.

2. The process of producing a new anthraquinone dyestuff, which consists in heating 1.5-diamidoanthranol, preferably in presence of a solvent, and then isolating the resulting dyestuff, substantially as hereinbefore described.

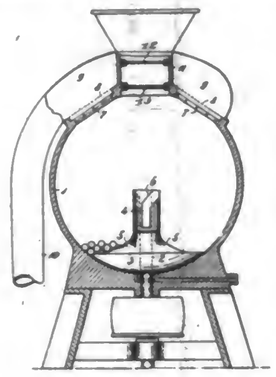
3. As new products, the herein described new dyestuffs obtainable by heating an amidoanthranol, preferably in presence of a solvent; said dyestuffs being, when dry, dark powders insoluble in water, alkalies and diluted acids, very little soluble in the usual organic solvents, and dissolving in the hydrosulfites in presence of alkalies, yielding then solutions which dye cotton gray to black shades very fast to light and resisting very well alkalies.

4. As a new product, the herein described dyestuff, obtainable by heating 1.5-diamidoanthranol preferably in presence of a solvent; said dyestuff being a black to violet-black crystalline powder, insoluble in water, alkalies and diluted acids, very little soluble in the usual organic solvents, giving, when dissolved in nitrobenzene and pyridin, a blue-violet solution and yielding a red vat from which cotton and wool are dyed gray to black shades.

975,864. ROLLING-BALLS GRINDING-MILL. LOUIS HOFFMANN, Vienna, Austria-Hungary. Filed June 10, 1910. Serial No. 566,171.

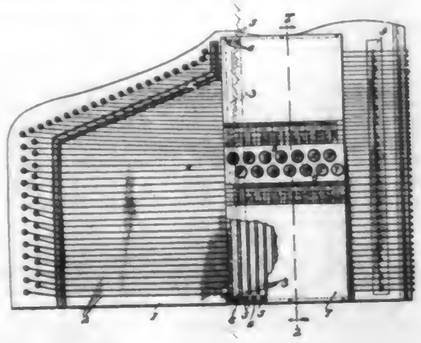
1. In a rolling balls grinding mill the combination of a plurality of loose balls, a ball dish, a stationary grinding surface inclosing the ball dish and balls, means comprising a shaft for revolving the ball dish, the top side of the said ball dish being formed of a plurality of sectors of helical surfaces co-axial with the said shaft and the bottom of the ball dish conforming to the shape of the grinding chamber, said dish being slightly raised to form a space between the same and the wall of the grinding chamber and means for forcing air through said space, beating wings secured to the said shaft above the ball dish, a collecting chamber fast on the grinding surface and means for sifting, establishing communication between the inside of the grinding surface and the said collecting chamber, substantially as and for the purpose described.

2. In a rolling balls grinding mill the combination of a plurality of loose balls, a ball dish, a stationary grinding surface inclosing the ball dish, means comprising a shaft for revolving the ball dish, the top side of the said ball dish being formed of a plurality of sectors of helical surfaces co-axial with the said shaft and the bottom of the ball dish conforming to the shape of the grinding chamber, said dish being slightly raised to form a space between the same and the wall of the grinding chamber and



means for forcing air through said space, beating wings secured to the said shaft above the ball dish, each of such beating wings being provided with a part inclined to the said shaft in the same direction as the sectors of the helical surfaces and with a plane part radial to such shaft, a collecting chamber fast on the grinding surface and means for sifting, establishing communication between the inside of the grinding surface and the said collecting chamber, substantially as and for the purpose described.

975,865. AUTOHARP AND LIKE INSTRUMENT. WALTER S. HOLLOWAY, Flushing, Ohio. Filed Dec. 16, 1908. Serial No. 467,822.



1. In an autoharp, the combination with the strings thereof, tuned according to the chromatic scale, of damper-bars coöperating with said strings to produce arpeggios or chords in a plurality of major keys, each damper-bar cooperating to produce a chord composed of tones different from those which another coöperates to produce, said damper-bars being arranged in such relation that those cooperating to produce the dominant and subdominant chords of any one key are adjoining the damper-bar cooperating to produce the tonic chord of that key.

2. In an autoharp, the combination with the strings thereof, tuned according to the chromatic scale, of damper-bars coöperating with said strings to produce arpeggios or chords in a plurality of major keys, each damper-bar coöperating to produce a chord composed of tones different from those which another coöperates to produce, said damper-bars being arranged in such relation that those coöperating to produce the dominant and subdominant chords of any one key are adjoining the damper-bar coöperating to produce a tonic chord.

3. In an autoharp, the combination with the strings thereof, tuned according to the chromatic scale, of damper-bars coöperating with said strings to produce arpeggios or chords in all the major keys, each damper-bar cooperating to produce a chord composed of tones different from those which another coöperates to produce, said damper-bars being arranged in such relation that those coöperating to produce the dominant and subdominant chords of any one key are adjoining the damper-bar cooperating to produce the tonic chord of that key.

4. In an autoharp, the combination with the strings thereof tuned according to the chromatic scale, of damper-bars coöperating with said strings to produce arpeggios or chords in all the major keys, each damper-bar coöperating to produce a chord composed of tones different from those which another coöperates to produce, said damper-bars being arranged in such relation that those coöperating to produce the dominant and subdominant chords of any one key are adjoining the damper-bar coöperating to produce the tonic chord of that key, and two extra damper-bars, one at each end of the arrangement, one coöperating to produce a dominant and the other a subdominant chord in the same key as that in which the adjoining damper-bar coöperates to produce a tonic chord.

5. In a musical instrument, sound producing means, and finger-pieces or buttons actuating said sound-producing means, arranged in such relation that the pieces operable for dominant and subdominant chords of major keys are adjoining finger-pieces operable for tonic chords of major keys, each finger-piece operable for a tonic chord being also operable with respect to one adjoining finger-piece for a dominant chord and operable with respect to another adjoining finger-piece for a subdominant chord.

[Claims 6 and 7 not printed in the Gazette.]

975,866. FORMIC ACID. HENRY HOWARD, Boston, Mass. Filed Mar. 24, 1908, Serial No. 423,006. Renewed Sept. 30, 1910. Serial No. 584,760.

1. In a process of producing formic acid, the method which consists in reacting upon a formate in presence of water with a gaseous reagent capable of displacing the formic acid by combining with the base of the formate, thereby liberating formic acid.

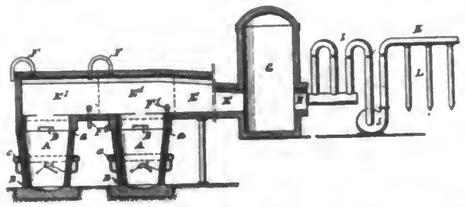
2. In a process of producing formic acid, the method which consists in bringing gaseous sulfur trioxid into reacting relation with a formate in presence of sufficient water to convert the sulfur trioxid into sulfuric acid.

3. In a process of producing formic acid, the method which consists in bringing gaseous sulfur trioxid into reacting relation with a formate in presence of sufficient water to convert the sulfur trioxid into sulfuric acid while controlling the temperature of the reaction.

4. In a process of producing formic acid, the method which consists in bringing gaseous sulfur trioxid into reacting relation with a formate in presence of water in approximately the proportion required to convert the sulfur trioxid into sulfuric acid.

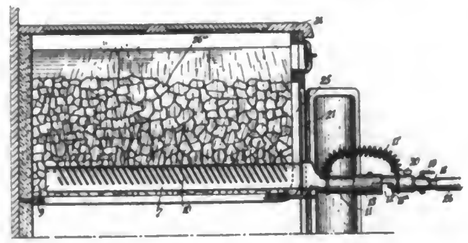
5. In a process of producing formic acid, the method which consists in bringing gaseous sulfur trioxid into reacting relation with a formate in presence of water in approximately the proportion required to convert the sulfur trioxid into sulfuric acid while controlling the temperature of the reaction.

975,867. PROCESS OF MANUFACTURING SUBLIMED WHITE LEAD. LOUIS S. HUGHES, Joplin, Mo., assignor to Picher Lead Company, Joplin, Mo., a Corporation of Missouri. Filed Sept. 21, 1909. Serial No. 518,740.



In the process of manufacturing basic lead sulfate for use as a pigment which consists in maintaining one or more low cupola blast furnaces in operation, feeding lead sulfid ore and other lead bearing materials into said furnaces, passing the furnace gases and lead fume and burning sulfid in admixture with air through a heated flue system to complete the oxidation of the sulfid and eliminate carbon, and finally screening the furnace gases to separate the lead sulfate fume, the improved method of producing the sulfate pigment in greater proportionate quantity to the sulfid ore and other lead bearing materials used and of superior quality, which consists in maintaining the temperature of the flues at a point below that at which SO_3 will form in substantial and injurious quantity from the union of SO_2 and free oxygen in the flue.

975,868. FIRE-KINDLER, SHOZABURO ISHII, Roslyn, N. Y. Filed Jan. 6, 1910. Serial No. 536,694.

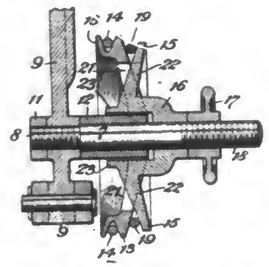


1. In a fire kindler, the combination of an elongated body portion provided with a longitudinal compartment extending lengthwise of the same, and further provided with slots disposed obliquely to the length of said elongated body portion for the purpose of distributing evenly therefrom a flow of combustible gas, means for directing said combustible gas into said elongated body portion, and a handle connected with said elongated body portion for thrusting the same into a body of combustibles.

2. A fire kindler, comprising a hollow blade provided with openings through which a combustible gas may escape, and further provided with a cylindrical portion having grooves upon its exterior, a handle of spring wire having portions bent around said cylindrical portion and lying within said grooves, and means for admitting said combustible gas into said cylindrical portion.

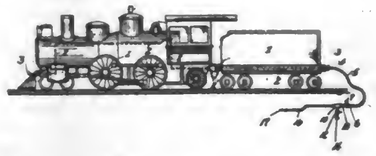
3. In a fire kindler, the combination of a hollow blade provided with openings, and further provided with a substantially cylindrical portion, said substantially cylindrical portion being provided with an opening for admitting air, a sleeve encircling said substantially cylindrical portion and slidable relatively thereto for virtually controlling the size of said opening into said cylindrical portion, a handle of spring wire connected with said cylindrical portion and extending in arcuate form across from one end of said cylindrical portion to the other end thereof, said opening in said cylindrical portion being between the ends of said handle portion, and means for admitting a combustible gas into said substantially cylindrical portion.

975,869. VARIABLE-SPEED POWER-TRANSMITTING MECHANISM. JOHN G. JONES, Rochester, N. Y., assignor to M. D. Knowlton Company, Rochester, N. Y., a Corporation of New York. Filed Aug. 30, 1906. Serial No. 332,576.



A power transmitting mechanism comprising a fixed shaft, two opposed parts rotatively mounted directly on said shaft, the hub of one of said parts partially incasing but out of contact with the hub of the other part, each of said parts having a series of spaced laterally inclined fingers entering openings between the fingers of the other part, thereby forming at the outer inclined faces of the two engaging series of fingers a belt receiving face, the circumference of which is variable by laterally adjusting one of said rotative parts, one of said parts having a circumferential series of inner and laterally projecting fingers overlying the hub of the other part, said fingers providing a way upon which the belt runs during minimum circumferential belt face adjustment of the correlated series of fingers of both rotative parts, and a manually operated nut threaded on said shaft and bearing against the hub of one of said parts for effecting lateral adjustment of said part.

975,870. LOCOMOTIVE ATTACHMENT. WILLIAM A. JONES and WILLIAM A. MINEHAN, Sharon, Pa. Filed May 31, 1910. Serial No. 564,278.



1. In a locomotive attachment, the combination of a flexible hose having a detachable coupler at one end, a hand valve at the other end, a section chamber, a nozzle connecting the said valve and the suction chamber and terminating within the latter, a metallic pipe leading from the other end of the suction chamber, and an intake member leading into the suction chamber at right angles to the line of the nozzle and pipe and at the rear of the mouth of the nozzle, substantially as shown and described.

2. In a locomotive attachment, the combination of a flexible hose, a member at one end of said hose for connecting it to the piping leading from the locomotive boiler, a hand valve at the other end of said hose, a suction chamber, a nozzle connecting the said valve and suction chamber and terminating in the suction chamber, a pipe leading from the suction chamber in line with the nozzle, an intake member leading into the suction chamber at right angles to the line of the nozzle and pipe and rearwardly of the end of the nozzle, an automatic valve positioned in such intake member, substantially as shown and described.

3. In a locomotive attachment, the combination of a flexible hose, a member at one end of said hose for connecting it to the piping leading from the locomotive boiler, a hand valve at the other end of said hose, a suction chamber, a nozzle connecting the said valve and suction chamber and terminating in the suction chamber, a pipe leading from the suction chamber in line with the nozzle,

an intake member leading into the suction chamber at right angles to the line of the nozzle and pipe and rearwardly of the end of the nozzle having perforations at the other end of the intake member, and an automatic valve located between the suction chamber and the perforated end of the intake member, substantially as shown and described.

4. In an apparatus of the class described, the combination of a railway locomotive and means for directing live steam against a frozen switch, said means comprising metallic piping, with a holding member thereon, connected to the locomotive boiler by a flexible member, as and for the purposes set forth.

5. In an apparatus of the class described, the combination of a railway locomotive, piping leading from the locomotive boiler, and terminating at a plurality of points on the engine and tender, and means adapted to be coupled to said piping for directing live steam against a frozen railway switch, as and for the purposes set forth.

975,871. HAND-RAKE. OTTO KAMPFE, New York, N. Y. Filed June 20, 1910. Serial No. 567,792.



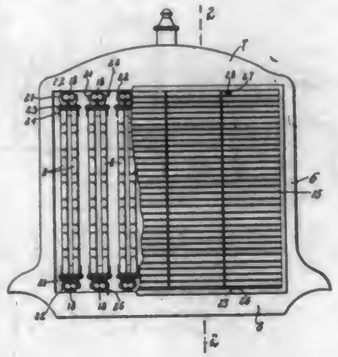
1. A shoe member attachment for a rake, comprising a main bar and top and bottom bars at the ends thereof bent at approximately right angles to the main bar, and the top and bottom bars perforated to receive a prong or tooth of a rake so that the main bar lies substantially parallel with the prong or tooth, and means associated with the shoe member for engaging a prong or tooth for removably securing the shoe member in place.

2. A shoe member attachment for a rake, comprising a main bar and top and bottom bars at the ends thereof bent at approximately right angles thereto and each provided with a perforation, starting from the main bar, and the perforations adapted to receive a prong or tooth of a rake, and means formed as a substantially inseparable part of the shoe member for engaging a prong or tooth for removably and frictionally securing the shoe member in position.

3. A shoe member attachment for a rake, comprising a main bar, a bar at the upper end bent at approximately right angles thereto, a bar or foot plate at the lower end bent at approximately right angles thereto and made of appreciable length and curved, and said bars perforated at and outwardly from the angle of their union with the main bar and adapted to receive a prong or tooth of a rake, and means associated with said shoe member attachment and providing a holding friction between the same and a prong or tooth so that the shoe member attachment is removably secured in position.

4. A shoe member attachment for a rake, comprising a main bar, a bar at the upper end bent at approximately right angles thereto, a bar or foot plate at the lower end bent at approximately right angles thereto and made of appreciable length and curved, and said bars perforated at and outwardly from the angle of their union with the main bar and adapted to receive a prong or tooth of a rake, and a brace-plate reduced at its respective ends to pass through the openings in the top and foot-plates as guides, and a screw passing through the brace-plate and adapted to bear with force against the back of a prong or tooth of a rake for holding the shoe member attachment removably in position.

975,872. RADIATOR FOR AUTOMOBILES. HERMANN KLEIN, New York, N. Y., assignor of one-third to William Reiter, New York, N. Y. Filed Sept. 15, 1910. Serial No. 582,194.



1. In an apparatus of the class described, the combination with the inlet chamber, of an outlet chamber, and a plurality of tubes for the circulating fluid arranged in pairs connecting said two chambers and being bent into undulating or serpentine form, each pair of said tubes having a common inlet and a common outlet.

2. In an apparatus of the class described, the combination with the inlet chamber, of an outlet chamber, a plurality of tubes for the circulating fluid arranged in pairs connecting said two chambers and being bent into undulating or serpentine form, each pair of said tubes having a common inlet and a common outlet in the form of sleeves, and means engaging said sleeves for fastening detachably said tubes to said chambers.

3. In an apparatus of the class described, the combination with the inlet chamber, of an outlet chamber, and a plurality of tubes for the circulating fluid arranged in pairs connecting said two chambers and being bent into undulating or serpentine form, each pair of tubes having its bent portions arranged in two parallel vertical planes and being provided with a common inlet and a common outlet.

4. In an apparatus of the class described, the combination with the inlet chamber, of an outlet chamber, a plurality of tubes for the circulating fluid arranged in pairs connecting said two chambers and being bent into undulating or serpentine form, each pair of said tubes having its bent portions arranged in two parallel vertical planes and being provided with a common inlet and a common outlet in the form of sleeves, and means engaging said sleeves for fastening detachably said tubes to said chambers.

5. In an apparatus of the class described, the combination with the inlet chamber, of a plurality of screw threaded nipples communicating therewith, an outlet chamber, screw threaded nipples in communication with said outlet chamber, a plurality of tubes for the circulating fluid arranged in pairs and bent into undulating or serpentine form, each pair of said tubes having a common inlet and a common outlet in the form of sleeves, and sleeve nuts engaging said sleeves and said nipples for fastening detachably said pairs of tubes to said chambers.

[Claim 6 not printed in the Gazette.]

975,873. HOSE CONNECTION FOR FAUCETS. BURTON D. KNICKERBOCKER, Chicago, Ill. Filed Aug. 9, 1909. Serial No. 512,007.

1. A coupling connection of the class described, in which are combined a funnel-shaped metallic casing having a shoulder near its top to form a peripheral support for a yielding diaphragm, a yielding diaphragm provided with an upwardly extended annular peripheral portion, said diaphragm having a central opening, and a metallic ring within said annular portion, said diaphragm and ring being held in place by means of an inwardly and downwardly turned annular flange arranged to engage the upper edge of said metallic ring.



2. A coupling connection of the class described, in which are combined a funnel-shaped metallic casing flared outwardly near its top to form an internal shoulder, thence extended upwardly, inwardly and downwardly to form an annular recess, a metallic ring within and held in place by said downwardly extended portion, a yielding diaphragm arranged to rest upon said shoulder with an annular portion extended upwardly within said recess, said diaphragm having a central opening, and means for holding said diaphragm in a stretched condition against a faucet.

3. A coupling connection of the class described, in which are combined a funnel-shaped metallic casing flared outwardly near its top to form an internal shoulder, thence extending upwardly, inwardly and downwardly to form an annular recess, a metallic ring within and held in place by said downwardly extended portion, a yielding diaphragm arranged to rest upon said shoulder with an annular portion extended upwardly within said recess, said diaphragm having a central opening, a tubular portion extended downwardly therefrom with radial reinforcing ribs upon the under face of said diaphragm, and means for holding said diaphragm in a stretched condition against a faucet, substantially as shown and described.

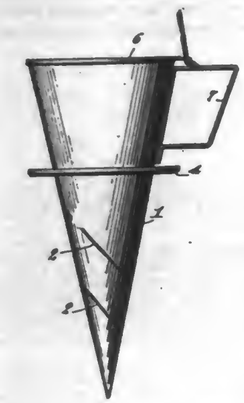
4. In a coupling connection of the class described, the combination of a funnel-shaped casing having therein a centrally perforated elastic diaphragm to be pressed against the outer end of a faucet of larger diameter than that of the perforation in said diaphragm, said casing being flared outwardly near its top to form an inturned shoulder, thence extended upwardly, inwardly and downwardly to provide an annular recess for the reception of an annular flange upon said diaphragm, an annular peripheral flange upon said diaphragm, rigid means pressed against the inner face of said flange to hold the periphery of said diaphragm in place against an inward pull and an adjustable securing chain for holding said diaphragm under tension against the end of a faucet to cause the rim of the latter to be embedded therein.

975,874. APPARATUS FOR PREPARING INFUSIONS. HERRMANN E. KORN and EDMOND KUHN, East Orange, N. J. Filed Jan. 18, 1910. Serial No. 538,632.

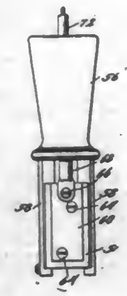
1. An apparatus for preparing infusions, consisting of a paper filter, a support within which the filter is contained and against which the surface of the filter bears, the support having slits therein through which the infusion is adapted to pass.

2. An apparatus for preparing infusions, consisting of a paper filter, a support within which the filter is contained and against which the surface of the filter bears, and the support having spiral slits therein through which the infusion is adapted to pass.

3. An apparatus for preparing infusions, consisting of a conical paper filter, a conical support within which the filter is contained and against which the surface of the filter bears, the support having spiral slits therein through which the infusion is adapted to pass.



975,875. ELECTRIC PLUG AND SOCKET. LOUIS W. KUTSCH, Chicago, Ill. Filed Feb. 10, 1910. Serial No. 543,039.



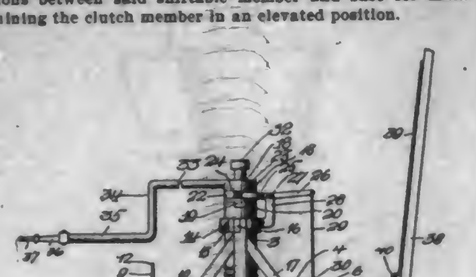
1. A plug for a device of the class described consisting of a forked wooden handle, a porcelain insulating member between the forks and electric terminals secured to the porcelain, the whole so arranged that the forks protect the porcelain against injury in case of fall.

2. A plug for a device of the class described consisting of a forked handle made of insulating material not readily broken by blows or jars, a block of relatively fragile insulating material secured between and protected by said forks and metallic electric contacts secured to and protecting the remaining surfaces of the second insulating member.

975,876. HOISTING DEVICE. ROBERT LESLIE LAMBERTON, Sistersville, W. Va. Filed May 21, 1910. Serial No. 562,754.

1. A hoisting device comprising a base plate, a post carried thereby, a sleeve revolubly mounted upon said post, a brake wheel carried by the lower end of said sleeve, a brake band adapted to control the movement of the brake wheel, means carried by the base for operating the brake band, a revoluble clutch member mounted upon the upper end of the post and adapted to engage in the upper end of the sleeve whereby the latter is revolved with the member, means for revolving the clutch member, a split band loosely engaging in said sleeve, means carried by the post and connected to said band for bracing the sleeve and the post, a bracket projecting from said band, a shiftable

member pivotally connected to said bracket and engaging with said clutch member and adapted when elevated to move the clutch member clear of the sleeve, and connections between said shiftable member and base for maintaining the clutch member in an elevated position.



2. A hoisting device comprising a base plate, a post carried thereby, a sleeve revolubly mounted upon said post, a revoluble clutch member mounted upon the upper end of the post and adapted to engage in the upper end of the sleeve whereby the latter is revolved with the member, means for revolving the clutch member, a split band loosely engaging in said sleeve, means carried by the post and connected to said band for bracing the sleeve and the post, a bracket projecting from said band, a shiftable member pivotally connected to said bracket and engaging with said clutch member and adapted when elevated to move the clutch member clear of the sleeve, and connections between said shiftable member and base for maintaining the clutch member in an elevated position.

975,877. CLOCK. JAMES D. LAW, Philadelphia, Pa. Filed Feb. 2, 1910. Serial No. 541,605.



1. In a device of the character stated, a clock, a chart adjacent the clock and having suitable subdivisions thereon, an indicator having notations on the face thereof, means for actuating said indicator, a governor shaft, a train of gears between said governor shaft and said actuating means, a pawl normally adapted to prevent rotation of said governor shaft, a minute hand shaft, a star wheel thereon, and means actuated by said star wheel for raising said pawl to release the said governor shaft whereby the same is free and permits rotation of said indicator-actuating means.

2. In a device of the character stated, a clock, a chart adjacent the clock and having suitable subdivisions thereon, an indicator formed of a plurality of links suitably connected and having notations on the face thereof, means for actuating said indicator, a governor shaft, a train of gears between said governor shaft and said actuating means, a pawl normally adapted to prevent rotation of said governor shaft, a minute hand shaft, a star wheel thereon, and means actuated by said star wheel for raising said pawl to release the said governor shaft whereby the same is free and permits rotation of said indicator actuating means.

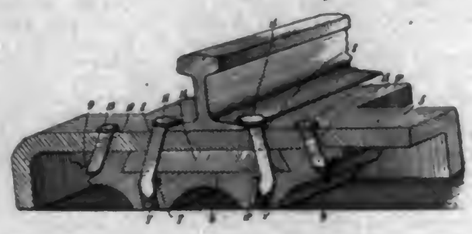
3. In a device of the character stated, a clock, a chart adjacent the clock and having suitable subdivisions thereon, an indicator formed of a plurality of links suitably connected and having notations on the face thereof, means for actuating said indicator, a governor shaft, a train of gears between said governor shaft and said actuating means, a pawl normally adapted to prevent rotation of said governor shaft, a minute hand shaft, a star wheel thereon, means actuated by said star wheel for raising said pawl to release the said governor shaft whereby the same is free and permits rotation of said indicator actuating means, and means for holding said pawl in elevated position for a predetermined time.

4. In a device of the character stated, a clock, a chart adjacent thereto having subdivisions thereon and having an opening in its face, an indicator movably supported and passing said opening, said indicator being formed of a plurality of links suitably connected having numerals thereon indicating time, means for actuating said indicator, a governor shaft, a connection between said governor shaft and said indicator whereby the governor shaft controls said actuating means, a pawl adapted to prevent rotation of said governor shaft in a certain position, a minute hand shaft, a star wheel thereon, means actuated by said star wheel for elevating said pawl and releasing the governor shaft, a stop for preventing improper movement of said pawl, and means for returning said pawl to position to again engage with said governor shaft to prevent rotation thereof.

5. In a device of the character stated, a clock, a chart adjacent said clock having suitable subdivisions thereon and provided with a laterally extending opening, an indicator movably mounted and supported and adapted to pass said opening, said indicator being formed of a plurality of links having numerals thereon, means for actuating said indicator, a governor shaft, a connection between said governor shaft and said actuating means whereby the governor shaft controls said actuating means, a pawl for engagement with said governor shaft to prevent rotation thereof, a minute hand shaft, a star wheel thereon, means in engagement with said star wheel for elevating said pawl and releasing the governor shaft, means for holding said pawl in elevated position a predetermined time, and means for releasing said pawl whereby the same returns to its normal position to again engage with said shaft.

[Claims 6 to 16 not printed in the Gazette.]

975,878. METALLIC RAIL-FASTENER. LETITIA LEAF, Findlay, Ohio. Filed Mar. 31, 1910. Serial No. 552,562.



1. In a metallic rail fastener, an inverted channeled tie having spike apertures arranged to lie at each side of the base flange of the rail, supporting blocks having recesses in their upper faces and provided with spike openings adapted to register with said apertures, each spike opening having an angle in its length, and sound-deadening blocks arranged in the recesses of the blocks and through which the angular spike openings pass.

2. In a metallic rail fastening, an inverted channeled tie having spike apertures arranged to lie at each side of the base flange of the rail, supporting blocks having spike openings adapted to register with said apertures, each spike opening having an angle in its length, and sound-deadening blocks arranged in grooves extending longitudinally of the rails, formed in the upper faces of the supporting blocks.

3. The combination of a channeled railway tie having downwardly-turned side flanges, supporting blocks arranged under the tie below the rails, and sound-deadening blocks interposed between the supporting blocks and tie, with those portions of the side flanges of the tie opposite the supporting blocks turned upwardly to the under side of the rails to permit of the removal of the sound-deadening blocks.

4. In a metallic rail fastening, a channeled tie having downwardly-turned side flanges, with portions of said flanges turned upwardly to lie against the under side of the rails, and supporting blocks arranged within the tie adjacent to the upwardly-turned portions of the flanges.

5. The combination of a channeled railway tie having downwardly-turned flanges, a supporting block arranged within the tie under the rail, and a sound-deadening block interposed between the tie and the supporting block, with the portions of the side flanges of the tie opposite the sound-deadening block removed to permit of the removal of the sound-deadening block.

975,879. DEVICE FOR TESTING ELECTRICAL APPARATUS. HARRY B. LEHMAN, Columbus, Ohio. Filed June 6, 1910. Serial No. 565,848.



1. A device of the class described comprising a suitable support, two angle arms, an insulated block interposed between said angle arms and having a transverse bore therein, and sparking pins extending into said insulated block and having their terminals spaced apart in the opening within said block.

2. The combination with suitable conducting material having pole pieces carried thereon, of insulating material held between said members and having apertures formed therein, a transparent tube within one of said apertures and sparking pins projecting into said tube and having the ends thereof spaced apart.

3. The combination with a plurality of members formed of conducting material, a block of insulating material supported between said members, said block having a suitable opening therein, a sparking pin contacting with one of said conducting members and having its terminal projecting into said opening, a second sparking pin having its end projecting into the opening whereby a gap is formed between the terminals of the two pins, and means for adjusting the second sparking pin.

4. The combination with a plurality of members having pole pieces formed thereon, of insulating material arranged between said members, a plurality of sparking pins projecting into an opening within said insulating material whereby a space or gap is formed between the terminals of the pins, and spring tension means for adjusting one of said pins to vary the gap or space between said pins.

5. The combination with a plurality of angle arms having pole pieces formed thereon, of insulating material held between said arms, said insulating material having a transverse bore therein, and openings communicating with said bore, a stationary sparking pin having its terminal extending into said bore, a movable sparking pin having its terminal extending into said bore, and means for adjusting the movable sparking pin relative to the stationary pin.

975,880. LOCK. HARRY MARKOVITZ, Braddock, P... Filed May 28, 1910. Serial No. 563,878.



1. A door lock comprising a casing, a bolt arranged within said casing, a slidable bolt shifting member extending in and engaging said bolt and adapted to shift it in one direction when said member is manually shifted, a resilient element carried by said member and engaging the bolt for automatically shifting the latter in the opposite direction, said bolt carrying said member therewith when shifted by the resilient element, means whereby said member can be manually shifted, spring-pressed shiftable tumblers interposed between said bolt and member for locking the member relative to the bolt to prevent movement of the bolt or member, and means to permit of shifting said tumblers to allow of the actuation of the bolt.

2. A lock for doors embodying a casing, a bolt arranged within said casing, a bolt shifting member arranged in said casing and extending in and engaging the bolt and adapted when actuated in one direction to shift said bolt to unlocked position, a door knob spindle adapted to shift said member in one direction, a resilient element carried by said member for automatically shifting it and said bolt in the opposite direction, spring-pressed tumblers arranged between said bolt and said member and adapted to lock said member relatively to said bolt whereby neither said bolt nor member can be moved, and an auxiliary lock carried by said door knob spindle upon the inner end thereof and adapted to prevent either said bolt or said member from being moved by shifting said tumblers.

3. In a door lock, the combination with a door, of a casing arranged in said door, a bolt movably mounted in said casing, a shifting member arranged in said casing and extending in and permanently engaging with said bolt and adapted to shift said bolt to unlocked position, a resilient element carried by said member and permanently engaging said bolt for shifting it automatically in the opposite direction, a door knob spindle revolubly mounted in said door and adapted to shift said member, and key-operated spring-pressed tumblers pivotally mounted within said casing between said bolt and said member and adapted to lock said member relatively to said bolt whereby neither said bolt nor member can be shifted.

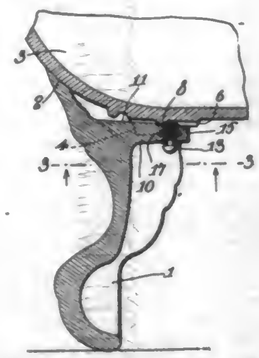
4. In a door lock, the combination with a door, of a casing arranged in said door, a bolt movably mounted in said casing, a shifting member arranged in said casing and extending in and permanently engaging said bolt and adapted to shift said bolt to unlocked position, a resilient element carried by said member and permanently engaging said bolt and adapted to automatically shift said bolt in the opposite direction, a door knob spindle revolubly mounted in said door and adapted to shift said member, key-operated spring-pressed tumblers pivotally mounted within said casing between said bolt and said member and adapted to lock said member relatively to said bolt where

by neither said bolt nor member can be shifted, and an auxiliary lock carried by the inner end of said door knob spindle and adapted to engage in said door to prevent said door knob spindle from being rotated.

5. In a door lock, the combination with a door, of a casing arranged in said door, a bolt movably mounted in said casing and provided with a cut-away portion forming thereby a depending lug at one end, a shifting member arranged in said casing and extending in said bolt and permanently engaging said lug and adapted to shift said bolt to unlocked position, a spring-pressed element carried by said member and permanently engaging said lug and adapted to automatically shift said bolt in the opposite direction, a door knob spindle revolubly mounted in said door and adapted to shift said member, key-operated spring-pressed tumblers pivotally mounted within said casing between said bolt and said member and adapted to lock said member relatively to said bolt whereby neither said bolt nor member can be shifted, and an auxiliary lock carried by the inner end of said door knob spindle and adapted to engage in said door to prevent said door knob spindle from being rotated, said auxiliary lock comprising a spring-pressed sleeve supported by said bolt, teeth carried by said sleeve and adapted to engage in said door, and means adapted to hold said teeth out of engagement with said door.

[Claim 6 not printed in the Gazette.]

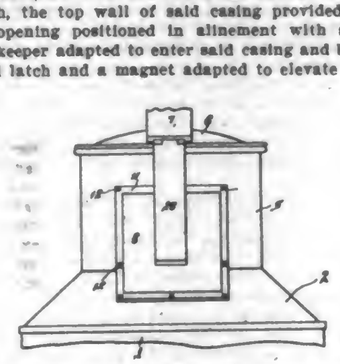
975,881. MEANS FOR ATTACHING FEET TO TUBS, &c. OSCAR H. MARSCHUETZ and WILLIAM G. PROBST, Louisville, Ky., assignors to Standard Sanitary Manufacturing Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Oct. 12, 1907. Serial No. 397,217.



As a new article of manufacture, a metal foot for tubs or the like, comprising a dovetail, a clip, co-axial tubes secured to the clip, and a threaded nut between the tubes; the nut and tubes being surrounded and held in operatively integral relation with the dovetail by the homogeneous metal substance of the foot.

975,882. MILK-CAN LOCK. THOMAS A. MATHER, Greensburg, Pa. Filed Aug. 5, 1910. Serial No. 575,628.

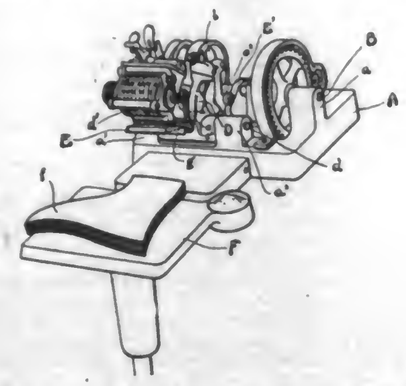
1. A lock for milk cans comprising a lock casing, said casing having a front and a top wall, a latch pivotally mounted at one end thereof within said casing to said front wall, an upwardly-extending rod pivoted to the other end of said latch, a tubular guide secured to said front wall and receiving said rod therethrough, said top wall provided with an opening therein alining with the upper end of said rod, a projection carried by said front wall adapted to limit the movement of the latch in one direction, a curved flat spring pivoted at one end to the front wall and contacting the latch on the opposite side of the latter from said projection, a short rod secured to the other end of said spring, another tubular guide upon said front wall and receiving said short rod therethrough, the top wall of said casing provided with another opening positioned in alinement with said short rod, a keeper adapted to enter said casing and be engaged by said latch and a magnet adapted to elevate said rods.



2. In a milk can lock, a casing, a spring pressed latch pivotally mounted in said casing, a keeper adapted to enter said casing and be engaged by said latch for retaining said milk can in a closed position, rods, one of said rods being arranged to move said latch, the other of said rods being arranged to release the tension of the spring upon said latch, and a magnet for moving said rods, substantially as described.

3. In a milk can, the combination with a milk can having a neck, a lid adapted to close said neck, of a hasp carried by said lid, a keeper attached to the lower end of said hasp, a lock casing connected to said neck and adapted to receive said keeper, a latch pivotally mounted in said lock casing to engage said keeper, a spring adapted to normally retain said latch in engagement with said keeper, a rod connected to said spring, a rod connected to said latch for moving said latch out of engagement with said keeper, and a magnet adapted to elevate said rods.

975,883. BRUSH FOR POWER MARKING-MACHINES. WILLIAM W. MCCOY, Cincinnati, Ohio. Filed Aug. 29, 1910. Serial No. 579,535.

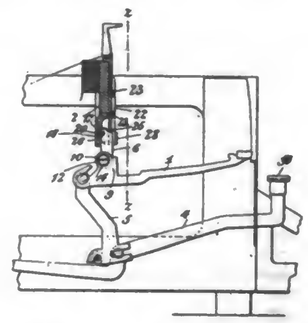


1. In a power-marking machine, the combination of a type-bearing arm, type-wheels mounted upon said type-bearing arm, a brush-frame mounted upon the type-wheels, a brush carried by the frame and contacting with the wheels, a pad, a second arm adapted to carry the pad into contact with the wheels and a link connecting the frame and the second arm, whereby the brush distributes the ink over the type.

2. In a power-marking machine, the combination of type-wheels, a shaft upon which the type-wheels are journaled, a lever arm upon which the shaft is mounted, a brush-frame pivoted upon said shaft, a brush mounted upon said frame, an inking-pad, an arm at the outer ends of which said inking-pad is mounted, links connecting the brush-frame and the arm of the inking-pad and mechanism for actuating said lever arm and the arm of the inking-pad, whereby the brush is carried over the type-wheels in advance of the pad and is carried back over the type-wheels in the rear of said pad.

3. In a power-marking machine, the combination of a lever arm, type-wheels mounted at the forward end of said lever arm, an arm, an inking-pad mounted at the forward end of said arm, links connecting the pad-bearing arm with the brush frame, and the lever arm, a cam having an eccentric portion to contact with the lever arm, and effect a reciprocation of the type-wheels toward and from the goods to be marked, and a second cam having an eccentric portion to effect the reciprocation of the pad-bearing arm, said eccentric portions being in a position so that they are brought into contact with said parts consecutively, whereby the inking of the type and the distribution of the ink thereon, is effected while the type are out of contact with the goods.

975,884. TYPE-WRITING MACHINE. JOHN CARLISLE MCLAUGHLIN, Jersey City, N. J., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 9, 1909. Serial No. 527,013.



1. A typewriting machine having in combination, a segment having radial slots, a series of type bar hangers in the form of plates seated in said slots and formed with hooks catching upon a rod mounted in said segment, and a plurality of independently releasable retaining plates upon the segment for said hangers; each plate serving to retain a plurality of said hangers and having a plurality of screws to clamp it against the hangers, each plate slotted to permit it to be moved off from the hangers to release them.

2. A typewriting machine having in combination, a segment having radial slots, a series of type bar hangers in the form of plates seated in said slots and formed with hooks catching upon a rod mounted in said segment, and a plurality of independently releasable retaining plates upon the segment for said hangers, said plates formed with offsets to engage shoulders formed upon the hangers, and said segment formed with seats against which the hangers are pressed by the action of the offsets upon said shoulders.

3. A typewriting machine having in combination, a segment having radial slots formed in its front side, the bottoms of said slots forming seats, a series of type-bar hangers in the form of plates inserted in said slots, a rod secured in said segment within the slots, said plates formed with hooks to catch upon said rod, and a retaining plate secured upon the front side of the segment and releasably retaining said hangers, said plate formed with an offset to engage shoulders provided upon the hangers, and thereby swing the hangers against said seats, and means to fasten the retaining plate to the segment.

4. A type-bar segment provided on one side with radial slots and having within said slots a curved rod upon which the type bars are supported, said rod lying in a groove formed in the other side of the segment, the bo
tom of said groove enlarged to fit the rod, whereby th
rod is confined against lateral displacement, type ba
hangers inserted in said slots and having hooks to cat
over said rod, and means for releasably securing th
hangers in the slots, said securing means including
plate fastened upon the segment to engage a series
hangers and tending to turn the hangers about the ro
and cause them to press against the bottoms of the slot

5. A type-bar segment provided on one side with radi
slots and having within said slots a curved rod upo
which the type bars are supported, said rod lying in
groove formed in the other side of the segment, th
bottom of said groove enlarged to fit the rod, whereby th
rod is confined against lateral displacement, type ba
hangers inserted in said slots and having hooks to cat
over said rod, and means for releasably securing th
hangers in the slots, said securing means comprising
pair of plates secured upon the segment and engagin
the hangers, said plates being secured by means of screw
passing through slots in the plates and threaded int
the segment, whereby upon releasing the screws the plate
may be drawn up to release the hangers.

[Claims 6 to 10 not printed in the Gazette.]

975,885. ALKALINE BATTERY CONTAINING CHRO
MIUM AND MERCURY. WILLIAM MORRISON, De
Moines, Iowa. Filed Nov. 22, 1900. Serial No. 529,187

1. In a reversible alkaline battery, an anode, or nega
tive-pole electrode, containing an oxidizable metal and
chromium compound.

2. In a reversible alkaline battery, an anode, or nega
tive-pole electrode, containing an oxidizable metal,
chromium compound and mercury.

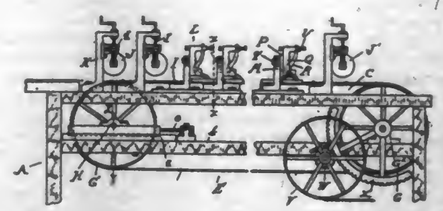
3. In a reversible alkaline battery, an anode, or nega
tive-pole electrode, containing an oxidizable metal and
chromium-oxygen compound.

4. In a reversible alkaline battery, an anode, or nega
tive-pole electrode, containing an oxidizable metal,
chromium-oxygen compound and mercury.

5. In a reversible alkaline battery, an anode, or nega
tive-pole electrode, containing zinc and a chromium-oxy
gen compound.

[Claim 6 not printed in the Gazette.]

975,886. BURNISHING-MACHINE. JAMES J. MURDOCH
Detroit, Mich., assignor to Dwight Lumber Company
Detroit, Mich., a Corporation of Michigan. Filed Ma
27, 1909. Serial No. 486,218.



1. In a burnishing machine, the combination with
bed, of an arched support thereon, an endless carrier ar
ranged for travel over the bed beneath the support, and
burnisher mounted upon the support and adjustable lon
gitudinally thereof transversely of the bed.

2. In a burnishing machine, the combination with
support, of an endless metallic band arranged for trave
thereover and having a plurality of projections extendin
from the band body adapted to engage and feed the work
and burnishing means in operative relation to the band.

3. In a burnishing machine, the combination with
bed, of a carrier arranged for travel thereover, retainin
means upon the carrier for the article to be burnished
mechanism for engaging the article with the retainin

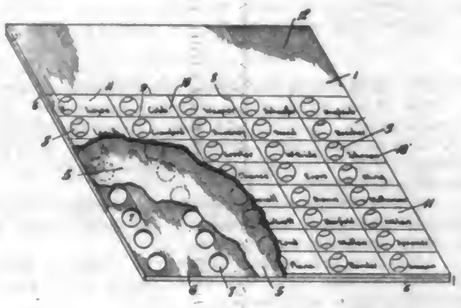
means, and burnishing means in operative relation to the carrier.

4. In a burnishing machine, the combination with a bed, of an endless carrier arranged for travel thereover, a plurality of projections upon the carrier adapted to engage and retain the article, and a resilient pressing member in operative relation to the carrier for effecting the said engagement.

5. In a burnishing machine, the combination with a carrier, of a support in operative relation thereto, a member mounted upon the support for lateral adjustment relative to the carrier, a second supporting member pivoted upon the first-mentioned support for lateral swinging movement, and a burnishing implement carried by said last-mentioned member.

[Claims 6 to 11 not printed in the Gazette.]

975,887. VENDING DEVICE. CHARLES L. NEWTON, Cincinnati, Ohio. Filed Aug. 2, 1910. Serial No. 575,068.



1. In a device of the character described, a front card having a series of detachable portions each having a number which represents a specified mechandise order, a fragile sheet adapted to cover said numbers, and a back secured thereon having perforations adapted to register with said detachable portions, substantially as set forth and for the purposes specified.

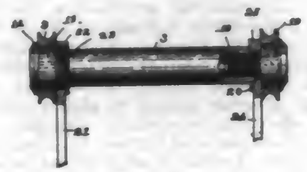
2. In a device of the character described, a card, a series of detachable portions therein, exposed characters on said detachable portions, concealed characters thereon, and scoring between said card and said detachable portions whereby said detachable portion is held in relation to said card to effectually conceal the number until said detachable portion is punched out of the card, substantially as set forth and for the purposes specified.

3. In a device of the character described, a card having a series of portions made detachable by scoring, a character on the exposed surface of each detachable portion, and a number upon the rear side of each detachable portion, a fragile opaque sheet secured over said numbers, and a back having perforations adapted to register with said detachable portions, secured to said front card for the purposes specified, substantially as set forth.

4. In a device of the character described, a front card 1, a detachable portion 2 having characters 3 and numbers 4, opaque fragile material 5 adapted to cover said numbers, and a back 6 having perforations 7 adapted to register with said detachable portions 2, and means for securing said front 1, fragile material 5 and back 6 together, substantially as set forth and for the purposes specified.

975,888. ARTIFICIAL LEG. HARRY T. ODGERS, Columbus, Ohio, assignor to The Columbus Pharmacal Company, Columbus, Ohio, a Corporation of Ohio. Filed Aug. 25, 1909. Serial No. 514,586.

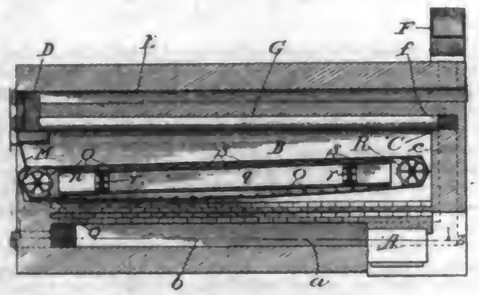
1. In an artificial leg, an upper leg section, a lower leg section, a pivot bolt engaging said leg section comprising a cap and an enlarged portion at one end thereof, a detachable cap and an enlarged portion at the other end thereof, a roller mounted upon each of said enlarged portions, and an operating cord in engagement with each of said rollers.



2. In an artificial leg, an upper leg section, a lower leg section, a bolt forming a pivotal connection for said leg section comprising a body portion having a cap at one end, an annular shoulder formed thereon adjacent to said cap, a separable cap member adapted to be secured to the opposite end of said bolt, an annular shoulder formed on said detachable member, a roller adapted to be placed on each of said shoulders, guides on said upper leg section, and an operating cord arranged in said guides in engagement with said roller and slidably connected with said lower leg section.

3. An artificial leg comprising an upper leg section, a lower leg section, a bolt pivotally connecting said leg sections internally threaded at one end, a member adapted to be screwed into said internally threaded end, roller members adapted to be mounted upon said bolt, and strap members carried by said bolt and connected to said lower leg section, guides arranged on said upper leg section, and operating cords arranged in said guides engaging with said rollers and slidingly connected with said lower leg section.

975,889. BAKER'S OVEN. WILLIAM FERDINAND PETERSEN, Chicago, Ill., assignor to The Petersen Oven Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 24, 1908. Serial No. 417,433.



1. A bake oven comprising a baking chamber, a series of flue-pipes extending through the upper portion of said chamber, a by-pass flue, a union mixing-chamber arranged transversely across one end of said baking chamber from which both said flue-pipes and said by-pass receive the products of combustion, a series of dampers movable with and mounted upon a reciprocal rod adapted to operate simultaneously to open or close said flue-pipes, and means connected to said rod adapted to regulate said by-pass.

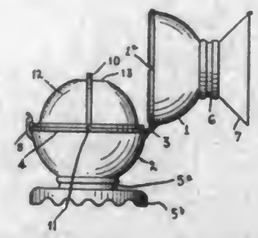
2. A bake oven comprising a baking chamber, a movable hearth therefor, flue-pipes extending through the upper portion of said chamber, a by-pass flue, a union mixing chamber arranged transversely across one end of said baking chamber from which both said flue-pipes and said by-pass receive the products of combustion, a series of dampers movable with and mounted on a reciprocal rod adapted to operate simultaneously to open or close said flue-pipes, and means connected to said rod and adapted to regulate said by-pass.

3. A bake oven comprising a baking chamber, a movable hearth therefor, a series of flue-pipes extending horizontally through the upper portion of said chamber, a by-pass, a union mixing chamber arranged transversely across one end of said oven above said baking chamber from which said flue-pipes receive the products of combustion, and a series of connected dampers adapted to operate simultaneously to open or close said flue-pipes and are connected with separate means adapted to regulate said by-pass.

4. A bake oven comprising a baking chamber, a movable hearth therefor, a series of flue-pipes extending through the upper portion of said chamber, a by-pass flue, a union mixing chamber arranged transversely across one end of said baking chamber from which said flue-pipes and said by-pass receive the products of combustion, a longitudinally reciprocal rod arranged in said mixing chamber, a series of dampers mounted upon said rod and adapted to operate simultaneously to open or close said flue-pipes, and separate means connected to said rod adapted to regulate said by-pass.

5. A bake oven comprising a baking chamber, a movable hearth therefor, a series of flue-pipes extending through the upper portion of said chamber, a by-pass flue, a union mixing chamber arranged transversely across one end of said baking chamber from which said flue-pipes and said by-pass receive the products of combustion, a longitudinally reciprocal rod arranged in said mixing chamber, a series of dampers mounted upon said rod and adapted to operate simultaneously to open or close said flue-pipes, and separate means connected to said rod adapted to close said by-pass when said flue-pipes are open, and vice versa.

975,890. CUSPIDOR. PETER A. PETRIE, Moon Run, Pa. Filed Apr. 7, 1910. Serial No. 553,944.



1. A cuspidor comprising a body-portion formed of two sections, one of said sections provided with an inlet opening and a mouth-piece, said mouth-piece communicating with said opening, the other of said sections provided with a base for supporting it, a removable semi-spherical basket arranged within said body-portion and provided at its top with a flange, a pair of trunnions projecting from the flange and journaled in one of the sections of the body-portion, said flange spacing the basket from the body-portion, a handle connected to the flange, and a spherical receptacle provided with an inlet opening and further having a pair of trunnions disposed at right angles with respect to the first-mentioned trunnions and journaled in said basket.

2. A cuspidor comprising a body-portion formed of two sections, one of said sections having an inlet, a mouth-piece connected to that section provided with an inlet and communicating with said inlet; a basket mounted in one of said sections and provided with a pair of trunnions journaled in the said sections, a handle carried by the basket, said basket spaced from that section in which it is mounted, a receptacle mounted in said basket and having an opening adapted to register with said inlet, trunnions carried by the receptacle and disposed at right angles with respect to the trunnions in the basket, said trunnions of said receptacle journaled in said basket.

3. A cuspidor comprising a body-portion formed of two sections, one of said sections having an inlet, a mouth-piece connected to that section provided with an inlet and communicating with said inlet, a basket mounted in one of said sections and provided with a pair of trunnions journaled in the said sections, a handle carried by the basket, said basket spaced from that section in which it is mounted, a receptacle mounted in said basket and having an opening adapted to register with said inlet, trunnions carried by the receptacle and disposed at right angles with respect to the trunnions in the basket, said trunnions of said receptacle journaled in said basket, and a spacing means for said basket carried by that section in which the basket is mounted.

975,891. HAMMER-DRILL. WILLIAM PRELLWITZ, Easton, Pa., assignor to Ingersoll-Rand Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 15, 1909. Serial No. 478,112.



1. In a hammer drill, a front head having a pressure fluid chamber therein, a chuck secured to the front head, a hollow drill steel in open communication with said chamber, an elastic washer seated in the chuck forming a fluid-tight joint around the drill steel and a washer forming a fluid-tight joint around the chuck.

2. In a hammer drill, a front head having a pressure fluid chamber therein, a chuck secured to the front head, an anvil block, a hollow drill steel in open communication with said chamber and washers forming fluid-tight joints around the chuck and the anvil block.

3. In a hammer drill, a front head having a pressure fluid chamber therein, a chuck secured to the front head, an anvil block, a hollow drill steel in open communication with said chamber, washers forming fluid-tight joints around the chuck and the anvil block, and an elastic washer seated in the chuck forming a fluid-tight joint around the drill steel.

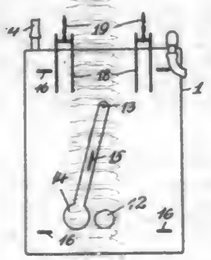
4. In a hammer drill, a tube having a pressure fluid feeding chamber therein, a front head inclosing the tube, a chuck secured to the front head and having its rear end extended into said chamber, a washer forming a fluid-tight joint between the chuck and the front end of the tube, an anvil block, a washer forming a fluid-tight joint between the anvil block and the inner end of the tube and a hollow drill steel in open communication with said chamber.

5. In a hammer drill, a tube having a pressure fluid feeding chamber therein, a front head inclosing the tube, a chuck secured to the front head and having its rear end extended into said chamber, a washer forming a fluid-tight joint between the chuck and the front end of the tube, an anvil block, a washer forming a fluid-tight joint between the anvil block and the inner end of the tube, a hollow drill steel in open communication with said chamber, and an elastic washer seated in the front end of the chuck forming a fluid-tight joint around the drill steel.

975,892. FURNACE-DOOR. JACKSON ROBINSON, Pittsburg, Pa. Filed May 14, 1910. Serial No. 561,298.

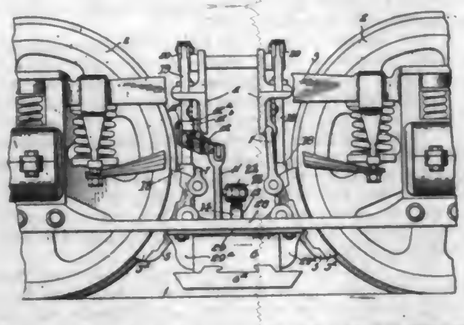
A furnace door comprising a unitary rectangular concrete body having its inner face provided with a relatively rectangular recess surrounded by a relatively wide marginal portion, said body further provided at its lower end with a peep opening, an elongated shutter pivoted at its upper end to the outer face of said body and having an enlarged lower end for closing said opening, a handle connected to the shutter for shifting it, means for conducting

a cooling medium through the bottom and side marginal portions of said body, said means opening through the top of said body at each end thereof, an insert formed of rows of fire brick completely filling said recess and having the exposed face thereof flush with the marginal portions of the inner face of said body, said insert formed



with an aperture registering with the peep opening of the body, means for supplying and withdrawing a cooling medium to and from said conducting means, straps connected to said body for coupling it to an elevating and lowering means, and staples projecting from the outer face of the body and adapted to receive fastening means for retaining the door in position.

975,893. CAR-BRAKE. — CHARLES V. ROTH, Lancaster, Pa., assignor to Maggie P. Holman, Lancaster, Pa. Filed July 25, 1910. Serial No. 573,656.



1. In a car-brake, the combination of a track-brake suspended above and adapted to be lowered upon the rail, a brake-applying device and a take-up device, both movable with the track-brake whereby they maintain a constant relation at each application of the brake, and means for locking said take-up device in a substantially fixed position when the track-brake is on the rail, said brake-applying device exerting pressure upon the track-brake and having its reaction taken by said take-up device.

2. In a car-brake, the combination of a track-brake supported above and adapted to be lowered to the rail, a wear-compensator or take-up device movable with the track-brace to maintain a constant relation thereto, means for locking said take-up device in a substantially fixed position when the track-brake is on the rail, and a brake-lever mounted upon the track-brake and having a projection taking under said take-up device, said brake-lever being operable to bear down upon the track-brake.

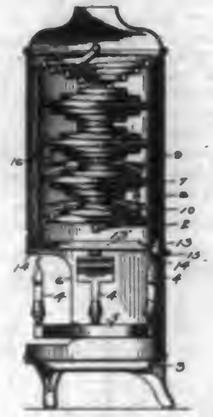
3. In a car-brake, the combination of a track-brake supported above and adapted to be lowered to the rail, a wear-compensator or take-up device movable with said track-brake, means for locking said take-up device in its lowered position, and a leg-formed brake-lever supported upon the track-brake and having a foot-portion or toe adapted to engage under said take-up device, said brake-lever being operable so that its heel portion bears upon the track-brake.

4. In a car-brake, the combination of a track-brake, and brake-actuating mechanism including a pressure-applying device and a wear-compensator, said pressure-applying device bearing upon the track-brake and having opposed pressure taken by said wear-compensator, the latter being automatically adjustable in proportion to the increased distance the brake-shoe has to travel to the rail as it wears away.

5. In a car-brake, the combination of a track-brake and a brake-actuating mechanism including a pressure-applying device and a wear-compensator, said pressure applying device bearing upon the track-brake and under said wear-compensator, the latter being automatically adjustable in proportion to the increased distance the brake-shoe has to descend as it wears away.

[Claims 6 to 39 not printed in the Gazette.]

975,894. CONDENSATE-COLLECTOR FOR WATER-HEATERS. EDWIN RUUD, Pittsburg, Pa. Filed Oct. 9, 1908. Serial No. 456,916.



1. In a water heater, the combination of an upright coil having insets formed by coil turns of reduced diameter, coil heating means, and deflectors in the coil insets for deflecting from the heating means water of condensation dripping from the coil.

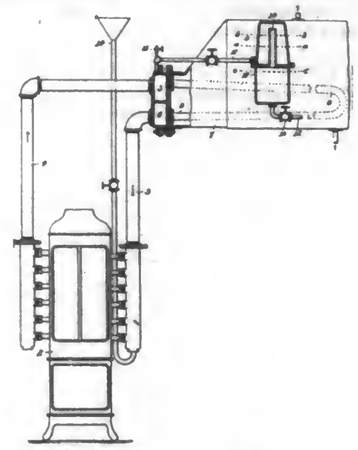
2. In a water heater, the combination of an upright coil having insets formed by coil turns of reduced diameter, coil heating means, and ring-like deflectors in the coil insets, the deflectors having downwardly and outwardly sloping top surfaces for deflecting from the heating means water of condensation dripping from the coil.

3. In a water heater, the combination of an upright coil having insets formed by coil turns of reduced diameter, coil heating means, and ring-like deflectors formed in segmental sections fitted together in the coil insets for deflecting from the heating means water of condensation dripping from the coil.

4. In a water heater, the combination of an upright coil, an upright coil-inclosing jacket, gas burners beneath the coil, deflectors positioned to deflect onto the inner surface of the jacket water of condensation dripping from the coil, and means for carrying off the water from the jacket.

975,895. INDIRECT WATER-HEATING SYSTEM. EDWIN RUUD, Pittsburg, Pa. Filed May 12, 1909. Serial No. 495,490.

1. The combination of a water heater, a storage tank, water circulating means for the heater imparting heat to the tank, and a two-part chamber at the exterior of the tank with the parts thereof communicating with each other and connected respectively to the tank and to the circulating means, the chamber providing a pocket for air confined between and separating the water of the circulating means from the water of the storage tank.



2. The combination of a water heater, a storage tank, water circulating means for the heater imparting heat to the tank, two pipes—one extending from the circulating means and the other from the tank, and means at the exterior of the tank providing communication between the pipes and located at a greater elevation than the circulating means, said communicating means forming a pocket for confining air which normally separates the water of the circulating means from the water of the tank.

3. The combination of a water heater, a storage tank, water circulating means for the heater imparting heat to the tank, a chamber at the exterior of the tank and at a greater elevation than the circulating means and in communication therewith, and a connection extending upwardly from the tank and communicating with the said chamber at a point higher than where the latter communicates with the circulating means.

4. The combination of a water heater, a storage tank, water circulating means for the heater imparting heat to the tank, a chamber located at the exterior of the tank and above the circulating means, means establishing communication between the lower end of the chamber and the circulating means, and means extending upwardly with its lower end in communication with the tank and its upper end in communication with the said chamber above the lower end of the latter.

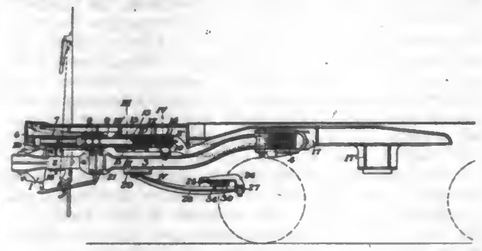
5. The combination of a water heater, a storage tank for the water under pressure, water circulating means for the heater imparting heat to the tank, an air-pocket-forming chamber at the exterior of the tank and at a greater elevation than the circulating means and having communicating parts thereof connected respectively to the latter and to the tank, and a valved air outlet for the circulating means.

975,896. RADIAL-DRAFT GEAR. ERNEST H. SCHMIDT, Cleveland, Ohio, assignor to The National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Filed Sept. 8, 1908. Serial No. 451,975. Renewed June 20, 1910. Serial No. 567,998.

1. A radially swinging buffer having a shank and transverse member rigid with one another, with buffing-spring mechanism having its place of bearing in advance of the rear of the spring.

2. A radially swinging buffer, a radially swinging draft gear, and buffer springs bearing against a member which has a sliding bearing upon the car frame at a point in advance of the rear of the spring, the transverse member of the buffer being rigid with its shank.

3. A radially swinging draft gear, a radially swinging buffer mounted above the draft gear and engaged so as to swing laterally therewith, said buffer having a transverse member and rigid shank, and a spring carrier bearing against a curved portion of the car frame in advance of the rear of the spring.

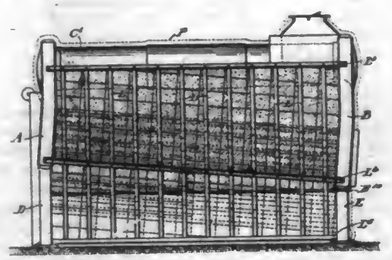


4. A radially swinging draft gear, a radially swinging buffer mounted above the draft gear and engaged so as to swing laterally therewith, said buffer having a laterally moving spring carrier bearing against the car frame at a place back of the end sill of the car platform and in advance of the rear of the spring.

5. A radially swinging draft gear, a radially swinging buffer mounted above the draft gear and engaged so as to swing laterally therewith, said buffer having a spring, a yoke into which the buffer extends, said yoke having a bearing back of the end sill of the platform and in advance of the rear of the spring.

[Claims 6 to 9 not printed in the Gazette.]

975,897. BOILER. WILLIAM F. SELLERS, Wilmington, Del., and CHARLES J. DAVIDSON, Milwaukee, Wis., assignors to Edge Moor Iron Company, Edgemoor, Del., a Corporation of Delaware. Filed Mar. 15, 1907. Serial No. 362,451.



1. In a boiler, a pair of box headers, tubes connecting them, a pair of hollow columns adjacent each header, tubes connecting each column with a column for the other header and connections between each header and the adjacent column, the connections between one header and the adjacent columns being flexible.

2. In a boiler, a pair of box headers, tubes connecting said headers, a pair of hollow columns extending downwardly from each header and arranged one at each end of the header, nipples connecting one header with the adjacent columns, flexible piping connecting the other header and the corresponding columns, and tubes at the side of the fire box connecting each column adjacent one header with the corresponding column adjacent the other header.

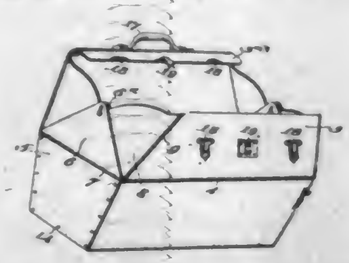
3. In a boiler, a pair of headers, a set of inclined tubes connecting them, hollow columns arranged two at each side of the boiler, one at each end of each header, said columns extending from the headers to the floor level, other inclined tubes connecting said columns, provisions for obtaining a water circulation through said columns and the tubes connecting them, a furnace lining consisting of tile, in which the side tubes of said set of tubes and said other tubes are embedded, the tubes adjacent the fire box being entirely embedded in said tiling and the remaining portions of the tubes having inner surface portions exposed.

4. In a boiler, a pair of headers, a set of inclined tubes connecting them, hollow columns arranged two at each side of the boiler, one at each end of each header, said columns extending from the headers to the floor level, other inclined tubes connecting said columns, provisions for obtaining a water circulation through said columns and the tubes connecting them, a furnace lining consisting of tile, in which the side tubes of said set of tubes and said other tubes are embedded, the tubes adjacent the fire box being entirely embedded in said tiling and the remaining portions of the tubes having inner surface portions exposed, and a metal bar framework for holding said tiling against said tubes.

5. In a boiler, a pair of headers, inclined tubes connecting them, hollow columns at the sides of the boiler, one extending downwardly from each end of each header, inclined tubes connecting said columns, provisions for obtaining a water circulation through said columns and the tubes connecting them, a furnace lining consisting of tile, in which the tubes at the side of the fire box are wholly embedded and in which the retaining framework for said tiling, comprising metal bars, is located and heat insulating blocks slidingly received between each pair of adjacent bars.

[Claims 6 to 8 not printed in the Gazette.]

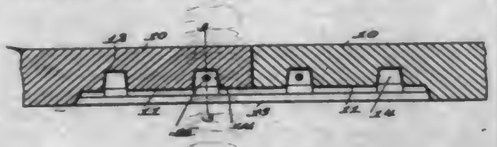
975,898. RECEPTACLE. PERCY G. SEWARD, Petersburg, Va. Filed July 14, 1910. Serial No. 572,056.



1. In a receptacle, a body portion formed from a bottom and side and end walls, each of said end walls being provided with a triangular extension, having its apex disposed upwardly and comprising rigidly maintained spaced members having oppositely disposed open upper edges forming guiding recesses, and said side walls being provided with hinged extensions having inturned stiffened flaps operating in said guiding recesses, and said hinged extensions forming a cover for said receptacle, substantially as described.

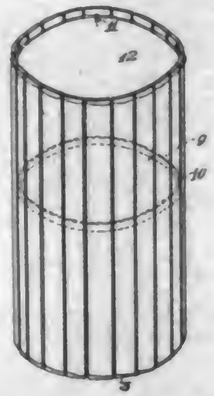
2. In a receptacle, a body formed from bottom, end and side walls suitably secured together, said end walls comprising spaced members and the said side walls being provided with hinged extensions having inturned stiffened flaps terminating at their inner ends in notched shoulders, in combination with spacing lugs slidably mounted in slots at the upper end of said spaced members, each spacing lug coöperating with the notches of adjacent inturned flaps for limiting the outer swing of said hinged extensions and locking same in their distended positions, substantially as described.

975,899. RAIL-JOINT. ABSALOM D. SHAEFFER, Kittanning, Pa. Filed June 8, 1910. Serial No. 565,718.



The combination with rails having grooves in their base, with tapering sides, and having vertical recesses, rectangular in cross-section, communicating with said grooves, of a bridge piece, triangular in cross-section to interfit said grooves and having rectangular projections to extend within said recesses, and additional means to secure said bridge piece in position.

975,900. COLLAPSIBLE AND FOLDING BARREL. SIMON PETER SPITZNAGLE, Greensburg, Pa. Filed May 5, 1910. Serial No. 559,457.



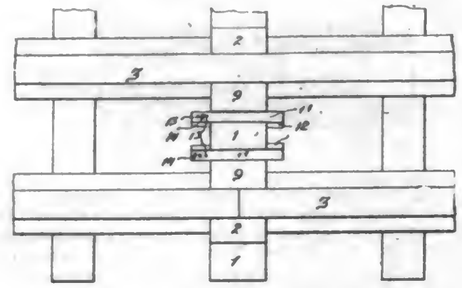
A collapsible barrel comprising a body portion formed of a plurality of staves, wires extending through the upper and lower ends of the staves whereby the staves are flexibly connected together and to provide a pair of sections, a bottom plate formed of two semi-circular sections hinged together at their opposing edges and each hinged to a section of the body portion and adapted to fold inwardly when the body portion of the barrel is collapsed, inwardly-projecting lugs carried by the sections of the body portion and adapted to limit the outward movement of the sectional bottom plate, a sectional rim or band arranged within and positioned intermediate the ends of said body portion, means for hinging the sections of the rim or band together, means for pivotally connecting the sections of the rim or band to the sections of the body portion, and means at the upper end of the body portion for closing the upper end thereof when said body portion is extended.

975,901. TIRE-SECURING DEVICE. CHARLES R. SPOUR, Jr., and JOHN B. LANG, Moberly, Mo. Filed Nov. 3, 1909. Serial No. 526,060.



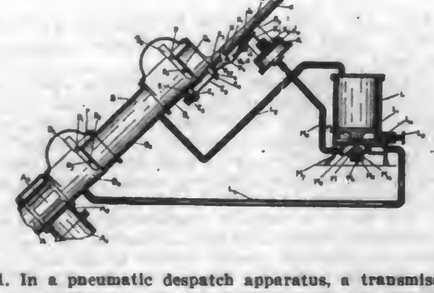
In a vehicle wheel, a felly provided with radial perforations and a circular socket at the outer end of each of said perforations in the outer face of the felly, an outer tire provided with perforations which register with the perforations in the felly, each of the perforations in the tire having a recess at one end in the inner surface of the tire, screw-threaded bolts extending through said alining perforations in the felly and tire, each bolt having a flat top head with a tapering under side provided with radial ribs and located in said recess in the tire, a nut mounted on each of said screw-threaded bolts, and located in each of said circular sockets in the felly, a washer on each of said threaded bolts mounted on the inner side of the felly, and a wing nut on each of said threaded bolts clamping said washer.

975,902. METALLIC TIE AND RAIL-FASTENER. SCOTT STAMMLER, Granville, Ohio. Filed June 28, 1910. Serial No. 569,370.



In a metallic tie and rail fastener, the combination with rails, of an oblong metallic structure adapted to support said rails, splice bars formed integral with the upper surface of said structure adjacent to the ends thereof and adapted to brace the outer sides of said rails, said structure adjacent to each splice bar having transverse grooves formed in the upper surface thereof with the outer walls of said grooves inclined transversely and beveled, said grooves having the outer walls thereof at the ends provided with inwardly projecting lugs, detachable splice bars adapted to brace the inner sides of said rails, depending side walls carried by said splice bars and extending into said grooves, longitudinal ribs carried by the inner sides of said side walls and adapted to engage said lugs, and keys adapted to be driven into said grooves to retain said detachable splice bars in engagement with said rails, said keys having beveled tapered sides to engage the beveled tapered side walls of said grooves, substantially as described.

975,903. PNEUMATIC-DESPATCH-TUBE APPARATUS. CHARLES F. STODDARD, Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del., a Corporation of Delaware. Filed June 26, 1908. Serial No. 440,424.



1. In a pneumatic despatch apparatus, a transmission tube, a sender connected to said transmission tube having a normally closed exhaust port, inner and outer gates normally closing said sender, means for normally producing equalization of pressure in the transmission tube and the sender, an exhaust valve controlling said port to allow the pressure to exhaust from the sender for releasing the transmission tube pressure on the outer gate to permit the entrance of a carrier into the sender, means operated by the carrier for opening said exhaust valve, means for closing said exhaust valve after the entrance of the carrier to permit the pressure in the sender and the transmission tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission tube, mechanism holding the carrier out of contact with the outer gate, mechanism for preventing the passage of another carrier until the preceding carrier has passed the inner gate, and a time lock on opposite sides normally under the pressure of the transmission tube and sender for controlling the operation of said carrier holding mechanism and adapted when the pressure between the inner and outer gates is reduced to be operated to release said carrier holding mechanism.

2. In a pneumatic despatch apparatus, a transmission tube, a sender connected to said transmission tube having a normally closed exhaust port, inner and outer gates normally closing said sender, means for normally producing equalization of pressure in the transmission tube and the sender, an exhaust valve controlling said port to allow the pressure to exhaust from the sender for releasing the transmission tube pressure on the outer gate to permit the entrance of a carrier into the sender, means operated by the carrier for opening said exhaust valve, means for closing said exhaust valve after the entrance of the carrier to permit the pressure in the sender and the transmission tube to substantially equalize on the inner gate whereby the weight of the carrier will open the said inner gate and enter the transmission tube, mechanism holding the carrier out of contact with the outer gate, mechanism for preventing the passage of another carrier until the preceding carrier has passed the inner gate, and a time lock on opposite sides normally under the pressure of the transmission tube and sender for controlling the operation of said carrier holding mechanism and adapted when the pressure between the inner and outer gates is reduced to be operated to release said carrier holding mechanism.

3. In a pneumatic despatch apparatus, a transmission tube, a sender connected to said transmission tube having a normally closed exhaust port, inner and outer gates normally closing said sender, means for normally producing equalization of pressure in the transmission tube and the sender, an exhaust valve controlling said port to allow the pressure to exhaust from the sender for releasing the transmission tube pressure on the outer gate to permit the entrance of a carrier into the sender, means operated by the carrier for opening said exhaust valve, means for closing said exhaust valve after the entrance of the carrier to permit the pressure in the sender and the transmission tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission tube, mechanism holding the carrier out of contact with the outer gate, mechanism for preventing the passage of another carrier until the preceding carrier has passed the inner gate, a time lock on opposite sides normally under the pressure of the transmission tube and sender for controlling the operation of said carrier holding mechanism and adapted when the pressure between the inner and outer gates is reduced to be operated to release said carrier-holding mechanism, and means for regulating the equalization of pressure on said time lock whereby a predetermined time elapses between the despatching of carriers.

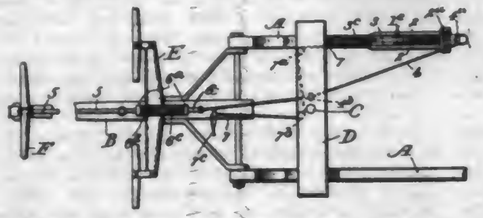
4. In a pneumatic despatch apparatus, a transmission tube, a sender connected to said transmission tube having a normally closed exhaust port, inner and outer gates normally closing said sender, means for normally producing equalization of pressure in the transmission tube and the sender, an exhaust valve controlling said port to allow the pressure to exhaust from the sender for releasing the transmission tube pressure on the outer gate to permit the entrance of a carrier into the sender, means operated by the carrier for opening said exhaust valve, means

for closing said exhaust valve after the entrance of the carrier to permit the pressure in the sender and the transmission tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission tube, and to hold said outer gate closed so that the pressure in the transmission tube will not escape into the atmosphere, mechanism holding the carrier out of contact with the outer gate, mechanism for preventing the passage of another carrier until the preceding carrier has passed the inner gate, and a time lock on opposite sides normally under the pressure of the transmission tube and sender for controlling the operation of said carrier holding mechanism and adapted when the pressure between the inner and outer gates is reduced to be operated to release the said carrier holding mechanism.

5. In a pneumatic despatch apparatus, a transmission tube, a sender connected to said transmission tube having a normally closed exhaust port, inner and outer gates normally closing said sender, means for normally producing equalization of pressure in the transmission tube and the sender, an exhaust valve controlling said port to allow the pressure to exhaust from the sender for releasing the transmission tube pressure on the outer gate to permit the entrance of a carrier into the sender, means operated by the carrier for opening said exhaust valve, means for closing said exhaust valve after the entrance of the carrier to permit the pressure in the sender and the transmission tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission tube and to hold said outer gate closed so that the pressure in the transmission tube will not escape into the atmosphere, mechanism holding the carrier out of contact with the outer gate, mechanism for preventing the passage of another carrier until the preceding carrier has passed the inner gate, and a time lock on opposite sides normally under the pressure of the transmission tube and sender for controlling the operation of said carrier holding mechanism and adapted when the pressure between the inner and outer gates is reduced to be operated to release said carrier holding mechanism.

[Claim 6 not printed in the Gazette.]

975,904. SLED-BRAKE. JOHANNES STRUVE, Pequot, Minn. Filed Apr. 14, 1910. Serial No. 555,524.



1. In a sled brake, the combination of a spud-bolt attached to the sled runner, a spring for projecting this bolt through the runner into engagement with the ground, means for normally retracting the bolt, and means for releasing the bolt.

2. In a sled brake, the combination of a runner, an inclined spud-bolt connected thereto, a spring for projecting the spud-bolt, a wedge block for retracting the spud-bolt, and means for moving the wedge block.

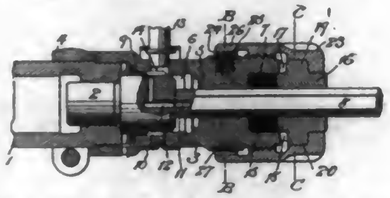
3. In a sled brake, the combination of a runner, an inclined spud-bolt extending therethrough, a spring for projecting the spud-bolt, a wedge block for retracting the spud-bolt, and means mediately connected with the neck-yoke whereby the spud-bolt is released when the team holds back.

4. In a sled brake, the combination of a runner, a spud-bolt extending therethrough, a spring for projecting the spud-bolt, a wedge block for retracting the spud-bolt, and means for causing the wedge block to release the spud-bolt when the brake is to be applied.

5. In combination with a sled runner, a spud-bolt, a spring for projecting the spud-bolt, a wedge block for retracting the spud-bolt, a spring for retracting the wedge block, and a more powerful spring and connections for causing the wedge block to retract the spud-bolt, and devices for overcoming the latter spring when the brake is to be applied.

[Claims 6 and 7 not printed in the Gazette.]

975,905. HAMMER-DRILL. ALBERT H. TAYLOR, Easton, Pa., assignor to Ingersoll-Rand Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 19, 1909. Serial No. 478,795.



1. In a hammer drill, a front head having outer and inner enlarged bores and an intermediate reduced bore, an anvil block having its head located in the inner enlarged bore, a drill steel fitted to the intermediate reduced bore, an elastic washer located in the outer enlarged bore and means for causing the washer to grip and release the steel.

2. In a hammer drill, a front head having outer and inner enlarged bores and an intermediate reduced bore, an anvil block having its head located in the inner enlarged bore, and provided with a pressure fluid passage, said front head having a pressure fluid chamber therein surrounding the anvil block, a hollow drill steel fitted to said intermediate reduced bore and in open communication with the pressure fluid feeding chamber through the passage in the said anvil block, an elastic washer in said enlarged outer bore and means for causing the washer to grip the steel to prevent the leakage of pressure fluid around the steel.

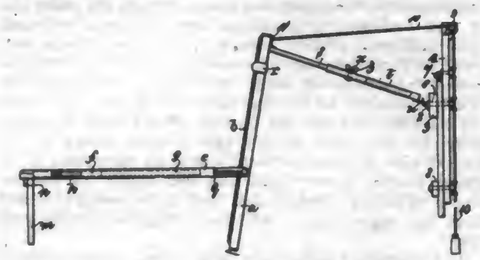
3. In a hammer drill, a front head having outer and inner enlarged bores and an intermediate reduced bore, an anvil block having its head located in the inner enlarged bore, and provided with a pressure fluid passage, said front head having a pressure fluid chamber therein surrounding the anvil block, a hollow drill steel fitted to said intermediate reduced bore and in open communication with the pressure fluid feeding chamber through the passage in the said anvil block, an elastic washer in said enlarged outer bore, means for causing the washer to grip the steel to prevent the leakage of pressure fluid around the steel, and a washer surrounding the head of the anvil block for preventing the leakage of the pressure fluid to the hammer cylinder.

975,906. ATTACHMENT FOR BEDSTEADS AND THE LIKE. JAMES TAYLOR, London, England. Filed July 19, 1909. Serial No. 508,503.

1. In a bed attachment, the combination of a back rest, an extensible support pivotally connected at one end thereto, an attaching member secured to the bed frame, a cross bar and means for adjusting same vertically of said attaching member, and hinged connections between said cross bar and the other end of said extensible support, substantially as described.

2. In a bed attachment, the combination of a back rest, an extensible support pivotally connected at one end thereto, an attaching member carried by the bed frame and vertically adjustable thereon, a cross bar adjusted vertically of said attaching member, and hinged connections between said cross bar and the other end of said extensible support, substantially as described.

3. In a bedstead, the combination of a back rest, an extensible support pivotally connected at one end thereto, an attaching member provided with a plurality of vertically arranged openings, a cross bar adjustable along said openings, and hinged connections between said cross bar and the other end of said extensible support, substantially as described.



4. In a bed attachment, the combination of a back rest, an attaching member provided with a pair of vertical rows of openings, attaching means operating in said openings to adjustably secure said member to the bed frame, a cross bar provided with attaching means cooperating with said openings to adjustably support said cross bar thereon, an extensible support hinged at one the other end of said support and said cross bar, substantially as described.

5. In a bed attachment, the combination of a back rest, a rectangular member, a rectangular three-sided member having channeled sides receiving the side edges of said rectangular member, means for adjustably securing said members together, means pivotally connecting one of said members to said back rest, and means for pivotally connecting the other of said members to the bed frame, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

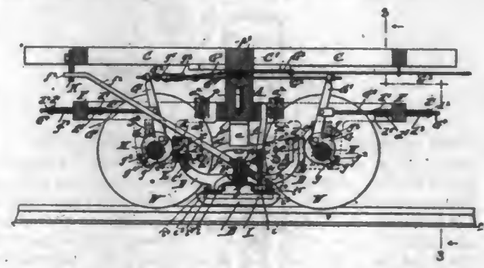
975,907. PROCESS FOR PRODUCING ZINC PIGMENTS FROM LIQUORS OBTAINED FROM PYRITES OR PYRITES-CINDER AND THE LIKE. JOHN HERBERT THWAITES, Peterborough, England. Filed July 8, 1908. Serial No. 442,519.

1. The herein described process of making white zinc sulfid from liquors obtained from pyrites, pyrites cinder and the like, by first adding to the heated liquor a compound of zinc adapted to precipitate iron as hydrated oxid, then oxidizing the mixture, then separating the precipitate thus produced, then adding a sulfid adapted to precipitate copper, lead, arsenic, antimony and cadmium, in proportion sufficient to precipitate these metals only as sulfids, then separating the precipitate thus formed, then adding to the liquor freed from the precipitate a soluble sulfid in proportion insufficient to precipitate the whole of the zinc as sulfid and finally separating the zinc sulfid thus produced.

2. The herein described process of making lithopone from liquors obtained from pyrites, pyrites cinder and the like, by first adding to the heated liquor a compound of zinc adapted to precipitate iron as hydrated oxid, then oxidizing the mixture, then separating the precipitate thus produced, then adding a sulfid adapted to precipitate copper, lead, arsenic, antimony and cadmium, in proportion sufficient to precipitate these metals only as sulfids, then separating the precipitate thus formed, then adding to the liquor freed from the precipitate a barium sulfid in proportion insufficient to precipitate the whole of the zinc as sulfid and finally separating the lithopone thus produced.

975,908. BRAKE FOR RAILWAY-CARS. LOUIS DE VITO, Cleveland, Ohio. Filed Mar. 17, 1910. Serial No. 549,831.

1. The combination, with a brake-operating lever mechanism, of pivot-levers engaged by the same, spring-actuated rods engaging the middle portions of said levers, stirrups placed on the axles of the truck-wheels pivotally connected with said levers, said stirrups being provided with supporting pins, hanger-frames supported on said pins, a transverse rod pivotally connected with said hanger-frames and provided with forked ends, and brake-shoes supported on the forked ends of the transverse rod.



2. The combination, with a brake-operating lever mechanism, of pivot-levers connected with the same, stirrups placed on the axles of the truck-wheels, spring-cushioned rods connected with the middle portions of said levers, blocks supported on projecting pins of the stirrups, hanger-frames supported on said pins, means for adjustably connecting said hanger-frames with said blocks, a transverse rod pivotally connected with the hanger-frames and provided with forked ends, and brake-shoes supported on said forked ends.

3. The combination of hanger-frames suspended on the axles of the truck-wheels, a transverse connecting rod between the same having forked ends pivoted to the lower parts of the hanger-frames, brake-shoes supported on the forked ends of said rod, and means connecting the transverse rod with the car-bottom for imparting a lateral motion to the hanger-frames and brake-shoes when rounding curves.

4. The combination of pivotally-supported hanger-frames suspended from the axles of the truck-wheels, a transverse connecting rod between the hanger-frames having forked ends pivoted to the lower parts of the hanger-frames, brake-shoes supported on the forked ends of said rod, a hanger on the truck-frame, an inclined rod connecting the lower end of the stationary hanger with the lower slotted end of said inclined rod, a center-pin on the transverse rod engaging a socket in the inclined rod, and a bracket-block on the bottom-frame of the car provided with a perforation for engaging the upper end of the inclined rod for causing the lateral swinging of the hanger-frames and brake-shoes when rounding curves.

5. In a railway car-brake, the combination, with a brake-operating draft-chain, of guide-wheels for the same at the center of the car-bottom, draft-rods connected with the draft-chain, pivot-levers connected with the draft-rods, spring cushioning rods connecting said pivot-levers, stirrups on the axles of the truck-wheels applied to the lower ends of the pivot-levers, brake-shoes, and supporting mechanism between the stirrups and brake-shoes.

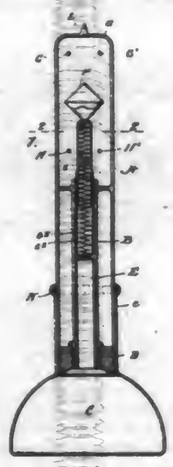
[Claims 6 and 7 not printed in the Gazette.]

975,909. THERMOSTAT. RICHARD HYDE WAITE, Denver, Colo. Filed June 16, 1909. Serial No. 502,454.

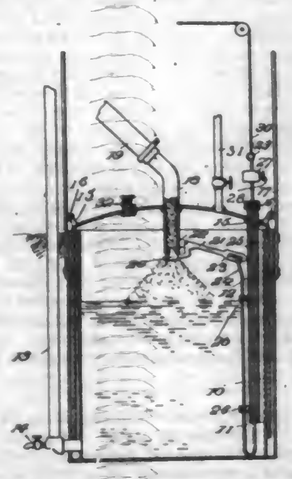
1. A thermostat comprising a fluid receptacle, a fluid in said receptacle, a resilient tube closed at its upper end and forming an extension of said receptacle, a rigid tube surrounding said resilient tube, a plunger in said rigid tube adapted to be moved by said resilient extension, a contact head carried by said plunger, upper fixed contacts arranged to be engaged by said contact head when the resilient tube is extended through the expansion of the fluid and lower contacts arranged to be engaged by the contact head when the resilient tube retracts from the contraction of the fluid.

2. In a thermostat, a casing, a fluid receptacle secured to the lower part of said casing, a rigid tube in said cas-

ing, a plunger in said rigid tube, said plunger consisting of telescopic members, one of said members bearing a contact head, a resilient tube closed at one end and in communication with the fluid receptacle at the other end said resilient tube disposed in said rigid tube and arranged to engage the other of said telescopic members, a spring normally forcing said telescopic members apart, upper and lower fixed contacts arranged to be engaged by said contact head, and an expansible fluid in said receptacle and said resilient tube.



975,910. GAS-GENERATOR. WILLIAM A. WALLACE, Altus, Okla., assignor to James E. Driggers, Altus, Okla. Filed Dec. 2, 1909. Serial No. 530,971.



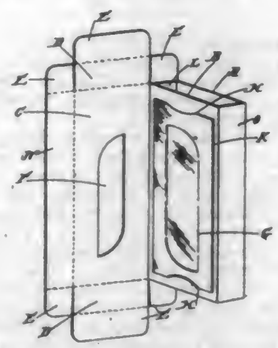
1. A gasometer including a tank having a bottom, an inwardly spaced wall in said tank, a bell disposed between the wall of said tank and said inwardly spaced wall, a feed-tube extended downwardly through said bell, a valve carried by said feed-tube for controlling the passage of carbid therefrom, a second tube extended downwardly through said bell at one side thereof, a controlling rod within said second tube and projecting below the lower end of the same to strike the bottom of said tank and arrest the movement of said rod, a returned portion formed on said controlling rod and connected to said valve, and a weight carried upon the upper end of said controlling rod for normally closing said valve.

2. A gasometer comprising a tank having a bottom, spaced walls formed in said tank, a bell positioned between said walls and the upper end of said tank, a feed-pipe carried by said bell and extended through the upper end thereof, an arm projected laterally from the lower end of said feed-pipe, a bell-crank lever pivotally mounted upon said arm, a valve carried by the arm of said bell-crank lever and extended upwardly into said feed-pipe to control the passage of carbid therefrom, a controlling rod loosely connected to the long arm of said bell-crank lever and adapted to strike the bottom of said tank upon the downward movement of said bell, a tube carried at one side of said bell and extended upwardly therefrom, a returned portion formed upon said controlling rod and extended upwardly through said tube, and a weight carried upon the upper end of said controlling rod above said tube.

3. A gasometer including a tank having spaced walls, a bell engaged over said tank and between said walls, a feed-pipe extended through the upper end of said bell, a valve carried by said feed-pipe, a controlling rod depended from said valve for engagement with the bottom of said feed tank, said controlling rod having a returned portion thereon extending upwardly through said bell and a weight carried by said controlling rod for normally depressing the same.

4. A gasometer having a tank, a bell disposed over said tank, a feed-tube mounted in said bell, a valve carried by said feed-tube, and a controlling rod carried by said valve for engagement with the bottom of said tank, said controlling rod being also extended upwardly through said bell to admit of the manual operation thereof.

975,911. BOX. PETER R. WARREN, Lowell, Mass. Filed June 14, 1909. Serial No. 501,959.



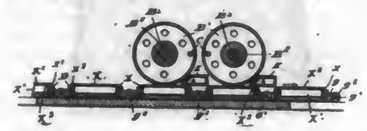
1. The improved folding box comprising a blank of card board, having two portions thereof lying the one against the other, each of said portions having a sight opening therein in registration with each other, one of said two portions of the blank having slits therein and a sheet of transparent material between said two portions of the blank having some of its edges located in said slits.

2. The improved folding box comprising a blank of card board, having two portions thereof lying the one against the other and secured together, each of said two portions having a sight opening therein in registration with each other, the sight opening in the outer of the said two portions being the smaller, one of said two portions of the blank having slits therein and a sheet of transparent material between said two portions of the blank having some of its edges in said slits.

3. A pasteboard box having a display opening in one wall and an apertured fold of the box blank lying inside of and adjacent to said wall with said opening and aperture in register, said fold along an edge having a flap resting along its edge on the box wall opposite that equipped with said opening and acting to retain said fold in substantially parallel relation with and in juxtaposition to said first wall, whereby a sheet of transparent medium may be interposed between said fold and wall and be held in proper relation to the opening of the latter to constitute a window said medium being maintained in such position by the wall and fold on opposite sides thereof.

4. A pasteboard box having a display opening in one wall and an apertured fold of the box blank lying inside of and adjacent to said wall with said opening and said aperture in register, said fold along an edge having a flap lying adjacent the side wall of the box and acting to retain said fold in substantially parallel relation with and in juxtaposition to said first wall whereby a sheet of transparent medium may be interposed between said fold and wall and be held in proper relation to the opening of the latter to constitute a window.

975,912. SOLDERING-MACHINE. FRED C. WASSMAN, Chicago, and MAGNUS E. WIDELL, Maywood, Ill., assignors to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 5, 1908. Serial No. 419,256.



1. In a soldering machine, the combination with a heated pressure device adapted to contact point after point, or minute seam-area after minute seam-area, momentarily and successively or progressively with the seam on one side, of an opposing cooling pressure device adapted to simultaneously contact with the seam throughout the whole length or extent thereof continuously on the opposite side from said heated pressure device, whereby the seam is progressively fused and progressively set and soldered, substantially as specified.

2. In a soldering machine, the combination with a heated pressure roller, of an opposing cooling pressure device, said heated pressure roller and cooling pressure device simultaneously acting on each successive portion of the seam, whereby the seam is progressively fused and progressively set, substantially as specified.

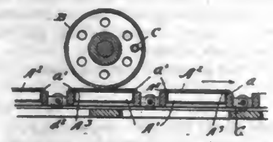
3. In a soldering machine, the combination with a heated pressure roller, of an opposing cooling pressure device conforming in shape to the seam and adapted to simultaneously contact therewith through the extent thereof, said heated pressure roller and cooling pressure device simultaneously acting on each successive portion of the seam, whereby the seam is progressively fused and progressively set, and means for rotating the said roller at a uniform speed, substantially as specified.

4. In a soldering machine, the combination with a heated pressure roller, of an opposing cooling pressure device, conforming in shape to the seam and adapted to simultaneously contact therewith through the extent thereof, said heated pressure roller and cooling pressure device simultaneously acting on each successive portion of the seam, whereby the seam is progressively fused and progressively set, means for rotating the said roller at a uniform speed, and means for conveying the cooling pressure device at a uniform speed under said heated roller, substantially as specified.

5. In a soldering machine, the combination with a heated pressure roller, of a plurality of opposing cooling pressure devices each conforming in shape to the seam and contacting therewith throughout its extent and adapted to be conveyed successively one after another under said heated pressure roller, and to act upon the seam simultaneously with said pressure roller as each successive portion of the seam passes under the roller, substantially as specified.

[Claims 6 to 34 not printed in the Gazette.]

975,913. SOLDERING PROCESS. FRED C. WASSMAN, Chicago, and MAGNUS E. WIDELL, Maywood, Ill., assignors to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 5, 1908. Serial No. 419,257.



1. The process or method of soldering seams or joints of cans or other tin plate articles, consisting in first coating the contacting surface of one member of the joint with solder, and then, the members of the joint being assembled, subjecting the joint, point after point of its length or extent, or minute area after minute area, momentarily and successively or progressively to the action of heat and pressure simultaneously applied, while one side of the joint throughout its whole extent is simultaneously subjected to a cooling action, substantially as specified.

2. The process or method of soldering seams or joints of cans or other tin plate articles, consisting in first coating the contacting surface of one member of the joint with solder, and then, the members of the joint being assembled, subjecting the joint, point after point of its length or extent, or minute area after minute area, momentarily and successively or progressively to the action of heat and pressure simultaneously applied, the heat being applied upon one side only of the joint and directly at the point or minute area of the joint at the time under pressure and the opposite side of the joint throughout its whole extent being constantly subjected to a cooling action, whereby the solder film between the members of the joint is progressively fused and progressively set, substantially as specified.

3. The process or method of soldering seams or joints of cans or other tin plate articles, consisting in first coating the contacting surface of one member of the joint with solder, and then, the members of the joint being assembled, subjecting the joint, point after point of its length or extent, or minute area after minute area, momentarily and successively or progressively to the action of heat and pressure simultaneously applied, the heat being applied upon one side only of the joint and directly at the point or minute area of the joint at the time under pressure and the opposite side of the joint throughout its whole extent being constantly subjected to a cooling action, whereby the solder film between the members of the joint is progressively fused and progressively set, and holding or maintaining the members of the joint at the point or minute area thereof where the solder is being fused in close and perfect contact with each other until each successive fused area of solder sets, substantially as specified.

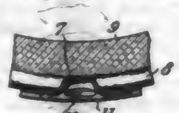
4. The process or method of soldering seams or joints of cans or other tin plate articles, consisting in first coating the contacting surface of one member of the joint with solder, and then, the members of the joint being assembled, subjecting the joint, point after point of its length or extent, or minute area after minute area, momentarily and successively or progressively to the action of heat and pressure simultaneously applied, the heat being applied upon one side only of the joint and directly at the point or minute area at the time under pressure, and the opposite side of the joint throughout its entire extent being simultaneously subjected to a cooling action, so that the solder film between the members of the joint is progressively fused and progressively set, substantially as specified.

5. The process or method of soldering seams or joints of cans or other tin plate articles, consisting in first coating the contacting surface of one member of the joint with solder, and then, the members of the joint being assembled, subjecting the joint, point after point of its length or extent, or minute area after minute area, momentarily and successively or progressively to the action of heat and

pressure simultaneously applied, the heat being applied upon one side only of the joint and directly at the point or minute area at the time under pressure, and the opposite side of the joint throughout its entire extent being simultaneously subjected to a cooling action, so that the solder film between the members of the joint is progressively fused and progressively set, the non-heated side of the joint being the member thereof having the solder coating, substantially as specified.

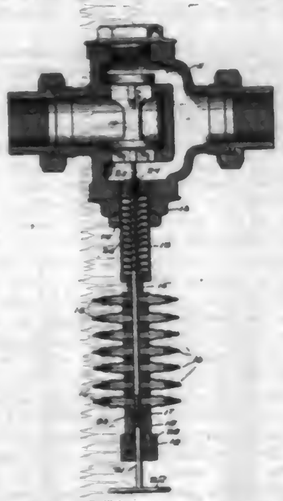
[Claims 6 to 20 not printed in the Gazette.]

975,914. SHEET-METAL CAP. CHRISTIAN H. WEBNER, New York, N. Y. Filed Dec. 7, 1909. Serial No. 531,769.



A sheet metal closure cap provided with instruck locking projections, each comprising a substantially truncated triangular hollow boss partially separated from the body of the cap by upper and lower parallel circumferential slits and formed of top, bottom, inner and side walls, the top and bottom walls providing inclined bearing surfaces and the inner wall a curved bearing surface to bind respectively against adjacent threads and the intervening portion of the neck of a receptacle.

975,915. VALVE-REGULATOR. THOMAS M. WILKINS, East Randolph, N. Y., assignor to Ziermore Regulator Company, Johnsonburg, Pa., a Corporation of Pennsylvania. Filed May 6, 1910. Serial No. 559,847.



1. The combination with a valve casing and balanced valve mounted within the casing, of a valve stem passing through the casing, oppositely-acting resilient means normally equal in tension tending to move the valve stem in opposite directions, manually operable means for varying the tension of the resilient members simultaneously to opposite effect, and means to employ the tension of the medium passing through the valve to increase the tension of one of the resilient means.

2. The combination with a valve casing and balanced valve mounted therein, of a tube communicating with the valve casing, a diaphragm in communication with the tube, a valve stem extending through the diaphragm and through the tube and connecting with the valve, a spring disposed within the tube and acting upon the valve stem and tending to hold the valve open against the resiliency of the diaphragm, and means to simultaneously increase the tension of the spring and decrease the tension of the diaphragm.

975,916. BROOM-BRACE. STEPHEN G. WILSON, Philadelphia, Pa. Filed Oct. 27, 1909. Serial No. 524,798.



1. In a device of the character stated, a plurality of clips, means on each clip for engagement with the stitching of a broom head, a spring member for each clip and adapted to be adjustably connected therewith, a plurality of plates, and means for adjustably connecting each of said plates with said spring members.

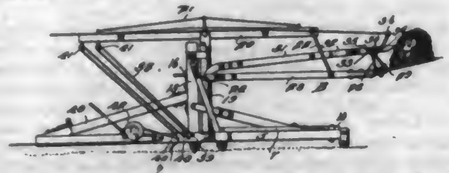
2. In a device of the character described, a plurality of clips, a tongue on each clip for engagement with the stitching of a broom head, a spring member for each clip, and a plurality of plates and means for connecting said spring members with said plates.

3. In a device of the character described, a plurality of clips adapted to be secured to a broom head, each having openings therein at varying heights, a spring member for each clip, fingers on said spring members for coöperation with said openings, a plurality of plates and means for connecting said spring members with said plates.

4. In a device of the character described, a plurality of clips adapted to be secured to a broom head, a spring member for each clip having a tapered portion, corrugations on said tapered portion, a plurality of plates, and a plurality of hooks secured to each plate and adapted for engagement with said corrugations.

5. In a device of the character described, a plurality of clips adapted to be secured to a broom head, a spring member for each clip having a tapered portion, corrugations on said tapered portion, a plurality of plates, a plurality of hooks secured to each plate and adapted for engagement with said corrugations, and a bracing member connecting said plates.

975,917. LOADING APPARATUS. JOHN E. WOODS and EDWIN LEWIS HARDING, Sibley, Iowa. Filed Dec. 7, 1909. Serial No. 531,773.



1. A loading apparatus comprising a base frame, an upright supported thereon, a mast supported for rotation

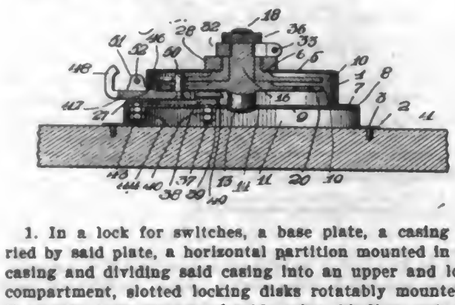
adjacent to the upright, a derrick beam mounted upon the mast, carrying arms connected pivotally with the mast, a load-receiving member connected hingedly with the arms, a latch bar pivotally connected with the mast and having notched divergent members engaging the load-receiving member, a rock shaft supported by said members and having arms engaging the load-receiving member, and an upwardly extending arm, and a suitably guided flexible element connected with said upwardly extending arm and guided to a point within reach of the operator.

2. In a machine of the character described, a derrick, a load receiving member operable by the derrick, a supporting sill for said derrick having laterally extending arms, one of said arms being hingedly connected with the sill, and a brace pivotally connected with the sill and detachably connected with the hingedly supported arm.

3. In a machine of the character described, a sill, an upright on said sill, a derrick-supporting mast supported for oscillation adjacent to the upright, a derrick, a load receiving member operable by the derrick, arms extending laterally from the sill, one of said arms being hingedly connected with the sill, and inclined braces connecting the sill with the arms and with the upright; one of said braces being detachably connected with the upright.

4. In a device of the character described, a sill having laterally extending arms, a derrick supported upon the sill, a load-receiving member operable by the derrick, rotary supporting means for the sill and for the laterally extending arms, earth-engaging pawls connected with the latter, and means for the attachment of power to force the sill in a forward direction.

975,918. LOCK FOR SWITCHES. GOTTLIEB WUELSER, New Kensington, Pa. Filed July 26, 1910. Serial No. 573,859.



1. In a lock for switches, a base plate, a casing carried by said plate, a horizontal partition mounted in said casing and dividing said casing into an upper and lower compartment, slotted locking disks rotatably mounted in the upper compartment of said casing, binding posts connected to said partition with one of the binding posts exteriorly of said casing, a locking arm movably mounted in the upper compartment of said casing and normally in engagement with the outer binding post and adapted to engage the inner binding post, a pin carried by said arm and extending upwardly through said slotted disks, and means on top of said casing for rotating said disks to release the pin of said arm.

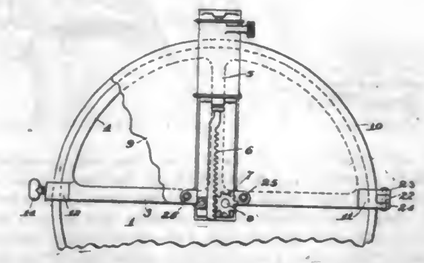
2. In a lock for switches, a plate, a casing mounted upon said plate, a partition arranged in said casing, a binding post carried by said partition, a binding post carried by the outer side of said casing, a switch arm normally in engagement with the outer binding post and adapted to extend into said casing and engage the inner binding post, and rotatable locking disks arranged within said casing and adapted to lock said arm in engagement with said binding post.

3. A lock for switches, comprising a casing, a switch arm extending into said casing, a pin carried by said arm within said casing and normally retaining said arm in said casing, locking disks revolubly mounted in said casing for engaging said pin and fixing said arm relatively to said casing, and means arranged upon said casing for adjusting said disks to release said pin.

4. A lock for switches, comprising a casing, a binding post arranged exteriorly of said casing, a binding post arranged within said casing, a switch arm normally held in engagement with the exterior binding post and adapted to extend into said casing and engage the interior binding post, a pin carried by said switch arm for normally retaining said arm within said casing, slotted superimposed locking disks adapted to engage said pin and hold the arm thereof in engagement with the interior binding post, and means arranged upon said casing for rotating said disks, said means including sleeves and indicators carried thereby.

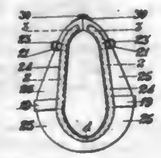
5. In a permutation lock for switches, the combination with a switch arm adapted to complete a circuit, of a pin carried by said arm for limiting the movement thereof, superimposed locking disks adapted to engage said pin for locking said arm, and means for shifting said disks.

975,919. MOTOR-MOUNTING FOR WASHING-MACHINES. ISIDOR YASSENOFF, Columbus, Ohio, assignor to The Swash Motor Washer Company, Columbus, Ohio, a Corporation of Ohio. Filed May 24, 1909. Serial No. 497,910.



In a washing machine a tub, a cover thereon constructed to overlie the upper edge thereof and abut against the inner face thereof, a swivel connection between said cover and one side of said tub to permit said cover to swing both vertically and horizontally thereon, fastening means to secure said cover in normal position to another side of said tub, and a motor mounted on said cover.

975,920. COLLAR FOR DRAFT-ANIMALS. COURTLAND YOUNG, Evansford, Lexton, Victoria, Australia. Filed Sept. 9, 1909. Serial No. 516,979.



1. In draft collars for animals, a tubular hame or draft piece bent upon itself into oval shape and flattened at its center, or closed end of the oval, said flattened portion acting as a spring to permit the ends of the hame to be sprung apart sufficiently to allow the hame to be slipped onto the animal, substantially as described.

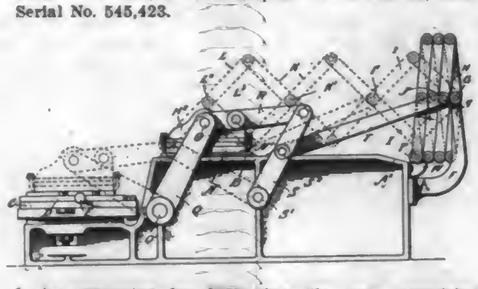
2. In draft collars for animals, a tubular hame or draft piece bent upon itself into oval shape and flattened at its center, said flattened portion forming the closed end of the oval and acting as a spring to permit the draft piece to be opened sufficiently to be slipped onto the animal with a collar having a front casing inclosing said tubular hame, and draft straps attached to said hame, substantially as described.

3. In draft collars for animals, a tubular hame or draft piece bent upon itself into oval shape and flattened a

the closed end of the oval, said flattened portion acting as a spring to permit the ends of the hame piece to be sprung apart sufficiently to enable the hame to be slipped onto the animal; with draft straps attached to said tubular hame, and bands around said tubular hame above the draft straps, substantially as and for the purpose set forth.

4. In draft collars for animals, a tubular hame or draft piece bent upon itself into oval shape and flattened at its center, said flattened portion forming the closed end of the oval, and acting as a spring to permit the hame to be opened sufficiently to be slipped onto the animal; draft straps attached to said hame, bands around said hame above the draft straps, and a rein ring attached to each band; with a collar having a front casing inclosing said oval hame, substantially as and for the purpose set forth.

975,921. APPARATUS FOR DECORATING TILES, &c. JOHN W. YOUNG, Zanesville, Ohio. Filed Feb. 23, 1910. Serial No. 545,423.



1. An apparatus for decorating tile, etc., comprising a frame having a top forming an ink distributing surface, a pad upon said frame, bracket arms fixed to the latter, lazy tong links pivoted to said bracket and to each other at their points of intersection, a stamp pivotally connected to said links, crank arms pivotally connected to the frame and to the links of said lazy tong and stamp.
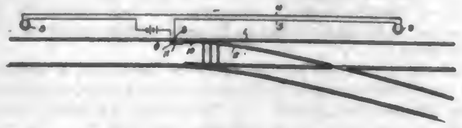
2. An apparatus for decorating tile, etc., comprising a frame having an ink distributing surface upon its top, a pad upon the latter, bracket arms fixed to one end of the frame, a stamp, lazy tong links pivoted to each other and to said bracket arms, crank arms pivotally mounted upon the frame and connected to the stamp and said links, an ink distributing roller carried by the latter, a well in which said roller is adapted to dip, the latter movable over the ink distributing surface and pad as the stamp is moved forward to its limit in one direction.

3. In combination with the frame of a tile decorating apparatus, having an ink distributing top, a well at the end of the frame, said top being inclined adjacent to one end which terminates at the upper end of said well, an ink pad upon the frame, bracket arms upon the latter, lazy tong links pivotally connected to said arms, a stamp connected to said links, and crank arms pivotally mounted upon the frame and connected pivotally to said links and stamp.

4. In combination with the frame of a tile decorating apparatus having a flat ink distributing top, one end of which is inclined, a pad upon said frame, bracket arms fastened to the end of the latter and extending upward, a rod pivotally mounted in said arms, a stamp, lazy tong links pivotally connected to said rod and to one another and to said stamp, crank arms pivotally connected to said frame and to the links of the lazy tongs, links pivotally connected to said crank arms, an ink distributing roller pivotally connected to the latter, and a well fixed to the frame and in which said roller is adapted to dip.

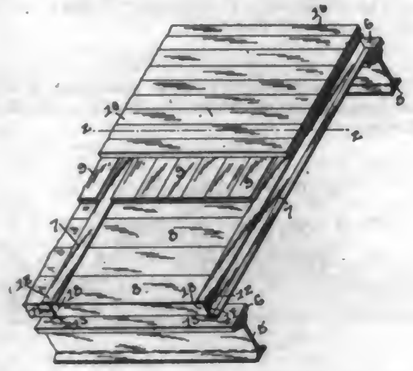
975,922. SWITCH-SIGNAL. THOMAS WILBURT ADAMS, Collinwood, Ohio, assignor of one-third to George W. Albaugh, Cleveland, Ohio. Filed Mar. 2, 1910. Serial No. 546,869.

The combination with a main track and switch therefor of a signal system including a normally open circuit, a signal arranged in said circuit, a circuit closer forming the terminals of the conductors of said normally open circuit, said circuit closer including a plate to be secured to the web of the rail and provided with a casing, spring contacts arranged within the casing, a push button normally projecting through one wall of the casing by means



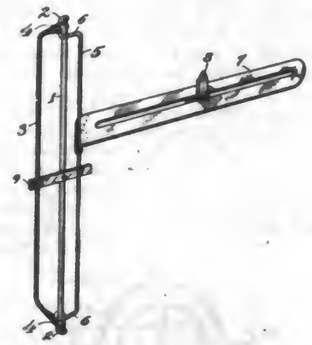
of the resiliency of one of said contacts, and an arm secured to and projecting beyond one of the switch points, said arm being formed with an offset portion to overlie and operate the push button to close the circuit when the switch point is set in a determinate position.

975,923. REINFORCED WOODEN MILL-FLOOR CONSTRUCTION. CHARLES AMBROSE MARSHAL PRARAY, Providence, R. I.; Charles William Praray administrator of said Charles Ambrose Marshal Praray, deceased. Filed Dec. 29, 1909. Serial No. 535,388.



In combination, a reinforced wooden mill-floor construction consisting of floor beams, metal reinforcing floor members supported on the floor beams at right angles to the floor beams, each reinforcing floor member shaped in cross section to have a comparatively thin vertical central web merging into a straight top having a uniform thickness and which extends at right angles across the web and outward an equal distance on each side of the web and a corresponding straight bottom having a uniform thickness and which extends at right angles across the web and outward an equal distance on each side of the web, forming a longitudinal square shape channel in each side of the member, each channel having a straight back, a straight top at right angles to the back and a straight bottom at right angles to the back, floor planks of wood parallel with the floor beams and having a thickness corresponding to the height of the web of the reinforcing floor members and square ends supported without extra shaping or fitting in the longitudinal square shape channels in the reinforcing floor members, independent of the floor beams, an intermediate floor of wood on the floor planks at right angles to the floor planks and a top floor of wood on the intermediate floor at right angles to the intermediate floor, whereby a wooden mill-floor is greatly strengthened and stiffened without sacrificing the required resiliency of the floor and without increasing the thickness of the floor.

975,924. BOOK-MARK. LANSTON ARAY, Detroit, Mich. Filed May 11, 1910. Serial No. 560,659.



1. A book marker comprising a supporting rod, means to connect the ends of the rod together and removable therefrom, said means holding the rod in position in the book, line marking means slidably mounted on and adapted to swing upon said rod, and a pointer slidably mounted on said line marking means to mark a point in the line.

2. A device of the character described, comprising a rod, elastic means for holding the same in a book, a swinging supporting member carried by said rod and parallel therewith, and a marker longitudinally movable upon the supporting member.

3. A device of the class described comprising a rod, elastic means for securing the same between the leaves of a book, a supporting member arranged parallel to the rod and connected therewith at its ends for swinging movement on the rod, a laterally extending arm longitudinally slidable upon the supporting member, and a pointer laterally slidable upon the arm.

4. A device of the class described comprising a rod, means to connect the ends of the rod together and removable therefrom to secure the same between the pages of a book, and a resilient bar pivoted adjacent its moddle portion on the rod, said bar adapted to lie parallel with the rod or transversely thereto with its ends extending in opposite directions from the rod to engage the opposite leaves.

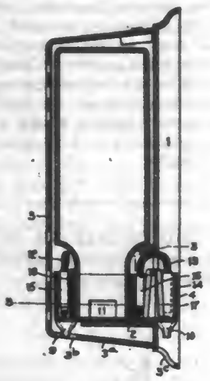
5. A device of the class described comprising a rod, means to connect the ends of the rod together and removable therefrom for holding the same in a book, a supporting member carried by and adapted to swing on said rod, a movable marker longitudinally slidable on the supporting member, and a laterally movable marker carried by the longitudinally slidable marker.

[Claim 6 not printed in the Gazette.]

975,925. DISINFECTING APPARATUS. LEON E. BACH, Rochester, N. Y., assignor of one-half to Charles F. Amsler, Rochester, N. Y. Filed Aug. 20, 1910. Serial No. 578,236.

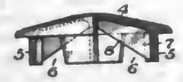
1. In disinfecting apparatus, in combination, a cup adapted to hold the disinfectant and having both a pocket therein, and a discharge opening leading from the pocket; and a removable wick support comprising separated tubes, both adapted to contain the wick, and legs for the tubes so attached to the tubes that when in place within the cup one tube is within the cup proper and the other overhangs the pocket; substantially as shown and described.

2. A wick support for a disinfecting apparatus com
prising two separated, substantially parallel tubes co



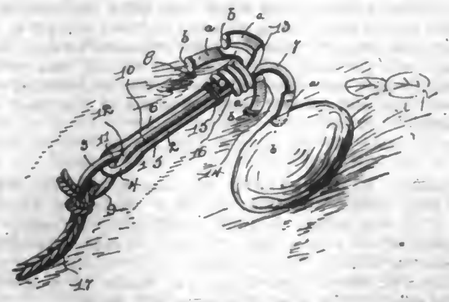
nected at their upper ends, and legs extending dow
from said upper ends; substantially as shown and d
scribed.

975,926. CHAIN-HOLE CAP FOR CAR-COUPLING
ARTHUR J. BAZELEY, Cleveland, Ohio, assignor to T
National Malleable Castings Company, Cleveland, Ohi
a Corporation of Ohio. Filed Oct. 8, 1909. Serial N
521,753.



A hole-closing cap comprising an arched top, a pluralit
of projections extending downwardly therefrom, and ri
connecting the projections with the central portion of th
arched top, said top being adapted to be flattened
thereby expand said projections; substantially as d
scribed.

975,927. HOOK FOR CATCHING SHELL-FIS
JOHANN F. BOEPPLE, Canneiton, Ind. Filed Aug. 1
1909. Serial No. 512,472.



1. In a device of the character described, a plurality
angularly-disposed members, said angularly-disposed mem
bers being provided with flattened end portions, and head
formed at the ends of said flattened portions, said head
overhanging the sides of said flattened portions except
their outer sides whereby said heads will not engage o
structions when dragged along the bottom of a body
water.

2. In a device of the character described, a pair of opp
sitely disposed arms having a looped connection at one en
a second pair of connected arms crossed and passe

through the loop of said first mentioned arms, the free ends of said arms being formed into mussel catching hooks, and means binding said arms together.

3. A device of the character described comprising a bar bent upon itself contiguous to its center to form a pair of oppositely disposed arms having a looped-connection, a second bar bent upon itself to form a pair of arms, said arms being crossed to form a loop and passed through the loop of said first-mentioned arms, the ends of said arms being formed into mussel catching hooks, and a length of metal coiled about said arms to bind said arms together and constituting a weight.

975,928. METHOD OF MAKING CHAIN. LUDWIG BAUCKMANN, Pforzheim, Germany. Filed Nov. 8, 1909. Serial No. 526,833.



1. The method of making a link for a chain which consists in bending a suitable blank from which the link is to be formed so as to cause the ends thereof to approach one another, placing a piece of solder between the ends of said blank, and completing the bending of said blank so as to cause the ends thereof to engage and grasp the piece of solder aforesaid between them and hold the same in proper position.

2. The method of making chain which consists in bending a suitable blank from which a link is to be formed so as to cause the ends thereof to approach one another, placing a piece of solder between the ends of said blank, completing the bending of said blank so as to cause the ends to engage and grasp the piece of solder aforesaid between them and hold the same in proper position, inserting a second blank through the link formed as aforesaid, bending said second blank so as to cause the ends thereof to approach one another, placing a piece of solder between the ends of said second blank, completing the bending of said second blank, so as to cause the ends thereof to engage and grasp the piece of solder aforesaid between them and hold the same in position, and turning said second link through 180° so as to bring the four free ends of said two links and the two pieces of solder held by them together.

975,929. LAMP-BURNER. WILLIAM H. BURNETT, Hartford, Conn. Filed Feb. 25, 1910. Serial No. 545,929.

1. A lamp burner including a wick tube with means for operating the wick, a dome overlying the tube, an auxiliary dome surrounding the first mentioned dome, means for supplying air between said domes, and means for controlling the amount of air passing between said domes.

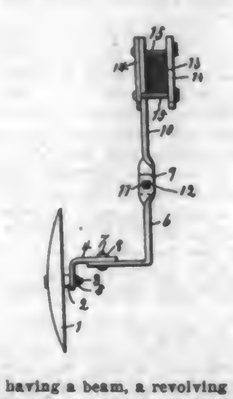
2. A burner including a wick tube with means for operating a wick, a dome inclosing said tube, means for supplying air within said dome, an auxiliary dome overlying the first-mentioned dome, and means for adjusting the position of one of said domes with respect to the other to control the amount of air passing between said domes.

3. A burner including a wick tube with means for operating the wick, a dome surrounding the tube, an auxiliary dome overlying the first-mentioned dome, means for supplying air between said domes, and means for adjusting the position of said domes one with respect to the other.

4. A lamp burner including a wick tube with means for operating the wick, a dome inclosing said tube, means for supplying air within said dome, an auxiliary dome overlying the first-mentioned dome, means for supplying air between the two domes, and means for adjusting the position of the auxiliary dome.



975,930. COMBINED SCRAPER AND FENDER. DAVID B. BUTTRILL, Mansfield, Tex. Filed June 6, 1910. Serial No. 565,289.



1. In a plow having a beam, a revolving disk and means for attaching the same to said beam to form a combined scraper and fender, said means consisting of an angle bar attached to said disk and having a horizontal portion, a second angle bar having a horizontal portion and a vertical portion, means for clamping the said horizontal portions at different angles to each other, and at different points of adjustment longitudinally on each other, said last mentioned bar having a portion of said vertical portion twisted a quarter turn, a beam piece having a portion thereof twisted a quarter turn and attached to the twisted portion of said last named bar, and means for attaching said beam piece to said beam at different adjustments.

2. In a plow having a beam, a revolving disk and means for attaching the same to said beam in front of the plow to form a combined scraper and fender, said means consisting of a disk member attached to said disk, a beam member attached to said beam, and an adjusting member attached to said beam member and to said disk member, the joint with said beam member permitting adjustment to vary the inclination of said disk and the joint with said disk member permitting adjustment to vary the angle said disk makes with the row of plants and to vary the distance between the disk and the plants.

3. In a plow having a beam, a revolving disk and means for attaching the same to said beam in front of the plow to form a combined scraper and fender, said means consisting of a disk member attached to said disk and having a horizontal portion with a plurality of holes therethrough, a beam member and means for attaching the same to the beam at different adjustments, an adjusting member having a vertical portion attached to said beam member and a horizontal portion having a slot therein, and a bolt and a nut therefor attaching said adjusting member to said disk member, the joint of said adjusting member to said beam member permitting inclination of said disk and the joint between the adjusting member and the disk member permitting variations of the angle said disk makes with the plants or row of plants and permitting longitudinal adjustments of said members on each other.

975,931. WINDOW AND DOOR SCREEN. WALTER S. CALDWELL, Cleveland, Ohio. Filed Mar. 3, 1910. Serial No. 547,010.



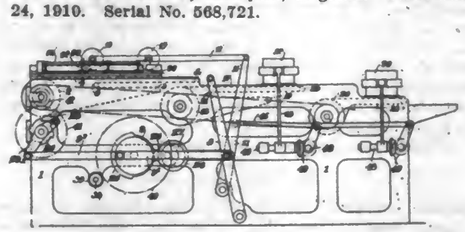
1. In a screen, the combination of a frame having two sections of screen material stretched thereon, with the upper part of one section overlapping the lower part of the other section and a guard arranged to extend horizontally between the overlapping portions of said screen sections, said guard comprising a series of inverted V-shaped members, each member being connected with the members at each side thereof at its lower end, each member being formed of sheet metal and consisting of two side members inclined toward each other and spaced apart at their upper ends to form an exit opening and each side member being provided with side flanges which extend parallel with and lie flat against the adjacent screen sections, the flanges on the respective sides meeting at the top of said V-shaped members and forming channels immediately below the exit openings.

2. In a screen, the combination of a frame having two sections of screen material stretched thereon, with the upper part of one section overlapping the lower part of the other section and a guard arranged to extend horizontally between the overlapping portions of said screen sections, said guard comprising a series of inverted V-shaped members, each member abutting against the member at each side thereof at its lower end, each member being formed of sheet metal and consisting of two side members inclined toward each other and spaced apart at their upper ends to form an exit opening and each side member being provided with side flanges which extend parallel with and lie flat against the adjacent screen sections.

3. In a screen, the combination of a frame having two sections of screen material stretched thereon, with the upper part of one section overlapping the lower portion of the other section and a guard arranged to extend horizontally between the overlapping portions of said screen sections, said guard comprising a binding strip arranged to engage the upper edge of the lower screen section, a series of inverted V-shaped members connected at their upper ends to said strip and at their lower ends to each other, each V-shaped member comprising two side members inclined toward each other and spaced apart at their upper ends to form an exit opening and each side member being provided with side flanges which extend parallel with and lie flat against the adjacent screen sections.

4. In a screen, the combination of a frame, having two sections of screen material stretched thereon, with the upper part of one section overlapping the lower part of the other section and a guard arranged to extend horizontally between the overlapping portions of said screen sections, said guard comprising a strip of sheet metal arranged to engage the upper edge of the lower screen section and a series of inverted V-shaped members connected at their upper ends to said strip and at their lower ends to each other, each V-shaped member consisting of two side members inclined toward each other and spaced apart at their upper ends to form an exit opening and each side member being provided with side flanges which extend parallel with and lie flat against the adjacent screen sections, the flanges on the respective sides meeting at the top of said V-shaped members and forming channels immediately below the exit openings.

975,932. MACHINE FOR MOLDING DOUGH PORTIONS INTO LOAVES. JOHN CALLOW and HERSCHEL LIVINGSTONE CALLOW, Liverpool, England. Filed June 24, 1910. Serial No. 568,721.



1. An apparatus for molding dough, including in combination intermittently operated means for conveying the dough portions, a roll located above the conveying means, means for operating said roll, means for lowering said rolls into engagement with the dough portions, whereby the same are pressed and flattened, and means for raising the said roll, out of engagement with the dough portions to permit the advancement of the same, and pivoted folding and pressing members for shaping the dough portions into loaves.

2. An apparatus for molding dough, including in combination an intermittently operated conveyer for receiving and discharging dough portions, rolls for flattening the dough portions while on said conveyer, means for operating said rolls, means for raising and lowering said rolls to allow the dough portions to be advanced, a second conveyer receiving the dough portions from said first conveyer, means for varying the position of the delivering end of said first conveyer, for discharging the dough portions on to the second conveyer, and a flattening roll operating transversely of said second conveyer and engaging the dough portion on the second conveyer, for flattening the same.

3. An apparatus for molding dough including in combination, an intermittently operated conveyer for receiving and discharging dough portions, rolls for flattening the dough portions while on said conveyer, means for operating said rolls, means for raising and lowering said rolls to allow the dough portions to be advanced, a second conveyer receiving the dough portions from said first conveyer, means for varying the position of the delivering end of said first conveyer for discharging the dough portions on to the second conveyer, and a flattening roll engaging the dough portion on the second conveyer for flattening the same, pivoted folding and pressing members for folding dough portions, said pressing members being located between the flattening rolls.

4. An apparatus for molding dough including in combination, an endless conveyer, flattening rolls for engaging the dough portions on said conveyer, a second conveyer located in a plane below said first named con

veyer on which said first named conveyer discharges the dough portions, folding members for engaging the dough portions as they are discharged from the first conveyer, a second flattening roll for engaging the dough portions on said second conveyer, said second flattening roll moving in a direction transversely of the conveyer, a second set of folding and pressing members for receiving and folding the dough portions from said second conveyer, said second set of folding and pressing members being positioned so as to fold the dough in a direction at right angles to the first fold therein, and a third flattening roll for engaging and flattening the dough on the last named conveyer.

5. An apparatus for molding dough including in combination, an endless conveyer, flattening rolls for engaging the dough portions on said conveyer, a second conveyer located in a plane below said first named conveyer on which said first named conveyer discharges the dough portions, folding members for engaging the dough portions as they are discharged from the first conveyer, a second flattening roll for engaging the dough portions on said second conveyer, said second flattening roll moving in a direction transversely of the conveyer, a second set of folding and pressing members for receiving and folding the dough lumps from said second conveyer, said second set of folding and pressing members being positioned so as to fold the dough in a direction at right angles to the first fold therein, and a third flattening roll for engaging and flattening the dough on the last named conveyer, and folding and pressing members for receiving the dough discharged from the last named conveyer.

[Claim 6 not printed in the Gazette.]

975,933. TELEPHONE-REPEATER. SAMUEL L. CAMPBELL, Prairie City, Oreg. Filed Oct. 29, 1908. Serial No. 460,108. Renewed Mar. 3, 1910. Serial No. 547,125.

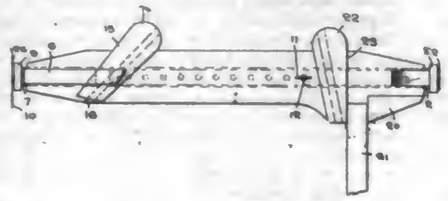


1. A telephone repeater system comprising a local microphone circuit at one station, a line circuit in inductive relation to the microphone circuit, a repeater unit at a distant point in said circuit comprising receiver coils and a magnet, an inclosing cup carried thereby, a flanged ring receiving and engaged by the cup, a bridge piece on the ring and clamping the cup to the ring, a microphonic element carried by the bridge piece, a free armature carried by the microphonic element in operative relation to the free ends of the receiver magnet pole pieces, a circuit controlled by the last named microphonic element, and a circuit in inductive relation to the last named circuit and containing a receiver.

2. A telephone repeater unit comprising receiver coils and a magnet, an inclosing cup carried thereby, a flanged ring receiving and engaged by the cup, a bridge piece on the ring and clamping the cup to the ring, a microphonic element carried by the bridge piece, and a free armature carried by the microphonic element in operative relation to the free ends of the receiver magnet pole pieces.

975,934. CLAMPING DEVICE. WILLIAM J. CANNADY, Detroit, Mich. Filed May 7, 1910. Serial No. 560,001.

1. In a clamping device, the combination with a frame having grooves therein, of a bar slidably mounted in said frame and having tongues thereon adapted to enter said grooves, means to adjust said bar in the frame, an auxiliary bar entering the opposite end of said frame and having tongues thereon adapted to engage said grooves and a wedge slidably mounted on said frame adapted to engage and move said auxiliary bar longitudinally of the frame to engage the ends of said bars with an object.



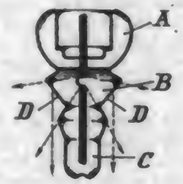
2. In a clamping device, the combination with a frame, comprising sections spaced apart and a plate connecting said sections, the meeting faces of said sections having grooves, of a bar slidably mounted in the space between the sections, said bar having tongues adapted to enter said grooves, a head at one end of said bar, an auxiliary bar at the opposite end of the frame having tongues thereon adapted to engage said grooves, a head at the outer end of said auxiliary bar, means to adjust the first mentioned bar longitudinally of the frame, means movably mounted upon the plate of said frame adapted to move the auxiliary bar longitudinally and means to engage the edge of an object and hold the same in a fixed position.

3. In a clamping device, the combination with a frame, of a bar adjustably and slidably mounted in one end of said frame, an auxiliary bar slidably mounted in the opposite end of said frame, each of said bars having a head at its outer end and a wedge slidably mounted on said frame and adapted to engage the auxiliary bar and move said heads into engagement with an object.

4. In a clamping device, the combination with a frame, bars slidably mounted in said frame and means to clamp said bars against an object, of a jaw integral with said frame, a wedge slidably mounted on said frame and adapted to move across the frame at an angle to the trend of the frame, whereby an object will be clamped between the jaw and wedge.

5. In a clamping device, the combination with a frame, comprising spaced apart sections and connecting means between said sections; of bars slidably mounted between said sections, means to adjust said bars longitudinally, a jaw at one end of said frame, and a wedge slidably mounted on said frame adjacent said jaw and adapted to cooperate therewith, for the purpose described.

975,935. ARC-LAMP. TITO LIVIO CARBONE, Charlottenburg, Germany. Filed Mar. 19, 1909. Serial No. 484,552.



1. An arc-lamp globe specially adapted to the use of impregnated carbons, and divided into a plurality of superposed chambers by suitable configuration of the walls, the middle chamber having a transparent wall surrounding the arc closely for preventing the gases produced by the arc from condensing on said walls.

2. An arc lamp globe specially adapted to the use of impregnated carbons, and divided into three superposed chambers by suitable contractions in the wall, the middle chamber having the shape of an inverted cone and its walls surrounding the arc as closely as possible to prevent the gases produced by the arc condensing on the walls of said chamber.

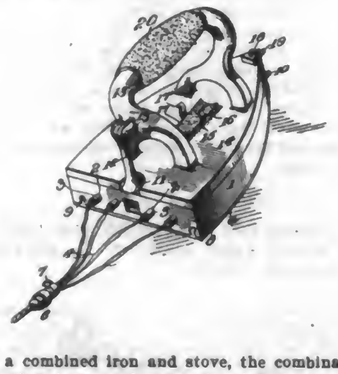
3. An arc lamp globe specially adapted to the use of impregnated carbons, and divided into a plurality of superposed chambers by suitable configuration of the walls, the walls of the middle chamber surrounding the arc as closely as possible, the said walls consisting partly of glass and partly of metal.

4. In an arc-lamp, a globe or inclosure for use with impregnated or flame-arc carbons, divided into three superposed chambers by suitable contractions in the walls, the middle chamber having a transparent wall surrounding the arc, and a separation or joint at the upper end of the middle chamber between it and the chamber above.

5. In an arc-lamp, a globe or inclosure for use with impregnated or flame-arc carbons, divided into three superposed chambers by suitable contractions in the walls, the middle chamber having a transparent wall surrounding the arc, an upper chamber separated from said middle chamber, and a lower chamber immediately below the transparent wall of the middle chamber and made integral therewith.

[Claim 6 not printed in the Gazette.]

975,936. COMBINED ELECTRIC IRON AND STOVE. BURTON R. CHARLES, Portland, Oreg. Filed Feb. 25, 1910. Serial No. 545,987.



1. In a combined iron and stove, the combination with a supporting base, a handle therefor, having a flange which normally rests on the base whereby the base and handle form an iron, means whereby the handle will serve as a support when the supporting base is inverted and used as a stove and the flange on the handle will serve as a support for said handle when the device is used as a stove and means for electrically heating the base when used as an iron or stove.

2. In a combined iron and stove, the combination with a handle, a supporting base, a pivotal and swiveled connection between the handle, and supporting base, means for securing the handle and supporting base together when used as an iron, and means for electrically heating the iron, the pivotal and swiveled connection between the handle and supporting base permitting of the latter being inverted and supported on top of said handle to form a stove.

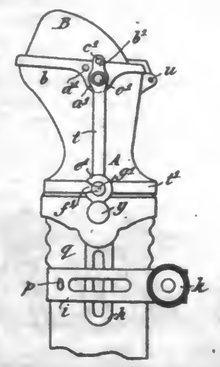
3. In a combined iron and stove, the combination with a supporting base, a handle, a pivotal and swiveled connection between the handle and supporting base, means for securing the supporting base and handle together to form an iron, and means for electrically heating the base, the pivotal and swiveled connection permitting of the supporting base being inverted and supported on top the handle to form a stove.

4. In a combined iron and stove, the combination with a supporting base, a handle, a pivotal and swiveled connection between the handle and supporting base, me
for securing the supporting base and handle together
form an iron, means for electrically heating the base,
pivotal and swiveled connection permitting of the s
porting base being inverted and supported on top
handle to form a stove, and means for securing the s
porting base on top the handle.

5. In a combined iron and stove, the combination w
a supporting base, a handle, a pivotal and swiveled c
nection between the handle and supporting base, me
for securing the supporting base and handle together
form an iron, means for electrically heating the base,
pivotal and swiveled connection permitting of the s
porting base being inverted and supported on top
handle to form a stove, and spring clamps on the s
porting base to engage the handle when said support
base is inverted.

[Claims 6 to 11 not printed in the Gazette.]

975,937. POURING DEVICE. HUBERT DESMOLIÈR
Montereau-faut-Yonne, France. Filed Oct. 15, 1909.
rial No. 522,801.



1. A pouring device in combination with means
fixing it upon the neck of a bottle comprising a coll
fitted and clamped below the lip of the bottle neck, s
collar including resisting segments of triangular secti
and flexible end bands, and flexible side tongues fixed
the pouring device and adapted to be engaged betwe
said segments and bands, so as to be bent or curved
the contour of the segments and secure the pouring
vice firmly on the bottle.

2. A pouring device in combination with means
fixing it upon the neck of a bottle, a cover hinged on s
pouring device, arms pivoted on the sides of the cov
and weighted at their lower ends, means for fastenin
said arms to said cover at such an angle that t
weighted lower ends tend to open the cover automatical
and means adapted for engagement with said arms
holding the cover down to its closed position.

3. A pouring device in combination with means
fixing it upon the neck of a bottle, a cover B hinged
said pouring device, arms t weighted at their lower en
and pivoted on the sides of the cover and provided wi
projections, the cover being provided with recesses
engaging said projections to hold the arms at such
angle that their weighted lower ends tend to open t
cover automatically, and buttons on the sides of t
pouring device adapted to be engaged by said arms
hold the cover down to its closed position.

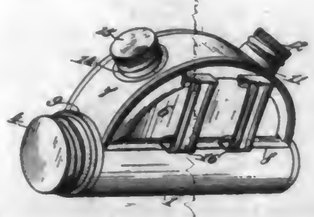
4. A pouring device in combination with means
fixing it upon the neck of a bottle, a cover B hinged
said pouring device, arms t weighted at their lower en
and pivoted on the sides of the cover and provided wi
projections, the cover being provided with recesses
engaging said projections to hold the arms at such
angle that their weighted lower ends tend to open t
cover automatically.

975,938. SPROCKET-GEAR. DAVID H. DOWNEY, Tiffin, Ohio. Filed May 31, 1910. Serial No. 564,136.



An attachment for gears comprising an annular attaching portion having a flange projecting laterally from its outer peripheral edge, said flange at its outer edge being formed with a flange projecting radially and adapted to provide between it and the face of the gear to which the attaching portion is secured, a channel, and a cushion element seated removably in the channel.

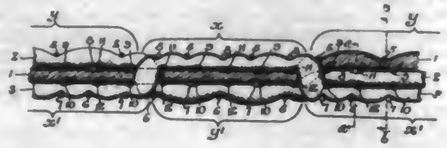
975,939. COMPARTMENT-CANTEEN. WILLIAM M. EDWARDS, Ottumwa, Iowa, assignor to Hardsocg Mfg. Co., Ottumwa, Iowa, a Corporation of Iowa. Filed Apr. 12, 1910. Serial No. 555,067.



1. A canteen of the class described comprising an elongated container constituting a base and having a permanently closed end, a screw cap closure for the other end of the container, a pair of plates of semi-disk shape disposed in parallel planes and having their straight edge portions permanently secured to the container along lines parallel to the longitudinal axis of the container, a semi-annular wall joined to the curved edges of the plates and having its ends joined to the container, the said plates and curved wall and the portion of the container wall intervening between the lines of attachment of said plates, defining a second container, the curved wall having an opening and a threaded boss circumscribing the opening, and a screw cap closure coacting with the threaded boss to close the opening.

2. A canteen of the class described, comprising an elongated container constituting a base and having a permanently closed end, a screw cap closure for the other end of the container, a pair of plates of semi-disk shape disposed in parallel planes and having their straight edge portions permanently secured to the container aforesaid along lines parallel to the longitudinal axis of the container, a semi-annular wall joined to the curved edges of the plates and having its ends joined to the container, the said plates and curved wall and the portion of the container wall intervening between the lines of attachment of said plates defining a second container, the curved wall having an opening and a threaded boss circumscribing the opening, a screw cap closure coacting with the threaded boss to close the opening, a third container set into the curved wall and having a neck portion, and an exteriorly disposed closure cap removably associated with the neck portion.

975,940. WOVEN FABRIC. CHARLES L. FETTERLY, Philadelphia, Pa., assignor to Kilmarnock Textile Manufacturing Co., Philadelphia, Pa., a Corporation of Illinois. Filed Jan. 29, 1910. Serial No. 540,772.

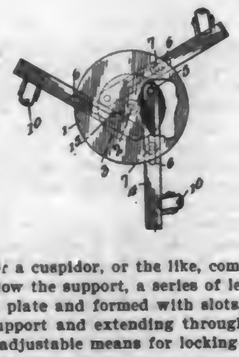


1. A fabric having a raised design interwoven on each face and formed by portions of the weft threads that project beyond the portions of the weft threads which form the ground weave, the same consisting of three or more plies of figuring weft threads of large diameter, stuffer warps directly adjacent the surface wefts, an auxiliary warp for binding two or more plies of weft and stuffer warps to form the ground weave, and a chain binder warp for binding the raised design to the ground weave.

2. A woven fabric especially adapted as a floor covering and having a raised design on each face, the same consisting of three or more series of figuring weft threads of large diameter, stuffer warps directly adjacent the surface wefts, an auxiliary warp for binding two or more wefts and stuffer warps between them in each shed to form the ground weave, and a chain binder warp for tying, to the ground weave, portions of the wefts which form the raised design.

3. A woven fabric especially adapted as a floor covering and having a raised design on each face, the same consisting of three or more series of figuring weft threads of large diameter, stuffer warps directly adjacent the surface wefts, an auxiliary warp for binding two or more wefts and stuffer warps between them in each shed to form the ground weave, and a chain binder warp for tying, to the ground weave, the portions of weft which form the raised design and the stuffer warps when they are adjacent the raised design.

975,941. STAND FOR CUSPIDORS AND LIKE ARTICLES. MICHEL FIAET, Albany, N. Y. Filed Feb. 14, 1910. Serial No. 543,821.



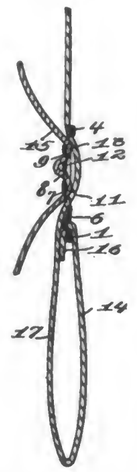
1. A stand for a cuspidor, or the like, comprising a support, a plate below the support, a series of levers pivotally mounted on the plate and formed with slots, pins depending from the support and extending through the slots in the levers, and adjustable means for locking the plate and levers to the support.

2. A stand for a cuspidor, or the like comprising a base, a plate spaced from the base, a series of slotted levers pivoted to the top of the plate, headed pins extending from the base and fitting in the slots in the levers, rollers mounted on the levers, and a screw and nut for binding the plate and levers to the base.

3. A stand for a cuspidor, or the like, comprising a support, a screw threaded stem depending from the support, a plate revolubly mounted on the threaded stem and spaced from the support, a series of slotted levers having their outer free ends bent upwardly to embrace an article to be held, pivotal connections between the levers and the plate, a series of headed pins depending from the support and extending through the slots in the levers, and a nut for clamping and securing the levers and plate when screwed up on the stem.

4. A stand for a cuspidor, or the like, comprising a support, a threaded stem extending from the support, a revolving plate mounted on the stem, a series of levers pivotally mounted on the plate, casters on the levers, means including slots formed in the levers and pins extending from the support and passing through the slots for simultaneously guiding the levers, said guiding means causing the levers to be uniformly moved inward or outward and circumferentially by revolving the plate and a set nut engaging the stem to lock the plate and levers to the support.

975,942. BUCKLE. WILLIAM D. FLYNN, Spray, N. C. Filed July 21, 1908. Serial No. 444,599.

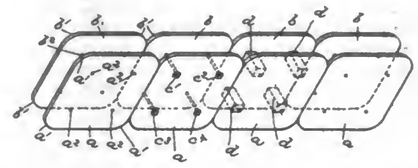


1. A buckle comprising a body portion having an intermediate outwardly offset portion formed with a plurality of transversely extending slots and bars, the upper part of the body having a transverse opening above the offset portion and an upper terminal depressed bar, said body being further provided in close proximity to its lower edge with a transverse slit and a compressible tongue for immovably securing the end of a suspender strap to the buckle, said transverse openings constituting means for the adjustable passage of the suspender strap therethrough and for the application of a tab.

2. A buckle comprising a body portion provided with a plurality of transversely extending slots and bars including an upper transverse slot and depressed bar, said body being further provided in close proximity to its lower edge with a transverse slit and a compressible tongue, a suspender strap having one extremity inserted through the said slit at the lower edge of the body and secured by the compressible tongue, the remaining part of the strap being inserted through one of the transverse slots next above the slit and also through the upper transverse slot over the depressed bar, and a tab also inserted through the transverse slot next above the slit and the upper slot and through the slots between the said upper and lower slots.

3. A buckle comprising a body portion having a transverse opening near its top, and a transverse opening near its bottom and an intermediately outstruck portion formed with transverse openings and bars, said body further provided in close proximity to its lower edge with a transversely extending slit and a normally outwardly projecting bendable tongue, the transverse openings constituting means for the adjustable passage of a suspender strap therethrough and the application of a tab, and the slit adapted to have the one end of the suspender strap inserted therethrough and secured by compression of the tongue thereagainst.

975,943. APPARATUS FOR CASTING CONCRETE STRUCTURES. HAROLD FRENCH, London, England. Filed May 3, 1910. Serial No. 559,103.



1. A form for casting concrete, ferro-concrete and the like structures, comprising a form section having transverse through holes, and removable bolts passing through said holes for securing the form section in position, the form section having a plain inner surface and being adapted to be rotated on the bolts parallelly to the surface of the concrete structure so as to bring the form section into a new position overlapping that formerly occupied, substantially as described.

2. A form for casting concrete, ferro-concrete, and the like structures, consisting of a plurality of rectangular form sections arranged in opposite rows and having transverse through holes adjacent to the corners, distance pieces separating opposite form sections, and removable bolts passing through said holes for securing the form sections in position, the form sections having plain inner surfaces and being adapted to be moved on the bolts parallelly to the surface of the concrete structure so as to bring the form sections into new positions overlapping those formerly occupied, substantially as described.

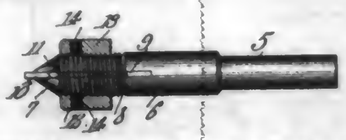
3. A form for casting concrete, ferro-concrete and the like structures, consisting of a plurality of form sections of rectangular shape with rounded corners and having transverse through holes adjacent to the corners, and removable bolts passing through said holes for securing the form sections in position, the form sections having plain inner surfaces and being adapted to be rotated on the bolts in the plane in which they normally lie so as to bring the form sections into new positions overlapping those formerly occupied, substantially as described.

4. A form for casting concrete, ferro-concrete, and the like structures, consisting of a plurality of form sections having rounded corners arranged in opposite rows, one for each side of the form, distance pieces separating opposite form sections, and removable bolts passing through said form sections concentric with said rounded corners and through said distance pieces, the form sections having plain inner surfaces and being adapted to be rotated on the bolts in the plane in which they normally lie so as to bring the form sections into new positions overlapping those formerly occupied, substantially as described.

5. A form for casting concrete, ferro-concrete, and the like structures, consisting of a plurality of form sections of rectangular shape with rounded corners and having transverse through holes adjacent to the corners, filling pieces between the corners of adjacent sections, and removable bolts passing through said holes for securing the form sections in position, the form sections having plain inner surfaces and being adapted to be rotated on the bolts in the plane in which they normally lie, so as to bring the form sections into new positions overlapping those formerly occupied, substantially as described.

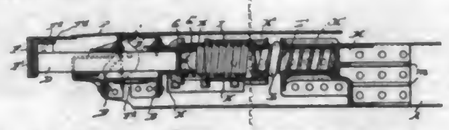
[Claims 6 to 8 not printed in the Gazette.]

975,944. COUNTERSINK. JOHN ERNST FREYMAN, Schenectady, N. Y. Filed May 14, 1910. Serial No. 561,462.



A countersink comprising a stock pointed at one end, and slotted at said end, and said slotted portion being exteriorly screw threaded behind the pointed end, a cutting blade mounted in the slot, and having its cutting edges extending beyond the point of the stock, the opposite edges of the cutter being screw threaded, said threads matching the threads of the stock, and a nut screwed on the threaded portions of the cutter and the stock.

975,945. BUFFING MECHANISM FOR PASSENGER-CARS. RICHARD D. GALLAGHER, Jr., New York, N. Y., assignor to Standard Coupler Company, New York, N. Y., a Corporation of New Jersey. Filed Jan. 28, 1909. Serial No. 474,768.



1. In buffing mechanism, the combination with the buffer, the center stem coöperating therewith for holding the buffer projected and the center stem follower with which the rear end of the center stem coöperates, of a relatively light spring bearing at one end against said follower, a pair of relatively heavy main springs in rear of the light spring, a floating casing interposed between the light and heavy springs and having walls partly inclosing said springs, said walls forming stops for limiting the compression of the springs both in front and in rear of the casing.

2. In a buffing mechanism, the combination with the buffer, center stem coöperating with said buffer to hold the same projected and center stem follower with which the rear end of the stem coöperates, of a spring for advancing said follower and center stem, a casing in which said spring is inclosed at its rear end and having two spring seats on its rear face, relatively heavy springs engaging said seats for holding said casing advanced with a yielding pressure, and a fixed support for the rear end of said last mentioned springs, the said follower, casing and fixed support having coöperating faces constituting stops for limiting the inward movement of the center stem.

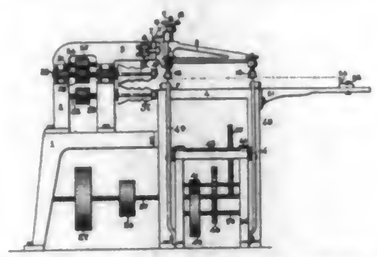
3. In a buffing mechanism, the combination with the buffer, the center stem coöperating therewith to hold the same projected and springs of different strength arranged in tandem for advancing said center stem, of a center stem follower, a fixed support and a floating spring casing interposed between said springs, said spring casing being of such length as to coöperate with the follower and support to limit the compression of both the preliminary and main springs.

4. In a buffing mechanism, the combination with the buffer, center stem, and buffer beam in which said center stem is mounted to move longitudinally, of a center stem follower with which the rear end of the center stem coöperates, adapted to seat against the inner side of the buffer beam, whereby its outward movement is limited, a spring for advancing said follower, a movable casing in which the rear end of the spring is housed, a fixed support having forwardly extending spring chambers, and springs mounted in and projecting from the chambers in said fixed support, the arrangement being such that the preliminary inward movement of the buffer compresses the forward spring, the final inward movement of the buffer compresses the springs interposed between the casing and support and the follower, casing and walls of the chambers abut to form the final stop for limiting the compression of the springs.

5. In a buffing mechanism for the purpose described, the combination with the buffer beam, beams forming platform timbers supporting said buffer beam, and fixed support secured between the proximate faces of said timbers and having parallel spring chambers in its forward side, of springs mounted in said chambers and projecting forwardly, a movable spring casing held advanced by said springs and having a central forwardly projecting spring chamber in its forward side, a spring mounted in said last mentioned chamber and projecting forwardly, a center stem follower with which the said last mentioned spring coöperates, a center stem mounted to move longitudinally in the buffer beam, and a buffer with which the forward end of said center stem coöperates.

[Claims 6 to 8 not printed in the Gazette.]

975,946. SHAPING-MACHINE. THOMAS J. GILLIAM, Houma, La. Filed Jan. 11, 1910. Serial No. 537,455.



1. In a shaping machine of the class described, the combination with a frame having cutters thereon; of a vertically adjustable arm carried by said frame and also adapted to be swung laterally, spring-held pressure bars carried by said arm and extending at right angles thereto, means to automatically force the material to said pressure bars, and driving means therefor.

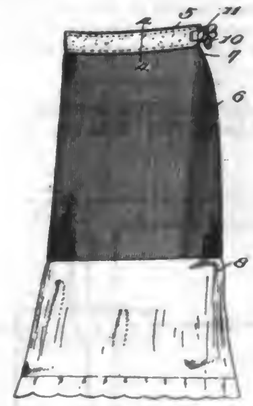
2. In a shaping machine, the combination with a frame having cutters thereon; of an arm extending longitudinally of said frame, means to vertically adjust said arm, said arm being also adapted for lateral swinging movement, pressure bars carried by said arm and extending at right angles thereto, additional means to vertically adjust said pressure bars, automatic means to force the material to said pressure bars, and driving means therefor.

3. In a shaping machine, the combination with a frame having cutters thereon and a stock pivotally secured to one end of an extension of said frame; of an arm carried by said stock and vertically adjustable thereon, pressure bars carried by the ends of said arm and extending at right angles thereto, and means to automatically force the material under said pressure bars.

4. In a shaping machine, the combination with a frame having an extension thereon, cutters carried by said extension and driving means therefor; of an arm carried by said extension and vertically adjustable thereon, an additional means whereby said arm may be swung laterally, pressure bars carried by said arm and adapted for vertical adjustment, and automatic means to force the material beneath said pressure bars.

5. In a shaping machine, the combination with a frame having an extension thereon, cutters carried by said extension and driving means therefor; of a stock pivotally secured at one end to said extension, an arm carried by said stock and vertically adjustable thereon, means to lock said stock to said extension, pressure bars carried by said arm, and automatic means to force the material beneath said pressure bars.

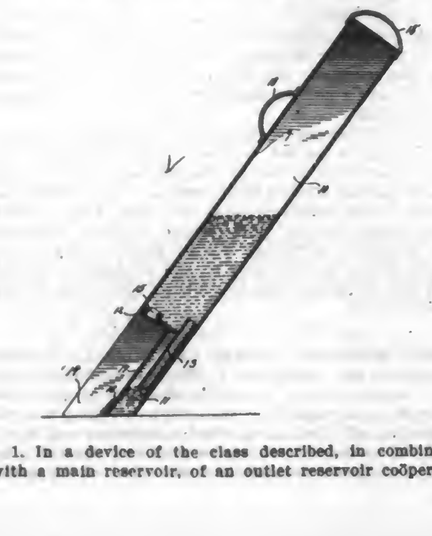
975,947. SKIRT. JOHN A. GREWEN and WILLIAM GREWEN, Johnstown, N. Y. Filed Nov. 24, 1909. Serial No. 529,795.



1. A skirt having its upper portion formed of knitted material and provided with a flat tubular waist-band also formed of knitted material, a flat elastic band normally of the same length as the waist-band and entirely housed within the latter, said elastic band being free to expand and contract independently of the waist-band and secured to said waist-band at the placket of the skirt only, and tie tapes secured to the exterior surface of the waist-band on opposite sides of the placket and formed of non-elastic material.

2. A skirt having its upper portion formed of knitted material and provided with a flat tubular waist-band of the same material as the upper portion of the skirt, a flat elastic band normally of the same length as the waist-band loosely mounted in said waist-band and entirely housed within the latter, said elastic band being free to expand and contract independently of the waist-band, and secured to said waist-band at the placket of the skirt only, non-elastic tie tapes of less width than the waist-band secured to the exterior surface of the waist-band at the placket of the skirt only, and rows of stitching extending through the tie tapes, waist-band and elastic band at said placket for securing the several parts in assembled position.

975,948. TENNIS-COURT MARKER. NORMAN HALSEY, Charleston, S. C. Filed Sept. 1, 1910. Serial No. 580,066.



1. In a device of the class described, in combination with a main reservoir, of an outlet reservoir coöperating therewith, and means whereby the liquid contained in said main reservoir may flow into said outlet reservoir seeking a predetermined level therein.

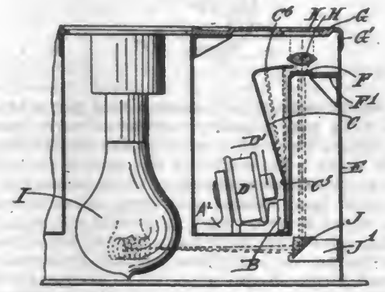
2. In a device of the class described, the combination with a main reservoir, of a reduced outlet reservoir carried thereby, a tubular connection between said main reservoir and said outlet reservoir and located within both reservoirs, and means whereby the liquid flowing from the main reservoir to the outlet reservoir will seek a predetermined level in the line.

3. In a device of the class described, in combination with a main reservoir, of a reduced outlet reservoir coöperating therewith, flanges disposed on each side of said outlet reservoir, a connection between said outlet and said main reservoir, and means whereby the liquid contained in said reservoir may flow therefrom downwardly between said flanges.

4. In a device of the class described, in combination with a main reservoir, of a reduced outlet reservoir carried thereby, a partition separating said reservoirs, a connection piercing said partition and connecting said reservoirs, flanges disposed on each side of said outlet reservoir forming a continuation of the sides of said outlet reservoir and sides of said main reservoir, and means whereby the liquid contained in said outlet reservoir may flow downwardly between said flanges.

5. In a device of the class described, in combination with a main reservoir, of a reduced outlet reservoir coöperating therewith, said outlet reservoir having a series of openings adjacent one extremity thereof, an air inlet adjacent therein, a pipe piercing said partition and connecting said outlet reservoir with said main reservoir, and flanges disposed on each side of said outlet reservoir forming a continuation of the sides of said outlet reservoir and the sides of said main reservoir.

975,949. OPTICAL PROJECTION APPARATUS. JOHN WILLIAM HENWOOD, London, England. Filed Apr. 26, 1910. Serial No. 557,713.



1. In an apparatus of the character described, the combination with a scale plate having differing indices thereon, and means for covering and uncovering said indices, of a source of light, a receiving surface, and means arranged to cause rays of light from said source to pass through the scale plate and project the indices as they are uncovered upon said receiving surface.

2. In an apparatus of the character described, the combination with a scale plate having differing indices thereon, and means for covering and uncovering said indices, of a source of light, a receiving surface, and means to cause rays of light from said source to pass through the scale plate and project an enlarged image of each indication as it is uncovered upon said receiving surface.

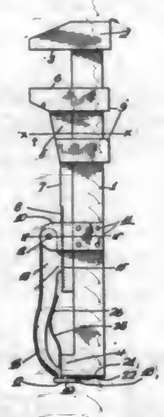
3. In an apparatus of the character described, the combination with a scale plate having differing indices arranged circularly thereon, and means for covering and uncovering said indices, of a source of light arranged centrally with respect to the said indices, a receiving surface, and means for causing rays of light from said source to pass through the scale plate and project the indices as they are uncovered upon said receiving plate.

4. In an apparatus of the character described, the combination with a scale plate having differing indices thereon, and means for covering and uncovering said indices, of a source of light, a receiving surface, and reflecting and refracting bodies arranged to intercept divergent rays from said source and cause them to pass through the scale plate and project the indices as they are uncovered upon said receiving surface.

5. In an apparatus of the character described, the combination with a scale plate having differing indices arranged circularly thereon, and means for covering and uncovering said indices, of a source of light arranged centrally with respect to said indices, a receiving sufrace, and circular reflecting and refracting bodies arranged around the source of light in position to intercept rays of light therefrom and cause them to pass through the scale plate and project the indices as they are uncovered upon said receiving surface, enlarged as set forth.

[Claims 6 to 9 not printed in the Gazette.]

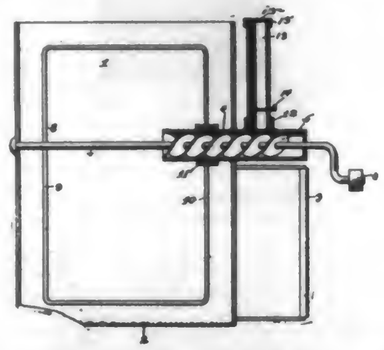
975,950. WRENCH. DAVID K. HILL, Leechburg, Pa. Filed Feb. 18, 1910. Serial No. 544,660.



1. A wrench comprising a shank, a fixed jaw carried by one end and a right-angularly disposed extension provided at the other end thereof, a movable jaw slidably-mounted upon the shank, a bar carried by the movable jaw and extending in parallelism with respect to the shank and having its outer face provided with teeth, plates secured to opposite sides and intermediate the ends of said shank and projecting beyond the toothed face of said bar, a locking member having one end pivotally-mounted between said plates and further having a portion of its inner face in proximity to its pivoted end provided with a toothed enlargement adapted to engage the teeth of said bar to prevent movement of the latter, a pivoted clasp carried by the said shank and adapted to engage the free end of the locking member for maintaining it from movement, a curved spring having one end secured to said extension, and a pin and slot connection between the other end of said curved spring and the inner face of said locking member.

2. A wrench comprising a shank, a fixed jaw carried by one end and a right-angularly disposed extension provided at the other end thereof, a movable jaw slidably-mounted upon the shank, a bar carried by the movable jaw and extending in parallelism with respect to the shank and having its outer face provided with teeth, plates secured to opposite sides and intermediate the ends of said shank and projecting beyond the toothed face of said bar, a locking member having one end pivotally-mounted between said plates and further having a portion of its inner face in proximity to its pivoted end provided with a toothed enlargement adapted to engage the teeth of said bar to prevent movement of the latter, a pivoted clasp carried by the said shank and adapted to engage the free end of the locking member for maintaining it from movement, a curved spring having one end secured to said extension, a pin and slot connection between the other end of said curved spring and the inner face of said locking member, and resilient means carried by that end of the shank provided with the extension and adapted to engage said clasp for maintaining it in an inoperative position.

975,951. MAGAZINE FLOUR-SIFTER. WALTER WILLIAM HILL, Seaborn, Tex. Filed Feb. 25, 1910. Serial No. 545,940.



1. A flour sifter comprising a receptacle having a foraminous portion, a powder receptacle located at one side of the first receptacle, a hollow bearing member connecting the receptacles with each other and opening directly into the receptacles, an agitator located in the first receptacle, and a conveying member operable upon movement of the agitator and extending approximately the length of the said bearing member.

2. A flour sifter comprising a receptacle having a foraminous portion, a second receptacle located adjacent to the first receptacle, a bearing member opening directly into the said receptacles, a worm revolubly mounted in the bearing member and having one of its end portions located directly beneath the said second receptacle, a shaft having portions rotatably mounted in the first receptacle and in one end of the said bearing member respectively, and an agitator mounted on said shaft.

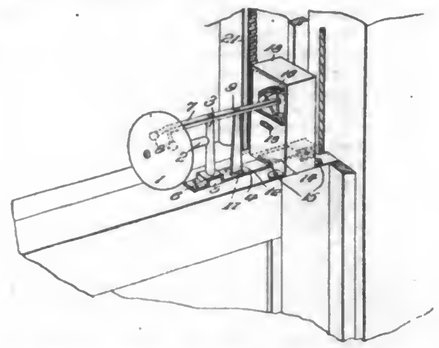
3. A flour sifter comprising a receptacle having a foraminous portion, a powder receptacle located adjacent to the first receptacle, a valve located in the powder receptacle, a hollow bearing member connecting the second receptacle with the first receptacle, a feeding element located in the raid bearing member and having a portion disposed beneath the said valve, a shaft movable on movement of the feeding element, and an agitator being located in the first receptacle and having a portion connected with the shaft, and a portion mounted for rotation on the said bearing member.

4. A flour sifter comprising a receptacle having a foraminous portion, a secoud receptacle located adjacent to the first receptacle, a hollow bearing member having an open end portion opening directly into the first receptacle, the said second receptacle being connected with the said hollow bearing member and arranged in direct communication therewith, a feeding element movably mounted in the said hollow bearing member, and an agitator located in the first receptacle and movable on movements of the feeding element.

975,952. BURGLAR-ALARM. FRANKLIN L. HOLMES, Smethport, Pa. Filed Aug. 7, 1909. Serial No. 511,754.

1. A burglar alarm, embodying a casing formed with slots, a gong, a support for the casing and gong, a shaft mounted in said slots, a trip wheel mounted on said shaft, a trip arm arranged to strike the gong and adapted to be actuated by engagement with the trip wheel, and a spring

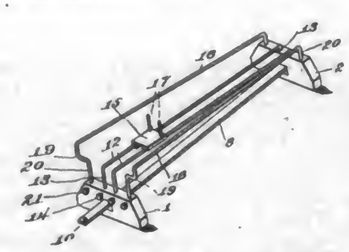
secured in the casing and formed with two arms bearing on the shaft on opposite sides of said wheel with a tendency to move the shaft toward one end of the slots, and means for turning said wheel upon the movement of said support.



2. A burglar alarm, comprising a post provided with a laterally extending bracket, a gong secured to the bracket, a trip arm mounted upon the upper end of said post, a vertically disposed spring secured to said trip arm, means for holding said spring in place, a casing, means for fastening said casing in place, and a wheel mounted to turn in said casing and protruding therefrom, said wheel embodying spokes adapted to engage the trip arm and actuate the same.

3. A burglar alarm, comprising a base plate, a post provided with a head, and the base plate being formed with a flange engaging said head, the post being provided with a bracket, a gong secured to said bracket, a trip arm mounted on one end of said post, the base plate being formed with a slit, a spring formed at one end with a lug taking through and underneath said slit, said spring engaging at its other end the said trip arm, a casing, the base plate being formed with a raised portion extending over the bottom of the casing to secure the same in place, and a rotary element mounted in said casing and connected to the trip arm.

975,953. AERIAL PROJECTING APPARATUS. ISKANDER HOUAWICH, Washington, D. C. Filed Mar. 5, 1910. Serial No. 547,573.



1. An aerial projecting device comprising a double track one of which is off-set laterally from the other for supporting the object projected, a cast-off member slidable on the other track in engagement with said object, and means for sliding said member.

2. An aerial projecting device comprising a cast-off member, a track for said member, a track off-set laterally from and above the plane of the member track, and means for sliding said member.

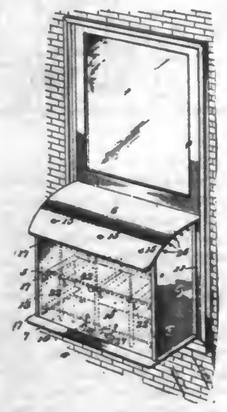
3. An aerial projecting device comprising a track for the object projected, a slidable cast-off member, a track for the cast-off member within the said object track, and means for operating the cast-off member.

4. An aerial projecting device comprising a pair of base blocks, a track adjustable on the blocks for the object projected, a slidable cast-off member, a track for the cast-off member within the said object track and adjustable on the blocks, means for making said adjustments, and means for sliding the cast-off member.

5. An aerial projecting device comprising a front base block, a rear base block, rails supported by the blocks and converging from the front block to the rear block and forming a track for the object projected, parallel rods supported by the blocks between the said rails, a cast-off member slidable on the said rods and having projections adapted to engage such object for sliding it and means for sliding the cast-off member.

[Claims 6 to 8 not printed in the Gazette.]

975,954. WINDOW COLD-AIR REFRIGERATOR. WILLIAM M. HOWLAND, Eckington, D. C. Filed Dec. 28, 1909. Serial No. 535,306.



1. In a device of the class described, the combination with a bottom adapted to be secured to the sill of a window, of a pair of sides adapted to be secured to the side casings thereof, a roof, a glass back plate, bolts connecting the bottom with the roof and hooks connecting the sides.

2. In a device of the class described, the combination with a bottom adapted to be secured to the sill of a window, a pair of sides adapted to be secured to the side casings thereof, a roof, a glass back plate, bolts connecting the bottom with the roof, angle plates secured to the sides, hooks connecting the angle plates on opposite sides together, a shelf supported on said angle plates, one of said hooks being secured on the edge of said shelf, and bolts connecting the bottom with the roof.

3. In a device of the class described, the combination with a bottom adapted to be secured to the sill of a window, of a pair of sides adapted to be secured to the side casings thereof, a roof, a glass back plate, the edge of the roof overhanging the upper edge of the back plate, an inturned flange secured to the under side of the roof, said flange being adapted to extend within the back plate, and bolts connecting the bottom with the inturned flange of the roof.

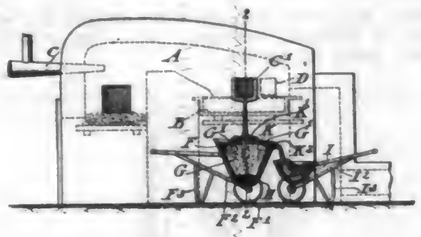
4. In a device of the class described, the combination with a bottom adapted to be secured to the sill of a window, a pair of sides adapted to be secured to the side casings thereof, a roof, a glass back plate, bolts connecting the roof to the bottom, hooks connecting the sides said bottom being provided with openings and said sides being provided with openings adjacent their upper edges, and pivoted plates adapted to cover and uncover the openings in the bottom.

5. In a device of the class described, the combination with a bottom adapted to be secured to the sill of a win-

dow, a pair of sides adapted to be secured to the side casings thereof, a roof, a glass back plate, means carried by the sides for supporting a shelf, bolts connecting the bottom with the roof and passing through the shelf, and sleeves mounted on the bolts adapted to rest at their lower end on the bottom and at their upper end support the shelf.

[Claim 6 not printed in the Gazette.]

975,955. METHOD OF FREEING LITHARGE FROM METALLIC LEAD MIXED WITH IT. LOUIS S. HUGHES, Joplin, Mo., assignor to Picher Lead Company, Joplin, Mo., a Corporation of Missouri. Filed July 27, 1910. Serial No. 574,027.

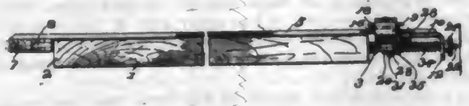


1. The method of purifying litharge from metallic lead which consists in passing a molten mixture of litharge and metallic lead into a receptacle of such volume and depth that the metallic lead separates therein by gravital action and the purified litharge overflows.

2. The method of purifying litharge from metallic lead intermixed with it which consists in passing the litharge and metallic lead in a molten state into a purifying receptacle from which the purified litharge overflows while the volume and depth of the receptacle are such that the lead is separated from the litharge by gravital action and collects in said receptacle, and maintaining the wall of said receptacle at a temperature below the melting point of litharge, whereby the receptacle becomes coated with a shell of solid litharge which protects the wall against the corrosive action of the melted litharge.

3. The method of purifying litharge from metallic lead which consists in passing a molten mixture of litharge and metallic lead into a receptacle of such volume and depth that the metallic lead separates therein by gravital action and the purified litharge overflows therefrom by causing said molten mixture to plunge downward into said receptacle from an elevation above its top whereby the entering mixture of litharge and metallic lead passes below the surface of the pool in the receptacle and the separation effect due to the difference between the specific gravities of the lead and litharge, is increased.

975,956. STRAIGHT-EDGE AND HOLDER. TAKAO IWANAMI, Washington, D. C. Filed Nov. 4, 1907. Serial No. 400,632.



1. In a device of the character described, a holder for a straight edge comprising means for supporting the straight edge and a carriage adapted to contact with an edge of a board, said carriage being pivotally supported with respect to said holder thereby permitting it to take up any inequalities in the edge of the board, substantially as described.

2. In a device of the character described, a holder for a straight edge comprising means for supporting the straight edge, and a carriage coacting therewith and adapted to contact with an edge of a board, said carriage having a spring actuated pivotal connection with the holder permitting it to yield in the event of inequalities in the board, substantially as described.

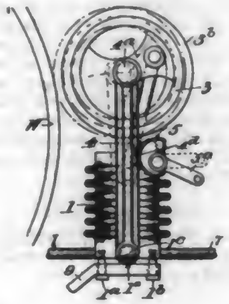
3. In a device of the character described, a holder for a straight edge comprising means for adjustably connecting it to a straight edge and a spring actuated carriage coacting therewith and having rollers spaced some distance apart and adapted to contact with an edge of a board, said spring and said rollers being in substantially the same plane substantially as described.

4. In a device of the character described, a holder for a straight edge comprising means for supporting the straight edge and a spring actuated carriage coacting therewith and having rollers adapted to contact with an edge of a board, said rollers and their carriage having a yielding and pivotal movement to take up any inequalities in the board, substantially as described.

5. In a device of the character described, a straight edge, means at one end of the straight edge for coacting with a drawing board, and a holder at the opposite end of the straight edge provided with means for adjustably connecting it with said straight edge and having a spring actuated carriage provided with rollers adapted to contact with an edge of a board, said spring and said rollers being in substantially the same plane substantially as described.

[Claims 6 to 16 not printed in the Gazette.]

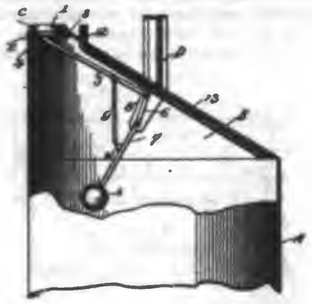
975,957. FRICTIONAL AIR-COMPRESSOR. CHARLES AVRAY JAQUA, Portland, Ind. Filed Aug. 7, 1909. Serial No. 511,792.



1. In an air compressing apparatus for automobiles and the like, the combination with the fly wheel of the motor, of an air pump beside the fly wheel comprising a cylinder adjacent the motor fly wheel, a piston therein, a lever pivoted beside and on the cylinder, a crank wheel journaled in the free end of said lever, a pitman pivotally connected to the piston and said crank wheel, a cam pivoted in the cylinder for shifting the lever, and a pipe for conducting air from the pump to the tire.

2. An air compressor for automobiles and the like comprising a cylinder adapted to be supported adjacent the fly wheel of a motor, a support for said cylinder, bolts securing said cylinder to said support and whereby it can be adjusted angularly relatively to the periphery of the fly wheel, a lever pivoted to and beside said cylinder, a crank wheel mounted on the free end of said lever and movable thereby into or out of contact with the fly wheel of the motor, a piston in said cylinder, a pitman pivotally connected to said piston and to said crank wheel, a valved air pipe connected with the closed end of said cylinder, a cam pivoted on the cylinder and engaging said lever, and means for operating said cam so as to move the crank wheel into or out of engagement with the fly wheel of the motor.

975,958. RECEPTACLE. CHARLES WM. JOHNSON, South Kaukauna, Wis. Filed Feb. 17, 1910. Serial No. 544,454.



1. A receptacle having a discharge opening formed at its top, a movable closure for said opening, a controlling member operatively connected with the closure, an actuating member operatively connected with the controlling member and constructed to cause movement of the controlling member when the receptacle is inverted to move the closure to an open position, and a locking element on the said controlling member to engage the actuating member to hold the closure against movement when pressure from the outside is exerted thereagainst.

2. A receptacle having an opening therein, a movable closure for the opening, a movable controlling member operatively connected with the closure, an actuating member operatively connected with the controlling member, and a movable locking element carried by the controlling member to prevent movement of the actuating member when pressure from the outside is applied to the closure.

3. A receptacle having an opening formed therein, a movable closure for the opening, a controlling member operatively connected with the closure, an actuating member constructed to cause the controlling member to normally occupy a position to hold the closure in its closed position, and a locking element upon the controlling member adapted to be engaged with the actuating member to hold the same against movement when pressure from the outside is applied to the closure.

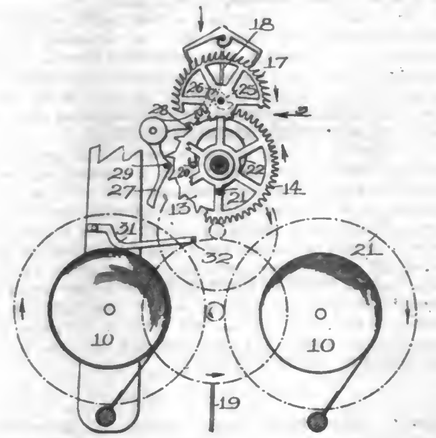
4. A receptacle having an opening formed therein, a closure for the opening, a controlling member operatively connected with the closure, a weight-carrying member operatively connected with the controlling member to hold the same normally in a position to cause the closure to cover the said opening, and movable means on the controlling member adapted to be engaged with the weight-carrying member to hold the closure against opening when pressure from the outside is applied thereto.

5. A receptacle having an opening formed therein, a movable closure for the opening, a controlling member operatively connected with the closure, an actuating member operatively connected with the said controlling member, a weight on the actuating member tending normally to hold the controlling member in a position whereby the closure covers the said opening, and a locking element pivotally supported by the controlling member and operating to engage the actuating member to hold it against movement when pressure from the outside is applied to the closure, the controlling element being constructed to move under influence of the actuating member when the receptacle is inverted to open the closure.

[Claims 6 and 7 not printed in the Gazette.]

975,959. DRIVING-TRAIN FOR TIMEPIECES. JOHN KANOAS, Gardner, Mass. Filed Apr. 15, 1910. Serial No. 555,670.

1. In a driving train for time pieces, the combination of a main spring, gearing connected therewith, a shaft, a toothed wheel independent of said gearing fixed on said shaft, a gear wheel loosely mounted on said shaft and meshing with a pinion of the train, yielding connections between the toothed wheel and gear wheel, an escapement operated by said pinion of the train, a lever having means for intermittently engaging the teeth and controlling the rotation of said toothed wheel, and a cam fixed on the escapement wheel shaft for operating the lever.



2. In a time keeping mechanism, the combination with an escapement wheel, of a positively driven toothed wheel, a gear wheel rotatably mounted on the same axis as the toothed wheel, a spring connected with the toothed wheel and gear wheel, a pinion rotatable with the escapement wheel and meshing with said gear wheel, a cam rotatable by the train of gearing, a lever having a projection in engagement with said cam, whereby the cam will swing the lever on its fulcrum, and provided with two projections at a distance apart a little greater than the space between two of the teeth of the toothed wheel, and in position to engage said teeth periodically and to arrest the rotation of the toothed wheel intermittently.

3. In a time keeping mechanism, the combination with the escapement wheel, of a toothed wheel, a yielding driving means connected with said toothed wheel and constituting part of the driving train, means in the driving train for driving said escapement wheel from said driving means, a main spring for operating the toothed wheel, and a lever resting on said spring and in position to engage one of the wheels of the train and stop it when the main spring is unwound.

4. In a driving train for time pieces, the combination of a main spring, and gears connected therewith to be operated thereby, with a lever mounted adjacent to the main spring and in engagement therewith in position to be forced against the tooth of one of said gears to stop the same when the main spring is unwound or expanded.

975,960. FOG-HORN. JOHN KLEINBERGER, Brooklyn, and RUDOLPH STERN, New York, N. Y., assignors to American Marine Lamp Mfg. Co., New York, N. Y., a Corporation of New York. Filed Dec. 2, 1909. Serial No. 531,033.



1. In a horn, a body portion, a mouth piece, a reed formed with a tongue and a substantially semi-tubular member, and a holder formed with an extension defining a socket and guide for receiving and guiding said reed said reed being bodily slidably mounted in said socket for permitting adjustment thereof, whereby the vibrating parts of the tongue of said reed may be varied in length

2. In a horn, a body portion, a reed holder arranged to fit over the end of said body portion and formed with an extension, said extension defining a socket and a pair of guide-ways, a reed positioned in said socket formed with guiding means engaging said guide-ways in said extension, and a mouth piece surrounding said reed.

3. In a horn, a horn proper, a reed holder secured to said horn proper and formed with an extension having an aperture therethrough and guide-ways therein, a reed positioned in said reed holder constructed with guides engaging said guide-ways for guiding the reed in its movement, and a mouth piece fitting over said reed and said reed holder and secured to said reed holder.

4. In a horn, a horn proper, a reed holder secured to said horn proper and formed with a reduced extension having an aperture therethrough provided with ways on each side, a reed formed with a substantially semi-tubular plate having flanges extending therefrom for fitting into the ways of said extension, and a tongue covering the open side of the semi-tubular plate and extending for the full width thereof, including the flanges, said tongue being designed to fit into said opening and be longitudinally adjustable at the same time as said semi-tubular plate, and a mouth piece fitting over said reed and said reed holder and secured to said reed holder.

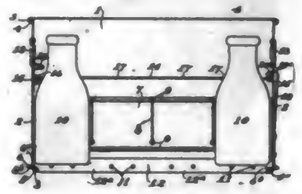
975,961. SASH-FASTENER. JOSEPH A. KNASINSKI, Oshkosh, Wis., assignor of one-half to August W. Koehn, Oshkosh, Wis. Filed Oct. 15, 1909. Serial No. 522,881.



In a sash fastener, a bar provided with a plurality of recesses and arranged to be secured to the upper sash, one of the walls of each of the recesses extending downwardly and inclined inwardly toward the lower sash, the adjacent wall of such recesses meeting the wall first mentioned at an acute angle, a plate arranged to be mounted on the lower sash, a pawl pivoted to such plate, said pawl being provided with an engaging portion the edges of which form an acute angle for engaging the corresponding angle of the recess, a spring for holding the pawl in position, and a member projecting from the lower edge of the pawl and at substantially right angles to the engaging portion, said projecting member being arranged to swing toward the upper sash and across the upper and outer edge of the lower sash to prevent the pawl from being operated from a point below the same.

975,962. PACKING-CASE. ALFRED T. KRUSE, deceased, Defiance, Ohio; August M. Kruse and Curtis M. Willock, executors, assignors to The American Steel Package Co., Defiance, Ohio, a Corporation of Ohio. Filed June 30, 1909. Serial No. 505,302.

1. A packing-case, comprising an open bottom rectangular case body provided at its ends with handle-openings and carrying a bottle-cell-forming structure, a bottle-retaining plate mounted in said case body above said cell-forming structure and in close proximity to said handle-openings, said retaining-plate being provided with bottle-neck-receiving openings and resting in a plane above the shoulder portions of the bottles in said cell-forming structure, and means for removably supporting and latching said bottle-retaining-plate, said latching means comprising a latch-bar engaging said retaining-plate in close proximity to one of said handle-openings and being adapted to be detached by the hand while resting in the latter.



2. In a packing-case, a case body having its lower marginal edges crimped into an outwardly-extending bottom-supporting-flange providing an inner recess, said flange having its lower member extended inwardly forming a ledge within the vertical planes of said walls and terminating in a depending friction-bearing beading, and an open bottom comprising a series of bottle-supporting-bars having their ends resting on said ledge and extending into said inner recess and a plurality of friction-bearing supporting-bars having their ends resting on said ledge and intersected by and supporting the intermediate portions of said bottle-supporting-bars.

3. In a packing-case, a case body carrying a bottle-cell forming structure and provided with a bottom-supporting flange forming an inner recess, said flange having its lower member extended inwardly forming a ledge within the vertical planes of said walls and terminating in a depending friction-bearing beading, and an open bottom comprising bottle-supporting bars resting on said ledge and extending into said inner recess, and intersecting supporting-bars resting on said ledge and provided with depending friction-bearing portions interposed between and extending flush with said depending friction-bearing beading.

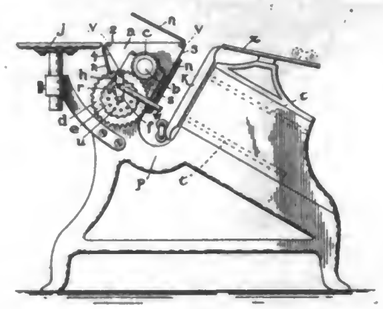
4. In a packing-case, a case body carrying a bottle-cell forming structure and provided with a bottom supporting flange having its lower member terminating in a depending friction-bearing beading inset from the outer edges of said flange, a plurality of bottle supporting-bars resting above said depending friction-bearing beading and secured within said bottom supporting flange, and intersecting supporting-bars mounted above said beading and provided with depending friction-bearing portions interposed between and extending flush with said depending friction-bearing beading.

5. A packing-case, comprising an open bottom rectangular case body provided with oppositely-disposed handle-openings and a bottle-cell-forming structure, a bottle-retaining plate mounted in said case body in close proximity to said handle-openings and provided with bottle-neck-receiving openings supporting the shoulder portions of the bottles when the case is reversed, and means for latching said bottle-retaining plate within said case body, said means including a latch member normally engaging the marginal edge of said plate and extending in close proximity to a handle-opening whereby said latch member may be detached by the hand while resting in said handle-opening.

975,963. PRINTING-PRESS. MARTIN R. LAND, Norfolk, Va. Filed Jan. 14, 1910. Serial No. 538,164.

1. In a printing press, the combination of an inclined reciprocatory bed, a rotary equilateral triangular prism platen having three faces each becoming successively a top receiving face, a forward and downward inclined printing face and a rearward and downward inclined discharge face, and means of intermittent rotation for said platen whereby an approximately vertical edgewise discharge of the printed sheet is provided for.

2. In a printing press, a triangular equilateral prism platen having a gear wheel upon its shaft and an operating gear wheel in engagement therewith having a ratchet and pawl connection with a driving shaft, substantially as specified.

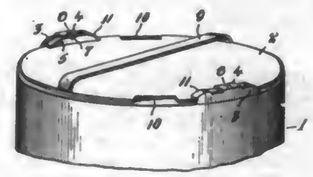


3. In a printing press, the combination with an upward and forward inclined bed, of a rotary triangular equilateral prism platen, its gear wheel, an operating gear wheel having a ratchet, a vibratory pawl arm axially in connection with the latter gear wheel, and a pawl pivoted to said arm and in engagement with said ratchet wheel, substantially as specified.

4. In a printing press, the combination with an upward and forward inclined bed, of a triangular equilateral prism platen, its gear wheel, an operating gear wheel, a ratchet wheel attached to the latter gear wheel, a radial pawl arm axially connected thereto, a pawl pivoted to said arm, and means for detachably connecting said pawl arm and ratchet wheel, substantially as specified.

5. In a printing press, the combination with a rotary triangular equilateral prism platen provided with means for intermittent rotation, of means for changing said means for intermittent rotation into means of oscillation.

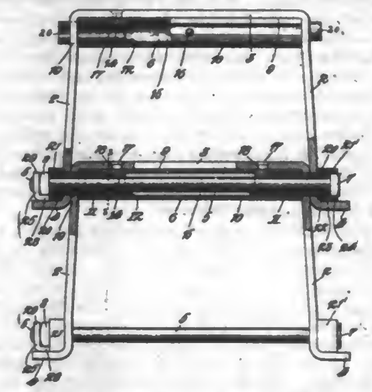
975,964. CLOSURE FOR CANS AND LIKE RECEPTACLES. CHARLES LEE, Butte, Mont. Filed Jan. 28, 1910. Serial No. 540,647.



1. In combination a receptacle provided with a wing extended upwardly from the top thereof and provided with an overhanging portion, a closure, a vertical wing upon the closure having opposite ends beveled to ride under the overhanging portion of the wing, and positive interlocking means between the vertical extension and wing consisting of a notch and tooth of substantially V-form.

2. In combination a receptacle, a closure for closing an opening in the top of the receptacle, means for limiting the movement of the closure in one direction, securing means between the receptacle and closure for retaining the latter in place and insuring a tight joint, said securing means embodying a wing projected upwardly from the receptacle and having an overhanging portion at its upper end, a vertical extension upon the closure to engage under the overhanging portion of the wing, and positive locking means between said overhanging portion and vertical extension consisting of a notch and tooth of substantially V-form.

975,965. CHAIN. CHRISTOPHER W. LEVALLEY, Milwaukee, Wis. Filed Nov. 30, 1908. Serial No. 465,258.



1. A chain formed of articulated links, comprising side bars, hollow cross bars separate from the side bars and located entirely within the inner faces of opposite side bars, and means for fixedly uniting the hollow cross bars and side bars, and connecting pintles for uniting the links, substantially as described.

2. A chain formed of articulated links, comprising side bars, hollow cross bars separate from the side bars, and means for fixedly uniting the hollow cross bars and the side bars, such means being eccentric to the axes of articulation and intermediate between the side bars—an axis of articulation passing longitudinally through each cross bar,—and connecting pintles for uniting the links, substantially as described.

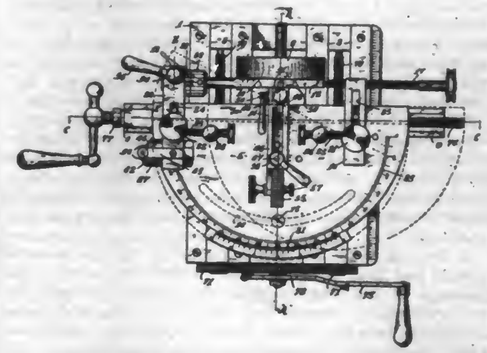
3. In a chain, the combination of the side bars having in-turned portions, hollow cross-bars separate from the side bars, means for fixedly uniting the cross-bars to the in-turned portions of the side bars, and connecting pintles passing through the side bars and the hollow cross-bars, substantially as described.

4. In a chain, the combination of side bars, hollow cross-bars and separate wearing sleeves inserted in the hollow cross-bars and connecting pintles having bearings in the said wearing sleeves, substantially as described.

5. A chain link comprising side bars, a hollow cross-bar separate from the side bars extending between them near one end of the link, and separate sleeves inserted into the hollow cross bar and constituting bearings for a connecting pintle, substantially as described.

[Claims 6 to 14 not printed in the Gazette.]

975,966. GRINDING-MACHINE. ANDREW LILLJQUIST, Syracuse, N. Y. Filed Jan. 7, 1910. Serial No. 536,786.



1. In a grinding machine, a movable carriage, a grinding element, a work supporting element provided with

means for holding the work to the grinding element, one of said elements being mounted on the carriage and movable therewith and one of said elements being adjustable about an axis relatively to the other for arranging the plane of the working face of the grinding element and the longitudinal axis of the work out of parallelism with each other, means for feeding the carriage, and means for determining the amount of feed of the carriage so that a face of predetermined area is ground on the work, and said work holding means including a device for adjusting the work about its longitudinal axis a predetermined amount so that the finished article is tapered and provided with a predetermined number of faces of equal area, substantially as and for the purpose described.

2. In a grinding machine, a grinding element, a bed, a carriage supported by and movable relatively to the bed toward and from the grinding element, a work supporting element mounted on and movable with the carriage and including a table adjustable about an axis relatively to the carriage and work holding means mounted on the table, means for feeding the carriage, means for determining the amount of feed of the carriage toward the grinding element so that a face of predetermined area will be ground on the work, and means for determining the amount of movement of the table about its axis in order that the face ground on the work extends at a predetermined incline relatively to the axis of the work, the work holding means including a device adjustable for turning the work about its axis a predetermined amount, so that the finished article is tapered and provided with the predetermined number of faces of equal area, substantially as and for the purpose set forth.

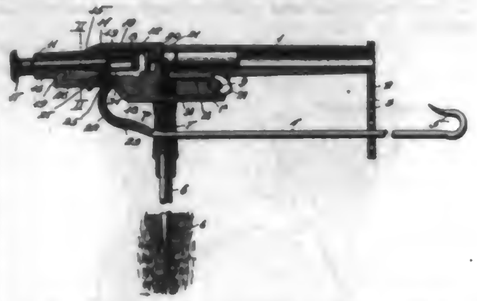
3. A grinding machine comprising a rotatable grinder, a bed, a carriage movable lengthwise of the bed parallel to the working face of the grinder and crosswise of the bed toward and from the grinder, a work supporting table mounted on the carriage and adjustable about an axis arranged parallel to the plane of the working face of the grinder and intersecting at a right angle the axis of the grinder, work holding means mounted on the table, means for feeding the table crosswise of the bed toward and from the grinder, means for determining the amount of crosswise feed of the carriage so that the work is provided with a face of predetermined area, means for determining the amount of movement of the table about its axis, so that the face ground on the work extends at a predetermined incline to the axis of the work, and means for feeding the carriage lengthwise of the bed, substantially as and for the purpose described.

4. A grinding machine comprising a rotatable grinder, a bed and a carriage movable lengthwise of the bed parallel to the working face of the grinder and crosswise of the bed toward and from the grinder, a work supporting table mounted on the carriage and adjustable about an axis arranged parallel to the plane of the working face of the grinder and intersecting at a right angle the axis of said grinder, work holding means on the table, means for feeding the table crosswise of the bed toward and from the grinder, a gage for determining the amount of crosswise feed of the carriage so that the work is provided with a face of predetermined area, a scale carried by the carriage and fixed relatively to the table for determining the amount of movement of the table about its axis so that the face ground on the work extends at a predetermined incline to the axis of the work, means for feeding the carriage lengthwise of the bed, said work holding means including a device for adjusting the work about its axis a predetermined amount whereby the finished article is tapered and provided with a predetermined number of faces of equal area, substantially as and for the purpose specified.

5. In a grinding machine, a grinder, a carriage movable toward and from the grinder, and a work supporting table mounted on and movable with the carriage, the table being provided with means for holding the work, said means including clamping devices spaced apart and adjustable relatively to the table toward and from the plane of the working face of the grinder, substantially as and for the purpose set forth.

[Claims 6 to 14 not printed in the Gazette.]

975,967. TRAP-GUN. CHARLES D. LOVELACE, San Angelo, Tex. Filed Feb. 15, 1909. Serial No. 478,089.

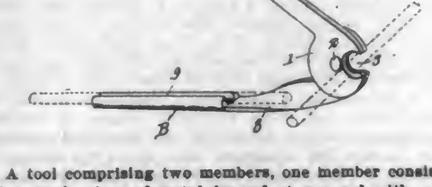


1. In a trap gun, the combination of a receiver, a spring actuated hammer in said receiver, a trigger having a sear for engagement with said hammer, a trigger controlling coil spring bearing against the sear and an inclined adjusting screw mounted in said receiver and bearing against the coil spring and by which the tension in said controlling spring may be varied.

2. A trap gun comprising a receiver, a hollow plug closing the rear end of the receiver, a hollow cylindrical hammer having an exterior annular groove providing an annular shoulder and a bushing and free to rotate in the chamber of the receiver, a cocking rod extending through the hollow plug and through the bushing and having a head sliding within the hammer, a spring surrounding the cocking rod between the hollow plug and the hollow hammer, and a trigger pivoted to the receiver and having a sear adapted to engage the annular shoulder of the hollow hammer.

3. A trap gun comprising a receiver, a hollow plug, closing the rear end of the receiver, a hollow cylindrical hammer having an exterior annular groove providing an annular shoulder and a bushing and free to rotate in the chamber of the receiver, a cocking rod, extending through the hollow plug and through the bushing and having a head sliding within the hammer, a spring surrounding the cocking rod between the hollow plug and the hollow hammer, a trigger pivoted to the receiver and having a sear adapted to engage the annular shoulder of the hollow hammer, an inclined adjusting screw and a trigger controlling spring located between the adjusting screw and the sear of the trigger.

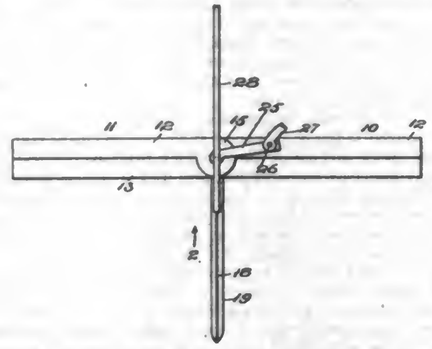
975,968. MINER'S COMBINED FUSE CLIPPER AND SPLITTER. SAMUEL H. LUNSFORD, Linton, Ind. Filed Feb. 1, 1910. Serial No. 541,303.



A tool comprising two members, one member consisting of a single piece of metal formed at one end with a disk and having its shank extending tangentially therefrom and terminating in a blade extending at an angle to the length of the shank, one corner of the blade being recessed to form a stop; the other member consisting of a single piece of metal formed at one end with a disk and having a shank extending therefrom, the end of the shank being formed into a longitudinally-extending cylindrical

seat open at one side, said seat having an opening into which the blade enters to a depth limited by the stop of the blade engaging the seat, the shank between the disk and seat being twisted; and a rivet passing through the disks for pivotally connecting the members together.

975,969. ANGLE-BISECTOR. CHARLES A. LYDIN, Denver, Colo. Filed Sept. 4, 1908. Serial No. 451,740.



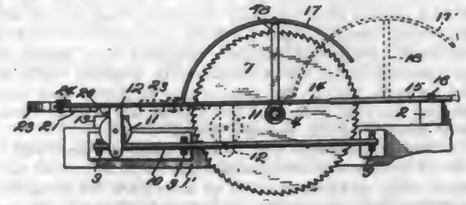
1. In a device of the character described, a pair of arms having their adjacent overlapping ends pivoted together, a marker extending from the pivotal point of said arms, and a brake consisting of an arm connected to the pivot of said arms and provided with means for exerting a tension upon the end of the brake and clamping it against one of the pivotal members.

2. In a device of the character described, a pair of members formed of flanged channel bars having their flanges on one side broader than those on the other, said members being formed with substantially circular overlapping adjacent ends, connected together by a pivot and a casing inclosing said pivot, a marker projecting centrally from said casing, an extension slidably mounted on said marker, a brake consisting of a lever arm mounted on the pivot of said members and having means for exerting tension on the end of the brake and clamping it upon one of said pivotal members.

3. In a device of the character described, a pair of arms having their adjacent overlapping ends pivoted together, a pair of beveled gears rigidly secured to the arms and spaced apart, a pinion between and intergeared with the gears, an axle for the pinion, and a marker disposed as an extension of the axle of the pinion.

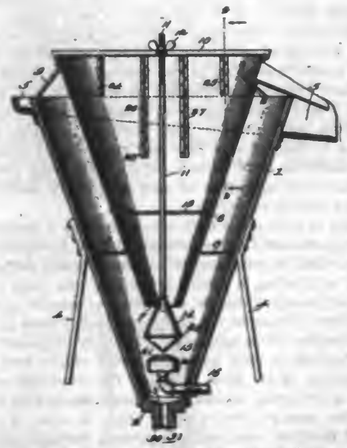
4. In a device of the character described, a pair of arms, a pivot connecting such arms, a gear carried by each arm, the two gears being arranged in axial alinement, the pivot of such arms serving as an axis for the gears, a pinion disposed between and intergeared with the gears, and a marker disposed between the arms and positioned as an extension of the axis of the pinion.

975,970. SAW-TABLE AND FEEDING APPARATUS. MILTON M. MAINE, Portland, Oreg. Filed May 17, 1909. Serial No. 496,060.



A saw table and feeding apparatus comprising supporting rails, a carriage movably mounted on the table and provided with depending yokes with rollers to travel on said rails, a stop pivotally mounted on the table and located in the path of the yokes to engage the same to limit the movement of the carriage in one direction, brackets mounted on the table, spaced guide rods carried by the carriage and movable through the brackets, a revolving saw mounted on the table and extending vertically between the sides of the carriage, and guard pins carried by the yokes and extending beneath the said rails to engage them so as to hold the guide rods against buckling in the brackets and to hold the rollers against displacement from the supporting rails.

975,971. ORE-CLASSIFIER. ARTHUR D. J. MALCHUS, Silverton, Colo. Filed June 27, 1910. Serial No. 569,094.



1. In an ore classifier, the combination of two conical vessels open at the top and bottom, a double cone adjustably arranged just below the lower, smaller end of the inner conical vessel, and a bent pipe provided with a water delivery nozzle, located immediately beneath said double cone, said nozzle having a rounded upper surface provided with slits, substantially as described.

2. In an ore classifier, the combination of two conical vessels, open at each end and arranged parallel to each other and fastened together, a discharge trough around the open, larger end of the outside vessel, a double cone located underneath the smaller, lower end of the inner vessel, means for adjusting said cone, and a water delivery nozzle located immediately below said double cone said nozzle being provided with a rounded upper surface the inner portion of which is imperforate and the outer portion of which is provided with circular rows of slits substantially as described.

3. In an ore classifier, the combination of two parallel conical vessels secured together, one within the other, and each open at both ends, a delivery trough fastened around the upper end of the outer vessel, a double cone located below the lower, open end of the inner vessel, means for adjusting said cone, a water delivery nozzle having a dome-shaped upper surface imperforate in the center and provided with concentrically arranged rows of slits outside of said imperforate portion, and a series of baffle plates secured in the upper part of the inner conical vessel, said baffle plates each having one corner cut away substantially as described.

975,972. PROPELLER. GEORGE B. MARTIN, Marietta, Ohio. Filed Jan. 12, 1910. Serial No. 537,631.

1. The combination with a boat having a suitable source of power, of triple propellers carried by the stern of said boat and adapted to be operated by said source of power each propeller comprising a housing adapted to be carried

by the bottom of the boat, cam ribs carried by said housing, a sleeve journaled in the bottom of said boat, a revoluble shaft extending through said sleeve and adapted to be revolved by said source of power in an opposite direction from said sleeve, propeller arms carried by said shaft and said sleeve, and pins carried by said arms and adapted to engage said ribs and rotate said arms in a desired direction.

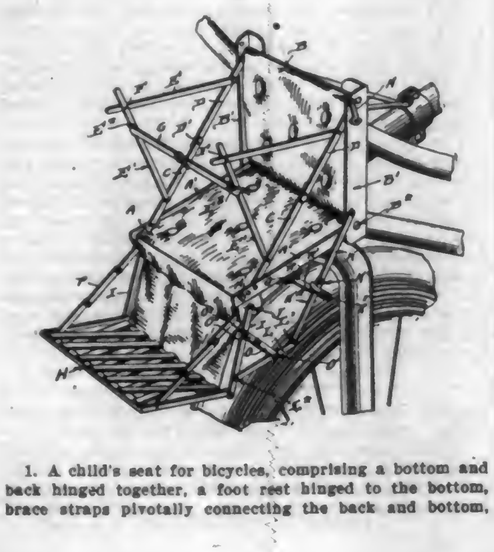


2. The combination with a boat having a suitable source of power, of triple propellers carried by the stern of said boat and adapted to be operated by said source of power, each propeller comprising a housing adapted to be carried by the bottom of said boat, cam ribs carried by said housing, a sleeve journaled in the bottom of said boat, a revoluble shaft extending through said sleeve and adapted to be revolved by said source of power in an opposite direction from said sleeve, pins carried by said arms and adapted to engage said ribs and rotate said arms in a desired direction, and means within said boat and adapted to control the operation of said propellers independent of the said source of power.

3. The combination with a boat having a suitable source of power, of triple propellers adapted to be carried thereby and operated by said source of power, each propeller comprising a housing, a sleeve extending into said housing, a shaft extending through said sleeve, means actuated by said source of power for revolving said sleeve in an opposite direction from said shaft, radially disposed propeller arms carried by said sleeve and said shaft, and means in conjunction with said housing for rotating said arms during a revolving movement of said sleeve and said shaft.

4. The combination with a boat, of sets of propellers carried thereby, each set comprising horizontally radially disposed revoluble arms, blades carried by the outer ends of said arms, means within said boat for revolving one set of arms in the opposite direction from the other set, and means associated with said arms to position one set of blades at an opposite angle to the other set of blades.

975,973. CHILD'S SEAT FOR BICYCLES. WILLIAM HARRIS MARTIN, Bisbee, Ariz. Filed Sept. 7, 1910. Serial No. 580,855.



1. A child's seat for bicycles, comprising a bottom and back hinged together, a foot rest hinged to the bottom, brace straps pivotally connecting the back and bottom, pivotal link connections between the foot rest and back, pivotal bars fastened to the bottom and each having a recess adapted to receive one of the link connections between the platform and back, springs for holding the link connections in said recesses, and means for fastening the back to the frame of the bicycle.

2. A child's seat for bicycles, comprising a bottom and back hinged together, a foot rest hinged to the bottom, brace straps pivotally connecting the back and bottom, pivotal link connections between the foot rest and back, pivotal bars fastened to the bottom and each having a recess adapted to receive one of the link connections between the foot rest and back, springs for holding the link connections in said recesses, brace strips pivotally connecting the back with the seat, and means for fastening the seat to the frame of a bicycle.

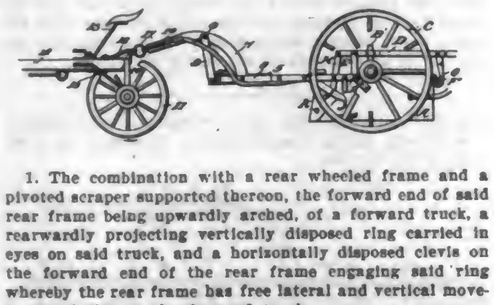
3. A child's seat for bicycles comprising a back and bottom hinged together, inverted U-shaped members fastened to the under surface of the bottom, a foot rest, pivotal link connections between said foot rest and U-shaped members, said bottom adapted to fold within the latter, link connections between the foot rest and back, means for holding said connections from folding, and mechanism for fastening the seat to the frame of a bicycle.

4. A child's seat for bicycles comprising a back and bottom hinged together, inverted U-shaped members fastened to the under surface of the bottom, a foot rest, pivotal link connections between said foot rest and U-shaped members, said bottom adapted to fold within the latter, link connections between the foot rest and back, means for holding said connections from folding, bars pivotally connected to the bottom and each having a recess, a spring fixed one end to each of said recessed bars and adapted to engage one of the links of the connections between the bar and foot rest, and means for fastening a seat to the frame of a bicycle.

5. A child's seat for bicycles consisting of a bottom having flanges upon the opposite edges thereof, a back, angled members fastened thereto and pivotally connected to said bottom, a foot rest, inverted U-shaped members fastened to the bottom, links connecting the foot rest to said members, pivotal link connections between the foot rest and the latter, links connecting said angled members with the foot rest, ears upon the bottom, bars pivotally connected thereto and each having a recess, a spring fastened to each bar adjacent to its recess and adapted to hold one of the links connecting the flanged member and the foot rest within said recess, and means for fastening the seat to the frame of a bicycle.

[Claims 6 and 7 not printed in the Gazette.]

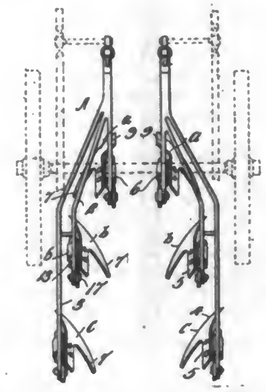
975,974. WHEEL-SCRAPER. JAMES B. MCCLELLAN, Denison, Iowa, assignor of one-third to Eugene Gulick, Denison, Iowa. Filed May 29, 1909. Serial No. 499,257.



1. The combination with a rear wheeled frame and a pivoted scraper supported thereon, the forward end of said rear frame being upwardly arched, of a forward truck, a rearwardly projecting vertically disposed ring carried in eyes on said truck, and a horizontally disposed clevis on the forward end of the rear frame engaging said ring whereby the rear frame has free lateral and vertical movement relative to the forward truck.

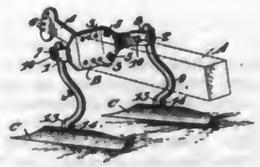
2. The combination with a rear wheeled-frame, and a pivoted scraper carried thereon, the forward end of said frame being upwardly arched, of a forward truck, an upwardly projecting member carried on said truck and extending above the wheels thereof, a rearwardly projecting vertically disposed ring carried in eyes on said truck, and a horizontally disposed clevis on the forward end of the rear frame engaging said ring whereby the rear frame has free lateral and vertical movement relative to the forward truck.

975,975. CULTIVATOR. RAMOND E. MELOEN, Kewanee, Ill. Filed Sept. 18, 1908. Serial No. 453,609.



A cultivator shovel comprising a body portion having an upwardly extending tongue, said body portion being provided with a downwardly and forwardly inclined front edge and having a downward and forward concavo-convex curvature of greatest degree at its forward edge and gradually decreasing in extent toward its rear edge, the lower edge of the body being arranged to form with the front edge thereof an upturned point and thence extending upwardly and rearwardly on a curved line toward said rear edge, thus gradually decreasing the depth of the body rearwardly, and a wing extending upwardly and rearwardly from the rear edge of the body and gradually tapering throughout its length toward its free end, said free end of the wing having a backward inclination at a greater angle than the body of the wing.

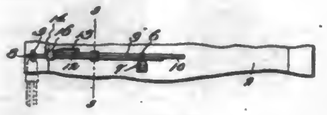
975,976. CULTIVATOR ATTACHMENT. JOHN MEYER, Yuton, Ill. Filed Mar. 12, 1910. Serial No. 548,883.



In a cultivator, the combination with a plate bent forwardly and rearwardly at its two ends, the intermediate portion adapted to be secured to the beam of the cultivator, said ends bent around upon themselves to form clamps, bolts for securing said ends, cultivator blades, shanks to which said blades are adjustably connected, the upper ends of said shanks held in the clamps, and means connected with the plate for applying draft thereto.

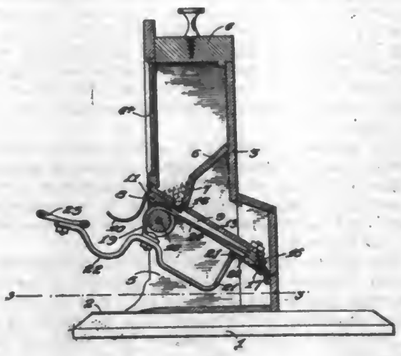
975,977. FASTENING DEVICE FOR DOORS, WINDOWS, AND THE LIKE. PAUL THEODORE MOLKENTIN, Carlton, Victoria, Australia. Filed Dec. 16, 1909. Serial No. 533,352.

1. In an attachment of the character described the combination with a framing and a movable closure therefor, of a pair of slidably associated bars one of the said bars being pivoted to the framing and both bars having longitudinal flanges extending from their outer faces forming an I-shaped structure in cross-section, hollow I-shaped clips for holding said bars together, locking means for holding said bars in adjusted relation and means carried by said closure for adjustably engaging said bars, substantially as described.



2. An article of manufacture for fastening doors, windows and the like comprising a pair of slidably associated bars each provided with a plurality of apertures, both bars having longitudinal flanges extending from their outer faces, forming an I shaped structure in cross section; hollow I shaped clips for holding said bars against lateral displacement; a spring operated locking pin carried by one of said I shaped clips and coöperating with said apertures for holding said bars in adjusted relation and means for engaging said bars when in adjusted relation, substantially as described.

975,978. MATCH-BOX. DAVID CLEVELAND MOORE, Cisco, Tex. Filed Mar. 12, 1910. Serial No. 548,886.



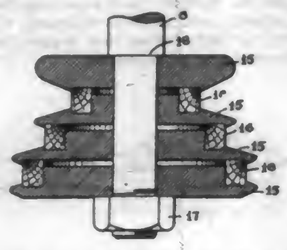
1. A match receptacle comprising a casing provided with a match compartment, said compartment provided with an outlet, a slide receiving matches one at a time from said outlet, a stationary plate beneath said slide and provided with a guide slot, a roller in the front of said casing beneath said plate, a hand lever having one end connected to the rear of said plate, a strap connection between said lever and the rear end of said slide, said strap passing over said roller and through said guide slot, and a spring connection between said slide and the rear of said casing.

2. A dispensing receptacle comprising an article casing provided with a discharge outlet, a stationary plate beneath said outlet, a delivery slide slidably mounted on said plate and provided with an article receiving slot, said plate provided with a guide slot, an operating lever pivotally connected to said casing, and a strap connection between said lever and slide, said strap passing through the guide slot of said plate.

975,979. WIRE-DRAWING MACHINE. RALPH L. MORGAN, Worcester, Mass. Filed Mar. 5, 1906. Serial No. 304,182.

A continuous wire drawing machine having a series of dies, a rotating capstan provided with wire drawing seats in contact with which the wire is drawn through the

dies and from which the wire passes to the succeeding dies, said wire forwarding seats composed of a material having elongated and flexible fibers so that the fibers



worn from each seat by the wire in its passage will be such as to be engaged by the mouth of the succeeding die, and means for rotating said capstan.

975,980. ALKALINE BATTERY. WILLIAM MORRISON, Des Moines, Iowa. Filed Dec. 3, 1909. Serial No. 531,230.

1. A positive-pole electrode for reversible alkaline batteries, comprising a conductor or support, and a mechanically-applied intimate mixture of finely-divided oxids of silver and mercury on said support.

2. A positive-pole electrode for reversible alkaline batteries, comprising a conductor or support, and a mechanically-applied intimate mixture of finely-divided oxids of silver and mercury on said support, the proportion of the mercury oxid in the mixture being relatively large.

3. A positive-pole electrode for reversible alkaline batteries, comprising a conductor or support, and a mechanically-applied intimate mixture of chemically-precipitated oxids of silver and mercury on said support, the proportion of the mercury oxid in the mixture being relatively large.

4. The process of making a positive-pole electrode for reversible alkaline batteries, which consists in producing an intimate mixture of finely-divided compounds of silver and mercury, applying said mixture to a conductor or support, and electrolytically reducing said compounds to silver and mercury.

5. The process of making a positive-pole electrode for reversible alkaline batteries, which consists in producing an intimate mixture of finely-divided oxids of silver and mercury, applying said mixture to a conductor or support, and electrolytically reducing said oxids to silver and mercury.

[Claim 6 not printed in the Gazette.]

975,981. ELECTRODE FOR REVERSIBLE GALVANIC BATTERIES. WILLIAM MORRISON, Des Moines, Iowa. Filed Oct. 10, 1910. Serial No. 586,335.

1. An electrode for reversible galvanic batteries, in which an alkaline electrolyte is used, consisting of one or more tubes of porous material, each of said tubes consisting of a series of cells within which the active material is held.

2. In an electrode for reversible galvanic batteries, in which an alkaline electrolyte is used, a tube of porous material, suitable plugs in the ends thereof, a metallic rod extending through said tube and said plugs, a plurality of washers placed on said rods whereby said tube is divided into sections, and active material held in said sections.

3. In an electrode for reversible galvanic batteries, in which an alkaline electrolyte is used, a tube consisting of an inside lining of paper surrounded by a layer of asbestos and a wire binding on the exterior thereof, a metallic rod extending through the center thereof, and division plates on said rods dividing said tube into sections and active material in said sections and surrounding said rod.

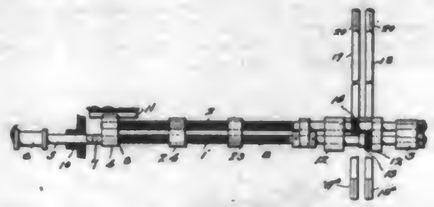
4. A negative-pole electrode for reversible galvanic batteries, in which an alkaline electrolyte is used, consisting of one or more tubes electrically connected by means of a suitable connector, a metallic rod extending through the interior of each tube, and active material consisting of a zinc chromium compound placed within said tubes and surrounding said rods.



5. In a positive electrode for reversible galvanic batteries, in which an alkaline electrolyte is used, a tube of porous material, a metallic rod extending through said tube, and active material consisting of a zinc chromium compound surrounding said rod.

[Claims 6 to 8 not printed in the Gazette.]

975,982. REVERSING MECHANISM. ARISTIDES R. MURRAY, Cincinnati, Ohio, assignor to The Cincinnati Shaper Company, Cincinnati, Ohio. Filed Jan. 28, 1908. Serial No. 413,005.



1. In reversing mechanism for machine tools, a shifter comprising a first rod and a second rod, said rods being provided with screw threads, dogs mounted on the rods, one of the dogs engaging the thread on the first rod and being arranged to slide on the other rod without engagement and the other dog engaging the thread on the second rod and being arranged to slide on the first rod without engagement, a stationary operating device for rotating each rod, worm gearing connecting each operating device with its rod, said gearing being constructed and arranged to permit the reciprocation of the shifter, a reciprocable table and a part carried by the table adapted to engage the dogs.

2. In machine tools, the combination of a reciprocating table, a tappet thereon, means for reciprocating the table means for reversing the direction of movement of the table, shifting mechanism connected with said reversing means comprising two screw threaded rods reciprocably mounted, dogs mounted on the rods each having a thread engaging the thread on one of the rods and each loosely mounted on the other rod, the dogs being arranged to be acted on by the tappet, a gear splined to each of the rods, means for holding the gears stationary in an axial direction, operating shafts mounted in stationary bearings and gears thereon engaging the gears first mentioned.

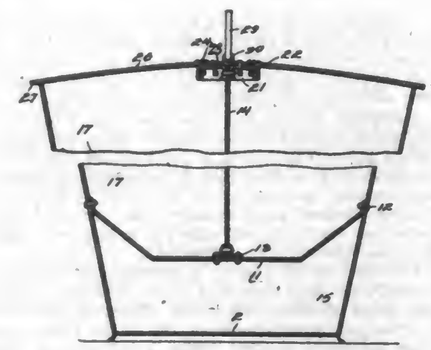
3. In a gear cutter, the combination of a bed, a table reciprocably mounted thereon, means for reciprocating the table, shifting mechanism comprising adjustable dogs mounted on one side of the bed, and operating devices arranged to be acted on upon the opposite side of the bed and constructed and arranged to adjust the position of the dogs.

4. The combination of a pair of screws, supporting means for the screws permitting them to rotate and move endwise to a limited extent, a pair of dogs mounted on the screws each dog engaging a different one of the screws and being guided by the other, stationary means for rotating the screws to adjust the dogs, a reciprocable table and a member carried by the table and adapted to engage the dog.

5. The combination of a pair of screws, supporting means for the screws permitting them to rotate and move endwise to a limited extent, a pair of dogs mounted on the screws, each dog engaging a different one of the screws and being guided by the other, a stationary bracket, rotatable members mounted in the bracket, one of said members being splined to each of the screws and the members being restrained from end movement, a reciprocable table and a tappet carried by the table adapted to engage the dogs.

[Claims 6 to 8 not printed in the Gazette.]

975,983. SCUTTLE. GEORGE A. NELSON, Bayonne, N. J. Filed Mar. 3, 1909. Serial No. 481,044.

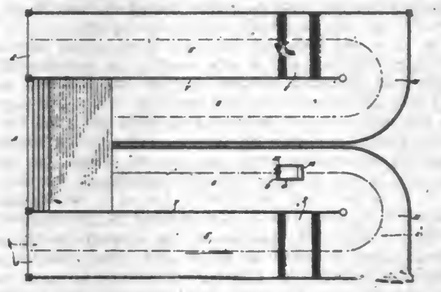


A scuttle provided with a central compartment and a base portion positioned away from the bottom of the scuttle, the said scuttle being provided with openings and having doors for these openings, removable U-shaped bracing members secured to the sides of the scuttle and arranged in spaced relation with each other, a partition between the U-shaped bracing members, a plate connected with these bracing members, doors hingedly connected with the plate and a handle for the scuttle.

975,984. AMUSEMENT DEVICE. WILLIAM NEMSEY, Brooklyn, N. Y. Filed May 14, 1910. Serial No. 561,320.

1. In a device for the purpose set forth and in combination with a wheeled carriage, a platform, said platform comprising spaced floors, a partition between each pair of floors extending from the center portion of the platform and terminating a distance away from the end of the said platform, one of said floors being inclined downwardly toward the end of the platform, the opposite floor at its juncture with the first floor being inclined toward the front of the platform, substantially as and for the purpose set forth.

2. In a device of the class described, and in combination with a wheeled carriage or chair, a platform, said platform being provided with spaced floors, a partition between each pair of floors, said partition terminating a distance away from the ends of the platform, one of the floors being inclined from the upper end of the partition toward the lower end thereof, the said floor being provided with an arcuate depression or dip, the second floor from its juncture with the first floor being inclined in an opposite direction or toward the front of the platform, substantially as and for the purpose set forth.



3. The combination with a platform having oppositely arranged inclined floors, and partitions between the floors, of a carriage adapted to ride upon the floors, said carriage comprising a rectangular frame having axles provided with wheels and upper and lower compartments, and said carriage being further provided with a pivoted lever, substantially as and for the purpose set forth.

975,985. NUT-LOCK. FRED H. NETT, Rialto, Cal. Filed May 25, 1910. Serial No. 563,321.



1. In a nut lock the combination of a nut having a threaded opening and having an opening at one side of the threaded opening, a dog located in the side opening of the nut and having both a pivotal and a sliding movement therein and having a tapered end, a movable fulcrum for said dog, a spring normally exerting a pressure upon the dog to press the same forward to cause it to operate by a wedging action for securing the nut, and means for moving the fulcrum of the dog against the tension of the spring to withdraw the dog from active position.

2. In a nut lock the combination of a nut having a threaded opening and having a side opening provided with an inclined wall having screwthread sections corresponding with the screwthreads of the main opening of the nut, a dog located in said side opening and having a tapered end formed upon opposite sides with screwthread sections to match the screwthreads of the nut and the part upon which the nut may be fitted, a spring normally exerting a pressure upon the dog to force the same forward to cause it to operate by a wedging action, and means for moving the dog against the tension of said spring to withdraw said dog from active position.

3. In a nut lock the combination of a nut having a threaded opening and provided with a side opening in communication with the threaded opening, a push bar, a dog located in said side opening and mounted upon the bar to move therewith and to tilt thereon, a spring normally exerting a pressure upon the dog to hold the same in operative position, means for moving said push bar to effect longitudinal movement of the dog in opposition to the tension of the spring to throw the dog out of active position, and means for holding said bar when moved whereby the nut may be easily placed in position or removed from the part with which it coöperates.

4. In a nut lock the combination of a nut having a threaded opening and a side opening in communication with said threaded opening, a push bar mounted upon the nut, operating means for the push bar, a dog located in said side opening and mounted upon the push bar to move therewith and to tilt thereon, and a spring normally exerting a pressure upon the dog to throw the active end of the dog into the threaded opening of the nut.

5. In a nut lock the combination of a nut having a threaded opening and a side opening in communication with the threaded opening, a dog located in the side opening and mounted to move both longitudinally and pivotally, a spring for exerting an endwise pressure upon the dog to move the same longitudinally, and a second spring normally exerting a lateral pressure upon the dog to effect a tilting thereof.

[Claims 6 and 7 not printed in the Gazette.]

975,986. COLLAR-SUPPORTER. HERBERT N. NORTHROP, Somerville, Mass. Filed Aug. 24, 1908. Serial No. 450,109.



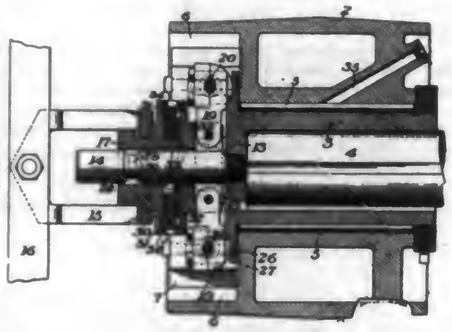
1. As an article of manufacture, a supporter for collars, etc., consisting of a tubular body made of a closely coiled resilient wire length and open at its opposite ends, of an outer enlargement of the body at each end and for a portion of its length, of a flexible jacket fitting and surrounding and held on said body-enlargements and extending therebetween and said extension spaced from said body, and of a pointed fastening-pin inserted, by its pointed-end, in an open end of said body and extending for a portion of the length and fitting the bore of the body.

2. As an article of manufacture, a supporter for collars, etc., consisting of a tubular body made of a closely coiled resilient wire length and open at its opposite ends and of a pointed fastening-pin having its point laterally bent and inserted, by its pointed-end, in an open end of said body and extending for a portion of the length and fitting the bore of the body.

3. As an article of manufacture, a supporter for collars, etc., consisting of a tubular body made of a closely coiled resilient wire length and open at its opposite ends, of a pointed fastening-pin having its point laterally bent and inserted by its pointed-end in an open end of said body and extending for a portion of the length and fitting the bore of the body, and of a flexible jacket fitting and surrounding and held on the outside and extending in the direction of the length of said body.

4. As an article of manufacture, a supporter for collars, etc., consisting of a tubular body made of a closely coiled resilient wire length and open at its opposite ends, of an outer enlargement of the body at each end and for a portion of its length, of a flexible jacket fitting and surrounding and held on said body-enlargements and extending therebetween and said extension spaced from said body, and of a pointed fastening-pin having its point laterally bent and inserted, by its pointed-end, in an open end of said body, and extending for a portion of the length and fitting the bore of the body.

975,987. FRICTION-CLUTCH. BLANCHER D. NORTHRUP, Washington, Pa. Filed Dec. 24, 1908. Serial No. 469,183.

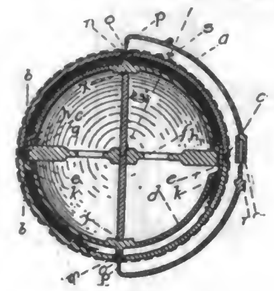


1. A friction clutch, a shaft, a sleeve member mounted on the shaft and fixed thereto, a pulley rotatably mounted on the sleeve member, said pulley having a chambered end portion extending beyond one end of the sleeve member, and the sleeve member having a hub portion lying within said chambered portion and provided with radially extending studs, radially movable friction shoes mounted on said studs and arranged to be moved into and out of driving engagement with the pulley, a longitudinally movable shifting member mounted on an extension of the shaft, toggle arms pivoted to said member, and a pair of toggles pivoted at one end to the said arms and at their other ends to the shoes, substantially as described.

2. A friction clutch, a shaft, a sleeve member mounted on the shaft and fixed thereto, a pulley rotatably mounted on the sleeve member, said pulley having a chambered end portion extending beyond one end of the sleeve member, and the sleeve member having a hub portion lying within said chambered portion and provided with radially extending studs, radially movable friction shoes mounted on said studs and arranged to be moved into and out of driving engagement with the pulley, a longitudinally movable shifting member mounted on an extension of the shaft, toggle arms pivoted to said member, and a pair of toggles pivoted at one end to the said arms and at their other ends to the shoes, the toggle arms and the hub portion having coöperating stop portions, substantially as described.

3. A friction clutch, a shaft, a sleeve member mounted on the shaft and fixed thereto, a pulley rotatably mounted on the sleeve member, said pulley having a chambered end portion extending beyond one end of the sleeve member, and the sleeve member having a hub portion lying within said chambered portion and provided with radially extending studs, radially movable friction shoes mounted on said studs and arranged to be moved into and out of driving engagement with the pulley, a longitudinally movable shifting member mounted on an extension of the shaft, toggle arms pivoted to said member, and a pair of toggles pivoted at one end to the said arms and at their other ends to the shoes, said shaft extension having a circumferential groove therein within the shifting member, said groove having beveled side walls, and the shifting member having a spring-pressed pin or dog arranged to enter said groove in one position of the shifting member, substantially as described.

975,988. GYROSCOPE AND SPHERE. JOSEPH F. O'BRIEN, Contact, Nev. Filed Oct. 1, 1909. Serial No. 520,447.

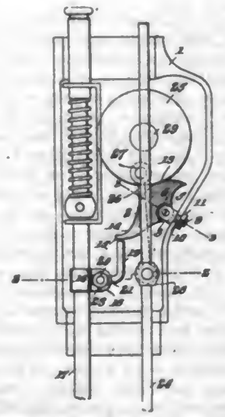


1. A gyroscopic toy comprising, a hollow sphere made up of two hemispheres having threads around their common equatorial line for screwing the two hemispheres together; a gyroscope top with a meridian yoke bent above and below the plane of the fly-wheel of the gyroscope so as to form two short straight pieces of the meridian yoke perpendicular to the plane of the fly-wheel of the gyroscope; grooved lugs placed diametrically opposite each other on one of the hemispheres, slightly below its equatorial line, for the purpose of engaging the straight parts of the meridian yoke and holding the same securely within the sphere when the two hemispheres are screwed together.

2. The combination of a hollow sphere and a gyroscope within the hollow sphere as described comprising the hollow sphere having holes at its poles; a yoke extending one-half around the sphere on the outside and having a hook placed at 23½ degrees from the upper pole, the said yoke being formed of two pieces and engaging for strength at the equatorial line of the sphere, when its ends are pressed into the holes at the poles of the sphere.

3. The combination of a hollow sphere and a gyroscope within the hollow sphere and the sphere having grooves cut along meridian lines and parallels of latitude on the exterior of the sphere as shown.

975,989. SEWING-MACHINE ATTACHMENT. JOSEPH O. OSTMAN, Hancock, Mich., assignor of one-fourth to Axel Immo and one-fourth to Arthur Abramson, Hancock, Mich. Filed Apr. 5, 1910. Serial No. 553,483.



1. The combination with a sewing machine, of a bearing ring adjustably mounted on the presser foot bar, a rod extending upwardly from the ring, a yoke connected with the head of the machine, a lever provided intermediate its ends with a lug pivoted between the arms of the yoke, and having at its upper end a cam face forming a brake shoe for engagement with the driving shaft of the machine to prevent reverse movement thereof, said lever having a toe at its lower end for engagement by the rod when the presser foot bar is moved upwardly, to swing the lever to disengage the brake shoe from the shaft.

2. The combination with a sewing machine, of a lever pivoted intermediate its ends to the head of the machine and provided at its upper end with a cam face forming a brake shoe, the lever having an angular toe at its lower end, a rod adjustably mounted on the presser foot bar for engaging the toe to swing the lever when the bar is raised to hold the shoe out of contact with the shaft.

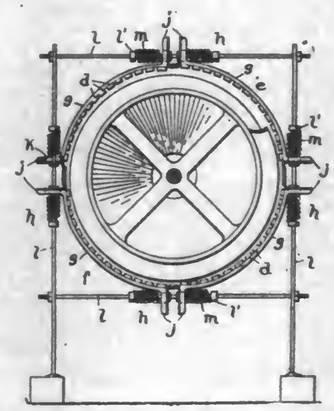
3. The combination with a sewing machine, of a lever pivoted intermediate its ends to the head, and having an eccentric cam face at its upper end normally engaging the drive shaft to prevent reverse movement thereof, said lever having an angular toe, a bearing ring adjustably mounted on the presser foot bar, and a rod connected with the ring, and engaging the toe to swing the cam face out of engagement with the shaft when the said bar is lifted.

4. The combination with a sewing machine, of a lever pivoted intermediate its ends to the head, and having an eccentric cam face at its upper end normally engaging the drive shaft to prevent reverse movement thereof, said lever having an angular toe, a bearing ring adjustably mounted on the presser foot bar, and means supported by the ring for engaging the toe to swing the cam face out of engagement with the shaft when the said bar is lifted.

5. The combination with a sewing machine, of a lever pivoted intermediate its ends to the head, and having an eccentric cam face at its upper end normally engaging the drive shaft to prevent reverse movement thereof, said lever having an angular toe, and means adjustably supported on the presser foot bar for engaging the toe to swing the cam face out of engagement with the shaft when the said bar is lifted.

[Claims 6 to 10 not printed in the Gazette.]

975,990. EXPANDING OR ADJUSTABLE PRESS FOR FERTILIZING MATERIAL, &c. WILLIS E. OVERTON and ASA C. KETCHAM, Solomons, Md. Filed Mar. 5, 1910. Serial No. 547,480.



1. In a press, a tubular body having yielding elastic side walls capable of giving under unusual pressure from within to enlarge the aperture of said body.

2. In a press, a tubular body composed of longitudinal slats, and spring-pressed means surrounding the same for holding the slats in position against the usual pressure from within, said slats and means being capable of giving under unusual pressure from within to temporarily enlarge the aperture of said body.

3. In a press, a tubular body composed of longitudinal slats, yieldable means surrounding the same for holding the slats in position against the usual pressure from with-

in, consisting of a band composed of opposite sections having pressure springs bearing thereupon, said slats and means being capable of giving under unusual pressure from within to temporarily enlarge the aperture of said body.

4. In a press, a tubular body composed of longitudinal slats, and yielding means surrounding the same at the discharge end portion thereof for holding the slats in position against the usual pressure from within, consisting of a band composed of arcuate sections having pressure springs bearing thereupon, said slats and band being capable of giving under unusual pressure from within to temporarily enlarge the aperture of said body.

5. In a press, a tubular body composed of longitudinal slats, and yielding means surrounding the same at the discharge end portion thereof, for holding the slats in position against the usual pressure from within, consisting in a series of bands composed each of arcuate sections having pressure springs bearing thereupon, said slats and bands being capable of giving under unusual pressure from within to enlarge the aperture of said body.

[Claims 6 and 7 not printed in the Gazette.]

975,991. VISE ATTACHMENT. LAMAR W. PALMER, Riverside, N. J. Filed Aug. 18, 1909. Serial No. 513,431.



1. A vise attachment comprising a pair of movable jaws and arms pivoted to swing at right angles to the jaws for forcing said jaws together.

2. A vise attachment comprising a pair of spring actuated jaws and arms pivotally mounted to swing at right angles to the jaws adapted to be operated by the jaws of a vise for forcing said jaws together.

3. A vise attachment comprising a pair of arms pivotally connected together by a bolt, V-shaped notches formed in said arms, and a pair of jaws arranged between said arms on said bolt adapted to swing at right angles to said arms, said jaws being provided with shanks having beveled faces adapted to co-act with the V-shaped notches of said arms.

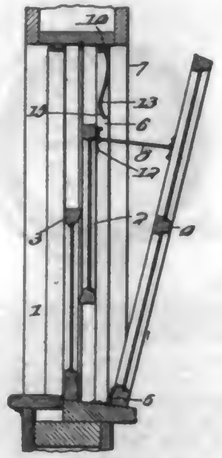
4. A vise attachment comprising a pair of arms pivotally connected together, said arms being provided with enlarged portions having V-shaped notches, a pair of jaws arranged between said arms, and a spring for holding said jaws apart, said jaws being provided with shanks having beveled faces co-acting with the notches of said arms.

5. A vise attachment comprising a pair of slidably and pivotally mounted jaws, a spring arranged between said jaws, and a pair of arms provided with V-shaped notches straddling said jaws for closing the same.

[Claim 6 not printed in the Gazette.]

975,992. STORM-WINDOW ATTACHMENT. ADDISON J. PARMETER, Milnor, N. D., assignor of one-half to Percy H. Warriner, Milnor, N. D. Filed June 11, 1909. Serial No. 501,590. Renewed May 25, 1910. Serial No. 563,398.

1. In combination with a window casing and the upper sash, a storm window pivotally mounted to swing in the casing, a pair of links pivotally engaged with the upper sash and the free end of the storm window to move the latter into either closed or open position when the former is raised or lowered, and a pair of longitudinally curved springs depending from the top of the window frame and adapted to exert pressure against the links when the storm window is closed in order to hold the storm window in such position.



2. In combination with a window frame and the upper sash, a storm window pivoted to swing into or out of said frame, keeper plates on the upper sash and the upper end of the storm window, links pivotally engaged to said keeper plates and adapted to swing the storm window in closed position when the upper sash is raised, and a pair of flat longitudinally and forwardly curved springs having rearwardly bent portions depending from the top of the casing and adapted to exert pressure against the links when the storm window is in closed position.

975,993. FISH-HOOK. JAMES YELVERTON PAYTON, Waldron, Ark., assignor of one-half to John David Benson, Waldron, Ark. Filed Oct. 28, 1909. Serial No. 525,011.



1. An automatic fish hook comprising a casing, a hook disposed within said casing, and means operated by the pull on the casing for projecting the hook from the casing.

2. The combination with a line, of an automatic fish hook comprising a cylindrical casing, a hook slidably disposed within said casing, a guard for holding the hook in operative position, and a flexible connection secured to the shank of the hook and being passed around the portion of the guard for projecting the hook forwardly, the end of said flexible connection being secured to the line.

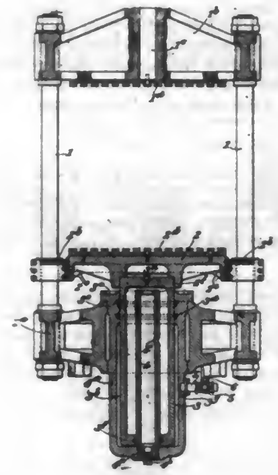
3. The combination with a line, of an automatic fish hook comprising a cylindrical casing, a hook slidably disposed within said casing, a guard secured at one end of said casing and provided with lips arranged to engage said hook for holding it in operative position and having an eyelet, and a flexible connection secured to the shank of the hook and arranged to extend through said eyelet, said flexible connection being attached to said line.

4. The combination with a line, of an automatic fish hook comprising a cylindrical casing, a hook slidably disposed within said casing, a guard secured at one end of said casing, said guard comprising a doubled wire bent in goose-neck form, a portion of the bent wire forming lips for the engagement of the fish hook, and another portion forming an eyelet, a flexible connection secured to the end of the shank of the hook, said flexible connection being passed through said eyelet, and through the cylinder, and being attached at its opposite end to said line.

5. The combination with a line, of an automatic fish hook comprising a cylindrical casing, a hook slidably disposed within said casing, and means operated by a pull on the line for projecting the hook out of the casing.

[Claim 6 not printed in the Gazette.]

975,994. HYDRAULIC PRESS. FRANK PHELPS, Little Rock, Ark. Filed June 7, 1909. Serial No. 500,725.



1. In a hydraulic press, the combination with the ram and a plurality of constantly separate force chambers, of means for admitting fluid under pressure to a force chamber, and means controlled by the movement of the ram for establishing communication between said chambers, whereby the fluid pressure is introduced successively into said chambers for operating the ram at varying powers.

2. In a hydraulic press, the combination with the ram, of primary and secondary force chambers which are separate during the whole movement of the ram, means for admitting fluid under pressure to the primary chamber, means for maintaining the secondary chamber filled with fluid as the ram is moved by the fluid pressure in the primary chamber, and a port for establishing communication between said chambers adapted to be opened by movement of the ram for a part of its stroke, whereby fluid pressure is introduced into the secondary chamber for continuing the stroke of the ram at greater pressure.

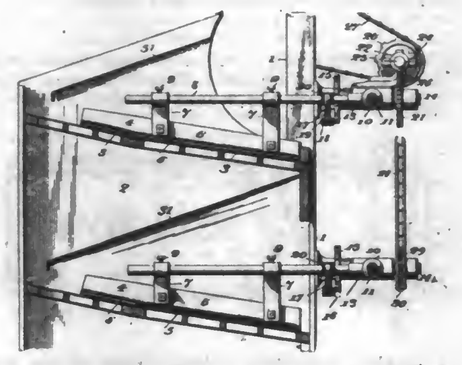
3. In a hydraulic press, the combination of concentric cylinders, a hollow ram telescoping with said cylinders, means for supplying fluid under pressure to one cylinder and for filling the other cylinder with fluid as the ram is moved at low pressure, and a port for establishing communication between said cylinders which is opened by movement of the ram for a certain part of its stroke, the ram continuing throughout its reciprocations in telescopic relation with the concentric cylinders.

4. In a hydraulic press, the combination of the cylinder, a fluid-pressure supply tube extending longitudinally thereinto, and a hollow or bored ram working on the tube and in the cylinder, the tube being provided with a lateral port which is uncovered by movement of the ram through a part of its stroke, the ram working on the tube throughout its entire reciprocatory movement.

5. In combination, a cylinder having a plurality of constantly separate force chambers, a tubular ram telescoping with the walls of said chambers, and means controlled by movement of the ram for establishing communication between said force chambers, with means for admitting fluid under pressure to one force chamber and supplying fluid to fill the other force chamber, whereby the ram is moved rapidly until the fluid pressure is introduced into both force chambers for continuing the stroke at increased pressure.

[Claims 6 to 11 not printed in the Gazette.]

975,995. CLEANING ATTACHMENT FOR GRAIN-SEPARATORS. FAUSTIN PAINZ, Milwaukee, Wis. Filed July 10, 1899. Serial No. 723,368.



1. In a grain separator, the combination with a sieve, of an attachment for cleaning the sieve comprising a rail, a swinging scraper blade or rubber slidably connected with said rail and having a pivotal connection therewith upon which it is free to swing as a center, a flexible strip projecting from the lower edge of said blade and receiving and supporting the weight of the blade upon the screen whereby the friction and pulling action of the flexible strip against the screen will be increased, a sprocket chain, a flexible connection between said chain and scraper blade or rubber, and means for operating the chain to move the scraper back and forth over the sieve surface, substantially as described.

2. In a grain separator, the combination with a sieve, of an attachment for cleaning the sieve comprising a rail, an arm movable along said rail and overhanging the sieve at a distance above the sieve, said arm having a pivotal connection at its end next to said rail whereon it may swing as a center, a scraper or rubber depending from said arm, sprocket wheels arranged opposite to each other, a sprocket chain extending from one wheel to the other, means connecting said chain and said arm, and means for operating the chain to move the scraper or rubber back and forth over the sieve, substantially as described.

3. In a grain separator, the combination with a sieve, of an attachment for cleaning the sieve comprising a rail, an arm overhanging the sieve and having a sliding and swinging connection with the rail and carrying a scraper in contact with the sieve, sprocket wheels arranged opposite to each other, a sprocket chain extending from one wheel to the other, a spindle secured to the sprocket chain, and a flexible member connecting said spindle and the overhanging scraper arm, said member having a loose turning connection with both the spindle and arm, substantially as described.

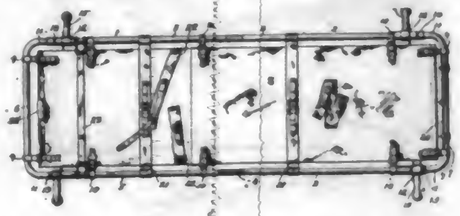
4. In a grain separator, the combination with a sieve, of an attachment for cleaning the sieve comprising a rail, an arm movable along said rail and carrying a scraper or rubber, said arm having a pivotal connection with said rail whereon the arm may swing as a center, brackets supporting sprocket wheels arranged opposite to each other, the shaft of one of said sprocket wheels carrying a toothed wheel, a sprocket chain extending from one sprocket wheel to the other, a strap connecting said chain and said arm, a worm wheel meshing with said toothed wheel, and means for rotating said worm wheel, substantially as described.

5. In a grain separator, the combination with a sieve, of an attachment for cleaning the sieve comprising a rail, an arm movable along said rail and carrying a scraper or

rubber, said arm having a pivotal connection with said rail whereon the arm may swing as a center, brackets supporting sprocket wheels arranged opposite to each other, the shaft of one of said sprocket wheels carrying a toothed wheel, a sprocket chain extending from one sprocket wheel to the other, a strap connecting said chain and said arm, an arm supported from one of said brackets, a worm wheel journaled in said arm and meshing with said toothed wheel, and means for rotating said worm wheel, substantially as described.

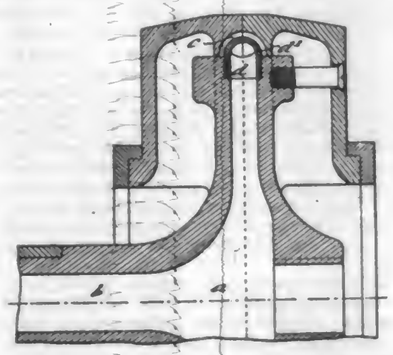
[Claims 6 and 7 not printed in the Gazette.]

975,996. STRETCHER. WALTER B. REED, White Cloud, Mich., assignor of one-half to Celia I. Manning, White Cloud, Mich. Filed May 7, 1910. Serial No. 559,953.



A stretcher comprising a frame formed of end head members, spaced sectional side members removably engaged at their opposite ends with the said head members, pivotally mounted legs supported by the said head members, the said head members and the said legs being formed to limit the movements of the legs and to permit them to be folded to lie against each other and at one side of the head members, sectional braces connecting the legs of each head member and adapted to be folded to lie against each other when the legs are folded, a canvas bottom removably supported by the said head members and between said sectional side members, straps for extension across the said canvas bottom and secured to the said sectional side members, and body retaining straps secured to the said canvas bottom and extending directly across the same.

975,997. CENTRIFUGAL PUMP, CONDENSER, AND COMPRESSOR. EDMUND SCOTT GUSTAVE REES, Wolverhampton, England. Filed June 24, 1910. Serial No. 568,727.



1. A centrifugal vacuum pump, condenser or compressor comprising an impeller having peripheral discharge nozzles mutually inclined to cause the issuing streams to form fan-like sheets of water or spray, substantially as described.

2. A centrifugal vacuum pump, condenser or compressor comprising an impeller having peripheral discharge nozzles and a hood rotating with the impeller and encircling the space into which the nozzles discharge.

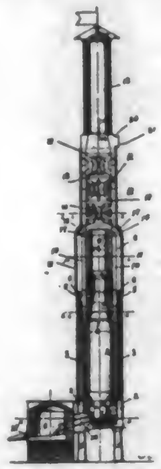
3. A centrifugal vacuum pump, condenser or compressor comprising an impeller having peripheral discharge nozzles and a hood rotating with the impeller and encircling the space into which the nozzles discharge, the periphery of the hood being fitted with short transverse vanes adapted to act as an extractor, substantially as described.

4. A centrifugal vacuum pump, condenser or compressor comprising an impeller having peripheral discharge nozzles arranged in transverse rows mutually inclined in pairs and a hood rotating with the impeller and encircling the space into which the nozzles discharge.

5. A centrifugal vacuum pump, condenser or compressor comprising an impeller having peripheral discharge nozzles arranged in transverse rows mutually inclined in pairs and a hood rotating with the impeller and encircling the space into which the nozzles discharge, the periphery of the hood being fitted with short transverse vanes, substantially as described.

[Claim 6 not printed in the Gazette.]

975,998. FURNACE FOR THE PRODUCTION OF CAST IRON AND STEEL. FRANCESCO RESINELLI, Vado Ligure, Italy. Filed July 2, 1909. Serial No. 505,746.



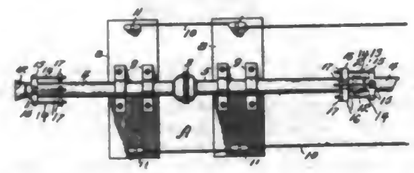
1. A furnace for the production of iron and steel comprising a principal furnace, a shaft or chimney above said principal furnace, and a regenerator in said chimney in combination with a fore-hearth; a furnace adapted to pre-heat reagents; and a connection between said pre-heating furnace and said principal furnace adapted to conduct hot gases from the latter to the former, substantially as described.

2. A furnace for the production of iron and steel comprising a principal furnace, a shaft or chimney above said principal furnace, and a regenerator in said chimney comprising a cylinder having curved tubes 23 therein through which air to be heated is adapted to pass, in combination with a fore-hearth; a furnace adapted to pre-heat reagents; and a connection between said pre-heating furnace and said principal furnace adapted to conduct hot gases from the latter to the former, substantially as described.

3. A furnace for the production of iron and steel comprising a principal furnace, a shaft or chimney above said principal furnace, and a regenerator in said chimney, provided with means for drawing combustible gases from said principal furnace below its charging mouth, said means adapted to deliver said gases to said chimney above the feed doors of said furnace, in combination with a fore-hearth, a furnace adapted to pre-heat reagents; and a connection between said pre-heating furnace and said principal furnace adapted to conduct hot gases from the latter to the former, substantially as described.

4. A furnace for the production of iron and steel comprising a principal furnace, a shaft or chimney above said principal furnace, and a regenerator in said chimney, in combination with a fore-hearth, a furnace adapted to pre-heat reagents; means for conducting a portion of the hot gases from the fusion zone of the principal furnace to the pre-heating furnace; and means for discharging said hot gases from the pre-heating furnace into the chimney, whereby the pressure in the fusion zone is reduced and the heat of the evolved gases is utilized, substantially as described.

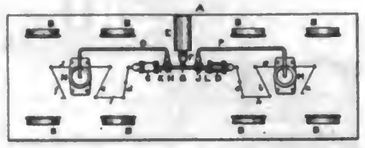
975,999. PONTOON-PIPE FOR MARINE DREDGING. DANIEL B. RICHARDS and CHESTER F. LOGA, Beaufort, N. C. Filed Mar. 19, 1910. Serial No. 550,500.



1. A dredging machine conduit comprising a pontoon supported section consisting of pipes and a ball and socket joint connecting the adjacent ends of the pipes together, the outer end of one pipe being tapered and the outer end of the other pipe being flared, hinged bolts on the outer end of one of the pipes, and devices on the outer end of the other pipe for engagement with the hinged bolts of an adjacent section.

2. The combination of a plurality of pontoon supported conduit sections each consisting of a pair of pipes flexibly connected together, the outer end of one section being arranged to telescope longitudinally into the outer end of the adjacent section to form a rigid water-tight joint, and means for detachably uniting the sections at the telescoping joint and capable of drawing the sections longitudinally together.

976,000. MEANS FOR AUTOMATICALLY VARYING, PROPORTIONATELY TO THE LOAD, THE PNEUMATIC APPLICATION OF FRICTION-BRAKES. LEON H. SCHENCK, Schenectady, N. Y. Filed Dec. 4, 1908. Serial No. 465,933.



1. In an air brake system, the combination with the brake cylinder and pipe for leading air thereto, of a valve in said pipe, and fluid-pressure producing means operable by the load of the vehicle for varying and controlling the passage of air through said valve.

2. In an air brake system, the combination with the brake cylinder and pipe for leading air thereto, of a valve in said pipe, and a device producing an additional fluid-pressure operable by the load of the vehicle for varying and controlling the passage of air through said valve.

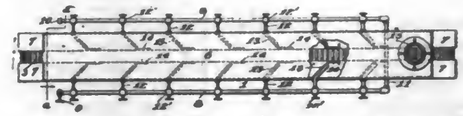
3. In an air brake system, the combination with the brake cylinder and pipe for leading air thereto, of a valve in said pipe, and a fluid-pressure device for controlling said valve, said device consisting of a mechanism operable by an additional fluid under pressure to unseat the valve, a fluid-pressure generator on the truck of the vehicle for providing pressure for said additional fluid and actuated by the load of the vehicle, and a pipe connecting said mechanism and said generator.

4. In an air brake system, the combination with the brake cylinder and pipe for leading air thereto, of a valve in said pipe, and a fluid-pressure device for controlling said valve, said device consisting of a piston in the valve casing connected to the valve for seating it, a fluid-pressure actuated device for unseating said valve, and a fluid-pressure generator on a truck of the vehicle and actuated by the load of the vehicle, and a pipe connecting said mechanism and said generator.

5. In an air brake system, the combination with the brake cylinder and pipe for leading air thereto, of a valve in said pipe, and a fluid-pressure device for controlling said valve, said device consisting of a piston in the valve casing connected to the valve for seating it, a second piston connected to the valve for unseating it, a pressure cylinder and piston on a truck of the vehicle, and a pipe connecting said cylinder with said valve casing, and containing an additional fluid to which pressure is applied by the piston and cylinder on the truck.

[Claims 6 to 14 not printed in the Gazette.]

976,001. APPARATUS FOR STERILIZING AND TEMPERING GLASS VESSELS. EDWARD D. SCHMITT, Baltimore, Md., assignor, by direct and mesne assignments, to The Pure Food Process Company, Baltimore, Md., a Corporation of Maryland. Filed Nov. 18, 1909. Serial No. 528,784.



1. An apparatus of the character described, comprising a suitable jacket having an inlet opening at one end and an exit opening at the other, and having a series of deflecting plates therein extending from the bottom to the top of said jacket and forming a plurality of chambers, an endless conveyer passing between said deflecting plates and adapted to convey the jars from one end of the jacket to the other, means for supplying heat to said chambers to which the jars are subjected in passing through the jacket.

2. An apparatus of the character described, comprising a suitable jacket having an entrance opening at one end and an exit opening at the other, a plurality of deflecting plates within the jacket and extending from the bottom to the top thereof and forming heat chambers, an endless conveyer passing between said deflecting plates and adapted to convey the jars through the jacket, means for supplying heat to said chambers in an increasing degree from the entrance opening of the jacket to the exit opening.

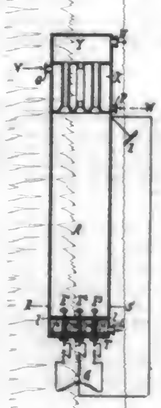
3. An apparatus of the character described, comprising a suitable jacket having an entrance opening at one end and an exit opening at the other, a series of deflecting plates extending from the bottom to the top of said jacket, an endless conveyer passing between said plates, and adapted to convey the jars from the entrance to the exit end of said jacket, a steam pipe connected with said jacket and having a plurality of jet pipes extending into the jacket adjacent to the deflecting plates, whereby heat is supplied to the chambers within the jacket.

4. An apparatus of the character described, comprising a jacket having an entrance opening at one end and an exit opening at the other, a plurality of deflecting plates within the jacket and extending from the bottom to the top thereof and dividing the jacket into heat chambers, an endless conveyer passing between the deflecting plates and adapted to convey the jars from one end of the jacket to the other, a steam pipe on each side of the jacket having a plurality of jet pipes connected therewith and extending into the jacket adjacent to the deflecting plates, jet pipes increasing in size from the entrance opening to the exit opening whereby an increasing quantity of heating fluid is fed into the jacket from the entrance opening to the exit opening, thus providing a series of different heat zones, through which the jars pass.

5. An apparatus of the character described, comprising a suitable jacket having a plurality of deflecting plates, said deflector-plates converging toward each other and dividing the jacket into a number of chambers, a suitable conveyer passing through said jacket and adapted to convey the jars from one end of the jacket to the other, means for supplying heat in an increasing degree from one end of the jacket to the other, whereby the jars will be carried by the conveyer through different zones of heat increasing in intensity from one end of the jacket to the other, whereby the jars are sterilized and gradually heated or tempered, to condition them to receive the food products.

[Claims 6 to 13 not printed in the Gazette.]

976,002. PRODUCTION OF LONG STABLE ELECTRIC ARCS. OTTO SCHÖNHERR and JOHANNES HESSENBERGER, Ludwigshafen-on-the-Rhine, Germany, assignors to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany, a Corporation. Filed Jan. 10, 1907. Serial No. 351,664.



1. The process of producing long stable electric arcs in tubes or passages provided with insulated electrodes by passing currents of gas through the said tubes or passages and causing a plurality of arcs to terminate in a common space substantially as hereinbefore described.

2. The process of producing long stable electric arcs in tubes or passages provided with insulated electrodes by passing currents of gas through the said tubes or passages and causing a plurality of arcs to strike against a common electrode situated in a common space substantially as hereinbefore described.

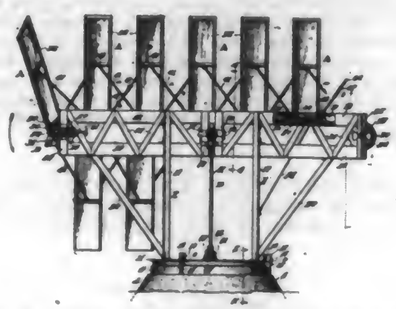
3. The process of producing long stable electric arcs side by side in a tube or passage provided with insulated electrodes by passing currents of gas through the said tube or passage and causing a plurality of arcs to terminate in a common space substantially as hereinbefore described.

4. The process of producing long stable electric arcs side by side in a tube or passage provided with insulated electrodes by passing currents of gas through the said tube or passage and causing the electric arcs to strike against one common electrode substantially as hereinbefore described.

5. The process of producing long stable electric arcs in tubes or passages provided with insulated electrodes by passing currents of gas through the said tubes or passages and by connecting the electrodes from which the arcs spring each with a separate phase of a polyphase electric system and causing the arcs formed to terminate in a common space substantially as hereinbefore described.

[Claim 6 not printed in the Gazette.]

976,003. AIR-MOTOR OR WINDMILL. OTTO E. SILL, Los Angeles, Cal. Filed Feb. 5, 1910. Serial No. 542,321.



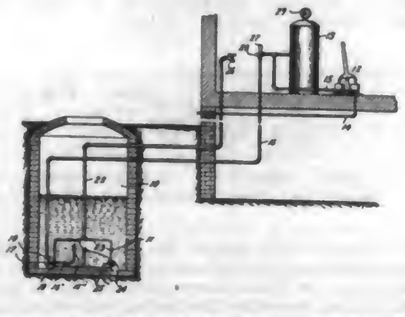
1. In mechanism of the character described, a carrier, a plurality of vanes loosely mounted upon the carrier, and operative connections between the carrier and each of the vanes; each of said operative connections comprising a flexible connection and a spring.

2. In mechanism of the character described, a carrier, a vane loosely mounted upon the carrier, and a plurality of operative connections between the vane and the carrier; one of said operative connections being yielding and the other having a yielding portion.

3. In improvements of the character described, a base, an annular angle iron mounted upon the base, a plurality of channeled rollers mounted upon the angle iron, an annular T-iron turnably mounted upon the rollers, and a windmill tower mounted upon the T-iron.

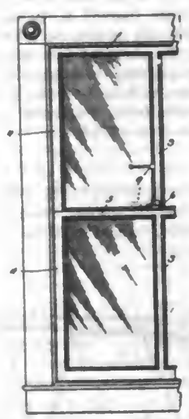
4. In improvements of the character described, a base, an annular angle iron mounted upon the base, channeled rollers mounted upon the angle iron, an annular T-iron movably mounted upon the rollers, guide rollers respectively bearing upon the T-iron at the side and the top thereof, and a windmill frame mounted upon the T-iron.

976,004. COMPRESSED-AIR WATER-ELEVATOR. ERNEST C. SMITH and WILLIAM A. CRUMPACKER, Centerview, Mo. Filed Mar. 26, 1910. Serial No. 551,794.



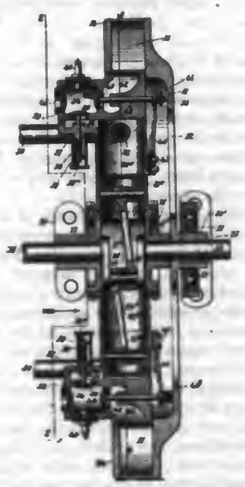
In a compressed air elevator, the combination with an air reservoir, of an air pressure tank in the bottom of the well, a supply pipe extending from said air reservoir and terminating near the top of said tank, a barrel located in said pipe adjacent to the exterior of said tank, having perforated diaphragm adjacent to the lower terminal thereof, and a port at the lower terminal thereof, a valve stem operating through said diaphragm carrying a transverse head at the upper extremity thereof, said head having a series of recesses formed about the edge thereof, the lower terminal of said valve stem adapted to cooperate with and close said port at predetermined intervals, means whereby the water supply may enter said tank, and a distributing pipe extending from the bottom of said tank to the top thereof.

976,005. WINDOW-FASTENER. THOMAS TOWSON SMITH, Washington, D. C. Filed May 14, 1910. Serial No. 561,324.



A window fastener comprising two members, the upper member being reversible and comprising a plate and a hinged portion, said plate being adapted to be applied to the window sash and to lie vertically thereon, the lower member comprising a plate, a keeper on said plate under which the hinged portion of the upper member is adapted to pass, and a spring disposed on the plate of the lower member adjacent the said keeper to engage the said hinged member to hold the same within the said keeper, the said hinged portion of the upper member being square in cross section in such manner that it will enter the said keeper in a reversed position.

976,006. ROTARY MOTOR. LOUIS STEMPFER, New York, N. Y. Filed Nov. 11, 1907. Serial No. 401,535.



1. A rotary explosive engine comprising a stationary member and a rotating member surrounding the same, receptacles on said stationary member, means for compressing explosive charges therein, a second series of receptacles communicating with said first-named receptacles, valve means for controlling the passage of the compressed explosive charges from said first-named receptacles to said second-named receptacles, valve means for controlling the passage of the expanded explosive charges to said rotating member, and means for actuating said last-named valve means for delivering the expanded explosive charges to said rotating member, substantially as specified.

2. A rotary explosive engine comprising a stationary member and a rotating member supported by and surrounding said stationary member, receptacles on said stationary member adapted to receive explosive charges, valve means for said receptacles, reciprocating pumps arranged on said stationary member for initially compressing said explosive charges and then forcing the same into said receptacles, igniting means arranged in said receptacles, and means for actuating said valve means to release the expanded charges and direct the same against said rotating member, substantially as specified.

3. A rotary explosive engine comprising a stationary member, a driving shaft supported therein, a rotating member fixed upon said shaft and surrounding said stationary member, cylinders arranged upon said stationary member, pistons in said cylinders connected to said driving shaft for compressing explosive charges within said cylinders, receptacles connected to said cylinders adapted to receive the compressed explosive charges from said cylinders, valve mechanism arranged in said receptacles for controlling the passage of the explosive charges to and from said receptacles, means for igniting said explosive charges in said receptacles, and means for actuating said valve mechanism to release the expanded explosive charges and to direct the same against said rotating member, substantially as specified.

4. A rotary explosive engine comprising a stationary member, having hollow hubs, means for supporting said stationary member, a bucket-wheel having a hollow hub, a bearing for said hollow hub, a crank shaft mounted in said stationary member and fixed to said bucket-wheel, a plurality of cylinders on said stationary member having intake ports communicating therewith, valves in said ports, pistons in said cylinders connected to said crank shaft, receptacles connected to said cylinders having inlet and outlet ports, normally closed valves for said ports, igniting devices arranged in said receptacles, and means arranged upon said bucket wheel for opening the valve in said outlet ports as the explosive charge is ignited, substantially as specified.

5. A rotary explosive engine comprising a stationary member having hollow hubs, means secured to one of said hubs for rigidly supporting said stationary member, a bucket wheel surrounding said stationary member and provided with a hollow hub, a bearing for said hub, a crank shaft revolubly supported in the hollow hubs of said stationary member and fixed to said bucket wheel, a plurality of radial cylinders on said stationary member provided with intake ports, normally closed valves therefor, pistons in said cylinders connected to said crank shaft, receptacles on said cylinders, igniting devices for said receptacles, inlet and outlet ports in said receptacles, nozzles on said inlet ports having their ends arranged adjacent to the blades of said bucket wheels, normally closed valves in said inlet ports, valves in said outlet ports, stems extending therefrom through said nozzles, springs arranged upon the projecting ends of said stems for holding said valves normally seated, and cam means arranged upon said bucket wheel adapted to engage the projecting ends of said valve stems to open the same as the explosive charges in said cylinders are ignited, substantially as specified.

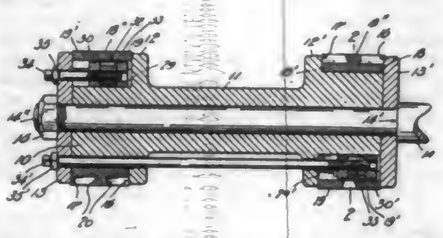
[Claim 6 not printed in the Gazette.]

976,007. PISTON-PACKING. HUGH S. STUDDERT, Seattle, Wash. Filed May 2, 1910. Serial No. 558,824.

1. A piston-packing, comprising a master-ring provided with a peripherally disposed ridge, a second ring seated upon the aforesaid ring and engaged by the ridge thereof, and an adjustable wedge operating in conjunction with the master-ring for expanding both of said rings.

2. In a piston-packing, a ring, a second ring seated upon and interlocked with the first named ring, a wedge

engaging the first named ring, a nut housed within said wedge, and a screw engaging said nut and operable to effect the expansion of both of said rings.



3. In a piston, a packing ring formed with a circular web and a centrally disposed ridge extending circumferentially thereabout and having its opposite sides undercut, a pair of rings seated upon said web at opposite sides of the ridge and having their edges interfit therewith, in combination with a wedge extending through a gap provided in said web, and means extending longitudinally of the piston for advancing the wedge to cause the expansion of all of said rings simultaneously.

4. A piston-packing comprised of a ring formed with a web and a ridge extending circumferentially of the web and intermediate of its width, said ridge being cut transversly and the web being cut away to a distance from each side of the ridge cut, two rings fitted to seat upon the web of the aforesaid ring and severally provided with a transverse cut, a wedge located in the cut-away portion of said web, and means to impart movement to said wedge to effect the expansion of the rings.

5. The combination with a piston provided with an annular recess, a packing ring extending across the recess and with a portion cut away to afford an opening in the ring, a second ring seated upon the aforesaid ring, a wedge-block seated in a recess of the piston and extending into said opening of the first named ring, a screw extending longitudinally through the piston and operatively connected with said wedge-block whereby the rotation of the screw will advance the wedge longitudinally with respect to the piston to adjustably expand both of said rings.

[Claims 6 to 8 not printed in the Gazette.]

976,008. WHISTLE AND CUT-OUT. FRED GRANT TERWILLIGER, Siegfried, Pa. Filed Apr. 23, 1910. Serial No. 557,205.

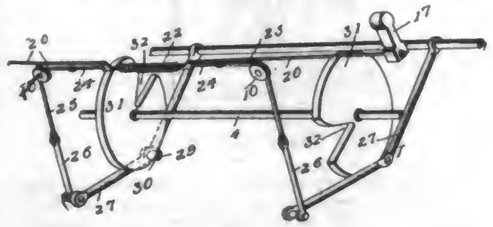


1. In a device of the character set forth, the combination of a hollow body provided in a side with an opening, a plug arranged within said body and having a side portion adjacent the opening of the body cut away to provide a passage, operating means for moving the plug within the body, a piston located within the body and adapted to normally close the opening formed in the side thereof, and operating means for said piston.

2. In combination, a hollow body having an opening in a side thereof, a plug, and a piston arranged within the body, a stem connected with the piston, to provide convenient means for operating the same, and a rod passed through said piston and having connection with the plug and admitting of both the plug and piston being simultaneously operated.

3. A combined whistle and cut out comprising a hollow body having a series of openings in its sides, a plug arranged to operate within the body and having the end facing the inlet made conical and having its sides flattened adjacent the respective openings of the body, means for preventing the turning of the plug and limiting the movements thereof, a spring normally exerting force upon the plug to hold the same in a given position, a piston mounted within the body and adapted to close the openings in the sides thereof, a spring normally exerting a pressure to hold the piston in given position to close the openings in the sides of the body, a rod connected to the plug and passing through the piston and body, and a hollow stem attached to the piston and receiving said rod, the parts being arranged to operate substantially in the manner specified.

976,009. PICKER MECHANISM FOR LOOMS. DELLO THIBEAULT, Campello, Mass., assignor of one-half to Homer A. Everest, Campello, Mass. Filed Dec. 7, 1909. Serial No. 531,833.

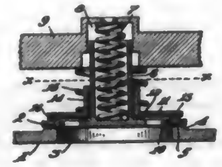


1. In a loom, opposed standards, a main shaft, a countershaft, gearing between the main shaft and the countershaft, opposed lay swords pivotally mounted on the standards, a lay beam supported on the upper ends of the swords, a connection between said lay beam and a driving shaft, whereby the former may be reciprocated by the latter, a spring mounted in said lay beam, opposed picker slides carried in said lay beam, adapted to slide in ways on opposite ends thereof, rods connecting said spring and the slides, pulleys mounted in the upper ends of the lay swords and extending out over the sides of the swords, flexible connections from the ends of the spring, passing over said pulleys, actuating levers pivotally supported on the inner faces of the standards, said levers extending at right angles to the lay, the ends of said levers being formed with studs projecting out through arcuate slots in the standards and being connected to said flexible connections, rollers projecting from said levers, and opposed cams mounted on the countershaft in planes parallel to said levers and engaging with said rollers at all times, each of said cams having an approximately concentric face and a cut-away portion forming an interruption in said face, extending sharply inward toward the center of the cam.

2. In a loom, opposed lay swords, a lay beam mounted on the swords, said beam being longitudinally channeled on its under face, two picker slides adapted to slide in longitudinal ways on opposite ends of the lay beam, a spring supported in said channel at the middle of the lay beam, rods connecting the opposite ends of said spring with said slides; a pulley in each of the lay swords, rods extending from opposite ends of the said spring, flexible connections attached to the rods and passing over said pulleys, actuating levers pivoted at one end, said levers being disposed at right angles to the lay, rods connected to the free ends of the actuating levers and to said flexible connections, inwardly projecting studs, one on each actuating lever, opposed cams disposed in parallel relation to the levers and engaging the said studs, said cams being oppositely set with relation to each other and each of said cams having an approximately concentric face, and a cut-away portion, one face of the cam bounding the cut-away portion being perpendicular to the concentric face of the cam and extending radially inward, the other face of the cam bounding said cut-away portion being convexly curved, the end of the cut-away portion forming a stop limiting the inward movement of the stud.

3. In a loom, a supporting frame having standards, oppositely disposed lay swords mounted on the frame, a transversely extending lay beam mounted on the swords and having a longitudinal channel on its under side, two picker slides sliding in ways formed on opposite ends of the lay beam, said slides projecting into the said channel, a spring located in the channel and housed thereby and disposed intermediate the slides, connecting rods between the ends of said spring and said slides, pulleys mounted in the upper ends of the lay swords and projecting outward beyond the faces of said swords, a connection attached to each end of the spring and passing over said pulleys, actuating levers pivoted at their rear ends to said standards, the forward ends of the actuating levers being supported in vertical guides on the standards, said forward ends of the levers being attached to said last named connections, springs attached at one end to the standards and acting to counterbalance the weight of the actuating levers, an inwardly projecting stud on each actuating lever, a transverse shaft, oppositely disposed cams mounted on said shaft, one for each of said levers, each of said cams having an approximately concentric face and a cut-away portion extending sharply inward toward the center of the cam, one margin of the cut-away portion being perpendicular to the concentric face, the other margin being convexly curved, the junction of the curved and perpendicular face being rounded and of a width sufficient to receive the stud on the actuating lever and afford a stop for the same, said cams being so set that the cut-away portions thereof extend relatively in opposite directions.

976,010. VALVE. JOHN C. THOMPSON, Belmont, Cal. Filed Nov. 3, 1909. Serial No. 526,020.

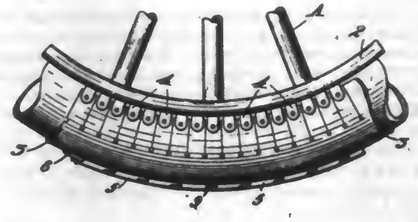


1. The combination with a valve seat, of a ported valve plate normally seating thereon, said valve plate having a stem, a guide bar having a recess forming a guide for the upper end of the stem, a second valve provided with a hollow valve stem concentric with the first-named valve stem, said second valve adapted to seat over the ports in said valve plate, and said guide bar having a second recess into which the stem of the second valve is secured when said valve is lifted, and independent means by which the valves are maintained closed, said second valve having a limited opening and closing movement independent of the first valve.

2. The combination with a valve seat, of a ported valve plate seating thereon, said valve plate having a hollow stem, a guide bar having a recess in its under side in which the stem is slidable, a spring housed in said stem and bearing against the same and against the bottom of said recess, to maintain the valve plate normally seated, a second valve plate seating over the ports in the first valve plate, said second valve plate having a hollow stem concentric with and slidable on the first-named stem, said guide bar having a second recess to receive the stem of the second valve when said valve is lifted, and a spring acting against the guide bar and said second valve plate to maintain the latter normally seated.

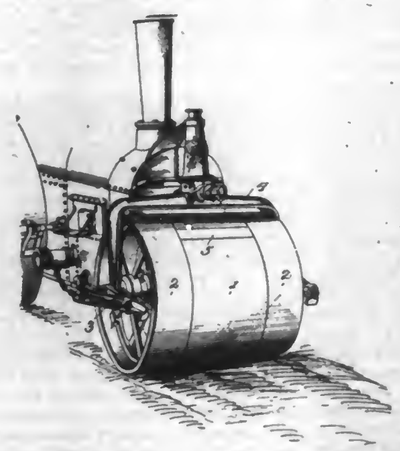
3. The combination with a valve seat, of a ported valve plate seating thereon, said valve plate having a hollow stem, a guide bar having a recess in its under side in which the stem is slidable, a spring housed in said stem and bearing against the same and against the bottom of said recess, to maintain the valve plate normally seated, a second valve plate seating over the ports in the first valve plate, said second valve plate having a hollow stem concentric with and slidable on the first-named stem, said guide bar having a second recess to receive the stem of the second valve when said valve is lifted, and a spring acting against the guide bar and said second valve plate to maintain the latter normally seated, said valve plate having on its underside an annular groove dovetailed in cross section, which groove surrounds the port opening in the valve seat, and a gasket of leather and gutta percha filler inserted into said groove and projecting below the face of the valve plate and seating on the valve seat.

976,011. TIRE-PROTECTIVE ARMOR. ARTHUR GALE THOMSON, San Francisco, Cal., assignor of one-half to Albert Sutton, San Francisco, Cal. Filed Nov. 3, 1909. Serial No. 526,012.



A tire armor, comprising a flexible protective strip to embrace the tire, and metallic plates secured to said strip, said plates being relatively thin and substantially flat having the corner portions of one surface at one end recessed with an intermediate portion of the full thickness of the plate extending forward of the edge of said plate to form a projecting tongue; the opposite surface of the other end of the plate being correspondingly recessed across said end and the surface of the plate at this end thereof having a depression in line with the tongue portion at the opposite end of the plate and adapted to receive a corresponding tongue of an adjacent plate, said protective strip serving as a backing for the metal plates, and being rigidly connected to the latter, and the tongue and corresponding recessed portions forming a joint about locking said segments in relation to the roll section.

976,012. ROAD-ROLLER. MARQUIS J. TODD, Buffalo, N. Y., assignor to Buffalo Steam Roller Company, Buffalo, N. Y., a Corporation of New York. Filed Mar. 9, 1910. Serial No. 548,283.



1. A road-roller having front and rear carrying wheels, a roll designed to fit between the front carrying wheels

and to form with the latter a front roll, and means carried by said roll for detachably securing it in place.

2. A road-roller having its steering roll composed of three sections of corresponding diameters, and means for permitting the central section to be removed, the other sections remaining in position.

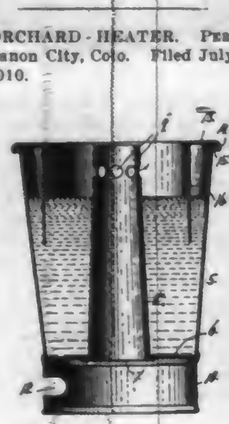
3. A road-roller having its steering roll composed of two end sections and a central section, all of said sections being of corresponding diameters, an axle common to the three sections, and means detachably securing said central section to said axle to permit it to be removed while the other sections remain on the axle.

4. A road-roller having its steering roll provided with a removable roll-section, an axle therefor, a segment of said roll-section being removable to form a passage-way for the axle to permit the roll-section to be positioned on or removed from said axle, means detachably locking said segment, and means for retaining the roll section on the axle.

5. A road-roller having its steering roll provided with a removable section, an axle therefor, said section having an axle sleeve, a segment of said roll-section and a segment of said sleeve being removable, and means for detachably locking said segments in relation to the roll section.

[Claims 6 to 9 not printed in the Gazette.]

976,013. ORCHARD-HEATER. PERCIVAL HAMMER TROUTMAN, Canon City, Colo. Filed July 10, 1909. Serial No. 507,010.

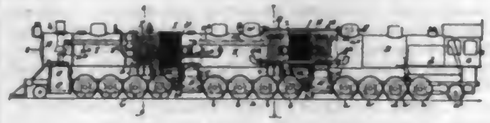


1. The combination with a liquid fuel receptacle, of an open ended chimney for feeding air to the surface of the liquid fuel, an attachment for reducing the surface area of the liquid exposed to the atmosphere, and consisting of a removable device engaging the outer edge of the receptacle, extending inwardly partially closing the top of the receptacle, and having a depending annular member, extending into the receptacle a suitable distance for the purpose set forth.

2. The combination with an orchard heater including a receptacle for liquid fuel, of an open ended chimney for feeding air to the surface of the liquid fuel extending centrally through the receptacle, a removable attachment adapted to rest upon the outer edge of the receptacle, partially closing the top of the receptacle, and having an annular depending member of suitable length extending into the receptacle, for reducing the surface area of the liquid exposed to the atmosphere, substantially as described.

3. The combination with an orchard heater including a liquid fuel receptacle, an open ended chimney for feeding air to the surface of the liquid fuel, a circumferential bead at the top of the receptacle, and a removable attachment having a flange adapted to yield sufficiently to slip over the bead for retaining purposes, the said attachment being supported upon the upper edge of the receptacle extending into the latter partially closing the top thereof, and having a depending annular member extending downwardly into the receptacle for reducing the surface area of the liquid exposed to the atmosphere, substantially as described.

976,014. ARTICULATED LOCOMOTIVE. SAMUEL M. VAUCLAIN, Philadelphia, Pa., assignor to Baldwin Locomotive Works, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Oct. 9, 1909. Serial No. 521,904.



1. The combination in a locomotive, of three frames pivotally connected one to another, each frame carrying a boiler section, said boiler sections being flexibly connected and each frame carrying independent cylinders and driving mechanism.

2. The combination in a locomotive, of three frames pivotally connected one to another, a boiler section mounted on each frame, said boiler sections being flexibly connected one to another, each frame carrying independent cylinders and driving mechanism, and pipes leading from the boiler sections to the several cylinders, said pipes being within the boiler.

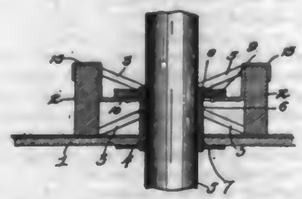
3. The combination in a locomotive, of three frames pivotally connected one to another, boiler sections carried by said frames, a high pressure cylinder mounted on the rear frame, an intermediate cylinder mounted on the intermediate frame, a low pressure cylinder mounted on the forward frame, with pipes connecting the several cylinders, and driving gear on each frame.

4. The combination in a locomotive, of three frames, the frames being pivotally connected one to another, a boiler section on each frame, said boiler sections being flexibly connected, a high pressure cylinder on the rear frame, an intermediate cylinder on the intermediate frame, a low pressure cylinder on the forward frame, driving mechanism connected with the several cylinders, a superheater mounted between the main boiler and the high pressure cylinder, a re-heater between the high pressure cylinder and the intermediate cylinder, a re-heater mounted between the intermediate cylinder and the low pressure cylinder, and pipes connecting the several superheaters and re-heaters with their respective cylinders.

5. The combination in a locomotive, of three frames pivotally connected, a high pressure cylinder on one frame, an intermediate cylinder on another frame, a low pressure cylinder on the third frame, a boiler section mounted on the frame carrying the high pressure cylinder, an auxiliary boiler rigidly mounted on the frame carrying the intermediate cylinder, a feed water heater rigidly mounted on the frame carrying the low pressure cylinder, connections for the said cylinders extending through the boiler sections, with flexible connections coupling the several sections of the boiler, said couplings inclosing the intermediate combustion chambers.

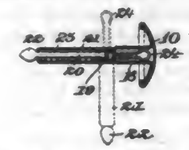
[Claims 6 and 7 not printed in the Gazette.]

976,015. STOVEPIPE-HOLDER. JOHN S. R. WALKER, Forestburg, Tex. Filed Feb. 6, 1909. Serial No. 476,420.



As a new article of manufacture, a stove pipe holder comprising spaced inner and outer plates, a stove pipe supporting thimble extending through the said plates, the said thimble being formed at its inner end to provide a bead which bears against the said inner plate to prevent longitudinal movement in one direction of the said thimble, and a pair of parallel hangers secured to the inner face of the inner plate and formed to provide alining hooked extremities.

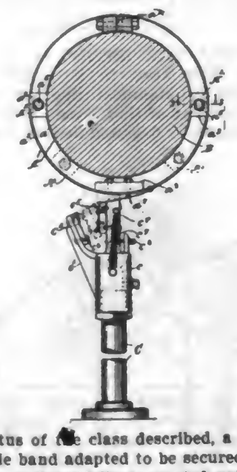
976,016. STUD. HENRY C. WARD, Newark, N. J. Filed Aug. 24, 1908. Serial No. 449,886.



1. A stud comprising a head with a post on the back thereof, a pivotal pin at the end of the post, a shank having a bearing intermediate of its ends to receive the pivotal pin, the shank having a penetrating point on one end and being looped on the other end, the loop being adapted to engage the pin to act as a pivot for the shank and being adapted to engage the inner walls of the tubular post when the shank and the post are in line, the shank from the loop to the bearing being split to permit the passage of the pivotal pin, a barrel on the pivotal pin and embracing the shank, and a spring inside the barrel and surrounding the shank, the spring having one end abutting on the bearing and the other end engaging the barrel.

2. A stud comprising a head with a hollow post on the back thereof, a pivotal pin at the end of the post, a barrel arranged to swing in its relation to the post so as to be arranged in extension thereof or transversely thereof, a shank adapted to slide within the barrel and within the post, a head on the shank projecting from the end of the barrel to provide for the manipulation of the shank, the shank being adapted to be withdrawn into the barrel when the barrel is to be swung from one position to another, the shank holding the barrel in extension of the post when the shank is slid within the post, and a spring surrounding the shank and within the barrel, the spring abutting on the barrel and on the shank to normally force one end of the shank from the barrel, the head on the shank limiting the movement of the shank by the spring by engaging the end of the barrel.

976,017. SPEED-LIMITING APPARATUS. FRED W. WATERMAN, Elyria, Ohio. Filed Mar. 31, 1909. Serial No. 486,996.



1. In apparatus of the class described, a governor comprising a flexible band adapted to be secured to a rotating part at two circumferentially separated points lying in a plane transverse to the axis of said part, the portion of said band between such points being free to move outwardly under the influence of centrifugal force.

2. In apparatus of the class described, a governor comprising a flexible band adapted to be secured to a rotating part at two circumferentially separated points lying in a plane transverse to the axis of said part, located an adjustable distance apart, the portion of said band between such points being free to move outwardly under the influence of centrifugal force.

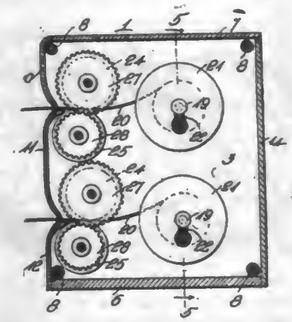
3. In apparatus of the class described, a governor comprising two discontinuous circular bands, one within the other, means for drawing the free ends of said bands together to secure the same to a shaft or like rotating part and blocks adjustably secured between said bands whereby a variable portion of the outer band may be left free to move outwardly under the influence of centrifugal force.

4. In apparatus of the class described, a governor comprising two discontinuous circular bands, one within the other, means for drawing the free ends of said bands together to secure the same to a shaft or like rotating part, blocks slidably mounted between said bands, means for securing said blocks to said bands to leave a variable portion of the outer band free to move outwardly under the influence of centrifugal force, and a weight attached to such portion of said outer band.

5. In apparatus of the class described, a governor comprising two discontinuous circular bands, one within the other, means for drawing the free ends of said bands together to secure the same to a shaft or like rotating part, blocks slidably mounted between said bands, means for securing said blocks to said bands to leave a variable portion of the outer band free to move outwardly under the influence of centrifugal force, a weight attached to the inner face of such outer band portion, and a lug attached to the outer face of such portion adjacent to said weigh

[Claim 6 not printed in the Gazette.]

976,018. STAMP HOLDING AND DELIVERING CABINET. EDWARD OTIS WEBB, Jr., San Jose, Cal. Filed Feb. 10, 1910. Serial No. 543,068.

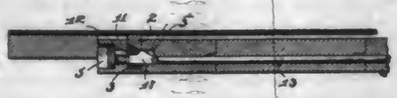


In a stamp holding and delivering device, a cabinet, supporting frame, stamp rolls revolubly mounted in sa frame, pairs of revolubly mounted stamp feeding rolle adapted to unreel and feed said stamps from the cabine an operating handle connected with the shaft of the upp feed roller of said pairs, gears to connect said rollers t gether whereby the movement of the driven upper roller imparted to the lower roller, a ratchet wheel fixed on th shaft of said upper roller, a spring projected pawl adapte to engage the teeth of said ratchet wheel to hold the upp roller against retrograde movement, a lifting rod connecte with said pawl and having its free end projecting throug said frame and casing whereby the pawl may be disengage from said ratchet wheel to permit the rollers to be turne backward.

976,019. ATTACHMENT FOR DRAWING-BOARD JEWELL W. WELLS, Washington, D. C. Filed Sept. 1909. Serial No. 515,749.

1. In a device of the character described, the combin tion with a drawing board, of an instrument supporti

frame, mounted therein and normally retained with its upper surface flush with the drawing surface of said board, and means for raising said frame above and parallel with said drawing surface.



2. In a device of the character described, the combination with a drawing board, of an instrument supporting frame within said board, means for manually raising said frame above and parallel with the plane of the drawing surface of the board to support an instrument spaced therefrom, and means for automatically returning said frame to a position with its upper surface flush with the drawing surface.

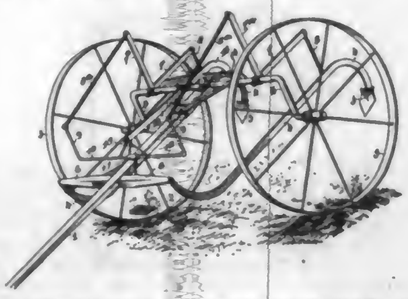
3. In a device of the character described, the combination with a drawing board, of an instrument supporting frame mounted therein, means slidable through said board for raising said frame above and parallel with the drawing surface of said board, and means for returning said frame to its original position.

4. In a device of the character described, the combination with a drawing board having a grooved surface, of an instrument support slidably mounted in said groove and normally retained flush with said surface, and means for raising said support above and parallel with said surface.

5. In a device of the character described, the combination with a drawing board, of an instrument support carried thereby and normally retained flush with the drawing surface thereof, and means for raising said support above and parallel with said drawing surface to space an instrument from said board.

[Claims 6 to 13 not printed in the Gazette.]

976,020. CULTIVATOR. WILLIAM S. WILBURN, Simmons, Mo. Filed July 28, 1910. Serial No. 574,416.



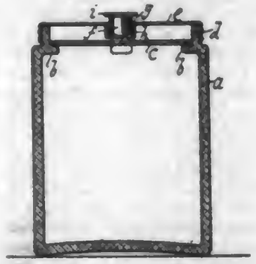
1. A cultivator comprising an axle, running wheels, and a tongue, plow-carrying beams pivotally connected with the tongue, right angular levers journaled on the axle, a rock-shaft journaled on the tongue, and chains connecting the said levers with the plow-beams and rock-shaft, and a bar for locking and adjusting the rock-shaft, the same being attached thereto and extended rearwardly over the axle and adapted to be engaged with the same, substantially as described.

2. The combination with an axle, running wheels, a tongue, and plow-carrying beams pivotally connected with the latter, of levers adapted to rock on the axle, a rock-shaft journaled on the tongue, and means operatively connecting it with the lever and the lever with the plow-beams, and a device attached to the shaft and adapted to rock the same when pushed forward or retracted, said device being adapted for engagement with a fixed attachment of the axle for locking it in any required position.

3. The combination with an axle, running wheels, a tongue, and plow-beams pivotally connected with the latter, of rocking levers mounted on the axle, a rock-shaft pivoted on the tongue and thus adapted to swing in a horizontal plane, and an adjusting and locking device attached to the rock-shaft and adapted to swing the same laterally when adjusted to the right or left, and means for operatively connecting the lever with the rock-shaft and plow-beams, substantially as described.

4. The combination with an upwardly bent axle, running wheels mounted thereon, a tongue rigidly attached to the axle, plow-beams pivotally connected with the same in front of the wheels, a rock-shaft provided with arms and journaled and pivoted on the tongue whereby it is adapted to rock on its axis and to swing horizontally, an adjusting bar pivotally connected with the axle and adapted to rock or swing on the same as may be required, and means connected with the rock-shaft arms for raising and lowering the plow-beams, as shown and described.

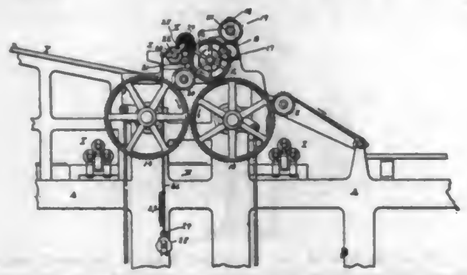
976,021. JAR OR RECEPTACLE. RAPHAEL H. WOLFF, New York, N. Y. Filed June 22, 1910. Serial No. 568,365.



1. A device of the kind described, comprising a receptacle having an interior projection situated below the top of the jar, a cover placed in the mouth and adapted to sit on the projection, an outer cover attached to the neck of the receptacle, said inner cover having a spacer formed on the cover, and a screw cap on the outer cover to coact with the spacer and force the inner cover tightly down on to the projection.

2. A device of the kind described, comprising a receptacle having an interior projection situated below the top of the jar, a cover placed in the mouth and adapted to sit on the projection, an outer cover provided with a threaded tubular opening attached to the neck of the receptacle, said inner cover having a spacer formed on the cover, and an adjustable screw cap to engage the threaded opening in the outer cover and coact with the spacer to force the inner cover tightly down on to the projection.

976,022. OFFSET-PREVENTING DEVICE. HENRY A. WISE WOOD, New York, N. Y., assignor to Campbell Printing Press and Manufacturing Company, New York, N. Y., a Corporation of New York. Filed May 21, 1896, Serial No. 592,476. Renewed Jan. 6, 1906. Serial No. 294,922.



1. The combination in a sheet perfecting printing press of two impression cylinders, a reciprocating bed coöperating therewith, a transfer mechanism for conveying the sheets from one impression cylinder to the other, and means for depositing a set-off preventing medium on the first printed side of the sheets, while the same are being transferred consisting of a receptacle and an applying surface and means for moving the applying surface into operative position when a sheet is in place on the transfer mechanism.

2. The combination in a sheet perfecting printing press of two impression cylinders, a reciprocating bed coöperating therewith, means for transferring sheets from one impression cylinder to the other, an applying surface for depositing a set-off preventing medium on the sheets while they are being transferred, means for moving the applying surface into and out of operative position and a wiping mechanism for removing the offset preventing material.

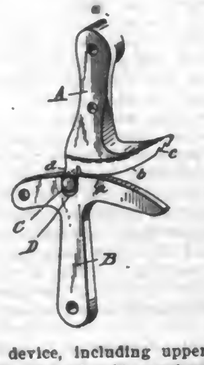
3. The combination in a sheet perfecting printing press of two impression cylinders, a reciprocating bed coöperating therewith, a transfer mechanism for transferring sheets from one impression cylinder to the other impression cylinder, a receptacle containing a roller, a rotary brush coacting with said roller and arranged to move about the center thereof, means for operating the brush to bring the same into operative position to deposit set-off preventing material on the first printed side of the sheets while they are being conveyed and a wiping mechanism for removing the set-off preventing material.

4. The combination in a sheet perfecting printing press of two impression cylinders, a reciprocating bed coöperating therewith, two transfer cylinders for guiding or leading the sheets from one impression cylinder to the other, and means for depositing a set-off preventing medium on the first printed side of the sheets while the same are on the second transfer cylinder, consisting of a reservoir, an applying surface, and mechanism for moving the applying surface into operative position when a sheet is in position on the second transfer cylinder.

5. The combination in a sheet-perfecting printing press of two impression cylinders, a reciprocating bed coöperating therewith, two transfer cylinders, a rotary brush for depositing a set-off preventing medium on the sheets while they are on the second of said transfer cylinders, means for moving the brush into and out of operative position, and a wiping mechanism consisting of an apron engaging said transfer cylinder and moving in opposition thereto.

[Claim 6 not printed in the Gazette.]

976,023. TRIMMING MECHANISM FOR SEWING-MACHINES. RUSSEL G. WOODWARD, Waukegan, Ill., assignor to Union Special Sewing Machine Co., Chicago, Ill., a Corporation of Illinois. Filed Apr. 7, 1904, Serial No. 202,049. Renewed May 17, 1910. Serial No. 561,902.



1. A trimming device, including upper and lower cooperating members, one of said members having a surface so disposed relative to the other member as to partially sever the material, and a surface so disposed relative to the other member and acting subsequently to said first named surface as to completely separate the material; substantially as described.

2. A trimming device, including upper and lower cooperating members, one of said members having a sharp cutting surface so disposed relative to the other member as to partially sever the material, and an abrading surface in rear of the sharp cutting surface for completely severing said material; substantially as described.

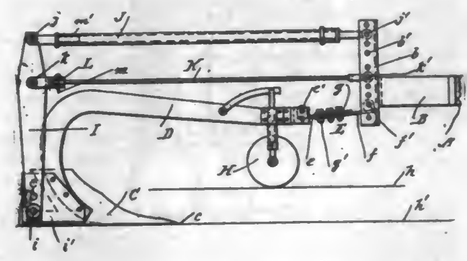
3. A trimming device, including upper and lower cooperating members, one of said members having a surface so disposed relative to the other member as to partially sever the material, and a relatively blunt surface so disposed with respect to the other member and acting subsequently thereto, as to completely separate the material; substantially as described.

4. A trimming device including upper and lower cooperating members one of said members having a surface so disposed relative to the other member as to partially sever the material and a surface so disposed relative to the other member and acting subsequently to said first named surface as to completely separate the material said severing surface being in advance of said separating surface, and closely adjacent thereto, whereby said surfaces may act simultaneously upon the material; substantially as described.

5. A trimming device including upper and lower cooperating members, one of said members having a sharp cutting surface so disposed relative to the other member as to partially sever the material and an abrading surface in rear of the sharp cutting surface for completely severing said material, said sharp cutting surface and said abrading surface being located closely adjacent to each other, whereby said surfaces may act simultaneously upon the material; substantially as described.

[Claims 6 to 14 not printed in the Gazette.]

976,024. DRAFT APPLIANCE FOR PLOWS. GUSTAF ARVID ANDERSON, Waynesboro, Pa. Filed Dec. 3, 1909. Serial No. 531,180.

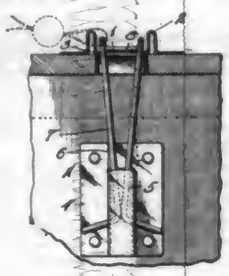


1. The combination, with a draft-member, of a plow, plow-beam having its rear end rigidly secured to the sa plow, a slidable coupling between the front end of t plow-beam and the draft-member, a pushing-bar pivot to the rear part of the plow behind its point, draft-ro arranged at different levels and pivotally connected wi the said pushing-bar and draft-member, and means f supporting the front end portion of the plow-beam.

2. The combination, with a draft-member, of a pl provided with a plow-beam, a slidable coupling betwe the plow-beam and the draft-member, a pushing-bar p oted to the rear part of the plow behind its point, strut pivoted between the upper parts of the pushing-b and the draft-member, a tie-bar arranged below the s strut and also pivoted between the pushing-bar and draft-member and provided with a frangible joint, a means for supporting the front end portion of the plo beam.

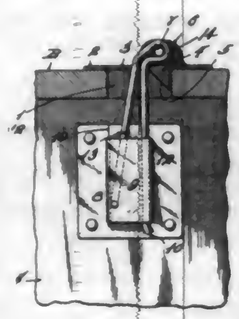
3. The combination, with a draft-member, of a plow plow-beam having its rear end rigidly secured to plow and having its front end operatively connected w the said draft-member, and jointed bars operatively c nected with the said draft-member and pivoted to rear end portion of the plow behind its point and ad cent to its bottom surface.

976,025. BOX-FASTENER. CHARLES W. BEEHLER, St. Louis, Mo. Filed Jan. 31, 1910. Serial No. 541,080.



In a box fastener, the combination with a plate on which is formed a housing, and there being apertures formed in the side walls of the housing, of a spring catch formed of a single length of wire bent double, a hook on the upper end of the catch, and the ends of the wire forming said catch being bent outward and extending through the apertures formed in the side walls of the housing on the plate.

976,026. BOX-FASTENER. CHARLES W. BEEHLER, St. Louis, Mo. Filed Mar. 14, 1910. Serial No. 549,338.

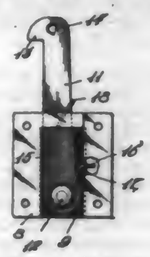


1. In a box fastener, a base plate on which is formed a housing, strips integral with the base plate above and below the housing and which strips occupy the same plane with the base plate, and a spring catch formed of a single piece of wire bent double one of the legs of which spring catch extends through the housing in front of the strips on the base plate, and the end of the opposite leg of the spring being bent laterally and extends through an opening in the housing.

2. In a box fastener, a base plate on which is formed a housing, strips integral with the base plate above and below the housing and which strips occupy the same plane with the base plate, a spring catch formed of a single piece of wire bent double one of the legs of which spring catch extends through the housing in front of the strips on the base plate, and the end of the opposite leg of the spring being bent laterally and extends through an opening in the housing, and there being a laterally projecting loop formed at the center of the length of wire forming the spring catch.

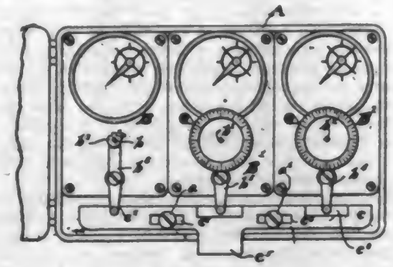
976,027. BOX-FASTENER. CHARLES W. BEEHLER, St. Louis, Mo. Filed Mar. 14, 1910. Serial No. 549,339.

In a box fastener, the combination with a base plate on which is formed a housing, of a catch hook pivotally mounted in said housing, and a U-shaped spring, one end of which is seated in an aperture in the housing, and the



opposite end bearing against the rear side of the catch hook.

976,028. TIME-LOCK-ACTUATING MECHANISM. EDGAR MORTON BENHAM, Cincinnati, Ohio, assignor to The Bankers' Dust Proof Time Lock Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Jan. 13, 1908. Serial No. 410,652.



1. In a time-lock device the combination of a plurality of time movements; a throw-bar composed of corresponding plates arranged to be moved independently in relation to one another; and operative connections between each plate and one of the time movements whereby the plates may be moved synchronously, or independently.

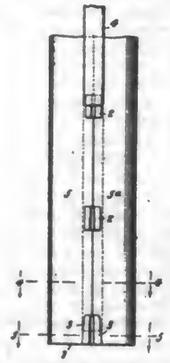
2. A time actuating mechanism comprising a plurality of time movements, a throw bar formed of as many plates as there are movements, and each plate connected to one movement only, and levers and dogs adapted to make each of the said connections and transmit power to the throw bar.

3. A time actuating mechanism comprising a plurality of time movements, each adapted to be connected to a throw bar formed of a series of plates by means of a disk shaped dog having a projection, and a part cut away near the projection, and a lever adapted to be operated by the movement of said dog and transmit power to said throw bar, formed of a series of plates.

4. A time actuating mechanism comprising a plurality of time movements adapted to be connected to a throw bar formed of a series of plates, by means of a disk shaped dog, having a projection, and a part cut away near the projection and a lever adapted to be operated by the movement of said dog, and transmit power to said throw bar, each time movement being connected to only one plate of the throw bar and capable of operating only its plate and not interfering with the operation of the others, and any one of the plates of the throw bar being adapted to operate the tripping mechanism of a motor used to retract safe bolts.

976,029. SHEET-METAL PIPE. HENRY BIRNBAUM, Rapid City, S. D. Filed Feb. 8, 1910. Serial No. 542,816.

A stove-pipe section having one end contracted for telescopic engagement with another section and its opposite end made of slightly greater diameter, one of the longitudinal edges being bent backward and then reversely, thus forming an underlying flap adapted when the section is closed to extend under the opposite edge, the body of said section being provided with oppositely disposed hooks along its longitudinal edges and other hooks 3 located at



the larger end of the section, their edges being inclined so as to diverge toward the said larger end of the section, and a locking device adapted for sliding engagement with all the hooks, the same consisting of a sheet metal strip having its edges curved inward and arranged at a uniform distance apart, as shown and described.

976,030. GAGE-GLASS. FRED R. BISPHAM, Bemidji, Minn. Filed Feb. 1, 1910. Serial No. 541,302.



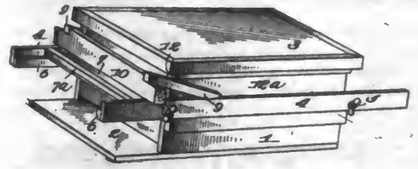
1. A gage tube having a metal tubular piece in one end thereof, the bores of the tube and piece being the same, and lugs pressed out from the said piece and embedded in the tube for anchoring the said piece in the latter.

2. A gage glass consisting of a tubular body, a tubular netting embedded therein, and a protecting thimble molded within the body at one end of the bore thereof.

3. A gage glass consisting of a tubular body, a tubular netting embedded in the body and extending from one end thereof to a point short of the other end, and a metal tubular protecting device arranged within the body at the end thereof and concentric within and in overlapping relation to the netting, said tubular body being molded around the protecting device.

976,031. BEEHIVE ATTACHMENT. SAMUEL BLAGG, Erie, Ill. Filed Sept. 21, 1910. Serial No. 583,028.

1. The combination, with a bee-hive body having bars secured to its sides in horizontal position and extending from the ends thereof, and a super provided adjacent to its ends with lateral projections or shoulders, of a wedging device comprising parallel arms and a transverse connecting bar, the said arms being adapted to rest and slide on the clamp-bars and in contact with the shoulders of the super, and the connecting bar being extended to a length sufficient to adapt it to also rest and slide on the clamp-bars, substantially as described.



2. The combination, with a hive body and a super, of means for lifting the super and thus detaching it from the body, such means comprising horizontal supports extending along the body of the hive and from the end thereof, and a wedging device adapted to rest and slide on said bars in engagement with the super, substantially as described.

3. The combination, with the hive body and super, the former having lateral and end guideways and the latter provided with lateral shoulders adjacent to its ends, of the wedging device comprising a transverse bar and parallel arms spaced apart and arranged to embrace the sides of the super, as shown and described.

4. The combination, with a hive body and a super adapted to rest thereon and guideways formed of bars projecting horizontally from the ends of the body, of a stop-board adapted to slide on the guideways and to be inserted beneath the super when raised, said stop-board being provided at its outer edge with a transverse shoulder, substantially as described.

5. The combination, with a super having lateral shoulders and a hive body provided with lateral bars secured thereto in a horizontal position and extending from the ends of the hive, of a wedging device adapted to rest on the bars and for insertion between them and the shoulders of the super, and a stop-board adapted for slidable support on the guideways and for insertion beneath the super when raised, substantially as described.

[Claim 6 not printed in the Gazette.]

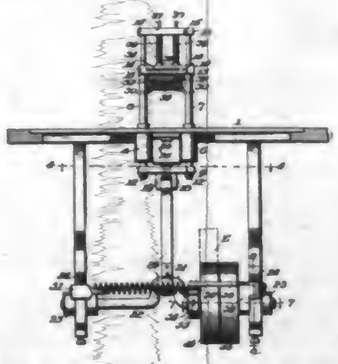
976,032. DRIP-CUP FOR UMBRELLAS. JOHN T. BLUFF, Butte, Mont., assignor of one-half to Frank F. Hays, Butte, Mont. Filed Apr. 28, 1910. Serial No. 558,154.



1. A drip cup for umbrellas having top and bottom plates and an accordion plaited receptacle connecting the same, substantially as set forth.

2. A drip cup for umbrellas having end portions for connection with the extended end of an umbrella staff and provided with an accordion plaited portion between said end portions and forming a receptacle, substantially as set forth.

976,033. NEEDLING-MACHINE. DELMONT SEYMOUR BROWN, Watertown, N. Y. Filed Apr. 16, 1909. Serial No. 490,249.



1. A machine of the class described, comprising a table provided with a circular opening, a turn table rotatably mounted in the opening, a needling frame slidable vertically in the turn table and rotatable therewith, said frame comprising a pair of side rods, cross bars at the ends of the side rods, said turn table being provided with sleeves, through which the side rods slide, said sleeves being extended to form guides for the frame, an intermediate cross bar connecting the side rods, a plurality of needles detachably connected with said intermediate cross bar, said needles being arranged in spaced relation and having at their points downwardly projecting barbs, a reinforcing sleeve for each of the needles, a plate arranged below the intermediate cross bar and provided with openings through which the needles project, said plate being mounted for yielding movement in an upward direction, a pitman having at one end a swivel connection with the needling frame, a shaft provided with a cranked portion to which the other end of the pitman is connected, stops on the table, a spring for normally retaining the turn table with the sleeves in contact with the stops, and a frame for supporting the article to be needled, said frame comprising inner and outer hooped portions hinged together, one of said portions fitting within the other portion, said frame being of approximately the shape of the article to be formed adapted to oscillate the needling frame when moved therethrough.

2. A machine of the class described, comprising a table provided with a circular opening, a turn table rotatably mounted in the opening, a needling frame slidable vertically in the turn table and rotatable therewith, said frame comprising a pair of side rods, cross bars at the ends of the side rods, and a cross bar intermediate the ends, said turn table being provided with sleeves through which the side rods slide, a plurality of needles detachably connected with the intermediate cross bar, said needles being arranged in spaced relation, and having at their points downwardly projecting barbs, a reinforcing sleeve for each of the needles, a plate arranged below the intermediate cross bar and provided with openings through which the needles project, said plate being mounted for yielding movement in an upward direction, means for imparting a vertical reciprocating motion to the needling frame, stops on the table, a spring for normally retaining the turn table with the sleeves in contact with the stops, and a frame for supporting the material to be needled, said frame comprising inner and outer hooped sections hinged to each other, the inner section fitting within the outer section, said frame having approximately the shape of the article to be formed adapted to oscillate the needling frame when moved therethrough.

3. A machine of the class described, comprising a turn table mounted for rotation in a horizontal plane, a needling frame slidable vertically in the turn table and rotatable therewith, said frame comprising a pair of side rods, cross bars at the ends of the side rods, and a cross bar intermediate the ends of the side rods, a plurality of needles detachably connected with said intermediate cross bar, said needles being arranged in spaced relation and having at their points downwardly projecting barbs, a reinforcing sleeve for each of the needles, a plate arranged below the intermediate cross bar, and mounted for yielding movement in an upward direction, said plate being provided with openings through which the needles project, means for reciprocating the frame in a vertical direction, stops for limiting the rotation of the turn table in one direction, a spring normally retaining the turn table in contact with the stops, and a frame for supporting the material to be needled, said frame having approximately the shape of the article to be formed adapted to oscillate the needling frame when moved therethrough.

4. A machine of the class described, comprising a turn table mounted for rotation in a horizontal plane, a needling frame slidable vertically in the turn table and rotatable therewith, said frame comprising a pair of side rods, cross bars at the ends of the side rods, and a cross bar intermediate the ends of the side rods, a plurality of needles detachably connected with said intermediate cross bar, said needles being arranged in spaced relation and having at their points downwardly projecting barbs, a plate arranged below the intermediate cross bar, and mounted for yielding movement in an upward direction, said plate being provided with openings through which the needles project, means for reciprocating the frame in a vertical direction, stops for limiting the rotation of the turn table in one direction, a spring normally retaining the turn table in contact with the stops, and a frame for supporting the material to be needled, said frame having approximately the shape of the article to be formed adapted to oscillate the needling frame when moved therethrough.

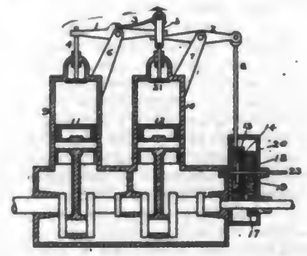
5. A machine of the class described, comprising a turn table mounted for rotation in a horizontal plane, a needling frame slidable vertically in the turn table, and rotatable therewith, said frame comprising a pair of side rods, cross bars at the ends of the side rods, and a cross bar intermediate the ends of the side rods, a plurality of needles detachably connected with said intermediate cross bar, said needles being arranged in spaced relation and having at their points downwardly projecting barbs, a stripping plate arranged below the intermediate cross bar and mounted for yielding movement in an upward direction, said plate being provided with openings through which the needles project, means for reciprocating the frame in a vertical direction, means for limiting the movement of the table in one direction, means for permitting a yielding movement of the table in the opposite direction, and a frame for supporting the material to be needled, said frame having approximately the shape of the article to be formed adapted to oscillate the needling frame when moved therethrough.

[Claims 6 to 21 not printed in the Gazette.]

976,034. GAS-ENGINE. JESSE B. BROWN, Belding, Mich. Filed July 2, 1908. Serial No. 441,522.

1. In combination, a lever having one extremity operatively connected with the exhaust valve of one cylinder of an explosive engine, and its opposite extremity in operative relationship with one extremity of a second lever; a spring having one extremity attached to said second lever and the other connected with the stem of the exhaust valve of a second engine cylinder and adapted, when compressed, to close said exhaust valves, with means for giving motion to said system of levers, substantially as described.

2. In combination, a lever fulcrumed between its extremities, and having one extremity operatively connected with the exhaust valve of one cylinder of an explosive engine, and its opposite extremity in operative relationship with one extremity of a second lever similarly fulcrumed; a spring having one extremity attached to said lever, and the other to the stem of the exhaust valve of a second engine cylinder and adapted, when compressed, to close said exhaust valves, with means for giving motion to said system of levers, substantially as described.



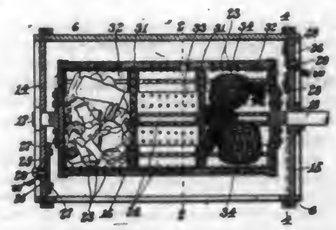
3. In combination, a lever fulcrumed between its extremities, and having one extremity operatively connected with the exhaust valve of one cylinder of an explosive engine, and its opposite extremity in operative relationship with one extremity of a second lever similarly fulcrumed; a spring having one extremity attached to said lever, and the other to the stem of the exhaust valve of a second engine cylinder and adapted, when compressed, to close said exhaust valves, with means for giving motion to said system of levers, and a link connecting said means with said second lever, substantially as described.

4. In combination, two levers fulcrumed between their extremities and having their contiguous extremities mounted upon the exhaust valve stem of a gas engine, a spring adapted to press said contiguous extremities against said valve stem, and said levers together, with means for giving motion to said levers, substantially as described.

5. In combination, two levers fulcrumed between their extremities and having their contiguous extremities mounted upon the exhaust valve stem of a gas engine, the opposite extremity of one of said levers operatively connected to the exhaust valve of a gas engine cylinder, and the opposite extremity of the other lever connected to means for giving motion to said levers, with a spring adapted to press the contiguous extremities of said levers against the exhaust valve stem upon which they are mounted, substantially as described.

[Claims 6 to 15 not printed in the Gazette.]

976,035. PROCESS OF WASHING CLOTHES. GEORGE D. BURTON, Boston, Mass. Filed Oct. 12, 1906, Serial No. 338,571. Renewed Apr. 1, 1910. Serial No. 552,800.

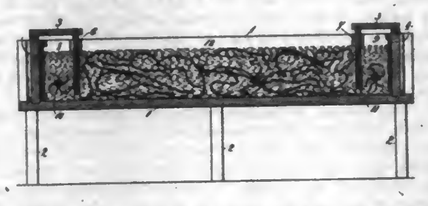


1. The process of washing clothes which comprises confining the clothes in separate compartments in a receptacle revoluble in a tank containing water, adding to said water a quanity of chlorid of sodium, subjecting said solution to the action of an electric current, increasing the temperature of the solution to not above 90° F., adding thereto a soapy substance, and again subjecting the solution to the action of an electric current.

2. The process of washing clothes which comprises confining the clothes in separate compartments in a receptacle revoluble in a tank containing water, adding to said water a quantity of chlorid of sodium, subjecting said solution to the action of an electric current, adding suitable salts to the solution to cause the current to pass through the articles to be cleansed, and adding thereto a soapy substance.

3. The process of washing clothes which comprises confining the clothes in separate compartments in a receptacle revoluble in a tank containing water, adding to said water a quantity of chlorid of sodium, subjecting said solution to the action of an electric current, adding suitable salts to the solution to cause the current to pass through the articles to be cleansed, adding thereto a soapy substance, and again subjecting the solution to the action of an electric current.

976,036. METHOD OF UNHAIRING AND TANNING HIDES OR SKINS. GEORGE D. BURTON, Boston, Mass. Filed Sept. 9, 1904, Serial No. 223,865. Renewed Apr. 1, 1910. Serial No. 552,901.



1. The method of treating hides or skins by electricity which consists in first placing the hides or skins in a solution of sal soda, then passing an electric current through said solution and causing the development of a gas which acts upon the fat or oil globules of the hides or skins and causes them to open and discharge their contents into the solution.

2. Method of treating hides or skins containing a fatty or oily substance, which consists in placing the same in a solution of sal soda and passing an electric current intermittently through the solution in said vat or tank containing said hides or skins.

3. The method of treating hides or skins by electricity, which consists in first placing the hides or skins in a solution of sal soda, then passing an electric current through said solution, and then agitating each end of said solution to produce a circulation thereof among said hides and skins.

4. The method of treating hides or skins by electricity, which consists in first placing the hides or skins in a solution of sal soda, then passing an electric current through said solution, and then agitating each end of said solution at points removed from said hides and skins to produce a circulation thereof among said hides or skins.

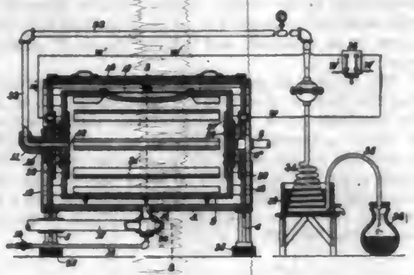
5. The method of treating hides or skins, which consists in first eliminating the oil from the fatty part of the hide or skin by subjecting it to the action of a current of electricity while immersed in a suitable electrolytic solution, then removing the hides or skins and fleshing them, then placing them in a weak acid solution to cleanse them, and then placing them in a tanning solution and subjecting them while thus immersed to the action of a current of electricity.

[Claims 6 to 8 not printed in the Gazette.]

976,037. PROCESS OF TREATING VEGETABLE MATTER. GEORGE D. BURTON, Boston, Mass. Filed Oct. 22, 1906, Serial No. 339,939. Renewed Apr. 1, 1910. Serial No. 552,904.

1. The process of treating vegetable matter, which consists in subjecting it to the action of a saponaceous solu-

tion containing an electrolytic chemical acid; then subjecting said solution and the matter contained therein to the action of an electric current; then subjecting said matter to the action of an oily solution; and then again subjecting it to the action of a saponaceous solution.



2. The process of treating vegetable matter, which consists in subjecting it to the action of a saponaceous solution containing an electrolytic chemical acid; then subjecting said solution and the matter contained therein to the action of an electric current; then subjecting said matter to the action of an oily solution; then again subjecting it to the action of a saponaceous solution; and then immersing the matter in a solution consisting of water and spirits.

3. The process of treating vegetable matter, which consists in subjecting it to the action of a saponaceous solution containing an electrolytic chemical acid; then subjecting said solution and the matter contained therein to the action of an electric current; then subjecting said matter to the action of an oily solution; then again subjecting it to the action of a saponaceous solution; and then immersing said matter in a solution consisting of water, castile soap, and spirits.

4. The process of treating vegetable matter, which consists in immersing it in a saponaceous solution containing an electrolytic chemical acid; subjecting said solution and the matter contained therein to the action of an electric current; then immersing said matter in an oily solution; and then again immersing it in a saponaceous solution.

5. The process of treating vegetable matter, which consists in immersing it in a saponaceous solution containing an electrolytic chemical acid; subjecting said solution and the matter contained therein to the action of an electric current; then immersing said matter in an oily solution; then again immersing it in a saponaceous solution; and then immersing said matter in a solution consisting of water and spirits.

[Claims 6 to 16 not printed in the Gazette.]

976,038. METER-BOX. JOEL WINKFIELD BUTTS, Monroe, Ga. Filed July 1, 1910. Serial No. 569,994.



1. In an apparatus of the class described, the combination of a supporting base provided with bosses having their faces oppositely beveled, a meter having connections provided with bosses having their faces beveled to correspond with and registering with the beveled surfaces of the bosses, and screws bearing on the bosses of the meter connections to clamp all the bosses together, all the bosses having registering openings.

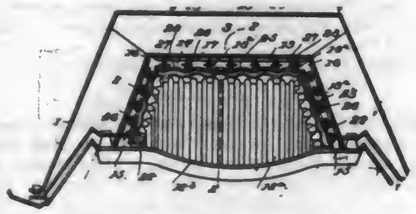
2. In an apparatus of the class described the combination with a base support, a meter, a connection between the base support and the meter including castings having their adjacent faces oppositely beveled, and means for clamping the castings to form a tight joint between the beveled surfaces.

3. In an apparatus of the class described, the combination of a base support, a bar extending across the base support and provided with an opening, the inner surface of the bar adjacent the opening being beveled, the supporting base having a member provided with a beveled surface in alinement with the beveled surface on the base support, the base support having an opening adjacent the beveled element thereon, a meter having members provided with beveled surfaces which correspond with the beveled surfaces on the base support, standards formed with threaded openings, and screws engaging the threaded openings and adapted to clamp the meter to the support to effect a tight joint between the beveled surfaces.

4. In an apparatus of the class described, the combination of a base support, provided with openings, the surfaces of the metal adjacent the openings being beveled, an arm adjacent each beveled surface, each arm being formed with a threaded opening in alinement with the beveled surfaces, a meter provided with members having beveled surfaces which correspond with the beveled surfaces on the base support, screws engaging the threaded openings in the arms and adapted to clamp the beveled surfaces together to form a tight joint.

5. In an apparatus of the class described the combination with a curb box made in sections, the lowermost section forming a base, and formed with a casting having an opening and a beveled surface adjacent the inner end of the opening, a standard having its upper end extending over the plane of the beveled surface and provided with a threaded opening, a pipe fitted in the outer end of the opening in the casting, a stop cock in the pipe, a boss extending from the base section and having an opening, a pipe communicating with the latter opening, the inner face of the boss adjacent the opening being beveled opposite to the bevel of the surface on the casting, an overhanging arm adjacent the boss, said arm having a threaded opening, a meter provided with bosses having beveled surfaces which correspond with the beveled surfaces on the base, and screws engaging the threaded openings and the bosses on the meter to hold said meter in the meter box.

976,039. HEATING-GRATE. EDWIN R. CAHOONE, Beechmont, Mass. Filed Jan. 25, 1908. Serial No. 412,653.



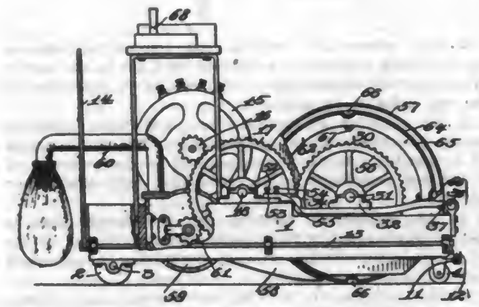
1. In a stove, the combination with a casing, a grate, a perforated lining spaced from the casing and the grate and provided with flanges which abut against said casing to form a series of channels and a member forming the bottom of the channels, said member having a series of openings for the admission of air to the channels, the channel flanges straddling the openings in the member.

2. In a stove, the combination with a casing, a grate, a frame supported above the grate, said frame having a series of depending spaced fingers and a series of perforations, a perforated lining supported on the frame and spaced from the casing and formed with flanges to provide a series of channels, said flanges straddling the openings in the frame to divide the air passing therethrough, means for supplying air to the bottom of the grate, a part of the air passing directly to the bottom of the fuel and part passing through the spaces between the fingers to the channels, and an exit flue located above the plane of the casing.

3. In a stove, the combination with a casing, a grate, a perforated frame supported above the grate and provided with outwardly projecting lugs which abut against the casing to form openings, said frame also having a perforated lining supported thereon, said lining having flanges which straddle the openings in the frame and abut against the casing to form a series of channels, and a flue to draw the air from below the grate and through the channels and the perforations in the lining to the fuel.

4. In a stove, the combination with a casing, a grate, a perforated corrugated lining supported above the grate and having flanges which abut against the casing to form a series of channels, the perforations in the lining being tapered toward the casing and inclining downwardly, a frame for supporting said lining provided with a series of fingers at the bottom of the lining, and a flange extending from the fingers and formed with cut away portions to provide openings for the admission of air to the channels, means for introducing air below the grate, and a flue for drawing the air through the perforated lining to the fuel.

976,040. FLOOR FINISHING AND POLISHING MACHINE. WILLIAM OWEN CANFIELD, Chattanooga, Tenn. Filed Apr. 29, 1908. Serial No. 429,959.



1. A machine of the class described comprising a portable carriage, an abrading roller, a pair of arms movable vertically with respect to the carriage and supporting said roller at points intermediate their ends, and adjustable fulcrums supporting the ends of said arms at one side of said roller for altering the elevation of said arms to adjust the roller with respect to the floor.

2. A machine of the class described comprising a portable carriage, an abrading roller, a pair of arms movable vertically with respect to the carriage and revolubly supporting said roller, adjustable fulcrums for said arms and a rock shaft mounted on the carriage and having projections coöperating with the respective arms at points thereon removed from said fulcrums for moving the arms vertically.

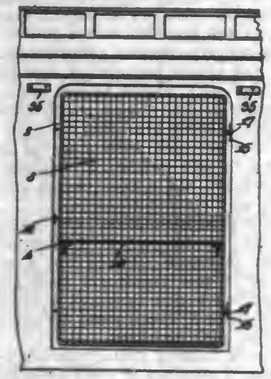
3. A machine of the class described comprising a portable carriage, an abrading roller, a pair of arms movable vertically with respect to the carriage and supporting said roller, the ends of said arms being provided on their under sides with recesses, and a rock shaft mounted on the carriage and having a pair of radial pins engaging in the recesses of said arms for varying the vertical elevation thereof.

4. A machine of the class described comprising a carriage, an abrading roller mounted for vertical movement on the carriage, and means for exerting yieldable force in a direction to counterbalance the weight of said roller.

5. A machine of the class described comprising a carriage, an abrading roller mounted for vertical movement thereon, means normally acting yieldingly to counterbalance the weight of said roller, and devices for varying the vertical elevation of the roller with respect to the carriage without varying the counterbalance of the roller.

[Claims 6 to 13 not printed in the Gazette.]

976,041. MAIL-BAG CATCHER. WILLIAM A. CARPENTER, Charlotte, N. C. Filed Mar. 4, 1910. Serial No. 547,344.



1. A combined door and mail bag catcher consisting of metal frames having reticulated metal fabric covers forming a door and a basket or catcher connected thereto, means for suspending the door and basket in the door opening of a car, and means adjacent to the track for suspending a mail bag in position to be detached therefrom by contact with the basket.

2. A mail bag catcher comprising a reticulated metal door, a reticulated adjustable basket or catcher connected to the frame, metal detaching loops connected to the upper side of the frame, means for adjusting the basket vertically in the frame, and a crane provided with an adjustable arm having means for detachably suspending a bag therefrom.

3. A mail bag catcher comprising a reticulated metal door frame and catcher, in combination with a crane comprising a post, a yoke secured to the post, a support pivoted to the yoke, an arm adjustable in the support, means for holding the arm in horizontal position, and means for yieldingly suspending a mail bag upon the outer end of the arm.

4. A mail bag catcher comprising a reticulated metal door having a curved basket or catcher adjustably connected thereto, means for hinging the door and basket in the door opening of a car, a crane provided with a pivoted arm, means for folding said arm in horizontal position, and means for supporting a mail bag on the outer end of the arm.

976,042. CRUCIBLE-HOLDING DEVICE. EDWARD P. CARR, Philadelphia, Pa., assignor of one-half to The William Cramp & Sons Ship & Engine Building Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed July 7, 1910. Serial No. 570,723.



1. In a crucible holding device, the combination with a device engaging the periphery of the crucible intermediate the ends thereof, of a retaining member engaging the up-

per end of the crucible, and means including a cam for locking said member to said device.

2. In a crucible holding device, the combination with a device engaging the periphery of the crucible intermediate the ends thereof and provided with a plurality of grasping members, of a retaining member engaging the upper end of the crucible, and means including a cam for locking the retaining member with respect to said device.

3. In a crucible holding device, the combination with an annular member adapted to engage the outer periphery of the crucible and provided with grasping portions, of a bracket secured to said member, a clamping member carried by said bracket, and a hook having one end adapted to co-act with said clamping member.

4. In a crucible holding device, the combination of an annular member, an arm extending therefrom, a second arm extending therefrom and having a forked end, a bracket secured to said member, a lever pivoted to said bracket and having a cam face, and a retaining member having one end thereof deflected and the other end adapted to be engaged by said cam face.

5. In a crucible holding device, the combination of an annular member, a plurality of arms extending therefrom, one of which has a forked end, a bracket secured to said member and provided with an aperture, a clamping lever pivoted in said aperture, and a hold back lever adapted to pass through said aperture and be engaged by said clamping lever, and the forward end of said hold back lever being deflected to engage one end of the article to which the device is secured.

[Claim 6 not printed in the Gazette.]

976,043. TREATMENT OF PRECIOUS METALLIFEROUS ORES. JOHN COLLINS CLANCY, New York, N. Y. Filed July 12, 1909. Serial No. 507,110.

1. The method of treating ore containing precious metals which consists in oxidizing a substantially nonacid solution containing thiocyanate and said ore.

2. The method of treating ore containing precious metals which consists in oxidizing a solution containing thiocyanate and the ore by means of ozone.

3. The method of treating ore containing precious metals which consists in oxidizing a substantially nonacid solution containing a thiocyanate and a cyanid containing said ore.

4. The method of treating ore containing precious metals which consists in oxidizing a solution containing a thiocyanate and a cyanid containing said ore by means of ozone.

976,044. TREATMENT OF PRECIOUS METALLIFEROUS ORES. JOHN COLLINS CLANCY, New York, N. Y. Original application filed July 12, 1909, Serial No. 507,110. Divided and this application filed Apr. 25, 1910. Serial No. 557,309.

1. The method of treating ore containing precious metals which consists in subjecting the ore to the action of a thiocyanate and a soluble halogen compound and oxidizing the mixture.

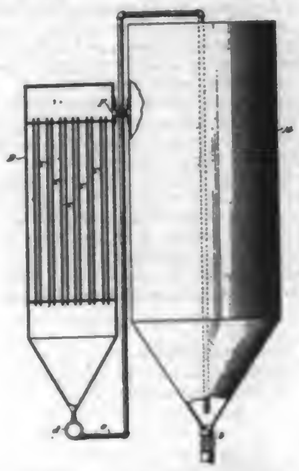
2. The method of treating ore containing precious metals which consists in subjecting the ore to the action of a thiocyanate and a soluble iodin compound and oxidizing the mixture.

3. The method of treating ore containing precious metals which consists in subjecting the ore to the action of a thiocyanate and a soluble halogen compound, and oxidizing said mixture by means of ozone.

4. The method of treating ore containing precious metals which consists in subjecting the said ore to the action of a thiocyanate and a soluble iodin compound, and oxidizing said mixture by means of ozone.

976,045. TREATMENT OF PRECIOUS METALLIFEROUS ORES. JOHN COLLINS CLANCY, New York, N. Y. Filed May 13, 1910. Serial No. 561,154.

1. The process of treating ore containing precious metals which consists in subjecting said ore to the action of a solution containing a cyanogen-bearing material and an amidin or amid compound and electrolyzing said solution or mixture.



2. The process of treating ore containing precious metals which consists in subjecting said ore to the action of a solution containing a cyanamid, and electrolyzing the said solution or mixture.

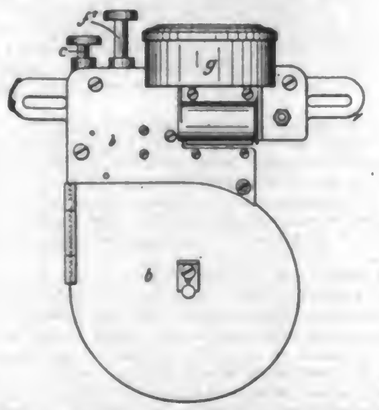
3. The process of treating ore containing precious metals which consists in subjecting said ore to the action of a solution containing a cyanamid in the presence of a halogen compound and electrolyzing said solution or mixture.

4. The process of treating ore containing precious metals which consists in subjecting said ore to the action of a cyanogen-bearing solution containing a cyanamid and electrolyzing said solution or mixture.

5. The process of treating ore containing precious metals which consists in subjecting said ore to the action of a cyanogen-bearing solution containing a soluble cyanamid and a halogen compound and electrolyzing said solution or mixture.

[Claims 6 and 7 not printed in the Gazette.]

976,046. APPARATUS FOR PUNCHING AND DELIVERING TICKETS. WALTER CLIFFORD, London, England. Filed Aug. 9, 1909. Serial No. 512,046.



1. In an apparatus of the class specified, the combination, with a reel having a continuous strip wound thereon: of a feeding mechanism; a primary mechanism for actuating said feed mechanism, to impart an initial feed movement to the strip; means actuated by said primary mechanism for perforating said strip; a secondary mechanism for actuating said feed mechanism, to impart a feed movement to the strip subsequent to the termination of the first movement thereof; and means actuated by the secondary mechanism for severing said strip.

2. In an apparatus of the class specified, the combination, with a strip-feeding device; of a primary operating member connected with said device for imparting an initial movement to the strip; means actuated by said member for perforating the strip; a secondary operating member connected with said device for completing the feed movement of said strip after the first movement thereof has been terminated; and means actuated by the secondary member for severing the strip.

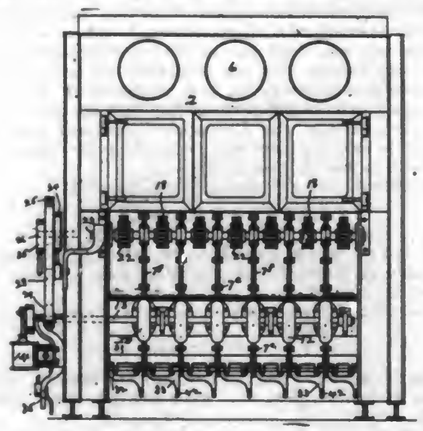
3. In an apparatus of the class specified, the combination, with a strip-feeding device; of a primary operating member connected with said device for imparting an initial movement to the strip; means actuated by said member for perforating the strip; a secondary operating member connected with said device for completing the feed movement of said strip after the first movement thereof has been terminated; and means actuated by the secondary member for printing data upon the strip.

4. In an apparatus of the class specified, the combination, with a strip-feeding device; of a primary operating member connected with said device for imparting an initial movement to the strip; means actuated by said member for perforating the strip; a secondary operating member connected with said device for completing the feed movement of said strip after the first movement thereof has been terminated; means actuated by the secondary member for printing data upon the strip; and additional means actuated by said secondary member for ultimately severing the perforated and printed strip.

5. In an apparatus of the class specified, the combination, with a strip-feeding device; of a plunger operatively connected therewith for imparting an initial movement to the strip; means actuated by the plunger for perforating the strip; a second plunger operatively connected with said device for imparting a subsequent movement to the strip; and means actuated by the second plunger for severing the perforated strip.

[Claims 6 to 11 not printed in the Gazette.]

976,047. UNDERFEED STOKER. PAUL L. CROWE, Jersey City, N. J. Filed Oct. 5, 1907. Serial No. 396,091.



1. The combination of a furnace, a plurality of similarly disposed fuel chutes mounted within the furnace said chutes being so constructed and connected that inclosed air spaces are formed between adjacent chutes when they are assembled adapted to provide a passage of air to the fuel a casing extending transversely beneath the chutes providing communications between the said air spaces, the casing being provided with openings located between adjacent fuel chutes and a separate fan mounted on the casing delivering air to each of said openings.

2. The combination of a furnace a plurality of fuel chutes mounted in said furnace inclining from the front to the rear, a reciprocating fuel pusher mounted to move in each of said chutes, each pusher tapered from its upper to its lower end and means for feeding fuel to the upper ends of the chutes.

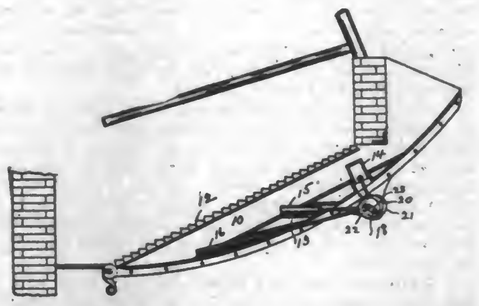
3. In a furnace, similarly disposed fuel chutes, V-shaped in cross section, mounted on an incline in said furnace, pushers mounted within said chutes, said pushers tapering from the upper to the lower end, and having a V-shaped under side which conforms to the V-shape of the chutes, and means for operating said pushers.

4. The combination of a furnace, a plurality of fuel chutes mounted within said furnace inclining from the front to the rear, said chutes each having flanges provided with openings for receiving bolts to secure said chutes together, a shaft mounted on the flanges of said chutes, a dump grate journaled on said shaft, said shaft having flat sides a detent or dog pivoted on said dump plate below the said shaft, said dog having a right angle portion, said right angle portion adapted to fit over and against the flat sides of said shaft, and means for operating said shaft.

5. The combination of a furnace, a plurality of fuel chutes having apertures, said chutes mounted in said furnace inclining from the front to the rear, a reciprocating fuel pusher mounted to move in each of the chutes each pusher tapered from its upper to its lower end, each pusher provided with an extended upper portion extending through an aperture in said furnace rack-teeth formed on the underside of the projecting portion of said pusher a shaft said shaft mounted on said chutes, a pinion mounted on said shaft, said pinion provided with teeth adapted to mesh into the rack teeth of the said pusher and means for rocking said shaft.

[Claim 6 not printed in the Gazette.]

976,048. UNDERFEED STOKER. PAUL L. CROWE, Jersey City, N. J. Filed Oct. 16, 1907. Serial No. 397,648.

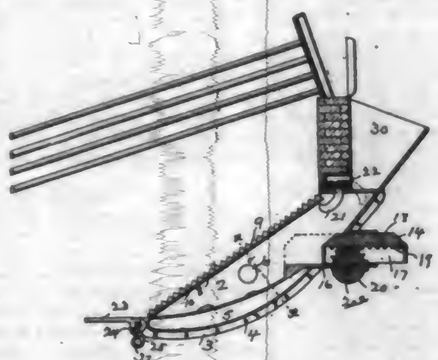


1. A stoker comprising a plurality of similarly disposed inclined fuel troughs, twyer blocks mounted on said troughs, the bottom of each of said troughs being provided with a plurality of openings, a plurality of reciprocating fuel pushers adapted to operate through said openings, the angle between the path of reciprocation of each pusher and the bottom portion below said pusher decreasing from the upper to the lower end of said trough.

2. A stoker comprising an inclined fuel trough having an air chamber formed in the bottom portion of said trough, the bottom of said trough being provided with a plurality of openings, a plurality of reciprocating fuel pushers adapted to operate through said openings, the angle between the path of reciprocation of each pusher and the bottom portion below said pusher decreasing from the upper to the lower end of said trough.

3. A stoker comprising a plurality of similarly disposed inclined fuel troughs, said troughs each provided with bottom walls, said bottom walls provided with a plurality of openings, a plurality of reciprocating pushers adapted to operate through said openings, the angle between the path of reciprocation of each pusher and the bottom portion below said pusher decreasing from the upper to the lower end of the said trough, operating eccentrics, said eccentrics connected to said pushers, a shaft on which said eccentrics are mounted, said shaft mounted on the said troughs, said eccentrics grouped on said shaft opposite said pushers, two of said eccentrics being adjustable, said eccentrics adapted to regulate the throw of the said pushers.

976,049. UNDERFEED STOKER. PAUL L. CROWE, Jersey City, N. J. Filed Nov. 4, 1907. Serial No. 400,718.



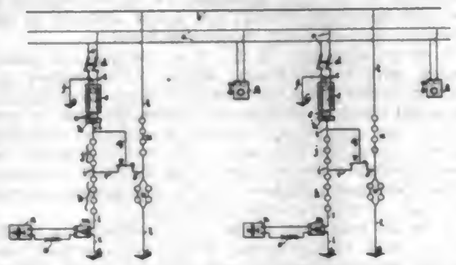
1. The combination of a furnace, fuel chutes mounted at an inclination within said furnace the lateral sides of adjacent chutes being spaced from each other to form air passages, twyer blocks mounted on the top edges of said sides, the fuel supporting sides of each twyer block converging upwardly to a point, said sides provided with air delivery openings, the lower edges of said converging sides provided with notches which form air delivery openings when the twyer blocks are assembled on the chutes said twyer blocks also provided with cross webs adapted to space said blocks from the upper edges of the chutes to form air delivery passages.

2. The combination of a furnace, a fuel chute mounted at an inclination within said furnace said chute formed with a horizontal guide way in its bottom a plunger adapted to reciprocate in said guide way to feed fuel along said trough, said plunger having a recess in its under side, the upper wall of which is provided with a rack, bearings on said guide way, a pinion meshing with said rack mounted in said bearings and means for rotating said pinion.

3. The combination of a furnace having a front wall, a fuel chute mounted at an inclination within said furnace a guide way formed in the bottom of said chute, a reciprocating plunger adapted to operate within said guide way, a swinging pusher pivotally mounted on the front wall of said furnace, said pusher being wedge-shaped in cross section to form a broad surface adapted to push the fuel forward along said trough and a thin knife-edge permitting the plunger to freely move rearwardly through the fuel, and means for operating said plunger and said pusher.

976,050. COMBINED TELEGRAPH AND TELEPHONE SYSTEM. EDWARD R. CUNNINGHAM, Des Moines, Iowa. Filed Aug. 17, 1907. Serial No. 389,066.

1. In combination with a metallic telephone-circuit, an impedance connecting the two sides thereof, a lead connecting the electrical center of said impedance with the ground, telegraphic-receiving devices in said lead, a high-tension line-wire, a connection between said line-wire and said lead, and a sending-key in said connection.



2. In combination with a metallic-telephone-circuit, a high-tension line-wire, an impedance connecting together the two sides of said telephone-circuit, a lead connecting the electrical center of said impedance with the ground, telegraphic receiving devices in said lead, a connection between said line-wire and said lead above said receiving devices, and a sending key in said connection.

3. In combination with a metallic telephone circuit, a high-tension line-wire, an impedance connecting together the two sides of said telephone-circuit, a lead connecting the electrical center of said impedance with the ground, telegraphic receiving devices in said lead, a resistance in said lead in series with said receiving-devices, a connection from said lead at a point above said resistance and receiving devices to said line-wire, and a sending-key in said connection.

4. In combination with a metallic telephone-circuit, an impedance connecting the two sides thereof, a lead connected at one end to the electrical center of said impedance and at the other to a common conductor such as the ground, a resistance and a telegraphic-receiving device in series in said lead, a source of electric current, and a key connected with said lead above and below said resistance and with said source of electric current so as to short-circuit said resistance and in sending to introduce current above said resistance.

5. In combination with a metallic telephone-circuit, an impedance connecting the two sides thereof, a lead connecting the electrical center of said impedance with a common conductor such as the ground, two resistance and a telegraphic-receiving device in said lead, a source of electric current, a double key connected at all times to said lead above the first resistance, a connection from said lead between the two resistances to said key and electrically connected with said key when it is not in use and disconnected therefrom when said key is operated to send a message, and a connection from said source of energy to said key connecting with the latter when it is operated to send a message.

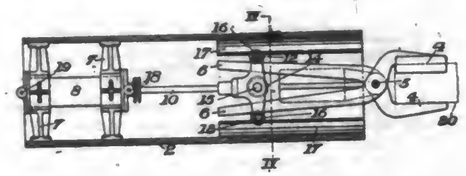
[Claims 6 to 13 not printed in the Gazette.]

976,051. MILK EXTRACT OF WILD SPIKENARD. FRANK M. DAVIS, Butler, Pa. Filed June 8, 1909. Serial No. 500,977.

The within described milk extract of wild spikenard.

976,052. MECHANICALLY-OPERATED TONGS. ROBERT F. DEVINE, Erie, Pa. Filed Dec. 16, 1908. Serial No. 467,791.

1. In mechanically operated tongs, a tubular carrier having inwardly extending brackets, a pair of tongs having two members pivoted to each other and to said brackets, said tongs having reins within the carrier and angularly disposed with relation to each other, a reciprocating member mounted in guides within the carrier and surrounding the reins, the reciprocating member engaging the reins to close the tongs when moved in one direction, and means to move the reciprocating member; substantially as described.



2. In mechanically operated tongs, a carrier having inwardly extending brackets, a pair of tongs pivoted to said brackets and having rearwardly extending reins, guides on the carrier, a reciprocating member engaging the guide and surrounding the reins and means to move the reciprocating member to draw the reins toward each other to close the tongs; substantially as described.

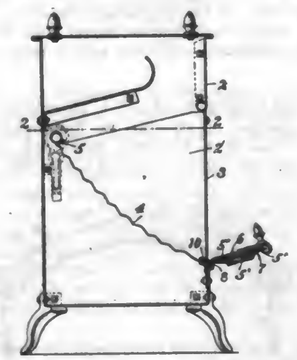
3. In mechanically operated tongs, a tubular carrier, a pair of tongs pivoted to the carrier and having reins extending within the carrier, guides in the carrier, a reciprocating member within the carrier to open and close the tongs, rollers bearing on the guides, rollers bearing on the reins, and a pressure operated piston within the carrier to move the reciprocating member, substantially as described.

4. In mechanically operated tongs, a carrier, a pair of tongs pivoted to the carrier, a rearwardly projecting inclined rein projecting from each member of the tongs, flanged guides on the carrier, a reciprocating member having rollers bearing on the flanged guides, rollers within the reciprocating member engaging each of the inclined reins to open and close the tongs, and means to move the reciprocating member; substantially as described.

5. In mechanically operated tongs, a carrier, a pair of tongs pivoted to the carrier, a rearwardly projecting inclined rein projecting from each member of the tongs, flanged guides on the carrier, a reciprocating member having rollers bearing on the flanged guides, rollers within the reciprocating member engaging each of the inclined reins to open and close the tongs, and a pressure actuated piston to move the reciprocating member; substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

976,053. ATTACHMENT FOR GAS HEATING-STOVES. OSCAR DRECHSLER, Pittsburg, Pa. Filed Jan. 13, 1910. Serial No. 537,865.

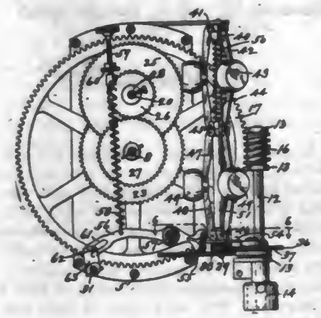


1. The combination of an open front gas heating stove, a burner therein, a holder with means securing the holder to the stove at the base of the front opening the holder formed to receive a depending flange, a burner reflecting mirror, and a mirror-carrying frame having a depending flange adapted to be secured to the holder.

2. The combination of an open front gas heating stove, a transverse strip at the base of the front opening having an inwardly projecting free edge, an outwardly projecting support having its inner edge looped to embrace the free edge of said strip, said support between its inner and outer edges formed with a depending loop, a frame having a depending flange removably entered in said last mentioned loop of the support with said frame resting on the outer portion of the support, and a burner-reflecting mirror plate carried by the frame.

3. The combination of an open front gas heating stove, a gas burner located in the rear upper portion thereof, the stove formed with a flange-receiving space at the base of the front opening, a burner reflecting mirror, and a mirror-holding frame projecting outwardly from the base of the open front said frame adapted to hold said mirror so as to reflect an image of the burner located in the upper rear portion of the stove, the mirror-holding frame formed with a flange which is received in said flange-holding space at the base of the front opening of the stove for sustaining said frame in its extended position.

976,054. SPEEDOMETER. WILLIAM P. DUN LANY, Cleveland, Ohio, assignor, by direct and mesne assignments, to The Continental Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Aug. 27, 1906. Serial No. 332,147.

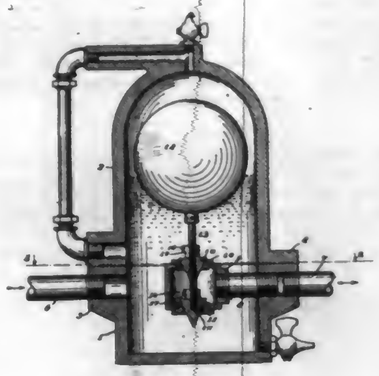


1. In a recording device, a rotatable shaft, means for rotating said shaft, a collar secured to said shaft so as to rotate therewith, a collar mounted to slide upon said shaft near the center thereof, a pair of arms connected to the respective collars, a governor weight connected to said arms, a sleeve carried by said shaft near the end opposite the fixed collar, a pair of arms connected to said sleeve and to the slidable collar, a governor weight connected to the said arms, a spring surrounding the said shaft and resisting the movement of the first governor weight, a slidable sleeve mounted upon the shaft and a relatively weaker spring within said slidable sleeve resisting the movement of the second governor weight, said sliding sleeve forming a stop for the sleeve connected with the second governor weight, whereby the centrifugal motion of said second weight is limited, and, after said limit is reached, the first governor weight becomes operative.

2. In a recording device, a rotatable shaft, means for rotating said shaft, a collar secured to said shaft so as to rotate therewith, a collar mounted to slide upon said shaft near the center thereof, a plurality of pairs of arms connected to the respective collars, a governor weight connected to each pair of said arms, a sleeve having a disk flange carried by said shaft near the end opposite the fixed collar, a plurality of pairs of arms connected to said sleeve and to the movable collar, a governor weight connected to each pair of the said arms, a spring surrounding the said shaft and resisting the movement of the first governor weights, a slidable sleeve mounted upon the

shaft, a relatively weaker spring within said slidable sleeve resisting the movement of the second governor weights, said sliding sleeve forming a stop for the sleeve connected with the second governor weights, whereby the centrifugal motion of said second weight is limited, and, after said limit is reached, the first governor weight becomes operative to move the sleeve having the disk flange, and means connected with the said flange for producing a record.

976,055. VALVE FOR STEAM-TRAPS AND THE LIKE. ARTHUR E. DURAM, Chicago, Ill. Filed Oct. 25, 1905. Serial No. 284,343.



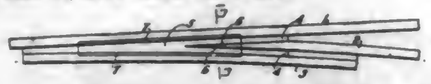
1. In a device of the kind described, a valve chamber provided with alined openings in its top and bottom, and valve seats adjustably mounted in said openings, in combination with a valve stem associated with said chamber, a valve for each valve seat mounted upon said stem, each independently adjustable thereon and adapted to cooperate with said seats to control communication through said chamber, and means carried by each of said valves arranged to coöperate with said stem to lock the valve in its adjusted position upon said stem.

2. The combination with a valve chamber, of a screw-threaded valve stem associated with said chamber, a valve engaging the threaded portion of said stem and adjustable thereon, said valve coöperating with said chamber to control communication therethrough, said valve also having a split neck surrounding said stem, and means for clamping the split neck of the valve into engagement with the stem to lock the valve in adjusted position upon the stem.

3. The combination with a valve chamber having openings in its top and bottom and arranged in alinement with each other, of valve seats arranged in said openings a screw-threaded valve stem associated with said chamber, valves arranged upon the threaded portion of said stem and adjustable thereon, said valves coöperating with said seats to control communication through said chamber, said valves also having split necks surrounding said stem, and means for clamping the split necks of the valve into engagement with the stem to lock the valves in adjusted position upon the stem.

4. In a device of the kind described, a valve chamber provided with alined openings in its top and bottom, and valve seats adjustably mounted in said openings, in combination with a screw threaded valve stem associated with said chamber, valves arranged upon the threaded portion of said stem and adjustable thereon, said valves coöperating with said seats to control communication through said chamber, said valves also having split necks surrounding said stem, and means for clamping the split necks of the valves into engagement with the stem to lock the valves in adjusted position upon the stem.

976,056. RAILWAY-SWITCH STRUCTURE. FRANK H. ELLIS, Somerville, Mass., assignor to Barbour-Stockwell Company, a Corporation of Massachusetts. Filed Mar. 27, 1909. Serial No. 486,290.



1. In a railway switch structure, the combination with a plurality of rail sections having recesses in their heads; a hardened plate having track surfaces formed thereon formed to fit in the recesses in the rail heads; and a chock to support said hardened plate secured between the webs of the rail sections.

2. In a railway switch structure, the combination with a plurality of rail sections having recesses in their heads; a hardened plate having track surfaces formed thereon fitting wthin the recesses in the rail heads and having a projecting rim near the bottom of said plate to fit under the rail heads; and a chock to support said hardened plate, secured between the webs of the rails.

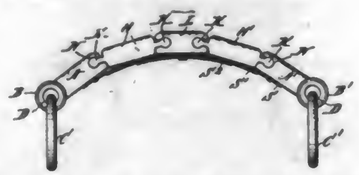
3. In a railway switch structure, the combination with a plurality of rail sections having recesses in their heads; a hardened plate having track surfaces formed thereon fitted to the recesses in the rail heads; projecting ribs near the bottom of said hardened plate; transverse ribs on the bottom of said hardened plate having holes therethrough; a chock to support said hardened plate having recesses corresponding to the ribs on the bottom of the hardened plate; and bolts for securing the rail sections to the chocks and hardened plate.

976,057. CARRIAGE-CURTAIN FASTENER. WILLIAM ESTY, Laconia, N. H., assignor to Esty Watch Tool Company, Laconia, N. H., a Corporation of New Hampshire. Filed June 14, 1909. Serial No. 501,943.



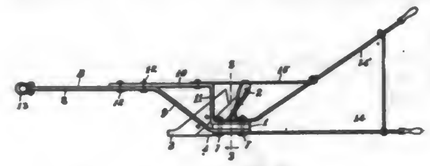
In a carriage curtain fastener, the combination with a hollow barrel provided with integral means at its inner end for rigidly connecting it to a support, and an integral lug projecting laterally from one side at its opposite end, of an eccentric button comprising a body having its sides tapered conically from its base toward its smaller outer end, and formed integrally with a single curved wing on one side, and an integral spindle projecting from its base into the barrel and adapted to rotate and move longitudinally for a limited distance therein, interengaging means between said barrel and button for locking the button in either of two oppositely disposed positions, and a spring within said hollow barrel and engaging said spindle for yieldingly retaining said button in locked position.

976,058. BRIDLE-BIT. JOHN A. FAIRBANKS, Cambridge, Mass., assignor to Martha B. Fairbanks, Cambridge, Mass. Filed Sept. 21, 1908. Serial No. 454,108. Renewed Apr. 15, 1910. Serial No. 555,740.



A bridle bit having a mouth-piece which is made of jointed segments having abutting shoulders whereby the bit is flexible in one direction only and to a limited curvature, and a spring constructed to act upon said segments to keep them in line, substantially as and for the purpose set forth.

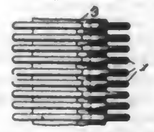
976,059. PLOW. IRVING L. FAKE, Canandaigua, N. Y. Filed June 18, 1910. Serial No. 567,657.



1. In a plow of the character described, a standard having a shoulder adjacent to its upper end, and a beam supported upon said shoulder and secured to the standard; said beam including a body portion and a brace portion each having an intermediate offset portion whereby the front and rear ends of said body portion and brace portion are disposed in parallel relation; the rear ends of the body portion and the brace portion lying adjacent to opposite sides of the standard, and the front ends of said body portion and brace portion lying closely together; and means whereby said front ends are connected together.

2. In a plow of the character described, a standard shouldered adjacent to its upper end, a beam comprising a body portion and a brace portion lying adjacent to opposite sides of the standard, said body member being provided intermediate its ends with an obliquely offset portion and said brace member being provided intermediate its ends with a right angular offset portion, means for connecting the portions of the body member and the brace member lying in front of the intermediate portions, handles supported adjacent to the members constituting the beam, one of said handles being offset in the direction of the offset portion of the beam, and a brace connecting said offset handle with the offset portion of the beam.

976,060. FLEXIBLE CORRUGATED-METAL WALL FOR COLLAPSIBLE AND EXPANSIBLE VESSELS. WESTON M. FULTON, Knoxville, Tenn., assignor to The Fulton Company, Knoxville, Tenn., a Corporation of Maine. Original application filed May 16, 1906, Serial No. 317,157. Divided and this application filed Jan. 11, 1910. Serial No. 537,477.



1. A flexible corrugated metal wall having a seam therein which lies in a plane parallel with the surface of the wall and which is cemented by a material different from the metal composing the wall.

2. A flexible corrugated metal wall characterized by having a cemented seam lying in a plane parallel to the surface of said wall, the cementing material of said seam having substantially the same tensile strength and coefficient of expansion as the metal wall.

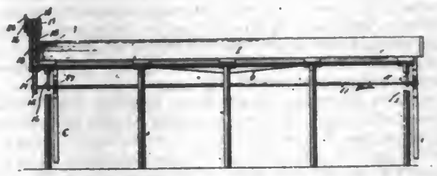
3. A flexible corrugated metal wall having a longitudinal seam therein which is cemented by a material whose tensile strength is the same as that of the metal composing the wall.

4. A flexible corrugated metal wall having a longitudinal seam therein which is cemented with material whose coefficient of expansion is the same as that of the metal wall.

5. A flexible corrugated metal wall having a longitudinal seam therein which is cemented with a material whose tensile strength and coefficient of expansion are both the same as that of the metal composing the wall.

[Claims 6 and 7 not printed in the Gazette.]

976,061. FLOWER-STAND. WILLIAM GASTHJE, South Rock Island, Ill. Filed July 9, 1910. Serial No. 571,183.



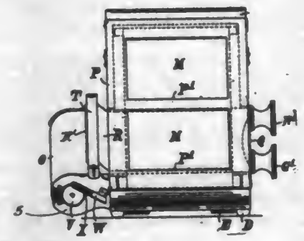
1. In combination, a frame, a plurality of pot supporting members mounted therein, means for adjusting said members independently, and means for holding said members in adjusted position.

2. In a device of the class described, a frame, a plurality of pot supporting members, means for supporting said members in alinement, means for independently raising said members, and means for independently holding the sections in raised position.

3. In a device of the class described, a frame, a plurality of pot supporting members mounted in the frame, yoke members carried by said members and having rack bars therein at each end, independent shafts journaled in the frame and having gears to engage the rack bars, and means to independently operate each shaft for raising or lowering the members.

4. In a device of the class described, a frame, a plurality of pot supporting members mounted in the frame, yoke members carried by said members and having rack bars therein at each end, independent shafts journaled in the frame and having gears to engage the rack bars, means to independently operate each shaft for raising or lowering the members, and means for holding the members in raised position.

976,062. DEVICE FOR RECORDING OR REGISTERING MESSAGES, MEMORANDA, AND THE LIKE. JOHN A. GAMBLE, Liverpool, England. Filed Feb. 17, 1908. Serial No. 416,337.



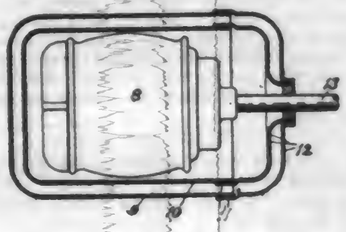
1. In a device of the character described, the combination of a stand formed of two members hinged together, one of said members being provided with notches in its edges which contact with the edges of the opposing member; springs secured to said member over the notches; projections formed upon the opposite member adapted to coöperate with said springs and to force the same inwardly toward the notches; a pair of axles adapted to be mounted in said notches and to be held against rotation by the springs when the parts are brought to their closed position; and means for supporting a strip of paper drawn from a roll mounted upon one of said axles and passing to the other axle.

2. In a device of the character specified, the combination of a supporting frame composed of two parts hinged together, one of said parts being provided with means to hold a pair of axles and the other coöperating therewith to hold the axles in place; said axles, one of the axles being adapted to support a paper-roll and the other arranged to receive the paper from said roll; a plate over-

lying the forward face of the structure, said plate having two openings formed therein; means for supporting a roll of paper to one side of the device to permit the same to be drawn transversely across the face of the device beneath one of said openings; means for supporting a carbon sheet between the paper drawn from said last-named roll and the paper drawn from the roll supported by one of the axles; and means for severing the strip which is drawn off from the second-named roll.

3. In a device of the character specified, the combination of a supporting frame composed of two parts hinged together, one of said parts being provided with means to hold a pair of axles and the other coöperating therewith to retain the axles in place; said axles, one of the axles being adapted to support a paper-roll and the other axle arranged to receive the paper from the roll; a pair of brackets secured to one side of the frame; an axle mounted therein and adapted to support a paper-roll, said axle lying in a plane parallel to the path of movement of the first-mentioned strip of paper; a fixed bar secured to the brackets at a point above the last-named paper-roll; and a clip coöperating with said bar to secure one edge of a duplicating sheet adapted to be positioned between the paper passing from the rolls aforesaid.

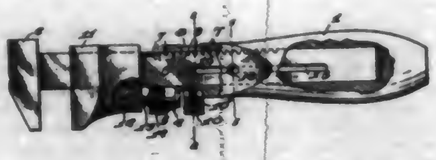
976,063. SOUND-DEADENER FOR ROTARY BLOWERS. JAMES JOSEPH GIBSON, Homestead, and CHARLES L. W. TRINKS, Pittsburg, Pa.; said Trinks assignor to said Gibson. Filed Sept. 24, 1909. Serial No. 519,327.



1. In a sound deadener, a hollow-wall jacket inclosing the sound producer, and hydrogen gas filling the space between the jacket walls.

2. In a sound deadener, a jacket consisting of inner and outer walls spaced apart and extending around the sound producer, supporting means common to the walls with the latter connected together only at the supporting means, and hydrogen gas filling the space between said walls.

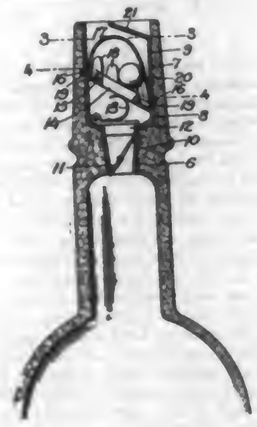
976,064. WRENCH. EDWARD R. GILBERT, Kittanning, Pa. Filed Aug. 1, 1910. Serial No. 574,781.



1. A wrench comprising a hollow handle, a shank slidable therein, said shank provided with a jaw and with a transversely notched rear edge, a locking frame surrounding and transversely slidable on said handle and provided with bars for engaging said notches, means for holding said frame in position to engage said bars and notches, an inner jaw slidable on said shank, and means for adjusting said inner jaw.

2. A wrench comprising a hollow handle provided with a transverse seat, a shank slidable in said handle and provided with rear notches and a jaw, a frame slidably engaging said seat and provided with bars for engaging said notches, a tubular extension carried by said frame, a spring in said extension and bearing against said handle to hold said bars engaged with said notches, an inner jaw carried by said shank, and means for adjusting said inner jaw.

976,065. NON-REFILLABLE BOTTLE. SETH E. GILL, Brooklyn, N. Y. Filed May 25, 1909. Serial No. 498,343.



1. A bottle having an oblong mouth provided with opposite notches and a reduced outlet below the mouth, a valve casing comprising two sections constituting a lining for the mouth and the outlet, said sections having rabbeted overlapping meeting edges, a cup having lips extending through the overlapped meeting edges of the sections of the valve casing and engaging the notches in the wall of the bottle mouth and a valve operating in the casing.

2. A bottle having a mouth and a reduced outlet below the mouth, a valve casing constituting a lining for the mouth and the outlet, a gate pivoted in that portion of the casing which extends into the reduced outlet, a valve supported hingedly adjacent to said reduced portion and engaging the gate to retain the latter in obstructing position, auxiliary means to retain the valve in obstructing and gate-engaging position, and means for securing the casing in the mouth of the bottle.

3. A bottle having an oblong mouth and a reduced outlet below the mouth, said mouth being provided with notches, a valve casing constituting a lining for the mouth and the outlet, said casing comprising two sections having rabbeted overlapping meeting edges, a gate pivoted in that portion of the casing which extends into the reduced outlet, a valve supported hingedly adjacent to said reduced portion and engaging the gate to retain the latter in obstructing position, a spring connected with said valve, a second valve seated in the casing and engaging the spring connected with the first valve, said second valve being disposed in an inclined plane when the bottle is in an upright position, a cup arranged above the seat of the second valve and having lips engaging the notches in the mouth of the bottle through the casing or lining, said cup being provided with perforations, and a spherical weight within the cup resting upon the inclined valve to maintain the latter in obstructing position when the bottle is in an upright position.

4. In a bottle, the combination with a shell composed of two sections, of a gate at the bottom of the shell, a valve above the gate, a second valve above the first, means connected with the gate and valves for closing the gate and first valve, a weight closing the second valve when the bottle is upright, and a perforated cup retaining the weight and holding the two sections together and locking the shell in the neck of the bottle.

976,066. MEASURING DEVICE. CHARLES J. GILLETTE, Washington, D. C. Filed June 8, 1910. Serial No. 565,768.



1. A dose-measuring device consisting of a tubular member bent intermediate of its ends to provide a plurality of portions angularly arranged relatively to each other, the walls of the bend thereof being elongated and comprising a plurality of relatively angulated deflecting surfaces to provide means for measuring and dividing the substance to be used.

2. A dose-measuring device consisting of an open-ended tubular member bent intermediate of its ends to provide a plurality of portions angularly arranged relatively to each other, the walls of the bend thereof being elongated and comprising a plurality of relatively angulated deflecting surfaces to provide means for measuring and dividing the substance to be used.

3. A dose-measuring device consisting of an open-ended tubular member bent intermediate of its ends to provide a plurality of portions angularly arranged relatively to each other, the walls of the bend thereof being elongated and comprising a plurality of relatively angulated deflecting surfaces to provide means for measuring and dividing the substance to be used, and a closure-device mounted at one end of said tubular member and manually operable for releasing the measured substance.

4. A dose-measuring device consisting of an open-ended tubular member bent intermediate of its ends to provide a plurality of portions angularly arranged relatively to each other, the walls of the bend thereof being elongated and comprising a plurality of relatively angulated deflecting surfaces to provide means for measuring and dividing the substance to be used, and a spring-controlled closure device mounted at one end of said tubular member and manually operable for releasing the measured substance.

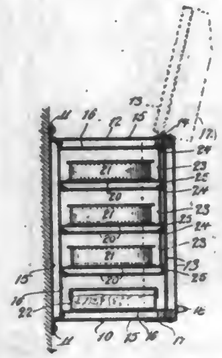
5. A dose-measuring device consisting of a tubular member bent intermediate of its ends to provide a plurality of portions angularly arranged relatively to each other and comprising two end chambers and an intermediate chamber formed with walls provided with a plurality of relatively angulated deflecting surfaces to constitute means for dividing and measuring the substance in passing from the inlet chamber to the discharge-chamber.

[Claim 6 not printed in the Gazette.]

976,067. FIREPROOF RECEPTACLE FOR FILMS OF MOVING-PICTURE APPARATUS. GEORGE J. GILMORE, Chicago, Ill. Filed Nov. 15, 1909. Serial No. 528,002.

1. A receptacle for films of the character described, comprising in combination a casing having a main opening, a plurality of substantially fire proof film receiving compartments therein, each of which is surrounded by an air space and provided with an opening through which the films are inserted or removed, an individual gravity cover for each compartment constructed to automatically cover and seal said opening against fire, and a main gravity cover spaced away from the individual covers, and constructed to automatically close and seal said main opening against the entrance of fire when released from an open position.

2. A receptacle for protecting films of the character described, from fire, comprising in combination an outer casing having a main opening, a plurality of film receiving compartments within said casing, and spaced away from the walls thereof and away from each other to leave air spaces therebetween, each compartment having an opening leading out through the main opening, through which the films may be inserted or removed, a gravity cover for the opening of each compartment constructed to automatically close and seal said opening against fire whenever released from an open position, and a main gravity cover for the main opening hinged at its upper end to the casing and constructed and arranged to close and seal said opening against fire whenever released from an open position.



3. A receptacle for protecting films of the character described, from fire, comprising a substantially fireproof film storing box having a series of non-communicating film storing compartments, all opening out in one direction, individual covers for said compartments, and a gravity cover constructed to automatically cover and seal said opening against the entrance of fire, whenever released from an open position.

4. A receptacle for protecting films of the character described, from fire, comprising a substantially fireproof open sided film storing box, a series of shelves therein, arranged one above the other and forming individual film receiving compartments, an auxiliary cover for each compartment and a gravity cover for the open side of the box, adapted to automatically close and seal said opening against the entrance of fire, whenever released from an open position.

5. A receptacle for protecting films of the character described, from fire, comprising a substantially fireproof open sided film storing box, a series of shelves therein, arranged one above the other and forming individual compartments for the films, an auxiliary cover for each compartment and a gravity cover for the open side of the box, having flanges on its side and bottom edges adapted to overlap the contiguous edges of the box, said cover being adapted to automatically close and seal said opening against the entrance of fire, whenever released from an open position.

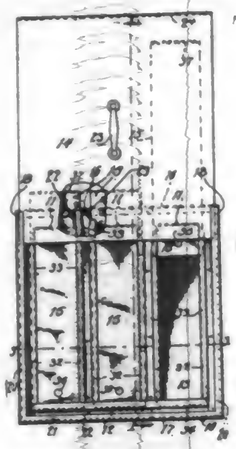
[Claim 6 not printed in the Gazette.]

976,068. FILM-CABINET. GEORGE J. GILMORE, Chicago, Ill. Filed Feb. 5, 1910. Serial No. 542,318.

1. A film cabinet comprising in combination, an outer casing, a plurality of inner film receiving chambers therein, spaced away from the outer casing and from each other to leave air spaces therebetween, said inner chambers having doorways opening into the outer casing, a sliding door for the opening of each chamber arranged to close under the influence of gravity, and guiding means for controlling said doors to move in a direction longitudinal of themselves.

2. A film cabinet comprising in combination, an outer casing having an opening in its front which is closed by a door arranged to close under the influence of gravity,

plurality of individual film receiving chambers spaced away from said casing and away from each other to leave air spaces therebetween, said chambers having openings that open into the outer casing and are closed by doors arranged to close under the influence of gravity and means for preventing accidental outward movement of the inner doors.



3. A film cabinet comprising in combination, an outer casing having an opening in its front which is closed by a door arranged to close under the influence of gravity, a plurality of individual film receiving chambers spaced away from said casing and away from each other to leave air spaces therebetween, said chambers having openings that open into the outer casing sliding doors arranged to close under the influence of gravity and guideways for controlling said inner doors to move in a direction longitudinal of themselves.

4. A film cabinet comprising in combination, an outer casing, a plurality of inner film receiving chambers therein, spaced away from the outer casing and away from each other to leave air spaces therebetween, said inner chambers having doorways opening into the outer casing, a movable door for the opening of each chamber arranged to close under the influence of gravity, and means for preventing accidental outward movement of the inner doors.

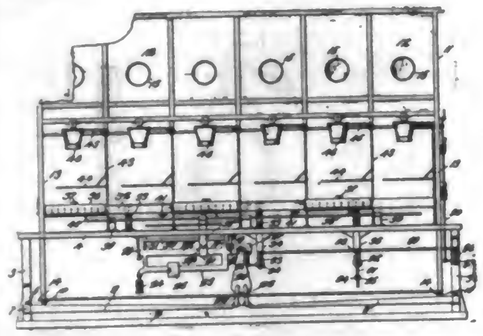
5. A film cabinet comprising in combination, an outer casing having an open front adapted to be closed by a door which operates to close under the influence of gravity and seal the interior of the casing against the entrance of fire, a plurality of film receiving chambers within said casing, each having an entrance opening that opens out into the outer casing, a vertically sliding door for each of said last named openings guided to move in front thereof, and operating to close under the influence of gravity and seal the opening against the passage of fire.

[Claims 6 to 10 not printed in the Gazette.]

976,069. AUTOMATIC WEIGHING-CABINET. ABRAHAM J. GRISSOM, Yeager, Okla. Filed Feb. 1, 1910. Serial No. 541,311.

1. The combination of a receptacle having discharge means for material therein, a valve to cut off the discharge of material from the receptacle, a scale having an element connected to and sustaining the gross weight of the receptacle and its contents, and means automatically controlled by the scale to close the valve when a predetermined weight of material has been discharged from the receptacle.

2. The combination of a receptacle having discharge means for material therein, a valve to cut off the discharge of material from the receptacle, means constituting a spring to close the said valve, a scale having an element connected to and sustaining the gross weight of the receptacle and its contents, and means operated by said scale element to control the operation of the valve closing means.



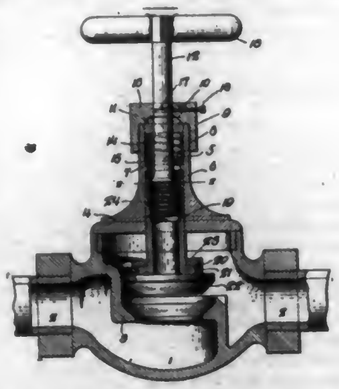
3. The combination of a cabinet having a plurality of bins, each provided with a discharge valve, means to close said valves, said valve closing means enabling said valves to be placed in open position independently of one another, a scale having an element connected to and sustaining the gross weight of the cabinet and the contents of its several bins, and means operated by said scale element to automatically control the action of the valve closing means.

4. The combination of a cabinet having a plurality of bins, each provided with a discharge valve, means to close said valves, said valve closing means enabling said valves to be placed in open position independently of one another, a scale beam connected to and sustaining the gross weight of the cabinet and the contents of its several bins, means to balance said beam, a weighing weight on said beam, means to adjust said weight, and means operated by said scale beam to automatically control the action of the valve closing means.

5. In apparatus of the class described, the combination of a receptacle having a discharge valve, means to close said valve and including a movable stop element having a tappet roller, a scale beam, a pivotally mounted trip element having an adjustable element thereon provided with a tappet roller for engagement with that of the stop element to hold the valve closing means in check, a locking device to engage and hold said trip element, and connections between the said beam and the said locking device, for the purpose set forth.

[Claims 6 and 7 not printed in the Gazette.]

976,070. VALVE. ELIAS L. GROOMS, Gulfport, Miss. Filed June 11, 1909. Serial No. 501,595.



In a valve of the class described, the combination with a casing having an inlet and an outlet opening and a valve seat between the openings, a hood upon the casing having a central bore, and a shoulder within the bore dividing the same into an upper and a lower compartment, the lower compartment being non-circular in cross section, a cap for the hood, a band contacting the cap, a washer upon the shoulder, a helical spring between the band and the washer, a valve for the valve seat of the casing, an offset non-cylindrical sleeve connected with the valve and extending within the non-circular compartment of the hood, said sleeve being provided with interior threads, a stem having a threaded portion engaging said threads, a handle for the stem, and provision upon the cap for allowing the rotation but preventing a sliding movement of the stem.

976,071. DEEP-WELL PUMP. JOHN HAHN, Los Angeles, Cal. Filed Jan. 3, 1910. Serial No. 536,223.



1. In a pump, a working barrel having an enlarged head adapted to guide the plunger barrel and forming a tapered sleeve to fit a spigot seat, pump tubing provided with a spigot seat for said sleeve, a plunger barrel in the working barrel, and a cage on the plunger barrel outside said head; there being a space provided between the plunger barrel and the working barrel and perforations through the head from such space.

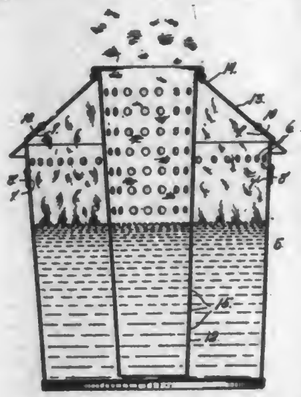
2. Pump-tubing composed of a plurality of sections, one of said sections connecting two other of said sections and provided with outwardly bowed slats having inward projections that extend beyond the line of the inner wall of the upper section, the weight of the lower section tending to straighten the slats to force the inward projections inwardly to form a contraction in the tubing, between the sections.

3. A pump comprising a working barrel and a plunger barrel inside the working barrel, said plunger barrel being provided intermediate its ends with projections forming a guide to engage the inside of the working barrel.

4. A pump comprising a working barrel, a plunger barrel inside the working barrel, a distensible cup connected with the plunger barrel, said plunger barrel being provided with projections forming a guide to engage the inside of the working barrel to keep the plunger barrel straight within the working barrel.

976,072. ORCHARD-HEATER. JAMES L. HAMILTON, Grand Junction, Colo. Filed June 26, 1909. Serial No. 504,629.

1. An orchard heater, comprising a fuel receptacle having draft perforations near the top thereof, a centrally located perforated tube or chimney projecting above the top of the receptacle, the perforations of the chimney extending both above the top of the receptacle and downwardly below said top, whereby they are gradually uncovered as the fuel is consumed, and a frusto-conical hood applied to the top of the receptacle and having an opening in its top, the chimney fitting closely in and closing said opening.



2. An orchard heater, comprising a fuel receptacle of frusto-conical shape, its larger extremity being uppermost, a tube or chimney centrally located in the receptacle and projecting above the top of the same, the said tube being perforated from top to bottom, the upper part of the receptacle being also perforated, and a hood applied to the top of the receptacle, the said hood having the shape of the frustum of a cone, with its smaller extremity uppermost, the top of the hood having an opening adapted to be closed by the upper extremity of the tube or chimney which fits closely therein.

3. An orchard heater, comprising a fuel receptacle, having draft openings near its top, a frusto-conical, perforated tube or chimney centrally located in said receptacle and projecting above the top thereof, the perforations extending downwardly into the receptacle, whereby they are gradually uncovered as the fuel is consumed, and a frusto-conical hood having its smaller extremity uppermost, the hood being applied to the top of the said receptacle and having an opening adapted to be closed by the upper extremity of the perforated chimney which fits closely therein.

4. An orchard heater, comprising a fuel receptacle having perforations in its upper portion for draft purposes, also auxiliary perforations, the receptacle being equipped with adjustable closures for the last named perforations, a perforated tube or chimney centrally located in the said receptacle and projecting above the top of the latter, the perforations extending downwardly into the receptacle, whereby they are gradually uncovered as the fuel is consumed, a frusto-conical hood applied to the top of the receptacle, the said hood having its smaller extremity uppermost and provided with an opening adapted to be closed by the upper extremity of the perforated chimney which fits closely therein.

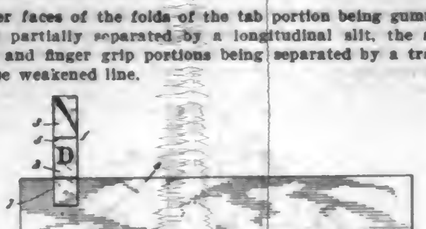
5. An orchard heater, comprising a fuel receptacle, having draft openings formed in the upper portion thereof, a perforated tube or chimney centrally located in the receptacle, the perforations extending downwardly below the top of the receptacle, whereby they are gradually uncovered as the fuel is consumed, the perforations also extending above the top of the receptacle, a hood applied to the top of the receptacle, the hood being of the shape of the frustum of a cone, having its smaller extremity uppermost, and provided with an opening surrounding the top of the perforated chimney which fits closely therein, and closes the same, the hood being provided with auxiliary draft openings, for the purpose set forth.

[Claim 6 not printed in the Gazette.]

976,073. INDEX-TAB. WALTER E. HARROD, Harrod, Ohio. Filed June 7, 1910. Serial No. 565,537.

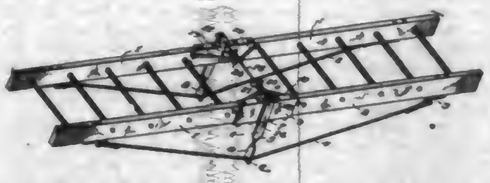
1. An index tab formed from a folded sheet of material to provide a tab portion and a finger grip portion, the

inner faces of the folds of the tab portion being gummed and partially separated by a longitudinal slit, the said tab and finger grip portions being separated by a transverse weakened line.



2. An index tab formed from a folded sheet of material to provide a tab portion and a finger grip portion, the inner faces of the folds of the tab portion being gummed, and said tab portion being separated from the finger grip portion by a transverse weakening line above the gummed faces, said tab portion having its leaves partially separated along the line of fold by a slit extending from its lower edge upwardly to a point below said weakening line.

976,074. FOLDING SCAFFOLD-LADDER. HUGO F. HARTMAN, Milwaukee, Wis. Filed Oct. 16, 1909. Serial No. 522,975.



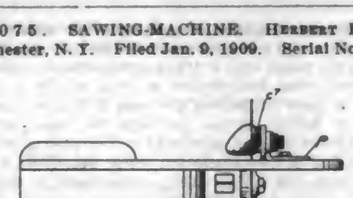
1. A scaffold of the class described comprising a pair of sections, connecting brackets, said connecting brackets comprising a body portion substantially U-shaped in cross section, said brackets provided with enlarged ends, adapted to overlap, said enlarged ends provided upon one side thereof with an aperture, and upon the other side thereof with a longitudinally extending slot, a depending arm, means passing through said depending arm and said apertures and slots for connecting the depending arm and brackets together, and means connected to the sections and engaging the depending arms for preventing the sections from being folded in an upward direction.

2. A scaffold of the class described comprising a pair of sections, brackets carried thereby and provided with enlarged ends adapted to overlap, a transversely extending rod passing through said enlarged ends for connecting the same, and brace means carried by the primary and auxiliary sections and engaging said transversely extending rod for preventing the sides of said section from spreading.

3. A scaffold of the class described comprising a pair of sections, brackets secured thereto and provided with apertured ends, being adapted to overlap, said ends provided with apertures and longitudinally extending slots, a depending arm, a transversely extending member passing through the upper ends of said depending arms and through said apertures in the ends of said brackets, a bolt passing through said depending arm and working in said slots in the ends of said brackets and longitudinally extending brace means carried by said primary and auxiliary sections and adapted to be engaged by said depending arms.

4. A scaffold of the class described, comprising a pair of sections, brackets carried thereby, a rod connecting said brackets, braces secured to the sides of said sections and engaging said rod, thumb nuts threaded upon said rod and adapted to hold said braces in a set position upon said rod for preventing the sides of said sections from spreading.

976,075. SAWING-MACHINE. HERBERT HASTINGS, Rochester, N. Y. Filed Jan. 9, 1909. Serial No. 471,524.



1. In a machine of the class described, the combination with a saw, a saw table and a gage thereon comprising a plurality of pointed gaging devices projecting toward the plane of the saw and arranged to engage the side face of the work.

2. In a machine of the class described, the combination with a saw, a saw table, and a gage comprising a plurality of pointed gaging devices projecting toward the plane of the saw, and arranged to engage the side face of the work the points of said devices being in a plane sensibly parallel to the sawing plane.

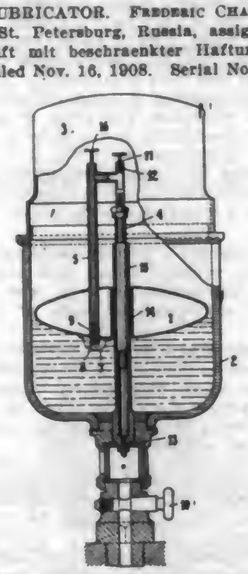
3. In a machine of the class described, the combination with a saw, a saw table, a gage comprising a plurality of pointed gaging devices projecting toward the plane of the saw, and arranged to engage the side face of the work and means of varying their distance from the saw.

4. In a machine of the class described, the combination with a saw, a saw table, a gage comprising a plurality of pointed gaging devices projecting toward the plane of the saw, and arranged to engage the side face of the work and means of adjusting these devices relative to each other.

5. In a machine of the class described, the combination with a saw, a saw table, a gage comprising a plurality of pointed gaging devices projecting toward the plane of the saw, and arranged to engage the side face of the work and means of adjusting them relative to each other and in a plane parallel to the saw.

[Claims 6 to 8 not printed in the Gazette.]

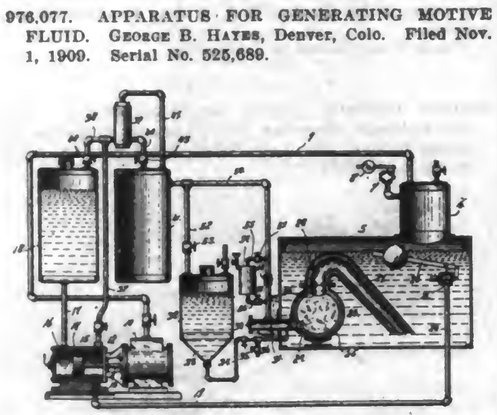
976,076. LUBRICATOR. FREDERIC CHARLES VON HAXTHAUSEN, St. Petersburg, Russia, assignor to Flotteur Gesellschaft mit beschraenkter Haftung, Berlin, Germany. Filed Nov. 16, 1908. Serial No. 462,963.



1. In a lubricator adapted to deliver lubricant continuously, the combination with a lubricant container of an outlet tube, a float movable in the container, an adjustable siphon having one limb connected to the float and the other guided in the outlet tube, a valve for controlling the outflow, and a thermostatic device for regulating the position of the valve.

2. In a device of the character described, a receptacle, means to feed a liquid from the same, including a siphon, a valve arranged within said siphon to control the passage of liquid therethrough, thermostatic means to regulate the position of the valve, and a float with which said siphon is connected.

976,077. APPARATUS FOR GENERATING MOTIVE FLUID. GEORGE B. HAYES, Denver, Colo. Filed Nov. 1, 1909. Serial No. 525,689.



1. In apparatus for generating motive fluid, the combination with a generator, of a combustion chamber, submerged in the liquid of the generator and provided with an open-ended conduit connected with the top of the combustion chamber, and bent downwardly and forwardly in the combustion chamber terminating near the bottom of the generator, a twyer connected with the combustion chamber and projecting beyond the generator, and means for simultaneously introducing fuel in fluid form, and a combustion-supporting medium to the twyer, substantially as described.

2. In apparatus for the generation of motive fluid, the combination with a generating tank containing a liquid to be vaporized, of a combustion chamber submerged in the tank and having an open-ended, gooseneck-shape outlet connected with the top of the chamber, a twyer extending in the generator tank and connected with the lower part of the combustion chamber, the said twyer being surrounded by the liquid within the generator and protruding outwardly beyond the generator, and means for simultaneously delivering to the twyer, fuel in fluid form, and a combustion-supporting medium, the fuel and the said medium being delivered at uniform pressure, substantially as described.

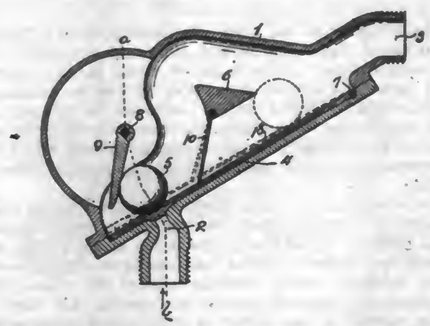
3. The combination with a generator containing a liquid to be vaporized, of a combustion chamber submerged in the liquid of the generator and having an open-ended outlet communicating with the liquid, an air receiver, a liquid containing tank, the float valve controlled pipe communicating with the liquid containing tank of the generator for supplying the latter, a fuel receptacle in communication with the combustion chamber, a connection between the air receiver and the combustion chamber for supplying the latter with the necessary combustion-supporting medium, means for supplying the air receiver with compressed air, a pipe connection between the liquid-containing tank and the receiver with which the air compressor is connected, and a governor valve interposed in the pipe connection between the liquid-containing tank and the air receiver, and between the compressor connection and the receiver for automatically regulating the receiver pressure, substantially as described.

4. The combination with a generator containing a liquid to be vaporized, of a combustion chamber submerged in the liquid and having an open-ended conduit in communication with the liquid, means for supplying the combustion chamber with liquid under pressure, means for supplying the said chamber with a combustion-supporting medium under pressure, means for automatically regulating the pressure of the combustion-supporting medium and the fuel, a liquid fuel receptacle through which the supporting medium passes for starting the combustion and means for relieving the generator pressure at a less degree than the pressure on the combustion-supporting medium and the fuel supply, substantially as described.

5. The combination with a generator containing a liquid to be vaporized, of a combustion chamber submerged in the liquid of the generator, means for supplying fuel to the combustion chamber under pressure, a relatively small fuel receptacle for initially supplying the combustion chamber with fuel under pressure, means for automatically maintaining the pressure on the fuel at a predetermined degree, and means for relieving the pressure on the generator at a less degree than the pressure on the fuel supply.

[Claim 6 not printed in the Gazette.]

976,078. SAFETY-VALVE MECHANISM FOR GAS PIPES. ELBERT H. HOLLIS, Kansas City, Mo., assignor of two-thirds to John M. Coppinger, Kansas City, Mo., and one-third to M. F. Lynch, Excelsior Springs, Mo. Filed Apr. 26, 1909. Serial No. 492,193.

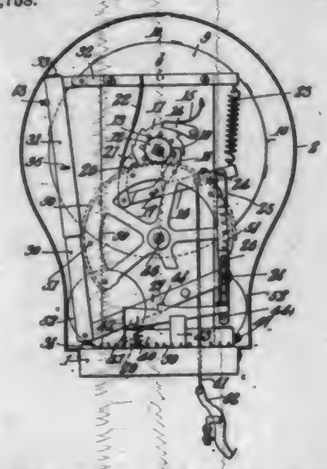


1. In a safety valve mechanism for gas pipes, the combination with a valve casing having an inlet, of a normally inclined valve hinged in said casing and movable by gravity to a position closing said inlet and movable by predetermined gas pressure to the open position, a roller movable on said valve to a position in which it will hold the valve closed, a detent for engaging said roller to hold it from moving to said position only while the valve is open, and manually operated means for moving the roller from said position into engagement with said detent.

2. In a safety valve mechanism for gas pipes, the combination with a valve casing having an inlet, of a valve pivotally mounted in an inclined position in said casing and movable by gravity to a position closing said inlet and movable by a predetermined gas pressure to an open position, a roller movable on said valve to a position in which it will hold the valve closed, a detent, manually operated means for moving the roller from said position into engagement with said detent, the roller being held by said detent from moving into the said position only while the valve is open, and releasable means for holding the manually operated means from operation.

3. In a safety valve mechanism for gas pipes, the combination with a valve casing having an inlet, of a valve hinged in an inclined position in said casing and movable by gravity to a position closing said inlet and movable by a predetermined gas pressure to the open position, a ball normally mounted on said valve and adapted to roll thereon when the valve is closed to a position in which it will hold the valve closed, a detent for holding the ball from moving to said position while the valve is in the open position, and manually operated means for forcing the ball from said position into a position in which it will be held by said detent until the valve clos

976,079. PRIZE-AWARDING ADVERTISING APPARATUS. ROBERT F. HUDSON, Richmond, Va., assignor to The Premium Register Company, Inc., Richmond, Va., a Corporation of Virginia. Filed Apr. 23, 1909. Serial No. 491,758.



1. In a device of the class described, a step by step mechanism, a signal means and source of electrical energy for said signal means, a circuit closer for the signal circuit under the control of the step by step mechanism, an automatically closing circuit controller for the signal circuit, and means for opening said circuit controller after a predetermined time interval, the circuit closer and circuit controller being in the circuit closing position simultaneously.

2. In a device of the class described, a signal means and a source of electric energy for actuating said signal means, separate circuit-controllers in the signal circuit in normally open circuit position, and one of the circuit-controllers having a normal tendency toward the closed circuit position, automatic means for causing the simultaneous closing of the circuit at said circuit-controllers, and automatic means for causing the opening of the circuit after a predetermined time interval at the circuit-controller having a normal tendency to maintain the closed position.

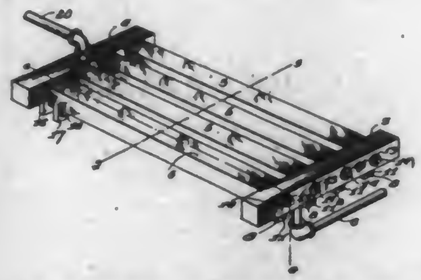
3. In a device of the class described, a step by step mechanism, a signal means and source of electric energy for actuating said signal means, separate circuit-controllers in the signal-circuit in normally open circuit position, one of the circuit-controllers having a normal tendency toward the closed circuit position and the other circuit controller being under the control of the step by step mechanism, automatic means for causing the simultaneous closing of the circuit at said circuit-controllers, and automatic means for causing the opening of the circuit after a predetermined time interval at the circuit-controller having a normal tendency to maintain the closed circuit-position.

4. In a device of the class described, a signal means and source of electric energy for said signal means, a circuit-controller for the signal circuit having a normal tendency toward the open circuit position, another circuit-controller in said signal circuit having a normal tendency toward the closed circuit position, means for normally maintaining the circuit-controller having a normal tendency toward closed circuit position in the open circuit position, means for causing the closure of the circuit at the circuit-controller having the normally open circuit position, simultaneously with the closing of the circuit at the other circuit-controller, after the latter has been closed a predetermined number of times, and sluggishly acting means for preventing the opening of the circuit at the circuit-controller having a normal tendency toward the closed circuit position until after the lapse of a predetermined time interval.

5. In a device of the class described, a signal means and a source of electric energy for actuating said signal means, a circuit closer in the signal circuit normally tending to open circuit position, means for causing the movement of the said circuit closer to closed circuit position under predetermined conditions, another circuit closer in the circuit having a normal tendency to closed circuit position and means having a sluggish active movement toward the second named circuit closer to move the latter to the open circuit position and means for moving said sluggishly acting means away from the second named circuit closer to permit the latter to move to closed circuit position.

[Claim 6 not printed in the Gazette.]

976,080. HOLLOW WATER-HEATING GRATE. LUDWIG KAUFMAN, New York, N. Y., assignor of one-half to James Murray, New York, N. Y. Filed Feb. 15, 1910. Serial No. 543,915.



1. A water heating grate comprising hollow end chambers, hollow grate bars communicating therewith, pendent lugs carried by said chambers, pendent lugs carried by said bars, means for rigidly but detachably fastening the lugs of the bars to the lugs of the chambers, means for supplying water to one chamber, and means for discharging water from the other chamber.

2. A water heating grate comprising hollow chambers, one being in communication with a source of supply water and the other adapted to discharge water, hollow grate bars communicating with and connecting said chambers, and fastening means for detachably holding said bars and chambers in rigid engagement with their upper surfaces in flush relation.

3. A water heating grate comprising end chambers, and hollow grate bars connecting the same, said chambers and grate bars having their upper surfaces flat and in flush relation, and means for detachably fastening said bars to said chambers.

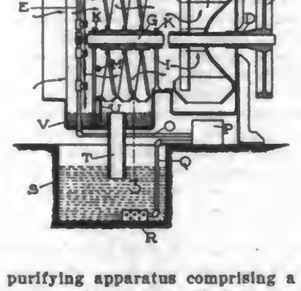
4. A water heating grate comprising hollow chambers each provided with a plurality of outwardly projecting nipples, hollow grate bars engaging the opposite nipples of said chambers, means for supplying water to one chamber, means for discharging water from the other chamber, and means for detachably fastening the bars to the chambers with the upper surfaces thereof in flush relation.

976,081. AIR-PURIFYING APPARATUS. JOHN H. KINEALY, Ferguson, Mo. Filed Jan. 27, 1910. Serial No. 540,419.

1. An air purifying apparatus comprising a thoroughfare for the air, a plurality of disk fans adapted to revolve in said thoroughfare and having blades with a gutter formed on a radial edge, and means whereby the blades of the first of said disk fans are wetted, substantially as described.

2. An air purifying apparatus comprising a thoroughfare for the air, a plurality of disk fans adapted to revolve in said thoroughfare and having blades with a gutter formed on a radial edge, and means whereby a jet of water is made to impinge on the blades of the first of said disk fans, substantially as described.

3. An air purifying apparatus comprising a thoroughfare for the air, a washer, and an eliminator consisting of a disk fan adapted to revolve in said thoroughfare and having blades with a gutter formed on a radial edge, substantially as described.

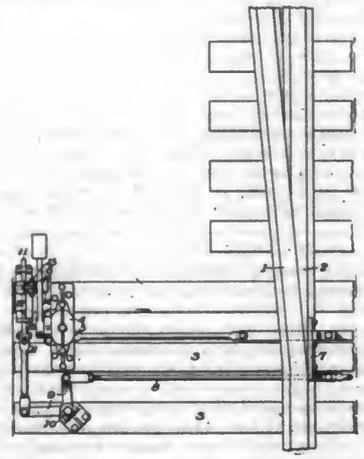


4. An air purifying apparatus comprising a thoroughfare for the air, a washer, and an eliminator consisting of a disk fan adapted to revolve in said thoroughfare and having blades with gutters formed on their radial edges, substantially as described.

5. An air purifying apparatus comprising a thoroughfare for the air, a washer, an eliminator consisting of a plurality of disk fans adapted to revolve in said thoroughfare and having blades with gutters formed on their radial edges, and means whereby one or more of said disk fans may be made to revolve independent of the action of the air passing through said thoroughfare, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

976,082. RAILROAD-SWITCH LOCK. CHARLES P. KNOX, Paterson, N. J., assignor of two-thirds to Thomas Malcolm and J. Smylie Kinne. Filed Mar. 3, 1909. Serial No. 481,007.



1. The combination with a movable switch member, operating mechanism for said member having a latch and latch stand, a member arranged to block the latch when the switch is in open position, and a connection between the said movable switch member and the blocking member for moving the latter out of blocking position when the switch member is fully closed, said connection including compensating means; substantially as described.

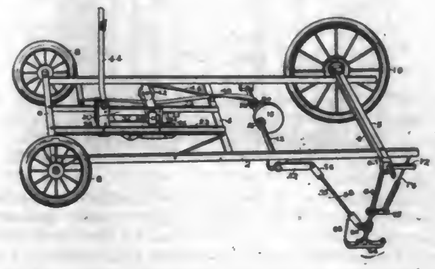
2. A railway switch lock adapted to be connected with a railway switch and comprising means independent of the switch operating mechanism for indicating the closing of the switch which consists in a rod connected with the switch rail and adapted to reciprocate a bar upon the operation of the switch, said bar having a plate mounted thereon and a locking pawl pivotally mounted to contact with the plate when the switch is open.

3. A railway switch lock comprising a rod connected with the switch rail and adapted to reciprocate a bar upon the opening and closing of the switch, said bar having a plate mounted thereon, and a locking pawl pivotally mounted to contact with the plate when the switch is open.

4. A railway switch lock comprising a rod connected with a switch rail, a reciprocating bar and a compensating arm located between said rod and said bar, said bar having a plate mounted thereon, a latch stand having pivotally mounted therein a locking pawl, said locking pawl being adapted to rest on said plate when the switch is open.

5. A railway switch lock comprising a rod connected with the switch rail, a bar reciprocably mounted within a casting and having a plate attached thereto, said rod being adapted to reciprocate said bar, and a locking pawl pivotally mounted to contact with the plate when the switch is open.

976,083. BRAKE. GEORGE KUNZ and CHARLES A. KUNZ, Dubuque, Iowa. Filed Jan. 27, 1910. Serial No. 540,430.



1. In a device of the class described, a frame, a shaft journaled to the frame, brake shoes connected to the shaft, a cam on said shaft, a wheel on said shaft, means including a hook adapted to engage the wheel on the shaft for holding the brakes out of engagement with the ground, means for releasing the brakes to cause them to engage the ground to raise the hind wheels off from the ground and permit the wheels to freely rotate upon their axis without contact with the brakes, and means connected with the cam for raising the brakes out of contact with the ground.

2. In a device of the class described, a frame, a shaft journaled to the frame, a cam secured to the shaft, brakes secured to the shaft, a lever, connections between the lever and the cam on the shaft for operating the cam to raise the brakes, a wheel mounted upon the shaft, a lever adapted to engage the wheel and prevent the rotating of the shaft to hold the brakes in their raised position, and means for releasing the brakes to cause them to engage the ground and lift the hind wheels of the car from the ground and permit said wheels to freely rotate without contact with the brakes.

3. In a device of the class described, a frame, a shaft journaled to the frame, a cam on the shaft, brake shoes, connections between the brake shoes and the shaft, a lever, a cable secured to the cam and connected to the lever for rotating the cam to raise the brakes, and means engaging the cable interposed between the lever and cam for taking up the slack of the cable when the brakes are raised.

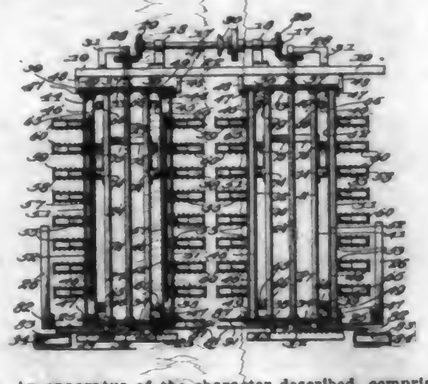
4. In a device of the class described, a frame, a shaft journaled to the frame, a wheel mounted on the shaft and provided with a notch, crank arms secured to the ends of the shaft, brake arms pivoted to the crank arms, brake

shoes, flexible connections between the ends of the shoes and the brake arms, means connected with the shaft for operating the brakes to raise the rear wheels of the car out of contact with the ground, and means engaging the wheel on the shaft for holding the brakes in their elevated position.

5. In a device of the class described, a frame, a shaft journaled to the frame, a cam on the shaft, a lever pivoted to the frame, connections between the cam and the lever, plates secured in the frame and provided with slots, slides carrying a wheel and connected to the lever, and adapted to slide in the slots in the plates, and connection between the cam, the wheel and lever for rotating the cam to raise the brakes and operate the slides.

[Claims 6 to 12 not printed in the Gazette.]

976,084. COTTON-HARVESTER. GEORGE LISPENARD, Brooklyn, N. Y., assignor to S. K. Lichtenstein, trustee, New York, N. Y. Filed Jan. 12, 1909. Serial No. 471,892.



1. An apparatus of the character described, comprising a main frame, traction means, motive power generating means, an auxiliary frame mounted in said main frame, power transmitting means carried by said auxiliary frame actuated from said power generating means, chains associated therewith, a plurality of vertically set bars pivotally mounted on said chains, guides therefor, a plurality of rotative pickers mounted on said bars, means for actuating said pickers simultaneously from one or a common point, means for guiding and controlling the positions of said rotative pickers, means for rotating said pickers in a reverse direction and discharging the cotton picked thereby, a primary collector means, a secondary collector means, means for recovering the cotton gathered by said collector means, and means for guiding the body of the plant or bush in the path of said rotative pickers.

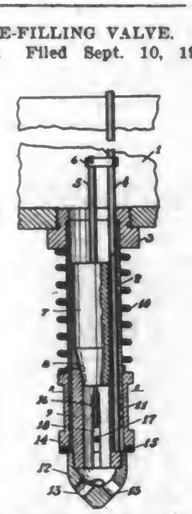
2. An apparatus of the character described, comprising a main frame, traction means mounted thereon, power generating means associated therewith, a vacuum generating means an auxiliary frame, means for supporting said auxiliary frame vertically within said main frame, driving shafts carried by said auxiliary frame driven from said power generating means sprockets mounted thereon, traveling chains carried by said sprockets, pivotal supports mounted on said chains, a plurality of vertically set bars mounted in said pivotal supports, guides for said bars, a plurality of rotative bearings mounted on each of said bars, picker stems mounted on said rotative bearings and free to turn therewith, means for rotating one of said bearings to simultaneously actuate all of said bearings, guides for said rotative bearing actuating means, means for imparting an oscillatory movement to said bars on said support, a plurality of cupped disks mounted on each of said picker stems adapted to extract the cotton from its boll, means for rotating said picker stems in a reverse direction and discharging the cotton gathered thereby, means for guiding a plant or bush in the path of said rotative picker stems, rotative conveyer means actuated from said picker traveling and operating means, stationary conveyers, means for drawing the cotton through said stationary conveyers by means of the vacuum generated by said power generating means, and a platform carried by said auxiliary frame provided with a hinged guide for the cotton plant or bush adapted to recover the cotton discharged from said pickers and conveyers.

3. An apparatus of the character described, comprising a main frame, motor vehicle means associated therewith, an auxiliary frame supported vertically within said main frame, a driving shaft mounted on said auxiliary frame actuated by said motor vehicle means, driving means on said driving shafts vertically mounted shafts provided with actuating means engaging the driving means on said driving shafts, sprockets mounted on said vertically set shafts, chains engaging said sprockets, pivotal supports carried by said chains, a plurality of supporting bars mounted on said pivotal supports, bearings mounted on said bars, a plurality of rotative sleeves mounted in said bearings, picker stems mounted on and free to turn with said sleeves, cupped disks provided with a plurality of slots mounted on said stems, guide tracks supported by said auxiliary frame a portion of each of said tracks being horizontally disposed and other portions being inclined, roller bearings on said bars engaging said tracks, driving racks mounted on each of said bars, means mounted on certain of said picker stem sleeves engaging said racks, sprockets mounted on each of said sleeves, chains carried by said sprockets, the travel of said bars being adapted to actuate one of said picker stems and cause the simultaneous forward and reverse rotation of all of said pickers, rotative collector and conveyer means, a stationary collector means adjacent to and adapted to receive the cotton from said rotative collector and conveyer means, a platform provided with a resilient receiving surface adapted to feed the cotton bush in the path of said rotative pickers and to recover the cotton discharged by said rotative collector and conveyer means, guards supported by said main frame adapted to force the spreading parts of a cotton bush in the path of said pickers, and means for releasing said bars from their traveling guides to prevent barking or tearing of the body of said cotton bush.

4. An apparatus of the character described, including a main frame an auxiliary frame mounted within said main frame comprising depending sections adapted to have pass between them a row of cotton bushes, shafts carried thereby, means for actuating said shafts, sprockets mounted on said shafts, chains carried by said sprockets, pivotal supporting means associated with said chains, a plurality of vertically set bars mounted on said pivotal supports, a plurality of rotative pickers mounted on said bars, cam tracks mounted in each of said depending sections, means actuated from one of said rotative pickers on each of said bars engaging said cam tracks for actuating all of said pickers on each bar simultaneously, means for reversing the rotation of said pickers for discharging the picked cotton therefrom, platforms carried by each of said sections, rotative collectors and conveyers mounted in each of said sections, stationary conveyers adjacent to each of said rotative collectors and conveyers, and means for recovering and conveying the cotton collected by said conveyers.

5. An apparatus of the character described including a main supporting frame, a depending frame mounted on said supporting frame comprised of two independent sections, and a picker stem actuating means mounted in each of said independent sections comprising a guide track and roller bearings adapted to engage said guide track, a portion of each of said tracks being horizontally disposed and other portions thereof inclined, racks associated with said roller bearings, picker stems supporting means, rotative picker stems mounted in said supporting means, driving means on each of said picker stem supporting means engaging said racks, and means mounted on one of said rotative picker stems, engaging said driving means and means operatively connecting the last named picker stem with the other picker stems, the travel of said roller bearings on said tracks in one of said inclined portions causing rotation of said picker stems in a forward direction and the travel of said roller bearings in the other of said inclined portions causing the reverse rotation of said picker stems.

976,085. BOTTLE-FILLING VALVE. ROBERT LITTLER, Westgrove, Pa. Filed Sept. 10, 1909. Serial No. 517,034.



1. A bottle filling valve comprising a tubular casing, having a conical valve seat at its lower end, a valve loosely contained in said casing, fitted to said seat, a stem attached to and extending above said valve, a vent tube positioned at one side and within the casing, connections between the vent tube and valve stem whereby the latter is guided by the former, a sleeve slidable on the casing, a resilient annular pad attached to the sleeve and adapted to contact with the seat formed interiorly of a bottle, an expansion spring surrounding the said casing and adapted to exert its tension against the sleeve downwardly and means combined with the sleeve adapted to raise the valve upon raising the sleeve above a certain point.

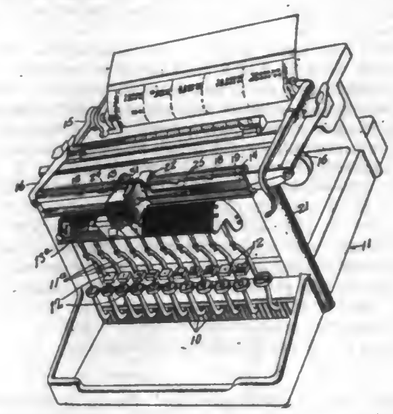
2. In combination with a bottle filling mechanism, comprising a liquid containing reservoir, of a hollow casing having means of connection with the bottom of the reservoir and level with the inner surface thereof, a conical valve seat formed at the lower end of said casing, a gravity operated valve fitted thereto, said valve being of lesser cross sectional area than the interior of the casing, a sleeve slidable on the exterior of the casing adapted to make liquid tight contact with a bottle top, means to exert a tension on said sleeve toward the end of the casing, means to limit the movement of the sleeve downward and means combined with the sleeve to raise the valve coincidently with raising the sleeve above a certain point.

976,086. COMPUTING-MACHINE. FRED F. MAIN, Chicago, Ill. Filed Mar. 9, 1910. Serial No. 548,321.

1. In a computing machine, the combination of a counter, a slidable carrier therefor provided with a plurality of spaced stops, a pawl carried by said counter and arranged to engage said stops during the movement of the carrier for locking the counter to the latter, to effect a synchronous movement of the counter with the carrier and means for automatically releasing said pawl from such engagement to unlock said counter.

2. In a computing machine the combination of a counter, a slidable carrier therefor including a supporting bar provided with a plurality of spaced stops, a pawl carried by said counter and arranged to successively engage said stops during the movement of said carrier for locking the counter to the latter, to effect a synchronous movement of said counter with said carrier and a stationary member projecting into the path of movement of said pawl for, periodically releasing the same from such engagement.

3. In a computing machine the combination of a counter, a slidable carrier therefor including a supporting bar provided with a plurality of spaced stops, a pawl carried by said counter and arranged to successively engage said stops during the movement of said carrier for locking the counter to the latter, to effect a synchronous movement of said counter with said carrier, and mechanism secured to the frame of the machine for periodically releasing said pawl from such engagement, said mechanism including a stationary arm, having one end thereof bent into position to engage the adjacent end of said pawl during its movement there beneath.

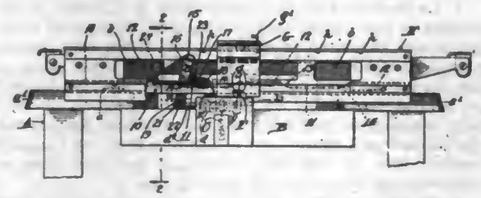


4. In a computing machine the combination of a counter having a single pawl pivoted thereto, a slidable carrier for the counter including a member provided with a plurality of spaced stops adapted to be successively engaged by said pawl, a member arranged to periodically engage said pawl to release the same from the adjacent stop, and means for automatically shifting said counter after each release to engage said pawl with the succeeding stop.

5. In a computing machine the combination of a counter having a single pawl pivoted thereto, a slidable carrier for the counter including a member provided with a plurality of spaced stops adapted to be successively engaged by said pawl, a stationary member secured to the frame of the machine and overlying said counter, said member being arranged to periodically engage said pawl to release the same from the adjacent stop, and a spring connected with said counter for automatically shifting it bodily after each release to engage said pawl with the succeeding stop.

[Claims 6 to 14 not printed in the Gazette.]

976,087. COMPUTING-MACHINE. FRED F. MAIN, Chicago, Ill. Filed May 16, 1910. Serial No. 561,710.



1. In a computing machine, the combination with an element to be shifted in a register actuating mechanism, of a traveling track having offset portions arranged at predetermined positions thereon, and a power transmitting device arranged between the element to be shifted and the track and arranged to transmit a shifting motion to the element to be shifted.

2. In a computing machine, the combination with an element to be shifted in a register actuating mechanism, of a traveling cam track having offset portions arranged to correspond with certain of the columns to be printed and a rocking element having a member riding said track and being operatively connected to the element to be shifted.

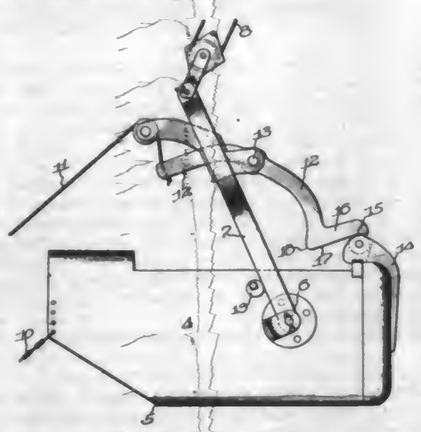
3. In a computing machine, the combination with an element to be shifted in a register actuating mechanism, of a traveling cam track having offset portions arranged at predetermined positions thereon, a lever having an arm riding on said cam track, an arm operatively connected with the element to be shifted and a spring for causing the arm of the lever to follow the contour of the cam track.

4. In a computing machine, the combination with an element to be shifted in a register actuating mechanism, of a traveling cam track having offset portions arranged at predetermined positions thereon, and a bell crank lever fulcrumed upon a stationary portion of the machine and having an arm riding on said cam track and an arm pivotally connected to the element to be shifted.

5. In a computing machine, the combination with an element to be shifted, of, a traveling cam track having offset portions, arranged at predetermined points thereon, a bell crank lever fulcrumed upon a stationary portion of the machine and having an arm riding on said cam track and an arm pivotally connected to the element to be shifted, and a spring for maintaining the first named arm in operative position upon the cam track.

[Claims 6 to 8 not printed in the Gazette.]

976,088. EXCAVATOR-BUCKET. OSCAR J. MARTINSON, Chicago, Ill., assignor to Monighan Machine Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 28, 1910. Serial No. 584,364.



1. In an excavator, the combination of a bucket, a bail pivoted to said bucket back of its center of gravity, hoisting means connected to said bail for lifting said bucket, a hauling cable operatively connected with the front of the bucket, a lever fulcrumed on said bail and adapted to control the tilting of said bucket relatively to said bail, a sheave on said bail, and a controlling line extending around said sheave and connecting said lever to said hauling line, so that the position of the lever may be controlled by tension on the hauling line.

2. In an excavator, the combination of a bucket open at the front, a bail pivotally connected thereto at a point back of the center of gravity thereof, a lever fulcrumed on said bail and having a part extending rearward of its fulcrum and adapted to bear on said bucket to prevent the same from tilting forward to its dumping position, a hauling line for said bucket, a sheave on said bail, and a controlling line passing over said sheave and connected between said lever and hauling line for controlling the movement of the lever.

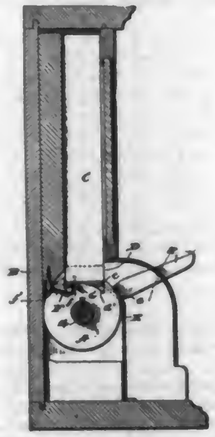
3. In an excavator, the combination of a bucket, a bail pivoted to said bucket, hoisting means connected with said bail, a lever fulcrumed on said bail and having arms extending respectively in front of and behind said fulcrum, a hauling cable operatively connected with said bucket, a sheave on said bail, a controlling line passing over said sheave and connecting said hauling line with one arm of said lever, the other arm of said lever being adapted to control the tilting of said bucket in said bail through the tension on said controlling line.

4. In an excavator, the combination of a bucket, a bail pivoted to said bucket, hoisting means connected with said bail, a lever fulcrumed on said bail and having arms extending respectively in front of and behind said fulcrum, a hauling cable operatively connected with said bucket, a sheave on said bail, a controlling line passing over said sheave and connecting said hauling line with the front arm of said lever, the other arm of said lever being adapted to control the tilting of said bucket in said bail through the tension on said controlling line.

5. In an excavator, the combination of a bucket, a bail pivoted to said bucket, hoisting means connected with said bail, a lever fulcrumed on said bail and having arms extending respectively in front of and behind said fulcrum, a hauling cable operatively connected with said bucket, a sheave on said bail above said lever, a controlling line passing over said sheave and connecting said hauling line with the front arm of said lever, the other arm of said lever being adapted to bear downward on said bucket at a point rearward of its pivotal connection to said bail to control the tilting of said bucket in said bail through the tension on said controlling line.

[Claims 6 to 8 not printed in the Gazette.]

976,089. VENDING-MACHINE. MICHAEL MCANENY, Denver, Colo., assignor, by mesne assignments, to McLaughlin Machine Company, St. Louis, Mo., a Corporation. Filed Mar. 3, 1906, Serial No. 304,108. Renewed Feb. 23, 1910. Serial No. 545,499.

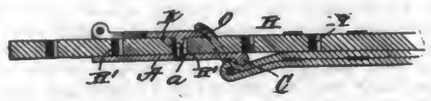


1. In a vending machine, the combination of a hopper, a rotatable pocketed drum whose pocket passes beneath the hopper, a vertically movable rocking plate situated at the hopper outlet to engage an article passing from the hopper to the drum pocket, and means to operate said plate.

2. In a vending machine, the combination of a hopper, a rotatable pocket drum comprising notched disks, a pivoted plate extending between the disks beneath the hopper situated to engage and tilt an article passing into a pocket from the hopper, and a part carried by the disks adapted by the rotation thereof to actuate said plate.

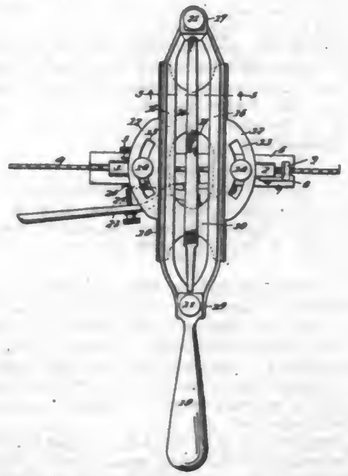
3. In a vending machine, the combination of delivery means, a ratchet wheel for operating said means, an operating lever for said ratchet wheel, and a pin attached to the lever and moved by the lever in contact with the ratchet wheel to prevent overthrow of the ratchet wheel.

976,090. TUG-BUCKLE. THOMAS ALEX. MCKEE, Memphis, Mo., assignor of one-half to Joel A. Curtis, Memphis, Mo. Filed Dec. 18, 1909. Serial No. 533,822.



In a buckle, the combination of a perforated plate having apertured ears along the marginal edges thereof adjacent to one end of the plate, the outer faces of said ears being flush with the edges of the plate and the outer ends of the ears flush with the end of the plate, one end of the latter terminating in a cylindrical outlined rib projecting from the face opposite the one from which said ears project, the ends of said rib projecting beyond the opposite edges of the plate, a pin mounted in the apertures of said ears, a hinged plate having one end turned into rolls forming bearings for the reception of said pin, the free end of said hinged plate bent to form a hook, a pin projecting from the under face of the hinged plate and adapted to engage a perforation in said first mentioned plate, a bail designed to engage over the hooked end of the hinged plate, and a strap secured to said bail and held by the latter frictionally against the projecting portion of said rib.

976,091. SAW FILER AND SET. CORNELIUS MILLER, Providence, R. I. Filed Jan. 22, 1910. Serial No. 539,540.



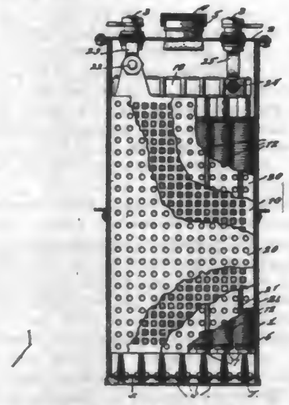
1. A saw filer including a supporting member for clamping to the saw, a guide member adjustably carried by the supporting member and including a plate of V-shape cross section having a central opening, and a file carrier having a member conformably received by said guide member arranged to slide in the guide member.

2. A saw filer including a supporting member formed of two spaced plates, each plate being slotted to receive the saw blade, a longitudinal strip on each side of the plates which connect the same and engage on opposite sides of the saw blade, a guide member for the file carrier, composed of a plate V-shape in cross section formed with outwardly extending wings having arc-shaped slots therein, the wings seating on top of the said plates, set screws which extend through said slots of the wings and into the tops of the said plates, and a file carrier conformably fitted to slide in said channel formed by said V-shape plate.

3. A saw file including a pair of spaced end plates, a file carrier guide composed of a plate having a substantially central V-shaped portion arranged in the space between said plates and outwardly extending wings which seat on top of said end plates, and means to adjustably secure said extended wings to said end plates.

4. A device of the character described, comprising spaced plates formed with slots to receive a saw blade, connecting means for said plates, means for clamping said plates to the blade, a guide member of substantially concave cross-section carried by said plates and formed with a central opening, a file, a carrier for the file mounted in the said guide member, the cutting face of the file being held above the lowest portion of the file guide by said carrier, a portion of the saw blade being adapted to extend upward through the opening formed in said guide member and be engaged by the file.

976,092. REVERSIBLE GALVANIC BATTERY. WILLIAM MORRISON, Des Moines, Iowa. Filed Oct. 10, 1910. Serial No. 586,334.



1. A reversible galvanic battery comprising a negative-pole electrode containing an oxidizable metal and a chromium compound, a positive-pole electrode containing silver and mercury, and an alkaline electrolyte.

2. A reversible galvanic battery comprising a negative-pole electrode containing an oxidizable metal and a chromium-oxygen compound, a positive-pole electrode containing silvery and mercury, and an alkaline electrolyte.

3. A reversible galvanic battery comprising a negative-pole electrode containing an oxidizable metal, a chromium compound and mercury, a positive-pole electrode containing silver and mercury, and an alkaline electrolyte.

4. A reversible galvanic battery comprising a negative-pole electrode containing an oxidizable metal, a chromium-oxygen compound and mercury, a positive-pole electrode containing silver and mercury, and an alkaline electrolyte.

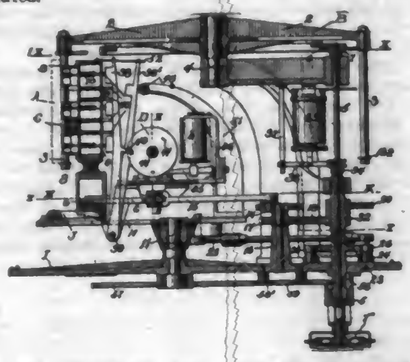
5. A reversible galvanic battery comprising a negative-pole electrode containing zinc and a chromium-oxygen compound, a positive-pole electrode containing silver and mercury, and an alkaline electrolyte.

[Claims 6 to 19 not printed in the Gazette.]

976,093. MUTOGRAPH. FRANK C. NEWELL, Cleveland, Ohio, assignor to The F. C. Newell Mutograph Corporation, Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 16, 1907. Serial No. 402,475.

1. The combination with a mosaic plate composed of relatively movable sections adapted to form a plurality

of symbols in relief and a movable selector therefor whose various positions govern the symbol to be produced upon the mosaic plate, of means for moving the selector, a keyboard, stop means for arresting the movement of the selector, and connections thereto from the keyboard whereby the actuation of any key will operate the stop means and arrest the selector in position to secure upon the mosaic the symbol corresponding to that of the key actuated.



2. The combination with a mosaic plate composed of relatively movable sections adapted to form a plurality of symbols in relief and a movable selector therefor whose various positions govern the symbol to be produced upon the mosaic plate, of friction means for moving the selector, a keyboard, stop means for arresting the movement of the selector, and connections thereto from the keyboard whereby the actuation of any key will operate the stop means and arrest the selector in position to secure upon the mosaic the symbol corresponding to that of the key actuated.

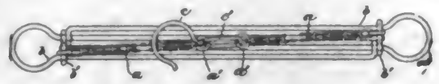
3. The combination with a mosaic plate composed of relatively movable sections adapted to form a plurality of symbols in relief and a movable selector therefor whose various positions govern the symbol to be produced upon the mosaic plate, of a releasable means for moving the selector, a keyboard, stop means for arresting the movement of the selector, and connections from the keyboard to the stop means and the releasable means whereby the actuation of any key will operate to throw out the releasable means for moving the selector and throw in the stop means and arrest the selector in position to secure upon the mosaic the symbol corresponding to that of the key actuated.

4. The combination with a mosaic plate composed of relatively movable sections adapted to form a plurality of symbols in relief and a movable selector therefor whose various positions govern the symbol to be produced upon the mosaic plate, a releasable means for moving the selector, a keyboard, stop means for arresting the movement of the selector, and connections from the keyboard to the stop means and the releasable means whereby the actuation of any key will operate to throw out the releasable means for moving the selector and throw in the stop means and arrest the selector in position to secure upon the mosaic the symbol corresponding to that of the key actuated, and automatic means for releasing the stop means and reëngaging the releasable means after a predetermined interval.

5. The combination with a mosaic plate composed of relatively movable sections adapted to form a plurality of symbols in relief and a rotatable selector therefor whose various rotative positions govern the symbol to be produced upon the mosaic plate, of means for rotating the selector, a keyboard, stop means for arresting the movement of the selector, and connections thereto from the keyboard whereby the actuation of any key will operate the stop means and arrest the selector in position to secure upon the mosaic the symbol corresponding to that of the key actuated.

[Claims 6 to 30 not printed in the Gazette.]

976,094. GARMENT-HANGER. GEORGE V. NICHOLS, Providence, R. I., assignor to Tilden-Thurber Company, Providence, R. I., a Corporation of Rhode Island. Filed Dec. 27, 1906. Serial No. 349,724.



1. An extensible and contractible garment hanger embracing two sliding sections comprising transverse portions embracing one another, a suspension chain whose outer ends are secured to said transverse portions and whose inner ends are retained in a longitudinal loop or eye formed in the shank of the supporting hook, substantially as described.

2. A garment hanger of the class described embracing two collapsible sections each having transverse portions surrounding the other to form sliding engagement, a suspending hook whose shank portion is formed into a longitudinal loop, two chain sections having their inner ends loosely secured in said loop and their outer ends secured to the transverse portions of the sliding frames, the parts being so proportioned that the total length of the chains and the hook loop is substantially equal to the distance between the transverse portions of the hanger sections when in contracted position, substantially as described.

3. A garment hanger embracing in its construction the telescoping sections, a supporting device consisting of flexible supports terminating at their inner ends in links or rings, a hook provided with a longitudinal eye in which said rings are loosely inserted, said eye being of narrower diameter than the combined thickness of said links, substantially as described.

4. In a garment hanger the combination of the telescoping sections and supporting means therefor embracing oppositely disposed suspension chains whose outer ends are secured respectively to the telescopic sections, an elongated closed wire loop which receives and retains the inner end links of each chain, said loop being extended longitudinally in the same direction as the hook portion and being of less width internally than the thickness of the two chain links passed through it whereby upon the collapsing of the device the chain and the hook are extended to lie flat upon and parallel with the telescopic sections, substantially as described.

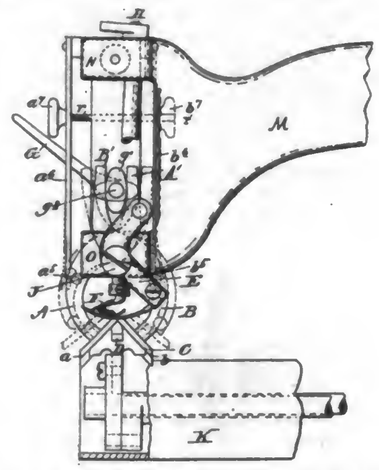
976,095. PRESSER-FOOT FOR BLINDSTITCH-MACHINES. LANSING ONDERDONK, New York, N. Y., assignor to Union Special Machine Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 29, 1904. Serial No. 222,612.

1. The combination with a work supporting member, having inclined work engaging faces for crimping the material, an overhanging arm, a needle carried by said overhanging arm, independent presser members coöperating with said inclined work engaging faces and means for moving said presser members relative to each other toward and away from the work engaging faces in a path below the path of the needle.

2. The combination of a support, a crimping member carried thereby, an overhanging arm, a needle supported by the overhanging arm, independent presser members pivoted to said overhanging arm, so as to swing in a direction substantially at right angles to the crimping member, and coöperating with said crimping member, and means for moving said presser members toward and from each other, and the crimping member.

3. The combination with a crimping member, means for supporting said crimping member, an overhanging arm, a needle supported by said overhanging arm, independent presser members coöperating with the crimping member, and means for moving said presser members relative to each other, and toward and away from the crimping member in a path below the path of the needle.

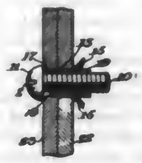
4. The combination of an arm, a crimping member carried thereby, an overhanging arm, a needle supported by said overhanging arm, independent presser members pivoted to said overhanging arm and coöperating with said crimping member, and means for simultaneously moving said presser members away from each other and the crimping member.



5. In a sewing machine the combination of a bed plate, a feeding mechanism, a crimping member carried by the bed plate, a needle reciprocating across said crimping member, and independently yielding presser members engaging each side of the crimping member respectively and means for moving said presser members relative to each other, and toward and away from the crimping member; substantially as described.

[Claims 6 to 16 not printed in the Gazette.]

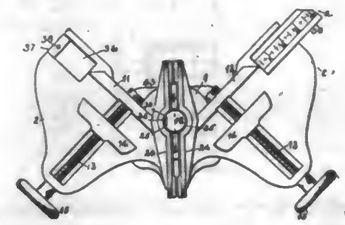
976,096. SELF-LOCKING BOLT. WILLIAM PANSCH and OTTO G. BARK, Chicago, Ill. Filed Apr. 30, 1910. Serial No. 558,647.



In a self-locking bolt, the combination with a screw-threaded and headed bolt, of a sleeve loosely mounted on the bolt and extended through the openings in the pieces to be secured together, said sleeve having a series of longitudinally disposed arms extended at their free ends beyond the outer surface of one of the pieces to be secured together and having on its other end a peripheral and outward projection to bite into the outer surface of the other piece, and a nut mounted on and engaging the inner portion of the screw-threaded bolt and having its portion adjacent to the free ends of the arms of the sleeve beveled and provided with a rib, said nut adapted to divide the arms of the sleeve and to cause them to spread outwardly against the outer surface of one of the pieces to be secured to another piece.

976,097. MITER-BOX. FRITZ PETERSON, Rockford, Ill., assignor to Star Miter Machine Company, Rockford, Ill., a Corporation of Illinois. Filed Dec. 28, 1908. Serial No. 469,710.

1. In a miter box, the combination of a bed, a saw guideway supported by the bed, a saw guide located in the guide-way, and saw guide plates, one located each side of the saw guide, each plate supporting three set screws and a clamping screw by which the plate is adjusted to the saw blade.



2. In a miter box, the combination of a bed, a saw guideway supported by the bed and a saw guide located in the guide-way, the saw guide formed with an enlarged transverse saw-back receiving opening which has its outer ends of greater vertical length than its center.

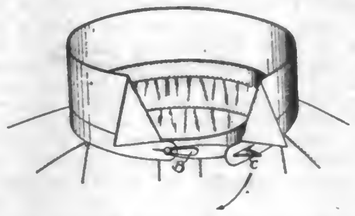
3. In a miter box, the combination of a bed, a saw guideway supported by the bed, the guide-way being formed with a lengthwise slot for the passage of a saw blade and the bed formed with downwardly extending slots at the lower end of the slot in the guide-way, said downwardly extending slots having inclined bottoms, and a saw guide supported by the guide-way and having a saw-receiving slot.

4. In a miter box, the combination with a support, of a vertically movable saw guide mounted thereon, and saw-embracing guide plates mounted on the support separately from and on opposite sides of the saw guide.

5. In a miter box, the combination with a support having a guideway, of a saw guide movably mounted in the guideway, and saw guide plates mounted on the guideway independently of the saw guide and located on opposite sides thereof.

[Claims 6 to 10 not printed in the Gazette.]

976,098. BUTTONING DEVICE. JOHN G. ROBISON, Cleveland, Ohio, assignor of one-half to William T. Busser, Piqua, Ohio. Filed Mar. 19, 1910. Serial No. 550,394.



1. A collar buttoning device comprising a body having a substantially flat central portion and having its ends twisted in opposite directions with respect to the plane of said central portion, one of such ends being provided with an opening for engaging a button.

2. A collar buttoning device comprising a plate having a substantially flat central portion and having its ends twisted in opposite directions with respect to the plane of the central portion, one of such ends being provided with an opening for the reception of a button and each end being deflected at an angle less than ninety degrees with respect to the central portion of the plate.

3. A collar buttoning device comprising a plate, the central portion of which is substantially flat and having tapered ends, said ends being twisted in opposite directions with respect to the plane of the central portion, one of such ends being provided with a tapered opening for application to a button, the opposite end being twisted in a plane making an angle less than ninety degrees with the plane of the central portion so as to lie flat in the button hole of the collar to prevent undue spreading of the latter

976,099. ASH-SIFTER. JOSEPH W. ROPER, East Orange, N. J. Filed Mar. 8, 1909. Serial No. 482,128.

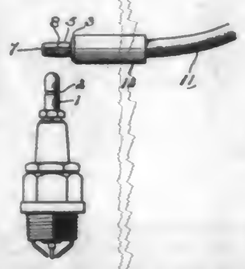


1. An apparatus of the kind described, comprising a hood provided with doors, a flue connection with the top and adapted to sit upon an ash receptacle, a rotatable framework mounted in the hood with one of its ends opposite a door of the hood, a seat in the framework constructed to permit an ash pan to be pushed onto it, and to hold the said pan in place on either side of the seat, and a screen permanently attached to one of the sides of the framework so as to extend opposite the ash pan.

2. An apparatus of the kind described comprising a hood provided with doors, a flue connection at the top and adapted to sit upon an ash receptacle, a rotatable rectangular framework hung in the hood and provided with a seat to receive an ash pan when the latter is pushed into the framework, both sides of the seat being constructed to receive and support an ash pan, and a screen rigid on and forming a part of the framework on one of the sides of the framework opposite the seat of the ash pan.

3. In an ash sifter a hood adapted for attachment to a receptacle and provided with doors and a flue, a rotatable frame mounted in the hood, said frame having double seats each of which is adapted to aline with the door to permit the application of a receptacle to the said frame, a screen covering one of the seats, and means for holding the receptacle on the other seat.

976,100. TERMINAL-FASTENING. ALBERT SCHMIDT, Flint, Mich., assignor to Champion Ignition Company, Flint, Mich., a Corporation of Michigan. Filed Feb. 7, 1910. Serial No. 542,383.



1. The combination of a terminal stem having a groove, an eye to receive the stem adapted to be attached to an electrical conductor, and a spring secured to the eye and normally projecting into the opening thereof to engage the groove in said stem.

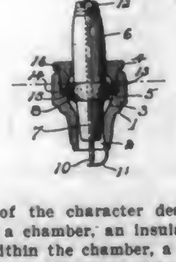
2. The combination of a terminal stem having a groove, an eye bolt adapted to receive the stem, means for attaching the eye bolt to an electrical conductor, and a spring on the eye bolt to engage the groove in the stem and detachably hold the eye bolt in place thereon.

3. The combination of a terminal stem having an annular groove, an eye bolt having an opening to receive the stem and a transverse slot, means for attaching the eye bolt to an electrical conductor, and a spring secured within the slot in the eye bolt to engage the groove in the stem.

4. The combination of a terminal stem having an annular groove, an eye bolt having an opening to receive the stem and having a transverse slot extending inward from the outer end of the eye of the bolt, a U-shaped spring secured within said slot with its free end portions normally projecting into the opening in the eye to engage the groove in the stem, and means for attaching the eye bolt to an electrical conductor.

5. The combination of a terminal stem having an annular groove, an eye bolt having a screwthreaded shank portion and provided with an opening to receive the stem and a slot extending transversely of the opening from the outer end of the eye toward the shank portion, a U-shaped spring secured within the slot with its end portions normally projecting into the opening, a plug having an axially screw threaded opening to receive the stem of the eye bolt, and a sleeve within one end of which the plug is secured.

976,101. SPARK-PLUG. ALBERT SCHMIDT, Flint, Mich., assignor to Champion Ignition Company, Flint, Mich., a Corporation of Michigan. Filed June 9, 1910. Serial No. 565,912.



1. A device of the character described comprising a bushing having a chamber, an insulating plug having an annular bead within the chamber, a supporting ring having flanges embracing the bead and a horizontally extending portion to support the plug, and means for detachably securing said horizontal portion to the bushing and forcing said flanges into engagement with the bead.

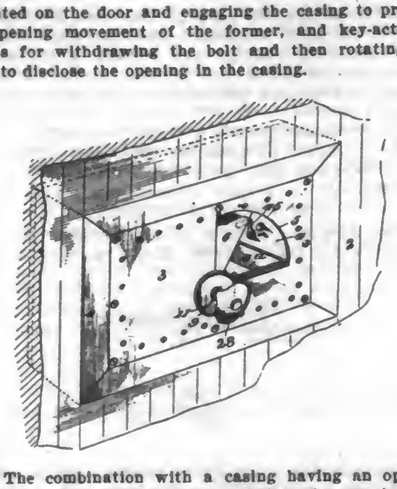
2. A device of the character described comprising a bushing having a chamber, an insulating plug formed with an annular bead, means for supporting said plug within the chamber of the bushing comprising annular, parallel members spaced apart and each having a laterally extending flange engaging and conforming to the surface of said bead, and means carried by the bushing to engage said annular portions and detachably secure the same to the bushing and force the same toward each other.

3. A device of the character described comprising a bushing having a chamber and a ledge extending into said chamber, an insulating plug formed with an annular bead, a supporting ring comprising horizontally extending annular portions spaced apart and each formed with an inner edge flange engaging the surface of the bead and formed down upon the same, and a member within the chamber of the bushing engaging the horizontally extending portion of the ring to clamp the same between it and the said ledge on the bushing.

4. A device of the character described comprising a bushing formed with an internally screwthreaded chamber in its outer end and an inwardly projecting ledge, an insulating plug formed with an annular bead, a supporting ring formed of sheet metal folded upon itself to form horizontally extending annular portions, spaced apart and formed with flanges extending laterally from the inner edges of said annular portions, said flanges engaging and conforming to the surface of said bead, a ring nut engaging the screwthreaded end of the chamber and adapted to be turned into the same into engagement with the horizontally extending portions of the supporting ring and clamp said portions between it and the said ledge on the bushing.

976,102. LOCK-BOX. GEORGE SCHWINN, San Francisco, Cal. Filed Aug. 30, 1909. Serial No. 515,314.

1. The combination with a casing having an opening therein, and a pivoted door closing said opening and adapted to be turned away therefrom, of a shiftable locking bolt mounted on the door and engaging the casing to prevent an opening movement of the former, and key-actuated means for withdrawing the bolt and then rotating the door to disclose the opening in the casing.



2. The combination with a casing having an opening therein, and a rotatable door closing the opening but adapted to be turned away therefrom, of a shiftable locking bolt mounted on the door and engaging said casing to prevent an opening movement of the door, and key-actuated means located at the pivotal center of the door for actuating the door to disclose the opening in the front plate.

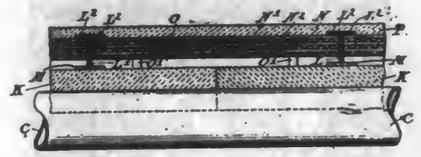
3. The combination with a casing having an opening therein, and a door closing the opening and adapted to be turned away therefrom, of a locking bolt slidably mounted on the door and engaging with the casing, an abutment on the side face of the casing with which the bolt engages, an eccentric rotatably mounted on the inside face of the door and engaging with the bolt, rotatable key-actuated means engaging with the eccentric to rotate the same and thereby withdraw said locking bolt, and means mounted on the inside face of the door limiting the independent rotation of the eccentric and against which the eccentric binds to cause a rotation of the door with the eccentric after the eccentric has made its initial unlocking movement.

4. The combination with a casing having an opening therein and a pivoted door closing the opening but adapted to be turned away therefrom, a rotatable barrel mounted on the door and opening through the front thereof at the pivotal center of the door, an eccentric mounted on the barrel and rotatable therewith, a longitudinally shiftable locking bolt mounted on the inside face of the door and normally projecting beyond the margin of the door opening, a bevel-faced abutment mounted upon the inside face of the casing adjacent to the door opening with which the beveled extremity of the locking bolt engages, a yoke on the locking bolt having an inwardly turned end with which said eccentric engages to withdraw the bolt, a spring for urging the bolt into engagement with the abutment, key-actuated means for rotating the eccentric, thereby releasing the locking bolt from engagement with the abutment, and means mounted on the door limiting the independent rotation of the eccentric relative to the door and against which the yoke engages to cause a rotation of the door with the eccentric after the eccentric has made its initial unlocking movement.

5. The combination with a pivoted door and a casing having an opening normally closed by the door, of a rotatable key-actuated locking device mounted on the door at its pivotal center, but independently movable relative thereto, and having locking engagement with the casing, means for engaging said locking device to shift it out of engagement with the casing, and means on the door engaged by said locking device when so shifted to lock the door and locking device to each other to permit of a unitary movement of the door and locking device to move the door to its open position.

[Claims 6 to 20 not printed in the Gazette.]

976,103. BOILER. WILLIAM F. SELLERS, Wilmington, Del., and CHARLES J. DAVIDSON, Milwaukee, Wis., assignors to Edge Moor Iron Company, Edgemoor, Del., a Corporation of Delaware. Original application filed Mar. 15, 1907, Serial No. 362,541. Divided and this application filed Apr. 9, 1909. Serial No. 488,834.



1. In a water tube boiler having tubes at its sides, a boiler housing having side walls formed by tiling bearing against the side tubes of the boiler, tiling retaining devices comprising a series of parallel bars at each side of the boiler, the inner edges of said bars holding the tiling against the tubes, each bar being provided at its outer edge with flanges extending toward the adjacent bars and blocks of heat insulating material removably inserted between each adjacent pair of bars and retained in place by said flanges.

2. In a water tube boiler having tubes at its sides, a boiler housing having side walls formed by tiling bearing against the side tubes of the boiler, tiling retaining devices comprising a series of parallel bars at each side of the boiler, the inner edges of said bars holding the tiling against the tubes, each bar being provided at its outer edge with flanges extending toward the adjacent bars and blocks of heat insulating material removably inserted between each adjacent pair of bars and retained in place by said flanges, and means for spacing said blocks away from the tiling.

3. A housing for a boiler having a lower portion of greater width than the upper portion and having tubes at its sides, said housing comprising tiling bearing against said tubes, tiling retaining devices at each side of boiler comprising a series of parallel bars at the side of the lower portion of the boiler and a similar series of parallel bars at the side of the upper portion of the boiler, a frame member to which the upper ends of the series of bars at the side of the lower portion are connected, another frame member to which the lower ends of the series of bars at the side of the upper portion of the boiler are connected and horizontal tie bars connecting said frame members, the inner edges of said bars of said series holding the tiling against said side tubes, and each bar of said series being provided at its outer edge with flanges extending toward the adjacent bars of the same series, and blocks of heat insulating material removably inserted between each adjacent pair of bars and held in place by said flanges.

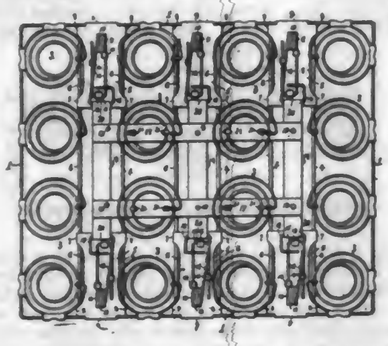
976,104. SPRING CONSTRUCTION. JOHN H. SNUGG, Jackson, Mich., assignor, by mesne assignments, to Vehicle Cushion and Spring Co., Jackson, Mich. Filed Dec. 30, 1907. Serial No. 408,653.

1. In a spring construction, a main frame, supporting wires, springs mounted upon the supporting wires, an auxiliary frame having a series of loops, and means for supporting the auxiliary frame having looped engagement with the loops of the auxiliary frame.

2. In a spring construction, a main frame, supporting wires, springs mounted upon the supporting wires, clips connecting pairs of the supporting wires to the frame, said clips having tongues, an auxiliary frame having engagement with the innermost springs of the construction, and means held upon said clips by the tongues of the latter and yieldably support the auxiliary frame.

3. In a spring construction, upper and lower edge wire supporting wires, springs mounted upon the supporting wires, clips connecting the supporting wires and the lower edge wire, an auxiliary frame mounted between the upper and lower edge wires and having connection with the

nermost springs intermediate the ends of the latter, and means mounted upon the adjacent clips for engagement with the auxiliary frame to support the latter.

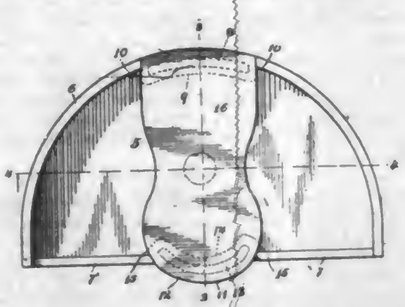


4. In a spring construction, upper and lower edge wires, supporting wires, springs mounted upon the supporting wires, clips connecting the supporting wires and the lower edge wire, an auxiliary frame mounted between the upper and lower edge wires and having connection with the innermost springs intermediate the ends of the latter, and yieldable elements mounted upon said clips and having slidable engagement with the auxiliary frame.

5. In a spring construction, a main frame including upper and lower edge wires, supporting wires, clips engaging pairs of supporting wires and the lower edge wire to support the former, the clips having tongues, an auxiliary frame having connection with the innermost springs and also having loops in its sides, springs each having parallel members lying upon corresponding clips and secured to the latter by means of said tongues, each of the last named springs also having an arm provided at its end with a loop for slidable engagement with the corresponding loop of the auxiliary frame.

[Claims 6 to 12 not printed in the Gazette.]

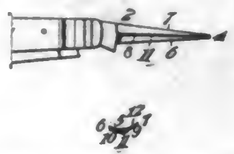
976,105. OIL-BURNER. WILLIAM A. STEPHENS, Lawton, Okla., assignor of one-half to James M. Powers, Lawton, Okla. Filed May 21, 1910. Serial No. 562,620.



1. An oil burner comprising a pan including a substantially semi-circular-shaped bottom, a side wall rising from the curved side of the bottom, a pair of side walls rising from the straight side of the bottom, the second-named side walls being of less height than the curved side wall and having their opposite ends secured to the opposite ends of the said curved side wall, an oil supply pipe opening through the said bottom, oppositely positioned air ducts opening at one end through the bottom of the pan and their opposite ends leading to the space surrounding the oil supply pipe.

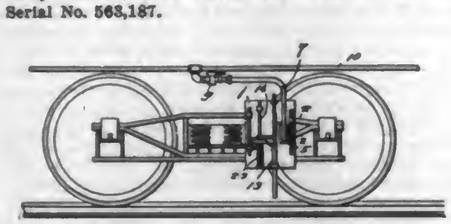
2. An oil burner comprising a pan including a substantially semi-circular-shaped bottom, a side wall rising from the curved side of the bottom, a pair of side walls rising from the straight side of the bottom, the second-named side walls being of less height than the curved side wall and having their opposite ends secured to the opposite ends of the said curved side wall, an oil supply pipe opening through the said bottom, oppositely positioned air ducts opening at one end through the bottom of the pan and their opposite ends leading to the space surrounding the oil supply pipe, and a deflector positioned above the air ducts and over the space surrounding the oil supply pipe.

976,106. GOUGE. JOHN A. SUCKLEY, North Woodbury, Conn. Filed July 31, 1909. Serial No. 510,650.



A gouge having a lengthwise cutting edge, a concave face, a back consisting of two flat faces with a ridge between them, the ridge being median of the back of the gouge and extending the entire length thereof, and one of the flat faces forming with the forward portion of the concave face a lengthwise cutting edge.

976,107. ACCIDENT BRAKE APPLIANCE. MARTIN E. TROUTT, Fort Worth, Tex., assignor of one-third to Jerry Harwell, Fort Worth, Tex. Filed May 24, 1910. Serial No. 563,187.



1. A safety appliance for railway trains comprising a plate attached to a car truck, an air-controlling valve mounted thereon, a pipe connecting said valve with a train pipe, a rack bar slidably mounted on said plate and carrying an arm in proximity to the railway rail and extending above the rail, a piston in said valve, a lever fulcrumed on said valve and pivotally connected to said piston and projecting in the path of the teeth to be actuated by said teeth to open said valve, and means for guiding said rack bar in its vertical movement.

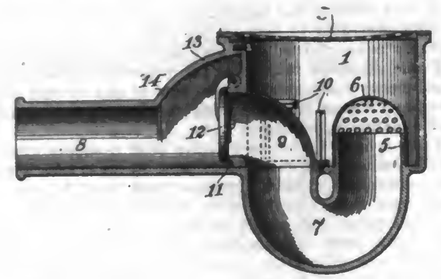
2. A safety appliance for railway trains comprising an air-controlling valve connected to the train pipe system, an actuating member operatively connected to said valve to open said valve in case of accident and carrying an arm above a railway rail, means for elevating said actuating member and holding the same elevated after the opening of said valve, and a rack on said actuating member for holding the valve open while elevated.

3. A safety appliance for railway trains comprising an air-controlling valve connected to the train pipe system, an actuating member operatively connected to said valve for opening the same in case of accident and carrying an arm above the railway rail, a spring for elevating said actuating member after the opening of said valve, and means for guiding said actuating member.

4. A safety appliance for railway trains comprising an air-controlling valve connected to the train pipe system, a plate carrying said valve attached to the car truck, an actuating member operatively connected to said valve to open the same in case of accident and having a dovetail connection with said plate and slidable vertically thereon and carrying an arm above and in proximity to a rail of the railway, a spring for elevating said actuating member after the opening of said valve, means for normally locking said spring compressed, and means carried by said actuating member for releasing said spring.

5. A safety appliance for railway trains comprising an air-controlling valve connected to the train pipe system, a plate attached to the car truck and carrying said valve, an actuating member slidable on said plate and operatively connected to said valve to open the same in case of accident, a spring mounted on said plate for elevating said actuating member after the opening of said valve, tripping devices pivotally mounted on said plate for normally locking said spring compressed, and a shoulder carried by said actuating member for disengaging said tripping devices from said spring.

976,108. FLOOR-DRAIN TRAP. WILLIAM WEILER, Dayton, Ohio. Filed July 28, 1910. Serial No. 574,255.



1. In a device of the type specified, the combination with a basin, a waste pipe extending therefrom, a trap mounted below and opening into said basin, of a clean-out plug mounted over the opening in said trap and forming a communication between the trap and the waste pipe.

2. In a device of the type specified, the combination with a basin, a waste pipe extending from said basin, a trap mounted below and opening into said basin, a clean-out plug mounted over the opening in said trap and forming a passageway from the trap to the waste pipe, and a valve mounted on said clean-out plug and opening toward said waste pipe.

3. In a device of the type specified, the combination with a basin, a waste pipe extending from said basin, a trap mounted below and opening into said basin, of a clean-out plug mounted in said basin and forming a communication between the trap and the waste pipe, and said trap being extended upwardly at its inlet into the basin, to form a standpipe, thereby forming a settling chamber in the bottom of the basin.

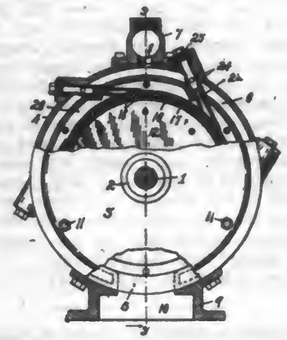
976,109. TURBINE. CALVIN W. WELLMAN, South Boardman, Mich., assignor to Hattie M. Wellman, Oshkosh, Wis. Filed Apr. 2, 1909. Serial No. 487,461.

1. In a turbine, a rotor comprising sheet metal disks, blades secured between such disks, and reinforcing members for such disks.

2. In a turbine, a rotor comprising spaced sheet metal disks, blades secured to and spacing such disks, and strengthening members embracing the outer sides of the disks and forming the rotor hub, and means securing said parts together.

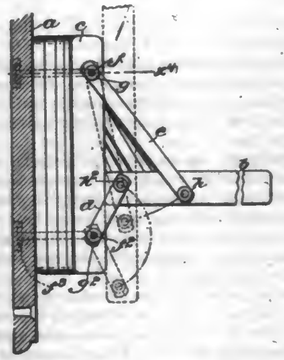
3. In a turbine, a rotor comprising spaced disk members, sheet metal facings for the inner sides of such members, and blades secured to said facings.

4. In a turbine, a rotor comprising spaced disk members, sheet metal facings for the inner sides of said members, said facings being provided with annular sets of slots, blades secured between said facings and having lugs fitting into said slots, and means for securing said parts together.



5. In a reversible turbine, a rotor comprising a cente disk, end disks spaced therefrom, sheet metal facing for the contiguous sides of said disks, said facings havin opposed annular rows of slots, annular sets of blades s cured between the contiguous facings and having lu secured in the slots thereof, the blades of each set bei reversely arranged, and jets for directing an actuatin fluid against said blades.

976,110. WALL-RACK. DAVID C. WILLIAMS, Arlingto Mass., assignor, by mesne assignments, to Woodenwa Specialty Mfg. Co., a Corporation of New York. Fil Apr. 11, 1910. Serial No. 554,761.



1. A rack having a base and horizontal, stationa curved members projecting from the face thereof; ab ments mounted on said curved members; a plurality folding supports adapted to stand vertically or ho zontally; and two links for each support, said links co stituting the sole connecting means between the said su ports and the said abutments, and being pivotally co nected with said supports at different points.

2. A rack comprising a plurality of stationary verti abutments mounted on a curved support; a plurality folding supports one for each abutment; and double li connections extending from said vertical abutments said folding supports, whereby the latter may be mov to a vertical or horizontal position.

3. In a rack, the combination with the base; of p allel, curved members projecting forward from said ba stationary vertical abutments mounted on said cur members; movable supports; and links pivotally c nected respectively with said curved members and s movable supports, substantially as and for the purp described.

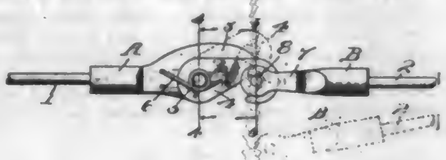
4. A rack having a vertical, stationary abutment

folding support adapted to lie parallel to, or at a right angle with, said abutment; an upper link pivotally connected with said support at one end, and with said abutment at the other end; and a lower link pivotally connected at one end with said support, and at the other end with said abutment, the pivotal connection of the lower link with the support being nearer the inner end thereof than the pivotal connection of the other link.

5. A rack having a vertical, stationary abutment; a folding support; an upper link connection pivotally connected at one end to said abutment, and at the other end to said support, and a lower link connection also pivotally connected at one end to said abutment and at the other end to said support, said lower link connection being shorter than the upper link connection, and said link connections constituting the only means for connecting the support with the abutment.

[Claim 6 not printed in the Gazette.]

976,111. WIRE-CONNECTOR. PAUL F. WILLIAMS, Chicago, Ill. Filed Nov. 7, 1904. Serial No. 231,646.



1. A device for use in connecting aerial wires, comprising two members to which said wires may be attached, and having provisions for detachably engaging one another, whereby the wires may be connected, and also having provisions for separating said members from one another.

2. A device for use in connecting aerial wires, comprising two members to which the wires to be connected may be attached, and having provisions whereby said members may detachably engage each other, and also having mechanism tending normally to separate said members from one another, but held against action by the tension of the connected wires.

3. A device for use in connecting aerial wires, comprising two members to which the wires to be connected may be attached, and having provisions for detachably engaging one another, said members being held in engagement by the tension of said wires, and mechanism whereby said members are separated from one another upon the release of such tension.

4. A wire connector comprising a pair of separable members adapted to engage directly with one another, and provided with means for the permanent attachment of the wires to be connected, one of said separable members having spring means arranged to act upon the other member to separate the two as soon as the tension of the wire is relieved.

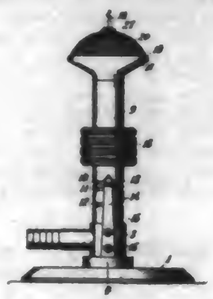
5. A wire connector comprising two separable members only having provisions for permanently attaching wires to be connected, one of said members having a hook and the other means for engaging such hook, and spring means for disengaging said hook device when the connected wires are in substantially their normal position.

[Claims 6 to 9 not printed in the Gazette.]

976,112. JEWELER'S AND DENTIST'S BURNER. ABRAHAM ZAREMBOWITZ and CHARLES ZAREMBOWITZ, New York, N. Y. Filed Oct. 28, 1909. Serial No. 525,052.

1. In a burner, the combination with a supply pipe, of a stationary tube connected to said supply pipe, a plurality of tubes telescopically engaging said stationary tube, burners connected to said second-mentioned tubes, and means for locking said second-mentioned tubes in any adjusted position.

2. In a burner, the combination with a supply pipe, of a tube connected to said supply pipe, a tube connected to said first-mentioned tube, a tip burner on said tube, a valve on said second-mentioned tube, adapted to control the supply of fuel from said first-mentioned tube to said second-mentioned tube, means for regulating said valve, and means for locking said valve in any adjusted position.



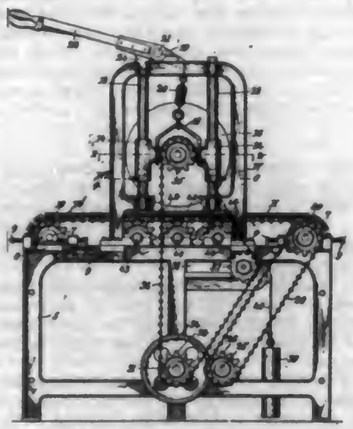
3. In a burner, the combination with a supply pipe, of a tube connected to said supply pipe, an inner tube adjustably connected to said first-mentioned tube and having side openings therein, a tip connected to said inner tube, means for regulating the flow of gas to said inner tube, and means for regulating the flow of gas through said openings in said inner tube.

4. In a burner, the combination with a supply pipe, of a tube connected to said supply pipe, an inner tube adjustably connected to said first-mentioned tube, a valve on said inner tube, coacting with said first-mentioned tube, for controlling the supply of fuel to said inner tube, a tip on said inner tube, an outer tube connected to said inner tube and adjustable relatively to said first-mentioned tube, and means for locking said outer tube in any adjusted position.

5. In a burner, the combination with a supply pipe, of a tube connected to said supply pipe, an inner tube connected to said first-mentioned tube and having side openings therein, a tip on said inner tube, a valve on said inner tube, a cap connected to said inner tube, a gauze screen connected to said cap and surrounding said tip, an outer tube connected to said cap, a non-conducting handhold connected to said outer tube, and means for locking said outer tube in any adjusted position.

[Claims 6 to 9 not printed in the Gazette.]

976,113. BELLY-ROLLING MACHINE. ERNEST R. ZEHNER, Toledo, Ohio. Filed Dec. 2, 1908. Serial No. 465,653.



1. The combination of a carrier, a meat flattening roll movable to and from the carrier and coöperating therewith, and means for cushioning the fall of the roll in moving toward the carrier.

2. The combination of a frame, an endless carrier carried by the frame, bearings movable to and from the carrier, a meat flattening roll coöperating with the carrier and journaled in said bearings, a shaft journaled in the frame having crank-arms, connections between the bearings and crank-arms, and a lever for operating the shaft.

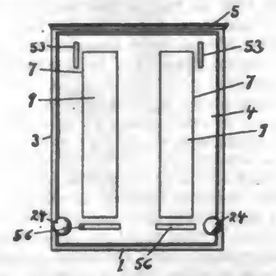
3. The combination of a carrier, a roll slidable to and from the carrier, and resilient means suspending the roll.

4. The combination of a carrier, a meat roll movable in a vertical direction to and from the carrier, a shaft having crank-arms, means connecting the crank-arms to opposite ends of the roll, and a manually-operated lever for operating the shaft.

5. The combination of a belly carrier, a meat flattening roll movable to and from the carrier and coacting therewith, and resilient means supporting the roll, tending to draw it from the carrier.

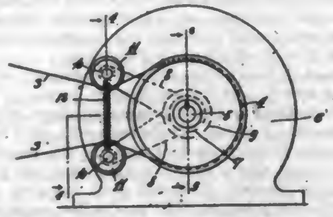
[Claims 6 to 9 not printed in the Gazette.]

976,114. CHECK-CONTROLLED APPARATUS. WILLIAM F. ABLETT, Pittsburg, Pa. Original application filed Apr. 14, 1910, Serial No. 555,344. Divided and this application filed June 15, 1910. Serial No. 566,961.



A device of the class described comprising a casing having a coin opening in one side wall thereof, an inclined coin chute positioned in alinement with said opening, an arm pivoted within said casing and having an enlarged end normally positioned adjacent the lower open end of said chute, a connecting rod pivoted to the opposite end of said arm and said rod having a bifurcated lower end, a rocker arm pivoted to said casing adjacent the bottom thereof and having an engaging tooth at its front end and an inclined under surface at its rear end, said engaging tooth adapted to lock an article dispensing member and to automatically release the same upon the insertion of a coin within said chute, a pivoted arm lever adapted to be acted upon at one end by the article dispensing member and its other end adapted for engagement with said inclined surface for re-locking said tooth with the dispensing member.

976,115. POWER MECHANISM. JAMES FRAZIER BARD, Erie, Pa., assignor, by mesne assignments, to Burke Electric Company, a Corporation of Pennsylvania. Filed Nov. 2, 1905. Serial No. 285,543.



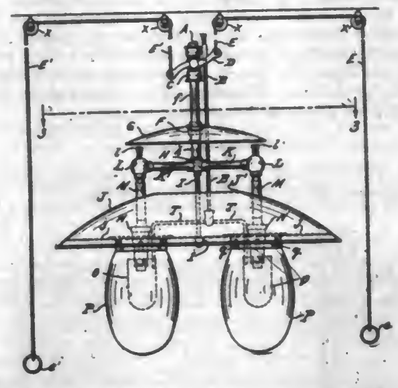
The combination of a driving element, a driven element, a belt connecting said elements, two idlers, means for pivotally supporting said idlers about the axis of one of said elements, and a spring on each side of said belt located between said idlers for drawing the idlers toward each other.

976,116. SIZE-POWDER. FRANZ BECKMANN, Warsaw, Russia. Filed Sept. 8, 1909. Serial No. 516,801.

1. A size powder, consisting of a mixture of gum arabic about 50%, flour, about 5%, gum tragacanth, 2 to 10% dextrin, about 25%, and sugar, about 15%.

2. A size powder, consisting of a mixture of gum arabic about 50%, buckwheat flour, about 5%, gum tragacanth, 2 to 10%, dextrin, about 25%, and sugar, about 15%.

976,117. LAMP. CLEMENT W. BOYSE, Chicago, Ill., assignor of one-half to Dwight B. Carmichael, Chicago, Ill. Filed Aug. 23, 1909. Serial No. 514,325.



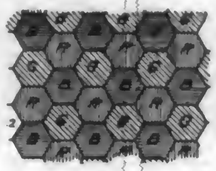
1. In a cluster gas lamp the combination of a shield, a four way fitting below the shield, a dome below the fitting said dome provided with a central aperture and with a plurality of additional apertures, horizontal nipples in the fitting, regulating valves at the ends of the nipples, depending Bunsen burners attached to the regulating valves a disk below the dome, said disk provided with apertures through which said burners extend, and provided with peripheral recesses, and mantles, the said Bunsen burners extending through the additional apertures in the dome and respectively provided with apertures for the admission of air above said dome, and said burners provided with chambers near the lower ends thereof and perforated diaphragms in said chambers.

2. In a cluster lamp, the combination of a shield, a fitting provided with a chamber and with a plurality of discharge passages from said chamber, said fitting positioned below the shield, means to supply gas to said chamber, a dome below said fitting, said dome provided with a central aperture and with additional apertures, horizontal nipples attached to said fitting to direct the flow of gas from the discharge passages thereof, regulating valves at the ends of said nipples, depending Bunsen burners respectively provided with air inlets and attached to said regulating valves, a disk positioned below the dome, said disk provided with apertures through which said burners extend, and said disk provided with passage ways for the flow of air, mantles on said burners, said dome positioned to deflect from said air inlets of the burners the heated products of combustion at said burners and the air flowing through the passage ways of said disk and to direct them onto the said fitting.

976,118. POLYCHROME SCREEN AND PROCESS FOR MAKING SAME. CHARLES L. A. BRASSEUR, New York, N. Y. Filed Oct. 4, 1907. Serial No. 395,833.

1. The method, substantially as hereinbefore set forth, of making polychrome screens for color photography, con-

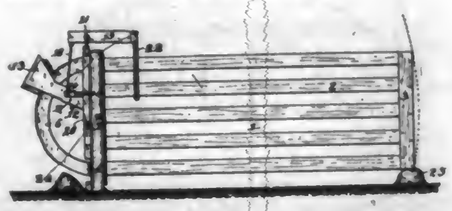
sisting in providing a support with tacky areas, dusting colored grains thereon and, when dry or hard, removing the surplus grains, then rendering the surface tacky, and dusting other colored grains thereon, and thereafter removing the surplus grains.



2. A polychrome screen for color photography consisting of a support, grains of one color arranged thereon in symmetrical disposition, and other grains intermingled in the spaces between said symmetrically arranged grains.

3. The method, substantially as hereinbefore set forth, of making polychrome screens for color photography, consisting in printing a series of tacky dots on a support, covering the same with grains of one color, and removing the surplus or unattached grains and in repeating the process for each set of grains to be added thereafter.

976,119. GATE. BARTLEY J. CAMPBELL, Joliet, Ill. Filed Feb. 28, 1910. Serial No. 546,353.



1. A gate counterweight comprising a semi-annular concrete body provided at its ends with U-shaped metallic securing members embedded therein and having their limbs projecting from said ends to embrace a gate member, the said securing members being connected by wires also embedded in said concrete body, substantially as described.

2. A gate counterweight comprising a semi-annular concrete body provided at its ends with U-shaped metallic securing members embedded therein and having their limbs projecting from said ends to embrace a gate member, substantially as described.

976,120. BOBBIN FOR LOOMS. JOSEPH P. CHATEL, Manchester, N. H. Filed Nov. 15, 1909. Serial No. 528,248.

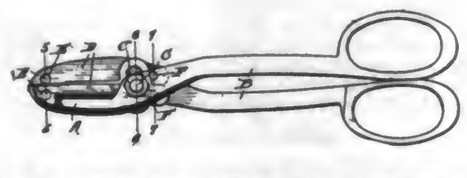


1. A bobbin of the character described comprising a spindle with a suitable head, a seat, and a longitudinal groove near said seat; a sleeve on said spindle between the groove and the seat, a projection on the inner end of the sleeve terminating in a tongue extending parallel with the base or outer end of the sleeve into the groove, and in the side of the sleeve adjacent to the tongue a V shaped opening extending longitudinally toward the base of the sleeve for the purpose set forth.

2. The combination of a bobbin with a suitable head and spindle, a sleeve on the spindle, said sleeve being provided with V-shaped openings extending from the inner end toward the outer end thereof whereby tongues are formed adapted to engage the spindle for the purpose of connecting the said sleeve and spindle.

3. The combination in a bobbin of a suitable head and spindle, said spindle having a longitudinal groove, a sleeve on the spindle provided with suitable means to enter said groove, the side of the sleeve adjacent to such means cut away longitudinally in V shape toward its base, so as to present no edge substantially parallel to the yarn and with a supplemental shoulder near the bobbin head to serve as a seat for the sleeve, as and for the purpose stated.

976,121. SHEARS. JAMES W. CHAUNCEY, Alexandria, Va. Filed Oct. 11, 1909. Serial No. 521,990.



1. In a device of the kind described, the combination with a pair of pivoted members pivoted intermediate their ends, of a pair of cutting blades pivotally connected at their forward ends to the forward ends of said pivoted members, and means carried by said pivoted members at the rear of their pivotal point adapted to engage the rear ends of said cutting blades for the purpose of operating them, as described.

2. In a device of the kind described, the combination with a pair of pivoted members, pivoted intermediate their ends, of supplemental shearing blades pivotally connected to the forward ends of the pivoted members, the rear ends of said blades being slotted, and means carried by the pivoted members adapted to engage said slotted ends whereby said blades are operated with the opening and closing of the pivoted members, as set forth.

3. In a device of the kind described, a pair of pivoted members, in combination with a pair of cutting blades pivotally connected at their forward ends to the forward ends of said members, the rear ends of said blades having slots therein, and studs carried by said pivoted members to the rear of their pivot, said studs being adapted to engage the slotted ends of the cutting blades, for the purpose described.

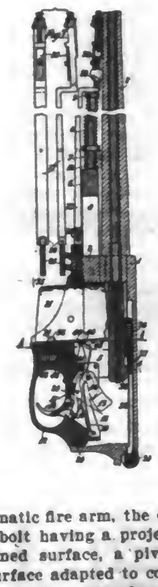
4. In a device of the kind described, a pair of pivoted members in combination with a pair of cutting blades pivoted at their forward ends to the forward ends of the pivoted members, said blades being slotted adjacent their rear ends, and studs carried by said pivoted members adapted to engage said slotted ends of the cutting blades, the stud of one member engaging the cutting blade of the opposing member, as set forth.

976,122. AUTOMATIC FIREARM. CHARLES PHILIBERT CLÉMENT, Liege, Belgium. Filed Nov. 13, 1909. Serial No. 527,897.

1. In an automatic fire arm, the combination of a reciprocating breech bolt having formed thereon a beveled or inclined surface, a pivotally mounted check device adapted to coöperate with said beveled surface to retard rearward movement of the breech bolt, and a slide for manually moving the bolt rearward and having means supplemental to its connection with the bolt for positively rocking said check device out of the path of the bolt.

2. In an automatic fire arm, the combination of a reciprocating breech bolt having formed thereon a beveled or inclined surface, a pivotally mounted check device having a cam surface adapted to coöperate with said beveled surface to retard rearward movement of the breech bolt and having at one side a second cam surface, 40, and a manually operable slide connected with the bolt to move it rearward and provided with means for coöperating with said cam surface 40 to move the check out of the path of the bolt before it is engaged thereby.

3. An automatic fire-arm comprising in combination the breech bolt a pivoted member provided with an inclined face which engages with corresponding faces on the bolt so as to create a resistance to the movement of the latter at the moment of firing a sliding member connected with the bolt for withdrawing the latter by hand, and an arm carried by said sliding member adapted to engage with an inclined surface on the pivoted locking member, and connected to the bolt through the medium of a spring so as to allow of said locking member being depressed and disengaged from the bolt prior to the drawing back of the latter.



4. In an automatic fire arm, the combination of a reciprocating breech bolt having a projection terminating in a beveled or inclined surface, a pivotally mounted device having a cam surface adapted to coöperate with said beveled surface to retard rearward movement of the breech bolt, and a spring pressed plunger or pin having one end bearing against the pivotally mounted device and acting to hold the cam surface thereon in operative position.

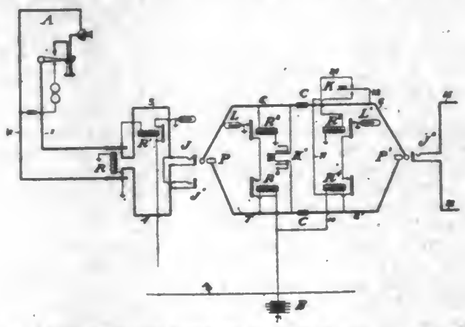
5. In an automatic fire arm, the combination of a reciprocating breech bolt, means acting to lock the bolt in its forward position, a firing mechanism including a movable trigger, and a lever interposed between the bolt locking means and the trigger and adapted to be actuated by said means to prevent operation of the trigger when said means are disengaged from the bolt.

[Claims 6 to 15 not printed in the Gazette.]

976,123. SELECTIVE RINGING MEANS FOR TELEPHONE SYSTEMS. EDWARD E. CLEMENT, Washington, D. C., assignor to The North Electric Company, Cleveland, Ohio, a Corporation of Ohio. Filed Jan. 18, 1907. Serial No. 352,982.

1. A trunk ringing system for telephone exchanges comprising means controlled by an A operator for connecting a calling subscriber with a trunk line, means at a B or trunking station for connecting the trunk with the wanted subscriber's line, said line serving more than one subscriber's station, a selective signaling device at each station, a plurality of generating devices associated with the B switching position, and automatic means controlled through the trunk line by the A operator for selecting and connecting the proper generator to ring the bell at the desired station, substantially as described.

2. In a telephone exchange system, subscriber's lines terminating in different switchboards, a trunk line interconnecting said switchboards, an A operator's connective apparatus for connecting a calling line through the trunk with a called line terminating on the other or B switchboard, selective ringing apparatus at the B board, and selective actuating devices at the A board controlling the same through the trunk line, substantially as described.



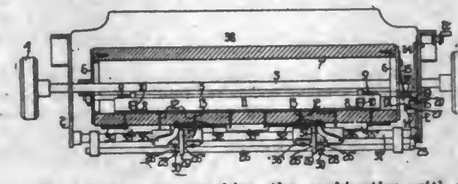
3. In a telephone exchange system, a plurality of subscribers' lines terminating at different central offices, and trunk lines interconnecting the central offices, means controlled by A operators for connecting said trunk lines with calling subscribers' lines, means controlled by operators for connecting the trunk lines with wanted subscribers' lines, switching means for selectively ringing the bells at any one of several stations on the same line, with separate setting means for selectively controlling the same through a trunk line when connected, substantially as described.

4. In a telephone exchange system, subscribers' lines terminating on jacks in two different exchanges, a trunk line interconnecting the exchanges, means associated with the trunk line for supplying selective ringing current thereto for use in calling over party lines, impulse actuated switching means coöperating therewith for selecting purposes, and a selective impulse transmitter associated with each answering or A operator's apparatus, adapted to be connected through a trunk when in use to the said switching means, substantially as described.

5. In a telephone exchange system, a plurality of subscribers' lines terminating on jacks at different central offices, a trunk line extending between said offices and terminating at one end in a jack and at the other in a plug, A operator's cord circuits for connecting calling subscribers' jacks with the trunk jack, an impulse transmitter associated with one or more of said cord circuits, means for generating current for selective ringing over party lines, and selective switching devices associated with the plug terminal of the trunk for determining the ringing current to be applied thereto, said switching devices adapted to be controlled over the trunk by said impulse transmitter, substantially as described.

[Claims 6 to 13 not printed in the Gazette.]

976,124. TYPE-WRITING MACHINE. CORNELIUS CORCORAN, New York, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 17, 1910. Serial No. 550,0



1. In a typewriting machine, the combination with roller-platen, of gage-pins mounted therein and adapted be protruded therefrom, a spring for withdrawing pins from their protruded positions, a lever upon platen frame, means connected with said lever for truding said pins, and an automatic lock on the pla for holding said pins in their protruded positions.

2. In a typewriting machine, the combination with the roller-platen, of gage-pins mounted therein and adapted to be protruded therefrom, a rock-shaft within said platen and connected with and moving said pins, a spring for moving said shaft to withdraw said pins inwardly of the platen, an arm on said shaft outside said platen, and a spring-lock on the platen for co-action with said arm when the shaft is rocked to protrude said pins, to lock said arm with the pins in protruded positions.

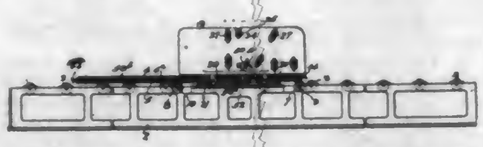
3. In a typewriting machine, the combination with a roller-platen, of gage-pins mounted therein and adapted to be protruded therefrom, a rock-shaft within said platen and connected with said pins to move them, a spring for operating said shaft, an arm on said shaft outside said platen, and means on the platen for locking said arm when said shaft is rocked to protrude said pins.

4. In a typewriting machine, the combination with a roller-platen on a platen frame, of gage-pins mounted therein and adapted to be protruded therefrom, a rock-shaft journaled in said platen for moving said pins in and out, an arm on said shaft for operating the same, and a lever upon the platen frame having means to cause the operation of said arm.

5. In a typewriting machine, the combination with a roller-platen on a platen frame, of gage-pins mounted therein and adapted to be protruded therefrom, a rock-shaft journaled in said platen for moving said pins in and out, a spring for moving said shaft to draw in the protruded pins, an arm on said shaft whereby it may be moved to protrude said pins, and a lever upon the platen frame having means to cause the operation of said arm.

[Claims 6 to 30 not printed in the Gazette.]

976,125. APPARATUS FOR MAKING SHEET-GLASS. FERNAND M. FRANCART, Arnold, and GEORGE C. DEBAY, JAMES W. JOHNSTON, and GEORGE B. COUCH, Springdale, Pa. Filed Dec. 1, 1909. Serial No. 530,873.



1. In apparatus for the manufacture of sheet-glass, the combination of a table, means for feeding the glass thereto, and a transversely arranged non-rotary leveler having its lower edge adjacent to said table to control the final thickness of the layer of glass, said leveler and table movable the one with relation to the other.

2. In apparatus for the manufacture of sheet-glass, the combination of a suitable table, means for feeding the glass thereto, and a transversely arranged adjustable non-rotary leveler having its lower edge adjacent to said table to control the final thickness of the layer of glass, said leveler and table movable the one with relation to the other.

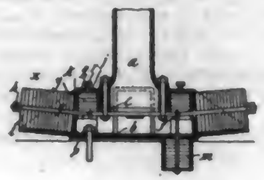
3. In apparatus for the manufacture of sheet glass, the combination of a table, a receptacle for containing the molten glass above said table, and a non-rotary leveler to control the final thickness of the layer of glass, said receptacle and table movable the one with relation to the other.

4. In apparatus for the manufacture of sheet glass, the combination of a table, means for feeding the glass thereto, a receptacle above said table for containing molten glass, and a transverse non-rotary leveler forming one of the walls of said receptacle, said receptacle and table movable the one with relation to the other.

5. In apparatus for the manufacture of sheet-glass, the combination of a table, means for moving said table, means for supporting a wire-mesh at a suitable height above the surface of said table, a receptacle above said table for containing molten glass, and a transverse non-rotary leveler.

[Claims 6 to 17 not printed in the Gazette.]

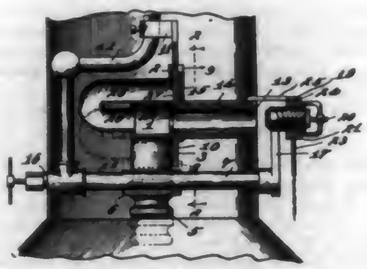
976,126. BED-PLATE FOR MACHINERY. FRITZ GERB, Berlin, Germany. Filed Apr. 15, 1910. Serial No. 555,676.



1. In combination, a bed-plate presenting substantially upright walls and a horizontal flange, a machine-support located within the bed-plate, substantially horizontal rods holding the support and passing through the bed-plate walls, elastic material located between the said walls and the outer ends of the rods, and taking up the pull of the latter, and further elastic material located below the said bed-plate flange and adapted to take up the upward pull on the said support, substantially as described.

2. In combination, a bed-plate presenting substantially upright walls, a machine-support located within the bed-plate, substantially horizontal rods holding the support and passing through the bed-plate walls, elastic material located between the said walls and the outer ends of the rods, and taking up the pull of the latter, pendent rods jointed to the first said rods and extending through the base of the bed-plate, and elastic material located between the said base and the bottom ends of the pendent rods, substantially as described.

976,127. HYDROCARBON LIGHTING SYSTEM. CHARLES KNOX HARDING, Chicago, Ill. Filed July 11, 1910. Serial No. 571,481.



1. In a device of the character described, comprising a vaporizer and a burner, a jet orifice and means for controlling the flow of vapor therefrom, a Bunsen tube and channels leading therefrom to the burners for conveying the mixture of vapor and air from said bunsen to said burner and means for simultaneously changing the flow of the vapor and the length of the passages from the Bunsen tube to the burners.

2. In a device of the character described comprising a vaporizer and a burner, a jet orifice and means for controlling the flow of vapor therefrom, a Bunsen tube and two channels leading therefrom to the burners for conveying the mixture of vapor and air from said bunsen to said burners and means for bringing either one of the two passages into the path of the flow of the mixture between the bunsen and the burner.

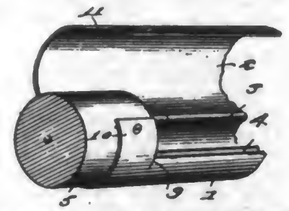
3. In a device of the character described comprising a vaporiser and a burner, a jet orifice and means for controlling the vapor therefrom, a Bunsen tube and channels leading therefrom to the burner for conveying the mixture of the vapor and air from said bunsen to said burners and means for simultaneously changing the flow of the vapor and the sectional area of the passages from the Bunsen tube to the burners.

4. In a device of the character described comprising a vaporizer and a burner, a jet orifice and means for controlling the vapor therefrom, a Bunsen tube and channels leading therefrom to the burner for conveying the mixture of vapor and air from said bunsen to said burners and means for simultaneously changing the flow of the vapor and the length and area of the passages from the Bunsen tube to the burners.

5. In a device of the character described comprising a vaporizer and a burner and means for bringing the burner into close metallic heat conducting relation to said vaporizer, a jet orifice and means for controlling the flow of vapor therefrom, a Bunsen tube and channels leading therefrom to the burners for conveying a mixture of vapor and air from the said bunsen to said burners and means for changing the heat communicating relation of the burners and vaporizer and simultaneously changing the flow of the vapor from the jet orifice.

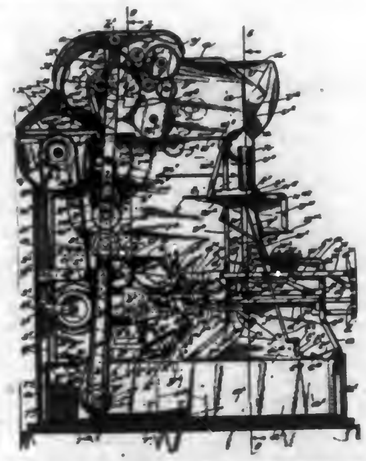
[Claims 6 to 8 not printed in the Gazette.]

976,128. CURTAIN-POLE. CATHERINE HUNT, Oberon, N. D. Filed Apr. 6, 1909. Serial No. 488,172.



A curtain pole comprising a hollow body formed of complemental sheet metal sections hingedly connected along one edge, one of the sections having circumferential cuts near opposite ends, and having the edge portion between said cuts folded upon itself and rebent to provide a groove and the other section having portions cut from its ends to match and receive the projecting end portions of the first mentioned section, and having the intermediate edge portion projecting to enter the said groove and confine a curtain or drapery therein, blocks closing the ends of the pole and secured to the section thereof having the projecting end portions, and means for holding the sections closed.

976,129. CHANGE MAKER AND INDICATOR. LINDLEY KLEINHANS, New York, N. Y. Filed June 29, 1904. Serial No. 214,626.



1. In combination with change discharging means, localizing means therefor, differential slides provided with stop shoulders and having variable limits of motion, guides for the slides, and keys for acting on the slides.

2. In combination with change discharging means, localizing means therefor comprising a rack, a gear-wheel acting on the same, the shaft of said gear, gears loose on the shaft, pawl-and-ratchet devices between the loose gears and shaft, and separately actuated means acting independently on each of the loose gears.

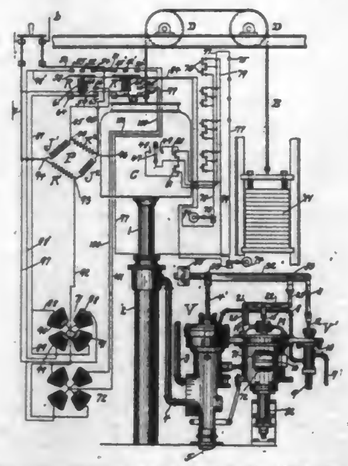
3. In combination with change discharging means, localizing means therefor comprising a rack, a gear-wheel acting on the same, the shaft of said gear, gears loose on the shaft, pawl-and-ratchet devices between the loose gears and shaft, toothed segments acting on said loose gears, and key-actuated devices acting on said segments.

4. In combination with change discharging means, a localizing means therefor comprising a rack, a gear-wheel acting on the same, the shaft of said gear, gears loose on the shaft, pawl-and-ratchet devices between the loose gears and shaft, toothed segments acting on said loose gears, differential spacers, and push rods provided with keys and acting on the spacers.

5. In combination with change discharging means, localizing means therefor comprising toothed racks, a shaft, gears thereon acting on said racks, and independently actuated pawl-and-ratchet devices acting on some of said gears.

[Claims 6 to 50 not printed in the Gazette.]

976,130. ALTERNATING-CURRENT CONTROLLING APPARATUS FOR HYDRAULIC ELEVATORS. DAVID L. LINDQUIST, Yonkers, N. Y., assignor to Otis Elevator Company, Jersey City, N. J., a Corporation of New Jersey. Filed June 1, 1907. Serial No. 376,863.



1. The combination with a hydraulic elevator and valve apparatus to control the flow of motor fluid thereto and therefrom, of a double multiphase alternating current electromagnet having two sets of windings for actuating said valve apparatus, a phase-splitting device to change single-phase to multiphase current, and a system of circuits and switches to select one of said two sets of windings of the multiphase magnet for receiving multiphase current to effect the operation of the valve apparatus.

2. The combination with an elevator car, hydraulic moving apparatus, and controlling mechanism, of a multiphase electromagnet having two sets of windings, an armature normally intermediate said sets of windings, connections between said armature and said controlling mechanism, a phase-splitting device intermediate a source of single-phase alternating current supply and said electro-magnet, and a selective system of circuits and connections to predetermine the direction of movement of said armature.

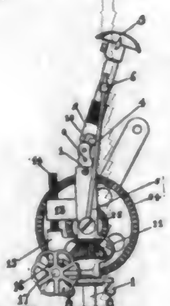
3. The combination with a plunger elevator comprising a car, plunger, hydraulic cylinder and controlling valve apparatus, of an electromagnet having two sets of polyphase windings, an armature connected to said valve apparatus, and an automatic switch system of circuits and connections to effect the flow of electric current through said windings and the operation of the armature and valve apparatus to cause the car to move up or down.

4. The combination with a plunger elevator comprising a car, plunger, hydraulic cylinder and controlling valve apparatus, of a doubly wound electromagnet, an armature for said electromagnet and connected to said valve apparatus, and an automatic push-button system of circuits and connections to effect the energization of said electromagnet to move the armature in a predetermined direction to operate the valve apparatus.

5. The combination with an elevator car, a plunger connected thereto, a hydraulic cylinder for said plunger, and valve apparatus for controlling the flow of motor fluid to or from said cylinder, of an electro-responsive device having two sets of polyphase windings and an armature connected to said valve apparatus, a phase-splitting device between conductors from a source of single phase alternating current supply and said sets of windings, reversing switches, and up and down electric switches at the landings and in the car connected to said reversing switches to effect the variation of the latter to complete circuits through a corresponding set of said windings, and a magnet for the valve apparatus.

[Claim 6 not printed in the Gazette.]

976,131. CHAIN BREAST RATCHET-DRILL. STEPHEN MCCLELLAN, Brooklyn, N. Y. Filed Dec. 24, 1908. Serial No. 469,117.



1. A chain breast drill comprising a drill-stock and a casing, said drill-stock being in two sections, the upper of which sections is securely held to the upper end of said casing, the lower section being rotatably and slidably held in the lower portion of said casing, said upper section being capable of being broken and held at any desired angle, and means to hold said upper section at whatever angle is desired.

2. A chain breast drill comprising a drill-stock and a casing, said drill-stock being in two sections, the upper of which is securely held to the upper end of said casing, the lower of which is rotatably and slidably held in the lower portion of said casing, said upper section being capable of being broken and held at any desired angle, means to hold said upper section at whatever angle desired, said means including a rod pivotally held to any point of the casing at its lower end and slidably held to said upper section near its upper end, said rod being adapted to be held firmly to said upper section by means of a thumb-nut, a sleeve provided with an L-shaped recess, said upper section being adapted to be held in a straight or normal position by said sleeve, a lug formed on the upper section, said lug being adapted to engage said L-shaped recess in the sleeve when said sleeve is holding the upper section in a straight position, substantially as described.

3. A chain breast drill comprising a drill-stock and a casing, means to cause said drill-stock to rotate, means to cause the same to slide in said casing, said first-mentioned means comprising a beveled gear wheel splined to said lower section, two lugs formed to said casing, a large gear wheel adapted to rotate about either of said lugs as an axis, said large gear wheel provided with two sets of teeth, either of which sets is adapted to intermesh with those of said first-mentioned gear-wheel, substantially as shown and described.

4. A chain breast drill comprising a drill-stock and a casing, means to cause said drill-stock to slide within said casing, when desired, means to cause the same to rotate, said first-mentioned means comprising an ear loosely held to the upper end of said lower section, said casing provided with a vertically disposed slot, said ear protruding from said slot and provided with an internally threaded vertically disposed perforation, a vertical externally threaded bolt, the lower unthreaded portion of which is provided with a bearing in said casing, passing through said perforation, a rod provided with a hand-wheel keyed to its outer end and provided with a suitable bearing in said casing, two intermeshing beveled gears one of which is keyed to the lower end of said vertical bolt, the other of which is keyed to the inner end of said rod, substantially as described.

5. In a ratchet chain drill comprising a casing having formed thereon two internally threaded lugs, a large gear wheel adapted to rotate about either of said lugs as an axis, a loose core passing through the center of said gear wheel, said core adapted to be firmly held to either of said lugs, said core acting as a bearing upon which rotates said large gear wheel, a pin provided at its inner end with a number of threads and a collar, said threads adapted to engage the said threads of either of said lugs as desired, said core provided with a central longitudinal perforation the inner portion of which is of a greater diameter than the outer portion thereof, said collar of said pin binding against the shoulder formed by the enlargement of the inner portion of said longitudinal perforation when said gear wheel is being removed, a thumb nut provided at the outer end of said pin for the manipulation of the same, said gear wheel held against sidewise movement by suitable means.

[Claim 6 not printed in the Gazette.]

976,132. COTTON-HARVESTER. DON D. MILES, Aurora, Ill., assignor, by mesne assignments, to Columbian Cotton Harvester Company, Chicago, Ill., a Corporation of West Virginia. Original application filed Mar. 16, 1900, Serial No. 8,921. Divided and this application filed Sept. 10, 1900. Serial No. 29,552.



1. The combination with a spiral picker of a spiral guide through which the picker passes, a tube surrounding said spiral guide, and means for fastening the spiral guide to the outer tube so as to form a unitary structure.

2. The combination with a spiral picker of a guide comprising a tube twisted into a spiral an outer tube surrounding the spiral tube, end-pieces at each end of the outer tube provided with slots into which the ends of the spiral tube are received.

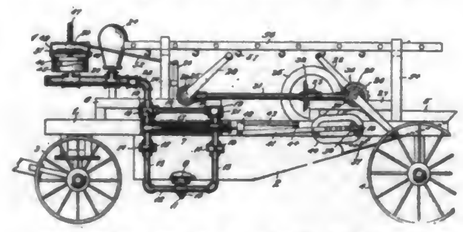
3. A guide for spiral cotton pickers comprising an outer tube, an end-piece at each end of said tube, said end-pieces provided with slots, a spiral tube within the outer tube having its ends contained within the said slots, so that the spiral tube is supported by the end pieces.

4. A guide for spiral cotton pickers comprising an outer tube, an end-piece at each end of said tube, said end-pieces provided with slots, a spiral tube within the outer tube having its ends contained within the said slots, so that the spiral tube is supported by the end-pieces, a support having a screw threaded opening, the end of the outer tube being screw threaded and fitting in said opening.

5. A guide for cotton pickers comprising a spiral tube through which the picker passes, an outer tube surrounding said spiral tube, the two tubes connected together, a support to which one end of said outer tube is connected, the other end being free.

[Claims 6 and 7 not printed in the Gazette.]

976,133. FIRE-ENGINE. HENRY M. MINNIS, Wylie, Tex., assignor to Samuel Potts and C. D. Love, Wylie, Tex. Filed Aug. 16, 1909. Serial No. 512,980.

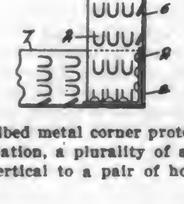


1. The combination in a fire engine, of an elongated portable frame, an under hanging tank supported by the frame and having an outlet in its bottom, a pump cylinder secured to each side of the frame, pipe connections leading from the bottom of the tank to the pump cylinders, valves included in the pipe connections between the tank and the cylinders, a discharge pipe at the forward end of the frame, pipe connections between the pump cylinders and the discharge pipe, valves included in the last named pipe connections, a piston operating in each cylinder, and means for operating the pistons.

2. The combination in a fire engine, of a long narrow portable frame, a tank conforming to the general shape of the frame secured along its top edge to the frame and hanging thereunder, the tank having an outlet near its forward end, a pump cylinder secured on each outer side of the frame, a supply pipe extending under the tank and having connection with the outlet, pipe connections extending up the outside of the tank from the supply pipe on each side of the tank to the pump cylinders, a discharge pipe at the forward end of the frame, pipe connections leading from the cylinders to the discharge pipe, an air chamber mounted on the discharge pipe, pistons operating in the cylinders, and means mounted on the frame for operating the pistons.

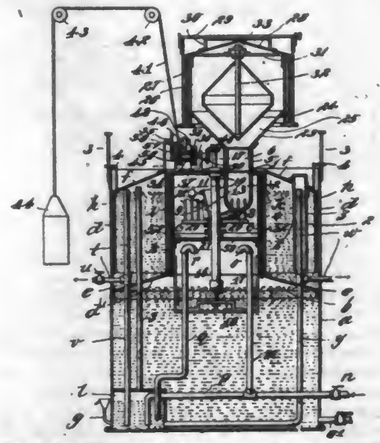
3. The combination in a fire engine, of a portable frame, a tank hung under the frame having an outlet in its bottom, pump cylinders, one secured on each side of the frame, connections from the outlet of the tank to each cylinder, a discharge pipe, connections from each cylinder to the discharge pipe, the connections and cylinders being disposed outside of the tank, a piston working in each cylinder, a connection on each side of the frame engaged with the piston on said side for operating the piston, a horizontal shaft mounted on the frame, means for transmitting motion from the shaft to the connections, and means for imparting motion to the shaft.

976,134. METAL CORNER. CHRISTEN MÖRK, Portland, Oreg., assignor of one-half to Enrique Mallory, Portland, Oreg. Filed Sept. 24, 1909. Serial No. 519,446.



The hereindescribed metal corner protecting device comprising, in combination, a plurality of angle bars, one of said bars being vertical to a pair of horizontal bars disposed at right angles with the horizontal arm of one angle bar superposed on the horizontal arm of the remaining angle bar, the vertical angle bar being fitted against the vertical arms of the horizontal bars and the terminal thereof abutting on the horizontal arm of one angle bar, and for the purpose set forth.

976,135. ACETYLENE-GAS GENERATOR. VICTOR E. PETERSON, Denver, Colo. Filed May 24, 1907. Serial No. 375,485.



1. In an acetylene gas generator, the combination of a tank forming a generating chamber and provided with a curved carbid inlet passage leading into such chamber and having a slotted wall portion, carbid feeding mechanism mounted in the generating chamber and provided with carbid engaging members extending into said slotted portion and movable along the inside and longitudinally of such curved inlet passage and a vertical shaft rotatably mounted and forming a support for said carbid engaging members, and adapted to rotate said carbid engaging members in a curved path.

2. In an acetylene gas generator, the combination of a tank forming a generating chamber provided with a curved carbid inlet passage having longitudinally extending slots in the walls of the passage, carbid feeding mechanism mounted in the generating chamber provided with carbid engaging fingers extending into such slots and movable along the inside and longitudinally of the carbid inlet passage in a curved path, and a vertical rotary shaft forming a support for said carbid engaging fingers, and adapted to rotate said carbid-engaging fingers in a curved path.

3. In an acetylene gas generator, the combination of a tank forming a generating chamber, a carbid inlet pipe having a curved portion on the inside of the generating chamber provided with parallel curved slots, and a vertical shaft rotatably mounted and provided with horizontal laterally extending arms having vertical carbid feeding fingers extending into the slots and movable longitudinally thereof in a curved path.

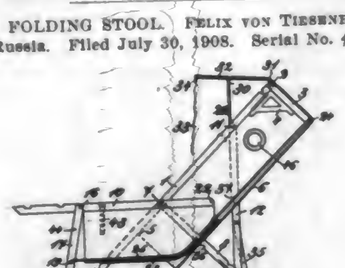
4. In an acetylene gas generator, the combination of a tank forming a generating chamber, a carbid inlet pipe having a curved portion on the inside of the generating chamber provided with parallel slots opening into the passage formed by such pipe, a vertical shaft rotatably mounted in the generating chamber, a plurality of laterally extending arms mounted upon such shaft each provided with a plurality of carbid feeding fingers extending into the parallel slots and into the passage formed by the pipe and rotatable in a curved path, and mechanism connected with the upper end of the shaft on the outside of the generator chamber, for rotating the shaft and thereby rotating the carbid feeding fingers with the shaft and in a curved path.

5. In an acetylene gas generator, the combination of a tank forming a generating chamber, a carbid inlet pipe

leading into the generating chamber and having longitudinally extending slots which open into the generating chamber, feeding mechanism mounted in the generating chamber and having movable carbid feeding members extending into the slots and movable along the inside of the carbid inlet pipe, and a gate movable to open and closed position across the mouth of the pipe.

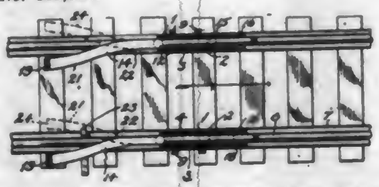
[Claims 6 to 10 not printed in the Gazette.]

976,136. FOLDING STOOL. FELIX VON TIESENHAUSEN, Riga, Russia. Filed July 30, 1908. Serial No. 446,204.



A folding stool consisting of a frame, a sack made of linen or leather or the like attached to said frame, rods (8) pivotally fastened to about the center part of said frame, cross-rods (9) connecting said rods horizontal bars (10) pivotally attached to the turning point of said rods, vertical supports (12) pivotally attached to the upper part of the frame, a rectangular frame pivotally mounted between the lower ends of said supports engaging notches of said rods, vertical supports (17) pivotally attached to the front end of said bars (10), cross-bars (18, 19) connecting the lower part of said supports, movable pins of triangular cross-section attached to the lower one of said cross-bars engaging notches of the lower ends of the frame, a rectangular sack made of linen or the like attached to said horizontal bars, a strap of linen connecting the cross-bar (19) with the upper free end of the frame (1, 2) resting upon the two sacks of linen means to tighten said strap of linen, a rectangular frame (35) pivotally fastened to said vertical supports (12), and notches (36, 37) arranged on the rods (8) serving to be engaged by said rectangular frame if the said stool is changed into a bed substantially as described and for the purpose set forth.

976,137. RERAILER. THOMAS W. J. MCGANN, Dallas, Tex., assignor, by mesne assignments, of one-half to M. B. Gleason, El Paso, Tex. Filed Feb. 3, 1908. Serial No. 413,927.



1. In a rerailer, the combination with a shoe, and a spur, of a block arranged to lie flat on the rail and to be fastened thereon and formed to receive either the shoe or the spur at either end.

2. In a rerailer, a block having a wheel tread adapted to fit over the rail and to be fastened in position thereon, a laterally curved and upwardly inclined shoe having movable connection with the block, and a spur adapted to lie flat on the rail and to project from the block.

3. In a rerailer, a block formed to engage the head of a rail, means carried by the block for fastening the same to the rail, and a shoe having pivotal connection with the block cut-away to fit over the rail and form a stop against the same, said shoe being shaped to lie to one side of the rail at its lower end.

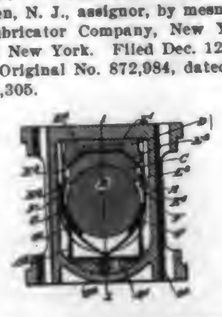
4. In a rerailer, a block having a wheel tread and shaped to fit on and over a rail throughout its entire length, a lug formed at each end of the block, a downwardly and laterally curved shoe formed separately from the block and adapted to pivotally engage the lug at either end thereof, and a spur formed separately from the block shaped to fit over and on the rail and to pivotally engage the lug at either end of the block.

5. In a rerailer, a shoe, a spur, and a block having a wheel tread adapted to lie in line with the tread of the rail and shaped to fit on the head of the rail, said block being formed to be reversed and to receive either the shoe or the spur at either end.

[Claim 6 not printed in the Gazette.]

REISSUES.

13,167. AXLE-LUBRICATING DEVICE. ERNEST ARMSTRONG, Camden, N. J., assignor, by mesne assignments, to Journal Lubricator Company, New York, N. Y., a Corporation of New York. Filed Dec. 12, 1908. Serial No. 467,319. Original No. 872,984, dated Dec. 3, 1907, Serial No. 360,305.



1. In combination with an axle box and an axle supported therein, a wick oiler having its ends supported in the box out of contact with the axle above the center thereof, and one on each side thereof, and its intermediate part forming a loop extending below the axle as described, and so as to contact lightly with the sides thereof by gravity.

2. In combination with an axle box and an axle supported therein, a wick oiler having its ends supported in the box out of contact with the axle above the center thereof, and one on each side thereof, and its intermediate part forming a loop extending below the axle as described, said wick oiler having swab pads attached to it at points adapted to contact with the sides of the axle, and said loop causing the wick oiler to contact lightly with the sides of the axle by gravity.

3. In combination with an axle box and an axle supported therein, a wick oiler having its ends supported in the box out of contact with the axle above the center thereof, and one on each side thereof, and its intermediate part forming a loop extending below the axle as described, said wick oiler having swab pads attached to it at points adapted to contact with the sides of the axle, and said loop causing the wick oiler to contact lightly with the sides of the axle by gravity, and auxiliary wicks depending from said swab pads.

4. In combination with an axle box and an axle supported therein, a wick oiler having its ends supported in the box out of contact with the axle above the center thereof, and one on each side thereof, and its intermediate part forming a loop extending below the axle as described, and so as to contact lightly with the sides thereof by gravity, and auxiliary wicks depending from the sides of said looped wick.

5. In combination with an axle box and an axle supported therein, a wick oiler having its ends supported in the box above the center of the axle and one on each side of the same, and the intermediate part of the oiler forming a loop extending below the axle as described, and so as to contact lightly with the sides thereof by gravity.

6. In combination with an axle box and an axle journal therein, a bearing a separate wick supporting frame extending over the bearing from one side thereof to the other, and a wick oiler supported at each end on said frame and arranged to extend beneath the axle.

7. In combination with an axle box and an axle bearing in the upper side thereof, a wick supporting frame of thin sheet metal extending over the bearing from one side thereof to the other, and a wick oiler supported at each end on said frame and arranged to extend beneath the axle.

8. In combination with an axle box and an axle bearing in the upper side thereof, a wick supporting frame of thin sheet metal having upwardly turned flanges adapted to fit against shoulders occupying a normally fixed position in the box, extending over the bearing, and a wick oiler supported at each end on said frame and arranged to extend beneath the axle.

9. In combination with an axle box, a bearing supported therein, and an axle contacting with the bearing, a sheet metal wick support conformed to the shape of the top of the bearing and fitting between the same and the surface against which it rests.

10. In combination with an axle box, a bearing supported therein, and an axle contacting with the bearing, a sheet metal wick support conformed to the shape of the top of the bearing and fitting between the same and the surface against which it rests, said support having flanges adapted to fit against a shoulder or shoulders occupying normally a fixed position in the box.

11. In combination with an axle box, a bearing supported therein, and an axle contacting with the bearing, a sheet metal wick support conformed to the shape of the top of the bearing, and fitting between the same and the surface against which it rests, and wick supporting rods detachably secured to the ends of the sheet metal support.

12. In combination with an axle and an axle box, a journal bearing in said box for the axle and resting upon the same, a frame extending over said bearing, a wick oiler having its ends supported by said frame out of contact with and above the center of the axle, and one on each side of the same, and its intermediate part forming a loop extending below the axle as described, and so as to contact lightly with the sides thereof by gravity.

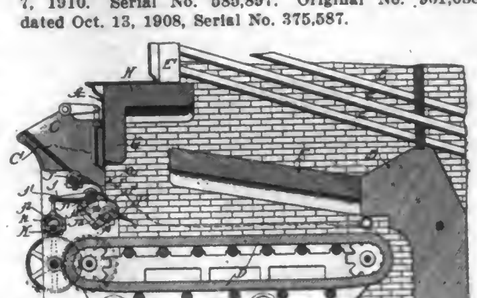
13. In combination with an axle and an axle box, a journal bearing in said box for the axle and resting upon the same, a frame extending over said bearing and conforming to the top of the same, a wick oiler having its ends supported by said frame out of contact with and above the center of the axle, and one on each side of the same, and its intermediate part forming a loop extending below the axle as described, and so as to contact lightly with the sides thereof by gravity.

14. In combination with an axle and an axle box, a journal bearing in said box for the axle and resting upon the same, a frame extending over and down the sides of said bearing, a wick oiler having its ends supported by said downward extensions of the frame, and out of contact with and above the center of the axle, and one on each side of the same, and its intermediate part forming a loop extending below the axle as described and so as to contact lightly with the sides thereof by gravity.

15. In combination with an axle and an axle box, a journal bearing in said box for the axle and resting upon the same, a frame extending over said bearing and conforming to the top of the same, a wick oiler having its ends supported by said frame out of contact with and above the center of the axle, and one on each side of the same, and its intermediate part forming a loop extending below the axle as described, said oiler having swab pads attached to it at points adapted to contact with the sides of the axle.

16. In combination with an axle and an axle box, a journal bearing in said box for the axle and resting upon the same, a frame extending over and down the sides of said bearing, a wick oiler having its ends supported by said downward extensions of the frame and out of contact with and above the center of the axle, and one on each side of the same, and its intermediate part forming a loop extending below the axle as described, and said oiler having swab pads attached to it at points adapted to contact with the sides of the axle.

13,168. FURNACE. HERMAN A. POPPENHUSEN, Evanston, and JOSEPH HARRINGTON, Riverside, Ill. Filed Oct. 7, 1910. Serial No. 585,897. Original No. 901,038, dated Oct. 13, 1908, Serial No. 375,587.



1. In a furnace, the combination of a traveling grate having a substantially horizontal fuel supporting surface, and an inclined, non-aerating fuel support at the forward end of the grate adapted to sustain a layer of fuel during a preliminary coking operation, and for the downward movement of said layer thereover by the action of gravity to the forward end of the grate, said fuel support embracing fuel agitating means adapted to maintain the coal in said layer in a fragmentary condition without stirring or mixing the same during the coking operation.

2. In a furnace, the combination with a traveling grate having a substantially horizontal fuel supporting surface and an inclined, non-aerating fuel support at the front of the furnace adapted to sustain thereon a layer of fuel during a preliminary coking operation, and for the downward movement of said layer of fuel thereover by the action of gravity, said support embracing a plurality of vibrating plates forming agitating means by which the coal in said layer is maintained in a fragmentary condition without stirring or mixing the same, during the coking operation.

3. A furnace provided with a traveling grate, and an inclined, non-aerating fuel support at the forward end of said grate, said support consisting of a plurality of transverse, horizontal, overlapping, inclined pivotally supported plates formed to provide transverse ledges or shoulders for said inclined support, and means for giving oscillatory motion to said plates.

4. In a furnace, the combination of a traveling grate having a substantially horizontal fuel supporting surface, a substantially horizontal deflecting partition extending from the rear end of the furnace forwardly over said grate to a point near the forward end of the grate, and an inclined, non-aerating fuel support at the forward end of the grate adapted to sustain a layer of fuel during a preliminary coking operation, and for the downward movement of said layer thereover by the action of gravity to the forward end of the grate, said fuel support embracing fuel agitating means adapted to maintain the coal in said layer in a fragmentary condition without stirring or mixing the same during the coking operation.

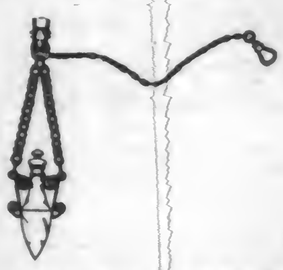
5. In a furnace, the combination with a traveling grate having a substantially horizontal fuel supporting surface, a deflecting partition extending from the rear end of the furnace forwardly over said grate, and an inclined, non-aerating fuel support at the front of the furnace adapted to sustain thereon a layer of fuel during a preliminary coking operation, and for the downward movement of said layer of fuel thereover by the action of gravity, said support embracing a plurality of vibrating plates forming agitating means by which the coal in said layer is maintained in a fragmentary condition without stirring or mixing the same, during the coking operation.

6. A furnace provided with a traveling grate, a deflecting partition extending from the rear end of the furnace forwardly over said grate, and an inclined, non-aerating fuel support at the forward end of said grate, said support consisting of a plurality of transverse, horizontal, ove

lapping, inclined, pivotally supported plates formed to provide transverse ledges or shoulders in said inclined support, and means for giving oscillatory motion to said plates.

DESIGNS.

40,987. SAFETY-FOB AND VINAIGRETTE. SIDNEY O. BIGNEY, Attleboro, Mass. Filed Sept. 26, 1910. Serial No. 583,979. Term of patent 3½ years.



The ornamental design for a safety fob and vinaigrette, as shown.

40,988. JEWELRY ORNAMENT. HENRY W. FISHEL, New York, N. Y., assignor to Henry W. Fishel and Theodore H. Fishel, New York, N. Y., Copartners trading as Fishel, Nessler & Company. Filed Sept. 14, 1910. Serial No. 582,107. Term of patent 7 years.



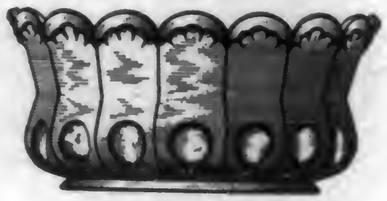
The ornamental design for a jewelry ornament as shown.

40,989. BRUSH-BACK AND MIRROR. HAROLD O. BIGNEY, Attleboro, Mass., assignor to Sidney O. Bigney, Attleboro, Mass. Filed Sept. 8, 1910. Serial No. 581,102. Term of patent 7 years.



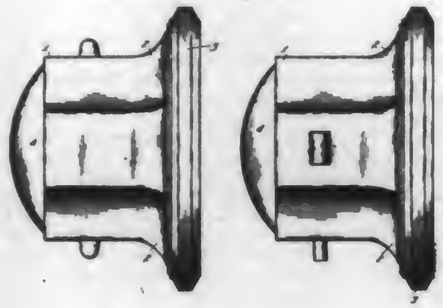
The ornamental design for a brush back and mirror, as shown.

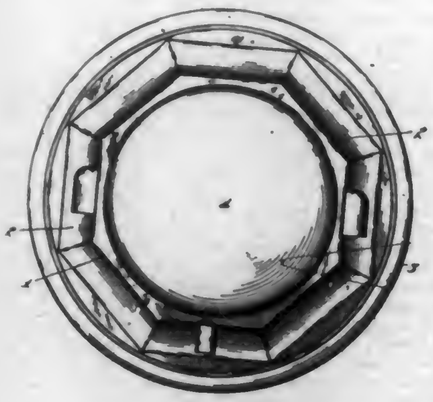
40,990. GLASS DISH. THEODORE C. STEIMER, Pittsburg, Pa. Filed Oct. 6, 1910. Serial No. 585,729. Term of patent 14 years.



The ornamental design for a glass dish as shown.

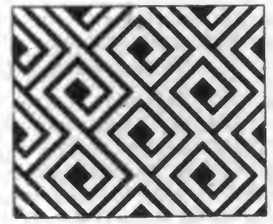
40,991. HEADLIGHT. RICHARD H. WELLES, Kenosha, Wis. Filed May 19, 1910. Serial No. 562,344. Term of patent 7 years.





The ornamental design for a headlight as shown and described.

40,992. WRAPPING-PAPER. DAVID C. EVEREST, Wausau, Wis., assignor to Marathon Paper Mills Company, Wausau, Wis. Filed July 14, 1910. Serial No. 572,035. Term of patent 7 years.



The ornamental design for wrapping paper, as shown.

40,993. RUG. EUGENE H. HILL, Philadelphia, Pa., assignor to Robert Carson, John T. Carson, and Robert J. Carson, Copartners trading as Robert Carson & Sons, Philadelphia, Pa. Filed Aug. 15, 1910. Serial No. 577,383. Term of patent 7 years.



The ornamental design for a rug, as shown.

TRADE-MARKS

PUBLISHED NOVEMBER 15, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

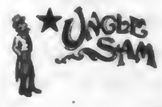
Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 14,862. (CLASS 39. CLOTHING.) SALANT & SALANT, New York, N. Y. Filed Nov. 21, 1905.



Particular description of goods.—Negligée Shirts and Work-Shirts.

Ser. No. 45,119. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE HASEROT CANNERIES COMPANY, Cleveland, Ohio. Filed Oct. 4, 1909.



Particular description of goods.—Rolled Oats, Prepared Table Sauce, Tomato Catsup, Pickles, and Olives.

Ser. No. 46,303. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) CURAPIEL COMPANY, New York, N. Y. Filed Dec. 6, 1909.



Particular description of goods.—Remedies for Skin Diseases.

Ser. No. 47,107. (CLASS 6. CHEMICALS, MEDICINES AND PHARMACEUTICAL PREPARATIONS.) STROUD & FLETCHER, Nashville, Tenn., assignor to Fletcher Wilson Coffee Company, a Firm. Filed Jan. 13, 1910.



Particular description of goods.—Baking-Powder.

Ser. No. 47,578. (CLASS 22. GAMES, TOYS, AND SPORTING GOODS.) CARNIE-GOUDIE MANUFACTURING COMPANY, Kansas City, Mo. Filed Feb. 3, 1910.

Hammo-port

Particular description of goods.—Hammocks.

Ser. No. 47,630. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) SMITH, KLINE & FRENCH COMPANY, Philadelphia, Pa. Filed Feb. 7, 1910. Used ten years.

NORWOOD

Particular description of goods.—Remedies for Coughs, Liquid Dentifrice, Powdered Dentifrice, Remedies for Diseases of the Skin, Liniment, Extract of Sarsaparilla, Hair-Tonic, Effervescing Salt for Headache and Nervous Exhaustion, and a Laxative.

Ser. No. 48,477. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) THE NEW YORK MILLS, New York Mills, N. Y. Filed Mar. 16, 1910. Used ten years.



The portraits being fanciful.

Particular description of goods.—Sheetings in the Piece and Sheets, Pillow-Cases, and Bolster-Cases Made Therefrom.

Ser. No. 49,083. (CLASS 38. PRINTS AND PUBLICATIONS.) HURST & COMPANY, New York, N. Y. Filed Apr. 14, 1910.



Particular description of goods.—Illustrated Books of Adventure.

Ser. No. 49,604. (CLASS 39. CLOTHING.) G. H. BASS & Co., Wilton, Me. Filed May 13, 1910. Used ten years.

BASS

Particular description of goods.—Boots, Shoes, Slippers, and Moccasins Made of Leather.

Ser. No. 49,880. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) PETER MAENDLER, St. Paul, Minn. Filed May 23, 1910.

GERIMACK

Particular description of goods.—Calcimine-Brushes and Paint-Brushes.

Ser. No. 49,904. (CLASS 22. GAMES, TOYS, AND SPORTING GOODS.) ALEXANDER M. BOLLINGER, Leechburg, Pa. Filed May 25, 1910.



Particular description of goods.—Coaster-Wagon.

Ser. No. 50,164. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) DEW BROS. SYRUP CO., Houston, Tex. Filed June 7, 1910.



Particular description of goods.—Cane-Syrup.

Ser. No. 50,394. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) THE WINDSOR PRINT WORKS, North Adams, Mass. Filed June 17, 1910. Used ten years.



Particular description of goods.—Plain White, Printed, or Mercerized Cotton Piece Goods and Plain White, Dyed, or Printed Cotton and Silk or All-Silk Piece Goods.

Ser. No. 50,513. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) JOHN BREMOND, Austin, Tex. Filed June 22, 1910.

VARSITY

Particular description of goods.—Coffee.

Ser. No. 50,553. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) CHARLES L. KIEWERT COMPANY, New York, N. Y. Filed June 24, 1910.

BIO

Particular description of goods.—Electric-Light Carbons.

Ser. No. 50,566. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) JOSEPH C. WUNDER, Baltimore, Md. Filed June 24, 1910.

Colonoids

Particular description of goods.—Remedy for Constipation.

Ser. No. 50,875. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) UNIVERSAL ELECTRIC STORAGE BATTERY COMPANY, Chicago, Ill. Filed July 18, 1910.

EXPO

Particular description of goods.—Electric Batteries.

Ser. No. 50,877. (CLASS 12. CONSTRUCTION MATERIALS.) FEDERAL PROCESS COMPANY, Chicago, Ill. Filed July 18, 1910.

Baxmite

Particular description of goods.—Fabricated Composite Sheet Material for Roofing.

Ser. No. 50,878. (CLASS 12. CONSTRUCTION MATERIALS.) FEDERAL PROCESS COMPANY, Chicago, Ill. Filed July 18, 1910.

GILSONOID

Particular description of goods.—Fabricated Composite Sheet Material for Roofing.

Ser. No. 50,879. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) LEVY & MEYRICH, New York, N. Y. Filed July 18, 1910.

FLAXINA

Particular description of goods.—Cotton Canvas.

Ser. No. 50,915. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) MILLER BROS. & Co., Baltimore, Md. Filed July 19, 1910.



The background being blue, the center band being partly red, and the abbreviations "Mil Bro Co" being red.

Particular description of goods.—Canned Oysters, Peaches, Pineapple, Preserved Blackberries, Raspberries, Strawberries, and Cherries; and Canned Sauer-Kraut, Hominy, Baked Beans, Beets, Tomatoes, Peas, Sugar-Corn, Lima Beans, String-Beans, Okra, Okra and Tomatoes, Concentrated Tomatoes, and Boiled Rice.

Ser. No. 51,027. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE BLISH MILLING COMPANY, Seymour, Ind. Filed July 23, 1910.

BULL'S EYE

Particular description of goods.—Stock Food.

Ser. No. 51,082. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WILLCARDO FRUIT COMPANY, Winter Park, Fla. Filed July 26, 1910.

THREE FEATHERS



Particular description of goods.—Oranges, Lemons, Tangerines, Grape-Fruit, and Limes.

Ser. No. 51,203. (CLASS 38. PRINTS AND PUBLICATIONS.) THE WILLIAM A. WEBSTER Co., Memphis, Tenn. Filed Aug. 1, 1910.



Particular description of goods.—Gummed Printed Medicine-Labels Bound in the Form of Books with Oiled Paper Between Them.

Ser. No. 51,319. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE NATIONAL ROOFING COMPANY, Tonawanda, N. Y. Filed Aug. 8, 1910.



Particular description of goods.—Pigments, Mixed Paints, Roofing-Paints, Varnishes, and Stains.

Ser. No. 51,441. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) STAR EXPANSION BOLT COMPANY, New York, N. Y. Filed Aug. 18, 1910.

SEBCO

Particular description of goods.—Cable-Clamps, Cable-Clips, Cable-Dogs, Aerial Rings, Bridle-Rings, Insulator-Pins, and Cable-Hangers, All of the Foregoing Being Devices Employed for the Purpose of Supporting Electric Wires or Cables.

Ser. No. 51,483. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) EUSTIS PACKING COMPANY, Eustis, Fla. Filed Aug. 22, 1910.



Particular description of goods.—Oranges, Lemons, Tangerines, Grape-Fruit, and Limes.

Ser. No. 51,496. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) ASMUS BROTHERS, Detroit, Mich. Filed Aug. 22, 1910.



The portrait being that of Dolly Madison, deceased.
Particular description of goods.—Blended Coffee and Tea.

Ser. No. 51,580. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WM. ALTEN CO. INC., New York, N. Y. Filed Aug. 26, 1910.

ESPIGA DORADA

Particular description of goods.—Wheat Flour.

Ser. No. 51,672. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) RURAL HOME CHEMICAL COMPANY, Wellsboro, Pa. Filed Sept. 3, 1910.

KineTeniK

Particular description of goods.—A Compound to Aid Digestion, Assist Assimilation, and Quicken Elimination in Animals.

Ser. No. 51,674. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) WILLIAM LEWIS, Chicago, Ill. Filed Sept. 6, 1910.



Particular description of goods.—Lung and Dropsy Remedies.

Ser. No. 51,823. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) WHITTENTON MANUFACTURING CO., Taunton, Mass. Filed Sept. 14, 1910. Used ten years.

Cinderella

Particular description of goods.—Cotton Flannels.

Ser. No. 51,838. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE BLISH MILLING COMPANY, Seymour, Ind. Filed Sept. 15, 1910.

PASSPORT

Particular description of goods.—Wheat-Flour.

Ser. No. 51,839. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE BLISH MILLING COMPANY, Seymour, Ind. Filed Sept. 15, 1910.

PARAPET

Particular description of goods.—Wheat-Flour.

Ser. No. 51,847. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) HENRY GIBSON O'NEILL, Detroit, Mich. Filed Sept. 15, 1910.



Particular description of goods.—Incandescent-Gas-Lighting Apparatus.

Ser. No. 51,876. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) H. L. HALLIDAY MILLING COMPANY, Cairo, Ill. Filed Sept. 19, 1910.

SYLPH

Particular description of goods.—Wheat-Flour.

Ser. No. 51,877. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) H. L. HALLIDAY MILLING COMPANY, Cairo, Ill. Filed Sept. 19, 1910. Used ten years.

CONCORD

Particular description of goods.—Wheat-Flour.

Ser. No. 51,878. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) H. L. HALLIDAY MILLING COMPANY, Cairo, Ill. Filed Sept. 19, 1910.

CLEOPATRA

Particular description of goods.—Wheat-Flour.

Ser. No. 51,894. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) RUFUS HERMAN, Lock Haven, Pa. Filed Sept. 20, 1910.

BLUE SPEAR

The spear being printed in blue.
Particular description of goods.—Laundry Blue and Ammonia.

Ser. No. 51,908. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) V. L. CAVANNA & CO., Philadelphia, Pa. Filed Sept. 21, 1910.

VALCA

Particular description of goods.—Dried Fruits.

Ser. No. 52,016. (CLASS 14. METALS AND METAL CASTINGS AND FORGINGS.) THE MEIER DENTAL MANUFACTURING COMPANY, St. Louis, Mo. Filed Sept. 29, 1910.

ANKRITE

Particular description of goods.—Alloys of Metal.

Ser. No. 52,050. (CLASS 17. TOBACCO PRODUCTS. ERWIN-NADAL TOBACCO COMPANY, Wilson, N. C. Filed Sept. 30, 1910.

PLON-PLON

Particular description of goods.—Cigarettes.

Ser. No. 52,193. (CLASS 19. VEHICLES, NOT INCLUDING ENGINES.) METAL STAMPING COMPANY, Long Island City, N. Y. Filed Oct. 10, 1910. Used ten years.

JOHNSON

Particular description of goods.—Antirattlers.

Ser. No. 52,198. (CLASS 6. CHEMICALS, MEDICINES AND PHARMACEUTICAL PREPARATIONS.) GENERAL DRUG COMPANY, New York, N. Y. Filed Oct. 10, 1910.

Midol

Particular description of goods.—Headache Remedies.

Ser. No. 52,205. (CLASS 17. TOBACCO PRODUCTS.) WALDORF-ASTORIA SEGAR CO. LTD., New York, N. Y. Filed Oct. 11, 1910.



Particular description of goods.—Cigars.

Ser. No. 52,272. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) A. STEIN & COMPANY, Chicago, Ill. Filed Oct. 14, 1910.

HICKORY

Particular description of goods.—Hose-Supporters.

Ser. No. 52,297. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) ALBERT RUDOLPH, Edgewater, N. J. Filed Oct. 17, 1910.

SALVINE

Particular description of goods.—A Hair Tonic and Remedy for Dandruff and Scalp Diseases.

Ser. No. 52,368. (CLASS 12. CONSTRUCTION MATERIALS.) THE PARAFFINE PAINT CO., San Francisco, Cal. Filed Oct. 21, 1910.

FLOATINE

Particular description of goods.—Refined Asphalt.

TRADE-MARKS

REGISTERED NOVEMBER 15, 1910.

80,165. CERTAIN FOODS. ACKER, MERRALL & CONDIT COMPANY, New York, N. Y.
Filed April 3, 1908. Serial No. 33,830. PUBLISHED SEPTEMBER 13, 1910.

80,166. DRIED BREWER'S GRAIN. ATLANTIC EXPORT COMPANY, New York, N. Y.
Filed November 30, 1906. Serial No. 23,674. PUBLISHED APRIL 26, 1910.

80,167. IMPORTED BEERS. WILLIAM C. BEUTEL, New York, N. Y.
Filed June 30, 1909. Serial No. 43,343. PUBLISHED NOVEMBER 23, 1909.

80,168. TEAS, BLENDED COFFEE, AND SPICES. BLEECKER & SIMONS, New York, N. Y.
Filed June 3, 1910. Serial No. 50,098. PUBLISHED SEPTEMBER 13, 1910.

80,169. CIGARS. ALBERT BREITUNO, Chicago, Ill.
Filed July 15, 1909. Serial No. 43,534. PUBLISHED FEBRUARY 22, 1910.

80,170. INCUBATORS, BROODERS, AND PORTABLE POULTRY-HOUSES. THE BUCKEYE INCUBATOR COMPANY, Springfield, Ohio.
Filed May 5, 1910. Serial No. 49,515. PUBLISHED SEPTEMBER 13, 1910.

80,171. PRINTED BOOKS, PAMPHLETS, AND PRINTED AND PICTORIAL CARDS AND LEAFLETS. THE BUILDING BRICK ASSOCIATION OF AMERICA, New York, N. Y.
Filed April 5, 1910. Serial No. 48,859. PUBLISHED SEPTEMBER 13, 1910.

80,172. LADIES' WAISTS AND SKIRTS. BURNHAM HANNA MUNGER D G CO., Kansas City, Mo.
Filed August 15, 1910. Serial No. 51,399. PUBLISHED SEPTEMBER 13, 1910.

80,173. CANNED FRUITS. CALIFORNIA FRUIT CANNERS ASSOCIATION, San Francisco, Cal.
Filed July 29, 1910. Serial No. 51,146. PUBLISHED SEPTEMBER 13, 1910.

80,174. CHOCOLATE-COVERED BISCUITS. JOHN P. COBB, Chicago, Ill.
Filed April 12, 1910. Serial No. 49,045. PUBLISHED JUNE 28, 1910.

80,175. LINIMENT. RAFAEL CORTÉS, Lampazos, Mexico.
Filed May 29, 1908. Serial No. 35,026. PUBLISHED SEPTEMBER 13, 1910.

80,176. PETTICOATS AND UNDERSKIRTS. THE DIELHENN MANUFACTURING CO., Massillon, Ohio.
Filed April 15, 1910. Serial No. 49,118. PUBLISHED AUGUST 2, 1910.

80,177. HAND EMBROIDERY. MARSHALL FIELD & COMPANY, Chicago, Ill.
Filed January 26, 1910. Serial No. 47,406. PUBLISHED SEPTEMBER 13, 1910.

80,178. ORANGES AND LEMONS. FILLMORE CITRUS FRUIT ASSOCIATION, Fillmore, Cal.
Filed December 15, 1909. Serial No. 46,526. PUBLISHED MARCH 29, 1910.

80,179. COFFEE. FOSTER, CALDARERA & CO., Fort Smith, Ark.
Filed October 15, 1909. Serial No. 45,341. PUBLISHED DECEMBER 14, 1909.

80,180. HOSIERY. GEHRKE KNITTING MILLS, Reading, Pa.
Filed August 8, 1910. Serial No. 51,310. PUBLISHED SEPTEMBER 13, 1910.

80,181. BELTS FOR PERSONAL WEAR. SIMON GUTMAN, New York, N. Y.
Filed August 2, 1910. Serial No. 51,233. PUBLISHED SEPTEMBER 13, 1910.

80,182. GINGERBREAD, CHOCOLATE, HONEY-CAKE CAKES, COOKIES, AND COCOA. HEINRICH HAEBERLEIN, Nuremberg, Germany.
Filed November 4, 1905. Serial No. 14,326. PUBLISHED SEPTEMBER 13, 1910.

80,183. METALLIC ALLOYS OF PRECIOUS METAL AND CASTINGS AND FORGINGS THEREOF. HAYES & MACFARLAND, Mount Vernon, N. Y.
Filed February 27, 1909. Serial No. 40,833. PUBLISHED SEPTEMBER 13, 1910.

80,184. PERFUMES. RICHARD HUDNUT, New York, N. Y.
Filed May 26, 1910. Serial No. 49,944. PUBLISHED SEPTEMBER 13, 1910.

80,185. REMEDY TO REDUCE FAT. HARRY L. HULL, Chicago, Ill.
Filed June 23, 1910. Serial No. 50,542. PUBLISHED AUGUST 23, 1910.

80,186. CANNED SALMON. KELLEY-CLARKE CO., Seattle, Wash.
Filed April 4, 1910. Serial No. 48,837. PUBLISHED SEPTEMBER 13, 1910.

80,187. CANNED CORN. THE KROGER GROCERY & BAKING COMPANY, Cincinnati, Ohio.
Filed June 3, 1910. Serial No. 50,079. PUBLISHED SEPTEMBER 13, 1910.

80,188. [WITHDRAWN.]

80,189. REMEDY FOR CERTAIN DISEASES. DOMNICK A. MARINO, Jersey City, N. J.
Filed January 7, 1910. Serial No. 46,955. PUBLISHED SEPTEMBER 13, 1910.

80,190. MEDICINAL TONIC. MEZCAL TEQUILA DISTILLERY COMPANY, INC., San Francisco, Cal.
Filed April 13, 1908. Serial No. 34,051. PUBLISHED SEPTEMBER 13, 1910.

80,191. COAL. THE MIDDLE CREEK COAL COMPANY, Prestonsburg, Ky.
Filed February 12, 1910. Serial No. 47,788. PUBLISHED SEPTEMBER 13, 1910.

80,192. GOODS MADE OF HUMAN HAIR. MORRIS MANN & REILLY, Chicago, Ill.
Filed May 13, 1910. Serial No. 49,679. PUBLISHED SEPTEMBER 13, 1910.

80,193. MONTHLY MAGAZINE. NATIONAL MANUFACTURERS COMPANY, New York, N. Y.
Filed February 2, 1910. Serial No. 47,525. PUBLISHED SEPTEMBER 13, 1910.

80,194. RICE. ORME RICE PACKING COMPANY, New Orleans, La.
Filed June 17, 1910. Serial No. 50,366. PUBLISHED SEPTEMBER 13, 1910.

80,195. CERTAIN CLOTHING. THOMAS G. PLANT CO., Montclair, N. J., and Boston, Mass.
Filed June 17, 1909. Serial No. 43,059. PUBLISHED SEPTEMBER 13, 1910.

80,196. VARNISH. PRATT & LAMBERT, INC., Buffalo, N. Y.
Filed May 18, 1910. Serial No. 49,805. PUBLISHED SEPTEMBER 13, 1910.

80,197. LEATHER AND RUBBER SHOES, HATS, OUTER AND UNDER WAISTS, AND HOSIERY. ROBERTS, JOHNSON & RAND SHOE COMPANY, St. Louis, Mo.
Filed July 23, 1910. Serial No. 51,028. PUBLISHED SEPTEMBER 13, 1910.

80,198. CORD MADE OF COTTON. SAMSON CORDAGE WORKS, Boston, Mass.
Filed February 25, 1910. Serial No. 48,021. PUBLISHED SEPTEMBER 13, 1910.

80,199. CHOCOLATE CANDIES. W. F. SCHRAFFT & SONS CORPORATION, Boston, Mass.
Filed April 16, 1910. Serial No. 49,150. PUBLISHED SEPTEMBER 13, 1910.

80,200. WHEAT-FLOUR. THE GEO. TILESTON MILLING COMPANY, St. Cloud, Minn.
Filed February 18, 1910. Serial No. 47,895. PUBLISHED APRIL 26, 1910.

80,201. TALKING-MACHINES AND PARTS AND RECORDS THEREFOR. VICTOR TALKING MACHINE COMPANY, Camden, N. J.
Filed July 23, 1910. Serial No. 51,010. PUBLISHED SEPTEMBER 13, 1910.

80,202. METAL FORGINGS. J. H. WILLIAMS & Co., New York, N. Y.
Filed June 15, 1910. Serial No. 50,325. PUBLISHED SEPTEMBER 13, 1910.

TRADE-MARKS CANCELED.

77,022. INSULATED ELECTRIC CONDUCTORS AND CABLES. FRANK M. FERRIN, Newton and Boston, Mass.
Registered March 1, 1910. Canceled November 3, 1910.

LABELS

REGISTERED NOVEMBER 15, 1910.

15,390.—*Title:* "JOSE RIBERA." (For Cigars.) J. V. O'CONNELL, St. Louis, Mo. Filed November 7, 1910.

15,391.—*Title:* "JACOB HORNUNG'S WHITE BOCK BEER." (For Bottled Beer.) JACOB HORNUNG, Philadelphia, Pa. Filed November 2, 1910.

15,392.—*Title:* "SUN BRAND." (For Dried Apples.) WALLERSTEIN PRODUCE CO., Richmond, Va. Filed October 31, 1910.

15,393.—*Title:* "OOZE." (For Soap.) WILLIAM M. WILKES, Indianapolis, Ind. Filed October 20, 1910.

15,394.—*Title:* "ANTIPYOGEN." (For Surgical Dressings.) SURGICAL OIL MANUFACTURING COMPANY, Los Angeles, Cal. Filed November 7, 1910.

15,395.—*Title:* "ROACHLEINE." (For Roach-Powder.) ALBERT J. EUGSTER, New York, N. Y. Filed November 5, 1910.

15,396.—*Title:* "WORLD'S METAL POLISH." (For Metal-Polish.) KAMMERER DAVIS MFG. CO., New York, N. Y. Filed September 29, 1910.

PRINTS

REGISTERED NOVEMBER 15, 1910.

2,667.—*Title:* "BETTER THAN I CAN MAKE." (For Plum-Pudding.) RICHARDSON & ROBBINS CO., Dover, Del. Filed October 27, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE MYGATT.

Decided October 26, 1910.

APPLICATION—OATH—VALIDITY.

The omission of the word "sole" in the oath accompanying an application for patent *Held* not such a vital defect as to render the oath invalid. (*Riegger* v. *Beierl*, 150 O. G., 826, distinguished.)

ON PETITION.

GLASS GLOBE AND REFLECTOR.

Messrs. Brock, Beeken & Smith for the applicant.

MOORE, *Commissioner:*

This is a petition from the action of the Primary Examiner holding the above-entitled case abandoned on the ground that no valid oath was filed in the case within one year of the date of filing of the original papers.

The oath which accompanied the case as filed omitted the word "sole." The Examiner has held that inasmuch as the rules require an allegation as to sole or joint inventorship the oath is invalid and the case abandoned under the ruling in *Riegger* v. *Beierl*, (150 O. G., 826.)

In that case an application was involved wherein the oath had been executed before the attorney in the case as notary public. Section 558 of the Code of Laws of the District of Columbia and the decision of the Attorney-General of the United States of April 18, 1907, (127 O. G., 3642,) were considered in their bearing upon the case, and it was concluded that the oath executed before the attorney was wholly invalid and in effect no oath at all for the reason that it was not executed—

before any person within the United States authorized by law—

to administer the oath, within the meaning of section 4892, Revised Statutes. The application was therefore in the same condition as if no oath had been filed, and it was necessarily held incomplete under Rule 30 of the Rules of Practice, in which an oath is made an essential prerequisite to a complete application.

In the present case the oath is obviously not wholly invalid. It constitutes a sufficient averment of all the facts therein set forth, which, it may be noted, cover those expressly included in the statute, and it omits only the allegation as to sole inventorship required by Rule 46. Since this rule has the force and effect of law until set aside, it is clear therefore that the present oath is insufficient in itself; but it does not follow that it is wholly invalid for all purposes.

It is well settled that certain defects in an oath can be corrected after the case is forwarded to the Examiner for action. In the case of *Dukesmith* v. *Corrington* v. *Turner* (125 O. G., 348) the oath accompanying Turner's application was defective in the following respects: It referred to the invention claimed in the application, where it should have referred to the invention described and claimed. It failed to state that the invention had not been patented and described in any printed publication for more than two years prior to the filing of the application, and it failed to state that no application for patent had been filed by the assignees of the applicant in foreign countries more than twelve months prior to the application in this country, and the question was considered whether Turner's application should be held to be an incomplete application pending the receipt of a proper oath. In disposing of this question the Commissioner said:

Such action should not be taken. The application papers were received in the Office long prior to the declaration of this interference. They were given filing date as a complete application and sent to the Primary Examiner, who acted upon the case and eventually declared this interference. In all this time no objection was made to the oath. There are good reasons for refusing to give filing dates to application papers until various formalities have been complied with where the informalities are discovered by the Office without undue delay; but where the application has been examined and considerable time has elapsed before the necessary corrections are required there should be no change in filing date except in those cases where the Office is clearly without authority to entertain the application until the corrections are made. So far as now appears there is nothing in the statute or rules requiring the defects in Turner's oath to be corrected before the same is accepted as a complete application. Such being the case, the correction of these defects is an *ex parte* matter which may be attended to after termination of the interference. The case of *ex parte Erand*, (82 O. G., 893,) upon which Corrington relies as a precedent, was overruled in so far as it seemed to support his position by *ex parte Becker*, (C. D., 1901, 198.) In the case of *ex parte Sassin* (122 O. G., 2064) none of the application papers was signed by the applicant. This defect is believed to stand on a different footing from those in the present case. None of the cases referred to by Corrington involves the principles which, as pointed out above, are regarded as controlling under the conditions of the present case.

In the case of *ex parte Becker* (97 O. G., 1597) the oath was incomplete in omitting the words "Washington, D. C.," so that the place of residence was given simply as "1315 Yale street." The Ex-

aminer had held that the oath was fatally defective and that the application had no standing before the Office. In that case it was said:

> The case having been sent forward for examination, the Examiner was in error in holding that it had no standing before the Office and in postponing action on the merits. If, in his opinion, there was such a vital defect in the case as would warrant this conclusion, he should have returned the application to the application clerk for correction; but when an application has been sent forward for examination it is presumably complete within the requirements of the statutes and the examination thereof and action thereon should be directed throughout to the merits. There being no defect in any of the parts of this application which amounts to a failure to comply with the express terms of the statutes, it is contrary to the policy of the Office and unjust to the applicant to postpone action on the merits because of a formal defect which does not render the disclosure of the alleged invention imperfect or prevent a complete understanding of the same by the Examiner.

In the case of *ex parte Delavoye* (124 O. G., 626) it was held that a defect in the oath consisting in the omission of the statement of venue could be corrected by an affidavit of the notary who administered the original oath, stating where the oath was administered, or by the applicant filing a new oath, if he so desired.

In *ex parte Hirth* (92 MSS. Dec., 489) a new oath was required because the original oath contained no twelve-months clause and because the consular seal was not impressed thereon. A new oath was filed; but it was in turn objected to because the list of applications filed in foreign countries was incomplete, and a new oath was again required. It was held that—

> while the seal of the consul was not impressed upon the wafer attached to the oath originally filed, a seal appears on the application papers over the ribbon by which they are fastened together, and as the second oath contains the twelve-months clause, it is thought that no further oath should be required.

In the Examiner's statement he suggests that if it be held that the omission of one of the legal requirements to the oath does not invalidate the oath the question arises, would the omission of two, three, or more of such requirements invalidate it? It is clear that the oath may be so incomplete and informal as not to warrant the application being considered complete for the purpose of examination. The difficulty in applying the settled rules to the individual cases should not, however, be a reason for abrogating the rules or inflicting a hardship upon applicants in cases where slight defects appear. The sufficiency of the oath for the purpose of considering the application complete is a matter for the exercise of judgment in the individual case, due regard being had to the principles expressed in the decisions in such cases.

There is nothing in the case of *Riegger* v. *Beierl*, *supra*, to indicate that it is intended to overrule the practice announced in the other decisions therein cited. It is clear that the holding of abandonment in that case was based upon the finding that the application was in fact without any valid oath whatever.

The defect in the oath in the present case is such as can be corrected and does not constitute ground for holding the case abandoned for failure to complete within the year.

The petition is granted.

DUNLAP *v.* CREVELING *v.* RECTOR.

Decided October 31, 1910.

INTERFERENCE—HEARINGS—REQUEST FOR SECOND HEARING.

Where a party requested that a second date for final hearing be set to give him an opportunity to argue his opponent's right to make the claims, *Held* that the extent to which a case pending before the Examiner of Interferences shall be heard or reheard by him is a matter peculiarly within his own discretion, and his decision on such a point will not be disturbed unless in case of clear abuse of such discretion.

APPEAL from Examiner of Interferences.

TELEPHONE ADJUNCT.

Messrs. Offield, Towle & Linthicum and *Messrs. Bacon & Milans* for Dunlap.

Mr. John L. Creveling, pro se.

Mr. W. B. Hutchinson and *Mr. Frank S. Appleman* for Rector.

MOORE, *Commissioner:*

This is an appeal by Creveling from the decision of the Examiner of Interferences refusing to set a time for another final hearing and to grant him permission to argue at such hearing the proposition that Rector has no right to make the claim in issue.

A final hearing in this case was set for July 28, 1910, and at that time Creveling appeared and desired to argue the question above referred to. The Examiner of Interferences refused to hear him on this point on the ground that he had not given notice to the other parties of his intention to do so and had failed to prosecute a motion to dissolve on the ground in question or to give sufficient reasons for his failure to do so.

To what extent a case pending before the Examiner of Interferences should be heard or reheard by him is a matter peculiarly within his own discretion, and his decision on such a point will not be disturbed on appeal unless in the case of a palpable abuse of discretion on his part. In this case there is clearly no such abuse.

The appeal is dismissed.

TOPPING *v.* PRICE.

Decided November 3, 1910.

INTERFERENCE—MOTION TO DISSOLVE—TRANSMISSION—DELAY IN BRINGING.

Where after the denial of a motion to dissolve an interference based on the references of record the moving party brings a second motion based on an additional reference and it does not appear that such reference could not have been found within the time originally set for bringing motions, *Held* that such motion was properly refused transmission.

APPEAL on motion.

OIL-SPRINKLING APPARATUS.

Messrs. Townsend & Decker for Topping.

Messrs. Sturtevant & Mason for Price.

MOORE, *Commissioner:*

This is an appeal by Topping from a decision of the Examiner of Interferences refusing to transmit a motion to dissolve.

This motion was brought long after the time set for taking testimony and after one motion to dissolve the interference brought by Topping had been heard and denied by the Primary Examiner. The only excuse given for the delay is contained in the affidavit of one of the attorneys accompanying the motion, in which he states that when he examined the applications of the two parties he was satisfied that the patents of record were sufficient to show that the issue was not patentable, that after the Primary Examiner refused to dissolve the interference he assumed that the issue was patentable and made arrangements to take testimony, and that on September 15, 1910, there was brought to his attention a reference in a different class of inventions, which, in his opinion, was an anticipation. The present motion is based in part on this reference and in part on other references, some of which were cited in the former motion.

It does not appear that the references now principally relied upon could not have been found within the time originally set for bringing motions, if proper search had been made at that time. The Examiner of Interferences properly refused, therefore, to transmit the motion. (*Whitlock* v. *Hewson* v. *Scott*, 99 O. G., 1385; *Schirme* v. *Lindemann & Stock*, 111 O. G., 222; *Pfingst* v. *Anderson*, 117 O. G., 597.)

The decision is affirmed.

EX PARTE GUGLER.

Decided October 3, 1910.

CLAIM—NOT INDEFINITE—ORIGINAL DISCLOSURE.

Where an original claim in an application is not indefinite, but is objected to by the Examiner on the ground that it suggests a variation not disclosed in the original specification and drawings, *Held* that either the objection is unfounded or the claim is sufficient basis for an amendment to the showing to make it correspond with the modification suggested in the claim.

ON PETITION.

COMBINED PRIMARY AND SECONDARY BATTERY SYSTEM.

Mr. George Wetmore Colles for the applicant.

BILLINGS, *First Assistant Commissioner:*

This is a petition from the action of the Examiner making final an objection to the last four lines of claim 2.

The Examiner has held that the lines mentioned are misleading on the ground that they suggest an arrangement not disclosed in the drawing. The structure upon which the claim is based comprises two batteries, a primary and a secondary battery, the like poles of which are permanently connected on one side through a plain conductor and on the other side through a resistance. One side of the circuit is shown permanently connected to the conductor joining the two batteries, and the other pole of the work-circuit is adapted for connection to leads from both of the batteries by means of a switch, thereby short-circuiting the resistance. Claim 2 reads as follows:

> 2. The combination of a primary battery, a secondary battery, and a service-circuit, one pole of each of said three elements being disconnected from the other two, except as hereinafter stated, a device adapted to connect said three poles together, and a resistance permanently connecting said disconnected pole of the primary battery with said disconnected pole of the secondary battery; the other pole of said primary and secondary battery being permanently connected and the other pole of said service-circuit being connected thereto when said first-named poles are connected together.

The objection is on the ground that the last four lines suggest that the conductor shown as permanently connected to the plain conductor joining the two batteries may be disconnected therefrom at certain times.

It appears from the record that the applicant has offered to show the possibility of such a disconnection on the drawing or to insert a statement relative thereto in the specification. He maintains, however, that the claim in its present form is not misleading and should be allowed, since it merely sets forth connections as they actually exist. He has argued with some force that if the claim in its present form does in fact suggest the arrangement pointed out by the Examiner he should be allowed to amend his drawing and specification accordingly, since claim 2 is an original claim and constitutes part of the disclosure as filed, while if it does not suggest that arrangement the objection of the Examiner fails. There would seem to be no middle ground unless it were to hold that the claim is vague and indefinite as well as misleading, in which case of course it could not afford sufficient basis for amending the drawing or specification to accord therewith. But the record shows that the Examiner specifically withdrew an objection made in the first Office letters to the claim on the ground that it was vague and indefinite.

Under these circumstances it is thought that the Examiner should either allow the claim in its present form or permit an amendment to the disclosure such as applicant offers to make.

The petition is granted to the extent indicated.

GILBERT *v.* GILBERT AND LINDLEY.

Decided September 7, 1910.

INTERFERENCE—JOINT AND SOLE APPLICANTS—ASSIGNEE OF ONE OF JOINT APPLICANTS ENTITLED TO PROSECUTE.

G. and L. filed a joint application for patent, and L. assigned his interest therein. Subsequently G. filed a sole application for the same invention, and an interference was declared. *Held* that L.'s assignee is entitled to control the prosecution of the interference on behalf of G. and L.

ON PETITION.

KNITTING-MACHINE.

Messrs. Smith & Frazier for Gilbert.

Messrs. Whitaker & Prevost for Gilbert and Lindley.

TENNANT, *Acting Commissioner:*

This is a petition by the James Leckie & Son Company that it be allowed to appoint an attorney to conduct the prosecution of this interference so far as the application of Gilbert and Lindley is concerned and to revoke the power of attorney of Whitaker & Prevost, who at present appear as attorneys for Gilbert and Lindley. The petition is accompanied by a power of attorney to John E. Hubbell,

signed by Lindley and by the James Leckie & Son Company.

It appears that the application of Gilbert and Lindley was prosecuted to an allowance by Whitaker & Prevost; that subsequently Gilbert filed a sole application and was placed in interference with the application of Gilbert and Lindley; that Lindley has assigned his interest in the Gilbert and Lindley application to the James Leckie & Son Company.

Under these circumstances it is believed that the assignee of Lindley should be entitled to control the prosecution of this interference on behalf of Gilbert and Lindley, and the power of attorney given to John E. Hubbell by Lindley and his assignee is accepted to the extent that he will be recognized in the prosecution of the interference.

It is not believed that the power of attorney to Whitaker & Prevost should be revoked at this time, since it is thought that they are entitled to have access to the interference, and whether they or Hubbell shall be recognized in the prosecution of the joint application, after the interference has terminated, need not be decided at this time.

The petition is granted to the extent indicated.

WHITE v. POWELL.

Decided November 5, 1910.

1. INTERFERENCE—MOTION TO DISSOLVE—REHEARING.

It being incumbent upon a party to a motion to dissolve to cite such references as are necessary to inform the tribunals of the state of the art, *Held* that he is not in a position to demand a rehearing on the ground that the decision was induced by lack of such information.

2. SAME—SAME—SAME—EX PARTE AFFIDAVITS.

Since it is well settled that a motion to dissolve on the ground of non-patentability will not be considered when based upon *ex parte* affidavits, (*Barratt* v. *Swinglehurst*, 144 O. G., 818,) a request for rehearing based upon such showing must also be refused.

3. SAME—SAME—SAME—SHOWING MADE FOR FIRST TIME ON APPEAL.

Matter which was not presented to the lower tribunals when the case was pending before them will not be considered on appeal, (*Reppeto* v. *Stephens*, 105 O. G., 1779; *Ocumpaugh* v. *McElroy*, 115 O. G., 1847,) and therefore does not constitute ground for granting a rehearing.

PETITION for rehearing.

MOTOR-CONTROL SYSTEM.

Mr. Albert G. Davis for White.

Mr. Charles E. Lord for Powell. (*Mr. George B. Schley* of counsel.)

TENNANT, *Assistant Commissioner:*

This is a petition by White for a rehearing of his appeal from the Examiners-in-Chief on his motion to dissolve the interference on the ground of unpatentability so far as the appeal relates to counts 2, 5, and 6. In a decision rendered September 30, 1910, it was held that these counts were patentable over the art cited in the motion.

The petition is based upon three grounds: first, that the decision as to these counts is founded upon a misunderstanding or lack of information regarding the motor-control art; second, that it shows a misconception of the "every-day duties of an engineer" in this art, and, third, that the holding on these counts came as a surprise to counsel for White.

The motion to dissolve having been brought by White it was incumbent upon him to cite such art as was necessary to inform the various tribunals of the state of the art and support his contention that the claims were unpatentable. White is therefore not in a position at this time to urge that the decision complained of was the result of a lack of information.

Accompanying the petition for rehearing are two affidavits and a patent to Carichoff, now referred to for the first time for the purpose of showing that certain features of the count are old. This additional showing is found to be far from conclusive as to the unpatentability of the counts in question, and it is clear, therefore, that even if it were proper to consider the additional affidavits and the patent cited there would be no ground for granting a rehearing, since there have been no facts presented which could warrant a different conclusion from that reached in the decision of September 30, 1910.

Furthermore, it is well established that matter of this kind which was not considered by the lower tribunals will not be admitted upon appeal. (*Reppeto* v. *Stephens*, 105 O. G., 1779; *Ocumpaugh* v. *McElroy*, 115 O. G., 1847.) The motion for rehearing would therefore be denied, if for no other reason, because it is based upon evidence which cannot be admitted at this point of the proceedings.

It may be noted, further, that the affidavits submitted would be inadmissible in any event, even were the case now pending before the tribunal of original jurisdiction, since a motion to dissolve on the ground that the issue is unpatentable will not be considered where based upon *ex parte* affidavits. (*Barratt* v. *Swinglehurst*, 144 O. G., 818, and cases therein cited.)

The petition for rehearing is in substance and effect a renewed motion for dissolution upon new grounds. As such, however, it could not be transmitted to the Primary Examiner for consideration, even if presented before the proper tribunal with a motion to transmit the same, for there is no showing to excuse the delay in presenting the facts now brought forward for the first time. The additional patent which is now cited by White is in the same art as the patents previously considered and was presumably within his knowledge at the time the original motion was brought. It is well settled that such delay is fatal to a motion to dissolve. (*McKee* v. *Baker*, 120 O. G., 657; *Josleyn* v. *Hulse*, 130 O. G., 1689; *Blackmore* v. *Hall*, 132 O. G., 1587.

The record in this case shows that petitioner had no reason to be surprised by the holding as to counts 2, 5, and 6, since the considerations upon which it was based were, in part at least, the reasons upon which the Primary Examiner held these claims patentable in his original decision, and they were discussed at the hearing before me.

The petition is denied.

ADJUDICATED PATENTS.

The Coleman patent, No. 626,670, for an electrical burglar-alarm, as limited by the prior art, *Held* not infringed. *American Bank Protection Co.* v. *Electric Protection Co.*, (C. C.,) 181 Fed. Rep., 350.

The Coleman patent, No. 627,054, for an electrical burglar-alarm system, claim 17 *Held* not infringed. *American Bank Protection Co.* v. *Electric Protection Co.*, (C. C.,) 181 Fed. Rep., 350.

The Coleman patent, No. 632,513, for an electrical burglar-alarm system, construed and *Held* not infringed. *American Bank Protection Co.* v. *Electric Protection Co.*, (C. C.,) 181 Fed. Rep., 350.

The Dittgen patent, No. 662,226, for a cigar-pocket, *Held* void for prior public use and sale of the patented article for more than two years prior to the application. *Dittgen* v. *Racine Paper Goods Co.*, (C. C.,) 181 Fed. Rep., 394.

The Claude & Hess patent, No. 664,383, for an acetylene-gas tank, covers such tanks as charged with gas and the recharging of the same when exhausted without license from the owner of the patent is an infringement. *Commercial Acetylene Co.* v. *Autolux Co.*, (C. C.,) 181 Fed. Rep., 387.

The Coleman patent, No. 667,115, for a burglar-alarm system, claims 12, 13, 14, and 15 *Held* not anticipated, valid, and infringed. *American Bank Protection Co.* v. *Electric Protection Co.*, (C. C.,) 181 Fed. Rep., 350.

The Robinson & Green patent, No. 708,496, for a burglar-alarm, *Held* not anticipated, valid, and infringed as to claims 1, 2, 3, 7, 8, and 10, but not infringed as to claims 9, 11, 12, and 13. *American Bank Protection Co.* v. *Electric Protection Co.*, (C. C.,) 181 Fed. Rep., 350.

The Robinson & Green patent, No. 708,496, for improvements in alarm-gongs for electric burglar-alarm systems, construed and *Held* valid and infringed. *American Bank Protection Co.* v. *City Nat. Bank of Johnson City, Tenn.*, (C. C.,) 181 Fed. Rep., 375.

The Robins and Jacoby patent, No. 771,748, for an electric time alarm, construed and *Held* not infringed. *American Bank Protection Co.* v. *Electric Protection Co.*, (C. C.,) 181 Fed. Rep., 350.

The Robins and Jacoby patent, No. 771,749, for a burglar-alarm, claims 3 and 6 *Held* void for lack of invention. The remaining claims *Held* not infringed. *American Bank Protection Co.* v. *Electric Protection Co.*, (C. C.,) 181 Fed. Rep., 350.

The Fullman patent, No. 771,774, for an apparatus for copying drawings, *Held* void for anticipation as to claims 1, 2, 3, and 5 and valid, but not infringed, as to claim 4. *Elliott & Co.* v. *Youngstown Car. Mfg. Co.*, (C. C. A.,) 181 Fed. Rep., 345.

The Parmenter patent, No. 781,455, for a cigar-pocket, *Held* void for prior public use and sale of the patented article for more than two years prior to the application. *Dittgen* v. *Racine Paper Goods Co.*, (C. C.,) 181 Fed. Rep., 394.

The D'Arcy patent, No. 785,410, claim 2, for a device for securing spiral springs to a wire frame in spring structures, *Held* valid, but not infringed. *Jackson Cushion Spring Co.* v. *D'Arcy*, (C. C. A.,) 181 Fed. Rep., 340.

The Mygatt patent, No. 821,306, for a prismatic glass lamp shade or reflector, *Held* valid and infringed on motion for a preliminary injunction. *Mygatt* v. *M. Schaffer-Flaum Co.*, (C. C.,) 181 Fed. Rep., 399.

The Robins patent, No. 850,101, for a drop for electric circuits, *Held* not anticipated, valid, and infringed. *American Bank Protection Co.* v. *Electric Protection Co.*, (C. C.,) 181 Fed. Rep., 350.

The Matchette and Raddatz patent, No. 870,981, for a vacuum cleaning apparatus, *Held* not anticipated, valid, and infringed. *Matchette* v. *Strecter Bros.*, (C. C.,) 181 Fed. Rep., 380.

The Grass patent, No. 880,020, for a vault-lining for use in connection with an electrical alarm-circuit, construed and *Held* not infringed. *American Bank Protection Co.* v. *Electric Protection Co.*, (C. C.,) 181 Fed. Rep., 350.

The Coleman reissue patent, No. 11,626, (original No. 570,906,) for an electric burglar-alarm, claims 6 and 21 are void for lack of invention. Claims 18 and 20 *Held* not anticipated, valid, and infringed. *American Bank Protection Co.* v. *Electric Protection Co.*, (C. C.,) 181 Fed. Rep., 350.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 4, 1910.

Samuel A. Richmond, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the applications of the Wehrman Medicine Company, of 1269 Michigan avenue, Columbus, Ohio, and G. H. Mullen, of Guyandotte, W. Va., for registrations of trade-marks and the trade-mark registrations to the Good Samaritan Ointment Company, of 222 Broadway, Camden, N. J., registered August 21, 1906, No. 55,682; Samuel A. Richmond, of Tuscola, Ill., registered May 13, 1890, No. 17,915, and December 16, 1890, No. 18,714, and Charles C. Brooks, of Waverly, N. Y., registered April 4, 1882, No. 9,253, and the notice of such declaration sent by registered mail to the said Samuel A. Richmond at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Samuel A. Richmond, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 4, 1910.

John Dunn, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Consolidated Cotton Duck Company, of Continental Trust Building, Baltimore, Md., for registration of a trade-mark and the trade-mark registrations to Minot, Hooper & Company, of 40 Thomas street, borough of Manhattan, New York, N. Y., registered August 29, 1905, No. 45,761; Lindeke, Warner & Schurmeier, of East Fourth and Sibley streets, St. Paul, Minn., registered April 20, 1897, No. 29,854; Sharpless Brothers, of 812–814 Market street, Philadelphia, Pa., registered May 23, 1893, No. 23,072; Denny, Poor & Company, of New York, N. Y., registered December 30, 1890, No. 18,761; John Dunn, of East Orange, N. J., registered June 22, 1886, No. 13,436, and Stark Mills, of Manchester, N. H., registered November 8, 1881, No. 8,822, and March 18, 1906, No. 50,391, and the notice of such declaration sent by registered mail to the said John Dunn at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said John Dunn, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 27, 1910.

Henry Werner & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Bennett, Hollander & Lewis, of 947 Pennsylvania avenue, Pittsburg, Pa., for registration of a trade-mark and the trade-mark registration to Joseph Bennett & Company, of 713 Pennsylvania avenue, Pittsburg, Pa., registered April 10, 1900, No. 34,453, and Henry Werner & Company, of 366 Gratiot avenue, Detroit, Mich., registered March 26, 1895, No. 26,267, and the notice of such declaration sent by registered mail to the said Henry Werner & Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Henry Werner & Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 20, 1910.

Frederick M. Hall, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Maine Manufacturing Company, of Nashua, N. H., and the application of the Grand Rapids Refrigerator Company, 17 to 27 Ottawa street and 20 to 50 Clyde Park avenue, Grand Rapids, Mich., for registration of trade-marks and trade-mark registrations No. 36,235, dated April 9, 1901, to Christian Schmidt, 157 and 159 Springfield avenue, Newark, N. J., and No. 12,637, dated October 13, 1885, to Frederick M. Hall, 71 Randolph street, Chicago, Ill., and the notice sent by registered mail to the said Frederick M. Hall at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Frederick M. Hall, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 11, 1910.

Edward A. Donaldson, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the National Cleanser Mfg. Co., 347 Greenwich street, New York, N. Y., for registration of a trade-mark and trade-mark registration No. 23,634, dated September 19, 1893, to Edward A. Donaldson, of Galesburg, Ill., and the notice of such declaration sent by registered mail to the said Edward A. Donaldson at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Edward A. Donaldson, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 11, 1910.

Union Tubing Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Pennsylvania Flexible Metallic Tubing Company, 1305 Arch street, Philadelphia, Pa., for registration of a trade-mark and trade-mark registration No. 10,115, dated March 13, 1883, to the Union Tubing Company, of New York, N. Y., and the notice of such declaration sent by registered mail to the said Union Tubing Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Union Tubing Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

ISSUE OF NOVEMBER 15, 1910.

Patents	750	No. 975,388 to No. 976,137, inclusive.
Designs	7	No. 40,987 to No. 40,993, inclusive.
Trade-Marks	38	No. 80,165 to No. 80,202, inclusive.
Labels	7	No. 15,390 to No. 15,396, inclusive.
Prints	1	No. 2,667.
Reissues	2	No. 13,167 to No. 13,168, inclusive.
Total	805	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama			Ohio	57	3
Arkansas	3	1	Oklahoma	5	
California	23	4	Oregon	7	
Colorado	13		Pennsylvania	94	2
Connecticut	9		Rhode Island	8	
Delaware	2	1	South Carolina	3	
Florida	2		South Dakota	1	
Georgia	2		Tennessee	4	
Idaho	1		Texas	20	
Illinois	78	5	Utah	1	
Indiana	13	1	Vermont	1	
Iowa	17		Virginia	4	1
Kansas	2		Washington	10	1
Kentucky	4	1	West Virginia	6	
Louisiana	1	1	Wisconsin	21	
Maine	2		Wyoming		
Maryland	6				
Massachusetts	45	2	Alaska, District of		
Michigan	23		Arizona Territory	1	
Minnesota	7	1	District of Columbia	11	
Mississippi	2		Hawaii Territory		
Missouri	21	3	New Mexico Ter't'y		
Montana	4		Panama		
Nebraska	5		Philippine Islands		
Nevada	1		U. S. Army		
New Hampshire	4		U. S. Navy		
New Jersey	32	3			
New York	104	13	Total to citizens of the United States	691	43
North Carolina	5				
North Dakota	6				

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina			Netherlands		
Austria-Hungary	1		Newfoundland		
Belgium	2		New South Wales	1	
Brazil			New Zealand		
British West Indies			Norway	1	
Canada	9		Persia		
Cape Colony			Queensland		
Chile			Russia	3	
China			Scotland	1	
Colombia			South Australia		
Costa Rica			Spain		
Cuba			Sweden	3	
Denmark			Switzerland		
Egypt			Tasmania		
England	18		Transvaal, South Africa		
France	7		Victoria	2	
Germany	17	1	Western Australia		
Ireland					
Italy	1		Total to citizens of foreign countries	66	2
Japan					
Mexico		1			

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.

VOL. 160—NO. 4. TUESDAY, NOVEMBER 22, 1910. PRICE—$5 per year.

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CONTENTS.

	Page.
AMENDMENT TO RULES OF THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA	779
APPLICATIONS UNDER EXAMINATION	780
TRADE-MARKS	780
PATENTS GRANTED	781
REISSUES	1020
DESIGNS	1024
TRADE-MARKS—REGISTRATION APPLIED FOR	1025
TRADE-MARKS—REGISTERED	1033
LABELS AND PRINTS	1035
COMMISSIONER'S DECISIONS—	
Ex parte Mellin and Reid	1037
COMMISSIONER'S DECISIONS—Continued.	
Ex parte Newton	1037
Ex parte Inman	1038
Curtis v. Kleinert	1038
Ex parte Lorenz	1039
Ex parte Summers	1039
Ries v. Frick	1040
ADJUDICATED PATENTS	1040
INTERFERENCE NOTICES	1041
ISSUE OF NOVEMBER 22, 1910	1042

AMENDMENT TO RULES OF THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA.

The following amendment to the rules of the Court of Appeals of the District of Columbia is published for the information of those practicing before that court.

EDWARD B. MOORE,
Commissioner of Patents.

In view of the large number of cases on the calendar awaiting hearing, and in consideration of the time which must necessarily be consumed if the full four hours are taken in the argument as allowed by section 2 of Rule VIII, it is by the court this day ordered that said section 2 of Rule VIII be, and the same is hereby, amended, so as to read that only one hour on each side shall be allowed in the argument, unless by special leave the time is extended by the court before the argument is commenced; but counsel, in order to avail themselves of the opportunity to apply for additional time, must make request therefor to the court, accompanied by a copy of their printed brief, at least five days before the case is liable to be called for argument. The time may be apportioned between counsel on the same side, at their discretion. In all cases, however, a full and fair opening must be made.

PER CURIAM.

November 9, 1910.
Test:
HENRY W. HODGES, Clerk.
Promulgated November 9, 1910.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business November 15, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Oct. 8	Oct. 1	379
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Oct. 15	Oct. 10	183
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Oct. 17	Nov. 1	185
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Oct. 3	Oct. 7	478
167	5. Bookbinding; Harvesters; Jewelry; Music.	Aug. 20	Sept. 10	506
318	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	Sept. 13	Oct. 10	332
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	Sept. 23	Oct. 4	520
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Sept. 23	Oct. 5	358
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	Sept. 6	Sept. 6	263
235	10. Carriages and Wagons	Sept. 19	Sept. 19	608
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	Sept. 22	Sept. 15	370
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	Sept. 26	Sept. 26	658
320	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	Aug. 22	Oct. 1	496
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire-Working.	Oct. 17	Oct. 17	331
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	Oct. 5	Oct. 1	640
109	16. Telegraphy; Telephony	Sept. 8	Sept. 8	256
303	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Oct. 15	Oct. 17	201
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	Sept. 23	Sept. 24	193
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	Oct. 7	Sept. 23	367
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Sept. 20	Oct. 4	264
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	Aug. 18	Sept. 12	470
249	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	Aug. 22	Aug. 4	630
379	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	Sept. 20	Sept. 29	422
144	24. Apparel; Apparel Apparatus; Sewing-Machines.	Aug. 20	Sept. 10	513
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Oct. 19	Oct. 26	130
106	26. Electricity, Generation; Motive Power.	Sept. 24	Sept. 12	352
272	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Oct. 11	Oct. 14	279
65	28. Internal-Combustion Engines	Sept. 22	Sept. 27	382
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Woodworking; Woodworking-Tools.	Aug. 22	Oct. 8	309
182	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	Sept. 27	Oct. 8	361
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Oct. 12	Oct. 10	252
378	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	Sept. 16	Oct. 17	344
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	Oct. 13	Oct. 1	335
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	Sept. 24	Sept. 16	358
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Oct. 12	Oct. 20	559
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	Sept. 28	Sept. 21	639
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	Sept. 3	Sept. 19	605
373	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	Sept. 3	Oct. 3	492
321	39. Water Distribution	Aug. 26	Sept. 7	428
280	40. Baggage; Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Oct. 10	Oct. 14	385
125	41. Railway Draft Appliances; Resilient Tires and Wheels.	Aug. 8	Aug. 16	651
279	42. Electric Railways; Electric Signaling; Electricity, Medical and Surgical; Railway Signaling; Signals; Surgery.	Aug. 18	Aug. 25	645
382	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	Aug. 26	Sept. 1	574

Oldest new case, Aug. 5; oldest amended, Aug. 4.
Total number of applications awaiting action..... 17,883

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	Oct. 17	Oct. 29	763
	Designs	Oct. 15	Oct. 26	149
	Labels and Prints	Nov. 11	Nov. 11	15

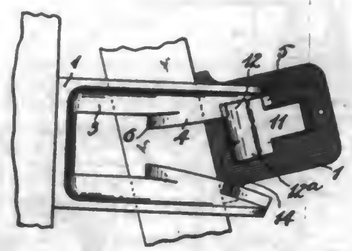
Trade-Marks.

Extra copies of the trade-mark portion of the GAZETTE, which will be sold separately, may be obtained single or in quantities for five cents each. Coupons will be taken in payment thereof.

PATENTS

GRANTED NOVEMBER 22, 1910.

976,138. DOOR-STOP. AUGUST ARENS and ERNEST L. TEICH, New Britain, Conn., assignors to P. & F. Corbin, New Britain, Conn., a Corporation of Connecticut. Filed Sept. 12, 1910. Serial No. 581,654.



1. In a door stop device, a stop frame, a stop extension carried thereby, said extension having two easy inclines on one side extending away from the door, a stop shoulder between said inclines the outermost end of the stop extension having an easy incline on its under side, a coacting movable member, a frame therefor, said movable member being shaped to ride over said extension when moved in one direction and under said extension when moved in an opposite direction and to encounter said stop shoulder when moved partially over said stop extension in one direction.

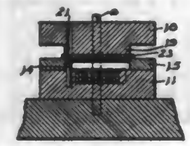
2. In a door stop device, a stop frame, a stop extension having two spaced parts carried thereby, each part having an easy incline on its top side extending away from the door, a stop shoulder between said inclines, the outermost part having an easy incline on its under side at its outer end, a coacting movable member, a frame therefor, said movable member being shaped to ride over both parts when moved in one direction and under both parts when moved in the opposite direction and to encounter said stop shoulder when moved partially over said extension in one direction.

3. In a door stop device, a stop frame, a lateral stop extension having two spaced parts carried thereby, each part having an easy incline on its top side extending in the same direction away from the door, a stop shoulder on the outer end of the innermost part, an easy incline on the outer end and under side of the outermost part, a coacting pawl, a pawl carrying frame, a support for the free end of said pawl, said pawl having an easy incline on its under side extending upwardly and outwardly.

4. In a door stop device, a stop frame, a lateral stop extension including two spaced parts, an easy incline on top side of both parts extending in the same direction away from the door, a shoulder on the outer end of the innermost part, an easy incline on the outer end and under side of the outermost part, a coacting pawl, a pawl-carrying frame, said pawl having an easy incline on its under side extending upwardly and outwardly, the inclined part of said pawl being laterally offset, and a yielding support for the free end of said pawl.

5. A door stop device comprising a stop frame and a pawl-carrying frame, a stop extension on the stop frame having a stop shoulder in one surface thereof, a pawl, means to guide said pawl when moved away from said stop frame freely over one surface of said stop extension, means to guide said pawl when moved toward the said frame freely over the opposite surface of said stop extension, said pawl encountering said stop shoulder when moved only partially over one of said surfaces in a direction away from said stop frame, and means to yieldingly hold said pawl in a normal position.

976,139. CUTTER AND STAMPING DIE. HARRY G. BALLOU, Seattle, Wash. Filed Oct. 18, 1909. Serial No. 523,174.



1. In a machine of the character described, a clamping frame, provided with guide pins, a plate mounted upon said clamping frame and through which said guide pins pass, said plate being provided with openings for the reception of type and with a punching pin, a female die mounted upon said guide pins, and in engagement with said plate, a male die movably mounted upon said guide pins for coöperating with and guided by said female die, said male die being provided with an opening in alinement with said punching pin, and a clamping screw for actuating said male die.

2. In a machine of the character described, a base, upstanding arms formed upon the same, a clamping screw operating within an opening formed through the junction of said arms, guide pins mounted upon said base, a plate provided with openings to receive said guide pins disposed upon said base, said plate being provided with an opening to removably receive type, a female die provided with openings to receive said guide pins therethrough, and disposed upon said plate, and a male die provided with openings to receive said guide pins and disposed to coöperate with and guided by said female die and be actuated by said clamping screw.

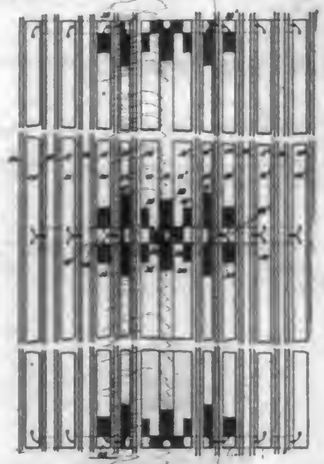
976,140. RAILWAY FREIGHT-TRANSFER STATION. JAMES M. BARRETT, Jersey City, N. J. Filed Sept. 30, 1910. Serial No. 584,637.

1. A railway freight transfer station, comprising a central longitudinal depressed runway, platforms and tracks arranged alternately on each side of said central runway and parallel thereto and an inclined transverse runway extending across said central runway and across said tracks and up to said platforms.

2. A railway freight transfer station comprising a central longitudinal depressed runway, platforms and tracks arranged alternately on each side of said central runway and parallel thereto, a plurality of inclined transverse runways extending from said central runway in each direction over the tracks and up to said platforms.

3. A railway freight transfer station comprising a central longitudinal depressed runway, platforms and tracks arranged alternately on each side of said runway and parallel thereto, a central inclined transverse runway crossing said first mentioned runway and said tracks and leading up to said platforms and similar transverse runways at each end of the station.

4. A railway freight transfer station comprising a central longitudinal depressed runway, platforms and tracks arranged alternately on each side of said central runway and parallel thereto, and an inclined transverse runway extending across said central runway and over removable bridges across said tracks and up to said platforms.



5. A railway freight transfer station comprising a central longitudinal depressed runway, platforms and trucks arranged alternately on each side of said central runway and parallel thereto, a plurality of inclined transverse runways extending from said central runway in each direction over bridges across said tracks and up to said platforms, certain of which platforms have inclined portions at their ends leading to said transverse runways, whereby trucks may run from said central longitudinal runway to said platforms on easy grades.

[Claim 6 not printed in the Gazette.]

976,141. HAND-CARD. CHARLES F. BACKWITH, Stafford Springs, Conn. Filed Mar. 4, 1910. Serial No. 547,177.



1. In a hand-card for use in connection with textile products, the combination with the back member, of a handle, and a card-clothing attached to the back-member, said clothing being secured to the back-member in a stretched condition, a resilient plate secured to the opposite side of the back-member and extending onto and secured to the handle, the normal tendency of the plate, when attached as described, being to exert a force on the back member in opposition to that exerted by the stretched card clothing, whereby the clothing is constantly kept tight, as described.

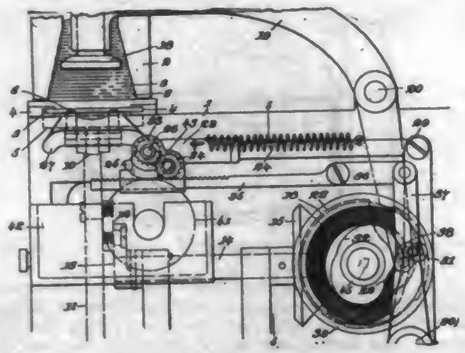
2. In a hand-card, the combination with the back member, of a handle, and a card-clothing attached to the back member in a stretched condition, a spring plate secured to the handle and back member, whereby the original condition of the card clothing is maintained.

3. In a hand-card, the combination with the back and handle members and the card-clothing attached to the front side of the back member in a stretched condition, of a plate extending across the meeting edges of the handle and back member, and a second plate of spring material extending across the meeting edges of the handle and back member but located on the outer surface thereof and normally exerting a tendency to spring outwardly, said spring member being provided with an offset to engage the end portion of the handle, as described.

4. In a hand-card device for use with textile products, a back member, a spring member secured to the upper side of the back member, the normal tendency of which is to bend outwardly, as described, and the card clothing being secured to the face side of the back member in a stretched condition.

5. In a hand-card device, a back member, card-clothing secured thereto in a stretched condition, a handle therefor, and a spring member engaging the handle and back member and provided with an offset, the offset portion engaging the end portion of the handle, as described.

976,142. ADDRESSING-MACHINE. EDWIN DRAYTON BELKNAP, East Orange, N. J. Filed Sept. 10, 1909. Serial No. 517,039.



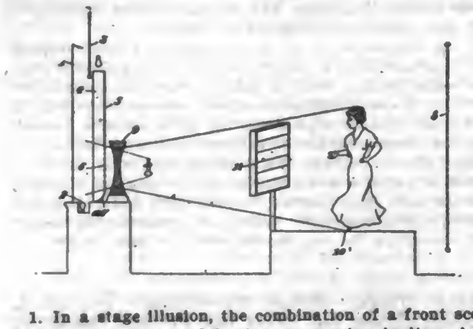
1. In an addressing machine the combination of the inking roller, cam shaped guides for same, mechanism for sliding said roller along said guides, a swinging rack bar, means for gearing the rack bar to the inking roller in all positions of the latter, and mechanism for giving said rack bar a predetermined series of movements in a direction tangent to said inking roller, together with mechanism for placing and holding a stencil card along the line of travel of the inking roller and in contact with said roller during a portion of said travel.

2. In an addressing machine, the combination of the inking roller, cam shaped guides for same, mechanism for sliding said roller along said guides, a swinging rack bar, means for gearing the rack bar to the inking roller in all positions of the latter, and mechanism for giving said rack bar a predetermined series of movements in a direction tangent to a circle whose center coincides with the axis of said inking roller, both said above mentioned mechanisms comprising cam levers and cams mounted on a common rotating shaft, together with mechanism for placing and holding a stencil card along the line of travel of the inking roller and in contact with said roller during a portion of said travel.

3. In an addressing machine, the combination of a magazine for stencil cards, a set of card guides leading from the bottom thereof, a retaining pin at one side of the magazine projecting under one edge of the bottom card holding said edge of said bottom card above the level of the card guides and tipping the other edge of said card downward, and a reciprocating slide provided with a spring pressed finger adapted to grasp the card at the other and downwardly tipped side, the slide itself not touching said card at any time.

4. In an addressing machine, the combination of guides for a series of stencil cards, means for feeding such cards along said guides, an inking roller, an ink fountain with fountain roller therein, and mechanism for moving said inking roller from contact with the fountain roller to contact with one of said stencil cards and positively rotating same while in contact with the roller and while in contact with the card, said mechanism comprising a pinion on the shaft of the inking roller and a rack bar constantly geared to said pinion at all positions of the inking roller.

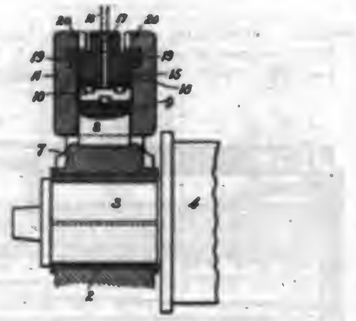
976,143. STAGE ILLUSION. JAMES GORDEN BOSTOCK, New York, N. Y. Filed July 14, 1910. Serial No. 571,918.



1. In a stage illusion, the combination of a front scene done in miniature and having an opening in it; a back scene done in ordinary size; and a reducing lens showing the back scene and the actors before it on a miniature scale at the opening in the front scene.

2. In a stage illusion, the combination of a front scene done in miniature with an opening through it and having its lower portion curved downwardly and forwardly to the stage; a back scene done in ordinary size; and a reducing lens between the scenes which shows the back scene and the actors before it on a miniature scale at the opening in the front scene.

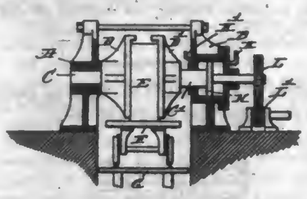
976,144. HYDRAULIC CAP MECHANISM FOR SUGAR-CANE MILLS. JESSE I. BOYER, Reading, Pa., assignor to Reading Iron Company, Reading, Pa., a Corporation of Pennsylvania. Filed Apr. 7, 1909. Serial No. 488,468.



The combination with the housing, the movable roll bearing therein, and the projecting housing bolts, of the removably secured housing cap engaged by said projecting bolts and formed with an intermediate hydraulic cylinder having a bore of uniform diameter throughout open at both ends and overhanging plug-locking lugs, a pressure controlled plunger in the lower portion of said cylinder forming a movable backing for said roll bearing, and an independently removable plunger-plug insertible into said cylinder through the open upper end thereof and provided with lug-engaging ears adapted to lock said plug in fixed position in the cap, substantially as and for the purpose set forth.

976,145. METHOD OF TREATING STEEL AND IRON INGOTS. JOHAN AUGUST BRINELL, Stockholm, Sweden. Filed Jan. 10, 1908. Serial No. 410,119.

1. The herein described method of treating steel or iron ingots to diminish segregation and the injurious action of the pipe formed therein, which consists in slowly rotating the ingot end for end a sufficient number of times during the setting of the metal to maintain the segregative bodies distributed with substantial uniformity throughout the length of the ingot.

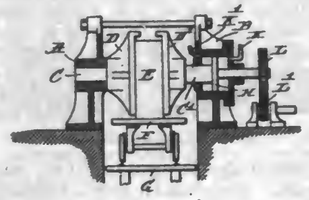


2. The herein described method of treating steel or iron ingots to diminish segregation and the injurious action of the pipe formed therein, which consists in slowly rotating the ingot end for end, about an axis at right angles to its length and maintaining such rotative movement during the setting of the metal, to cause the segregative bodies to be distributed with substantial uniformity throughout the length of the ingot.

3. The herein described method of treating steel or iron ingots to diminish segregation and the injurious action of the pipe formed therein, which consists in slowly rotating the ingot while in the mold about a substantially horizontal axis intersecting the ingot transversely and maintaining such rotative movement for a sufficient period during the setting of the metal to cause a distribution of the segregative bodies along the ingot.

4. The herein described method of treating steel or iron ingots to diminish segregation and the injurious action of the pipe formed therein, which consists in slowly rotating the ingot about a substantially horizontal axis at right angles to its length and maintaining such rotative movement continuously during the setting of the metal for a sufficient period to effect the distribution of the segregative bodies along the length of the ingot.

976,146. METHOD OF TREATING METAL INGOTS. JOHAN AUGUST BRINELL, Stockholm, Sweden. Filed Jan. 10, 1908. Serial No. 410,120.



1. The herein-described method of treating metal ingots to prevent segregation and the formation of hollows therein, which consists in slowly turning the ingot about an axis at right angles to its length and subjecting it to pressure during the setting of the metal of which the ingot is composed.

2. The herein-described method of treating metal ingots to prevent segregation and the formation of hollows therein, which consists in slowly turning the ingot bodily end for end and subjecting it to external pressure during the setting of the metal composing the ingot.

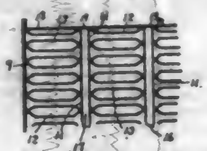
3. The herein-described method of treating metal ingots to prevent segregation and the formation of hollows, which consists in casting the ingot; removing it from the mold and turning it bodily and slowly as the metal in the interior of the ingot is setting, and subjecting the ingot to external pressure during the setting of the metal.

4. The herein-described method of treating metal ingots to prevent segregation and the formation of hollows, which consists in casting the ingot, removing it from the mold and turning it slowly and bodily and compressing it between press plates during the setting of the metal composing the ingot.

5. The herein-described method of treating metal ingots to prevent segregation and the formation of hollows, which consists in removing the cast ingot from the mold, turning the ingot bodily about a horizontal axis and subjecting it to external pressure during the setting of the metal.

[Claims 6 to 9 not printed in the Gazette.]

976,147. RADIATOR. GEORGE V. CANDLER, Detroit, Mich. Filed June 30, 1910. Serial No. 569,632.



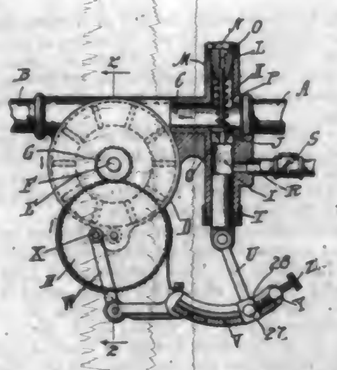
1. In a radiator, the combination of an upper and a lower receiver, radiating devices between the same comprising continuous stacks of tubes so formed that their sides contact at their edges to form flat plates between which the separated tops and bottoms of the tubes extend, and upright rods connecting the edges of adjacent stacks to form circulating pipes extending between the receivers.

2. In a radiator, the combination of united stacks of short tubes so formed that the sides of the tubes engage and form substantially vertical plates and the tops and bottoms of the tubes are substantially equally spaced throughout the stack, vertical rods uniting the edges of said plates to form pipes, and tanks for circulating liquids connected to the upper and lower ends of said pipes.

3. In a radiator the combination of stacks of short horizontal tubes having their vertical sides in the same planes and united to form plates and their horizontal sides concave, vertical rods united to the edges of adjacent stacks to form vertical pipes for the circulating liquids, and tanks connected to the upper and lower ends of the pipes.

4. In a radiator, the combination of stacks of short horizontal tubes extending transversely to the face of the radiator and having their vertical sides in the same planes and united to form plates, upright means united to the edges of adjacent stacks to form vertical pipes for the circulating liquids, and tanks connected to the upper and lower ends of the pipes, the sides of adjacent tubes being separated a portion of their length and serving as radiating members to transmit heat from the water passing between the tubes to the air passing through the tubes.

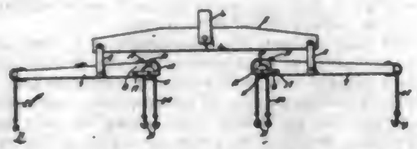
976,148. CHEMICAL-FEEDING DEVICE. JOHN E. CAPS, Wilmette, Ill. Filed July 23, 1909. Serial No. 509,214.



1. In apparatus of the kind specified, a water supply pipe equipped with a perpendicularly disposed cylindrical arm constituting a pump cylinder, a check-valve controlled inlet for water-softening chemical between the ends of said pump-cylinder, a piston in the latter, a valve controlling the communication of said cylinder with said water supply pipe, a spring maintaining the same normally closed, a water motor actuated by the passage of water through said pipe, and gearing between said motor and said piston to reciprocate the latter.

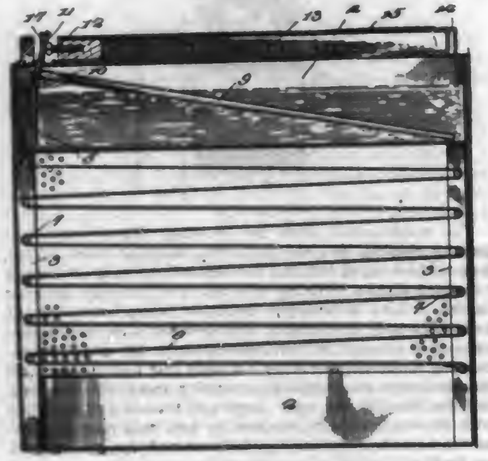
2. In apparatus of the kind specified, a water supply pipe equipped with a perpendicularly disposed cylindrical arm constituting a pump cylinder, a check-valve controlled inlet for water-softening chemical between the ends of said pump-cylinder, a piston in the latter, a valve controlling the communication of said cylinder with said water supply pipe, a spring maintaining the same normally closed, a water motor actuated by the passage of water through said pipe, gearing between said motor and said piston to reciprocate the latter, and means interposed in said connection for varying the stroke of said piston.

976,149. THREE-HORSE EQUALIZER. WILLIAM L. CAREY, Upland, Ind. Filed Feb. 16, 1910. Serial No. 544,221.



A draft equalizer including a double-tree, and a pair of swingle-trees secured adjacent the opposite ends of the double-tree; each swingle-tree having an arcuate rabbet in its inner end face, a stirrup having spaced outer legs and an arcuate intermediate leg spanning said rabbet, a pulley carried by said stirrup fitting in said rabbet, and a flexible connecting element trained over the pulley and terminating in trace-engaging means.

976,150. HUMIDOR. CHARLES B. CARSTENS, Grafton, Wis., assignor of one-half to Frank A. Traver, Milwaukee, Wis. Filed June 21, 1909. Serial No. 503,453.



1. In a humidor, in combination, a capillary web having exposed evaporating surfaces, a supporting frame, a water supply tank, means for moving a portion of said web into and from water feeding relation with respect to the water in said tank, and controlling and actuating devices for said means.

2. In a humidor, in combination, a supporting frame, a water supply tank, a capillary web forming an evaporating surface exposed to the atmosphere and having a water feeding portion movable into and from the water in said tank, and means for moving said portion into and from feeding position said means comprising an expansion member sensitive to varying degrees of atmospheric humidity, and provided with adjusting means and an indicator.

3. In a humidor, in combination, a frame, a water supply tank, a capillary web having evaporating surfaces arranged in said frame and exposed to the atmosphere, a dipping blade carrying a portion of said web and movable to dip the same into or raise the same from the water in said tank, said blade having an operating projection, and an expansion bar arranged in operative relation to said projection to move the blade, said expansion bar sensitive to varying degrees of atmospheric humidity to expand or contract.

4. In a humidor, in combination, an evaporating surface, means for maintaining a body of liquid, a device for intermittently feeding liquid from said body to said surface, said device being movable to and from operative position dipping into said body, and an expansive member, for actuating said device, sensitive to atmospheric conditions to expand or contract according to the humidity of the atmosphere.

5. In a humidor, in combination, an evaporating surface, a source of liquid supply, a device for feeding liquid from said source to said surface provided with a capillary feeding portion adapted to be dipped into and withdrawn from the liquid, and a member for actuating said device.

[Claims 6 to 14 not printed in the Gazette.]

976,151. ELECTRICAL SYSTEM OF DISTRIBUTION. RUFUS N. CHAMBERLAIN, Depew, and MARCELLUS R. SHEDD, Lancaster, N. Y., assignors to Gould Storage Battery Company, a Corporation of New York. Filed Dec. 17, 1906, Serial No. 348,126. Renewed Apr. 9, 1909. Serial No. 488,978.

1. In an electrical system of distribution, a generator and generator circuit, a booster in series with the generator and a charging circuit leading from the booster, a plurality of batteries and work circuits, a corresponding plurality of switches each having a position connecting the work circuit and generator circuit and another position connecting the work circuit with its battery, and means controlled by the current strength of the generator for actuating said switches.

2. In an electrical system of distribution, a generator and generator circuit, a booster in series with the generator and a charging circuit leading from the booster, a plurality of batteries and work circuits, a corresponding plurality of switches each having a position connecting the work circuit and generator circuit and another position connecting the work circuit with its battery and coils responsive to variations in the generator current for actuating said switches.

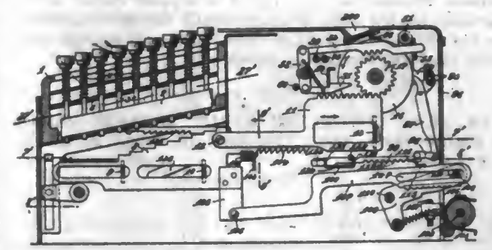
3. The combination of a generator, a generator circuit, a charging circuit, a plurality of batteries and work circuits, switches for connecting each work circuit either with a battery or with the generator circuit, connections independent of said switches from each battery to the charging circuit, and coils connected to receive a current strength corresponding to that of the main generator controlling the action of said switches.

4. In a system of electrical distribution for trains, a generating station on one of the train units, batteries and work circuits on other train units, two conductors leading from the generator to the various train units and adapted to have different potentials, a loop return conductor extending through the various train units, switches on the various train units determining the connection of the various batteries and work circuits, the actuation of said switches being governed solely by coils in said loop conductor.

5. In a system of electrical distribution for trains, a generator on one train unit, batteries and work circuits on other train units, conductors leading through the train from the generator, one of said conductors being a loop, a switch for each battery and work circuit, and coils fully controlling and actuating said switches connected in said loop conductor.

[Claims 6 to 20 not printed in the Gazette.]

976,152. CALCULATING-MACHINE. OTHO EDMUND CLOUD and AUGUST W. ALBERS, Philadelphia, Pa.; said Albers assignor to said Cloud. Filed June 13, 1906. Serial No. 321,550.



1. In a calculating machine, the combination of a reciprocative keyboard provided with a plurality of sets of depressible keys, movable step bars for coöperation therewith, and automatic means for locking the keyboard with the step bars after they have been encountered by the keys.

2. In a calculating machine, the combination of a reciprocative keyboard provided with a plurality of sets of depressible keys, movable step bars for coöperation therewith, automatic means for locking the keyboard with the step bars after they have been encountered by the keys, and automatic means for releasing the same, after the keyboard has been reciprocated.

3. In a calculating machine, the combination of a reciprocative keyboard provided with a plurality of sets of depressible keys, a plurality of dial wheels, rack and pinion means for operating same, spring controlled means operated by the keyboard for moving the rack into and out of engagement with the pinion, and a slide joint connection between the keyboard and said spring controlled means.

4. In a calculating machine, the combination of a reciprocative keyboard provided with a plurality of sets of depressible keys, a plurality of dial wheels, rack and pinion means for operating same, spring controlled means operated by the keyboard for moving the rack into and out of engagement with the pinion, a slide connection between the keyboard and said spring controlled means, and manually operating means for shifting the position of said slide joint connection.

5. In a calculating machine the combination of a reciprocative key board provided with a plurality of sets of depressible keys, a plurality of dial wheels, rack and pinion means for operating the dial wheels, a movable bar for supporting the racks either in or out of engagement with the pinions, a mechanism connected between the keyboard and the movable bar for causing the elevation and depression of said bar with each reciprocation of the key board, said mechanism including a lever pivoted near its lower end to the stationary frame work

having a slot and pin engagement with the key board, a slide mounted on said lever adapted to travel from one side to the other of the pivot connection, a rod pivoted to said slide, and having a spring controlled connection with said bar member, and a hand operated member for shifting the position of the slide.

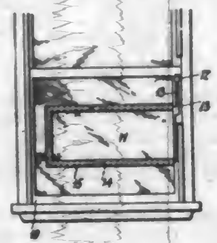
[Claims 6 to 44 not printed in the Gazette.]

976,153. TOOTH-CROWN. CHARLES E. COLEMAN, Fort Gaines, Ga. Filed July 28, 1910. Serial No. 574,329.



In a device of the class described, a hollow crown having an opening in one of its faces; and a removable closure member adapted to be inserted into the crown to engage the inner face of the crown beyond the periphery of the opening, the closure member including an integrally formed, outstanding lug adapted to register closely in the opening, the lug being of substantially the same thickness as the wall of the crown, to present an outer surface flush with the outer face of the crown.

976,154. CONDUCTOR-STRIP. HENRY B. COLLIER, Prairie Grove, Ark. Filed Sept. 15, 1909. Serial No. 517,866.



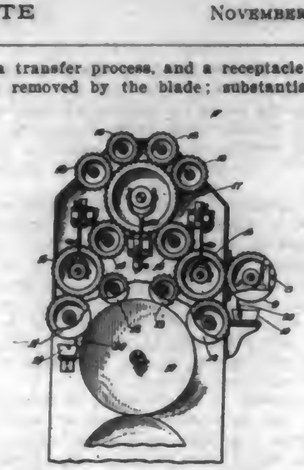
1. A wiring for burglar alarms comprising a part to be protected, conductor strips extending continuously across the part to be protected, and gummed strips pasted over the conductor strips and to said part, said gummed strips being pasted to the conductor strip and extending unbrokenly the entire length thereof, and said conductor strip being a strip of metallic foil.

2. As an article of manufacture, a conductor strip having a gummed strip of fabric pasted to one side thereof said gummed strip having its edges projecting beyond the conductor strip, said edges being also gummed for attachment to a surface on the side facing the conductor strip.

976,155. PRINTING-PRESS. SAMUEL CRUMP, New York, N. Y., assignor to The Crump Roller Washing Attachment Company, New York, N. Y., a Corporation of New York. Filed Mar. 29, 1909. Serial No. 486,512.

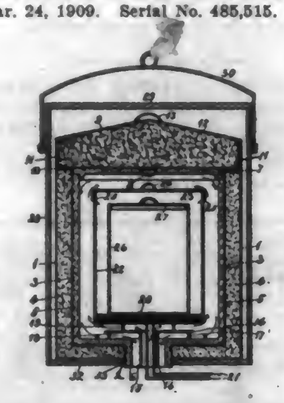
1. In combination with a printing press having a form, and rollers for the ink to be applied to the form, a scraper-blade for effecting the cleaning of said rollers while they are on the press, said scraper-blade being applied to a composition roller connected in the train so as to remove the ink and solvent therefrom and thus cause a transferring of the ink and applied solvent through the train to said roller, whence they are removed; substantially as set forth.

2. In combination in a printing press having composition inking rollers and a composition draw-off roller engaging a composition inking roller, a scraper-blade engaging said draw-off roller for cleaning ink from all the rollers by a transfer process, and a receptacle to receive the matter removed by the blade; substantially as set forth.



3. In combination in a printing press having composition inking rollers and a composition draw-off roller engaging one of the train of inked surfaces of the press, a scraper-blade engaging said draw-off roller for cleaning ink from all the rollers by a transfer process; substantially as set forth.

976,156. COOKER. WILLIAM H. DEWEES, Chicago, Ill. Filed Mar. 24, 1909. Serial No. 485,515.



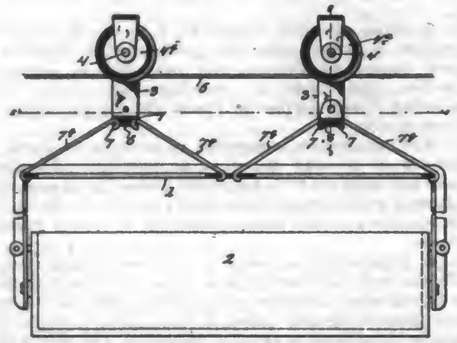
1. In a cooker, the combination with a casing, of a food receptacle located therein and spaced therefrom, forming an air space within the casing and beneath the food receptacle, said casing having an opening beneath the receptacle communicating with the air space, a substantially horizontal division plate located in the air space in spaced relation to the receptacle and casing and having an outstanding tubular nipple extending into the opening, of less cross sectional area than said opening and communicating at its upper end with the space above said plate, and means located on one side of the plate for heating the receptacle, and causing a circulation of air.

2. In a cooker, the combination with a casing, of a food receptacle located therein and spaced therefrom, forming an air space, said casing having an opening communicating with the air space, a division plate located in the air space and spaced from the casing and receptacle, said plate having an outstanding tubular nipple extending into the opening and spaced from the walls of the opening, said nipple opening through the plate, and heating means interposed between said plate and food receptacle.

3. In a cooker, the combination with an outer insulated casing having an opening through its bottom, of a substantially horizontal plate arranged within the receptacle above and in spaced relation to the bottom, said plate having a depending tubular nipple of less cross sectional area than the opening and extending into said opening and having its upper end communicating with the space above the plate, heating means within the casing and a food receptacle supported over the plate in spaced relation thereto.

4. In a cooker, the combination with an insulated casing having a bottom opening, of a plate supported within the lower portion of the casing and having a depending tubular nipple projecting into the opening and of less diameter than the same, said nipple opening through the plate, a food receptacle supported above the plate in spaced relation thereto, and heating means for the food receptacle arranged beneath the same and over the plate in spaced relation to the latter.

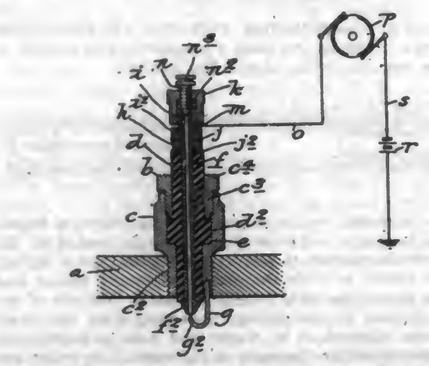
976,157. ELEVATED CARRIER. HERBERT H. DREW, Waterloo, Wis. Filed Sept. 2, 1910. Serial No. 580,225.



1. A carrier suspension device for overhead tracks comprising a pair of independent hangers having trolley-wheels mounted therein, a load-supporting beam, and pairs of suspension-rods, those in each pair being angularly disposed with relation to each other and having their converging ends spaced apart in yielding connection with a hanger, the diverging ends of said rods being in yielding connection with said beam.

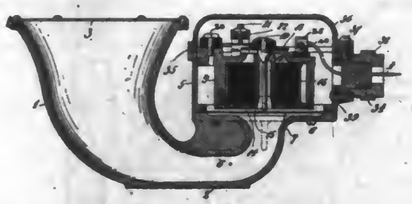
2. A carrier suspension device for overhead tracks comprising a pair of independent hangers having trolley-wheels mounted therein, the hangers being provided at their respective bases with apertures that are spaced apart, a load-supporting beam having pairs of apertures therein, a hopper carried by the beam, and pairs of suspension-rods having hook ends, each pair of rods being angularly disposed with relation to each other with their hook ends fitted in the apertures of a hanger and their opposite ends hooked in the apertures of the supporting beam.

976,158. SPARK-PLUG. GEORGE E. EDICK, Manasquan, N. J. Filed Feb. 7, 1910. Serial No. 542,412.



A sparking plug of the class described, said plug comprising a casing provided at one end with a reduced screw-threaded extension and the opposite end of which is enlarged and provided with an internal thread, an insulating core passing through said casing and provided with an annular enlargement, the enlarged end portion of said casing being closed by a gland screwed thereinto and which operates in connection with said enlargement to hold said core in said casing, a tube passing longitudinally and centrally through said core and the inner end of which forms one part of a pair of sparking devices, the other part of said pair of sparking devices being secured to the reduced screw-threaded extension of said casing, said tube being provided at its other end with a sleeve which is threaded thereonto, and a cap threaded onto said sleeve and inclosing said end of said tube, said end of said tube being provided with a conical valve seat, and a screw passed through said cap and provided at its inner end with a conical valve adapted to be seated on said valve seat.

976,159. ELECTRICALLY-OPERATED SIGNALING-HORN. EGMONT MAX TORMIN, Newton, Mass., assignor to Holtzer-Cabot Electric Company, Brookline, Mass., a Corporation of Massachusetts. Filed July 6, 1909. Serial No. 506,085.



1. An electrically-operated signaling-horn comprising in combination a horn, a casing secured to the inner end thereof, a diaphragm interposed between said horn and casing, an electromagnet having a hollow core, a plunger arranged within said core and having one end normally adjacent to, but not in contact with said diaphragm, a resilient supporting-member secured to the other end of said plunger, a circuit including the coil of said electromagnet, and means whereby said circuit may be automatically opened and closed.

2. An electrically-operated signaling-horn comprising in combination a horn, a casing secured to the inner end thereof, a diaphragm interposed between said horn and casing, an electromagnet having a hollow core, a plunger arranged within said core and having one end normally adjacent to, but not in contact with said diaphragm, a resilient supporting-member secured to the other end of said plunger, a circuit including the coil of said electromagnet, means whereby said circuit may be automatically opened and closed, and means surrounding said hollow core and connected to said circuit for preventing sparking when said circuit is opened.

3. An electrically-operated signaling-horn comprising in combination a horn, a casing secured to the inner end thereof, a diaphragm interposed between the horn and casing, an electromagnet having a hollow core, a plunger arranged within said core and having one end normally adjacent to, but not in contact with said diaphragm, a resilient supporting-member secured to the other end of said plunger, a circuit including the coil of said electromagnet, means whereby said circuit may be automatically opened and closed, and a non-inductive resistance consisting of a winding surrounding said hollow core and connected to said circuit for preventing sparking when said circuit is opened.

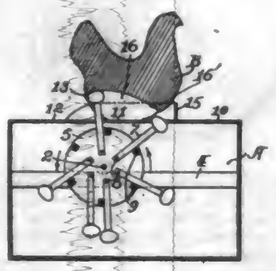
4. An electrically-operated signaling-horn comprising in combination a horn, a casing secured to the inner end thereof, a diaphragm interposed between said horn and casing, a magnet-frame, an electromagnet having a hollow core secured in said frame, a plunger arranged within said core and having one end adjacent to, but not in contact with said diaphragm, a resilient supporting member secured to the other end of said plunger and to said magnet-frame

a circuit including the coil of said electromagnet, means whereby said circuit may be automatically opened and closed, an interior flange on said casing, and means adjustably securing said magnet-frame to said flange.

5. An electrically-operated signaling-horn comprising in combination a horn, a casing secured to the inner end thereof, a diaphragm interposed between said horn and casing, a magnet-frame, an electromagnet having a hollow core secured in said frame, a plunger arranged within said core and having one end adjacent to, but not in contact with, said diaphragm, a resilient supporting member secured to the other end of said plunger and to said magnet-frame, a circuit including the coil of said electromagnet, means whereby said circuit may be automatically opened and closed, an interior flange on said casing, means adjustably securing said magnet-frame to said flange, and screws threaded to said magnet-frame and bearing against said flange for adjusting the position of said electromagnet and plunger with respect to said diaphragm.

[Claims 6 to 10 not printed in the Gazette.]

976,160. DISPLAY APPARATUS. GERALD E. FOSBROKE, St. Paul, Minn. Filed Oct. 11, 1909. Serial No. 522,004.



1. Display apparatus comprising, in combination, a horizontal spindle, a gravity arm adapted to move in a vertical plane, a stop between said spindle and arm and adapted to raise said arm into elevated position as said spindle turns and permitting the free end of said arm to drop after said stop passes above the axis of said spindle, a supporting frame, a dummy hen through which the arm passes and drops as it egresses and a dummy egg carried upon the free end of said arm.

2. A display apparatus comprising, in combination, a substantially horizontal spindle, an arm pivoted on said spindle and adapted to drop freely in a substantially vertical plane through a restricted arc, a dummy egg carried on said arm, a supporting frame, and a dummy hen through which said arm is adapted to move, and which is so disposed that said egg passes from said hen as the pivoted arm begins to drop by gravity through its restricted arc, thus giving the appearance of life-like action to said hen.

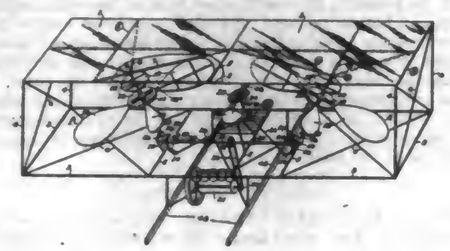
3. Display apparatus comprising, in combination, a dummy hen, a dummy egg, and a drop support adapted to carry said egg through said hen.

4. Apparatus of the class set forth, comprising, a dummy egg, movable means for supporting and adapted to move said egg, a support, and a dummy hen movably mounted on said support and having a passageway through the body thereof and adapted to receive said egg in its movement, said hen being adapted to be moved by said egg moving means simultaneously with the passage of the egg through the body of the hen.

5. Apparatus of the class set forth, comprising, a dummy egg, actuating mechanism carrying said egg, and a dummy hen past which said egg is adapted to be moved by said actuating mechanism to imitate said hen laying said egg.

[Claims 6 and 7 not printed in the Gazette.]

976,161. FLYING-MACHINE. SILAS H. FRENCH, Oberlin, Ohio. Filed Aug. 4, 1909. Serial No. 511,085.



1. A flying machine, comprising a frame carrying an aeroplane, a pair of propellers provided with feathering blades, means for driving said propellers in opposite directions, and means for simultaneously varying the feathering of said feathering blades whereby to maintain lateral balance.

2. A flying machine, comprising an aeroplane, propellers revolving in opposite directions in outwardly diverging planes and provided with feathering blades, and means for feathering said blades at such points in the revolution of said propellers as will tend to maintain or restore lateral balance.

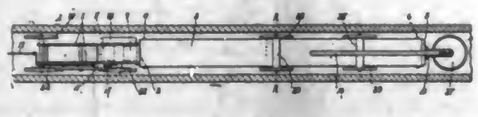
3. A flying machine, comprising an aeroplane, a propeller on each side thereof, each of said propellers revolving in opposite directions and provided with feathering blades presenting their point of most effective sweep at the outer sides of their paths of revolution, and means for simultaneously varying the point of most effective sweep of said feathering blades at each side of said aeroplane whereby to meet the exigencies of flight.

4. A flying machine, comprising an aeroplane, propellers disposed beneath said aeroplane and provided with axially movable propeller-blades, means for revolving said propellers, means for axially oscillating said propeller blades during the outer and rearward paths of the revolution of said propellers, and means for varying the point of most effective sweep of said propellers whereby to maintain lateral balance and control the direction of flight.

5. In a flying machine, an aeroplane, a supporting frame therefor, propellers carrying feathering blades presenting their point of most effective sweep at their lateral paths of revolution and during a portion of their revolution presented at an angle from said point of most effective sweep whereby said aeroplane is carried forwardly and upwardly and means for simultaneously varying the point of most effective sweep and angle of incidence of said feathering blades at like and unlike portions of their paths of revolution.

[Claims 6 to 9 not printed in the Gazette.]

976,162. LOCOMOTOR FOR USE IN CONDUITS. GEORGE G. FRYER and EMIL PFLEIDERER, Syracuse, N. Y. Filed Aug. 11, 1906. Serial No. 330,143.



1. A locomotor for use in conduits, comprising a frame, driving means, a source of electric energy carried by the frame and connected to the driving means, and a spring-pressed switch between the source of electric energy and driving means, the switch being normally held out of position to close the circuit and projecting from the frame and being adapted to be forced and held in position to close the circuit by the wall of the conduit in which the locomotor is traveling.

2. A locomotor for use in conduits, comprising a frame, a motor, a source of electric energy, a circuit connecting the motor and the source of electric energy, and a switch-member at the forward end of the frame normally out of position to close the circuit, and movable into such position by engagement with the wall of the conduit, substantially as and for the purpose described.

3. A locomotor for use in conduits, comprising a frame, a motor, a battery, and a movable member in circuit with the battery and motor and having means for making and breaking electrical contact and also having a curved face for engaging the inner face of the conduit, substantially as and for the purpose specified.

4. A locomotor for use in conduits, comprising a tubular frame of conducting substance having a terminal, a motor, the poles of the motor being connected respectively to the frame and the terminal, batteries for the motor supported in the tubular frame, one in advance of the other, each battery having its terminals located at opposite ends thereof, and the positive terminal of one battery being in direct contact with the negative terminal of the adjacent battery, and one terminal of one end battery being in direct contact with the first-mentioned terminal, a detachable closure for the tubular frame, a terminal supported by the closure and electrically disconnected therefrom, said terminal being in electrical connection with a terminal of the other end battery, and a yielding bow-shaped member having its advance end fixed and connected to the last-mentioned terminal, and its rear end movable into and out of engagement with the frame, substantially as and for the purpose set forth.

5. A locomotor for use in conduits, comprising a frame of conducting material and having a transverse wall, a motor, a terminal supported by the transverse wall and electrically disconnected therefrom, a battery having one terminal in electrical connection with the first-mentioned terminal, a second terminal supported by the frame and electrically disconnected therefrom, the last named terminal being in electrical connection with the other terminal of the battery, and a movable switch-member between the frame and the last-mentioned terminal supported by the frame, substantially as and for the purpose specified.

[Claims 6 to 11 not printed in the Gazette.]

976,163. SCRAPER-BUCKET. HERBERT L. GLAZE, Los Angeles, Cal., assignor of two-thirds to Young Construction Co., Los Angeles, Cal., a Corporation of California. Filed Mar. 13, 1909. Serial No. 483,135.



1. A scraper bucket comprising a scraper, a head line connected to one end thereof, a tail line connected to the other end thereof, a movable member interposed between the two lines, and having a pivotal connection with one of said lines and engaging the other line so as to run thereon, whereby the said running end of the movable member, may move close to the scraper to effect the dumping thereof and may move away therefrom to permit of the scraping operation.

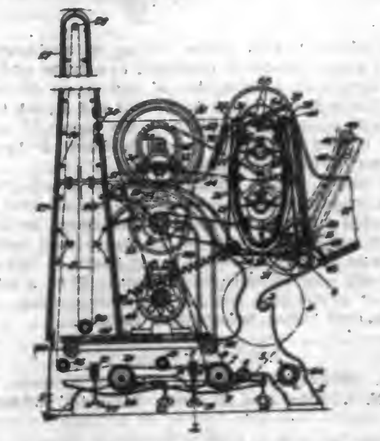
2. A scraper bucket comprising a scraper open at one end, a head line connected with the open end of said scraper, a tail line connected with the closed end of the scraper, and a connecting bar having a pivotal connection with the head line and a traveling engagement with the tail line to secure coöperating movements in the said lines for operating the bucket.

3. A scraper bucket comprising a scraper open at one end, a bail connected with the open end of the scraper, a head line connected with the bail, a tail line connected with the closed end of the scraper, and a pivoted bar member carried by the bail and movably engaging the tail line for maintaining given relations between the said head and tail lines.

4. A bucket scraper comprising a bucket proper open at one end and at the top, a pulling bail pivoted to the open end of the said bucket and connected with a head or pulling line, a tail line connected with the closed end of the bucket, and a movable member carried by the bail and engaging the tail line, the said member being shorter than the bucket, so as to effect the dumping of the bucket when both lines are pulled upon simultaneously.

5. A scraper bucket comprising a scraper open at one end and slightly rounded upon the bottom, a bail pivoted to the open end of the scraper and connected with a head line, a tail line connected with the closed end of the scraper, a movable member pivoted to the swinging end of the bail and a pulley carried by said member and engaging said tail line, the said member being short enough to effect the dumping of the bucket when both lines are pulled upon simultaneously.

976,164. BLUE-PRINTING MACHINERY. MORRIS GOLDSTEIN, Brooklyn, N. Y., assignor to Charles de Lukacsevics, New York, N. Y. Filed Nov. 23, 1908. Serial No. 464,009.



1. In a blue printing machine, a U-shaped chamber comprising two bent portions forming the U and meeting at the bend thereof, a pivot on which one of said bent portions is mounted, the said pivot permitting the said bent portion to swing outward for access to the interior of the chamber.

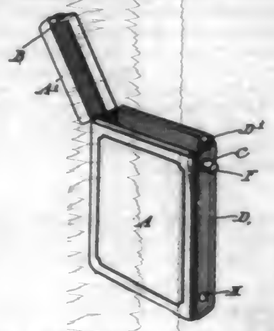
2. The combination in a single machine, of a driving shaft, a transparent chamber, electric lamps therein for illuminating the interior of the chamber, a perforated casing at each end of the chamber, a fan operated by the driving shaft for cooling the chamber, a belt surrounding the chamber, intermediate mechanism between the driving shaft and the belt for operating the latter, and means for preparing blue print paper, said means being operated by the driving shaft, the said belt coöperating with the walls of the transparent chamber for feeding the said paper through the space between the belt and the wall of the illuminated transparent chamber.

976,165. PUZZLE-LOCK. NORMAN D. GRAY, West Chester, Pa. Filed Feb. 24, 1910. Serial No. 545,584.

1. A puzzle locking device having in combination a latch, a member connected to actuate said latch and having a key engaging device, a push button having a key attachment adapted when partially rotated and when the push button is in a position intermediate of the extremes of its longitudinal movement to engage with the latch actuating member and means arranged to prevent rotative movement of the push button at its extreme longitudinal position.

2. A puzzle locking device having in combination a latch, a member connected to actuate said latch and having a key engaging device, a push button having a

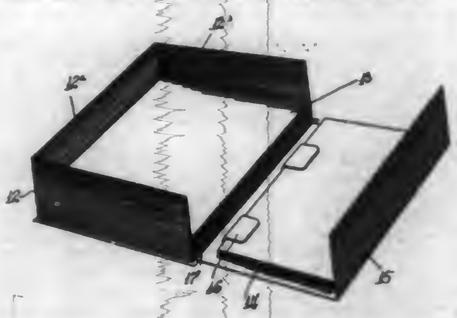
key attachment adapted when partially rotated and when the push button is in a position intermediate of the extremes of its longitudinal movement to engage with the latch actuating member, means arranged to prevent rotative movement of the push button at its extreme longitudinal position and a spring acting to return the push button to its outermost position.



3. A puzzle locking device having in combination a latch, a guide cylinder E connected to actuate said latch and formed with a guide slot E' and detent E^2 located in an intermediate position in the slot and a push button F movable in cylinder E having a key finger F' moving in slot E' and adapted to engage in detent E^2 by a rotative movement of the push button.

4. A puzzle locking device having in combination a latch, a guide cylinder E connected to actuate said latch and formed with a guide slot E' and detent E^2 located in an intermediate position in the slot, a push button F movable in cylinder E having a key finger F' moving in slot E' and adapted to engage in detent E^2 by a rotative movement of the push button and a spring acting to return the push button to outermost position.

976,166. STATIONERY-BOX. WILLIAM A. GRAY, Newark, N. J. Filed Dec. 29, 1909. Serial No. 535,395.

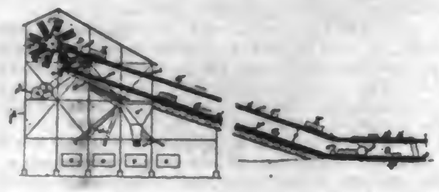


1. A stationery box containing a drawer adapted to be supported within the box, abutments on the upper surface of the bottom of the drawer near its inner edge formed by flaps cut from the bottom of the drawer and adapted to form the back of the drawer.

2. A stationery box containing a drawer, abutments on the upper surface of the bottom of the drawer formed by flaps cut from said bottom, the flaps being bent upward and forward and adapted to support paper placed in said drawer.

976,167. CONTINUOUS CAR-DUMPING MECHANISM. FRANK C. GREENE, Cleveland, and CHARLES G. PALMER, East Cleveland, Ohio; said Palmer assignor to said Greene. Filed Jan. 19, 1906. Serial No. 296,764.

1. In mechanism of the class described, the combination of an endless cable, a carrier member adapted to be conveyed thereby, and a transfer device adapted to receive said carrier member from one portion of said cable and place the same on another portion thereof, said cable being constructed to operate said transfer device.



2. In mechanism of the class described, the combination of an endless cable, a carrier member adapted to be conveyed thereby, and a transfer device adapted to receive said carrier member from one portion of said cable and place the same on another portion thereof, said cable being constructed to periodically operate said transfer device.

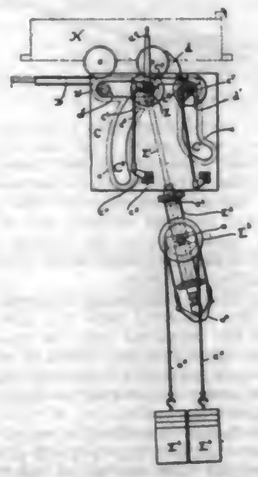
3. In mechanism of the class described, the combination of a sheave, a cable passing around the same, a carrier member adapted to be conveyed by said cable, and a transfer device adapted to receive said carrier member from the portion of said cable on one side of said sheave and to place the same on the portion of said cable on the other side thereof.

4. In mechanism of the class described, the combination of a vertically disposed sheave, a cable passing around the same, a carrier member adapted to be conveyed by said cable, and a transfer device adapted to receive said carrier member from the portion of said cable on one side of said sheave and place the same, same side up, on the portion of said cable on the other side of said sheave.

5. In mechanism of the class described, the combination of a vertically disposed sheave, a cable passing around the same, a carrier member adapted to be conveyed by said cable, and a transfer device adapted in its lower position to receive said carrier member from the portion of said cable on the lower side of said sheave, and in its upper position to place said member, same side up, on the portion of said cable on the upper side of said sheave.

[Claims 6 to 85 not printed in the Gazette.]

976,168. CAR-DUMPING MECHANISM. FRANK C. GREENE, Cleveland, Ohio. Filed Aug. 15, 1906. Serial No. 330,652.



1. In mechanism of the class described, the combination with two supports, of a track-section independently oscillatory about the same, respectively.

2. In mechanism of the class described, the combination with two movable supports, of a track-section independently oscillatory about the same, respectively.

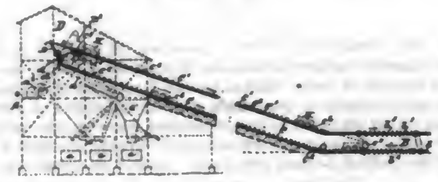
3. In mechanism of the class described, the combination with two independently movable supports, of a track-section oscillatory about the same, respectively.

4. In mechanism of the class described, the combination of two independently movable supports, a track-section oscillatory about the same, respectively, as axes, and means controlling the movement of said supports.

5. In mechanism of the class described, the combination of two independently movable supports, a track-section oscillatory about the same, respectively, as axes, and means normally positioning said track-section.

[Claims 6 to 108 not printed in the Gazette.]

976,169. CONTINUOUS CAR-DUMPING MECHANISM. FRANK C. GREENE, Cleveland, and CHARLES G. PALMER, East Cleveland, Ohio; said Palmer assignor to said Greene. Original application filed Jan. 19, 1906, Serial No. 296,764. Divided and this application filed Sept. 6, 1907. Serial No. 391,565.



1. In mechanism of the class described, the combination of an endless cable, a carrier member adapted to be conveyed thereby, and an oscillatory transfer device adapted to receive said carrier member from one portion of said cable and place the same on another portion thereof, said cable being connected to operate said transfer device.

2. In mechanism of the class described, the combination of an endless cable, a carrier member adapted to be conveyed thereby, and an oscillatory transfer device adapted to receive said carrier member from one portion of said cable and place the same on another portion thereof, said cable being connected to periodically operate said transfer device.

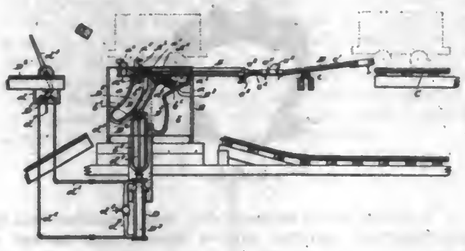
3. In mechanism of the class described, the combination of a sheave, a cable passing around the same, a carrier member adapted to be conveyed by said cable, and an oscillatory transfer device adapted to receive said carrier member from the portion of said cable on one side of said sheave and to place the same on the portion of said cable on the other side thereof.

4. In mechanism of the class described, the combination of a vertically disposed sheave, a cable passing around the same, a carrier member adapted to be conveyed by said cable, and an oscillatory transfer device adapted to receive said carrier member from the portion of said cable on one side of said sheave and place the same, same side up, on the portion of said cable on the other side of said sheave.

5. In mechanism of the class described, the combination of a vertically disposed sheave, a cable passing around the same, a carrier member adapted to be conveyed by said cable, and an oscillatory transfer device adapted in its lower position to receive said carrier member from the portion of said cable on the lower side of said sheave, and in its upper position to place said member, same side up, on the portion of said cable on the upper side of said sheave, said cable being adapted to periodically actuate said transfer device.

[Claims 6 to 25 not printed in the Gazette.]

976,170. CAR-DUMPING MECHANISM. FRANK C. GREENE, Cleveland, Ohio. Filed Feb. 1, 1908. Serial No. 413,725.



1. In mechanism of the class described, the combination of a reciprocable member, a member oscillatorily connected therewith, a floating track-section oscillatorily mounted upon said last-named member, and means adapted to oscillate said track-section upon reciprocation of said first member.

2. In a mechanism of the class described, the combination of a reciprocable member, a member oscillatorily connected therewith, a floating track-section oscillatorily mounted upon said last-named member, and means adapted to independently control the movement of the respective ends of said track-section upon reciprocation of said first member.

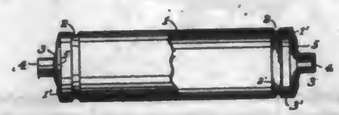
3. In mechanism of the class described, the combination of a reciprocable member, a member oscillatorily connected therewith, a track-section oscillatorily mounted upon said last-named member, and a relatively fixed guide-way engaging said track-section and adapted to oscillate the same upon reciprocation of said first member, said track-section being at all times unsupported other than by said last-named member and said guide-way.

4. In mechanism of the class described, the combination of a reciprocable member, a member oscillatorily connected therewith, a track-section pivotally mounted upon said last-named member, and two relatively fixed guide-ways respectively engaging said track-section at points on opposite sides of its pivotal axis and adapted to oscillate the same upon reciprocation of said first member.

5. In mechanism of the class described, the combination of a reciprocable member, a member oscillatorily connected therewith, a track-section pivotally mounted upon said last-named member, and corresponding guide-means on each side of said track-section, each such means including two ways respectively engaging said track-section on opposite sides of its pivotal axis and curved in a forwardly concave fashion with respect to the direction of discharge.

[Claims 6 to 43 not printed in the Gazette.]

976,171. METAL ROLLER. AUGUST GROSS, Corona, N. Y., assignor to The Manhattan Brass Company, New York, N. Y., a Corporation of New York. Filed Aug. 23, 1910. Serial No. 578,520.



A metal roller comprising a cylinder provided near each end with an internal shoulder, and a conoidal cap for each end of the cylinder, provided with an integral journal projection, and an annular flange, the latter adapted to bear against the shoulder, the end of the cylinder being clamped over the cap to hold the latter in place within the cylinder.

976,172. TROLLEY-WHEEL. EDWARD K. HARRIS, Canandaigua, N. Y. Filed May 26, 1909. Serial No. 498,399.



1. A trolley wheel having a rim, and a resilient tire of non-conducting material carried thereby and having a peripheral groove adapted to receive a trolley wire and conducting means lying along said groove.

2. A trolley wheel having a peripheral tire of non-conducting resilient material, and provided with two peripheral ridges or flanges separated by a peripheral groove and conducting means carried thereby.

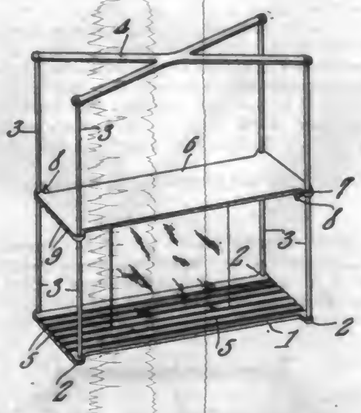
3. A trolley wheel having a peripheral tire formed of rubber and provided with a peripheral groove adapted to receive a trolley wire, said tire having a metallic facing within said groove and electrically connected to the rim of the wheel.

4. A trolley wheel having a rim, a hollow rubber tire carried thereby and having three peripheral grooves, one of which is adapted to receive a trolley wire and the other two of which facilitate the movement of the intermediate portions of the tire toward the trolley wire to grip the latter and conducting means within the first-mentioned groove.

5. A trolley wheel having a rim, a resilient tire of non-conducting material, and a facing for said tire and formed of a plurality of transversely-extending wires connected together and connected to said rim.

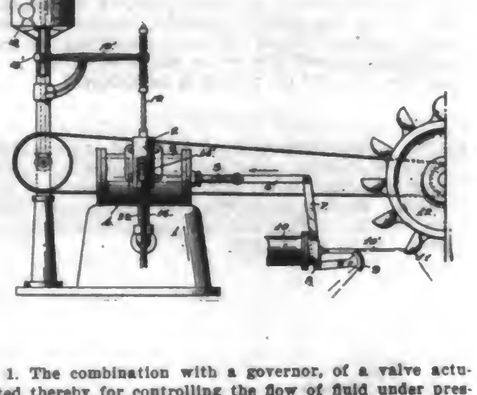
[Claims 6 to 9 not printed in the Gazette.]

976,173. DEVELOPING APPARATUS. ARTHUR C. HAYDEN, Brockton, Mass. Filed Nov. 3, 1909. Serial No. 526,103.



Developing apparatus including a rectangular base plate having plate receiving channels, guide rods fixed relative to and upstanding from the corners of the base plate, a rectangular clamping plate slidably mounted at its corners on said rods and having plate receiving channels, means for securing the clamping plate against movement upon the rods, and diagonally extended connections between the upper ends of the rods, said connections meeting to form a handle above the centers of the clamping and base plates.

976,174. STANDARDIZING DEVICE FOR GOVERNORS. GEORGE J. HENRY, Jr., San Francisco, Cal., assignor of one-half to The Pelton Water Wheel Company, a Corporation of California. Filed Mar. 22, 1910. Serial No. 550,867.



1. The combination with a governor, of a valve actuated thereby for controlling the flow of fluid under pressure through a valve casing provided with an inlet port and outlet ports, a pressure cylinder containing a fluid actuated piston, and means interposed between the valve casing and the pressure cylinder for varying the flow direction of fluid toward and from the said pressure cylinder.

2. In combination with a pressure cylinder, a fluid actuated piston working therein, a valve casing provided with an inlet port and outlet ports, means for admitting fluid under pressure to said casing, a valve within the casing controlling the outlet ports thereof, connections between said ports and inlet ports in the pressure cylinder for admitting fluid pressure to either end of the cylinder, and means interposed between the said cylinder and the valve casing for reversing the flow direction of fluid toward and from the pressure cylinder to vary the movement of the piston working therein.

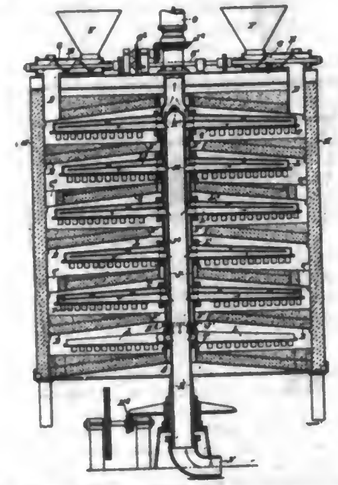
3. The combination with a pressure cylinder, a fluid actuated piston working therein, for regulating the quantity of an impact stream issuing from a nozzle relative to a hydraulic motor, means thrown into action by the movement of the piston for varying the water quantity of the impact stream relative to the driven motor to proportion the same to load variations, mechanism for supplying fluid under pressure to the pressure cylinder for moving the piston inwardly and outwardly, and means for reversing the flow of the fluid under pressure relative to the pressure cylinder to vary the movement of the piston working therein.

4. The combination with a valve casing provided with an inlet port and outlet ports for the flow of fluid under pressure, mechanism for supplying fluid under pressure thereto, a valve within the casing controlling the outlet ports thereof, a pressure cylinder provided at each end with an inlet port, a fluid actuated piston working therein, and a reversible plate provided with fluid passageways for controlling the flow of fluid under pressure from the valve casing into the pressure cylinder, the said plate permitting the flow direction of the flowing fluid to be varied toward and from the pressure cylinder.

5. The combination with a pressure cylinder, a fluid actuated piston working therein, of controlled mechanism for supplying fluid under pressure to either end of the pressure cylinder, and means interposed between the said mechanism and the pressure cylinder for reversing the flow of fluid into and out of the pressure cylinder for varying the movement of the piston working therein.

[Claims 6 to 10 not printed in the Gazette.]

976,175. ORE-ROASTING FURNACE. JOHN B. F. HERRESHOFF, New York, N. Y., assignor to Nichols Copper Co., New York, N. Y., a Corporation of New York. Filed July 20, 1909. Serial No. 508,598.



1. An ore-roasting furnace comprising a casing with superposed floors, a hollow upright shaft in said casing, a sleeve surrounding said shaft and connected therewith, and rabble arms held to rotate with said shaft and located entirely exteriorly thereof, said rabble arms being provided with interior channels communicating with the interior of the shaft and sleeve respectively.

2. In a furnace the combination of the casing, a hollow shaft therein, a sleeve connected with the shaft and a rabble arm held to turn with the shaft and located entirely exteriorly thereof, said rabble arms being provided with an internal cooling channel one end of which communicates with the interior of the shaft while its other end communicates with the interior of the sleeve.

3. In a furnace the combination of the body or casing mechanism for feeding material to the furnace, a hollow shaft extending therein and projecting at one end, a sleeve connected with the shaft and projecting through the body at the end opposite to the shaft, driving means connected with the projecting portion of the shaft driven mechanism connected with the projecting portion of the sleeve for operating said feeding mechanism, and rabble arms provided with internal cooling channels connected at one end with the interior of the shaft and at the other end with the interior of the sleeve.

4. The combination of the body or casing, the hollow shaft extending therein, the sleeve connected with the shaft and rabble arms mounted to turn with the shaft and located entirely exteriorly thereof, said rabble arms being provided with superposed channels, communicating with each other at their outer ends, the inner ends of said channels communicating respectively with the interior of the shaft and with the interior of the sleeve.

976,176. GOLF-CLUB. MERRILL W. HOLLINGSWORTH, Santa Barbara, Cal. Filed Sept. 14, 1909. Serial No. 517,556.

1. A golf club having a head presenting a recessed, but otherwise substantially flat, driving face and comprising indicator actuating mechanism within the interior of the club composed of a pin head extending within said recess and presenting a face forming part of the driving face of the club and a pin shank within the club beneath said recess, said pin being movable under the impact of a blow delivered upon its head, and an indicating device and a holder therefor adapted to be adjusted to move said pin outwardly until said head is flush with the flat driving face of the club.

2. A golf club having a head presenting a recessed, but otherwise substantially flat, driving face and comprising indicator actuating mechanism within the interior of the club composed of a pin head extending within said recess and presenting a face forming part of the driving face of the club and a pin shank within the club beneath said recess, said pin being movable under the impact of a blow delivered upon its head, means located within the club and engaging the said pin and tending to pull it inwardly, and an indicating device and a holder therefor adapted to be adjusted to move said pin outwardly until said head is flush with the flat driving face of the club.



3. A golf club presenting a driving face and comprising indicator actuating mechanism extending within the interior of the club composed of a part presenting a face forming a portion of the said driving face and movable within the club under the impact of a blow delivered upon its said face, a removable holder inserted within the club from its opposite face and adapted to carry an indicating device in position to be acted upon by said movable part and a stop plate adapted to limit the movement of the pin in the direction of impact.

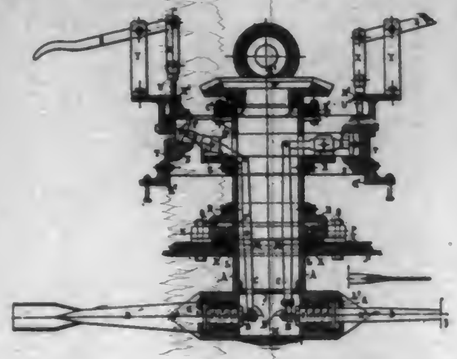
4. A golf club comprising a recessed head, a pin movable across the head, a head on the pin extending within said recess, a nut threaded on the pin, a fixed cap through which said pin extends, a spring confined between said cap and nut, a removable holder inserted within the club from its opposite face, and adapted to carry an indicating device in position to be acted upon by said pin, and a stop plate, through which said pin extends, adapted to engage the nut and thereby limit the movement of the pin in the direction of impact.

976,177. NECKTIE AND COLLAR FASTENING. LOUIS JOHANN FERDINAND HUBERT, Leipzig, Germany. Filed May 6, 1910. Serial No. 559,780.



A necktie and collar fastening, for turn-down collars of the character described, comprising a base plate to be connected to the back of the necktie, a spring-pressed shackle pivoted with one end to the plate and adapted to be passed with the other end over the edge of the collar and through the button holes of the shirt and the collar, an arrow-head on the free end of the shackle, and a catch on the point of said head to engage an aperture in the base plate after the shackle has been passed through the collar, substantially as and for the purpose set forth.

976,178. PROPELLER FOR MARITIME AND RIVER NAVIGATION. BAPTISTE ICRE, New York, N. Y. Filed May 4, 1910. Serial No. 559,328.



1. A propeller comprising a hollow shaft having openings, means for rotating the shaft, a collar carried by the shaft and having bearings, a cam track surrounding the shaft, levers mounted in said bearings and projecting inwardly through said openings, their outer ends extending into engagement with the cam track, blades carried by said shaft and rotatively mounted therein, and connections between said levers and blades whereby the angular positions of the blades are controlled by said cam.

2. A propeller comprising a hollow shaft having openings, means for rotating the shaft, a collar carried by the shaft and having bearings, a cam track surrounding the shaft, levers mounted in said bearings and projecting inwardly through said openings, rollers mounted on the outer ends of the levers and engaging said cam track, blades carried by said shaft and rotatably mounted therein, the shanks of said blades having cranks, and links connecting said cranks and levers.

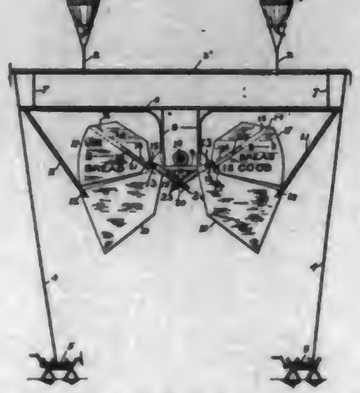
3. A propeller comprising a hollow shaft having openings, means for rotating the shaft, a collar carried by the shaft and having bearings, a sectional cam track surrounding the shaft, means for varying the height of different sections of said cam track, levers mounted in said bearings and projecting inwardly through said openings, their outer ends extending into engagement with the cam track, blades carried by said shaft and rotatively mounted therein, and connections between said levers and blades whereby the angular positions of the blades are controlled by said cam.

4. A propeller comprising a hollow shaft having openings, means for rotating the shaft, a collar carried by the shaft and having bearings, a frame surrounding said bearings and having vertical guides, a cam track comprising sections fitting said guides and intermediate sections connected with the guided sections, levers mounted in said bearings and projecting inwardly through said openings, their outer ends extending into engagement with the cam track, blades carried by said shaft and rotatively mounted therein, and connections between said levers and blades whereby the angular positions of the blades are controlled by said cam.

976,179. ADVERTISING-SIGN. EDWARD JOCHER, Philadelphia, Pa. Filed Mar. 2, 1910. Serial No. 546,812.

1. An advertising device of the character described, comprising a support, shields on the support, a platform between the shields, a motor on the platform, pivoted signs movable behind the shields, and mechanism operated by the motor for moving said signs, substantially as described.

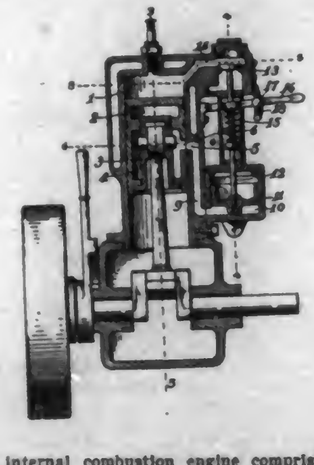
2. An advertising device of the character described, comprising a support, shields on the support, a platform between the shields, a motor on the platform, a crank shaft turned by the motor, pivoted signs movable behind the shields, and mechanism operated by said crank shaft for simultaneously oscillating said signs, substantially as described.



3. An advertising device of the character described, comprising a support, shields on the support, a platform between the shields, a motor on the platform, a crank shaft turned by the motor, pivoted signs movable behind the shields, levers fulcrumed between their ends and connected at one end to the signs, said levers having slots therein, and crank pins on the crank shaft located in said slots, substantially as described.

4. An advertising device of the character described, comprising a support, a platform on the support, pivoted signs at opposite sides of the platform, a motor on the platform, a crank shaft turned by the motor, levers secured to said signs, and having slotted portions receiving the crank arms of said shaft whereby when said shaft is turned, said signs will be simultaneously oscillated, substantially as described.

976,180. INTERNAL-COMBUSTION ENGINE. WILLIAM JOHNSON, Montague, Mich., assignor of one-half to George H. Nelson, Whitehall, Mich. Filed Mar. 21, 1910. Serial No. 550,631.



1. An internal combustion engine comprising a main cylinder, an auxiliary cylinder, a piston in the auxiliary cylinder to operate an exhaust valve for the main cylinder, a hollow power piston in the main cylinder having two side ports to exhaust the auxiliary cylinder, a port connecting said cylinders opened by the main piston when at one end of its stroke and communicating with one side port when the said piston is at the other end of its stroke, a port in the main cylinder communicating with the open air and with the other side port in the piston; and an inner cylinder in the power piston to receive a connecting rod and spaced apart from the power piston to form a chamber connecting the side ports.

2. In an engine of the class described, a power cylinder and an auxiliary cylinder, said power cylinder having a side port communicating with the auxiliary cylinder, and another side port, communicating with the open air, a hollow piston in the power cylinder, having side ports and a tubular member within said piston having an open end to receive a connecting rod, and flanged at the lower end, and also spaced apart from the piston to form a chamber in the piston connecting the side ports in the same.

3. In an engine of the class described in combination with a main cylinder and an auxiliary cylinder, the main cylinder having side ports, one port communicating with the auxiliary cylinder and the other port communicating with the open air, a power piston in the main cylinder having side ports, and an annular chamber connecting the side ports, and a cylinder in the piston open at the lower end to receive a connecting rod, and having an outwardly projecting flange at the lower end secured to the piston.

976,181. SAFETY-GUARD FOR STAMPING-MACHINES. JAMES MELVIN JONES, Buffalo, N. Y. Filed Oct. 25, 1909. Serial No. 524,342.

1. In combination with a die stamping machine, a brush made to operate back and forth in parallel lines between the male and female dies during the operation of stamping and push the operator's hand off the lower die before the upper die descends to it and remove the stamped work off the female die on its return rearward, and timed mechanism to operate the brush to produce this result.

2. In combination with a stamping machine, mechanism attached thereto and operated by it, consisting of a frame attached rigidly to the stamping machine, a horizontal rack bar made to slide back and forth in the said frame, a horizontal safety rod attached indirectly to the rack bar, a brush attached to a tube surrounding the safety rod, and mechanism to drive the horizontal rack bar to push the said safety rod and brush between the dies when separated during their operation, to push the operator's hand off the lower die before the upper die descends to it, and on the return movement to brush off the work stamped as the upper die ascends preparatory to another descent.

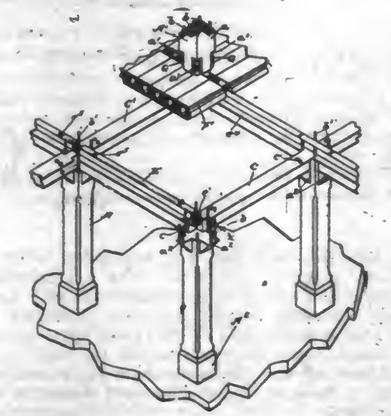
3. In combination with a stamping machine, a frame attached to the machine, carrying a large and small pinion, a horizontal rack bar made to slide back and forth in a groove in said frame, a safety rod attached indirectly to the said rack bar, to move forward and back between the dies, when apart, a slanting rack also made to slide diagonally in a groove in the said frame and made to engage with the smaller gear wheel, the said slanting rack bar indirectly connected to and be driven by the main shaft of the stamping machine for the purpose specified.

4. In combination with a stamping machine, a plate secured rigidly to the end of main shaft of a stamping machine, a longitudinal slot and recess in said plate, the head piece of a connecting rod attached to the plate by a bolt made to pass through it and the slot of the plate, and means to hold the bolt to any part of the slot of said plate, a series of adjustable connecting rods secured to the said slotted plate and to the slanting rack-bar, the latter made to engage with a small gear pinion in the frame, and operate the large pinion wheel, horizontal rack bar and safety rod for the purpose specified.

5. In combination with a stamping machine, and safety rod to move back and forth between the dies during their operation, a series of connecting rods made to pass through links and to adjust the length of the connection between the slotted plate on the main shaft of the stamping machine and the gears, to alter and adjust the distance throw of the safety rod and brush between the dies.

[Claims 6 to 10 not printed in the Gazette.]

976,182. REINFORCED-CONCRETE COLUMN, GIRDER, AND BEAM. JOHN A. JONES, Cincinnati, Ohio. Filed June 25, 1908. Serial No. 440,211.



1. The combination of columns and girders, each column consisting of a concrete body and rods embedded longitudinally in and projecting beyond the concrete body, means for connecting said rods to the corresponding rods of superposed columns, wind bracing rods embedded in the ends of the column and projecting beyond the ends thereof, and concrete girders having bars embedded longitudinally in the concrete and projecting beyond the ends thereof, the girders being provided with holes, through which the wind bracing rods of the columns project.

2. A structure consisting of concrete columns formed prior to erection and provided with reinforcing bars which project vertically above said columns, concrete girders formed prior to erection supported by said columns and provided with reinforcing bars which extend beyond the ends of the girders to form links for securing the ends of adjacent girders together, turn buckles for engaging the reinforcing rods of said columns and for securing the supporting columns to the columns supported by them, and U rods embedded in the upper ends of each column for securing the girders to the columns.

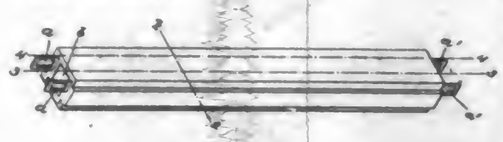
3. A structure consisting of concrete columns formed prior to erection and provided with reinforcing bars which project above said columns, concrete girders formed prior to erection and supported by said columns, reinforcing bars embedded in the concrete of said girders and projecting beyond the ends of the girders to form means for securing the ends of adjacent girders together, separately formed reinforced concrete beams supported by said columns, and interlocking floor slabs supported by said beams and girders, independent means for positively securing the ends of adjacent girders together, means for securing the ends of adjacent beams together, and means for securing the ends of adjacent floor slabs together

means for positively securing each supporting column to the column supported by it, and means for securing the girders and the beams to the supporting column.

4. A structure consisting of concrete columns and girders, each formed prior to erection, each column consisting of concrete having longitudinal reinforcing rods extending through it and projecting beyond the ends thereof and having brace rods embedded in and projecting above the top of the column, the girders consisting of concrete with longitudinal reinforcing members extending beyond the ends of the concrete, each girder having in its ends bores for fitting over the brace rods of the column, means for coupling the reinforcing rods of one girder to the reinforcing rods of an adjacent girder, the reinforcing rods of a column projecting above the girders which rest upon the column and being supplied with means for coupling them to the reinforcing rods of the column next above.

5. As an article of manufacture a concrete column having concrete brackets formed at its upper end, reinforcing rods extending longitudinally through the column and brace rods extending across the top of the column and through the brackets, and projecting above the brackets.

976,183. REINFORCED-CONCRETE FLOOR-SLAB. JOHN A. JONES, Cincinnati, Ohio. Filed June 25, 1908. Serial No. 440,212.



1. A floor slab consisting of a rectangular hollow concrete body, provided on one side with a longitudinally extending groove and upon the opposite side with a longitudinally extending tongue, and two reinforced bars located upon opposite sides of the hollow space embedded in the concrete and extending beyond the body at each end and provided with key seats and a key to secure the floor slab to the next adjacent floor slab located in alinement therewith.

2. A floor slab consisting of a rectangular concrete body and two flat reinforcing bars with expanded ends embedded in the concrete of said body, said bars having their ends projecting beyond the floor slab and provided with key seats, and a key to secure the floor slab to the next adjacent floor slab located in alinement therewith.

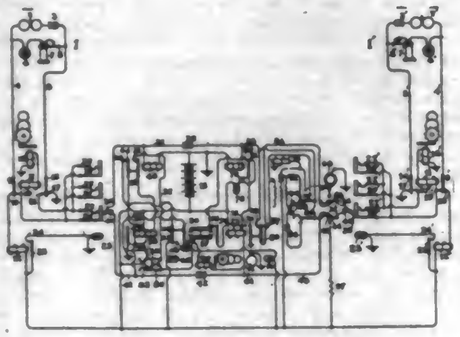
3. A floor slab comprising a hollow rectangular concrete body, provided on each side with a longitudinally extending tongue, and on the other with a correspondingly located longitudinally extending groove, flat bars embedded edgewise in said body upon each side of the hollow space, said bars having their ends projecting beyond the slab and provided with key seats, and a key to secure the floor slab to the next adjacent floor slab in alinement therewith.

976,184. SERVICE-METER SYSTEM. GUY A. JOY, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 6, 1908. Serial No. 425,301.

1. In a telephone system, a service meter for each line at the central office of the system, a cord circuit to connect with said line, and means associated with said cord circuit permitting the actuating of said service meter only after a conversation has been terminated, substantially as described.

2. In a telephone system, the combination with a telephone line, a cord circuit to connect with said line, of a service meter therefor at the central office of the system under the control of the operator, and means associated with said cord circuit to prevent the actuation of said service meter by the operator during conversation, substantially as described.

3. In a telephone system, the combination with a telephone line, a cord circuit to connect with said line, of a service meter therefor at the central office of the system actuated over a talking strand, and means associated with said cord circuit to prevent the actuation of said service meter by the operator during conversation, substantially as described.

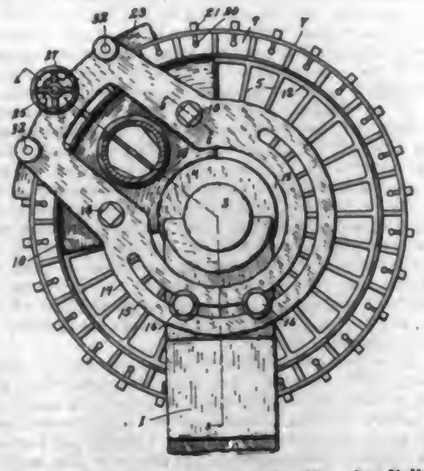


4. In a telephone system, the combination with a telephone line, of a service meter therefor at the central office of the system actuated over a portion of the talking circuit, and means permitting the actuation thereof by the central office operator only after the conversation has been terminated, substantially as described.

5. In a telephone system, the combination with a telephone line, of a service meter adapted to be actuated by a change of potential of one of the talking strands of the line, and means at the central office of the system to prevent the operator from producing the proper change of potential on the line to operate the service meter during conversation whereby the subscribers will not be disturbed by the actuation of the meter, substantially as described.

[Claims 6 to 13 not printed in the Gazette.]

976,185. SUCTION-ROLL FOR PAPER-MAKING MACHINES. JOHN F. KING and JAMES NEARY, Kalamazoo, Mich. Filed July 11, 1910. Serial No. 571,356.



1. A suction roll comprising a plurality of radially-disposed compartments, each compartment being provided with a head chamber; a foraminated outer wall having longitudinal guide slots extending beyond said head chambers; a suction connection arranged to successively connect with the said compartments as said roll is revolved; heads arranged in said head chambers; and means for

adjusting said heads comprising rods connected thereto having lateral projections arranged through said guide slots in said outer wall, an adjusting member having a cam therein adapted to engage said rods successively as said roll is revolved to adjust and maintain the position of said heads, and a screw connection for controlling said adjusting member.

2. A suction roll comprising a plurality of radially-disposed compartments, each compartment being provided with a head chamber; a foraminated outer wall having longitudinal guide slots extending beyond said head chambers; a suction connection arranged to successively connect with the said compartments as said roll is revolved; heads arranged in said head chambers; and means for adjusting said heads comprising rods connected thereto having lateral projections arranged through said guide slots in said outer wall, an adjusting member having a cam therein adapted to engage said rods successively as said roll is revolved to adjust and maintain the position of said heads, and means for controlling said adjusting member.
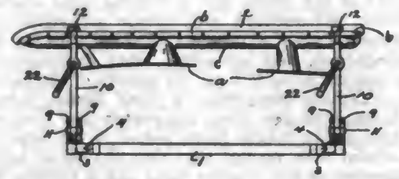
3. A suction roll comprising a plurality of radially-disposed compartments, each compartment being provided with a head chamber; a foraminated outer wall for said roll; a suction connection arranged to successively connect with said compartment as said roll is revolved; heads arranged in said head chambers; and an adjusting member with a cam surface to engage members to adjust said heads and maintain them in position while the roll is in motion, as specified.

4. A suction roll comprising a plurality of radially-disposed compartments, each compartment being provided with a head chamber; a foraminated outer wall; a suction connection arranged to successively connect with the said compartments as said roll is revolved; heads arranged in said head chambers; and means for adjusting said heads comprising projecting members, an adjusting member having a cam therein adapted to engage said projecting members as said roll is revolved, and a screw connection for controlling said adjusting member.

5. A suction roll comprising a plurality of radially-disposed compartments, each compartment being provided with a head chamber; a foraminated outer wall; a suction connection arranged to successively connect with the said compartments as said roll is revolved; heads arranged in said head chambers; and means for adjusting said heads comprising projecting members, an adjusting member having a cam therein adapted to engage said projecting members as said roll is revolved, and means for controlling said adjusting member.

[Claims 6 to 11 not printed in the Gazette.]

976,186. SKATE-JIG. HENRY C. KNUDSEN and EDWARD J. KNUDSEN, Cleveland, Ohio. Filed Mar. 21, 1910. Serial No. 550,604.



1. In a skate jig, the combination of a base, a standard pivotally mounted at each end of each base, each standard being provided with a jaw at each side thereof, a movable member arranged at each side of the standard and provided with a jaw adapted to register with the adjacent jaw on the standard and means for causing the jaws on the movable members to approach the jaws on the said standards.

2. In a skate jig, the combination of a base, a standard mounted at each end of said base, each standard being provided with a jaw at each side thereof, a movable member arranged at each side of the standard and provided with a jaw at each side thereof, brackets formed on said standards below said jaws, a movable member arranged at each side of the standards and provided with a jaw adapted to register with the adjacent jaw on the standard and means for causing the jaws on the movable members to approach the jaws on said standards.

3. In a skate jig, the combination of a base, a standard mounted at each end of said base, each standard being provided with a jaw at each side thereof, brackets formed on said standards below said jaws, a movable member arranged at each side of the standards and provided with a jaw adapted to register with the adjacent jaw on the standard and means for causing the jaws on the movable members to approach the jaws on said standards.

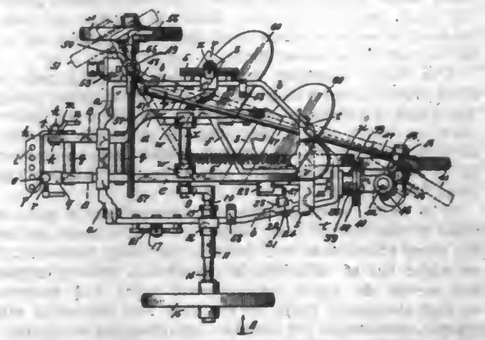
4. In a skate jig, the combination with a base, a standard pivotally mounted at each end of said base, said standard being provided with a jaw at each side thereof, brackets formed on said standards below said jaws, a member pivoted to said standards at each side thereof, said member being provided with a jaw arranged to register with the adjacent jaw on the standard and a rod extending through said standard and through both of the pivoted members, said rod being provided at one end with a nut and at the opposite end with a crank handle and means for preventing the turning of said nut.

976,187. DEVICE FOR COUPLING TWO TRANSMISSION-SHAFTS. ARTHUR CONSTANTIN KREBS, Paris, France, assignor to Societe Anonyme des Anciens Etablissements Panhard et Levassor, Paris, France. Filed Dec. 7, 1909. Serial No. 531,903.



Power-transmitting means, comprising the combination of a driving shaft and a driven shaft arranged in substantial alinement with each other, the ends of each shaft being provided with a plain, circular flange, and a non-metallic, flexible, circular diaphragm of equal diameter with said flanges, placed between the latter, and rivets securing said diaphragm alternately to one and the other of said flanges, so that it assumes an undulated form.

976,188. PLOW. PHILLIP KRUG, Russell, Kans. Filed May 8, 1908. Serial No. 431,717.



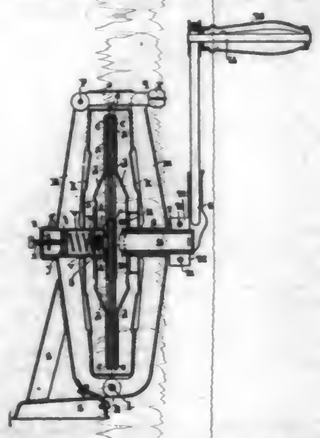
1. The combination, in a plow, of a frame having a pair of side-members; a bent shaft one end of which is mounted free to turn in one of said side-members; a plow-beam carried by said shaft; a bent axle mounted in the other of said side-members; a wheel mounted on said axle; a rock-shaft carried by the last-named side-member; a

rocker-arm which is mounted on said rock-shaft and which supports the other end of said bent shaft; and arms for turning the latter and said axle.

2. In a plow, the combination of a frame having a pair of side-members; a bent shaft one end of which is mounted free to turn in one of said side-members; a plow-beam carried by said shaft; a bent axle mounted in the other of said side-members; a wheel mounted on said axle; a rock-shaft one end of which is connected with said axle free to turn relatively thereto; a rocker-arm which is mounted on said rock-shaft and which supports the other end of said bent shaft; and arms for turning the latter and said axle.

3. In a plow, the combination of a frame having a pair of side-members; a bent shaft one end of which is mounted free to turn in one of said side-members; a plow-beam carried by said shaft; a bent axle mounted in the other of said side-members and formed with a socket member; a wheel mounted on said axle; a rock-shaft which is mounted free to turn in said socket-member; a rocker-arm which is mounted on said rock-shaft and which supports the other end of said bent shaft; and arms for turning the latter and said axle.

976,189. KNIFE-POLISHING MACHINE. GEORGE FREDERICK LAWRENCE, London, England, assignor of three-fifths to John Chapman, London, England. Filed Apr. 25, 1910. Serial No. 557,392.



1. A knife polishing machine comprising a pair of disks dished toward their centers to form a space, polishing rings attached to said disks, a bracket extending across the space between said disks, and means for rotating said disks, as set forth.

2. A knife polishing machine comprising a pair of disks dished toward their centers to form a space, polishing rings attached to said disks, a stationary hollow shaft on which one of said disks is mounted, a bracket extending across the space between said disks and mounted on said stationary shaft, and means for rotating said disks, as set forth.

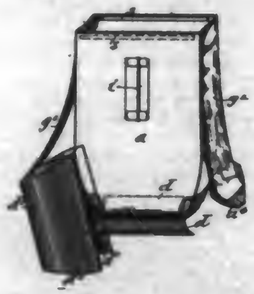
3. A knife polishing machine, comprising a pair of disks dished toward their centers to form a space, polishing rings attached to said disks, a stationary hollow shaft on which one of said disks is mounted, a bracket extending across the space between said disks and mounted on said stationary shaft, an auxiliary rest carried by said bracket, and means for rotating said disks, as set forth.

4. A knife polishing machine comprising a pair of disks dished toward their centers so as to form a space, polishing rings attached to said disks, a hinged casing adapted to inclose said disks, a stationary hollow shaft carried by one part of the hinged casing and on which one of the disks is mounted, a bracket mounted on said hollow shaft and extending across the space between the disks, an external rest attached to said casing, means for allowing the said disk to rock slightly on the hollow shaft, and means for rotating the second disk, as set forth.

5. A knife polishing machine comprising a pair of disks dished toward their centers so as to form a space, polishing rings attached to said disks, a hinged casing adapted to inclose said disks, a stationary hollow shaft carried by one part of the hinged casing and on which one of the disks is mounted, a bracket mounted on said hollow shaft and extending across the space between the disks, an external rest attached to said casing, means for allowing the said disk to rock slightly on the hollow shaft, a second shaft carried by the other part of the casing and carrying the second disk, and means for rotating said shaft, as set forth.

[Claims 6 to 12 not printed in the Gazette.]

976,190. CIGAR-CASE. CHARLES L'ENFANT, New York, N. Y. Filed Sept. 11, 1909. Serial No. 517,305.



1. A cigar-case open at the top and closed at the bottom and provided with a lining, and a flexible, foldable partition the ends of which are passed through slits in the upper portion of the lining and attached to the outer surface of the lining between the same and the case.

2. A cigar-case open at the top and closed at the bottom and composed of a flexible lining having longitudinal slits in its upper portion, a flexible foldable partition passed through the slits in the lining and folded at its ends over the outside of the lining, and an outer or covering layer attached to the lining.

3. A cigar-case made of a lining closed at the sides, a partition extending across the lining and attached thereto, a reinforcing cap-piece extending over the lower end of the lining, and a covering layer closed at the bottom and having overlapping side-strips forming gussets.

4. A cigar-case composed of a lining closed at the sides, a partition extending across the lining and attached thereto, a reinforcing cap-piece extending over the lower end of the lining, and a covering layer closed at the bottom and provided with narrow side-strips along one side-portion and with wider side-strips at the opposite side-portion, said side-strips being overlapped and pasted together so as to form the gussets of the case.

5. A cigar-case comprising a stout flexible covering layer having wide flat sides, side-gussets and a tapering lower end, a thin flexible lining pasted to the inner face and provided with vertical slits near the upper ends of the wide-sides of the covering layer and a foldable flexible partition extending transversely vertically across the case, through said vertical slits and having its ends pasted between the covering and the lining.

[Claim 6 not printed in the Gazette.]

976,191. COIN-HOLDER. FRANK J. LIGHTBODY, Watertown, Mass., assignor to Cambridge Novelty Company, Cambridge, Mass., a Corporation of Massachusetts. Filed Apr. 6, 1910. Serial No. 553,756.

A coin holder comprising two cupped sheet metal members each having an annular flange, one of which is

formed to inclose the other, and a connecting rivet having a head at one end bearing on the outer side of the central portion of one of the members, and a head at the opposite end bearing on the outer side of the central portion of the other member, said rivet extending across the space between the members and holding their flanges in sliding engagement with each other, said rivet permitting a rotary movement of each member relatively



to the other, one of said flanges having a slot and the other a projection which enters the slot and is adapted to abut against the ends thereof to limit the relative rotary movements of the members, the flanges being provided with openings which coincide to form a coin passage when the members are at one extreme of their relative movement, and are out of coincidence when the members are at the opposite extreme of said movement.

976,192. MACHINE FOR DOVETAILING AND JOINING LUMBER. BERT ARTHUR LINDERMAN, Muskegon, Mich. Filed May 27, 1910. Serial No. 563,688.



1. The lumber joining machine, embracing means for cutting longitudinal tapering dovetails on the proximate edges of two oppositely moving pieces of lumber, means for applying glue to said dovetails, and means for feeding said lumber longitudinally past the cutting means into engagement with each other.

2. The lumber joining machine wherein are combined oppositely moving and lapping carriers, cutters for forming interfitting longitudinally tapering tongues and grooves on the proximate edges of two pieces of lumber mounted on said carriers, said tongues and grooves being formed with advance ends adapted to engage and means for applying glue to said tongues and grooves.

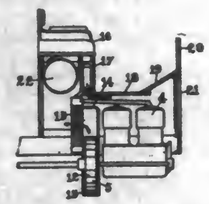
3. The lumber joining machine wherein are combined oppositely moving and lapping carriers, cutters for forming tapering dovetail grooves on the edges of a piece of lumber mounted on one of said carriers, with the wide end of the grooves at the advance end, and cutters for forming tapering dovetail tongues on the edge of another piece of lumber mounted on the other carrier with the small end of the tongues at the advance end, and means for applying glue to said dovetails.

4. The lumber joining machine having means for feeding two pieces of lumber in opposite directions, cutters for forming dovetails on the proximate edges of said pieces, said cutters being also movable transversely to the line of the feed, and means for applying glue to said dovetails, said feeding means being also adapted to carry said pieces into engagement with each other.

5. The lumber joining machine having two sets of cutters for forming interfitting dovetails on the surfaces of two pieces of lumber, means for giving the cutters movement transverse of the line of the feed while cutting the dovetails, means for applying glue to the dovetails, and means for feeding said pieces past the cutters and into engagement with each other.

976,193. MOTOR-VEHICLE. VINCENT LINK, Detroit, Mich. Filed Feb. 12, 1910. Serial No. 543,526.

1. In an automobile, a chassis, a motor at the forward end thereof, a differential jack shaft near the rear end thereof, change speed gearing driving the differential, a transmission shaft coupled by universal joints to the gearing and motor shaft, a fly wheel on the motor adjacent the transmission shaft provided with side intake rim delivery fan blades, a radiator on the chassis above and to the rear of the fly wheel, and a casing adapted to direct the blast from the fan blades through the radiator.



2. In an automobile, a chassis, a motor at the forward end thereof with a fly wheel on the inner end of the motor provided with side intake, rim delivery fan blades, a radiator on the chassis adjacent the inner face of the fly wheel, a casing for directing blast from the fan blades through the radiator, and an operator's seat, platform and foot board forming a housing over the motor, fly wheel and radiator.

3. In an automobile, a chassis provided with forward steering wheels and rear traction bearing wheels, a transverse differential jack shaft on the chassis adjacent the traction bearing wheels, chain and sprocket connections between each traction wheel and the adjacent portion of the jack shaft, and change speed transmission mechanism driving the differential jack shaft, a longitudinally disposed transmission shaft, a universal joint coupling the inner end of said shaft with the change speed mechanism, a motor on the forward end of the chassis having a fly wheel arranged on its inner end adjacent the end of the transmission shaft, side intake rim delivery fan blades on the fly wheel, a radiator on the chassis adjacent the fly wheel, and a casing for directing the blast from the fan blades through the radiator.

4. In an automobile, a chassis provided with forward steering wheels and rear traction bearing wheels, a transverse differential jack shaft on the chassis adjacent the traction bearing wheels, chain and sprocket connections between each traction wheel and the adjacent portion of the jack shaft, change speed transmission driving the differential jack shaft, a longitudinally disposed transmission shaft, a universal joint coupling the inner end of said shaft with the change speed mechanism, a motor on the forward end of the chassis having a fly wheel arranged on its inner end adjacent the transmission shaft, a universal joint coupling the adjacent end of the transmission shaft to the motor, side intake rim delivery fan blades on the fly wheel, a radiator on the chassis adjacent the fly wheel, a casing for directing the blast from the fan blades through the radiator, a dash across the forward end of the chassis, and a driver's seat, platform and foot board above the motor and radiator and forming with the dash a housing for the power plant.

5. In an automobile, a chassis, a motor at the forward end thereof with a fly wheel on the inner end of the motor provided with fan blades, a radiator on the chassis in rear of and adjacent to the inner face of the fly wheel, a casing for directing the blast from the fan blades through the radiator, and an operator's seat or platform forming a housing over the motor and radiator.

976,194. SHOE-TREE. ISAAC W. LITCHFIELD, Boston, Mass. Filed Apr. 4, 1910. Serial No. 553,206.

1. A shoe tree, having, in combination, heel and toe members, a longitudinally extending bar on one member and a plate pivoted on the other member provided with gripping shoulders for engaging opposite sides of the bar substantially as described.

2. A shoe tree, having, in combination, heel and to

members, a longitudinally extending bar on one member, a plate pivoted on the other member provided with a hole through which the bar passes which is larger than the bar, whereby movement of the bar through the hole will be prevented when the plate is tilted with relation to the bar, substantially as described.



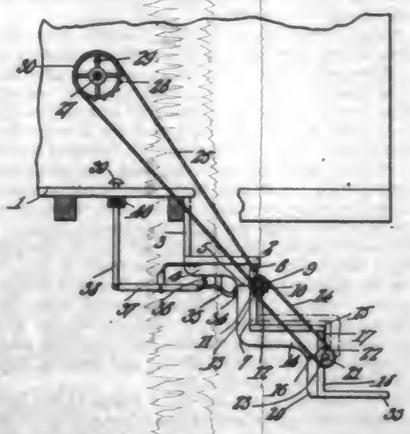
3. A shoe tree, having, in combination, heel and toe members, and a plate pivoted on one of the members and provided with holes, and longitudinally extending rods on the other member passing through the holes in the plate, substantially as described.

4. A shoe tree, having, in combination, heel and toe members, U-shaped rods having their ends secured in the members, a gripping plate pivoted on the base bar of one of the U-shaped rods and provided with holes through which the arms of the other rod pass, substantially as described.

5. A shoe tree, having, in combination, heel and toe members, a longitudinally extending bar on one member, a plate pivoted on the other member provided with gripping shoulders for engaging opposite sides of the bar, and a device for normally holding the bar and plate in gripping relation, substantially as described.

[Claim 6 not printed in the Gazette.]

976,195. FOLDING CAR-STEP. ROGER W. LOMAX, Lynchburg, Va. Filed May 12, 1910. Serial No. 560,963.



1. A device of the class described including hingedly connected treads, an actuating device, and means operated thereby for successively folding the treads together.

2. A device of the class described including treads, sectional risers interposed therebetween, the sections of each riser being hingedly connected, each riser section being fixedly attached to one of the treads, an operating device, and means actuated thereby for successively folding the treads and riser sections together.

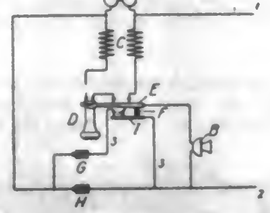
3. A device of the class described including hingedly connected treads, an actuating device, and separate revoluble means operated thereby for successively folding said treads together.

4. A device of the class described including treads, sectional risers interposed therebetween, the sections of each riser being hingedly connected, coöperating reinforcing devices upon the risers for holding the sections thereof in alinement when the treads are lowered, and revoluble means for successively elevating the treads and folding them one upon the other.

5. A device of the class described including an upper fixed tread, an intermediate movable tread, and a lower movable tread, all of said treads being hingedly connected, revoluble means for successively elevating the movable treads and folding them together and onto the stationary tread, and means for locking the intermediate tread against movement.

[Claims 6 to 9 not printed in the Gazette.]

976,196. SUBSTATION-CIRCUIT. JOHN J. LYNG. East Orange, N. J., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 11, 1909. Serial No. 482,669.



1. In a substation telephone apparatus, the combination with the line circuit, of signaling apparatus and a condenser normally connected therewith, telephonic apparatus in a normally open bridge of the line, a switch for closing said bridge and including in circuit therewith said condenser, and means actuated in the movement of said switch for modifying the capacity of the circuit.

2. In a substation telephone circuit, the combination with the line conductors, of signaling apparatus connected therewith, a condenser associated with said signaling apparatus, telephonic apparatus in a normally open bridge of the line adapted to be included in circuit with said condenser, a second condenser, and a switch actuated upon the removal of the telephone for closing said bridge and including both said condensers in circuit therewith.

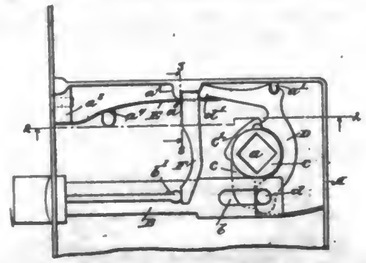
3. In a substation telephone circuit, the combination with the line conductors, of signaling apparatus connected therewith, a condenser associated with said signaling apparatus, telephonic apparatus in a normally-open bridge of the line and adapted to be included in circuit with said condenser, and a switch actuated upon the removal of the telephone for effectuating such inclusion and for simultaneously increasing the capacity of the circuit.

4. In a substation telephone circuit, the combination with the line conductors, of signaling apparatus connected therewith, a condenser associated with said signaling apparatus, telephonic apparatus in a normally-open bridge of the line, a switch actuated upon the removal of the telephone for use for closing said bridge and including said telephonic apparatus in circuit with said condenser and a second condenser adapted to be included in parallel with the first condenser by the operation of said switch.

976,197. LATCH. PHILIP MATHER, Cleveland, Ohio, assignor to Peck, Stow & Wilcox Company, Cleveland, Ohio, a Corporation of Connecticut. Filed Aug. 25, 1909. Serial No. 514,483.

1. In a mechanism of the class described, the combination of a slidable latch; a lever adapted, on actuation, to retract said latch; a second lever unconnected with the first lever and adapted to retain said latch in its outermost position; and a single spring adapted to restrain actuation of each of said levers.

2. In a mechanism of the class described, the combination of a slidable latch; a lever adapted, on actuation, to retract said latch, said latch being slidable relatively to said lever; a second lever unconnected with said first lever and adapted to retain said latch in its outermost position; and a single spring adapted to restrain actuation of each of said levers.



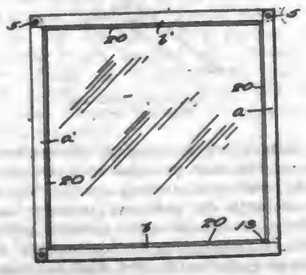
3. In a mechanism of the class described, the combination of a slidable latch; a two-armed lever adapted, on actuation, to retract said latch, said latch being slidable relatively to said lever; a bar spring engaging one arm of said lever and tending to restrain its actuation; and a second lever normally retaining said latch in its outermost position, said second lever being adapted to have its actuation restrained by said spring.

4. In a mechanism of the class described, the combination of a slidable latch, said latch being provided with a slot; a two-armed lever provided with a lug adapted to register in said slot, said lever being adapted, on actuation, to retract said latch; a bar spring engaging one arm of said lever and tending to restrain its actuation; and a second lever normally retaining said latch in its outermost position, said second lever being adapted to have its actuation restrained by said spring.

5. In a mechanism of the class described, the combination of a slidable latch, said latch being provided with a slot and with a lug; a two-armed lever provided with a lug adapted to register in said slot, said lever being adapted, on actuation, to retract said latch; a bar spring engaging one arm of said lever and tending to restrain its actuation; and a second lever engaging the lug on said latch and normally retaining said latch in its outermost position, said second lever being adapted to have its actuation restrained by said spring.

[Claim 6 not printed in the Gazette.]

976,198. METALLIC WINDOW-SASH. ALEXANDER WHITTEN MERRITT, Lynch Station, Va. Filed Aug. 21, 1909. Serial No. 513,993.



1. A metallic window sash comprising four similar members to form a frame pivotally connected at three corners, one of the ends which meet to form the fourth corner being provided with a socket, provided with an aperture in said socket, the other corner forming end carrying a swivel hook adapted to engage in said aperture in said socket.

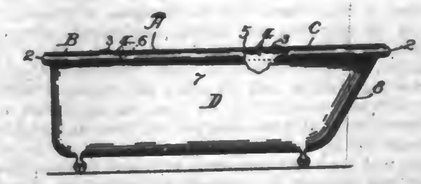
2. A metallic window sash comprising the combination with two similar top and bottom stiles, of two similar vertical stiles, each stile having a mortise at one end and a tenon at the other, said two vertical stiles being pivotally connected to said top stile, said bottom stile being pivoted at one end to said vertical stile, said bottom stile at its unpivoted end having a socket and an aperture within said stile communicating with said socket, said vertical stile having its unpivoted end provided with a threaded socket from which extends a channel communicating with the socket within said bottom stile, a nipple threading into said threaded socket, and a swivel hook carried by said nipple to engage within said aperture to unite said stiles at a fourth corner.

3. A metallic window sash comprising the combination with two similar top and bottom stiles, of two similar vertical stiles, each stile having a mortise at one end and a tenon at the other, said two vertical stiles being pivotally connected to said top stile, said bottom stile being pivoted at one end to one of said vertical stiles, said bottom stile at its unpivoted end having a socket and an aperture in said stile entering said socket, said vertical stile having its unpivoted end provided with a threaded socket from which extends a channel communicating with the socket within said bottom stile, a nipple threading into said threaded socket, a swivel hook carried by said nipple to engage within said aperture, each of said stiles having registering weather beads and adjacent grooves, and a metallic frame within said grooves.

4. A metallic window sash comprising the combination with two similar top and bottom stiles, of two similar vertical stiles, each stile having a mortise at one end and a tenon at the other, said two vertical stiles being pivotally connected to said top stile, said bottom stile being pivoted at one end to one of said vertical stiles, said bottom stile at its unpivoted end having a socket and an aperture communicating with said socket, said vertical stile having its unpivoted end provided with a threaded socket from which extends a channel communicating with the socket within said bottom stile, a nipple threaded into said threaded socket, a swivel hook carried by said nipple to engage with said aperture to unite said stiles, each of said stiles having registering weather beads and adjacent grooves, and a metallic frame comprising four recurved sheet metal members pivotally connected and removably held within said grooves.

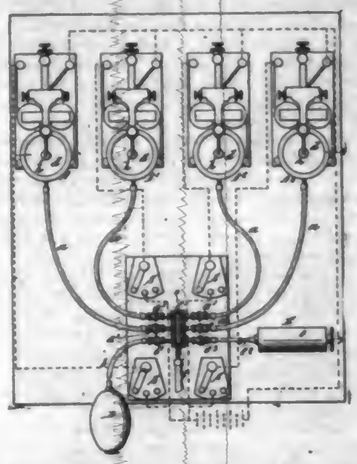
5. In combination, a window sash, comprising a top stile, a bottom stile, a vertical stile secured at its ends to said top and bottom stiles, a second vertical stile pivoted at its upper end to said top stile, a nipple adjustably carried within the unpivoted end of said last mentioned stile, a swivel hook carried by said nipple, and a perforated ear carried by said bottom stile for engagement with said swivel hook.

976,199. BATH-TUB COVER. ADELAIDE MESSENGER, St. Paul, Minn., assignor of one-half to Mary C. Smith, Chicago, Ill. Filed May 18, 1909. Serial No. 496,864.



A bath tub cover, comprising, three cover plates, one [a] body section, another a foot section and the remainder [a] head section, said sections lying in a horizontal plane, the outer edges thereof coinciding substantially with and resting upon the rim of the tub, said head section having its outer edge formed with a neck opening and said body section being provided with a reinforcing transverse strip on its lower surface, the ends of said strip passing between the inner walls of said bath tub and serving to prevent lateral displacement of said body section and said head and foot sections, said head and foot sections being hinged to said body section and adapted to fold over the same.

976,200. VIBRATORY APPARATUS FOR EAR TREATMENT. EUGENE MEYER, New York, N. Y., assignor to himself, James Kilduff, and Alfred G. Rowan, New York, N. Y. Filed Nov. 15, 1909. Serial No. 528,140.



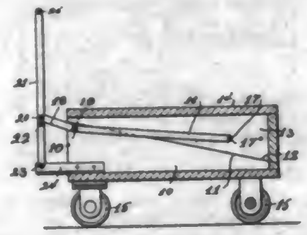
1. In apparatus of the character described, the combination of a plurality of vibratory air chambers, each containing a diaphragm, said diaphragms, electro-magnetic means for vibrating each of said diaphragms, either individually and independently, or simultaneously in plural numbers, an intermediate-air chest, independent conduits connecting each of said vibratory air chambers individually with said intermediate air chest, and a conduit connected with said intermediate air chest and adapted to transmit air pulsations therefrom to a patient, substantially in the manner and for the purpose described.

2. In apparatus of the character described, the combination of a plurality of vibratory air chambers each containing a diaphragm, said diaphragms, electro-magnetic means for vibrating each of said diaphragms, either individually and independently, or simultaneously in plural numbers, an intermediate air chest, independent conduits connecting each of said vibratory air chambers individually with said intermediate air chest, an air compressing device connected with said intermediate air chest for increasing the air pressure therein above that of the atmosphere, and a conduit connected with said intermediate air chest and adapted to transmit air pulsations therefrom to a patient, substantially in the manner and for the purpose described.

3. In apparatus of the character described, the combination of a plurality of vibratory air chambers each containing a diaphragm, said diaphragms, electro-magnetic means for vibrating each of said diaphragms, either individually and independently, or simultaneously in plural numbers, an intermediate air chest, independent conduits connecting each of said vibratory air chambers individually with said intermediate air chest, an air tension device connected with said intermediate air chest and adapted to decrease the air pressure therein below that of the atmosphere, and a conduit connected with said intermediate air chest and adapted to transmit air pulsations therefrom to a patient, substantially in the manner and for the purpose described.

4. In apparatus of the character described, the combination of a plurality of vibratory air chambers each containing a diaphragm said diaphragms, electro-magnetic means for vibrating each of said diaphragms, either individually and independently, or simultaneously in plural numbers, an intermediate air chest, independent conduits connecting each of said vibratory air chambers individually with said intermediate air chest, an air compressing device connected with said intermediate air chest for increasing the air pressure therein above that of the atmosphere, an air tension device connected with said intermediate air chest and adapted to decrease the air pressure therein below that of the atmosphere, and a conduit connected with said intermediate air chest and adapted to transmit air pulsations therefrom to a patient, substantially in the manner and for the purpose described.

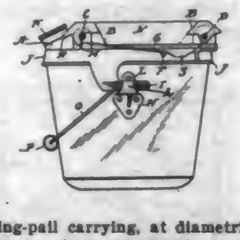
976,201. TRUCK. CARL E. M. MILLER, New York, N. Y. Filed Sept. 1, 1910. Serial No. 580,113.



1. A truck comprising a lower wheeled member having inclined surfaces on the top of the sides thereof, an upper member having inclined surfaces on the bottom of the sides thereof riding on the top surfaces of the bottom member, a handle pivotally mounted on the lower member, a link pivoted to the top member and extending forward through the truck body, a second link pivotally connected to the first link at its outer end, said second link being pivotally connected to the handle, and an abutment on the handle engaging the lower edge of the second link when the handle is moved forward from the truck.

2. A truck comprising a wheeled lower member having inclined surfaces on the top of the sides thereof, a top member having inclined surfaces on the bottom of the sides thereof riding on the inclined surfaces of the bottom member, a handle pivotally mounted on the lower member, a link pivoted to the top member, a second link pivotally connected to the first link at its outer end and pivotally connected with the handle, and a rod horizontally supported in the handle and engaging the lower edge of the second link when the handle is pulled forward from the truck.

976,202. MILKING VESSEL. CHARLES S. MOORE, Danvers, Mass. Filed June 2, 1910. Serial No. 564,711.

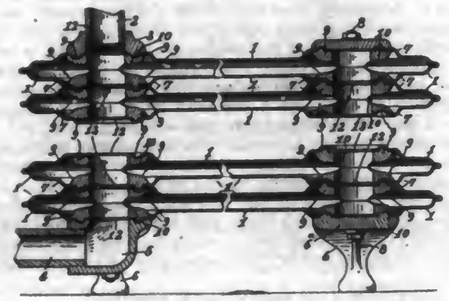


1. In a milking-pail carrying, at diametrically opposite points, two plates, each provided with a neck offset from the pail-body, said neck carrying near its top a rivet uniting said neck with the pail-body; a cover carrying, circumferentially, at diametrically opposite points, two depending flanges terminating in horizontally disposed fingers projected under said rivet and between said neck and the pail-body.

2. In a milking pail carrying, at diametrically opposite points, two plates, each provided with a neck offset from the pail-body, said neck carrying near its top a rivet uniting said neck with the pail-body; a cover carrying, circumferentially, at diametrically opposite points, two depending flanges terminating in horizontally-disposed, oppositely-pointing fingers projected under said rivet and between said neck and the pail-body.

3. In a milking-pail carrying, at diametrically opposite points, two plates, each provided with a neck offset from the pail-body, said neck carrying near its top a rivet uniting said neck with the pail-body; a cover having an opening bridged by a horizontally-movable screen, forming a strainer, said cover carrying, circumferentially, at diametrically opposite points, two depending flanges terminating in horizontally-disposed, oppositely-pointing fingers, having their upper edges inclined, said fingers being projected under said rivet and between said neck and the pail-body, with a wedging action.

976,203. SHEET-METAL RADIATOR. RALPH E. MOSHER, Grand Rapids, Mich., assignor of one-half to Alfred D. Rathbone, Grand Rapids, Mich. Filed Aug. 14, 1909. Serial No. 512,817.



1. A radiator comprising sheet metal sections having raised portions near each end to space the sections apart, said portions also having concavo-convex circular portions adapted to intermesh with like portions in the adjacent sections, supporting rings in the sections having like concavo-convex portions engaging the like portions of the sections, and clamping bolts extending through the sections and rings.

2. A radiator comprising sheet metal sections having raised circular portions near each end and oppositely arranged openings at its respective ends, said raised portions also having concavo-convex annular portions adapted to intermesh with like portions of the adjacent sections, supporting rings within the section and having lateral openings, and corresponding concavo-convex portions engaging the concave and convex portions of the sections, and clamping bolts extending through the concavo-convex portions of the sections and rings.

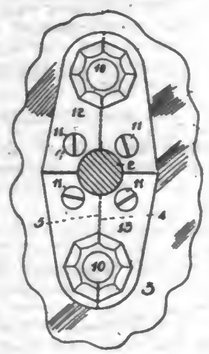
3. A radiator comprising a sheet metal section having a circular raised portion provided with a central opening, circular concavo-convex portions surrounding the said opening, a collar having an opening opposite the opening to the radiator and a circular portion adapted to intermesh with the said concavo-convex portion of the radiator, supporting rings provided with concave and convex annular portions to fit within the interior of the radiator and having lateral openings, and means for clamping a series of said sections in contact with each other and with the collar.

4. A radiator comprising a series of stamped sheet metal sections, each having an opening near each end and at opposite sides thereof, said sections also having raised circular portions to space the sections apart, said circular portions also having intermeshing concavo-convex portions, supporting rings having concave and convex annular portions adapted to fit within said section and support the raised portions thereof, said rings also having lateral openings for circulation of fluid, a collar having a face adapted to intermesh with the concavo-convex portion of one of said members, an elbow having a face adapted to intermesh with the concavo-convex portion of the opposite member, and bolts extending through the concave and convex portions of said members, supporting rings, collar, and elbow to clamp the whole together.

5. A radiator comprising horizontally disposed superposed sheet metal members having raised annular portions to space the sections apart and also having openings in each member at opposite ends and opposite sides of the same, means for connecting pipes to the first and last section of the series, consisting of a collar above the said members and an elbow below said members, legs on said elbow to support the radiator, supporting rings within the raised portions of said members and having lateral openings for the circulation of fluid therethrough, and bolts extending through the series of sections, the supporting rings and the pipe connecting means.

[Claim 6 not printed in the Gazette.]

976,204. REPAIR-GLAND. OLIVER K. NEGLEY, Galesburg, Ill. Filed Mar. 21, 1910. Serial No. 550,652.



1. A gland of the character described comprising a base of relatively hard metal and a face of relatively soft metal.

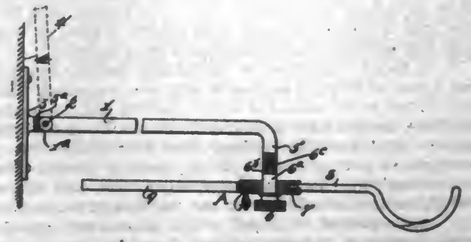
2. A gland of the character described comprising separable base-plates having their opposed edges semi-circularly cut away to provide an opening for the reception of a piston-rod, and means for uniting them.

3. A gland of the character described comprising separable base-plates adapted to embrace a piston-rod, and separable binder-plates securable thereto and adapted to restrain said base-plates from separation.

4. A gland of the character described comprising separable base-plates adapted to embrace a piston-rod, and separable binder-plates secured thereto, the division lines of said pairs of plates bisecting each other.

5. A gland of the character described comprising separable base-plates of relatively hard metal, and means for uniting them together, the last recited means being of relatively soft metal.

976,205. HAT AND CLOTHES RACK. DAVID NEUHAUS, New York, N. Y. Filed Apr. 6, 1910. Serial No. 553,683.



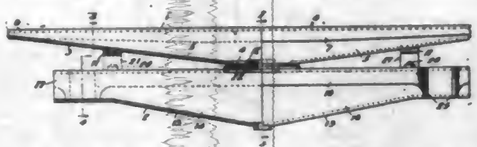
1. A hat and clothes hanger, comprising a bracket, an arm pivotally mounted on said bracket and having a shoulder adapted to form a stop, said arm being bent down

wardly at its outer end, a spider consisting of a center-piece and a plurality of hangers, and means adapted to engage the end of the downwardly bent portion of said arm, said means being adapted to rotatably support said spider.

2. A hat and clothes hanger, comprising a bracket, an arm pivotally mounted on said bracket and having a shoulder adapted to form a stop, said arm being bent downwardly at its outer end, a stud carried by said arm consisting of a shank and a threaded stem adapted to enter the end of the turned down portion of said arm, a spider carried by the shank of said stud and consisting of a center-piece and a plurality of hangers removably screwed into said center-piece.

3. A hat and clothes hanger, comprising a bracket, an arm pivotally mounted on said bracket and having a shoulder adapted to form a stop, said arm being bent downwardly at its outer end, a stud carried by said arm consisting of a shank and a threaded stem adapted to enter the end of the turned down portion of said arm, a spider carried by the shank of said stud and consisting of a centerpiece and a plurality of hangers, one of said hangers consisting of a trousers support.

976,206. CAR-BOLSTER. JOHN F. O'CONNOR, Chicago, Ill., assignor to Clifford W. Sherman, Buffalo, N. Y. Filed May 26, 1910. Serial No. 563,547.



1. A bolster consisting of an integral casting comprising a pair of straight horizontal side webs extending from end to end of the bolster, a central bottom web horizontal in cross section and extending from end to end of the bolster and upwardly inclined from the middle toward each end, a pair of central or intermediate upright webs connecting said horizontal side webs with said transversely horizontal bottom web and tapering in depth from the middle toward each end of the bolster, and a pair of depending upright side webs tapering in depth from the middle toward each end of the bolster, said upright webs forming a plurality of open drawable channels between them extending from end to end of the bolster, substantially as specified.

2. A bolster consisting of an integral casting comprising a pair of straight horizontal side webs extending from end to end of the bolster, a central bottom web horizontal in cross section and extending from end to end of the bolster and upwardly inclined from the middle toward each end, a pair of central or intermediate upright webs connecting said horizontal side webs with said transversely horizontal bottom web and tapering in depth from the middle toward each end of the bolster, and a pair of depending upright side webs tapering in depth from the middle toward each end of the bolster, said upright webs forming a plurality of open drawable channels between them extending from end to end of the bolster, said bottom web having a transverse bend therein to form an integral side bearing member, substantially as specified.

3. A bolster consisting of an integral casting comprising a pair of straight horizontal side webs extending from end to end of the bolster, a central bottom web horizontal in cross section and extending from end to end of the bolster and upwardly inclined from the middle toward each end, a pair of central or intermediate upright webs connecting said horizontal side webs with said transversely horizontal bottom web and tapering in depth from the middle toward each end of the bolster, said upright webs forming a plurality of open drawable channels between them extending from end to end of the bolster, said bottom web having an integral center plate seat at its middle portion, substantially as specified.

4. A bolster consisting of an integral casting comprising a pair of straight horizontal side webs extending from end to end of the bolster, a central bottom web horizontal in cross section and extending from end to end of the bolster and upwardly inclined from the middle toward each end, a pair of central or intermediate upright webs connecting said horizontal side webs with said transversely horizontal bottom web and tapering in depth from the middle toward each end of the bolster, and a pair of depending upright side webs tapering in depth from the middle toward each end of the bolster, said upright webs forming a plurality of open drawable channels between them extending from end to end of the bolster, said bolster having at intervals transverse fillets connecting said upright and horizontal webs, substantially as specified.

5. The combination of a cast steel body bolster comprising a pair of horizontal webs extending from end to end of the bolster, a central bottom web transversely horizontal, extending from end to end of the bolster and upwardly inclined from the middle toward each end, a pair of upright intermediate webs connecting said horizontal side webs and said bottom web and a pair of depending upright side webs with a cast steel truck bolster comprising a pair of horizontal side webs extending from end to end of the bolster, a bottom web transversely horizontal extending from end to end of the bolster and upwardly inclined from the middle toward each end, a pair of upright intermediate webs and said bottom web and a pair of depending upright side webs, said upright webs forming a plurality of open drawable channels between them extending from end to end of the bolster, substantially as specified.

[Claims 6 to 9 not printed in the Gazette.]

976,207. FILAMENT OR RESISTOR FOR HEATING UNITS OR LAMPS. HERSCHEL C. PARKER and WALTER G. CLARK, New York, N. Y., assignors to Parker-Clark Electric Company, New York, N. Y., a Corporation of New Jersey. Filed May 20, 1909. Serial No. 497,313.

1. As an improved article of manufacture, a filament composed essentially of silicon di-carbid.

2. A non-metallic filament which when cold is a conductor of electricity throughout its mass and which will glow continuously at incandescence in the open air upon the passage of an electric current through it.

3. As an improved article of manufacture, a resistor in filament form consisting of a core or base with a non-metallic coating thereon, the whole when cold being a conductor of electricity throughout its mass and which will glow continuously in the open air at a temperature of incandescence.

4. A non-metallic filament or resistor which when cold permits the passage of an electric current throughout its mass, and which under current resistance maintains continuously in the open air a temperature about 1500 degrees C.

5. A non-metallic resistor in which the whole body is a conductor of electricity when cold and which glows at high incandescence in the open air on the passage of an electric current through it.

[Claims 6 and 7 not printed in the Gazette.]

976,208. CAMERA. IRA O. PERRING, Kalamazoo, Mich. Filed Nov. 26, 1909. Serial No. 529,963.

1. The combination with a base, of a casing, revolubly mounted thereon; a driving means for said casing; a camera box removably arranged in said casing; a lens plate removably arranged in said casing, said camera box and lens plate being independently supported; a shutter carried by said lens plate; an actuating lever therefor; spring for opening said shutter; and a stop on said base arranged to engage said lever, whereby said lever is adapted to close the shutter against the tension of its opening spring and to hold said casing in its set position.

2. The combination with a revolubly mounted casing; of a driving means for said casing; a lens plate removably arranged in said casing; a shutter carried by said lens plate; an actuating lever therefor; a spring for opening said shutter; and a stop arranged to engage said lever, whereby said lever is adapted to close the shutter against the tension of its opening spring and to hold said casing in its set position.

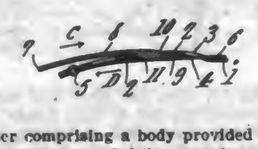
3. The combination with a revolubly mounted casing; of a driving means for said casing; a lens plate arranged in said casing; a shutter carried by said lens plate; an actuating lever therefor; a spring for opening said shutter; and a stop arranged to engage said lever, whereby said lever is adapted to close the shutter against the tension of its opening spring and to hold said casing in its set position.

4. The combination with a base, of a casing; a driving spring for said casing connected thereto and to said base; a lens plate removably supported in said casing; a shutter mounted upon said lens plate; a shutter opening spring; a shutter actuating lever mounted upon said lens plate; and a stop for said lever arranged on said base, adapted to close said shutter against the tension of its said opening spring and to hold said casing in its set position.

5. The combination with a base, of a casing; a driving spring for said casing connected thereto and to said base; a lens plate; a shutter mounted upon said lens plate; a shutter opening spring; a shutter actuating lever mounted upon said lens plate; and a stop for said lever arranged on said base, adapted to close said shutter against the tension of its said opening spring and to hold said casing in its set position.

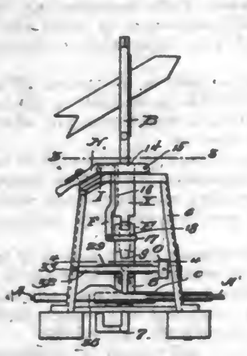
[Claims 6 to 45 not printed in the Gazette.]

976,209. COMBINATION-FASTENER. RICHARD F. PICKARD, North Tonawanda, N. Y. Filed July 28, 1910. Serial No. 574,317.



A fastener comprising a body provided with a plurality of transverse keepers, defining openings in the body; a spring secured adjacent one end to one face of the body and extended longitudinally thereof beneath the keepers and through one of the openings to rest at the other end upon the opposite face of the body; and a detachable straight-ended tongue engageable by the spring and adapted to be thrust terminally through one of the openings in the body and to extend beneath a keeper, the tongue having a shoulder in its upper face adapted to bear against said keeper, and a shoulder in its lower face adapted to bear against the next adjacent keeper, the keeper-engaging faces of the shoulders being parallel.

976,210. SWITCH-STAND FOR RAILWAYS. ALBERT L. PIPES, Pryor, Okla. Filed Apr. 30, 1910. Serial No. 558,729.



1. The combination with an upright switch shaft, of separate automatic and manual operating devices, and connections between said devices and the shaft including a clutch member located on the shaft and connected to said manual devices and shiftable thereby up and down on the shaft to engage either of said devices and disengage the other.

2. The combination with a switch shaft, of clutch members loose thereon, an intermediate clutch member non-rotatable on said shaft and shiftable lengthwise thereon from one of said clutch members to the other, a hand lever connected to one of said loose clutch members, automatic devices connected to the other, and a connection between the hand lever and the intermediate clutch member to shift the same from one of said clutch members to the other.

3. The combination with a switch stand frame and an upright switch shaft therein, of upper and lower clutch members mounted to turn in said frame and on said shaft, automatic devices operatively connected to the lower member, a hand lever pivoted to the upper member to swing up and down, an intermediate clutch member non-rotatable on the shaft, and shiftable up and down thereon to engage with either of said upper or lower members, and a bar connecting the hand lever and said intermediate member, to lift the latter to engagement with the upper clutch member, when the hand lever is swung up.

4. The combination with a switch stand frame and an upright switch shaft therein, of a clutch member mounted to turn in the frame and loose on the shaft, a clutch member non-rotatable on the shaft and shiftable thereon to engagement or disengagement with said clutch member, and a hand lever pivoted to and adapted to turn the loose clutch member and connected to the other clutch member to shift the same.

5. The combination with a switch stand frame, and an upright switch shaft therein, of an upper clutch member mounted loosely on the shaft and arranged to turn in an opening in the top of said frame and having a longitudinal groove, a lower clutch member non-rotatable on the shaft and shiftable up and down thereon to engagement or disengagement with the upper clutch member, a hand lever pivotally connected to said upper clutch member above the top plate of the frame, and a bar connecting said lever and the lower clutch member and extending through said groove.

976,211. PROCESS OF INCORPORATING INGREDIENTS OF EXPLOSIVES. ERNEST DU PONT, Wilmington, Del., assignor to The E. I. du Pont de Nemours Powder Company, Wilmington, Del., a Corporation of New Jersey. Filed Nov. 16, 1907, Serial No. 402,482. Renewed Apr. 19, 1910. Serial No. 556,396.

1. The improvement in the method of incorporating ingredients of explosives, which consists in maintaining said ingredients, while incorporating, suspended in a volatile liquid hydrocarbon in which the ingredients are insoluble

2. The improvement in the method of incorporating ingredients of explosives, which consists in maintaining said ingredients, while incorporating, suspended in a volatile liquid hydrocarbon in which the ingredients are insoluble, and after incorporation removing said hydrocarbon.

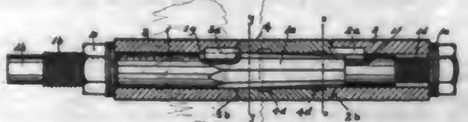
3. The improvement in the method of incorporating ingredients of explosives, insoluble in gasolene, which consists in maintaining said ingredients, while incorporating, suspended in gasolene.

4. The improvement in the method of incorporating ingredients of explosives, insoluble in gasolene, which consists in maintaining said ingredients, while incorporating, suspended in gasolene, and after incorporation removing said gasolene.

5. The improvement in the method of incorporating ingredients of an explosive, one of which is affected by water, which consists in maintaining said ingredients, while incorporating, suspended in a volatile liquid hydrocarbon in which the ingredients are insoluble.

[Claims 6 to 12 not printed in the Gazette.]

976,212. ADJUSTABLE REAMER. WILLIAM HENRY PUGH and JOHN ALBERT ETZOLD, Detroit, Mich. Filed Apr. 9, 1910. Serial No. 554,562.



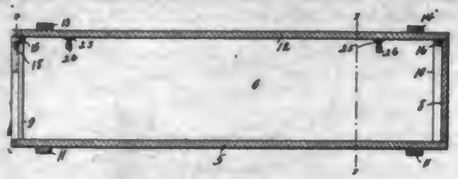
1. In an adjustable reamer, the combination with a tapered spindle, of a pair of oppositely placed pilot sleeves slidably mounted on said spindle, means for preventing rotation of said sleeves relative to said spindle, the opposing ends of said sleeves being beveled, a floating barrel having beveled ends received in the beveled ends of said sleeves, slots in said barrel, blades mounted in said slots, the inner edges of said blades contacting with said tapered spindle, and means for adjusting said sleeves and barrel longitudinally with reference to said spindle.

2. In an adjustable reamer, the combination with a tapered spindle having a plurality of flatted faces, of a pair of oppositely placed pilot sleeves slidably mounted on said spindle, means for preventing the rotation of said sleeves relative to said spindle, the opposing ends of said sleeves being beveled, a floating barrel having beveled ends received in the beveled ends of said sleeves, slots in said barrel, blades mounted in said slots, the inner edges of said blades contacting with the flatted faces of said tapered spindle, and means for adjusting said sleeves and barrel longitudinally with reference to said spindle.

3. An adjustable reamer comprising, in combination with a tapered spindle having a plurality of flatted faces, said spindle being formed with threaded ends and provided with longitudinal key-ways, a pair of oppositely placed pilot sleeves, each having a key engaging one of said key-ways, each of said sleeves being formed with a beveled end, a floating barrel received on said sleeve and provided with longitudinal slots, and bridges, said floating barrel being formed with beveled ends, a plurality of blades removably inserted in said slots, said blades formed with beveled ends and having their inner edges formed with slots to engage said bridges, and nuts on the threaded ends of said spindle adapted to engage the outer ends of said pilot sleeves.

976,213. CASKET-CASE. WILLIAM PYE, Wakefield, and LELAND D. NOURSE, Brookline, Mass. Filed Oct. 13, 1909. Serial No. 522,377.

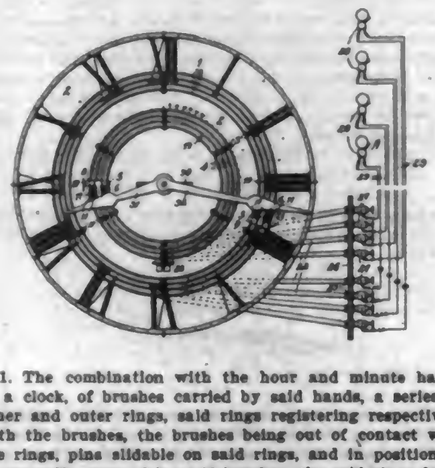
1. A casket case comprising in its construction a removable top and end wall, latch mechanisms for preventing vertical movement of the top with relation to the case, said latch mechanisms being capable of disengagement by endwise movement of the top with relation to the case, means for securing said end wall in position, and means upon the top for engaging said end wall and preventing endwise movement of the top when said end wall is in position.



2. The combination with a casket case, comprising in its construction a removable top and end wall, of a plurality of latch plates secured to said case, a plurality of latch members secured to the underside of the top and adapted to engage said latch plates or to be moved out of engagement with said latch plates by endwise movement of the top with relation to said latch plates, key controlled locking mechanism carried by the end wall for securing said end wall in position, and means upon the top for engaging said end wall and preventing endwise movement of the top when the end wall is in position.

3. A casket case, comprising a body portion including a removable end wall and a removable top, latch connections between said removable top and said body portion for preventing vertical movement of the top with relation to said body portion, said latch mechanism being adapted to be disengaged by endwise movement of the top with relation to said body portion, a stop member carried by said top and adapted to abut against said end wall, to prevent longitudinal movement of the top when said end wall is in position, and key controlled locking mechanism for securing said end wall in position, substantially as shown and described.

976,214. SIGNAL ATTACHMENT FOR CLOCKS. OWEN P. RAGAN, Ridgeway, Mo. Filed Mar. 16, 1910. Serial No. 549,737.



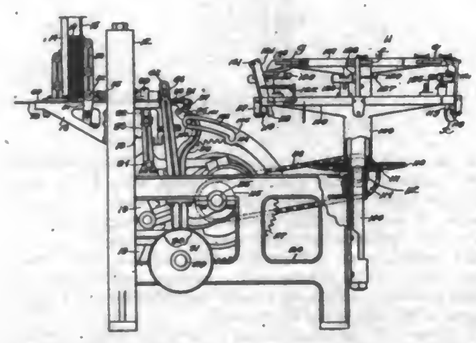
1. The combination with the hour and minute hands of a clock, of brushes carried by said hands, a series of inner and outer rings, said rings registering respectively with the brushes, the brushes being out of contact with the rings, pins slidable on said rings, and in position to be normally engaged by said brushes, the said rings forming part of a series of electric circuits, and means carried by the brushes for lifting them so that they will clear the pins.

2. The combination with a clock dial having hour and minute hands, a series of outer and inner rings arranged upon the dial, a series of electric circuits, each circuit including one of the outer and one of the inner rings, pins slidably mounted upon said rings, spring pressed brushes carried by the hands adapted to register with said rings and normally adapted to engage the pins and means for lifting the brushes carried by one hand at a predetermined period of time.

3. In a device of the kind described, the combination with a clock hand, of a T-shaped arm, the head of which is adjustably connected to said hand, a bar carried by the free end of said arm and having downwardly turned end portions, a pivoted shaft journaled in said end portions, contact brushes pivotally mounted upon said shaft, springs secured to said arm and bearing upon said brushes, and a rotatable cam roller supporting said brushes, as and for the purpose set forth.

4. In a device of the kind described, the combination with a clock hand, said hand being in an electric circuit, a pivoted brush member supported from said hand, adjustable contact points in position to be normally engaged by said hand, a cam roller normally supporting the brush in operative position and means for giving said roller a partial rotation at a predetermined time thereby lifting said brush into inoperative position, as and for the purpose set forth.

976,215. LIFT COMPRESSING AND DISTRIBUTING MACHINE. GEORGE F. REINHARDT, Boston, Mass. Filed Apr. 27, 1910. Serial No. 557,922.



1. A compressing machine comprising coactive compressing members, and means controlled by the thickness of the work independently of said compressing members for causing said members to close positively and in proportion to the thickness of the work.

2. A compressing machine comprising coactive compressing members, means independent of said compressing members for gaging the thickness of the work, and means controlled by said gaging means for causing said compressing members to close positively and in proportion to the thickness of the work.

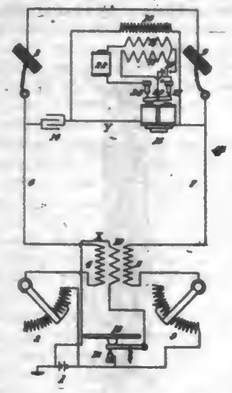
3. A compressing machine comprising coactive compressing members, a feed table, means arranged to be engaged by the work moving along said feed table for gaging the thickness of the work, and means controlled by said gaging means for causing said compressing members to close positively in proportion to the thickness of the work.

4. A compressing machine comprising coactive compressing members, means for feeding the work to said compressing members, means for gaging the thickness of the work being fed, and means controlled by said gaging means for causing said compressing members to close positively in proportion to the thickness of the work.

5. A compressing machine comprising coactive compressing members, adjustable means for causing said compressing members to close positively more or less, means at one side of the compressing members for gaging the thickness of the work, and means connecting said gaging means and said adjustable means for causing said compressing members to close in proportion to the thickness of the work.

[Claims 6 to 14 not printed in the Gazette.]

976,216. ELECTRICAL RELAY. FOSTER RITCHIE Acton, England. Filed Dec. 16, 1905. Serial No. 291,985.



1. The method of setting up and reinforcing the line impulse in relays which are operated by transient currents or impulses, which method consists in setting up an impulse in the relay to cause an initial movement of the armature of said relay, and immediately thereafter setting up an induced impulse in the circuit including said relay and in the same direction as the first said impulse.

2. The method of setting up and reinforcing the line impulse in relays which are operated by transient currents or impulses, which method consists in setting up an impulse in the relay to cause an initial movement of the armature of said relay, and immediately thereafter causing said armature to close a primary circuit to induce a second impulse in said relay circuit in the same direction as the first said impulse.

3. The method of setting up and reinforcing the line impulse in relays which are operated by transient currents or impulses, and which are connected up in circuit with a condenser, which method consists in setting up an impulse in the relay which causes an initial movement of the armature of said relay and the charging of said condenser, in closing a primary circuit by said armature for inducing a secondary impulse in the same direction to overcome the effects of the condenser discharge, and immediately thereafter causing a third induced impulse in the same direction as said initial and secondary impulses.

4. The method of setting up and reinforcing the line impulse in relays which are operated by transient currents or impulses, which method consists in setting up an impulse in the relay to cause an initial movement of the armature of said relay, and in successively closing a circuit through each of two different primary coils by the movement of said armature, thereby inducing successively two secondary impulses in the relay circuit in the same direction as the first impulse.

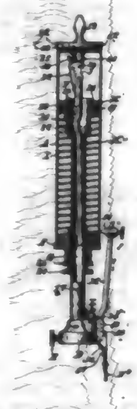
5. The method of reinforcing the line impulse in relays which are operated by transient currents or impulses which consists in producing a primary impulse immediately after the initial impulse in the line and inducing by said primary impulse a secondary impulse in the relay circuit and in the same direction as the initial impulse.

[Claims 6 and 7 not printed in the Gazette.]

976,217. SHUTTER-OPERATING DEVICE FOR PHOTOGRAPHIC LENSES. SIEGMUND ROSENBE, Chicago, Ill. Filed Sept. 28, 1910. Serial No. 584,342.

1. An automatic timer for photographic lens-shutters comprising, in combination, a cylinder, a piston in said cylinder, a tubular piston-rod to which said piston is attached, means in said cylinder adapted to move said piston in one direction only, an impulse-valve in said cylinder

and a rod in said tubular piston-rod, said rod being provided with means which will open said impulse-valve when said piston reaches a predetermined position in said cylinder, and to keep said impulse-valve in open position during the remainder of the stroke of said piston.



2. An automatic timer for photographic lens-shutters, comprising, in combination, a cylinder, a piston in said cylinder, a tubular piston-rod to which said piston is attached, a spring in said cylinder adapted to move said piston in one direction only, an impulse-valve in said cylinder, a rod in the bore of said piston-rod, said rod being adapted to open said impulse-valve when said piston reaches a predetermined position in said cylinder and to keep said impulse-valve open during the remainder of the stroke of said piston, a discharge-orifice leading from said tubular piston-rod to the outer atmosphere, means adapted to govern the effective area of said discharge-orifice, and an auxiliary valve adapted to open when said piston approaches the end of its stroke.

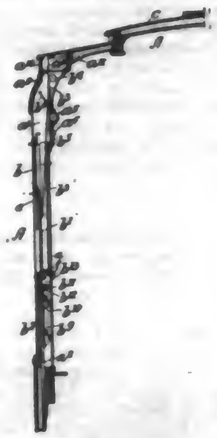
3. In an automatic timer for photographic lens-shutters, the combination, of a cylinder, a piston in said cylinder, a tubular piston-rod to which said piston is attached, means adapted to move said piston in one direction only, an impulse-valve adapted to open when said piston reaches a predetermined position in said cylinder, and means adapted to open said impulse-valve and to keep the same open during the remainder of the stroke of said piston, said latter means including a rod in the bore of said piston-rod, there being a kink in said rod adapted to contact with the bore in said piston, one end of said rod being pivoted to said impulse-valve.

4. A timer for photographic lens-shutters, comprising, in combination, a cylinder, a piston in said cylinder, a tubular piston-rod to which said piston is attached, means in said cylinder adapted to move said piston in one direction only, an escape passage leading from said cylinder to the shutter-operating means on said lens, an impulse-valve adapted to open said passage when said piston reaches a predetermined position in said cylinder and to keep said passage open during the remainder of the stroke of said piston, said means for opening said impulse-valve including a kinked rod located in said tubular piston rod and connected pivotally to said impulse-valve.

5. A timer for photographic lens-shutters, comprising, in combination, a cylinder, a piston in said cylinder, a tubular piston-rod to which said piston is attached, means adapted to move said piston in one direction only to compress air in said cylinder, an escape-orifice at the outer end of said tubular piston-rod, means adapted to vary the effective area of said escape-orifice, an impulse-valve adapted to open when said piston reaches a predetermined position in said cylinder and to remain open during the remainder of the stroke of said piston, a kinked rod in the bore of said piston-rod, said kinked rod being pivotally connected to said impulse-valve, an auxiliary valve at the outer end of said tubular piston rod and independent of the same, a passage leading from the bore of said piston-rod to said auxiliary valve, and adjustable means adapted to open said auxiliary valve when said piston approaches the end of its stroke.

[Claims 6 to 9 not printed in the Gazette.]

976,218. CONVERTIBLE PASSENGER RAILWAY-CAR. MYRON ROUNDS, Boston, Mass. Filed May 27, 1909. Serial No. 498,698.



1. In a car, the combination with a car body provided with openings in the sides and pockets with which said openings merge and extending to the car roof, of movable sashes in said openings adapted to be shifted together from said openings into said pockets so as to occupy upright positions in different vertical planes from those they occupy while closing said openings, and means provided in said openings to receive and support the shifted sashes while occupying the pockets.

2. In a car, the combination with a car body provided with openings in its sides and pockets merging into said openings, of movable sashes in said openings adapted to be shifted and stored in said pockets, but in different vertical planes from the positions the sashes occupied in closing said openings and fixed means to receive and support said shifted sashes in their inoperative position and located at the junction of said openings with said pockets.

3. In a car, the combination with a car body having openings in the sides and enlarged pockets extending to the roof, of movable sashes mounted in each side opening and adapted to be shifted united into a pocket into substantially upright positions therein, means located between said openings and pockets to support the shifted sashes, and means in connection with one of said sashes to hold the shifted sashes in said pockets.

4. In a car, the combination with a car body having openings in the sides and pockets extending to the roof, of movable sashes mounted in each side opening and adapted to be shifted unitedly into a pocket of said roof and stored therein in substantially upright position, means for guiding the sashes into such position as they are shifted, and means for supporting the shifted sashes in different planes from those they occupy while closing the openings.

5. In a car, the combination with a car body provided with openings in its sides and pockets into which said openings merge, of movable sashes in each opening adapted to be shifted overlappingly into a pocket, means located at the junction of said openings with said pockets to support the sashes in an upright position in planes different from those occupied by the sashes in closing the openings, and means associated with said sashes for assisting in the shifting of them and in supporting them in their stored position.

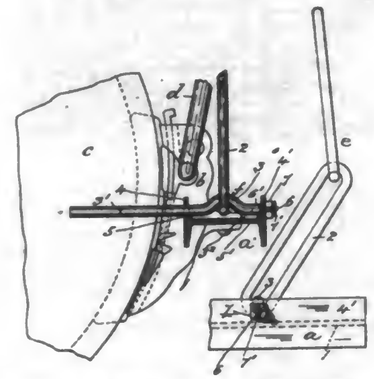
[Claims 6 to 31 not printed in the Gazette.]

976,219. PROCESS OF DYEING HALF-WOOLEN GOODS. GEORG RUDOLPH, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Aug. 6, 1909. Serial No. 511,534.

1. In the art of dyeing half-wool the improvement consisting in dyeing at the same time the wool and the cotton in the half-woolen goods from an acid bath containing a chromium compound and acid substantive cotton dyestuffs, substantially as described.

2. In the art of dyeing half-wool the improvement consisting in dyeing at the same time with the addition of wool dyes the wool and the cotton in the half-woolen goods from an acid bath containing a chromium compound and acid substantive cotton dyestuffs, substantially as described.

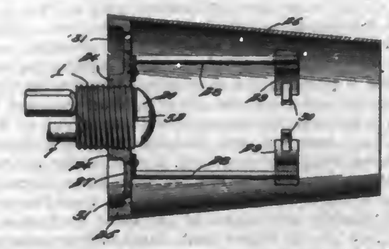
976,220. CAR-BRAKE-BEAM SAFETY-CHAIN HOLDER. CARL L. SCHWARTZ, St. Louis, Mo. Filed Mar. 26, 1910. Serial No. 551,686.



1. A car brake-beam safety-chain holder, consisting of a bar arranged longitudinally across the said beam and having a bend intermediate to its ends, the said bend being adapted for engagement by the said chain, a bearing in the said beam for the bar between each end thereof and the said bend, and means for removably fixing the bar to the said beam from the outer side thereof.

2. A car brake-beam safety-chain holder, consisting of a bar arranged longitudinally across the said beam and having a bend intermediate to its ends, the said bend being adapted for engagement by the said chain, and the said bar in one direction from the said bend being adapted to form a finger-guard for the said beam, a bearing in the said beam for the bar between each end thereof and the said bend, and means for removably fixing the bar to the said beam from the outer side thereof.

976,221. LIQUID-FUEL BURNER. WILLIAM SCRIMGEOUR, Portsmouth, Va., assignor to Mires Fuel-Oil Equipment Company, Norfolk, Va. Filed July 8, 1908. Serial No. 442,532.



1. In combination, a burner, having fuel and air or steam ports, a plate to which such burner is secured, a hood carried by such plate, and igniting devices comprising separated spurs extending within the hood in such position as to be heated by the flame without materially obstructing the passage of the mixed gases.

2. In combination, a burner, having fuel and air or steam ports, a plate to which such burner is secured, a hood carried by such plate, and igniting devices comprising separated spurs mounted on rods secured to said plate and extending in the hood in such position as to be heated by the flame without materially obstructing the passage of the mixed gases.

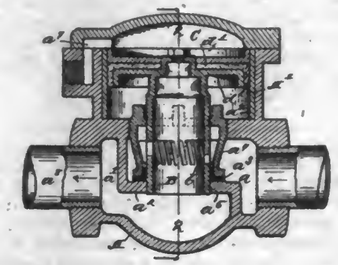
3. In a hydrocarbon burner, a casing having a projecting lip, and a casing wall extending upwardly therefrom, fuel and air or steam chambers in said casing, a port in said lip communicating with said fuel chamber, an aperture in the casing wall at the rear of said fuel port, a plug partially closing said opening and projecting beyond the wall of the casing, and a cap-piece having a groove or chamber in its bottom face carried by said plug and resting upon said lip.

4. In a hydrocarbon burner, a casing having a projecting lip, and a casing wall extending upwardly therefrom, fuel and air or steam chambers in said casing, a port in said lip communicating with said fuel chamber, an aperture in the casing wall at the rear of said fuel port, a plug partially closing said opening and projecting beyond the wall of the casing, and a cap-piece having an outwardly diverging groove or chamber in its bottom face carried by said plug and resting upon said lip.

5. In a hydrocarbon burner, a casing having a projecting lip, and a casing wall extending upwardly therefrom, fuel and air or steam chambers in said casing, a port in said lip communicating with said fuel chamber, an aperture in the casing wall at the rear of said fuel port, a removable plug partially closing said opening and projecting beyond the wall of the casing, and a cap-piece having a groove or chamber in its bottom face carried by said plug and resting upon said lip.

[Claims 6 and 7 not printed in the Gazette.]

976,222. VALVE. BENJAMIN F. SILLIMAN, Cleveland, Ohio, assignor to The Cleveland Steel Tool Company, Cleveland, Ohio, a Corporation of Ohio. Filed Feb. 24, 1909. Serial No. 479,726.



1. In a device of the character described, the combination of a casing having inlet and outlet openings; a ported partition intermediate between such openings; a washer on the upper face of said partition surrounding the port therein; an open sleeve threaded in said casing and adapted to clamp said washer in place; and a tubular valve fitting the port in said partition, said valve being provided with a series of perforations encircling the same between its ends so as to lie above said partition in the upper, and below said partition in the lower position of said valve, thereby affording communication between such inlet and outlet openings and cutting off such communication, respectively.

2. In a device of the character described, the combination of a casing having inlet and outlet openings; a differential piston movably secured in said casing, said piston being operable outwardly by the pressure of fluid in said casing; a valve, carried by said piston, controlling

connection between such inlet and outlet openings; an open passage in said casing extending from below to above said piston to supply pressure fluid against the outer face of said piston; an opening in the casing wall adjacent to the outer face of said member for the escape of the fluid thus supplied; and fluid pressure actuated means for closing said escape.

3. In a device of the character described, the combination with a receiving tank; of a casing having inlet and outlet openings; supply and discharge pipes connected with such openings, respectively, said discharge pipe leading to said tank; a differential piston reciprocable in said casing, said piston having its face of smaller area directed inwardly and being operable outwardly by the pressure of fluid in said casing against such face; a valve, carried by said piston controlling connection between such inlet and outlet openings; an open passage in said casing extending from below to above said piston to supply pressure fluid against the outer face of said piston; an opening in the casing wall adjacent to the outer face of said member for the escape of the fluid thus supplied; and fluid pressure actuated means for closing said escape, operation of said means being dependent on the pressure of fluid in said receiving tank.

4. In a device of the character described, the combination of a casing having inlet and outlet openings and a piston chamber freely communicating with such inlet opening; a differential piston reciprocable in said chamber, said piston having its face of smaller area directed inwardly and being operable outwardly by the pressure of fluid in said chamber against such face, the wall of said chamber being recessed to form a passage extending from below to above said piston to supply pressure fluid against the outer face of the latter; a valve, carried by said piston, controlling connection between such inlet and outlet openings; and a normally open escape for the fluid supplied against the outer face of said piston.

5. In a device of the character described, the combination of a casing having inlet and outlet openings and a piston chamber freely communicating with such inlet opening; a differential piston reciprocable in said chamber, said piston having its face of smaller area directed inwardly and being operable outwardly by the pressure of fluid in said chamber against such face; a bushing fitted in said chamber to provide a bearing for said piston, the wall of said chamber being recessed to form a passage behind said bushing extending from below to above said piston to supply pressure fluid against the outer face of the latter; and a normally open escape for the fluid supplied against the outer face of said piston.

[Claims 6 to 11 not printed in the Gazette.]

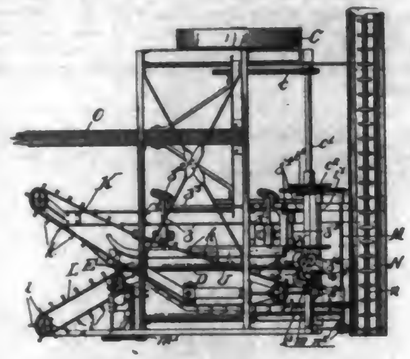
976,223. CORN-HUSKING MACHINERY. BYRON C. SMALL, Morris, Ill., assignor to The B. C. Small Manufacturing Company, Coal City, Ill., a Corporation of Illinois. Filed Aug. 6, 1904. Serial No. 219,711.

1. A corn husking machine comprising means for gripping and holding the corn stalks, a vibratory knocker-bar arranged in position to knock the ears of corn out of the husks, together with means for vibrating said bar and for giving the same a quicker back stroke than forward stroke.

2. A corn husking machine comprising a pair of rotatable rolls between which the corn stalks are drawn, a sprocket chain having projections adapted to engage the corn stalks, said chain extending obliquely across the rolls, so as to bend the corn stalks to one side, and a knocker-device for knocking the ears of corn out of the husks just before the latter pass between the rolls.

3. A corn-husking machine comprising a pair of rotatable rolls between which the corn stalks are drawn, said rolls terminating at their ends in frusto-conical portions, a sprocket chain having projections adapted to engage the corn stalks, said chain extending obliquely across the rolls, so as to bend the corn stalks to one side, and a knocker-device for knocking the ears of corn out of the husks just before the latter pass between the rolls.

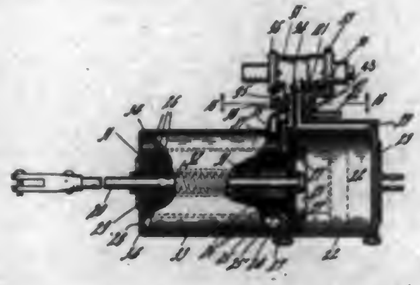
4. A corn-husking machine comprising a pair of rotatable rolls arranged parallel, means for reaching out in advance of the rolls and collecting and drawing the corn-stalks together between the forward ends of the latter, a sprocket chain having projections adapted to engage the corn stalks, said chain extending obliquely across the rolls so as to bend the stalks to one side, and a continuously acting knocker bar arranged in position to knock the ears of corn out of the husks just before the latter pass into the rolls.



5. A corn-husking machine comprising a pair of rotatable rolls between which the corn stalks are drawn, a sprocket chain having projections to engage the corn stalks, said chain extending obliquely across the rolls, so as to bend the corn stalks to one side, and means for removing the ears of corn out of the husks just before the latter pass between the rolls.

[Claims 6 to 8 not printed in the Gazette.]

976,224. AIR-BRAKE. AUGUSTUS A. ST. CLAIR, Indianapolis, Ind., assignor to St. Clair Air Brake Company, Indianapolis, Ind., a Corporation of Indiana. Filed Mar. 29, 1909. Serial No. 486,472.



1. In an air brake, the combination, with a brake cylinder and its piston, a train-line connection, an auxiliary reservoir, and connections between the train-line, brake cylinder and auxiliary reservoir, of a controlling-valve mechanism controlling the connections between the train-line, auxiliary reservoir and brake cylinder whereby the brake cylinder may be connected with train-line or with the auxiliary reservoir, and train-line may be connected with the auxiliary reservoir, and a valve-operating member connected with said valve mechanism and subjected to train-line pressure whereby variations in train-line pressure will produce movements of the valve mechanism to cause a flow of air either from the auxiliary reservoir relative to the brake cylinder to cause a brake application, or from train-line to the brake cylinder and to the auxiliary reservoir to cause a brake application and a recharging of the auxiliary reservoir.

2. In an air brake, the combination, with a brake cylinder and its piston, an auxiliary reservoir, a train-line connection and connection between the train-line, brake cylinder and auxiliary reservoir, of a controlling-valve mechanism controlling the connections between the train-line, auxiliary reservoir and brake cylinder, whereby the train-line may be connected with the brake cylinder and the auxiliary reservoir by an increase of train-line pressure, and train-line may be connected with the auxiliary reservoir, and the auxiliary reservoir may be connected with the brake cylinder, and means for moving said controlling-valve mechanism.

3. In an air brake, the combination, with a brake cylinder and its piston, an auxiliary reservoir, a train-line connection, and connections between the train-line, brake cylinder and auxiliary reservoir, of a controlling-valve mechanism controlling the connections between the train-line, auxiliary reservoir and brake cylinder, whereby the train-line may be connected with the brake cylinder and the auxiliary reservoir, and the train-line may be connected with the auxiliary reservoir, and the local reservoir may be connected with the brake cylinder and means for moving said controlling-valve mechanism to connect the brake cylinder with either the auxiliary reservoir or train-line, and to establish a connection between train-line and auxiliary reservoir when train-line is connected with the brake cylinder.

4. An air-brake controlling-valve comprising; a main body having, a piston chamber, a train-line connection with one end of said piston chamber, a valve chamber, a train-line connection with said valve chamber, a brake-cylinder passage, an auxiliary-reservoir passage, and an atmosphere passage communicating with the valve chamber; a piston mounted in the piston chamber; and valve mechanism mounted within the valve chamber and connected with the piston, said valve mechanism being so formed as to connect train-line with the auxiliary reservoir passage, and to connect train-line with the brake-cylinder passage, and to connect train-line with the valve chamber, and to connect the auxiliary reservoir with the brake cylinder, and to connect brake cylinder with atmosphere, and to connect the valve chamber with atmosphere.

5. An air-brake controlling valve comprising; a main body having, a piston chamber, a train-line connection with one end of said piston chamber, a valve chamber, a train-line connection with said valve chamber, a brake-cylinder passage, an auxiliary-reservoir passage, an atmosphere passage communicating with the valve chamber, and a passage for establishing communication between the valve chamber and the brake cylinder upon the opposite side of the brake piston to which the first mentioned brake-cylinder passage leads; a piston mounted in the piston chamber; and valve mechanism mounted within the valve chamber and connected with the piston, said valve mechanism being so formed as to connect train-line with the auxiliary reservoir passage, and to connect train-line with the first-mentioned brake-cylinder passage, and to connect train-line with the valve chamber, and to connect the auxiliary reservoir with the brake cylinder, and to connect brake cylinder with atmosphere, and to connect the valve chamber with atmosphere.

[Claims 6 to 36 not printed in the Gazette.]

976,225. LIVE-STOCK MARKER. FREDERICK R. STEVENS, Geneva, N. Y., assignor to Live Stock Marker Company, Geneva, N. Y., a Corporation of New York. Filed Mar. 4, 1910. Serial No. 547,272.

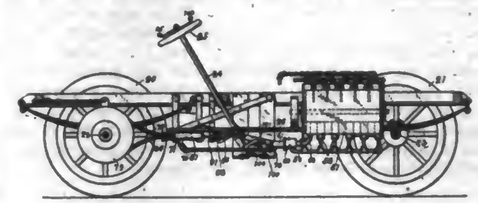
1. A tattoo marker for live stock consisting of a plurality of fine needles forming the outline of the character to be imprinted on the animal and assembled in substantial contact whereby a suitable quantity of fluid ink will be held thereon and carried therewith into the skin, upon the penetration of said needles therein, combined with a support or backing for said needles securing them in their said arrangement and limiting the penetration thereof to a depth sufficient only to penetrate through the epidermis and into the true skin.

2. A tattoo marker for live stock consisting of a plurality of fine sharp-pointed needles arranged according to the outline of the character to be imprinted on the animal and in substantial contact whereby a suitable quantity of fluid ink to make the desired mark will be held thereon



by the effect of capillary action, combined with a support for said needles securing them in their said arrangement, the organization being such that all the said needles can be pressed simultaneously and by hand into the animal's skin, thereby carrying the ink into the same.

976,226. HYDRAULIC TRANSMISSION FOR AUTOMOBILES. BENJAMIN H. STEVENSON, Hamler, Ohio. Filed Sept. 27, 1909. Serial No. 519,677.



1. In an automobile power transmission, a reversing valve, comprising a casing having a septum thereacross to divide the casing into front and rear chambers, the front chamber being provided with an inlet port and a pair of outlet ports lying on opposite sides of the inlet port, and said rear chamber being provided with an outlet port and pair of inlet ports lying on opposite sides of the outlet port, a piston valve in each chamber, and a valve stem connecting said pistons whereby the pistons may be reversed to lie on either side of the central ports of the respective chambers.

2. In an automobile power transmission, a reversing valve comprising a casing having a septum thereacross to divide the casing into front and rear chambers, the front chamber being provided with an inlet port and a pair of outlet ports lying on opposite sides of the inlet port, the rear chamber being provided with an outlet port and a pair of inlet ports lying on opposite sides of the outlet port, a piston valve in each chamber, a valve stem connecting said pistons whereby the pistons may be moved to lie on either side of the central ports of the respective chambers, a reversible motor, and pipes connecting the end ports of said chambers with said motor.

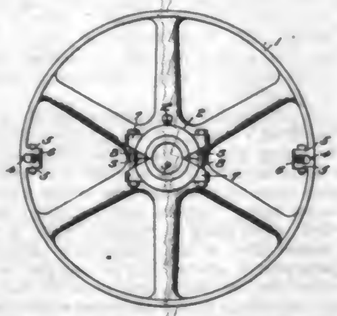
3. The combination with an automobile having a steering post; of a reversing valve, comprising a casing having a septum thereacross to divide the casing into front and rear chambers, the front chamber being provided with an inlet port disposed centrally of said chamber and a pair of outlet ports lying on opposite sides of said inlet port at the ends of said chamber, the rear chamber being provided with a centrally disposed outlet port and a pair of inlet ports lying on opposite sides of the outlet port at the ends of said rear chamber, a piston valve in each chamber, a valve stem connecting said pistons whereby the pistons may be reversed to lie on either side of the central ports of the respective chambers, means on the steering post operatively connected to said valve stem, a reversible motor, and pipes connecting the end ports of said valve chambers with said motor.

4. The combination with an automobile having a steering post; of a reversing valve, comprising a casing having a septum thereacross to divide the casing into front and

rear chambers, the front chamber being provided with an inlet port disposed centrally of said chamber and a pair of outlet ports lying on opposite sides of said inlet port at the ends of said chamber, the rear chamber being provided with a centrally disposed outlet port and a pair of inlet ports lying on opposite sides of the outlet port at the ends of said rear chamber, a piston-valve in each chamber, a valve stem connecting said pistons whereby the pistons may be reversed to lie on either side of the central ports of the respective chambers, means on the steering post operatively connected to said valve stem, a reversible motor, pipes connecting the end ports of said valve chambers with said motor, an engine, a pump actuated by said engine, and pipes leading from said pump to the central ports of said chambers.

5. The combination with an automobile having a steering post: of a reversing valve, comprising a casing having a septum thereacross to divide the casing into front and rear chambers, the front chamber being provided with an inlet port disposed centrally of said chamber and a pair of outlet ports lying on opposite sides of said inlet port at the ends of said chamber, the rear chamber being provided with a centrally disposed outlet port and a pair of inlet ports lying on opposite sides of the outlet port at the ends of said rear chamber, a piston valve in each chamber, a valve stem connecting said pistons whereby the pistons may be reversed to lie on either side of the central ports of the respective chambers, means on the steering post operatively connected to said valve stem, a reversible motor, pipes connecting the end ports of said valve chambers with said motor, an engine, a pump actuated by said engine, pipes leading from said pump to the central ports of said chambers, valve means in one of the last mentioned pipes, and means on said steering post operatively connected to said valve means.

976,227. SPLIT PULLEY. WILLIAM H. STOCKHAM, Birmingham, Ala., assignor to Schaefer Manufacturing Company, Birmingham, Ala., a Corporation of Alabama. Filed May 7, 1908. Serial No. 431,505.



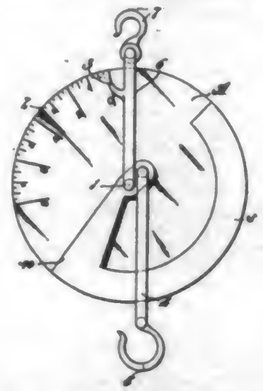
1. A bushing for split pulleys comprising an integral tubiform body portion having weakening grooves formed in the outside of the body and running substantially longitudinal of said body, each groove consisting of disalined adjoining portions, said bushing further having an opening leading from the juncture of the disalined portions of each groove to the interior.

2. A bushing for split pulleys comprising an integral tubiform body portion having weakening grooves formed on V-shaped lines along the exterior of said body and running substantially longitudinal of said body, said bushing further having openings leading from the apices of the V-shaped groove lines to the interior.

3. The combination with a split pulley having a cylindrical bored hub, and means to unite the pulley sections, of a bushing for said pulley comprising an integral tubiform body portion having weakening grooves formed on the outside of the body and running substantially longitudinal of said body, each groove consisting of disalined adjoining portions, said bushing further having an opening leading from the juncture of the disalined portions of each groove to the interior.

4. The combination with a split pulley having a cylindrical bored hub, and means to unite the pulley sections, of a bushing for said pulley comprising an integral tubiform body portion having longitudinally arranged weakening grooves formed on V-shaped lines along the exterior of said body, said bushing further having openings leading from the apices of the V-shaped grooves to the interior.

976,228. WEIGHING-MACHINE. PETER J. A. STOCKMANN, St. Louis, Mo. Filed Oct. 2, 1909. Serial No. 520,693.



1. In a weighing machine, a semi-ring-shaped weight provided at one of its ends with a radially disposed arm or extension which projects inwardly toward the center of the axis about which the weight turns, a pivot for said weight located adjacent the inner end of said arm, a load-supporting device eccentrically connected to said arm beyond said pivot, and means for indicating the movement of said weight so as to determine the weight of the load on said device.

2. In a weighing machine, a weight comprising an arm that is provided at its outer end with a laterally projecting ring-shaped portion, a pivot arranged adjacent the inner end of said arm, a load-supporting device connected to the extreme inner end of said arm or to the part of said arm that extends beyond said pivot, and means for showing the movement of said weight when a load is imposed on said device so as to indicate the weight of said load.

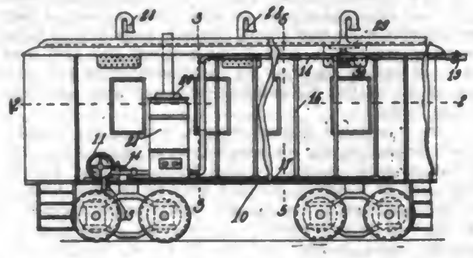
3. In a weighing machine, an oscillating member, a load-supporting device eccentrically connected to said member, and a semi-ring-shaped weight arranged adjacent the periphery of said member and in such a manner that portions thereof lie on opposite sides of the load-supporting device.

4. In a weighing machine, an oscillating member, a load-supporting device eccentrically connected to said member, a semi-ring-shaped weight connected to said member adjacent the outer edge thereof and provided with an extension that projects inwardly toward the pivot of said member, and coöperating stationary and movable means for indicating the movement of said oscillating member so as to indicate the weight of the load on the load-supporting device.

5. In a weighing machine, an oscillating member provided with scale graduations, a semi-circular-shaped weight connected to said member adjacent the periphery thereof and provided at one end with a radially-disposed arm that projects inwardly toward the axis of said member, a load-supporting device eccentrically connected to said oscillating member at such a point that portions of said weight lie on opposite sides of the vertical plane in which said load-supporting device lies, and a pointer coöperating with the scale graduations on said oscillating member for indicating the weight imposed on said load-supporting device.

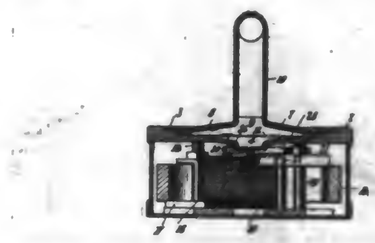
[Claim 6 not printed in the Gazette.]

976,229. VENTILATING SYSTEM. JOHN C. STROH, Drifton, Pa. Filed Apr. 23, 1909. Serial No. 491,764.



In a device of the kind described, a railroad car, and means to ventilate said car, said means being also adapted to maintain an equable pressure within the car without reference to the barometric pressure outside of said car, said means comprising an inlet duct, a plenum fan connected to said duct to force air into the car, a motor actuating said plenum fan, speed controlling means for said motor, an outlet duct leading from said car, a vacuum fan connected to said outlet duct to force air out of the car, a motor actuating said vacuum fan, and speed controlling means for the last mentioned motor, the last mentioned motor and its speed controlling means being independent of the first mentioned motor and speed controlling means whereby the plenum and vacuum fans may be run at different rates of speed.

976,230. TELEPHONE-RECEIVER. HARVE R. STUART, Newark, N. J. Filed June 29, 1909. Serial No. 505,013.



1. A telephone receiver comprising a generally cylindrical casing having an eccentric diaphragm, a pair of solenoids within said casing, an armature having a grooved portion and having polar extensions projecting into said solenoids, an iron post received in the grooved portion of said armature, a permanent magnet joined to said post and having polar extensions also projecting into said solenoids, and a connection from said armature to said diaphragm.

2. A telephone receiver comprising a generally cylindrical casing having an eccentric diaphragm, a pair of solenoids within said casing, an armature having a grooved portion and having polar extensions projecting into said solenoids, an iron post received in the grooved portion of said armature, a permanent magnet joined to said post and having polar extensions also projecting into said solenoids, and a connection from said armature to said diaphragm, said connection extending in a direction along its path of movement when the armature vibrates.

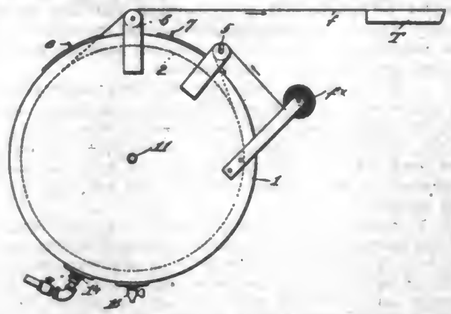
3. A telephone receiver comprising a pair of solenoids, an armature having polar extensions projecting into said solenoids and pivoted to tilt on an axis therebetween, a diaphragm, similarly shaped sound chambers on either side of said diaphragm, and a wire extending from said armature to said diaphragm through a hole in one of said chambers and in a direction along its path of movement when the armature vibrates.

4. In a telephone receiver, a substantially circular magnet having one bifurcated pole piece, polar extensions thereon, solenoids into which said extensions project, a movable armature also having polar extensions projecting into the solenoid, and a diaphragm connected to said armature.

5. In a telephone receiver, a substantially circular magnet having one bifurcated pole piece, polar extensions thereon, solenoids into which said extensions project, an armature also having polar extensions projecting into the solenoid, a diaphragm connected to said armature, and means for adjusting the polar extensions of said magnet in said solenoids.

[Claims 6 to 14 not printed in the Gazette.]

976,231. APPARATUS FOR TREATING COATED TEXTILE FABRIC. ABRAHAM SYDEMAN, Boston, and JAMES MEADE, Stoughton, Mass.; said Meade assignor to said Sydeman. Filed Apr. 11, 1906. Serial No. 311,052.



1. In apparatus of the class described, a casing apertured for the entrance and exit of the fabric to be treated, a rotatable drum within the casing and around which the fabric passes, with its coated face out-turned, and means to heat the drum to soften the coating.

2. In apparatus of the class described, a casing apertured to permit the entrance and exit of the fabric to be treated, a heating chamber within the casing and against which the fabric passes with its coated face exposed, and means to heat the chamber and thereby soften the coating during the passage of the fabric through the casing.

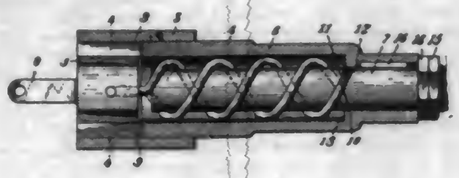
3. In apparatus of the class described, a casing apertured for the entrance and exit of the fabric to be treated, a rotatable, metallic heater within the casing and around which the fabric passes with its coated face exposed, means to internally heat said heater to thereby soften the coating during the passage of the fabric, and means to subject the coated face to the action of moist heat while the fabric is within the casing.

4. In apparatus of the class described, a casing apertured for the entrance and exit of the fabric to be treated, a metallic drum rotatably mounted in the casing and around which the fabric passes with its coated face exposed, and means to internally heat the drum to thereby soften the coating of the fabric as the latter passes around the drum.

5. In apparatus of the class described, a casing having adjustable openings for the entrance and exit of the fabric to be treated, a drum rotatably mounted in the casing and around which the fabric passes with its coated face exposed, means to heat the drum and thereby soften the coating of the fabric, and separate means to introduce moisture into the casing to act upon the exposed coated face of the fabric.

[Claim 6 to 12 not printed in the Gazette.]

976,232. ELASTIC SHAFT CONNECTION. FRANK TYSON, Canton, Ohio. Filed Nov. 15, 1909. Serial No. 528,062.



1. An elastic shaft connection comprising a driving member, a driven member, a head rotatable with one of said members and longitudinally slidable therealong and a helical spring operatively connecting said driving and driven members, one end of said spring being connected to said head on one member and the other end of said spring being connected to the other member.

2. An elastic shaft connection comprising a driving member, a driven member and a helical spring, said spring being connected to one of said members, and spring connecting means arranged upon said other member and adapted to fasten said other member and said spring to each other for rotation together, while permitting relative longitudinal movement as between said spring connecting means and said other member.

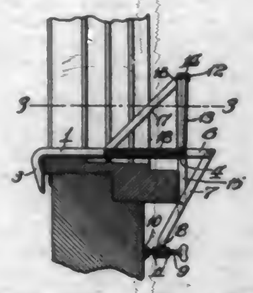
3. A device of the character described comprising a driving member, a head rotatable with said driving member but longitudinally slidable with reference thereto, a driven member, a helical spring operatively connecting said head with said driven member and a spring casing connected to one of said members and arranged about said spring.

4. A device of the character described comprising a driving member, a head rotatable with said driving member but longitudinally slidable with reference thereto, a driven member, a spring casing mounted on said driven member and rotatable therewith and a helical spring located within said spring casing and operatively connecting said head with said driven member.

5. A device of the character described comprising a driving member, a head rotatable therewith but longitudinally slidable with reference thereto, a driven member, a spring casing fixedly mounted on said driven member, said casing and said driving member rotatably connected together and a spring located within said spring casing and operatively connecting said head and said driven member.

[Claims 6 to 8 not printed in the Gazette.]

976,233. PORTABLE FOLDING WINDOW-SCAFFOLD. JULIUS VOLK, St. Louis, Mo. Filed June 6, 1910. Serial No. 565,337.

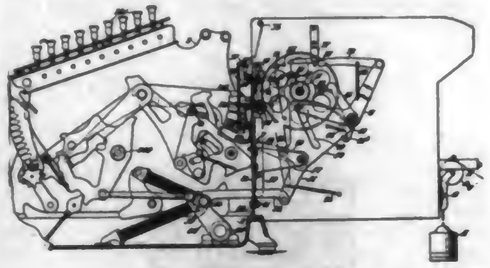


1. In a folding window scaffold, a hooked arms, a frame member pivotally connecting the arms, a back rest supported from said frame member, struts connecting said arms and back rest, supporting arms connected with the outer ends of the hooked arms for engagement with the outer face of the building wall and a seat hingedly connected with the frame member connecting the hooked arms.

2. In a folding portable window scaffold, a frame member a seat hingedly secured to said frame member, a back rest supported by said frame member, arms having hooks pivotally secured to said frame member and said back rest, and supporting arms for engagement with the outer face of the wall of the building connected with said arms having hooks.

3. In a portable folding window scaffold, an angular frame member having an integral ear at each of its ends, a seat hingedly secured to said frame member, angular arms each of which is provided with an integral hook at its inner end and at its opposite end pivotally secured to one of said ears, a back rest, supports connecting the angular frame member and the back rest, integral ears carried by the back rest adjacent its ends, supporting arms rigidly secured at an acute angle relative the arms having the hooks, screws carried by the lower ends of said supporting arms, a vertically disposed member connecting each supporting arm with the back rest, ears formed at the tops of said last mentioned supporting arms, bolts connecting the perforated ears of said uprights with the perforated ears on the back rest and struts connecting said uprights with the arms having the hooks, all of which parts are arranged in such manner as that the seat may be folded upwardly and the remaining parts swung to their pivots to occupy positions approximately paralleling each other.

976,234. ACCOUNTING-MACHINE. CHARLES WALES, Detroit, Mich., assignor to Burroughs Adding Machine Company, Detroit, Mich., a Corporation of Michigan. Filed Feb. 26, 1909. Serial No. 480,178.



1. An attachment for an accounting machine, the same comprising, in combination with printing and actuating mechanism of said machine, such actuating mechanism including an oscillating member; a runway for stacked envelops or the like, and feeding mechanism for presenting the envelops one at a time to said printing mechanism, said feeding mechanism being operatively connected to the said oscillating member of the actuating mechanism of said machine.

2. An attachment for an accounting machine, the same comprising, in combination with printing and actuating mechanism of said machine, said actuating mechanism including an oscillating member; a runway for stacked envelops or the like, and feeding mechanism for presenting the envelops one at a time to said printing mechanism, said feeding mechanism comprising a vibratory driving element coupled to the said oscillatory member of the actuating mechanism of said machine.

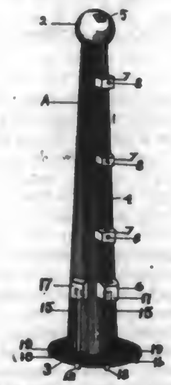
3. An attachment for an accounting machine, the same comprising, in combination with printing and actuating mechanism of said machine, such actuating mechanism including an oscillating member; a runway for stacked envelops or the like, and feeding mechanism for presenting the envelops one at a time to said printing mechanism, said feeding mechanism comprising a vibratory driving element coupled to the said oscillatory member of the actuating mechanism of said machine, feed rollers, and translating means whereby the latter will be turned in the same direction under both directions of movement of said vibratory element.

4. An attachment for an accounting machine, the same comprising, in combination with printing and actuating mechanism of said machine, such actuating mechanism including an oscillating member; a runway for stacked envelops or the like, and feeding mechanism for presenting the envelops one at a time to said printing mechanism, said feeding mechanism comprising a vibratory driving element coupled to the said oscillatory member of the actuating mechanism of said machine, a reciprocatory member for displacing the foremost envelop, feed rollers for receiving the displaced envelop, feed rollers for discharging the printed envelop, and connections for operating the reciprocating member and the feed rollers by said vibratory element, the latter in one direction of movement imparting limited movement to feed rollers to present the envelop to the printing mechanism, and in the reverse direction of movement rotating the feed rollers to discharge the printed envelop.

5. An attachment for an accounting machine, the same comprising, in combination with printing and actuating mechanism of said machine, such actuating mechanism including an oscillating member; a runway for stacked envelops or the like, and feeding mechanism for presenting the envelops one at a time to said printing mechanism, said feeding mechanism being operatively connected to the said oscillating member of the actuating mechanism of said machine and comprising feed rollers, means for introducing envelops or the like one at a time into the bite of said feed rollers, means for intermittently turning the latter to advance the envelop to the printing position, and means for discharging the envelops.

[Claims 6 to 38 not printed in the Gazette.]

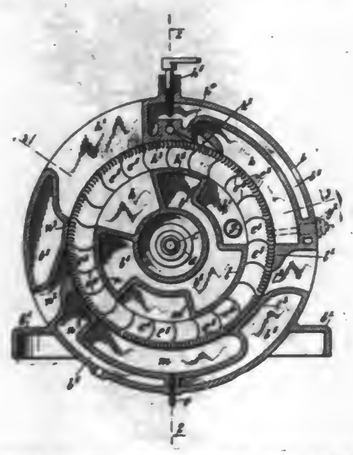
976,235. METALLIC FENCE-POST. GEORGE W. WEIL, Akron, Ohio. Filed May 10, 1909. Serial No. 495,110.



A metallic fence post of the kind described having an integral flange extending around the entire base thereof and longitudinal channels at intervals in its outer and lower portion extending through said flange and substantially box shaped sockets at the top of said channels, in combination with a flat bracing foot having a leg engaged in one of said channels and sockets, said foot extending laterally beneath said flange outside the same, and said flange having ribs on its bottom between which the side edges of said foot are engaged.

976,236. MOTOR. CARL W. WEISS, New York, N. Y. Filed Mar. 25, 1909. Serial No. 485,846.

1. A casing having a closed chamber with ports for the passage of the rotor and a forwardly directed nozzle, a rotor having successive chambers and driving blades and arranged to travel through said closed chamber and to close said ports, and means to heat the working fluid in the chambers of the rotor as they travel through said closed chamber, whereby the working fluid expanded from the chambers of the rotor into the closed chamber is directed through said nozzle into the chambers of the rotor and against the blades thereof.



2. A casing having a closed chamber with ports for the passage of the rotor and a forwardly directed nozzle, a rotor having successive chambers and driving blades and arranged to travel through said closed chamber and to close said ports, and means to heat the working fluid in the chambers of the rotor as they travel through said closed chamber, said heating means being located adjacent to the exit port of the closed chamber and said nozzle being located adjacent to the other end of the closed chamber, whereby the working fluid expanded from the chambers of the rotor into the closed chamber is directed through said nozzle into the chambers of the rotor and against the blades thereof.

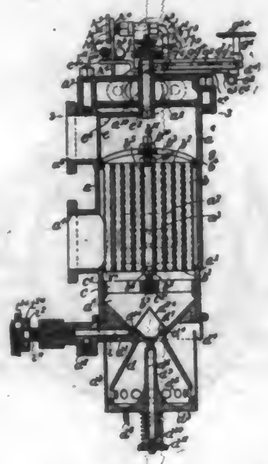
3. A casing having a closed chamber with ports for the passage of the rotor, a rotor having successive chambers and driving blades and arranged to travel through said closed chamber and to close said ports, and means to heat the working fluid in the chambers of the rotor as they pass through said closed chamber, said casing having a discharge opening beyond the exit port of the closed chamber through which opening the working fluid transferred at high temperature and pressure from the closed chamber in the chambers of the rotor may escape and in so escaping act upon the blades of the rotor.

4. A casing having a closed chamber with ports for the passage of the rotor and a forwardly directed nozzle, a rotor having successive chambers and driving blades arranged to travel through said closed chamber and to close said ports, and a burner communicating with the closed chamber to heat the working fluid in the chambers of the rotor as they travel through said closed chamber, whereby the working fluid expanded from the chambers of the rotor into the closed chamber is directed through said nozzle into the chambers of the rotor and against the blades thereof.

5. A casing having a closed chamber with ports for the passage of the rotor and a forwardly directed nozzle, a rotor having successive chambers and driving blades arranged to travel through said closed chamber and to close said ports, and a burner communicating with the closed chamber to heat the working fluid in the chambers of the rotor as they travel through said closed chamber, said burner being located adjacent to the exit port of the closed chamber and such nozzle being located adjacent to the other end thereof, whereby the working fluid expanded from the chambers of the rotor into the closed chamber is directed through said nozzle into the chambers of the rotor and against the blades thereof.

[Claims 6 to 16 not printed in the Gazette.]

976,237. CARBURETER AND VAPORIZER FOR INTERNAL-COMBUSTION ENGINES. ALFRED WESTMACOTT, St. Helens, Isle of Wight, England. Filed May 23, 1908. Serial No. 434,645.



1. In a carbureter and vaporizer, the combination with an air chamber having an air inlet and a valve seat surrounding said air inlet, said valve seat having an oil passage therein, and the walls of the air chamber diverging upwardly and downwardly on each side of the valve seat, a double coned valve having its lower coned part adapted to engage with the seat to close the air inlet and the oil passage, a needle valve controlling the oil passage, and a spring for normally holding the double coned valve on its seat.

2. In a carbureter and vaporizer, the combination with a casing, of tube plates therein, a group of tubes having their ends fastened to said plates, a mixing chamber with which one end of the tubes communicate so as to lead the mixture therefrom, a chamber surrounding the tubes and adapted to receive the heating medium, a rod having threaded ends passing through said plates, nuts on the rod bearing against the plates for holding the tubes therein, a spider below the lower tube plate with which the lower end of the rod engages, a dished upper spider having a central boss having a hole therein through which the rod passes and a ring-like periphery bearing upon the upper tube plate near its edge and impinging against the casing, and a nut screwing upon the rod and bearing upon the boss of the upper spider.

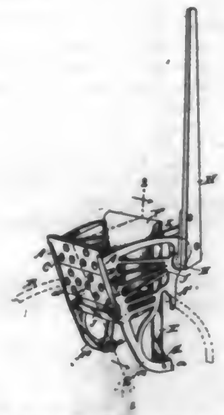
3. In a carbureter and vaporizer of the character referred to, a case, a rotary throttle valve carried by an arm fixed to a rod or spindle passing through the head of the case, a quick thread upon the upper end of said rod, a lever fixed to the valve rod and connected with the engine governor, auxiliary air inlets in the head of the case closed by inwardly opening valves provided with rods, a yoke having a central boss provided with an oval perforation surrounding a collar upon the thread of the throttle valve rod, said collar surrounding the thread and pins passing through the boss of the yoke and the collar and engaging the thread so that the yoke is capable of slightly rocking said yoke having arms perforated at their extremities and working on the rods of the auxiliary valves, regulating nuts on the threaded upper ends of the auxiliary air valves and springs coiled around said rods and seating upon the arms of the yoke and acting against the nuts of the rods substantially as herein shown and described and for the purpose stated.

4. A carbureter and vaporizer comprising a casing, means for supplying oil thereto, said casing having an outlet, a throttle valve for said outlet, an auxiliary air valve, yielding means for holding said auxiliary valve closed, means for supplying water to said auxiliary valve, a valve controlling said water supply means, and means controlled by the governor for simultaneously closing the throttle valve, actuating the oil and water valves and applying increased tension on the yielding means of the auxiliary valve.

5. A carbureter and vaporizer comprising a casing having an outlet, a throttle valve for closing said outlet, an auxiliary air supply valve, a spring for holding said valve closed, a water drip, a valve controlling the same, means for simultaneously actuating the throttle valve and water drip valve and applying increased tension on the spring of the auxiliary valve, said means being controlled by the governor.

[Claims 6 to 11 not printed in the Gazette.]

976,238. MOP-WRINGER. HUBERT C. WHITE, Fultonville, N. Y., and OLIN N. WARDWELL, Clayville, R. I., assignors to White Mop Wringer Company, Fultonville, N. Y., a Corporation of New York. Filed Oct. 21, 1909. Serial No. 523,873.

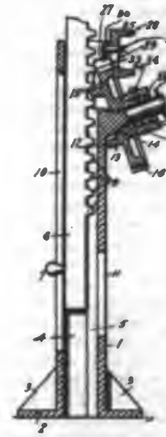


1. In a mop wringer, side frames provided with means for engaging the walls of a pail and with channels to receive the ends of a presser board secured within the same, the presser board, swinging arms pivoted to the side frames carrying a presser board supported in channels formed therein, studs formed integral with said swinging arms serving as pivots for a pair of actuating bell-crank arms, a wall partially surrounding each of said studs and forming part of the channel wall of each swinging arm, the actuating bell-crank arms having apertures to receive the studs, and means for operating said arms, substantially as described.

2. In a mop wringer, side frames provided with means for engaging the walls of a pail and with channels to receive the ends of a presser board secured within the same, swinging arms pivoted to the side frames provided with channels to support a presser board, the presser board, studs formed integral with said swinging arms serving as pivots for a pair of actuating bell-crank arms, a wall partially surrounding each of said studs and forming part of the channel wall of each swinging arm, the actuating bell-crank arms provided with hooked ends adapted to engage said studs, and means for operating said arms, substantially as described.

3. In a mop wringer, side frames provided with means for engaging the walls of a pail and channeled to receive the ends of a presser board lodged within the same, swinging arms pivoted to the side frames and channeled to support a presser board, studs formed integral with the swinging arms, a pair of actuating levers respectively pivoted to said studs, the presser board secured in channels of the swinging arms and notched for the reception and retention of said actuating levers, and means for operating said levers, substantially as described.

976,239. JACK. LE ROY WILLOUR, Ashland, Ohio, assignor to The Ashland Manufacturing Company, Ashland, Ohio, a Corporation of Ohio. Filed Apr. 30, 1910. Serial No. 558,557.



1. In a lifting jack, a standard, a rack-bar having slidable engagement therewith, a stud-shaft connected with said standard, a disk provided with an involute thread rotatably and slidably mounted upon said stud-shaft, so that the involute thread may be moved into and out of engagement with said rack-bar, means to positively limit the movement of said disk longitudinally of said stud-shaft in a direction away from said rack-bar, and means to rotate said disk.

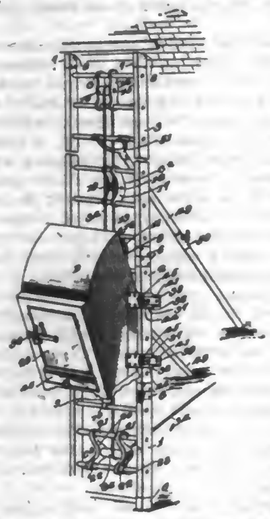
2. In a lifting jack, a standard, a rack-bar having slidable engagement therewith, a stud-shaft connected with said standard, a disk provided with an involute thread and rotatably mounted upon said stud-shaft, said disk being capable of being moved longitudinally of said stud-shaft so that its involute thread may be disengaged from the teeth of the rack-bar, means to rotate said disk, means to releasably hold said disk in its position adjacent the rack-bar, and means to positively limit the movement of said disk away from said rack-bar.

976,240. LIFE-SAVING APPARATUS. JOHN L. WINKLER, Dayton, Ohio. Filed Jan. 27, 1909. Serial No. 474,452.

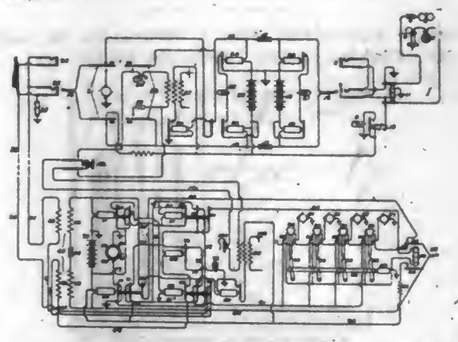
1. A life-saving apparatus, comprising an inclined track provided with cross rods, a carriage formed with an inclined bottom adapted to ride upon the track and with a vertically extending open rear side, a plate secured to one rear side edge of the carriage and extending vertically over the adjacent stile of the track, and a latch mounted to move vertically on the plate at an acute angle to the plane of the track, the latch being provided with a laterally extending lower end projecting inwardly over the cross rods of the track and formed with a downwardly facing hooked extremity adapted to engage any one of the cross rods, as and for the purpose set forth.

2. In life saving apparatus, the combination of a track, a carriage mounted to ride on said track, means for raising and lowering the carriage on the track, hangers secured to the sides of the carriage and extending along the outer sides of the track, said hangers being formed with inturned flanges and above said flanges with keepers, brackets adapted to be slipped up behind the flanges, latches carried by said brackets and designed to engage said keepers and detachably hold the brackets to the hangers, and rollers carried by said brackets and engaging the rear side of the track.

3. The combination of a track provided with cross rods, a carriage mounted to ride on said track, a hoisting cable connected to said carriage, and means for guiding said cable, said means including a roller frame embodying side bars formed with hooked upper ends designed to take over one of said cross rods and with recessed ends designed to engage a lower cross rod and latches secured to the side bars to engage said lower cross rod, and a roller journaled between said side bars.



976,241. TELEPHONE TRUNKING SYSTEM. CHARLES S. WINSTON, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 17, 1906. Serial No. 343,907.



1. In a telephone system, the combination with a trunk line, of a cord circuit adapted to be connected with one end thereof, and a connecting circuit permanently connected with the other end thereof, a manually operated ringing key associated with the incoming end of the trunk, a catch for maintaining said key actuated, a source of direct current, an electromagnet for said key, a relay permanently in bridge of the talking strands of said connecting circuit, and means controlled by said relay in response to current over a called line for directing current from said source to energize said magnet for releasing said key, substantially as described.

2. In a telephone system, the combination with a trunk line, of a cord circuit adapted to be connected with one end thereof, and a connecting circuit permanently connected with the other end thereof, a source of steady current associated with the cord circuit, relays associated with the incoming end of the trunk line, and means operative upon the connection of the cord circuit with the trunk for actuating said relays by current from said direct current source to place said connecting circuit in

condition to have ringing current supplied thereto, and means operative upon the connection of the trunk with the line for accomplishing the application of the ringing current to the incoming end of the trunk, substantially as described.

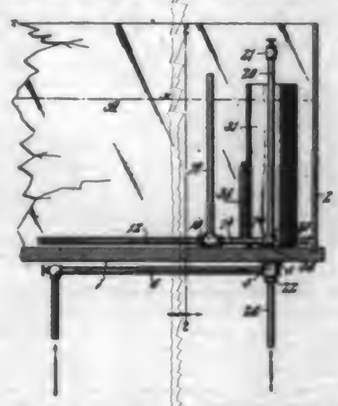
3. In a telephone system, the combination with a trunk line, of a cord circuit adapted to be connected with one end thereof, and a connecting circuit permanently connected with the other end thereof, a source of direct current associated with the cord circuit, an interrupter associated with the connecting circuit, a relay associated with the connecting circuit and adapted when actuated to place ringing current upon the called subscriber's line, means operative upon the connection of the cord with the trunk to direct current from said source alternately through said interrupter and through said relay, whereby intermittent ringing will be secured upon the called subscriber's line, substantially as described.

4. In a telephone system, the combination with a trunk line, of a cord circuit adapted to be connected with one end thereof, and a connecting circuit permanently connected with the other end thereof, a source of current associated with the cord circuit, an interrupter associated with the connecting circuit, a relay associated with the connecting circuit, means operative upon the connection of the cord with the trunk for directing current from said source through said relay, and means for shunting the current from said relay by the rotation of said interrupter, substantially as described.

5. In a telephone system, the combination with a telephone trunk circuit, a source of ringing current associated therewith, a periodically actuated relay for connecting said source with the talking strands of said trunk circuit, means for primarily controlling said relay from the outgoing end of the trunk, and means depending upon the condition of the called subscriber's telephone for automatically rendering said relay inoperative, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

976,242. AQUARIUM. JOHN F. WOHLFAHRT, St. Louis, Mo. Filed Dec. 2, 1909. Serial No. 530,996.

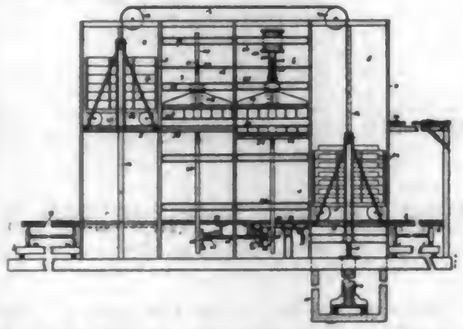


1. The combination with a tank adapted to hold water, of a water-supply pipe leading thereinto, a water-discharge pipe leading therefrom, the entrance-end of said discharge-pipe being within, and above the bottom of, said tank and the discharge-end of said discharge-pipe being below the bottom of said tank, a casing surrounding said discharge-pipe within said tank, said casing being provided with a water-inlet-opening below the plane of said entrance-end of said discharge-pipe and with an air-inlet-opening between said water-inlet-opening and the plane of the said entrance-end of said discharge-pipe, and an air-supply-pipe communicating with said air-inlet-opening and swingingly-adjustable relative to said casing; substantially as described.

2. The combination with a tank adapted to hold water, of a water-supply pipe leading thereinto, a water-discharge-pipe leading therefrom, the entrance-end of said discharge-pipe being within, and above the bottom of, said tank and the discharge-end of said discharge-pipe being below the bottom of said tank, a casing surrounding said discharge-pipe within said tank, said casing being provided with a water-inlet opening below the plane of the entrance-end of said discharge pipe and with an air-inlet opening between said water-inlet-opening and the plane of said entrance-end of said discharge-pipe, and a water-straining member within said casing adapted to strain the water entering said entrance-end of said discharge-pipe; substantially as described.

3. The combination with a tank adapted to hold water, of a water-supply pipe leading thereinto, a water-discharge-pipe leading therefrom, the entrance-end of said discharge-pipe being within, and above the bottom of, said tank and the discharge-end of said discharge-pipe being below the bottom of said tank, a casing surrounding said discharge-pipe within said tank, said casing being provided with a water-inlet opening below the plane of the entrance-end of said discharge-pipe and with an air-inlet opening between said water-inlet opening and the plane of said entrance-end of said discharge-pipe, an air-supply pipe communicating with said air-inlet opening and swingingly adjustable relative to said casing, and a water-straining member arranged within said casing and around said discharge-pipe; substantially as described.

976,243. BRICK-EJECTING MECHANISM. FRANK ZAGELMEYER, Bay City, Mich. Filed July 23, 1906. Serial No. 327,394.



1. A brick ejecting machine comprising a plunger, a stationary mold support located directly beneath the plunger, and adapted to receive a plurality of independent molds, the plunger movable into and out of the molds to eject their contents and a yielding support for the contents of the mold during its ejection.

2. A brick ejecting machine comprising a plunger, a stationary mold support located directly beneath the plunger, and adapted to temporarily sustain a plurality of independent filled molds, the plunger movable into and out of the molds to eject their contents and a yielding support for the mold contents during its ejection from the mold.

3. A brick ejecting mechanism comprising a plunger, a stationary mold support located directly beneath the plunger, and adapted to receive and sustain independent molds, the plunger movable into and out of the molds to eject their contents, a yielding support in constant engagement with the mold contents during its ejection, and means for releasably locking the yielding support stationary at a point removed from the mold support to permit the removal of the mold contents.

4. A brick ejecting mechanism comprising a stationary support for a mold, a plunger movable into and out of the mold, to eject its contents, a yielding support for the mold contents during its ejection, means for automatically moving the support in one direction, and means for releasably locking the support at one limit of its movement against the tendency of the first named means, to permit the removal of the mold contents.

5. A brick ejecting mechanism comprising a stationary support for a mold, a plunger movable into and out of the mold to eject its contents, a yielding support for the mold contents during its ejection, means normally tending to hold the support against the bottom face of the mold during the ejection of the mold contents and means for releasably locking the support at a distance from the lower face of the mold, to permit the mold contents to be removed from the support.

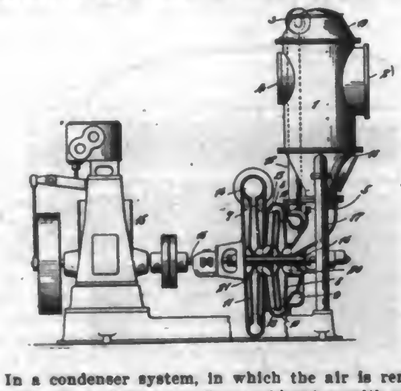
[Claims 6 to 50 not printed in the Gazette.]

976,244. HYGIENIC SIPHON. ALBERT J. ACKERMAN, New York, N. Y., assignor to Charles de Lukacsevics, New York, N. Y. Filed Nov. 9, 1908. Serial No. 461,705.



A valve for siphon heads, comprising a solid portion in form resembling a double cone and a flexible, compressible cover therefor, the solid portion being provided with slots in lines corresponding to the slope of the cone on one side and the cover being provided with coöperating lugs for entering the slots whereby the angular displacement of the cover is prevented.

976,245. CONDENSER SYSTEM. LOUIS R. ALBERGER, Greenwich, Conn., assignor to Alberger Condenser Company, New York, N. Y., a Corporation of New York. Filed Nov. 6, 1908. Serial No. 461,374.



1. In a condenser system, in which the air is removed separately from the water, the combination with a condenser, of a centrifugal or turbine pump for withdrawing water from the condenser, means for increasing the velocity of the flow before the final discharge pumping takes place, means for commingling the air direct from the condenser with the accelerated water and compressing said air, and pumping means for discharging the mixtute of air and water to the atmosephere.

2. In a condenser system, in which the air is removed separately from the water, the combination with a condenser, of a centrifugal or turbine pump for withdrawing water from the condenser, means for increasing the velocity of the flow before the final discharge pumping takes place, and means for commingling the air at practically condenser pressure with the accelerated water and compressing said air, and pumping means for discharging the mixture of air and water to the atmosphere.

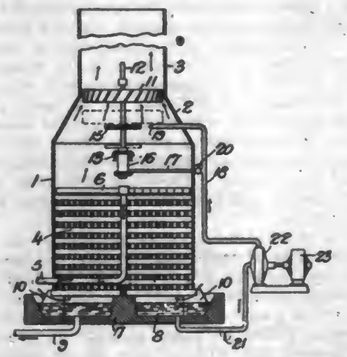
3. In a condenser system, in which the water is removed separately from the air, the combination with a condenser, of a centrifugal or turbine removal pump for the condensing water and the water of condensation, said pump having a plurality of impellers, that which first acts on the water causing the latter to increase the velocity of its flow, and that which acts finally on the water pumping the combined air and water, and means whereby air is withdrawn from the condenser by the flowing water between the impellers.

4. In a condenser system, in which the water is removed separately from the air, the combination with a condenser, of a centrifugal or turbine pump for removing the water from the condenser, said pump having two or more impellers, one delivering to the other, and means whereby air is withdrawn from the condenser by the flowing water between the impellers to be commingled therewith and compressed for the purpose of reducing its volume and allowing it to be discharged to the atmosphere.

5. In a condenser system, in which the water is removed separately from the air, the combination with a condenser, of a centrifugal or turbine removal pump for the condensing water and the water of condensation, said pump having a plurality of impellers, that which first acts on the water causing the latter to increase the velocity of its flow, and means whereby the accelerated flow of water inductively withdraws air from the condenser and commingles it with the water between the impellers, so that said air may be compressed and the combined air and water may be pumped by the other impeller or impellers.

[Claims 6 to 15 not printed in the Gazette.]

976,246. COOLING-TOWER. LOUIS R. ALBERGER, Greenwich, Conn., assignor to Alberger Condenser Company, New York, N. Y., a Corporation of New York. Filed Oct. 1, 1909. Serial No. 520,580.



1. In a cooling tower, the combination with a shell, of a stack for producing a natural draft, a fan for drawing air through the shell, a fan-actuating water motor, and fluid-pressure means for actuating the motor and for placing the fan in operative position.

2. In a cooling tower, the combination with a stack susceptible of producing at times a natural draft, of a fan for drawing the air through the tower, and a hyoraulic pump for actuating the fan and for placing it in an operative position.

3. In a cooling tower, the combination with a shell and a filling therein, of a mechanical agency for creating a draft, said agency being transferable from an active po

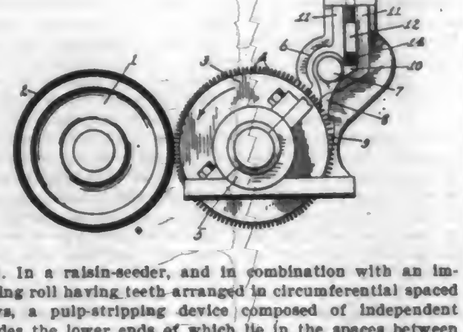
tion to an idle position, in which latter a natural draft is permitted, a motor for actuating said agency when in its active position, and means for driving said motor and for placing the draft-creating agent in its operative position.

4. In a cooling tower, the combination with a shell and a filling therein, of a natural draft stack, a fan capable of drawing air through the shell, a fan-actuating water-motor, and a hydraulic pump for driving the motor and placing the fan in position to create an artificial draft.

5. In a cooling tower, the combination with a shell, of a stack for producing a natural draft, a fan for drawing air through the shell, a fan-actuating water-motor, and means for placing the motor and fan in active position and removing them therefrom.

[Claims 6 to 9 not printed in the Gazette.]

976,247. RAISIN-SEEDER. WILLIAM C. ANDERSON, San Jose, Cal. Filed Jan. 17, 1910. Serial No. 538,390.



1. In a raisin-seeder, and in combination with an impaling roll having teeth arranged in circumferential spaced rows, a pulp-stripping device composed of independent blades the lower ends of which lie in the spaces between the rows of teeth of the impaling roll, each of said blades having a shoulder on the back of its upper portion, a fixed rod upon which each of said blades is independently pivoted at its upper end, a cushion bar of resilient material common to and bearing upon the shoulders of all the blades of the stripper, and means for adjusting the pressure of said cushion bar upon said shoulders.

2. In a raisin-seeder, and in combination with an impaling roll having teeth arranged in circumferential spaced rows, a pulp-stripping device composed of independent blades the lower ends of which lie in the spaces between the rows of teeth of the impaling roll, each of said blades having a shoulder on the back of its upper portion, a fixed rod upon which each of said blades is independently pivoted at its upper end, a cushion bar of resilient material common to and bearing upon the shoulders of all the blades of the stripper, a vertically adjustable bar carrying said cushion bar, and means for adjusting said cushion-carrying bar.

3. In a raisin-seeder, the combination of an impaling roll having teeth arranged in circumferential spaced rows; suitable end boxes in which said roll is journaled, said boxes having extensions in which are formed other boxes, and a vertical guide; a pulp stripping device composed of independent blades the lower ends of which lie in the spaces between the rows of teeth of the impaling roll, each of said blades having a shoulder on the back of its upper portion; a fixed rod mounted in the boxes of the extensions of the roll boxes, upon which rod each of said stripper blades is independently pivoted at its upper end; a vertically adjustable bar mounted in the guide of said box extensions; means for adjusting said bar; and a cushion carried by the lower edge of said bar and bearing on the shoulders of all the stripper blades.

4. In a raisin-seeder, and in combination with an impaling roll having teeth arranged in circumferential spaced rows, a pulp-stripping device composed of independent blades the lower ends of which lie in the spaces between the rows of teeth of the impaling roll, each of said blades having a shoulder on the back of its upper portion, a fixed rod upon which each of said blades is independently pivoted at its upper end, means acting against the shoulders of said blades for holding each blade with independent resilient pressure in its position in the spaces between the rows of teeth of the impaling roll and an adjusting device for said resilient pressure means.

5. In a raisin-seeder, and in combination with an impaling roll having teeth arranged in circumferential spaced rows, a pulp-stripping device composed of independent blades the lower ends of which lie in the spaces between the rows of teeth of the impaling roll, a fixed rod upon which each of said blades is independently pivoted at its upper end, and a cushion bar of resilient material, common to all said blades, for holding each blade independently in its position in the spaces between the rows of teeth.

976,248. INCANDESCENT LAMP. GEORGE F. ATWOOD, Newark, N. J., assignor to Westinghouse Lamp Company, a Corporation of Pennsylvania. Filed Jan. 3, 1910. Serial No. 536,090.



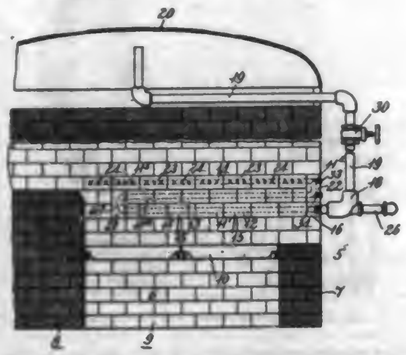
1. An incandescent lamp comprising filament supports, and a filament having its end portions coiled around the supports and its extremities united thereto.

2. An incandescent lamp comprising filament supports, and a filament having its end portions coiled around the supports and its extremities fused thereto.

3. An incandescent lamp comprising filament supports, and a filament the end portions of which embrace the end portions of the supports, and the extremities of which are united to the supports.

4. An incandescent lamp comprising filament supports, and a plurality of parallel filaments the end portions of which embrace the end portions of the supports and the extremities of which are united to the supports.

976,249. FURNACE. JOHN B. BARTICK, Boston, Mass. Filed June 24, 1909. Serial No. 503,994.

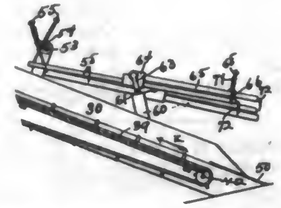


1. A furnace comprising in its construction a side wall, a portion of which wall adjacent to and above the grate of said furnace is formed by a plurality of courses of bricks, each of said bricks in said courses having an air passage extending therethrough and connecting with the passage in a brick adjacent thereto, said air passages forming, as a whole, a tortuous air flue extending longitudinally of said courses of bricks, and a brick with a passage extending longitudinally therethrough and connecting at its opposite ends, respectively, with said passages in said courses of bricks, said brick having also two clean-out passages extending transversely thereof in alinement, respectively, with said air passages in said courses of bricks, and plugs to close said clean-out passages.

2. A furnace comprising in its construction a side wall, a portion of which wall adjacent to and above the grate of said furnace is formed by a plurality of bricks, each of said bricks having an air passage extending therethrough and connecting with the passage in a brick adjacent thereto, said air passages forming, as a whole, an air flue, and a series of sleeves in said air flue each sleeve connecting two adjacent bricks together.

3. A furnace comprising in its construction a side wall, a portion of which wall adjacent to and above the grate of said furnace is formed by a plurality of bricks, each of said bricks having an air passage extending therethrough and connecting with the passage in a brick adjacent thereto, said air passages forming, as a whole, an air flue, and sleeves in said air flue connecting adjacent bricks together, each having a flange projecting outwardly therefrom between said adjacent bricks.

976,250. WALKING-RAKE. WILLIAM F. BOHLING, Arcadia, and JULIUS C. BOHLING, Glidden, Iowa. Original application filed Mar. 8, 1909, Serial No. 482,195. Divided and this application filed Nov. 8, 1909. Serial No. 527,321.



1. In a loading machine, an elevator frame, a conveyer therein, a rod extending transversely of and above said conveyer, arms pivoted at their rear ends side by side to said rod and above said conveyer, said arms extending lengthwise of said conveyer, a multiple crank shaft mounted transversely of said conveyer, bearings loosely mounted on the cranks of said shaft, said arms extending through said bearings beneath said cranks, whereby the crank shaft is adapted to oscillate said arms, and gathering devices on the forward ends of said arms.

2. In a loading machine, a transverse rod, bearings mounted loosely on said rod and projecting rearwardly therefrom, rods extending upwardly through said bearings at the rear of the transverse rod, yielding pressure devices acting on the latter rods and the bearings, arms pivoted at their rear ends to the lower ends of said rods, cranks acting on intermediate portions of said arms, and gathering devices fixed to the forward ends of said arms.

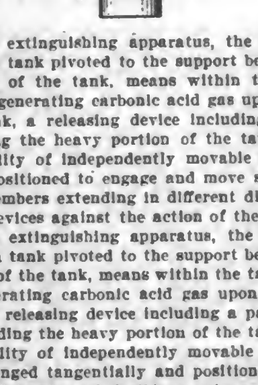
3. In a loading machine, a rod, bearings thereon, hangers in said bearings at the rear of said rod, yielding pressure devices on said hangers above said bearings, arms pivoted to said hangers below said bearings, gathering devices on the opposite ends of said arms, and a crank shaft acting on intermediate portions of and adapted to oscillate said arms.

4. In a loading machine, a hanger mounted for oscillation, a crank shaft, a bearing on said crank shaft, an arm pivoted at one end to said hanger and extending through said bearing, an arm parallel with the first arm and pivoted to said bearing, and gathering devices on the forward ends of said arms.

5. In a loading machine, a hanger mounted for oscillation, a crank shaft, a bearing on said crank shaft, an arm pivoted at one end to said hanger and extending through said bearing, an arm parallel to the first arm and pivoted to said bearing, and gathering devices on the forward ends of said arms, together with resilient yokes connecting said arms.

[Claim 6 not printed in the Gazette.]

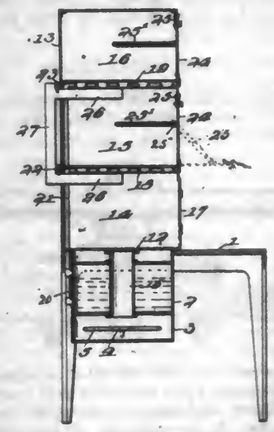
976,251. FIRE-EXTINGUISHING APPARATUS. HORACE BUDD, Philadelphia, Pa. Filed Nov. 2, 1908. Serial No. 460,580.



1. In a fire extinguishing apparatus, the combination of a support, a tank pivoted to the support below the center of gravity of the tank, means within the tank for automatically generating carbonic acid gas upon the turning of the tank, a releasing device including a movable member holding the heavy portion of the tank above its pivot, a plurality of independently movable spring actuated devices positioned to engage and move said member, and fusible members extending in different directions and holding said devices against the action of their springs.

2. In a fire extinguishing apparatus, the combination of a support, a tank pivoted to the support below the center of gravity of the tank, means within the tank for automatically generating carbonic acid gas upon the turning of the tank, a releasing device including a partially rotatable head holding the heavy portion of the tank above its pivot, a plurality of independently movable spring actuated pins arranged tangentially and positioned to engage and move said head, and fusible members extending in different directions and holding said pins against the actions of their springs.

976,252. COOKING DEVICE. FANNIE M. DELAIH, Chicago, Ill. Filed Oct. 12, 1908, Serial No. 457,385. Renewed Feb. 24, 1910. Serial No. 545,753.



In a device of the class described, the combination wi a casing having a plurality of super-imposed compar ments, each having an individual top and bottom, the bo toms of said compartments being separated from the to of the adjacent compartments, a boiler supported belo

the lowermost compartment, a burner arranged below the boiler, means permitting access of the heat from the burner to the lower compartment, a series of tubes arranged in the spaces between the tops and bottoms of the respective compartments, supply and return pipes connecting the boiler and the tubes, means to regulate the supply of heat to the separate compartments and a door for each compartment.

976,253. HAMMOCK-HOOK. FRANCIS R. ELDRIDGE, New York, N. Y. Filed Mar. 12, 1910. Serial No. 548,808.



1. A hammock hook comprising a wire member having one of its ends inwardly turned in a lateral direction and its other end inwardly turned in a vertical direction to provide hooks, with one of the hooks having an eye arranged to receive one of the suspending cords of the hammock passing through the other hook.

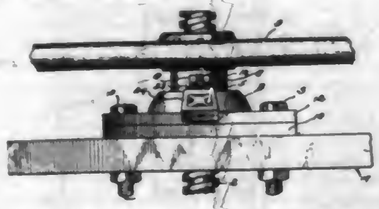
2. The combination of a hammock having an opening at the end, a member having a hook at each end, with one of the hooks engaged within the opening of the hammock, and a suspending cord secured to the hook engaged in the hammock and passing through the said hook.

3. A hammock hook comprising a member having inwardly-turned hooks at its opposite ends arranged at approximately right-angles to each other, with one of the hooks provided with an eye arranged to receive one of the hammock suspending cords passing through the other hook.

4. A hammock hook comprising a member having inwardly-turned hooks at its opposite ends, with the hooks arranged at approximately right-angles to each other and one of the hooks having an eyelet at the point laterally offset to lie approximately over the longitudinal center of the other hook.

5. A hammock hook comprising a wire member having hooks at its opposite ends arranged in planes at approximately right-angles to each other, one of the hooks having an eyelet arranged to receive one of the suspending cords of the hammock passing through the other hook, and the said other hook having the outer portion slightly turned toward the eyelet.

976,254. HEAD-GATE LOCK. DAVID J. ELLIOTT and WILLIAM W. REILLY, Monte Vista, Colo. Filed July 6, 1910. Serial No. 570,677.



1. A device of the class described comprising a housing composed of two parts separable in a horizontal plane, a rotary element extending therethrough and provided with an annular flange rotatable between the two parts of the housing, said flange serving to hold the element against longitudinal movement, a seat in the periphery of the flange, a locking member disposed in the housing and arranged to engage the said seat, and means for holding the member in locking position.

2. A device of the class described comprising a stationary member, a rotary element extending therethrough and having an annular flange provided with a plurality of spaced notches, a locking element arranged to engage in any one of the said notches for preventing turning of the rotary element, and a key-released device for holding the locking element in operative position.

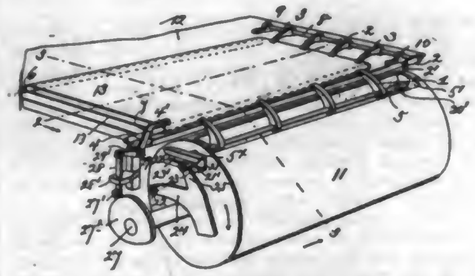
3. The combination of a housing consisting of two sections having alining openings, an element extending through the openings, a member surrounding the element and rotatably mounted in the housing, a key extending into the housing and engaging said member and insertible in a direction parallel with the axis of the said element, and a locking device for holding the key in the said bearing.

4. The combination of a housing composed of plates separably connected and having openings, the openings of one plate being larger than the openings of the other, a rotatable member in the plate having a larger opening, said member having a peripheral flange provided with radial notches and the flange serving to prevent axial movement of the member in the housing, an element passing through the member and operatively connected therewith, a key extending parallel with the said element at one side of the member and extending into the housing with one end engaged in one of the said notches, and a locking device for holding the key in place.

5. The combination of a housing having an opening and provided with a slot at one side of the opening, a rotatable member mounted in the opening and having a plurality of key receiving seats disposed in a circle to present any seat to be in registry with the said slot, a key disposed in the slot and engageable in any one of the said seats, an element passing through the member and operatively connected therewith, and means for retaining the key in place.

[Claims 6 and 7 not printed in the Gazette.]

976,255. MACHINE FOR FEEDING BAGS TO PRINTING OR OTHER MACHINES. LOUIS J. ELSAS, Atlanta, Ga. Filed Aug. 31, 1909. Serial No. 515,486.



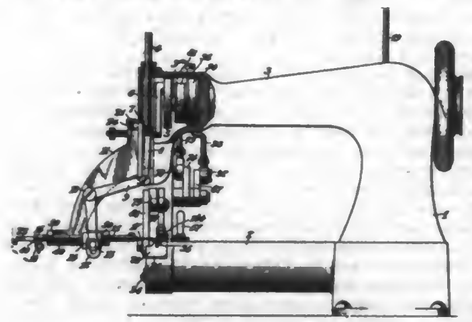
1. The combination with the rotatable cylinder of a printing press and feed grippers mounted thereon, of turning-sticks for delivering a bag into a position adjacent said cylinder and grippers, and means operating to temporarily engage and hold the bag in said position while the turning-sticks are being withdrawn and to release said bag when the grippers of the press have engaged therewith preparatory to carrying the bag around with said cylinder.

2. The combination with the rotatable cylinder of a printing press and feed grippers mounted thereon, of turning-sticks for delivering a bag into a position adjacent said cylinder and grippers, oscillatable grippers operating to temporarily engage and hold the bag in said position while the turning-sticks are being withdrawn and to release said bag when the grippers of the press have engaged therewith preparatory to carrying the bag around with said cylinder.

3. The combination with the rotatable cylinder of a printing press and feed grippers mounted thereon, of turning-sticks operating to deliver a bag into a position adjacent said cylinder and prippers, and grippers arranged to engage the bottom edge of a bag and one of its lateral edges and operating to temporarily engage and hold the bag in said position while the turning-sticks are being withdrawn and to release said bag when the grippers of the press have engaged therewith preparatory to carrying the bag around with said cylinder.

4. The combination with the rotatable cylinder of a printing press, and an oscillatable shaft mounted thereon, and feed grippers mounted on said shaft, of turning-sticks operating to deliver a bag into a position adjacent said cylinder and feed grippers, an oscillatable shaft arranged to occupy a position at an angle to the feed gripper shaft, grippers carried by the latter shaft and operating to temporarily engage and hold the bottom edge of a bag when the latter has been brought adjacent to the feed grippers, and while the turning-sticks are being withdrawn, and to release the bag when the feed grippers have engaged therewith, and means for intermittently operating the gripper shafts for the purposes set forth.

976,256. BLINDSTITCH SEWING-MACHINE. HENRY H. FEFEL and JOHN E. FEFEL, New York, N. Y., assignors to Wm. D. Elger, New York, N. Y. Filed May 17, 1904. Serial No. 208,350.



1. A blind-stitch sewing machine comprising a work-supporting horn and a hollow overhanging arm; a feeding mechanism for traversing the work transversely over the horn; stitch-forming mechanism, carried by the arm, including a needle reciprocating lengthwise of the horn and a looper reciprocating transversely and oscillating longitudinally of the horn; a driving-shaft journaled in the hollow arm; eccentrics carried by the forward end of said shaft within the arm; and connecting means from the eccentrics to, and for actuating, the stitch-forming mechanism.

2. A blind-stitch sewing machine comprising a work-supporting horn and a hollow overhanging arm; means for feeding the work transversely over the horn; stitch-forming mechanism, carried by the arm, including a needle reciprocating lengthwise of the horn and a looper reciprocating transversely and oscillating longitudinally of the horn; means for forming the work into a ridge or fold at the stitch-making point; a driving-shaft journaled in the hollow arm; eccentrics carried by the forward end of said shaft within the arm; and connecting means from the eccentrics to, and for actuating, the stitch-forming mechanism.

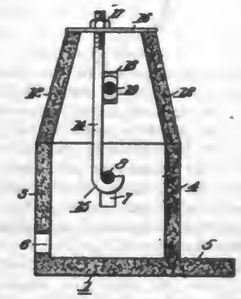
3. A blind-stitch sewing machine comprising a work-supporting horn and a hollow overhanging arm; means for feeding the work transversely over the horn; stitch-forming mechanism, carried by the arm, including a needle reciprocating at an angle to the line of feed and a looper reciprocating transversely and oscillating longitudinally of the horn; means carried by the horn for forming the work into a ridge or fold at the stitch-making point, a driving-shaft journaled in the hollow arm; eccentrics carried by the forward end of said shaft within the arm; and connecting means from the eccentrics to, and for actuating, the stitch-forming mechanism.

4. A blind-stitch sewing machine comprising a rigi held work-support; a feeding mechanism; a yielding rid forming device carried by the work-support, and the lat having its upper surface curved in the direction of fe and stitch-forming mechanism including a looper, s ported so as to reciprocate substantially parallel to line of feed, and a needle, supported to reciprocate in right-line lengthwise of the support; means for recip cating said looper parallel with the ridge-forming vice and rocking the same over the ridge-forming dev and the work-support; and means for actuating the nee

5. A blind-stitch sewing machine comprising stit forming and feeding mechanisms; a work-support which the feeding mechanism works and an overhang arm by which the stitch-forming mechanism is supporte the stitch-forming mechanism comprising a longitudina reciprocating and rocking looper disposed transversely the work-support, and a needle reciprocating longi dinally of said support; and means for actuating looper and needle, the looper-actuating mechanism cluding two rotating eccentrics and connecting mec nisms between the same and the looper.

[Claims 6 to 43 not printed in the Gazette.]

976,257. WATER CRIB OR CAISSON. FRIEDRICH FENSKY, Leavenworth, Kans. Filed Oct. 29, 1909. rial No. 525,346.



1. In a device of the character described, a crib caisson member, composed of a rectangular base s mounted by parallel end walls and vertical lateral wa the end walls and one side wall constructed flush w the edge of the base and the other side wall set in, for ing a projecting base portion; the said end walls p vided with central openings, and a rod adapted there of sufficient length to project beyond said walls, substa tially as described.

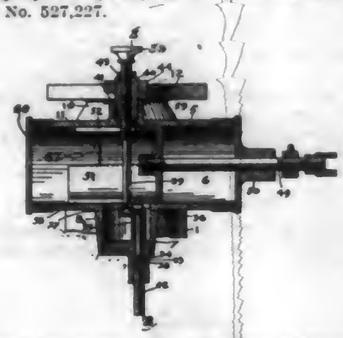
2. In a device of the character described, a crib caisson member, composed of the upper skeleton str ture adaptable to vertical adjustment on the lateral a end walls of the rectangular base portion and havi lateral inclined walls and parallel end walls provid with central openings, a rod threaded at its ends a adapted to openings in the base portion and extendi longitudinally therethrough; a rod curved at one e and threaded at the other and adapted to vertical a justment to the said longitudinal rod and a transve plate adapted to retain said rod in vertical position, substantially as described.

3. The combination of a crib or caisson member havi a rectangular base surmounted by parallel end and l eral walls, the end walls provided with central openin and a rod adapted to said openings, with a skeleton str ture having lateral inclined side walls and parallel e walls provided with central openings and a rod adapt thereto; a curved rod adapted to vertical adjustment the longitudinal rod of the base section, and a transve plate adapted to the said curved rod, substantially and for the purposes described.

4. A series of cribs or caissons, of the character scribed, having a rectangular base surmounted with p allel end and lateral walls, the end walls provided wi

central openings, and a rod extending longitudinally therethrough; a skeleton structure adapted to vertical placement on said walls, and having inclined lateral walls and parallel vertical end walls having central openings, and a rod extending longitudinally therethrough; a curved rod adapted to vertical adjustment to the said longitudinal rod and of the base section and a transverse plate adapted to the curved rod, all substantially as and for the purposes described.

976,258. CARBURETER. RICHARD WILLIAM GALLAGHER, Los Angeles, Cal., assignor to G. & H. Manufacturing Company, Jersey City, N. J. Filed Nov. 10, 1909. Serial No. 527,227.

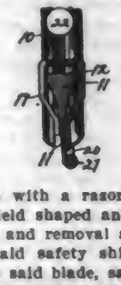


1. In a carbureter, a float chamber, a float therein, a valve for admitting gasolene to the float chamber, an operative connection between said float and valve to maintain said float at a uniform level, a mixing chamber for mixing air and gasolene vapor, a valve for admitting gasolene from the float chamber to the mixing chamber, a mixture reservoir, connected with said mixing chamber, and having an opening through which the engine can be supplied, and means, independent of said mixing chamber, for flushing the reservoir with gasolene, substantially as described.

2. A float chamber, a float therein, valve means, controlled by the float, for admitting gasolene to the float chamber, a cylindrical horizontal mixing chamber at one side of the float chamber, a reservoir above the float chamber communicating with the mixing chamber, a gasolene passage from the float chamber to the mixing chamber, an adjustable set valve, an opening of variable size between the gasolene passage and the mixing chamber, a throttle valve extending through the mixing chamber for controlling admission of gasolene to the mixing chamber, the mixing chamber having a side opening for air admission and also an opening in the bottom, the latter being always open, a valve in the mixing chamber for regulating the side air admission opening and admission of mixture to the reservoir, a sleeve threaded in the casing of the mixing chamber, said throttle valve having its stem screwed in the sleeve, an arm clamped to the sleeve, a link adjustably attached to the arm, a stem on the air valve, and means connecting the air valve stem and link permitting a limited relative movement, substantially as described.

3. A float chamber, a float therein, valve means, controlled by the float, for admitting gasolene to the float chamber, a cylindrical horizontal mixing chamber at one side of the float chamber, a reservoir above the float chamber communicating with the mixing chamber, a gasolene passage from the float chamber to the mixing chamber, an adjustable set valve giving an opening of variable size between the gasolene passage and the mixing chamber, a throttle valve extending through the mixing chamber for controlling admission of gasolene to the mixing chamber, the mixing chamber having a side opening for air admission and also an opening in the bottom, the latter being always open, a valve in the mixing chamber for regulating the side air admission opening and admission of mixture to the reservoir, an arm attached to the air valve stem, a block journaled in the end of said arm, a link passing through the block and having a head, and a coiled spring bearing against the block and secured to the link, substantially as described.

976,259. SAFETY-SHIELD AND SELF-SHARPENER FOR RAZORS. CHARLES A. HARRIS, Webster City, Iowa. Filed Mar. 25, 1910. Serial No. 552,094.



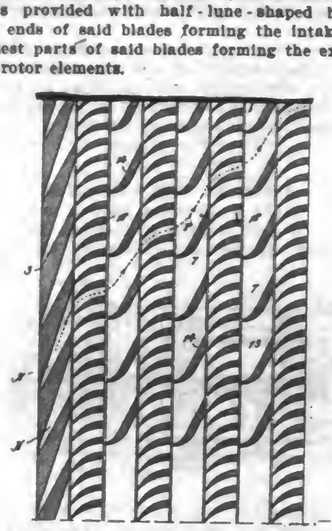
1. The combination with a razor having an ordinary blade, of a safety shield shaped and arranged for longitudinal movement on and removal and replacement relative to said blade, said safety shield also adapted for lateral adjustment on said blade, said safety shield comprising a plate of approximately the same length as the blade and adapted for contact with either side thereof, one margin of said plate being contiguous to the cutting edge of the blade, said plate offset away from said blade and formed with an inwardly projecting rear portion extending across the back of the blade and spaced therefrom, said plate also formed with spring arms integral with and extending at right angles from the free margin of the laterally extending rear portion of the plate and sprung outward relative to said blade between their ends, the free ends of said spring arms adapted to engage the blade in opposition to the plate, said plate formed with a screw seat in the center of its laterally extending rear portion, an adjusting screw screwed through said seat and adapted to engage the back of the blade, said plate also formed with ears on its ends outstanding from the plane of the plate, and a roller journaled at its ends in said ears and adapted to project beyond and in contact with the cutting edge of the blade, said roller being spaced from the foremost margin of the plate.

2. The combination with a razor having an ordinary blade, of a safety shield shaped and arranged for longitudinal movement on and removal and replacement relative to said blade, said safety shield also adapted for lateral adjustment on said blade, said safety shield comprising a plate of approximately the same length as the blade in its foremost portion and adapted for contact with either side thereof, one margin of said plate being contiguous to the cutting edge of the blade, said plate being of less length in its rearmost portion and offset away from said blade and formed with an inwardly projecting rear portion extending across the back of the blade and spaced therefrom, said plate also formed with spring arms integral with and extending at right angles from the ends of the free margin of the laterally extending rear portion of the plate and sprung outward relative to said blade between their ends, the free ends of said spring arms adapted to engage the blade in opposition to the plate, said plate formed with a screw seat in the center of its laterally extending rear portion, an adjusting screw screwed through said seat and adapted to engage the back of the blade, said plate also formed with ears on its ends outstanding from the plane of the plate, and a roller journaled at its ends in said ears and adapted to project beyond and in contact with the cutting edge of the blade, said roller being of uniform diameter throughout and spaced from the foremost margin of the plate.

976,260. TURBINE. CHARLES E. HICKS, Mechanicsville, N. Y. Filed Apr. 4, 1908, Serial No. 425,204. Renewed Apr. 12, 1910. Serial No. 555,090.

1. In a turbine, the combination with a stator having inwardly extending passaged ribs, of a series of rotor elements provided with half-lune-shaped blades.

2. In a turbine, the combination with a stator having inwardly extending passaged ribs, of a series of rotor elements provided with half-lune-shaped blades, the smaller ends of said blades forming the intake side and the widest parts of said blades forming the exhaust side of said rotor elements.



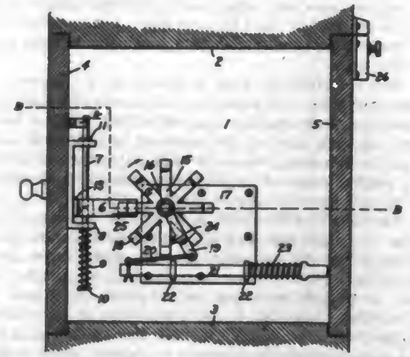
3. In a turbine, the combination with a stator having inwardly extending ribs and passages therethrough formed between substantially ogee-shaped walls, of a plurality of rotor elements adapted to revolve between said flanges.

4. In a turbine, the combination with a stator having inwardly extending ribs through which passages are formed defined by substantially ogee-shaped walls, of a plurality of rotor elements adapted to revolve between said flanges, each said rotor element comprising a ring or disk carrying a plurality of half-lune-shaped blades.

5. In a turbine, the combination with a stator having inwardly extending ribs through which passages are formed defined by substantially ogee-shaped walls, of a plurality of rotor elements adapted to revolve between said flanges, each said rotor element comprising a ring or disk carrying a plurality of half-lune-shaped blades, the smaller ends of said blades forming the intake side of the rotor and the wider ends of said blades forming the exhaust side of said rotor.

[Claims 6 to 8 not printed in the Gazette.]

976,261. LOCKING MECHANISM FOR CUPBOARDS. PERCY W. HODGKINSON, Rochester, N. Y., assignor to Caldwell Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed Mar. 1, 1910. Serial No. 546,733.



1. In combination with a receptacle having an outer door and an inner door, means for locking the outer door comprising two interengaging members relatively mova in one direction to lock and relatively movable in anot direction transverse to the first mentioned direction to lock, connections between one member and the outer d constructed and arranged to produce said locking mo ment when said door is closed, and connections betw the other member and the inner door constructed and ranged to produce said unlocking movement when inner door is closed.

2. In combination with a receptacle having an ou door and an inner door, means for locking the outer d comprising two interengaging members, one member be mounted within the receptacle and being movable in direction to disengage and unlock from the other memb and the other member being mounted on the outer d and being movable in another direction transverse to first-mentioned direction to engage and interlock with first mentioned member, and connections between the fi mentioned member and the inner door constructed and ranged to produce said unlocking movement in member.

3. In combination with a receptacle having an ou and an inner door, means for locking the outer door co prising two interengaging members, one of said memb being pivotally mounted in the receptacle and the ot member being pivotally mounted on said door and mova in a direction transverse to the direction of motion of other member, means connected with and actuated by inner door for moving one member about its pivot to engage and unlock the members, and means for movi the other member about its pivot to engage and unlo the members.

4. In combination with a receptacle having a do means for locking the door comprising a latch mounted said door and movable in two directions, a rotary kee mounted in the receptacle and having a series of lat engaging lugs, and means for imparting a step-by-st rotation to the keeper to cause each lug in succession fi to engage and move the latch, in one direction, into in erative position, and, upon the next actuation of keeper, to disengage itself from locking engagement w the latch, the latch having normally a tendency to mo in both of its directions of movement into locking relati with the keeper.

5. In combination with a receptacle having two doo means for locking one door comprising a latch mount on said door and movable in two directions at right a gles with each other, a rotary keeper mounted in the ceptacle and having a series of latch-engaging lugs, a means actuated by the other door for imparting a st by-step rotation to the keeper to cause each lug in s cession first to engage and move the latch, in one dir tion, into inoperative position, and, upon the next ac ation of the keeper, to disengage itself from locking gagement with the latch, the latch having normally tendency to move in both of its directions of moveme into locking engagement with the keeper.

976,262. TIRE-REPAIRING DEVICE. ERNEST A. HO COMB, Hartford, Conn. Filed Dec. 7, 1908. Serial N 466,270.



1. A device for use in repairing the outer casing or sh of a vehicle tire comprising a collapsible core made up of plurality of independent longitudinal sections arranged

gether to approximate the shape of the interior of a shoe, expansible binders for holding the parts of said core in normal position, and means independent of said binders for expanding said core.

2. A device for use in repairing the outer casing or shoe of a vehicle tire comprising a collapsible core made up of a plurality of independent longitudinal sections arranged together to approximate the shape of and adapted to fit the interior of a shoe, expansible binding rings encircling the ends of said core sections, means located within and movable lengthwise thereof for expanding said core, and actuators for said expanding means operable from outside said shoe.

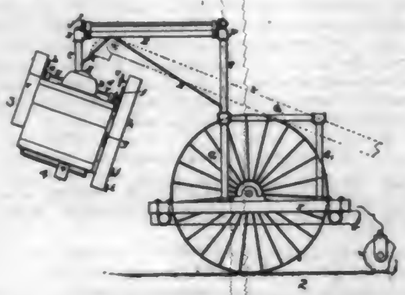
3. A device for use in repairing the outer casing or shoe of a vehicle tire comprising a collapsible core made up of a plurality of independent longitudinal sections arranged together to approximate the shape of the interior of a tire shoe, expansible binding rings for holding the parts of said core in normal position, longitudinally movable expanding members located within said core, a pair of cooperating wedges one of which is secured to said expander and the other mounted for movement transversely thereof.

4. A device for use in repairing the outer casing or shoe of a vehicle tire comprising a collapsible core made up of a plurality of independent longitudinal sections arranged together to approximate the shape of the interior of a tire shoe, a pair of sockets in said core having oppositely disposed inclined sides and formed in part in each section, expanding members located in said sockets, and means for moving said expanding members in opposite directions lengthwise of said core.

5. In a device of the character described a core made up of a plurality of longitudinal sections, a passage extending lengthwise through said core centrally thereof, said passage having an enlarged central portion connecting with the smaller end portions by oppositely disposed conical seats, conical spreading members adapted to cooperate with said conical seats, bars carrying said spreading members and extending in opposite directions through and beyond the ends of said core, nuts engaging the ends of said bars, and coöperating wedges located on said bars, one of said wedges being adapted for movement transversely of the bars, and means for moving said wedge.

[Claim 6 not printed in the Gazette.]

976,263. THRESHING-MACHINE. RUFUS S. JAQUES, Spokane, Wash. Filed Jan. 21, 1910. Serial No. 539,391.



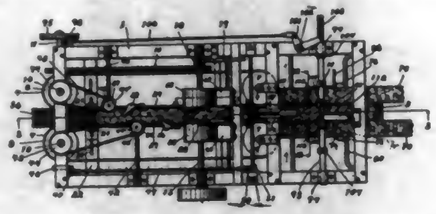
1. In a threshing machine, the combination of a cleaner, gearing for communicating motion to the cleaner, gearing to be driven by the first named gearing, a universal joint connecting the two said gearings, and a hollow ball and socket suspension device containing said joint and second named gearing.

2. In a threshing machine, the combination of a frame, a ball carried by said frame, a cleaner supported by said ball, a socket attached to said cleaner, a universal joint within said socket and ball, and shafts carried by said frame for driving said universal joint.

3. In a threshing machine, the combination of a frame, a ball and socket joint suspended therefrom, a gear on said frame, a gear in said joint, and a shaft connecting said two gears.

4. In a threshing machine, the combination of a frame, a cleaner, a single support on said frame, and a universal joint between said cleaner and said frame by which said cleaner is suspended and maintained horizontal during the tilting of said frame in any or all directions.

976,264. CONVEYER FOR CARTON-SEALING MACHINES. HARRY L. JOHNSON, Battle Creek, Mich., assignor of one-half to Will K. Kellogg, Battle Creek, Mich. Filed Apr. 14, 1908. Serial No. 426,994.



1. The combination with a frame, of a conveyer comprising a bottom belt and side belts, said bottom belt extending forwardly beyond said side belts; supports for said bottom and side belts over which they are adapted to travel; side bars arranged parallel with said side belts, said side bars extending forwardly beyond said side belts; a feed belt arranged at each side of the forward end of said bottom belt and overlapping the forwardly extended end thereof; supports for said feed belts whereby their upper faces are supported in substantially the same plane as the face of the said conveyer; and a shifter adapted to shift the cartons from said feed belts to said bottom conveyer belt.

2. The combination with a frame, of a conveyer comprising a bottom belt and side belts, said bottom belt extending forwardly beyond said side belts; side bars arranged parallel with said belts, said side bars extending forwardly beyond said side belts; a feed belt arranged at each side of the forward end of said bottom belt and overlapping the forwardly extending end thereof; and a shifter adapted to shift the cartons from said feed belts to said bottom conveyer belt.

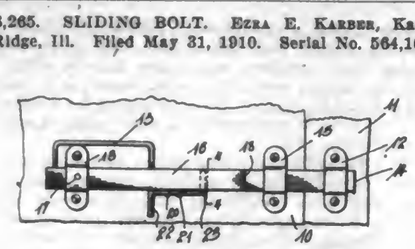
3. The combination with a frame, of a conveyer comprising a bottom belt and side belts, said bottom belt extending forwardly beyond said side belts; supports for said bottom and side belts over which they are adapted to travel; a feed belt arranged at each side of the forward end of said bottom belt and overlapping the forwardly extended end thereof; supports for said feed belts whereby their upper faces are supported in substantially the same plane as the face of the said conveyer; and a shifter adapted to shift the cartons from said feed belts to said bottom conveyer belt.

4. The combination with a frame, of a conveyer comprising a bottom belt and side belts, said bottom belt extending forwardly beyond said side belts; a feed belt arranged at each side of the forward end of said bottom belt and overlapping the forwardly extended end thereof; and a shifter adapted to shift the cartons from said feed belts to said bottom conveyer belt.

5. The combination with a frame, of a conveyer comprising a bottom belt and side belts, said bottom belt extending forwardly beyond said side belts; supports for said bottom and side belts over which they are adapted to travel; side bars arranged parallel with said side belts and coacting therewith to form the sides of the conveyer, said side bars extending forwardly beyond said side belts; and a feed mechanism adapted to deliver upon said forwardly extending end of said bottom conveyer belt.

[Claims 6 to 45 not printed in the Gazette.]

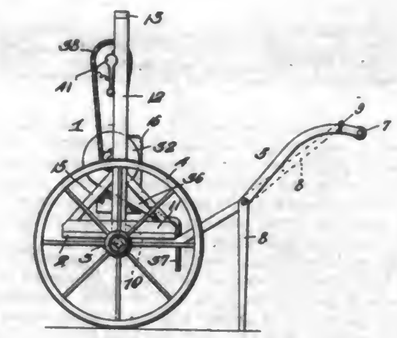
976,265. SLIDING BOLT. EZRA E. KARBER, Karbers Ridge, Ill. Filed May 31, 1910. Serial No. 564,166.



1. A door lock comprising a plurality of keepers, a bolt slidingly fitted in said keepers, a handle upon one side of the bolt straddling one of said keepers and engaging said keeper at the limit of the sliding movement of the bolt in either direction, a resilient locking member carried by said keeper and normally lockingly engaging the bolt, and a releasing member pivoted upon one side of the bolt and having a tongue underlying the free end of said locking member.

2. A door lock comprising a plurality of keepers, a bolt slidingly fitted in said keepers, a handle loop carried by said bolt and straddling one of said keepers, the legs of said loop engaging said keeper and limiting the sliding movement of said bolt in either direction, a resilient locking member fixed to said keeper and lockingly engaging said bolt with its free end, a bell crank lever mounted on one side of the bolt, having a tongue underlying the free end of said locking member, and having a grip portion disposed to extend approximately perpendicular to said side of the bolt and arranged in approximate alinement with the adjacent leg of said handle loop.

976,266. FUMIGATOR. JOSEPH CHARLES KEMBALL, Arden, Wash. Filed Nov. 3, 1909. Serial No. 526,119.



A machine of the character described comprising a carriage, an upright frame thereon consisting of upper and lower bars united by uprights, a fire box having a bottom, attaching feet secured to said lower bar, a longitudinal shaft journaled in bearings on said uprights and extending through the fire box to support the upper portion of the same, said fire box being formed with a covered fuel inlet at its top, damper-controlled air inlets adjacent its bottom and a fume outlet adjacent its top, a foraminous false bottom in said fire box, a fan casing concentric with said shaft and having a centrally located inlet registering with said smoke outlet of the fire box, said fan casing having a tapered discharge spout, a flexible tube extending from said spout, a fan fixed to said shaft and arranged within the fan casing, and means for rotating said shaft.

976,267. GOLF-CLUB. ARTHUR F. KNIGHT, Schenectady, N. Y. Filed Mar. 27, 1909. Serial No. 486,08

1. A golf club provided with a tubular elastic non-fibrous shaft.

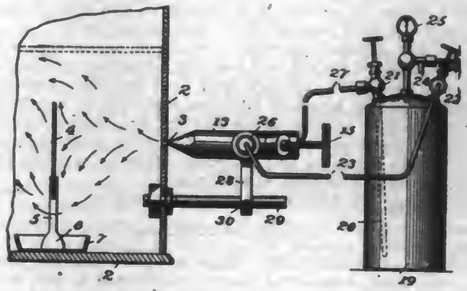


2. A golf club provided with a shaft of steel tubing.

3. A golf club provided with a tubular metallic shaft in which volume of metal decreases toward the head.

4. A golf club provided with a shaft of tapered and tempered steel tubing.

976,268. APPARATUS FOR BURNING CRUDE OIL. ALBERT R. KUNKEL, Palestine, Tex. Filed May 16, 1910. Serial No. 561,670.



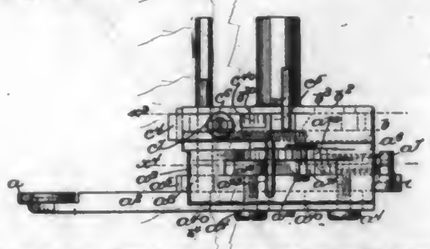
1. In a device of the class described, the combination with a stove, the wall of which is provided with a burner opening, of a splash plate within said stove in front of said opening, supports for said plate having enlarged weighted lower ends, a splash pan in which said supports rest, a mixing chamber for crude oil and air supported on said wall, a nozzle communicating with said chamber and discharging through said opening against said splash plate, and means for supplying oil and air under pressure to said mixing chamber.

2. A crude oil burner comprising an elongated tubular mixing chamber, a nozzle for compressed air discharging into said chamber at one end, a nozzle for crude oil under pressure discharging across said air inlet, discharge nozzles for the mixed air and oil leading laterally from said chamber, and needle valves in said nozzles.

976,269. GAGE. SHERMAN W. LADD, Beverly, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed June 14, 1900. Serial No. 20,329.

1. In a gage for a machine, a frame movable with relation to the machine; a gage slide movable in said frame from one operative position to another: a controlling de

vice whereby said gage slide may be moved with relation to said movable frame from one to the other of said operative positions; and means for shifting the said movable frame and the gage slide carried thereby from one to the other of two positions relative to the machine, substantially as described.



2. A movable frame and a gage longitudinally movable therein; a controlling device whereby the said gage may be shifted with relation to said movable frame from one to the other of two operative positions; and a stationary frame for the said movable frame provided with means for shifting the said movable frame and the gage carried thereby from one to the other of two operative positions relative to said stationary frame.

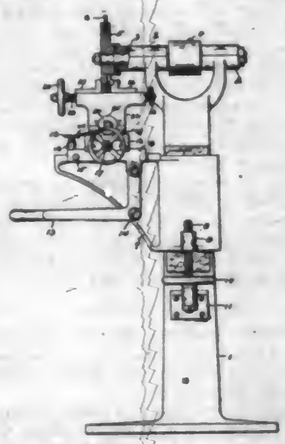
3. The combination with a movable frame; of a two-way gage mounted therein; a stationary frame for said movable frame; a stop connected with said movable frame; a lever supported on said stationary frame and adapted to engage said stop, the position of said lever determining the position of the movable frame; and an adjustable stop to determine the position of said lever.

4. The combination with a stop; of a two-way gage spring compressed toward said stop; an adjustable controlling device for moving said gage away from said stop; and means for causing a movement of said stop to provide for a third position of the gage, as set forth.

5. The combination with a stop; of a two-way gage spring pressed toward said stop; an adjustable controlling device for moving said gage away from said stop; a retaining device for normally retaining said stop in a definite position with relation to the machine but adapted to permit a movement thereof away from such position; and means for adjusting said retaining device to vary the extent of such movement of said stop.

[Claims 6 to 9 not printed in the Gazette.]

976,270. DIE-GRINDER. WILBUR A. LEONARD, New Haven, Conn., assignor of one-half to Howard E. Adt, New Haven, Conn. Filed Jan. 10, 1910. Serial No. 537,312.



1. In a die grinder, the combination with die holding means, comprising a block, jaws mounted therein, means for moving said jaws separately within said block, and means for moving said jaws within said block without changing their positions in relation to each other; of means for moving said die holding means as a unit in either a rotary or straight path; and means for moving the same in a path at substantially a right angle to said rotary or straight path.

2. In a die grinder, the combination with a jaw holding member; of jaws slidably mounted therein; means for moving said jaws toward and away from each other; means for moving said jaws within said holding member without changing their position in relation to each other; and means whereby said jaw holding member, jaws and moving means are actuated as a unit.

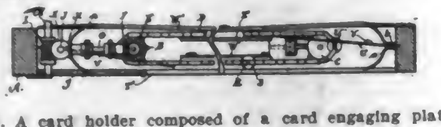
3. In a die grinder, the combination with a jaw holding member; of jaws slidably mounted therein; threaded means for moving said jaws toward and away from each other; threaded means for moving said jaws and the aforesaid threaded means as a unit within said holding member whether the same be at rest or in motion.

4. In a die grinder, the combination with a jaw holding member; of jaws slidably mounted therein; means for moving said jaws within said holding member, either separately, so as to vary the space therebetween, or as a unit so as to maintain the same space therebetween, both means being operative if the jaw holding member be stationary or in motion, and comprising a sleeve threaded in said holding member and threaded means rotatable in said sleeve and having a threaded engagement with said jaws.

5. In a die grinder, the combination with a rotarily mounted jaw block; means for moving the same toward and away from the rotary center of said jaw block; jaws movably mounted in said jaw block; means for moving said jaws toward and away from each other; and means for moving said jaws within said jaw block without varying the width of the space therebetween.

[Claims 6 and 7 not printed in the Gazette.]

976,271. ADVERTISING DEVICE. FRITZ LESCHINSKI, Philadelphia, Pa. Filed July 28, 1909. Serial No. 510,078.



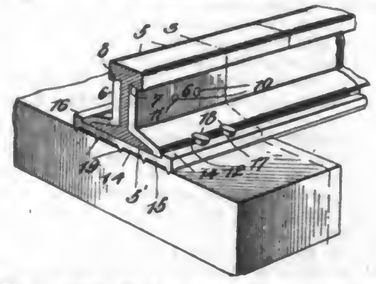
1. A card holder composed of a card engaging plate, springs on said plate lying back of and engaging the card carried by the holder, and card engaging clamps secured to said holder and normally forced by said springs to clamp the card against said plate, said clamps when moved away from the cards causing said springs to move the cards away from said plate.

2. In an advertising device, holders, springs on the front faces thereof, clamps pivoted to the backs of the holders and having two parts, one of which is engaged by the back faces of said springs and the other of which is to engage the front face of a card and hold the same against the front face of said springs.

3. In an advertising device, a carrier, holders pivoted thereto, lugs projecting from the rear faces of the holders approximately midway of their width, horizontally disposed brackets having horizontal grooves therebetween to receive said lugs, and a curved guide at each end of the carrier formed with a central notch to receive and guide the ends of the holders.

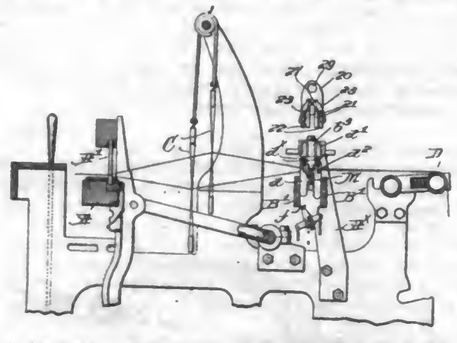
976,272. RAIL-JOINT. CLARENCE GUY MACK, Durbin, W. Va. Filed June 8, 1910. Serial No. 565,828.

1. The combination with adjacent rail sections, of fish plates arranged upon the web and base of the abutting ends of the rail sections, one of said fish plates being disposed on each side of the rails, transverse pins carried by each of the fish plates adjacent to one of its ends, the web of the rail sections having spaced longitudinally elongated openings therein to receive said pins, the pins of one of the plates engaging with the other fish plate, the heads of said rails being formed with longitudinal grooves in the under side upon each side of the rail web, said grooves being adapted to receive the upper edges of the fish plates to prevent their transverse movement, substantially as and for the purpose set forth.



2. The combination with adjacent rail sections, of fish plates arranged upon the web and base of the abutting ends of the rail sections, one of said fish plates being disposed upon each side of the rails, transversely extending pins formed on one end of each of the fish plates, the pins carried by one of said plates being disposed oppositely to the pins carried by the other plate, the web of the rail sections having spaced longitudinally elongated openings to receive said pins, the other ends of said fish plates having spaced openings formed therein, the pins carried by one of the fish plates extending through the openings in the rail web and the openings in the end of the other fish plate on the opposite side of the rails, the heads of the rails being undercut and upwardly inclined from their outer longitudinal edges to the web of the rail, the upper edges of said fish plates being beveled to engage the inclined undercut surface of the rail heads substantially as and for the purpose set forth.

976,273. MEANS FOR FACILITATING WARP CHANGE IN LOOMS. WILLIAM MCCASLIN, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Aug. 19, 1910. Serial No. 577,911.



1. In a warp stop-motion for looms, having series of longitudinally slotted detectors to coöperate with the warp threads, a transverse support extended through the slots of each series of detectors and adapted to be removably mounted in the loom, and means to coöperate temporarily with said supports and enable them with their detectors to be removed bodily from the loom, said means comprising connected members to coöperate with the supports outside the series of detectors thereon, and devices to lock the supports to said connected members.

2. In a warp stop-motion for looms, having series of longitudinally slotted detectors to coöperate with the warp threads, a transverse support extended through the slots of each series of detectors and adapted to be removably mounted in the loom, and means to coöperate temporarily with said supports and enable them wi their detectors to be removed bodily from the loom, na means comprising connected end members having op slots to receive the detector-supports near their ends, ar devices carried by said members to coöperate with ar retain the supports in the slots of the end member whereby the supports are maintained in normal positio relatively to each other when removed from the loom.

3. In a warp stop-motion for looms, a plurality parallel detector-supports adapted to be removably moun ed in the loom, series of detectors to coöperate with t warp threads and each longitudinally slotted for t reception of a support, and temporarily attachable mea to effect bodily removal of the supports and their d tectors, said means comprising parallel end plates an a connecting rod, each plate having slots open at the lower ends to receive the detector-supports, and latch pivotally mounted on the plates and provided with seat to receive the supports and retain them in the slots the plates when the latter are lifted to withdraw t detector-supports from the loom.

4. Means for facilitating warp change in looms, con prising parallel end members having depending legs pr vided with parallel longitudinal slots open at their lowe ends, to receive transverse detector-supports removabl mounted in the loom, a latch pivotally mounted on eac end member adjacent a slot and having an open seat o its inner side, to receive the detector-support and retai it in the slotted leg, whereby the said supports can b removed bodily from the loom and maintained properl spaced apart when removed, and a permanent connec tion between said end members, outward movement o the latches on their pivots releasing the detector-su ports to permit withdrawal of the slotted end members

5. In a warp stop-motion for looms, a plurality of par allel detector-supports adapted to be removably mounte in the loom, series of detectors to coöperate with th warp threads and each longitudinally slotted for the re ception of a support, and temporarily attachable mean to effect bodily removal of the supports and their de tectors, said means comprising connected parallel en plates bifurcated to present separated depending leg each leg having a longitudinal slot therein open at it lower end, to receive a detector-support, a locking latc pivoted on each leg adjacent the slot and adapted whe operatively positioned to close the slot below the detector support and thereby retain said support in the leg, an a finger-piece on each latch, the end plates engaging th detector-supports outside the series of detectors there on and maintaining the supports properly spaced apar when removed from the loom.

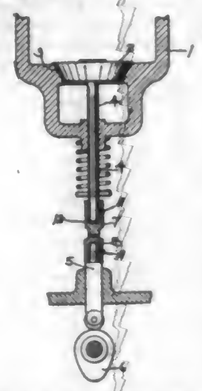
976,274. CAP FOR RENEWING THE WORN ENDS OF ENGINE VALVE-STEMS. JAMES A. MCHARDY, Providence, R. I., assignor of one-half to Edward M. Johnson, Providence, R. I. Filed Aug. 20, 1909. Serial No. 513,796.

1. As a new article of manufacture, a hardened metallic cap having a substantially plain bore the sides of which are substantially parallel and adapted to be readily applied to an engine valve stem or valve lifter whereby the worn contacting surfaces between the stem and the lifter may be readily renewed, said cap having means whereby the same is retained in position solely by friction.

2. As a new article of manufacture, a hardened metallic cap having a substantially plain bore and adapted to be readily applied to an engine valve stem or valve lifter whereby the worn contacting surface between the stem and the lifter may be renewed, means in said cap for retaining the same in position, and means for regulating the distance between the thrust receiving end of the stem and the working face of said cap.

3. As a new article of manufacture, a hardened metallic cap having a substantially plain bore and adapted to be readily applied to an engine valve stem or valve lifter whereby the worn contacting surface between the stem and the lifter may be renewed, and spring retaining

walls in said cap whereby the same is retained in its operative position by friction.

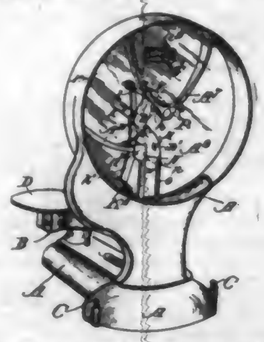


4. As a new article of manufacture, a hardened metallic cap having a substantially plain bore and adapted to be readily applied to an engine valve stem or valve lifter whereby the worn contacting surface between the stem and the lifter may be renewed, said cap being retained in position by friction, and one or more spacing washers in said cap whereby the distance between the thrust receiving end of the stem and the working face of said cap may be regulated.

5. As a new article of manufacture, a hardened metallic cap having a substantially plain bore and adapted to be readily applied to an engine valve stem or valve lifter whereby the worn contacting surface between the stem and the lifter may be renewed, spring retaining walls in said cap whereby the same is retained in its operative position by friction, and one or more spacing washers in said cap whereby the distance between the thrust receiving end of the stem and the working face of said cap may be regulated.

[Claim 6 not printed in the Gazette.]

976,275. COMPUTING WEIGHING-SCALE. LEE R. MEYER and ROBERT J. YOUNG, Alton, Ill. Filed June 16, 1910. Serial No. 567,325.



1. In a weighing scale, the indicator actuating mechanism comprising an indicator shaft having a pinion, a pendulum shaft to one side of and below the indicator shaft, provided with a weighted depending arm, and an upward extending rigid arm, a rack pivoted at one end to the upper end of said rigid arm and extending across the upper side of the pinion, a guide beyond the pinion under which said rack extends and by which it is held in mesh with said pinion to move therearound, a cam extending inwardly from the pendulum shaft, and a flexible actuating member secured to the upper side of the cam and extending downward over its periphery.

2. In a weighing scale, the indicator actuating mechanism comprising an indicator shaft having a pinion, a pendulum shaft to one side of and below the indicator shaft, provided with a weighted depending arm, and an upward extending rigid arm, a rack pivoted at one end to the upper end of said rigid arm and extending across the upper side of the pinion, a guide beyond the pinion under which said rack extends and by which it is held in mesh with said pinion to move therearound, a cam adjustable on and extending inwardly from the pendulum shaft, and a flexible actuating member secured to the upper side of the cam and extending downward over its periphery.

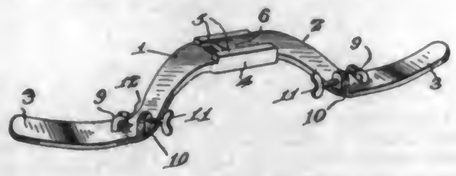
3. In a weighing scale, the indicator actuating mechanism comprising an indicator shaft having a pinion, a pendulum shaft to one side of and below the indicator shaft, provided with a weighted depending arm, an upward extending rigid arm, and an intermediate inwardly projecting arm, a rack pivoted at one end to the upper end of said rigid arm and extending across the upper side of the pinion, a guide beyond the pinion under which said rack extends and by which it is held in mesh with said pinion to move therearound, a loosely mounted cam extending inwardly from the pendulum shaft and provided with a slot, a screw extending through said slot into said intermediate arm, and a flexible actuating member secured to the upper side of the cam and extending downward over its periphery.

4. In a weighing scale, the indicator actuating mechanism comprising an indicator shaft having a flange, a slotted pinion loose on the shaft, a screw extending through the pinion slot into said flange, a pendulum shaft having a three-armed lever having an upward extending arm and an inward extending arm, a weight on the lower end of the depending lever arm, a rack pivoted at one end to the upper end of the upward extending lever arm, a cam loose on the pendulum shaft and having a curved slot, a screw extending through the slot into the inwardly projecting arm of said lever, and a flexible actuating band secured to the cam and extending downward over its periphery.

5. In a weighing scale, the combination with the indicator shaft having a pinion, of a pivoted weight-carrying lever having an upwardly extending arm, a rack pivoted at one end to the upper end of said arm and extending across the said pinion in mesh therewith, a guide crossing the upper side of said rack, a cam connected to the weight lever between the ends thereof and having a pin on its upper side, a flexible band and clamping plate through which the pin passes, and a screw extending through said plate and band into the cam.

[Claims 6 and 7 not printed in the Gazette.]

976,276. MILK-PAIL HOLDER. EDWARD MOORE and CHARLES L. MOORE, Franklinville, N. Y. Filed Oct. 9, 1909. Serial No. 521,867.



1. A milk pail holder comprising a body having a substantially semi-circular central portion to extend partially around a milk pail, oppositely projecting supporting arms at its ends and clamping devices upon said body to engage the rim of a milk pail and attach the same thereto.

2. A milk pail holder comprising a body having a substantially semi-circular central portion to extend partially around a milk pail, oppositely projecting supporting arms at its ends, and clamping devices upon said body to engage the rim of a milk pail and attach the same thereto, each of said clamping devices consisting of spaced lugs and a set screw arranged in one of said lugs.

3. A milk pail holder comprising body members provided with curved inner ends slidably engaged with each other and oppositely projecting outer ends forming supporting arms and clamping devices on said members to engage the rim of a pail and attach the same thereto.

4. A milk pail holder comprising body members provided with curved inner ends slidably engaged with each other and oppositely projecting outer ends forming supporting arms, guides upon one of said members to slidably receive the other, a set screw in one of said members to impinge against the other and retain them in adjusted position, and clamping devices upon said members to engage the rim of a milk pail, each of said clamping devices consisting of spaced lugs and a set screw in one of said lugs.

5. A milk pail holder comprising a supporting bar adapted to rest at its opposite ends on the knees of the attendant and having its central part deflected to one side, and means for detachably securing a pail to the bar between its ends.

[Claim 6 not printed in the Gazette.]

976,277. ELECTROLYTE FOR ALKALINE BATTERIES. WILLIAM MORRISON, Des Moines, Iowa. Filed May 6, 1909. Serial No. 494,411.

1. In a reversible galvanic battery, a zinc negative-pole electrode, a positive-pole electrode, and an alkaline electrolyte containing an oxygen-compound of a metal capable of rendering the zinc substantially or largely insoluble in the electrolyte.

2. In a reversible galvanic battery, a zinc negative-pole electrode, a positive-pole electrode, and an alkaline electrolyte containing a chromium compound.

3. In a reversible galvanic battery, a zinc negative-pole electrode, a positive-pole electrode, and an alkaline electrolyte containing a chromium-oxygen compound.

4. In a reversible galvanic battery, a zinc negative-pole electrode, a positive-pole electrode, and an alkaline electrolyte containing an alkali-metal chromite.

5. In a reversible galvanic battery, a zinc negative-pole electrode, a positive-pole electrode, and an alkaline hydrate electrolyte containing a compound capable of rendering the zinc substantially or largely insoluble in the electrolyte.

976,278. PROCESS OF MANUFACTURING MATERIAL FOR ALKALINE BATTERIES. WILLIAM MORRISON, Des Moines, Iowa. Filed Sept. 26, 1910. Serial No. 583,896.

1. The method of producing a compound for use in reversible galvanic batteries, which consists in first taking a mixture of zinc oxid and water and in agitating the same, then adding a suitable amount of chromium sulfate to this mixture while it is being agitated, whereby a compound zinc oxid and chromium sulfate is obtained, then acting upon this with a strong alkaline solution to remove the sulfate, thus leaving a compound of zinc chromium oxid, and in then washing this compound to remove traces of the sulfate.

2. The method of producing a compound for use in reversible galvanic batteries, which consists in adding a solution of chromium sulfate to a zinc oxid, whereby a compound of zinc oxid and chromium sulfate is obtained, then acting upon this with a strong alkaline solution to remove the sulfate, thus leaving a compound of zinc and chromium oxid, and then washing this compound to remove traces of the sulfate.

3. The method of producing electrodes for reversible galvanic batteries, which consists in adding to a quantity of zinc oxid a chromium sulfate solution whereby a precipitate containing a compound of zinc oxid and chromium sulfate is obtained, then adding to this precipitate an alkaline solution, in then washing the precipitate thus obtained to remove traces of the sulfate, and in then drying the same and packing it in a suitable grid.

4. The method of producing electrodes for reversible galvanic batteries, which consists in adding to a quantity of zinc oxid a chromium sulfate solution whereby a precipitate containing a compound of zinc oxid and chromium sulfate is obtained, then adding to this precipitate an alkaline solution, and in then drying the precipitate thus obtained and then packing the same in a suitable grid.

5. The method of producing a compound for use in reversible galvanic batteries, which consists of combining zinc oxid and chromium sulfate, in then adding to the precipitate thus obtained a solution of potassium hydroxid, and then washing this compound to remove traces of the sulfate.

[Claims 6 and 7 not printed in the Gazette.]

976,279. PROCESS FOR MAKING MATERIAL FOR ALKALINE BATTERIES. WILLIAM MORRISON, Des Moines, Iowa. Filed Oct. 10, 1910. Serial No. 586,338.

1. The process of producing a compound for use in reversible alkaline batteries, which comprises electrolytically reducing a compound containing zinc chromate in the presence of an alkaline electrolyte.

2. The process of producing a compound for use in reversible alkaline batteries, which comprises electrolytically reducing a mixture containing zinc chromate and zinc oxid in the presence of an alkaline electrolyte.

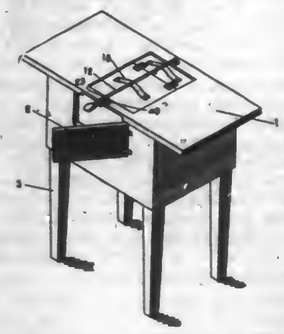
3. The process of producing a compound for use in reversible alkaline batteries, which comprises electrolytically reducing a mixture containing zinc chromate, zinc oxid and mercury oxid in the presence of an alkaline electrolyte.

4. The process of producing a compound for use in reversible alkaline batteries, which comprises combining zinc oxid and a suitable dichromate to form chromate of zinc and electrolytically reducing the product.

5. The process of producing a compound for use in reversible alkaline batteries, which comprises adding to zinc oxid sufficient potassium dichromate to partially convert the zinc into chromate, and electrolytically reducing the product.

[Claims 6 and 7 not printed in the Gazette.]

976,280. PHOTOGRAPHIC-PRINTING CABINET. HENRY D. MOUZON, McKinney, Tex., assignor of one-third to John H. Ferguson and one-third to G. M. Alsup, McKinney, Tex. Filed Jan. 15, 1910. Serial No. 538,219.

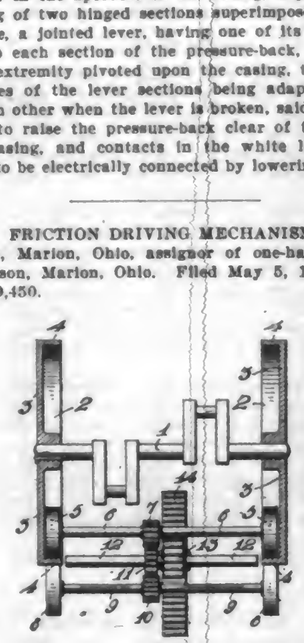


1. In a photographic printing cabinet, the combination with a casing having an aperture in its top, of a shelf within the casing adapted to be vertically adjusted, a source of white electric light carried by the shelf, a source of red electric light carried by the shelf, a transparent plate supported in the aperture of the casing, a pressure back superimposed upon said plate, consisting of hinged

sections, a jointed lever, the sections of which are attached to the sections of the pressure-back, the adjacent extremities of the lever sections being adapted to slide upon each other when the lever is broken, circuits containing the sources of white and of red light, and contacts in the white light circuit adapted to be electrically connected when said lever is down and disconnected when the lever is up.

2. In a photographic printing cabinet, the combination with a casing, having an aperture in its top, of a door in the front of the casing, means for supporting the casing at an elevation from the floor, a source of white electric light within the casing, a source of red electric light within the casing, means by which said sources of light may be vertically adjusted, a transparent plate supported in the aperture of the casing, a pressure-back consisting of two hinged sections superimposed upon the said plate, a jointed lever, having one of its sections attached to each section of the pressure-back, and having its rear extremity pivoted upon the casing, the adjacent extremities of the lever sections being adapted to slide upon each other when the lever is broken, said lever being adapted to raise the pressure-back clear of the aperture of the casing, and contacts in the white light circuit, adapted to be electrically connected by lowering the lever.

976,281. FRICTION DRIVING MECHANISM. RICHARD NORRIS, Marion, Ohio, assignor of one-half to Hayes Thompson, Marion, Ohio. Filed May 5, 1910. Serial No. 559,450.

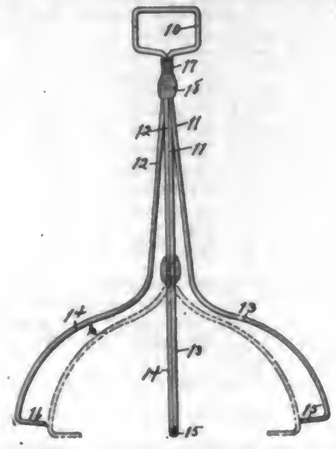


1. In a traction driving mechanism of the character described the combination with the crank shaft of an engine of a shaft to be driven, fly wheels secured to said crank shaft and having formed on the rims thereof inner and outer friction bearing surfaces, friction pulleys adapted to be operatively engaged with said inner and outer bearing surfaces and a train of gears adapted to connect said pulleys with the shaft to be driven.

2. In a friction driving mechanism for vehicles the combination with the crank shaft of an engine and a shaft to be driven, of fly wheels fixedly mounted on said crank shaft said wheels having rims provided with inner and outer friction surfaces and shafts, friction pulleys for engagement with said surfaces secured to said last mentioned shafts, drive pinions fixed on the shafts of said pulleys and gearing to operatively connect said pinions with the shaft to be driven.

976,282. LIFTING-TOOL FOR COMMODES AND CUSPIDORS. WILLIAM OBERG, Oakland, Nebr., assignor of one-half to Ephrom Lindahl, Oakland, Nebr. Filed Feb. 8, 1910. Serial No. 543,204.

In a device of the class described, engaging members, stem members normally diverging from each other, handle members on said stem members, a bond rigidly connecting the stem members adjacent to the handle members, and a collar slidingly mounted on the stem members, said collar constructed of a wire coil engaging the stem members at



its ends and laterally expanded from said stem members intermediate of its ends.

976,283. COMBINED MOP HEAD AND WRINGER. JOSEPH S. O'BRIEN, Westfield, Mass. Filed Dec. 16, 1909. Serial No. 533,420.



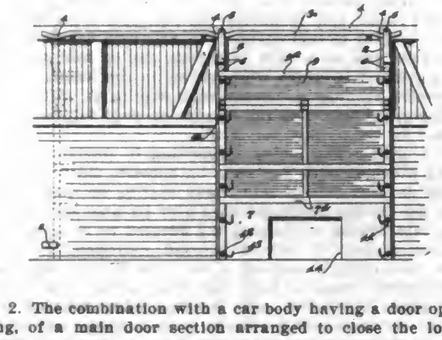
1. In a mop-holder, a handle sleeve carrying a loop head, a handle mounted in said sleeve, a revoluble mop support carried by the handle, said mop support and said loop head being adapted to support a mop cloth, a support pivotally connected to said sleeve and adapted to fold against said handle, and means adapted to hold said support in its folded position.

2. In a mop-holder, a handle-sleeve provided with a loop-head, a handle mounted in said sleeve, a revoluble head adapted to carry an end of the mop-cloth and to cooperate with said loop-head in the wringing operation, and a supporting-bar pivotally secured to said sleeve and provided with a foot-loop adapted to be secured upon the floor by the foot whereby the mop-holder is held above the scrub-receptacle during the mop-cloth wringing operation.

3. A mop-holder, comprising a bearing-plate, arms secured above said bearing-plate and terminating at their free ends in a loop-head, a handle-sleeve provided with supporting-arms pivotally secured to and adapted to support said bearing-plate, and a revoluble mop-handle in said sleeve and provided with a loop-head carrying the mop-cloth beneath said bearing-plate and first mentioned arms.

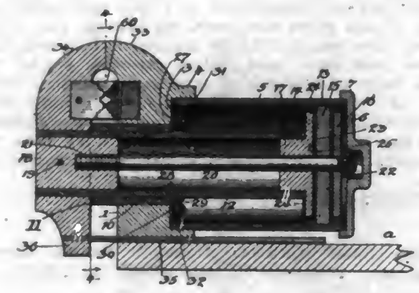
976,284. GRAIN-DOOR FOR CARS. OLAF J. OLSON, Clontarf, Minn. Filed Mar. 18, 1910. Serial No. 550,197.

1. The combination with a car body having a door opening, of a main door section arranged to close the lower portion of said door opening, jointed hanger straps, comprising relatively short upper members and relatively long lower members, said upper members being secured at their upper ends above said door opening, and said lower members being rigidly secured to the main door section and projecting above the same, a supplemental door section hinged above the main door section and adapted to be turned up against the upwardly projecting ends of the lower members of said hanger straps, and means for securing the supplemental door section in its operative position, substantially as described.



2. The combination with a car body having a door opening, of a main door section arranged to close the lower portion of said door opening, jointed hanger straps, comprising relatively short upper members and relatively long lower members, said upper members being secured at their upper ends above said door opening, and said lower members being rigidly secured to the main door section and projecting above the same, a supplemental door section hinged above the main door section and adapted to be turned up against the upwardly projecting ends of the lower members of said hanger straps, means for securing the supplemental door section in its operative position, vertically spaced staples secured to the door posts of said door opening and adapted to project through alined seats formed in the lower members of the hanger straps, and in the main door section, and pins insertible through said staples for locking the lower members of the hanger straps and the main door section against the door posts, substantially as described.

976,285. FLUID-PRESSURE-ACTUATED VISE. JOHN E. OSMER, Chicago, Ill. Filed June 8, 1907, Serial No. 377,882. Renewed Apr. 22, 1910. Serial No. 557,075.



1. In a vise, in combination, a stationary jaw; a movable jaw; a cylinder; a piston for moving said movable jaw; a source of fluid supply; and a valve mechanism in communication with the source of fluid supply and in ported connection with the cylinder on both sides of the piston, said mechanism having means to permit fluid from the source of supply to enter the cylinder to act against the forward side of the piston and to then pass from the forward side to the rear side of said piston.

2. In a vise, in combination, a stationary jaw; a movable jaw; a cylinder and piston for moving said movable jaw, the areas of the opposite sides of said piston being different; and a valve mechanism adapted to place the spaces at opposite sides of said piston in communication for opening the vise through a secondary expansion of the pressure fluid used in closing the vise, to place the space in front of said piston in communication with a source of pressure fluid supply, and to place the space in the rear of the piston in communication with the atmosphere for closing the vise.

3. In a vise, in combination, a supporting member; a cylinder formed separate from and abutting at one end upon said supporting member and closed at said end by such abutting contact; a head for closing the other end of said cylinder; bolts joining said head and said supporting member for attaching said cylinder to said supporting member; a stationary jaw fixed to said supporting member; a piston in said cylinder; a piston rod fixed to said piston; and a jaw fixed to said piston rod.

4. In a vise, in combination, a supporting member having a circular face surrounded by an annular flange; a cylinder formed separate from and abutting at one end upon said circular face within said flange and closed at said end by said abutting contact; a head for closing the other end of said cylinder; bolts joining said head and said supporting member; a piston in said cylinder; a piston rod fixed to said piston; a jaw fixed to said piston rod; and a jaw fixed to said supporting member.

5. In a vise, in combination, a supporting member; a cylinder fixed to said supporting member, said supporting member having an opening therein concentric with said cylinder; a sleeve lying in said opening; a piston in said cylinder; a piston rod fixed to said piston and extending through said sleeve; a jaw fixed to said supporting member; and a jaw fixed to said piston rod said sleeve extending into the space beneath said jaws.

[Claims 6 to 10 not printed in the Gazette.]

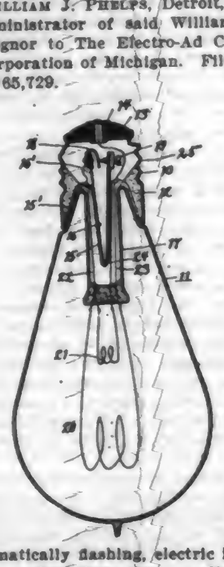
976,286. APPARATUS FOR PROCESSING CANNED GOODS. ALBERT N. PETERS, Galena, Mo. Filed Mar. 5, 1909. Serial No. 481,234.



1. In a canning apparatus, the combination of a tank, a system of heating pipes located therebeneath and including a main pipe and a plurality of series of branch pipes having their mouths opening through the tank bottom; a swinging member connected at one end to one of the walls of the tank and arranged to rest in one position upon the mouths of one series of branch pipes to close the same, and in the other position directly against said wall; and means for retaining said member in the latter position.

2. In a canning apparatus, the combination of a tank, a system of heating pipes disposed therebeneath and including a main pipe and side and central series of branch pipes having their mouths entering through the tank bottom; a valved drain pipe communicating with said main pipe; and a swinging member connected at one end to one of the walls of the tank and arranged to rest in vertical position against said wall, and in horizontal position upon the mouths of the central series of branch pipes, to close the same, when the valve in the drain pipe is open for causing the liquid contained in the tank to drain through the side series of branch pipes.

976,287. AUTOMATICALLY-FLASHING ELECTRIC LAMP. WILLIAM J. PHELPS, Detroit, Mich.; J. Wiley Phelps, administrator of said William J. Phelps, deceased, assignor to The Electro-Ad Company, Detroit, Mich., a Corporation of Michigan. Filed July 16, 1903. Serial No. 165,729.



1. An automatically flashing, electric incandescent lamp comprising an exhausting globe, a filament therein, a cap mounted on said globe and provided with terminals for the reception of current, and a thermostatic switch mounted within said cap and extending within the neck of said globe, said switch being interposed between said terminals and said filament and exposed to and operated by the heat of said filament to modify the flow of current therethrough, whereby said filament is alternately heated and cooled, substantially as described.

2. An electric, incandescent lamp having two filaments of different candle power connected in series and a thermostatic switch exposed to and operated by the heat of said filaments and arranged to automatically open and close the short circuit around the low power filament, substantially as described.

3. An electric incandescent lamp having two filaments of different candle power connected in series and a thermostatic switch mounted within the neck of the lamp, exposed to and operated by the heat of said filaments and arranged to automatically open and close a short circuit around the low-power filament.

976,288. HINGED-FLAP BUTTON. LOUIS AUGUST PICHON, Paris, and CHARLES MARIE VICTOR ALLENOU, Ville d'Avray, France. Filed Mar. 30, 1908. Serial No. 424,137.



1. A hinged flap button comprising in combination, a shank provided with an elongated head reduced on opposite sides to form shoulders and of uniform cross section throughout its height and width, a flap seated on each side of said head and bearing upon said shoulders, each flap having an elongated opening near its base portions with one margin of one opening inclined, one of said flaps having a retaining lug adapted to lie upon the upper face of the companion flap to prevent upward movement of said flap, and springs secured to said shank and projecting through the openings of said flaps and overlapping the base portions thereof to hold said flaps against said head and upon said shoulders, one of said springs being reduced in width with respect to the length of its respective openings to permit such flap to be shifted to disengage its lug from the companion flap, substantially as and for the purpose set forth.

2. A hinged flap button comprising in combination, a shank provided with an elongated head reduced on opposite sides to form shoulders and of uniform cross section throughout its height and width, a flap seated on each side of said shank and bearing upon said shoulders, each flap having an elongated opening near its base portion and one of said flaps having a retaining lug adapted to lie upon the upper face of the companion flap to prevent upward movement of said flap, and springs secured to said shank and projecting through and engaging the inner margins of said openings to hold said flaps against said head and upon said shoulders, one of said springs being reduced in width with respect to the length of its respective opening to permit such flap to be shifted to disengage its lug from the companion flap, substantially as and for the purpose set forth.

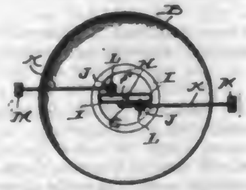
3. A hinged flap button comprising in combination, a shank provided with flap seats on opposite sides thereof, a flap on each side of said shank bearing on said seats, each flap having a straight edge near its base and one of said flaps having a retaining lug adapted to lie upon the companion flap to prevent upward movement of said flaps, and springs secured to said shank and engaging said straight edges to hold said flaps against said shank and upon said seats, said lug flap being adapted for lateral movement with respect to said shank and with respect to its spring to disengage said lug from said companion flap, substantially as and for the purpose set forth.

4. A hinged flap button comprising in combination, a shank provided with flap seats on opposite sides thereof, a flap on each side of said shank bearing on said seats, each flap having a straight edge near its base and one of said flaps having a retaining lug adapted to lie upon the companion flap to prevent of upward movement of said flaps, and springs secured to said shank and engaging said straight edges to hold said flaps against said shank and upon said seats, the straight edge of said lug flaps being inclined to normally bring said lugs into engaging position with said companion flap, said lug flap being adapted for lateral movement with respect to said shank and with respect to its springs to disengage said lugs from said companion flap, substantially as and for the purpose set forth.

5. A hinged flap button comprising in combination, a shank provided with flap seats on opposite sides thereof, a flap on each side of said shank bearing on said seats, each flap having an elongated opening near its base portion, and one of said flaps having a retaining lug adapted to lie upon the upper face of the companion flap to prevent upward movement of said flap, and springs secured to said shank and projecting through and engaging the inner margins of said openings to hold said flaps against said seats, said springs extending beyond the upper bases of said flap in overlapping relation therewith, one of said springs being reduced in width with respect to the length of the respective opening to permit such flap to be shifted to disengage its lug from the companion flaps, substantially as and for the purpose set forth.

[Claims 6 and 7 not printed in the Gazette.]

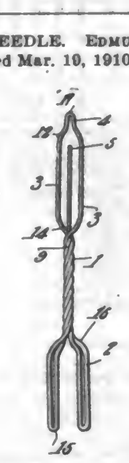
976,289. LAMP-BURNER. ALBERT M. PORTER, Amsterdam, Mo. Filed June 20, 1905. Serial No. 266,170.



A lamp burner comprising a flat tube divided longitudinally into two compartments, each compartment being

provided with an opening and having integral lugs formed on the exterior of the same, said lugs carrying spur wheels extending through the opening for operating the wicks and a draft tube formed centrally on the tube opposite the partition.

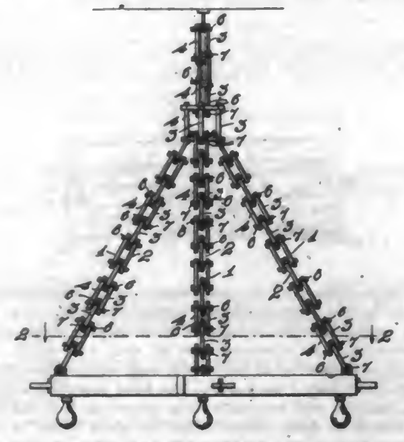
976,290. SEINE-NEEDLE. EDMUND RANDOLPH, Jacksonville, Fla. Filed Mar. 10, 1910. Serial No. 550,326.



1. A needle fashioned from a single strip of material bent upon itself to form a loop, and having its ends extended beyond the loop to form a shank, the ends of the shank being bent upon themselves to form spaced arms, one extremity of the strip being secured to the shank, and the other extremity thereof being also secured to the shank and extended terminally within the contour of the loop to form a prong.

2. A needle fashioned from a single strip of material bent upon itself to form a loop and having its ends extended beyond the loop and twisted about each other to form a shank, the ends of the shank being bent upon themselves to form spaced arms, one extremity of the strip being twisted about the shank, and the other extremity thereof being also twisted about the shank alternating with the twists of the other extremity and extended terminally within the contour of the loop to form a prong.

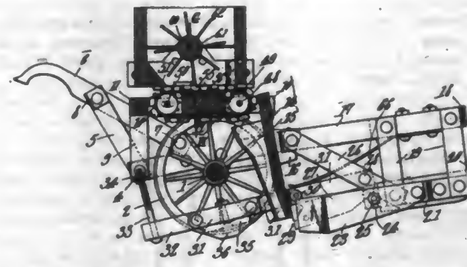
976,291. CHANDELIER-SUPPORT. JOHN RAU, New York, N. Y. Filed May 2, 1910. Serial No. 558,970.



1. A support for electric chandeliers comprising a chain composed of a plurality of links each of which comprises two spaced parallel side members, each having angular notches arranged near the terminals of their opposite ends in one face thereof, cross bars connected with sai side members and having one face thereof similarl notched to engage the notches in said side members, th ends of the respective members projecting beyond th members to which they are connected.

2. A support for electric chandeliers comprising a plu rality of branch chains, each composed of a plurality o rectangular links, each of said links comprising two space parallel side bars having angular notches arranged nea the terminals of their opposite ends in one face thereo and cross bars connected with said side bars and havin one face thereof similarly notched to engage the notche in said side bars, the ends of the respective bars projec ing beyond the bars to which they are connected, and connecting member uniting the branch chains and com posed of rectangular link members, each having side an end bars notched adjacent their ends to engage eac other, said link members being disposed in planes at righ angles to each other and having their cross bars unite at their central points, certain of the cross bars of sai link members being engaged with the endmost links o said branch chains, whereby the latter are united.

976,292. PLANTER. ALFRED J. H. REID, Henderso Tenn. Filed May 14, 1910. Serial No. 561,426.



1. A planter including a hopper, said hopper having discharge channel in the bottom thereof, an endless cha below the hopper, said chain consisting of interchang able links having outstanding ribs extending throughou the lengths thereof and links having outstanding proje tions alining with the ribs, said ribs and projections e tending into the channel and constituting seed engagi means, and means for actuating the chain to convey seed

2. A planter including a spout, a table adjacent the upp end thereof, oppositely disposed laterally adjustable gui plates mounted upon the tables, an endless feed chain e tending over and under the table, said chain consisti of pivotally connected links, ribs upon certain of the link and ears upon the remaining links, said ears and ri alining and being movable between the guide plates, se receiving recesses between the ears and between the ea and the adjoining ribs, and means for actuating the cha to direct seed to the spout.

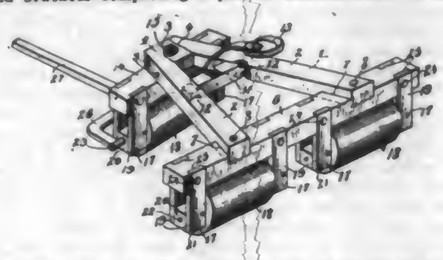
3. A planter including a hopper, a spout, an endle means for conveying seeds from the hopper to the spou said means including interchangeable links, and projecti devices upon the links and of different lengths, said d vices cooperating to form seed receiving recesses the between at desired intervals.

4. A planter including a chute, a hopper, agitati means within the hopper, an outlet channel in the botto of the hopper, and endless means for conveying seed fro the hopper and along the channel to the spout, said mea including interchangeable links having projections of d ferent sizes movable within the channel and forming se receiving recesses therebetween.

976,293. FARM-ROLLER. CHARLES G. REIFF, Amb Ind. Filed June 20, 1910. Serial No. 567,980.

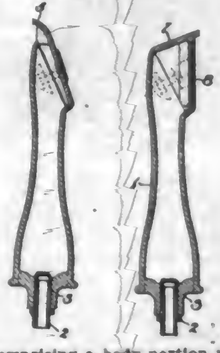
In a land roller, a V-shaped frame, comprising a pair diagonally arranged longitudinal members, a transve member detachably connected to the rear end of sa longitudinal members, said transverse member being p

vided with recesses in its upper face to receive said ends, a second transverse member detachably and pivotally mounted beneath the forward end or apex of said frame, depending brackets detachably secured to each of said transverse members and rollers mounted in said brackets, each of said brackets comprising a pair of substantially vertical



members and a block secured between their lower ends, said transverse members being provided with recesses in their front and rear faces to receive the upper ends of said vertical members, and bolts extending through said upper ends and said transverse members, substantially as described.

976,294. BURNER. JOHN P. REINECKE, Pittsburg, Pa., assignor to Pittsburg Water Heater Company, Allegheny, Pa., a Corporation of New Jersey. Filed Nov. 6, 1907. Serial No. 400,918.



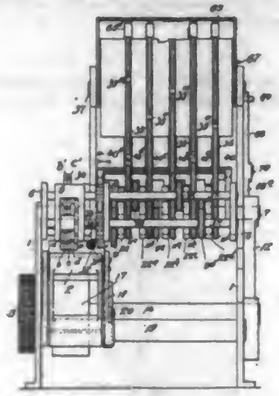
1. A burner comprising a body portion mounted for rotary adjustment about its axis and having a rearwardly opening top portion and a pair of screening constructions either of which may be applied to the opening, the one comprising a screen and a cap for directing the gas to the front of the body portion, and the other comprising a cap having a series of closely spaced slots therethrough for directing the gas to the rear of the body portion.

2. In combination in a gas burner, an upright admission portion provided at its upper end with an expanded top portion opening obliquely for directing the gas rearwardly, and a removable cap having oblique edges fitting the top portion, the discharge face of the said cap lying in substantially a vertical plane laterally opposite the oblique opening in the top portion and being provided with a plurality of closely spaced slots.

976,295. NUMBERING-MACHINE. JAMES H. REINHARDT, East Orange, N. J., assignor to American Bank Note Company, a Corporation of New York. Filed June 29, 1909. Serial No. 505,055.

1. A numbering machine comprising numbering wheels, means to operate said wheels for consecutive numbering, and adjustable means to be set to any desired number for automatically setting the numbering wheels to a new predetermined number.

2. A numbering machine comprising numbering wheels, means to operate said wheels for consecutive numbering, devices to be set to a new predetermined number, and mechanism operated by said devices for automatically setting the numbering wheels to a number corresponding to the number set by said devices.



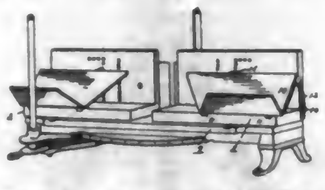
3. A numbering machine comprising numbering wheels, means to operate said wheels for consecutive numbering, devices adapted to be set to a predetermined number, mechanism operated by said devices for setting the numbering wheels to a number corresponding to a number set by said devices, adjustable devices adapted to be set to a predetermined number, and mechanism controlled by said devices to cause the first named devices to operate the numbering wheels upon said numbering wheels reaching the number corresponding to the number set by the second mentioned devices.

4. A numbering machine comprising numbering wheels, means for operating said wheels for consecutive numbering, mechanism to rotate said wheels independently of the means that operate them consecutively, and devices adapted to be set to a predetermined number adapted to cause said mechanism to rotate the numbering wheels to a number corresponding to the number set by said devices.

5. A numbering machine comprising numbering wheels, means for operating said wheels for consecutive numbering, mechanism to operate the numbering wheels independently of the devices that operate them consecutively, devices adapted to be set to a number corresponding to the terminal number of a series of numbers being printed, and means for causing the first named devices to actuate the numbering wheels upon said numbering wheels reaching such terminal number.

[Claims 6 to 48 not printed in the Gazette.]

976,296. MITER-BOX. ALEXANDER ROBBINS, Kalamazoo, Mich. Filed Sept. 7, 1909. Serial No. 516,583.



1. In a miter box, the combination with the main, base and back, and a pivotally supported saw guide, the back being provided with a vertical saw opening; and a pair of work supports arranged one at each side of the said central saw opening in said back, each support comprising a base plate and a back plate, the back plate having gage holes therein, said supports being spaced so that the inner ends of their base plates serve as work rests, a work holder right-angled in cross section, having bearing members at the angle thereof, bearings on said base plate for said work holder bearings, arranged so that the axis of said work holder is parallel with said base plate and said back plate, said work holder being removable, a support on the outer end of said work holder, having gage holes therein, a supporting pin on said base plate adapted to be engaged in said holes, and a gage pin adapted to be arranged through the gage holes in said back plate, to engage said work holder, all co-acting for the purpose specified.

2. In a miter box, the combination with the main, base and back, and a pivotally supported saw guide, the back being provided with a vertical saw opening; and a pair of work supports arranged one at each side of the said central saw opening in said back, each support comprising a base plate and a back plate, the back plate having gage holes therein, said supports being spaced so that the inner ends of their base plates serve as work rests, a work holder right-angled in cross section, having bearing members at the angle thereof, bearings on said base plate for said work holder bearings, arranged so that the axis of said work holder is parallel with said base plate and with said back plate, said work holder being removable, and a gage pin adapted to be arranged through the gage holes in said back plate, to engage said work holder, all co-acting for the purpose specified.

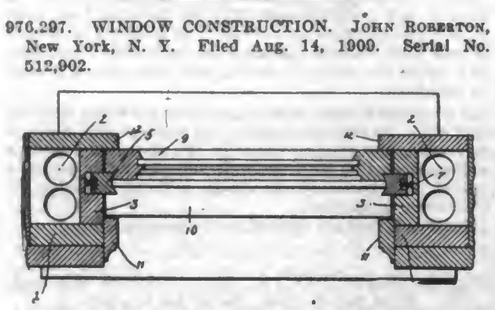
3. In a miter box, the combination with the main, base and back, and a pivotally supported saw guide, the back being provided with a vertical saw opening; of a pair of work supports arranged one at each side of the said central saw opening in said back, each support comprising a base plate and a back plate, the back plate having gage holes therein, said supports being spaced so that the inner ends of their base plates serve as work rests, and a gage pin adapted to be arranged through the gage holes in said back plate, all co-acting for the purpose specified.

4. In a miter box, the combination with a pivotally supported saw guide of a work support comprising a base plate and a back plate, the back plate having gage holes therein, a work holder right-angled in cross section, having bearing members at the angle thereof, bearings on said base plate for said work holder bearings, arranged so that the axis of said work holder is parallel with said base plate and with said back plate, said work holder being removable, a support on the outer end of said work holder, having gage holes therein, a supporting pin on said base plate adapted to be engaged in said holes, and a pin arranged through the gage holes in said back plate, to engage said work holder, all co-acting for the purpose specified.

5. In a miter box, the combination with a pivotally supported saw guide of a work support comprising a base plate and a back plate, the back plate having gage holes therein, a work holder right-angled in cross section, having bearing members at the angle thereof, bearings on said base plate for said work holder bearings, arranged so that the axis of said work holder is parallel with said base plate and with said back plate, said work holder being removable, and a gage pin arranged through the gage holes in said back plate, to engage said work holder, all co-acting for the purpose specified.

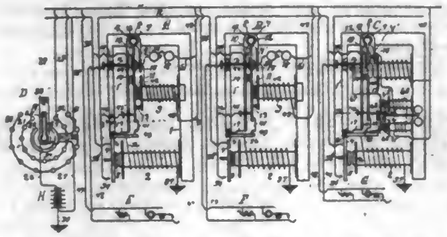
[Claims 6 to 11 not printed in the Gazette.]

976,297. WINDOW CONSTRUCTION. JOHN ROBERTON, New York, N. Y. Filed Aug. 14, 1909. Serial No. 512,902.



A window construction having grooved side strips, window strips in said grooves, said window strips having wedging projections, springs to hold said window strips normally shut, a pair of window sashes having V-shaped grooves on each side, said wedging projections on each parting strip adapted to engage said V-shaped grooves and force said sash closely together.

976,298. SELECTIVE PARTY-LINE TELEPHONE SYSTEM. HOMER J. ROBERTS, Evanston, Ill., assignor, by mesne assignments, to Homer Roberts Telephone Co., a Corporation of West Virginia. Filed Sept. 18, 1902. Serial No. 123,958.



1. In a party line telephone system, a sectional line extending from the central station to the first sub-station, and from sub-station to sub-station beyond, each section at its terminal portion normally connected to a return circuit, a magnet in circuit with the terminal portion of each section, a set of contact devices for connecting the terminal portion of each section to the succeeding section, a magnetically controlled mechanism at each sub-station for effecting the closing of said contacts, said mechanism operating to place and hold said contacts in condition to close during energization of the controlling magnet and operating to effect actual closing of said contacts upon deënergization of the magnet, whereby said sectional line is built up by successive impulses, but current cannot flow to the succeeding station during that impulse which effects the closing of the circuit leading thereto.

2. In a party line telephone system, a sectional line extending from the central station to the first sub-station, and from sub-station to sub-stantion beyond, each section at its terminal portion normally connected to a ground return circuit, a magnet in circuit with the terminal portion of each section, a set of contact devices for connecting the terminal portion of each section to the succeeding section, a magnetically controlled mechanism at each sub-station for effecting the closing of said contacts, said mechanism operating to place and hold said contacts in condition to close during energization of the controlling magnet and operating to effect actual closing of said contacts upon deënergization of the magnet, whereby said sectional line is built up by successive impulses, but current cannot flow to the succeeding station during that impulse which effects the closing of the circuit leading thereto.

3. In a party line telephone system, a sectional line extending from the central station to the first sub-station, and from sub-station to sub-station beyond, each section at its terminal portion normally connected to a return circuit, a magnet in circuit with the terminal portion of each section, normally open contact devices for connecting the terminal portion of each section to the succeeding section, a magnetically controlled mechanism at each sub-station for effecting the closing of said contacts, said mechanism operating to place and hold said contacts in condition to close during energization of the controlling magnet and operating to effect actual closing of said contacts upon deënergization of the magnet, a normally open shunt circuit at each sub-station, adapted to short circuit the magnet which effects the building up of the sectional line, and a manually operable contact device for closing said shunt circuit.

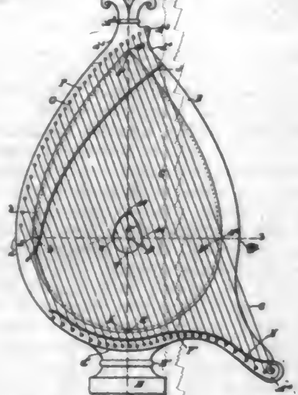
4. In a party line telephone system, the combination of a central station, a pair of metallic line wires extending therefrom through a plurality of sub-stations, one of said lines being in sections extending from the central station to

the first sub-station, and from sub-station to sub-station beyond, means operable from the central station for sending counted out impulses for successively establishing a bridging connection between the sectional and other line wire at each station, and means for disconnecting the sectional line wire from the succeeding station.

5. In a party line telephone system, the combination of a pair of line wires extending from the central station through a plurality of subscribers' stations, one line being in sections extending from station to station and the other continuous, means for establishing a bridging connection between the sectional line and continuous line at each sub-station, and means operable from the central station for establishing a grounded return circuit at each sub-station.

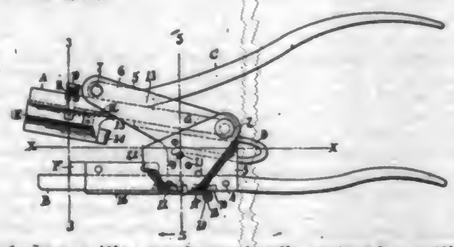
[Claims 6 to 29 not printed in the Gazette.]

976,299. STRINGED MUSICAL INSTRUMENT. JEAN JOSEPH ROCHE, St. Antoine, France. Filed Feb. 20, 1908. Serial No. 416,838.



A stringed musical instrument comprising a hollow body forming a sounding chamber and having a sounding board provided with a sound opening, the thickness of said board increasing gradually from its outer edge to the edge of the sound opening, and being uniform at the edge of said opening, strings secured to said body and extending over the sounding board, the sounding chamber, sounding board, and sound opening being formed with concentric semi-circular outlines at their lower portions, while at their upper portions they are bounded by parabolic arcs meeting so as to form points at the center line of the instrument and extending in the continuation of said semi circles, and pegs to which the strings are connected, the pegs being secured to the upper surface of the sounding chamber itself, substantially as described and shown and for the purpose set forth.

976,300. BUTTONHOLE-CUTTER. CHRISTOPHER L. ROGERS, Cleveland, Ohio. Filed Mar. 2, 1909. Serial No. 480,920.

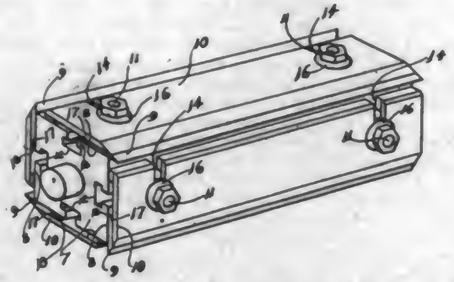


1. In a cutting member, a handle part and a cutting member pivotally secured thereto and a second handle to operate said cutting member, a movable block mounted upon said handle part and having a U shaped piece secured thereto adapted to sleeve over said handle part, and a spring extension from said sleeve having a projection thereon and openings in said handle part adapted to be engaged by said projection to adjustably fix the block upon said handle part.

2. In a tool for cutting buttonholes, a pair of pivoted members and means thereon to cut the material and an adjustable gage to fix the depth of the cut from the edge of the garment comprising a spring plate rotatably secured to rest flush against one of said members, and means to adjustably lock said plate in any adjusted position thereon adapted to be released therefrom by flexing said plate laterally.

3. In a tool for cutting slits and buttonholes, a cutter member comprising a blade, and a separate piece secured thereto having an eyelet former and cutter of relatively less depth than said blade and open at one end to permit the cuttings to be discharged therefrom, and an overhanging portion on said piece opposite said eyelet former adapted to sustain the thrust immediately opposite thereto.

976,301. CUTTING HEAD AND BIT. FREDERICK M. ROSS, Newport, Ky., assignor to Acme High-Speed Knife and Manufacturing Company, Oakley, Ohio, a Corporation of Ohio. Filed Oct. 21, 1909. Serial No. 523,764.



1. A cutting head, a clamp-plate, a knife, means for positively mounting said knife on said plate whereby it is capable of a purely longitudinal motion along the plate, and means for mounting said plate and said knife on said head.

2. A cutting head, a knife, a clamp plate, an adjusting clamp mounted on said clamp plate and engaging said knife, and means for securing said clamp plate and said knife to said head.

3. A cutting head, a clamp plate provided with a transversely extending channel, an imperforate knife, means mounted in and movable along said channel and engaging said knife for mounting said knife on said plate, and means for securing said plate and said knife to said head.

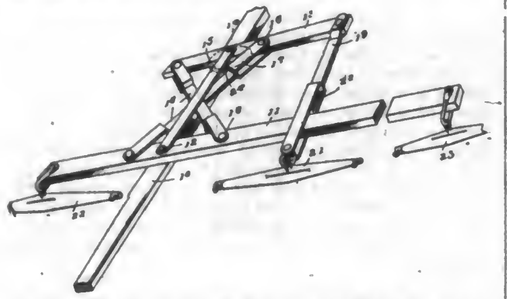
4. A cutting head, a clamp-plate, provided with a transversely extending channel, a knife, means mounted in said channel and engaging said knife for securing said knife to said plate and for permitting it to move longitudinally of said plate without changing its transverse adjustment, and means for rigidly mounting said plate and said knife on said head.

5. A cutting head, a knife, a clamp plate for securing said knife to said head, bolts for securing said plate to said head, and clamps seated in the plate and having a sliding connection with the knife and adapted to permit a lateral adjustment of the knife, without changing its transverse adjustment.

[Claims 6 to 9 not printed in the Gazette.]

976,302. DRAFT DEVICE. SPENCER ROUSE, San Saba, Tex. Filed Dec. 4, 1909. Serial No. 531,470.

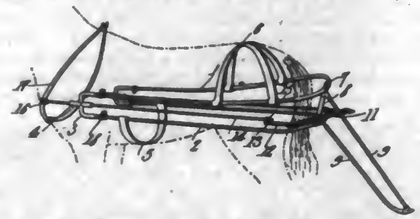
1. A draft device including a plate for adjustable engagement upon a tongue and having arcuate slots formed in spaced relation therethrough, bolts positioned in the slots and depending from said plate, cross-bars carried upon the lower ends of the bolt for engagement beneath the tongue to retain the plate in position, said plate having a boss formed centrally upon its upper face, a pin upwardly extending through the plate and the boss, a transfer bar pivoted adjacent one end upon said pin, a reach bar carried by the pin and extending forwardly therefrom, a splinter-bar pivoted upon the forward end of said reach-bar adjacent one end of the splinter bar, cross-straps pivoted upon said transfer bar and said splinter bar at points spaced oppositely from the pivotal centers of said bar, an arm carried upon the long arm of said transfer bar and extending forwardly of said splinter bar, and swingletrees disposed upon the ends of said splinter-bar and said forwardly extending arm.



2. A draft device including a reach-bar, draft bars pivoted adjacent their ends to the extremities of the reach-bar, a plate carried at the rear end of the reach-bar for adjustable engagement upon a tongue, a cross-bar carried by said plate for engagement beneath the tongue to clamp the plate thereto, cross-straps pivoted at their ends upon said draft bars in spaced relation from the pivotal centers thereof to transfer the draft therebetween, and swingle-trees connected to the opposite ends of the forward of said draft bars and the long arm of the rear of said draft bars.

3. A draft device including a draft bar, a plate for supporting the bar having spaced arcuate slots formed therein, depending bolts carried by the plate to engage against the opposite edges of the tongue, and cross-bars carried upon the lower ends of said bolts for engagement against the under face of the tongue.

976,303. PLOW-SHAFT. CHARLES A. RYAN, Orosi, Cal. Filed June 27, 1910. Serial No. 569,107.



1. A plow draft appliance comprising shafts, a tail piece pivoted to the shafts and adapted to be connected with a plow beam, a swingle-tree pivotally connected with the shafts and traces connected at their rear ends with the swingle-tree and guided at their forward portions with relation to the shafts.

2. A draft appliance comprising shafts, a girth connected with the forward portions of the shafts, a hip strap connected with the rear portions of the shafts, a tail piece pivotally connected with the rear portions of the shafts, a swingle-tree pivotally connected with the rear portions of the shafts, and traces connected at their rear ends to the end portions of the swingle-tree and guided at their forward portions with relation to the shafts.

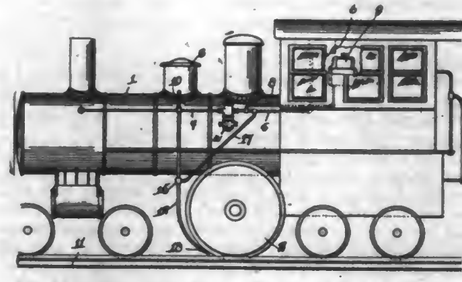
3. A draft appliance comprising shafts composed upper and lower spaced members, a tail piece pivotal connected with the rear portions of the shafts, a swing tree pivotally connected with the shafts and traces co nected at their rear ends to the end portions of t swingle-tree and guided at their forward portions with lation to the shafts.

4. A draft appliance comprising shafts, a tail piece p otally connected to the rear portions of the shafts, swingle-tree pivotally connected with the rear portions the shafts, links pivoted to the ends of the swingle-tr traces adjustably connected at their rear ends with t links and guided at their forward portions with relati to the shafts.

5. A draft appliance comprising shafts composed upper and lower shaft members connected together their forward ends, a tail piece pivotally connected wi the rear portions of the shaft members and located at forward end between the same, a swingle-tree pivotal connected with the rear portions of the shaft membe links pivoted upon the end portions of the swingle-tr and traces connected at their rear ends with the lin and guided at their forward portions with relation to t shafts.

[Claim 6 not printed in the Gazette.]

976,304. SANDING-PIPE FOR LOCOMOTIVES. E WARD RYAN, Clinton, Iowa. Filed Apr. 11, 1910. S rial No. 554,684.



1. The combination with a locomotive engine and t sanding pipe thereof, of means for heating said sandi pipe throughout substantially its entire exposed leng substantially as described.

2. The combination with a locomotive engine and t sanding pipes thereof, of a casing surrounding each said pipes forming a chamber about the same substa tially coextensive in length therewith, steam pipes co municating with said chambers, and drain cocks commu cating with said chambers at their lower ends, substa tially as described.

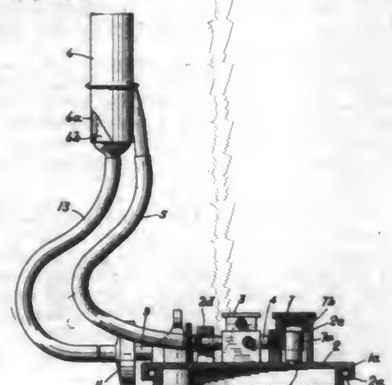
3. The combination with a locomotive engine and t sanding pipes thereof, and an air pump steam pipe, of casing surrounding each of said pipes forming an annul chamber about the same substantially coextensive length therewith, and pipes establishing communicati between said air pump steam pipe and said chambers, su stantially as described.

4. The combination with a locomotive engine and t sanding pipes thereof, and an air pump steam pipe, of casing surrounding each of said pipes forming an annul chamber about the same substantially coextensive length therewith, pipes establishing communication b tween said air pump, steam pipe and said chambers, a drain cocks communicating with said chambers at the lower ends, substantially as described.

976,305. MILKING MECHANISM. DAVID TOWNSE SHARPLES, West Chester, Pa. Filed Feb. 5, 1910. S rial No. 542,167.

1. In a milking mechanism, a receptacle, a suction tu connected therewith, means for exhausting air from se

receptacle, and means automatically operating to cut off the communication from said tube to said receptacle upon the admission to said tube of pressure above normal milking pressure.



2. In a milking mechanism, a receptacle, means for exhausting air therefrom, a suction tube exhausted by said means through said receptacle, a valve mechanism controlling communication between said tube and receptacle, the communication between said tube and receptacle through said valve mechanism being sealed by the rise of liquid in said receptacle and automatic means actuated to hold said valve open by the reduction of the pressure within said tube and to permit said valve mechanism to close upon the rise of pressure in said tube.

3. In a milking mechanism, a pail, a pail cover having a port therein, means for exhausting air from said pail through said port, a valve opened by suction and automatically closing said port, a suction tube connected with said cover, an automatically closing valve adapted for controlling communication between the interior of said pail and said tube, means for holding said valve open, and automatic pressure mechanism whereby said valve is released.

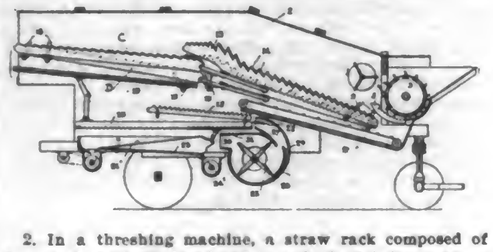
4. In a milking mechanism, a pail, a suction tube communicating with said pail, an automatically closing valve for controlling communication between said pail and tube, and means actuated by unbalanced atmospheric pressure resulting from the exhaustion of air from said tube for holding said valve in the open position.

5. In a milking mechanism, a pail, a suction tube, a teat cup connected therewith, an automatically closing valve for controlling communication between said tube and pail, a reciprocating device adapted for holding said valve in the open position, and automatically operating means for effecting the release of said valve.

[Claims 6 to 9 not printed in the Gazette.]

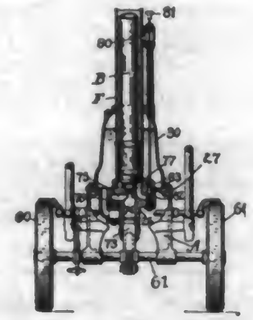
976,306. THRESHING-MACHINE. GUSTAVE SIPLER, Minneapolis, Minn. Filed Feb. 2, 1909. Serial No. 475,588.

1. In a threshing machine a straw rack composed of groups of sections placed end to end, there being a group contiguous to the cylinder and a second group forming a continuation of said first named group, each group consisting of a series of sections and each section being composed of a series of bars arranged in parallel relation with one another, the ends of the bars in the sections of one group being upwardly curved and overhanging the adjoining ends of the sections in the adjacent group, and said upwardly curved ends having crowning toothed edges and the teeth of said crowning portion being inclined at a greater angle to the horizontal than the teeth of the remaining portions of said bars, and the teeth at the ends of said crowning portions being shorter than those at the middle portions thereof, whereby an increased shaking of the straw will result.



2. In a threshing machine, a straw rack composed of groups of sections placed end to end, there being a group contiguous to the cylinder, and a second group forming a continuation of said first named group, each group consisting of a series of sections, and each section being composed of a series of bars arranged in parallel relation with one another, the ends of the bars in the sections of one group being upwardly curved and overhanging the contiguous ends of the sections in the adjoining group, and said upwardly curved ends having crowning toothed edges arranged on different levels across the rack, the teeth of said crowning edges being inclined to the horizontal at a greater angle than the teeth of the remaining portions of said bars.

976,307. HYDRAULIC INVALID-LIFTER. THOMAS MARSHALL SMITH, Baltimore, Md. Filed Aug. 14, 1909. Serial No. 512,872.



1. In combination in an invalid lifter, a base, a cylinder, a plunger or standard movable vertically therein, and a pump suspended within the base, including a cylinder axially in line with the standard, a piston working within the said axial cylinder, and an operating lever connected with the lower end of the piston, substantially as described.

2. In combination with the base, a cylinder extending out therefrom, the plunger movable in the cylinder, a block attached to the base and supporting the lower end of the cylinder, a cylinder carried by the block axially below the upper cylinder, a piston movable in the lower cylinder, means for operating the piston, and valve ports leading to and from the cylinder, substantially as described.

3. In combination with the base, the cylinder extending up therefrom, a plunger movable vertically within the cylinder, a pump for elevating the plunger having its cylinder axially in line and below the cylinder first mentioned, a piston working within the lower cylinder, a lever connected with the lower end of the piston, and a reservoir casing attached to the base and extending around the upper cylinder, substantially as described.

4. In combination the base, a block suspended therein and resting upon the upper part of the base, a cylinder attached to the said block, a reservoir surrounding the cylinder and supported on the upper part of the base, and a pump carried by the block, substantially as described.

5. In combination a base, a cylinder, a vertically movable plunger therein, a reservoir surrounding the cylinder, a pump consisting of a cylinder and piston axially in line with and below the first cylinder, a return port from the upper cylinder to the surrounding reservoir, a ball valve controlling the said port, and rod for operating the valve for lowering the plunger, substantially as described.

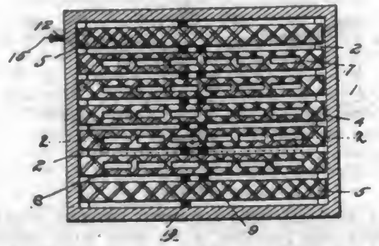
[Claim 6 not printed in the Gazette.]

976,308. SECTIONAL METALLIC WINDOW-FRAME. WILLIS D. SMITH, Huntington, Ind., assignor of one-half to James M. Triggs, Huntington, Ind. Filed Oct. 15, 1909. Serial No. 522,711.



A metallic window frame, comprising, in combination, top, bottom and side sections, said sections having their longitudinal edges outwardly curved, said side sections having their ends provided with outturned apertured lugs which do not project beyond the outer edges of said curved edges, and said ends being continued in line with said longitudinal curved edges to conform to the surface of the juxtaposed top and bottom sections, a continuous rib formed along the middle longitudinal line of said sections, and said bottom section having said rib merged into the curve provided by the outwardly turned longitudinal outer edge.

976,309. GRATE. WILLIAM N. SNOW, Janesville, Wis. Filed Apr. 4, 1910. Serial No. 553,187.



1. A grate comprising a series of grate bars having longitudinal passages, truss braces secured to and depending from the ends of the bars and extending longitudinally of the same, brace bars depending diagonally from the opposite side edges of the grate bars to the truss braces, means for supporting the grate bars, and means for rocking the same on said supporting means.

2. The combination of supporting bars having upwardly projecting lugs on their upper sides, a series of grate bars having concave recesses on their under sides at their ends to engage said lugs, said bars being further provided with downwardly converging sides, a shaker bar arranged below the grate bars and transversely thereof, links connecting the ends of the shaker bar and the end grate bars, a plurality of pairs of upwardly projecting pins on the upper side of the shaker bar, the pins of each pair engaging the opposite sides of a single grate bar, and means for reciprocating the shaker bar.

976,310. CAR-ARRESTER. LAFAYETTE SPRINGER, Wilkes-Barre, and JOHN F. BALLAMY, Larksville, Pa. Filed Feb. 3, 1910. Serial No. 541,890.



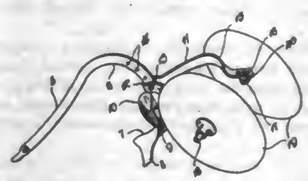
1. The combination with a track, of arresting strips disposed at opposite sides thereof and parallel therewith, said strips being slidably mounted at their ends, rock bars, links between the bars and the intermediate portions of the strips, and means for simultaneously actuating the bars to elevate the intermediate portions of the strips into the path of portions of a car approaching the strips.

2. The combination with a track, of arresting strips disposed at opposite sides thereof and parallel therewith, each strip being slidably mounted at its ends, parallel rock bars extending under the strips and track, radial arms upon the bars, link connections between said arms and the strips, and means for simultaneously actuating the bars to elevate the intermediate portions of the strips into the path of portions of a car approaching the strips.

3. The combination with a track, of flexible arresting strips at opposite sides thereof and parallel therewith, each of said strips having slotted ends, retaining means extending through said ends for holding the strips against vertical and lateral displacement, a rock bar extending under the strips, radial arms thereon, link connections between the arms and the respective strips, and means for actuating the bar to simultaneously elevate the intermediate portions of the strips into the path of portions of a car approaching the strips.

4. The combination with a track, of arresting strips disposed at opposite sides thereof and parallel therewith, said strips being slidably mounted, means for limiting the sliding movement of the strips, rock bars, connections between said bars and intermediate portions of the strips, and means for simultaneously actuating the bars to elevate intermediate portions of the strips into the path of portions of a car approaching the strips.

976,311. ATTACHMENT FOR LISTERS. WILLIAM STEELE, Spearville, Kans. Filed Dec. 10, 1909. Serial No. 532,373.

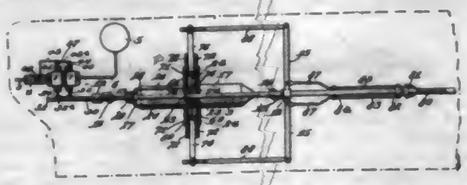


The combination with a lister plow beam having a shar and mold board connected thereto, of a bracket formed from a single piece of material bent to form rearward converging arms with a contracted portion centrally between the free ends thereof, the said contracted portion engaging the beam, a bolt member passed through the said contracted portion and the beam to detachably and adjustably connect the said bracket to the beam, the free ends of the arms being twisted to provide horizontal bearing terminals stud axles clips encircling said stud axles and engaging the horizontal bearing terminals of the arms and revoluble concaved disks journaled on said axles.

976,312. AUTOMATIC BALANCING MECHANISM FOR FLYING-MACHINES. WILLIAM F. SULLIVAN, Mount Vernon, Ohio, assignor of one-half to Edwin Latimer Weber, Baltimore, Md. Filed Sept. 13, 1909. Serial No. 517,371.

1. In an aeroplane embodying level controlling planes the combination of automatic means to actuate the plane

and a controlling lever and connections for regulating the speed of such actuation.



2. The combination in a mechanism of the character described, of means to actuate level controlling planes, means to automatically control said actuating means, and means to regulate the speed of such actuation.

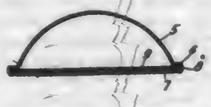
3. The combination in a mechanism of the character described, of fluid-operated means to actuate level controlling planes, means to automatically control said fluid-operated means, and means to regulate said automatic means to vary the speed of such actuation.

4. The combination in a mechanism of the character described, of fluid-operated means to actuate level controlling planes, valves controlling said means, a weighted swinging frame adapted to maintain itself in the perpendicular and having connections for operating said valves, and a lever and connections for regulating the speed of movement of said frame.

5. The combination in an aeroplane embodying level controlling planes, of automatic means to actuate the planes, and hand-operated means to regulate the speed of such actuation.

[Claims 6 to 8 not printed in the Gazette.]

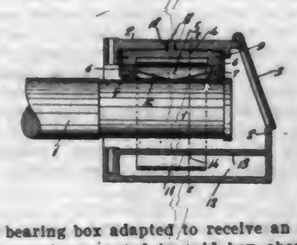
976,313. SLIPPER AND THE LIKE. LEWIS B. TEBEAU, Concord, N. H. Filed Aug. 12, 1910. Serial No. 576,907.



1. An article of footwear having, in combination, a sole, an upper having an outwardly turned flange, and stitches extending into the edge of said sole through said flange, across the upper face of said flange, and thence across the outer edge of said flange onto the edge of said sole.

2. An article of footwear having, in combination, a sole, an upper having an outwardly turned flange, and a single thread forming over and over stitches extending into the edge of said sole through said flange and across the upper face and the edge thereof onto the edge of said sole.

976,314. SELF-LUBRICATING CAR-AXLE BEARING-BOX. GEORGE E. TENNISON, Cincinnati, Ohio. Filed Dec. 30, 1909. Serial No. 535,670.



1. In a bearing box adapted to receive an axle, a bearing piece or yoke mounted in said box above said axle, bearing rollers having diverging grooves extending longitudinally thereof mounted on said yoke and adapted to engage said axle, an oil well at the bottom of said bearing box, an endless belt extending over and around said bearing rollers and axle, and a partition in said bearing box to maintain the endless belt in its proper position, substantially as and for the purposes set forth.

2. In a bearing box adapted to receive an axle, a bearing piece or yoke mounted in said box above said axle and having an open space between its ends, bearing rollers having diverging grooves extending longitudinally thereof mounted in said yoke and adapted to engage said axle, an oil well in said bearing box, an endless belt extending over and around said bearing rollers and into said oil well, substantially as set forth and for the purposes specified.

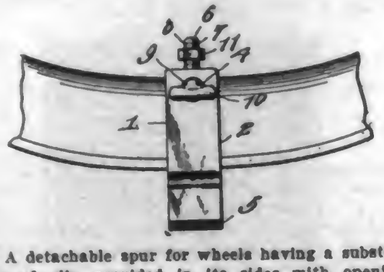
3. In a bearing box adapted to receive an axle, a bearing piece or yoke mounted in said box above said axle and having an open space between its ends, bearing rollers mounted in said yoke and adapted to engage said axle, an oil well in said bearing box, a partition between said oil well and said axle, an endless belt extending over and around said bearing rollers and partition into said oil well, substantially as set forth and for the purposes specified.

4. In a bearing box adapted to receive an axle, a bearing piece or yoke mounted in said box above said axle and having an open space between its ends, bearing rollers mounted in said yoke and adapted to engage said axle, an oil well at the bottom of said bearing box, a partition between said oil well and said axle, and rollers mounted upon said partition to engage said belt, substantially as set forth and for the purposes specified.

5. In a bearing box adapted to receive an axle, a bearing piece or yoke mounted in said box above said axle and having an open space between its ends, bearing rollers mounted in said yoke and adapted to engage said axle, an oil well at the bottom of said bearing box, a concave partition having a drain opening therethrough, between said oil well and said axle, and an endless belt adapted to pass over and around said bearing rollers and partition and into said oil well, substantially as set forth and for the purposes specified.

[Claims 6 to 10 not printed in the Gazette.]

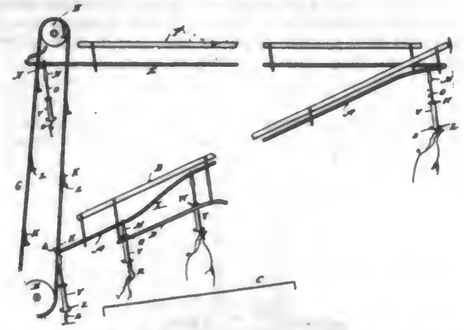
976,315. ATTACHMENT FOR WHEELS. IRVIN R. THOMPSON, Pittsburg, Pa. Filed Sept. 6, 1910. Serial No. 580,515.



1. A detachable spur for wheels having a substantially U-shaped clip provided in its sides with openings, in combination with a split bolt, the members of which are inserted through and engaged with the said openings, and a nut screwed on the threaded portion of the said split bolt and securing the members thereof together and causing said split bolt to coact with the said yoke in engaging the rim of a wheel and securing the spur detachably thereto.

2. A wheel attachment of the class described comprising a substantially U-shaped clip having a spur at its outer end, each of the arms of said clip being provided near its inner end with an opening, a split bolt having its members curved longitudinally, each of said members being provided at one end with a head to bear against the outer side of one of the arms of the clips, said members being adapted to be passed through the openings in said clip arms, and said members being provided with screw threads at the ends opposite the heads, and a nut to engage the screw threaded portions of said split bolt and clamp the said portions or members thereof together.

976,316. SHACKLE. ARCHIBALD THOMSON, Peoria, Ill. Filed Feb. 21, 1910. Serial No. 545,072.



1. The combination with an inclined track, of a shackle-portion suspended therefrom and movable therealong by gravity, a second shackle-portion carried by the first, means carried by the portions to support a load, and an inclined track adjacent to the first one and slanting in the same general direction and lying in the path of the second shackle-portion, said tracks gradually converging at their lower extremities.

2. The combination with an inclined track, of a shackle-portion suspended therefrom, a second shackle-portion carried by and slidable upon the first, means attached to one of the portions and adapted for engagement with the other portion, a second inclined track adjacent to the first and inclined in the same general direction and lying in the path of the second shackle-portion, said track portions gradually approaching one another at their lowermost extremities.

3. The combination with an inclined support, of a shackle mounted to travel thereon comprising two portions, a member suspended from the shackle and adapted to carry a load and to discharge the same when one of the portions of the shackle is moved relatively to the other, and a member suspended from the said inclined support in the path of travel of one of the portions of the shackle, said portion adapted to engage said member in its downward travel.

4. The combination with an upper inclined track, of a main shackle portion suspended therefrom and permanently carried thereby, an auxiliary portion carried by the main portion, the parts comprising two portions movable relatively, means carried by the portions to carry a load, a second inclined track adjacent to the first in the path of the shackle to engage the said auxiliary portion in its travel, the said tracks approaching one another at their lower ends whereby the main portion of the shackle is made to move downward and relative to its other portion for the purposes described.

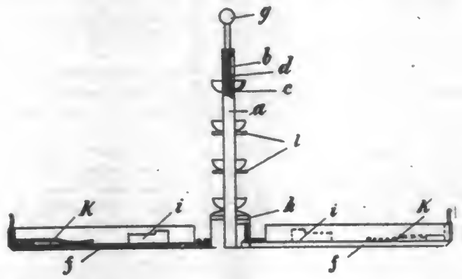
5. The combination with an inclined track, of a rod freely suspended therefrom and slidable thereon, a sleeve freely slidable upon the rod, means to suspend said sleeve from the rod, a freely movable member attached to the rod, and means on the sleeve on which said member is detachably held.

[Claims 6 to 16 not printed in the Gazette.]

976,317. COLOR-BOX. ALFRED TRIEBLING, Neu Sandec, Austria-Hungary. Filed Mar. 26, 1910. Serial No. 551,796.

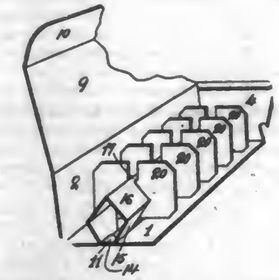
1. A color-box comprising in combination, a tray having recesses for the reception of circular paint tablets, covers hinged to the lower end of the trap and adapted, when opened, to support the tray in vertical position, and cups arranged on said tray underneath the recesses so as to receive the moistened paint flowing from the tablets, substantially as set forth.

2. A color-box comprising in combination, a tray having recesses for the reception of circular paint tablets and grooves for conducting the moistened paint from said recesses, cups arranged underneath said grooves so as t receive the paint, and covers at both sides of the tra said covers being hinged to the lower end of the tray an adapted, when opened, to support the same in vertical po sition, substantially as set forth.



3. A color-box comprising in combination, a tray hav ing an incision at its lower part for the reception of water receptacle and recesses for the reception of circula paint tablets, cups arranged underneath said recesses as to receive the moistened paint flowing from said tablet covers hinged at both sides to the lower end of the tra and adapted, when opened, to support the tray in vertica position, and a carrying handle fitted to the upper end o the tray so as to maintain the vertical position of the tra when the box is carried, substantially as set forth.

976,318. KNOCKDOWN BOX. FREDERICK R. VERNON Freeport, N. Y. Filed Apr. 1, 1909. Serial No. 487,118



1. In a box, a nest consisting of a longitudinal membe polygonal in cross section and adapted to be folded on th bottom of the box, said tube having cut-away portion therein in which are fitted transverse members, said trans verse members having recesses and projections in the re cesses which engage with the tube and hold it in it raised position, and which when out of engagement wit the tube permit all the members to be folded on the botto of the box.

2. A box having the bottom thereof folded into a longi tudinal member consisting of a tube polygonal in cros section, said member having recesses therein, and trans verse members in said recesses.

3. A box having the bottom thereof folded to form collapsible longitudinal tube polygonal in cross section cut-away portions in said tube, transverse members in sai recesses, said members having cut-away portions with pro jections extending therein, said projections engaging th cut-away portions of the tube and holding the same an the transverse members in a raised position in the box.

4. A box having the bottom thereof folded into a longi tudinal member, consisting of a tube, said member havin recesses therein and transverse members in said recesse

5. In a box, a longitudinal member consisting of a tub having slots transverse thereof and transverse member in said slots.

[Claim 6 not printed in the Gazette.]

976,319. PROTECTIVE COATING FOR CARBON BODIES. HERMANN VIERTEL, Lichtenberg, near Berlin, and GEORG EGLY, Treptow, near Berlin, Germany, assignors to Gebrueder Siemens & Co., Lichtenberg, near Berlin, Germany. Filed May 26, 1910. Serial No. 563,520.

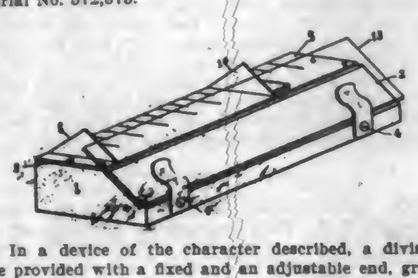
1. As a new article of manufacture, a carbon body having a protective layer of silit firmly united with the surface thereof.

2. As a new article of manufacture, an electrically conductive carbon body having an electrically conductive protective coating of silit firmly adhering to the surface thereof.

3. An electrode comprising an electrically conductive carbon body having an electrically conductive protective coating of silit firmly adhering to the surface thereof.

4. An electrode, for wet electrolysis, consisting of a carbon body having a protective coating of silit.

976,320. PROPORTIONAL POWDER-DIVIDER. WILLIAM VOTTELER, Louisville, Ky. Filed July 16, 1910. Serial No. 572,375.

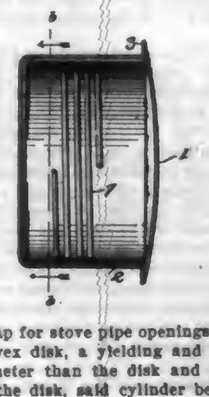


1. In a device of the character described, a division-plate provided with a fixed and an adjustable end, graduations on the face and notches on the edge thereof, and a transparent striker-plate, in combination with a base provided with means for holding said plates.

2. In a device of the character described, a division-plate provided with a fixed and an adjustable end, graduations on the face and notches on the edge of said plate, a transparent striker-plate, and a base for holding said plates, in combination with a divisor-plate adapted to be removably attached to said division-plate.

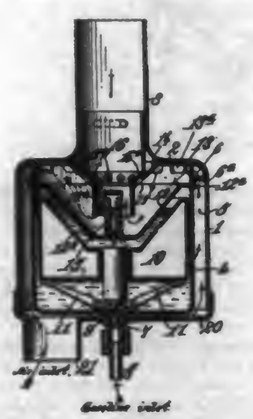
3. A device of the character described, comprising a division-plate, a striker-plate, and a base provided with means for holding said plates, in combination with a divisor-plate adapted to be removably attached to said division-plate, substantially as shown and described.

976,321. ADJUSTABLE CAP FOR STOVEPIPE-OPENINGS. SAMUEL S. WALES, Minneapolis, Minn. Filed Nov. 10, 1909. Serial No. 527,285.



An adjustable cap for stove pipe openings comprising an outer concavo-convex disk, a yielding and expanding cylinder of less diameter than the disk and secured to the concaved face of the disk, said cylinder being cut in the direction of its length and the edges thereof overlapping to form a union, the rear end of said cylinder terminating in a flat wall cut at its middle whereby two semi-circular sections are provided the edges of which overlap, and a helical expansible spring coiled on the inner surface of the cylinder for the purposes described.

976,322. CARBURETER. JULIUS WM. WALTERS, Glens Falls, N. Y. Filed Nov. 21, 1905. Serial No. 288,401.



1. A constant level carbureter comprising a shell or casing, a float cup arranged therein and provided with a centrally depressed cover, said float cup being spaced apart at its sides, bottom and top from said casing to form an air passage entirely around said cup, an ejector in said depression opening into said cup for the escape of hydrocarbon, an air inlet at the bottom of the casing, and means at the top of said casing for deflecting air into the said depression.

2. A constant level carbureter comprising a shell or casing, a float cup within said casing and provided with a centrally depressed cover, said float cup being spaced apart at its sides, bottom and top from said casing to form an air passage entirely around said cup, a float within said float cup having its top shaped to conform with the float cup cover, an ejector in said depression opening into said float cup for the escape of hydrocarbon, an air inlet at the bottom of said casing, and means pendent from the top of the casing having its sides shaped to conform with said depression for deflecting air into the depression and toward the ejector.

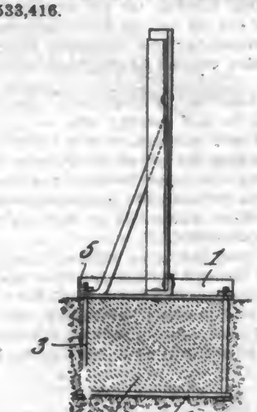
3. A constant level carbureter comprising a shell or casing and arranged therein a float cup spaced from said casing, a float within said cup, suitable means for maintaining a constant fluid level by means of said float, a cover for said cup of frusto-conical shape and provided with an ejector, a similarly shaped air deflector pendent from the casing above the frusto-conical cover and provided with by-pass perforations higher than the outlet opening of said deflector, a regulator fitted to said deflector and provided with openings adapted to coöperate with said by-pass openings, and an air inlet at the bottom of the casing.

4. A constant level carbureter comprising a shell or casing, and arranged therein a float cup provided with a valved hydrocarbon inlet and with a frusto-conical cover, said float cup spaced apart on all sides of said casing to form an air passage by which it is complete enveloped, a float in said cup having a depressed upper surface, suitable means for maintaining a constant level by means of said float, an ejector supported by said float cup cover at its lowest part, an air deflector above the cover conforming to the shape thereof and provided with a plurality of openings therein, and a regulator also provided with openings, operatively associated with said ejector and deflector.

5. A constant level carbureter, the sectional parts of which conform to a general frusto-conical design, said parts comprising a shell or casing having an air inlet in its lower end, a float cup arranged in said shell and spaced apart therefrom to form an air passage by which it is enveloped or surrounded, a float within said cup, suitable means for maintaining a constant fluid level by means of said float, a cover for said cup supporting an ejector, an air deflector above the cover provided with outlet openings, and a regulator operatively associated with said ejector and deflector also provided with openings.

[Claims 6 and 7 not printed in the Gazette.]

976,323. FENCE-POST. JOHN A. WARNER and WILLIAM A. WARNER, Bronson, Mich. Filed Dec. 16, 1909. Serial No. 533,416.



1. In a fence post, the combination of a base plate, an anchoring plate, anchoring bolts connecting the anchoring plate and the base plate, a standard rising from the base plate, a supplemental base plate secured to the standard and the base plate, and braces connecting the base plate with the standard.

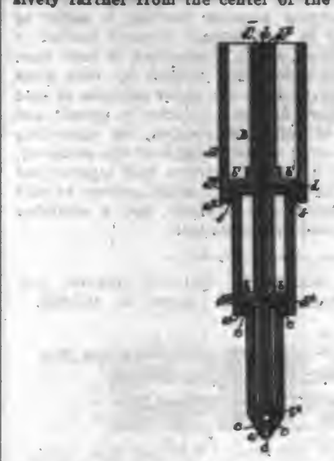
2. The combination of a base plate, an anchoring plate, anchoring bolts connecting the anchoring plate and the base plate, supplemental base plates secured to and diverging from the base plate, a standard rising from the base plate and secured to the supplemental base plates, and braces connecting the supplemental base plates and the standard.

3. A fence post for use at an angle between two meeting lines of fence, the same comprising a base plate set across the angle, a standard rising from said base plate, supplemental base plates secured at their inner ends to said standard and main base plate and diverging thence from each other, and braces connecting the standard with remote points on the supplemental base plates.

4. A fence post for use at an angle between two meeting lines of fence, the same comprising a base plate set across the angle, a buried anchor plate, bolts connecting it with said base plate, a standard rising from said base plate, supplemental base plates secured at their inner ends to said standard and main base plate and diverging thence from each other, and braces connecting the standard with remote points on the supplemental base plates.

976,324. PILE. LOUIS E. WELSH, Philadelphia, Pa., assignor, by direct and mesne assignments, to American Concrete Piling Company, Philadelphia, Pa., a Corporation of New Jersey. Filed July 10, 1909. Serial No. 506,901.

1. A pile having a plurality of shoulders successively increasing in diameter from the point to the butt, said pile having jet passages with outlets opening downwardly through the respective shoulders, the outlets at the different shoulders from the point to the butt being successively farther from the center of the pile.

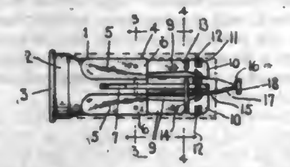


2. A pile having an inner and an outer form and having inner and outer shoulders on the outer form and flanges on the inner form bearing upon the inner shoulders of the outer form, with jet passages carried by the inner form and communicating with the openings in the outer form at the shoulders.

3. A pile having a form provided with shoulders, and a point, with a casing consisting of a series of shells having in-turned flanges which form shoulders, the said flanges of one section terminating short of the body of the other section so as to form jet openings, and means for admitting the jetting fluid to the several jetting openings.

4. A pile having an outer form with inner and outer shoulders, an inner form, said inner form having flanges adapted to bear upon the inner shoulders of the outer form, and the outer form having independent jet passages leading to the several outer shoulders and to the point of the same, and means for projecting jetting fluid to the several passages, said inner form being capable of being driven so that the pile may be simultaneously driven and jetted into the ground.

976,325. SHELL-EXTRACTOR. JOHN H. WHEELER and WILLIAM D. ALLEN, New Haven, Conn. Filed Sept. 15, 1910. Serial No. 582,226.

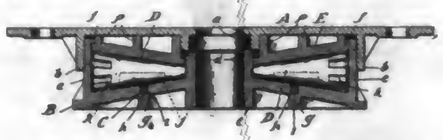


1. In a shell extractor a body portion having a longitudinal passage extending therethrough, a plurality of expansible gripping arms pivotally connected to said body portion, shell gripping lugs carried by said arms, an expanding plunger slidably mounted in the passage of said body whereby said arms and lugs are expanded to operative positions and a spring to retract and hold said arms in a retracted position.

2. In a shell extractor, a body portion having a longitudinal passage and a flanged rear end adapted to be acted on by the extracting mechanism of a gun, a plurality of expansible spring retracted gripping arms pivotally mounted on the forward end of said body portion, toothed gripping lugs carried by said arms, an expanding plunger slidably mounted in the passage of said body portion and means to prevent the casual removal of said expanding plunger.

3. In a shell extractor, a body portion, having a longitudinal passage, said body portion comprising a flanged rear end and a reduced forward portion, a series of notched lugs formed in said reduced forward portion, a series of gripping arms pivotally mounted in said lugs, toothed segmental gripping lugs carried by said arms angular expanding surfaces on the inner surfaces of said arms, a spring arranged around the latter to retract and to hold the same in retracted position, an expanding plunger slidably mounted in the passage of the extractor, said plunger having a reduced portion and tapered end adapted to engage the angular expanding surface of said arms whereby the latter are expanded, and a retaining head on the tapered end of the plunger.

976,326. CENTER-BEARING. WILLIAM WHITE, Chicago, Ill. Filed Sept. 21, 1908. Serial No. 453,982.



1. A center-bearing, comprising upper and lower members adapted to over-lap each other, one of said members being provided with a hub, a plurality of rollers arranged on the member with the hub, and a third member intermediate of the rollers and the member without the hub adapted to receive the thrust of said member and having positive engagement with the rollers.

2. A center-bearing, comprising upper and lower members, a plurality of rollers arranged on the one member, a third member intermediate of the rollers and one of the other members, said intermediate member being adapted to receive the thrust of one of the outer members and having engagement with the member on which the rollers are arranged whereby it is held against vertical displacement.

3. A center-bearing, comprising an upper and a lower member, one of said members being provided with a hub having horizontally disposed rim-portions, a plurality of rollers arranged on the member with the hub, and a third member adapted to take onto the rollers and beneath the rim-portions on the hub whereby the rollers and member are locked against vertical displacement, said third member being adapted to receive the thrust of the adjacent outer member.

4. A center-bearing, comprising upper and lower members, a plurality of rollers arranged on the one member, a third member intermediate of the rollers and one of the other members, said intermediate member having engagement with the member on which the rollers are arranged whereby it is held against vertical displacement, and a spacing-member taking between each of the rollers to maintain their proper relation.

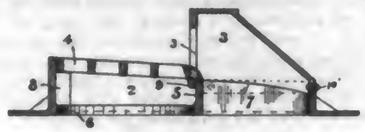
5. A center-bearing for railway-cars and the like, comprising an upper and a lower member, a plurality of rollers arranged on one of said members and having positive engagement therewith, and a driven member intermediate of the rollers and one of said members and having positive engagement with the rollers, said driven member being arranged to receive the thrust of the adjacent outer member.

[Claims 6 to 39 not printed in the Gazette.]

976,327. VAULT-HEAD. WILLIAM B. WHITE, Cleveland, Ohio. Filed Mar. 23, 1904. Serial No. 199,653.

1. In a vault head having an entrance opening, the combination with a lid for covering part of said opening and a hood for covering the remainder, of seats for the lid and an obstructing bar crossing that part of the vault head opening covered by the hood, substantially as described.

2. In a vault head having an entrance opening, the combination with a lid for covering part of said opening, a hood for covering the remainder, and seats for the lid; of a dividing bar on which one edge of the lid rests, and an obstructing bar crossing that part of the opening covered by the hood at an angle to the said dividing bar, substantially as described.



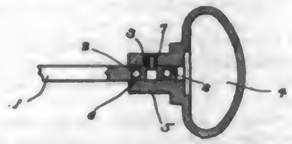
3. In a vault head having a rectangular entrance opening, a lid for partly covering the same and a hood for covering the remainder; the combination with a dividing bar dividing the two portions of the opening, a web with a circular opening beneath the lid smaller in diameter than any side of the lid, and an obstructing bar set at an angle to the dividing bar and projecting across that portion of the opening covered by the hood, substantially as described.

4. In a vault head having an entrance opening, a dividing bar dividing the said opening into two portions, a lid covering one of said portions, and a hood covering the other, an obstructing bar set at an angle to the dividing bar, and crossing the space beneath the hood, and extensions from the dividing bar projecting into the space beneath the hood on either side of said obstructing bar, substantially as described.

5. In a vault head having an entrance opening, a dividing bar dividing the said opening into two parts, a lid for covering one of said parts, and a hood for covering the other part, the said dividing bar having rearward extensions under said hood, substantially as described.

[Claims 6 to 16 not printed in the Gazette.]

976,328. DOOR-KNOB. ERNEST WINNE, New York, N. Y. Filed June 13, 1910. Serial No. 566,487.

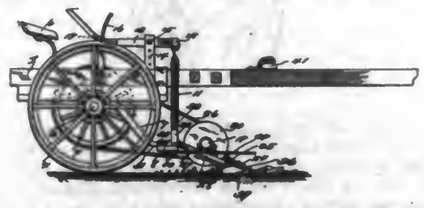


1. The combination with a door knob shank having a hole of uniform diameter extending from its outer surface to its bore and a spindle insertible into the bore of the shank and having a hole extending transversely through it and registerable with the hole of the shank, of a spring locking pin having a length greater than the depth of the hole in the shank and no greater than the depth of the hole in the spindle and provided with laterally expanding engaging means, substantially as set forth.

2. The combination with a door knob shank having a hole extending from its outer surface to its bore and a spindle insertible into the bore of the shank and having a hole extending transversely through it, which hole has an enlargement at one or both ends, of a tubular single piece spring metal pin slitted lengthwise so as to form a laterally springing tongue having an exterior projection near the free end, the pin having a length greater than the depth of the hole in the shank and not greater than the depth of the hole in the spindle in order that the unlocking of the shank from the spindle may be accomplished by pushing the pin entirely into the spindle, and from which the pin may be removed by being pushed entirely through the spindle, substantially as set forth.

3. The combination with a door knob shank having a hole extending from its outer surface to its bore, of a spindle insertible into the bore of the shank and having a hole extending transversely through it, which hole has an enlargement at one or both ends, of a tubular single piece spring metal pin closed at one end and open at the other, having slits and intervening tongues extending back from the open end, one or more of the tongues having an outwardly extending projection adjacent to the free end, all of these elements being so related that the pin may be retained in its normal position by reason of its exterior projections being held within a countersunk space in the end of the hole of the spindle, between the inner edge of the transverse hole of the shank and the shoulder formed by the countersink in the hole of the spindle, substantially as set forth.

976,329. STALK-CUTTER. CHARLES F. WITTEN, Norman, Okla. Filed Apr. 2, 1910. Serial No. 553,138.



1. In a stalk cutter, a supplemental frame yieldably supported, a shaft journaled in bearings thereon and provided with disk saws, forks pivoted to the supplemental frame, brackets therefor, yielding means in said brackets for coöperating with the forks, said forks having gravitating fork tips, and means to limit the upward movement of the gravitating fork tips.

2. In a stalk cutter, a supplemental frame yieldably supported, a shaft journaled in bearings thereon and provided with disk saws, forks pivoted to the supplemental frame, brackets therefor, yielding means in said brackets for coöperating with the forks, said forks having gravitating fork tips, means to limit the upward movement of the gravitating fork tips, said shaft having fingers or arms adjustably carried thereby and located between the saws.

3. In a stalk cutter, a series of yieldable forwardly projecting members, gravitating tips pivotally mounted on said members, and means to limit the upward movement of said tips, said tips being bent at an angle.

4. A supplemental frame having a series of individual forks, a saw mounted in each of said forks, and a gravitating tip carried by each of said forks.

5. In a stalk cutter, a series of forwardly projecting members pivoted at their rear ends, a spring arranged in front of each of said pivots and adapted to force said members downwardly, said members being provided with saws.

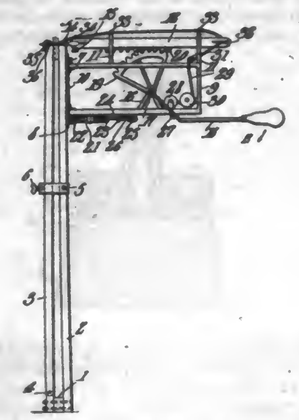
[Claims 6 to 12 not printed in the Gazette.]

976,330. STITCHING-MACHINE. CHARLES T. ADAIR and ROBERT G. HARDGRAVE, Tucumcari, N. Mex. Filed Apr. 14, 1910. Serial No. 555,362.

1. A device of the class described comprising a support; a carriage slidable upon the support; a rack carried by the support; a pinion upon the carriage meshing with the rack; a pawl mounted upon the carriage and engaging the pinion; a needle holder slidable upon the carriage; and a device for operating the holder, arranged to engage the pawl.

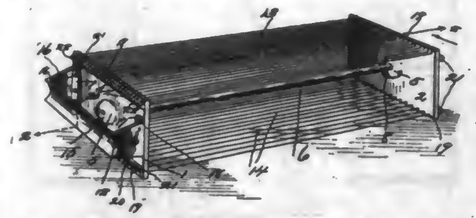
2. A device of the class described comprising a support; a carriage slidable upon the support; a rack carried by the support; a pinion upon the carriage meshing with the rack; a pawl mounted upon the carriage and engaging the pinion; a needle-holder slidable upon the carriage; a device for operating the holder, arranged to engage the pawl; resilient means for normally holding the pawl out of engagement with the pinion; and anti-friction means upon the pawl engageable by said operating device.

3. A device of the class described comprising a support; a carriage slidable upon the support; a rack carried by the support; a pinion upon the carriage meshing with the rack; a pawl mounted upon the carriage and arranged to engage the pinion; a needle holder slidable upon the carriage and provided with a rack; a gear segment pivoted upon the carriage and meshing with the rack of the needle



holder; and means for operating the segment, arranged to engage the pawl to advance the same toward the pinion

976,331. COMB-CLEANER. OTTO L. ALBERTSON, Nunda, S. D. Filed Apr. 8, 1910. Serial No. 554,255.



In a comb cleaner, two opposing plates spaced apar having their edges provided with cuts, a plurality of wire received by said cuts and having loops at their extremi ties arranged on the outside faces of the plates and be yond the cuts, rods extending through the loops and se cured to the outside faces of said plates, screws penetrat ing the rods into the plates, a rod having a shoulder an a restricted portion at one end, and a threaded portio and eye at the other end, one of said plates having a cen trally arranged aperture to receive the restricted portio of the rod in order that the plate may contact with sai shoulder, while the other plate is provided with a threade aperture to engage the threads of said rod, and an angula arched shaped handle having flanges secured to one o said plates, and screws penetrating said flanges and th plate.

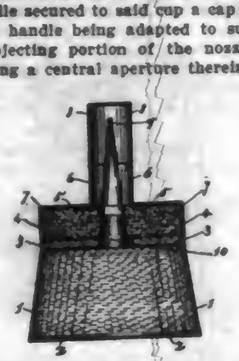
976,332. MAKING A CEREAL BREAKFAST FOOD HENRY ANHALTZER, Pittsburg, Pa. Filed Jan. 4, 1909 Serial No. 470,574.

A process for manufacturing a food product consistin in converting a plastic substance composed of a cereal water and pepsin into thin films, then thoroughly dryin the films, then roasting the films and then while maintain ing the films in a heated condition applying thereto flavoring powder consisting of desiccated coffee, sugar, an milk, while keeping the mass in a state of agitation an continuing the agitation until the films have become coo and a uniformly incrusting coating is formed thereon.

976,333. COMBINED OIL-CAN AND LUBRICATOR CHARLES ARTHUR, Eureka, Cal. Filed Mar. 21, 1910 Serial No. 551,790.

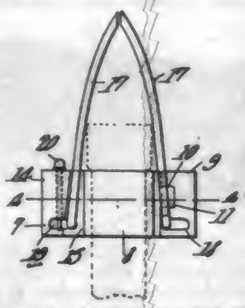
1. An oil can having an upwardly projecting nozzle, collar upon the top of said can; a lubricator comprisin

a shallow cup adapted to snugly fit within said collar; a hollow handle secured to said cup a cap for said handle, said cup and handle being adapted to surround and inclose the projecting portion of the nozzle; and fibrous material having a central aperture therein in said cup.



2. The combination of an oil can having a nozzle; and a lubricator comprising a shallow cup having a hollow handle with fibrous material in said cup, the said lubricator forming a protective covering for the nozzle of the oil can when placed thereon.

976,334. CLAMP. EARL ATHEY, Uvalde, Tex. Filed May 7, 1910. Serial No. 559,930.



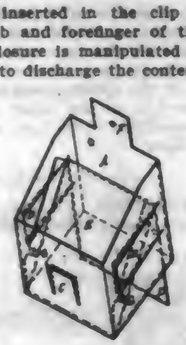
1. A device of the character described comprising a pair of pivotally connected jaws, the free end of one of said jaws having a recess into which the free end of the other jaw extends when said jaws are in closed position, and said first mentioned free end having a slot, and the other free end having a recess registering with the slot, balls connected to opposite sides of the jaws, one of said balls extending through the aforesaid slot, and being movable to enter the recess, and a pin passing through the slot on one side of the ball, for locking the same in the recess.

2. A device of the character described comprising a pair of pivotally connected jaws, one of said jaws having a slot extending across the axis of the pivotal connection, and balls connected to opposite sides of the jaws, one of said balls being mounted in the aforesaid slot, and movable therein to extend across the joint between the jaws.

3. A device of the character described, comprising a pair of pivotally connected jaws, and balls connected to opposite sides thereof, the free ends of the jaws having a slot crossing the joint therebetween, and said slot extending transversely with respect to the pivotal axis of the jaws, one of the balls being mounted in the slot, and movable therein to extend across the aforesaid joint.

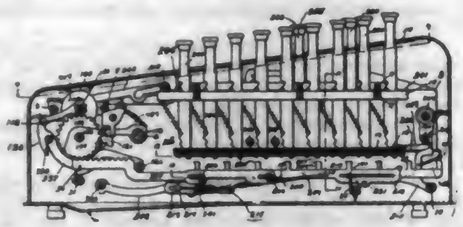
976,335. COIN AND LETTER HOLDER FOR RURAL-ROUTE BOXES. WILLIS E. AYERS, Salem, Ohio. Filed Mar. 15, 1910. Serial No. 549,537.

1. A coin and letter holder having a discharge opening at its bottom, a closure for said opening and a spring clip upon the side of the holder, the parts so arranged that the mail matter inserted in the clip may be grasped between the thumb and forefinger of the letter-carrier's hand, while the closure is manipulated by the other fingers of said hand to discharge the contents of the holder,



2. A coin and letter holder formed from a single piece of sheet material bent to form an open-ended rectangular casing, a tongue struck from the side of said casing to form a spring clip, a bottom eccentrically pivoted in said casing and having an extension which serves as a counterweight to hold said bottom closed and also as a hand-piece to manipulate said bottom, the clip being so placed in relation to the hand-piece that mail matter inserted in the clip may be grasped by the thumb and forefinger of the hand of a letter carrier, while the hand-piece is manipulated by the other fingers of said hand to discharge the contents of the holder.

976,336. CALCULATING-MACHINE. GLENN J. BARRETT, Grand Rapids, Mich., assignor of two-thirds to Grand Rapids Brass Company, Grand Rapids, Mich. Filed Jan. 3, 1910. Serial No. 536,125.



1. In a calculating machine, the combination of a series of accumulating dials; reciprocating actuating members therefor; a series of depressible key stems for limiting the movement of said reciprocating actuating members, having stops for said reciprocating members; two beveled parts on said key-stems, one above the other and an engaging portion between them; the upper beveled part projecting beyond said engaging portion; a plurality of notches in each stem; and a slidable locking plate to cooperate with said notches in said key-stems when the latter are in either a normal or a depressed position and coact with said beveled portions whereby the complete depression of any key releases the others by the action of said upper bevel, substantially as described.

2. In a calculating machine, the combination of a series of dials; reciprocating members for actuating the same; a series of depressible key-stems for limiting the movement of said reciprocating members in one direction, said key-stem having a plurality of beveled portions, one above the other, and an engaging portion between them, the upper beveled part projecting beyond said engaging portion, and a lock means to coact with said engaging portions and coact with said beveled portions whereby the complete depression of any key releases the others by the action of said upper bevel, substantially as described.

3. In a calculating machine, the combination of a series of accumulating dials; reciprocating members for actuating the same; depressible key-stems for limiting the movement of said reciprocating members, said key-stems having two beveled portions, and an engaging portion and a lock means to coact with said engaging portions and coact with said beveled portions, whereby the complete depression of any key releases the others by the action of said upper bevel, for the purpose specified and substantially as described.

4. In a calculating machine, the combination of a series of dials; reciprocating actuating members therefor; depressible key-stems for limiting the movement of said actuating members, said key-stems having two beveled portions one above the other, with an engaging portion between them; the upper beveled part projecting beyond said engaging portion; a plate having openings to receive said key-stems, one edge of which openings being adapted to coöperate with beveled and engaging portions of said key-stems; a spring for returning said key-stems to normal positions, and to exert a tension between said beveled and engaging portion of said key-stems, and the edge of the openings in said plate, whereby the depression of any key releases the others by the action of said upper bevel, for the purpose specified and substantially as described.

5. In a calculating machine, the combination of a series of accumulating dials; reciprocating actuating members therefor; depressible key-stems for limiting the movement of said actuating members; beveled edges on said key-stems; an engaging portion on said key-stems; a plate having the edge arranged to coöperate with the beveled edges of said key-stems and the engaging portion of said key-stems; and a spring to tension said beveled edges and engaging portion of said key-stems against said edges of said plate, whereby the depression of any key releases the others by the action of said upper bevel, substantially as described.

[Claims 6 to 105 not printed in the Gazette.]

976,337. METHOD OF PREPARING PIGMENTS. FREDERICK M. BECKET, Niagara Falls, N. Y., assignor to Electro Metallurgical Company, New York, N. Y., a Corporation of West Virginia. Filed Sept. 18, 1908. Serial No. 453,587.

1. The method of preparing pigments from refractory bodies, which consists in first comminuting to the degree of fineness required for the pigment a refractory body capable of developing a color when heated in contact with a gas, and then heating the comminuted body in presence of the gas, and regulating the temperature and gas supply to control the color of the pigment.

2. The method of preparing pigments from refractory bodies, which consists in first comminuting to the degree of fineness required for the pigment a refractory body capable of developing a color when heated in contact with a gas, agitating the comminuted body, and heating the same in presence of the gas to develop the color.

976,338. GANG-PLOW. WILHELM BERNDT, Haven, Wis. Filed Oct. 11, 1909. Serial No. 521,982.

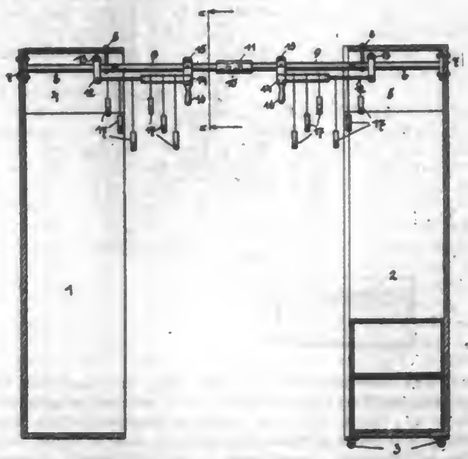


1. In a gang-plow comprising a frame having a series of plows secured thereto; the combination of front and rear crank axles mounted upon the frame, truck-wheels carried by the axles, a leg extending upwardly from the front axle, a link connecting the leg above said front axle and

crank portion of the rear axle below the same, a hand lever carried by the crank portion of the rear axle, a detent secured to the hand lever, and a toothed sector secured to the frame for engagement with the detent.

2. In a gang-plow comprising a frame having a series of plows secured thereto; the combination of brackets secured to the frame, front and rear crank axles mounted in the brackets, one of the front axle cranks being of greater length than its companion, truck-wheels carried by the axles, a leg extending upwardly from the front cranked axle, a link connecting the leg above the axle and crank portion of the rear axle at a point below said axle, a lever carried by the crank portion of the rear axle, and means for locking the lever to the frame.

976,339. TRUNK. CHARLES BILLBURG, Chicago, Ill. Filed Dec. 1, 1909. Serial No. 530,758.



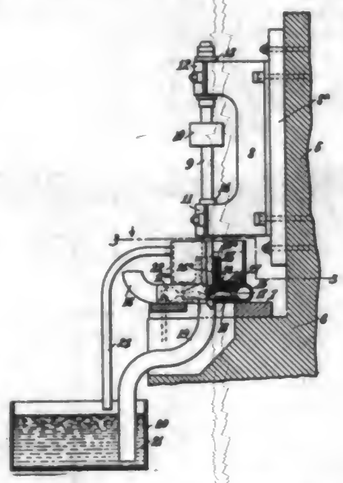
1. A trunk comprising slidable separable body and cover portions; supporting rods secured to each of said portions; rod extensions hinged to said supporting rods and having their outer ends linked together; a tube adapted to slide over said extensions at their linked ends; and a garment rack support slidable on said rods and extensions substantially as described.

2. A trunk comprising slidable separable body and cover portions; supporting rods secured at their inner ends to each of said portions and provided with hanger supports at their outer ends; rod extensions hinged to said supporting rods and having their outer ends linked together; a tube adapted to slide over said extensions at their linked connection; garment rack supports on each of said supporting rods and extensions, each of the said garment rack supports comprising an inner member carrying a roller riding on said supporting rod, and an outer member carrying a pair of angularly disposed rollers adapted to ride on the extension and adjacent rod support and telescoping said inner member; and garment racks on said garment rack supports, substantially as described.

976,340. CENTRIFUGAL PUMP. DAVID WESLEY BLAI New York, N. Y. Filed Oct. 2, 1909. Serial No. 520,62

1. The combination of a casing provided with a cylindrical member, an impeller revolubly mounted within said casing, a shaft fitting loosely into said cylindrical member and connected with said impeller for the purpose of turning the latter, a fluid receptacle encircling said shaft and said cylindrical member for the purpose of storing a quantity of fluid discharged from said casing by aid of movements of said impeller, and means controllable at will for governing the flow of said fluid from said casing into the said receptacle in order to enable said fluid to form a liquid seal between said cylindrical member and said shaft.

2. In a centrifugal pump, the combination of a casing, an impeller mounted therein, a shaft extending into said casing and connected with said impeller for turning the latter, a receptacle mounted upon said casing and adapted to hold a small quantity of liquid discharged from said casing while said pump is in action, said liquid thus stored encircling said shaft where it enters said pump, forming a liquid seal for preventing the escape of liquid around said shaft, and an overflow pipe connected with said receptacle for removing excess of liquid contained within the same.



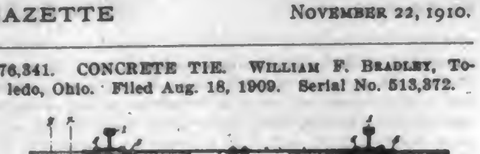
3. The combination of a pump casing provided with an opening and further provided with a member of substantially cylindrical form, an impeller mounted within said casing and adapted when in action to raise a liquid, and also to discharge a small quantity of said liquid through said opening, a shaft fitting loosely into said substantially cylindrical member and connected with said impeller for the purpose of turning the latter, a receptacle mounted upon said casing and connected with said opening for the purpose of receiving from said opening the fluid discharged therefrom, said receptacle extending upwardly to a greater altitude than the top of said member of substantially cylindrical form for guiding said liquid contained within said receptacle into the space between said member of substantially cylindrical form and said shaft in order to form a liquid seal.

4. The combination of a pump casing provided with an opening, a closure plug detachably fitting into said opening and removable therefrom at the will of the operator, a supply pipe and a discharge pipe connected with said casing, an impeller mounted within said casing and adapted to receive a liquid from said supply pipe and to force the bulk of said liquid into said discharge pipe, a receptacle mounted upon said casing and adapted to receive therefrom a small quantity of liquid discharged through said opening, a shaft extending into said casing and connected with said impeller for the purpose of turning the latter, and means for enabling said quantity of liquid contained in said receptacle to form a liquid seal between said shaft and said casing.

5. The combination of a casing provided with an opening and further provided with a substantially cylindrical portion, an impeller mounted within said casing, a shaft extending through said cylindrical portion and connected with said impeller for turning the latter, a discharge pipe, and a supply pipe connected with said casing, a receptacle disposed adjacent to said cylindrical portion and in direct open communication with the interior of said casing, and means controllable at will for reversing the direction of travel of a liquid flowing between said shaft and said cylindrical portion.

[Claim 6 not printed in the Gazette.]

976,341. CONCRETE TIE. WILLIAM F. BRADLEY, Toledo, Ohio. Filed Aug. 18, 1909. Serial No. 513,872.



1. A concrete-tie having its cross-sectional area gradually decreasing in horizontal and vertical planes from near its center toward its ends.

2. A concrete-tie having its maximum cross-sectional area at the point of shock and its end portions gradually diminishing in cross-sectional area outwardly therefrom both in vertical and horizontal planes.

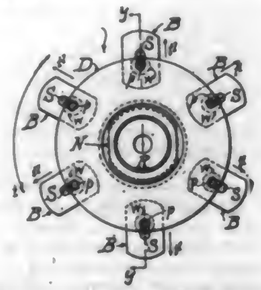
3. A concrete-tie which has its top surface substantially flat and its bottom convexed both transversely and longitudinally with the greater cross-sectional area at the point of greatest shock.

4. The combination with a rail of an individual tie therefor, which has its top of substantially elliptical form and its bottom convexed both transversely and longitudinally with its greatest cross-sectional area beneath the rail.

5. A concrete-tie the cross-sectional area of which gradually decreases from the point of shock outwardly, and a fin provided at the underside of one end portion thereof.

[Claims 6 and 7 not printed in the Gazette.]

976,342. RUST-CLEANER. CHARLES R. CANNON, Cleveland, Ohio, assignor to The Brown Hoisting Machinery Company, Cleveland, Ohio. Filed Apr. 8, 1909. Serial No. 488,783.



1. The combination of a central rotatory hub, oppositely arranged supports projecting radially from the ends thereof, transverse pins between and carried by said supports, together with a series of cutting blades loosely threaded upon said pins, through longitudinal slots therein, and suitable means for operatively connecting said hub with a rotatively actuating motor therefor, substantially as shown and described.

2. In a rust-cleaning device, the combination, with a cylindrical rotatory head, of oppositely arranged supports projecting radially therefrom at the ends thereof, transverse pins between and carried by said supports, and a series of oblong cutting blades threaded upon said pins through longitudinal apertures in said blades provided for the purpose, substantially as shown and described.

3. In a rust-cleaner, the combination with a central hub, or cylinder, of annular flanges or disk-like plates, projecting radially from each end thereof, transverse pins between and supported by said plates, together with a series of oblong cutting blades, threaded upon said pins, through slot-like apertures longitudinally of the same, substantially as shown and described.

4. In a rust-cleaning device, the combination with a rotatory head, of annular flanges or disk-like plates, projecting radially from and detachably connected to the ends thereof, transverse pins between and supported by said plates, together with a series of oblong cutting blades, loosely threaded upon said pins, through longitudinal slots or apertures in the same provided for the purpose, substantially as shown and described.

5. A rotary cleaning device comprising a pair of spaced side plates having means whereby they may be mounted for rotation, a plurality of transverse pins arranged about the center of rotation of the side plates and at substantially equal distances from such center, and a plurality of blades mounted upon each pin and having the openings through which the pins pass larger than the diameter of the pins.

[Claims 6 to 8 not printed in the Gazette.]

976,343. COMPOSITION FOR USE IN BREAD-MAKING. DAVID CHIDLOW, Washington, D. C. Filed July 29, 1909. Serial No. 510,253.

1. A composition of matter for use in bread making, containing acid potassium tartrate, dry yeast and saccharine matter in substantially the proportions specified.

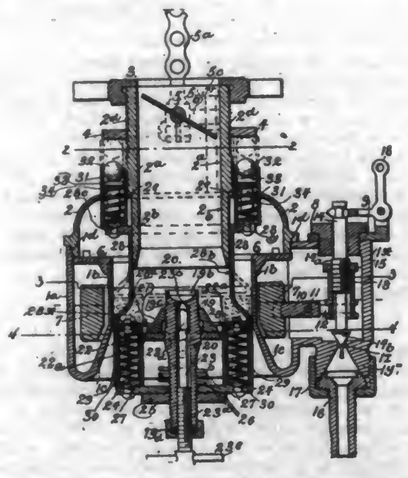
2. A composition of matter for use in bread making consisting of acid potassium tartrate, saccharine matter, dry yeast, salt and a filler in substantially the proportions specified.

3. A composition of matter for use in bread making containing dry yeast and acid potassium tartrate in substantially the proportions specified.

4. A composition of matter for use in bread making containing acid potassium tartrate, dry yeast, saccharine matter and a filler, in substantially the proportions specified.

5. A composition of matter consisting of acid potassium tartrate, saccharine matter and a filler in substantially the proportions specified suitable for bread making when yeast is added thereto.

976,344. CARBURETER. SILAS CHRISTOFFERSON, NELSON T. WOODS, and WILLIAM E. JONES, Portland, Oreg., assignors to Christofferson-Woods Carburetor Co., Portland, Oreg., a Corporation of Oregon. Filed Dec. 30, 1909. Serial No. 535,617.



1. A carbureter comprising a casing having a central passage and inclosing a float chamber, a float within said float chamber, said casing having an extension and a float lever pivoted in said extension, a valve in said extension coöperatively connected with said float lever, means for admitting gasolene through said valve into the float chamber, a cap for said casing having a central pipe member projecting into said central passage, a tubular air valve carried on said pipe member, a gasolene valve mounted within the central passage of said casing, pipes connecting the casing of said gasolene valve with said float chamber, said air valve having a passage to permit projection of said gasolene valve casing, and means carried by said gasolene valve casing coöperating with said air valve to vary the area of said air valve passage as said air valve moves.

2. A carbureter comprising a casing having a centr passage and inclosing a float chamber, a float within sa float chamber, said casing having an extension, and float lever pivoted in said extension, a valve in said e tension operatively connected with said float lever, mean for admitting gasolene through said valve into the flo chamber, a cap for said casing having a central pi member, a tubular air valve carried on said pipe mem ber, a gasolene valve mounted within the central passag of said casing, pipes connecting the casing of said gas lene valve with said float chamber, said air valve havi a passage to permit projection of said gasolene valv casing means carried by said gasolene valve casing c operating with said air valve to vary the area of sa air valve passage as said air valve moves, a seat for sa air valve carried by the casing of said gasolene valv and resilient members for supporting said air valve whe in its inoperative position.

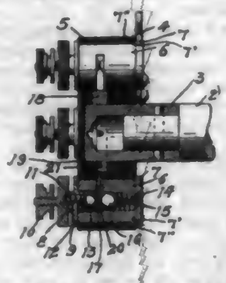
3. A carbureter comprising a casing having a centr passage and inclosing a float chamber, a float within sa float chamber, said casing having an extension and a flo lever pivoted in said extension, a valve in said extensio coöperatively connected with said float lever, means f admitting gasolene through said valve into the flo chamber, a cap for said casing having a central pi member, a tubular air valve carried on said pipe membe a gasolene valve mounted within the central passage said casing, pipes connecting the casing of said gasole valve with said float chamber, said air valve having passage to permit projection of said throttle valve ca ing, means carried by said gasolene valve casing c operating with said air valve to vary the area of sa air valve passage as said air valve moves, and mean for resiliently supporting said air valve and limiting movement in one direction.

4. A carbureter comprising a casing having a centr passage inclosing a float chamber, a float within sa float chamber, said casing having an extension and float lever pivoted in said extension, a valve in said e tension coöperatively connected with said float leve means for admitting gasolene through said valve into t float chamber, a cap for said casing having a centr pipe member, a tubular air valve carried on said pi member, a gasolene valve mounted within the centr passage of said casing, pipes connecting the casing said gasolene valve with said float chamber, said a valve having a passage to permit projection of said gas lene valve casing, and means carried by said gasole valve casing coöperating with said air valve to vary t area of said air valve passage as said air valve move and means for resiliently supporting said air valve a limiting its movement in one direction together wi means for limiting the movement of said air valve in opposite direction.

5. A carbureter comprising a casing having a centr passage inclosing a float chamber, a float within said flo chamber, said casing having an extension and a flo lever pivoted in said extension, a valve in said extensi coöperatively connected with said float lever, means f admitting gasolene through said valve into the flo chamber, a cap for said gasolene having a central pi member, a tubular air valve carried on said pipe membe a gasolene valve mounted within the central passage said casing, pipes connecting the casing of said gasole valve with said float chamber, said air valve having passage to permit projection of said gasolene valve ca ing, means carried by said gasolene valve casing coöpera ing with said air valve to vary the area of said air val passage as said air valve moves, means for resilient supporting said air valve and limiting its movement one direction together with means for limiting the mov ment of said air valve in an opposite direction, said la named limiting means including buffer devices.

[Claims 6 to 18 not printed in the Gazette.]

976,345. SPARK-TIMING DEVICE FOR EXPLOSIVE-ENGINES. EUGENE A. COOPER, Britton, S. D. Filed Mar. 25, 1907. Serial No. 364,457.



1. A spark timing device comprising a shaft, a ring secured thereon, and having a socket in its periphery, a tongue pivoted at one end in said socket and decreasing in thickness from its longitudinal center toward each edge and adapted to rock on its pivot pin and electrodes inclosing said shaft and between which said tongue is adapted to sweep by the revolution of said shaft.

2. The combination, with a casing, of a shell fitting therein and having a socket, a spring provided in said socket, an anti-friction ball fitting within said socket and engaging said spring, said shell having a slot extending therethrough substantially at right angles to said socket, a plug fitting within said shell on the opposite side of said slot from said ball, a second ball carried by said plug, a spring yieldingly holding said second ball, and a tongue arranged to sweep between said balls and having a rolling contact with both of them.

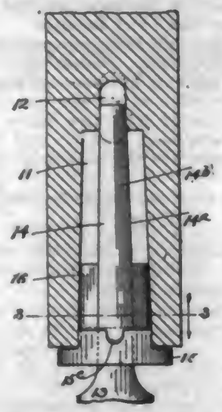
3. A spark timing device comprising a base having a recess, a shaft fitting within said base and revolving therein, a tongue carried by said shaft, a cover fitting on said base, shells having flanged ends extending through said base and cover, plugs fitting within sockets in said shells and also having flanges to bear on said cover, whereby said base and cover will be held together, anti-friction bearing balls mounted in said shells, and plugs, and between which said tongue is adapted to pass during the revolution of said shaft.

4. A spark timing device comprising a revolving shaft, a tongue pivotally supported at one end on said shaft and projecting laterally therefrom, said tongue being held against rotary movement on its pivot, but capable of oscillation thereon, a series of electrodes arranged at intervals around said shaft, each electrode comprising two normally contacting surfaces, and said tongue being adapted to pass between and separate said surfaces, for the purpose specified.

976,346. CENTERING AND DRIVING MEANS FOR TOOLS. SAMUEL H. COX, Cleveland, Ohio, assignor to The Cleveland Twist Drill Company, Cleveland, Ohio, a Corporation of Ohio. Filed July 28, 1910. Serial No. 574,283.

1. In combination a spindle having a conical opening therein, a tool having a shank which extends into said opening and is provided with opposite substantially flat sides and with edges rounded and tapered to fit the conical wall of the spindle opening, and a device at the end of the spindle comprising a collar through which the shank extends, and inwardly projecting lugs having inner faces which engage the opposite flat sides of the shank, and outer rounded surfaces which engage the conical wall of the spindle opening.

2. In combination, a spindle having a conical opening therein, a tool having a shank which extends into the opening and is provided with opposite flat tapered sides and edges rounded and tapered to fit the conical wall of the spindle opening, and a device at the outer end of the spindle comprising a collar through which the shank extends, and inwardly projecting lugs having inner flat faces which engage the flat tapered sides of the shank, and outer surfaces which engage and are rounded and tapered to fit the wall of the spindle opening.



3. In combination, a spindle having a conical opening therein, a tool having a shank which projects into said opening and is provided with opposite flat tapered sides and with edges rounded and tapered to fit the conical walls of the spindle opening, and centering and driving means for the outer portion of the shank comprising a collar at the end of the spindle provided with an opening shaped to substantially fit the shank and with inwardly projecting lugs which engage the conical wall of the spindle opening and engage the opposite flat tapered sides of the shank, said collar and spindle having interlocking portions.

4. In combination, a spindle having a conical opening therein, a tool having a shank which has a driving connection with the spindle at the inner end of the conical opening, and is provided with tapered flat opposite sides and with edges rounded and tapered to fit the conical wall of the spindle opening, and means for centering the tool in the spindle opening and for forming an auxiliary driving connection between the spindle and tool comprising a collar having an opening through which the shank extends, and inwardly projecting lugs having inner tapered faces which engage the opposite flat tapered faces of the shank, and outer surfaces which fit the conical wall of the spindle opening, the spindle and collar having interlocking portions formed by a slot in one of the members, and a projection on the other member engaging in the slot.

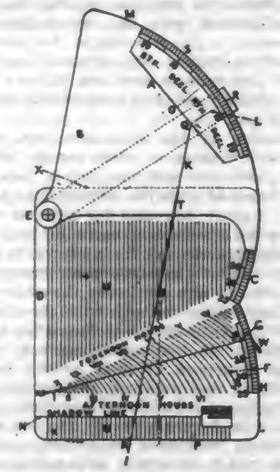
5. As an article of manufacture, means for centering a tool in a spindle opening comprising a collar provided with a substantially rectangular opening extending therethrough and provided on one side with a pair of lugs which are spaced apart and are provided with inner substantially flat faces, and with outer surfaces rounded concentrically with respect to each other.

[Claim 6 not printed in the Gazette.]

976,347. ALTITUDE TIME-DIAL. FREDERICK J. DICK, Point Loma, Cal., assignor to Katherine Tingley, Point Loma, Cal. Filed Dec. 17, 1907. Serial No. 406,921.

1. In an altitude-time-dial the combination of two plates pivotally connected to admit of adjustable movement suitably corresponding to various latitudes, a plumb-line attached to a radial bar or plate, and means for introducing, between the point of attachment of the plumb-line to the radial bar or plate and an indicating-point on the plumb-line, a point of oscillation on said plumb-line at adjustably varying distances from the point of attachment, substantially as described.

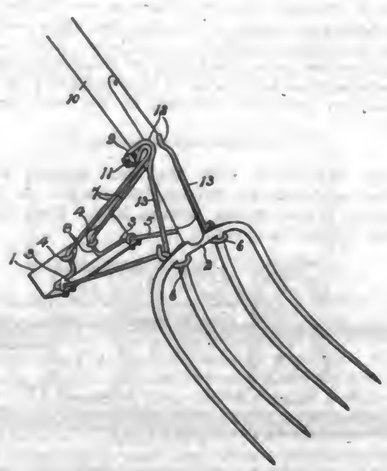
2. In an altitude-time-dial the combination of two plates pivotally connected, and a pivotally connected adjustable radial bar or plate, to which a plumb-line is attached, and means for causing a variable point of oscillation on said plumb-line to adjustably coincide with a particular series of points on one of the plates suitably corresponding to various declinations of celestial bodies, substantially as described.



3. In an altitude-time-dial the combination of two plates pivotally connected to admit of adjustable movement suitably corresponding to various latitudes, a plumb-line attached to a pivotally connected radial bar or plate, and means for suitably referring an indicating-point permanently fixed on the plumb-line, to several particular series of indicated points on one of the plates suitably corresponding to various hour-angles at the same various latitudes, substantially as described.

4. In an altitude-time-dial the combination of two plates pivotally connected to admit of adjustable movement suitably corresponding to various latitudes, a radial bar or plate, a plumb-line attached thereto, and an adjustable elastic thread for indicating on certain hour-lines suitably delineated on one of the plates the particular series of points proper for reference at the same various latitudes, substantially as described.

976,348. PITCHFORK ATTACHMENT. CHARLES A. DUPREY, Mount Clemens, Mich. Filed Dec. 8, 1909. Serial No. 531,979.



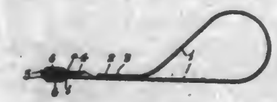
1. The combination with a fork of a fulcrum plate bent at an angle throughout its length, a pair of oppositely disposed, substantially triangular frames each provided with a lateral offset at one apex secured in the angle of the plate and formed at a second apex to interlock with the fork tines, and at the third apex to partly embrace the handle of the fork, and a fastening member adapted to hold the frames in engagement with the fork handle.

2. The combination with a fork of a fulcrum plate bent at an angle throughout its length, a pair of oppositely disposed, substantially triangular frames each provided with a lateral offset at one apex resting in the angle of the plate and formed at a second apex to interlock with the fork tines and at the third apex to partly embrace the handle of the fork, clips engaging the frames adjacent the offsets and securing them to the fulcrum plate, and a fastening member adapted to hold the frames in engagement with the fork handle.

3. The combination with a fork of a fulcrum plate bent at an angle throughout its length, a pair of oppositely disposed frames, each consisting of a spring rod closed on itself in the form of a triangle, with a lateral offset at one apex resting in the angle of the plate, a hook at a second apex adapted to interlock with a fork tine and an eyelet at the third apex bent laterally to conform to the handle, clips securing each frame adjacent the offset to the fulcrum plate, and a bolt engaging the eyelets and securing them against the handle.

4. The combination with a fork of a fulcrum plate bent at an angle throughout its length, a pair of oppositely disposed frames, each consisting of a spring rod closed on itself in the form of a triangle, with a lateral offset at one apex resting in the angle of the plate, a hook at a second apex adapted to interlock with a fork tine and an eyelet at the third apex, said eyelet being folded back on the frame in the plane thereof and bent laterally to conform to the fork handle, means securing the frames adjacent the offset to the fulcrum plate, and a bolt passing through the eyelets behind the fork handle and securing the eyelets against the sides of the handle.

976,349. SEAL. FREDERICK EGGE, Bridgeport, Conn. Filed Dec. 16, 1909. Serial No. 533,372.



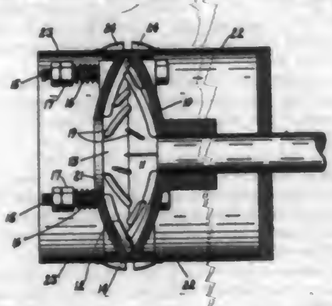
A seal comprising a strap having at one end a perforated tongue and having at the other extremity a flat socket provided with alined perforations in its upper and lower walls within which socket said tongue may be inserted, an elliptically shaped spring carried by said socket with its arms extending above and below said socket and having its extremities bent inwardly and permanently engaged with said perforations and normally projecting through the latter and meeting within said socket so as to be in the path of said tongue when the latter is inserted therein, and a housing surrounding said socket.

976,350. THROWING-WHEEL FOR GRADERS. WILLIAM J. EHRSAM and ERNST H. SIEDER, Enterprise, and LAWRENCE N. MORSCHER, Lawrence, Kans., assignors to William J. Ehrsam, Enterprise, Kans., and Lawrence N. Morscher, Lawrence, Kans., cotrustees. Filed Aug. 18, 1909. Serial No. 513,536.

1. An impeller comprising a pair of rotary coacting members forming a receiving chamber therebetween and having contacting surfaces at their outer edges, radially extending ribs carried by the chamber-forming surfaces of said members and extending substantially to but without interfering with the contacting of the contacting edges of said members, means for yieldingly holding said members together with a force sufficient to retard but not prevent the issuance of any particles from the interior of the chamber outward between the said contacting surfaces.

2. An impeller comprising a pair of rotary coacting members forming a receiving chamber therebetween and

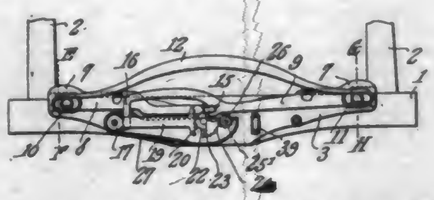
having contacting surfaces at their outer edges, radially extending ribs carried by the chamber-forming surfaces of said members without interfering with the contacting of the contacting edges of said members, means for yieldingly holding said members together with a force sufficient to retard but not prevent the issuance of any particles from the interior of the chamber outward between the said contacting surfaces, and a pair of guard lips 24 one carried by each of said members and arranged adjacent the contacting portions of the two members.



3. An impeller comprising a pair of rotary co-acting members forming a receiving chamber therebetween, radially extending ribs carried by the chamber forming surfaces of said members, a pair of guard lips 24, one carried by each of said members, and arranged adjacent the co-acting portions of the two members, and means for yieldingly holding said members together, for the purpose set forth.

4. An impeller comprising a pair of rotary co-acting members forming a receiving chamber therebetween, a pair of guard lips 24, one carried by each of said members, and arranged adjacent the co-acting portions of the two members and means for yieldingly holding said members together, for the purpose set forth.

976,351. WAGON-SCALE. ALLAN W. FAIRCHILD, Neebish, Mich., assignor of one-half to John O'Dell, Neebish, Mich. Filed Sept. 29, 1909. Serial No. 520,160.



1. In a device of the class described, a supporting plate; levers fulcrumed at their remote ends upon the supporting plate, the inner end of one of said levers being pivotally interlocked with the intermediate portion of the other of said levers; weight-indicating mechanism; an operative connection between the adjacent end of the last-named lever and the weight-indicating mechanism for actuating the same; and a weight-supporting compression spring arranged to bear terminally upon the levers intermediate their fulcrums and their point of interlocking.

2. In a device of the class described, a supporting plate; levers having their remote ends fulcrumed upon the supporting plate, the adjacent end of one lever being pivotally interlocked with the intermediate portion of the other lever; a shaft journaled for rotation in the plate; weight-indicating mechanism operatively connected with the shaft; means operatively connecting the adjacent end of the last-named lever with the shaft to secure a rotation of the same; and load-receiving means bearing upon the levers intermediate their fulcrums and their point of interlocking.

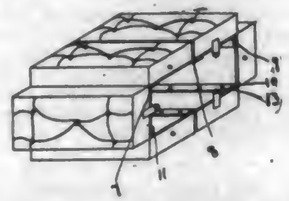
3. In a device of the class described, a supporting plate; levers fulcrumed at their remote ends upon the supporting plate, the adjacent end of one lever being pivotally interlocked with the intermediate portion of the other lever; a pinion mounted for rotation on the plate; a rack carried by the adjacent end of the last-named lever and in mesh with the pinion; an arm carried by the pinion; and weight-indicating mechanism operable by the arm.

4. In a device of the class described, a supporting plate; levers fulcrumed at their remote ends upon the supporting plate, the adjacent end of one lever being pivotally interlocked with the intermediate portion of the other lever; a shaft journaled for rotation in the plate; weight-indicating mechanism operable by the shaft; a pinion rotatably carried by the plate; a rack carried by the adjacent end of the last-named lever and in mesh with the pinion; an arm carried by the pinion; and means operatively connecting the arm with the shaft to secure a rotation of the latter upon a reciprocation of the former.

5. In a device of the class described, a supporting plate; levers fulcrumed at their remote ends upon the supporting plate, the adjacent end of one lever being pivotally interlocked with the intermediate portion of the other lever; a shaft journaled for rotation in the plate; weight-indicating mechanism operatively connected with the shaft; a pinion rotatably mounted upon the plate; a rack carried by the adjacent end of the last-named lever and in mesh with the pinion; an arm carried by the pinion and terminally provided with a rack; and a gear train connecting the rack with the shaft.

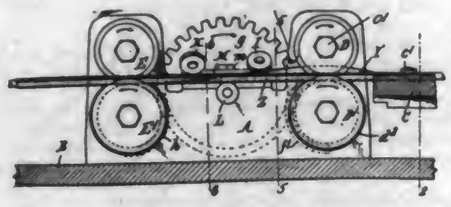
[Claims 6 to 12 not printed in the Gazette.]

976,352. MATTRESS. CARRIE I. FLINTOFT, Lakewood, Ohio. Filed Apr. 2, 1910. Serial No. 553,132.



An endless mattress comprising a series of sections detachably connected at their inner adjacent edges only by means of attached flaps, thus forming two layers or sections, fastening means for securing the upper and lower layers or sections together, the adjacent inner surfaces of said sections being lined with an impervious material, and said sections being adapted to be advanced to occupy the position previously occupied by the next preceding section.

976,353. MACHINE FOR MAKING WIRED EDGES. HERMANN GANSELEN, Chicago, Ill., assignor to Niagara Machine & Tool Works, Buffalo, N. Y. Filed June 29, 1909. Serial No. 504,089.



1. In a machine for the purpose stated, the combination of a primary pair of feeding and forming rolls which bend the edge of the sheet upwardly, means for turning over the upturned edge of the sheet, a final pair of rolls which close the turned-over edge of the sheet against the body of the sheet, means for positively driving said primary and final rolls, and a feed table on which the sheet is supported and which is arranged at an inclination to the plane of rotation of said rolls, substantially as set forth.

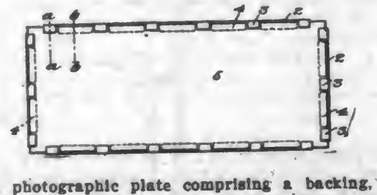
2. In a machine for the purpose stated, the combination of a primary pair of feeding and forming rolls which bend the edge of the sheet upwardly, means for turning over the upturned edge of the sheet, a final pair of rolls which close the over-turned edge of the sheet against the body of the sheet, and a feed table on which the sheet is supported and which is arranged at an inclination to the plane of rotation of said rolls, substantially as set forth.

3. In a machine for the purpose stated, the combination of feeding and forming rolls which are journaled in fixed position for turning over the edge of the sheet against the body of the sheet, means for driving the rolls, and a stationary feed table on which the sheet is supported and moved past the rolls, said feed table being arranged at an inclination to the plane of the rolls, substantially as set forth.

4. In a machine for the purpose stated, the combination of a primary pair of feeding and forming rolls which bend the edge of the sheet upwardly at one side of the edge wire, idle rolls arranged one in advance of the other for turning the upturned edge of the sheet over the wire, a single support on which the several idle rolls are journaled and which is removably secured in the machine, a final pair of rolls which close the turned-over edge of the sheet around the wire against the body of the sheet, and means for positively driving said primary and final rolls to feed the sheet and wire between them and past said idle rolls, substantially as set forth.

5. In a machine for the purpose stated, the combination of a table on which the sheet is supported, a primary pair of feeding and forming rolls which are arranged with their axes at an angle to said table and which have peripheral portions adapted to engage the sheet in lines parallel with the plane of said table and flanges arranged at an acute angle to said table whereby said rolls receive the edge of the sheet and bend it upwardly at an acute angle to the sheet, means for turning over the upturned edge of the sheet, a final pair of rolls arranged with their axes at an angle to the sheet which bend the turned-over edge of the sheet against the body of the sheet, and means for positively driving said primary and final rolls to feed the edge of the sheet between them and past said turning over means, substantially as set forth.

976,354. PHOTOGRAPHIC PLATE OR FILM HOLDER. FRED A. FIFIELD, Toronto, Ontario, Canada, assignor to Eastman Kodak Co., Rochester, N. Y., a Corporation of New York. Filed July 1, 1910. Serial No. 569,855.



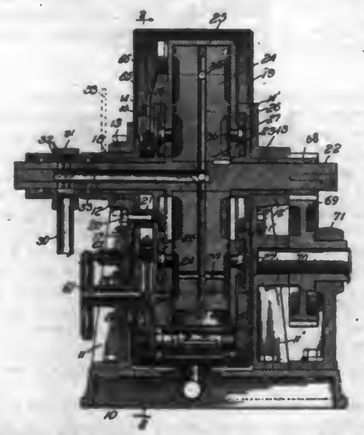
1. A photographic plate comprising a backing, a retaining member arranged in rear thereof and provided with a plurality of ears embracing an edge of the backing and disposed on the front thereof, a proportion of said ears being clamped against the backing and the rest being spaced from the front face thereof, and a photographic film disposed against the front face of the backing with the spaced ears engaging over the edges thereof.

2. A photographic plate comprising a flexible backing, a retaining and reinforcing strip of relatively stiff sheet material disposed in rear thereof and provided with a plurality of ears embracing an edge of the backing, and disposed on the front thereof, alternate ears being clamped against the backing and the rest being spaced from the front face thereof and a photographic film disposed against the front face of the backing with the spaced ears engaging over the edges thereof.

3. In a photographic plate, the combination with a backing having recessed portions on its front face along the edge thereof, of a retaining member arranged in rear of the backing and provided with a plurality of ears embracing an edge of the backing and disposed on the front thereof, a proportion of said ears being clamped against the backing to lie flush therewith within the beforementioned recesses and the rest being spaced from the front face thereof, and a photographic film disposed against the front face of the backing with the spaced ears engaging over the edges thereof.

4. In a photographic plate, the combination with a backing having a recessed portion on its rear face along the edge thereof, of a retaining member comprising a strip arranged in rear of the backing to occupy the recessed portion and provided with a plurality of ears embracing an edge of the backing and disposed on the front thereof, a proportion of said ears being clamped against the backing and the rest being spaced from the front face thereof, and a photographic film disposed against the front face of the backing with the spaced ears engaging over the edges thereof.

976,355. ROTARY ENGINE. LEE O. GILLILAND, Chicago, Ill., assignor of one-half to Reinhold Reichardt, Chicago, Ill. Filed Mar. 3, 1909. Serial No. 481,097.



1. In an engine, the combination of a rotatable piston structure providing a series of radial pistons, a shaft therefor to which the piston structure is fixed, sleeves surrounding the shaft, plates carried by said sleeves providing circular tracks eccentric to the shaft, separated independently movable cylinders on said pistons having guiding connection with said tracks, and supports for the sleeves and shaft.

2. In an engine, the combination with a rotatable piston structure providing a series of relatively fixed radial pistons, a shaft therefor to which the piston structure is fixed, independently movable cylinders on the said pistons, means for guiding the cylinders in a circular path eccentric to the piston-axis, valves for admitting and exhausting fluid to and from the cylinders, arranged at the outer ends of the cylinders, and means for operating said valves, comprising an eccentric adjustable to vary both its degree and its angle of eccentricity relative to the axis of rotation of the piston structure.

3. In an engine, rotatable radial pistons, cylinders thereon, means guiding said cylinders in a path eccentric to the piston-axis comprising a plate having a track in one surface engaged by parts on the cylinders, a face plate confronting and spaced apart from the track plate, an eccentric provided with a gib engaging one plate for radial adjustment thereon, means for adjusting said plate,

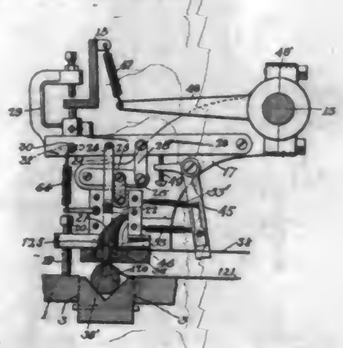
means for adjusting said eccentric, a strap for said eccentric, links connected to said strap, and exhaust valves at the outer extremities of the cylinders, operatively connected to said links.

4. In an engine, a shaft, radial pistons secured thereto, independently movable cylinders on said pistons, plates on the shaft provided with circular tracks eccentric to the shaft, means on the cylinders engaging said tracks, supports for the shaft and track plates, a face plate opposing the exterior of one track plate provided with a groove, an eccentric provided with a gib engaging said groove, an eccentric strap, links connected thereto, valves at the outer ends of the cylinders controlling the admission and exhaust of fluid, connected with said links, a housing for the engine parts, and means accessible from outside of the housing for adjusting the eccentric on the face plate to vary its degree and angle of eccentricity.

5. In an engine, a shaft, radial pistons fixedly connected thereto providing exterior annular recesses near their ends, fluid-supply connections to said recesses, an independently movable cylinder for each piston associated with the annular recesses to form thereof a fluid receiving chamber and forming with each piston end a working chamber, and means for controlling the passage of power-transmitting fluid from one said chamber to the other.

[Claims 6 and 7 not printed in the Gazette.]

976,356. MACHINE FOR FASTENING SHADES ON ROLLERS. LOUIS B. GIRARD, Los Angeles, Cal., assignor to The Girard Manufacturing Company, Los Angeles, Cal., a Corporation of California. Filed May 9, 1910. Serial No. 560,352.



1. In a machine for fastening shades on rollers, the combination with a roller support, of matrix means mounted to move to and from the support, means for arresting the movement of the matrix means toward the support, means for arresting the movement of the matrix means away from the support, die mechanism mounted to move toward and from the support, and an operating member connected to said die mechanism to operate the same, the aforesaid die mechanism being movable with the said matrix means by frictional engagement, to move therewith until the matrix means is arrested by the aforesaid stop means, and the said die mechanism being operated relatively to said matrix means by the operation of said operating means subsequently to such arresting of the matrix means, to perform the forming and driving of the fasteners, in the operative movement of the die mechanism, and to perform the stripping operation in the retractive movement of the die mechanism.

2. In a machine for fastening shades on rollers, the combination of a roller support, a shaft, arms carried by said shaft, a rocking frame mounted on said shaft to move relatively thereto, operating means for rocking said rocking frame, matrices carried by said arms, dies mounted to move in said matrices, connections between said rocking frame and said dies, and stop means for arresting the movement of said shaft and arms in each direction, whereby the dies move with the matrices in the operation of the rocking frame by said operating means by frictional engagement until the arrest of the shaft and arms and subsequent operation of the rocking frame causes relative movement of the dies in the matrix.

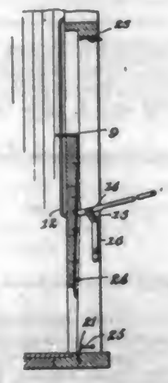
3. In a machine for fastening shades on rollers, the combination of a roller support, a shaft, arms carried by said shaft, a rocking frame mounted on said shaft to move relatively thereto, operating means for rocking said rocking frame, matrices carried by said arms, dies mounted to move in said matrices, connections between said rocking frame and said dies, and adjustable stop means for arresting the movement of said shaft and arms in each direction, whereby the dies move with the matrices in the operation of the rocking frame by said operating means by frictional engagement until the arrest of the shaft and arms, and subsequent operation of the rocking frame causes relative movement of the dies in the matrix.

4. In a machine for fastening shades on rollers, the combination of a roller support, a shaft, arms carried by said shaft, a rocking frame mounted on said shaft to move relatively thereto, operating means for rocking said rocking frame, matrices carried by said arms, dies mounted to move in said matrices, adjustable connections between said rocking frame and said dies, and stop means for arresting the movement of said shaft and arms in each direction, whereby the dies move with the matrices in the operation of the rocking frame by said operating means by frictional engagement until the arrest of the shaft and arms, and subsequent operation of the rocking frame causes relative movement of the dies in the matrix.

5. In a machine for fastening shades on rollers, the combination with a roller support of die mechanism for forming and driving fasteners and mounted to move toward and from the roller support and provided with matrices and dies movable therein, a rocking frame, a connection between the rocking frame and the dies, the dies moving frictionally with matrices to cause the die mechanism to move bodily with the rocking frame during a portion of the movement of the latter, means for arresting the bodily movement of the die mechanism, and means connecting the rocking frame with the dies of the die mechanism to operate the dies by the relative movement ensuing on the arrest of the die mechanism.

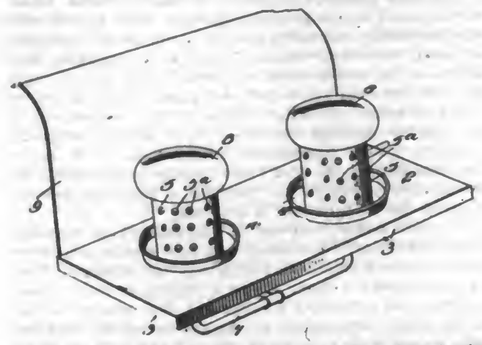
[Claims 6 to 15 not printed in the Gazette.]

976,357. GRAIN-DOOR. RANSOM GOODWIN, West Union, Ill. Filed Feb. 23, 1909. Serial No. 479,345.



The combination with a car including spaced posts having their inner vertical edges rabbeted to form door seats, one wall of each seat being inclined inwardly and downwardly and the other wall thereof inclined downwardly and laterally, of a wedge-shaped door slidably mounted in the door seats and having its outer face bearing against the downwardly and laterally inclined walls of the seats and its opposite ends inclined downwardly for engagement with the downwardly and inwardly inclined walls of said seats.

976,358. CRUDE-OIL BURNER. EMILY G. L. GREGSON, Fort Worth, Tex. Filed Jan. 19, 1910. Serial No. 538,033.



1. A crude oil burner comprising a hollow base having downwardly extending marginal flanges, said base being open on its under side and adapted to rest upon a grate of a stove, said base being formed with an air inlet opening, an upwardly extending air-conducting pipe open at its lower end and surrounding said air inlet opening and supported on the hollow base, said pipe having a wall provided with a plurality of perforations, a distributing cap forming the upper end of the pipe and extending out beyond the same, the margin of the cap being downwardly depressed, a burning trough mounted on said base and surrounding the pipe, said trough being of greater diameter than the cap, and an oil supply pipe passing up through the base and air-conducting pipe and opening upon the apex of the distributing cap.

2. A crude oil burner including a base open on its inner side and adapted to rest upon a grate, said base being formed with an air inlet opening, a relatively large air supply pipe extending upward from the base and formed with a plurality of perforations, said pipe surrounding the air inlet opening, a concavo-convex distributing cap closing the upper end of the air pipe and projecting out beyond the same, a trough surrounding the pipe and of greater diameter than the distributing cap, a supply pipe passing up through the base and the air pipe, and opening on the apex of the cap, and a hood having a depending margin supported on the cap in substantially parallel relation thereto, the lower edge of the hood projecting out beyond the said trough.

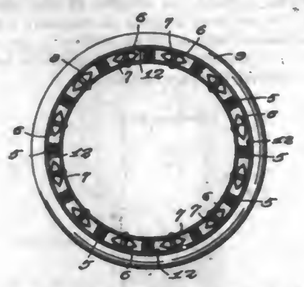
3. A crude oil burner comprising a hollow base opening on its under side and adapted to rest on the grate of a stove, an upwardly extending air-conducting pipe on the hollow base, having a perforated wall, a distributing cap forming the upper end of the pipe and extending out beyond the same, a trough mounted upon the base and surrounding the pipe and of greater diameter than the distributing cap, an oil supply pipe passing up through the base and air-conducting pipe and opening upon the apex of the distributing cap, and a draft shield attached to the said base and extending above the distributing cap.

976,359. PROCESS OF MANUFACTURING ARTIFICIAL FRUIT AND OTHER PLASTIC OBJECTS. FERNAND HAMEL, Paris, France. Filed Feb. 3, 1909. Serial No. 475,918.

An improved process for the manufacture of artificial fruit and other plastic objects, consisting in inflating an india-rubber balloon of the shape of the fruit to be made and immersing the same successively in baths of coagulable substances, substantially as herein described.

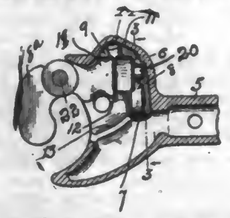
976,360. VEHICLE-WHEEL. BENNETT WOODCROFT HAMMOND, Richmond, Cal. Filed May 26, 1910. Serial No. 563,523.

A wheel provided with a felly plate, cushioning means carried thereby, a tire plate seated on said cushioning means, side plate for the tire plate, bolts carried by the side plates for clamping the same to the tire and in slidable relation to the felly plate, said bolts provided



with a flat longitudinal portion that is held in contact with the tire plate.

976,361. CAR-COUPLING. GEORGE C. HARLIN, Ottumwa, Iowa. Filed June 28, 1909. Serial No. 504,860.



1. In a car coupler, a draw head having a shoulder in its bottom wall and a recess having a wall with a cam surface, a knuckle pivoted in the draw head, a tail piece on the knuckle extending over the recess in the draw head, a latch pivoted at the rear of the tail piece, an arm mounted to swing in the recess, the said arm coacting with the camming wall of the recess and with the latch and tail piece to actuate said latch and tail piece.

2. In a car coupler, a draw head having a recess and a shoulder, the wall of the recess having a camming surface, an arm coacting with the camming surface, a knuckle pivoted in the draw head and having a tail piece, a latch, means for pivoting the latch on the end of the tail piece, a lug on the latch forming a cam engaged by the arm, and means on the arm for engaging the tail piece to move the knuckle.

3. In a car coupler, a draw head having a recess and a shoulder, the wall of the recess having a camming surface, an arm coacting with the camming surface, a knuckle pivoted in the draw head and having a tail piece, a latch, means for pivoting the latch on the end of the tail piece, a lug on the latch forming a cam engaged by the arm, means on the arm for engaging the tail piece to move the knuckle, a stub shaft on the arm, and means for partially rotating the stub shaft.

4. In a car coupler, a draw head having a cam on its bottom wall, a shoulder on said bottom wall, a knuckle pivoted in the draw head and having a tail piece, a latch pivoted on the end of the tail piece and adapted to engage the shoulder, an arm movably mounted in the draw head, a cam on the latch, a cam on the arm adapted to engage the cam on the latch, and means on the end of the arm for engaging the tail piece.

976,362. WASHING-MACHINE. DE WITT HAWLEY, Rochester, N. Y., assignor to William E. Williams, Rochester, N. Y. Filed May 22, 1908. Serial No. 434,412.

1. In a washing machine, a tank, a pair of vibratory arms pivoted against opposite walls of the tank, and an agitator extending toward the middle of the tank from each arm both being substantially in the same plane which is in a radius from the pivotal center and at right angles to the wall of the tank, and leaving a passage between the two agitators.

2. In a washing machine, a tank, a pair of vibratory arms pivoted against opposite walls of the tank, and an agitator extending toward the middle of the tank from each arm and having faces sloping in opposite directions from a plane substantially at right angles to the wall of the tank and in a radius from the pivotal center, and leaving a passage between the two agitators.



3. In a washing machine, a tank, a pair of agitators in the tank fitting closely against opposite walls of the tank and projecting toward each other, the agitators being of sufficient width to occupy the greater portion of the width of the tank so as to form a substantially restricted passage between them, and means whereby the agitators may be reciprocated simultaneously in the same direction to force the contents of the tank through said passage.

4. In a washing machine, a tank, a pair of agitators in the tank fitting closely against opposite walls of the tank and projecting toward each other, the agitators having inclined lateral surfaces and being of sufficient width to occupy the greater portion of the width of the tank so as to form a substantially restricted passage between them, and means whereby the agitators may be reciprocated simultaneously in the same direction to force the contents of the tank through said passage.

976,363. FEED-MIXER. CHARLES H. HINKHOUSE, Omaha, Nebr. Filed Mar. 23, 1910. Serial No. 551,146.



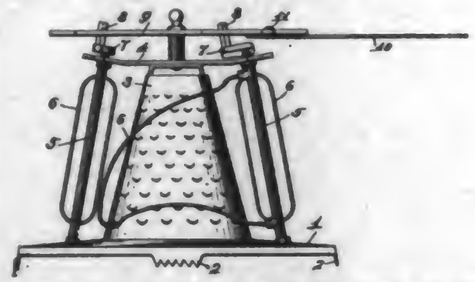
1. In a feed mixer, the combination of a tub having a feed inlet opening at one end and a discharge opening at the other end, a steam chest arranged directly beneath the bottom of said tub and substantially coextensive in length therewith, to maintain the contents of the tub in a heated state, a molasses coil located within said chest for subjection to the action of the steam, said coil having an extension leading into said tub to discharge the heated molasses thereinto, agitating mechanism located in said tub for mixing the feed and molasses and for advancing the mixture toward said discharge opening, and means for driving said mechanism.

2. A feed mixer composed of end supporting members, a horizontal platform connected to said members, standards mounted on the platform, a steam chest secured to the standards, a tub secured to the steam chest, shafts extending through the tub and having their ends supported by the said supporting members, beaters on the shafts, a gear wheel keyed to each shaft, a vertical shaft bearing secured to the platform, a short shaft having one end journaled in the vertical bearing and its opposite end in the adjacent end supporting member, a drive wheel on said short shaft, and pinions carried by the short shaft and meshing with the said gear wheels.

3. A feed mixer composed of end supporting members, a horizontal platform connected to said members, standards mounted on the platform, a steam chest having marginal outwardly extending flanges, a tub having marginal outwardly extending flanges conformably engaging said flanges of the steam chest and being bolted thereto, said tub being cut-away at one end on its upper side and formed with outwardly extending flanges at the termination of the cutaway portions thereof, a cover having outwardly extending flanges conformably engaging said last named flanges of the tub, an inlet formed in the uncut end of the tub, beating means in the tub and a discharge member bolted to the opposite end of the tub.

4. A feed mixer composed of end supporting members, a horizontal platform connected to said members, a steam chest supported from said platform, a tub supported from the steam chest, a shaft having a bearing in each of said members and extending through the tub, beaters carried on the shaft, and means to operate the shaft, said tub being formed with an inlet at one end and with an outlet at its opposite end, the latter being spaced from the adjacent member.

976,364. TOASTER. FRANK E. HOFFMAN, Hamilton, Ohio. Filed Dec. 3, 1908. Serial No. 465,811.



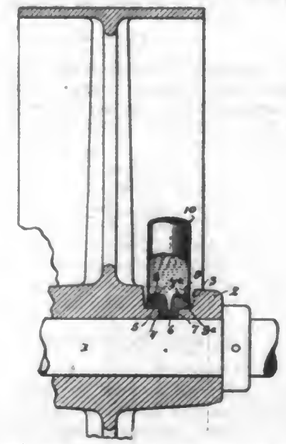
1. A toaster comprising, a toaster-body having a surface adapted to radiate heat to a bread slice presented near it, a shaft journaled in fixed supports and lying substantially parallel with such surface, a crank upon the shaft, a skeleton slice-holder carried by said shaft and adapted to support a bread-slice with one of its sides near the surface of said toaster-body when the shaft is in one angular position and to present the opposite side of the bread-slice when the shaft is in another angular position, a cam mounted for rotary motion on an axle substantially parallel with said shaft and having a cam-element engaging the pin of said crank, and a handle connected with said cam, combined substantially as set forth.

2. A toaster comprising, a base, a hollow toaster-body projecting upwardly therefrom, arms projecting outwardly and rigidly from the top of the toaster body, shafts having their lower ends journaled in said base and having their upper portions journaled in said arms, skeleton slice holders projecting laterally from said shafts and adapted to present bread-slices near the toaster-body, cranks on the upper ends of the shafts, a cam-plate mounted to rotate on a pivot centrally above the toaster-body and having cam-grooves engaging the pins of the cranks, and a handle projecting outwardly from said cam-plate, combined substantially as set forth.

3. A toaster comprising, a base, a hollow toaster-body projecting upwardly therefrom, arms projecting outwardly and rigidly from the top of the toaster body, shafts having their lower ends journaled in said base and having their upper portions journaled in said arms, skeleton slice-holders projecting laterally from said shafts and adapted to present bread-slices near the toaster-body, cranks on the upper ends of the shafts, a cam-plate mounted to rotate on a pivot centrally above the toaster-body and having cam-grooves engaging the pins of the cranks, a handle projecting outwardly from said cam-plate, and a hinge uniting the cam-plate and handle so as to permit the handle to be folded on top of the cam-plate, combined substantially as set forth.

4. A toaster comprising, a base, a hollow toaster-body projecting upwardly therefrom, arms projecting outwardly and rigidly from the top of the toaster-body, shafts having their lower ends journaled in said base and having their upper portions journaled in said arms, skeleton slice holders projecting laterally from said shaft and adapted to present bread-slices near the toaster-body, cranks on the upper ends of the shafts, a cam-plate mounted to rotate on a pivot centrally above the toaster-body and having cam-grooves engaging the pins of the cranks, a handle projecting outwardly from said cam-plate, and clawed feet projecting downwardly from said base and adapted to aggressively engage the supporting surface and aid in preventing the turning of the base when the handle is actuated, combined substantially as set forth.

976,365. OIL-CUP. ROBERT L. HOLEHOUSE, Milwaukee, Wis. Filed Mar. 7, 1910. Serial No. 547,694.



1. An oil-cup for attachment to movable machine elements having a rigid base portion and a reservoir composed of flexible material in its entirety, and means for securing the reservoir to the base portion, said reservoir being otherwise non-supported to permit of its collapse when met by an obstruction in its path of travel.

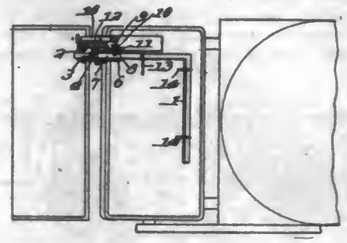
2. An oil-cup for attachment to movable machine elements comprising a rigid base portion having a threaded shank, a ring in threaded engagement with the shank, and a reservoir composed in its entirety of flexible material secured to the ring, the reservoir being otherwise non-supported to permit of its collapse when met by an obstruction in its path of travel.

3. A machine element having a counter-sunk recess, a rigid oil-cup bottom seated within the recess, and a collapsible oil reservoir extending from the bottom beyond the face of that portion of the machine element to which it is attached.

976,366. GAGE AND WORK-DROPPING DEVICE FOR PLATEN PRINTING-PRESSES. ALEXANDER J. HOOD, Muscoda, Wis. Filed Oct. 7, 1909. Serial No. 521,449. (Model.)

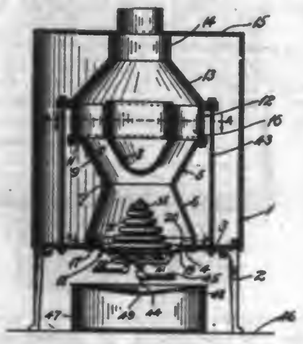
1. In a gage and work dropping device for printing presses, an attaching mechanism having a stop finger, a gage carrying head pivotally mounted on said attaching means, a gage bar adjustably secured to said head, a throw-off finger secured to said gage bar, a spring operating finger arranged on said head, and a curved operating plate secured to the press and adapted to be engaged by said operating finger to hold the gage in yielding

engagement with the platen while the latter is being closed and to lift the gage and throw-off finger while the platen is being opened.



2. In a gage and work dropping device for printing presses, a head, means to attach said head to the platen of the press, a gage bar, a clamp arranged on said head and adapted to adjustably secure said gage bar thereto, gage pins arranged on said bar, a throw-off pin also arranged on the bar, a spring operating finger connected to said head, a retaining spring arranged on the head and adapted to coact with said spring finger to yieldingly hold the gage bar in engagement with the platen, a curved operating plate secured to the printing press in position to be engaged by said spring operating finger, when the platen is opened and closed thereby holding the gage bar against the platen in its closing movement and lifting said bar and throw-off finger from the platen when the latter is being opened.

976,367. OIL-BURNER. PHILIP G. HUBERT, Los Angeles, Cal. Filed Feb. 3, 1910. Serial No. 541,738.

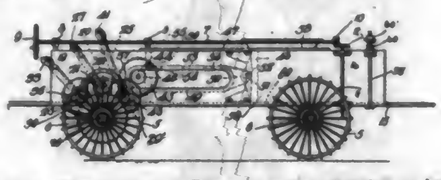


A burner having a dished base with a central opening, a bar transverse said opening, a fuel pipe passing upwardly through said bar and secured thereto, a plurality of burner rings piled one upon another and progressively of smaller diameter in an upward direction, said rings having projecting lugs therebetween forming air spaces between the adjacent faces of said rings, the upper end of said fuel pipe having a thread, a nut received on said thread, and a crown in the form of a disk under said nut and clamping all of said rings to said base, said rings having annular grooves in the upper faces thereof adapted to hold a liquid fuel.

976,368. HAY-PRESS. CHARLES A. HUGHES, Sycamore, Pa. Filed June 27, 1910. Serial No. 569,072.

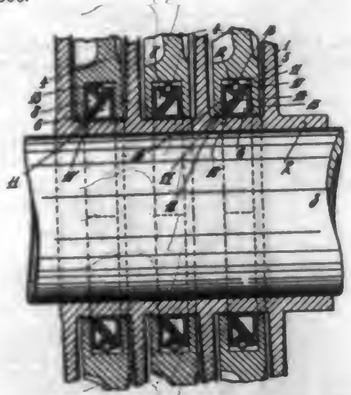
1. In a portable baling press, a baling chamber, a reciprocating plunger operating in said chamber, an internal rack having one end pivoted to said plunger, a guide on said rack, a driving pinion and a bearing roller adapted to engage with one face of said guide and hold the teeth of one side of said rack in engagement with said pinion.

2. In a portable baling press, a baling chamber, a horizontally reciprocating plunger operating in said chamber, an oblong internal rack having one end horizontally pivoted to said plunger, a lateral guide on said rack, a driving pinion and a bearing roller adapted to engage with one face of said guide and hold the teeth on one side of said rack in engagement with said pinion.



3. In a portable baling press, a baling chamber, a horizontally reciprocating plunger operating in said chamber, an oblong internal rack having one end horizontally pivoted to the center of said plunger, a lateral guide on the upper side of said rack of less length than the side and having its opposite ends rounded, a driving pinion, a vertical standard and a horizontally disposed roller carried by the standard and adapted to engage with one face of said guide and hold the teeth on one side of the rack in engagement with said pinion.

976,369. PACKING FOR STEAM-TURBINES. GUSTAV HUHN, Berlin, Germany. Filed May 19, 1910. Serial No. 562,306.



1. In a packing for the chamber-walls of steam-turbines and the like the combination of divided packing-rings closely surrounding the shaft or the like of the turbine, said packing-rings being arranged in annular grooves of the chamber-walls, wedges within said grooves for pressing said rings against the side walls of the grooves, springs surrounding said wedges within said grooves, said springs working in a direction against the shaft of the turbine.

2. In a packing for the chamber-walls of steam-turbines and the like the combination of divided packing-rings closely surrounding the shaft or the like of the turbine, said packing-rings being arranged in annular grooves of the chamber-walls, wedge-shaped divided rings surrounding said packing-rings within said grooves, the single parts of said divided wedge rings not touching with another, a spiral spring surrounding said wedge rings within said grooves, said grooves and packing systems being so dimensioned, that the packing system with the wedge ring and spring does not perfectly fill the groove.

3. In a packing for the chamber-walls of steam-turbines and the like the combination of divided packing-rings closely surrounding the shaft or the like of the turbine, said packing-rings being arranged in annular grooves of the chamber-walls, wedges within said grooves for pressing said rings against the side walls of the grooves, springs for said wedges within said grooves, recesses being provided at the contacting faces between the side walls of said annular grooves or chambers and the packing-rings pressed against them.

4. In a packing for the chamber-walls of steam-turbines and the like the combination of divided packing-rings closely surrounding the shaft or the like of the turbine, said packing-rings being arranged in annular grooves of the chamber-walls, wedges within said grooves for pressing said rings against the side walls of the grooves, springs for said wedges within said grooves, recesses being provided in the side faces of said packing-rings pressed against the side-walls of said annular grooves.

5. In a packing for the chamber-walls of steam-turbines and the like the combination of divided packing-rings closely surrounding the shaft or the like of the turbine, said packing-rings being arranged in annular grooves of the chamber-walls, wedges within said grooves for pressing said rings against the side walls of the grooves, springs for said wedges within said grooves, recesses being provided at the contacting faces between the side walls of said annular grooves or chambers and the packing-rings pressed against them, narrow transverse holes within said packing-rings and communicating with said recesses.

[Claims 6 and 7 not printed in the Gazette.]

976,370. PERISCOPE. JULES HUMBRECHT, Gross-Lichterfelde, near Berlin, Germany, assignor to The Firm of Optische Anstalt C. P. Goerz Aktiengesellschaft, Friedenau, near Berlin, Germany. Filed June 7, 1910. Serial No. 565,583.



1. Object sighting apparatus especially for use in submarine and submergible boats comprising a main casing, an image forming optical device therein and a receiver, the image forming optical device adapted to receive rays of light and to direct same to the receiver for observation, the receiver comprising a casing carrying an ocular and a ground glass and adjustable within the main casing in such a manner that depending upon the adjustment of said casing an image of the object viewed may be observed either on said ground glass or through said ocular.

2. Object sighting apparatus especially for use in submarine and submergible boats comprising a main casing, an image forming optical device therein and a receiver, the image forming optical device adapted to receive rays of light and to direct same to the receiver for observation, the receiver comprising a casing carrying an ocular and a ground glass and means for rotating said casing within the main casing from outside, the ocular and ground glass carrying casing being adapted to be adjusted within the main casing by rotation in such a manner that depending upon the adjustment an image of the object viewed may be observed either on said ground glass or through said ocular.

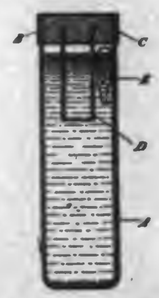
3. Object sighting apparatus especially for use in submarine and submergible boats comprising a main casing, an image forming optical device therein and a receiver, the image forming optical device adapted to receive rays of light and to direct same to the receiver for observation, the receiver comprising a casing carrying an ocular, a ground glass, a double sided reflecting mirror and means for rotating said casing within the main casing the plane of the double sided reflecting mirror substantially coinciding with the axis of rotation of the ocular and ground glass carrying casing and turning one reflecting side toward the ocular and the other toward the ground glass.

4. Object sighting apparatus especially for use in submarine and submergible boats comprising a main casing, an image forming optical device therein and a receiver, the image forming optical device adapted to receive rays of light and to direct same to the receiver for observation, the receiver comprising a casing carrying an ocular, a ground glass, a prism having a surface forming a separating wall between the ocular and the ground glass, said prism surface being provided with a transparent cover, a double sided reflecting layer between said prism surface and transparent cover and means for rotating said casing within the main casing, the plane of the double sided reflecting layer substantially coinciding with the axis of rotation of its carrying casing.

5. Object sighting apparatus especially for use in submarine and submergible boats comprising a main casing, an image forming optical device therein and a receiver, the image forming optical device adapted to receive rays of light and to direct same to the receiver for observation, the receiver comprising a casing carrying an ocular, a ground glass, a prism having a surface forming a separating wall between the ocular and the ground glass, a reflecting coating on said prism surface, a thin glass-plate provided on one side with a reflecting coating, said coating contacting with said coated prism surface and means for rotating said casing within the main casing, the prism surface contacting with the thin glass-plate substantially coinciding with the axis of rotation of the rotatable casing.

[Claim 6 not printed in the Gazette.]

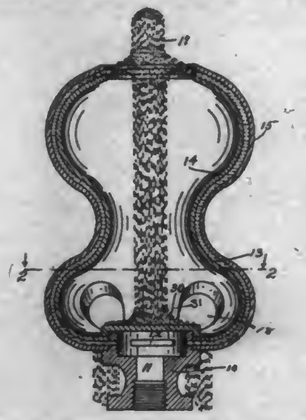
976,371. SCIENTIFIC TOY OR PUZZLE. WALTER CERRETTA JEANS and FREDERICK BEEVERS, Leeds, England. Filed Nov. 22, 1909. Serial No. 529,402.



A scientific toy or puzzle comprising a vessel closed at both ends and nearly filled with liquid, a short central tube projecting inwardly from the top of the vessel and open beneath the surface of the liquid toward the body of the vessel, and a small floating object within the vessel, the said floating object being adapted to enter the central tube as it rises toward the surface of the liquid only when under the influence of centrifugal force set up by rotation of the vessel, substantially as herein set forth.

976,372. DRINKING-FOUNTAIN. JULIUS M. KAMINSKY, Indianapolis, Ind. Filed Dec. 23, 1909. Serial No. 534,645.

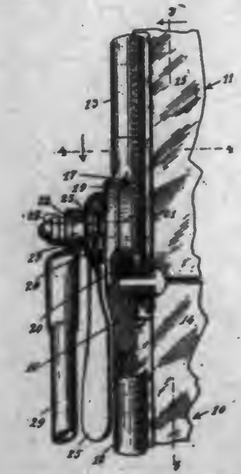
1. A drinking fountain including a nozzle construction to which water may be supplied under pressure with an annularly disposed outlet at the upper end thereof adapted to discharge a single sheet of water to a central point so that an upward geyser-like column of water will rise therefrom, substantially as set forth.



2. A drinking fountain including a nozzle construction to which water may be supplied under pressure with an annularly disposed outlet at the upper end thereof that is inclined upwardly so as to discharge a single sheet of water at an upward inclination to a central point, so that an upward geyser-like column of water will rise therefrom.

3. A drinking fountain including a nozzle construction that is globular in form with a continuous discharge passageway or chamber between the inner and outer walls thereof and with a circular opening in the upper end thereof to provide an annular discharging orifice adapted to discharge a single sheet of water to a point in a vertical line central of said opening, and means at the lower end of said nozzle construction for supplying water under pressure to the passageway therein, there being space in the lower part of said nozzle construction for the escape of water descending from the discharge in the upper end thereof.

976,373. AUTOMOBILE WIND-SCREEN. EARL W. KINGSLEY, Los Angeles, Cal. Filed Sept. 2, 1909. Serial No. 515,915.



1. A wind screen comprising a lower section having a plate, an upper section also having a plate, said second named plate being normally disposed directly over said first plate and in the same plane therewith, the lower edge of said second plate substantially abutting the upper edge

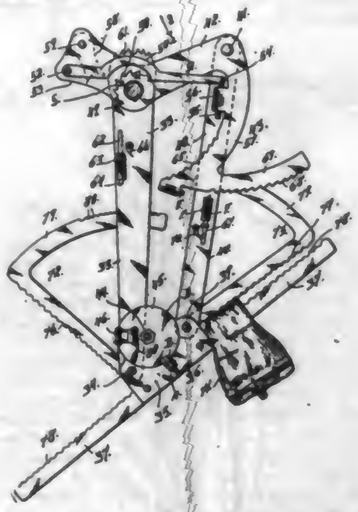
of said first plate, and pivot connection between said sections disposed to one side of the plane of said plates and being above the plate of the lower section, and means for clamping said upper section in an inclined position with respect to said lower section.

2. A wind screen comprising a lower section having a plate, an upper section also having a plate normally disposed directly over said first plate and in the same plane therewith, the lower edge of the upper plate normally substantially abutting the upper edge of the lower plate, and pivotal connections between said sections having its axis removed in a vertical direction from the meeting edges of said plates and being above the plate of the lower section, and means for clamping said upper section in an inclined position.

3. A wind screen having a lower section with a lower plate, an upper section with an upper plate, said upper plate being normally disposed directly over said lower plate and in the same plane therewith, the lower edge of said upper plate substantially abutting the upper edge of said lower plate, and pivotal connections between said sections having its axis disposed to one side of the plane of said plates and removed in a vertical direction from said abutting edges of said plates and being above the plate of the lower section, and means for clamping said upper section in an inclined position.

4. A wind screen comprising a lower section and an upper section movably mounted thereupon, said sections having side bars with substantially circular friction plates forming a joint between said sections, one of said friction plates having a central opening therein, the other of said friction plates having a stud passing through said opening, and brace bars mounted on said stud and a cam lever between said bars and said friction plates rotating in a plane at right angles to the axis of said stud and adapted to clamp said friction plates together to hold said upper section fixed with respect to said lower section.

976,374. MAIL-POUCH-EXCHANGING APPARATUS. WILLIAM F. KNAPP, Denver, Colo. Filed Nov. 22, 1909. Serial No. 529,447.



1. Mail pouch exchanging apparatus, comprising a swinging bar provided with an arm tiltably supported and having catching and delivering members respectively extending in opposite directions from the place of support.

2. Mail pouch exchanging apparatus comprising a swinging bar provided with a single reversibly tiltable arm, having pouch catching and delivering members extending respectively in opposite directions from the bar.

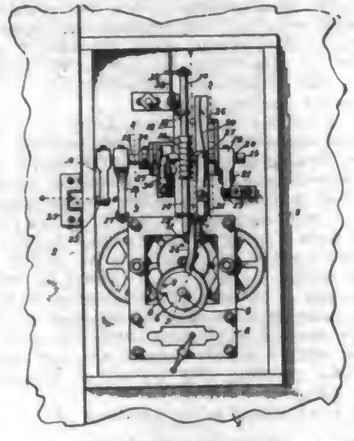
3. Mail pouch exchanging apparatus comprising a swinging bar, an arm carried by the bar, the arm being suspended from its central portion, reversely tiltable and having pouch catching and delivering members extending respectively in opposite directions from the place of support.

4. Mail pouch exchanging apparatus comprising a swinging bar, an arm carried by the bar, movably suspended from its central portion and reversely tiltable, whereby its members on opposite sides of the place of support alternately assume the pouch catching and delivering positions.

5. The combination of a swinging bar and an arm extending in opposite directions and tiltably suspended therefrom, to alternately assume positions of reverse inclination.

[Claims 6 to 27 not printed in the Gazette.]

976,375. TIME-RECORDER. CHARLES H. KOERBER, Ionia, Mich. Filed Feb. 16, 1910. Serial No. 544,267.



1. A time recorder, comprising a clock, means for rotating a dial operated by the clock, a pivoted needle bar carrying a needle adapted to puncture the dial and normally out of contact with the same, a spring to move the needle toward the dial, a pawl to hold the needle out of contact with the dial, and means for releasing the pawl operated by movement of a movable member.

2. A time recorder, comprising a clock, means for rotating a dial operated by the clock, a pivoted and rotative needle bar carrying a needle adapted to puncture the dial and normally out of contact therewith, a spring to bring the needle in contact with the dial and puncture the same, a dog to hold the spring under tension and the needle out of contact with the dial, means for releasing the dog adapted to be operated by the movement of a movable member, and means for rotating the needle bar to normal position.

3. A time recorder comprising a clock, means for rotating a dial operated by the clock, a needle bar mounted on a rock shaft and both rotative and longitudinally movable, a needle in one end of the bar adapted to puncture and mark the dial, means for bringing the needle in contact with the dial operated by the opening of a movable member, means operated by the clock for shifting the needle bar longitudinally at each revolution of the dial operating means, means for moving the needle out of contact with the dial, and means for rotating the shaft to normal position both operated by closing of the said movable member.

4. A time recorder, comprising means for rotating a dial, a longitudinally adjustable needle bar having a series of shoulders thereon, yieldable means for holding the bar adjusted, a reciprocable spring hook to successively engage the shoulders and adjust the bar, and a cam rotating with the means for rotating a dial to move the hook and adjust the bar.

5. A time recorder, comprising a clock, means for rotating a dial and a cam rotated by the clock, a needle bar

pivoted on a transverse axis and carrying a needle to engage the dial, said bar also having a series of shoulders, means for oscillating the bar on its axis operated by the movement of a movable member, a slide moved in one direction by the cam, a spring to move the slide in the other direction, a spring hook on the slide to successively engage the shoulders on the bar, and a spring dog also successively engaging said shoulders.

[Claims 6 to 10 not printed in the Gazette.]

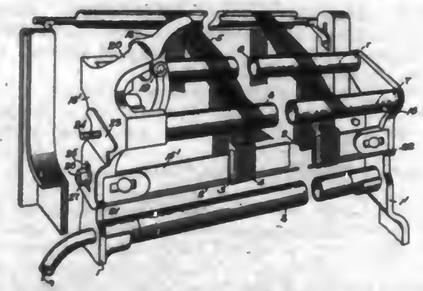
976,376. FLOATING MINE AND THE LIKE. HOWARD LACY, Carshalton, England. Filed July 26, 1907. Serial No. 385,750.



1. The combination of a floating mine comprising a casing to contain the explosive agents, and an electro-magnet carried interiorly of said mine casing and adapted when energized to magnetize said casing and to coöperate with a metallic portion of a vessel acting as an armature whereby the mine casing is attracted into contact with said vessel.

2. The combination with a floating mine, of a single electro-magnet carried interiorly of said mine and connected to a suitable source of energy, groups of windings upon said magnet adapted to be connected up in different combinations to vary the strength of the magnet, and a mine casing adapted to be magnetized by said magnet and to coöperate with the metallic parts of a vessel acting as armatures whereby the casing may be attracted into direct contact with said vessel with a force dependent upon the degree of magnetization of said casing.

976,377. WARP STOP MECHANISM FOR LOOMS. CHARLES D. LANNING, Boston, Mass. Continuation of application filed Nov. 17, 1905, Serial No. 287,866. This application filed Aug. 4, 1908. Serial No. 446,857.



1. A loom having in combination a frame, transverse rods, open-bearing rod supporting devices upon the loom frame upon which the ends of said rods may be readily placed and removed without movement of said supporting devices, and rod holding means normally mounted for rod-releasing movement and structurally separate from said supporting devices but coöperating therewith to sustain said rods in position, and permitting, by reason of said normal mounting, the ready insertion and removal of said rods with respect to said supporting devices without disassembling of said holding means.

2. A loom having in combination a frame, transverse rods, open-bearing rod supporting devices supported by the loom frame, and upon which the ends of said rods may be readily placed and removed without movemer of said supporting devices, and rod holding means stru turally separate from said supporting devices and no mally mounted for rod-releasing movement relative to t loom frame and coöperating with said supporting devic to sustain said rods in position and permitting, by re son of said normal mounting for movement relative the loom frame, the ready insertion and removal of sa rods with respect to said supporting devices without di assembling movement of said holding means.

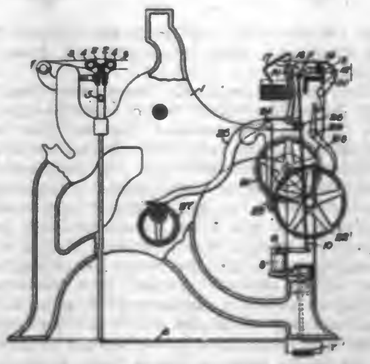
3. A loom having in combination a frame, transver rods, open-bearing rod supporting devices supported t the loom frame and upon which the ends of said rods ma be readily placed and removed without movement of sa supporting devices, and rod holding means structural separate from said supporting devices and pivotal mounted for movement relative to the loom frame fo rod-releasing normal movement and coöperating with sa supporting devices to sustain the said rods in positio said rod holding means when swung upon their pivot supports permitting the ready application of said rod to and their removal from said supporting devices.

4. A loom having in combination a frame, transver rods, opposite brackets supported upon the loom fram one at least of said brackets being provided with ope bearing rod supporting devices upon which the ends said rods may be readily placed and removed witho movement of said supporting devices, and rod holdin means normally mounted for rod-releasing movement an structurally separate from said supporting devices an movably mounted upon one at least of said brackets an coöperating with said supporting devices to sustain sa rods in position, and permitting by reason of said norm mounting the ready insertion and removal of said rod with respect to said supporting devices without disa sembling movement of said holding devices.

5. A loom having in combination a frame, transver rods, open-bearing rod supporting devices supported t the loom frame, and to which the ends of said rods ma be readily applied and removed without movement said supporting devices, and rod holding means stru turally separate from said supporting devices and no mally mounted for rod-releasing movement relative the loom frame and coöperating with said supportin devices to sustain said rods in position and permittin by reason of their normal mounting, the ready applic tion and removal of said rods with respect to said su porting devices without disassembling movement of sa holding means.

[Claims 6 to 9 not printed in the Gazette.]

976,378. STOP-MOTION FOR LOOMS. CHARLES L LANNING, Boston, Mass. Filed Aug. 17, 1908. Seri No. 448,830.



1. A loom having a lay, a shipper lever, means to r tain the shipper lever in loom operating position, two i dependent knock-off levers engaging said shipper lever operate the same, a weft fork slide engaging one of sa

knock-off levers and carrying a weft fork, a movable member carried by the other knock-off lever, means for operatively positioning said member upon warp fault, and means independent of the lay for operating said weft fork slide and said movable member upon the occurrence of weft and warp fault respectively.

2. A loom having comprising a shaft, a rotary cam thereon, a member independent of the lay adapted to be operated by said cam, independent knock-off levers, and independent, weft fault detecting and warp fault indicating means adapted respectively to operate said independent knock-off levers, and to be operated by said member independent of the lay, and a shipper lever adapted to be operated by either of said knock-off levers to stop the loom.

3. A loom comprising a shaft, a rotary cam thereon, weft fault detecting means, warp fault indicating means, operating means intermediate said rotary cam and said weft fault detecting and said warp fault indicating means respectively, independent knock-off levers adapted to be operated by said weft fault detecting and warp fault indicating means respectively, and loom stopping means adapted to be operated by either of said knock-off levers.

4. A loom comprising a lay, a reciprocatory member mounted independently of the lay, a shipper device, means to retain the same in loom operating position, a pair of independent knock-off levers adapted to release the shipper device from said retaining means, operative connections between said reciprocatory member and one of said knock-off levers whereby the loom may be stopped upon the occurrence of weft failure, operative connections between said reciprocatory member and the other knock-off lever distinct from said previously mentioned operative connections, whereby the loom may be stopped upon the occurrence of a warp fault, and take-up mechanism adapted to be suspended upon weft failure.

5. A loom comprising a lay, a reciprocatory member mounted independently of the lay, a shipper device, means to retain the same in loom operating position, a pair of independent knock-off devices adapted to release the shipper device from said retaining means, a weft failure detecting device, a carrier therefor, said carrier being operatively connected to one of the said knock-off devices and adapted to be actuated by said reciprocatory member upon the occurrence of weft failure, whereby the loom may be stopped, a device independent of said carrier adapted to be actuated by said reciprocatory member upon the occurrence of warp fault, operative connections from said last mentioned device to the other knock-off device, whereby the loom may be stopped upon the occurrence of a warp fault, take-up mechanism, and means to operate the same upon the occurrence of weft failure, the connections being such that the take-up mechanism is not interrupted upon the occurrence of warp fault.

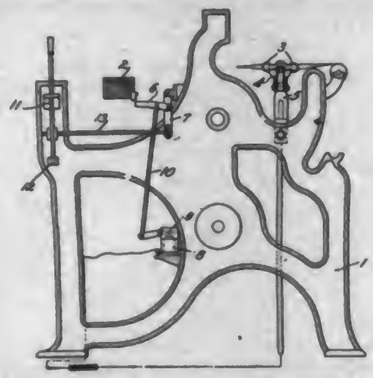
[Claims 6 to 12 not printed in the Gazette.]

976,379. WARP STOP MECHANISM. JAMES K. LANNING, Dorchester, Mass. Filed Mar. 19, 1909. Serial No. 484,463.

1. Warp stop mechanism for looms comprising in combination detectors adapted to be displaced upon warp fault, a knock-off lever mounted upon the loom frame in the rear of the lay, a bunter mounted upon said knock-off lever, electrical connections from said detectors for positioning the bunter for loom stopping actuation upon a backward beat of the lay, a shipper lever mounted in front of the lay, and a link connecting said knock-off lever and said shipper lever to actuate the latter.

2. Stopping mechanism for looms comprising in combination a knock-off lever mounted upon the loom frame in the rear of the lay, a bunter mounted upon said knock-off lever, connections to said bunter for positioning the latter for loom stopping actuation upon a backward beat of the lay in the event of thread fault, a shipper lever and a direct connection from said knock-off lever to said shipper lever to actuate the latter in the event of thread fault.

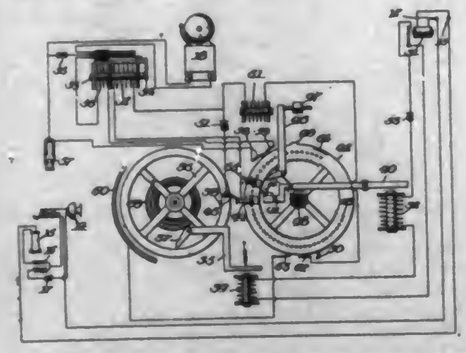
3. Stopping mechanism for looms comprising in combination a knock-off lever mounted upon the loom frame in the rear of the lay, a bunter mounted upon said knock-off lever, connections to said bunter for positioning the latter for loom stopping actuation upon a backward beat of the lay, in the event of thread fault, a shipper lever in front of the lay, and a link directly connecting said knock-off lever and shipper lever, said link being connected to said levers below the level of the lay.



4. Stopping mechanism for looms comprising in combination a vertical knock-off lever mounted upon the loom frame in the rear of the lay, a bunter upon said knock-off lever, connections for positioning said bunter for loom stopping actuation, upon a rearward beat of the lay in the event of thread fault, a shipper lever in front of the lay, and a link connected to said knock-off lever below the bunter and below the level of the lay and directly connected to the shipper lever below the level of the lay.

5. Stopping mechanism for looms comprising in combination a knock-off lever mounted upon the loom frame in the rear of the lay, a bunter mounted upon said knock-off lever, connections for positioning said bunter for loom stopping actuation, upon a backward beat of the lay, in the event of thread fault, a shipper lever in front of the lay, and means arranged below the level of the lay for connecting the knock-off lever and the shipper lever, whereby the loom is stopped upon the backward beat of the lay in the event of thread fault.

976,380. SELECTIVE SIGNALING SYSTEM. OSCAR M. LEICH, Genoa, Ill., assignor to Cracraft-Leich Electric Company, Genoa, Ill., a Corporation of Illinois. Filed Dec. 10, 1908. Serial No. 466,777.



1. A signaling system comprising a substation having a local signal and a circuit therefor, in combination with a step-by-step device for effecting upon operative actuation circuit changes in said circuit to thereby continuously operate said signal irrespective of the return of said device to normal position, a central station, switching instrumentalities at the central station to operate said step-by-step device to perform said function, mechanism associated with the step-by-step device for restoring the circuit of the operating signal to its initial condition, upon suitable actuation thereof from the central station, and switching devices at the substation for restoring the circuit of the operating signal to its initial condition.

2. A signaling system including a central station and substations, each substation having a step-by-step signal receiving device, comprising a local signal and an electric circuit for said signal, in combination with a movable step-by-step mechanism and a retarded clock mechanism adapted conjointly when started, after said clock mechanism overtakes said step-by-step mechanism, to change the current conditions through said local signal thereby to operate same independently of said mechanisms, selective arrangements on each step-by-step mechanism to permit of the call of any predetermined signal to the exclusion of others from the central station, uniform appliances on a plurality of said step-by-step mechanisms to permit of the call in unison of all of the signals associated with said plurality of mechanisms, and switching devices at the central station for actuating said step-by-step mechanism.

3. A step by step signal receiving device comprising a local signal and an electric circuit for said signal, in combination with a movable step by step mechanism and a slower moving clock mechanism adapted conjointly when started after said clock mechanism overtakes said step by step mechanism to change the circuit conditions through said local signal, thereby to operate same.

4. A step by step signal receiving device comprising a local signal and an electric circuit therefor, a movable step by step element responsive to impulses, a second slower moving element, means for simultaneously starting both elements from a state of rest, said elements having circuit controlling appliances whereby when the slower moving element overtakes the step by step element circuit conditions through the local signal are changed to effect a call.

5. A step by step signal receiving device comprising a local signal and an electric circuit for said signal, in combination with a movable step by step mechanism and a slower moving clock mechanism adapted conjointly when started after said clock mechanism overtakes said step by step mechanism to change the circuit conditions through said local signal thereby to operate same independently of said mechanisms, and switching means for restoring the signal circuit to normal.

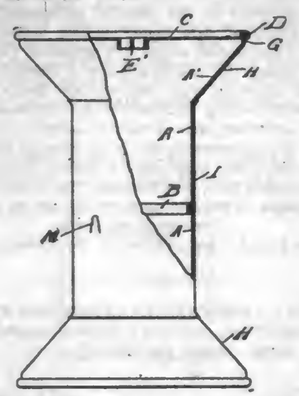
[Claims 6 to 24 not printed in the Gazette.]

976,381. SPOOL. MEREDITH LEITCH, Springfield, Mass., assignor to The American Thread Company, a Corporation of New Jersey. Filed Oct. 31, 1908. Serial No. 460,431.

1. In a spool a metallic spool body, having a cylindrical central portion and two end portions, said end portions having conical surfaces together with outwardly projecting flanges at their bases, and also exposed cylindrical parts adjacent to said flanges, in combination with end closures each remote from the cylindrical portion and extending over one side of one of said flanges and engaging the other side thereof, adjacent to said cylindrical portions.

2. In a spool, the combination of a metallic spool body having a cylindrical portion and conical end portions, a non-metallic covering for said cylindrical and conical portions, and end closures remote from said cylindrical portion and extending beyond the peripheries of said conical portions and the covering thereon.

3. In a spool, the combination of a metallic spool body having a cylindrical portion and conical portions, end closures secured to said conical portions by joints having openings surrounding said conical portions, the opening in the joint securing one end closure facing the opening in the joint securing the other end closure, and a fibrous covering on said cylindrical and conical portions extending into said openings.

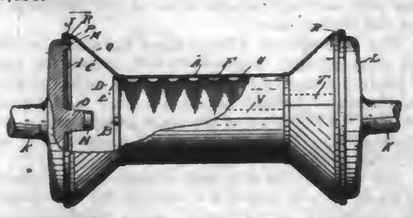


4. In a spool, the combination of a metallic body portion consisting of cylindrical and conical parts, end closures secured thereto to the conical parts by locked joints and remote from said cylindrical part, and a paper covering for said body portion secured within the locked joints, said end closures extending outwardly beyond said covering.

5. In a spool, the combination of a metallic spool body having a cylindrical portion and two end portions, said end portions having conical surfaces and at their bases exposed cylindrical portions parallel to the axis of the spool body and surrounding said axis, with end closures having reëntrant surfaces having walls surrounding and parallel to said axis and engaging parallel surfaces on said end portions.

[Claim 6 not printed in the Gazette.]

976,382. SPOOL. MEREDITH LEITCH, Springfield, Mass., assignor to The American Thread Company, a Corporation of New Jersey. Filed Dec. 5, 1908. Serial No. 466,056.



1. A spool having a metallic body portion with enlarged heads secured thereto, said body portion having a circumferentially corrugated reinforcing lining, the body portion being formed with a longitudinal locking seam.

2. A spool having a metallic body portion with enlarged heads secured thereto, said body portion having a circumferentially corrugated reinforcing lining, said body portion being formed with a longitudinal locking seam, and said lining having a longitudinal seam displaced relatively to the seam in said body portion.

3. In a spool, the combination of a metallic base consisting of a cylindrical portion and tapered enlarged heads secured thereto, fibrous coverings for the tapered surfaces of the enlarged heads and an adhering binding strip securing the edges of the coverings on said tapered portions at the peripheries of said heads, said heads having lateral projections extending beyond said strips and adjacent thereto.

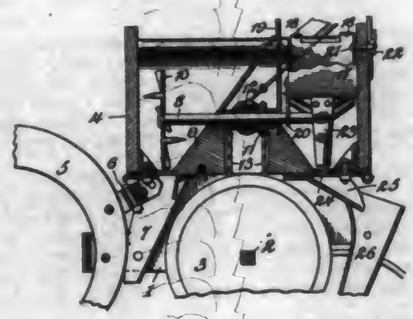
4. In a spool, the combination of a base having a cylindrical metallic body portion and tapered end portions provided with heads at their peripheries and substantially cylindrical parallel portions adjacent to said heads with

fibrous coverings for said end portions, and an adhering binding strip securing the edges of the paper covering said end portions at the parallel cylindrical portions of said end portions, said heads having lateral projections extending beyond said strips and adjacent thereto.

5. In a spool, the combination of a spool body having a cylindrical portion and cone-shaped heads, said cone-shaped heads having circumferential recesses in their peripheries extending in a direction parallel to the axis of the spool, the recesses in one head opening toward the recesses in the other head, and a fibrous covering for said heads extending into said recesses, the recesses being such that the edges of the fibrous covering can be forced within them.

[Claims 6 and 7 not printed in the Gazette.]

976,383. COMBINED PLANTER AND FERTILIZER-DISTRIBUTER. CARWIN LINDER, Converse, S. C. Filed Apr. 4, 1910. Serial No. 553,237.



1. The combination of a main body or hopper, a driving shaft mounted longitudinally therein, means for rotating said shaft, a dropping wheel on the rear end of said shaft at a right angle thereto, and a supplemental hopper removably suspended on the sides of the main hopper and arranged transversely therein and having its bottom plate fitting over and against the sides of the dropping wheel above the driving shaft.

2. The combination with a main hopper, of a driving shaft longitudinally disposed therein, means for rotating said shaft, a dropping wheel on the rear end of said shaft, a supplemental hopper having its rear wall removably secured to the rear wall of the main hopper, and a bracket depending from the front side of the supplemental hopper and fitting over the driving shaft.

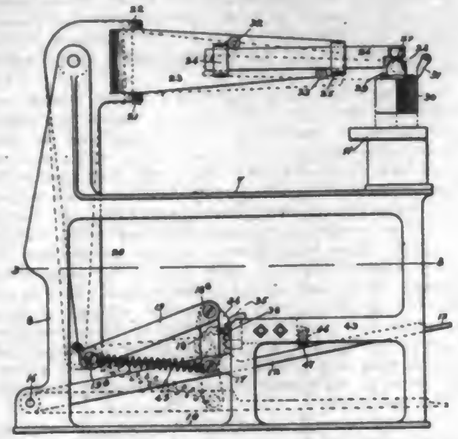
3. The combination of a main hopper, a transverse dropping wheel therein, means for rotating the said wheel in a plane transverse to the hopper, and a supplemental hopper provided at its upper end with outstanding flanges adapted to rest upon the side edges of the main hopper and having a slotted bottom plate fitting over and closely against the dropping wheel.

4. The combination with a main hopper having a discharge opening in its bottom, and a transverse dropping wheel therein, of a supplemental hopper removably suspended upon the walls of the main hopper and having a slotted bottom plate fitting over and closely against the dropping wheel, and a spout secured to said bottom plate and depending therefrom in proximity to the dropping wheel and terminating over the discharge opening in the bottom of the main hopper.

5. The combination of a main hopper, a transverse dropping wheel therein having notches in its edge, means for rotating the said wheel, and a supplemental hopper suspended upon the side walls of the main hopper and having a bottom plate fitting closely over and against the dropping wheel and provided in its upper side at its ends with pockets leading to the dropping wheel, the central portion of said plate being elevated above the pockets.

[Claim 6 not printed in the Gazette.]

976,384. PRESSING-MACHINE. HJALMAR LINDSTROM, Chicago, Ill. Filed Feb. 28, 1910. Serial No. 546,551.



1. In a pressing machine, the combination with a supporting frame, of an upright member fulcrumed at its upper portion on said frame, an operating lever fulcrumed at one of its ends near the lower end of the upright, a toggle-joint connected at one of its ends to the lower portion of the upright member and at its other end to the operating lever, a segmental gear mounted on the toggle-joint at the juncture of its links, and a rack adjustably mounted on the frame to engage said gear.

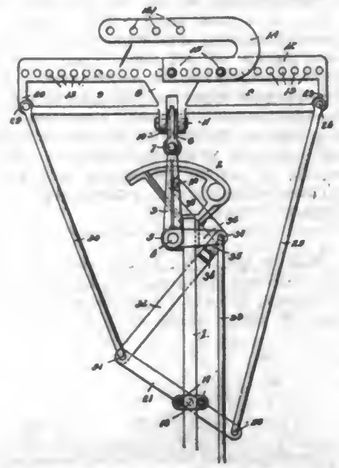
2. In a pressing machine, the combination with a supporting frame, of an upright member fulcrumed at its upper portion on said frame, an operating lever fulcrumed at one of its ends near the lower end of the upright, a toggle-joint connected at one of its ends to the lower portion of the upright member and at its other end to the operating lever, a segmental gear mounted on the toggle-joint at the juncture of its links, a rack adjustably mounted on the supporting-frame to engage said gear, and a spring connecting the lower portion of the upright member to the operating lever.

3. In a pressing machine, the combination with a supporting frame, of an upright member fulcrumed at its upper portion on said frame, an operating lever fulcrumed at one of its ends near the lower end of the upright, a toggle-joint connected at one of its ends to the lower portion of the upright member and at its other end to the operating lever, a segmental gear mounted on the toggle-joint at the juncture of its links, a plunger mounted for longitudinal movement, a rack on one end of said plunger to engage the segmental gear, and an adjusting screw mounted to engage the other end of the plunger for moving the same in one direction.

4. In a pressing machine, the combination with a supporting frame, having at its front lower portion parallel extensions, of an upright member fulcrumed at its upper portion on said frame, an operating lever fulcrumed at one of its ends near the lower end of the upright member, a toggle-joint connected at one of its ends to the lower portion of the upright member and at its other end to the operating lever, a segmental gear carried by the toggle-joint at the juncture of its links, a frame or bracket mounted on the said extensions of the frame and having on its rear surface vertically disposed guides and provided between said guides with an opening, a plunger located in said opening, a rack on the rear end of the plunger between said guides, and an adjusting screw located in the front portion of the bracket and adapted to contact with the front end of the plunger.

5. In a pressing machine, the combination with a supporting frame, of an upright member fulcrumed at its upper portion on said frame, an operating lever fulcrumed at one of its ends near the lower end of the upright, a toggle-joint connected at one of its ends to the lower portion of the upright member and at its other end to the operating lever, a segmental member mounted on the toggle-joint at the juncture of its links, and a member adjustably mounted on the frame to engage said segmental member.

976,385. SIDE-DRAFT EQUALIZER FOR SULKY-PLOWS. ADOLPH LUKL and FRANK WOLF, Jr., Clarkson, Nebr. Filed Aug. 9, 1909. Serial No. 511,900.



1. In an attachment of the class described, the combination with a plow-beam having a swinging clevis connected thereto, of a vertically disposed link pivotally connected to said swinging clevis, a horizontally disposed clevis pivotally connected to said vertically disposed link having a plurality of alined openings therein, a substantially J-shaped element removably secured to said clevis, and means for keeping said horizontally disposed clevis in alinement with the draft.

2. In an attachment of the class described, the combination with a plow-beam having a swinging clevis connected to the forward end thereof of a vertically disposed link pivotally connected to the free end of said swinging clevis, a horizontally disposed clevis having a plurality of alined openings therein, means for pivotally connecting said clevis with said vertically disposed link, a pivotally held rock-bar, guide rods connecting the ends of said rock-bar with the rear corners of said horizontally disposed clevis, and means for actuating said rock-bar for keeping said horizontally disposed clevis in alinement with the draft.

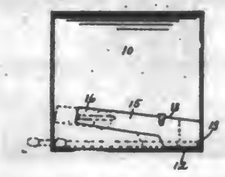
3. In a device of the class described, the combination with the beam of a sulky-plow having a swinging clevis connected to the forward end thereof, of a vertically disposed link pivotally connected to the free end thereof, a horizontally disposed clevis pivotally connected to said vertically disposed link, an adjustable J-shaped element secured to said horizontally disposed clevis, and means for shifting said clevis to the left or right of the plow-beam.

4. In a device of the class described, the combination with a plow-beam having a swinging clevis connected to the forward end thereof, of a vertically disposed link pivotally connected to said swinging clevis, a horizontally disposed clevis pivotally connected to said vertically disposed link, a substantially J-shaped element having a plurality of openings therein adapted to be removably secured to said horizontally disposed clevis, a pivotally held rock-bar having connection with said horizontally disposed clevis, and means for actuating said rock-bar and said horizontally disposed clevis simultaneously.

5. In a device of the class described, the combination with a plow-beam having a swinging clevis connected to the forward end thereof, of a vertically disposed link, a horizontally disposed clevis, means for pivotally connecting said clevis with said link, a horizontally disposed rock-bar pivotally connected to the under side of said plow-beam, guide rods connecting said rock-bar with said horizontally disposed clevis, and means for operating said rock-bar and horizontally disposed clevis in unison.

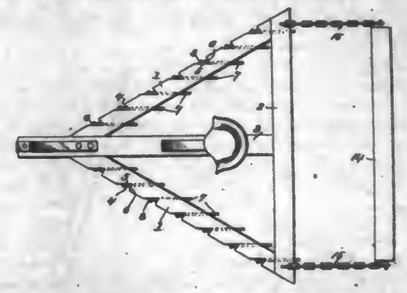
[Claims 6 to 8 not printed in the Gazette.]

976,386. POCKET MATCH-CASE. JEROME J. MANCHESTER, Indianapolis, Ind. Filed Dec. 6, 1909. Serial No. 531,574.



A match case provided with a discharge opening through the lower part of one end thereof, a substantially longitudinal slot in the side wall of the case toward the end thereof containing said opening, a discharging plate located within the case near the end remote from said opening and slidable upon the bottom edge and between the side walls of the case and having an integral extension from its upper portion to and over said slot, an external knob with its shank extending through said slot and secured to said extension, and a guide lug secured to the wall of the case and overlapping said discharging plate.

976,387. HARROW. THOMAS J. MCWILLIAMS, Timpson, Tex. Filed Mar. 18, 1910. Serial No. 550,228.



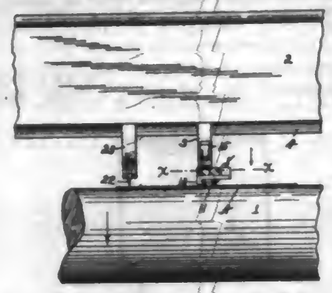
A harrow, comprising a harrow frame, including a beam formed in one side with a plurality of notches providing forwardly facing shoulders, and harrow-teeth secured within the notches in abutting relation to the adjacent forwardly facing shoulders, the shoulders being of undercut formation and embracing the teeth to hold the same against lateral displacement.

976,388. ATTACHMENT FOR SCORING-MACHINES. ALBERT T. MEYER, Toledo, Ohio, assignor to Gerard G. Black and George A. Black, a Copartnership. Filed July 14, 1909, Serial No. 507,488. Renewed Oct. 8, 1910. Serial No. 586,067.

1. In an apparatus of the class described, the combination with a rotatable shaft, and a cutter coöperating therewith to cut a blank fed therebetween, of means operative to act on the central portion of the blank in opposition to the shaft to guide the movements of the blank to cause it to be cut in other than a straight line.

2. In an apparatus of the class described, the combination with a rotatable shaft, and a cutter coöperating therewith, of means mounted above the shaft and operative to act on the central portion of a blank in opposition to the shaft to guide the movements of the blank to cause it to be cut in substantially circular form.

3. In an apparatus of the class described, the combination with a rotatable shaft, and a cutter coöperating therewith, of a pressure-foot, and a work-engaging member carried by such foot, and movable therewith to engage work in opposition to the shaft and to guide its movements when being cut.

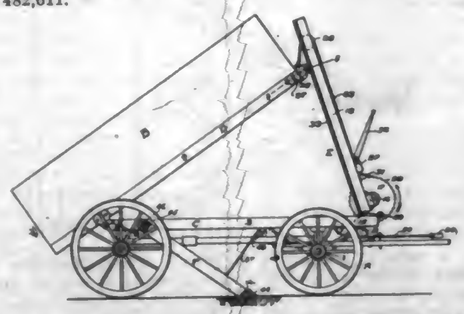


4. In an apparatus of the class described, the combination with a rotatable shaft, and a cutter coöperating therewith, of a bar spaced from such shaft, a pressure-foot carried by said bar for movements relative to the shaft, and means carried by such foot and adapted when moved into contact with work to be cut to guide the movements of such work when being cut.

5. In an apparatus of the class described, the combination with a rotatable shaft, and a cutter coöperating therewith, of means operative to act on a blank in opposition to the shaft to guide its movements whereby it is cut in other than a true circle.

[Claims 6 to 10 not printed in the Gazette.]

976,389. POWER DUMPING-VEHICLE. NELS H. NELSON, Willmar, Minn. Filed Mar. 10, 1909. Serial No. 482,611.



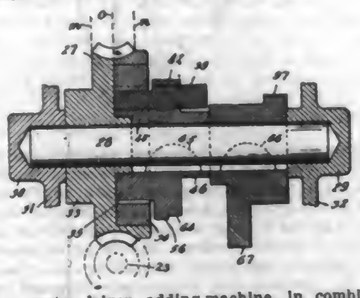
1. In a power-dumping vehicle, the combination with the running gear, of a main frame, a receptacle mounted thereon, mechanism adapted to elevate a portion of said receptacle, an anchor stay adapted for engagement with the ground, and means connecting said anchor stay with said elevating mechanism whereby the downward gravitation of the receptacle is applied for elevating said anchor stay, substantially for the purposes set forth.

2. In a power-dumping vehicle, the combination with the running gear; of a main frame; a receptacle pivotally secured thereon; a hoisting mechanism adapted to elevate a portion of said receptacle; an anchor stay adapted for engagement with the ground; and means connecting said anchor stay with said hoisting mechanism whereby the downward gravitation of the receptacle, when lowered to a horizontal position, is utilized to effect the disengagement of said anchor stay from the ground, substantially for the purposes set forth.

3. In a self-dumping vehicle, the combination with the running gear, of a main frame, a supplementary frame pivotally secured thereon, a hoist-frame mounted upon the forward portion of said main frame, hoist drums mounted in said hoist-frame, an actuating drum mounted to rotate with said hoist-drums, a cable connecting said actuating drum with the double-tree, means operatively connecting said hoist drums to the forward portion of said supplementary frame, an anchor-stay pivotally mounted in said main frame and provided with flukes adapted to engage the soil, a cable secured upon said anchor-stay and detachably secured to said actuating drum whereby the downward momentum of the supplementary frame when lowered is applied for raising the anchor-stay, substantially for the purposes set forth.

4. In a self-dumping vehicle, the combination with the running gear, of a main frame; a supplementary frame pivotally secured thereto; a hoist mechanism mounted upon the forward portion of said main frame adapted to tilt the supplementary frame; an anchor-stay pivotally secured upon said main frame having suitable flukes adapted to impinge the ground; and means operatively connecting said anchor stay to the hoisting mechanism whereby the downward momentum of the supplementary frame, when being lowered, is utilized for raising said anchor stay from engagement with the soil; substantially for the purposes set forth.

976,390. MOTOR-DRIVEN ADDING-MACHINE. FREDERICK A. NIEMANN, Chicago, Ill., assignor to Comptograph Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 27, 1908. Serial No. 429,374.



1. In a motor-driven adding-machine, in combination, adding and printing mechanism, an actuating rock-shaft therefor, a continuously running motor, a driving gear continuously rotated thereby, said gear being recessed on one side to substantially the median plane of the zone of its meshing with its driving means and having an enlarged hub projecting on its other side to compensate said recessing, a clutch-ring rigid with said gear and occupying the periphery of said recess, a rotatable driven member having a clutch-hub fitting within said clutch-ring and projecting in to the inner face of said recess, a clutch-dog borne in the periphery of said clutch-hub and adapted to grip said clutch-ring transversely of the full width thereof, operating connections from the aforesaid driven member to the aforesaid rock-shaft, and manually operable means for controlling the clutch-dog, substantially as specified.

2. In a motor-driven adding-machine, in combination, adding and printing mechanism, an actuating rock-shaft therefor, a continuously running motor, a driving gear continuously rotated thereby, said gear being recessed on one side to substantially the median plane of the zone of its meshing with its driving means and having an enlarged hub projecting on its other side to compensate said recessing, a clutch-ring rigid with said gear and occupying the periphery of said recess, said clutch-ring having internally a series of inwardly-facing clutch-notches, a rotatable driven member having a clutch-hub fitting within said clutch-ring and projecting in to the inner face of said recess, a clutch-dog borne in the periphery of said clutch-hub and adapted to grip said clutch-ring transversely of the full width thereof, operating connections from the aforesaid driven member to the aforesaid rock-shaft, and manually operable means for controlling the clutch-dog, substantially as specified.

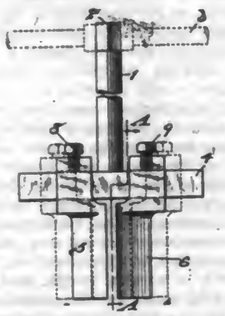
3. In a motor-driven adding-machine, in combination, adding and printing mechanism, an actuating rock-shaft therefor, a continuously running motor, a driving gear continuously rotated thereby, a clutch-ring secured to said gear and having internally a series of clutch-notches, each of said clutch-notches having its rearward end of a curvature to coincide with the engaging surface of the clutch-dog, a rotatable driven member extending within said clutch-ring, a clutch-dog for clutching said inward extension of the driven member to said clutch-ring, operating connections from the driven member to the aforesaid rock-shaft, and manually operable means for controlling the clutch-dog, substantially as specified.

4. In a motor-driven adding-machine, in combination, adding and printing mechanism, an actuating rock-shaft therefor, a continuously running motor, a driving gear continuously rotated thereby, a clutch-ring secured to said gear and having internally a continuous series of clutch-notches, each of said clutch-notches having its rearward end of a curvature to coincide with the engaging surface of the clutch-dog, a rotatable driven member extending within said clutch-ring, a clutch-dog for clutching said inward extension of the driven member to said clutch-ring, operating connections from the driven member to the aforesaid rock-shaft, and manually operable means for controlling the clutch-dog, substantially as specified.

5. In a motor-driven adding-machine, in combination, adding and printing mechanism, an actuating rock-shaft therefor, a continuously running motor, a driving gear continuously rotated thereby, a clutch-ring secured to said gear, a rotatable driven member extending within said clutch-ring, a clutch-dog for clutching said inward extension of the driven member to said clutch-ring, operating connections from the driven member to the aforesaid rock-shaft, manually operable means for controlling the clutch-dog, and a safety-clutch automatically preventing the driven member from running ahead of the driving gear, substantially as specified.

[Claims 6 to 25 not printed in the Gazette.]

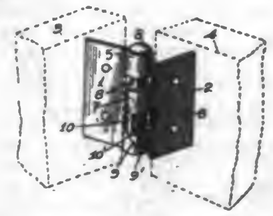
976,391. WRENCH. THOMAS O'HARE, New York, N. Y. Filed May 27, 1910. Serial No. 563,738.



A wrench comprising a spindle or shank provided with a cross bar, a pair of jaws having their upper portions offset from their lower portions and provided with openings to receive the cross-bar and means for locking the jaws in different positions on the cross-bar.

976,392. HINGE. WILLIAM D. PAYNTER, Grass Valley, Cal. Filed Apr. 4, 1910. Serial No. 553,207.

1. A hinge comprising complemental leaves having alined knuckles, a knuckle of one leaf being cut out on one side only to form an inclined-plane track, and an adjacent knuckle of the other leaf being cut out on one side only to form an inclined-plane tongue complementing and fitting the cut out portion of the other knuckle and operatable on the track thereof, to effect the rise of the second leaf relatively to the first when the leaves are turned with respect to each other, and the return of said second leaf by gravity, the inclined-plane track of the first knuckle terminating short of the full opening of the leaves, and said knuckle having at said track terminal a continuing level portion upon which the tongue of the coacting knuckle may come to rest, said tongue having a flattened extremity for stability when at rest, and said track having a flattened portion at its lower end to receive the flattened extremity of the tongue; and a pintle passing through said knuckles.



2. A hinge comprising complemental leaves having alined knuckles; a pintle passing freely through said knuckles; a collar fast on the pintle and lying above a knuckle of one of the leaves, said collar being formed with an inclined-plane track on its upper side, and the overlying knuckle of the other leaf being formed with an inclined-plane tongue complementing the track of the collar and operatable thereon to effect the rise of the second leaf relatively to the first when the leaves are turned with respect to each other, and the return of said second leaf by gravity; and means for releasably locking the pintle against movement on its axis.

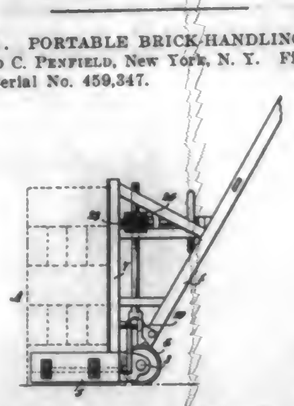
3. A hinge comprising complemental leaves having alined knuckles; a pintle passing freely through said knuckles; a collar fast on the pintle and lying above a knuckle of one of the leaves said collar being formed with an inclined-plane track on its upper side, and the overlying knuckle of the other leaf being formed with an inclined-plate tongue complementing the track of the collar and operatable thereon to effect the rise of the second leaf relatively to the first when the leaves are turned with respect to each other, and the return of said second leaf by gravity; and means for releasably locking the pintle against movement on its axis, consisting of a key removably seated in key ways in the head of the pintle and the adjacent knuckle of one of the leaves.

4. A hinge comprising complemental leaves having alined knuckles; a pintle passing freely through said knuckles; a collar fast on the pintle and lying above a knuckle of one of the leaves, said collar being formed with an inclined-plane track on its upper side, and the overlying knuckle of the other leaf being formed with an inclined-plane tongue complementing the track of the collar and operatable thereon to effect the rise of the second leaf relatively to the first when the leaves are turned with respect to each other, and the return of said second leaf by gravity, the inclined-plane track of the collar terminating short of the full opening of the leaves, and said collar having at said track terminal a continuing level portion upon which the tongue of the coacting knuckle may come to rest; and means for releasably locking the pintle against movement on its axis.

5. A hinge comprising complemental leaves having alined knuckles; a pintle passing freely through said knuckles; a collar fast on the pintle and lying above a knuckle of one of the leaves, said collar being formed with an inclined-plane track on its upper side, and the overlying knuckle of the other leaf being formed with an inclined-plane tongue complementing the track of the collar and operatable thereon to effect the rise of the second leaf relatively to the first when the leaves are turned with respect to each other, and the return of said second leaf by gravity, the inclined-plane track of the collar terminating short of the full opening of the leaves, and said collar having at said track terminal a continuing level portion upon which the tongue of the coacting knuckle may come

to rest; and means for releasably locking the pintle against movement on its axis, consisting of a key removably seated in key ways in the head of the pintle and the adjacent knuckle of one of the leaves.

976,393. PORTABLE BRICK-HANDLING DEVICE. RAYMOND C. PENFIELD, New York, N. Y. Filed Oct. 24, 1908. Serial No. 459,347.



1. A portable device for carrying bricks, comprising a movable frame, wheels therefor, means for manipulating the frame, a pair of clamps adapted to grip between them a pile of bricks set in a pre-arranged order, means for actuating said clamps, and extension frames on the movable frame, which extension frames carry the clamps.

2. A portable device for transporting bricks, comprising a movable frame, wheels therefor, handles for manipulating the frame, extension frames on the sides of the movable frame, clamps carried at the base of the extension frames, and a leverage mechanism for actuating said clamps for the purpose of enabling them to tightly grip a mass of material between them.

3. A portable device for carrying bricks, comprising a movable frame, locomotive means arranged in connection therewith, laterally extensible frames on the movable frame, a pair of clamps carried by the extensible frames, a leverage mechanism for actuating said clamps including means whereby said mechanism is capable of extension and contraction in correspondence with the movement of the extensible frames, and means including a hand wheel for actuating said leverage for the purpose of applying the clamps.

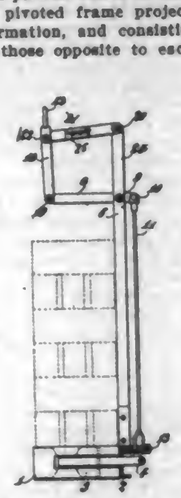
4. A portable device for carrying bricks and other articles, comprising a movable frame, wheels therefor, clamps at the base thereof, actuating rock shafts having crank arms pivoted to said clamps, crank levers secured to the rock shafts, links pivoted to said levers, horizontal levers pivoted to said links, a vertical rod pivoted to the ends of said levers, and means for actuating said rod in applying the clamps.

5. A portable machine for lifting and carrying bricks, comprising a movable frame having wheels, a pair of clamps for gripping a mass of brick, rock shafts having crank arms pivoted to the clamps, levers rigidly affixed to said rock shafts, links pivoted to said levers, horizontal levers pivoted to said links, a hand-wheel supported in the movable frame, and intermediate means between the hand-wheel and the aforesaid levers whereby the levers may be operated for the purpose of applying the clamps.

976,394. MACHINE FOR HANDLING BRICKS. RAYMOND C. PENFIELD, New York, N. Y. Filed Jan. 19, 1909. Serial No. 473,067.

1. A machine for handling bricks, comprising a vertically disposed frame, a horizontally projecting pivoted frame at the upper end thereof consisting of four interpivoted members, to which the lifting crane is adapted to be attached, and clamping means at the base of the frame actuated automatically by the initial lifting movement of the pivoted upper frame.

2. A machine for handling bricks, comprising a vertically disposed frame, a clamping mechanism at the lower end thereof for engaging a stack of bricks set in a pre-arranged order, and a pivoted frame at the upper end of the main frame, said pivoted frame projecting horizontally over the stack formation, and consisting of four interpivoted members, those opposite to each other being of unequal length.



3. A machine for handling bricks, comprising a main frame having a basal clamp, in combination with a pivoted frame at the upper end of the main frame, said pivoted frame consisting of four interpivoted members, those opposite to each other being of unequal length, means for connecting the suspension means to the end of said pivoted frame farthest from the main frame, and means whereby the motion of the pivoted frame is communicated to the clamping mechanism.

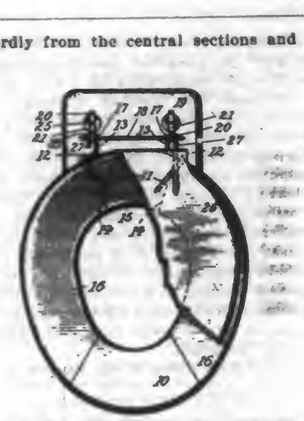
4. A machine for handling bricks, comprising a vertically disposed frame, a series of clamping devices at the base thereof adapted to enter the spaces between the units of the basal layer of a stack formation of bricks, a pivoted frame consisting of two members of unequal length pivoted to the main frame and a third member connecting the outer end of said two members, and of a length unequal to the distance between the pivoted points on the main frame, suspension means attached to the outer end of said pivoted frame, and thrust connections between the latter frame and the basal clamping mechanism.

5. A machine for handling bricks, comprising a main frame having at its base a yoke partially surrounding a stack formation of bricks, a clamp for connecting the frame to the stack formation, and a pivoted frame at the upper end of the main frame for keeping the machine in proper equilibrium when loaded and unloaded, said pivoted frame consisting of four members, those opposite to each other being of unequal length, and a connection between said pivoted frame and the clamping mechanism, all arranged so that the initial lifting movement actuates the clamp.

976,395. WATER-CLOSET HINGE CONNECTION. JOSEPH H. PRYOR, New York, N. Y. Filed Mar. 8, 1910. Serial No. 547,997.

1. A device of the character described, comprising a water closet bowl, a seat, a pair of rods having parallel rear sections which are pivoted to the bowl, outwardly extending central sections engaging the back of the seat, and threaded front sections deflected inwardly from the central sections and entering the seat.

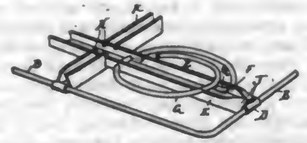
2. A device of the character described, comprising a water closet bowl, a sectional seat having a pair of rear joints and an intervening rear segment, a pair of rods having parallel rear sections which are pivoted to the bowl, central sections which bridge the joints at the rear of the seat to check a backward displacement of the rear seat segment, and threaded front sections which are deflected inwardly from the central sections and enter the seat.



3. A device of the character described, comprising a water closet bowl, a sectional seat having a pair of rear joints, a pair of rods having parallel rear sections which are pivoted to the bowl and threaded front sections which are deflected inwardly from the rear sections and pass at an angle through the joints.

4. A device of the character described, comprising a water closet bowl, a sectional seat having a pair of rear joints, a pair of rods having parallel rear sections which are pivoted to the bowl, outwardly extending central sections engaging the back of the seat and bridging the joints, and threaded front sections deflected inwardly from the central sections and passing at an angle through said joints.

976,396. SPRING-SEAT. FRED S. RICKERD, Detroit, Mich., assignor to Detroit Wire Spring Company, Detroit, Mich., a Corporation of Michigan. Filed May 14, 1910. Serial No. 561,413.



1. A spring construction comprising a main frame, channel bars extending longitudinally thereof in spaced relation with their flanges upturned, transverse channel bars secured across the frame in spaced relation with their upturned flanges notched and interlocked with the flanges of the main channels, and a plurality of upright spiral springs whose lower coils pass through mating apertures in the flanges of the main channel bars, the webs of said bars being indented against the portions of the coils between the flanges.

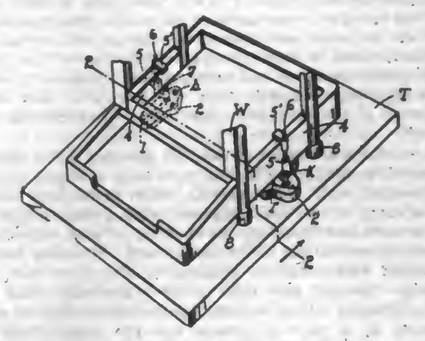
2. A spring construction comprising a main frame, main channel bars supported at their end portions only thereon in spaced relation with their flanges upturned, transverse channel bars secured across the frame in spaced relation with their upturned flanges notched and interlocked with the flanges of the main bars, the end portions of the main bars having their flanges cut away with the web portions secured against the frame members, and upright spiral springs whose lower coils pass through mating apertures in the flanges of the main channels, the webs of the latter being indented to engage said coils between the bar flanges.

3. A spring construction comprising a main frame, a channel bar extending across the frame with its channels upturned, the flanges of the bar being cut away from the end portions thereof and the end portions of the webs being folded around the frame, the end portions of the flanges being inbent over the reverted part of the web, and spiral springs whose lower coils rest on and are secured to the main bar in apertures in the flanges thereof.

4. A spring construction comprising a base, channel bars on the frame in spaced relation with their flanges upturned, the end portions of the flanges being cut away and the webs at the ends being bent around the adjacent members of the frame between the flanges, the ends of the latter being inbent to overlap the webs, transverse channel bars secured across the frame in spaced relation, the upturned flanges of the latter having notches with under-cut margins engaged by the main cross bars with which said flanges are interlocked, and springs whose lower coils pass through registering apertures in the flanges of the main channels, the web portions of said channels being off-set to engage the springs between the flanges.

5. A spring construction comprising a base, channel bars on the frame in spaced relation with their flanges upturned, the end portions of the flanges being cut away and the webs at the ends being bent around the adjacent members of the frames between the flanges, the ends of the latter being inbent to overlap the webs, transverse channel bars secured across the frame in spaced relation, the upturned flanges of the latter having notches with under-cut margins engaged by the main cross bars with which said flanges are interlocked, springs whose lower coils pass through registering apertures in the flanges of the main bars, the web portions of said channels being offset to engage the springs between the flanges, and a free end of the lower coil of each spring being inbent against the adjacent channel flange.

976,397. TYPE-WRITER CLAMP. FREDERICK ROBERTS, St. Louis, Mo. Filed Aug. 1, 1910. Serial No. 574,977.

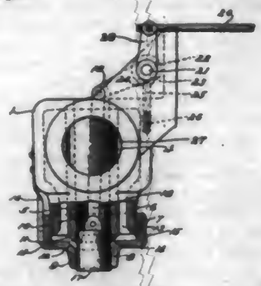


In combination with the side plates of a type-writer members secured to the table on which the machine rests at points adjacent the side plates and spaced apart from the surface of the table, the members being provided with slots disposed parallel to the side plates and open in front, anchor members comprising a stirrup engaging the lower edge of each side plate, a second stirrup engaging the upper edge of said side-plate, a screw for drawing the stirrups together, an adjusting screw on the bottom stirrup projecting below the same and passed into the slot of the member secured to the table, a bottom terminal head on the screw-stem for preventing withdrawal of the stem from the slot, and a locking bolt on one of the slotted members, operating across the slot and in front of the screw-stem inserted thereinto, substantially as set forth.

976,398. VALVE-CONTROLLED DEVICE FOR DRAWING LIQUIDS. GEORGE A. ROBINSON, Boston, Mass., assignor to Pneumatic Scale Corporation Limited, Quincy, Mass., a Corporation of Maine. Filed May 16, 1910. Serial No. 562,200.

1. A valve-controlled device for drawing liquid from a reservoir comprising a hollow valve-body having a tubular connection with the reservoir, said valve-body having an opening at the top connected with a tube which extends downward through the chamber of said valve-body, a cup secured to the lower end of said valve-body having

nozzle which has an opening in alinement with the passage through said tube in the valve-body, said cap being adapted to be secured to the valve-body in such manner as to leave a passage into the nozzle from the chamber of the valve-body surrounding said tube between the adjacent ends of said tube and nozzle and a valve movable within said tube and nozzle which is adapted to close and open said passage.



2. A valve-controlled device for drawing liquid from a reservoir comprising a hollow valve-body having a tubular connection with the reservoir, said valve-body having an opening at the top connected with a tube which extends downward through the chamber of said valve-body, a cap secured to the lower end of said valve-body having a nozzle which has an opening in alinement with the passage through said tube in the valve-body, said cap being adapted to be secured to the valve-body in such manner as to leave a passage into the nozzle from the chamber of the valve-body surrounding said tube between the adjacent ends of said tube and nozzle and a valve movable within said tube and nozzle which is adapted to close and open said passage from the nozzle to said outer chamber of the valve-body and means for actuating said valve.

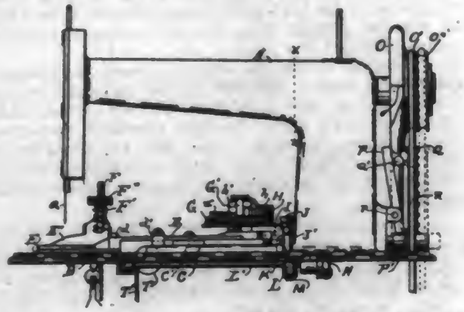
3. A valve-controlled device for drawing liquid from a reservoir comprising a hollow valve-body having a tubular connection with the reservoir, said valve-body having an opening at the top connected with a tube which extends downward through the chamber of said valve-body, a cap secured to the lower end of said valve-body having a nozzle which has an opening in alinement with the passage through said tube in the valve-body, said cap being adapted to be secured to the valve-body in such manner as to leave a passage into the nozzle from the chamber of the valve-body surrounding said tube between the adjacent ends of the tube and nozzle, a valve movable within said tube and nozzle which is adapted to close and open said passage from the nozzle to said outer chamber of the valve-body, means for actuating said valve and means for locking said valve in its open or closed position.

4. A valve-controlled device for drawing liquid from a reservoir comprising a hollow valve-body having a tubular connection with the reservoir, said valve-body having an opening at the top connected with a tube which extends downward through the chamber of said valve-body, a cap secured to the lower end of said valve-body having a nozzle which has an opening in alinement with the passage through said tube in the valve-body, said cap being adapted to be secured to the valve-body in such manner as to leave a passage into the nozzle from the chamber of the valve-body surrounding said tube, a valve movable within said tube and nozzle which is adapted to close and open said passage from the nozzle to said outer chamber of the valve-body, means for actuating said valve, said cap having a screw-thread connection with said valve-body, said tube having its lower end beveled and said nozzle having its interior upper end beveled to correspond with the bevel on said tube whereby a beveled joint is formed when the cap is screwed up to bring the beveled edges of the nozzle into contact with the beveled edges of the tube.

5. A valve-controlled device for drawing liquid from a reservoir comprising a hollow valve-body having a tubular connection with the reservoir, said valve-body having an opening at the top connected with a tube which extends downward through the chamber of said valve-body, a cap secured to the lower end of said valve-body having a nozzle which has an opening in alinement with the passage through said tube in the valve-body, said cap being adapted to be secured to the valve-body in such manner as to leave a passage into the nozzle from the chamber of the valve-body surrounding said tube, a valve movable within said tube and nozzle which is adapted to close and open said passage from the nozzle to said outer chamber of the valve-body, means for actuating said valve, said cap having a screw-thread connection with said valve-body, whereby the said cap may be adjusted to vary the size of the passage from the chamber of the valve-body into the nozzle.

[Claims 6 to 9 not printed in the Gazette.]

976,399. SEWING-MACHINE. MORRIS G. ROSENTHAL, Mentor, Ohio, and ARTHUR ROSENTHAL, Grand Rapids, Mich. Filed Feb. 28, 1910. Serial No. 546,569.



1. In combination with a sewing machine, an attachment constructed with a base to be secured to the machine bed, an actuating arm slidingly and pivotally mounted on said base, a plate secured to said actuating arm, a clamping plate pivotally secured to said plate, a spring for holding said clamping plate firmly against the first named plate, a form having inwardly projecting gear teeth, at the back end of the actuating arm, a gear wheel meshing with said gear teeth, a ratchet wheel and pawl for actuating said gear wheel, a cam and shaft beneath the machine bed, a slide actuated by said cam, an oscillating lever connected at one end with said slide, a connecting rod connecting the other end of said lever with the pawl, substantially as and for the purpose set forth.

2. In combination with a sewing machine and its bed and shuttle shaft, a base secured to the machine bed, a shaft mounted on said base and carrying a ratchet wheel and pawl and a gear wheel, a cam mounted on the shuttle shaft, a slide actuated by said cam, an oscillating lever actuated by said slide, a connecting rod connecting said lever with the pawl to actuate the ratchet wheel therefrom, an actuating arm mounted on the base, gear teeth formed at one end of the said arm in position to be engaged by the gear wheel, a forming block secured to the base, a guide at the end of the actuating arm to engage said block to guide the gear wheel in the form, a clamping plate secured to the actuating arm, an adjustable foot in said clamping plate formed to shape the desired lines of stitching, and means for actuating said clamping plate.

3. In combination with a sewing machine and its bed and shuttle shaft, a base secured to the bed of the machine, a movable pivotal bearing on said base, an actuating arm mounted on said pivotal bearing in such a manner that it may be made to, at once, oscillate and move longitudinally thereon, and having an opening in one end with gear teeth projecting into said opening, a gear wheel to mesh with said teeth to actuate said arm, a clamping plate secured to the end of said arm, and having an opening through it in its line of travel under the needle, a supporting arm mounted on the base, a shaft mounted on said base and arm, a ratchet wheel and pawl and a gear wheel mounted on said shaft, a slide connected with and actuated by the shuttle shaft, an oscillating arm and connecting rod connecting said slide and the pawl to actuate the ratchet wheel, a sliding shaft mounted on the machine bed back of the base, a latch for locking said shaft to place, a spring for actuating said shaft when the latch is disconnected, a tight and loose pulley and a driving belt, a shifting arm on the said shaft for shifting the belt from the tight pulley to the loose pulley and back at the exact time that a given point on the plate approaches the needle, and means for drawing said shaft lengthwise against the spring, substantially as shown and described.

4. In combination with a sewing machine bed and shuttle shaft and the balance wheel and tight and loose pulleys for running a sewing machine, a base secured to the bed, an arm connected with said base, a shaft supported by said base and arm, a ratchet wheel and pawl, and a gear wheel mounted on said shaft, a slide connected with and actuated by the shuttle shaft, an oscillating lever and connecting rod actuated by said slide and actuating the pawl and ratchet wheel and shaft, an actuating arm actuated by the gear wheel on the ratchet shaft, clamping plates mounted on one end of said arm and arranged to be moved by said arm to sew stitches in various directions, means for opening and closing said clamping plates, a longitudinally movable shaft mounted back of the actuating arm, a shifting arm on said shaft, a belt on one of the pulleys arranged to be shifted from one to the other with the shifting arm at the exact time that a given point on the plate approaches the needle, a lever mounted on the machine in position so that the upper end comes in contact with the balance wheel, a shoulder on the balance wheel in position to be engaged by said lever, means for actuating said lever to suddenly stop the machine when the sliding shaft is moved to throw the belt upon the loose pulley, a spring for actuating the sliding shaft, a latch for holding it to position, and means for drawing the shaft to position under the latch substantially as shown and described.

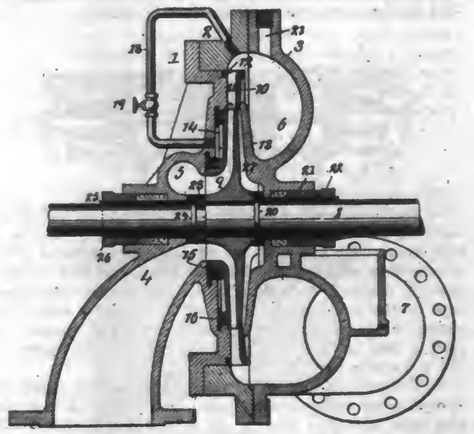
5. In combination with a sewing machine and its bed and shuttle shaft a base secured to the bed of the machine, an arm mounted on said base, a shaft mounted on said base and arm, a ratchet wheel and pawl mounted on said shaft, an actuating arm and clamping plates mounted on the base and actuated by the shaft, means for actuating said ratchet wheel and shaft from the shuttle shaft, a second set of ratchet teeth formed on the surface of the ratchet wheel, a sliding pawl mounted in position to be made to engage said teeth, and means for actuating said pawl to move the ratchet wheel and shaft backward, and, also, to return it to normal position, substantially as and for the purpose set forth.

976,400. CENTRIFUGAL PUMP. RUDOLF SALZER, Trenton, N. J., assignor to The De Laval Steam Turbine Company. Filed Apr. 7, 1906, Serial No. 310,456. Renewed Sept. 20, 1910. Serial No. 582,028.

1. In a centrifugal pump, an impeller and a casing therefor, having (1) an annular clearance chamber between the rear side of said impeller and a casing wall and (2) a conduit receiving the discharge of said impeller, two loose concentric rings seated between the front side of said impeller and a casing wall and forming with said impeller and wall, an annular front chamber, and a duct connecting said annular front chamber and said conduit.

2. In a centrifugal pump, a casing, an impeller having a shoulder at one end of its hub, a shaft, a fixed collar on said shaft against which said hub bears at said shouldered end, a bushing surrounding said shaft and said collar and received on said hub shoulder, and a bearing in said casing receiving said bushing.

3. In a centrifugal pump, a casing, an impeller, a shaft having a circumferential groove, two half rings disposed in said groove and bearing against one end of the hub of said impeller, a fixed collar on said shaft adjacent to said groove, a bushing surrounding said shaft and said collar and said half rings and abutting on said end of said impeller hub, and a bearing in said casing receiving said bushing.



4. In a centrifugal pump and in combination with an impeller, and a casing therefor, a diffuser surrounding said impeller and having its inlet registering with the impeller outlet; the said diffuser comprising a substantially flat ring, a second substantially flat ring of less width and vanes secured between said rings and extending across said first named ring; the said narrower ring being seated in a wall of said casing and the exposed edges of said vanes abutting against said wall.

5. In a centrifugal pump, and in combination with an impeller, and a casing therefor having walls forming an annular passage beyond the impeller outlet, a diffuser formed of a substantially flat ring and vanes secured at their edges to and extending across said ring; the said diffuser being seated in said annular passage and having the exposed edges of its vanes abutting against a prolongation of one of the casing walls forming said passage; and a second ring of less width than said first named ring secured to said edges and supported on said last named wall.

[Claims 6 to 8 not printed in the Gazette.]

976,401. MONOAZO DYE FOR LAKES. KARL SCHNITZSPAHN, Offenbach-on-the-Main, Germany, assignor to Corporation of Chemische Fabrik Griesheim Elektronat, Frankfort-on-the-Main, Germany. Filed July 13, 1910. Serial No. 571,698.

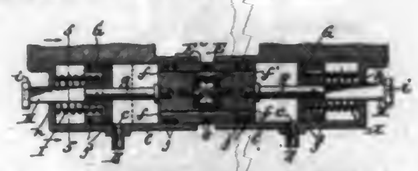
1. The process for the production of a monoazodyestuff specially valuable for preparing pigment colors consisting in the combination of the diazo compound of 2-naphthylamin-4:8-disulfonic acid with 2.3-oxynaphthoic acid.

2. As a new article, the dyestuff obtained by the combination of the diazo compound of 2-naphthylamin-4.8-disulfonic acid with 2.3-oxynaphthoic acid, which dyestuff forms in dry state a red-brown powder and is soluble in concentrated sulfuric acid with very bluish-red color and in water with yellowish-red color; the solution being changed both by addition of caustic soda lye and by addition of hydrochloric acid to a bluish-red color and the dyestuff capable of being transformed into very bluish-red pigment colors.

976,402. AUTOMATIC TRAIN-PIPE COUPLING. MAURICE SEGAL and FREDERICK C. WALKER, Buffalo, N. Y.; said Walker assignor to said Segal. Filed Feb. 7, 1910. Serial No. 542,564.

1. The combination of opposing cars having draw bars, air brake pipes, and means for coupling said pipes upon

connecting said draw bars comprising cylinders each mounted on one of said draw bars and having a port connecting with one of said pipes, a piston movable lengthwise in each cylinder and having a passage adapted to connect with a corresponding passage in the other piston, and means moving with said piston for closing said port in the forward position of the piston and opening said port in the rearward position of said piston.



2. The combination of opposing cars having pipes, cylinders mounted on the cars and each having a port in its side which connects with one of said pipes, a front piston arranged in each cylinder in front of its port and having a passage adapted to register with the corresponding passage of the front piston of the other cylinder, and a rear piston in each cylinder adapted to cover and uncover the port in said cylinder and movable with the front piston in the respective cylinder.

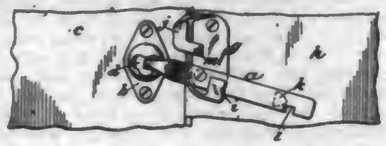
3. The combination of opposing cars having pipes, cylinders mounted horizontally and lengthwise on said cars and each having a port in its side which connects with one of said pipes, a front piston arranged in the front part of each cylinder and having a longitudinal passage adapted to register with the corresponding passage of the front piston in the cylinder of the other car, a rear piston arranged in the rear part of each cylinder and apart from the companion front piston, a connecting rod connecting each pair of front and rear pistons, a flat-sided guide rod connected with each rear piston and passing through a correspondingly-shaped opening in the rear end of the respective cylinder, a spring arranged in each cylinder between the rear end thereof and the rear piston therein and operating to move the pistons outwardly, and a stop collar arranged on said guide rod and adapted to engage the rear end of the cylinder and arrest the pistons when the rear piston is arranged with its periphery over the port of the respective cylinder.

4. The combination of opposing cars having draw bars, air brake pipes, cylinders mounted on said draw bars and each having a port in its side which connects with one of said pipes, a front piston arranged in the front part of each cylinder and having a longitudinal passage adapted to register with the corresponding passage of the front piston in the cylinder of the other car, a rear piston arranged in the rear part of each cylinder and apart from the companion front piston, a connecting rod connecting each pair of front and rear pistons, a flat-sided guide rod connected with each rear piston and passing through a correspondingly-shaped opening in the rear end of the respective cylinder, a spring arranged in each cylinder between the rear end thereof and the rear piston therein and operating to move the pistons outwardly, and a stop collar arranged on said guide rod and adapted to engage the rear end of the cylinder and arrest the pistons when the rear piston is arranged with its periphery over the port of the respective cylinder.

976,403. DOOR-FASTENER. ALFRED SHEDLOCK, Cannon Station, Conn. Filed Oct. 12, 1909. Serial No. 522,303.

1. In a door fastener, a bar secured at one end to the door jamb by a hinge connection, an upwardly extending hook or catch attached to the door and adapted to receive the bar when the door is closed to lock the door, and means above the hook or catch adapted to receive the bar when it is raised free of hook or catch to hold the door partly open.

2. In a door fastener, a bar secured at one end to the door jamb by a hinge connection, an upwardly extending hook or catch attached to the door and adapted to receive the bar when the door is closed to lock the door, a guard arm above the hook or catch for receiving the bar when raised out of the hook or catch and in which the bar slides when the door is opened, and a stop on the bar for limiting the opening movement of the door.



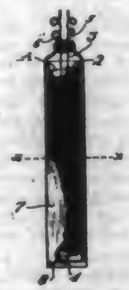
3. In a door fastener, a bar secured at one end to the door jamb by a hinge connection, an upwardly extending hook or catch attached to the door and adapted to receive the bar when the door is closed to lock the door, a guard arm above the hook or catch for receiving the bar when raised out of the hook or catch and in which the bar slides when the door is opened, and a stop on the bar for limiting the opening movement of the door, said bar having a notch formed at or near its free end adapted to engage an extension of the guard arm to prevent the door closing when in its partly opened position.

4. A door fastener, comprising a bar having an enlargement or head at one end, a socket piece adapted to be attached to a door jamb and having a recess for reception of the head of the bar and a slot in its face through which the bar extends, constructed to provide a swiveling movement of the bar, and a holding member adapted to be attached to the door having an upwardly extending hook behind which the bar may be placed to hold the door closed, and a guard arm above the hook behind which the bar may be placed to hold the door partly open.

5. A door fastener, comprising a bar having an enlargement or head at one end, a socket piece adapted to be attached to a door jamb and having a recess for reception of the head of the bar and a slot in its face through which the bar extends, constructed to provide a swiveling and a longitudinal movement of the bar, and a holding member adapted to be attached to the door having an upwardly extending hook behind which the bar may be placed to hold the door closed and a guard arm above the hook behind which the bar may be placed to hold the door partly open, a notch on the bar, and a lug on the door member over which the notch of the bar is passed when the bar is longitudinally set to release the bar from the door member.

[Claims 6 to 8 not printed in the Gazette.]

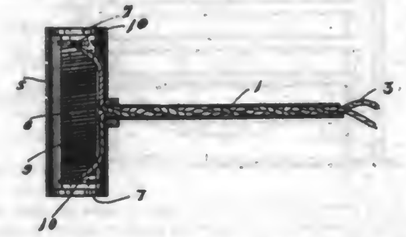
976,404. ELECTRICAL HEATER. MILTON H. SHOENBERG and GEORGE T. MARSH, San Francisco, Cal., assignors to Appliance and Electric Device Company, a Corporation of California. Filed Jan. 28, 1909. Serial No. 474,790.



1. An electrical heating element consisting of a single conducting core of solid metal, a conducting resistance coil wound about said core, an insulating medium interposed between the core and coil, an insulation inclosing the coil, an exterior closed seamless tube flattened and compressed upon the outside of the exterior insulation, said resistance coil being connected at one end with the core and at the other end with an electrical terminal, said core having a connection with a similar terminal.

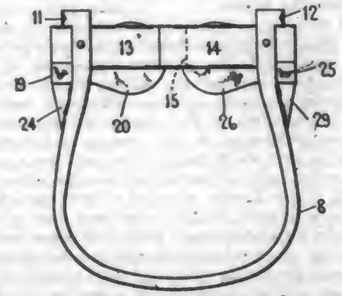
2. The combination in an electrical heater, of a plurality of single flat conducting cores, conducting resistance coils wound about the cores, insulating mediums interposed between the coils and cores, other insulations inclosing the coils, exterior closed seamless tubing flattened and compressed upon the outside of the exterior insulations, a container adapted to receive a plurality of individual heating elements, and connections in series between said members.

976,405. ELECTRIC HEATER. MILTON H. SHOENBERG, San Francisco, Cal., assignor to The Presto Electrical Manufacturing Company, a Corporation of California. Filed June 1, 1910. Serial No. 564,435.



An electric heater comprising a casing open at both ends, a tubular handle secured thereto and extending at right angles therefrom, a tubular spool within said casing having both ends open and registering with the ends of the casing, the cavity between the spool and casing being closed at both ends, a high resistance wire upon said spool within said cavity, an insulating medium separating said wire from the spool, and conducting wires passing through said handle and connected to the resistance wire.

976,406. SADDLE-STIRRUP. JAMES F. SHULTZ, Cody, Tex. Filed Oct. 21, 1909. Serial No. 523,829.



1. In a stirrup, the combination of a stirrup frame, a hanger bar comprising a pair of sections pivoted respectively to opposite sides of the frame, the outer ends of each section projecting beyond the outer face of the frame, a locking member pivoted to each side of the frame for movement in a horizontal plane, each of said locking members comprising a pair of angularly disposed arms, one of said arms being adapted to engage the outer end of the adjacent section of the hanger bar when said locking member is disposed in one position to hold said section against movement on its pivot, and the other arm extending across the stirrup frame and constituting a tripping toe, and means constantly tending to move said locking member on its pivot so as to force the first named arm into engagement with the end of the adjacent section of the hanger bar.

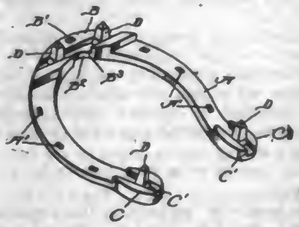
2. In a stirrup, the combination of a stirrup frame, a hanger bar comprising a pair of sections pivoted respectively to opposite sides of the frame, the outer ends of each section projecting beyond the outer face of the frame, a locking member pivoted to each side of the frame for movement in a horizontal plane, each of said locking members comprising a pair of angularly disposed arms, one of said arms being adapted to engage the outer end of the adjacent section of the hanger bar when said locking member is disposed in one position to hold said section against movement on its pivot, and the other arm extending across the stirrup frame and constituting a tripping toe, and spring actuated means constantly tending to move said locking member on its pivot so as to force the first named arm into engagement with the end of the adjacent section of the hanger bar.

976,407. BURIAL-VAULT. JEREMIAH C. SIMPSON, Iowa Falls, Iowa. Filed Oct. 1, 1909. Serial No. 520,498.



An improved burial vault, comprising a sheet metal body portion having a bottom, sides and ends and also having a flange at the top extending around the sides and ends and projected first outwardly and then upwardly, a sheet metal top comprising an arched body portion having straight flanges at its sides and ends, said flanges being designed to lie flat against the horizontal portions of the flanges on the body portion of the burial vault and to lie within the upwardly extended portions of said flanges to provide a convenient and easy means for soldering the cover portion to the said body portion, a second sheet metal layer on top of and connected with said cover, and provided with reinforcing corrugations, the side edges of said lower top portion being projected beyond said edges by said corrugated top portion to permit soldering the edges of the lower cover portion, and a layer of concrete material completely surrounding said sheet metal portions, for the purposes stated.

976,408. HORSESHOE. FRANK F. STANEK, Howell, Nebr. Filed Mar. 29, 1910. Serial No. 552,173.

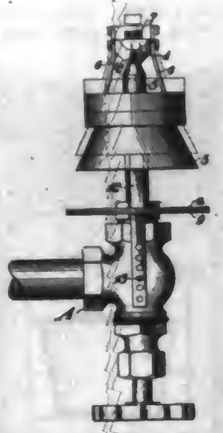


1. A horseshoe provided with an enlarged toe portion having a central notch in its inner edge, said notch communicating with tapering dove-tailed shaped grooves, and

calks having dove-tailed shaped heads adapted to be inserted in said grooves through said notch and forced outwardly.

2. A horseshoe having an enlarged toe portion and enlarged heel portions, said enlarged portions being provided with tapering dove-tailed shaped grooves, the enlarged portion of the toe being provided with a central notch communicating with the grooves, and toe and heel calks having dove-tailed shaped heads adapted to be placed in said grooves and forced outwardly for locking said calks in said grooves by frictional contact.

976,409. VAPORIZER OR CARBURETER. ANDREW J. STICKLER, Winfield, Iowa. Filed May 6, 1909. Serial No. 494,324.



1. In a vaporizer or carbureter, the combination with a valve casing, of a tube connected thereto for supplying fuel, a stem movably mounted in the tube, a valve mounted upon the stem for closing the tube, means for supplying air to the vaporizer, a sliding cone mounted on the tube for directing the air to the fuel as it is discharged from the tube for forming a spray, a bar connected to the cone, and means engaged by the bar for holding the cone at different positions on the tube.

2. In a vaporizer or carbureter, the combination with a hood, a perforated disk connected to the hood, a movable disk in engagement with the stationary disk for regulating the discharge of air into the hood, of a tube connected to the stationary disk, a stem movably mounted in the tube, a valve connected to the stem, a weighted cone connected to the valve for seating the valve upon the end of the tube, and a sliding cone mounted upon the tube, said cones adapted to direct the air to the fuel as it is discharged from the tube, for forming a spray.

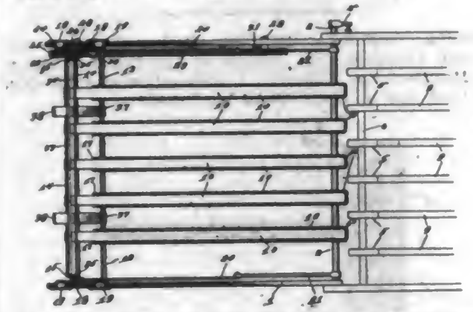
3. In a vaporizer or carbureter, the combination with a valve casing, of a tube for supplying fuel connected thereto, a valve for closing the end of the tube, a cone connected to the valve, and a cone slidably mounted on the tube, said cones adapted for directing the supply of air to the fuel as it is discharged from the tube upon the operation of the valve.

4. In a vaporizer or carbureter, the combination with a valve casing, of a tube connected thereto for supplying fuel, a stem slidably mounted in the tube, a valve mounted on the stem for closing the tube, means for supplying air to the vaporizer a weighted cone connected to the valve for directing air to the fuel as it is discharged from the tube, and a sliding cone mounted on the tube for directing air to the fuel as it is discharged from the tube for forming a spray.

5. In a vaporizer or carbureter, the combination with a valve casing, of a tube connected thereto for supplying fuel, a stem mounted in the tube, a valve mounted upon the stem for regulating the discharge of fuel from the tube, means for supplying air to the vaporizer a slidable cone mounted on the tube for directing the air to the fuel as it is discharged from the tube, and a weighted cone connected to the valve for directing air to the fuel as it is discharged from the tube, said cone adapted to seat the valve after the suction stroke of the engine which opens the valve.

[Claim 6 not printed in the Gazette.]

976,410. SHEET-DELIVERY MECHANISM FOR PRINTING-PRESSES. WILLIAM H. STRATTON, Chicago, Ill. Filed Aug. 5, 1910. Serial No. 575,760.

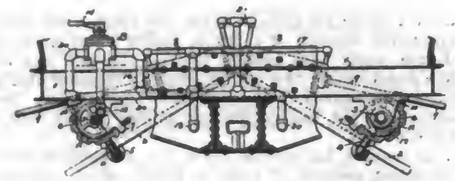


1. In a sheet delivery mechanism, a pair of side rails, carriages mounted on said side rails, and means for reciprocating said carriages along said side rails, transverse shafts carried by said carriages, a plurality of sheet supporting fingers mounted on one of said shafts, and a roller mounted on the other of said shafts, sheet conveying tapes carried by said sheet supporting fingers, and passing over said roller, a U-shaped frame carried by the last mentioned shaft, a gear fixed to said shaft within the frame, a stub shaft mounted in said frame, and a gear loosely mounted on said stub shaft, and adapted to mesh with the first mentioned gear, a rack bar supported by one of said side rails, and means for bringing the last mentioned gear into and out of engagement with said rack bar when the carriages are moved back and forth respectively, in combination with means for depositing the sheets upon said sheet supporting fingers.

2. In a sheet delivery mechanism, a pair of side rails, carriages mounted on said side rails, and means for moving said carriages back and forth therealong, a pair of transverse shafts carried by said carriages, sheet supporting fingers mounted on one of said shafts, and a roller mounted on the other of said shafts, a frame carried by the last mentioned shaft, a gear fixed to said shaft within said frame, a stub shaft mounted in said frame, and having one of its ends projecting beyond the outer side of said frame, a gear loosely mounted on said stub shaft and adapted to mesh with the first mentioned gear, a rack bar supported by the said side rail below said gears, and means formed in the inner face of said side rail for operating on the aforesaid projecting end of the stub shaft, for causing the gear carried thereby to be moved into and out of engagement with the rack bar, as the carriages are moved back and forth respectively, along the side rails.

3. In a sheet delivery mechanism, a pair of side rails, carriages mounted on said side rails, and means for reciprocating said carriages, a transverse shaft mounted in said carriages, and having one end projecting beyond one of said carriages, and working in the upper of a pair of communicating grooves formed in the inner face of the adjacent side rail, a roller mounted on said shaft between the carriages, a hanger carried by said shaft, and a gear fixed to said shaft within the hanger, a stub shaft mounted in said hanger, a gear loosely mounted on said stub shaft, and adapted to mesh with the first mentioned gear, one end of said stub shaft projecting beyond the outer side of said hanger, and adapted to work in both of said grooves, said grooves being so arranged that when the carriages are moving forwardly the projecting end of the stub shaft will travel in the upper groove, but when moving backwardly it will travel in the lower groove, a rack bar carried by said side rail, and adapted to be engaged by the gear mounted on said stub shaft when the end thereof is traveling in the lower groove, and a plurality of sheet supporting fingers carried by said carriages and adapted to move therewith, said fingers comprising a channel shaped arm having a tape pulley mounted in each end thereof, a sheet conveying tape passing over said pulleys and over the aforesaid roller, and means for depositing the sheets upon said sheet conveying tapes.

976,411. DUMP-CAR. JOHN E. TESSEYMAN and FRANK L. IRWIN, Columbus, Ohio, assignors to The Ralston Steel Car Company, Columbus, Ohio. Filed Apr. 27, 1910. Serial No. 557,935.



1. The combination with a car provided with drop doors and operating means for said drop doors, of an arm connected with said operating means, an air cylinder provided with a piston and a piston rod, the latter disposed to engage the arm of the door operating means for moving the latter to permit the doors to open, and means for controlling air pressure at respective sides of the piston in said cylinder.

2. The combination with a car provided with drop doors and door operating means, of a member secured to the door operating means and provided with an arm, an air cylinder provided with a piston and piston rod, the latter disposed to coöperate with the arm on the member secured to the door operating means to permit the doors to open, flexible devices connected with the piston rod and said member for effecting the closing of the doors, and means for controlling fluid pressure at respective sides of the piston in said cylinder.

3. The combination with a car provided at respective sides of its longitudinal center with drop doors, operating means for the doors at each side of the center, a member provided with an arm secured to each of said operating means, two cylinders provided with pistons and piston rods, the latter disposed to coöperate with the arms and the members secured to the respective door operating means, flexible devices connecting the piston rods with said members, and means for controlling fluid pressure at respective sides of the pistons in the two cylinders for controlling the operation of the door operating means.

4. The combination with a car provided at each side of its longitudinal center with a series of drop doors, and operating means for each series of drop doors, of wheels secured to the door operating means near respective ends of the car structure and provided with arms, two cylinders near each end of the car structure and provided with pistons having piston rods, the latter disposed to coöperate with the arms on the wheels of the respective door operating means, flexible connections between said wheels and piston rods, pipes for conveying fluid to respective ends of said cylinders, and a valve for controlling the passage of said fluid to cause the simultaneous movement of all of said pistons and piston rods in one direction or the other.

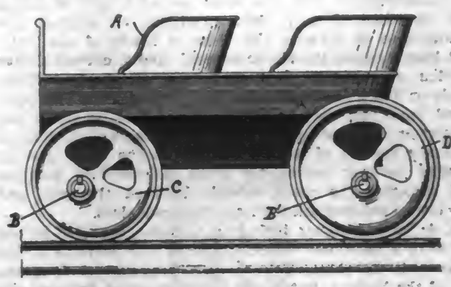
5. The combination with a car provided with drop doors at respective sides of its longitudinal center, of crank shafts supported by the car structure and coöperating with the drop doors, wheels secured to said crank shafts and provided with arms, cylinders mounted on the car structure near respective ends of the latter and provided with pistons and piston rods, the latter disposed to coöperate with the said arms on said wheels, flexible devices connected with the piston rods and with said wheels, a system of pipes connected with respective ends of said cylinders, and valve mechanism for controlling the passage of fluid simultaneously to one end or the other of all of the cylinders.

976,412. CLOTHES-LINE. WALTER OLIE WALSTON, Asheville, N. C. Filed Apr. 23, 1910. Serial No. 557,189.



A clothes line comprising a plurality of disconnectible sections, each section comprising a single piece of wire and having a pair of oppositely disposed holding loops at one end thereof extending inwardly, and a laterally disposed clutch loop forming a continuation of the holding loops, the opposite end of each section having a clutching member bent at right angles to the body of the section and adapted to pass through the clutch loop on the opposite end of the adjoining sections, said loop having its head extending parallel with the body of the section and comprising a continuation of lateral holding arms which are adapted to enter and lie over a portion of the holding loops.

976,413. VEHICLE. CHARLES H. WASHBURNE, Rochester, N. Y., assignor of one-half to Henry B. Oakman, New York, N. Y. Filed Oct. 15, 1909. Serial No. 522,767.



1. A vehicle having a body and axle, and four traction wheels, two of which are mounted on said axle with their treads concentric thereto, and two of which are mounted with their treads eccentric thereto.

2. A vehicle having a body, and two axles, two traction wheels mounted on each of said axles and having their treads concentric therewith, and two traction wheels mounted on each of said axles and having their treads mounted eccentric thereto.

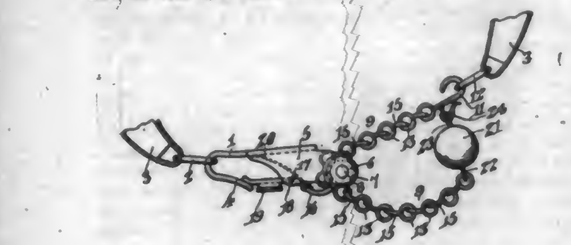
3. A vehicle having a body and two axles, two wheels mounted on each of said axles and having their treads concentric therewith, and two mounted on each of said axles and having their treads mounted eccentric thereto, two of said last named wheels being of greater diameter than the other two eccentric wheels.

4. A vehicle having a body with two axles and eight traction wheels, four wheels being mounted on each axle, two mounted on each axle with their treads concentric therewith and two mounted with their treads eccentric thereto, two each of the concentric wheels being mounted in alinement with each other and two each of the eccentric wheels being mounted in alinement with each other, said axles being constructed to be independently rotated.

976,414. HAME-FASTENER. CHARLES S. WAYBRIGHT, Crabbottom, Va. Filed July 23, 1910. Serial No. 573,408.

1. A hame fastener including a casing provided with means for connecting it with one of a pair of hames, a transverse roller mounted within the casing, a chain pro-

vided with means for connecting it with the other one of the pair of hames and extending through the casing and arranged on the said roller and composed of relatively short links consisting of cylindrical eyes and narrow slots spaced from the eyes by a solid intermediate portion, and a spring actuated pawl or catch pivotally mounted in the casing and directly engaging the chain and holding the same against the roller, the engaging portion of the pawl or catch being of the same width as the chain and extending entirely across the intermediate solid portion of the links and being of substantially the thickness of the space between the eyes of the chain, and the said eyes substantially filling the slots.



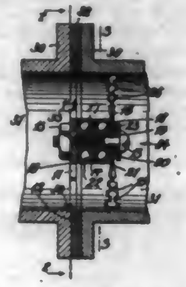
2. A hame fastener including a casing provided with means for connecting it to one of a pair of hames, a transverse roller mounted within the casing and composed of a cylindrical sleeve, and heads or disks projecting beyond the periphery of the sleeve, a chain having means for connecting it with the other one of a pair of hames and composed of short links consisting of reduced eyes arranged to fit between the disks or heads of the latter and bear against the sleeve thereof, and a curved slotted portion arranged to rest upon the peripheries of the heads or disks, the slots being relatively-narrow and separated from the eyes by solid intermediate portions, and a pawl or catch pivoted within the casing and having an engaging portion of the same width as the chain and extending entirely across the solid intermediate portions and engaging the chain directly between the eyes, and the latter substantially filling the said slots.

3. A hame fastener including a casing provided at one end with a hook and having extended side portions at the other end, the sides of the casing being spaced from the bill of the hook, a transverse roller mounted between the extended portions of the sides of the casing, a chain arranged on the roller and composed of short links having relatively large eyes and narrow slots separated from the eyes by a solid intermediate portion, and a spring actuated catch pivoted between the sides of the casing and being of the same width as the chain at its engaging end and engaging the solid portion of the link between the eyes of the chain, said pawl or catch being provided at the open space between the casing and the bill of the hook with a laterally projecting operating arm.

4. A hame fastener including a chain, a hame-engaging hook connected with one end of the chain and having a shank provided with a depending supporting hook formed by partially severing the metal of the shank and constituting a handle for operating the hame-engaging hook to engage the same with and disengage it from a hame, a casing receiving the chain and provided with means for engaging a hame, a locking device carried by the casing for engaging the chain, and a handle carried by the free end of the chain and provided with an eye to engage the said depending supporting hook.

976,415. MIXER FOR GASEOUS FLUIDS. HARTWELL W. WEBB, Cresskill, and EDWARD H. STICKELS, Edgewater, N. J., assignors to Gyrex Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Aug. 20, 1910. Serial No. 578,200.

1. In a mixer for gaseous fluids, the combination with a supporting element, of a fan or paddle wheel mounted to rotate freely with respect thereto, the said fan or paddle wheel having a plurality of obliquely disposed blades having different pitches.



2. In a mixer for gaseous fluids, the combination with a supporting element, of a fan or paddle wheel mounted to rotate freely with respect thereto, the said fan or paddle wheel having two sets of obliquely disposed blades arranged alternately with respect to each other, the blades of one set having different pitches to the blades of the other set.

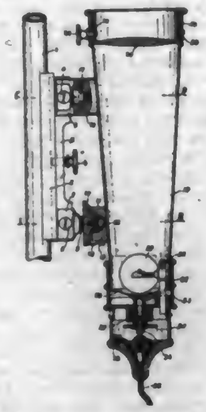
3. In a mixer for gaseous fluids, the combination with a supporting element, of a fan or paddle wheel mounted to rotate freely with respect thereto, the said fan or paddle wheel having obliquely disposed blades provided with serrated edges.

4. In a mixer for gaseous fluids, the combination with a supporting element, of a fan or paddle wheel mounted to rotate freely with respect thereto, the said fan or paddle wheel having a plurality of obliquely disposed blades having different pitches, the edges of the said blades being serrated.

5. In a mixer for gaseous fluids, the combination with a supporting element, of a fan or paddle wheel mounted to rotate freely with respect thereto, the said fan or paddle wheel having obliquely disposed blades the side edges of which are notched to form teeth between them, the teeth upon opposite sides of the said blades being in staggered relation with each other.

[Claims 6 and 7 not printed in the Gazette.]

976,416. AIMING DEVICE WITH SEARCH-LIGHT. KARL WEBER, Cologne, Germany, assignor to Wilhelm Utendörfer, Cologne, Germany. Filed Feb. 12, 1910. Serial No. 543,482.



1. A device of the character described, comprising a gun-barrel, a support permanently secured thereto, a slide block engaging the support, claws pivoted to the ends of said block, a search light having a pair of sockets, and means for adjustably securing the claws to said sockets.

2. A device of the character described, comprising a gun-barrel, a support permanently secured thereto, a slide-block engaging the support, claws pivoted to the ends of said block, a search light, a first socket on said search light to which one of the claws is pivoted, a second socket on the search light, a sleeve adjustably mounted in said second socket, and means for adjustably connecting the sleeve to the other claw.

3. A device of the character described, comprising a gun-barrel, a support permanently secured thereto, a slide block engaging the support, a first claw and a second claw pivoted to said block, a search light, a recessed first socket on said search light and rotatably engaged by the first claw, a slotted second socket on the search light, a sleeve adjustably engaging the second socket, and means for adjustably securing the second claw to said sleeve.

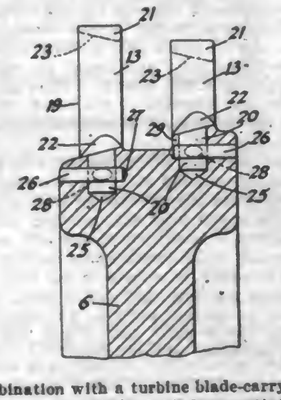
4. A device of the character described, comprising a gun-barrel, a support permanently secured thereto, a slide block engaging the support, a first claw and a second claw pivoted to said block, a search light, a first socket on said search light and rotatably engaged by the first claw, a slotted second socket on the search light, a sleeve adjustably engaging said second socket, and an adjusting nut rotatably mounted in the sleeve and engaging the second claw.

5. A device of the character described, comprising a gun-barrel, a support permanently secured thereto, a slide block engaging the support, a first claw pivoted to said block, a search light, a first socket on said light and rotatably engaged by the first socket, a second claw pivoted to the slide block and having a threaded stem, a slotted second socket on the search light, a sleeve engaging the socket-slot, a pair of adjusting screws engaging the sleeve and an adjusting nut rotatably mounted in the sleeve and engaged by the threaded stem of the second jaw.

976,417. DYE. MAX WEILER, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed June 21, 1910. Serial No. 568,102.

The herein described dyestuffs obtainable from formaurin-di-carboxylic acids and aromatic amins, which dyestuffs are dark powders soluble in dilute caustic soda lye generally with a reddish color, dyeing wool from acid baths generally from red to blue shades which can be chromed after dyeing, substantially as described.

976,418. TURBINE-BLADE. GEORGE WESTINGHOUSE, Pittsburg, Pa. Filed Oct. 8, 1908. Serial No. 456,815.



1. In combination with a turbine blade-carrying element provided with a plurality of blade-mounting apertures, blades provided with base portions adapted to fit said apertures and pins, each pin engaging recesses in the base portions of two adjacent blades, for securing said blades to said element.

2. In combination with a turbine blade-carrying element provided with a plurality of blade-mounting holes, blades provided with notched mounting portions adapted to be secured into said holes, the notches of two adjacent blades facing each other, pins each engaging two adjacent notches provided in the mounting portions of adjacent blades and adapted to secure said blades to said element.

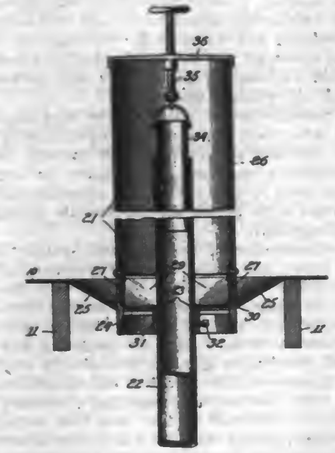
3. In combination with a turbine blade-carrying element provided with a plurality of cylindrical blade-mounting apertures, blades provided with cylindrical mounting portions adapted to be secured into said apertures, separate pins engaging recesses provided in the mounting portions of the blades and adapted to secure said blades to said element and a shrouding flange formed integrally with each blade.

4. In combination with a turbine blade-carrying element provided with a plurality of blade-mounting apertures arranged in a row, and a pin-receiving aperture located between and intersecting each pair of adjacent blade-mounting apertures, blades provided with mounting portions adapted to be located in said blade-mounting apertures, and a pin located in each pin-receiving aperture and engaging the base portions of adjacent blades to secure them to said element.

5. In combination with a turbine blade-carrying element provided with a plurality of alined blade-mounting apertures, blades provided with base portions adapted to be located in said apertures, a single means for positively locking two adjacent blades in place and a flange provided on the outer or free end of each blade and adapted to engage with the next adjacent blade to form a shroud for the blades.

[Claims 6 and 7 not printed in the Gazette.]

976,419. ORE-JIG. GEORGE H. WILLIAMS, Chicago, Ill. Filed Apr. 1, 1910. Serial No. 552,791.

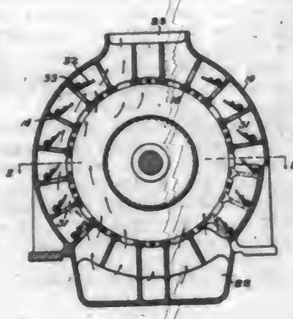


1. In a jig of the character described, the combination of a cell, a main screen in the upper part of the cell upon which the mass to be treated is fed and along which it is advanced, means for causing water to pulsate through the screen from its under side to stratify different materials of the mass and causing the lower stratum to form a jig-bed, and means for discharging material of a lower stratum from the jig, comprising a selector-sleeve, a porous screen section beneath the sleeve at a lower level than the said main screen, an inclined chute extending between the main screen and said screen-section, the sleeve having an inlet-opening in its lower end-portion, and draw-off means within the sleeve above the level of said inlet-opening.

2. In a jig of the character described, the combination of a cell, a main screen in the upper part of the cell upon which the mass to be treated is fed and along which it i

advanced, means for causing water to pulsate through the screen from its under side to stratify different materials of the mass and cause the lower stratum to form a jig-bed, and means for discharging material of a lower stratum from the jig, comprising a selector-sleeve, a porous screen-section beneath the sleeve at a lower level than the said main screen, an inclined imperforate chute extending between the main screen and said screen-section, the said sleeve having an inlet-opening in its lower end-portion, and draw-off means within the sleeve above the level of said inlet-opening.

976,420. DYNAMO-ELECTRIC MACHINE. ROBERT B. WILLIAMSON, Milwaukee, Wis., assignor to Allis-Chalmers Company, a Corporation of New Jersey. Filed Apr. 17, 1909. Serial No. 490,627.



1. In a dynamo-electric machine, the combination of a closed housing having transverse ribs and provided with an exhaust opening, a core supported by said ribs and provided with ventilating passageways, said ribs having ventilating openings and dampers for varying the effective sizes of the openings, and means for causing a flow of air through said ventilating passageways and openings and out through the exhaust opening.

2. In a dynamo-electric machine, the combination of a stator and rotor, said stator comprising a housing having transverse ribs and a core supported thereby, said ribs having ventilating openings and dampers for regulating the effective sizes of said ventilating openings, said rotor being provided with means for forcing air through said ventilating openings.

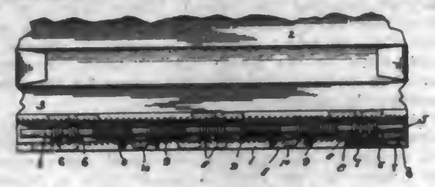
3. In a dynamo-electric machine, the combination of a stator and rotor, said stator comprising a housing having sets of ribs and a core supported thereby, said ribs having ventilating openings, separately adjustable dampers for varying the effective sizes of said openings in said sets of ribs, and blowers on said rotor for causing a flow of air through said ventilating openings to cool said stator core.

4. In a dynamo-electric machine, the combination of a stator and rotor, said stator comprising a housing having ribs and a core supported thereby, said ribs having ventilating openings, means between the stator housing and core for varying the effective sizes of said openings, and blowers on said rotor for causing currents of air to be forced through said openings to cool said stator core.

5. In combination, a closed housing, having inwardly extending transverse ribs spaced circumferentially and provided at the top with an air exhaust opening, an annular stator core supported by said ribs and provided with circumferential ventilating passageways, a rotor, means for forcing the air upwardly from the bottom of the core to said exhaust opening at the top of the housing, said ribs having ventilating openings whereby part of the air will pass upwardly between the core and housing through the openings in the ribs and part will pass through the ventilating passageways of the core, and means on said ribs for regulating the relative amounts of air which pass through the core and between the core and frame.

[Claims 6 to 10 not printed in the Gazette.]

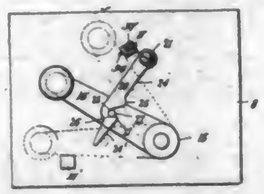
976,421. TEMPORARY BINDER. FRIEDRICH WOLFF, Pittsburg, Pa. Filed July 18, 1910. Serial No. 572,608.



1. A temporary binder comprising an upper and a lower cover, hinge members carried thereby, said members having a spiral body and penetrating ends, a bar supported by the spiral bodies of said members, and means carried by said bar for normally retaining said covers in clamping relation.

2. A temporary binder comprising an upper cover and a lower cover, one of said covers provided with recesses, spiral hinge members carried by said covers and having cover penetrating ends, a bar carried by said members, and spiral springs carried by said bar and provided with central tongues that engage said recesses and free ends that engage the other cover.

976,422. ELECTRIC SWITCH. JOHN HASTINGS WOOLL, San Francisco, Cal. Filed Oct. 28, 1909. Serial No. 525,006.



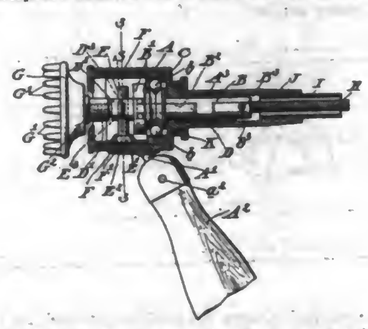
1. A double throw switch having contacts and a plurality of independently mounted blades, a plurality of independent insulating supports for said blades, an insulating structure connecting said blades, an independently mounted operating lever, and means for connecting said lever and said structure whereby movement of the lever may effect a corresponding movement of the switch blades.

2. A motor starting switch having a plurality of independently mounted blades, a plurality of independent insulating supports for said blades, an insulating structure connecting said blades, a plurality of sets of independently mounted clips adapted for engagement with said blades, a plurality of insulating supports for said clips, each of said supports carrying a cut-out device, connections between each cut-out device, and a pair of clips, an independently mounted operating lever and means for connecting said lever and said structure whereby sufficient movement of said lever in one direction or the other will correspondingly effect the engagement of said blades with one or the other set of clips.

3. A motor starting switch having two positions, one the starting position and the other the running position, the movable switch parts being movable by gravity unrestrainedly downward from said starting position to said running position, a latch coöperating with said switch to hold it normally in an intermediate position, but ineffective when the switch is allowed to fall from the starting to the running position, said switch being free from restraint when so moving, and lugs for limiting the movement of said switch parts, one of said lugs also serving to limit the movement of said latch.

976,423. MASSAGE-MACHINE. EDWARD E. ZIEGLER, Philadelphia, Pa. Filed Apr. 13, 1909. Serial No. 489,604.

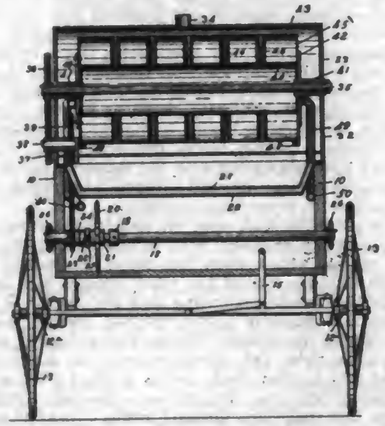
1. A massage machine, comprising a casing, a main shaft, a secondary shaft journaled within the main shaft, a massage implement attached to the secondary shaft a fulcrumed rod passing through the secondary and adapted to prevent the same from turning, and a spring pressed pin interposed between the rod and casing of the machine.



2. A massage machine, comprising a casing, a main shaft, a secondary shaft carried by the main shaft and adapted to move in a path eccentric to the main shaft, a massage implement attached to the secondary shaft a rod adapted to pass through an opening in the secondary shaft, a collar mounted within the casing and having a socket to receive one end of said rod and a spring pressed pin interposed between the rod and the casing of the machine.

3. A massage machine, comprising a casing, a main shaft, a grooved collar located within the casing, a grooved head formed upon the main shaft, a series of balls or rollers interposed between said collar and said head, a secondary shaft eccentrically mounted within the main shaft, a massage implement attached to the secondary shaft a row of balls interposed between the main shaft and secondary shaft, a rod fulcrumed to the casing and passing through an opening in the secondary shaft to prevent the secondary shaft from turning.

976,424. PEANUT-ROASTER. IVER R. ANDERSON, Des Moines, Iowa, assignor to R. O. Stutsman Company, Des Moines, Iowa, a Corporation of Iowa. Filed Jan. 27, 1908. Serial No. 412,768.



1. In a device of the class described, the combination of a supporting frame, an engine, a compartment for receiving articles to be roasted, and a heater for said compartment comprising a heat containing receptacle within said compartment having means communicating with it for conducting the heat outside of the roasting compartment and also having means for conducting the exhaust from said engine to said heat receptacle whereby the heat from the engine exhaust may be discharged into said heat receptacle and the articles to be roasted may be contained between the heat receptacle and the interior of the compartment, for the purposes stated.

2. In a device of the class described, the combination of a supporting frame, an engine, a compartment for receiving articles to be roasted, and a heater for said compartment comprising a heat containing receptacle within said compartment having means communicating with it for conducting the heat outside of the roasting compartment and also having means for conducting the exhaust from said engine to said heat receptacle whereby the heat from the engine exhaust may be discharged into said heat receptacle and the articles to be roasted may be contained between the heat receptacle and the interior of the compartment, supporting wheels for said frame, and means for gearing said engine to said supporting wheels for advancing the frame.

3. In a device of the class described, the combination of a frame, an engine, a chamber for receiving articles to be roasted, a compartment on the interior of said chamber separated from the chamber, a casing encircling the casing surrounding the roasting chamber, and means for conducting the exhaust from the engine into said inner compartment, and means for conducting heat from said inner compartment to the compartment surrounding the roasting chamber.

4. In a device of the class described, the combination of a supporting frame, an engine, a compartment for receiving articles to be roasted, and a heater for said compartment comprising a heat containing receptacle within said compartment having means communicating with it for conducting the heat outside of the roasting compartment and also having means for conducting the exhaust from said engine to said heat receptacle whereby the heat from the engine exhaust may be discharged into said heat receptacle and the articles to be roasted may be contained between the heat containing receptacle and the interior of the compartment, and means operated by the engine for rotating said roasting compartment.

5. In a device of the class described, the combination of a frame, an engine, a compartment for receiving articles to be roasted, said compartment having an inner chamber separated from the articles to be roasted, means for conducting the exhaust from said engine to said inner chamber, and means operated by the engine for rotating the roasting chamber.

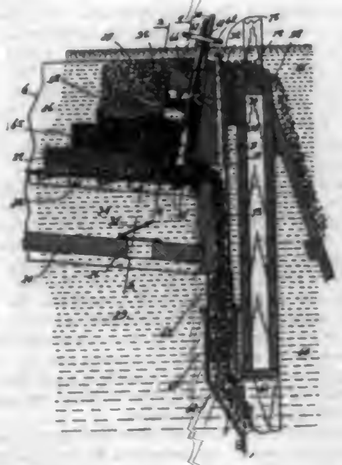
[Claims 6 to 11 not printed in the Gazette.]

976,425. APPARATUS FOR WASHING, GRADING, AND CLASSIFYING COAL OR OTHER MATERIAL. FRANK D. BAKER, Denver, Colo. Filed Dec. 5, 1908. Serial No. 466,185.

1. In an apparatus for washing, grading and classifying coal or other materials, according to their specific gravities, the combination of a jig provided with suitable means for causing a jigging action in the material to be treated, a partition having its lower edge varying in height from the bottom of the jig, said partition dividing the jig into a main compartment and a trap compartment, the trap compartment having a number of partitions forming the said compartment into a number of subdivisions, the said subdivisions having gates located therein and over which the varying grades of ore are to pass relative to the varying height of the said gates, each of said gates consisting of two members, one of said members adapted to be adjusted in relation to the other, and to vary in height relative to the variation in height of the first named partition, from the bottom of the jig, whereby the heavier stratum of material is caused to enter one subdivision of the trap compartment, while the lighter grade of material occupying an upper stratum, is allowed to enter another division and conduits communicating with the said subdivisions for conveying the separated material therefrom substantially as described.

2. An apparatus for washing and grading or classifying coal or other materials according to their specific gravities, consisting of a jig having a transverse partition separating the jig into a main compartment and a trap

compartment, the said partition extending to a predetermined distance from the bottom of the jig and provided with a central depending portion extending nearer the bottom of the jig than the ends of the partition, the trap compartment formed by the said partition having a number of partitions abutting at one of their ends against the first named partition, the said partitions forming the trap compartment into a number of subdivisions, the said subdivisions having gates located in the respective subdivisions over which the varying grades of ore are to pass through said subdivisions, each of the said gates consisting of two members, one of said members adapted to be adjusted in relation to the other, and means for imparting a suitable action to the jig to cause the material of varying grades to pass over the respective gates, substantially as described.

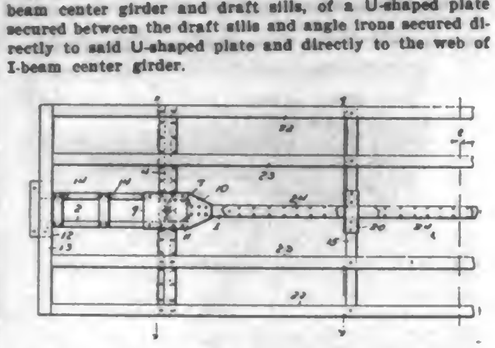


3. In apparatus for washing, grading or classifying coal or other materials according to their specific gravities, the combination of a jig provided with suitable means for producing a jigging action in the material to be treated, said jig being provided with a screen upon which the material rests, and a partition separating the jig into a main compartment and a trap compartment, the said partition varying in height from the bottom of the jig to its lower edge, the trap compartment formed by the said partition having a plurality of partitions separating the same into a number of subdivisions, vertically adjustable gates located within the subdivisions, the said gates adapted to be adjusted to vary in height relative to the variations in height of the first named partition from the bottom of the jig, whereby the heavier stratum of material is caused to enter one subdivision of the trap compartment, while the lighter grades of material occupying an upper stratum is allowed to enter another subdivision, the said gates being located at a point in the rear of the first named partition, thereby forming a vertical passage between the first partition and the gates through which the material is to pass to be discharged over the gates, and conduits communicating with the said subdivisions for conveying the material therefrom.

976,426. UNDERFRAME FOR RAILWAY-CARS. ANTON BECKER, Columbus, Ohio, assignor to The Ralston Steel Car Company, Columbus, Ohio. Filed Apr. 20, 1908. Serial No. 428,156.

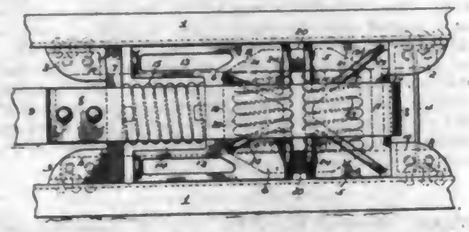
1. In a car underframe, the combination with an I-beam center girder, transverse members, and draft sills connected with said I-beam center girder, of furring strips rigidly secured to the upper flanges of the I-beam center girder, and other strips or sills supported upon the transverse members and coöperating with said furring strips for supporting the car floor.

2. In a car underframe, the combination with an I-beam center girder and draft sills, of a U-shaped plate secured between the draft sills and angle irons secured directly to said U-shaped plate and directly to the web of I-beam center girder.



3. In a car underframe, the combination with an I-beam center girder and draft sills spaced apart, of a plate secured to said draft sills and to the upper flanges of said I-beam center girder and having depending flanges at its edges.

976,427. FRICTION DRAFT-GEAR FOR RAILWAY-CARS. ANTON BECKER, Columbus, Ohio, assignor to The Ralston Steel Car Company, Columbus, Ohio. Filed May 20, 1908. Serial No. 433,893.



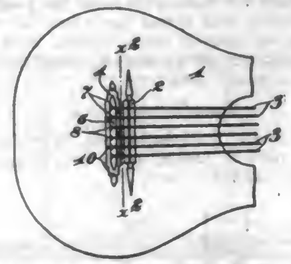
1. In a friction draft gear, the combination of two housings, each having friction faces therein, friction blocks coöperating with said friction faces, transverse springs bearing at their ends against said friction blocks, and ribs on opposing edges of said housings and constituting abutments for each other to limit the movements of said housings and prevent over compression of the springs.

2. In a friction draft gear, the combination of two separated pocketed members having reinforced top and bottom opposing edges constituting abutment for the respective members, each member having friction faces inclosed within its pocket, friction blocks disposed in the pocketed members and coöperating with the inclosed friction faces therein, and springs disposed between said friction blocks and tending to press them laterally.

3. In a friction draft gear, the combination of two separating pocketed members, each having ribs at the edges of its top and bottom walls, the ribs of one member being parallel with the ribs of the other member, ribs on said top and bottom walls extending from the ribs at the edges, each of said members having inclined friction faces inclosed within its pocket, friction blocks located in said pocketed members and extending from one to the other, each of said friction blocks having inclined friction faces coöperating with the friction faces inclosed within the pockets, and transverse springs pressing outwardly against said friction blocks.

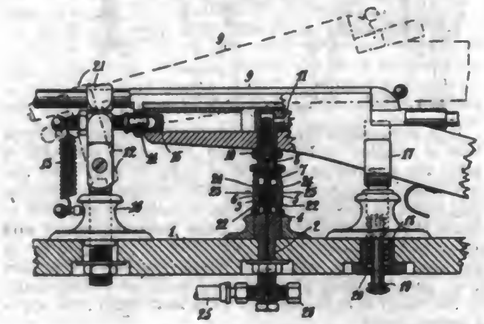
976,428. GUITAR. PETER BENSON and JOEL L. JOHANSON, Minneapolis, Minn.; said Johanson assignor to said Benson. Filed Sept. 18, 1909. Serial No. 518,394.

A guitar provided with a bridge on its top board and a string anchoring device independently applied back of, but in close proximity to said bridge and said anchoring device comprising clamping bars, one on the inner and one on the outer side of said top plate, and clamping bolts or



screws connecting the said clamping bars and rigidly securing the same to said top board.

976,429. PNEUMATIC GUN. AXEL LINUS BLOMÉN, Sundbyberg, near Stockholm, Sweden, assignor to Aktiebolaget Vapenfabriken Excellent, Stockholm, Sweden. Filed Nov. 18, 1909. Serial No. 528,746.



1. In a device for charging a valve-controlled pressure chamber of a pneumatic gun, the combination of a pressure conduit, an escape-valve placed in the said pressure conduit and adapted to be operated by pressure from without, and means adapted to engage the gun to be charged and guide it in such a manner as to cause a part of the gun leading to the valve-controlled pressure chamber thereof to engage and press on the escape-valve of the pressure conduit.

2. In a device for charging a valve-controlled pressure chamber of a pneumatic gun, the combination of a pressure conduit, an escape-valve placed in the said pressure conduit and adapted to be operated by pressure from without, and a swingable support adapted to engage the gun to be charged and guide it in such a manner as to cause a part of the gun leading to the valve-controlled pressure chamber thereof to engage and press on the escape-valve of the pressure conduit.

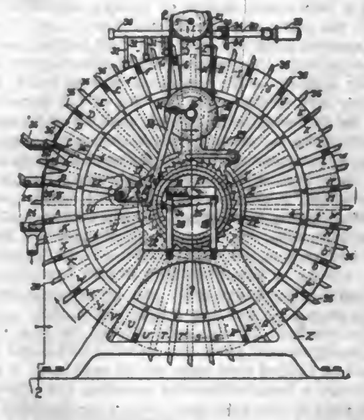
3. In a device for charging a valve-controlled pressure chamber of a pneumatic gun, the combination of a pressure conduit, an escape-valve placed in the said pressure conduit and adapted to be operated by pressure from without, and a swingable support having a fork for the barrel of the gun and an adjustable bolt adapted to engage the gun, said support being so arranged in respect to the escape-valve of the pressure conduit as to cause a part of the gun leading to the valve-controlled pressure chamber thereof to engage and press on the said escape-valve.

4. In a device for charging a valve-controlled pressure chamber of a pneumatic gun, the combination of a pressure conduit, an escape-valve placed in the said pressure conduit and adapted to be operated by pressure from without, a swingable support adapted to engage the gun to be charged and guide it in such a manner as to cause a part of the gun leading to the valve-controlled pressure chamber thereof to engage and press on the escape-valve of the pressure conduit, and a guide adapted to engage the stock of the gun during the last part of the said movement.

5. In a device for charging a valve-controlled pressure chamber of a pneumatic gun, the combination of a pressure conduit, an escape-valve placed in the said pressure conduit and adapted to be operated by pressure from without, a swingable support adapted to engage the gun to be charged and guide it in such a manner as to cause a part of the gun leading to the valve-controlled pressure chamber thereof to engage and press on the escape-valve of the pressure conduit, and a spring-supported fork adapted to engage the stock of the gun during the last part of the said movement.

[Claim 6 not printed in the Gazette.]

976,430. SLIME-CONCENTRATOR. SAM H. BOYLAN, Colorado Springs, Colo. Filed Apr. 13, 1910. Serial No. 555,191.



1. In a concentrator, a member provided with a con
centrating surface radiating from a fixed horizontal axis
over which surface the pulp is free to flow in sheet form
means at the axis for supplying the pulp and means for
revolving said member about said axis.

2. In a concentrator, a member provided with a con
centrating surface radiating from a fixed horizontal axis
over which surface the pulp is free to flow in sheet form
means at the axis for supplying the pulp and means for
periodically revolving said member about said axis.

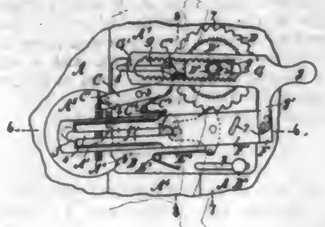
3. In a concentrator, a member provided with a con
centrating surface radiating from, and revoluble about
fixed horizontal axis, and means for discharging the pulp
onto said surface at points adjacent to the axis during
a depressed position of said surface below a horizontal
plane through the axis, whereby the flow of the pulp is
away from said axis.

4. In a concentrator, a member provided with a con
centrating surface radiating from, and revoluble about
fixed horizontal axis, a feed-box at said axis discharging
the pulp onto said surface during a depressed position of
said surface below a horizontal plane through the axis
means for delivering a current of dressing or wash water
onto said surface upon the elevation of said surface above
a horizontal plane through the axis, the dressing water
and pulp being thereby returned to the feed-box.

5. In a concentrator, a member provided with a con
centrating surface radiating from, and revoluble about,
fixed horizontal axis, means for rotating said concentra
tor, means positioned relatively to the concentrating sur
face to effect a sheet flow of the pulp over said surface
from said axis for a downward inclination of said surface
from a horizontal plane through the axis, and means posi
tioned to effect a sheet flow over the surface toward said
axis for an upward inclination of said surface from a hori
zontal plane through the axis.

[Claims 6 to 32 not printed in the Gazette.]

976,431. BUTTONHOLE-STITCHING ATTACHMENT FOR SEWING-MACHINES. EMANUEL JOHN BOYLER, Ottawa, Ontario, Canada, assignor of one-half to John Harold Alford, Ottawa, Ontario, Canada. Filed Aug. 2, 1909. Serial No. 510,910.

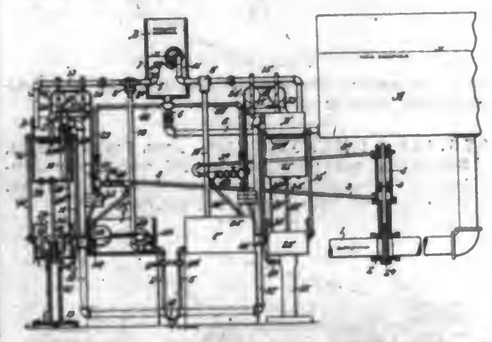


1. In a buttonhole stitching attachment, the combination of a base plate, means of holding the same in position on the plate of a sewing machine, a feed lever pivotally secured upon the said base and having one end in engagement with the positive feed of the machine, a pallet pivotally secured at the other end of said lever, a spring returning said feed lever at the end of the movement imparted by the positive feed, a ratchet wheel in gear with the said pallet, a larger cam wheel journaled upon said base plate and upon which said ratchet wheel is fast and having only half the number of ratchet-like teeth as the ratchet wheel, a pinion fast upon said ratchet wheel, a slotted bar having the edges of the slot serrated with teeth gearing into said pinion one end of said bar having a handle and an arm projecting laterally and provided with a stud, a stud at the other end of said bar sliding in a slot in said base, a flat pawl like follower pivoted upon the base plate and carrying a stud and having a point at one side which is in engagement with the cam wheel, a spring engaging said pawl and pressing said point into engagement, a headed stud upon which said pawl is pivoted, a bar having a longitudinal slot engaging the headed pivot and the stud on the pawl and sliding thereon and extending with its slot under the needle and provided with a transverse slot at the rear end for engagement with the stud of the rack arm, a spring bar secured at one end upon the end of the aforesaid bar and having its forward end slotted to register with the slot in the bar below, means on said spring bar for holding the material for stitching under the forward end thereof and a thumb piece for lifting the forward end of said spring bar, substantially as set forth.

2. In a buttonhole stitching attachment, the combination of a base plate, means of holding the same in position on the plate of a sewing machine, a cam wheel journaled upon a stud secured to said base plate, a ratchet wheel smaller than and concentric with and fast to said cam wheel and having double the number of teeth of said cam wheel, a pinion upon and fast to said ratchet wheel, means for turning said ratchet wheel one tooth for each descent of the needle bar, a slotted bar having the edge of the slot serrated with teeth gearing with said pinion said bar terminating in a handle and having a, laterally extending arm carrying a stud, means for holding said rack bar slidingly on the base plate a flat pawl-like follower pivoted to said base plate on a stud and carrying a stud and having a point engaging said cam wheel, a spring holding said follower in engagement with said cam wheel and a slotted workholder held slidingly on the studs of said follower and engaged by the arm of the rack bar, substantially as set forth.

3. In a buttonhole stitching attachment for sewing machines, the combination of a base plate, means of holding the same on the plate of a sewing machine, a flat pawl like follower pivoted upon said base plate carrying a stud, a stud forming the pivot of said pawl having a neck of the same diameter as the stud on the pawl with an overlapping flat head, means of giving an oscillating motion to said pawl, a bar having a slot engaging the pivot stud and the pawl stud slidingly and through which the needle may pass, a spring bar secured at one end upon the end of the aforesaid bar and having its other end slotted to register with the slot in the lower bar and its outer edges turned down and pass into slots in the lower bar, a suitable thumb piece for lifting said spring bar which latter acts as a clamp upon the material placed between the two bars and means of giving a sliding motion to said bar and clamp, substantially as set forth.

976,432. LEVEL-CONTROLLING DEVICE. CHARLES ARTHUR BROWN, Lorain, Ohio. Filed Apr. 12, 1909. Serial No. 489,313.



1. A level-controller comprising an auxiliary reservoir that is adapted to be connected to a main reservoir, a valve for controlling the flow of liquid to said main reservoir, and a plurality of hydraulic plungers for moving said valve in opposite directions to vary the quantity of liquid that is admitted to the main reservoir, one of said plungers being actuated automatically by the liquid in the auxiliary reservoir when said liquid falls below a certain level, and the other plunger being actuated automatically by the liquid in said reservoir when said liquid rises above a certain level.

2. An apparatus of the character described, comprising a main reservoir, a valve for controlling the flow of liquid to said reservoir, a hydraulic plunger for actuating said valve, an auxiliary reservoir that communicates with said main reservoir, and means for permitting liquid to escape from said auxiliary reservoir and cause said plunger to open said valve farther when the liquid in the main reservoir falls below a certain level.

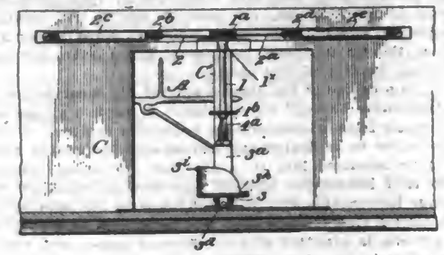
3. An apparatus of the character described, comprising a main reservoir, a valve for controlling the flow of liquid to said reservoir, a hydraulic plunger for actuating said valve, an auxiliary reservoir that communicates with said main reservoir, and means for permitting liquid to escape from said auxiliary reservoir and cause said plunger to move the valve toward its closed position when the liquid in the main reservoir rises above a certain level.

4. A level-controller comprising an auxiliary reservoir that is adapted to be connected to a main reservoir, a valve for controlling the flow of liquid to said main reservoir, a hydraulic plunger for actuating said valve, means for causing the liquid in said auxiliary reservoir to move said plunger in one direction when the level of the liquid in the main reservoir varies, and independent means for moving said plunger in the opposite direction to set it in position to be operated by the liquid in the auxiliary reservoir.

5. A level-controller comprising an auxiliary reservoir that is adapted to be connected to a main reservoir, a valve for controlling the supply of liquid to said main reservoir, an hydraulic plunger for actuating said valve, a container connected to said plunger, means for causing the liquid in the auxiliary reservoir to escape therefrom and fill said container when the level in the main reservoir varies, the weight of the liquid that is introduced into said container causing said plunger to move in one direction, and means for returning said plunger to its normal position.

[Claims 6 to 19 not printed in the Gazette.]

976,433. MAIL-DELIVERY APPARATUS. JAMES B. CARY, Grand Island, Nebr. Filed May 4, 1910. Serial No. 559,374.



1. In a mail discharging apparatus for cars, the combination of a rotatable shaft located adjacent the door of the car, a lever loosely connected with the shaft, means for rotating the shaft in one direction; means for locking the lever to the shaft; means for locking the lever in retracted position; and means for releasing the lever and shaft to permit the lever to eject the mail.

2. In a mail discharging apparatus, the combination of a vertical shaft, means connected with said shaft and adapted to rotate it in one direction, a lever loosely hung on said shaft and having a mail receptacle at its outer end, means for locking the lever to the shaft; a catch for holding the lever in retracted position when locked to the shaft, and means for releasing the catch to allow the lever to discharge the mail.

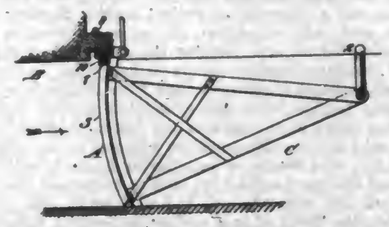
3. In a mail discharging apparatus, the combination of a rotatable vertical shaft located adjacent the door of a car, a horizontally movable lever loosely connected with the shaft, spring means for rotating the shaft in one direction; means for locking the lever to the shaft; means for locking the lever and shaft in retracted position, and means for releasing the lever and shaft when the mail is to be discharged.

4. In a mail discharging apparatus, the combination of a rotatable shaft located adjacent the door of the car, a lever loosely connected with the shaft, spring means for rotating the shaft in one direction; means for locking the lever to the shaft, and means for locking the lever and shaft in retracted position; with a mail catcher, and devices, operated by the mail catcher when it catches a mail bag, for releasing the discharge lever.

5. In a mail discharging apparatus, the combination of a vertical shaft, springs connected with said shaft and adapted to rotate it in one direction, a lever loosely hung on said shaft and having a mail receptacle at its outer end, means for locking the lever to the shaft, and a catch for holding the lever in retracted position; with a swinging catch bar adapted to lock the lever in retracted position, and a mail catcher adapted to cause the catch bar to release the lever when the catcher takes a mail bag, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

976,434. DITCH-GATE. ADONIRAM J. COLLAR, Yreka, Cal. Filed Jan. 3, 1910. Serial No. 536,067.



1. The combination with a water system, of a pivoted adjustable gate, packing members mounted thereon contiguous to its edges, and a packing curtain mounted independently of but adapted to bear upon the gate.

2. A curved gate for waterways, a pivot upon which it may swing, and a packing device of curtain-like form mounted independently of but adapted to bear upon the curved face of the gate.

3. A gate for waterways, a pivot upon which it may swing, the gate having a face curved concentrically with the pivot, packing bars of triangular cross-section laid upon the face, and means whereby the packing bars are loosely secured to the gate.

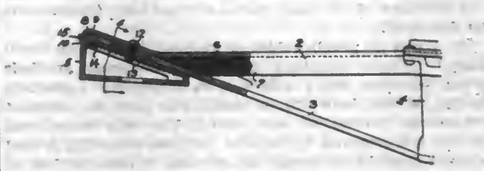
976,435. METALLIC CARLINE. EDSON C. COVERT, New Kensington, Pa. Filed May 12, 1910. Serial No. 561,024.



1. A metallic carline embodying a conventional rolled channel section having formed in the web portion thereof a longitudinal corrugation.

2. A metallic carline embodying a conventional rolled channel section having a substantially U-shaped longitudinal corrugation formed in its web portion, and projecting in a direction opposite to that of the flanges.

976,436. TRUSSED-BEAM CONSTRUCTION. EDSON C. COVERT, New Kensington, Pa. Filed Aug. 20, 1910. Serial No. 578,194.



1. In a trussed beam construction, the combination of a compression member, a strut, and a tension member in engagement with the ends of the compression member, the compression member having portions folded to underlie the tension member.

2. In a trussed beam construction, the combination of a compression member, a strut, and a tension member having a shoulder in engagement with the ends of the compression member, the compression member having portions folded to underlie the tension member.

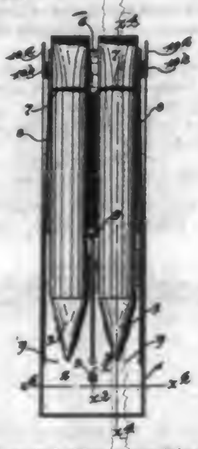
3. In a trussed beam construction, the combination of a flanged compression member, a strut, and a tension member in engagement with the end of the compression member, the flanges of the compression member, adjacent to the ends thereof, being folded inwardly upon the tension member.

4. In a trussed beam construction, the combination of a flanged compression member, a strut, and a tension member having a shoulder in engagement with the end of the compression member, the flanges of the compression member being folded upon the tension member at points adjacent to the terminal portions thereof.

5. In a trussed beam construction, the combination of a flanged compression member, a strut, and a tension member in engagement with the end of the compression member and lying for a portion of its length substantially in parallelism with the terminal portion of the compression member, the flanges of the compression member being folded inwardly upon the tension member at points adjacent to the parallel union of the members.

[Claims 6 to 12 not printed in the Gazette.]

976,437. PEN AND PENCIL HOLDER. EDWARD A. CROANY, Minneapolis, Minn. Filed May 14, 1910. Serial No. 561,432.

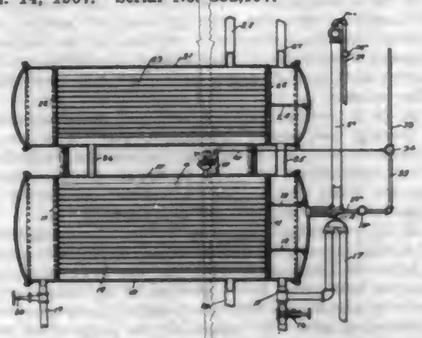


1. A pen or pencil holder comprising coöperating light sheet metal members constructed to afford a holding barrel and a pocket at the lower extremity thereof, one of said members having a yielding portion approximately at the junction of the barrel and the pocket, and a spring applied to yieldingly press the upper portion of the said members toward each other, substantially as described.

2. A pen or pencil holder comprising coöperating light sheet metal barrel forming members yieldingly connected at their lower portions, and a spring having prongs anchored to one of the said members and embracing and engaging the other member and yieldingly pressing the upper portions of the said members together, substantially as described.

3. A pen or pencil holder comprising light sheet metal barrel forming members yieldingly connected at their lower portions and provided with depending unyielding pocket, which, in width, is much less than the smallest transverse portion of said barrel, the said barrel and pocket being united by tapered portions affording a stop surface adapted to engage the tapered wooden portion of the pencil, when the sharpened lead of the pencil is inserted into the said unyielding pocket, and a spring applied to press the upper end portions of said barrel forming members toward each other, substantially as described.

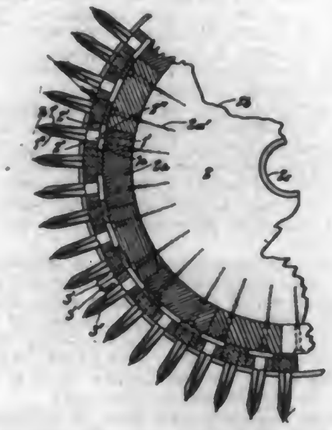
976,438. LOCOMOTIVE-BOILER WASHING AND REFILLING APPARATUS. DAVID W. CUNNINGHAM, Des Moines, Iowa. Original application filed July 6, 1906, Serial No. 325,394. Divided and this application filed Jan. 14, 1907. Serial No. 352,197.



1. In a device of the class described, the combination of a locomotive blow-off pipe designed to receive steam and hot water from a locomotive, a receptacle designed to contain water to be heated and having said locomotive blow-off pipe admitted into it, a pipe for live steam inserted into said locomotive blow-off pipe and arranged to discharge its contents adjacent to the inlet of the locomotive blow-off pipe into said receptacle so that when live steam is admitted into the blow-off pipe it will create a suction in the blow-off pipe tending to force water and steam therein into said receptacle, and a valve for controlling the flow of live steam.

2. In a device of the class described, the combination of a locomotive blow-off pipe designed to receive steam and hot water from a locomotive, a receptacle designed to contain water to be heated and having said locomotive blow-off pipe admitted into it, a pipe for live steam inserted into said locomotive blow-off pipe and arranged to discharge its contents at a point adjacent to the inlet of the locomotive blow-off pipe into said receptacle so that when live steam is admitted into the blow-off pipe it will create a suction in the blow-off pipe tending to force water and steam therein into said receptacle, a valve for controlling the flow of live steam, and a thermostatic regulator connected with said receptacle and also with said valve on the steam pipe for automatically regulating the admission of steam by the temperature of the receptacle.

976,439. ROTARY HARROW. JOSEPH T. CUNNINGHAM, Cincinnati, Ohio. Filed June 17, 1910. Serial No. 567,423.

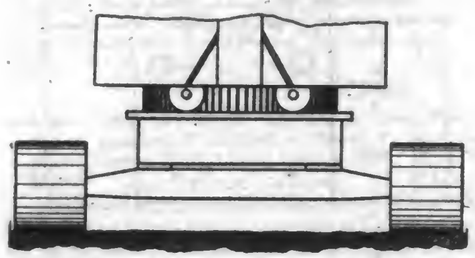


1. In a rotary harrow, a cylinder armed with teeth, each tooth comprising a straight cylindrical portion with a broad head adjacent thereto forming one end of the tooth and a tapering or conical portion forming a junction with said cylindrical portion and extending to and constituting an apex forming the other end of the tooth, and radially extending blades or fins lying longitudinally of said conical portion reaching from the junction of said conical portion with said cylindrical portion and terminating short of the apex of the conical portion, whereby the part of the conical portion adjacent to the apex forms a point, substantially as and for the purposes set forth.

2. In a rotary harrow, a cylinder armed with teeth, each tooth comprising a straight cylindrical portion with a broad head adjacent thereto forming one end of the tooth and a tapering or conical portion forming a junction with said cylindrical portion and extending to and constituting an apex forming the other end of the tooth, and radially extending blades or fins lying longitudinally of said conical portion reaching from the junction of said conical portion with said cylindrical portion and terminating short of the apex of the conical portion, whereby the part of the conical portion adjacent to the apex forms a point, said blades or fins having edges outwardly presented and approaching the conical portion as they extend toward the apex thereof, and said edges being confined within the limits of said cylindrical portion, substantially as and for the purposes set forth.

3. In a rotary harrow the combination with a cylinder, of a series of staves and means for removably securing said staves on the convex surface of the cylinder, and a series of teeth removably secured in said staves, the staves having openings through which the teeth are inserted to extend radially outward on the cylinder, heads on the teeth to rest against the convex surface of the cylinder, said staves having mortises to receive the heads, said teeth comprising conical portions and fins or blades on said conical portions, said fins or blades being adapted to pass through the openings in said staves when the teeth are inserted therein.

976,440. REMOVABLE FLANGE. WILLIAM F. CUSH, Washington, D. C. Filed July 14, 1910. Serial No. 572,021.



1. The combination with a broad treaded truckwheel of the class described of a readily detachable rim, said rim consisting of a metal band of narrower tread than the tread of the wheel, and of slightly larger diameter, said rim capable of being removably fastened to the tread surface of said wheel so as to readily change latter from an ordinary broad tread wheel into a flanged wheel and back, and means for removably securing said rim to said wheel.

2. The combination with a broad treaded truckwheel of the class described of a readily detachable rim, said rim consisting of a metal band of narrower tread than the tread of the wheel, and of slightly larger diameter, said rim capable of being removably fastened to the tread surface of said wheel so as to readily change latter from an ordinary broad tread wheel into a flanged wheel and back, openings extending radially in said rim, openings extending radially in said wheel, the axis of said openings in said rim coinciding with the axis of said openings in said wheel, and bolts adapted to be received in said openings of said rim and said wheel, for removably securing said rim to said wheel.

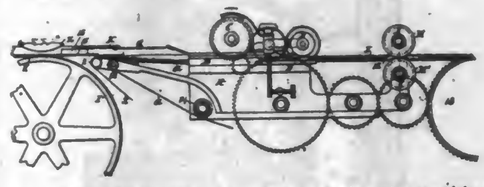
3. The combination with a broad treaded truckwheel of the class described of a readily detachable flange, said flange consisting of a metal band of narrower tread than the tread of the wheel, and of slightly larger diameter, said flange capable of being removably fastened to the tread surface of said wheel so as to readily change latter from an ordinary broad tread wheel into a flanged wheel and back, and a cylindrical tire portion laterally extending from said flange to protect said wheel from having a groove worn in it.

4. The combination with a wheel of broad tread of a flange, the inside diameter of said flange slightly in excess of the outside diameter of the tread surface of said wheel, said flange capable of being removably secured to the tread surface of said wheel, a cylindrical tire portion laterally extending from said flange to protect said wheel from having a groove worn in it, openings extending radially in said tire portion, openings extending radially in said wheel, the axis of said openings in said tire portion coinciding with the axis of said openings in said wheel, bolts adapted to be received in said openings of said tire portion and said wheel, and nuts adapted to engage said bolts, for removably securing said flange to said wheel.

5. A wheel of broad tread, a tire thereon capable of being removably secured to the tread surface of said wheel, means to protect said tread surface from having a groove worn in it, auxiliary means for protecting said tread surface from having a groove worn in it, these last named means oppositely arranged to and allowing of alternate use with the first named means.

[Claims 6 to 8 not printed in the Gazette.]

976,441. CIGARETTE-MACHINE. JOHN J. DAPRATO, Tuckahoe district, Va., assignor to The American Tobacco Company, Newark, N. J., a Corporation of New Jersey. Filed Aug. 19, 1896. Serial No. 603,175.



1. In a crimped seam continuous rod cigarette machine, the combination with filler forming and wrapping devices, and seam closing devices comprising a support within the wrapper and means co-acting with the support to crimp the seam, and with a belt passing through the filler forming and wrapping devices and carrying the filler and wrapper and which is permitted to open out beyond the wrapping devices, of one or more grooved pressing rollers beyond the seam closing devices for refolding and pressing the belt about the cigarette rod to press the cigarette rod and thereby correct irregular formation of the filler due to the use of the interior support and bring the cigarette rod into the form with the filler evenly disposed and filling the wrapper which it would have had except for the use of the interior support, substantially as described.

2. In a crimped seam continuous rod cigarette machine, the combination with filler forming and wrapping devices, and seam closing devices comprising a support within the wrapper and means co-acting with the support to crimp the seam, and with a belt passing through the filler forming and wrapping devices and carrying the filler and wrapper and which is permitted to open out beyond the wrapping devices, of a pair of oppositely disposed grooved pressing rollers beyond the seam closing devices for refolding and pressing the belt about the cigarette rod to press the cigarette rod and thereby correct irregular formation of the filler due to the use of the interior support and bring the cigarette rod into the form with the filler evenly disposed and filling the wrapper which it would have had except for the use of the interior support, substantially as described.

3. A two part mouth piece for cigarette machines having a bottom part c provided with wrapper guides 1, and a top part d having a bottom plate, substantially as described.

4. A two part mouth piece for cigarette machines having a bottom part c provided with wrapper guides 1, and a top part d having the bottom plate 3 and carrying the inclined tongue e, substantially as described.

5. A two-part mouth piece for cigarette machines having a bottom part c provided with wrapper guides 1, and a removable top part d having a bottom plate, substantially as described.

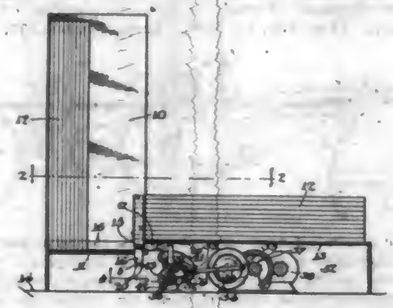
[Claim 6 not printed in the Gazette.]

976,442. DISPLAY DEVICE FOR CARPETS AND THE LIKE. THOMAS C. DE LISLE and WILLIAM T. PHILLIPS, Los Angeles, Cal. Filed Apr. 18, 1910. Serial No. 556,081.

1. A display device, comprising a frame, a shaft supported by the frame, a plurality of display frames mounted on the shaft and rotating thereon independently of each other, an operating arm, means to engage the operating arm successively with the display frames and means to move the operating arm to rotate the display frames.

2. A display device, comprising a frame, a shaft supported by the frame, a plurality of display frames mount-

ed on the shaft and rotating thereon independently of each other, arms mounted on the display frames and spaced from each other along the shaft supporting the display frames, an operating arm, means to intermittently move the operating arm in a direction parallel to the shaft to engage successively with the frame arms, and means to move the operating arm to rotate the display frames.



3. A display device, comprising a frame, a shaft supported by the frame, a plurality of display frames mounted on the shaft and rotating thereon independently of each other between two set positions, an arm attached to each display frame, an operating arm, means to move the operating arm successively into engagement with the arms on the display frames, and means to move the operating arms to move the display frame arms.

4. A display device, comprising a frame, a shaft supported by the frame, a plurality of display frames mounted on the shaft and rotating thereon independently of each other between two set positions, an arm attached to each of the display frames, an operating shaft, an operating arm mounted on the shaft so as to both revolve and slide thereon, and adapted to engage with the display frame arms, means to oscillate the operating arm on the operating shaft, and means to intermittently slide the operating arm along the shaft.

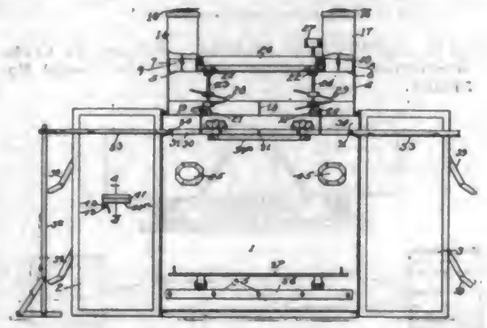
5. A display device, comprising a frame, a shaft supported by the frame, a plurality of display frames mounted on the shaft and rotating thereon independently of each other between two set positions, an arm attached to each of the display frames, an operating shaft mounted on the main frame parallel to the display frame shaft, an operating arm slidably and rotatively mounted on the operating shaft, means to oscillate the operating arm to engage with the display frame arms and to move them, and means operated in conjunction with the oscillating means to move the operating arm along the shaft through a distance equal to the distance between adjacent display frame arms on each oscillation of the operating arm.

976,443. APPARATUS FOR COATING ARTICLES WITH PULVERULENT MATERIAL. CHARLES DOMINO, Jr., Chicago, Ill., assignor to Adams & Elting Co., Chicago, Ill., a Corporation of Illinois. Filed Sept. 6, 1910. Serial No. 580,647.

1. A machine of the kind specified comprising a closed chamber adapted to receive articles to be coated, means for creating air currents in said chamber to impinge upon all portions of the surfaces of said articles, means for introducing coating material into said air currents for transmission to the surfaces to be coated, and means for clarifying the chamber of unapplied coating material after the article has been coated.

2. A machine of the kind specified comprising a closed chamber adapted to receive articles to be coated, means for creating air currents in said chamber to impinge upon all portions of the surfaces of said articles, means for introducing coating material into said air currents for transmission to the surfaces to be coated, and means for clarifying the chamber of unapplied coating material after the article has been coated and during circulation of air around the coated article.

3. A machine of the kind specified comprising a closed chamber adapted to receive articles to be coated, means for setting the air contained in said chamber in motion to impinge upon the surfaces of the articles to be coated, means for introducing coating material into said air for transmission thereby to the surfaces of said articles, and manually controlled means operable from the exterior of the casing for clarifying the chamber of unapplied coating material after the articles have been coated and during maintenance of air in motion within said chamber.

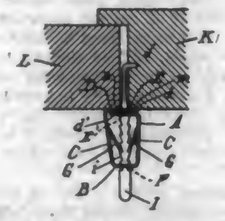


4. A machine of the class specified comprising a coating material supply, means for creating currents of air to take up the coating material in suspension and apply it to the article to be coated, means for closing the material supply to the air currents, and means for simultaneously removing the unapplied material from the air and the surplusage from the article after the latter has been coated.

5. A machine of the kind specified comprising a closed chamber adapted to receive articles to be coated, means for setting the air contained in said chamber in motion to impinge upon the surfaces to be coated, means for introducing coating material into said air, a dust collecting receptacle communicating with said chamber, and a damper controlling said communication, said damper when opened, permitting air from said chamber to enter said receptacle to deposit coating material therein during maintenance of circulation of air within said chamber, whereby the said chamber is freed of unapplied coating material after the article has been coated.

[Claims 6 to 10 not printed in the Gazette.]

976,444. DOOR-SECURER. ARTHUR DUFAULT, Providence, R. I. Filed Sept. 23, 1910. Serial No. 583,384.



1. In a door securer, the combination of a flexible frame provided with openings in its ends, a lock bar rotatably mounted in the frame and extending through the openings, teeth upon opposite sides of the bar, and tongues upon the frame engaging the teeth.

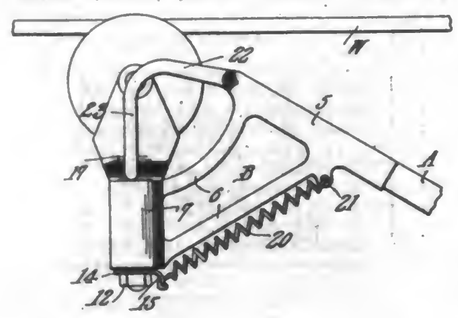
2. In a door securer, the combination of a frame provided with a rear end and with independent overlapping forward ends, said forward ends and said rear end being provided with openings, a lock bar rotatably mounted in the frame and passing through the openings, teeth upon opposite sides of the bar, and tongues rigidly connected with the frame engaging the bar.

3. In a door securer, the combination of a frame comprising a broad forward end, a narrow rear end, and inclined sides, the forward end being provided with an opening off center, and the rear end being provided with a central opening, a lock bar rotatably mounted in the frame and extending through the openings, teeth upon opposite sides of the bar, and tongues integral with the sides of the frame adapted to engage successively the teeth and the smooth portions of the bar, during the relative rotation of the parts.

4. In a door securer, the combination of a flexible frame, a lock bar rotatably mounted in the frame and provided on diametrically opposite sides with teeth having forwardly inclined side faces, tongues upon the frame slidably engaging the sides of the teeth in one direction, and adapted when the frame is given a quarter turn to slidably engage the bar in both directions.

5. In a door securer, the combination of a frame comprising a rear end, a front end, and sides forming corners upon the front end, the diagonally opposite front corners being inclined, a lock bar rotatably mounted in the ends of said frame, and tongues upon the frame adapted to engage the bar.

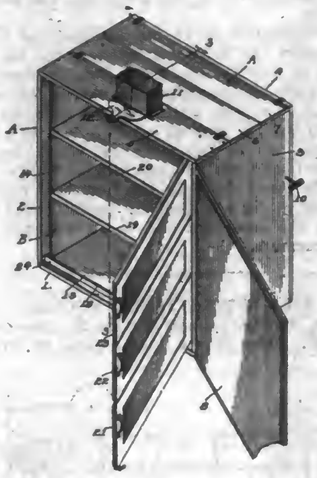
976,445. TROLLEY-HEAD. EDWARD E. DUFF, Seattle, Wash., assignor of one-half to David V. Ackerman, Mount Vernon, Wash. Filed Aug. 11, 1909. Serial No. 512,436.



In combination with a trolley pole, a head comprising a shank portion extending in axial alinement with said pole and an angular bracket portion extending downwardly from said shank portion, a fork at the outer end of said shank portion, a tubular bearing at the outer end of said bracket portion, a wheel support having a shank revolubly mounted in said bearings, said shank terminating at one end in a reduced end, a washer mounted upon said reduced end and having a down-turned lug, a wheel journaled in said wheel support, a spring carried by said head extension and connected with said washer, and a nut screwed upon the reduced end portion of the shank and clamping the washer against the end of the larger portion of the shank.

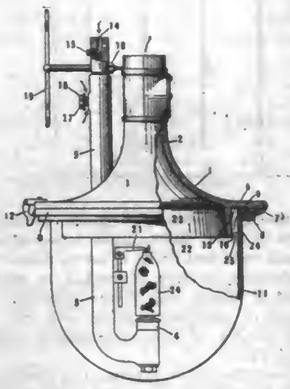
976,446. REFRIGERATOR. WILLIAM W. DUNBAR, Alamo Mining District, Ariz., assignor of one-half to A. P. Magiannis, Los Angeles, Cal. Filed July 25, 1910. Serial No. 573,600.

A refrigerator comprising an outside casing; an inside casing mounted in the outside casing, there being an air space between the casings; a partition in said air space, between the top of the inside casing and the top of the outside casing; partitions extending downwardly from the ends of the first partition, between the sides of the inside casing and the sides of the outside casing, and terminating a distance above the bottom of the outside casing; so as to divide the air space vertically into two chambers, said chambers being connected at the bottom, and there being an air inlet on one side of the partitions, and there being a flue outlet on the other side of the partitions; a pan for water on the top of the inside



casing, back of the partitions; and a wicking leading from the pan downwardly outside of the inside casing.

976,447. LAMP-GLOBE SHIELD. JOHN E. EASTMOND, New York, N. Y. Filed Feb. 15, 1910. Serial No. 544,071.



1. In combination in a lamp structure, a metallic globe-supporting canopy having a solid rim and a continuous outer seat for the globe rim; a central pendent source of light; and a depending metallic flange spaced slightly inwardly from said seat, attached to said solid rim, forming a dead air pocket, and to prevent the unequal heating of various parts of the globe rim and the breakage of the globe.

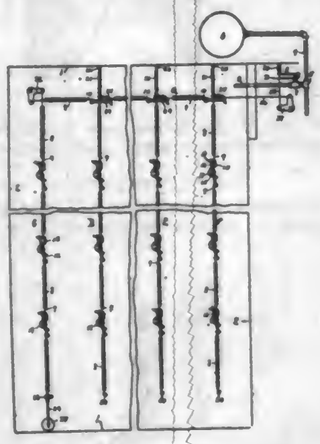
2. In combination in a lamp structure, a metallic globe-supporting canopy having a solid rim and a continuous outer seat for the globe rim; a central pendent source of light; and a depending metallic flange fixed to said solid rim and spaced slightly inwardly from said seat to prevent the unequal heating of various parts of the globe rim and the breakage of the globe by conducting away radiated heat and forming a dead air pocket about the globe rim.

3. The combination in a lamp structure, a metallic globe-supporting canopy having a solid rim and a continuous outer seat for the globe rim; a central pendent source of light; and a depending metallic flange integral with said solid rim and spaced slightly inwardly from

said seat to form a dead air pocket about the inner surface of the globe rim and to prevent the unequal heating of the various parts of the globe rim and the breakage of the globe.

4. In combination in an incandescent gas lamp structure in which the burner is inclosed and the inclosure exhausted to produce the draft from atmospheric pressure, a metallic globe-supporting canopy having a solid rim and an outer seat and means for clamping the globe rim to said seat; a pendent centrally located gas burner; a depending opaque flange of heat conducting material fixed to said solid rim and spaced slightly inwardly from said seat to shield the globe rim from heat radiated from said burner to form a dead air pocket about the inner surface of the globe rim and to protect said globe rim from air currents.

976,448. FIRE-EXTINGUISHER SYSTEM. HARRY D. EMMONS, Woodstock, and WILLIS B. EMMONS, Thornton, N. H. Filed June 4, 1910. Serial No. 564,971.



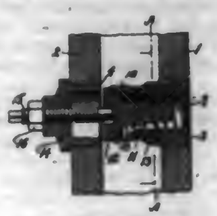
1. In a fire-extinguisher system, the combination of a series of rods in rows, fusible links between them, means to tension said rods and links, a valve, means comprising rods and releasing devices connected to said valve to normally hold it closed, one of the releasing devices being positioned in connection with each row of fusible links, and a source of fire-extinguishing material connected to said valve.

2. In a fire-extinguisher system, the combination of a series of rods in rows, fusible links between them, means connected to one end of each row to tension the same, a valve, a connecting device between the outer row of links and the valve to normally hold the same closed comprising rods and a releasing device at each of the other rows, each releasing device normally held closed by its respective row of fusible links, and a source of fire-extinguishing material connected to said valve.

3. In a fire extinguisher system, the combination of a series of rods and fusible links between them, means to tension said rods and links, a valve connecting to a source of fire-extinguishing material, means comprising rods, releasing devices and a tensioning device to hold the valve closed, said fusible links controlling the operation of the releasing device, and means to open said valve.

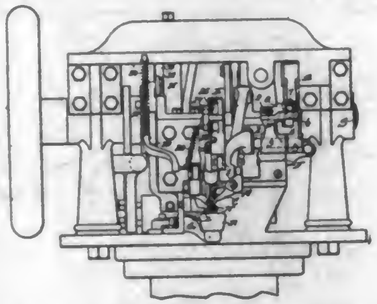
4. In a fire extinguisher system, the combination of a valve connected to a source of fire-extinguishing material, means to open said valve when released, a flexible connection comprising rods and releasing devices, and a weight on the opposite end of said connection to normally hold said valve closed, springs to operate said releasing devices, and fusible links and connections to the same to normally prevent the springs from operating the releasing devices.

976,449. VALVE. WILLIAM S. FAIRHURST, New York, N. Y. Filed Dec. 21, 1905. Serial No. 292,832.



In combination, a cage having a valve seat at the inner end thereof, a valve for said seat fitted to slide in the cage, said valve having an extended bearing along its under side throughout its entire length in the bore of said cage, a spring guide removably locked to the cage and a spring interposed between the said valve and guide for normally holding the valve on its seat.

976,450. SHOE-SEWING MACHINE. ALFRED B. FOWLER, Boston, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Jan. 13, 1902. Serial No. 89,585.



1. A chain stitch shoe sewing machine, having, in combination, a curved hook needle, a looper, a tension wheel, a thread engaging device engaging the thread between the tension wheel and the work, and a cam-controlled spring acting on the thread engaging device to exert an uninterrupted yielding strain on the thread while the stitch is being set, substantially as described.

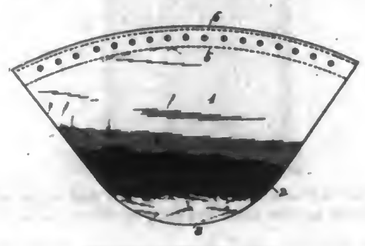
2. A chain stitch shoe sewing machine, having, in combination, a curved hook needle, a looper, a tension wheel, a thread engaging device engaging the thread between the tension wheel and the work, and a cam-controlled spring acting on the thread engaging device to exert an uninterrupted yielding strain on the thread during the latter part of the retracting stroke of the needle, substantially as described.

3. A chain stitch shoe sewing machine, having, in combination, a curved hook needle, a looper, a tension-wheel, a cam for actuating the tension-wheel to positively pay off thread and a cam-controlled spring acting on the thread between the tension wheel and the work to exert an uninterrupted yielding strain on the thread during the setting of the stitch, substantially as described.

4. A chain stitch shoe sewing machine, having, in combination, a curved hook needle, a looper, a tension-wheel, a cam for actuating the tension-wheel to positively pay off thread, a thread truck engaging the thread between the tension-wheel and the work, a spring connected with the thread truck, and a cam acting on the spring during the setting of the stitch to cause the thread truck to exert a yielding strain on the thread, substantially as described.

5. A chain stitch shoe sewing machine, having, in combination, a curved hook needle, a looper, a tension-wheel, a cam for actuating the tension-wheel to positively pay off thread, and a cam-controlled spring acting on the thread between the tension-wheel and the work to exert an uninterrupted yielding strain on the thread during the latter portion of the retracting stroke of the needle, substantially as described.

976,451. MANUFACTURE OF BOOT OR SHOE CAPS. VICTOR FREY, Bonndorf, Germany, assignor to Schuhfabrik Bonndorf Gebrüder Kriechle, Bonndorf, Germany. Filed Apr. 13, 1908. Serial No. 426,887.

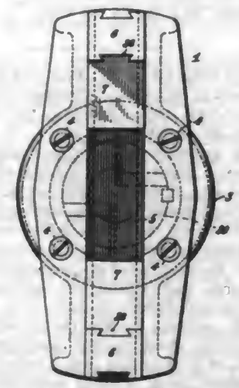


1. The herein described process of manufacturing boot and shoe caps, comprising coating the stiffening on either side with celluloid, partly uniting the stiffening thus coated with the vamp and the lining, exposing the sides of the stiffening to a solvent and then wholly uniting the parts, substantially as described.

2. The herein described process for the manufacture of boot or shoe caps, comprising coating the stiffening on either side with celluloid, drying and cooling the stiffening, partly uniting the vamp, the stiffening and the lining, then rendering the celluloid surfaces sticky, and finally uniting the said three parts, substantially as described.

3. The herein described process for the manufacture of boot or shoe caps, comprising coating stiffening fabric with celluloid, allowing it to dry and cool, stamping out suitably shaped cap pieces, partly uniting the latter with the vamp and the lining, exposing both sides of said stiffening, rendering the surfaces thereof sticky by causing a suitable solvent to act on them, and then uniting the parts in suitable manner, substantially as described.

976,452. CHUCK. GEORGE K. GARVIN and EDWARD J. MCCLELLAN, New York, N. Y., assignors to The Garvin Machine Company, a Corporation of New York. Filed May 14, 1909. Serial No. 495,837.



1. In a chuck, a frame having a deep diametrical slot with two pairs of ways, a pair of jaw-supporting blocks guided on the inner ways, a pair of jaws guided on the outer ways, means wholly supported between said jaws and blocks for fixing and varying their relative positions, and a draw-tube having a head with two series of parallel inclined teeth for respectively displacing said blocks radially in the groove.

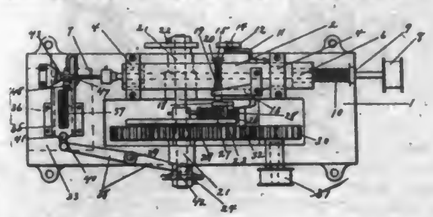
2. A chuck comprising jaws, jaw-supporting blocks, means wholly supported by said blocks and jaws for fixing and varying their relative positions, a guard plate supported between the blocks and jaws, and means having inclined teeth for radially displacing said blocks.

3. A chuck comprising a frame or body having radial grooves, blocks movable in said grooves and having semi-cylindrical recesses in their front faces, jaws having threaded recesses extending longitudinally across their entire rear faces, threaded plugs fitting in said recesses between said jaws and blocks, a guard plate between said jaws and blocks, a guard plate between the jaws and blocks and held against longitudinal displacement by said threaded plugs, and means for radially displacing said blocks.

4. A chuck comprising jaws, jaw-supporting blocks having inner ends, means wholly supported between said blocks and jaws for fixing and varying their relative positions, and a draw tube having a head provided with recesses for the reception of said jaw-supporting block ends, the respective engaging surfaces of said head and ends being formed to provide groups of inclined teeth for radially displacing said blocks.

5. A chuck comprising a frame or body, jaws mounted thereon, jaw reciprocating means comprising radially disposed parts provided with inclined grooves adjacent the inner ends thereof, a member axially disposed with respect to said chuck and reciprocably mounted and a block secured to the end of said member and disposed in alinement with the axis of said chuck, said part being substantially solid and having recesses in the sides thereof, and having teeth upon faces of said recesses disposed for engagement with the inclined grooves of the parts aforesaid.

976,453. RIVET-DRILLING MACHINE. ADAM GERRARD, Taunton, Mass. Filed Feb. 4, 1910. Serial No. 542,140.



1. In a machine of the kind described, the combination of a base, a die therein, a revoluble and reciprocatory spindle in said base, means for advancing said spindle toward and independently driven mechanism for quick withdrawal of said spindle from said die, a clutch between said mechanism and its driving means, and mechanism operated by the reciprocatory motion of said slide for operating said clutch.

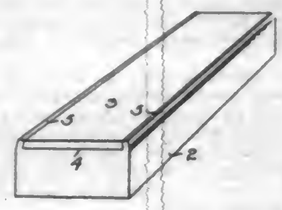
2. In a machine of the kind described, the combination of a revoluble and longitudinally movable drill spindle, a driving shaft, an intermittently revoluble shaft for propelling said spindle backward driven thereby, a clutch between said shafts for producing said intermittent motion, and mechanism operated by the longitudinally moving drill spindle for operating said clutch.

3. In a machine of the kind specified, the combination of a base, a die therein, a slide reciprocatory on said base, means for advancing said slide toward said die, a driving shaft, an intermittently revoluble shaft, a clutch therebetween, a slide transverse to said first-mentioned slide, a pin thereon, a cam on said first-mentioned slide engaging said pin, a spring holding said pin against said cam, and mechanism connected with said last-mentioned slide for operating said clutch.

4. In a machine of the kind described, the combination of a base, a die therein, a slide reciprocatory on said base, means for advancing said slide toward said die, a driving shaft, a pinion thereon, a revoluble shaft, a disk fastened thereto, a slide thereupon, a pin upon said slide, a spring pressing said slide outward, a spur gear enmesh-

ing said pinion loose upon said revoluble shaft, a pin thereon adapted to engage said slide when pressed out, mechanism operated by said first-mentioned slide for automatically depressing said slide upon said disk.

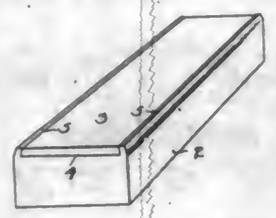
976,454. ELECTROLYTE FOR DEPOSITING COPPER. WILLIAM G. GREY and WILLIAM GRIFFITH, Pittsburg, Pa. Filed Feb. 23, 1910. Serial No. 545,324.



1. An electrolyte for depositing a metallic coating, comprising a solution of copper sulfate, cyanid of potassium, and bisulfite of soda.

2. An electrolyte for depositing a metallic coating, comprising a solution of one gallon of water, 2½ ounces copper red compound, 3 ounces cyanid of potassium, and 1 ounce bisulfite of soda.

976,455. METHOD OF UNITING METALS. WILLIAM G. GREY and WILLIAM GRIFFITH, Pittsburg, Pa. Filed Feb. 23, 1910. Serial No. 545,326.



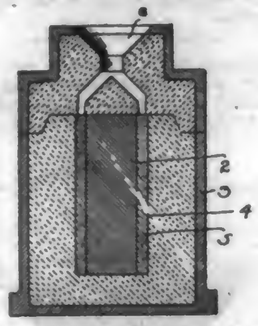
1. The herein-described method of uniting relatively hard metals, such as iron or steel with relatively soft metals such as copper, brass, bronze, aluminum, or other metal or alloy, which consists in first cleaning the harder metal, subjecting it to a solution of metallic salt and alum, applying the softer metal to the treated surface of the harder metal, bringing the metals to a heat, and then uniting by pressure.

2. The herein-described method of uniting relatively hard metals, such as iron or steel with relatively soft metals, such as copper, brass, bronze, aluminum, or other metal or alloy, which consists in first cleaning the harder metal, applying to its surface a coating of alkali solution, subjecting it to a solution of metallic salt and alum, applying the softer metal to the treated surface of the harder metal, bringing the metals to a heat, and then uniting by pressure.

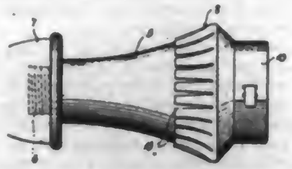
976,456. METHOD OF UNITING METALS. WILLIAM G. GREY and WILLIAM GRIFFITH, Pittsburg, Pa. Filed Feb. 23, 1910. Serial No. 545,327.

1. The herein-described method of uniting metals, such as iron or steel with copper, brass, bronze, aluminum, or other metal or alloy, which consists in first cleaning the harder metal, subjecting it to a solution of metallic salt and alum, and then applying in molten form the body of softer metal.

2. The herein-described method of uniting metals such as iron or steel with copper, brass, bronze, aluminum or other metal or alloy, which consists in first cleaning the harder metal, applying a coating of alkali solution, subjecting it to a solution of metallic salt and alum, and then applying in molten form the body of softer metal.



976,457. TELEPHONE-MOUTHPIECE. JOSEPHINE A. HALL, Oakland, Cal. Filed Feb. 10, 1910. Serial No. 543,112.



1. A telephone mouth piece attachment comprising a shell having a flared intermediate portion with a straight outer end and a contracted inner end, fingers formed on the inner end of said shell, the said outer end being provided with a plurality of perforations, a circular pad surrounding the outer end of the shell and a clamping ring securing the pad about the end.

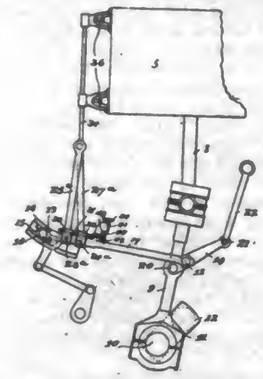
2. A telephone mouth piece attachment comprising a shell having a flared intermediate portion with a straight outer end and a contracted inner end, fingers formed on the inner end of said shell, the said outer end being provided with a plurality of perforations, a circular pad surrounding the outer end of the shell, and a tissue sheet closing the outer end of the shell and a clamping ring securing the sheet and pad to the shell.

976,458. VALVE-GEAR FOR FLUID-PRESSURE MOTORS. CHARLES HAMMEN, Chicago, Ill., assignor of one-half to Joseph Mohr, Chicago, Ill. Filed Jan. 11, 1905. Serial No. 240,618.

1. In a fluid pressure motor, the combination with a cylinder and valve chest having a pair of independently movable valves, of a reversing gear having as an element thereof a quadrant guide, a block mounted on said guide and movable relatively thereto, a lever connected to said block, valve-actuating rods, means connecting said valve-actuating rods to said lever at separated points longitudinally thereon, and means for adjusting said connecting means longitudinally on said lever.

2. In a fluid pressure motor, the combination with a cylinder and valve chest having independent inlet and exhaust valves, of a reversing gear having as an element thereof a quadrant guide, a block mounted on said guide and movable relatively thereto, a lever connected to said block, valve-actuating rods, means connecting said valve-actuating rods to said lever at separated points longitudinally thereon, and means for adjusting said connecting means toward and from each other longitudinally of said lever, substantially as described.

3. In a fluid pressure motor, the combination with a cylinder and valve-chest having independent steam and exhaust valves, of a reversing gear having as an element thereof a quadrant guide, a block mounted on said guide and movable relatively thereto, a lever connected to said block, valve-actuating rods, a pair of link blocks slidably mounted on said lever and pivotally connected



to said valve-actuating rods, and means for moving said link blocks toward and from each other comprising a right and left hand threaded rod engaging said link blocks, and means mounted on said lever for turning said threaded rod, substantially as described.

976,459. CARTRIDGE FOR REDUCED SHOT. FEDERICO HARTMANN, Buenos Ayres, Argentina. Filed Sept. 25, 1909. Serial No. 519,572.



1. A cartridge for reduced shot comprising in combination with an outer shell corresponding to the caliber of the fire arm to be used, a casing having a neck and a bottom flange, a cartridge of smaller caliber located in said neck part, a percussion hammer interposed between the percussion hammer of the fire arm and the percussion cap of the cartridge of smaller caliber, means to retain said percussion hammer in its position of rest, and means adapted to be engaged by the percussion hammer of the fire arm to cause the explosion of the cartridge of smaller caliber.

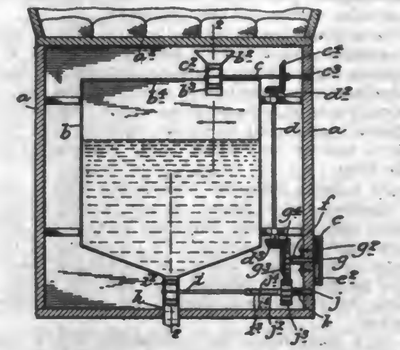
2. A cartridge for reduced shot comprising in combination with a shell corresponding to the caliber of the fire arm to be used, and having a neck and a bottom flange, a cartridge of smaller caliber located in said neck part, a spring retained percussion hammer, interposed between the percussion hammer of the fire arm and the percussion cap of the cartridge of smaller caliber, and means adapted to be engaged by the percussion hammer of the fire arm to cause the explosion of the cartridge of smaller caliber.

3. A cartridge for reduced shot comprising in combination with an outer shell corresponding to the caliber of the fire arm to be used, a casing having a neck and a bottom flange, a cartridge of smaller caliber located in said neck part, a spring retained percussion hammer interposed between the percussion hammer of the fire arm and the percussion cap of the cartridge of smaller caliber, a cylindrical recess at the rear end of one of said percussion hammers, a piece of soft metal within said recess adapted to be engaged by the percussion hammer of the fire arm to cause the explosion of the cartridge of smaller caliber.

4. A cartridge for reduced shot comprising in combination with a shell corresponding to the caliber of the fire arm to be used, and having a neck and a bottom flange, a cartridge of smaller caliber located in said neck part, a spring retained percussion hammer interposed between the percussion hammer of the fire arm and the percussion cap of the cartridge of smaller caliber, percussion points at one end of one of said hammers and a circular recess at the other end for the reception of a piece of soft metal adapted to be engaged by the percussion hammer of the fire arm to cause the explosion of the cartridge of smaller caliber.

5. A cartridge for reduced shot comprising in combination with an outer shell, an auxiliary barrel for reducing the caliber of the fire arm to be used, a casing having a neck and a bottom flange, a cartridge of smaller caliber located in said neck part, a percussion hammer interposed between the percussion hammer of the fire arm and the percussion cap of the cartridge of smaller caliber, means to retain said percussion hammer in its position of rest, and means adapted to be engaged by the percussion of the fire arm to cause the explosion of the cartridge of smaller caliber.

976,460. GASOLENE-TANK FOR AUTOMOBILES. RICHARD HAYES, New York, N. Y. Filed Dec. 3, 1909. Serial No. 531,138.



1. In an apparatus of the class described, a tank the top of which is provided with a filling device through which is passed a shaft provided with a wheel adapted to turn said shaft when liquid is poured into said tank, the bottom of said tank being also provided with a discharge tube through which passes a shaft provided with a wheel whereby said shaft is turned when the liquid passes out of said tank through said tube, and a registering device in operative connection with said shafts and adapted to register the amount of liquid placed in said tank through said filling device and the amount of liquid left in said tank at any time.

2. In an apparatus of the class described, a tank, a shaft which is rotated when said tank is filled with liquid and another shaft which is rotated by liquid passing from said tank, and a registering device in operative connection with said shafts and adapted to register the amount of liquid placed in said tank and the amount of liquid left in said tank at any time.

3. In an apparatus of the class described, a tank, means for filling said tank with liquids and means for discharging the contents of said tank, a shaft which is rotated when the tank is filled and a shaft which is rotated when the liquid is discharged from the tank and a registering device connected with said shafts and adapted to register the amount of liquid placed in said tank and the amount left therein.

4. In an apparatus of the class described, a tank provided with separate inlet and outlet devices, a registering device connected with said tank, means whereby said registering device will be operated by liquids poured into the tank to register the amount of said liquids and means whereby said registering device will be operated by liquids leaving the tank to register the amount left therein.

976,461. BRAKE-BEAM. JOHN J. HOFFMAN, New Kensington, Pa., assignor to Peter H. Murphy, Pittsburg, Pa. Filed June 29, 1910. Serial No. 569,454.



1. In a brake beam, the combination with a compression member and a tension member connected at their respective ends, of a strut interposed between the members and having an aperture for the passage of the compression member, the strut being provided with a finger adapted to be forced against and bind the compression member within the strut aperture.

2. In a brake beam, the combination with a compression member and a tension member connected at their respective ends, of a strut interposed between the members and having an aperture through which the compression member passes, the strut being provided with an integral finger adapted to be forced against and bind the compression member within the strut aperture.

3. In a brake beam, the combination with a compression member and a tension member connected at their respective ends, a strut interposed between the members, and having an aperture for the passage of the compression member, the strut being provided with a finger adapted to be driven against and terminally impinge upon the compression member for binding of the compression member to the strut.

4. In a brake beam the combination with a compression member and a tension member united at their respective ends, of a strut interposed between the members, and provided with an aperture for the passage of the compression member, and having a plurality of fingers arranged in staggered relation, and adapted to be forced against the compression member for binding thereof to the strut.

5. In a brake beam, the combination with a compression member and a tension member united at their respective ends, of a strut interposed between the members and having an aperture for the passage of the compression member, and provided with a plurality of fingers adapted to be forced against and terminally impinge upon the compression member.

[Claims 6 to 9 not printed in the Gazette.]

976,462. HANGER FOR BRAKE-BEAMS. JOHN J. HOFFMAN, New Kensington, Pa., assignor to Peter H. Murphy, Pittsburg, Pa. Filed June 29, 1910. Serial No. 569,456.



1. In a brake beam hanger, the combination with the beam, of a body portion secured thereto and having an upwardly extending curved finger so disposed as to overhang, and terminating a short distance from the upper face of the beam.

2. In a brake beam hanger, the combination with the beam, of a body portion secured thereto and having an upwardly extending curved finger so disposed as to overhang the upper face of the beam, the hooked finger terminating a distance from the top face of the beam less than the diameter of the eye of the hook.

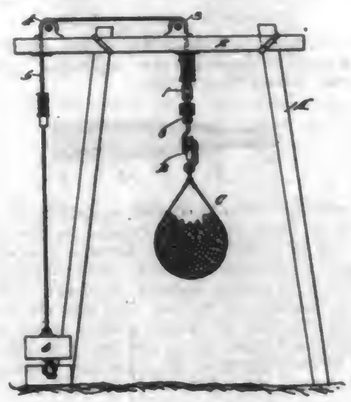
3. In a brake beam hanger, the combination with a beam having a compression member and a tension member, of a body portion adapted to be received between and having faces coöperating with the faces of the compression member and the tension member, and having an upwardly projecting hooked finger so disposed as to overhang the upper face of one of the members, the hooked finger terminating a distance from the top face of the member less than the diameter of the eye of the hook.

4. In a brake beam hanger, the combination with a beam having a compression member and a tension member, of a body portion adapted to be received between and having faces conforming to the faces of the compression member and tension member, and provided with an upwardly extending hooked finger so disposed as to overhang the top face of one of the members, the finger terminating a distance from the top of the member less than the diameter of the eye of the finger.

5. A brake beam hanger, comprising a body portion adapted for connection to the brake beam, and having an upwardly extending hooked finger formed integral therewith.

[Claim 6 not printed in the Gazette.]

976,463. EQUALIZER FOR WIRE-ROPE TRANSPORTATION. ALBERT HORNER, Kukaiau, Hawaii. Filed June 13, 1910. Serial No. 566,681.



1. The combination of an overhead yielding track, a burden-carrier mounted for travel on the track, supports for the track at intervals, and means for equalizing the grade of the two sections of the track on either side of one of said supports.

2. The combination of an overhead yielding track, a burden-carrier mounted for travel on the track, supports for the track at intervals, and means for equalizing the grade of the two sections of the track on either side of one of said supports, said last-named means including a lever pivoted between its ends and arranged in the plane of the track and projecting to each side of said support and upholding the track.

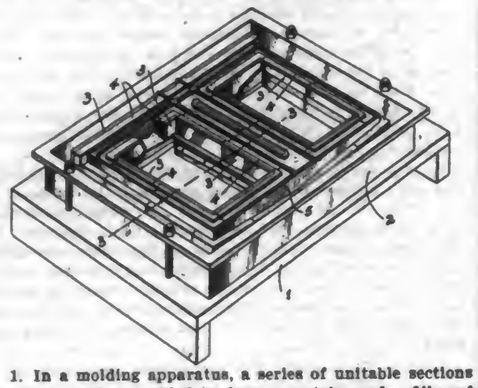
3. The combination of an overhead yielding track, a burden-carrier mounted for travel on the track, supports for the track at intervals, and means for equalizing the grade of the two sections of the track on either side of one of said supports, said last-named means including a lever pivoted between its ends and arranged in the plane of the track and projecting to each side of said support and upholding the track, and means for yieldingly supporting the lever.

4. In an aerial tramway, the combination with suitable supports, a track rope, and a bundle carrier, of means for equalizing the grade of the two sections of the track on either side of one of said supports, said means including a bar disposed lengthwise of and parallel with the track rope and supporting the rope to permit the travel of the burden carrier thereover, and a pivotal support for adjustably suspending the bar between its ends.

5. In a tramway, the combination of a track rope, spaced supporting towers, and freely suspended equalizers on the towers having supporting connections with the rope and operating to equalize the inclination of the rope on two sides of a supporting tower.

[Claims 6 and 7 not printed in the Gazette.]

976,464. MOLDING APPARATUS. THOMAS DE LA HUNTY, St. Louis, Mo., assignor to Scullin-Gallagher Iron & Steel Company, St. Louis, Mo., a Corporation of Missouri. Filed Jan. 7, 1910. Serial No. 536,855.



1. In a molding apparatus, a series of unitable sections of green sand assembled to form a matrix, and a filler of sand for the spaces outside the matrix walls.

2. In a molding apparatus, a base, a box positioned thereon, a series of green sand sections assembled on the base within the box to form a matrix, and a sand filler for the spaces outside the matrix walls.

3. In a molding apparatus, a mold having sectional matrix walls of green sand, one section engaging one portion of a pattern, and an independent section another portion of a pattern.

4. In a molding apparatus, a mold having sectional matrix walls of green sand, one section engaging one portion of a pattern, and an independent section engaging another and remote portion of a pattern.

5. In a molding apparatus, a mold having sectional matrix walls of green sand, one section engaging one portion of a pattern, and an independent section engaging another and substantial parallel portion of a pattern.

[Claims 6 to 10 not printed in the Gazette.]

976,465. GREEN-SAND CORE. THOMAS DE LA HUNTY, St. Louis, Mo., assignor to Scullin-Gallagher Iron & Steel Company, St. Louis, Mo., a Corporation of Missouri. Filed Jan. 7, 1910. Serial No. 536,856.
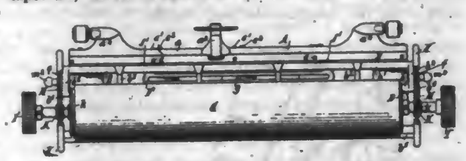


1. The combination of a green sand core and a destructible arbor embedded therein.

2. The combination of a green sand core, a destructible arbor embedded therein, and anchoring means arranged on the opposite sides of the arbor.

3. An arbor for green sand cores composed of combustible material and having anchoring means upon the opposite faces for supporting said green sand.

976,466. CARRIAGE FOR TYPE-WRITING MACHINES. OSCAR C. KAYLE, Syracuse, N. Y., assignor to Harvey A. Moyer and Emmit G. Latta, Syracuse, N. Y. Filed Apr. 14, 1906. Serial No. 311,758.



1. In a typewriting machine, the combination of a platen carriage, and a support therefor, each comprising in its construction a rigid metal frame and a race bar of harder metal which is itself capable of flexure but is rigidly connected at various points along its length to said frame, said frame having a part constituting a rigid backing for said race bar on the side thereof opposite to its bearing face so as to positively hold the race bar from deflection, said race bars forming between them a race, and rolling bearings in said race, substantially as set forth.

2. In a typewriting machine, the combination of a platen carriage frame, and a supporting frame therefor, interposed rolling bearings, and races for said rolling bearings each formed by a pair of opposite narrow bars of hardened steel one rigidly secured at the ends and intermediate portions thereof to each of said frames, said frames having portions constituting rigid backings for said race bars on the sides thereof opposite to their bearing faces so as to positively hold the bars from deflection, substantially as set forth.

3. In a typewriting machine, the combination of a platen carriage frame, and a supporting frame therefor, interposed rolling bearings, and races for said rolling bearings each formed by narrow bars of hardened steel one rigidly secured in a seat formed in each of said frames, said race bars being backed and reinforced at the end and intermediate portions thereof at the sides thereof opposite to their bearing faces by the walls of said seats so as to be held rigid thereby, substantially as set forth.

4. In a typewriting machine, the combination of a platen carriage, and a support therefor, each comprising a rigid metal frame, interposed rolling bearings, a hardened steel race bar for said rolling bearings on one of said frames, said race bar being flexible, and means connecting said race bar at different points along its length to its frame for springing one or another portion of said race bar toward or from the opposite frame, substantially as set forth.

5. In a typewriting machine, the combination of a platen carriage, and a support therefor, each comprising a rigid metal frame, interposed rolling bearings, a hardened steel race bar for said rolling bearings secured to one of said frames, said race bar being flexible, and a series of pairs of oppositely acting screws for forcing different portions of said flexible race bar toward or from the opposing frame, substantially as set forth.

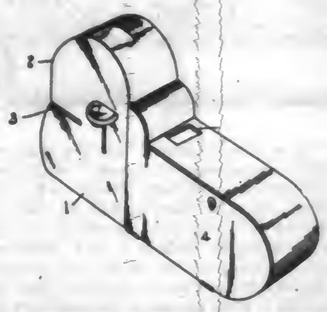
[Claims 6 to 19 not printed in the Gazette.]

976,467. CONDUCTOR'S CASH-FARE REGISTER. WILLIAM W. KAY, St. Louis, Mo. Filed Feb. 23, 1909. Serial No. 479,397.

1. In an apparatus of the character described, the combination with a casing having an opening through which inscriptions may be manually made on a check, check-issuing mechanism, means for canceling a ticket and for recording identification marks on the check before it is issued, said issuing mechanism feeding said check forwardly beyond the point where the inscription has been made thereon.

2. In an apparatus of the character described, the combination with a casing having an opening through which inscriptions may be manually made on a check, check-issuing mechanism, ticket canceling mechanism operable si

multaneously therewith, means for recording identification marks on the check, and means for winding a permanent record strip on which is recorded the manual inscription only, said record strip being wound simultaneously with the issuance of said check.



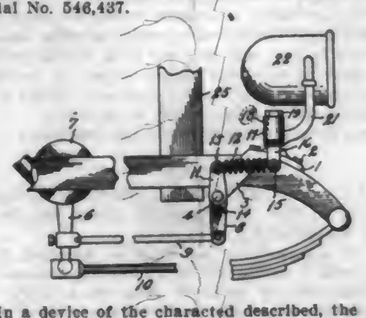
3. In an apparatus of the character described, the combination with a casing having an opening, means for canceling a ticket and for feeding a check past said opening through which the station of destination is manually inscribed on said check, and means for recording serial numbers on said checks.

4. In an apparatus of the character described, the combination with means for feeding a check past an opening where the station of destination may be inscribed thereon, means for recording the train number and date upon said check, and at the same time canceling a ticket, or the like, with said numbers, and means for making a permanent record of the station of destination numbers only.

5. In an apparatus of the character described, the combination with a casing having a ticket-receiving aperture, and an opening through which the station of destination may be manually written on a check to be issued, ticket-canceling devices in the form of puncturing devices arranged to represent numbers indicative of the train number, date and serial number, means for feeding a check to be punctured with said numbers at the time said ticket is canceled, means for effecting said puncturing operation before said check is issued, said means finally issuing said check, and means for retaining a permanent record of the station of destination written on said issued check.

[Claims 6 to 16 not printed in the Gazette.]

976,468. HEADLIGHT. FREDERICK KOHOUT and ROBERT C. LANGLEY, Dallas, Tex.; said Kohout assignor to George Langley, Dallas, Tex. Filed Feb. 28, 1910. Serial No. 546,437.



1. In a device of the character described, the combination with bases arranged on a vehicle frame, of lamp brackets arranged to revolve on the bases, lamps carried by the brackets, a shaft supported by the bases, rocker arms arranged on the shaft, resilient links connecting the rocker arms with the lamp brackets, and means for rocking the shaft.

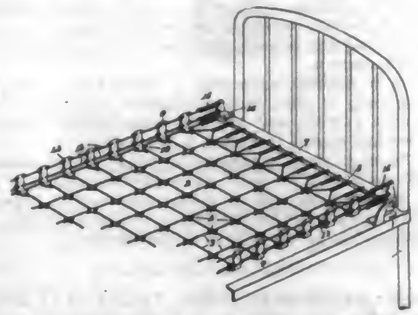
2. In a device of the character described, the combination with bases arranged to be secured on a vehicle frame, of truncated spindles carried by the bases, lamp brackets arranged to revolve on the spindles, lamps carried by the brackets, a shaft supported by the bases, rocker arms arranged on the shaft, resilient links connecting the rocker arms with the lamp brackets, and means for rocking the shaft.

3. In a head-light, the combination with bases arranged to be secured on a vehicle frame, of truncated spindles carried by the bases, lamp brackets arranged to revolve on the spindles, lamps carried by the brackets, a shaft supported by the bases, rocker arms arranged on the shaft, resilient links connecting the rocker arms with the lamp brackets, means for rocking the shaft, and a link engaging with one of the rocker arms connected with the steering mechanism arranged to transmit a rocking motion to the shaft.

4. In a head-light of the character described, the combination with bases adapted to be secured to the frame of a vehicle, of truncated spindles carried by the bases, lamp brackets arranged to revolve on the spindle, lamps carried by the brackets, a shaft supported from the bases, arms fixed on the lamp brackets, rocker arms supported on the shaft, resilient links connecting the rocker arms with those arms carried by the brackets, and means for rocking the shaft.

5. In a device of the character described, the combination with a plurality of bases adapted to be fastened to the frame of an automobile, of rearwardly extending arms made integral with the bases, a shaft supported by the arms, rocker arms mounted on the shaft, truncated spindles carried by the base, sleeves carrying lamp brackets arranged to revolve on the spindles, lamps supported by the brackets, resilient links connecting the rocker arms with arms fixed on the sleeve, and means for rocking the shaft.

976,469. SIDE GUARD FOR SPRING-MATTRESSES. AUGUST J. KREUZKAMP, New York, N. Y., assignor to The Englander Spring Bed Company, New York, N. Y., a Corporation of New York. Filed Oct. 9, 1909. Serial No. 521,816.



1. A metallic formed mattress made up of short links and connecting plates, the plates along the side edges of the mattress being bent upwardly to form side-guard supports, and means connecting said supports.

2. A metallic formed mattress made up of short links and connecting plates, the plates along the side edges of the mattress being bent upwardly to form side-guard supports, and short links connecting said supports.

3. A metallic formed mattress made up of short links and connecting plates, the plates along the side edges of the mattress being bent upwardly to form side-guard supports, means connecting said supports, and coil springs in position for maintaining said guards in an upright position.

4. A metallic formed mattress made up of short links and connecting plates, the plates along the side edges of the mattress being bent upwardly to form side-guard supports, short links connecting said supports, and coil springs in position for maintaining said guards in an upright position.

5. A metallic formed mattress made up of short links and connecting plates, the plates along the side edges of the mattress being bent upwardly to form side-guard supports, means connecting said supports, and coil springs in position for maintaining said guards in an upright position, said springs being located at the ends of the mattress.

[Claims 6 to 12 not printed in the Gazette.]

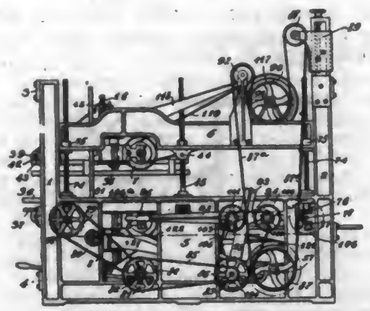
976,470. CABLE-HANGER. GUSTAV GEORGE LARSEN, Stacyville, Iowa. Filed Mar. 29, 1910. Serial No. 552,263.



1. An improved cable hanger, formed of a single piece of sheet metal and provided with longitudinal slots near its ends and adjacent to its central portion, and an integral tongue extending laterally from one end of the hanger adjacent to the slot in said end of the hanger, for the purposes stated.

2. An improved cable hanger, formed complete of a single piece of bendable metal and provided with three slots arranged near its ends and near its central portion, and an integral tongue extended laterally from a point near one end, said parts being so arranged and proportioned that the metal may be bent between its central portion and one end to overlap a supporting cable and between its central portion and the other end to overlap a telephone cable and so that the central portion and the two ends will stand in overlapping positions with the slots therein in alinement with each other, and said tongue being capable of being inserted through said slots as required to hold the overlapping positions together, for the purposes stated.

976,471. MACHINE FOR TRIMMING BOX-CORNERS. JAMES T. LECKENBY, Hamilton, Ontario, Canada. Filed May 25, 1909. Serial No. 498,197.



1. In a machine of the character described, the combination of box trimming means, means for feeding boxes in operative relation thereto, a shaft for driving said means, a pulley on said shaft, a drive shaft having a pulley thereon, a loose belt connecting said pulleys, and means for tightening said belt, said means comprising a lever having a pair of operating arms projecting in opposite directions therefrom and said lever being pivoted adjacent to one of said arms, a roller carried by said lever at a point remote from the pivot thereof, and adapted to engage said loose belt and a rod connected to one of said operating arms to operate the belt tightening means.

2. In a machine of the character set forth, the combination of box trimming means, means for feeding boxes in operative relation thereto, a shaft for driving said means, a drive shaft having a pulley thereon, an intermediate shaft also having a pulley thereon, connections between the intermediate shaft and the first mentioned shaft, a belt extending around said pulleys, and means for tightening said belt, said means comprising a lever having a roller thereon, a rod connected with said lever for rocking the same, a second rod connected with said lever on the opposite side of its pivot from the first-mentioned rod, whereby the belt tightening device may be operated by the rod, and means adapted to engage the latter rod to retain the roller out of contact with the belt.

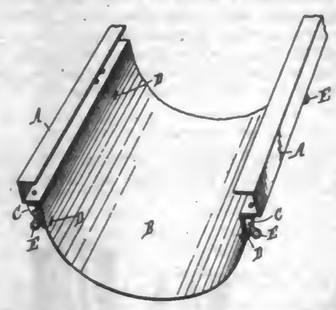
3. In a machine of the character set forth, the combination of an upper pair of saw mounts and a lower pair of saw mounts, an arbor for each of said saw mounts, a pulley on each arbor, a frame supporting the upper pair of saw mounts, a frame supporting the lower pair of saw mounts, means for adjusting the saws on the upper frame toward and from each other, means for adjusting the saws on the lower frame toward and from each other, a drum pulley mounted on the upper frame, a drum pulley mounted on the lower frame, and a pair of belts on each of said drum pulleys, each belt on said pulleys extended around the pulley on the corresponding saw arbor.

4. In a machine of the character set forth, the combination of a pair of saw mounts, means for adjusting the mounts toward and from each other, a pair of rotary saws carried by each mount, a pulley for rotating each saw, a drum pulley, a pair of belts extending around said drum pulley and each extending around a saw arbor pulley, and means for driving the drum pulley.

5. In a machine of the character described, the combination of an upper and a lower pair of saw mounts, a vertically adjustable frame upon which one pair of saw mounts are carried, a threaded rod supported by the said frame and engaging a threaded portion of one of the upper mounts, a threaded rod mounted adjacent the lower mounts and engaging a threaded portion of one of the lower mounts, connections for driving one of the said rods from the other, means whereby such driving connection may be preserved when the upper frame is adjusted, a shaft, and connections between said shaft and one of said rods.

[Claims 6 to 13 not printed in the Gazette.]

976,472. SUPPORTING DEVICE. JOHN L. LEDERER, Buffalo, N. Y. Filed Dec. 6, 1909. Serial No. 531,534.



1. The combination of a hook mounted to swing into and out of engagement with an article and also to move to clamp the article against a supporting part, an operating lever for the hook, coöperating parts on the hook and lever which engage and move the hook for clamping the article when the lever is moved in one direction, means for retaining the hook in its holding position, and means operated by the lever for releasing the hook from the retaining means when the lever is moved in an opposite direction, substantially as set forth.

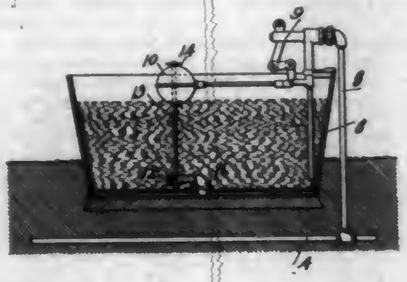
2. The combination of a hook mounted to swing into and out of engagement with an article and also to move to clamp the article against a supporting part, a spring for retaining the hook in its holding position, an operat-

ing lever for the hook, means operated by the lever for releasing the hook from the spring and swinging it out of engagement with the article when the lever is moved in one direction, and means for moving the hook to clamp the article when the lever is moved in the opposite direction, substantially as set forth.

3. The combination of a pivoted lever, a hook mounted to swing toward and from the article and also to move bodily to clamp the article, a spring adapted to engage a projection on the hook to retain the hook in holding position, a part on the lever adapted to engage the spring to release the hook, shoulders on the hook and lever adapted to engage to swing the hook out of engagement with the article, and a cam on the hook adapted to be engaged by the lever for moving the hook bodily to clamp the article, substantially as set forth.

4. The combination of a lever, a pivot therefor, a hook having a slot through which said pivot passes which permits said hook to swing into and out of engagement with an article and also to move bodily to clamp the article, shoulders on the hook and lever adapted to engage to swing the hook out of engagement with the article when the lever is moved in one direction, and cam faces on the hook and lever which engage and move the hook bodily to clamp the article when the lever is moved in an opposite direction, substantially as set forth.

976,473. SYSTEM OF IRRIGATION. WILLIAM A. LEE, Peoria, Ill. Filed Dec. 13, 1906. Serial No. 347,598.



An irrigating system, comprising a water supply, a series of feed pipes, a series of receptacles adapted to be filled with water, said receptacles being formed with a bottom, a tube leading through said bottom, a valve for controlling the flow of water through said tube, an underground base over which said tube discharges, and means for permitting the water to flow between said bottom and said base.

976,474. BALING-PRESS. WINFIELD S. LIVENGOOD, Kansas City, Mo. Filed Feb. 4, 1910. Serial No. 542,111.



1. In a baling press, a baling case, a reciprocatory head block therein, and a toggle connecting the head block with a fixed point of the baling case, the said toggle consisting of an oscillatory member, a member to oscillate with said oscillatory member and also movable endwise with respect thereto, and a link pivotally connecting said endwise-movable member with the said head block.

2. In a baling press, a baling case, a reciprocatory head block therein, and a toggle connecting the head block with a fixed point of the baling case, the said toggle consisting of an oscillatory tubular member, a piston arranged reciprocally in and provided with a stem protruding from the rear end of the tubular member, and a link pivotally connecting the rear end of the stem of the piston with the said head block.

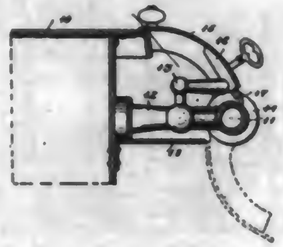
3. In a baling press, a baling case, a reciprocatory head block therein, and a toggle connecting the head block with a fixed point of the baling case, the said toggle consisting of an oscillatory member, a member to oscillate with said oscillatory member and also movable endwise with respect thereto, a link pivotally connecting said endwise-movable member with the said head block, means for applying endwise pressure rearwardly on said endwise-movable member, and guiding means whereby under such pressure the toggle shall be caused to simultaneously expand and permitted to elongate.

4. In a baling press, a baling case, a reciprocatory head block therein, and a toggle connecting the head block with a fixed point of the baling case, the said toggle consisting of an oscillatory tubular member, a piston arranged reciprocally in and provided with a stem protruding from the rear end of the tubular member, a link pivotally connecting the rear end of the stem of the piston with the said head block, and means for supplying steam to the cylinder forward of the piston.

5. In a baling press, a baling case, a reciprocatory head block therein, and a toggle connecting the head block with a fixed point of the baling case, the said toggle consisting of an oscillatory tubular member, a piston arranged reciprocally in and provided with a stem protruding from the rear end of the tubular member, a link pivotally connecting the rear end of the stem of the piston with the said head block, a steam generator carried by the baling case, a valve-casing communicating with the said generator cylinder and the atmosphere, and a valve in said casing for cutting off communication between the generator and the cylinder.

[Claims 6 to 20 not printed in the Gazette.]

976,475. PROTECTING DEVICE FOR GAS-STOVES. LOUIS JOSEPH LIVINGSTON, Omaha, Nebr. Filed June 23, 1910. Serial No. 568,494.

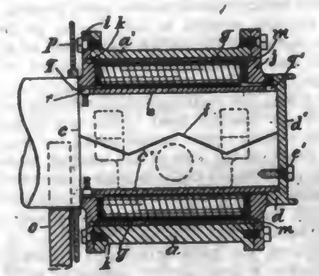


1. The combination of a stove, a supply pipe extended along the front of the stove, a number of branch pipes projecting from the supply pipe into the stove, a valve for each branch pipe, two arms having their ends pivotally connected to the supply pipe in front of the stove and curved upwardly and toward the stove and being designed to rest against a portion of the stove front and also capable of swinging forwardly and then downwardly to position below the valves and below the stove top, and a curved shield on said arms designed to wholly cover and protect the valves when the shield is in its closed position.

2. The combination of a stove, a supply pipe extended along the front of the stove, a number of branch pipes projecting from the supply pipe into the stove, a valve for each branch pipe, two arms having their ends pivotally connected to the supply pipe in front of the stove and curved upwardly and toward the stove and being designed to rest against a portion of the stove front and also capable of swinging forwardly and then downwardly to position below the valves and below the stove top, a curved shield on said arms designed to wholly cover and protect the valves when the shield is in its closed position, a lock carried by the shield, and a coacting stationary lug, whereby the shield may be locked in its closed position.

3. The combination of a stove, a supply pipe extended along the front of the stove, a number of branch pipes projecting from the supply pipe into the stove, a valve for each branch pipe, two arms having their ends pivotally connected to the supply pipe in front of the stove and curved upwardly and toward the stove and being designed to rest against a portion of the stove front and also capable of swinging forwardly and then downwardly to position below the valves and below the stove top, a curved shield on said arms designed to wholly cover and protect the valves when the shield is in its closed position, and a stationary plate secured to the stove front below the valves and extended to position adjacent to the supply pipe to prevent access being had to the valves from beneath, for the purposes stated.

976,476. RENEWABLE JOURNAL-BEARING SLEEVE. CHARLES S. LOCKWOOD, Newark, N. J., assignor to Hyatt Roller Bearing Company, Harrison, N. J., a Corporation of New Jersey. Filed May 19, 1909. Serial No. 497,089.



1. In a roller bearing, the combination, with the casing and shaft rotated therein, of a wearing-sleeve fitted removably to the shaft and provided with an open notch in its end, a shoulder upon the shaft at the end of the sleeve, a first stud in the shaft fitted detachably to the notch next such shoulder, a notch in the opposite end of the sleeve and a collar secured upon the shaft and provided with a second stud to fit such notch and operating to hold the sleeve against the shoulder in engagement with the first stud.

2. In a roller bearing, the combination, with the casing and shaft rotated within the same, of heads supported upon the casing and having an annular ledge projecting into the same and one or more sections of lining for the casing supported upon such ledge independent of the casing.

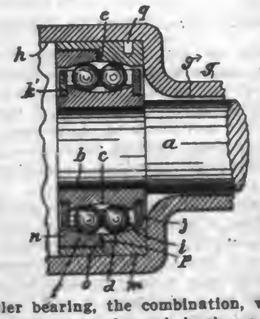
3. In a roller bearing, the combination, with the casing and shaft rotated within the same, of heads supported upon the casing and having an annular ledge projecting into the same and one or more sections of lining for the casing supported upon such ledge, and means connected with at least one of the heads for holding each lining section in place.

4. In a roller bearing, the combination, with a casing and a shaft rotated therein and provided with a shoulder adjacent to the end of the casing and a stud in the journal adjacent to the shoulder, of a divided wearing-sleeve fitted to the journal of the shaft in contact with the shoulder and having an open notch fitted removably to the stud, and a collar fitted removably to the shaft at the opposite end of the sleeve and having a band to embrace the end of the divided sleeve.

5. In a roller bearing, the combination, with a casing and a shaft rotated therein and provided with a shoulder adjacent to the end of the casing and a stud in the journal adjacent to the shoulder, of a divided wearing-sleeve fitted to the journal of the shaft in contact with the shoulder and having an open notch fitted removably to the stud, the sleeve having also an open notch in the opposite end, and a collar fitted removably to the shaft at said opposite end and provided with a band to embrace the end of the sleeve and with a stud to removably engage the notch, whereby the sleeve can be drawn endwise from the journal when the collar is removed.

[Claim 6 not printed in the Gazette.]

976,477. BALL-BEARING WITH SELF-ADJUSTING CASING. CHARLES S. LOCKWOOD, Newark, N. J., assignor to Hyatt Roller Bearing Company, Harrison, N. J., a Corporation of New Jersey. Filed Oct. 9, 1909. Serial No. 521,857.



1. In a roller bearing, the combination, with a casing having a spherical bore, of a hub having a grooved seat thereon and two contiguous series of balls fitted to such seat and to the spherical bore of the casing, and means for holding each ball of one series in lateral contact with a ball of the adjacent series in their revolutions upon the hub.

2. In a roller bearing, the combination, with a casing having a spherical bore, of an inner bearing-ring having a concave groove, the centers of curvature of the groove and the casing being in the same plane, two series of balls fitted between the casing and inner bearing-ring in lateral contact, and means for holding the balls in pairs contiguous to one another in their movement within the casing.

3. In a roller bearing, the combination, with a casing having a spherical bore forming two ball-seats sloped toward one another, of an inner bearing-ring having a concave groove forming two ball-seats sloped toward one another and opposed to the seats in the casing, two series of balls fitted to the said seats in contact with one another, and means for holding the balls in corresponding positions contiguous to one another, the opposed seats operating to hold the two series of balls in contact with one another when in operation, and to thus transmit end thrust without friction from one series of balls to the other.

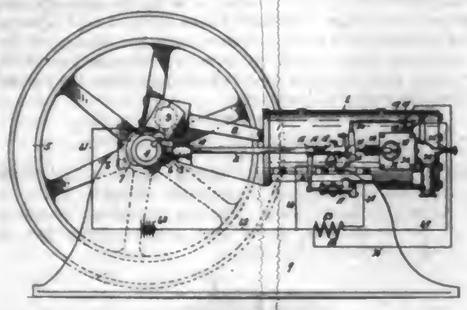
4. In a roller bearing, the combination, with a casing having a spherical bore, of a hub having shoulders at its ends and a concave seat thereon with two series of balls fitted to such seat and to the spherical bore of the casing in contact with one another at opposite sides of a diameter of the casing, and a cage having guide-bars between each ball of each series, said guide-bars concaved upon their sides to hold the balls upon the hub, and the heads of the cage being fitted to the shoulders upon the hub to guide it in its movement with the balls.

5. In a roller bearing, the combination, with two contiguous series of balls and a hub and casing having concave seats to resist end thrust, of a cage having annular heads, and guide-bars with concave sides to hold the balls

in place upon the hub, and one of the heads being secured detachably to the guide-bars for inserting two balls in each space between the guide-bars.

[Claim 6 not printed in the Gazette.]

976,478. VALVE-GEAR AND IGNITION MECHANISM. JOHN H. LONDICK, Alma, Mich. Filed Jan. 2, 1909. Serial No. 470,498.



1. In a valve gear and ignition mechanism, the combination with an engine shaft, of a cam thereon, a reciprocatory valve rod actuated by said cam, an exhaust valve and an igniter actuated by said rod, a latch for locking said rod against movement, an electro-magnet for releasing said rod, an electric circuit including said magnet, and means for closing said circuit at a predetermined point in the rotation of said shaft.

2. The combination with an engine shaft, a valve rod actuated thereby, a pivoted lever on the valve rod, a valve movable independently of the valve rod and adapted to be operated by said lever through the movement of said rod, an igniter comprising a movable electrode, said electrode being actuated by a movement of said valve rod, means for locking said valve rod against movement, and means for releasing said locking means actuated by the rotation of the engine shaft.

3. The combination with an engine shaft, of a valve rod actuated thereby, a valve and an igniter actuated by a movement of said rod, a latch for locking the valve rod, an electro-magnet for releasing said latch, an electric circuit including said magnet and said igniter, and means operated by a rotation of the shaft for closing said circuit.

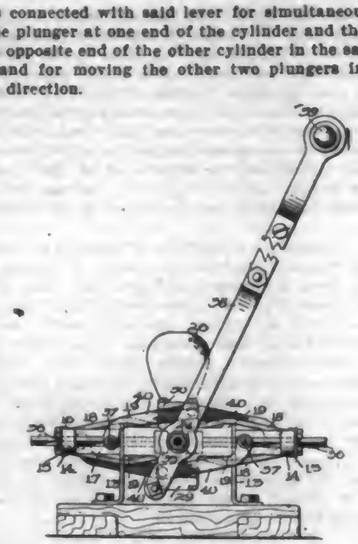
4. The combination with an engine shaft, of a valve rod actuated thereby, a valve, independent of the valve rod, means carried by the valve rod for causing a movement of said valve concurrent with the movement of the rod, said means at intervals permitting a movement of the valve rod without actuating said valve, means for locking the valve rod against movement, and means actuated by the rotation of said shaft for releasing said locking means.

5. In a valve gear and ignition mechanism, the combination with an engine shaft, of a valve rod actuated thereby, a valve and an igniter actuated by a movement of said valve rod, a latch for locking the valve rod against movement, an electro-magnet for releasing said latch, an electric circuit including said magnet and said igniter, a fixed contact with which one terminal of said circuit is connected, a wiping contact with which the other terminal of said circuit is connected, said wiping contact being carried across the fixed contact as the engine shaft rotates.

[Claims 6 to 15 not printed in the Gazette.]

976,479. PUMP. MATTI LUOMA, South Gardner, Mass. Filed Feb. 21, 1910. Serial No. 544,987.

1. In a pump, the combination of a single casing having two parallel horizontal cylinders therein, a plunger at each end of each cylinder, a bracket projecting out from each end of the casing, an independent slide rod for each plunger, said slide rods being guided by said brackets, a lever pivoted to swing about a horizontal axis passing through the cylinders and between the plungers, and means connected with said lever for simultaneously moving the plunger at one end of the cylinder and the plunger at the opposite end of the other cylinder in the same direction, and for moving the other two plungers in the opposite direction.



2. In a pump, the combination of a casing having a cylinder therein, a plunger in the cylinder, having a guide rod projecting outwardly therefrom from the end of the cylinder, means on said guide rod for operating the plunger, a bracket on the end of the casing projecting outwardly therefrom and having a guide for said guide rod, said bracket being removably secured to the end of the casing, and tie-rods secured to said casing projecting from the center thereof to the end of the casing, then projecting beyond the end of the casing and connected with the end of said bracket.

3. In a pump, the combination of a casing having a cylinder therein, a bracket fixed to the end of said cylinder and having a downwardly extending leg for supporting the casing, a plate on the end of the bracket having a guide passage therethrough axially in alinement with said cylinder, a plunger in the cylinder having a rod thereon fitting said passage, and tie-rods connected with said casing and with said plate.

4. In a pump, the combination of a cylinder, a plunger in the cylinder, a lever, means connected with said lever for moving the plunger, a hollow journal on said casing on which the lever is pivoted, said casing having a passage therein communicating with said journal and with the cylinders for conducting water through the journal.

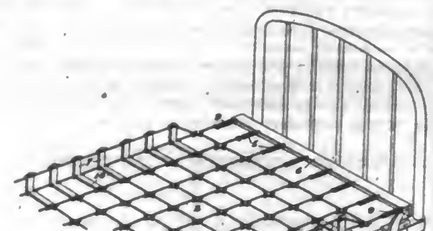
5. In a pump, the combination of a casing having two cylinders therein, plungers in said cylinders, a pair of journals extending from opposite sides of the casing in alinement, said journals being hollow, a lever pivoted on said journals and connected with said plungers for operating the same, said casing having passages therein each communicating with one of said hollow journals and both communicating with each cylinder, and valves for said passages for permitting water to flow from one passage to each cylinder alternately and then to the other passage.

[Claims 6 and 7 not printed in the Gazette.]

976,480. SIDE GUARD FOR SPRING-MATTRESSES. JOSEPH LUPPINO, Ridgewood, N. J., assignor, by mesne assignments, to Charles J. Witzel, Brooklyn, N. Y. Filed Oct. 11, 1909. Serial No. 521,986.

1. In a spring mattress, a fabric composed of plates and connecting links, the exterior row of links on each side being angular, one part of each of said angular links being held in vertical position to form a mattress guard.

2. In a spring mattress, a fabric composed of links and connecting members, each of said members coupling a plurality of links together, the exterior row of links on each side being angular, one part of each of said angular links being held in vertical position to form a mattress guard.



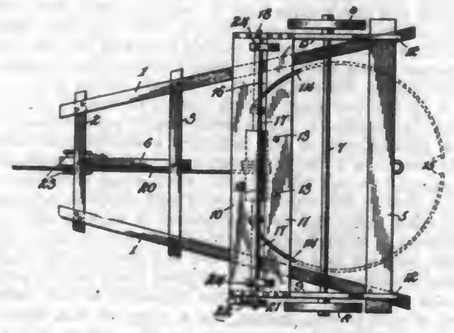
3. In a spring mattress, a fabric composed of plates and connecting links, the exterior row of links on each side being angular, one part of each of said angular links being held in vertical position to form a mattress guard, and means at the end of the guard for imparting longitudinal tension thereto.

4. In a spring mattress, a fabric composed of plates and connecting links, the exterior row of links on each side being angular, one part of each of said angular links being held in vertical position to form a mattress guard and connected by links or wires.

5. In a spring mattress, a fabric composed of plates and connecting links, the exterior row of links on each side being angular, one part of each of said angular links being held in vertical position to form a mattress guard, the end angular members being connected by inclined wires with the mattress.

[Claims 6 to 20 not printed in the Gazette.]

976,481. CORN-SHOCK CARRIER. NEWTON W. LYON, Brighton, Iowa. Filed Feb. 13, 1909. Serial No. 477,806.



1. A shock handling device comprising a movable shock carrying frame adapted to be arranged either in an upright or a horizontal position and having a platform, a winding shaft located beneath the platform and arranged at a point intermediate of the ends of the frame, binding ropes connected with the winding shaft and extending upwardly from the platform, and a traction rope extending downwardly from the winding shaft and forwardly beneath the frame to the front portion thereof, whereby it is adapted to extend from the front of the frame when the latter is in a horizontal position and from a point intermediate of the ends of the frame and approximately at right angles thereto when the frame is in an upright position, said binding and traction ropes being wound on the shaft in opposite directions.

2. A shock handling device comprising a movable shock carrying frame, a winding shaft arranged at a point intermediate of the ends of the frame, binding and traction ropes attached to the shaft and wound thereon in opposite directions, whereby when traction is applied to ha the shock carrying frame the binding ropes will be wou around the shaft and tightened, and means for detachab connecting the traction rope with the front of the fram so that the traction rope may be disconnected from t front of the frame to permit the latter to be arranged an upright position against a shock while the tractio rope extends from the shaft approximately at right angl to the frame.

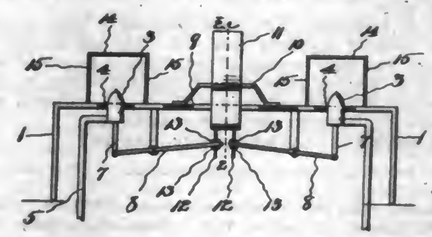
3. A shock handling device comprising a movable sho carrying frame, a winding shaft arranged at a point i termediate of the ends of the frame, binding and tractio ropes attached to the shaft and wound thereon in opposi directions, whereby when traction is applied to haul t shock carrying frame the binding ropes will be wou around the shaft and tightened, and a guide arranged the front of the frame and receiving the traction rop said guide being open at the top and permitting the tra tion rope to be detached when the frame is arranged in upright position and to extend from the winding sha approximately at right angles to the frame.

4. A shock carrying device comprising a frame, a pla form, side boards supporting the platform in an elevate position and forming guards for a shock, a winding sha mounted between the side boards and arranged beneat the platform, and traction and binding ropes attached the shaft and wound thereon in opposite directions, th traction rope being extended forwardly beneath the fram and adapted to extend directly from the winding sha approximately at right angles to the frame when the la ter is in an upright position.

5. A shock handling device comprising a frame having platform and provided at the front with a centrally a ranged runner, a winding shaft arranged beneath the pla form in rear of the runner, traction and binding ropes a tached to the shaft and adapted to be wound thereon opposite directions, whereby when traction is applied th binding ropes will be wound around the shaft and tigh ened, and guides located at opposite sides of the said ru ner and arranged to detachably receive the traction rop

[Claims 6 to 8 not printed in the Gazette.]

976,482. CRUDE-OIL BURNER. SHERMAN MCNAB Prague, Okla. Filed Mar. 21, 1910. Serial No. 550,73

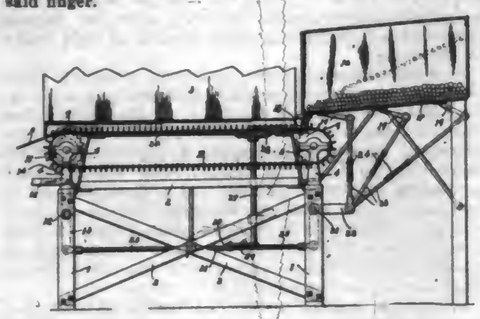


An oil burner comprising a base supported by legs an adapted to be placed in a kitchen-stove or range, the inside of the base formed with an opening, burner-nipples se cured to the base at each side of the opening aforesaid plungers slidably mounted in the nipples to control th flow of oil therefrom, levers fulcrumed on the base, on arm of each lever being secured to one of said plungers an arch member spanning the opening in the base, a con volute spring secured to said arch member, rods secured to said spring and having threaded ends, said rods ad justably secured to the free arms of the levers, and flame spreader plates secured over each burner-nipple, substan tially as shown and described.

976,483. BOLT-FEEDING MACHINE. CHARLES E MITCHELL, Decatur, Ill., assignor, by direct and mesne assignments, of one-fourth to Harry L. Nixon and one fourth to C. T. Payton, St. Louis, Mo. Filed Mar. 29 1910. Serial No. 552,204.

1. In a machine of the class described a table an inter mittently moving endless carrier, adapted to receive sce

tions of metal rods to be formed into bolts, and convey the same over the table to a bolt heading machine, a vibrating finger on the table for successively engaging the ends of the sections of rods for moving the same rearwardly while on the conveyer and means for imparting movement to said finger.



2. In a machine of the class described, an endless conveyer, means whereby the same is intermittently actuated, a hopper at one end of the machine, which hopper receives the sections of metal rods to be formed into bolts, there being an outlet in the bottom of the hopper over one of the conveyers and means projecting through the bottom of the hopper whereby the rods are agitated while in the hopper to cause said rods to gravitate to the discharge end of the hopper.

3. In a machine of the class described, an endless carrier for conveying sections of metal rods to be formed into bolts from a hopper, a vibrating finger adapted to successively engage the outer ends of the sections of rods whereby the same are moved lengthwise while on the endless carrier, and means for imparting movement to said finger.

4. In a machine of the class described, the combination with an intermittently moving endless carrier adapted to receive sections of metal rods to be formed into bolts, a vibrating finger adapted to successively engage the ends of the sections of rods for moving the same lengthwise while on the conveyer, and means for imparting movement to said finger.

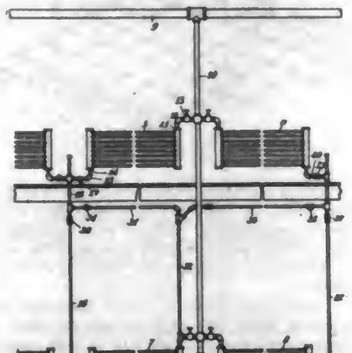
5. In a machine of the class described, a table, an endless conveyer operating over said table and adapted to receive and carry sections of metal rods to be formed into bolts, a vibrating finger on said table for moving the sections of rods longitudinally while on the conveyer, and means for imparting movement to said finger.

[Claims 6 to 9 not printed in the Gazette.]

976,484. FLUSHING AND HEATING SYSTEM. JOHN B. MORGAN, Rochester, N. Y. Filed Oct. 8, 1909. Serial No. 521,699.

1. A vacuum steam heating system having, in combination, a steam supply pipe, a return pipe for the air and water of condensation, a radiator having an inlet communicating with said supply pipe and an outlet communicating with said return pipe, a flush-out pipe communicating with said return pipe, a valve controlling the communication between said return pipe and said flush-out pipe, means connected to said return pipe to produce a vacuum therein, a valve controlling the communication between said return pipe and said vacuum creating means, means for controlling the communication between said return pipe and said radiator and acting to automatically control the difference of pressure therebetween, a pressure pipe communicating with said radiator, and a valve controlling the communication between said pressure pipe and said radiator.

2. A steam heating system having, in combination, a steam supply pipe, a return pipe for the air and water of condensation, a primary radiator communicating with said supply pipe, a secondary radiator communicating with said supply pipe, a return riser communicating with the outlets of both of said radiators and with said return pipe, a valve in said return riser between said outlets, a valve interposed in the connection between said supply pipe and said secondary radiator, a pipe forming a communication between the outlet of said primary radiator and the inlet of said secondary radiator, a valve controlling such communication between the outlet of said primary radiator and the inlet of said secondary radiator, and a regulating valve acting to automatically control the flow from the outlet of said secondary radiator to said return pipe.



3. A vacuum steam heating system having, in combination, a plurality of radiators, a steam supply pipe connected to the inlet orifice of each of said radiators, a main suction return pipe, means to create a vacuum in said suction pipe, a return riser connected to said suction pipe and to the outlet of each of said radiators, a spring-actuated regulating valve interposed between each of said radiators and said return riser and a spring-actuated regulating valve located in said return riser between said radiator and said suction pipe, an intake pressure pipe opening into said steam supply pipe, a valve therefor, a flush-out pipe connected to said heating system at the lower end thereof, and a hand valve adapted to close said flush-out pipe located beneath said main suction return pipe.

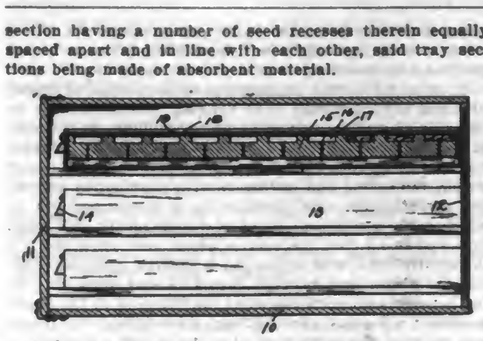
4. A vacuum steam heating system having, in combination, two radiators, a main steam supply pipe connected to the inlet of each of said radiators, a suction pipe, means for producing a vacuum in said suction pipe, a return riser connected to said suction pipe, connections from said return riser to the outlet of each of said radiators, a spring-actuated regulating valve interposed in each of said connections, a spring-actuated regulating valve in said return riser between said radiators and said suction pipe, an intake pressure pipe entering the main steam supply pipe a valve therefor, a flush-out pipe connected to and leading out of said heating system, and a valve for said flush-out pipe, substantially as described for the purpose specified.

976,485. SEED-CORN TESTER. JOSEPH S. NAYLOR, Ames, Iowa, assignor of one-half to C. V. Gregory, Ames, Iowa. Filed Mar. 16, 1910. Serial No. 549,733.

1. In a seed tester, the combination of a tray, and a series of tray sections detachably placed therein, each tray section having a number of seed recesses therein equally spaced apart and in line with each other.

2. In a seed tester, the combination of a tray, and a series of tray sections detachably placed therein, each tray section having a number of seed recesses therein equally spaced apart and in line with each other, said tray sections each being provided with openings extending from the bottom of each recess through the tray sections to the bottom thereof.

3. In a seed tester, the combination of a tray, and a series of tray sections detachably placed therein, each tray section having a number of seed recesses therein equally spaced apart and in line with each other, said tray sections being made of absorbent material.

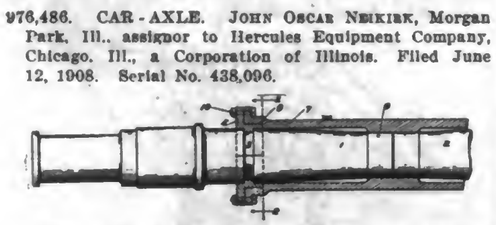


4. In a seed tester, the combination of a tray, and a series of tray sections detachably placed therein, each tray section having a number of seed recesses therein equally spaced apart and in line with each other, said tray sections being made of material that will float upon water.

5. In a seed tester, a tray section comprising a body portion having a series of seed recesses in its top arranged in line with each other.

[Claim 6 not printed in the Gazette.]

976,486. CAR-AXLE. JOHN OSCAR NEIKIRK, Morgan Park, Ill., assignor to Hercules Equipment Company, Chicago, Ill., a Corporation of Illinois. Filed June 12, 1908. Serial No. 438,006.



1. In a railway car axle, the combination of a divided axle, a sleeve surrounding and rotatively engaging the same, a two-part coupling member secured to each end of said sleeve, and means between said coupling members and the axle sections to prevent relative longitudinal movement of the sleeve and the axle sections.

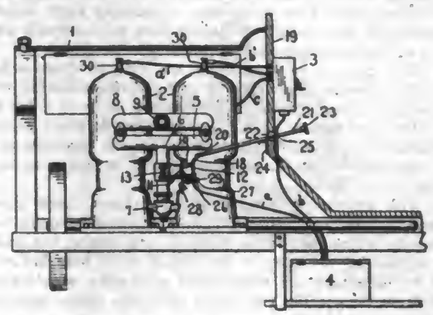
2. In a railway car axle, the combination of a divided axle, a sleeve surrounding and rotatively engaging the same, two-part coupling collars secured to the ends of said sleeve, and means between said collars and the axle sections permitting free rotative movement but preventing longitudinal movement of said parts.

3. In a railway car axle, the combination of a divided axle the abutting sections whereof are provided with annular grooves, a sleeve surrounding and rotatively engaging said sections, two-part coupling collars provided with ribs to engage said grooves, and means for securing the collars to the ends of said sleeve.

976,487. COMBINED CARBURETER-PROTECTOR AND ELECTRIC CUT-OUT FOR AUTOMOBILES. WILLIAM O. NELSON, Baltimore, Md. Filed May 25, 1908. Serial No. 434,851.

1. The combination of an explosive motor; a carbureter operatively connected therewith; a hollow member located in the gas line between the carbureter and the motor; a cover hinged to said member and provided with an arm; means for yieldingly holding the cover in closed position, said cover being adapted to open automatically against the action of said holding means under the influence of excessive pressure within the gas line to provide a vent; and a manually operated member connected to said arm for opening said cover to admit air between the carbureter and the motor.

2. The combination with an explosive motor, a carbureter connected therewith, a hollow member located in the gas line between the carbureter and motor, a cover hinged to said member, means for yieldingly holding the cover in closed position, said cover being adapted to open automatically against the action of said holding means under the influence of excessive pressure within the gas line to provide a vent and a manually operated member connected to said cover for operating the latter to admit air between the carbureter and the motor.



3. The combination, of an explosive motor; a carbureter operatively connected therewith; a hollow member located in the gas line between the carbureter and the motor; an outwardly opening cover pivoted to said member; an interiorly-disposed rod secured at one end to said member and provided at the other end with a hook; a spring located within the interior of said member, and connected at opposite ends with said hook and cover, for normally retaining the latter in closed position; and means for opening the cover against the action of the spring, to admit air between the carbureter and the motor.

4. The combination, of an explosive motor, an electric sparking mechanism, a carbureter operatively connected with the motor; a hollow member located in the gas line between the carbureter and the motor and provided with an electrical contact in the circuit of said sparking mechanism, a yielding cover pivoted to said member and provided with a contact also in the circuit of said sparking mechanism and arranged for engagement with the first mentioned contact when the cover is closed to close the circuit of said sparking mechanism, means for opening the cover to admit air between the carbureter and the motor and to release said contacts from engagement with each other whereby the circuit of the sparking mechanism is broken.

5. The combination of an explosive motor, a sparking mechanism, a carbureter operatively connected with the motor, a hollow member located in the gas line between the carbureter and the motor and provided with an electrical contact in the circuit of the sparking mechanism, a yielding cover pivoted to said member and provided with a contact also in the circuit of the sparking mechanism and arranged for engagement with the first mentioned contact when the cover is closed to close the circuit of the sparking mechanism, means for normally holding the means for opening the cover, to admit air between the carbureter and the motor and to release said contacts from engagement with each other whereby the circuit of the sparking mechanism is broken.

[Claims 6 to 8 not printed in the Gazette.]

976,488. MANUFACTURE OF A FOOD PRODUCT FROM CEREAL-SPROUTS. ARVID NILSON, Chicago Ill., assignor to Wahl-Henius Institute of Fermentology Chicago, Ill., a Corporation of Illinois. Filed Sept. 13 1909. Serial No. 517,452.

1. The process of producing an extract from cereal sprouts or rootlets, containing bitter-taste producing constituents, which consists in treating the same to eliminate the bitter properties therefrom, extracting their soluble constituents, and separating the liquid from the insoluble matter.

2. The process of producing an extract from cereal sprouts or rootlets, containing bitter-taste producing constituents, which consists in treating the same to eliminat

the bitter properties therefrom, extracting their soluble constituents, separating the liquid from the insoluble matter and concentrating such liquid.

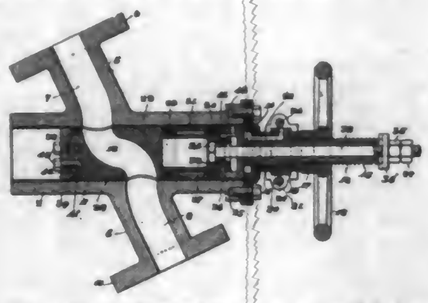
3. The process of producing an extract from cereal sprouts or rootlets, containing bitter-taste producing constituents, which consists in treating the same to eliminate the bitter properties therefrom, extracting their soluble constituents, separating the liquid from the insoluble matter, and concentrating and acidulating such liquid.

4. The process of producing an extract from cereal sprouts or rootlets, containing bitter-taste-producing constituents, which consists in treating the same to eliminate the bitter properties therefrom, extracting their soluble constituents, separating the liquid from the insoluble matter, and concentrating, acidulating and carbonating such liquid.

5. The process of producing an extract from cereal sprouts or rootlets, containing bitter-taste-producing constituents, which consists in mashing and during the mashing subjecting the mass to the action of an alkaline solution to eliminate the bitter-taste producing constituents therefrom, separating the liquid from the mash, and concentrating the liquid.

[Claims 6 to 11 not printed in the Gazette.]

976,489. VALVE. JOHNSTON NOLAN, Philadelphia, Pa. Filed Feb. 16, 1910. Serial No. 544,315.

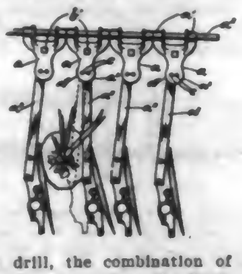


1. In a valve, the combination of a cylindrical casing provided with a lateral inlet opening located entirely on one side of a plane extending at right angles to the axis of the casing and provided with a lateral outlet opening located entirely on the other side of said plane; a piston within the casing and movable to a closed position cutting off communication between said openings and to an open position affording communication between said openings; a packing ring surrounding the piston and engaged therewith and with the casing between said openings when the piston is in the closed position; a second packing ring surrounding the piston and engaged therewith and with the casing outwardly of one of said openings when the piston is in the closed position; a third packing ring surrounding the piston and engaged therewith and with the casing outwardly of the other of said openings when the piston is in the closed position and means operative to move the piston.

2. In a valve, the combination of a cylindrical casing provided with a lateral inlet opening located entirely on one side of a plane extending at right angles to the axis of the casing and provided with a lateral outlet opening located entirely on the other side of said plane; a piston within the casing and having a passageway extending therethrough and movable to a closed position in which said passageway is out of registry with said openings and to an open position in which said passageway is in registry with said openings; a packing ring surrounding the piston and engaged therewith and with the casing between said openings when the piston is in the closed position; a second packing ring surrounding the piston and engaged therewith and with the casing outwardly of one of said openings when the piston is in the closed position; a third packing ring surrounding the piston and engaged therewith and with the casing outwardly of the other of said openings when the piston is in the closed position and means operative to move the piston.

3. In a valve, the combination of a cylindrical casing provided with a lateral inlet opening located entirely on one side of a plane extending at right angles to the axis of the casing and provided with a lateral outlet opening located entirely on the other side of said plane; a piston within the casing and having an ogee passageway extending therethrough and movable to a closed position in which said passageway is out of registry with said openings and to an open position in which said passageway is in registry with said openings; a packing ring surrounding the piston and engaged therewith and with the casing between said openings when the piston is in the closed position; a second packing ring surrounding the piston and engaged therewith and with the casing outwardly of one of said openings when the piston is in the closed position; a third packing ring surrounding the piston and engaged therewith and with the casing outwardly of the other of said openings when the piston is in the closed position; and means operative to move the piston.

976,490. DRAG-BAR FOR FURROW-OPENERS. FRANK R. PACKHAM and GEORGE P. OATES, Springfield, Ohio, assignors to The American Seeding Machine Company, Springfield, Ohio, a Corporation of Ohio. Filed Dec. 30, 1909. Serial No. 535,602.



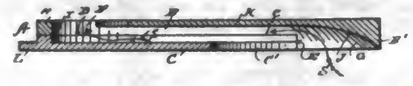
1. In a grain drill, the combination of a draft rod, cross heads pivotally mounted on the draft rod, a plurality of disk furrow openers comprising drag bars and disks rotatably mounted near the ends of the drag bars and placed at an angle to the line of draft, means for pivotally mounting the drag bars on the cross heads and stops for limiting the lateral swinging movement of each furrow opener whereby any obstacle bearing against two opposing furrow openers will cause one of the furrow openers to swing laterally increasing the angle of the disk to the line of draft, substantially as specified.

2. In a grain drill, the combination of a plurality of disk furrow openers with draft-rods and cross-heads and pivotal connections between the cross-heads and drag-bars, devices for holding each disk in its normal position at a fixed minimum angle with the line of draft, whereby an obstacle will hold one disk in its normal position, causing its opposing disk to swing laterally, increasing the angle of said last-mentioned disk, substantially as specified.

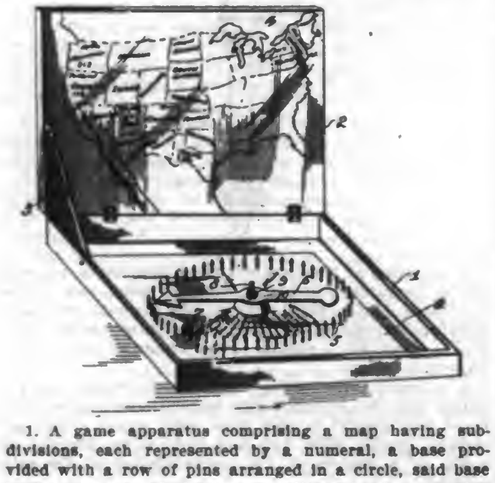
3. In a grain drill, the combination of a plurality of concavo-convex disk furrow openers with draft-rods and cross-heads and pivotal connections between the cross-heads and drag-rods, devices for holding each concavo-convex disk in its normal position at a fixed minimum angle with the line of draft, whereby any obstacle will hold one concavo-convex disk in its normal position causing its opposing concavo-convex disk to swing laterally increasing the angle of said last-mentioned concavo-convex disk, substantially as specified.

976,491. STOVE ATTACHMENT. WILLIAM H. PRALL, Woodbridge, N. J. Filed Jan. 11, 1909. Serial No. 471,690.

In a stove attachment, a box comprising a top portion and a bottom portion, each portion having integral side walls, the top portion having a thickened end formed with a curved under surface and abutting against one of the ends of the lower portion, the abutting portions of the top and bottom being cut-away to form a circular opening adapted to receive the flames of a burner, and the opposite end of the top portion being formed with a vent opening extending across the same, and means for securing the two portions together.



976,492. GAME APPARATUS. CLINTON E. PRICKETT, Allegheny, Pa., assignor of one-half to Roy D. Cool, Allegheny, Pa. Filed July 11, 1908. Serial No. 443,033.

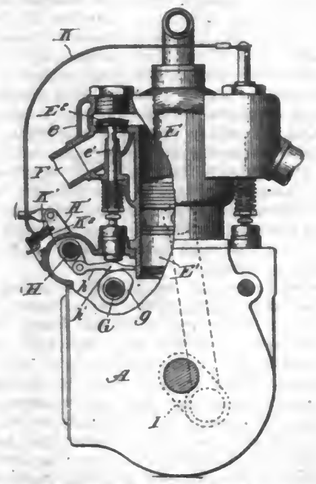


1. A game apparatus comprising a map having subdivisions, each represented by a numeral, a base provided with a row of pins arranged in a circle, said base having represented thereon opposite each pin a number corresponding to the number of one of the subdivisions on the map and the name of the principal city of said subdivision, a pointer mounted for rotation on the base and adapted to register with the pins, and a series of tabs provided with perforations adapted to receive the pins, said tabs having the names of the principal cities of the subdivisions represented thereon and the population of said cities.

2. A game apparatus comprising a box having a pivoted lid, a map mounted on the lid and having subdivisions, each represented by a numeral, a base placed upon the bottom of the box, pins passing through the base and arranged in a circle and having their heads confined between the base and the bottom of the box, said base having represented thereon opposite each pin a number corresponding to the number of one of the subdivisions on the map and the name of the principal city of said subdivision, a pointer mounted for rotation on the base and adapted to register with the pins, and a series of tabs provided with perforations adapted to receive the pins, said tabs having the names of the principal cities of the subdivisions represented thereon and the population of said cities.

976,493. MEANS FOR FACILITATING THE STARTING OF INTERNAL-COMBUSTION ENGINES. FREDERICK PURDY, Kenosha, Wis., assignor, by mesne assignments, to Kate E. Jeffery, Charles T. Jeffery, and Harold W. Jeffery, executors of Thomas B. Jeffery, deceased. Filed Dec. 23, 1908. Serial No. 468,889.

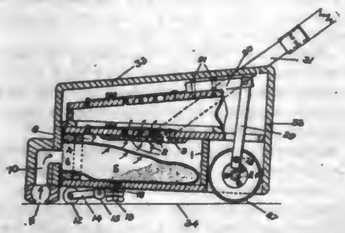
1. In an internal combustion engine, a plurality of engine cylinders, pistons in said cylinders, exhaust valves, valve-actuating cams, movable members arranged between said cams and said valves, said members having two positions in one of which the cams are permitted to open said exhaust valves between the ends of the power strokes of the pistons and in the other of which the cams are prevented from opening the exhaust valves before the pistons reach the ends of their power strokes.



2. In an internal combustion engine, a plurality of engine cylinders, pistons in said cylinders, exhaust valves, valve-actuating cams, movable fingers arranged between said valves and said cams, said fingers having portions which will permit the exhaust valves to be opened between the ends of the power strokes of said pistons when said portions lie between the valves and the cams, said fingers also having reduced portions, proportion to prevent the cams from opening said valves before the pistons reach the ends of their working strokes and means for actuating said fingers to bring either the first-mentioned portions thereof or the last-mentioned portions thereof between the cams and the valves so as to permit the valves to be opened between the ends of the power strokes of said pistons or prevent them from being so opened.

3. In an internal combustion engine, a plurality of engine cylinders, pistons in said cylinders, exhaust valves for said cylinders, means for normally actuating said exhaust valves at predetermined points between the ends of the working strokes of said pistons, a firing circuit, and a switch device in said circuit controlled by said latter means.

976,494. VACUUM-SWEEPER. FRANK JULIUS QUIN and MALCOLM BLANCH, Worcester, Mass., assignors to Domestic Vacuum Cleaner Company, Worcester, Mass., a Corporation of Massachusetts. Filed July 21, 1910. Serial No. 573,128.



1. In a vacuum cleaner, a casing having apertures, a nozzle head having an elongated inlet detachably connected with said casing, a dust receptacle in said casing detachably connected therewith, said nozzle head being provided with an opening therethrough from the said inlet and communicating with the dust receptacle,

screen guarding said apertures, a plurality of suction creating devices connected with the said casing above said apertures, an adjustable roller connected with said casing and adapted for vertical adjustment of one end thereof, a crank shaft movably connected with the said casing, sustaining corrugated wheels attached to the said crank shaft and connected with and adapted to operate said suction creating devices in rotation by the rotary motion of said wheels, a handle pivotally connected with the said casing, and a cover, all substantially as shown.

2. In a pneumatic sweeper the combination of a casing having apertures, a screen guarding said apertures, sustaining wheels connected with said casing, a dust collector in said casing detachably connected therewith, a nozzle head detachably connected with said casing and having an air passage therethrough from said dust receptacle widening into an elongated horizontal inlet therein, means for the vertical adjustment of said casing, means for creating a continuous suction in said air passage through said dust receptacle connected with and automatically operated by the sustaining wheels.

3. A pneumatic cleaner comprising a casing open at its front end and having apertures, a screen guarding said apertures, a dust receptacle in said casing detachably connected therewith, a nozzle head detachably connected with said casing and covering the front end thereof, said nozzle head being provided with an opening therethrough communicating with said dust receptacle, a suction creating device connected with said casing, sustaining wheels connected with said casing and operatively connected with and automatically operating said suction device by their backward and forward travel over any surface, means connected with the said casing for adjusting the elevation of the front end thereof.

976,495. ADVERTISING DEVICE. PERCY REEVES, Buffalo, N. Y., assignor to Dietzer-Sale Lithograph Company, Buffalo, N. Y., a Corporation of New York. Filed Sept. 7, 1909. Serial No. 516,419.



1. An advertising device, comprising a card bearing a suitable picture, a slide bearing a complementary part of said picture and guided on the card, and a multiple joint connecting the slide with the card.

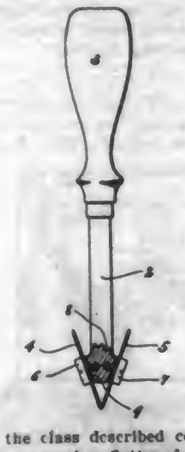
2. An advertising device, comprising a card having guide-slits, a flap integral with said card and having a tongue guided in said slits, the card and the flap bearing complementary portions of a picture, and a multiple joint connecting the flap with the card.

3. An advertising device, comprising a card bearing a part of a picture and a flap overlapping said card and bearing a complementary part of said picture, said flap being slidably connected with the card by a multiple joint and having an operating-tab adjacent to said joint.

4. An advertising device, comprising a card bearing a part of a picture and a flap overlapping said card and bearing a complementary part of said picture, said flap being slidably connected with the card by a multiple joint and having an operating-tab which is cut out of the adjacent portions of the card and said joint.

5. An advertising device, comprising a card having guide-slits and an integral flap connected therewith by a multiple joint, said flap being provided at its free edge with a tongue guided in said slits, and a tab cut out of the adjacent portions of the card and said joint and extending above the latter, the card, flap and tab bearing complementary parts of a picture.

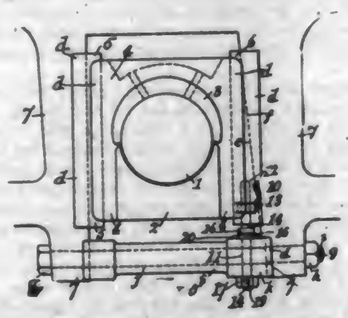
976,496. PAPER-CUTTER. LOUIS A. REISER, Waterbury, Conn. Filed Mar. 31, 1910. Serial No. 552,516.



1. A device of the class described comprising a shank having forwardly converging flattened faces, and a pair of rotative cutters fitted against said flattened faces and peripherally toothed, the teeth of the cutters being laterally in mesh for a portion of the circumferences of the respective cutters.

2. A paper cutter comprising a shank provided with a handle and also provided with two cutters angularly disposed with respect to each other, each cutter having peripheral scoring teeth and said teeth being laterally in mesh for a portion of the circumferences of the said cutters.

976,497. WEDGE-BOLT LOCK. LESLIE G. ROBLIN, London, Ontario, Canada. Filed Oct. 18, 1909. Serial No. 523,373.



1. A shouldered wedge bolt, in combination with a wedge bolt lock, and locking pin.

2. A wedge bolt with a collar, in combination with a lock, a locking pin and a wedge bolt head holder.

3. A wedge bolt, in combination with a wedge bolt head holder.

4. A shouldered wedge bolt, in combination with a wedge bolt lock, a locking pin and a wedge bolt head holder.

5. A wedge bolt provided with a shouldered and round collars, in combination with a wedge bolt lock, a locking pin and a wedge bolt head holder.

[Claims 6 to 11 not printed in the Gazette.]

976,498. MILK-PAIL HOLDER. EARL WAYNE ROSE, Cuba, N. Y. Filed Mar. 12, 1910. Serial No. 548,854.



1. A device of the character set forth comprising a body member to rest on the knee and having side portions and a jaw, the latter being arranged at one of its ends and adapted to take over the edge of a pail and engage the inside of the same, a lever fulcrumed on said body member, and having a jaw opposed to the first named jaw and adapted to engage the outside of the pail, and resilient parts at the outer end of said lever, and provided with laterally projecting hooks to engage the side portions of the body member.

2. A device of the character set forth comprising a body member to rest on the knee and having at its inner end an upright hooked shaped jaw to take over the edge of a pail and engage the inside of the same, a lever fulcrumed intermediate its ends on the intermediate portion of the body member, and formed at its inner end with an upstanding inverted U-shaped jaw arranged within the jaw on said body member, and adapted to engage the outside of the pail, and the bead or rim on the edge of said pail, and means carried by the outer end of the lever to engage the body member and retain the lever in effective position.

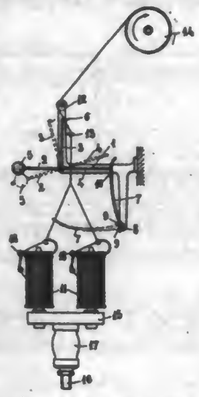
3. A device of the character set forth comprising a body member formed from a single piece of resilient wire and having at one end an arm to rest on the knee, at its other end spring jaws to take over the upper edge of a pail and at its intermediate portion coils forming pivot eyes, and a lever fulcrumed in said eyes and having at one end a jaw to engage the outer side of the pail and at its other end a resilient hook portion to engage the arm of the body member.

4. A device of the character set forth comprising a body member having at one end an arm to rest upon the knee, at its other end a jaw to take over the upper edge of a milk pail and at its intermediate portion oppositely arranged pivot eyes, a lever formed from a single piece of resilient wire and having its intermediate portion arranged in said eyes, one of its ends formed with a jaw to engage the outer side of the pail, and its other end formed with hook portions to engage the arm of said body member.

976,499. STOPPING DEVICE FOR SILK-DOUBLING MACHINES. PIETRO SARACCO, Saluzzo, Italy. Filed Sept. 1, 1909. Serial No. 515,709.

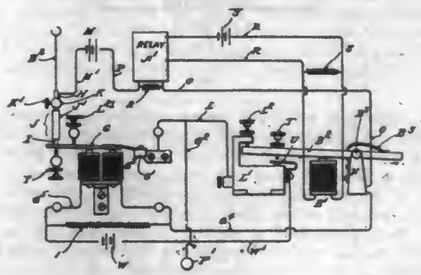
1. A stopping device for silk doubling machines, comprising in combination, unwinding bobbins, a revolving mounting for said bobbins having an axis out of alinement with the axes of said bobbins, a winding bobbin for receiving the doubled thread composed of the single threads of said bobbins, a thread breaking device arranged to fall by gravity into the path of the single threads, and means engaging and controlled by the tension of the threads for holding said breaking device in an inoperative position when the single threads are intact and serving upon breakage of one of said threads to release said device, substantially as and for the purpose set forth.

2. A stopping device for silk doubling machines comprising in combination, unwinding bobbins, a revolving mounting for said bobbins having an axis located between the axes and said bobbins, a winding bobbin for receiving the doubled threads composed of the single threads of said bobbins, a pivotally mounted gravity acting thread breaking device arranged to fall into the path of the single threads, and a pivoted device engaging and controlled by the tension of said threads for holding said device in an inoperative position when the single threads are intact and serving upon breakage of one of said single threads to release said device, substantially as and for the purpose set forth.



3. A stopping device for silk doubling machines comprising in combination, two unwinding bobbins, a revolving mounting for said bobbins having its axis of rotation disposed between the axes of said unwinding bobbins, a winding bobbin for receiving the doubled threads composed of the single threads of said bobbins, a thread breaking device pivotally mounted to fall by gravity into the path of said single threads, and a pivotally mounted trip member provided with an arm engaging the threads and having an arm for holding said breaking device in an inoperative position, and a weight for said member serving to release engagement thereof with said breaking device upon breakage of one of said single threads, substantially as and for the purpose set forth.

976,500. WIRELESS TELEGRAPHY. FREDERICK G. SARGENT, Graniteville, Mass. Filed Aug. 26, 1905. Serial No. 275,877.



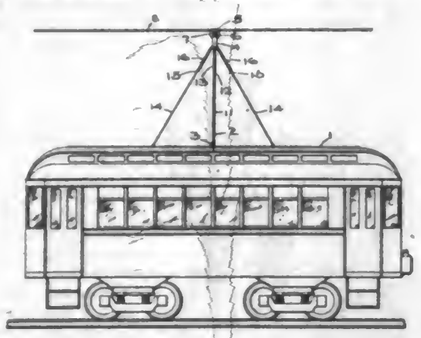
1. In a coherer, in combination, the tube composed of extensible material, the rods entering opposite ends of such tube and having said ends connected therewith, and the cohering material between the proximate ends of such rods.

2. In a coherer, in combination, the elastic non-conducting tube, and the electrodes fitted into the opposite ends of said tube.

976,501. TROLLEY-POLE. PHILIP SCHNELL, Philadelphia, Pa. Filed Feb. 11, 1910. Serial No. 543,384.

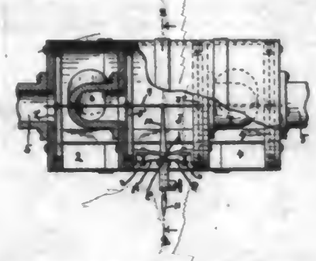
A trolley pole having an upper forked end, said forked end being provided with oppositely located longitudinally arranged slots, said slots having sockets forming their terminal ends, a trolley wheel mounted in the upper forked end of said pole, trunnions projecting from the opposite sides of said trolley wheel and slidingly located

within the slots formed in the forked end of the pole, coil springs located within suitable sockets formed in the terminal ends of the slot and bearing against the said trunnion, stay wires, the lower ends of which are movably secured to the roof of the car on either side of the pole, springs connecting the upper ends of said stay wires to the pole adjacent to the forked end thereof, stay wires



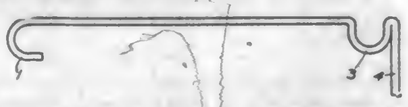
the lower ends of which are also movably attached to the roof of the car in front and in rear of the pole and springs connecting the upper ends of the last named stay wires to the pole adjacent to the forked end thereof, whereby the pole is yieldingly held in a substantially vertical position with its trolley wheel in yielding contact with the supply wire.

976,502. PHONOGRAPH SOUND-BOX. ANTON F. SCHÖNWETTER, Cleveland, Ohio. Filed Jan. 7, 1910. Serial No. 536,794.



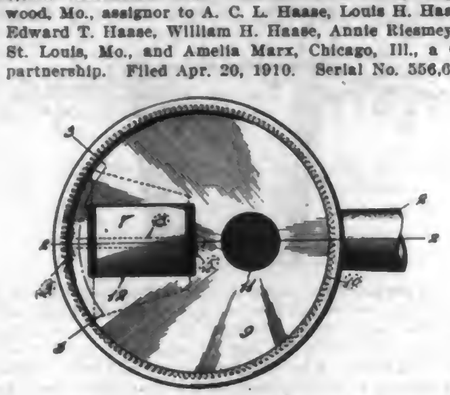
A reproducer for sound waves comprising a sound box having end and intermediate chambers separated by partitions, tubes extending into the end chambers and connected to each partition and other tubes connected to the ends of the box, diaphragms located in the chambers, opposite the ends of the tubes, a flexible connection between said diaphragms and extending through openings in the partitions, and a stylus operatively connected to said connections, in the intermediate chamber.

976,503. BAR SPACER AND SUPPORTER FOR REINFORCED CONCRETE. FRED H. SCHROEDER, Jr., Tacoma, Wash. Filed Apr. 27, 1910. Serial No. 558,054.



A device of the class described comprising a rod having one end hooked and adapted to be supported by a reinforcing bar; an upwardly open U-shaped stirrup portion near the other end and adapted to engage and support the next reinforcing bar; and a supporting leg adjacent said stirrup portion.

976,504. MARKING-POT. WILLIAM H. SCOTT, Maplewood, Mo., assignor to A. C. L. Haase, Louis H. Haase, Edward T. Haase, William H. Haase, Annie Riesmeyer, St. Louis, Mo., and Amelia Marx, Chicago, Ill., a Copartnership. Filed Apr. 20, 1910. Serial No. 556,627.



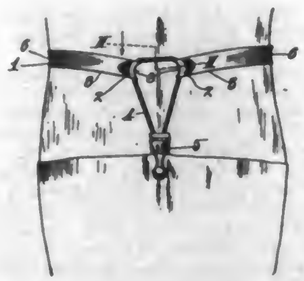
1. A marking pot comprising a container, bearings formed therein, a roller of truncated conical form having trunnions journaled in said bearings and which roller is journaled to one side of the center of the container, a removable concave cover for the container there being an opening formed in said cover for exposing a portion of the periphery of said roller, and there being an opening formed in the cover at the lowermost point thereof.

2. A marking pot comprising a receptacle, a removable concave cover therefor, a roller journaled in bearings formed in the receptacle, means carried by the cover for maintaining the roller in its bearings, there being an opening formed in the cover through which a portion of the roller projects, and there being a drain opening formed through the cover at the lowermost point thereof.

3. A marking pot comprising a container, bearings formed therein, a roller having trunnions journaled in said bearings, a removable concave cover in the container, there being an opening formed in said cover for exposing a portion of the periphery of said roller, and means on the removable cover for engaging the trunnions of the roller to hold the same in place while the cover is on the container.

4. A marking pot comprising a receptacle, bearings formed therein, a roller journaled in the receptacle, a cover for the receptacle, means on said cover for maintaining the roller in its bearings, and there being an opening formed in said cover of such size as to expose a portion of the periphery of the roller.

976,505. HALF-HOSE SUPPORTER. FRANKLYN H. SEELEY, Chicago, Ill. Filed July 14, 1909. Serial No. 507,557.



1. In a half hose supporter, a thin, flat, resilient, non-absorbent clasp of length to almost encircle the wearer's limb when bent around the same; said clasp terminating in reversely-disposed hooks located exterior to the body of the clasp when the same is bent or compressed to approximately circular form, the clasp having a tendency to straighten out to its normal condition.

2. In a hose-supporter, in combination, a clasp made of non-absorbent material and adapted to almost encircle the wearer's limb, said clasp tending to straighten out; a device to engage the hose; and a connection between both ends of the clasp and the hose-engaging device, said connection holding the clasp in contact with the limb.

3. In a half hose supporter, a thin, flat, resilient, non-absorbent clasp of length to almost encircle the wearer's limb when bent around the same; said clasp terminating in reversely-disposed hooks located exterior to the body of the clasp when the same is bent or compressed to approximately circular form, the clasp having a tendency to straighten out to its normal condition, in combination with a hose-engaging means and a non-elastic flexible loop attached to the said means and engaging the hooks to hold the clasp around the wearer's limb.

976,506. FLY-CATCHER. CONRAD SEVERIN, Göttingen, Germany, assignor to Niedersächsische Papierindustrie G. m. b. H., Holzminden, Germany. Filed Nov. 24, 1909. Serial No. 529,689.



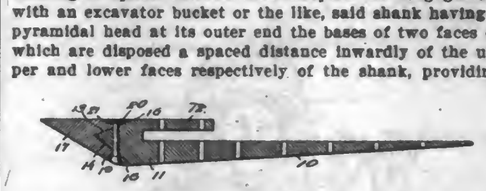
1. In a fly catcher the combination with an inclosing box, provided with a cover, of a collapsible prismatic paper column, a plate at each end of said column adapted to enter said box, each plate being provided with an opening corresponding to the normal cross section of said column, flaps integral with each wall of and at each end of said column, each flap being bent over upon the outer face of the corresponding plate, and means for firmly securing said flaps between the bottom and cover of said box and the corresponding end plate.

2. A hanging fly-catcher comprising a collapsible prismatic chamber open at both ends, horizontal extensions of the side walls of said chamber at both ends thereof, a cover plate for each end of said chamber, a plate for reinforcing each of said extensions and means for securing said extensions between said cover plates and said reinforcing plates.

3. A hanging fly-catcher comprising a collapsible prismatic chamber coated with adhesive glutinous substance and open at both ends, horizontal extensions of the side walls of said chamber at both ends thereof, an upper and a lower cover plate for the ends of said chamber, the upper cover plate being provided with an inlet to said chamber, a plate for reinforcing each of said extensions, means for securing the faces of said extensions which are, longitudinally with respect to said chamber, opposite to each other to said reinforcing plates and means for securing said reinforcing plates to the respective cover plates.

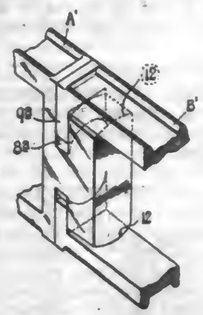
976,507. ADJUSTABLE DIPPER-TOOTH. RICHARD H. SEYMOUR, Bristol, Va. Filed Aug. 25, 1909. Serial No. 514,599.

A point for excavators comprising a shank, said shank being enlarged toward its outer end and having an inwardly extending supplementary shank offset therefrom forming a space therebetween adapted for engagement with an excavator bucket or the like, said shank having a pyramidal head at its outer end the bases of two faces of which are disposed a spaced distance inwardly of the upper and lower faces respectively of the shank, providing



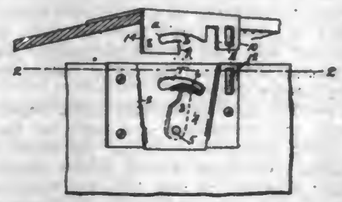
shoulders, said faces intersecting centrally the central plane of said space, the remaining sides of the head beginning flush with the side faces of the shank on a common plane with said shoulders, a tip detachably engaged upon the head, and having a socket adapted to snugly fit the head, and means to secure the tip upon the head.

976,508. DRAFT-RIGGING FOR RAILWAY-CARS. CHARLES S. SHALLENBERGER, St. Louis, Mo., assignor to Scullin-Gallagher Iron and Steel Company, St. Louis, Mo., a Corporation of Missouri. Filed Oct. 29, 1906. Serial No. 460,101.



A yoke for tandem draft riggings, comprising two substantially U-shaped members arranged in longitudinal alinement with each other and with their legs projecting in the same direction, the cross web of the front member being provided with slots whose bottoms are convexed, and lugs on the rear member that project into said slots, the lower ends of said lugs being concaved so that they will conform to the shape of the bottoms of said slots.

976,509. LOCK. MELZAR SHEPARD, Wayne, Mich. Filed Mar. 4, 1910. Serial No. 547,185.



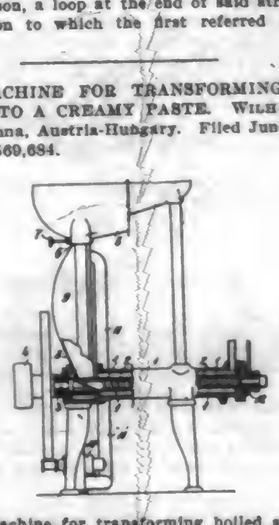
In a lock for boxes, the combination of a pocket member having a slotted portion, a pivoted latch having a terminal flange engaging through the slot in said pocket member, and a catch member having a hook provided with a curved engaging edge adapted to engage beneath said slotted portion of the pocket member and the terminal flange of said latch and to be frictionally engaged by said terminal flange of the latch, said pocket member and said catch member each being provided with a hole adapted to register the one with the other when the pocket member and the catch member are engaged, through which a sealing medium may be passed, substantially as described.

976,510. AUTOMOBILE-VEIL. JUNE VIOLA SIEGEL, New York, N. Y. Filed June 8, 1910. Serial No. 565,849.



An automobile veil having buttons fastened to one of the longitudinal marginal edges thereof, a loop fastened to one button and adapted to engage the other button and adapted to hold portions of the edge to which the buttons are fastened slight distances from each other, and an elastic string fastened to one of said buttons and adapted to surround and hold the veil about the neck of a person, a loop at the end of said string engaging the button to which the first referred to loop is fastened.

976,511. MACHINE FOR TRANSFORMING BOILED SUGAR INTO A CREAMY PASTE. WILHELM JOSEF SLUKA, Vienna, Austria-Hungary. Filed June 30, 1910. Serial No. 569,684.

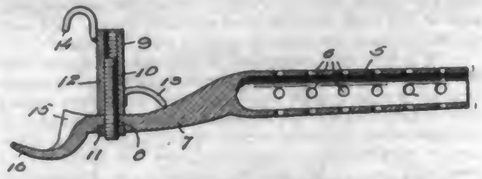


1. In a machine for transforming boiled sugar into a creamy paste, the combination of a basin for the boiled sugar, a casing, means for kneading the sugar inclosed by such casing, a discharge opening in such basin, whereby the sugar is caused to flow from the basin into the said casing, and means for blowing air against the sugar flowing from the basin into the casing, substantially as and for the purpose described.

2. In a machine for transforming boiled sugar into a creamy paste, the combination of a basin for the boiled sugar, a casing, means for kneading the sugar inclosed by such casing, a discharge opening in such basin, whereby the sugar is caused to flow from the basin into the said casing, a plate connecting the basin and the casing and means for blowing air against the sugar flowing from the basin into the casing whereby the sugar is thrown against the said plate, substantially as and for the purpose described.

3. In a machine for transforming boiled sugar into a creamy paste, the combination of a basin for the boiled sugar, a casing, a discharge opening in such basin whereby the sugar is caused to flow from the basin into the said casing, a worm contained in such casing whereby the sugar entering the casing is kneaded and means for blowing air against the sugar flowing from the basin into the casing, substantially as and for the purpose described.

976,512. COMBINED STOVE-LID AND PAN-LIFTER. PETER SLUSTROP, Hebron, N. D. Filed Sept. 9, 1909. Serial No. 516,949.



1. A combined pan and stove lid lifter comprising a tubular handle having a longitudinally extending flattened shank, transverse extensions at the outer end of said shank, a downwardly and outwardly curved tongue integrally formed with said shank, a vertically adjustable rectangular frame mounted on the shank, pan engaging hooks secured in the frame, said hooks extending laterally therefrom upon opposite sides and adjacent to the top and bottom of the frame, said tongue and hooks being adapted to engage with a pan substantially as described.

2. A combined pan and stove lid lifter comprising a tubular handle having a plurality of openings formed therethrough, a longitudinally extending shank portion integrally formed with said handle, said shank being transversely extended at its outer end, a downwardly curved tongue extending outwardly from the shank, a screw threaded bolt vertically positioned through the shank, a substantially rectangular frame mounted on said bolt, said frame having an interiorly threaded centrally disposed tubular portion adapted to engage with the threads of the bolt, said frame being adjustable thereon, and a plurality of laterally extending hooks secured adjacent to the top and bottom of the frame on each side thereof, said hooks and tongue being adapted to engage with a pan substantially as described.

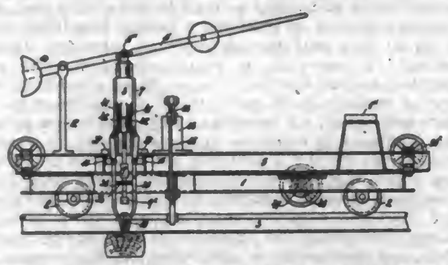
3. A device of the class described comprising a handle a lower engaging member carried thereby, a vertical support portion spaced inward of the engaging member on the handle, and a frame movable thereon and carrying oppositely disposed vertically spaced engaging portions adapted for engagement with different sizes of pans in coöperation with the engaging member, said frame being revoluble to present either of said engaging portions in vertical opposition with the engaging member, and being vertically movable on the support for adjustment to various sized pans.

4. A combined pan, and stove lifter, comprising a tubular handle provided with a plurality of perforations, a shank portion formed integral with said handle, said shank portion terminating in a downwardly curved member adapted to engage the lid of a stove, a projection formed upon said shank adjacent its curved end, said projection being provided with a squared portion adapted to contact with the side wall of a pan, a screw threaded bolt adjustably supported by said shank, a substantially rectangular frame, a screw threaded barrel arranged centrally upon said frame, said bolt being adapted to enter said barrel, and a plurality of hooks secured to said frame.

976,513. MACHINE FOR SPIKING RAILS TO TIES. CARL GUSTAF SMITH, Stockholm, Sweden. Filed Jan. 13, 1910. Serial No. 537,867.

1. In a machine for forcing the spikes into the ties in the constructing or repairing of railways, and for other purposes, the combination of hammer devices, which can be raised and lowered in a suitable frame in such manner, that the cylinder of the hammer piston, in which acts the medium actuating the said piston, partakes in the movement up and down, guiding means for the said devices, means for effecting the said raising and lowering operations, means for feeding the spikes, and guiding means for the fed spikes, which means, owing to the descending of the cylinder, are moved automatically out of the way of the pistons, as the spikes have been forced into the tie partially.

2. In a machine for forcing the spikes into the ties in track-laying the combination of a suitable portable frame, hammer devices, provided in the same, cylinders in which the driving medium acts and which can be raised and lowered and which guide the pistons of the said hammer devices, vertical guides for the said cylinders, a lever for effecting the said raising and lowering operation manually and means for feeding and guiding the spikes.



3. In a machine for forcing the spikes into the ties in track-laying the combination of hammer devices provided in pairs in a suitable portable frame, cylinders, which can be raised and lowered and in which the driving medium acts upon the pistons of the said devices, guiding means for the said pair of devices, a lever for raising and lowering the said pair of devices, and means for feeding and guiding the spikes.

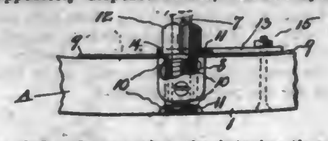
4. In a machine for forcing the spikes into the ties in track-laying the combination of a hammer device for forcing the spikes into the ties, which device can be raised and lowered, means for effecting the said raising and lowering operation, a removable magazine for the spikes, which is located near the hammer device and at its top has a wider part for the heads of the spikes, the spikes being located in the said magazine one behind the other in such manner, that a rear one projects with its head over the head of the preceding one and that the whole row of spikes can be advanced by its own weight, obliquely to the longitudinal direction of the spike, and means for admitting the spikes one by one from the said magazine to a channel, guiding the same to the foot of the rail.

5. In a machine for forcing the spikes into the ties in track-laying the combination of hammer devices for forcing the spikes into the ties, which devices can be raised and lowered, a removable magazine for the spikes, in which the spikes are located one behind the other and can slide downward owing to their own weight and the slanting position of shelves, on which the spikes hang on their lugs, a channel guiding the spike to the foot of the rail, and a mechanism located between the said magazine and the channel and adapted to admit the spikes one by one, the said mechanism comprising an upper horizontal arm (23), which can be raised and lowered and on its lower side is provided with projections (24), extending downward in front of the lugs of the foremost spike, and a lower arm (26) movable in the feeding direction of the spike and determining by its position the vertical position of the upper arm, the said arm (26) being provided with an opening so shaped, that it does not permit the spike to drop through the same, when the arm (26) is moved to a rear position and the arm (23) is raised, but permits the spike to drop, when the arm (26) is moved forward and the arm (23) is lowered, in which case the projections of the arm (23) form abutments for the next succeeding spike.

[Claims 6 to 13 not printed in the Gazette.]

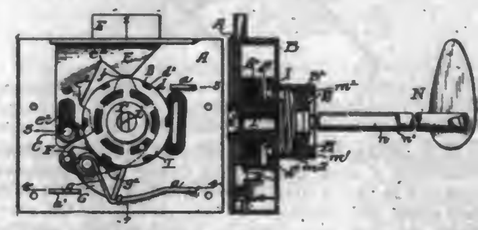
976,514. TIRE-TIGHTENER. ROBERT BENJAMIN SMITH, Easley, S. C. Filed June 18, 1909. Serial No. 502,914.

A tire-tightener comprising the combination with the spokes of a wheel and felly, a plate secured opposite the outer end of each spoke and having a tubular socket extending into the felly, an interiorly threaded sleeve revolubly mounted in the socket, a shoulder on the inner end of the sleeve larger in diameter than the sleeve to limit the movement of the sleeve into the socket, said shoulde having oppositely disposed facets, and the spokes forme



with threaded ends engaging the interior threads in sai sleeves, substantially as shown and described.

976,515. LOCK. FRANK SOLEY, Philadelphia, Pa., a signor to Miller Lock Co., Philadelphia, Pa., a Corpor tion of Pennsylvania. Filed Oct. 15, 1909. Serial No 522,890.



1. The combination in a lock, of a casing, a combina tion mechanism within the casing, a driving disk for actu ating the combination mechanism, said driving disk hav ing an opening, a removable key shaped to fit said open ing, and click mechanism also engaged by the key so tha on the turning of the key, both the click mechanism an the driving disk will be operated.

2. The combination in a lock, of a casing, a series o tumblers and washers mounted therein and forming th combination mechanism, a bolt, actuating mechanis therefor, a driving disk mounted in the casing independen of the tumblers but connected thereto, said driving dis having a hollow spindle with an irregular opening ther in, and a click mechanism consisting of a notched casi and a notched disk, the projections on the disk engagin the notches in the casing, with a detachable key adapte to engage both the driving disk and the notched disk the click mechanism.

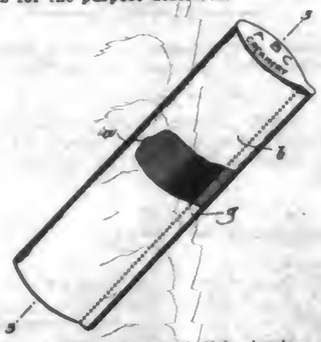
3. The combination in a casing, of a bolt, a series tumblers and washers mounted on a hollow spindle pr jecting from the back casing of the lock, means for act ating the bolt when the tumblers are in a certain positio a driving disk having a spindle adapted to the hollo spindle carrying the tumblers and having recesses to r ceive a pin of the combination mechanism, the hole in th driving disk being irregular, a detachable key shaped to f the irregular opening in the driving disk, a casing secure to the shell of the lock and having an opening therei a disk within the casing, and a spring tending to forc the disk against the end of the casing, both the disk an the casing being notched to form a click mechanism; th driving disk and the notched disk being connected by th key.

4. The combination in a lock, of a casing, combinatio mechanism within the casing, a driving disk for actua ing the combination, said driving disk having a hollo stud, said stud being slotted at its extreme inner end, wit a click disk mounted within the casing, and a key adapte to an opening in the click disk and shaped to engage th slotted portion of the hub of the operating disk.

976,516. MERCHANTABLE PACKAGE OF JAR-SEAL ING CAPS. HARRY A. SPILLER, Boston, Mass., assigno to Brown-Binnian Company, Boston, Mass., a Corpor tion of Massachusetts. Filed Dec. 24, 1906. Seri No. 349,311.

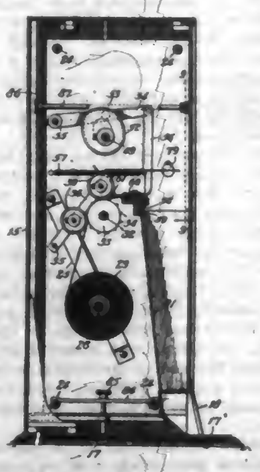
1. A merchantable package of disks having extende portions, comprising a stack of said disks with their e tended portions in line, a wrapper stretched and secure

around said stack and constructed and arranged with a weakened line in the portion of the wrapper which is stretched between the body of the disks and their extensions, the ends of the wrapper being in-turned over the ends of said stack of disks and disks identical with the disks in the stack secured upon the outer ends of the wrapper, as for the purpose described.



2. A merchantable package of disks having extensions comprising a stack of said disks having their extensions arranged in line, a wrapper stretched and secured around said disks and furnished at that portion stretched between the disks and extensions with weakening perforations, the ends of the wrapper being inturned over the ends of said stack of disks, and disks secured to said inturned ends of the wrapper as and for the purpose described.

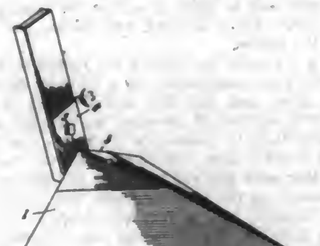
976,517. COUPON-DELIVERY MACHINE. GEORGE W. STAMBAUGH, Chicago, Ill., assignor to Mills Novelty Company, Chicago, Ill., a Corporation of Illinois. Filed July 28, 1910. Serial No. 574,221.



1. In a coupon-delivering machine, the combination of a case having a delivery-outlet, a pair of upright spaced plates housed in the case, a coupon-strip-carrying roller, feeding mechanism for the strip comprising a shaft, said shaft and roller being journaled to extend between said plates, a sprocket on the shaft and a toothed wheel thereon near one end, a slotted spring-retracted arm carrying an anti-friction roller, a finger pivoted to said arm, a spring-pressed pawl pivoted to the finger to engage said wheel, an operating shaft journaled in said plates, carrying an operating handle on its outer end and extending at its opposite end through the slot in said arm, and a cam on the operating shaft engaging the anti-friction roller, and strip-severing mechanism supported on said plates and connected with the operating shaft to be actuated thereby succeeding the operation of the feeding mechanism, and discharging to said outlet, for the purpose set forth.

2. In a coupon-delivering machine, the combination of a case having a delivery-outlet, a pair of upright spaced plates housed in the case, a pair of inclined bars on the inner faces of said plates, a coupon-strip-carrying roller journaled on said bars, feeding mechanism for the strip supported on said plates to work between them and comprising a shaft, a sprocket and a toothed wheel thereon, a roller-carrying swinging gravity-frame releasably bearing against the sprocket, a slotted spring-retracted arm carrying an anti-friction roller, a finger pivoted to said arm, a spring-pressed pawl pivoted to the finger to engage said wheel, an operating shaft carrying an operating handle on its outer end and extending at its opposite end through the slot in said arm, and a cam on the operating shaft engaging the anti-friction roller, and strip-severing mechanism supported to work between said plates and connected with the operating shaft to be actuated thereby succeeding the operation of the feeding mechanism, and discharging to said outlet, for the purpose set forth.

976,518. CULTIVATOR-SHOVEL. JOHN P. STANZA, Eaton, Ohio. Filed Nov. 5, 1908. Serial No. 461,163.



The combination with a standard, of a shank detachably secured to the lower end of the standard and provided with a substantially triangular laterally extending cap piece, the upper surface of which is inclined downwardly in opposite directions, and a shovel blade open at its rear end and provided with oppositely inclined wings overlapping the inclined side walls of the cap piece and having their rear edges disposed flush with the rear edges of said cap piece, the cap piece being constructed to coöperate with shovel blades of various sizes.

976,519. ELECTRIC-LAMP SOCKET. JAMES S. STEWART, New York, N. Y., assignor to Annie Stewart, New York, N. Y. Filed Mar. 19, 1910. Serial No. 550,507.



1. A lamp socket comprising a cap and a shell having a bayonet-joint connection therebetween, one of said structures having a projection extending outwardly directly from the edge proper thereof and the other of said structures having a manipulatable resiliently acting part disposed for engagement with an abrupt wall of said projection whereby relative rotation between the structures may be prevented.

2. An incandescent lamp socket having a cap and shell detachably connected, the cap having a plurality of L-shaped recesses in the lower portion thereof, and the shell having a plurality of lugs disposed in circumferential alinement and adapted for engagement with the respective L-shaped recesses aforesaid, said shell further having a plurality of recesses in the upper edge thereof, each of said recesses being formed to provide a tooth in the bottom thereof, and a resiliently acting element carried by the said cap, a portion of which element is adapted for engagement with the flank of the said tooth.

3. An incandescent lamp socket having a cap and shell detachably connected, insulating linings for said cap and shell, said shell having a plurality of circumferentially alined struck-up lugs, the lining of said shell having a tongue struck-up therefrom engageable with a recess in the shell disposed immediately back of one of the struck-up lugs aforesaid, and a sheet metal part carried by said cap having a struck-up portion thereon adapted for engagement with the material forming the lining of said cap.

4. An incandescent lamp socket comprising a shell and a cap provided with means for locking said parts together said means comprising a resilient tongue secured to the interior of said cap and extending outwardly through an aperture therein, and a protective strip disposed over said resilient tongue to afford protection to the same, said tongue being adapted for engagement with a coöperating recess in the upper portion of the shell aforesaid.

5. An incandescent lamp socket comprising a shell, a cap, and a base positionable therein, said base being provided with recesses in the upper portion thereof and said cap being provided with downwardly projecting tongues for engagement with the said recesses when the parts are in assembled relationship, locking means for said cap and shell, said means comprising a resilient tongue carried by one of said parts, and a coöperating recess provided by the other of said parts, one of the said base engaging tongues being disposed over said resilient tongue to afford protection to the same.

[Claims 6 to 8 not printed in the Gazette.]

976,520. PROCESS OF MAKING WATERPROOF PORTLAND CEMENT AND PRODUCT. MAXIMILIAN TOCH, New York, N. Y., assignor of one-half to Henry M. Toch, New York, N. Y. Filed Apr. 1, 1910. Serial No. 552,876.

1. The process of making waterproof Portland cement, which consists in mixing with the cement a fat and a metallic compound the base of which will combine with glycerin, saponifying the fat by a calcium compound in the mixture, and binding the liberated glycerin as a metallic glycerid.

2. The process of making waterproof Portland cement, which consists in mixing with the cement a fat and lead oxid, reacting on the fat with production of a calcium fatty-acid salt and glycerin, and binding the glycerin as lead glycerid.

3. The process of making waterproof Portland cement, which consists in mixing with the cement a fat, lead oxid and naphthalene, reacting on the fat with production of a calcium fatty-acid salt and glycerin, and binding the glycerin as lead glycerid.

4. Water-proof Portland cement having admixed therewith a calcium fatty-acid salt and a metallic glycerid.

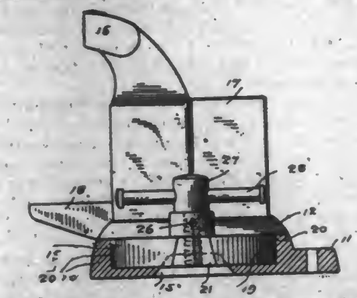
5. Water-proof Portland cement having admixed therewith a calcium fatty-acid salt and lead glycerid.

[Claim 6 not printed in the Gazette.]

976,521. SWIVEL-BASE VISE. ELI M. WALKER, Meriden, Conn., assignor to The Charles Parker Company, Meriden, Conn., a Corporation of Connecticut. Filed May 24, 1910. Serial No. 563,049.

1. A device of the character described comprising a bed having a circular groove, a split locking ring disposed therein, a base swiveled to the bed, and means disposed between the ends of said ring and movable in a line parallel to the axis of said ring for spreading the same to lock the base to the bed.

2. A device of the character described comprising a bed having a circular groove, a split locking ring disposed therein, a base swiveled to the bed and connected to said ring, and means on the bed and movable in a line parallel to the axis of said ring for spreading the same into locking engagement with the bed.



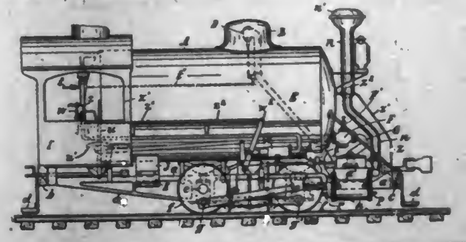
3. A device of the character described comprising a bed having a circular groove therein, a base swiveled in said bed, a split locking ring disposed in said groove, a wedge disposed between the ends of said ring and an operating screw passing through said base into said wedge to raise the latter whereby the ring is extended into engagement with said bed to lock said base in adjusted position.

4. A device of the character described comprising a bed having a circular grooved base swiveled in said bed provided with openings, a split locking ring disposed in said groove and having a stud disposed in one of said openings, a wedge disposed between the ends of said ring and a locking screw disposed in the other opening and entering said wedge to raise the latter whereby said ring is expanded into engagement with said bed.

5. A device of the character described comprising a bed having a circular groove, a base swiveled to said bed and provided with openings, a locking ring disposed in said groove and having a stud disposed in one of said openings, a wedge disposed between the ends of said ring and a locking screw disposed in the other opening and entering said wedge to move the latter in a line parallel to the axis of the ring to lock the base in adjusted position, and a set screw for holding the locking screw against longitudinal movement.

[Claims 6 to 8 not printed in the Gazette.]

976,522. STEAM-STORAGE LOCOMOTIVE. GEORGE L. WALL and VICTOR JAMES SHEPARD, Lima, Ohio, assignors to Lima Locomotive and Machine Company, Lima, Ohio, a Corporation of Ohio. Filed Nov. 18, 1909. Serial No. 528,649.



1. In a steam-storage locomotive, the combination, with the side-frames and wheels supporting the same and the steam-storage tank carried thereby, of engine-cylinders having arms connected together and fitted upon the under side to the tops of the frames, the arms having a flat top and formed each with the saddle-bracket *a* projected horizontally from the rear edge of the arm and a saddle block secured upon the said arms and saddle-brackets across the joint of the arms to reinforce their connection and the tank secured rigidly to such saddle.

2. In a steam-storage locomotive, the combination, with side-frames and a plurality of axles with driving-wheels supporting the same, of engine-cylinders having arms connected together and provided upon their under sides wit

seats fitted to the upper sides of the frames near their forward ends, lugs upon the arms at the ends of such seats with bolt through the same into the frames, the arms having a flat finished seat upon the top, a tank-bracket secured rigidly upon the said seat across the joint of the arms thus reinforcing their connection, a steam-tank connected rigidly at its forward end to the tank-bracket, and a saddle supporting the tank upon the frames near the rear end of the tank.

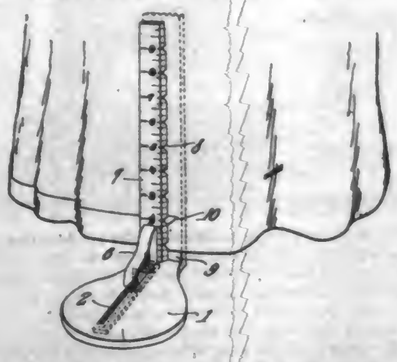
3. In a steam-storage locomotive, the combination, with the side-frames and wheels supporting the same, of engine-cylinders having the arms 4 connected together and fitted upon the under side to the tops of the frames, each arm having upon the top a steam-inlet for one of the cylinders, the storage-tank mounted upon the frame; and having upon the top a steam dome with the throttle-valve supported therein, a high-pressure pipe extended from the throttle to the exterior of the tank, a reducing-valve upon such cylinder-pipe outside of the tank, and branches extended from the reducing-valve to the steam-inlets of the two cylinders.

4. In a steam-storage locomotive, the combination, with the side-frames and wheels supporting the same, of engine-cylinders having the arms 4 connected together and fitted upon the under side to the tops of the frames, each arm having upon the edge an exhaust outlet F with an exhaust-stack extended upward therefrom, and an exhaust-head upon such stack having a water-extractor therein and an annular chamber to receive such water with an outlet for the escape of the same, thereby preventing the accumulation of water in the cylinder-arm.

5. In a steam storage locomotive, the combination, with the frames, of cylinders secured to the frames near their forward ends with arms connected at the middle line of the locomotive, steam-inlets upon the tops of the arms and exhaust-outlets upon the front sides of the arms, a steam storage tank mounted upon the frame with its forward end adjacent to the rear ends of the cylinders, a cylinder-pipe extended from the tank through the front head of the same, a reducing-valve and steam-gage upon said pipe at the front end of the tank, branch-pipes connecting the reducing-valve with the steam-inlet, a steam-exhaust-stack connected with the exhaust outlets and inclined backwardly to the tank in front of the reducing-valve and upwardly above the tank, and a hood applied to the front of the tank and inclosing the reducing-valve, the branch-pipe, the lower part of the exhaust-pipe and its connections to the exhaust-outlets.

[Claims 6 and 7 not printed in the Gazette.]

976,523. SKIRT-GAGE. WILLIAM J. WALSH, Princeton, Ind. Filed Feb. 6, 1909. Serial No. 476,443.

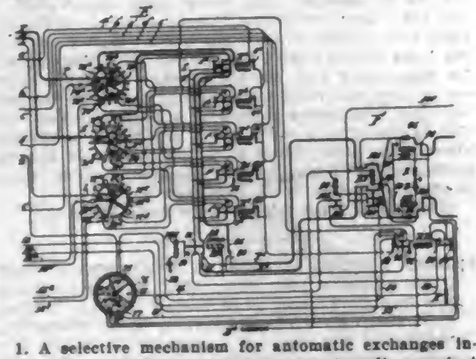


1. A skirt gage including a base, a fixed member and a relatively movable member upon the base, said members being parallel, one of said members having transverse marker-receiving notches in that face thereof nearest the other member.

2. A skirt gage including a base, a fixed member upstanding therefrom, and a movable member upstanding from the base and parallel with the fixed member, said movable member having transverse marker-receiving notches extending from side to side in that face thereof nearest the fixed member, said fixed member constituting means for holding a skirt in contact with a marker to retain said marker in its notch.

3. A skirt gage comprising a slotted base, a slide therein, means movably mounted within the slot and engaging the slide for holding said slide against swinging movement upon the base, a backing standard upstanding from the base, a gage strip upstanding from and movable with the slide, said strip having spaced notches in that face thereof nearest the standard and extending from side to side of the strip, one edge of the strip having graduations extending from the ends of the notches, said standard constituting means for holding the skirt in contact with a marking device located within one of the notches and to prevent the said device from becoming displaced from the notch.

976,524. AUTOMATIC TELEPHONE SYSTEM. HARRY G. WEBSTER, Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company, a Corporation of Illinois. Filed Mar. 6, 1909. Serial No. 481,792.



1. A selective mechanism for automatic exchanges including terminals arranged in groups, traveling contact means, one for each group common to its group, electro-magnets, one for each group, said electro-magnets being adapted to be selectively energized, and each controlling a switch contact connected to the contact means of its respective group.

2. A selector for automatic exchanges including terminal contacts arranged in groups, wiper contacts, one for each of said groups, electromagnets for said selector, one for each group, and circuit means for operating the magnet of a group to render the respective wiper contact "live" or operative.

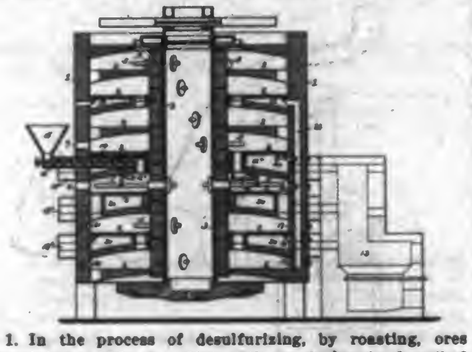
3. A selector for automatic exchanges including terminal contacts arranged in groups, wiper contacts, one for each of said groups, electromagnets for said selector, one for each group, circuit means for operating the magnet of a group to render the respective wiper contact "live" or operative, and means for preventing more than one of said magnets being energized at one time.

4. A telephone system including a selector having terminal contacts arranged in groups, wiper contacts, one for each of said groups, electromagnets for said selector, one for each group, a telephone line, and means controllable by current thereover for operating the magnet of a group to alter the operative relation of the wiper contact of said group.

5. A telephone system including a selector having terminal contacts arranged in groups, wiper contacts, one for each of said groups, electromagnets for said selector, one for each group, a telephone line, means controllable by current thereover for operating the magnet of a group to alter the operative relation of the wiper contact of said magnet, and means for preventing another magnet being operated after one is operated.

[Claims 6 to 70 not printed in the Gazette.]

976,525. TREATING SULFIDS OR SULFATES. UTLEY WEDGE, Ardmore, Pa., assignor to The Furnace Patent Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Jan. 20, 1910. Serial No. 539,135.



1. In the process of desulfurizing, by roasting, ores containing sulfids or sulfates, the mode herein described of facilitating the removal of the sulfur during the later stage of the process, said mode consisting in adding to the metal-bearing material a reagent whereby any sulfates which may be present will be reduced and the elimination of the sulfur effected without the application of an objectionably high degree of heat.

2. In the process of desulfurizing, by roasting, ores containing sulfids or sulfates, the mode herein described of facilitating the removal of the sulfur during the later stage of the process, said mode consisting in heating the metal-bearing material during this stage of the process without direct access of the heating gases thereto, and adding to said metal-bearing material a reagent whereby any sulfates which may be present will be reduced and the elimination of the sulfur effected without the application of an objectionably high degree of heat.

3. In the process of desulfurizing, by roasting, ores containing sulfids or sulfates, the mode herein described of facilitating the removal of the sulfur during the later stage of the process, said mode consisting in adding to the metal-bearing material a reagent whereby any sulfates which may be present will be reduced and the elimination of the sulfur effected without the application of an objectionably high degree of heat, and also introducing preheated air for oxidizing purposes.

4. In the process of desulfurizing, by roasting, ores containing sulfids or sulfates, the mode herein described which consists in maintaining a relatively low temperature during the early stage of the process by the abstraction of heat for air-heating purposes, adding to the metal-bearing material, during the later stage of the process, a reagent whereby any sulfates which may be present will be reduced and the elimination of the sulfur effected, and, at the same time, using, in said later stage of the process, for oxidizing purposes, the air preheated in the earlier stage of the process.

5. In the process of desulfurizing, by roasting, ores containing sulfids or sulfates, the mode herein described of facilitating the removal of the sulfur during the later stage of the process, said mode consisting in heating the metal-bearing material during the later stage of the process without direct access of the heating gases thereto, adding to said material during said later stage of the process, a reagent whereby any sulfates which may be present will be reduced and the elimination of the sulfur effected, and also introducing preheated air for oxidizing purposes in the later stage of the process.

[Claims 6 to 15 not printed in the Gazette.]

976,526. MANUFACTURE OF ELECTRIC FILAMENTS. CARL AUER VON WELSBACH, Vienna, Austria-Hungary, assignor to Welsbach Light Company, Gloucester City, N. J., a Corporation of New Jersey. Filed Aug. 9, 1898. Serial No. 688,201.

1. An incandescent filament for an electric lamp consisting of osmium in a dense, coherent and elastic condition incandescing at a temperature at which platinum volatilises substantially as set forth.

2. An incandescent filament for an electric lamp composed of particles of osmium cemented together by the action of the electric current and heat, at a temperature above the melting point of platinum into a self sustaining thread or wire like filament substantially as set forth.

3. A filament for an electric incandescent lamp composed of a series of osmium particles electrically welded into a dense coherent and elastic self sustaining strip or thread which will incandesce at a temperature above that at which platinum melts substantially as set forth.

4. A dense, coherent and elastic strip or thread of osmium which when used as the filament in an electric incandescent lamp will incandesce at a temperature above the melting point of platinum substantially as set forth.

5. A filament for an electric incandescent lamp composed of osmium and a coating of thoria, substantially as set forth.

[Claims 6 to 15 not printed in the Gazette.]

976,527. MANUFACTURE OF ELECTRIC FILAMENTS. CARL AUER VON WELSBACH, Vienna, Austria-Hungary, assignor to Welsbach Light Company, Gloucester City, N. J., a Corporation of New Jersey. Filed Aug. 9, 1898. Serial No. 688,202.

1. The herein described method of manufacturing incandescent electric filaments, consisting in associating organic thread with osmium; then, subjecting the thread to dry distillation; and then, by the action of the electric current, in a suitable atmosphere eliminating the carbon and uniting the metallic particles into a coherent filament of metallic osmium; substantially as set forth.

2. The herein described method of manufacturing incandescent electric filaments, consisting in associating organic thread with osmium chemically combined with another substance to form a reducible compound and thereafter subjecting the same to dry distillation; then, by the action of the electric current in a suitable atmosphere eliminating the carbon and reducing the said compound to the metallic state; and then, causing the uniting of the metal particles into a dense, coherent, compact and flexible filament of metallic osmium; substantially as set forth.

3. The herein described method of manufacturing an incandescent electric filament of metallic osmium, consisting in associating organic thread with osmium and subjecting the thread to dry distillation; and then placing the same in a suitable atmosphere wherein, by the action of the electric current the carbon is eliminated, whereby the metallic particles of osmium are united into a coherent filament of metallic osmium, substantially as set forth.

4. The herein described method of manufacturing a metallic electric filament, consisting in association organic thread with metal having a higher point of fusion than that of platinum, and, subjecting the same to dry distillation, and placing the same in a suitable atmosphere wherein the carbon is eliminated, and by the action of the electric current at a temperature at which platinum would volatilize, causing the metallic particles to unite into a dense, compact, coherent filament suitable for electric incandescence; substantially as set forth.

5. A dense, coherent metallic filament for incandescent electric lamps, consisting of metallic particles fritted together and which incandesces at a temperature above that at which platinum volatilizes; substantially as set forth.

976,528. MANUFACTURE OF ELECTRIC FILAMENTS. CARL AUER VON WELSBACH, Vienna, Austria-Hungary, assignor to Welsbach Light Company, Gloucester City, N. J., a Corporation of New Jersey. Filed Aug. 9, 1898. Serial No. 688,204.

1. An incandescent electric lamp having its filament connected to its leading-in-wires by a connecting body of osmium.

2. An incandescent electric lamp having a filament containing osmium connected to the leading-in wires by an osmium connection.

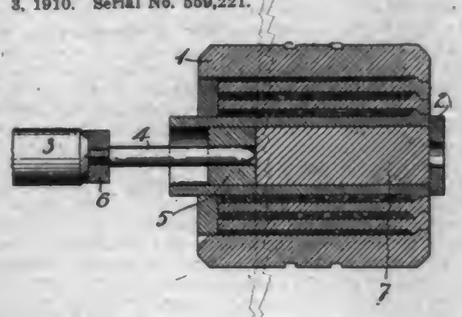
3. An incandescent electric lamp having a filament containing osmium, platinum leading-in wires, and an osmium connection connecting the filament with the leading-in-wires.

4. An incandescent electric lamp having leading-in wires whose ends are fashioned for the reception of the ends of the filament, a filament mounted therein and an osmium joint at the points of juncture.

5. The process of mounting filaments, which consists in connecting the ends of the filaments to the ends of leading-in wires by a cement paste containing osmium and a carbonaceous agglutinant, warming the paste in order to obtain an initial adherence at the point of juncture, and finally removing the carbon of the paste without oxidizing the osmium by subjecting the paste to heat in the presence of reducing gases containing vapor of water.

[Claims 6 to 9 not printed in the Gazette.]

976,529. MEANS OF PRODUCING SEAMLESS HOLLOW BODIES. WILLIAM WESTERMAN, Ansonia, Conn. Filed Feb. 4, 1908, Serial No. 414,181. Renewed May 3, 1910. Serial No. 559,221.



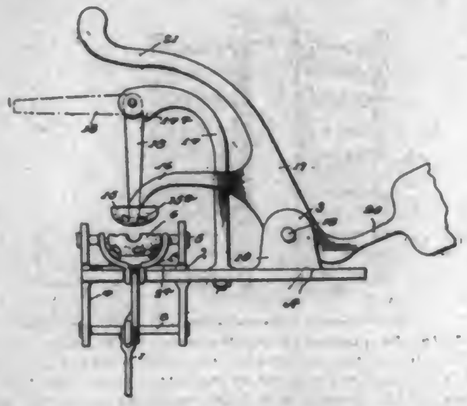
1. In a machine for producing hollow tubular bodies, a container having a bore therein, a die carried by said container in line with said bore, a mandrel, and means for forcing said mandrel into said bore through said die, and a loosely mounted dummy slidable in said bore and arranged to receive and guide said mandrel and a shoulder on one of said parts arranged to force said dummy forwardly with said mandrel when said shoulder engages said dummy.

2. In a machine of the character described, a container having a bore therethrough, a die arranged in line with said bore, a mandrel arranged in line with said die, a loosely mounted dummy slidable on the mandrel, a power-driven plunger carrying said mandrel, and a head arranged to fit said bore and behind said mandrel said mandrel and dummy being both forced forwardly by said plunger at a certain time.

3. In a machine of the character described, a container having a bore therethrough, a die in line with said bore at the outlet end, a power-driven plunger, a mandrel arranged to coöperate with said die, and a head on the mandrel arranged to fit said bore and a dummy making a sliding fit on said mandrel and in said bore, said plunger advancing both mandrel and dummy.

4. In a machine of the character described, a container having a bore therethrough, a die at the outlet end of said bore having a passage of suitable outline, a mandrel of suitable cross-sectional outline, a power-driven plunger coöperating with said mandrel to force the same through the bore of said container, and a dummy slidably mounted in said bore and on said mandrel, and an abutment on said mandrel arranged to engage said dummy whereby said mandrel and dummy will advance simultaneously at certain times.

976,530. MOLDING-MACHINE. JAMES A. WILLIAMS, Cincinnati, Ohio. Filed Mar. 22, 1910. Serial No. 551,009.



1. A mold for forming hollow articles of plastic material, including hollow complementary, separable sections each having inwardly projecting protuberances on its inner face, said protuberances each surrounding a material discharging opening extending to the exterior of the section thus providing a plurality of annular cutting edges, a former having a convex face adapted to be forced into the section to press the material therein and force the surplus material out through said discharge openings, and means for bringing the sections together after the former has been removed, to join the sections of the molded article.

2. A mold for forming hollow articles of plastic material, including hollow, complementary, separable sections, each of the said sections having a plurality of protuberances upon its inside face, the sections being formed with outwardly expanded openings extending through the walls of the sections and through the center of each protuberance, a former composed of yielding material and having a rounded face adapted to fit the interior of the separable sections, means for forcing said former into each separable section and removing it therefrom, and means for bringing the molded sections together to join the sections of the molded article.

3. A mold for forming hollow articles of plastic material, including hollow complementary, separable sections, each of said sections at its opposite extremities being provided with a semi-circular recess, a cylindrical plug longer than the length of the sections supported in position to be surrounded by said sections and received within the opposite recessed ends thereof when the sections are brought together, and means for bringing said sections together to join the two halves of the molded article and force them into engagement with the plug.

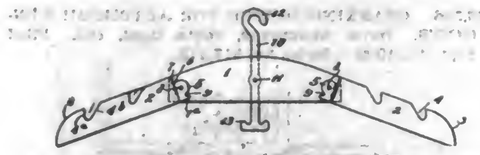
4. A mold for forming hollow articles of plastic material, including two hollow, complementary, separable sections, each of said sections being formed at its opposite extremities with semicircular recesses, means for bringing the sections together to join the two halves of the molded article, a standard, and a tapering plug mounted on said standard and normally supported in position to be inclosed by said sections and received in said recesses of the sections when the sections are brought together to join the two halves of the molded article and force them into engagement with the plug, said plug being pivoted at one end to the standard so that it may be raised into position to permit the article to be removed from the plug.

5. A mold for forming hollow articles of plastic material, including hollow complementary, separable sections, each of said sections having a plurality of hollow protuberances on its inside face, said protuberances thereby forming annular cutting edges, and a former having a rounded face adapted to fit the interior of the sections

and force the plastic material into contact with the inner faces of the sections and against said annular cutting edges.

[Claims 6 to 11 not printed in the Gazette.]

976,531. GARMENT-HANGER. LOUIS P. WILSON, Cleveland, Ohio. Filed Dec. 16, 1908. Serial No. 467,796.



1. A garment hanger comprising a flat metallic central base member, a pair of flat metallic extensions, each of said extensions being provided with a connecting portion which is offset from the body of the member and one of said connecting portions being offset further than the other, means pivotally connecting the extensions to opposite ends of the central base member, on the same side thereof, stop members carried by the central base member and by each extension and arranged to support the extensions alongside the central member when the extensions are folded and to support them, when unfolded, so that the upper edges thereof will form continuations of the upper edge of the central base member, and a combined support and hanger pivoted to the base member on the side opposite the extensions and adapted to be folded alongside the central base member and of a length not exceeding the length of the base member.

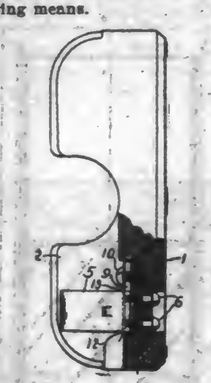
2. A garment hanger comprising a flat metallic central base member, a pair of flat metallic extensions pivoted to opposite ends of the central base member and on the same side thereof and adapted to be folded outwardly to constitute extensions of said base member and to fold inwardly alongside of said member, each of said members being provided with a connecting portion which is offset from the body of the member and one of said connecting portions being offset farther than the other and each of said extensions being provided in its upper surface with notches, means pivotally connecting the extensions to opposite ends of the central base member, on the same side thereof, members carried by the central base member and by each extension and arranged to support the extensions so that the upper edges thereof will form continuations of the central upper edge of the central base member when the extensions are unfolded and will retain said extensions alongside said base member when the extensions are folded, and a combined support and hanger pivoted to the base member on the side opposite the extensions and of a length not exceeding the length of the base member and having at one end means whereby the hanger may be suspended from a suitable support and having its other end provided with a garment supporting projection.

976,532. ELECTRIC CONNECTING DEVICE. HERBERT C. WIRT, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Apr. 28, 1906. Serial No. 314,186.

1. The combination of a metallic contact clip, of a terminal connector provided at one end with wire engaging means and extending at the other end into the space between the arms of the contact clip, and means for detachably securing said connector to said clip.

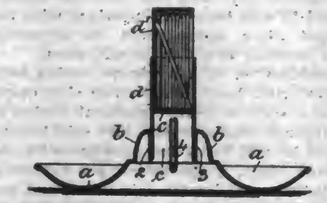
2. The combination with a metallic contact, of a binding device projecting from one side thereof, and a terminal connector provided at one end with wire-engaging means and at the other end with means for engaging the binding device and of a length to extend across said contact so that the wire-engaging portion and the binding means will be disposed upon opposite sides thereof.

3. The combination of a metallic contact having a broad foot portion and a transverse opening, a terminal connector having wire-engaging means at one end and a integral shank extending through said transverse ope ing, and means for detachably connecting said contac and said connector on the side of the contact opposite th said wire-engaging means.



4. The combination of an insulating base, a metalli contact comprising a broad foot portion and two end por tions bent up therefrom, a bar clamped over said foo portion by screws extending through the base and havin a binding screw in one end beyond the side of the contac and a terminal connector having at one end wire-engagin means and a shank extending between the end portion of the contact and engaging said binding screw.

976,533. MATCH-BOX HOLDER. CHARLES E. WIRTH Waterbury, Conn., assignor to The Plume & Atwoo Manufacturing Company, Waterbury, Conn., a Corpora tion of Connecticut. Filed July 9, 1910. Serial No 571,125.



1. A match box holder comprising a tray, a central ri ing conical member spun up from one piece of shee metal, arms formed from the conical member by cuttin out portions of the metal to form parallel channels acros the same equally spaced apart, and the center divide across and said arms turned up into an upright positio with their free ends turned over.

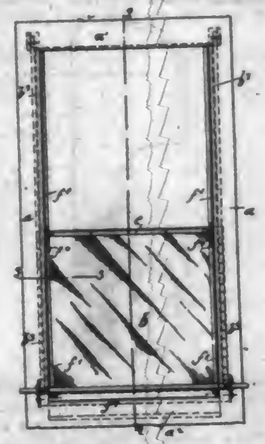
2. A match box holder comprising a tray, a centra rising conical member spun up from one piece of shee metal, arms formed from the conical member by cuttin out portions of the metal to form parallel channels acros the same equally spaced apart, and the center divide across and said arms turned up into an upright positio with their free ends turned over, and vertical groove placed about the center of said arms for stiffening an strengthening the same.

3. A match box holder comprising a concave tray an rising convex central portions, spaced apart arms forme integral with the tray and from the central portion an bent into an upright position, with the free ends ove turned and the edges of the arms separated from th edges of the rising central portion a distance sufficien to receive between them the shell or cover of a matc box in an upright position.

976,534. WINDOW. AUGUST WOLFF, New York, N. Y Filed Sept. 15, 1909. Serial No. 517,767.

1. The combination, with a window casing having sid boxes and longitudinal guide-slits therein, of a sheet o

flexible material having its edges guided in said slits and projecting into said boxes, and means located within said boxes and grasping said edges at a plurality of points for moving said sheet into closed or open position.



2. The combination, with a window casing having side boxes and longitudinal slits opening into said boxes, of a sheet of flexible material having its side edges projecting through said slits into said boxes, endless bands located in the side boxes and provided with means for engaging the sheet moving it into closed or open position, and means for moving the bands.

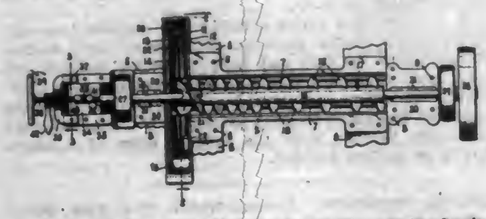
3. The combination, with a window casing having side boxes provided with longitudinal guide slits opening into the boxes, of a sheet of flexible material having its edges projecting through said slits and into said boxes, endless bands located in said boxes and provided with means for engaging said edges, guide-rollers for supporting said bands and a winding up roller for said sheet.

4. The combination, with a window casing having side boxes provided with longitudinal guide slits opening into the boxes, of a sheet of flexible material having its edges projecting through said slits and into said boxes, endless bands located in said boxes and provided with means for engaging said edges, guide-rollers for supporting said bands, a winding-up roller for said sheet, and means for moving said guide-rollers and said winding-up roller in unison.

5. The combination of a window-casing provided with side-boxes having longitudinal guide-slits opening therein, sheets of transparent waterproof material guided in the upper and lower portions of said slits and projecting into said boxes, transverse meeting strips at the adjacent ends of the upper and lower sheets, and means in said boxes for engaging and winding up or unwinding said sheets for opening or closing the windows.

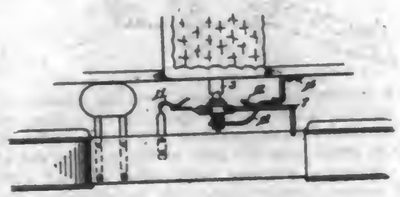
[Claims 6 to 9 not printed in the Gazette.]

976,535. FEED-MILL. JOHN C. WOODCOCK, Litchfield, Ill. Filed Aug. 18, 1909. Serial No. 513,020.



In a grinding mill, in combination with a casing having a fixed grinding disk mounted therein, a shaft extending through said casing and having a coöperating grinding disk mounted thereon, means for rotating said shaft, a casting, a yoke, frangible pins securing said yoke to said casting, a slide box working in said casting and having one end of said shaft rotatably mounted and engaged therein, and a spindle also rotatably mounted and engaged in said slide box and having screw-threaded engagement with said yoke.

976,536. CRANKING DEVICE FOR AUTOMOBILE-ENGINES. DAVID AUGUSTINE, South Bend, Ind. Filed Sept. 13, 1909. Serial No. 517,415.



1. In a cranking device, a vehicle body, a crank shaft, a clutch mechanism on the crank shaft, a bracket having connection with the vehicle body and the crank shaft, a spring stop secured to the body, a second spring stop secured to said bracket, a crank lever having operative engagement with the clutch mechanism, both of said stops being disposed in the path of movement of of the crank lever to effect an automatic release of the clutch mechanism when the crank lever is brought into contact with the said stops, and a spring interposed between the bracket and the clutch mechanism to throw the latter into operation when the crank lever is out of contact with said stops.

2. In a cranking device, a vehicle body, a crank shaft, a clutch mechanism on the crank shaft, a bracket having connection with the vehicle body and the crank shaft, a spring stop secured to the body, a second spring stop secured to said bracket, a crank lever having operative engagement with the clutch mechanism, both of said stops being disposed in the path of movement of the crank lever to effect an automatic release of the clutch mechanism when the crank lever is brought into contact with the said stops, and means constructed and arranged to throw the clutch mechanism into operation when the crank lever is out of contact with said stops.

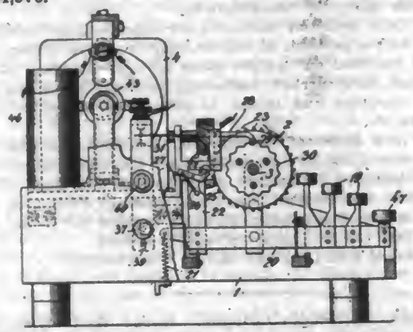
3. In a cranking device, a vehicle body, a crank shaft, a clutch mechanism on the crank shaft, a bracket having connection with the vehicle body and the crank shaft, a stop secured to the body, a second stop secured to said bracket, a crank lever having operative engagement with the clutch mechanism, and both of said stops being disposed in the path of movement of the crank lever to effect an automatic release of the clutch mechanism when the crank lever is brought into contact with the stops, and a spring interposed between the bracket and the clutch mechanism to throw the clutch mechanism into operation when the crank lever is out of contact with said stops.

4. In a cranking device, a vehicle body, a crank shaft reduced at one end and shouldered and notched to provide a clutch face, a sleeve slidably mounted on the reduced end of the crank shaft and provided with a clutch face for coöperation with the aforesaid clutch face, a crank lever having operative engagement with said sleeve, and means coöperating with the crank lever to effect an automatic separation of the clutch faces.

5. In a cranking device, a vehicle body, a crank shaft reduced at one end and shouldered and notched to provide a clutch face, a sleeve slidably mounted on the reduced end of the crank shaft and provided with a clutch face for coöperation with the aforesaid clutch face, a crank lever having operative engagement with said sleeve, stops disposed in the path of movement of the crank lever to effect a separation of the clutch faces when the lever is brought into engagement with said stops, and a spring having engagement with said sleeve to effect an automatic operative connection between the clutch faces when the crank lever is out of engagement with said stops.

[Claims 6 to 9 not printed in the Gazette.]

976,537. TELEGRAPH-TRANSMITTER. JOHN C. BARCLAY, Montclair, N. J. Filed Mar. 22, 1909. Serial No. 484,976.



1. A telegraph transmitter comprising in combination a rotary member, means for arresting same in different angular positions, and contact means operated thereby comprising a vibrator including a resilient member and contacts between which said vibrator moves, said rotary member comprising teeth adapted to cause vibration of said vibrator, a carrier for said contacts, and means for adjusting said carrier in the direction of motion of said vibrator comprising guides for said carrier and an eccentric engaging the carrier.

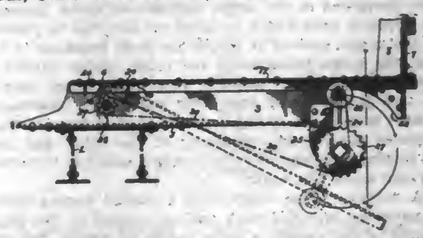
2. A telegraph transmitter comprising in combination a rotary member provided with a plurality of projecting studs occupying different paths of rotation, and distributed angularly, said studs consisting of plugs screwed into said member, the external portions of said plugs being stepped on one side and beveled on the other, means for driving said member, finger keys and means operated thereby arranged to engage said projections to arrest said member, and circuit controlling means operated by said member.

3. A telegraph transmitter comprising in combination a rotary member, means for driving the same, circuit controlling means operated by said member, finger keys and means operated thereby, comprising means for holding down a finger key which has been depressed, comprising a spring-actuated trip for each such key, and stationary means with which such trips contact when their corresponding keys are depressed, said trips arranged by such contact to hold their keys depressed, said rotary member provided with means adapted to engage and release said trips and the finger keys controlled thereby.

4. A telegraph transmitter comprising in combination a rotary member provided with a plurality of projections occupying different paths of rotation and distributed angularly, means for driving said member, circuit controlling means operated by said member, finger keys and means operated thereby arranged to engage said projections to arrest said member, trips operated by said finger keys, and stationary means with which such trips may engage when their corresponding keys are depressed, to hold such keys depressed, said trips when so holding their keys being in the paths of projections of said rotary member, and being arranged to be released by the action of such projections.

5. A telegraph transmitter comprising in combination a rotary member provided with a plurality of projections occupying different paths of rotation and distributed angularly, means for driving said member, circuit controlling means operated by said member, finger keys, bell-crank key levers operated thereby, the ends of said bell cranks arranged to engage said projections to arrest said rotary member, spring-actuated trips pivoted to said bell-crank levers, a stationary member upon which said trips normally rest, each trip being arranged to move into engagement with said stationary member when its corresponding key lever is depressed, and when so moved to be in position to be actuated to release its corresponding key lever by a projection of said rotary member.

976,538. DROP-BOTTOM CAR. ANTON BECKER, Columbus, Ohio. Filed Jan. 25, 1909. Serial No. 474,063.



1. In a drop bottom car, the combination with a center sill, transverse members and cover plates for the latter, of drop doors having hinge connection over the center sill with the cover plates on the transverse members, and operating mechanism for said doors.

2. In a drop bottom car, the combination with a center sill and transverse members, of cover plates provided with depending flanges, secured to said transverse members, drop doors having hinge connection with the depending flanges of said cover plates at points over the center sill, and operating mechanism for said drop doors.

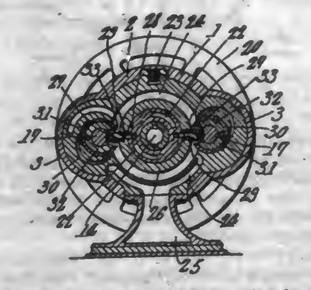
3. In a drop bottom car, the combination with a center sill and transverse members having recesses near their outer ends, of drop doors hinged at their inner edges, a straight operating shaft movable through the recesses of the transverse members, arms projecting from said straight shaft, means for supporting said arms, and means for turning said arms to move the straight shaft to open or close the drop doors.

4. In a drop bottom car, the combination with a center sill, transverse members having recesses near their outer ends, and drop doors hinged at their inner edges, of hangers secured to the transverse members, arms having mountings in said hangers, and a shaft carried by said arms and movable through the recesses in the transverse members to effect the opening and closing of the drop doors.

5. In a drop bottom car, the combination with a center sill and drop doors, of transverse members having recesses near their outer ends, one wall of each recess constituting a stop for a door operating shaft, hangers secured to the transverse members, arms mounted in said hangers, and a door operating shaft carried by said arms.

[Claims 6 to 11 not printed in the Gazette.]

976,539. ROTARY ENGINE. CHARLES ANDREW BENDER, Harrisburg, Pa. Filed Sept. 21, 1910. Serial No. 583,080.



1. A rotary engine comprising a casing having an inlet steam passage and an outlet steam passage, a rotor jour-

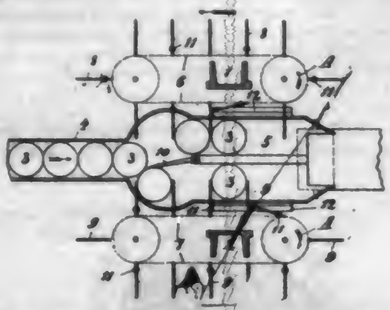
nailed within the casing and having at its opposite end portions steam passages adapted to register at times with the inlet steam passages in the casing, the steam passages of the rotor having their outlets located at diametrically opposite sides of the rotor, and roller abutments located within the casing and having recesses adapted to bear against the periphery of the rotor.

2. A rotary engine comprising a casing having a steam inlet passage with outlets at the opposite ends of the casing, said casing being also provided with steam outlets, a rotor journaled in the casing and having steam passages at its opposite ends which at times are adapted to register with the steam outlets of the steam inlet passages in the casing, the steam passages in the rotor having outlets at diametrically opposite sides of the rotor, wings carried upon the periphery of the rotor and roller abutments journaled within the casing, and adapted to bear at their peripheries against the periphery of the rotor, and provided in their peripheries with recesses adapted to receive the wings upon the rotor.

3. A rotary engine comprising a casing having steam inlet passages provided with outlets located at the opposite ends of the casing, a rotor journaled within the casing and having at its opposite ends steam passages, the inner ends of which at times are adapted to register with the outlet ends of the steam inlet passages in the casing, said rotor being provided upon its periphery with wings, the wings being located at opposite sides of the rotor, the steam passages in the ends of the rotor passing through said wings and having outlets at the sides of the wings, roller abutments journaled in the casing and adapted to bear at their peripheries against the periphery of the rotor, and having in their peripheries recesses adapted to receive the said wings during the rotation of the rotor.

4. A rotary engine comprising a casing having a steam inlet provided with outlets at the opposite ends of the casing, a rotor journaled in the casing and having steam passages at its opposite ends, the inlet ends of which at times are adapted to register with the steam outlet ends of the steam inlet passage, the steam outlets of the steam inlet passages describing arcs, wings mounted upon diametrically opposite sides of the rotor and through which the steam passages at the opposite ends of the rotor pass and discharge at the sides of the said wings, roller abutments journaled in the casing and having in their peripheries recesses adapted to receive the said wings as the rotor rotates.

976,540. DEVICE FOR FEEDING BOTTLES TO CORKING-MACHINES. HUGO HEINRICH WILHELM BERGNER, Altona, Germany. Filed July 25, 1910. Serial No. 573,670.



1. In a device of the character described, the combination with a support, of a continuously traveling carrier adapted to move articles along the support, and means to momentarily free an article from the carrier without removing it from the support and without interrupting the movement of the carrier.

2. In a device of the character described, the combination with a support, of continuously traveling carriers mounted on opposite sides of the support adapted to move a plurality of articles along the support, and means to momentarily free one of the articles from its carrier without removing it from said support and without interrupting the movement of the latter.

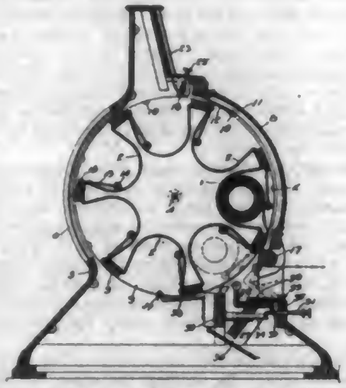
3. In a device of the character described, the combination with a support, of a continuously traveling carrier adapted to move articles along the support, and means to momentarily free an article from the carrier without removing it from the support and without interrupting the movement of the carrier, said carrier adapted to subsequently move the freed article.

4. In a device of the character described, the combination with a support, of continuously traveling endless carriers mounted on upright axles on opposite sides of the support, said carriers comprising laterally projecting pivoted members and means to swing the latter on their pivots.

5. In a device of the character described, the combination with a support, of continuously traveling endless carriers mounted on upright axles on opposite sides of the support, said carriers comprising laterally projecting pivoted members and means to guide articles fed to the support into the path of the pivoted members.

[Claims 6 to 11 not printed in the Gazette.]

976,541. RIBBON-CABINET. HARRY E. BLEVINS and LAFAYETTE BRAZILLE, Cove, Oreg. Filed Sept. 25, 1909. Serial No. 519,551.



1. In a ribbon cabinet, a casing, a member mounted to rotate therein and provided with a plurality of pockets arranged in transverse rows about the surface thereof, said pockets providing receptacles for bolts of material, a main roller extending across the casing in front of the rotatable member, separate means corresponding to each row of pockets to independently engage the ends of material in the respective rows and hold the same in frictional contact with the main roller, means operated by the main roller for indicating the length and price of the material passed thereover.

2. In a device of the character described, a casing, a member mounted to rotate therein and provided with a plurality of bolt material receiving pockets, a main roller extending across the casing, a pivoted supplemental roller, means operating the pivoted roller to engage an end of material between the two rollers, a lock for said means adapted to operate upon the movement of the pivoted roller and a measuring and price indicating device operated by the rotation of the main roller and a lock for the rotatable member actuated by the movement of the pivoted roller.

3. In a device of the character described, a casing, a member mounted to rotate therein and provided with a plurality of bolt material receiving pockets, a main roller extending across the casing, a pivoted supplemental roller, means operating the pivoted roller to engage an end of material between the two rollers, a lock for said means adapted to operate upon engagement of the two rollers, a lock for the rotating member adapted to be operated by

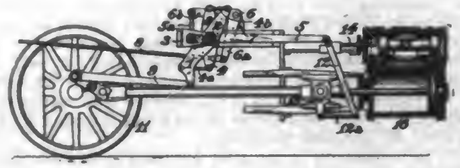
the tilting of the pivoted roller, and a measuring and price indicating device operated by the rotation of the main roller.

4. In a device of the character described, a casing, a drum provided with a plurality of bolt material receiving pockets therein arranged in rows about the surface thereof, means to rotate said drum, a main roller extending across the casing, a plurality of supplemental pivoted rollers corresponding to each row of pockets, means to independently operate each separate pivoted roller to resiliently engage an end of the material with the main roller, a drum lock adapted to secure the drum upon the operation of any one of the separate pivoted rollers, and a measuring and price indicating device operated by the rotation of the main roller.

5. In a device of the character described, a casing, a drum provided with a plurality of bolt material receiving pockets therein arranged in rows about the surface thereof, means to rotate said drum, a main roller extending across the casing, a plurality of supplemental pivoted rollers corresponding to each row of pockets, means to independently operate each separate pivoted roller to resiliently engage an end of the material with the main roller, a drum lock adapted to secure the drum upon the operation of any one of the separate pivoted rollers, an apron pivoted below the main roller adapted to thrust the end of the material forward upon the operation of a supplemental roller, and a measuring and price indicating device operated by the rotation of the main roller.

[Claims 6 and 7 not printed in the Gazette.]

976,542. VALVE-GEAR. JAMES G. BLUNT, Schenectady, N. Y. Filed Mar. 2, 1910. Serial No. 546,761.



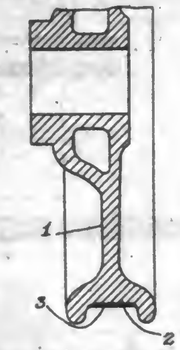
1. The combination, in a steam engine valve gear of the radial type, of an eccentric crank, a radius bar, a valve stem coupled to the radius bar, a double armed link, journaled centrally on the radius bar and positively connected to the eccentric crank at its ends, and means for imparting movement to the radius bar relatively to the eccentric crank.

2. The combination, in a steam engine valve gear of the radial type, of an eccentric crank, a radius bar, a valve stem coupled to the radius bar, a double armed link, journaled centrally on the radius bar and positively connected to the eccentric crank at its ends, and an oscillatory reverse shaft adapted to impart movement to said radius bar relatively to the eccentric crank.

3. The combination, in a steam engine valve gear of the radial type, of an eccentric crank, a radius bar, a valve stem coupled to the radius bar, a double armed lever journaled in fixed bearings and coupled at one end to the eccentric crank, a double armed link coupled, at its opposite ends to opposite arms of the lever, and coupled intermediately to the radius bar, and an oscillatory reverse shaft carrying an arm coupled to the radius bar.

4. The combination, in a steam engine valve gear of the radial type, of an eccentric crank, a radius bar, a valve stem coupled to the radius bar, a double armed lever journaled in fixed bearings and coupled at one end to the eccentric crank, a double armed link journaled on the radius bar, coupling rods of unequal length connecting the arms of the link to the arms of the lever, and means for imparting movement to the radius bar relatively to the eccentric crank.

976,543. RAILROAD TRACTION MEMBER. EBEN MOODY BOYNTON, West Newbury, Mass. Filed Feb. 23, 1910. Serial No. 545,812.



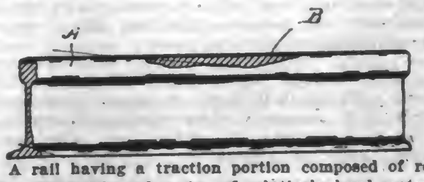
1. A wheel composed of soft, tough metal, and hard friction material embedded in the traction face thereof.

2. A wheel comprising a rim of soft, tough metal, and formed with a traction face composed of said metal and hard friction material embedded therein.

3. A wheel, the traction face of which is composed of soft, non-fracturable metal and hard friction material embedded therein.

4. A traction member, the working face of which is composed of soft, non-fracturable metal and hard friction material embedded therein.

976,544. TRACTION-RAIL. EBEN MOODY BOYNTON, West Newbury, Mass. Filed May 31, 1910. Serial No. 564,210.



1. A rail having a traction portion composed of relatively soft metal, and grains of relatively hard material embedded in said traction portion.

2. A rail composed of relatively soft metal, and grains of relatively hard material embedded in the traction portion of the rail.

3. A rail having a traction portion composed of grains of relatively hard material and a base of relatively soft metal, the traction surface of the rail consisting mostly of said hard material.

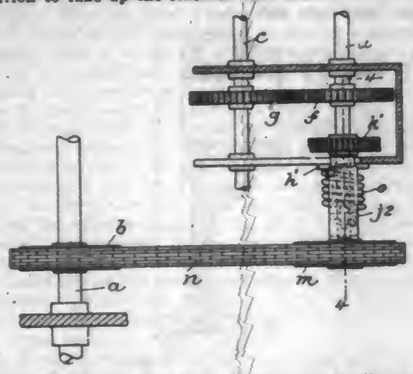
4. A rail having a relatively hard traction surface, and a non-fracturable base, said traction surface being afforded by relatively hard material in granular form embedded in said base.

976,545. SLUBBER OR FLY-FRAME. MALCOLM CAMPBELL, Woonsocket, R. I., assignor to Woonsocket Machine and Press Company, Woonsocket, R. I., a Corporation of Rhode Island. Filed Oct. 16, 1908. Serial No. 458,087.

1. In a spinning machine, a driver, a vertically movable bobbin shaft, a radius arm pivoted on the axis of said bobbin shaft, an intermediate shaft mounted in the free end of said radius arm, intermeshing gearing for transmitting power from said intermediate shaft to said bobbin shaft, and means for transmitting power from said driver to said intermediate shaft.

2. In a spinning machine, a driver, a vertically movable bobbin shaft, a radius arm pivoted on the axis of said bobbin shaft, an intermediate shaft mounted in the free end of said radius arm, intermeshing gearing for transmitting power from said intermediate shaft to said bobbin shaft, a sprocket wheel on the driver, a sprocket wheel on said intermediate shaft, a chain connecting said sprocket

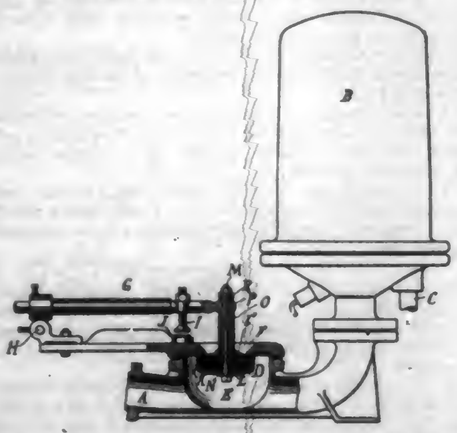
wheels, and means for maintaining said radius arm in a position to take up the slack of said chain.



3. In a spinning machine, a driver, a vertically movable bobbin shaft, a radius arm pivoted on the axis of said bobbin shaft, an intermediate shaft mounted in the free end of said radius arm, intermeshing gearing for transmitting power from said intermediate shaft to said bobbin shaft, a sprocket wheel on the driver, a sprocket wheel on said intermediate shaft, a chain connecting said sprocket wheels, and a spring exerting a tension on said radius arm to take up the slack in said chain.

4. In a spinning machine, a driving sprocket wheel, a driven sprocket wheel, a chain connecting them, front and rear vertically movable bobbin shafts, gearing connecting said bobbin shafts, a radius arm pivoted to move about the axis of the front bobbin shaft, an intermediate shaft mounted in the free end of said radius arm and carrying the driven sprocket wheel, power transmitting mechanism connecting said intermediate shaft with the front bobbin shaft, and means engaging said arms for preventing said chain from becoming slack.

976,546. HYDRAULIC RAM. BRADISH J. CARROLL, New York, N. Y., assignor to Power Specialty Company, New York, N. Y., a Corporation of New York. Filed Dec. 30, 1909. Serial No. 535,630.



1. In a hydrulic ram, the combination with a drive pipe, and a valve seat, of a working valve coöperating with said seat, a movable support for the valve, and means for attaching the valve to its support, comprising a plurality of universally adjustable members and means for binding said parts, valve, and support rigidly together in adjusted position.

2. In a hydraulic ram, the combination of a movable support, a working valve, a universally adjustable member between the valve and the support, and a binding bolt for securing the parts rigidly together in adjusted position.

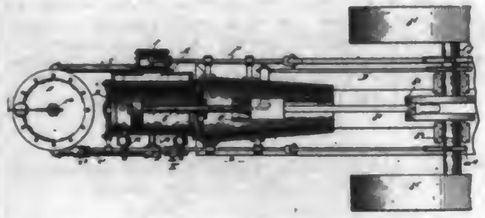
3. In a hydraulic ram, in combination, a movable support having a convex face, a working valve having a stem provided with a concave face fitting said convex face, a binding bolt serving to bind said parts rigidly together in adjusted position, and a seat for the valve.

4. In a hydraulic ram, in combination, a movable support having opposite convex faces, a working valve having a stem provided with a concave face fitting one of the convex faces on the support, a concave washer fitting the other convex face on the support, and a binding bolt extending through the stem, support, and washer.

5. In a hydraulic ram, in combination, a movable support, a working valve provided with a concave seat, a binding bolt extending through the valve and the support, and a convex washer between the head of the bolt and the valve and fitting the said concave seat.

[Claims 6 and 7 not printed in the Gazette.]

976,547. POWER-GENERATOR. LEANDER J. CAVANAUGH and EDWARD T. YOUNG, Boston, Mass. Filed Aug. 26, 1901. Serial No. 73,236.



1. In a power generator, a cylinder, a piston, and means for supplying said cylinder with an expansible gas and exhausting it therefrom, two burners, one located at each end of said cylinder, each burner being provided with a spring controlled valve normally substantially closed, in combination with a reciprocating rod and means whereby it is reciprocated, said rod being provided with means for engaging each of said valves in turn and throwing it, as and for the purposes described.

2. In a generator of the kind described, means for compressing and storing fuel comprising a pump and compression chamber, and a relief mechanism for said pump, whereby the pressure in said compression chamber may be controlled, in combination with one or more burners connected with said compression chamber to be fed therefrom, and a cylinder provided with openings located to receive the products of combustion from said burners, said cylinder containing a piston movable therein, means for supplying said cylinder with pressure on both sides of the piston whereby said piston when at rest will be subjected to equal pressure on each side thereof, said piston being adapted to be moved by the expansion of gas caused by heat ejected from said burners in turn, as and for the purposes described.

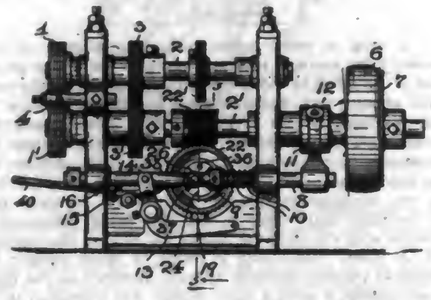
3. In a power generator, one or more burners, means for supplying fuel thereto comprising a compression chamber, means for supplying said compression chamber with fuel under compression and a governor operated by said power generator to control the supply of fuel to said burners from said compression chamber, as set forth.

4. In a generator of the kind described, a cylinder, a piston, means for supplying heat to said cylinder, a valve chest adapted to furnish a supply and exhaust passage to each end of said cylinder alternately, an exhaust pipe running from said valve chest, a reservoir connected thereto, a supply pipe connecting said reservoir with said valve chest and a separating chamber located in the line of said exhaust pipe and between said valve chest and said reservoir, as described.

5. In a power generator of the kind described, a reservoir adapted to receive, hold and deliver gas under pressure, a cylinder and piston, connections between each end of said cylinder and said reservoir whereby both sides of the piston are at all times under pressure greater than atmospheric pressure, means for injecting a flame into said cylinder, a valve chest having a supply inlet and exhaust outlet, separate connections connecting said supply and exhaust with said reservoir, in combination with means for condensing the contents of said exhaust connection, whereby the exhaust comprising the original gas delivered under pressure and the products of combustion are cooled to the initial temperature of said compressed gas, as described.

[Claim 6 not printed in the Gazette.]

976,548. WIRE TWISTING AND WEAVING MACHINE. JAMES CEVASCO and NICHOLAS J. CAVAGNARO, Brooklyn, and CONRAD AMBRETTE, New York, N. Y. Filed Feb. 15, 1910. Serial No. 543,961.



1. In a wire twisting and weaving machine, the combination with the feed rollers, of a driving clutch mechanism, a slidable shaft for operating the same, a latch mechanism engaging with said slidable shaft, and means for automatically tripping said latch mechanism to release its holding engagement upon said slidable shaft to throw out said driving clutch mechanism, substantially as and for the purposes set forth.

2. In a wire twisting and weaving machine, the combination with the feed rollers, of a driving clutch-mechanism, a slidable shaft for operating said driving clutch-mechanism, a bell-crank lever for moving forward said slidable shaft to throw in said driving clutch mechanism, a latch-mechanism adapted to engage said slidable shaft to hold the same in its forwardly moved position, and means for automatically tripping said latch mechanism to release its holding engagement upon said slidable shaft to throw out said driving clutch mechanism, substantially as and for the purposes set forth.

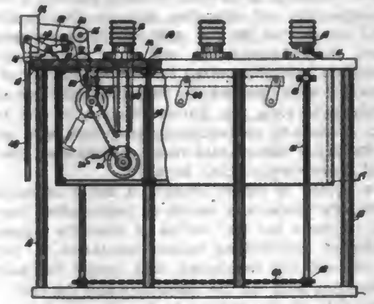
3. In a wire twisting and weaving machine, the combination with the feed rollers, of a driving clutch mechanism, a slidable shaft for operating said driving clutch mechanism, a bell-crank lever for moving forward said slidable shaft to throw in said driving clutch mechanism, a latch-mechanism adapted to engage said slidable shaft to hold the same in its forwardly moved position, means for automatically tripping said latch-mechanism to release its holding engagement upon said slidable shaft to throw out of said driving clutch mechanism, and a coil-spring arranged with said slidable shaft to return the same to its normal initial position, substantially as and for the purposes set forth.

4. In a wire twisting and weaving machine, the combination with the feed rollers, of a driving clutch mechanism, a slidable shaft for operating said driving clutch mechanism, an automatic stop mechanism geared with said feed rollers, a latch-mechanism engaging with said slidable shaft, the same being adapted to be released from its holding engagement with said slidable shaft by said stop mechanism to throw out said driving clutch mechanism, substantially as and for the purposes set forth.

5. In a wire twisting and weaving machine, the combination with the feed rollers, of a driving clutch mechanism, a slidable shaft for operating said driving clutch mechanism, a bell-crank lever for moving forward said slidable shaft to throw in said driving clutch mechanism, an automatic stop mechanism geared with said feed rollers, a latch mechanism engaging with said slidable shaft to hold the same in its forwardly moved position, the same being adapted to be released from its holding engagement with said slidable shaft by said stop-mechanism to throw out said driving clutch-mechanism, substantially as and for the purposes set forth.

[Claims 6 to 20 not printed in the Gazette.]

976,549. SWITCH. HERBERT W. CHENEY, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Oct. 22, 1906. Serial No. 339,906.



1. In a multipole switch or circuit breaker, a horizontal frame, brackets extending downwardly therefrom, a plurality of fixed and a plurality of rotary contact supporting members extending between the brackets, there being one fixed and one rotary contact supporting member for each pole of the switch, the fixed contact supporting members extending between the lower portions of the brackets and being provided with contact members having lateral projecting contact fingers, and the rotary contact supporting members being located above and at the side of the corresponding fixed contact supporting members and being provided with contact members having downwardly projecting portions which are substantially vertical when the switch is closed and are adapted to coöperate with said contact fingers, and means for operating said rotary contact supporting members simultaneously.

2. In a multipole switch or circuit breaker, a horizontal frame, a plurality of brackets secured to said frame and extending downwardly therefrom, a plurality of stationary contact-supporting members extending between the lower portions of said brackets, and each having arranged thereon a plurality of contacts insulated from one another, a plurality of rotary contact-supporting members extending between the brackets above the stationary contact-supporting members, each of said rotary contact-supporting members having arranged thereon a plurality of contacts, said contacts being insulated from one another and having downwardly extending portions adapted to coöperate with the contacts of the stationary contact-supporting members, means for operating said rotary contact-supporting members simultaneously, and an oil tank at the lower side of the frame and inclosing said contacts and said contact-supporting members.

3. In a multipole switch or circuit breaker, a horizontal frame, a plurality of brackets secured to the frame and extending downwardly therefrom, a plurality of stationary contact-supporting members extending between the lower portions of the brackets, a plurality of rotary contact-supporting members extending between the brackets and each being located above and at one side of one of the stationary contact-supporting members, each of the stationary contact-supporting members having a plurality of contacts provided with laterally projecting contact fingers and each of the rotary contact-supporting members

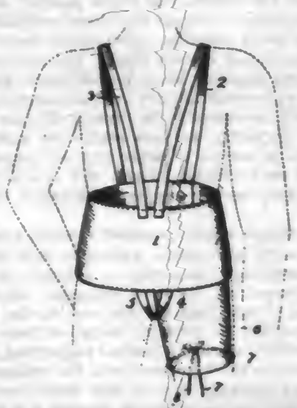
having a plurality of contacts provided with downwardly extending portions adapted to coöperate with said contact fingers, there being one stationary contact supporting member and one rotary contact supporting member for each pole of the switch, barriers separating the poles of the switch, means for operating said rotary contact-supporting members simultaneously, and an oil tank at the lower side of said frame and inclosing all the contacts and contact-supporting members.

4. In a multipole switch or circuit breaker, a horizontal frame, a plurality of pairs of brackets secured to the lower side thereof and projecting downwardly therefrom, there being one pair of brackets for each pole, a fixed contact-supporting rod extending between the lower ends of the brackets of each pair and having mounted thereon a plurality of contacts insulated from one another and provided with laterally projecting contact fingers, a rotary contact-supporting rod extending between the brackets of each pair above and at one side of the corresponding stationary contact-supporting rod, the rotary contact-supporting rod having mounted thereon a plurality of contacts provided with downwardly extending portions adapted to coöperate with the contact fingers of the corresponding stationary contact-supporting rod, and an oil tank at the lower side of said frame inclosing all the contacts and contact-supporting members.

5. In a switch or circuit-breaker, a series of independent stationary contacts, a series of independent movable contacts, supports for each series of contacts comprising a plurality of interlocking hollow insulators, a rod extending through the insulators, and means for securing rigid connection between the insulators and the rod.

[Claims 6 to 10 not printed in the Gazette.]

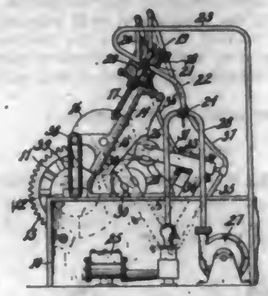
976,550. SURGICAL BINDER. REBECCA VIRGINIA CODDINGTON, Gallup, N. Mex. Filed Mar. 30, 1908. Serial No. 424,145.



In a binder for surgical dressings, the combination with a wide band adapted to encircle the body at any point, of two upper and two lower straps secured at one end to said band near the center, a flap secured at one end to said band at one side of the center, and adapted to extend over the dressing, and straps secured to said flap at its outer edge and adapted to pass around some portion of the wearer to hold the flap in place.

976,551. HYDRAULIC PULP OR PAPER PRESS. JOHN LOUIS CORNEN, Little Chute, Wis. Filed Mar. 10, 1910. Serial No. 548,330.

1. A pulp or paper press, comprising a pair of main presser rolls, movable bearings in which one of the presser rolls is mounted to move toward or away from the other main presser roll, frames carried by said movable bearings, a supplemental presser roll mounted on the frames and movable with relation to the movable main presser roll, and fluid pressure means carried by said frames for forcing the supplemental presser roll toward or away from the movable main presser roll.



2. A pulp or paper press, comprising a pair of main presser rolls, movable bearings in which one of the presser rolls is mounted to move toward or away from the other main presser roll, fluid pressure means for moving the said bearings, frames carried by said movable bearings, a supplemental presser roll mounted on the frames and movable with relation to the movable main presser roll, and fluid pressure means carried by said frames for forcing the supplemental presser roll toward or away from the movable main presser roll and being connected in common with the pressure means for moving the bearings.

3. A press, comprising a frame, a main presser roll journaled therein, bearings slidably mounted on the frame at an incline, a second main presser roll journaled in the bearings and coöperating with the other main presser roll, pressure cylinders mounted on the frame, pistons working in said cylinders and connected with the slidable bearings, pipes connecting the respective ends of the pressure cylinders so that they operate together, means for supplying pressure to either end of the pressure cylinders, frames carried by the slidable bearings, supplemental presser rolls carried by said frames and movable with relation to the movable main presser roll, pressure cylinders carried by said frames, pistons working in said pressure cylinders and connected with the supplemental presser rolls for forcing them toward or away from the movable main presser roll, pipes connecting the respective ends of the said pressure cylinders, and flexible hose connections from said pipes to the pipes connecting the respective ends of the pressure cylinders for the main presser roll, whereby the pressure cylinders for the supplemental presser rolls operate together with the pressure cylinders for the main presser roll.

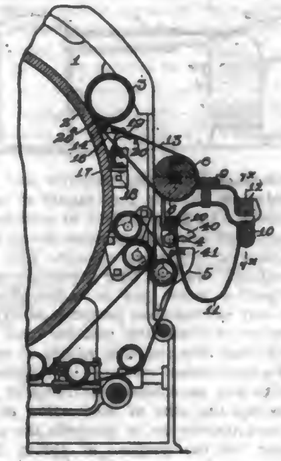
976,552. HEEL FOR BOOTS AND SHOES. HENRY W. COOK, Syracuse, N. Y. Filed July 12, 1910. Serial No. 571,560.



A heel comprising a layer having a central recess, and cork or similar material inserted therein, and an outer layer having a central recess and a second recess in the upper inner edge of the outer layer, and a rubber insert extending slightly below the lower face of said layer, said rubber having a flange resting within the second recess of said outer layer.

976,553. FEEDING MECHANISM FOR MANGLES. DANIEL M. COOPER, Rochester, N. Y., assignor, by mesne assignments, to American Laundry Machinery Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Jan. 25, 1909. Serial No. 474,041.

1. A feeding mechanism for mangles comprising a feed board or table, fingers projecting from the delivery edge of the feed board, a rod passing through the fingers and feeding belts passing over the feed board, around the rod and between the fingers.



2. A feeding mechanism for mangles comprising a feed board or table formed from sheet material and having its receiving edge turned downwardly to prevent the material to be ironed being caught, fingers arranged at the delivery edge of the feed board and feeding belts passing over the feed board and between the fingers.

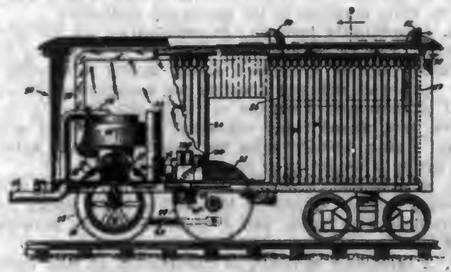
3. A feeding mechanism for mangles comprising a feed board or table, fingers having depressions on their upper surfaces receiving the delivery edge of the feed board so as to lie flush with the upper surface of the latter, and feeding belts passing over the feed board and between the fingers.

4. A feeding mechanism for mangles comprising a feed board or table having fingers at its delivery edge, a plurality of belts passing over the feed board and between the fingers, and a self adjusting driving roller for the belts.

5. A feeding mechanism for mangles comprising a feed board or table, fingers at the upper edge of the board or table, a plurality of belts passing over the feed board and between the fingers, a swinging frame, and a roller on the frame having the belts passing about the same.

[Claims 6 and 7 not printed in the Gazette.]

976,554. COMPOUNDING AND CONDENSING APPARATUS FOR LOCOMOTIVE-ENGINES. LUCIUS D. COPELAND, Alhambra, Cal. Filed Oct. 25, 1909. Serial No. 524,824.



1. A compounding and condensing apparatus comprising a locomotive tender provided with driving wheels; a low pressure steam engine mounted on said tender and adapted to be connected with the exhaust of the locomotive engine and to drive the driving wheels of the tender.

2. A compounding and condensing apparatus comprising a motor vehicle having driving wheels; a low pressure steam turbine on said motor vehicle adapted to be connected with the exhaust of the locomotive engine; a connection from the turbine to the driving wheels of the motor vehicle; and a condenser connected with the exhaust of the turbine.

3. A compounding and condensing apparatus comprising a locomotive tender provided with driving wheels; low pressure steam engine mounted on said tender and adapted to be connected with the exhaust of the locomotive engine and to drive the driving wheels of the tender; in combination with condensing means connected with the exhaust of the low pressure engine; and means to return the condensed water to the boiler of the locomotive.

976,555. HOSIERY. LORETTO A. COSTELLO, Philadelphia, Pa., assignor, by mesne assignments, to Scott & Williams, Incorporated, Camden, N. J., a Corporation of New Jersey. Filed June 1, 1910. Serial No. 564,509.



1. A plain web stocking having a single web portion of uniform gage containing one or more bands of displaced-loop stitches, each band being of such width that it will not distort the plain web in which it occurs but will prevent raveling of said web in the direction in which the same has been produced.

2. A plain web stocking having a welt of uniform gage containing one or more bands of displaced-loop stitches, each band being of such width that it will not distort the plain web in which it occurs, but will prevent raveling of the web in the direction in which the same has been produced.

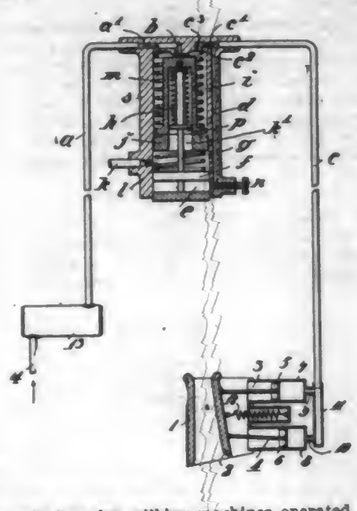
3. A plain web stocking having an upper single web leg portion with turned welt at the top of the same, both of uniform gage and both containing one or more bands of displaced-loop stitches, each band being of such width that it will not distort the plain web in which it occurs but will prevent raveling of the web in the direction in which the same has been produced.

4. A plain web stocking having an upper single web leg portion provided at the top with a turned welt whose turned portion is integrally united with the leg web, both of said portions of the stocking being of uniform gage, and containing one or more bands of displaced-loop stitches, each band being of such width that it will not distort the plain web in which it occurs but will prevent raveling of the web in the direction in which the same has been produced.

5. A plain web stocking having a foot or ankle portion of uniform gage, provided adjacent to the heel or toe with one or more bands of displaced-loop stitches, each band being of such width that it will not distort the plain web in which it occurs but will prevent raveling of the web in the direction in which the same has been produced.

[Claim 6 not printed in the Gazette.]

976,556. DEVICE FOR ESTABLISHING A PULSING MOTION OF FLUID IN CONDUITS. GUSTAF DALÉN, Stockholm, Sweden. Filed Apr. 6, 1907. Serial No. 366,844.



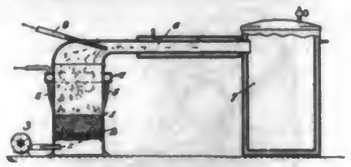
1. In pulsators for milking machines operated by pressure, the combination with a casing, of a block movable therein between two seats, two conduits opening into the casing chamber above the block, one of said conduits opening through one of said seats, a piston connected with the block and movable in a part of the casing beneath the block, a branch from one of the conduits, opening into the casing chamber beneath the piston, a transverse partition wall between the block and the piston, provided with the second seat for the block, and an outlet conduit opening in the casing chamber between the partition wall and the piston.

2. In pulsators for milking machines operated by pressure, the combination with a casing, of a block movable therein between two seats, means for holding the block alternately toward said seats, two conduits opening into the casing chamber above the block, one of said conduits opening through one of said seats, a piston connected with the block and movable in a part of the casing beneath the block, a branch from one of the conduits, opening in the casing chamber beneath the piston, a transverse partition wall between the casing chamber in which the block is movable and the casing chamber in which the piston is movable, provided with the second seat for the block, and an outlet conduit opening in the casing chamber between the partition wall and the piston.

3. In pulsators for milking machines operated by pressure, the combination with a casing divided in two compartments in communication with one another through the partition between the compartments, of a block movable in one of the compartments between two seats therein, two conduits opening into the casing chamber above the block, one of said conduits opening through one of said seats, a piston connected with the block movable in the other compartment of the casing, a branch from the other conduit opening beneath the piston, and an outlet conduit opening in the piston compartment above the piston.

4. In pulsators for milking machines operated by pressure, the combination with a casing divided in two compartments in communication with one another through the partition between the compartments, of a block movable in one of the compartments between two seats therein, two conduits opening into the casing chamber above the block, one of said conduits opening through one of said seats, a piston connected by a spring with the block and movable in the other compartment of the casing, a branch from the other conduit opening beneath the piston, and an outlet conduit opening in the piston compartment above the piston.

976,557. PROCESS OF PRODUCING METALLIC ZINC. OLIVER B. DAWSON, El Paso, Tex. Filed Mar. 16, 1909. Serial No. 483,776.

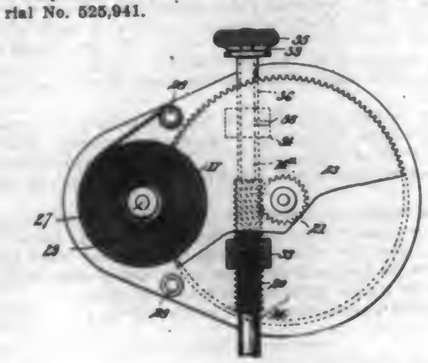


1. The process of producing metallic zinc which consists in introducing into the zinc vapors at or above the zone of combustion carbon monoxid in sufficient quantity to combine with any unconsumed particles of oxygen.

2. The process of producing metallic zinc which consists in introducing into the zinc vapors at or above the zone of combustion water gas in sufficient quantity to combine with any unconsumed particles of oxygen.

3. The process of producing metallic zinc which consists in introducing into the zinc vapors at or above the zone of combustion carbon monoxid in sufficient quantity to combine with any unconsumed particles of oxygen and at a point beyond the zone of combustion introducing a gas of such constituency as to preclude the oxidation of the zinc vapor for the purpose of aiding the ejection thereof.

976,558. AIR-CONTROLLING MECHANISM FOR CARBURETERS. JAMES M. DAYTON, Torrington, Conn., assignor to Excelsior Needle Company, Torrington, Conn., a Corporation of Connecticut. Filed Nov. 2, 1909. Serial No. 525,941.



1. A carbureter including in combination, an air inlet, a valve for closing the same, a spring for holding said valve normally closed, and a train of gears intermediate said spring and said valve, whereby extent of movements of the valve imparted to the spring are multiplied.

2. A carbureter including in combination an air inlet opening, a valve for closing the same, a spiral spring for normally holding the valve closed, means intermediate the valve and said spiral spring for multiplying the extent of movement imparted to the spiral spring by the valve, said means being connected to one end of said spiral spring, whereby upon the movement of the valve, the spring is wound up or allowed to unwind.

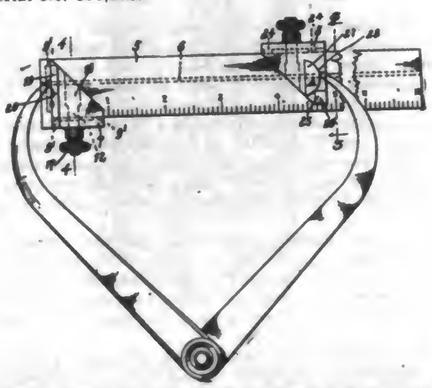
3. A carbureter including in combination an air inlet opening, a valve for closing the same, a spiral spring for controlling said valve, and a train of gearing between said spiral spring and said valve.

4. A carbureter including in combination, an inlet opening, a valve for closing the same, a valve stem connected to said valve, a spiral spring, a gear wheel connected to one end of said spiral spring, a rack movable by said stem, and intermediate gearing between said rack and said first named gear.

5. A carbureter including in combination, an air inlet opening, a valve for closing the same, a spiral spring controlling said valve, an intermediate train of mechanism between said valve and said spiral spring, whereby the extent of movement of the valve imparted to the spring is multiplied, and means operating through said intermediate train of mechanism, for adjusting the tension of said spiral spring.

[Claims 6 to 13 not printed in the Gazette.]

976,559. CALIPER-GAGE. JOSEPH DITTRICH and FRANK DEVECIS, New York, N. Y. Filed Dec. 28, 1909. Serial No. 535,326.



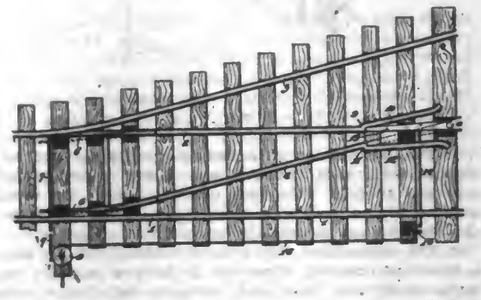
1. The combination with a bar having graduations on one or both of its sides, of a fixed jaw at one of the ends of said bar, projections upon the front and rear faces of said jaw arranged in such a manner that th outer edge of the projection upon the front face coincides with the inner edge of the projection upon the rear face and both edges register with the zero mark of the scale upon said bar, a slidable jaw provided with a graduation mark, and projections upon the front and rear faces of said slidable jaw, said projections being arranged in such a manner that the outermost point of the edge of the projection upon the front face coincides with the inner edge of the projection upon the rear face and both edges register with said graduation mark upon said slidable jaw.

2. The combination with a bar having graduations on one or both of its sides and a groove in one of the sides, of a fixed jaw at one of the ends of said bar, projections upon the front and rear faces of said jaw arranged in such a manner that the outer edge of the projection upon the front face coincides with the inner edge of the projection upon the rear face and both edges register with the zero mark of the scale upon said bar, a slidable jaw provided with a graduation mark, projections upon the front and rear faces of said slidable jaw, said projections being arranged in such a manner that the outermost point of the edge of the projection upon the front face coincides with the inner edge of the projection upon the rear face and both edges register with said graduation mark, and clamping means upon both jaws engaging said groove.

3. The combination with a bar having graduations on one or both of its sides, of a fixed jaw mounted detachably upon one of the ends of said bar, projections upon the front and rear faces of said jaw arranged in such a manner that the outer edge of the projection upon the front face coincides with the inner edge of the projection upon the rear face and both edges register with the zero mark of the scale upon said bar, a slidable jaw detachably mounted upon said bar provided with a graduation mark, projections upon the front and rear faces of said slidable jaw, said projections being arranged in such a manner that the outermost point of the edge of the projection upon the front face coincides with the inner edge of the projection upon the rear face and both edges register with said graduation mark.

4. The combination with a bar having graduations on one or both of its sides and a groove in one of its sides, of a fixed jaw detachably mounted upon one of the ends of said bar, projections upon the front and rear faces of said jaw arranged in such a manner that the outer edge of the projection upon the front face coincides with the inner edge of the projection upon the rear face and both edges register with the zero mark of the scale upon said bar, a slidable jaw detachably mounted upon said bar provided with a graduation mark, projections upon the front and rear faces of said slidable jaw, said projections being arranged in such a manner that the outermost point of the edge of the projection upon the front face coincides with the inner edge of the projection upon the rear face and both edges register with said graduation mark, and clamping means upon both jaws engaging said groove.

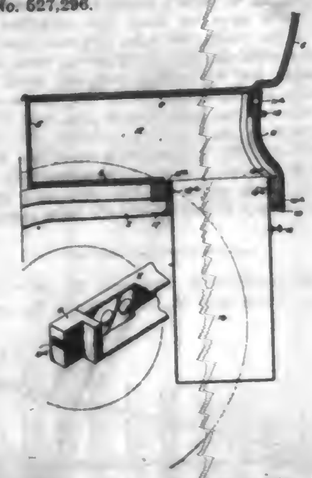
976,560. RAIL-SWITCH. THOMAS R. DUNCAN, Richmond, Cal. Filed Mar. 15, 1910. Serial No. 549,459.



1. As a new article of manufacture, a rail switch comprising a main rail and a siding rail extending at an angle thereto, intermediate main and siding rails between said first-mentioned rails, said intermediate main and siding rails being of substantially the same length and each comprising a comparatively long body portion terminating in a right-angled extension of the same width as said body portion and said right-angled extension terminating in a comparatively short angled-extension projecting at an angle to the main body portion, said angled-extension terminating at its outer end in an outwardly extending or flared projection or flange, said angled-extensions constituting a switch-member pocket, that is provided at its inner end with right-angled shouldered portions of substantially the same width as the width of the body portion of the intermediate rails, and a switch member pivotally mounted in said switch-member pocket and being provided with a comparatively broad inner end portion formed at right-angles to the body of said switch-member, the inner end portion normally parallel with the inner face of the engaged shouldered portion of the pocket, the breadth of the inner end of the switch-member being such as to constitute a continuation of the body portion of either intermediate rail, substantially as shown and described.

2. A switch mechanism comprising an outer main rail and an inner main rail, an inner switch-rail and an outer switch-rail, the inner main rail and the inner switch-rail being of similar construction and each provided with a body-portion having a right-angled shouldered extension, said shouldered extension terminating in an outwardly-curved portion, the shouldered portion having an inner surface formed at right-angles to the body-portion, a switch-member fitted between the inner main rail and the inner switch-rail, and provided with a flat end formed at right-angles to the longitudinal axis of the same, whereby the end of said switch-member can engage either of the shouldered portions squarely and constitute a broad bearing surface or a continuous portion of the main rail having substantially the same thickness, the continued ends of the main rail and the switch member being abutting in the plane at right-angles to the body of either said main rail or said switch-member, substantially as shown.

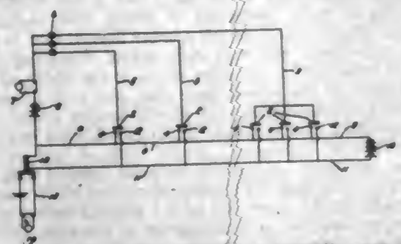
976,561. BAGGAGE-CARRIER FOR AUTOMOBILES. POWELL EVANS, Philadelphia, Pa. Filed Nov. 10, 1909. Serial No. 527,296.



1. The combination in a baggage carrier for automobiles of a car body having a seat, means co-acting with said seat to form a baggage container under the same, with a second and structurally independent container opening into and mounted under said first container.

2. The combination with a motor vehicle body of a seat, a structure co-acting therewith to form a baggage container under said seat, said structure including a rear door, and a second container suspended under the bottom of the first container, said door being placed to close the first container and retain the second container in position under said first container.

976,562. ELECTRIC ALARM AND CALL-BELL SYSTEM. JAMES HASLIP FIELD, Victoria, British Columbia, Canada, assignor to The Canadian Taylor Automatic Fire Alarm and Call Bell Company, Limited, a Corporation. Filed Jan. 25, 1909. Serial No. 474,142.



1. In an electric alarm system, a normally open circuit including a source of electric energy, an indicator, a switch, and line wires connecting the aforesaid parts, a closed circuit including a source of electric energy, one of said line wires of said normally open circuit and an auxiliary line wire together with a translating device in said auxiliary line wire in virtue of which said switch may close said normally open circuit without effecting said translating device of said closed circuit.

2. In an electrical alarm system, a normally open circuit, including a source of electric energy, an indicator, a switch, and line wires connecting the aforesaid parts, a closed circuit including a source of electric energy, one of said line wires of said normally open circuit, an auxiliary line wire together with a translating device in said auxiliary line wire in virtue of which said switch may close said normally open circuit without affecting said translating device of said closed circuit, and means coöperating with said switch for bringing said translating device into said normally open circuit at times.

976,563. PISTON-PACKING. ROBERT A. FOWDEN, Philadelphia, Pa. Filed May 4, 1909. Serial No. 493,831.



1. A piston packing comprising a plurality of rigid sector members, a plurality of non-resilient bridging and adjusting pieces in which the ends of said sector members are mounted, and positive means for adjusting said bridging and adjusting pieces and sector members.

2. A piston packing comprising a plurality of rigid sector members, a plurality of non-resilient bridging and adjusting pieces in which the ends of said sector members are mounted, and positive means for simultaneously adjusting said bridging and adjusting pieces and sector members.

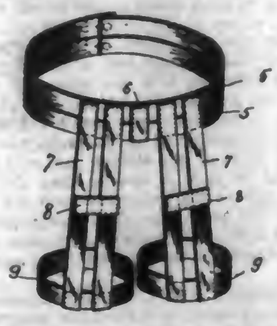
3. A piston packing comprising a plurality of rigid sector members, a plurality of non-resilient bridging and adjusting pieces in which the ends of said sector members are mounted, and positive means extending external to the cylinder for adjusting said bridging and adjusting pieces and sector members.

4. A piston packing comprising a plurality of rigid sector members, a plurality of non-resilient bridging and adjusting pieces in which the ends of said sector members are mounted, and a tapered member engaging said bridging and adjusting pieces for simultaneously controlling the same.

5. A piston packing comprising a plurality of rigid sector members, a plurality of non-resilient bridging and adjusting pieces in which the ends of said sector members are mounted, and a tapered member controlled from the exterior of the cylinder engaging said bridging and adjusting pieces for simultaneously controlling the same.

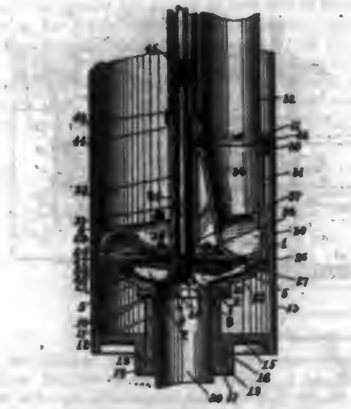
[Claims 6 to 8 not printed in the Gazette.]

976,564. BRACE. MILTON A. GOODSON, Childress, Tex. Filed Dec. 6, 1909. Serial No. 531,619.



As a new article of manufacture, the herein described body brace comprising two spaced parallel elastic bands centrally connected together between their ends and adapted to encircle the body of the wearer above the waist line, a pair of parallel elastic straps secured to each of the body bands upon each side of the connected central portion thereof, said pairs of straps depending from the body bands and extending in divergent relation to each other, a thigh strap secured to the lower ends of each pair of elastic straps adapted to encircle the thigh of the wearer, said pairs of elastic straps being adapted to extend over the hips from the waist line to the thighs, and a transverse strap secured to and connecting the parallel elastic straps intermediate of their ends to provide a strengthening web.

976,565. WELL-PUMPING MECHANISM. WILLIAM T. GRAY, El Campo, Tex., assignor to El Campo Machine Company, a Corporation of Texas. Filed Nov. 22, 1909. Serial No. 529,336.



1. In combination with a pit bottom, a tubular pedestal extending up through the same, a pump-casing supported by the said pedestal and provided at its bottom with an annular piece fitting into the upper end thereof and a runner turning in said pump-casing, the contiguous faces of said pedestal and pit bottom being provided with overlapping and interlocking parts for the purpose set forth.

2. In combination with a pit bottom, a tubular pedestal extending up through the same, a pump-casing provided with an annular inlet part fitting into the upper end of said pedestal and a runner turning in said casing, the said pedestal having the two functions of admitting water to the interior of said casing and runner and supporting said casing at a fixed point of elevation and the said pit and pedestal having interlocking and overlapping parts to prevent the independent vertical movement of either part.

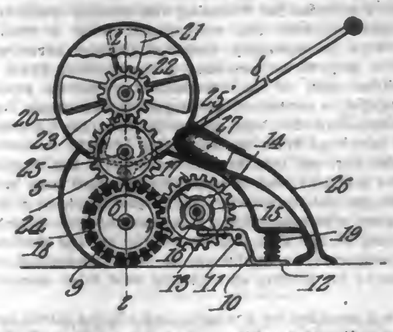
3. In combination with a pit bottom, a tubular pedestal extending up through and above the same, an annular piece supported on the upper end of said pedestal, a pump-casing fixed on said annular piece and a rotary runner within said casing, the said elements being adapted to allow water to flow up centrally through them into the central part of said runner and the contiguous faces of said pedestal and said pit-bottom being provided with overlapping parts fitting into corresponding recesses substantially as set forth.

4. In combination with a pit-bottom, a tubular pedestal extending up through the same and provided with projecting parts interlocking with said pit-bottom, a pump-casing supported by said pedestal at a fixed height above said pit-bottom and having a central inlet, a rotary runner within said casing, a tube distinct from said pedestal extending up through it and supplying water centrally to the said runner through said inlet and means for connecting the upper end of said tube to said pump casing and holding it in proper position within said pedestal.

5. In combination with a metallic pit having a cylindrical body and a pit-bottom fixed in the lower end of said body and provided with a central opening, a tubular pedestal fitted into said opening and extending above said pit-bottom, a pump-casing supported by said pedestal at a fixed point above said pit-bottom and a rotary runner arranged within said pump-casing, the said parts permitting water to flow up through them centrally to the said runner and the said pedestal and pit-bottom being provided with overlapping interlocking parts and serving to support the body of the pit substantially as set forth.

[Claims 6 to 11 not printed in the Gazette.]

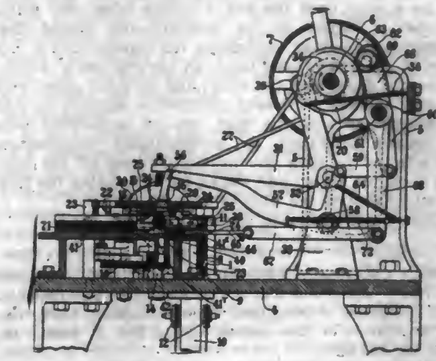
976,566. PNEUMATIC CLEANER. ELWOOD GROSS, WILLIAM E. GROSS and WALTER FELTER, West Pittston, Pa. Filed Mar. 9, 1910. Serial No. 548,140.



1. A cleaner comprising a casing, supporting wheels carrying said casing, a shaft on which the wheels are mounted, a brush on said shaft, a beater located behind the brush, a tappet wheel for operating the beater, a shaft carrying said tappet wheel, a gearing between the tappet wheel shaft and the first mentioned shaft, a fan casing mounted on the aforesaid casing, a fan driven from the first mentioned shaft, and a suction nozzle connected to the fan casing, and having its mouth located behind the beater.

2. A cleaner comprising a casing mounted on wheels, a shaft carried by the casing and driven by the wheels, a brush on the shaft, said brush being located in the casing, a beater working in the casing behind the brush, a tappet wheel for operating the beater, a shaft carrying the tappet wheel, said shaft being operatively connected to the first mentioned shaft, a fan casing carried by the aforesaid casing, a fan mounted in the fan casing, and driven from the first mentioned shaft, a tube extending from the fan casing, a receptacle mounted in the tube, and a suction nozzle removably connected to the tube, the mouth of said nozzle being located behind the beater.

976,567. MACHINE FOR WRAPPING AND AFFIXING LABELS AROUND RECTANGULAR TABLETS. FREDERICK GROVER, Leeds, England, assignor to The Forgrove Machinery Company Limited, Leeds, England. Filed May 6, 1910. Serial No. 559,699.



1. In a machine for wrapping and affixing labels around rectangular tablets, the combination with a box containing the labels in pile formation, said box being fitted with stops at its upper corners, of a vertically movable plunger adapted to normally retain the uppermost label of the pile in contact with the corner stops of the box, an intermittently moved rovoluble disk having a series of apertures therethrough formed with depending side lugs adapted in turn to take up the uppermost label, inter-

mittently moving mechanism for transporting a tablet on to the disk-carried label, and means for folding and affixing said label around the tablet.

2. In a machine for wrapping and affixing labels around rectangular tablets, the combination with a label box fitted with an upwardly weighted plunger carrying the labels in pile formation, said plunger being fitted with a friction grip, of an intermittently moved revoluble disk having a series of apertures therethrough formed with depending side lugs, means for applying an adhesive to the said lugs prior to their being brought to rest over the label-box, an intermittent mechanism for depressing the disk when at rest to cause the gummed lugs in turn to take up the uppermost label from the box, a lifting table over which the label is carried by the subsequent movement of the disk, intermittently moving mechanism for transporting a tablet on to the disk-carried label, and means for folding and affixing said label around the tablet.

3. In a machine for wrapping and affixing labels around rectangular tablets, the combination with a box containing the labels in pile formation and an intermittently moved revoluble disk having a series of apertures therethrough formed with depending side lugs, of a device for applying an adhesive to the disk lugs in succession, intermittent mechanism for depressing the disk when at rest over the label box to cause the gummed lugs in turn to take up the uppermost label, an intermittently raised table fitted with a friction grip over which the label is carried by the subsequent movement of the disk, mechanism for transporting a tablet on to the disk-carried label, and means for folding and affixing said label around the tablet.

4. In a machine for wrapping and affixing labels around rectangular tablets, the combination with a box containing the labels in pile formation, of an intermittently moved revoluble disk adapted at each interval of rest to take up a label from the box, a lifting table over which the label is carried by the intermittently moved disk, intermittently moving mechanism for transporting a tablet on to the disk-carried label, means for depressing the tablet and its label along with the table between stationary projections to release the label from the disk and turn the opposite ends of the label into an upstanding position around the tablet, and means for completing the folding and affixing of the label around the tablet.

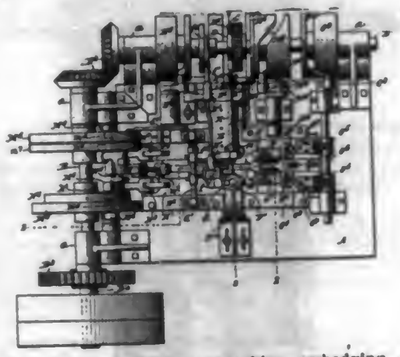
5. In a machine for wrapping and affixing labels around rectangular tablets, the combination with a box containing the labels in pile formation, of an intermittently moved revoluble disk adapted at each interval of rest to take up a label from the box, a lifting table over which the label is carried by the intermittently moved disk, intermittently moving mechanism for transporting a tablet on to the disk-carried label, an intermittently moving plunger for depressing the tablet and its label along with the table between stationary projections adapted to turn the opposite ends of the label into an upstanding position around the tablet, an intermittently reciprocating slide adapted to turn one upstanding end of the label down upon the tablet, and means for completing the folding and affixing of the label around the tablet.

[Claim 6 not printed in the Gazette.]

976,568. CHAIN-LINK-FORMING MACHINE. CARLTON L. HOFF, York, and MARTIN O. REHFUSS, Philadelphia, Pa., assignors to Standard Chain Company, York, Pa., a Corporation of New Jersey. Filed Dec. 1, 1908. Serial No. 465,527.

1. A chain link forming machine embodying a pair of reciprocatory formers around which the ends of the blank are bent and a pair of angularly movable formers pivoted on fixed axes and coöperating with said reciprocatory formers to simultaneously bend the ends of the blank and coöperating intermediate formers for bending the blank into link form.

2. A chain link forming mechanism embodying means for holding a substantially straight blank, angularly movable formers coöperating with and moving around the ends of the blank to bend said ends in the same direction and move out of engagement therewith and means for moving the blank between and out of engagement with the angularly movable formers, and means independent of said formers for imparting an intermediate bend to the blank for bringing the bent ends into proximity.



3. A chain link forming machine embodying oppositely arranged reciprocatory formers around which the ends of a blank may be bent, angularly movable formers mounted eccentrically on fixed axes and adapted to travel around the ends of the first mentioned formers to bend the ends of the blank in the same direction, and means for clamping the blank centrally while its ends are being bent and for moving the same bodily away from said end formers, and side formers between which the blank is moved for bringing the bent ends of the blank into proximity.

4. A chain link forming machine embodying coöperating reciprocatory and angularly movable formers mounted on fixed axes for bending opposite ends of the blank simultaneously in the same direction, side formers and reciprocatory clamping formers with means for moving the same toward and from each other to clamp and release the blank and for moving the reciprocatory clamping formers in unison in one direction to carry the blank bodily away from said end formers and between the side formers, whereby its bent ends are brought into proximity.

5. A chain link forming machine embodying separated end formers and separated reciprocatory side formers movable toward and from the end formers, and intermediate reciprocatory clamping formers movable past the side formers for transferring the blank from the end formes though and beyond the side formers.

[Claims 6 to 15 not printed in the Gazette.]

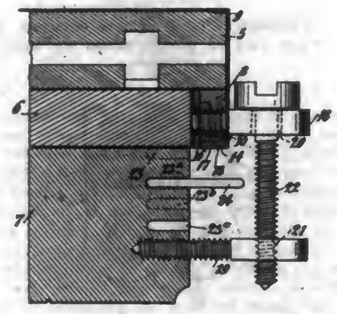
976,569. NUT AND BOLT. WALTER E. HORROCKS, Lakewood, Ohio. Filed Nov. 10, 1909. Serial No. 527,187.



1. The combination of an object having a hole therethrough the edge of the object at one end of the hole being burred, a bolt extending through the hole, the said bolt being disposed to one side of the center of the hole, and a nut on the bolt of smaller diameter than the hole, the base of the nut being serrated and engaging the bur, as and for the purpose described.

2. The combination of an object having a hole therethrough the edge of the object at one end of the hole being burred, a bolt extending through the hole, the said bolt being disposed to one side of the center of the hole, and a nut on the bolt of smaller diameter than the hole, said nut having the base thereof countersunk and serrated at its outer edge, and engaging the bur, as and for the purpose described.

976,570. APPARATUS FOR STRETCHING CLOTH ON BILLIARD-TABLES. ALFRED MAURICE HUBERT-BRIERRE, Paris, France. Filed Nov. 30, 1906. Serial No. 345,697.



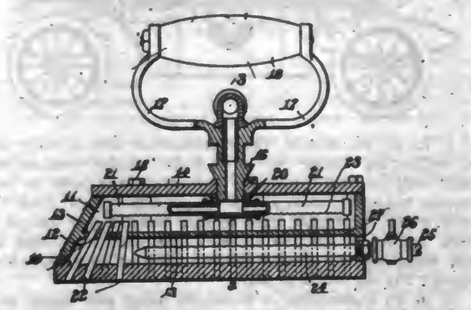
1. In an apparatus for stretching cloth on billiard tables, the combination with the table body having in its outer face parallel rows of stop-pin holes parallel to the upper edge of the table body and a bed on said table body, of a strip vertically slidable below and parallel to the edge of said bed, and adapted to have a billiard cloth secured thereto, means for forcing said strip downwardly to tighten said cloth, stop-pins adapted to be placed in any one of said rows of holes to limit the downward movement of said strip, whereby said cloth may be tightened evenly, and means for holding said strip rigidly in place after it is forced downward against the stop-pins.

2. In a billiard table and an apparatus for stretching cloth thereon, the combination of a table body having on its outer face rows of stop-pin holes and rows of screw holes, each of said rows being parallel to and a different distance from the upper edge of the table body, a bed on said table-body and projecting therefrom to form an overhanging ledge, a strip parallel to and slidable beneath said ledge and having therein holes adapted to register with said screw-holes, screws adapted to pass through the holes of said strip and into the holes of any one of said rows of screw-holes, stop-pins adapted to be placed in the holes of any one of said rows of stop-pin holes and adapted to limit the downward movement of said strip, and means for forcing said strip downwardly against said stop-pins, whereby said cloth may be tightened evenly.

3. In an apparatus for stretching cloth on billiard tables, the combination with the table body and the bed thereon, of a strip vertically slidable below and parallel to the edge of the bed and a wooden body portion, an armor of angle iron covering the inner and lower faces of the strip, and tapped nuts soldered to the inner face of the angle iron at the inner side-face of the wooden body portion, said body portion and angle iron being provided with holes forming a continuation of the holes of the nuts; tensioning devices comprising threaded bolts engaging in said holes; adjustable means disposed in lines parallel to the edge of the bed for limiting the downward movement of the strips; and means for permanently holding said strips in adjusted position.

4. In a billiard table the combination of a table body having rows of holes in lines parallel to the upper edge of the table, each row being a different distance from said edge, a bed supported by said table body and projecting beyond said body to form therewith an overhanging ledge, a strip parallel to and slidable beneath said ledge and having therein holes adapted to register with the holes of certain of said rows of holes, stop-pins adapted to be placed in the holes of different ones of said rows of holes to limit the downward movement of said strip, short bolts screwed into said strips each having a vertically disposed eye, headed screws screwed into said frame below said rows of holes and each having a threaded eye in alinement with said vertically disposed eye, and vertically disposed screw-bolts passing through said eyes and having heads engaging said short bolts and threads engaging said threaded eyes.

976,571. STEAM PRESSING AND FINISHING IRON. ROBERT W. HULL, Hingham, Mass. Filed Mar. 11, 1910. Serial No. 549,041.



1. In a device of the class described, the combination of a chambered flatiron; a horizontal plate dividing said iron into two compartments; a plurality of open-ended tubes extending through the lower wall of said iron and terminating at points intermediate the plate and the upper wall; means for supplying heat to the lower compartment; and means for supplying a water spray to the upper compartment.

2. In a device of the class described, the combination of a chambered flatiron; a horizontal plate dividing said iron into two compartments; a plurality of open-ended tubes extending through the lower wall of said iron and terminating at points intermediate the plate and the upper wall; a gas jet projecting through the rear wall of said iron for supplying heat to the lower compartment; and means for supplying a water spray to the upper compartment.

3. In a device of the class described, the combination of a chambered flatiron; a horizontal plate dividing said iron into two compartments; a plurality of open-ended tubes extending through the lower wall of said iron and terminating at points intermediate the plate and the upper wall; means for supplying heat to the lower compartment; a perforated tube in said upper compartment; and a supply pipe leading to said tube.

4. In a device of the class described, the combination of a chambered flatiron having a cover for said chamber; a horizontal plate dividing said iron into two compartments; a plurality of open-ended tubes extending through the lower wall of said iron and terminating at points intermediate the plate and the upper wall; means for supplying heat to the lower compartment; a tubular member secured to the cover of said iron; a supply inlet connected with one end thereof; and a perforated pipe within the upper compartment communicating with the other end of the tubular member.

5. In a device of the class described, the combination of a chambered flatiron; a horizontal plate dividing said iron into two compartments; a plurality of open-ended

tubes extending through the lower wall of said iron and terminating at points intermediate the plate and the upper wall; means for supplying heat to the lower compartment; a handle having a tubular shank secured to the cover of said iron; a supply inlet connected with one end thereof; and a perforated pipe within the upper compartment communicating with the other end of said tubular shank.

[Claim 6 not printed in the Gazette.]

976,572. TILTING BODY FOR AUTOMOBILES. THOMAS B. JEFFERY, Kenosha, Wis.; Kate E. Jeffery, Charles T. Jeffery, and Harold W. Jeffery, executors of said Thomas B. Jeffery, deceased. Filed Apr. 28, 1906. Serial No. 314,112.



1. In an automobile, the combination with a body, of a supporting frame for said body, means connecting said body to said frame for permitting the body to be swung upwardly, said means comprising a plate fixed to said frame, a bracket fixed to said body, a pin whereby said bracket is adapted to rest upon said plate, and a rod depending from said bracket adapted to detachably engage the lug on said plate.

2. In an automobile, a combined hinge and clamp for detachably connecting the body to the supporting frame, comprising a plate fixed to the frame, lugs formed on said plate having seats therein, a bracket fixed to said body, a pin carried transversely by said bracket and adapted to rest upon the seats in said lugs, a depending rod pivotally supported by said pin, a lug on said plate having a slot into which said rod is adapted to swing, and a nut on said rod for engaging the underside of said lug.

3. In an automobile, a body, a supporting frame, hinges arranged on opposite sides of the body and frame, each of said hinges comprising a member fixed to the body and a member fixed to the frame, one of said members having trunnions and the other member having open bearings for said trunnions, and a detachable clamping device for holding said trunnions in said bearing.

4. In an automobile, a body member, a supporting member, hinges carried by one of said members, and clamping devices coöperating with one half of each of the hinges for clamping the hinges to the other of said members so as to permit the hinges to be unclamped without producing relative movements of said members.

976,573. PILING. JOSHUA J. JONES, Pittsburg, Pa., assignor of one-half to George H. Blaxter, Beaver Falls, Pa. Filed Apr. 4, 1910. Serial No. 553,314.



1. A rolled metal pile having a main web and a terminal dove-tail key in the plane of the web and connected therewith by a laterally off-set portion, and a laterally deflected angularly arranged portion extending from said web and forming with the laterally off-set portion and said dove-tail key, a receiving recess corresponding in outline to said key, substantially as set forth.

2. A rolled metal pile having a terminal shouldered locking key and a receiving recess respectively in alinement with the web of the pile, the recess being between the key and said web.

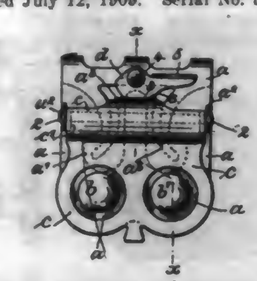
3. A rolled metal pile having a terminal dove-tailed key and a laterally arranged embracing wall and an opposite lateral extension of the pile forming an intervening corresponding dove-tailed recess.

4. A rolled metal pile consisting of a web portion deflected laterally to provide a recess in alinement with the web and then re-bent to provide a shoulder in the plane of the web.

5. A rolled metal pile consisting of a web portion deflected laterally to provide a recess in alinement with the web and then re-bent to provide a shoulder in the plane of the web, said shoulder having a tapered terminal portion.

[Claims 6 and 7 not printed in the Gazette.]

976,574. GARMENT-CLASP. OTTO KAMPER, New York, N. Y. Filed July 12, 1909. Serial No. 507,078.



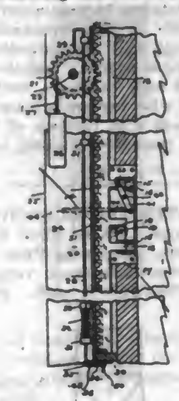
A garment clasp comprising a main plate, a spring clip structure formed by bending over one edge of the plate so as to receive between the plate and the spring clip structure the trousers waist-band, lugs formed on opposite edges of said plate, a spring tongue formed from said plate by removing the surrounding portion, a yielding member secured to said plate, a hinged apertured member having oppositely disposed lugs and a pivot-bar for connecting the member to the lugs of the plate member in a swinging relation, a projection formed with the hinged member and adapted to come in contact with the spring tongue of the plate member, and a locking member pivotally connected to the plate and comprising a finger portion, a pivot screw and a wedge edge and adapted to come behind the spring tongue of the plate member and the projection of the hinged member.

976,575. WINDOW OPERATING AND LOCKING MECHANISM. FRANK KARSITZ, Bridgeport, Conn., assignor of one-half to William Ehous, Bridgeport, Conn. Filed Sept. 22, 1909. Serial No. 518,948.

1. In a window operating and locking device, the combination with a sash, a rack in the side rail thereof, a gear wheel and means connected with the gear wheel for balancing said sash, of means for moving said rack into and out of engagement with said gear wheel, and a lock operable upon either the gear wheel or the rack when the other is disengaged.

2. In a window operating and locking device, the combination with a sash, a rack in the side rail thereof, a gear wheel and means connected with the gear wheel, for balancing said sash, of means for moving said rack into and out of engagement with said gear wheel, and a lock operable upon either the gear wheel or the rack when the other is disengaged, and a spring for holding the racks normally locked.

3. The combination with a sash, a rack in the side rail thereof, a gear wheel, and means connected with said gear wheel for balancing the sash, of means for moving the rack into and out of engagement with the gear wheel, a locking rod provided with means for locking either the gear wheel or the rack when the other is free, and a spring acting to normally retain said rod in engagement with the rack and leaving the wheel unlocked.



4. The combination with a sash, a rack in the side rail thereof, a gear wheel, and means connected with said gear wheel for balancing the sash, of means for moving the rack into and out of engagement with the gear wheel, a locking rod having engaging ends adapted to engage either said gear wheel or the rack when the other is disengaged, and a spring acting to normally retain said rod in engagement with the rack and leave the wheel unlocked.

5. The combination with a sash, a rack in the side rail thereof, a gear wheel, and means connected with said gear wheel for balancing the sash, of means for moving the rack into and out of engagement with the gear wheel, a locking rod having angular ends adapted to engage either the gear wheel or the rack when the other is disengaged, a spring acting to normally retain said rod in engagement with the rack and leave the gear wheel unlocked, and an operating shaft for actuating said locking rod.

[Claims 6 to 15 not printed in the Gazette.]

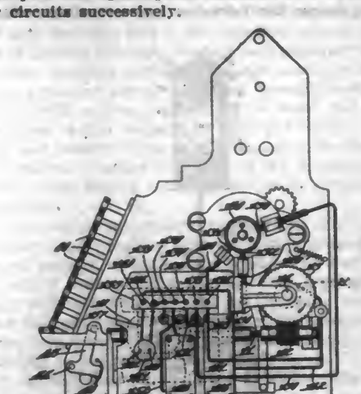
976,576. SIGN. MAURICE M. KABANOF, New York, N. Y. Filed Mar. 6, 1909. Serial No. 481,817.



A sign comprising a metallic backing, a flexible transparent facing of smaller size than the backing, a sign member relatively smaller than the facing, interposed between said backing and facing, the edges of said backing overlapping the edges of the facing, and the edges of both the backing and facing being interlocked and extended rearward at substantially right angles to the body of the sign to provide a rearwardly projecting frame therefor consisting of a plurality of parallel layers of metal, whereby the facing member is stretched taut and the sign member positively retained in position between said backing and facing, but separate therefrom.

976,577. DRIVING DEVICE FOR REGISTERING-MACHINES. CHARLES F. KETTERING, Dayton, Ohio, assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio, a Corporation of Ohio, (incorporated in 1906.) Filed Nov. 6, 1905. Serial No. 286,063.

1. In an electric driving device, the combination with an electric motor and a machine driven by said motor, of a circuit for said motor, a magnetic clutch for connecting said motor to said driven machine, a shunt from said motor circuit including said clutch, and a spring operated contact piece for opening and closing said shunt and said motor circuits successively.



2. In an electric driving device, the combination with an electric motor, and circuit therefor, of a machine driven by said motor, a circuit divided from said motor circuit and containing a magnetic clutch, which clutch connects the motor to the machine driven thereby; and a spring operated contact device for automatically breaking said motor circuit as an immediate subsequent accompaniment to the breaking of the clutch circuit.

3. In an electric driving device, the combination with an electric driving motor, a machine driven by said motor and a magnetic clutch for connecting the motor to the driven machine, of a main circuit including the source of electric energy; a divided circuit containing in one branch the motor, and in the other branch the magnetic clutch; and a rotating three point contact piece connecting the main circuit, the motor circuit, and the magnetic clutch circuit, constructed to disconnect said clutch circuit and said motor circuit separately and in immediate succession, from said main circuit.

4. In an electric driving device, the combination with an electric driving motor, a machine driven by said motor and a magnetic clutch for connecting the motor to the driven machine, of a main circuit including the source of electric energy; a divided circuit containing in one branch the motor, and in the other branch the magnetic clutch; a three point switch between the main circuit, the motor circuit, and the magnetic clutch circuit, whereby when said switch is open said motor and said clutch will be disconnected both from the main circuit and from each other; and means for automatically operating said switch to break the motor circuit subsequently to the breaking of the clutch circuit.

5. In an electric driving device, the combination with a driving motor, of a driven member; a magnetic clutch connecting said motor and said driven member, said clutch containing clutch coils; a circuit including said clutch coils; a circuit including said motor; and means for automatically making and breaking said motor circuit subsequently to the making and breaking of said clutch circuit.

[Claims 6 to 28 not printed in the Gazette.]

976,578. POLICE SIGNAL DEVICE. EARL J. KINGSLEY, JOHN GREENE, and WILLIAM GUY SADLEIR, Salt Lake City, Utah. Filed Dec. 13, 1907. Serial No. 406,370.

1. In a signal device, a signal arm, driving mechanism therefor, an electric circuit including a source of current and a light, a cam actuated from the shaft of said signal arm and arranged to open said circuit suddenly and to close said circuit, and means for controlling said driving mechanism.

2. In a signal device, a rotatable signal arm, driving mechanism comprising a clock train operatively connected

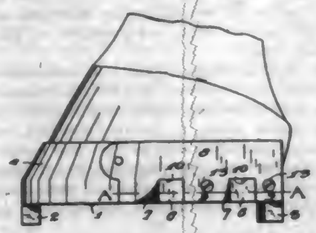
thereto, an electric circuit including a source of current and a light, a switch for opening and closing said circuit, a cam actuated from the shaft of said signal arm and arranged to open said circuit suddenly and to close said circuit, and means for releasing and arresting said clock train.



3. In a signal device, a supporting pole, a signal arm and a lamp mounted near the top of said pole, driving mechanism comprising a clock train located near the bottom of said pole, an electro-magnetically controlled detent for said clock train, a circuit for said lamp including a source of current and a switch, a cam coöperating with said signal arm for controlling said switch, and a drive-rod extending between said signal arm and driving mechanism and geared to said parts.

4. In a signal device, a patrol station, a signal arm thereat, driving mechanism for said signal arm comprising a clock train, a detent for said clock train, an electro-magnet to control said detent, an electric circuit including a source of current and a light, a switch for opening and closing said circuit, a cam for controlling said switch simultaneously with the movement of said signal arm and arranged to open said circuit suddenly and to close said circuit, a central station having a circuit connection with said electro-magnet and a source of current, and a circuit closer at the central station for completing the circuit through said electro-magnet.

976,579. HORSESHOE. MORRIS KLEIN, Oakland, Cal. Filed Apr. 27, 1910. Serial No. 557,986.

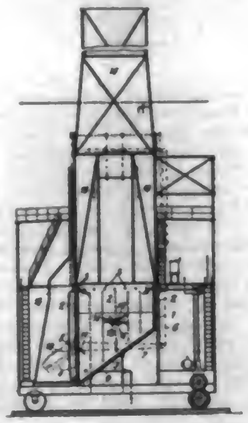


1. A horseshoe comprising a body, a hoof-engaging flange partly surrounding said body, latching lugs carried by said body at one end of said flange, a latch hinged to said flange and forming a continuation of said flange, said latch adapted for interlocking engagement with said lugs, and means for rigidly but detachably locking said flange to said body.

2. A horseshoe comprising a body provided with lugs and recesses adjacent one heel portion, a hoof-engaging flange carried by said body and extending from one heel thereof and terminating adjacent said lugged and recessed portion, and a latch hinged to said flange and forming a continuation thereof, said latch provided with lugs and recesses adapted for interlocking engagement with the lugs and recesses of said body.

3. A horseshoe comprising a body provided with laterally projecting dovetailed lugs adjacent one heel portion thereof, an inwardly inclined upstanding hoof-engaging flange carried by said body and extending from said lugs around the body to the opposite heel thereof, a latch pivoted to said flange and forming a continuation thereof, said latch provided with lugs and recesses adapted for interlocking engagement with the lugs of the body, and detachable fastening means for locking said latch to said body.

976,580. APPARATUS FOR QUENCHING INCANDESCENT MATERIALS. ERNST HUGO HERMANN KRAUSE, Hamburg, Germany, assignor to Firm of Stettiner Chamotte-Fabrik Actien-Gesellschaft, vormals Didier, Stettin, Germany. Filed July 8, 1909. Serial No. 506,496.



1. An apparatus for quenching incandescent materials comprising a water-jacketed trough having water outlets in its inner wall and provided with a discharge opening for the material, means for supplying water to said jacket, a hollow movable door controlling said discharge opening and provided with water outlets in its inner wall and means for supplying water to said door.

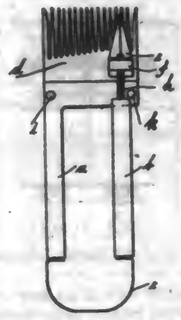
2. An apparatus for quenching incandescent materials comprising a water-jacketed trough having water outlets in its inner wall and provided with a discharge opening for the material, means for supplying water to said jacket, a water containing transverse beam provided with water outlets from which the core of the incandescent material is sprayed, a connection for supplying water to said beam, a hollow movable door controlling said discharge opening and provided with water outlets in its inner wall and a flexible connection between said door and said water jacket for supplying water to said door.

3. An apparatus for quenching incandescent materials comprising a water-jacketed trough having water outlets in its inner wall and provided with a discharge opening for the material, an exhaust chimney and a protecting hood over said discharge opening and spaced from said trough to form an auxiliary exhaust channel connected with said chimney.

976,581. COMB-SHEARS. RICHARD KUHLE, Berlin, Germany. Filed Aug. 23, 1909. Serial No. 514,254.

1. In a comb shear, the combination with a comb having a handle, the handle carrying two abutments, a handle member operating between the abutments, a U-shaped spring connecting the ends of the handle and handle member, and a two-edged cutting knife screwed on the end of the handle member sliding laterally over said comb.

2. In a comb shear, the combination with a comb having a handle, the handle carrying two abutments, a handle member operating between the abutments, a U-shaped spring connecting the ends of the handle and the handle member, a threaded bar projecting from the end of the



handle member, and a two-edged cutting knife having a threaded aperture mounted on the bar whereby the knife is rotatably and longitudinally adjustable with relation to the teeth of said comb.

976,582. AEROPLANE. FRANÇOIS LEBREIL, Villeurbanne, and RAOUL DESGEORGE, Lyon, France. Filed Nov. 17, 1909. Serial No. 528,441.



In an aeroplane the combination of a supporting plane comprising two juxtaposed surfaces concave in transverse section and straight in the longitudinal direction, two juxtaposed propellers located at the forward end of said plane and adapted for movement laterally of the longitudinal axis of said supporting plane, a car connected to said plane comprising a cycle structure, an elevating rudder at the rear of said plane, a motor carried by the car, telescoping shafts carrying the propellers, differential gearing driven by the motor for operating said shafts, means in the car for controlling the lateral direction of the propellers and simultaneously the movements of the forward wheel of the cycle; a movable saddle supported in the car and connections between said saddle and elevating rudder whereby the latter may be raised and lowered.

976,583. CAR-COUPLING. RICHARD B. H. LEIGHTON and VICTOR W. ZILEN, Chattanooga, Tenn. Filed Feb. 19, 1909. Serial No. 478,961.



1. A car coupling including a draw head, a knuckle pivoted therein and provided with a stud extending upward from its arm, a coiled spring mounted within the draw head in rear of the body portion of the knuckle and having one end free and engaging the stud, and means for limiting the movement of the free end of the spring, said means also serving to retain the spring within the draw head.

2. A car coupling including a draw head, a pivoted knuckle, a coiled spring provided at its inner end with a loop and having its outer end free and engaging the arm of the said knuckle, and a pin mounted within the draw head and passing through the loop and engaging the same.

3. A car coupling including a draw head provided with grooves, a pivoted knuckle, a coiled spring provided at its inner end with a loop and having its outer end engaging the knuckle, a pin removably arranged within the said grooves and passing through and engaging the loop of the said spring, and means for limiting the movement of the free end of the spring, whereby the pin is retained in the said grooves.

4. A car coupling including a draw head having an arcuate groove and provided with radially arranged grooves, a pivoted knuckle, a spring, and a pin connected with the inner end of the spring and removably arranged in the radially arranged grooves, said spring being provided at its free end with means operating in the arcuate slot to limit the movement of the free end of the spring and to retain the pin in the radially arranged grooves.

5. A car coupling including a draw head provided with an arcuate groove, a pivoted knuckle, and a spring mounted within the draw head and connected at its inner end with the same and having its outer end bent on itself to provide a thickened portion for engaging the arm of the knuckle, the outer terminal of the spring being split and bent to form a projecting lug arranged to operate in the arcuate slot.

976,584. NUT-LOCK. DAVID WILLIAM LOVETT, Ensley, Ala., assignor of one-half to Allan C. Ryan, Ensley, Ala. Filed June 2, 1906. Serial No. 319,845.



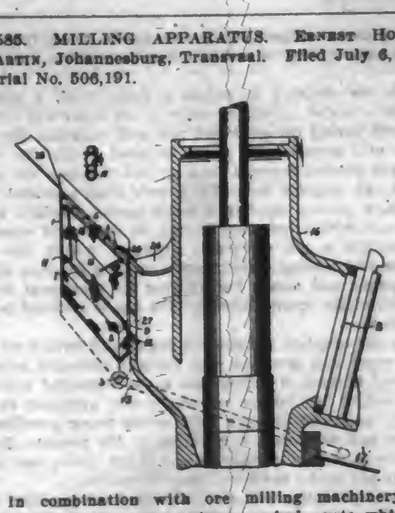
1. A nut lock consisting of a locking member seated on a flange extending from one of the elements to be held thereby, an end flange on said member arranged to engage a portion of the nut, an upwardly extending front flange on said member, and a clamp or clip carried by the bolt, and having a spring arm provided with a latch at the end thereof for engaging the locking member; substantially as described.

2. A nut lock comprising a flanged locking member seated on a flange extending from one of the elements to be held thereby, and arranged to receive a portion of the nut, a compressible spring washer having a downwardly and outwardly extending spring latch, having a hooked end arranged to engage and secure the locking member, the spring arm being arranged to rest on the flange extending from the element to be held by the nut; substantially as described.

3. A nut lock comprising a flanged locking member seated on a flange extending from one of the elements to be held thereby, an end flange on said member arranged to engage a portion of the nut, an upwardly extending front flange on said locking member, a compressible spring washer interposed between the nut and the element to be held thereby, the spring washer having a pair of downwardly and outwardly extending spring arms, and hooks on the ends of said arms arranged to engage and to hold the locking member in position on the flange of the element to be held thereby; substantially as described.

4. A nut lock having a locking member consisting of a piece having an end flange arranged to engage the nut and having its surface provided with drain passages; substantially as described.

976,585. MILLING APPARATUS. ERNEST HOLROYD MARTIN, Johannesburg, Transvaal. Filed July 6, 1909. Serial No. 506,191.



1. In combination with ore milling machinery provided with discharge screening, a grizzly onto which the ore is fed, a screen of equal mesh to the mill screening and adapted to receive matter passing through the grizzly, said grizzly and screen feeding their oversize to the milling machinery, means for collecting material which passes through the screen, and adjustable means whereby the whole of the ore may be passed directly to the milling machinery.

2. In combination with a stamp battery having a mortar box provided with discharge screening, a grizzly onto which the ore is fed, an inclined screen of equal mesh to the mill screening and adapted to receive matter passing through the grizzly, said grizzly and screen feeding their oversize to the mortar box, means for collecting material which passes through the screen, and adjustable means for closing the grizzly, said means normally serving to direct the grizzly undersize onto the upper part of the screen.

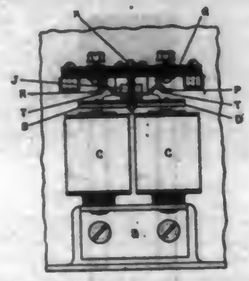
3. In combination with a mortar box, provided with the usual open topped feed channel, said channel being formed with an auxiliary feed aperture, a casing located adjacent to the feed opening thereof, an inclined grizzly at the top of the casing onto which ore is fed and which passes its oversize over the lip of the feed channel, an inclined screen mounted upon the casing under the grizzly, which screen passes its oversize through said auxiliary aperture, said casing being continued below the screen to collect the undersize therefrom.

4. The combination with a mortar box having an open topped feed channel, said channel being formed with an auxiliary feed aptreure, of a stationary casing located on one side of the mortar box adjacent to said auxiliary feed aperture, an inclined grizzly rigidly secured in position at the top of said casing and discharging its oversize into said feed channel, an inclined screen rigidly mounted in the casing below the grizzly and discharging its oversize through said auxiliary feed aperture, said casing having a closed-in inclined bottom, a discharge screening rigidly secured in the outlet from the mortar box, means for conveying material from the lower end of said casing around the mortar box to a point outside the discharge screening and means for discharging water upon the grizzly.

976,586. RELAY-MAGNET. JAMES F. MCELROY and JOHN E. MACOMBER, Albany, N. Y., assignors to Consolidated Car Heating Company, a Corporation of West Virginia. Filed May 13, 1910. Serial No. 561,054.

1. The combination with a magnet of a sheet metal armature, a sheet metal supporting piece for the armature and having a loose connection therewith, a sheet metal loop carried by said armature, and a contact piece loosely secured to said loop.

2. The combination with a magnet of a sheet metal armature provided with lugs, a sheet metal supporting piece having a slot to receive said lugs, and provided with an arm overhanging said armature, a contact support carried by said armature, and a contact piece loosely secured to said support.



3. The combination with a magnet of a sheet metal armature provided with lugs, a sheet metal supporting piece having a slot to receive said lugs, and provided with an arm overhanging said armature, a sheet metal loop carried by said armature, and a contact piece loosely secured to said support.

4. The combination with a magnet of a sheet metal armature, a sheet metal supporting piece for the armature and having a loose connection therewith, said supporting piece being provided with an arm overhanging said armature, contacts carried by said overhanging portion, a contact piece, and means carried by said armature for loosely supporting said contact piece.

976,587. LAMP-STAND. WILLIAM MCNAIR, New York, N. Y. Filed Feb. 19, 1909. Serial No. 478,918.

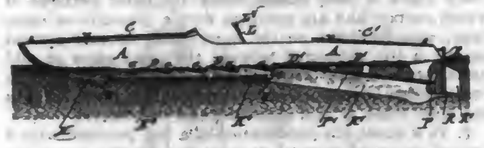


1. A freely movable lamp-stand having a base, a mirror, and a frame surrounding said mirror and carrying a lamp on an extension of said frame above said mirror, said mirror being pivoted in said frame on substantially horizontal pivots.

2. A freely movable lamp-stand having a base, a mirror, and a frame surrounding said mirror and carrying a lamp on an extension above said mirror, said mirror being pivoted in said frame on substantially horizontal pivots, said frame being formed of tubing for the reception of conducting wires.

3. A freely movable lamp stand having a base, a mirror, a frame carried by said base and surrounding said mirror, said mirror being pivoted horizontally in said frame and provided with a locking device at one of its pivots whereby said mirror may be locked in any adjusted position, said frame being formed of tubing connecting with an aperture in the base for the reception of an electric light wire, and a support for a lamp at the upper portion of said frame and communicating with the interior of the same, and an electric incandescent lamp carried by said support.

976,588. HYDROPLANE MOTOR-BOAT. CHARLES MELDAU, New York, N. Y. Filed Jan. 27, 1909. Serial No. 474,545.



1. A motor-boat having a bottom provided with a series of steps each having an abrupt face, inclined and movable hydroplanes below said steps, and means for lowering said hydroplanes below said steps or raising them into close proximity each with the corresponding step and the abrupt face of the preceding step.

2. A motor-boat provided with a bow-keel increasing gradually in depth, a stern-keel also increasing gradually in depth, an intermediate keel between the bow and stern keels, hydroplanes supported on said intermediate keel, and lever-mechanism for lowering or raising the intermediate keel and hydroplanes on the same.

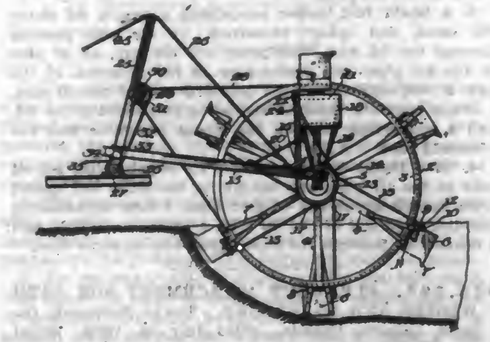
3. A motor-boat provided with a bow-keel increasing gradually in depth, a stern-keel also increasing gradually in depth, an intermediate keel guided on the bow and stern-keels, hydroplanes supported on said intermediate keel, a number of independently-movable hydroplanes located above the stern-keel, and lever-mechanism for raising and lowering simultaneously the intermediate and stern hydroplanes.

4. A motor-boat provided with a stationary bow-keel, a stationary stern-keel, both gradually increasing in depth, and a movable hydroplane-keel guided on the ends of the bow and stern keels, and hydroplanes on said intermediate keel.

5. A motor-boat provided with a stern-keel of gradually-increasing depth, the upper edge of the stern-keel being at some distance below the bottom of the boat, and a number of independent hydroplanes located in said space and extending transversely below the bottom of the boat, and lever-mechanism for simultaneously lowering or raising said hydroplanes.

[Claims 6 to 8 not printed in the Gazette.]

976,589. EXCAVATING-MACHINE. DAVID W. MILLER, Chicago, Ill. Original application filed Jan. 8, 1907, Serial No. 351,347. Divided and this application filed Feb. 11, 1908. Serial No. 415,312.



1. In a wheel excavator, the combination of a wheel frame, a series of buckets secured to said frame, the radial inner face of each bucket being hinged thereto at one side edge thereof and arranged to open laterally when the bucket of which it forms a part arrives at or adjacent to the top of the wheel, a latch for holding the hinged member of each bucket in closed position until the bucket arrives at discharging position, and automatic means for successively retracting the latches, said hinged bucket members closing by gravity during the descent of the buckets and being automatically latched.

2. In a wheel excavator, the excavating wheel and its carrying frame, in combination with a series of excavator buckets mounted peripherally and alternately upon opposite sides of the wheel, the radial inner side of each bucket being hinged thereto and arranged to open laterally when the bucket of which it forms a part arrives at or adjacent to the top of the wheel, a latch for holding the hinged member of each bucket in closed position until the bucket arrives at discharging position, and automatic means for successively retracting the latches, said hinged bucket members closing by gravity during the descent of the buckets and being automatically latched.

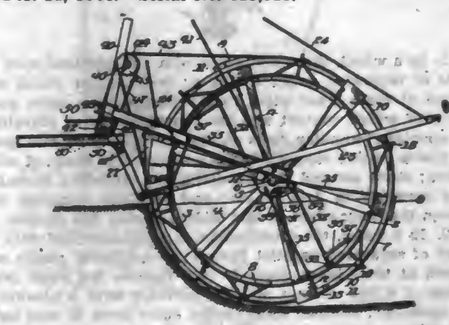
3. In a wheel excavator, an excavating wheel, a series of buckets mounted upon said wheel, the radially inner face of each bucket being hinged thereto at one side edge thereof and arranged to open laterally to discharge its contents therefrom, means for holding the hinged member of each bucket in closed position until the latter arrives at discharging position, automatic means for successively opening the hinged portions of said buckets, and means for automatically closing the same.

4. In a wheel excavator, an excavating wheel, a series of buckets mounted peripherally upon said wheel, the radially inner side of each bucket being hinged thereto at one side edge thereof and arranged to open laterally when the bucket arrives at discharging position, means for holding said hinged member normally closed, and automatic means for successively tripping the hinged members of said buckets.

5. In a wheel excavator, an excavating wheel, a series of excavator buckets peripherally mounted on said wheel, the radially inner side of each bucket being hinged thereto at one side edge thereof and arranged to open laterally, a latch for normally holding said hinged member in closed position, and automatic tripping mechanism arranged to successively trip open said hinged members when the buckets arrive at their discharging position.

[Claims 6 to 14 not printed in the Gazette.]

976,590. EXCAVATING-MACHINE. DAVID W. MILLER, Chicago, Ill. Original application filed Jan. 8, 1907, Serial No. 351,347. Divided and this application filed Feb. 11, 1908. Serial No. 415,313.



1. An excavating wheel adapted to form an excavation with downwardly and inwardly inclined sides, said wheel comprising main excavating devices, laterally positioned auxiliary excavating devices, and means for automatically moving said auxiliary devices toward and away from the wheel in time with the rotation of the wheel, the active member of each said auxiliary device being moved laterally away from the side of the wheel during the first half of its ascending motion, and being reversely moved toward it, in its revolution as it descends to the ground level.

2. An excavating wheel adapted to form an excavation with downwardly and inwardly inclined sides, said wheel

comprising main excavating devices, laterally positioned auxiliary excavating devices, and means for automatically moving said auxiliary devices toward and away from the wheel in time with the rotation of the wheel.

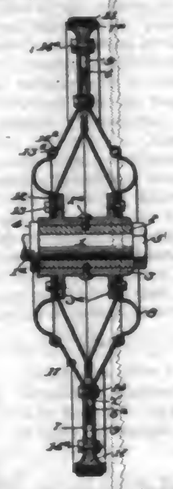
3. An excavating device adapted to form an excavation with inclined sides, said wheel comprising main excavating devices, and a laterally positioned auxiliary excavating device, and means for automatically moving said auxiliary device toward and away from the wheel in time with the rotation of the wheel.

4. An excavating wheel adapted to form an excavation with inclined sides, said wheel being provided with a laterally positioned excavating device, and means for automatically actuating said excavating device into and out of operating position in time with the rotation of the wheel.

5. An excavating wheel adapted to form an excavation with an inclined side, said wheel being provided with an excavating device, and means for automatically moving said excavating device into and out of operative position.

[Claims 6 to 21 not printed in the Gazette.]

976,591. RESILIENT WHEEL. HENRY EDWARD MORBUS, Boston, Mass., assignor to Howard W. Brown, trustee, Brookline, Mass. Filed May 3, 1909, Serial No. 493,734. Renewed Apr. 21, 1910. Serial No. 556,811.



1. In a wheel, the combination of a hub provided with a pair of separated parallel flanges; two annular plates secured at their inner edges to said flanges, the outer portions of which contact and are provided with a plurality of openings; annular disks on the outer faces of said pair of plates; a tire supported between the outer edges of said disks; studs secured to said disks and extending through the openings in said plates; and resilient members between the inner edges of said disks and said hub flanges.

2. In a wheel, the combination of a hub provided with a pair of separated parallel flanges; two annular plates secured at their inner edges to said flanges, the outer portions of which contact and are provided with a plurality of openings; annular disks on the outer faces of said pair of plates; a tire supported between the outer edges of said disks; studs secured to said disks and extending through the openings in said plates; resilient members between the inner edges of said disks and said hub flanges; and a flexible woven wire protector covering the outer face of said resilient members.

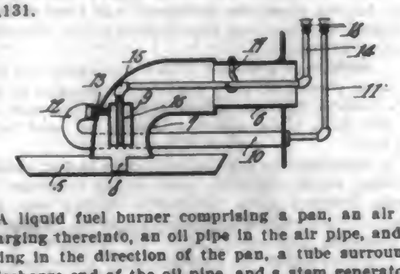
3. In a wheel, the combination of a hub provided with a pair of separated parallel flanges; two annular plates secured at their inner edges to said flanges, the outer portions of which contact and are provided with a plurality of openings; annular disks on the outer faces of said pair of plates and separated therefrom to form an inclosed chamber adapted to contain compressed air; a tire supported between the outer edges of said disks; studs secured to said disks and extending through the openings in said plates; and resilient members between the inner edges of said disks and said hub flanges.

4. In a wheel, the combination of a hub provided with a pair of separated parallel flanges; two annular plates the central portions of which are conical and secured at their inner edges to said flanges while the outer portions of which contact and are provided with a plurality of openings; annular disks on the outer faces of said pair of plates; a tire supported between the outer edges of said disks; studs secured to said disks and extending through the openings in said plates; and resilient members between the inner edges of said disks and said hub flanges.

5. In a wheel, the combination of a hub provided with a pair of separated parallel flanges; two annular plates the central portions of which are conical and secured at their inner edges to said flanges while the outer portions of which contact and are provided with a plurality of openings; annular disks on the outer faces of said pair of plates, the inner portions of which are conical and substantially parallel with but separated from the conical portions of said plates thereby forming chambers for compressed air; a tire supported between the outer edges of said disks; studs secured to said disks and extending through the openings in said plates; and resilient members between the inner edges of said disks and said hub flanges.

[Claims 6 and 7 not printed in the Gazette.]

976,592. LIQUID-FUEL BURNER. BENTON MOORE, Cherryvale, Kans. Filed Jan. 31, 1910. Serial No. 541,131.



1. A liquid fuel burner comprising a pan, an air pipe discharging thereinto, an oil pipe in the air pipe, and discharging in the direction of the pan, a tube surrounding the discharge end of the oil pipe, and a stem generator located above the pan, and connected to the tube.

2. A liquid fuel burner comprising a pan, an air pipe discharging into the pan, an oil pipe in the air pipe, and discharging in the direction of the pan, a tube surrounding the discharge end of the oil pipe, said tube and discharge end of the oil pipe being spaced from the outer end of the air pipe, and a steam generator located above the pan, and connected to the tube.

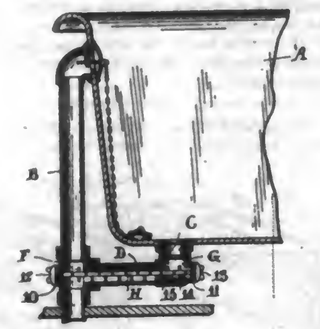
3. A liquid fuel burner comprising a pan, a lid above the same, and spaced therefrom, an air pipe passing through the lid, and discharging into the pan, an oil pipe in the air pipe, and discharging in the direction of the pan, a tube surrounding the discharge end of the oil pipe, a steam generator located above the pan beneath the lid, and a connection between the steam generator and the aforesaid tube.

4. In a liquid fuel burner, an air supply pipe, an oil tube in the air pipe, and having its discharge end spaced from the discharge end of said pipe, a tube surrounding the discharge end of the oil pipe, a steam generator, and a connection between the steam generator and the tube.

976,593. CLEAN-OUT ATTACHMENT FOR BATH WASTES AND OVERFLOWS. EDWIN NEWSOME, Ottawa, Ontario, Canada. Filed July 16, 1910. Serial No. 572,395.

1. A waste pipe of the character described, having a stopper and a clean out device carried by the stopper, said clean out device comprising a rod formed with transversely extending cross bars.

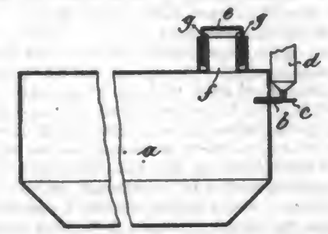
2. A waste pipe of the character described comprising in combination, two sections at right angles to each other, a connecting member for the two sections having an aperture therein opposite one of the sections, a stopper in the aperture, and a clean out device carried by the stopper and extending in one of the sections.



3. A waste pipe of the character described comprising in combination, two sections at right angles to each other, a connecting member for the two sections having an aperture therein opposite one of the sections, a stopper in screw-threaded engagement with the walls of the aperture, and a clean out device carried by the stopper and extending in one of the sections.

4. A bath waste and overflow pipe comprising a waste pipe and overflow pipe, a connecting section, coupling members connecting said connecting section with the overflow and waste pipes, each of said coupling members being formed with an aperture opposite the connecting section, interchangeable plugs for said apertures, and a clean out device carried by one of said plugs and extending in the connecting section.

976,594. PROCESS OF PROVIDING BRONZE-POWDER AND DUST COLORS WITH A COAT OF VARNISH. ERNST OSSEA, Berlin, Germany. Filed Sept. 22, 1909. Serial No. 519,061.



1. The process of coating bronze powder and dust colors with a coat of varnish, which consists in mixing the pulverized material with a rapidly drying varnish, and then spraying the mixture under pressure in a closed chamber and permitting it to drop to the bottom of the chamber as a dry powder.

2. The process for coating bronze powder or dust colors with varnish, consisting in mixing the pulverized material with a rapidly drying varnish and reducing the mixture to the powdered form before the mass hardens.

3. The process of coating bronze powder and dust colors with a coat of varnish, which consists in mixing the pulverized material with a rapidly drying varnish in a sprayed state, stirring the mixture until it forms a thin pulp and then spraying it under pressure in a closed chamber, and permitting it to drop to the bottom of the chamber as a dry powder.

4. A dry powdered bronze, the particles of which are coated with a layer of transparent varnish.

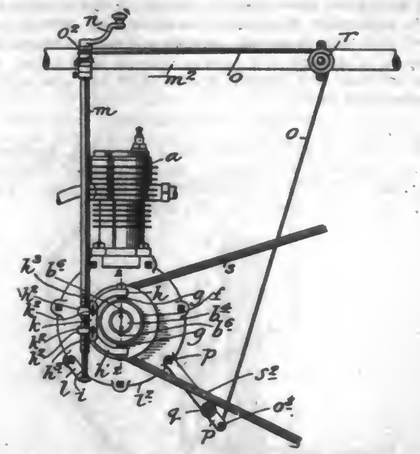
976,595. CAR-BRAKE. MARTIN A. PAHLER, Hartford, Conn. Filed Jan. 27, 1910. Serial No. 540,340.



1. A car brake in combination with a car truck comprising on each side a set of brake shoes inwardly hung, the said shoes pivotally supported in a pendent position, a dead lever pivotally supported by its upper end and attached near its lower end to one shoe, a live lever attached to the other shoe, the said shoes free from other connections, the said levers interconnected at the lower ends by a tie rod, the said live levers arranged so as to be each inwardly receding from its lower end toward its upper end and of such length as to overhang the truck body adjacent the central line of the truck, and the said live levers cross connected at their upper ends by an operating bar, the connection of the said levers and bar comprising a rocking connection, the said bar provided with shoulders limiting the separation of the said levers, and the said bar straight and located adjacent the central line of the truck, and a brake rod connected by an essentially fixed pivotal connection to the center of the said bar.

2. In a car brake in combination with a car truck comprising side frames, the said car brake comprising front and rear brake shoes, dead levers connected to the rear shoes, live levers connected to the front shoes, the live lever and dead lever on each side connected by a tie rod, the said brake shoes supported in a pendent position and interconnected with said levers, the means of support for said brake shoes comprising links pivotally supported by their upper ends from brackets, the said brackets secured to said side frames by clamping bolts, and provided with elongated receiving holes for said clamping bolts.

976,596. SPEED-REGULATING PULLEY FOR MOTOR-CYCLES. GEORGES HENRI PERTUISET, Geneva, Switzerland. Filed Feb. 16, 1910. Serial No. 544,168.



1. In an apparatus for regulating the speed of motor cycles, a motor provided with a shaft, a pulley composed of two parts, one of which is provided with a hub keyed to the shaft of the motor and having a sleeve, the other part of said pulley being provided with a sleeve movable longitudinally on the sleeve of the hub of the part which is keyed to the shaft of the motor, said sleeves being provided with annular caps which are rotatable thereon, a vertically arranged rotatable shaft, arms connected with said shaft and movable toward and from each other ac-

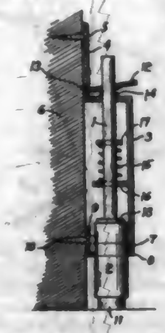
cording to the direction in which said shaft is turned and wedge-shaped devices connected with said arms and movable radially in said annular space when said arms are moved in opposite directions by the turning of said shaft.

2. In an apparatus for regulating the speed of motor cycles, a motor provided with a shaft, a pulley composed of two parts, one of which is provided with a hub keyed to the shaft of the motor and having a sleeve, the other part of said pulley being provided with a sleeve movable longitudinally on the sleeves of the hub of the part which is keyed to the shaft of the motor, said sleeves being provided with annular caps which are rotatable thereon, a vertically arranged rotatable shaft, arms connected with said shaft and movable toward and from each other according to the direction in which said shaft is turned and wedge-shaped devices connected with said arms and movable radially in said annular space when said arms are moved in opposite directions by the turning of said shaft, a driving belt passing around said pulley and means whereby the turning of said shaft will also tighten or loosen said belt.

3. In an apparatus for regulating the speed of motor cycles, a motor provided with a shaft, a pulley composed of two parts, one of which is provided with a hub which is keyed to the shaft of a motor and provided with a sleeve, the other part of said pulley being provided with a sleeve movable longitudinally on the sleeve of the hub of the part which is keyed to the shaft of the motor, said sleeves being each provided with an annular member or shoulder between which is an annular space, a vertically arranged shaft, arms connected with said shaft and movable toward and from each other according to the direction in which said shaft is turned, and wedge-shaped devices connected with said arms and radially movable in said annular space.

4. In an apparatus for regulating the speed of motor cycles, a motor provided with a shaft, a pulley composed of two parts, one of which is provided with a hub which is keyed to the shaft of a motor and provided with a sleeve, the other part of said pulley being provided with a sleeve movable longitudinally on the sleeve of the hub of the part which is keyed to the shaft of the motor, said sleeves being each provided with an annular member or shoulder between which is an annular space, a vertically arranged shaft, arms connected with said shaft and movable toward and from each other according to the direction in which said shaft is turned, wedge-shaped devices connected with said arms and radially movable in said annular space, a driving belt passing around said pulley and means whereby the turning of said shaft will also tighten or loosen said belt.

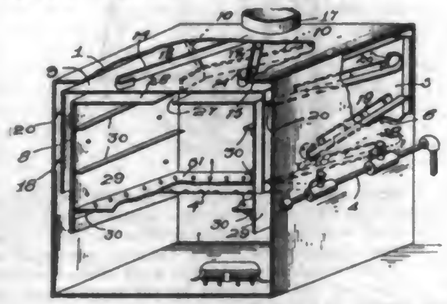
976,597. DOOR-STOP. ARTHUR J. PREVOST, Rochester, N. Y., assignor to Caldwell Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed Mar. 24, 1910. Serial No. 551,401.



1. A door stop having, in combination, a plunger, a casing in which the plunger slides, means for securing the upper end of the casing to a door, and means for securing the lower end of the casing to the door comprising a socket member inclosing the end of the casing and having a lug extending upward behind the casing and adapted to be secured to the door.

2. A door stop having, in combination, a plunger, a casing in which the plunger slides, the casing being open at the rear and having a reduced lower end, means for securing the upper end of the casing to a door, and means for securing the lower end of the casing to the door comprising a socket member inclosing the reduced end of the casing and substantially flush with the general surface of the casing and a lug extending upward from the socket between the sides of the casing and adapted to be secured to the door.

976,598. BAKING-OVEN. JOHN G. REDFORD, Milwaukee, Wis. Filed Nov. 27, 1908. Serial No. 464,661.



1. A device of the character described comprising a casing provided with heating means and means for permitting the escape of products of combustion, a shell supported in spaced relation therein, heat deflectors carried by the under and outer surface of the top of said shell and by the sides and rear thereof, an oven inclosed by said shell and supported in spaced relation thereto, said oven being provided with a slotted top for the escape of the products of combustion and a perforated bottom for the admission of the products of combustion.

2. A device of the character described comprising a casing provided with a source of heat and means for permitting the escape of products of combustion, a shell arranged in spaced relation therein and having an open front and bottom, an upper, lower and intermediate heat deflector carried by each side of said shell, a pair of divergent deflectors carried by the top of said shell, upper and lower pairs of divergent deflectors carried by the rear of said shell, a deflector carried by the under surface of the top of said shell, an oven supported within said shell in spaced relation thereto and provided with a slotted top for delivering the products of combustion to the deflector on the under surface of the top of said shell, and a perforated bottom for said oven for admitting the products of combustion to the interior thereof.

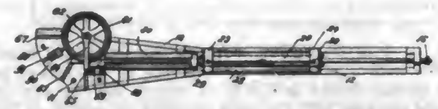
3. A device of the character described comprising a casing having an outlet in its top, a shell supported in spaced relation within said casing, an oven inclosed by said shell which receives the products of combustion and delivers the same to the deflectors on the under surface of the top of the shell, a deflector carried by the under side of the top of said shell for causing the products of combustion to flow down the sides and rear of said shell, deflectors on the sides of said shell for causing the products of combustion to have a tortuous passage up the outer surface of said sides, deflectors on the rear for causing the products of combustion to go up and down said rear and deliver the same to the top of the shell, the latter being provided with means for preventing the products of combustion from the sides and rear passing around the ends of said rear, and deflectors on the outer surface of the top of the shell for receiving the products of combustion from said sides and rear and delivering the same to the outlet of the casing.

4. A device of the character described comprising a casing provided with a source of heat and means for permitting the escape of products of combustion, a shell therein provided with heat deflectors on the outer surface of its sides and end and on the outer and inner surfaces of its top, means carried by the rear of said shell for preventing communication between the side spaces and the rear space formed between said shell and casing, an oven supported in spaced relation within said shell and provided with a bottom inlet and a top outlet for the products of combustion, and means carried by the rear of said oven for preventing the products of combustion passing from its sides to said rear.

5. A device of the character described comprising a casing provided with a source of heat, and provided with a top outlet, a shell supported in spaced relation therein, a substantially Y-shaped deflector carried by the under surface of the top of said shell for diverting the products of combustion down the sides and rear of the said shell, an oven supported in spaced relation within said shell and provided with means for admitting the products of combustion and for discharging the same to said Y-shaped deflector, heat deflectors carried by the outer surface of the sides and the rear of the shell for diverting the products of combustion over and up their surfaces, and heat deflectors on the outer surface of said top for receiving and guiding the products of combustion from said sides and rear to said casing outlet..

[Claims 6 and 7 not printed in the Gazette.]

976,599. PIPE-BENDING MACHINE. GEORGE H. REYNOLDS, Mansfield Depot, Conn.; Abby E. Reynolds, administratrix of said George H. Reynolds, deceased, assignor to General Fire Extinguisher Company, a Corporation of New York. Filed Apr. 30, 1907. Serial No. 371,157.



1. In a pipe-bending machine, a rotatable forming sheave, means for clamping a pipe to said sheave, a hydraulic cylinder, a hollow piston within the cylinder, a hollow piston-rod and a hollow tail-piece connected with the piston, a stationary gas-pipe within the piston, piston-rod and tail-piece, said piston being arranged to move the pipe and the sheave together to bend the pipe.

2. In a pipe-bending machine, a rotatable forming sheave, means for clamping a pipe to said sheave, a hydraulic cylinder, a hollow piston within the cylinder, a hollow piston-rod and a hollow tail-piece connected with the piston, a stationary member within the piston, piston-rod and tail-piece, and a supporting-plug upon the stationary member, said piston being arranged to move the pipe and the sheave together to bend the pipe.

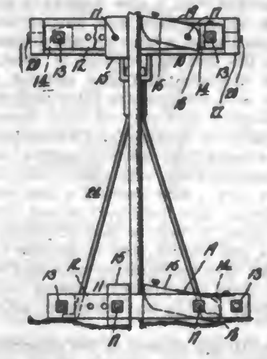
3. In a pipe-bending machine, a rotatable forming sheave, means for clamping a pipe to said sheave, a hydraulic cylinder, a hollow piston within the cylinder, a hollow piston-rod and a hollow tail-piece connected with the piston, a stationary gas-pipe within the piston, piston-rod and tail-piece, a supporting-plug upon the gas-pipe, and a gas-burner on the supporting plug, said piston being arranged to move the pipe and the sheave together to bend the pipe.

4. In a pipe-bending machine, a frame, a rotatable forming sheave associated therewith, means for clamping a pipe to said sheave, a hydraulic cylinder comprising a lining, a shell and an intermediate noncompressible filler; cylinder-heads attached to the frame, a circular groove in each of the cylinder-heads, said grooves being arranged to hold the cylinder, packing in said grooves, a plurality of tie-bolts arranged to hold the cylinder-heads and cylinder together, and a piston within the cylinder, said piston being arranged to move the pipe and the sheave together to bend the pipe.

5. In a pipe-bending machine, a frame, a rotatable forming sheave associated therewith, means for clamping a pipe to said sheave, a hydraulic cylinder comprising a lining, a shell and an intermediate noncompressible filler, cylinder-heads attached to the frame, a circular groove in each of the cylinder-heads, said grooves being arranged to hold the cylinder, packing in said grooves, a plurality of tie-bolts arranged to hold the cylinder-heads and cylinder together, a hollow piston within the cylinder, a hollow piston-rod and a hollow tail-piece connected with the piston, a stationary gas-pipe within the piston, piston rod and tail-piece, said piston being arranged to move the pipe and the sheave together to bend the pipe a supporting-plug attached to the gas-pipe within the clamped pipe, and a gas-burner on the end of the supporting-plug.

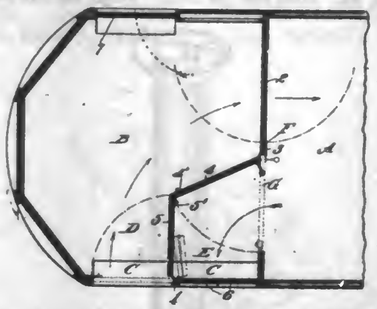
[Claims 6 to 8 not printed in the Gazette.]

976,600. PUMP-PIPE INSERTOR AND REMOVER. WADDILL L. RHODES, Lonie, Tex. Filed Mar. 9, 1910. Serial No. 548,234.



The combination of lifting and holding frames, each comprising parallel side bars having connecting means adjacent their ends, and spacing members therebetween through which said connecting means pass, and each having intermediate opposing dogs, the spacing members of the lifting frame having rounded extensions projecting longitudinally beyond the ends of the frame, a supporting frame, and a lever fulcrumed upon said frame and having a yoke at one end provided with slots in its side pieces to slidably and rotatably receive the said extensions of said lifting frame, for the purpose described.

976,601. PASSENGER-CAR. EDWARD T. ROBINSON, St. Louis, Mo., assignor to St. Louis Car Company, St. Louis, Mo., a Corporation. Filed Mar. 13, 1908. Serial No. 420,891.



1. A car having a body portion and an extension arranged for communication with each other, a door whereby communication between said body portion and extension may be partially closed, and a door in said extension adapted to serve with the first named door to provide two passages in said extension, substantially as set forth.

2. A car having a body portion and an extension arranged for communication with each other, the extension

being provided with a side opening, a door whereby communication between said body portion and extension may be partially closed, a door in said extension adapted to serve with the first named door to provide two passages in said extension, and a door adapted to partially close the side opening of said extension, substantially as set forth.

3. A car having a body portion and an extension arranged for communication with each other, the extension being provided with a side opening, a door whereby communication between said body portion and extension may be partially closed, and a door in said extension adapted to serve with the first named door to provide two passages in said extension and also adapted to serve to partially close said side opening, substantially as set forth.

4. A car having a body portion and an extension arranged for communication with each other, the extension being provided with a side opening, a door whereby communication between said body portion and extension may be partially closed, a door in said extension adapted to serve with the first named door to provide two passages in said extension and also adapted to serve to partially close said side opening, and catches carried by said doors whereby they may be held assembled or in their closed positions, substantially as set forth.

5. A car having a body portion and an extension arranged for communication with each other, the extension being provided with a side opening, a door whereby communication between said body portion and extension may be partially closed, a door in said extension adapted to serve with the first named door to provide two passages in said extension in communication with said side opening, and a second door for partially closing communication between said body portion and extension, substantially as set forth.

[Claims 6 to 10 not printed in the Gazette.]

976,602. ART OF BREWING BEER AND OTHER LIQUORS. FRANK ROGERSON, Streatham, England, assignor to Ozonair Limited, London, England. Filed Aug. 5, 1907. Serial No. 387,141.

1. In the art of brewing beer or other liquors, the process of purifying and ozonizing wort by bringing an atmosphere of sterilized ozonized air into surface contact only with the wort during fermentation.

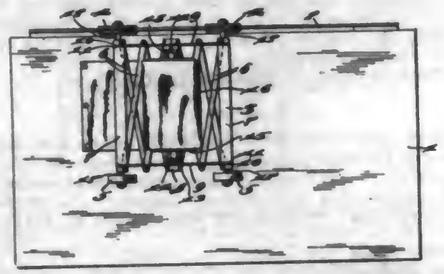
2. In the art of brewing beer or other liquors, the process which consists of fermenting a wort in surface contact only with ozonized air by means of yeast which has been stored in surface contact with ozonized air.

976,603. STOVEPIPE-LOCK. CHARLES RONEY, Hallstead, Pa. Filed Feb. 19, 1910. Serial No. 544,931.



A device for connecting the telescoping ends of stove pipe sections together, each of said sections having diametrically-arranged through openings therein which register together in pairs when said sections are telescoped, a detachable connector comprising a semi-circular strip of resilient material with openings in opposite ends, rivets having their outer portions cut away to provide necks having shoulders contiguous therewith, said necks being inserted through the openings of the strip so that their shoulders will contact with the under surface of the same, said rivets being headed so as to permanently secure them to the strip, said strip adapted to be applied with one of its rivets inserted through one pair of registering openings of the sections of pipe, the rivet on the opposite end of the strip being snapped through the other pair of registering openings of the pipe sections and held thereto by frictional contact therewith.

976,604. DEVICE FOR PILING CLOTH IN THE DESIRED LENGTHS. SAMUEL SAMPSON, Philadelphia, Pa. Filed June 8, 1910. Serial No. 565,798.



1. In a device of the character described, the combination with a collapsible car and rods on one end of the car having hooked free ends to engage the opposite end of the car and hold the same extended, of means on said car for supporting material, and means for guiding material from said car, when the latter is moved in either of its normal directions, substantially as described.

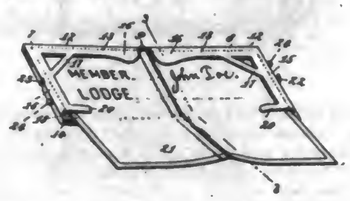
2. In a device of the character described, the combination with a collapsible car and rods on one end of the car having hooked free ends to engage the opposite end of the car and hold the same extended, wheels supporting the car, brackets on the car, means on said brackets supporting a bolt of material, and said car having a slotted guide at its lower central portion through which the material from said bolt is passed, substantially as described.

3. In a device of the character described, the combination with a support, of a wheeled collapsible car and rods on one end of the car having hooked free ends to engage the opposite end of the car and hold the same extended on said support, means on said car affording rotary mounting for a bolt of material, and a slotted guide located centrally of the car through which the material from said bolt is passed, substantially as described.

4. In a device of the character described, the combination with a table, and a rail secured on one edge of the table, of a collapsible car comprising a frame, rods pivotally connected at one end to one end of the frame and having hooked free ends adapted to engage the opposite end of the frame and hold the frame extended, two grooved wheels supporting one end of said frame and mounted on said rail, two flat wheels supporting the other end of said frame and mounted on the table, brackets on the frame, and means affording rotary mounting for a bolt of material at the upper ends of said brackets, and a slotted bar at the center of said frame through which the material is fed from the bolt, substantially as described.

5. In a device of the character described, the combination with a table, and a rail secured on one edge of the table, of a car comprising a frame, two grooved wheels supporting one end of said frame and mounted on said rail, two flat wheels supporting the other end of said frame and mounted on the table, brackets on the frame, and means affording rotary mounting for a bolt of material at the upper ends of said brackets, a slotted bar at the center of said frame through which the material is fed from the bolt, said frame comprising three parallel bars, pivoted bars connecting said parallel bars and permitting said bars to be moved together, rods pivoted to the outside bars, and means on the free ends of said rods for securing them to the opposite end bars, substantially as described.

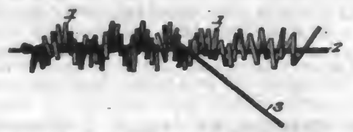
976,605. CARD-CASE. ALFRED SCHICKERLING, New York, N. Y. Filed Feb. 11, 1910. Serial No. 543,320.



1. A card case comprising two rectangular sections hinged together, a frame secured to each section and spaced apart therefrom so that the edge of a card may lie between the frames and the sections to which they are attached, and said frames being arranged upon the surfaces of said sections which are inmost when the case is closed, said frames being cut away adjacent the lower ends of the sections to thereby provide an opening through which a card of a width corresponding substantially with the combined width of the two sections when open may be placed within the case and beneath the frames.

2. A card case comprising two rectangular sections hinged together, a frame secured to each section and spaced apart therefrom so that the edge of a card may lie between the frames and the sections to which they are attached, and said frames being arranged upon the surfaces of said sections which are inmost when the case is closed, said frames extending across the upper ends of the sections and down the edges thereof remote from the hinge connection and having each a slot adjacent the lower ends of the sections, which slots together provide an opening of sufficient length to permit a card of a width corresponding substantially with the combined width of the two sections when open to be placed within the case, each of said frames having a projecting portion bent toward the section to which the frame is attached to thereby form a clip for more securely holding a card in place.

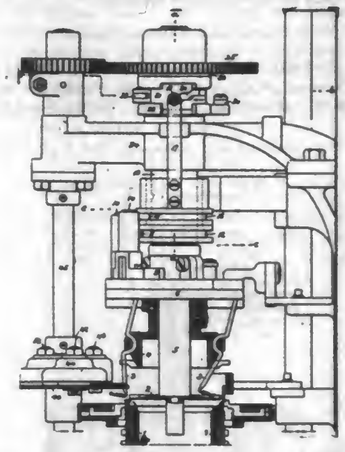
976,606. CULINARY SCRAPER AND SCOURER. GEORG E. SCHMIDMER, Nuremberg, Germany. Filed Aug. 31, 1909. Serial No. 515,476.



As a new article of manufacture, a flexible scraper consisting of a spirally wound metal strip, a cord passing through said strip and forming substantially the axis of said strip, said cord having an end projecting exterior of said strip and doubled back and intertwisted with said metal strip and with the axis portion of said cord.

976,607. KNITTING-MACHINE. ROBERT W. SCOTT, Leeds Point, N. J., assignor, by direct and mesne assignments, to Scott & Williams, Incorporated, Camden, N. J., a Corporation of New Jersey. Filed May 15, 1907. Serial No. 373,876.

1. The combination, in a knitting machine, of dial needles, cams for operating the same to transfer their stitches, cam-adjusting devices, and means for effecting a common rise and fall of said dial needle cams and cam-adjusting devices.



2. The combination, in a knitting machine, of dial needles, cams for operating the same to transfer their stitches, cam-adjusting devices, dial needle raising and lowering devices, and means engaged by the latter for imparting a like movement to the cam-adjusting devices.

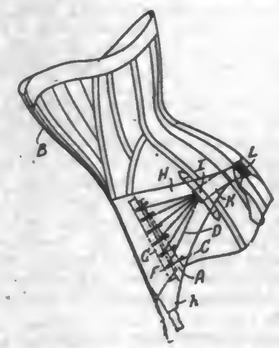
3. The combination, in a knitting machine, of dial needles, cams for operating the same to transfer their stitches, dial needle raising and lowering devices, and cam-adjusting devices engaging, but susceptible of movement independently of, said raising and lowering devices.

4. The combination, in a knitting machine, of dial needles, cams for operating the latter to transfer their stitches, dial needle raising and lowering devices, and cam-adjusting devices comprising cam segments engaging said raising and lowering devices but movable independently of the same, said cam segments being constructed to provide lost motion between them.

5. The combination, in a knitting machine, of dial needles, cams for operating the latter to transfer their stitches, and means for imparting to said cams a two-stage movement whereby they are caused to engage the needles.

[Claims 6 to 21 not printed in the Gazette.]

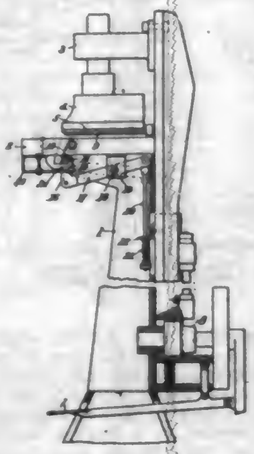
976,608. CORSET. HERBERT TREVOR SHERWOOD, London, England. Filed July 11, 1910. Serial No. 571,396.



A corset comprising a body portion formed with an incision and with eyelets adjacent the line of incision on one side thereof, laces passed through said eyelets and secured at their ends to the body of the corset on the opposite side of the line of incision, a flap passing from

the front to the back of the corset provided with a strip formed with eyelets through which said laces are also passed and an elastic web secured to the flap and to which the other ends of the laces are secured.

976,609. FABRIC-MARKING MACHINE. JAMES A. SHUFELT, Oswego, N. Y., assignor to Frederic Conde, Oswego, N. Y. Filed July 1, 1908. Serial No. 441,304.



1. In a fabric marking machine, the combination of a table for the fabric provided with an opening, and forming a platen, a movable marking die arranged to engage one face of the fabric and press the same against the platen, and a second marking device arranged to pass through the opening in the table and engage the opposite face of the fabric, and an operating means common to both said dies for simultaneously operating them in opposite directions.

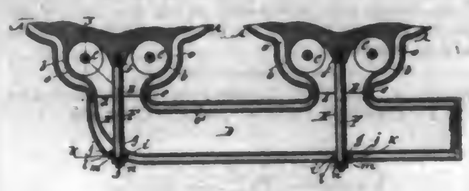
2. In a fabric marking machine, the combination of a table for the fabric provided with an opening and forming a platen, a movable marking die arranged to engage one face of the fabric and press the same against the platen, and a second marking device movable upward through the opening to engage the opposite face of the fabric, a pivoted frame supporting the second die and means for simultaneously operating both of said dies in opposite directions.

3. In a fabric marking machine, a marking die, a second marking device independent of said marking die, a common treadle for operating them, independent connections between the treadle and marking die, and the second marking device, for respectively operating them, said second marking device comprising a revoluble disk, a gear member connected to the die, a stationary rack with which said stationary gear engages, and an ink distributing member engaging the periphery of said die.

4. In a fabric marking machine, a marking die, a second marking device independent of said marking die, a common treadle operating them, independent connections between the treadle and marking die and the second marking device for respectively marking them, said second marking device comprising a revoluble disk, a gear member connected to the die, a stationary rack with which said stationary gear engages, and an ink distributing member engaging the periphery of said die, said revoluble disk die being adjustable axially with means for locking it in adjustable positions, and means for revolving it during its oscillation.

976,610. EXHAUST-MANIFOLD OR PIPE CONNECTION FOR EXPLOSION-ENGINES. ALBERT B. SHULTZ, Buffalo, N. Y. Filed Jan. 5, 1910. Serial No. 536,496.

1. The combination of an explosion engine cylinder having an exhaust outlet, an exhaust pipe having a nipple communicating with said outlet, and means for connecting said cylinder and pipe comprising a stud arranged within said nipple, and a tension device interposed between said stud and manifold and operating to press the latter yieldingly against the cylinder.



2. The combination of an explosion engine cylinder having an exhaust outlet, an exhaust pipe having a nipple communicating with said outlet and provided on the side opposite its nipple with an opening, a stud arranged in said nipple and secured at its inner end to the cylinder while its outer end passes through said opening, a packing applied to said stud and bearing against the outer side of said manifold, and a pressure device applied to said stud and bearing against the outer side of said packing.

3. The combination of an explosion engine cylinder having an exhaust outlet, an exhaust pipe having a nipple communicating with said outlet and provided on the side opposite its nipple with an opening, a stud arranged in said nipple and secured at its inner end to the cylinder while its outer end passes through said opening, a packing applied to said stud and bearing against the outer side of said manifold, a screw nut arranged on the outer end of said stud, and a spring washer interposed between said packing and nut.

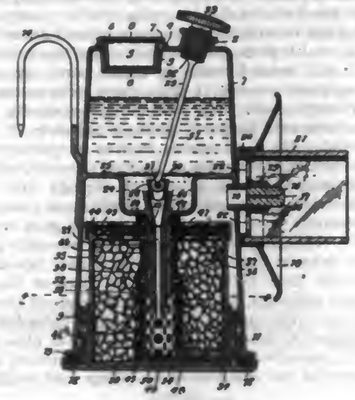
4. The combination of an explosion engine cylinder having an exhaust outlet, an exhaust pipe having a nipple communicating with said outlet and provided on the side opposite its nipple with an opening and a recess at the outer end of said opening and water jacket adjacent to said opening and recess, a stud arranged in said nipple and secured at its inner end to the cylinder while its outer end passes through said opening and recess, a packing surrounding said stud and bearing against the bottom of said recess, and a tension device mounted on the outer end of the stud and bearing against the packing.

5. The combination of an explosion engine cylinder having an exhaust outlet, an exhaust pipe having a nipple communicating with said outlet and provided on the side opposite its nipple with an opening, and a recess at the outer end of said opening and water jacket adjacent to said opening and recess, a stud arranged in said nipple and secured at its inner end to the cylinder while its outer end passes through said opening and recess, a packing surrounding said stud and bearing against the bottom of said recess, a screw nut applied to the outer end of the stud, and a spring washer interposed between said packing and screw nut.

976,611. CARBID-LAMP. SAMUEL E. SIMMONS, Litchfield, Ill. Filed Oct. 4, 1909. Serial No. 520,898.

1. In a device of the class described, a generator comprising a casing for containing carbid, a cup in which the casing rests, said casing having a perforated top depressed below the upper end, a perforated cap on the upper end of the casing, a disk of absorbent material between the cup and the top of the casing, inner and outer perforated tubes arranged concentric with the casing, a layer of absorbent material between the tubes, means for delivering water to the inner tube, and a container for the generated gas inclosing the casing.

2. In a device of the class described, a carbid holder, having a perforated top depressed below the top of the holder, a disk of absorbent material seated in the top, a perforated cap seated on the disk and top of the holder, a container for the gas inclosing the holder, inner and outer perforated tubes at the center of the holder, a layer of



absorbent material between the tubes, and means for supplying water to the inner tube.

976,612. MATCH-STRIKING CABINET. COVERT R. SMITH, Freeport, Ohio. Filed Jan. 15, 1910, Serial No. 538,293. Renewed Oct. 17, 1910. Serial No. 587,512.



1. A match cabinet embodying a storage compartment provided with a discharge opening, a match picker mounted in said cabinet, and an ejecting plate slidingly mounted in the cabinet below the discharge opening and operatively connected to the picker arm to turn the same upon the sliding movement of the plate.

2. A match striking cabinet, embodying a storage magazine provided with a discharge opening, an ejecting plate adapted to slide in the cabinet underneath the discharge opening, a picker arm operatively connected to the ejecting plate, and springs coacting with the plate and underneath which the match is passed by the plate, the plate being formed with a beveled edge underneath one of said springs as and for the purpose set forth.

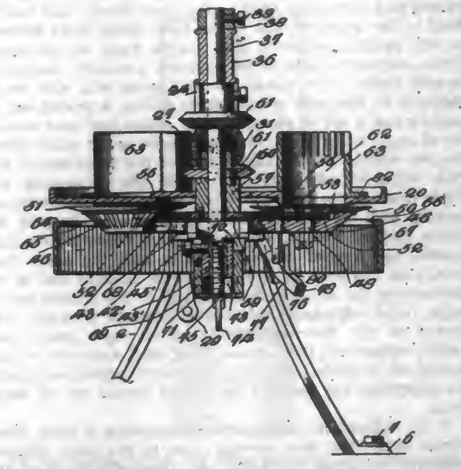
3. A match striking cabinet, embodying a storage magazine, an ejecting plate operating in the cabinet and adapted to receive the matches from said magazine, a match picker mounted for a back and forth turning movement in the cabinet and operatively connected to the ejecting plate, and guides mounted within the cabinet at opposite sides of said picker, said guides being formed with forwardly deflected front ends, for the purpose specified.

4. A match striking cabinet embodying a storage magazine, a match ejecting plate operating underneath the storage magazine and spring pressed in one direction, means for moving the plate in the opposite direction, the plate being formed with a rack, a match picker mounted for a back and forth movement in the cabinet and formed with teeth meshing with the teeth of the rack, and a match striking element coacting with the ejecting plate at the front of the cabinet.

5. A match striking cabinet embodying a storage magazine, an ejecting plate mounted for a back and forth sliding movement in the cabinet underneath the magazine, said plate being formed with a rack, a spring tending to move said plate forwardly in the cabinet, means for moving said plate rearwardly in the cabinet, a match picker mounted for a back and forth turning movement in the cabinet and formed with teeth meshing with the teeth of the rack, the cabinet being provided at opposite sides of the match picker with curved guides the front ends of which are forwardly deflected, for the purpose specified, and a match striking element coacting with the ejecting plate at the front of the cabinet.

[Claims 6 to 9 not printed in the Gazette.]

976,613. VEGETABLE-SLICER. EDWARD F. SMITH, Rochester, N. Y. Filed Nov. 19, 1908. Serial No. 463,458.



1. A slicing machine comprising a frame, a rotary arm carried by the frame, a rotary knife carried by the outer end of the arm, a rotary gear carried by the frame and rotating in opposite direction to that of the arm, a gear carried by the knife and an intermediate gear meshing with said gears.

2. A slicing machine comprising a frame, a rotatable arm carried by the frame, means for rotating the arm, a rotary knife carried by the arm, a rotatable gear carried by the frame, means for rotating the gear in a direction opposite the rotation of the arm, a gear carried by the knife and an intermediate gear carried by the arm and meshing with said gears.

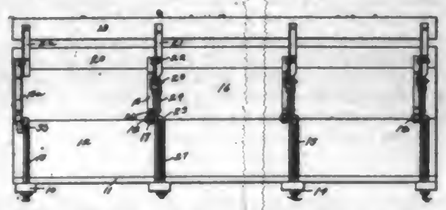
3. A slicing machine comprising a frame, a vertical shaft therein, an arm carried by the shaft, means for rotating said shaft, a gear loosely mounted upon the shaft, means for rotating the gear in a direction opposite the rotation of the shaft, a gear carried by the knife, a gear carried by the arm and meshing with said gears.

4. A slicer comprising legs, a frame pivotally supported by said legs, means for locking the frame in its adjusted position, a rotary arm below the frame, a rotary cutter carried by the outer end of the arm, and means for rotating the arm in one direction and rotating the knives of the arm in the opposite direction, and a gage plate carried by the arm for regulating the thickness of the slice.

5. A slicer comprising legs, a frame between the legs and having pivots mounted in the legs, a set screw carried by one leg and engaging the frame for holding it in its adjusted position, means for limiting the oscillating movement of the frame, an arm rotatably supported by the frame adjacent the lower face, a cutter rotatably supported upon the upper face of said arm, and means for rotating the arm and rotating the knife on the arm in a direction opposite to the movement thereof.

[Claims 6 to 24 not printed in the Gazette.]

976,614. ADJUSTABLE WAGON-RACK. ANDREW E. SUTHERLAND, Madrid, Iowa. Filed July 21, 1909. Serial No. 508,858.



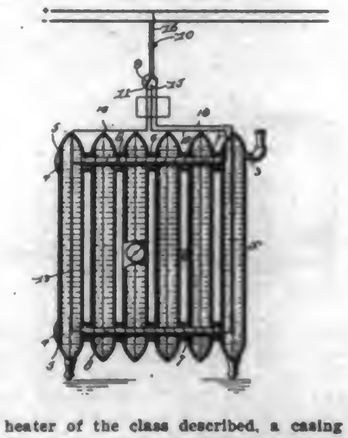
1. An adjustable wagon rack, comprising a floor, cross pieces under the floor, upright supports extending upwardly and forwardly fixed to the cross pieces, side boards fixed to the supports and to the floor, angle irons pivoted to the upright supports, side boards fixed to the angle irons, adjustable side board supports pivotally connected to said angle irons, means for connecting said side board supports to the ends of said cross pieces, a second set of angle irons, a set of pins pivotally connecting said second set of angle irons to the first mentioned set of angle irons, the pin connecting the angle irons at the front end of the rack being of minimum length, the pin connecting the angle irons at the back end of the rack being of maximum length, and the others being of graduated lengths between the two first mentioned so that in adjusting the side boards, the longest pin will engage with the angle iron first, then the next longest pin will be engaged and so on throughout the set, side boards fixed to the second set of angle irons, adjustable side board supports pivotally connected to the first mentioned set of angle irons, side board supporting links connecting said supports to the second set of angle irons, and side board supporting chains for adjusting the side boards on the second set of angle irons.

2. An adjustable wagon rack, comprising a floor, cross pieces under the floor having slots in the ends thereof, supports extending upwardly and forwardly fixed to the cross pieces, side boards fixed to the supports, angle irons pivotally and slidingly connected to the forwardly extended ends of the supports, side boards fixed to said angle irons, a second series of angle irons pivotally connected to the aforesaid angle irons, side boards fixed to said second series of angle irons, side board supports pivotally connected at their upper ends to the first mentioned series of angle irons, and extending through the slots in the ends of said cross pieces, spring bars in said slots to engage said pivoted supports, plates in the slots to support the pivoted supports, lugs extending through the supports near the bottom ends, rods fixed to the cross pieces extending outwardly and upwardly to engage said lugs, links pivotally connected to the supports at one end, and to the second series of angle irons at the other end, chains fixed to the forward end gate, and hooks on the side boards to engage said chains, for the purposes stated.

3. An adjustable wagon rack, comprising a floor, cross pieces under the floor, supports extending upwardly and forwardly fixed to the cross pieces, side-boards fixed to the supports, angle irons pivotally and slidingly connected to the forwardly extended ends of the supports, side-boards fixed to said angle irons, a second series of angle irons pivotally connected to said angle irons, side-boards fixed to said second series of angle irons, straight side-board supports pivoted at their upper ends to the first series of angle irons, lugs extending outwardly and upwardly from said supports, slots in the ends of the cross pieces under the floor, spring bars in the slots to engage the pivoted supports, plates in the slots to support the pivoted supports, lugs extending through the supports near the bottom ends, rods fixed to the cross pieces extending outwardly and upwardly to engage said lugs, links pivotally connected to the supports at one end and to the second series of angle irons at the other, for the purposes stated, chains fixed to the forward end gate, and hooks on the side-boards to engage said chains.

4. An adjustable wagon rack, comprising a floor, cross pieces under the floor, supports extending upwardly and forwardly fixed to the cross pieces, side-boards fixed to the supports, angle irons pivotally and slidingly connected to the forwardly extended ends of the supports, side-boards fixed to said angle irons, a second series of angle irons pivotally connected to said angle irons, side-boards fixed to said second series of angle irons, straight side-board supports pivoted at their upper ends to the first series of angle irons, lugs extending outwardly and upwardly from said supports, slots in the ends of the cross pieces under the floor, spring bars in the slots to support the pivoted supports, plates in the slots to support the pivoted supports, lugs extending through the supports near the bottom ends, rods fixed to the cross pieces extending outwardly and upwardly to engage said lugs, links pivotally connected to said supports at one end, pins fixed to said links at the other end, said pins pivotally connecting the links to one side of the lugs on the pivoted side-board supports, lugs on the inner ends of the links to engage the other side of the outwardly extended lugs on the side-boards supports, and to keep said pins and lugs pivotally connected, chains fixed to the forward end-gate, and hooks on the side-boards to engage said chains.

976,615. ELECTRIC RADIATOR. JOHN A. TUPPER, Montpelier, Idaho. Filed Aug. 31, 1909. Serial No. 515,387.



In a heater of the class described, a casing provided with a series of vertical circulating chambers arranged side by side, a series of alined passages connecting the upper ends of said chambers, a second series of alined passages connecting the lower ends of said chambers, cores extending through said passages and arranged concentric of said passages to form annular spaces between the cores and the several walls of the passages, and resistance coils embracing said cores and extending through the annular passages, said coils terminating short of the outer chambers whereby the outer chambers remain cooler than the inner chambers.

976,616. MANUFACTURE OF ELECTRIC FILAMENTS. CARL AUER VON WELSBACH, Vienna, Austria-Hungary, assignor to Welsbach Light Company, Gloucester City, N. J., a Corporation of New Jersey. Filed Aug. 9, 1898. Serial No. 688,207.

1. A flexible, elastic, incandescent filament for an electric lamp, formed of metallic osmium arranged in a plurality of superimposed minute layers or laminæ all rendered compact and coherent, substantially as set forth.

2. A flexible, elastic, incandescent filament for an electric lamp, formed of metallic osmium arranged in several superimposed self-supporting layers or laminæ formed into a unitary, compact structure, substantially as set forth.

3. A flexible, elastic, incandescent filament for an electric lamp, consisting of a hollow or tube-like thread of metallic osmium formed of osmium particles arranged in a plurality of superimposed minute layers or laminæ rendered coherent and compact, substantially as set forth.

4. A flexible, elastic, incandescent filament for an electric lamp, formed of metal infusible at the temperature at which platinum volatilises and arranged in a plurality of superimposed minute layers or laminæ all rendered compact and coherent, substantially as set forth.

5. The herein described process of forming an incandescent filament for an electric lamp, consisting in depositing upon a carrier or fillet wire of metal infusible at ordinary temperatures and fusible only at high temperatures, a coating of metallic osmium, and heating the said coating to form a coherent, condensed structure by the action of the electric current until it is brought to the temperature of volatilization of the carrier or fillet metal, substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

976,617. RAIL-BOND. EUGENE M. WEAVER, Jamaica, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 20, 1910. Serial No. 572,847.

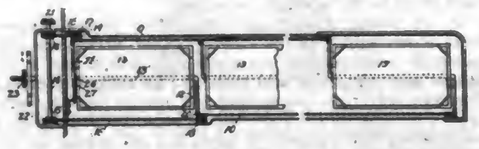


1. In a rail bond, a main body of stranded wire having an outer armor of larger wire than the inner wire.

2. In a rail bond, a main body of stranded wire having inner strands of small diameter, and a protecting outer layer of large wire.

3. In a rail bond, a main body portion having concentric series of strands of progressively larger size.

976,618. ADVERTISING DEVICE. MELVILLE S. WEILMAN, Cincinnati, Ohio. Filed Aug. 18, 1909. Serial No. 513,478.



1. In an advertising device for street cars and the like, a horizontally movable conveyer, and a series of frames pivotally supported by the conveyer at their forward and rear ends to be reversed about horizontal axes and means for reversing the frames.

2. In combination with a series of cards, supporting and propelling means for giving them a back and forth movement along a car, said cards being pivotally mounted on axes extending longitudinally of the propelling means and means for turning the cards at one end of their traveling movement.

3. In combination with an endless longitudinal conveyer, a series of cards connected therewith and having lateral movement at opposite ends of their travel and mounted to turn during such lateral movement on an axis parallel with the longitudinal line of movement of the conveyer, and means for turning the cards during their lateral movement at one end to present their opposite faces to view, substantially as described.

4. In an advertising device, a series of cards mounted to turn, an upper longitudinally traveling controlling device for one end of the cards having connections thereto and a longitudinally traveling controlling device for the other end of each card having connection thereto, said controlling devices projecting beyond each other at opposite ends of the travel of the cards and arranged to maintain the parallelism of the cards axially with the longitudinal direction of traveling movement of the controlling devices in both their forward and return traveling movement and at the ends of their traveling movement and turning means for the cards at the end of their travel in one direction.

5. In combination a series of cards mounted to turn, a propelling chain to which one end of each card is connected, and controlling means having connection with the opposite end of each card, said propelling chain and controlling means projecting in respect to each other at the ends of the travel of the cards and adapted to hold the cards in axial parallelism at all times and turning means for the cards at the end of their travel in one direction.

[Claims 6 and 7 not printed in the Gazette.]

976,619. REFRIGERATOR OR COLD-STORAGE APPARATUS. WILLIAM S. BARKER, Dayton, Ohio. Filed Nov. 20, 1909. Serial No. 529,087.



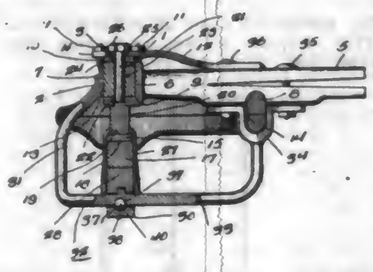
In an apparatus of the type specified, an outer casing adapted to be placed in the ground, an inner cylindrical receptacle within said casing, said receptacle having a series of shelves on the interior thereof, said receptacle having a longitudinal opening in one side thereof through which access may be had to the shelves, said receptacle inclosing the shelves from communication with the space between the receptacle and the outer casing at all other points than said opening, a head integrally joined to said receptacle and consisting of inner and outer members inclosing between them a non-heat conducting material, the inner member of said head lying within the circumference of the receptacle, and the outer member of said head being extended circumferentially beyond the circumference of the outer casing and adapted to form a seal in connection with a trough on said outer casing, and a vent in said head, all constructed and arranged substantially as shown and described.

976,620. ANTIFRICTION FIFTH-WHEEL. SAMUEL C. BAUCUM, McAlester, Okla., assignor of one-half to John Grace, McAlester, Okla. Filed Aug. 9, 1910. Serial No. 576,326.

1. A device for the purposes disclosed comprising a pair of segmental sections one of which is adapted to overlie the other section, plates connecting the ends of the segmental sections, one plate being secured to the head block of a wagon, the other being secured to the axle an axle bed of a wagon, and a yoke one end of which is secured to the upper segmental section and the other end to the head block extending under the axle and providing a ball bearing support for the same.

2. A device for the purposes disclosed comprising a pair of segmental sections one of which is adapted to overlie the other section, plates connecting the ends of the sections, one plate being secured to the head block of a wagon, a clamping plate adapted to overlie the head block and

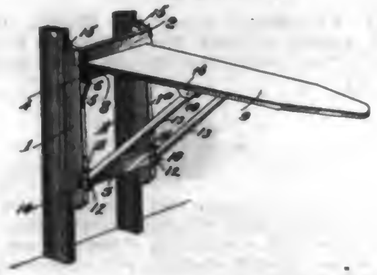
clamp therebetween the spring of the wagon, offset apertured ears formed upon the ends of the clamping plates, U-shaped bands or clips securing the clamping plate and one connecting plate to the head block, an L plate extending from one of the connecting plates, socketed extensions projecting from the L plate and forming an integral brace for one segmental section, an arm extending from the clamping plate and connected to the socketed extensions to form a brace for the same, the connecting plate for the other segmental section being secured to the axle and axle bed by means of U bands or clips and a yoke secured to one segmental section and extending under the axle to provide a ball bearing support for the same.



3. A device for the purposes disclosed comprising a pair of segmental sections one of which is adapted to overlie the other section, plates connecting the ends of the sections one of which is secured to the head block of a wagon, a clamping plate adapted to overlie the head block and clamp therebetween the front springs of the wagon, apertured ears formed upon the ends of the clamping plate, U-shaped bands or clips securing the clamping plate and one of the connecting plates to the head block, an L plate extending from one of the connecting plates vertically adjacent the side of the head block, socketed extensions projecting from the L plate and forming an integral brace for one segmental section, an arm extending from the clamping plate and connecting with the socketed extensions to form a brace for the same, the connecting plate for the lower segmental section adapted to rest upon the axle bed of the wagon, a bowed plate secured to the under side of the axle of the wagon, apertured ears formed upon the ends of the plate, U bands or clips securing the connecting plate of the lower segmental section and the bowed plate to the axle and axle bed, a king bolt, the head of which is seated in a recess formed in the lower connecting plate, extending upward through apertures located in the upper connecting plate, head block, springs, and clamping plate, a nut upon the end of the king bolt to hold the several parts against displacement, and a yoke extending downward from a plate connected with the L plate upon the opposite side of the head block, under the axle and forward to the socketed extensions and forming a ball bearing rest or support for the axle of the wagon.

4. In a device for the purpose described, the combination of upper and lower superposed segmental sections, upper and lower plates connecting the ends of the sections, the upper plate underlying the head block of a wagon, an upper clamping plate overlying the head block and clamping therebetween the front springs of a wagon, apertured ears formed upon the ends of the clamping plate, U-shaped bands or clips securing the clamping plate, upper connecting plates, and wagon springs to the head block, an L-plate extending from the upper connecting plate vertically and bearing against the forward side of the head block, diverging socketed extensions projecting from the L-plate and forming an integral brace for the upper segmental section and also a support for the reaches of the wagon, a bifurcated arm extending from the upper clamping plate and connected to and bracing the socketed extensions, the lower connecting plate overlying the axle-bed of the wagon, a bowed lower clamping plate underlying the axle of the wagon, apertured ears extending from the ends of the lower bowed clamping plate, a T-shaped king bolt extending upward through apertures located in the upper connecting plate, head blocks, wagon springs, and clamping plates, a nut upon the end of the king bolt for the purpose of holding the several parts against displacement, the cross head of the king bolt being seated in a recess formed in the upper face of the lower connecting plate, U bands or clamps extending over the ends of the head of the king bolt and through the apertured ears of the lower bowed clamping plate and securing the same within its seat or recess, a plate secured to the L plate upon the opposite side of the head block and a yoke extending downward, between the axle and bowed plate, then upward to form a ball bearing seat or rest for the axle and brace for the segmental sections.

976,621. FOLDING IRONING-BOARD. GEORGE L. BAXTER, Salt Lake City, Utah. Filed June 20, 1910. Serial No. 567,971.



1. An ironing table comprising a frame provided with wall-engaging side members, a bar connecting the upper ends thereof, a supporting bar pivotally connected to one side member, means carried by the other side member for normally retaining the supporting bar in spaced parallel relation to the connecting bar, a board having a grooved end adapted to be fitted between the connecting bar and the supporting bar, and braces pivotally connecting the said board to the said side members.

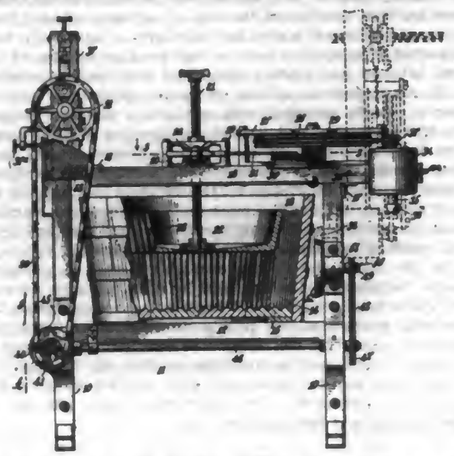
2. An ironing table comprising a wall frame provided with a connecting bar, a supporting bar having one end pivotally connected to one portion of said frame, a resilient seat carried by said frame for normally supporting the free end of the supporting bar, braces pivotally connected to said frame, and a board pivotally connected to said braces and adapted to have one end seated on the supporting bar and engaged by the connecting bar.

3. An ironing table comprising a wall frame formed of side members and a connecting bar for the upper ends thereof, a supporting bar pivotally connected to one side member, an abutment plate carried by the other side member, a resilient seat also carried by said side member and adapted to normally retain the free end of the supporting bar in engagement with said abutment, a board adapted to have one end supported between said bars, and braces pivotally connecting said board to said side members.

4. An ironing table comprising a wall frame, a board pivotally connected thereto and provided with a transverse end groove in its upper surface, a bar carried by said frame for engaging said groove, and a second bar pivotally connected to said frame for engaging the under surface of said board to retain said board in engagement with the first-mentioned bar.

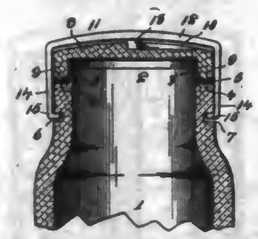
976,622. DRIVING MECHANISM. JOHN BECKER, Canal Dover, Ohio. Filed Dec. 1, 1909. Serial No. 530,869.

In combination, two active mechanisms, a movable member having one of said mechanisms mounted thereon and the said member being movable into two active positions, driving means on the member, adapted to operate the mechanism on the member when the member is in one active position and the said driving means being adapted to operate the other mechanism when the said member is in its other active position, offset shaft means on the movable member for disengaging the mechanism on the movable member from the driving means and a reciprocating



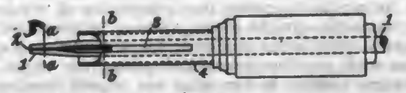
shaft on the movable member adapted to be driven by the mechanism on the member.

976,623. JAR-CLOSURE. FRANCIS MARION BELLES, Shickshinny, Pa. Filed Apr. 2, 1910. Serial No. 552,994.



The combination with a jar having inclined grooves or threads, of a cap having a convex top surface provided with a central circular recess and a radial groove leading therefrom to the edge of the cap, said recess merging at its outer end in the convex face and gradually increasing in depth to the recess, a clamp comprising a yoke having its arms provided with projections for engagement with said grooves or threads, and a lug formed upon the cross bar of the yoke and depending therefrom for pivotal engagement with the recess and sliding engagement with the groove, said lug having a pair of diametrically opposite curved sides for pivotal motion and a pair of diametrically opposite flattened sides arranged at right angles to said curved sides, said flattened sides being adapted to engage the side walls of the groove to guide the yoke in its sliding movements.

976,624. CIGARETTE-MOUTHPIECE MACHINE. WOLFF BENJAMINOWITSCH, Berlin, Germany, assignor of one-half to Albert Lohmann, Berlin, Germany. Filed Feb. 11, 1908. Serial No. 415,374.



1. In a device for winding paper spirals, the combination of concentric rotatable mandrels of different diameters adapted to have paper blanks wound thereon and which are located a short distance from each other, so that a portion of the paper blank may be wound up on the inner mandrel while covered by the other mandrel, said inner mandrel being rotatable with respect to said outer mandrel and adapted to grasp said blank.

2. In a device for winding paper spirals, the combination of a tubular outer mandrel and an inner mandrel placed within and concentric with the outer mandrel and spaced therefrom, whereby a portion of the paper blank may be wound first on the inner mandrel while covered by the outer mandrel and then another portion on the outer mandrel, said inner mandrel being rotatable with respect to the tubular mandrel and adapted to grasp the blank.

3. In a device for winding paper spirals, the combination of a tubular outer mandrel, a separately rotatable inner mandrel placed within said outer mandrel and of smaller diameter than the inner diameter of the outer mandrel whereby a space is formed between said mandrels whereby a portion of the paper blank can be wound around the inner mandrel in said space and another portion of the blank wound around the outer mandrel.

4. In a device for winding paper spirals, the combination of a rotatable tubular outer mandrel having a longitudinal slot therein, and a separately rotatable inner mandrel within and concentric with the outer mandrel and spaced therefrom.

5. In a device for winding paper spirals, the combination of a rotatable tubular outer mandrel having a longitudinal slot therein, and a longitudinally movable and separately rotatable inner mandrel concentric with and adapted to move into said outer mandrel and having a diameter smaller than the inside diameter of the outer mandrel.

[Claims 6 and 7 not printed in the Gazette.]

976,625. CURTAIN-ROD. HILAIRE BENOIT, Brockton, Mass. Filed May 25, 1910. Serial No. 563,274.



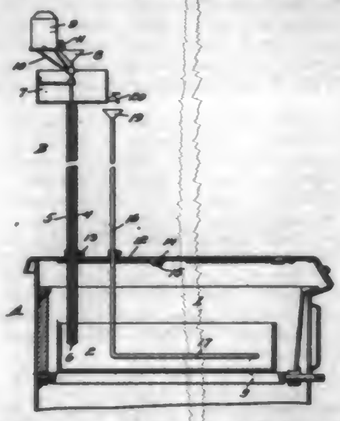
A hook member, bent with an end disposed substantially at right angles to its body, the terminal of the end being pointed and being bent substantially parallel with the body of the hook member, a portion of the body of the hook member being cut in the shape of a tongue, having lateral set-off portions, the width of the tongue, at its terminal, being less than at its base, the tongue being struck up in a direction opposite to that in which the said end is bent, the terminal of the tongue, beyond the set-off portions, being bent to form a hook.

976,626. OIL-BURNER ATTACHMENT FOR STOVES. FREDERICK P. BEUCLER, Apache, Okla., assignor of one-half to Milton Jones, Apache, Okla. Filed Apr. 16, 1910. Serial No. 555,803.

1. An oil burner attachment for a combustion chamber, said attachment comprising an oil-supply pipe extending into the combustion chamber, a water-containing casing surrounding the said pipe, and a tank open to the atmosphere and with which the casing is in open communication, said oil supply pipe extending out of the top of the tank.

2. An oil burner attachment for a combustion chamber, said attachment comprising an oil-supply pipe extending into the combustion chamber, a water-containing casing surrounding the said pipe, an open top tank with which the casing is in open communication, the upper end of the pipe extending above the top of the tank, and means supported by the upper end of the supply pipe for feeding oil thereto.

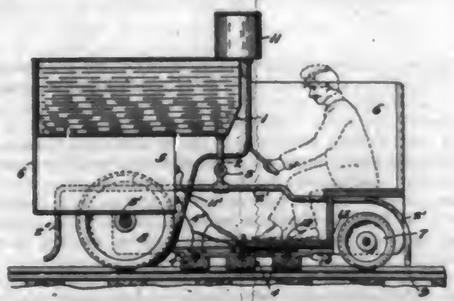
3. An oil burner attachment for a firebox comprising an oil supply pipe disposed vertically and having its lower end extending into the fire box, a casing surrounding the pipe and open at its upper end, an open top tank on the upper end of the casing and communicating with the latter to maintain a body of water around the said pipe, and means for supplying liquid fuel to the pipe.



4. An oil burner attachment for a firebox comprising an oil supply pipe having its lower end extending into the fire box, a casing surrounding the pipe, a tank on the upper end of the casing and communicating with the latter to maintain a body of water around the said pipe, means for supplying liquid fuel to the pipe, and means for supplying water from the tank to the fire box, said last-mentioned means being controllable to supply water in definite proportion to the oil supply.

5. An oil burner attachment comprising a plate having an opening, a tubular casing extending through the plate and supported thereby, a fire box into which the casing extends, an oil pipe extending longitudinally of the casing and having an opening at its lower end for delivering oil to the fire box, a tank supported by the casing and in open communication with the top thereof to maintain a body of water around the oil pipe, an oil reservoir carried by the pipe, means for supplying oil from the reservoir to the pipe, a water-supply pipe extending through and secured to the said plate and having its lower end perforated, and means for supplying water to the last mentioned pipe from the tank.

976,627. APPARATUS FOR TREATING TRACTION MEMBERS. EBEN MOODY BOYNTON, West Newbury, Mass. Filed June 8, 1910. Serial No. 565,816.



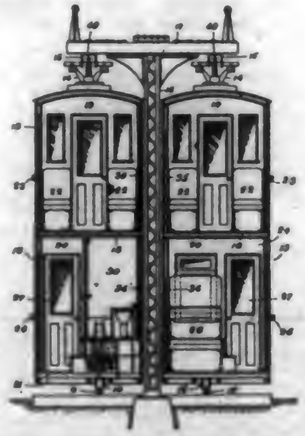
1. An apparatus of the character described, comprising means for heating and softening the traction portion of a traction member, means for delivering to the heated traction portion a relatively hard material in granular form, and means for impressing said granular material into said heated traction portion.

2. An apparatus of the character described, comprising a vehicle provided with a traction member adapted to travel upon a rail, means for heating and softening the traction portion of the rail in advance of said traction member, and means for delivering a relatively hard material in granular form to the traction surface of the rail between said heating means and said traction member.

3. An apparatus of the character described, comprising a vehicle provided with a traction member adapted to travel upon a rail, means for heating and softening the traction portion of the rail in advance of said traction member, means for delivering a relatively hard material in granular form to the traction surface of the rail between said heating means and said traction member, and means for delivering a fire-proofing medium upon the roadbed in advance of said heating means.

4. An apparatus of the character described, comprising a vehicle provided with a traction member adapted to travel upon a rail, means for heating and softening the traction portion of the rail in advance of said traction member, means for delivering a relatively hard material in granular form to the traction surface of the rail between said heating means and said traction member, and means for delivering a cooling medium upon the rail in the rear of said traction member.

976,628. RAILWAY SYSTEM. EBEN MOODY BOYNTON, West Newbury, Mass. Filed June 13, 1910. Serial No. 566,484.



1. A railway system comprising a single rail, a car having wheels arranged to run upon said rail, said wheels being between the longitudinal vertical median plane and one side of the car, a series of seats on the same side of said plane as the wheels, a longitudinal passage-way extending from said seats to the wall on the opposite side of said plane, and means for maintaining said car in a substantially upright position.

2. In a railway system, the adaptation of a two-rail track of standard gage for two tracks of the single-rail type, by the combination of upright pillars midway between said rails, a superstructure including overhead guide rails mounted on said pillars, cars provided with traction wheels, said cars overhanging the traction wheels more upon the outer side than upon the inner, seats on both sides of the cars, and an aisle between the seats.

3. In a railway system the combination of two parallel traction rails, upright pillars midway between said rails, overhead guide rails supported by said pillars, cars provided with traction wheels and guide rail wheels, each car being adapted to run upon one of said traction rails and to be held upright by one of said guide rails, said cars overhanging said traction wheels more upon the side farther from said pillars than upon the side nearer said pillars, and seats in said cars arranged to partially

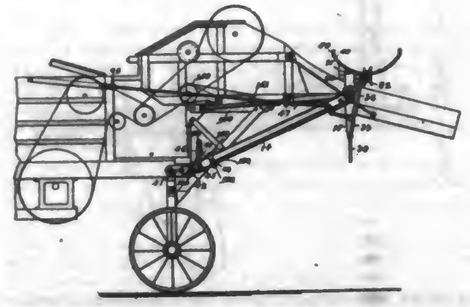
equalize the unequal disposition of weight due to the unequal overhanging of the cars.

4. In a railway system, the combination with two rails of a two-rail track of standard gage, of cars of the single-rail type, each car having two stories and having traction wheels arranged nearer the inner than the outer side, one story being provided with seats on both sides, said seats being separated by a longitudinal aisle, and doors in the end walls and outer wall thereof, and the other story being subdivided by transverse partitions into separate compartments, a door in the outer wall of each compartment, a door in each of said transverse partitions between the longitudinal median line of the car at the outer wall, and seats in said compartments between the inner wall and the doors of said partitions.

5. A railway system comprising a single rail, a truck arranged thereon, a car carried by said truck with its longitudinal vertical median plane offset from the like plane of said rail, means within the car tending to equalize the weight upon the two sides of the said plane of the rail, and means for maintaining said car in a substantially vertical position.

[Claims 6 to 10 not printed in the Gazette.]

976,629. WING-CARRIER. WALTER FRANK BROWN, St. Paul, Minn., assignor to W. F. Brown Company, Minneapolis, Minn., a Corporation of Minnesota. Filed May 22, 1909. Serial No. 497,720.



1. A wing carrier, comprising a chute provided at the inner end with a vertically disposed pivot, a socket bearing member adapted to receive said pivot, a boom adapted to be secured upon a suitable structure and to receive at its outer end the said socket bearing member, an attaching device for holding the said member on said boom, embodying a pivot and means for clamping the said member rigidly upon said boom, and a plurality of holding devices secured at the end of said boom to hold the same in position.

2. A wing carrier, comprising a chute provided at the inner end with a vertically disposed pivot, an endless belt carrier adapted to move longitudinally in said chute, an operating mechanism for the said belt carrier, embodying a gear mounted concentric with said pivot, said mechanism being adapted to swing about said pivot, a socket bearing member adapted to receive said pivot, a boom adapted to be secured upon a suitable structure and to receive at its outer end the said socket bearing member, an attaching device for holding the said member on said boom, embodying a pivot and means for clamping the said member rigidly upon said boom, and a plurality of holding devices secured at the end of said boom to hold the same in position.

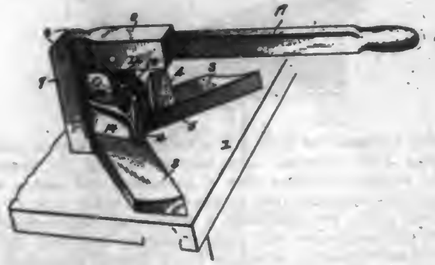
3. A wing carrier, comprising a chute provided at the inner end with a vertically disposed pivot, an endless belt carrier adapted to move longitudinally in said chute and having a series of upright projecting fingers to engage and advance the material being handled in said chute, an operating mechanism for the said belt carrier, consisting in a chain of gears transmitting the motion from a driven sprocket wheel to a sprocket wheel engaging said belt carrier, one of said chain of gears being mounted upon and concentric with said pivot, a boom secured upon a suitable structure to support at its outer end the said pivot, and a plurality of holding devices secured at the end of said boom to hold the same in position.

4. A wing carrier, comprising a chute provided at the inner end with a vertically disposed pivot, an endless belt carrier adapted to move longitudinally in said chute and having a series of upright projecting fingers to engage and advance the material being handled in said chute, an operating mechanism for the said belt carrier, consisting in a chain of gears transmitting the motion from a driven sprocket wheel to a sprocket wheel engaging said belt carrier, one of said chain of gears being mounted upon and concentric with said pivot, a socket bearing member adapted to receive the said pivot and to be secured upon a supporting boom, a boom secured upon a suitable structure to support at its outer end the said socket bearing member, an attaching device for holding the said member on said boom, embodying a pivot and means for clamping the said member rigidly upon said boom, and a plurality of holding devices secured at the end of said boom to hold the same in position.

5. A wing carrier, comprising an elongated chute adapted to extend laterally from its support, a bracket mounted at one end of said chute, a boom engaged with said bracket and inclined downwardly therefrom, said boom being secured upon a suitable structure, longitudinally adjustable supporting members connected pivotally to said bracket and slidably to the extended portion of said chute, and a plurality of holding devices secured at the end of said boom, and a bracket to hold same in position.

[Claims 6 to 19 not printed in the Gazette.]

976,630. DEVICE FOR SHAPING SCRAPERS. WILLIAM B. CAMBRON, Piedmont, Ala. Filed Nov. 3, 1908. Serial No. 460,856.

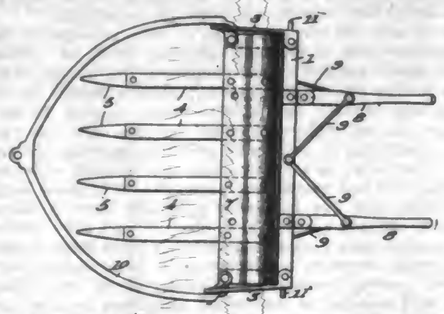


The herein described device, comprising a V-shaped base having upper concaved faces, an inclined block rising centrally from said base and having a vertically central punch stud, a standard on the said base and having a bifurcated upper end, a lever pivoted at one end to the said standard in the bifurcation, a former having forwardly diverging extensions spaced from each other, a link pivoted to the lever and former whereby on depressing the lever the latter will bear upon the former, the said former being provided with a recess correspondingly spaced to the said punch stud for receiving the same, and upstanding lugs spaced from each other on the said base and having beveled inner faces engaged by the extensions for guiding the former to its seat in the base, substantially as described.

976,631. COMBINED DIGGER AND SCRAPER. BENJAMIN A. CARLSON and WILLIAM D. HART, Sioux Falls, S. D. Filed Mar. 31, 1910. Serial No. 552,649.

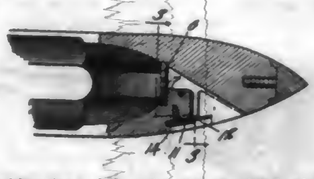
1. In an implement of the character described, a head bar, curved end members connected therewith, correspondingly curved teeth secured upon the head bar, a shield secured upon the end members and upon the curved portions of the teeth, sharp-pointed prongs at the front ends of the teeth, and an apron supported upon the teeth

and having a pocket detachably engaging the prongs, said apron abutting upon the front edge of the shield.



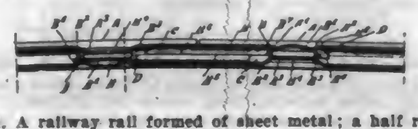
2. In an implement of the character described, a head bar having rearwardly extending handles, curved end members connected with the head bar, correspondingly curved teeth secured upon the head bar, a shield secured upon the end members and the curved portions of the teeth, arcuate braces connecting the front ends of the end members with the head bar, a draft bail connected with said braces, stop members extending from the head bar in the path of the bail, an apron supported upon the teeth and having a pocket detachably engaging the same, and means for detachably connecting the apron with the shield.

976,632. HAND-THREADING-SHUTTLE ATTACHMENT. NAPOLEON CARON, Nashua, N. H. Filed May 25, 1909. Serial No. 498,223.



The combination with a shuttle provided with a bobbin having yarn thereon, said shuttle having its forward solid portion provided with a horizontal slit and a vertical slit communicating therewith, the outer face of the shuttle being provided with a depression communicating with the horizontal slit, yarn threading members, one of said yarn threading members being located transverse to the throat of the shuttle, the second yarn threading member being located within the horizontal depression provided upon the side of the shuttle and communicating with the horizontal slit thereof, each of said members comprising a guide and a guard member connected together and having their forward ends slightly spaced away from each other and said members being provided with oppositely inclined fingers terminating in eyes.

976,633. TOY RAILWAY-RAIL. MARIO CARUSO, New Haven, Conn., assignor to Lionel Manufacturing Company, a Corporation of Connecticut. Filed Dec. 18, 1909. Serial No. 533,842.



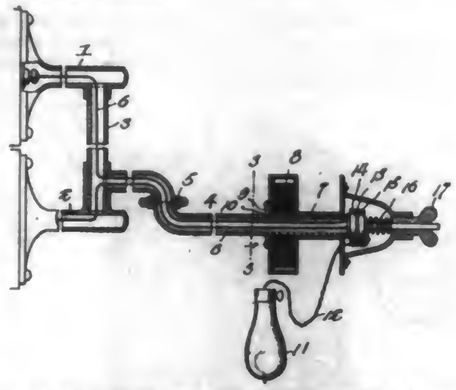
1. A railway rail formed of sheet metal; a half round pin having shoulders formed thereon and projecting therefrom, and being clamped in said rail by the metal thereof; one end of said pin projecting from the end of said rail, and the end of said rail being constructed to receive the end of a similarly shaped pin.

2. A sheet railway rail; a pin clamped in the end of said rail and having a flat surface, a portion of which is offset from the median line of the rail and a portion of which is fixed in the rail on the median line thereof.

3. A sheet railway rail having a half round pin therein, a portion of the flat surface of which is positioned in alinement with the median line of the rail, and a portion of which is offset therefrom; said offset portion abutting against the side of the rail; and said rail being forced inward opposite said offset portion to clamp the pin within the rail.

4. A sheet railway rail; a pin clamped in the end of said rail and having a flat surface, a portion of which is offset from the median line of the rail, a portion of which is fixed in the rail on the median line thereof; a sheet metal tie having slots therein; and a clip which connects said tie to said rail and the upper ends of which contact with said rail directly below the point where the pin is held in said rail to prevent the loosening of the pin therein.

976,634. LAMP-BRACKET. THOMAS H. CASSIDY, Cranbrook, British Columbia, Canada. Filed Jan. 28, 1910. Serial No. 540,619.

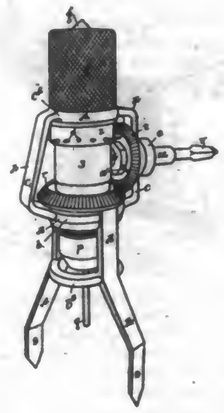


1. In an electric lamp fixture, the combination of spaced arms, a member supported between said arms and rotatable with reference thereto, a second member projected outwardly from the first mentioned member and comprising sections which are offset and connected by a swivel joint, the several parts being tubular, an electric conductor passing through said parts, a spool rotatably mounted upon the outer end of said second member, a lamp cord connected with the spool, a spring automatically winding the lamp cord on the spool, means for holding the spool in an adjusted position, and an electric circuit closer between the lamp cord and electric conductor.

2. An electric lamp fixture comprising upper and lower arms having sockets upon their inner sides near their outer ends, a vertical member fitted in said sockets and adapted to turn therein, a horizontal member extended outwardly from said vertical member and comprising sections having their inner ends offset and connected by means of a swivel joint, an electric conductor passed through the several parts, a spool rotatably mounted upon the outer end of the horizontal member, a spiral spring connecting the spool with its supporting member, a ratchet and pawl connection between the spool and horizontal member, a lamp cord connected with the spool and adapted to wind thereon, and a rotary contact between the lamp cord and electric conductor.

976,635. BORING DEVICE. ELMER M. COBB, South Portland, Me., assignor to Lang-Cobb Manufacturing Company, Portland, Me., a Corporation of Maine. Filed July 24, 1905. Serial No. 270,970.

1. In a boring device, the combination of a supporting frame, a bit, and feed mechanism therefor, including a two-part feed nut, a spindle carrying said bit and engaged by said nut, and means for rotating said spindle and means reversing the motion of one part of said nut at intervals, substantially as described.



2. In a boring device, feed mechanism therefor, consisting of a spindle having screw-threads on its outside, a two-part feed nut having partial internal screw-threads on both parts, means for operating said nut to feed the spindle, said operating means being provided with devices for reversing the motion of one part of the feed nut, substantially as described.

3. In a boring device, the combination of a supporting frame, a hollow spindle carried thereby, said spindle having partial screw-threads on its outside, a bit carried by said spindle, a two-part feed nut provided with partial screw-threads on its inside and surrounding and engaging said spindle, and means for operating said nut to feed said spindle, substantially as described.

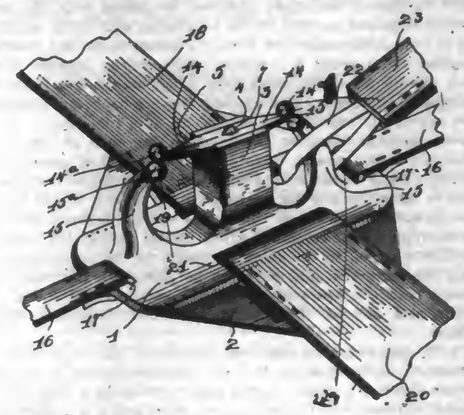
4. In a boring device, the combination of a supporting frame, a hollow gear wheel supported in said frame, a two-part feed nut, having partial internal screw-threads, mounted between said gear wheel and a part of the frame, a spindle provided with partial external screw-threads and located within said nut, a chuck carried by said spindle, a bit engaged by said chuck, and means for revolving said gear wheel, thereby operating said spindle, said operating means and one part of said feed nut being provided with devices for reversing the motion of part of said feed nut at intervals, substantially as described.

5. In a boring device, the combination of a supporting frame, a hollow gear wheel carried thereby, a feed nut composed of two parts, movable with respect to each other, and each provided with partial internal screw-threads, a hollow spindle closed at one end and provided with partial external screw-threads, a bit, a chuck carried by said spindle for holding said bit, a movable collet, a spring located inside of said spindle and adapted to move said collet, and driving means for operating said gear wheel and said nut, substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

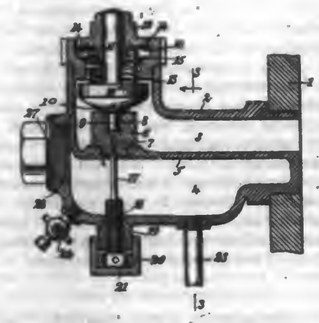
976,636. TRACE-CARRIER. SALAH W. COFFMAN, Keota, Iowa. Filed Nov. 1, 1909. Serial No. 525,789.

A device of the character described, comprising a base plate, a standard mounted thereon, a pair of arms positioned at opposite ends of said standard, a longitudinal seat formed in the upper surface of said standard, a cross arm mounted in said seat, the ends of said cross arm contacting with said first mentioned arms, said cross arm being provided with an aperture, said aperture being of greater diameter at its lower end than at its upper end,



and a pin passing through said openings and normally retaining said cross arm in said seat.

976,637. LUBRICATOR. JOHN ANDREW COPPEDGE and ELDREDGE EARLY BOOTH, Denison, Tex. Filed Nov. 27, 1908. Serial No. 464,761.



1. A lubricator having a chamber with an opening, which is adapted to have communication with the steam chest of a steam engine, there being a second chamber in the lubricator, disposed below the plane of the first-mentioned chamber, adapted to contain a lubricant, there being a vertical communicating means connecting the two chambers, a valve commanding the vertical communicating means, and a member secured to the valve and disposed in the first-mentioned chamber, the member being disposed above the horizontal plane of the said opening, so that it is adapted to be raised by the inrush of steam into the first-mentioned chamber to raise the valve.

2. A lubricator having a chamber, a steam chest, there being a communication between the chamber and the steam chest, there being a second chamber in the lubricator, there being a communicating means between the two chambers, there being also a communicating means between the first-mentioned chamber and the atmosphere, valves commanding the two communicating means, the said valves being adapted to open the first communicating means as the second communicating means is closed and to open the second communicating means as the first communicating means is closed, one of the said communicating means being normally open, and means to hold one of the said valves yieldingly extended in the first-mentioned chamber, the last-mentioned valve having a surface exposed to the pressure of steam in the first-mentioned chamber by which its position is altered by the increase or decrease of steam pressure beyond a certain degree.

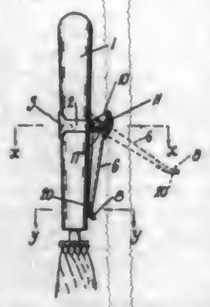
3. A lubricator having an upwardly-extending portion, there being two chambers in the lubricator, one disposed over the other, the upper chamber extending into the upwardly-disposed portion of the lubricator and being adapted to have communication with the steam chest of a steam engine, there being a communicating means between the two chambers, there being also a communicating means between the upper chamber and the atmosphere through the upwardly-extending portion of the lubricator, two valves secured together, one commanding each of the two communicating means, adapted to open the first communicating means as the second communicating means is closed and to open the second communicating means as the first communicating means is closed, the valve commanding the second-mentioned communicating means having its under surface exposed to the steam pressure in the upper chamber, adapting the said valve to be raised by the rush of steam into the upwardly-extending portion of the lubricator and out of the second-mentioned communicating means.

4. A lubricator having two chambers, one of the two chambers being adapted to have communication with the steam chest of a steam engine and there being a communication between the two chambers, there being a communication independent of the other communications between one of the chambers and the atmosphere, two valve members adapted one to command the communication with the atmosphere, the other to command the communication between the two chambers, means connecting the two valve members, by which they are adapted to be operated together, a needle feed which projects into the communication between the two chambers, and means by which the position of the needle feed may be regulated.

5. A lubricator having a chamber, a steam chest, there being a communication between the chamber and the steam chest which is normally open, there being a second chamber in the lubricator, there being a communicating means between the two chambers, there being also a communicating means between the first-mentioned chamber and the atmosphere, automatic means for commanding the two communicating means, the said automatic means being adapted to open one communicating means as the other is closed, and means to hold yieldingly the automatic means with the communicating means between the first-mentioned chamber and the atmosphere open.

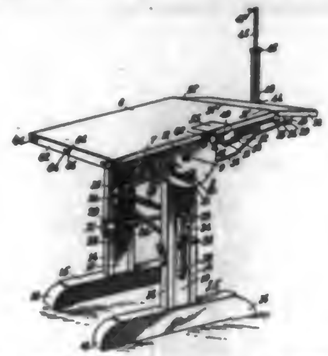
[Claims 6 to 15 not printed in the Gazette.]

976,638. UMBRELLA ATTACHMENT. GEORGE D. COSEY, Providence, R. I. Filed Aug. 21, 1909. Serial No. 514,070.



An umbrella attachment, comprising, in combination, a pivot-band adapted to be secured around an umbrella handle, an arm pivoted at one end between the ends of said pivot-band, said arm comprising an element of sheet material having its longitudinal edges down-turned to provide it with a tapered channeled formation, a beveled face formed on the upper end of said arm; adapted to bear against the surface of the handle when said arm is upraised, and a friction pad clamped between said down-turned edges at the lower end of said arm and projecting to bear on a horizontal surface when said arm is upraised.

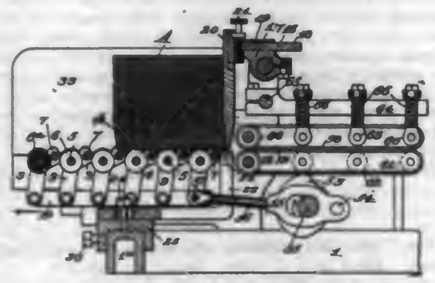
976,639. DRAFTSMAN'S TABLE. HIGINIO COTS, San Jose, Costa Rica. Filed Feb. 3, 1910. Serial No. 541,720.



1. A draftsman's table comprising an extensible stand and drawing board pivotally mounted on said stand and shelf pivotally connected with said board in parallel relation to the pivotal mounting of said board; an ink well receptacle pivotally mounted on said board mid-way between the front and rear end thereof; a connecting rod uniting said shelf and said receptacle, said rod being pivotally connected to the said shelf and receptacle equidistant from the pivotal mounting of each to maintain the parallelity of said shelf and receptacle; and a rod pivotally connecting said shelf and said stand to maintain constant, the angular relation of said shelf and said stand.

2. A draftsman's table comprising an extensible stand and drawing board pivotally mounted on said stand and shelf pivotally connected with said board in parallel relation to the pivotal mounting of said board; an ink well receptacle pivotally mounted on said board mid-way between the front and rear end thereof; a connecting rod uniting said shelf and said receptacle, said rod being pivotally connected to the said shelf and receptacle equidistant from the pivotal mounting of each to maintain the parallelity of said shelf and receptacle, a rod pivotally connecting said shelf and said stand to maintain constant, the angular relation of said shelf and said stand; and a vertically adjustable rack for said board attached to the front end thereof adapted to be raised to support articles on said board when the same is disposed in an inclined position and to be lowered below the surface of said board.

976,640. SHEET-FEEDING MECHANISM. ARTHUR B. COWLES, Rochester, N. Y. Original application filed Apr. 21, 1906, Serial No. 312,957. Divided and this application filed Mar. 18, 1907. Serial No. 362,913.



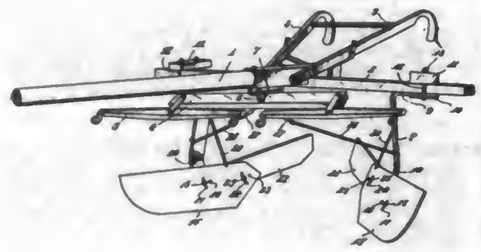
1. In a sheet feeding mechanism, the combination with a stack rack, and a plurality of equidistantly spaced parallel rods extending transversely and comprising the bottom of the rack, of a plurality of revoluble feeding rolls located beneath the rods and parallel therewith and means for intermittently changing the relative position of the rods and rolls to engage all of the latter simultaneously with various points of the underlying sheet of the stack forming the contents of the rack.

2. In a sheet feeding mechanism, the combination with a stack rack, and a series of spaced parallel transversely extending rods adapted to support a stack of blank sheets by engaging a plurality of points on the bottom of the stack, of a plurality of revoluble shafts arranged parallel with the rods and located between them having feeding rolls located beneath the rods and means for depressing the rods to allow the blanks throughout their entire area to be lowered into engagement with all of the underlying rolls simultaneously.

3. In a sheet feeding mechanism, the combination with a frame, shafts journaled on the frame, feed rollers on the shafts, a plurality of pivoted arms and rods supported on the latter and extending parallel with the shafts forming a bottom adapted to support blank sheets, of a driving shaft, connections between it and the arms for intermittently depressing the rods below the feed rolls and driving connections between said shaft and rolls.

4. In a sheet feeding mechanism, the combination with a rack having a bottom and adapted to contain a stack of blank sheets and a support located in front of the rack, of a gage mounted on the support and adjustable relatively to the bottom of the rack, an arm supported beneath the rack and adjustable longitudinally and laterally thereof, said arm being provided with an upwardly projecting end adapted to form a guide and to be located beneath the gage and means for discharging a blank from the bottom of the rack and between the gage and guide.

976,641. HORSE-HOE. CLARENCE T. CURTIS, Washington, Me. Filed July 23, 1910. Serial No. 573,381.



1. In a horse hoe, a tongue, a cross bar upon said tongue, blade carrying standards adjustably connected with the cross bar, a keeper depending from the tongue, a draft evener slidably connected with the keeper, and braces including flexible members connecting the blade carrying standards with the draft evener.

2. In a device of the character described, a tongue having a cross bar and provided with a downwardly extending keeper, standards adjustably mounted upon the cross bar, said standards consisting each of a bar having a rearward extending arm at its upper end and an obliquely disposed seat at its lower end, clamping means engaging the arms of the standard for securing the latter upon the cross bar, hoe blades pivoted upon the seats at the lower ends of the standards, auxiliary blades pivoted upon the hoe blades, and means for securing the blades and the auxiliary blades at various adjustments.

3. In a device of the character described, the combination with a frame including a tongue and a cross bar, of standards adjustably connected with the cross bar, hoe blades pivoted upon said standards, and means for securing the hoe blades at various adjustments, said means including rods pivotally connected with the hoe blades and having terminal hooks adapted for engagement with apertures in the standards.

976,642. PLURAL DRIVE MECHANISM FOR MARINE PROPULSION. LÉON DION, Wilkes-Barre, Pa. Filed Oct. 20, 1905. Serial No. 283,675.



1. A navigable vessel having free-running end drums and an endless series of paddles mounted thereon, a plurality of drive-wheels intermediate said drums and engaged with said endless series of paddles, motors for actuating said drive-wheels, compartments being provided between the drums and drive wheels, and means for guiding the paddles between the drums and drive-wheels.

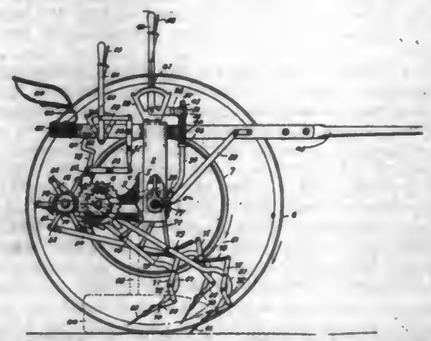
2. A navigable vessel having free-running end drums and an endless series of paddles mounted thereon, a plurality of drive-wheels intermediate said drums and engaged with said endless series of paddles, the said drums and wheels having casings or shields, openings being formed for the passage of the paddles to engage said drums and wheels, motors for actuating said drive-wheels, and means for guiding the paddles between the drums and drive-wheels.

3. A navigable vessel having free-running end drums and an endless series of paddles mounted thereon, a plurality of drive-wheels intermediate said drums and engaged with said endless series of paddles, compartments being provided between the drums and drive wheels, the said drive-wheels being composed of thin disks peripherally notched to engage the paddles, motors for actuating said drive-wheels, and means for guiding the paddles between the drums and drive-wheels.

4. A navigable vessel having free-running end drums, an endless series of paddles mounted thereon, a plurality of drive-wheels intermediate said drums and formed to engage the paddles, compartments being provided between the drums and drive wheels, shafts carrying said drive-wheels, independent motors for actuating said shafts and drive-wheels, bearing rings, antifriction rollers between said shafts and bearing rings, and means for guiding the paddles between the drums and drive-wheels.

5. A navigable vessel having free-running end drums, an endless series of paddles mounted thereon, a plurality of drive-wheels intermediate said drums and formed to engage the paddles, compartments being provided between the drums and drive wheels, a plurality of independent motors for actuating each of said drive-wheels, and means for guiding the paddles between the drum and drive-wheels.

976,643. CULTIVATOR. FRANKLIN P. ECKROAT and PETER F. ECKROAT, Shawnee, Okla. Filed June 8, 1909. Serial No. 500,897.



1. A cultivator comprising a substantially U-shaped frame wheels journaled at the ends of the body portion of the frame, rearwardly extending brackets connected with each of the arms of the frame, a transverse stub

shaft journaled at the rear end of each bracket, a releasable driving connection between each shaft and the adjacent wheel, a substantially U-shaped auxiliary frame supported by the main frame near each end thereof, means for independently adjusting said frames toward and from the ground, a crank shaft journaled in the arms of each auxiliary frame and transversely thereof, a universal joint connection between each of said crank shafts and the adjacent stub shaft, a plurality of hoes, each comprising a handle journaled by one end on a crank of the crank shaft, a link connecting the handle with the main frame, said handle having an angular position, a blade, a shank secured to the blade and pivoted intermediate its ends to the free end of the angular portion, a lever pivoted intermediate its ends to the angular portion, a link connecting one end of the lever to the shank, a spring connecting the other end to the handle, and means for guiding the handle and constraining it to move vertically.

2. A cultivator comprising a wheel supported frame, an auxiliary frame supported near each end of the main frame, means for independently adjusting each of said frames with respect to the main frame, a crank shaft journaled transversely of each auxiliary frame, a releasable driving connection between each crank shaft and the adjacent wheel, a plurality of hoes, each comprising a handle journaled by one end on a crank of the crank shaft, a link connecting each handle with the main frame, said handle having an angular portion, a blade, a shank secured to the blade and pivoted intermediate its ends to the free end of the angular portion, a lever pivoted intermediate its ends to the angular portion, a link connecting one end of the lever to the shank, a spring connecting the other end to the handle, and means for guiding the handle and constraining it to move vertically.

3. A cultivator comprising a main frame, a plurality of independently adjustable auxiliary frames supported by the main frame, a crank shaft journaled transversely of each auxiliary frame, an independent means for rotating each shaft, a plurality of hoes, each comprising a handle journaled by one end on a crank of the crank shaft, said handle having an angular portion, a blade, a shank secured to the blade and pivoted intermediate its ends to the free end of the angular portion, a lever pivoted intermediate its ends to the angular portion, a link connecting one end of the lever to the shank, a spring connecting the other end to the handle, and means for guiding the handle and constraining it to move vertically.

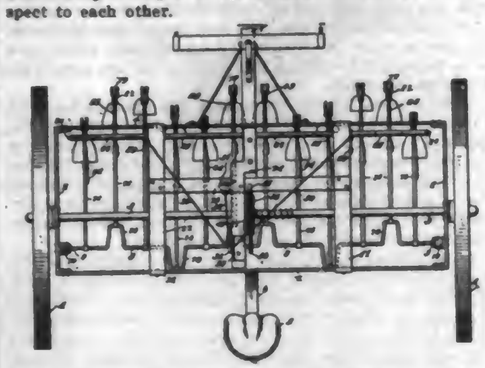
4. A cultivator comprising a main frame, a plurality of independently adjustable auxiliary frames supported by the main frame, a crank shaft journaled transversely of each auxiliary frame, an independent means for rotating each shaft, a plurality of hoes, each comprising a shank, and a blade secured thereto, a handle pivoted by one end to a crank of the crank shaft and provided at the other with an angular portion to which the shank is pivoted intermediate its ends, a link connecting each handle with the main frame, a spring in connection with the free end of the shank, a guide rod in connection with the handle, and a bearing on the main frame through which the rod moves.

5. A cultivator comprising a main frame, a plurality of independent auxiliary frames adjustably supported by the main frame, a crank shaft journaled transversely of each auxiliary frame, an independent rotating means for each of said shafts, a plurality of hoe handles journaled on the cranks of the crank shafts, a blade for each handle and provided with a shank pivoted thereto, a spring in connection with each shank for yieldingly supporting the hoe in engaging position, a guide for constraining the handles to move vertically, and a swinging link connecting each handle with the main frame.

[Claims 6 to 9 not printed in the Gazette.]

976,644. CULTIVATOR. FRANKLIN P. ECKROAT and PETER F. ECKROAT, Shawnee, Okla. Filed June 8, 1909. Serial No. 500,898.

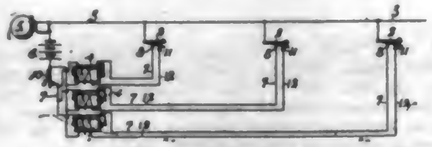
1. A cultivator comprising a wheel supported frame, a crank shaft journaled on the frame and provided with a plurality of cranks, a hoe handle journaled by one end on each crank, each of said handles having at its free end an angular portion, a hoe pivoted on the angular portion, a lever pivoted to the handle near the junction of the angular portion with the handle, a link connecting one end of the lever with the hoe, and a spring connecting the other end with the handle, the cranks of the said shaft being arranged at equal angular distances with respect to each other.



2. A cultivator comprising a wheel supported frame, a crank shaft journaled on the frame and provided with a plurality of cranks, a hoe handle journaled by one end on each crank, each of said handles having at its free end an angular portion, a hoe pivoted on the angular portion, a lever pivoted to the handle near the junction of the angular portion with the handle, a link connecting one end of the lever with the hoe, and a spring connecting the other end with the handle.

3. A cultivator comprising a wheel supported frame, a crank shaft journaled on the frame, a hoe handle pivoted at one end to the crank of the crank shaft, said handle having an angular portion at its free end, a hoe pivoted to the angular portion, and means for normally retaining the hoe at substantially a right-angle to the handle, said means being adapted to yield.

976,645. ELECTRICAL FIRE-ALARM SYSTEM. JAMES HASLIP FIELD, Victoria, British Columbia, Canada, assignor to The Canadian Taylor Automatic Fire Alarm and Call Bell Company, Limited, Victoria, Canada, a Corporation. Filed Feb. 3, 1909. Serial No. 475,844.



1. In an electrical alarm system of the character described, an alarm bell and battery connected in series therewith, a plurality of general thermostats in circuit with said battery and bell for operating the same, and a master thermostat coöperating with the aforesaid parts to render said general thermostats inoperative under predetermined conditions.

2. In an electrical alarm system, a battery circuit, magnets in said battery circuit, armatures coöperating with said magnets, general thermostats in circuit with said battery and magnets, an alarm coöperatively connected with the aforesaid parts to be controlled by said general thermostats, and thermostatic means coöperating with the aforesaid parts to render the said general thermostats inoperative under predetermined conditions.

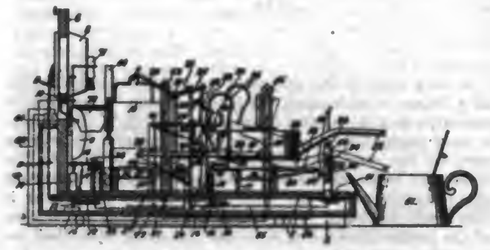
3. In an alarm bell system, an open circuit including an alarm and general thermostats together with a source of electric energy therefor, said thermostats operating to close said circuit when the temperature is attained for which they have been adjusted, a master thermostat coöperating with the aforesaid parts which normally closes the circuit but, at a temperature slightly below that for which the general thermostats have been set, will open the circuit and prevent the alarm being rung.

4. In an electrical alarm system of the class described wherein is provided an alarm circuit and a source of electric energy therefor, and line or general thermostats in said alarm circuit for controlling the ringing of said alarm, means for preventing the operation of the general thermostats under predetermined conditions, said means comprising a master thermostat coöperating with the aforesaid parts that will also control the ringing of an alarm under predetermined conditions.

5. In an electrical alarm system of the class described, a battery circuit, thermostats having primary and secondary contacts connecting with said battery circuit and a thermostatically controlled member also connected with said battery circuit for engaging said contacts at different temperatures, a master thermostat in the connection of the primary contacts with the battery circuit that will open that connection at a temperature slightly less than that for which the line thermostats are set and that will not break the circuit connecting the secondary contacts to the battery.

[Claim 6 not printed in the Gazette.]

976,646. COOKING APPARATUS. WILLIAM FOWLER, Canterbury, England. Filed May 6, 1910. Serial No. 559,706.



1. Automatic apparatus for heating and cooking purposes comprising a clockwork mechanism, spring controlled match carrying devices, means connecting the match devices with the clockwork mechanism, oil spirit stoves provided with abrading surfaces for igniting the matches for the purpose of lighting the stoves, heating vessels disposed over the stoves, a bellows device provided in one of the heating vessels, and which is actuated by boiling liquid, supports for the heating vessels, and a trigger device connecting the supports with the bellows device, whereby the heating vessels are held at a distance above the stoves and when released serve as means for extinguishing the stoves.

2. Automatic apparatus for heating and cooking purposes comprising a clockwork mechanism, spring controlled match carrying devices, means connecting the match carrying devices with the clockwork mechanism, oil spirit stoves provided with abrading surfaces for igniting the matches for the purpose of lighting the stoves, a kettle containing a bellows device and disposed above one of the stoves, heating vessels disposed above the remaining stoves, a pivotally mounted tiltable support for the kettle, a trigger device connecting the bellows device with the tiltable support and which is released from the tiltable support when the water boils and causes the kettle to tilt forwardly for emptying its contents, an extinguishing plate provided with means for holding it in the open position, and for closing it over the oil stove of the kettle when the kettle tilts forwardly, and supports for the remaining heating vessels provided with means of connection with the trigger device whereby the vessels are carried above the remaining stoves and when released descend onto the stoves and extinguish the same.

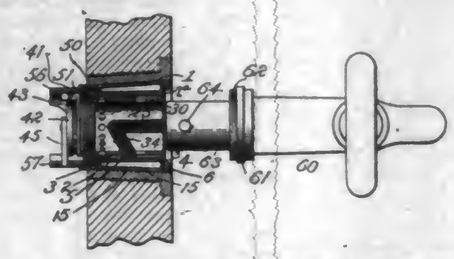
3. Automatic apparatus for heating and cooking purposes comprising a clockwork mechanism, spring controlled match carrying devices, means connecting the match devices with the clock work mechanism, oil spirit stoves provided with abrading surfaces for igniting the matches for the purpose of lighting the stoves, a kettle containing a bellows device and disposed above one of the stoves, heating vessels disposed above the remaining stoves, a pivotally mounted tiltable support for the kettle, a trigger device connecting the bellows device with the tiltable support and which is released from the tiltable support when the water boils and causes the kettle to tilt forwardly for emptying its contents, a spring actuated extinguishing plate for the kettle stove, a spring controlled catch for holding the plate in the open position and provided with a member arranged in line with a part of the kettle which bears against it when the kettle tilts forwardly and releases the plate and extinguishes the kettle stove, and supports for the remaining heating vessels provided with means of connection with the trigger device whereby the vessels are carried above the remaining stoves and when released descend on to the stoves and extinguish the same.

4. Automatic apparatus for heating and cooking purposes comprising a clockwork mechanism, spring controlled match carrying devices, means connecting the match devices with the clockwork mechanism, oil spirit stoves provided with abrading surfaces for igniting the matches for the purpose of lighting the stoves, a kettle containing a bellows device and disposed above one of the stoves, heating vessels disposed above the remaining stoves, a pivotally mounted tiltable support for the kettle, a trigger device connecting the bellows device with the tiltable support and which is released from the tiltable support when the water boils and causes the kettle to tilt forwardly for emptying its contents, an extinguishing plate for the kettle stove, a spring controlled catch for holding the plate in the open position and provided with a member arranged in line with a part of the kettle which bears against it when the kettle tilts forwardly and releases the plate and extinguishes the kettle stove, a source of electricity, electric lamps, a switch and circuits connecting the lamps and said source of electricity, means connected with the spring catch for actuating the switch when the kettle tilts forwardly, and supports for the remaining heating vessels provided with means of connection with the trigger device whereby the vessels are carried above the remaining stoves and when released descend onto the stoves and extinguish the same.

5. The automatic apparatus for heating and cooking purposes, comprising a clockwork mechanism having an alarm device, spring controlled match carrying devices, flexible connections between the match devices and clockwork mechanism; oil spirit stoves; match igniting surfaces; a kettle having a bellows device; a spring controlled tiltable frame which supports the kettle over one of the stoves; a trigger device connected with the kettle bellows; cooking and heating vessels; supports for the latter; a sliding plate connecting the said supports with the trigger device, whereby the kettle and heating and cooking vessels are held above the stoves, and the heating and cooking vessels caused to descend by their own weight for extinguishing the stoves when the trigger and sliding plate become disconnected when the kettle boils; a spring actuated extinguishing plate for the kettle stove; a spring controlled catch for holding the extinguishing plate in the open position having a member arranged in line with the kettle spout, and which is actuated when the kettle tilts forwardly, and the extinguishing plate released; a strainer device; a spring mechanism for raising the strainer device; an alarm device actuated by the said spring mechanism; a source of electricity; electric lamps; a switch and circuits connecting the lamps and said source of electricity; means connected with the spring controlled catch for actuating the switch when the kettle tilts forwardly; a base and vertical member for supporting the whole of the mechanism constituting the apparatus; and a cover for inclosing the apparatus and provided with writing materials and shaped to serve as a writing desk.

[Claims 6 to 10 not printed in the Gazette.]

976,647. BUNG AND TAP FOR BARRELS. EDGAR FRIEDMAN, New York, N. Y. Filed Oct. 5, 1907. Serial No. 396,006.



1. The combination of a hollow-walled sheet metal bung, formed with external annular grooves, with packing rings secured in said grooves.

2. A bung comprising an outer tapered sheet metal shell, a cylindrical sheet metal shell having annular rings or flanges encircling its ends, said ringed or flanged shell being fitted within and permanently secured to said outer shell, and a valve upon said bung.

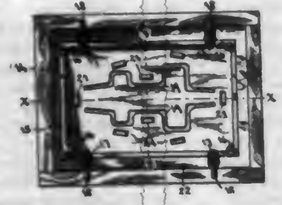
3. A bung formed of a plurality of stamped sheet metal shells permanently secured together, the innermost shell being formed with key slots, a valve thimble movably mounted within said slotted shell and formed with coöperating key slots, and a valve operated by said movable thimble.

4. A bung formed of a plurality of concentric sheet metal shells nested together and permanently secured, the innermost shell being formed with key slots, and a concentric sheet metal valve thimble movably mounted within said slotted shell and formed with coöperating key slots, and a valve carried by said movable thimble.

5. A bung comprising an outer tapered sheet metal shell, a cylindrical sheet metal shell having annular rings or flanges encircling its ends, said ringed or flanged shell being fitted within and permanently secured to said outer shell, the outer end of said cylindrical shell projecting beyond the outer ring or flange to form an annular packing seat, and a valve upon said bung.

[Claims 6 to 18 not printed in the Gazette.]

976,648. APPARATUS FOR MAKING CORES. JOHN GOW, Schenectady, N. Y., assignor of one-half to Archibald M. Loudon, Elmira, N. Y. Filed May 20, 1910. Serial No. 562,434.

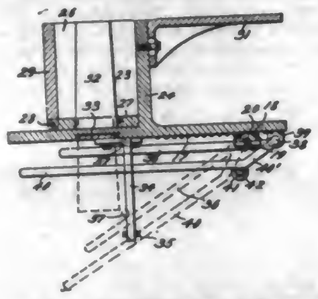


1. Apparatus for applying paste to the joint surfaces of a core part comprising a member provided with passageways and with guiding means contiguous to said passageways, whereby the core part may be applied to said member in a fixed position relative to the passageways and with its gas vents free therefrom, and means for applying paste to the core part through the passageways.

2. Apparatus for applying paste to the joint surfaces of a core part comprising a pan resting upon a bath of paste and provided with passageways through its bottom and with guiding means contiguous to said passageways whereby said part, when applied to the bottom of the pan, will rest in a fixed position thereon with its gas vents free from said passageways and, when pressed downward, will receive the paste through said passageways.

3. Apparatus for applying paste to the joint surfaces of a core part comprising a paste receptacle, a pan resting over a bath of paste contained therein, means for guiding the pan for vertical movement in the receptacle, and spring connections between the pan and receptacle for imparting an upward movement to the pan after depression in the bath, the bottom of the pan being provided with passageways through its bottom and with guiding means contiguous to said passageways whereby said part, when applied to the bottom of the pan will rest in a fixed position thereon with its gas vents free from said passageways and, when pressed downward, will receive the paste through said passageways.

976,649. CONCRETE-BLOCK PRESS. CLYDE F. HARTMAN and SAMUEL R. COOKE, Fortyfort, Pa. Filed Dec. 13, 1909. Serial No. 532,837.



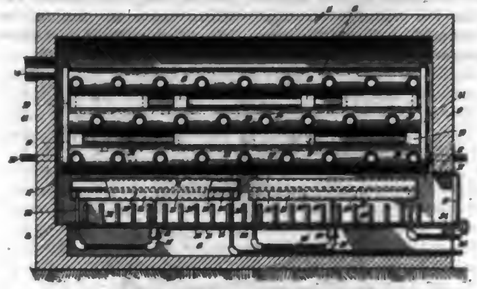
1. In a press of the character set forth, the combination of a frame, a table upon the frame, means to reciprocate the table in a horizontal plane with respect to the frame, a mold supported upon the table and carried thereby, a core for the mold movable vertically with respect to the mold, and means to automatically elevate the core during the reciprocation of the table, said means comprising a rock shaft journaled on the table and a pair of levers, one of the levers coöperating with the frame and the other coöperating with the core.

2. The hereindescribed press comprising, in combination, a frame including two vertical side members, a stud connected to one of said members and extended therefrom toward the other side member, a table movable transversely to said frame, a mold carried by said table, said mold and table having registering openings, a core movable vertically through said openings into said mold, and means for operating said core simultaneously with the movement of the table, said means including a rock shaft 38 journaled upon the table, an arm connected to one end of said rock shaft coöperating with said core, another arm connected to the other end of said rock shaft and coöperating with said stud, the latter arm having a portion lying in a plane parallel to the plane of the aforesaid arm and also having a portion at an angle thereto, substantially as and for the purposes set forth.

976,650. BOILER. JAMES G. HAYDEN, New Lexington, Ohio. Filed Dec. 7, 1909. Serial No. 531,756.

1. A boiler, comprising spaced series of superposed drums, removable saddles separating said adjacent drums of each of said series, water tubes connecting corresponding drums of said series, the lowermost drum of one of said series having an inlet, the uppermost drum of the other of said series having an outlet, and a burner under said water tubes, certain of said saddles effecting communication between certain of said drums.

2. A boiler, comprising spaced series of superposed drums, removable saddles separating certain of said drums at the ends thereof, other removable saddles separating others of said drums intermediate the ends thereof, said saddles having passages effecting communication between said certain drums, and water tubes connecting corresponding drums of said series, one of said drums having an inlet, another of said drums having an outlet.



3. A boiler, comprising spaced series of superposed drums, removable saddles separating certain of said drums at the ends thereof, other removable saddles separating others of said drums intermediate the ends thereof, said saddles having passages therethrough, effecting communication between said certain drums, additional saddles between certain of said drums, and serving to space the same, water tubes connecting corresponding drums of said series, an inlet and an outlet for said series of drums, and members for holding said series of drums in position.

4. A boiler, comprising spaced series of superposed drums, saddles independent of said drums, separating said adjacent drums of each of said series, and water tubes connecting corresponding, opposite drums of said series, one of said drums of one of said series having at each end an inlet, one of said drums of the other of said series having at each end an outlet, said saddles having passages therethrough connecting said adjacent drums, certain of said saddles being positioned between said drums at the ends, and others of said saddles being positioned between said drums, intermediate the ends of said drums.

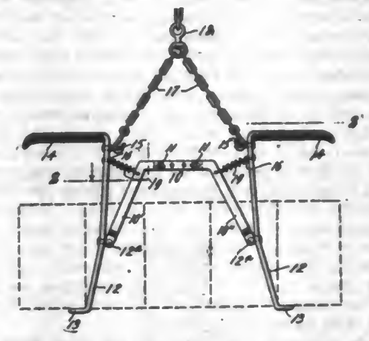
976,651. CASING-SPEAR. COLONEL C. HEWTER, Butler, Pa. Filed Mar. 29, 1907. Serial No. 365,226.



1. A casing spear comprising a body having upwardly and inwardly sloping surfaces, slips movable on said surfaces and operating when lowered to grip the casing, a vertically movable stem in operative engagement with the slips, a spring for raising the stem, a device pivoted to the stem and adapted to engage a fixed part of the tool body and hold the stem depressed and the spring contracted, and a spring operating to disengage said pivoted device from the body when the stem is depressed beyond its normal lowermost position.

2. A casing spear comprising a body having upwardly and inwardly sloping surfaces, slips slidable thereon and operating when in lowered position to grip the casing, the body being formed with a central recess and with slots intersecting said recess and the sloping surfaces, a stem movable within the central recess, a cross-bar carried by the stem and projecting through said slots and engaging the slips, a tube depending from the body and forming a continuation of the central recess thereof, a rod pivoted to the stem and having a lateral projection adapted to engage the lower end of the tube and hold the stem depressed, and a spring operating to disengage the rod from the tube-end when the stem is depressed.

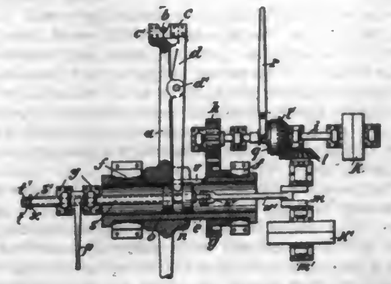
976,652. DEVICE FOR HANDLING CEMENT BLOCKS. REUBEN L. HENSLEY, Terre Haute, Ind. Filed Mar. 11, 1910. Serial No. 548,550.



1. The hereindescribed device for handling building blocks comprising, in combination, an arch-shaped cross bar, a pair of vertical jaws pivoted intermediate of their ends to the lower ends of said cross bar, said jaws terminating at their lower ends in oppositely extending hooks, a pair of springs connected to the upper portion of the cross bar and to the upper portions of the jaws tending to normally cause the hooks to spread apart, and hoisting connections connected to the upper ends of said jaws, substantially as set forth.

2. In a grapple, the combination of an arch-shaped cross bar, a pair of jaws pivoted intermediate of their ends to the lower ends of said cross bar, said jaws terminating at their lower ends in oppositely extending hooks and their upper ends being formed into oppositely extended handles parallel to said hooks, means connected to the upper portions of the jaws tending to normally draw them toward the upper portion of the cross bar, and power connections including a swivel connected to said jaws.

976,653. ROTARY BAR-CUTTER. PETER HILGERS, Saarbrücken, Germany. Filed Feb. 24, 1910. Serial No. 545,740.



1. In a rotary bar cutter of the class described, the combination with a rotary hollow axle having a slot, of a grooved pulley fastened on said hollow axle and having a cut in its periphery, a knife fastened in the cut of said

pulley, a radial lever mounted on said pulley to rock, its inner end extending through the slot of said hollow axle, a second knife fastened at the outer end of said radial lever and forming with said knife a pair of bar shears, two pistons mounted in said hollow axle to turn and to reciprocate, they being revolubly connected together and one of them having a cut through which the inner end of said lever can pass, means driving said rotary hollow axle, means reciprocating said two pistons, and means displacing the piston having the cut with regard to the other piston in one or the other direction, so as to enable the former piston to actuate said radial lever or to leave it in its normal position.

2. In a rotary bar cutter of the class described, the combination with a rotary hollow axle having a slot, of a grooved pulley fastened on said hollow axle and having a cut in its periphery, a knife fastened in the cut of said pulley, a radial lever mounted on said pulley to rock, its inner end extending through the slot of said hollow axle, a second knife fastened at the outer end of said radial lever and forming with said knife a pair of bar shears, two pistons mounted in said hollow axle to turn and to reciprocate, they being revolubly connected together and one of them having a cut through which the inner end of said lever can pass, a driving gear adapted to drive said hollow axle, a second driving gear adapted to reciprocate said two pistons during the rotation or standstill of said hollow axle, a device connecting and disconnecting at will the two driving gears, so that either of them can be driven by the other one, and means displacing the piston having the cut with regard to the other piston in one or the other direction, so as to enable the former piston to actuate said radial lever or to leave it in its normal position.

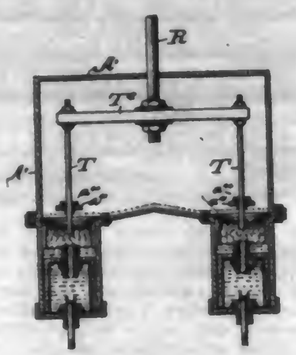
3. In a rotary bar cutter of the class described, the combination with a rotary hollow axle having a slot, of a grooved pulley fastened on said hollow axle and having a cut in its periphery, a knife fastened in the cut of said pulley, a radial lever mounted on said pulley to rock, its inner end extending through the slot of said hollow axle, a second knife fastened at the outer end of said radial lever and forming with said knife a pair of bar shears, two pistons mounted in said hollow axle to turn and to reciprocate, they being revolubly connected together and one of them having a cut through which the inner end of said lever can pass, a countershaft adapted to drive said rotary hollow axle and to leave it at liberty, a crank shaft adapted to reciprocate said two pistons and to be driven separately, means for connecting at will said countershaft with said crankshaft and disconnecting them, so that either of them can be alone driven in the former case, and means displacing the piston having the cut with regard to the other piston in one or the other direction, so as to enable the former piston to actuate said radial lever or to leave it in its normal position.

976,654. ELECTRICAL SWITCH. JOHN D. HILLIARD, Albany, N. Y. Filed July 26, 1907. Serial No. 385,720.

1. In an electrical switch, a containing vessel, movable means dividing the interior of said vessel into two chambers, one of which is normally closed and constitutes a pressure chamber, insulating liquid in both chambers, and contact terminals arranged so as to be brought together in the pressure chamber and separated through an opening in said movable means, whereby initial pressure due to the arc is relieved but will subsequently act to destroy the arc.

2. In an electrical switch, a fixed and a movable terminal, means forming a pressure chamber around said terminals when closed, said means having an opening in the path of the arc formed on breaking, and adapted to yield to pressure in the chamber so as to enlarge the same upon the first formation of the arc and thereafter to restrain the pressure and direct oil through the opening into the path of the arc whereby a large amount of energy may be interrupted without danger to the switch.

3. In an electrical switch, movable means forming an expansible pressure chamber, terminal contacts adapted to be closed and opened therein, and insulating fluid in said chamber, said movable means having a passageway for the movable terminal within which the arc is constricted, and at the same time exposed to the pressure created by itself in the chamber.

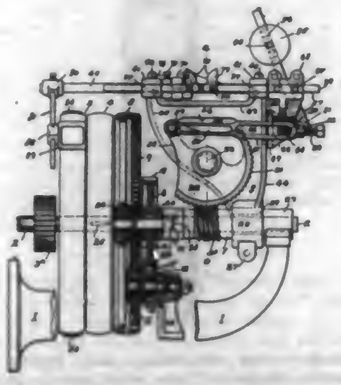


4. In an electrical switch, fixed and movable elements forming a pressure chamber, a fixed terminal seated in said chamber, a coöperating movable terminal adapted to be inserted in and withdrawn from the chamber in making and breaking the circuit, a stop for limiting the travel of the movable element, and means carried on said element to restrict the arc formed upon breaking and to direct the arc pressure in the chamber into the path of the arc to extinguish the same.

5. In an electrical switch, an oil pot containing oil, a fixed terminal seated beneath the oil, a movable diaphragm dividing the interior of the pot into two chambers beneath the oil, said diaphragm provided with an insulated opening, and a movable terminal adapted to pass through said opening in engaging or disengaging the fixed terminal.

[Claims 6 to 15 not printed in the Gazette.]

976,655. BELT-SHIFTING MECHANISM. EDWARD HIXON and PHILIP D. MURRIN, Chicago, Ill. Filed Apr. 8, 1909. Serial No. 488,732.



1. In a shaft reversing mechanism, the combination of a belt, a shaft, an idler mounted on said shaft to engage said belt when said shaft is not in motion, a pulley rigidly mounted on the said shaft, another pulley loosely mounted on said shaft, a gear wheel rigidly mounted on said shaft, a pinion meshing with said gear wheel, another gear wheel rigidly connected with said pinion and meshing with said loosely mounted pulley, and means connected with the said shaft for moving said belt from one of said pulleys to another.

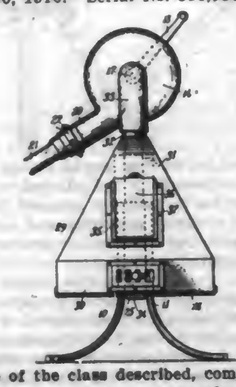
2. In a shaft reversing mechanism the combination of a belt, a shaft, an idler mounted on said shaft, a pulley loosely mounted on said shaft, a pulley rigidly mounted on said shaft, a gear wheel keyed to said shaft adjacent said loosely mounted pulley, and means connecting said loosely mounted pulley and said gear wheel to rotate said shaft in an opposite direction from the rotation of said rigidly mounted pulley, and means for shifting said belt from said idler to each of said pulleys and back to said idler.

3. In a shaft reversing mechanism the combination of a belt, a shaft, a pulley rigidly mounted on said shaft, a second pulley loosely mounted on said shaft, a gear wheel keyed to said shaft adjacent said loosely mounted pulley, and means connecting said loosely mounted pulley and said gear wheel to rotate said shaft in an opposite direction from the rotation of said rigidly mounted pulley, an idler loosely mounted on said shaft, a worm mounted on said shaft, an oscillatory gear connected with said worm and means connected with said oscillatory gear for shifting said belt from each of said pulleys to the other.

4. In a belt shifting mechanism the combination with a revolving shaft, an idler mounted on the shaft, and a belt for rotating the same, of a rod for shifting said belt, a pulley rigidly mounted on said shaft, a second pulley loosely mounted on said shaft, for rotating said shaft in a reverse direction from the rotation of said rigidly mounted pulley when moved by said belt, a gear wheel rigidly mounted on said shaft adjacent said loosely mounted pulley, and means connecting said gear wheel with said loosely mounted pulley to rotate said shaft, means for connecting said rod with said rotating shaft whereby power is conveyed from one pulley to the other, a belt guide, and means connecting said belt guide with said rod whereby said belt is shifted from one of said pulleys to the other upon movement of said rod.

5. In a belt shifting mechanism, a shaft, a system of pulleys mounted thereon, a belt connected with one of said pulleys, a supporting bracket mounted on said shaft, a rod mounted in said supporting bracket and connected with said belt, a counterweight carried by said supporting bracket, and connected with said rod, said counterweight being adapted to move the said belt from a dead center point between two of said pulleys on movement of said rod.

976,656. HOSE-DRIER. FRANK A. HOYT, Gordon, Nebr. Filed Jan. 20, 1910. Serial No. 538,980.



1. A device of the class described, comprising a heater for heating air, and having a tapered casing, a blower for drawing heated air from the apex of said casing, and a coupling for connecting a hose with said blower, whereby the heated air can be forced through the hose.

2. A device of the class described, comprising a stand, a blower casing mounted thereon and having an inlet and an outlet, a blower within said casing, a heater carried by said stand, means for connecting said heater and said inlet of said blower casing, and a coupling for securing a hose directly to said outlet of said blower casing.

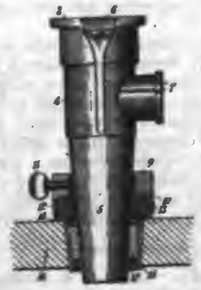
3. A device of the class described, comprising a stand, a blower casing mounted thereon, a blower within said casing, said casing having an inlet and an outlet, a carrier connected with said stand, a tapered stove mounted upon said carrier and having an outlet at the apex, a tube connecting said outlet of said stove and said inlet of said blower casing, and a coupling for securing a hose to said outlet of said blower casing.

4. A device of the class described, comprising a stand having a crown provided with sleeves, legs positioned in said sleeves and having outwardly disposed feet, a blower mounted upon said stand, a heater carried by said stand, means connecting said heater and said blower, and means for coupling a hose to said blower, to permit heated air to be forced into the hose by said blower.

5. A device of the class described, comprising a stand, a carrier connected with said stand, and having a substantially horizontal part, cross supports carried by said part and having upwardly disposed ends, a stove mounted upon said supports, between said ends, a blower carried by said stand, and a tube connecting said stove and said blower, said blower having means for coupling a hose thereto.

[Claim 6 not printed in the Gazette.]

976,657. BAR APPLIANCE. WALDEMAR JANSEN, New York, N. Y. Filed Jan. 25, 1910. Serial No. 540,051.



1. In a tap, the combination of a body member provided with a frusto-conical portion, a collar encircling said frusto-conical portion, screws extending through said collar and bearing against said frusto-conical portion for the purpose of moving said collar toward the smaller end of said frusto-conical portion, and a gasket encircling said frusto-conical portion and adapted to be spread by pressure of said collar.

2. The combination of a tap, a collar encircling the same and provided with a beveled edge, a gasket encircling said tap and provided with a beveled edge mating said beveled edge of said collar, and means carried by said collar and controllable at the will of the operator for moving said collar relatively to said tap in the general direction of the length of said tap for the purpose of compressing said gasket.

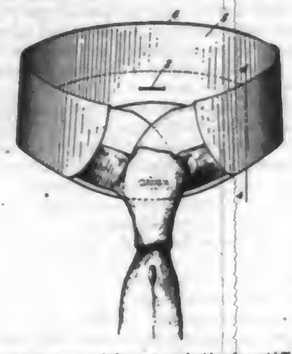
3. The combination of a tap provided with a conical portion to be driven into a barrel or the like, a collar mounted upon said portion, a gasket mounted upon said portion and disposed in close proximity to said collar, and means carried by said collar for exerting pressure upon said conical portion in order to move said collar relatively to said conical portion.

4. The combination of a tap provided with a conical portion to be driven into a barrel or the like, a collar loosely encircling said conical portion, and screws extending radially inward and engaging said collar, said screws also engaging said conical portion.

5. The combination of a tap provided with a conical portion to be driven into a bung, a collar encircling said conical portion, a gasket encircling said conical portion and normally holding said collar in a predetermined position of inactivity, and thumb screws engaging said collar and also engaging said conical portion.

[Claim 6 not printed in the Gazette.]

976,658. COLLAR. CLARA KAHN, New York, N. Y. Filed Oct. 26, 1909. Serial No. 524,640.



1. A collar comprising a relatively stiff flexible collar band of inner and outer registering layers of material respectively forming the inner and outer faces of the band and secured together at their lower edges and free at their upper edges for a substantial length of the collar to provide a pocket, and a washable facing having an inwardly-extending portion removably received within the pocket and an outwardly-extending portion covering the outer side of the band.

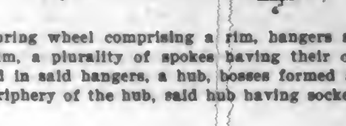
2. A collar comprising a relatively stiff flexible band of inner and outer registering layers of material secured together at their lower edges for a substantial distance adjacent to the ends, and disconnected at their upper edges for a substantial length of the collar, the band having front and rear buttonholes, and a collar facing covering the outer side of the band, having a portion removably engaging over and seating on the upper edge of the outer layer of the band, with the lower edge of said portion terminating above the rear buttonhole of the band.

976,659. JAR-SEAL. CHARLES R. KEERAN, Bloomington, Ill. Filed Feb. 5, 1910. Serial No. 542,184.



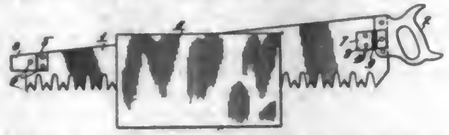
In a vacuum jar seal, the combination with a screw cap having portions forming a retaining recess and beveled guide surfaces leading thereto, of a seal comprising a disk having an offset peripheral portion extending from its upper side, said offset portion being bent to provide inner and outer parallel flanges, converging walls above said flanges forming beveled faces to engage the retaining recess and beveled guiding surfaces of the cap, and a seal fitted in the groove formed between said flanges and clamped by the latter and projecting below the bottom surface of the disk.

976,660. SPRING-WHEEL. DANIEL KISER, Richmond, Ind. Filed Feb. 26, 1910. Serial No. 546,043.



A spring wheel comprising a rim, hangers secured to said rim, a plurality of spokes having their outer ends pivoted in said hangers, a hub, bosses formed around on the periphery of the hub, said hub having sockets formed through said bosses and extending into the hub and the inner ends of said spokes each being operative in one of said sockets, said spokes having their major portions flattened forming springs with the inner ends of the spokes formed round in cross section, a thimble disposed loosely on the rounded portion of each of the spokes with its upper end impinging the shoulder formed by the flattened portion of the spoke and the inner end of the thimble being some distance from said boss, a helical spring encircling said thimble and having one end seated on the boss surrounding said socket, a lock nut threaded on the outer portion of the thimble and against which the upper end of said helical spring engages, all substantially as and for the purposes set forth.

976,661. ICE-SAW. JOHN N. KOPP, Leavenworth, Kans. Filed Oct. 7, 1909. Serial No. 521,621.

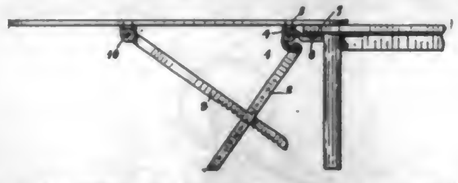


1. An ice saw, provided at its front end and at opposite sides of the blade with a pair of rearwardly-disposed wedges to enter the kerf produced in a block of ice by the saw and split such block into two parts.

2. An ice saw, provided near its butt end with a forwardly-disposed wedge adapted to be forced forward into the kerf produced in a block of ice by the blade for splitting the block into two parts, and outwardly-projecting guards at the rear ends of the wedges.

3. An ice saw, comprising a blade having a handle at its butt end, and a pair of wedges at opposite ends of the blade, the wedge at the butt end of the blade facing forwardly and the wedge at the front end of the blade facing rearwardly, the forwardly facing wedge being equipped with outwardly-projecting guards.

976,662. SUPPORT FOR IRONING-BOARDS AND SIMILAR DEVICES. WALTER ANDREW KUHNERT, San Francisco, Cal. Filed July 7, 1909. Serial No. 506,446.

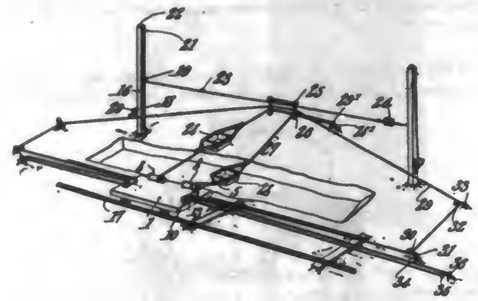


1. In a support for ironing boards, clamp members, legs having holes therethrough, a rod adapted to pass through said holes, arms having notches adapted to engage said rod, hangers for pivotally attaching said arms and clamp members to a board, and a pivotal connection between said legs and said clamp members.

2. In a support for ironing boards, clamp members consisting of a hooked portion and a straight portion, legs having holes therethrough, a rod adapted to pass through said holes, arms having notches adapted to engage said rod, hangers for pivotally attaching said arms to a board, hangers for pivotally suspending said clamp members, a pivotal connection between the hooked portion of said clamp members and said hangers, and a pivotal connection between the ends of said hooked portion and said legs.

3. In a support for ironing boards, clamp members consisting of a hooked portion and a straight portion, legs, arms engageable with said legs, hangers for pivotally attaching said arms to a board, hangers for pivotally suspending said clamp members, a pivotal connection between the hooked portion of said clamp members and said hangers and a pivotal connection between the ends of said hooked portion and said legs.

976,663. EXCAVATING APPARATUS. LARS A. LARSON, Weir, Kans. Filed Mar. 17, 1910. Serial No. 549,961.



1. An excavating apparatus comprising a track, a car arranged to travel upon the track, masts located adjacent the track, a track supported by said masts, a carriage arranged to travel upon the tracks supported by the mast, means operatively connecting the car with the carriage to cause the same to move simultaneously, scoop cables connected with the car and guided by the carriage, and scoops attached to the said scoop cables.

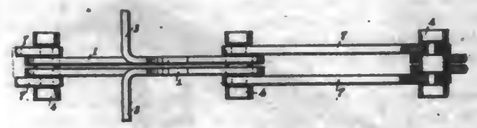
2. An excavating apparatus comprising a track, masts erected adjacent the track, a track adjustably supported by said masts, a carriage arranged to travel upon the adjustable track, a car arranged to travel upon the first said track, means operatively connecting the car with the carriage to cause the same to move simultaneously upon their respective tracks, scoop cables connected with the car and guided by the carriage and scoops attached to said scoop cables.

3. An excavating apparatus comprising a track, a car arranged to travel thereon, masts located adjacent the track, winding drums mounted upon the mast, blocks slidably mounted upon the mast, a track connecting the said blocks, cables operatively connecting the blocks with the winding drums, a carrier arranged to travel upon the last said track, means operatively connecting the carrier with the car to cause the same to travel simultaneously upon their respective tracks, scoop cables connected with the car and guided by the carriage, and scoops attached to the said scoop cables.

4. An excavating apparatus comprising a track, a car arranged to travel thereon, masts erected adjacent the track, a track supported by said masts, a carrier arranged to travel upon the last said track, scoop cables connected with the car and guided by the carriage, scoops attached to the scoop cables, winding drums mounted upon the opposite ends of the car, cables connected at their ends to the said winding drums and the carriage and at intermediate points passing around fixed guides located beyond the ends of the carriage and car and draft cables also arranged to wind upon the said drums and connected at their other ends with the ends of the car and at intermediate portions passing around fixed guides located beyond the ends of the car.

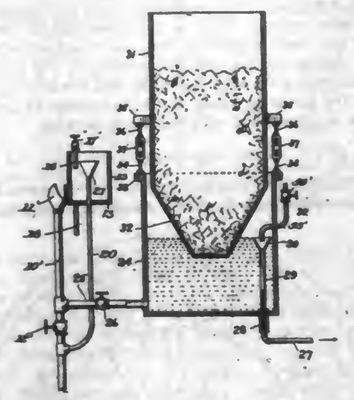
5. An excavating apparatus comprising a track, a car arranged to travel upon the track, masts located adjacent the track, a track supported by said masts, a carrier arranged to travel upon the last said track, winding drums located upon the side of the car, scoop cables arranged to wind upon said drums, sheaves carried by the carrier, said scoop cables passing over said sheaves, scoops attached to the scoop cables, winding drums located at the ends of the car, cables attached at their ends to the winding drums at the ends of the car and to the said carrier and at intermediate portions passing around fixed guides located beyond the ends of the car and carrier, draft cables arranged to wind upon the drums located at the ends of the car and at their other ends being attached to the ends of the car and at intermediate portions passing around fixed guides located beyond the ends of the car.

976,664. CONVEYER-LINK. ALBERT RAYMOND LAUBENSTEIN, Ashland, Pa. Filed Mar. 10, 1910. Serial No. 548,424.



A conveyer link comprising a pin having elliptical shaped ends, and elliptical shaped center portion disposed intermediate the said ends, reduced cylindrical portions disposed on both sides of the center portion and side bars for removable engagement with the cylindrical portion of the said pin.

976,665. APPARATUS FOR IMPREGNATING LIQUIDS WITH COAGULANTS. JOHN W. LEDOUX, Swarthmore, Pa. Filed Nov. 28, 1908. Serial No. 464,939.



1. In apparatus of the class described, the combinati of means for holding a predetermined quantity of a liqui means for charging said liquid at a predetermined ra with means for maintaining in said liquid a predetermin quantity of a solid, whereby said liquid absorbs a substa tially constant amount of said solid.

2. In apparatus of the class described, a container a means for passing liquid therethrough at a predetermin rate, in combination with means for maintaining a pred termined quantity of solid in the liquid in said contain

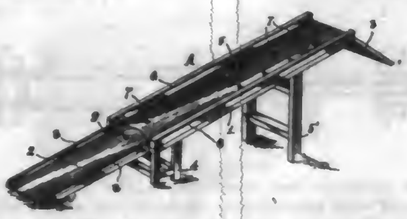
3. In apparatus of the class described, a liquid co tainer having an outlet for maintaining the level of liqu therein, means for holding a store of coagulant and fee ing the same to said liquid so as to maintain a consta amount thereof submerged in said liquid, means for su plying liquid to said container, and means for maintai ing a constant liquid head controlling said liquid supp

4. In apparatus of the class described, a liquid contain and means whereby the liquid therein is charged at predetermined rate, in combination with means for ho ing a store of solid and feeding it so that a predetermin amount thereof is dissolved in the liquid in said co tainer.

5. In apparatus of the class described, a liquid contain having an overflow passage connected therewith for ma taining the desired level of liquid therein, means for ho ing a store of coagulant and supplying the same to s liquid so as to maintain a constant quantity of coagul therein, means for supplying liquid to said container der a constant head, and means for regulating the amou of liquid discharged under said head to said vessel.

[Claims 6 to 10 not printed in the Gazette.]

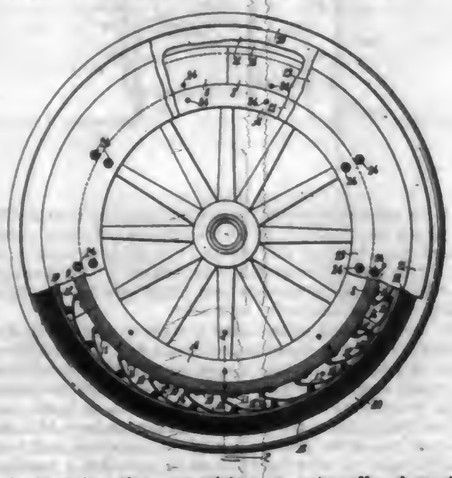
976,666. WAGON-LOADING DEVICE. WILLIAM W. LUCAS, Academy, S. D. Filed Mar. 18, 1910. Serial No. 550,275.



1. A loading device of the character described comprising an inclined main section having side guards and provided with foot holds spaced apart to leave a central longitudinal passage for the wheels of the load carrying devices, a lower section, a pivot disposed in the longitudinal center line of the main section and arranged to connect the lower end of the same with the lower section to permit the latter to be adjusted to and from a position alining with the main section, and a top section extending into the vehicle to be loaded.

2. In a device of the class described, the combination of an inclined main section, a plate secured to the bottom side of the main section at the lower end thereof, an entrance section having one end resting on the plate, and a pivot extending through the plate and the lower section to permit the latter to swing in its own plane to and from a position in alinement with the main section.

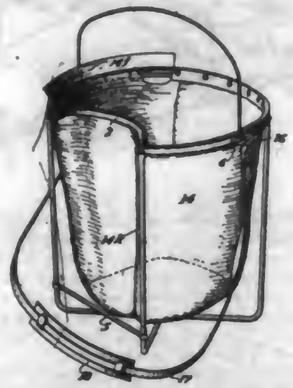
976,667. SPRING-TIRE. VERNON A. MARSH, Endicott, Wash. Filed July 6, 1910. Serial No. 570,530.



1. A spring tire, comprising an outwardly channeled rigid rim fixedly mounted on a vehicle wheel; a plurality of short leaf bowed springs pivotally mounted upon said rim and disposed in lapped relation, each spring lapping the following adjacent spring; a plurality of rollers pivotally mounted upon the free end of each of said springs to bear upon the adjacent spring; and a tire constructed of resilient material and having formed on the inner periphery thereof a groove adapted to receive the said rollers loosely therein.

2. A spring tire, comprising an outwardly channeled rigid rim fixedly mounted on a vehicle wheel; a plurality of short leaf bowed springs pivotally mounted upon said rim and disposed in lapped relation, each spring lapping the following adjacent spring; a plurality of rollers pivotally mounted upon the free end of each of said springs to bear upon the adjacent spring; a tire constructed of resilient material and having formed on the inner periphery thereof a groove adapted to receive the said rollers loosely therein, and said tire having a groove formed in the outer periphery thereof to receive a wearing shoe; a flexible cover encompassing said tire and said rim; and a flexible wearing shoe to fit within the said groove and over the said cover.

976,668. FRUIT-BASKET. NICHOLAS E. MARSHBURN, Lagrange, Ga. Filed Dec. 24, 1908. Serial No. 469,077.



A fruit basket comprising the following elements: a rigid frame having a top ring with a hip curve and a pair of crossed inverted U-shaped members forming a stand with their free ends riveted to the top ring at points approximately 90° apart, two of these points being at opposite ends of the hip curve, a horizontal leg guard secured across the two limbs below and parallel to the limiting chord of the hip curve, carrying means secured to the top ring, and a flexible bag suspended within the frame from the top ring, and formed of a blank shaped approximately like an open Maltese cross by turning up the arms of the cross to form an edge of the same aggregate length as the top ring, and a substantially square bottom of smaller dimensions than the top; whereby the bag will swing free from the frame and will furnish an extended base for the fruit contained within it, thus avoiding bruising by contact with the frame or with the person of the picker or by concentration of pressure upon the bottom fruit, substantially as described.

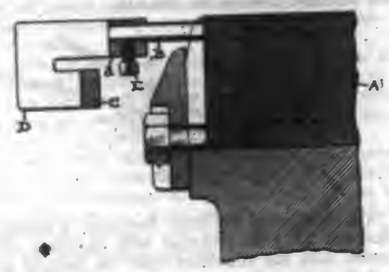
976,669. ALLYL SULFOCARBAMID BISMUTH TRI-IODID. FREDERIC SILVESTER MASON, New York, N. Y. Filed Oct. 20, 1909. Serial No. 523,614. (Specimen.)

As a new composition of matter, allyl sulfocarbamid bismuth tri-iodid derived from allyl sulfocarbamid, potassium iodid and bismuth subnitrate which is semi-fluid at ordinary temperatures, orange red in color, insoluble in weak acids but decomposed by weak alkalies and has the following formula:—$C_3H_6N_2H_8CSBiI_3$.

976,670. END RING FOR INDUCTION-MOTORS. HOWARD MAXWELL, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 28, 1910. Serial No. 546,304.

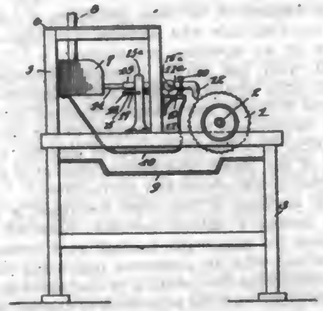
1. In an induction motor of the squirrel-cage type, in combination with the rotor conductors and end rings therefor, connections between the rotor conductors and an end ring consisting of conductors doubled back on themselves so as to have an appreciable length with minimum self induction.

2. In an induction motor of the squirrel cage type, in combination with the rotor conductors, an end ring for said conductors provided with connecting members projecting from and integral with said ring, said connecting members being of appreciable length and doubled back on themselves, and means for securing the ends of said connecting members to the ends of the rotor conductors.



3. In an induction motor of the squirrel cage type, in combination with the rotor conductors, a cast end ring having integral therewith connecting members corresponding in number to the number of conductors, each of said members being of appreciable length and doubled back on itself.

976,671. AIR-BLAST APPARATUS FOR COTTON-GINS. OSMON W. MCDONALD, Rising Star, Tex. Filed Sept. 8, 1909. Serial No. 516,602.



1. The combination with the saws and the framework for supporting the same, of an auxiliary frame behind the saws, an air chamber supported thereby, a nipple extending from the chamber adjacent to each pair of saws, a nozzle between each pair of saws comprising a straight portion slidable on the nipple, and an angular portion hinged to the horizontal portion and delivering between the saws, bars secured to the frame work beneath the straight portions of the nozzles, a plate secured to each of said portions on each side of the bars, rods journaled in the ends of the plates and threaded through the bars, a support beneath the angular portions of the nozzle, a bar to which all of said portions are secured, and a set-screw threaded through each end of the bar and engaging the support.

2. The combination with the saws of a gin, of an air chamber, a nipple extending from the chamber adjacent to each pair of saws, a nozzle for each nipple extending between the saws and comprising a straight portion slidable on the nipple, and an angular portion hinged to the straight portion, a pair of plates to which each of said straight portions is secured, fixed bars between the said plates, rods journaled in the ends of the plates and threaded through the bars, and means for simultaneously adjusting the angular portions of the nozzles vertically toward and from the saws.

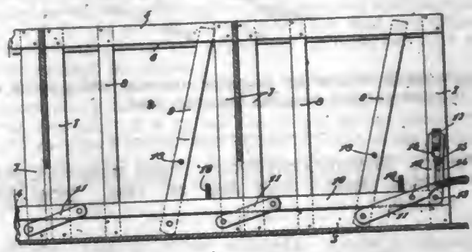
3. The combination with the saws of a gin, of an air chamber, a nipple extending from the chamber adjacent to each pair of saws, a nozzle for each nipple extending between the saws and comprising a straight portion slidable on the nipple, and an angular portion hinged to the straight portion, means for simultaneously adjusting the straight portions longitudinally, and means for simultaneously adjusting the angular portions vertically.

4. The combination with the saws of a gin, of an air chamber, a nipple extending from the chamber adjacent to each pair of saws, a nozzle for each nipple extending between the saws and comprising a straight portion slidable on the nipple, and an angular portion hinged to the straight portion, means for simultaneously adjusting the straight portions longitudinally, means for simultaneously adjusting the angular portions vertically, and a shield behind the saws.

5. The combination with the saws of a gin, of a source of fluid under pressure, a nozzle delivering between each pair of saws and connected with the source, each of said nozzles comprising a straight portion connected with the source, and an angular portion hinged to the straight portion, means for adjusting the straight portions longitudinally, and means for swinging the angular portions on the straight portions.

[Claim 6 not printed in the Gazette.]

976,672. STANCHION. CHARLES W. MCLEAN, Arena, N. Y. Filed Apr. 27, 1910. Serial No. 557,886.



In a stanchion the combination with a frame, fixed an movable stanchions carried thereby, laterally extendin members carried by the movable stanchions, and a vert cally swinging bar and means carried by said bar to en gage said lateral extensions and coöperating with th latter to move the movable stanchions parallel with th stationary stanchions; of a locking member pivoted one end to the bar and forming a longitudinal continu tion of the bar when the latter is in raised position an the movable stanchions parallel with the stationar stanchions, said movable member being provided with socket having a stepped side wall, a keeper carried by th frame and coöperating with the stepped side wall of th socket to hold the locking member and bar against mov ment when the bar is in raised position.

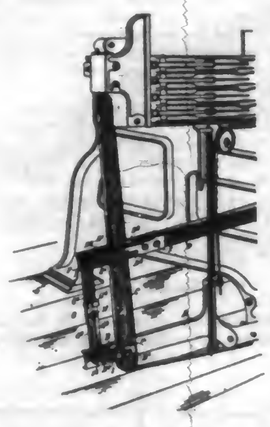
976,673. PICKING MECHANISM. LEWIS R. MELL and FREDERICK W. COLE, Guilford, Me. Filed Jan. 2 1910. Serial No. 540,773.

1. A picking mechanism, comprising a sweep stick ha ing a loop formed of metal plates secured to and proje ing from the end of the stick, and a block of leather b tween the plates intermediate of their ends, a rocker pi vided with headed studs, a picker stick pivoted on one the studs of the rocker and projecting through said loo an adjustable regulating arm pivoted on the other st of the rocker outside of the picker stick and between t ends of the plates of the sweep stick, and a locking h having a detachable engagement with the studs for loc ing the picker stick and regulating arm on the rocker.

2. A picking mechanism, comprising a rocker havi studs, a picker stick fulcrumed on one of the said studs sweep stick having a rigid loop engaging the said pick stick, a regulating arm fulcrumed on the other stud a pivotally connected with the said loop, and a locking pl removably engaging the said studs.

3. A picking mechanism, comprising a rocker provid with studs having reduced portions near their ends, picker stick fulcrumed on one stud, a sweep stick hav a loop through which the picker stick extends, a regulat

arm fulcrumed on the other stud and pivotally connected with the said loop, and a locking bar having a key-hole



opening in one end for engaging one stud and a notch in its other end for engaging the other stud.

976,674. COMBINATION-TOOL. JOHN MIDDLETON, New Bedford, Mass. Filed Aug. 20, 1909. Serial No. 513,816.



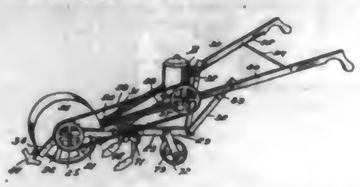
1. A device of the class described comprising a pair of pivotally connected blades provided with shanks and actuating handles, a hooked extension projecting from the outer end of one of the blades, and a spring arranged between and connecting the shanks of the blades, said spring serving to hold the blades normally closed and adapted to permit of a free opening movement thereof.

2. A device of the class described comprising a pair of pivotally connected blades provided with shanks and actuating handles, a hooked extension projecting from the outer end of one of the blades, and a U-shaped spring arranged between the shanks with its arms bearing thereon, and having said arms provided with integral fingers bent to form clasps engaging the shanks and connecting the spring thereto, said spring serving to hold the blades normally closed and adapted to permit the free opening movement thereof.

3. A device of the character described comprising a pair of pivotally connected blades provided with shanks and actuating handles, and a spring comprising a U-shaped strip of spring metal having its bite portion arranged between the forward ends of the shanks and its arms extending rearwardly and bearing against the inner sides of the shanks, said arms being formed with integral fingers bent to form clasps surrounding the shanks and connecting said arms thereto, said springs serving to hold the blades normally closed and adapted to permit free opening movement thereof.

4. A device of the character described comprising a pair of pivotally connected blades provided with shanks and actuating handles, a hooked extension projecting from the outer end of one of the blades, and a U-shaped spring arranged between the shanks and having clasps engaging the same, said spring serving to hold the blades normally closed to form a handle for said extension.

976,675. GARDEN-PLOW AND SEED-PLANTER. JAMES F. MIXON and OTICE H. FORD, Manatee, Fla. Filed Dec. 21, 1909. Serial No. 534,343.



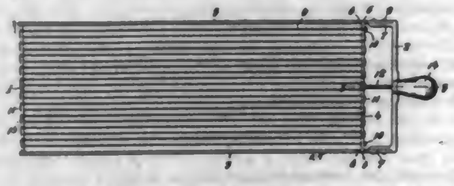
1. In a machine of the class described, a frame having handles and an axle provided with carrying wheels, a cylindrical seed box supported upon the handles and having a bottom member spaced from the walls thereof and provided with a slide having an aperture, a bevel gear supported for rotation in the space intermediate the bottom and the walls of the said box, and resting upon the bottom plate, a seed disk connected for rotation with the bevel gears and having a plurality of apertures adapted to register with the aperture in the slide, a transversely disposed shaft supported for rotation adjacent to the bottom of the said box, a pinion upon said shaft meshing with the bevel gear, a sprocket wheel upon the wheel carrying axle, and a link belt connecting the said sprocket wheels.

2. In a machine of the class described, a frame, having a wheel carrying axle and provided with transverse slots connected by an aperture or opening; a furrow opener connected with the frame, coverers adjustable in the transverse slots of the frame, handles connected with the frame, seed dropping mechanism supported upon the handles and including a box or hopper, and a seed chute or spout leading from the bottom of the seed box through the aperture of the frame, and discharging at a point intermediate the furrow opener and the coverers.

3. In a machine of the class described, a cylindrical seed box having a bottom member connected with and spaced from the side walls thereof, said bottom member being provided with an apertured regulating slide, a beveled gear supported for rotation in the space intermediate the bottom plate, and the side walls of the box and having a seed disk provided with a plurality of apertures, means for rotating the bevel gear, an actuating spring for the regulating slide, and adjustable stop means such as a set screw located in the path of said slide.

4. In a machine of the character described, a seed box having a bottom member spaced from the side walls thereof, a gear wheel supported for rotation in the space intermediate the bottom plate and the side walls, a seed disk connected for rotation with the gear wheel and having a plurality of apertures, an apertured seed slide connected with the bottom plate and having a down-turned lug at one end, a spring connecting said lug with a bracket depending from the seed box, a set screw threaded through said bracket and extending in the path of the lug upon the slide, and a suitable guided operating rod connected with the opposite end of the slide.

976,676. CURD-KNIFE. JAY W. MOORE, Sheboygan Falls, Wis. Filed Mar. 18, 1910. Serial No. 550,138.



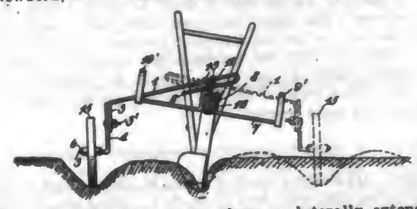
1. A knife of the character described comprising a frame having upper and lower series of flexible cutting elements, and a movable tension member operatively connected with the cutting elements.

2. A knife of the class described comprising a frame having a flexible element wound thereabout to present a plurality of spaced series of cutting elements, and a movable tension member operatively engaged with the said cutting elements.

3. A knife of the class described comprising a frame having a single length of wire wound thereabout to present a plurality of series of cutting knives, and a movable tension member forming a portion of the frame and operable to obtain a tension on the wire.

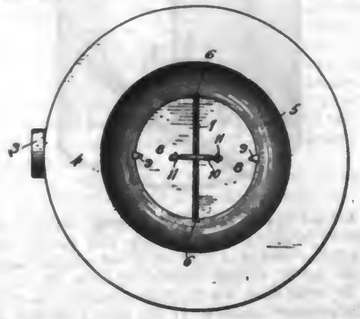
4. A cheese curd knife comprising a frame formed to provide a movable tension member, and a single length of wire fixed at its terminals to the frame and having intermediate portions wound about the frame and wound about the said tension member and arranged to present a plurality of series of cutting knives.

976,677. PLOW ATTACHMENT. BOAZ ALBERT MORRIS, Newbern, N. C. Filed Jan. 22, 1910. Serial No. 539,486.



In a gage attachment for plows, a laterally extending arm secured to the plow beam, a pair of upwardly extending arms secured at the extremity of said laterally extending arms, an eye secured to said plow beam, a gage arm having a portion bent back upon itself and arranged to enter said eye, means for adjustably securing said gage arm to said eye, said gage arm being arranged to pass between said upwardly extending arms, and a gage wheel secured to the outer end of said gage arm.

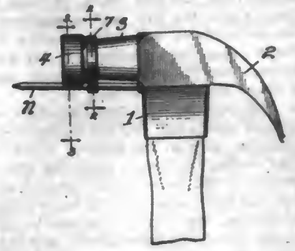
976,678. ANIMAL TRAP OR DIP. LEOPOLD MORRIS, Victoria, Tex. Filed Mar. 6, 1909. Serial No. 481,723.



The combination with an animal retaining receptacle, of a cover having a central opening, said cover having a flat outer marginal portion, and a downwardly and inwardly inclined inner marginal portion, the said portions being substantially equal in width to the body length of the animal to be trapped, a diametrically arranged rod bridging the central opening, covers hinged to said rod, a spring connecting said covers, and means for preventing the covers swinging upwardly above a horizontal plane.

976,679. NAIL-HOLDING ATTACHMENT. JOHN R. MORRISON, Hermosa Beach, Cal., assignor of one-half to Ira Delos Moon, Azusa, Cal. Filed May 25, 1909. Serial No. 498,123.

1. A nail holding attachment for hammers consisting of an open spiral spring coil exceeding one complete turn and adapted to be sprung over the poll of a hammer head and to receive a nail intermediate two adjacent turns of the coil.

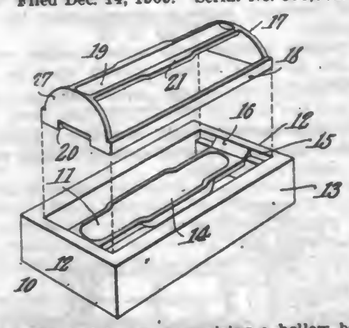


2. A nail holding clip consisting of an open spiral spring coil adapted to encircle the poll of a hammer head, and exceeding one complete turn and having the terminal of its outer coil bent outward from the adjacent inner coil.

3. A hammer having a poll provided with a recess in combination with a nail holding clip consisting of an open spiral spring coil exceeding one complete turn and adapted to encircle the poll of the hammer head, said coil being provided adjacent to the terminal of its inner coil with a pin engaging the recess.

4. A hammer having a poll provided with a nail seating groove and a recess, in combination with a nail holding clip consisting of a spring coil exceeding one complete turn encircling the poll and having adjacent to the terminal of its inner coil a pin engaging the recess; the terminal of the outer coil being bent outward from the adjacent inner coil.

976,680. LIQUID-FUEL BURNER. LOUIS C. MORSE, Muskogee, Okla., assignor to Bert E. Drake, Muskogee, Okla. Filed Dec. 14, 1909. Serial No. 533,072.



1. A liquid fuel burner comprising a hollow base open at the top and bottom, a pan inclosed by the base, and spaced from opposite walls thereof, the spaces between said walls and the pan forming air passages, a frame mounted on the base above the pan, and a trough carried by said frame, said trough being located above the aforesaid pan, and the frame being open above the aforesaid air passages.

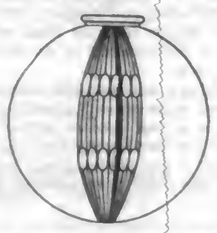
2. A liquid fuel burner comprising a hollow base consisting of side and end walls, a pan extending between the end walls, and spaced from the side walls, a frame mounted on the base above the pan, said frame being closed at its ends, and open at its sides in line with the spaces between the aforesaid pan and side walls of the base, and a trough extending between the ends of the frame, said trough being located above the pan.

3. A liquid fuel burner comprising a hollow base consisting of side and end walls, a pan extending between the end walls, and spaced from the side walls, a frame fitting in the base above the pan, said frame comprising end and side walls, and a trough extending between the end walls of said frame, and spaced from the side walls thereof, said trough being located above the aforesaid pan.

4. A liquid fuel burner comprising a hollow base consisting of side and end walls, the top edges of the end walls being rabbeted, a pan extending between the end walls, and spaced from the side walls, an open frame fitting in the base above the pan, and comprising end and side walls, the end walls of said frame seating in the rabbet, and a trough extending between said end walls of the frame, and spaced from the side walls thereof, said trough being located above the aforesaid pan.

5. A liquid fuel burner comprising a hollow base consisting of side and end walls, the upper edges of the end walls being rabbeted, lugs in the rabbets, a pan extending between the end walls, and spaced from the side walls, an open frame fitting in the base above the pan, said frame comprising side and end walls, the end walls of said frame seating in the rabbet, and having notches to receive the lugs, and a trough extending between the end walls of the frame, and spaced from the side walls thereof, said trough being located above the aforesaid pan.

976,681. GLASSWARE. OTIS A. MYGATT, New York, N. Y. Filed June 5, 1908. Serial No. 436,865.

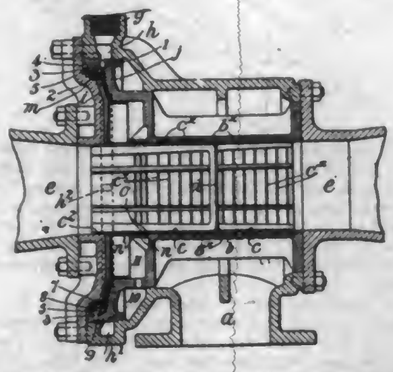


1. A specular reflecting prism having a lenticular surface formed upon the body of the prism.

2. A reflector having a prismed specular reflecting surface and lenticular surfaces formed upon the bodies of the prisms.

3. A reflector provided with radial specular reflecting prisms and lenticular surfaces formed upon the bodies of the prisms.

976,682. SOUND-PRODUCING DEVICE. JOHN PELL NORTHEY, Toronto, Ontario, Canada. Filed June 5, 1908. Serial No. 436,897.



1. A sound producing device comprising two resonators, and a note producing device including a movable part having two open ends, and means for supplying blast to said resonators through said movable part, each open end of such part communicating with one of said resonators.

2. A sound producing device comprising two resonators, a note producing device including fixed and movable parts having coacting orifices located between such resonators and open at each end to said resonators and a diaphragm dividing one of said parts.

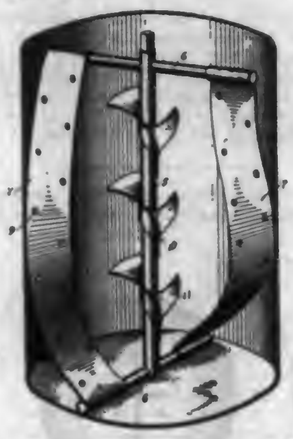
976,683. RAILROAD-TIE. JOHN JOSEPH O'DONNELL, Biwabik, Minn., assignor of one-half to William Brown, Hibbing, Minn. Original application filed Feb. 4, 1909, Serial No. 476,151. Divided and this application filed Dec. 6, 1909. Serial No. 531,674.



1. A metallic tie formed of sheet metal in hollow form and having a flat upper face, outwardly bowed sides and substantially flat base having the edges of the metal spaced a distance apart, and means for securing the rails to the upper flat face.

2. A metallic tie formed of sheet metal in hollow form and having a flat upper face and outwardly bowed sides in the arc of a circle considerably greater than the diameter of the tie, said tie having a flat base, the edges of the metal forming the same spaced a distance apart and the upper face of the tie having bayonet slots for securing the rails thereto.

976,684. DASHER FOR ICE-CREAM FREEZERS. MARTIN OHAYNOWEECH, New York, N. Y. Filed May 2, 1910. Serial No. 558,769.



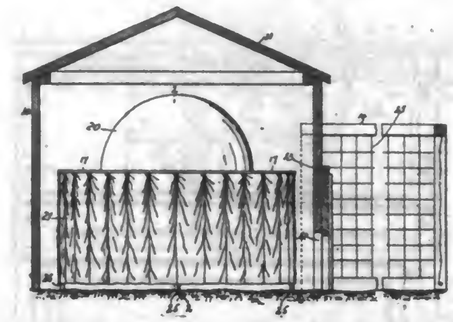
1. In an ice cream dasher, a central vertical dasher shaft having cross-bars at the top and bottom respectively, radially arranged and at a substantial angle to each other, spiral scraper blades attached to the outer ends of the cross-bars, discharging upwardly, and an upwardly-discharging conveyer at the center of the dasher and carried by the dasher shaft.

2. In an ice cream dasher, a central vertical dasher shaft, and an upwardly-discharging conveyer carried by the shaft, having approximately V-shaped conveyer blades spirally arranged on the shaft, with the inner portion or base of each blade adjoining the inner portions or bases of the adjacent blades.

3. In an ice cream dasher, a central vertical dasher shaft, and relatively wide, flat, spiral, circumferential blades carried by the shaft and discharging upwardly, the blades spaced from the shaft and making a turn of approximately 90° in the length of the dasher, with the flat faces of the blades arranged substantially normal to the direction of movement.

4. In an ice cream dasher, a central dasher conveyer arranged to discharge upwardly when revolved in one direction, and circumferential spiral dasher blades fixed relatively to the central conveyer and inclined to discharge upwardly and inwardly to the central conveyer when the said central conveyer is revolved in the same direction.

976,685. BROODER. FRANK O. PENNEY, Richwood, Ohio. Filed July 21, 1909. Serial No. 508,748.



1. A brooder comprising a chamber having an upper member provided with an opening, hover devices depending from said upper member, a dome carried by said upper member and extending over the opening thereof and wholly above the hover chamber, said dome forming an upwardly directed extension of the chamber and communicating with the same, a heater within the chamber and of less diameter than the opening of the upper member thereof and extending therethrough, and into the dome with a space between the heater and the edges of the opening, whereby an air chamber is produced between the dome and the heater and connected by a contracted annular passage with the interior of the chamber.

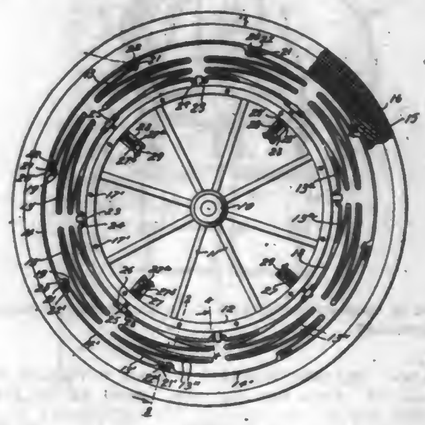
2. The combination in a brooder, of an upper member having hover members depending therefrom and forming a brooder chamber, said upper member having a central opening, a dome directed upwardly from the upper member and extending over the opening thereof and wholly above the hover chamber, the interior of the dome communicating through the opening with the brooder chamber, and a heating member located in the brooder and of less diameter than the opening of the upper member and extending through the same and into the dome, whereby a hot air chamber is formed between the dome and the heating chamber and communicating with the chamber by a contracted annular passage.

3. A brooder comprising a hover chamber having an upper member provided with a central opening and with upwardly directed flanges around its rim and around the opening thereof, a dome carried by the upper member and extending over the opening thereof, a cover of non-conductive material upon said upper member and retained in position by the flanges thereof, a cover of non-conductive material extending over said dome, hover members depending from said upper member, and a heating member located within the hover chamber and extending into the dome through the opening thereof.

976,686. SPRING-WHEEL. HANS P. PETERSEN, Sioux City, Iowa. Filed Oct. 16, 1909. Serial No. 522,965.

1. The hereindescribed wheel comprising a felly, a rim, a series of springs interposed between said felly and said rim, each of said springs including a plurality of connected leaves, one of the leaves being connected to the rim structure and another of the leaves being connected to the felly, and means for varying the tension of said springs, said means comprising a series of screws passing through the felly and each of which has an outward thrust against one of said springs at a point distant from the point of connection of the spring to the felly.

2. In a spring wheel, the combination of a felly, a rim and sets of pairs of springs interposed between the felly and rim, said springs being connected to the rim structure and to the felly, and an adjusting means connected to each pair of said springs, said adjusting means including a



block having a central hole and a screw passing through the felly and having shouldered connection through the hole of said block, substantially as set forth.

976,687. LINE-RULING DEVICE. ELI PICKWICK, Jr., Newark, N. J. Filed Jan. 23, 1909. Serial No. 473,834.

1. A crayon holder, having a body with slits in the longitudinal inner and outer edges thereof, and fastening cords attached to said body, passing through said slits and adapted to retain crayons laid transversely on the face of said body.

2. A crayon holder, consisting of an elongated plate, in combination with a plurality of transversely disposed crayons, and elastic retaining members extending transversely across said body and having loops extending from the longitudinal edges of the body and passing around said crayons.

3. A crayon holder, consisting of an elongated body having slits in the opposite edges thereof, and elastic bands passing through adjacent slits and forming loops to retain crayons in the spaces between said slits.

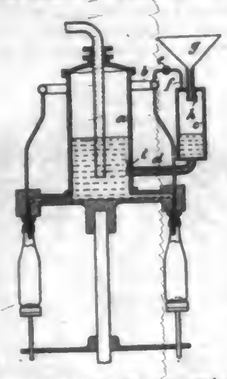
4. A crayon holder, consisting of an elongated body having oppositely disposed slits in the edges thereof, crayons extending transversely of said body and lying against the side thereof, and elastic bands extending transversely across said body having loops at the ends extending down through said slits and passing around said crayons.

5. A crayon holder consisting of an elongated plate, in combination with a plurality of transversely-disposed crayons, and retaining members extending transversely across said body and having loops extending over the longitudinal edges of the body and passing around the said crayons.

976,688. BOTTLING-MACHINE. ANDERS ANDERSEN PINDSTOFTE, Copenhagen, Denmark. Filed July 9, 1910. Serial No. 571,143.

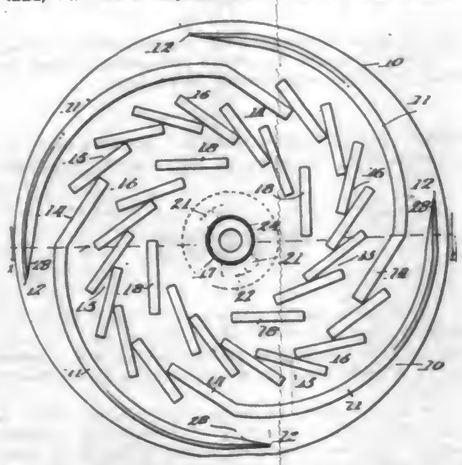
In a bottling machine, the combination of a vessel provided with a funnel and communicating with the liquid receiver, means for placing said vessel in communication with either the air container or the atmosphere and automatic valves preventing communication between the ves

sel and the funnel when in communication with the air container and between the vessel and the liquid receiver



when in communication with the atmosphere substantially as described.

976,689. POLISHING-HEAD. EDSON T. POLLARD, Rutland, Vt. Filed July 29, 1910. Serial No. 574,504.



1. In a polishing head, a leader and a feeding portion having a series of pockets upon its periphery.

2. In a polishing head, a leader and a feeding portion having a series of pockets upon its periphery, the final member of said leader being separated therefrom.

3. In a polishing head, a series of concentric scrolls, each formed of a curved leader, and a series of feeding members having retaining pockets disposed at an angle to each other.

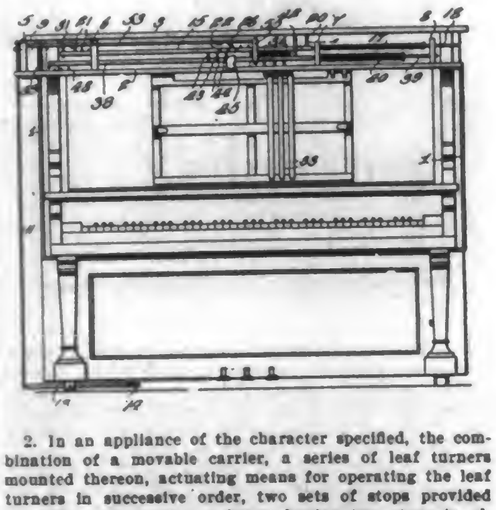
4. In a polishing head, a series of concentric scrolls, each formed of a curved leader, and a series of feeding members disposed at an angle to each other, the final central member of each series being separated from the remaining members of the scroll.

5. In a polishing head, a curved leader having an angularly disposed inner end, and a series of feeding members extending from said end and disposed at an angle to each other.

[Claims 6 to 12 not printed in the Gazette.]

976,690. MUSIC-LEAF TURNER. ISIDORE J. PONSTEIN, New Orleans, La. Filed Mar. 18, 1910. Serial No. 550,273.

1. In an appliance of the character set forth, the combination of a rectilinear movable carrier, leaf turners mounted upon the carrier, stationary actuating means for successively operating the leaf turners, a spring normally exerting a pressure upon the carrier to move the same in one direction, a detent adapted to engage the carrier to limit the movement thereof in one direction, operating means provided upon the carrier and detent for effecting release of the detent from the carrier, and complementary means for limiting the movement of the carrier when moved by the aforesaid spring to effect operation of a leaf turner.



2. In an appliance of the character specified, the combination of a movable carrier, a series of leaf turners mounted thereon, actuating means for operating the leaf turners in successive order, two sets of stops provided upon the said carrier, a detent having two stops to alternately engage with the sets of stops provided upon the carrier to limit the movement thereof, means for moving the carrier in one direction, and actuating means for the said detent to throw one stop thereof out of the path of one set of stops of the carrier and at the same time to throw the other stop into the path of the other set of stops of said carrier to limit the movement of the latter and insure a step-by-step movement of the carrier, whereby the leaf turners are successively operated.

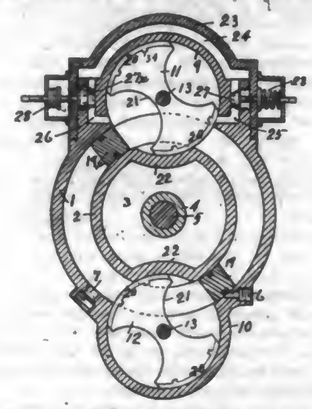
3. In an appliance of the character set forth, the combination of a carrier, a series of leaf turners mounted thereon, actuating means for the leaf turners stationarily mounted and adapted to engage the same in successive order, means for moving the carrier in one direction, two sets of stops mounted upon the carrier, a pivotally mounted detent, and stops upon the detent upon opposite sides of its pivotal support and adapted to coöperate with the sets of stops of the carrier to insure a limited step-by-step movement thereof.

4. In an appliance of the character set forth, the combination of a carrier, a series of leaf turners mounted thereon, actuating means for the leaf turners stationarily mounted and adapted to engage the same in successive order, means for moving the carrier in one direction, two sets of stops mounted upon the carrier, a pivotally mounted detent, stops upon the detent upon opposite sides of its pivotal support and adapted to coöperate with the sets of stops of the carrier to insure a limited step-by-step movement thereof, and alining means between the detent and carrier attached to one of the parts and having sliding engagement with the other part.

5. In combination a rectilinear movable carrier having a slot, leaf turners mounted upon said carrier, a stationary actuator for operating the leaf turners in succession, means for exerting a pressure upon the carrier to move the same positively in one direction, a pivoted detent provided with stops upon opposite sides of its pivotal support, sets of stops provided upon the said carrier to be alternately engaged by the stops of the detent, actuating means for the detent, and a pin secured to the detent and passing through the slot of the carrier.

[Claims 6 to 12 not printed in the Gazette.]

976,691. GAS-ENGINE. EDGAR F. PRALL, New York, N. Y. Filed Apr. 5, 1910. Serial No. 553,565.



1. An engine comprising a casing having an inlet and an exhaust and two opposite semicylindrical valve-chamber-extensions, a stationary drum central in the casing, two opposite pistons between the casing and drum each being alternately a compression piston and a driven piston, a double-headed concave-sided rotary valve in each extension and adapted to permit the pistons to pass the same opening the passage before and closing the passage behind them, a compression chamber with connection to the piston chamber on the compression side, and with the piston chamber on the explosion side, said connections being on opposite sides of one of said rotary valves, as set forth.

2. An engine comprising a casing having an inlet and an exhaust and two opposite valve-chamber-extensions, a stationary circular drum with concave sides facing said extensions in the casing, two opposite pistons between the casing and drum, a double-headed concave-sided rotary valve in each extension and adapted to project closely in to said concave portions as the valves rotate, a compression chamber with connection to the piston chamber on opposite sides of one of the rotary valves, and means for controlling said connections.

3. An engine comprising a casing and opposite valve-chamber-extensions, a stationary drum in the casing, a main shaft, opposite pistons between the casing and drum, rotary valves in said extensions adapted to permit the pistons to pass, valve shafts parallel with the main shaft, driving means between the main shaft and the valve shafts, a compression chamber between the compression side and the explosion side of one of the rotary valves, and separate valves controlling the connection.

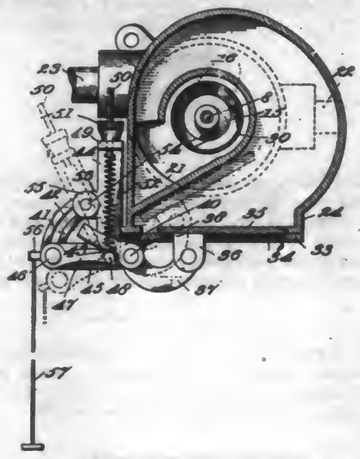
4. An engine comprising a casing and valve-chamber-extensions, a sleeve centrally-supported in and by the casing, a shaft through the sleeve and casing, a drum supported on said sleeve, a piston adapted to rotate between said casing and drum and having one end secured to the shaft and the other end supported on said sleeve, and rotary valves in the extensions.

5. An engine comprising a casing, a stationary inner drum, a shaft, a sleeve supported in and by the casing around the shaft, a piston structure having two disk-ends one fixed to the shaft between the casing and the sleeve and drum and the other having a bearing on said sleeve between the casing and drum.

[Claims 6 to 14 not printed in the Gazette.]

976,692. CARBURETER. HENRY M. REICHENBACH, Chicago, Ill. Filed Apr. 1, 1910. Serial No. 552,913.

1. In a carbureter, the combination of a casing provided with a fuel inlet and with tangential air inlets, means for heating said casing, said casing being provided with an opening forming a secondary air inlet, a valve for closing said opening, a spring normally holding said valve closed, and connections acting to mechanically produce any desired increase in the tension of the spring controlling the movement that is at all times limited fixed in magnitude, substantially as described.



2. In a carbureter, the combination of a fuel tank, casing through which a heating fluid is passed, a pipe lea ing from said tank into said casing, and a removab nozzle provided with inclined tangentially arranged inl openings, said nozzle being secured to the lower end said casing, substantially as described.

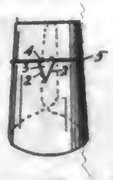
3. In a carbureter, the combination of a casing, mea for heating the same, an air nozzle for supplying air the bottom of said casing, said casing and nozzle bei provided with means for producing a vortical motion the air and the fuel therein, said casing being provid with an opening for an auxiliary air supply, a movab valve for closing said opening, a spring for normally hol ing said valve closed, and adapted to yield under certa conditions by reason of the suction of the engine, co nections acting to mechanically produce any desired crease in the tension of said spring controlling a mov ment that is at all times limited or fixed in magnitud and means for positively closing said valve when desire substantially as described.

4. In a carbureter, the combination of a casing co posed of two parts, through one of which the fuel charg air passes, and through the other of which a heating age passes, a removable air nozzle provided with incline tangentially arranged inlet openings, said nozzle being cured to one of said parts, a fuel tank having a dischar pipe in proximity to said inlet openings, partitions for ing a spirally arranged air passage for furnishing an a ditional supply of air, a valve normally closing one e of said passage, a spring, connections between said sprin and said valve whereby the spring holds said valve no mally closed, said connections being adjustable and cap ble of being fastened in several possible positions, substa tially as described.

5. In a carbureter, the combination of a casing, a tu centrally arranged therein, inlet and outlet pipes co nected to said casing for the conduction of a heating flu therethrough, an air nozzle provided with inclined, ta gentially arranged inlet openings, said air nozzle bei connected to said casing, a fuel tank, and a tube deliverin from said tank into said air nozzle, a tube centrally pas ing through said casing, partitions forming a spiral clined passage for the admission of an auxiliary air cu rent, a valve for closing said passage, a spring normal tending to hold said valve closed, and connections f varying the intensity of said spring, including a bell cra lever, an arm pivoted on said lever, to which arm o end of said spring is attached, a lever against which sa arm bears, a pin to which said lever is rigidly fixed, a a curved lever attached to said pin and to said valve, su stantially as described.

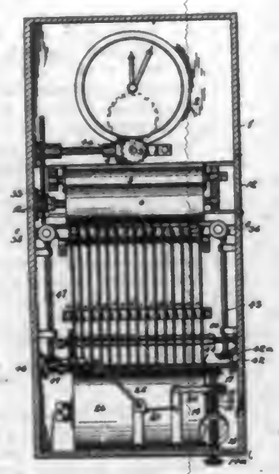
[Claim 6 not printed in the Gazette.]

976,693. SLEEVE-PROTECTOR. WILLIAM F. REICHENBACH, Rochester, N. Y. Filed May 10, 1910. Serial No. 560,513.



A sleeve protector comprising a sheet of suitable material and form to be bent into cuff-shape, one or more tongues formed of said sheet material, one end of each tongue being integrally connected with the body of the sheet, and means for holding the sheet thus bent secured to the sheet by such a tongue behind which said means is slipped.

976,694. SPEED INDICATOR AND RECORDER. ALVA D. RENFRO, Detroit, Mich., assignor to Renfro Speed-O-Meter Company, Detroit, Mich., a Corporation of Michigan. Filed July 3, 1909. Serial No. 505,797.



1. In a speed recorder, in combination with a governor adapted to receive its actuation from a rotatable shaft, a drum having an apertured side wall, a magnet therein, interconnecting means between the governor and the drum whereby said drum is caused to rotate upon the actuation thereof, registering keys adapted to be actuated by said magnet when the drum is rotated and its apertured portion is thus brought opposite thereto, a recording roll, a printing ribbon interposed therebetween and the printing ends of the keys, and clock mechanism in operative connection therewith, whereby the movement of said printing roll and its recording sheet is regulated, substantially as described.

2. In a speed recorder, the combination of a governor member, a bank of printing keys, a magnet for actuating the same, an apertured rotatable drum in operative connection with said governor, whereby the keys are normally kept from responding to unintended actuation by said magnet, a printing roll, a printing ribbon interposed between said roll and the printing ends of the keys, and means for causing the travel of a record sheet past said roll and said ribbon at the desired speed, substantially as described.

3. A speed recorder, having in combination with means for causing the timed travel of a record sheet, a bank of individually actuatable keys for recording variations of speed thereon, a magnet adapted to actuate said keys, a movable member interposed between said magnet and the ends of the keys, whereby the unintended actuation of the keys thereby is prevented, and a governor member in operative connection therewith, by whose movement said movable member is actuated, substantially as described.

4. In combination with a rotatable shaft, a governor member adapted to be actuated thereby, a magnet member, a bank of keys normally held from actuation thereby, the actuation of the individual keys being dependent on the degree of movement of the governor member, means whereby each key is positively restored to its normal position after its actuation, and means for causing and regulating the travel of a recording sheet, substantially as described.

5. In combination with motive means for a record sheet, a bank of individual keys adapted to cause imprinting on the sheet by the impact of their printing ends, a governor member, and means mounted independently of said governor member, though having an operative connection therewith, whereby the selective actuation of the individual keys against the record sheet is regulated by the speed of movement of said governor member, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

976,695. MUSICAL TOY. EDWIN J. RICH, Rochester, N. Y., assignor of one-half to Edwin R. McCall, Rochester, N. Y. Filed May 16, 1907. Serial No. 374,042.



1. In a toy, the combination with a rotary element, comprising two opposed shell plates having oppositely arranged elongated apertures or slots therein, of a wire core piece extending axially of the element and having its ends formed into loops or eyes exteriorly thereof for the attachment of actuating devices, said loops being arranged within the slots in the shell plates.

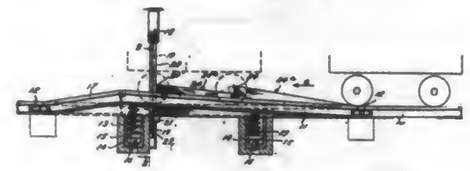
2. In a musical toy, the combination with a rotary shell comprising oppositely arranged plates having depressions therein, one of said plates being provided with an opening, of diaphragms arranged within the depressions, a tone producing element carried by one of them, a hub member extending between the diaphragms and spacing the plates and diaphragms to form a continuous peripheral opening in the shell, and a core extending through the hub and secured on the outer sides of the plates to retain the parts rigidly together.

3. In a musical toy, the combination with a rotary shell comprising oppositely arranged plates having depressions therein, one of said plates being provided with an opening, of diaphragms arranged within the depressions, a tone producing element carried by one of them, a hub member extending between the diaphragms and spacing the plates and diaphragms to form a continuous peripheral opening in the shell, blades carried by the hub and projecting radially within the shell and a core extending through the hub and secured on the outer sides of the plates to retain the parts rigidly together.

4. In a musical toy, the combination with the opposed shell plates, of the hub member arranged between them, the blades formed in integral pairs having the complementary slots therein and arranged to surround the hub piece and the securing member extending axially through the hub and plates.

5. In a musical toy, the combination with two concaved shell plates, a plurality of fan blades located between and acting as spacing members for separating said plates to form a continuous peripheral opening between them and a reed plate located between said blades and one of the plates, of a securing member extending axially of the plates and rigidly connecting all the parts in the manner set forth.

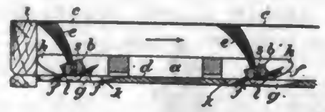
976,696. MINE-CAR-TALLYING DEVICE. JOHN ROSS, Terry, S. D., assignor of one-sixth to And. Nyberg and one-sixth to Louis Nyberg, Lead, S. D. Filed Jan. 10, 1910. Serial No. 537,332.



1. In a tallying device for cars, the combination of a track embodying movable members, means for normally sustaining said members in an elevated position with respect to the main track, an indicator, means connecting the indicator and movable track members for operation of the indicator thereby when the track members are depressed, and means associated with the movable track members to raise a car therefrom and drop said car bodily thereon as it passes over said members.

2. In a tallying device, the combination of a main track, movable track members associated therewith, means normally maintaining said movable members out of alinement with the main track, an indicator dial, connections between said dial and the movable track members whereby when the latter are depressed the indicator will be operated, and a rigid stationary stop device located between the movable track members having a pair of shoulders and slow inclines leading rearwardly therefrom to receive the car axles, for the purposes set forth.

976,697. SLIDING BRUSH FOR PLAN SIFTERS. ERNST ROTH, Niederutzwil, Switzerland. Filed Sept. 8, 1910. Serial No. 581,036.



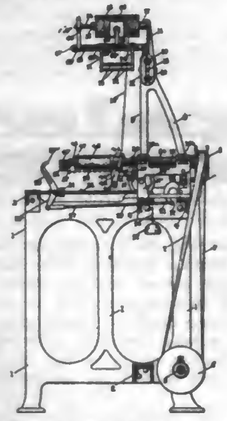
1. Sliding brushes for plan sifting machines comprising a movable frame, rocking brushes pivoted in said frame, said brushes having two lateral rows of bristles for bearing against the bottom of the sifter and a top row of longer bristles bearing against the top of the sifter, means for automatically rocking the brushes at the ends of the movement of the frame to bring one or the other of the lateral rows of bristles into contact with the bottom.

2. Sliding brushes for plan sifting machines comprising a movable frame, rocking brushes mounted in said frame and having two lateral rows of bristles and a top row, one or the other of the lateral rows and the top row being in contact with the sifter, said sifter having openings in its bottom near each end and a rib between the openings, and each of said bristles having an oblique groove therein adapted to engage with the rib to rock the brush to throw the other lateral rows of bristles against the bottom.

3. Sliding brushes for plan sifting machines comprising a movable frame having slots in its sides, rocking brushes having their ends journaled in said slots so as to permit vertical movement of the brushes and means for rocking the brushes at the ends of the movement of the frame.

4. Sliding brushes for plan sifting machines comprising a movable frame having lateral extensions pivoted thereto, rocking brushes in said extensions, the bristles of the brushes extending to the top and bottom of the sifter and supporting the brushes and extensions.

976,698. COP-WINDING MACHINE. EPPA H. RYON, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed June 16, 1909. Serial No. 502,451.



1. In a cop winding machine, a pivotally mounted spindle bed, a spindle mounted on said bed, means to drive said spindle, a traverse device connected with and driven by said spindle, and a device for shaping the cop, all attached to and movable with said spindle bed.

2. In a cop winding machine, a pivotally mounted spindle bed, a spindle mounted thereon, a trumpet attached to said bed, a traverse arm, means to operate the same, and means connected with said spindle bed to move the same on its pivotal support, said means including a toggle joint, and devices to operate the same.

3. In a cop winding machine, a spindle having a tapered end on which the yarn is wound, a trumpet surrounding said end, means to revolve said end within said trumpet, a sliding member having ratchet teeth thereon, and a pivoted arm on one end of said sliding member, the free end of said arm carrying a device to bear against the butt end of the cop, and a pawl to coöperate with the teeth of said sliding member.

4. In a cop winding machine, a pivoted spindle bed, a spindle having its bearings on said bed, means to revolve said spindle, devices connected with said spindle bed to control it on its pivotal support, a revoluble member to bear against the butt of the cop, means to hold said member in yielding contact with said cop, a second member mounted in the path of said revoluble member, as the latter is moved by the increase in the length of the cop as the yarn is wound thereon, and connections from said second member to said devices connected with the spindle bed, to cause the stoppage of the spindle when the cop has been wound to a predetermined length.

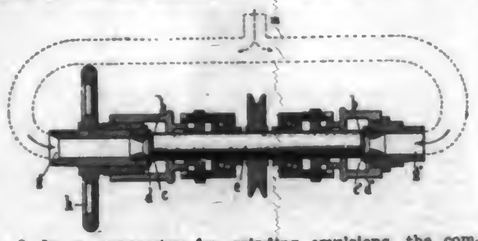
5. In a cop winding machine, a pivotally mounted spindle bed, a revoluble spindle mounted on said bed, and having a pulley on one end, and a tapered portion of triangular shape in cross section, at its other end, the trumpet surrounding said last mentioned end to form the shape of the cop, a traverse guide for the yarn adjacent said trumpet, and means to operate said guide, a belt connected with said pulley, and means to rock said spindle bed, to tighten and loosen said belt on the pulley, and a brake device adjustably secured adjacent said pulley, to stop the motion of said pulley when the belt is slack.

[Claim 6 not printed in the Gazette.]

976,699. MECHANISM FOR GRINDING OR MIXING EMULSIONS. WILHELM G. SCHRÖDER, Lübeck, Germany, assignor to Altonaer Margarine Werke Mohr & Co. Gesellschaft mit beschränkter Haftung, Altona-Ottensen, Germany, a Corporation of Germany. Filed Feb. 1, 1910. Serial No. 541,367.

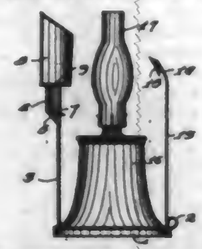
1. In an apparatus for grinding emulsions, the combination of a spindle provided with a grinding part at

each end, a grinding member at each end coöperating therewith, and means for feeding the material from both sides toward said spindle, whereby a balancing movement is obtained, substantially as described.



2. In an apparatus for grinding emulsions, the combination of a spindle provided with grinding parts at each end, having curved turbine blades, these blades being curved in opposite directions on opposite ends of the spindle, grinding members coöperating with the grinding part of said spindle, means for adjusting said grinding members, and means for delivering the material to be ground against both ends of the spindle, substantially as described.

976,700. EGG-TESTER. WILHELM SCHROEDER, Berkeley, Cal. Filed Mar. 19, 1910. Serial No. 550,435.



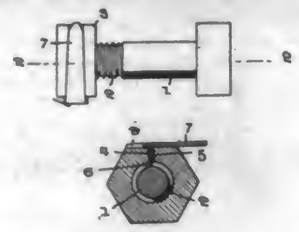
1. An egg tester comprising a base, a support projecting from one side thereof, a mirror housing at the upper end of said support, an inclined adjustable concaved mirror mounted therein, an egg receptacle mounted on the top of said housing and provided in the bottom with an egg seat communicating with said housing and with a sight opening, a supporting rod projecting from the opposite side of said base, a mirror carried by the upper end thereof, and a lamp seated on said base between said supporting rod and said mirror housing support.

2. An egg tester comprising a base, oppositely disposed supports carried thereby, a mirror housing carried by one support, an adjustable mirror therein, an egg receptacle carried by said housing and provided with an egg seat that communicates with said housing, said receptacle also provided with a sight opening, and a reflector carried by the other support in a plane higher than said mirror.

3. An egg tester comprising a base, a support projecting from one portion thereof, a mirror housing carried by the upper end of said support, a shaft rotatable in said housing, a mirror on said shaft, an egg receptacle on said housing and having an egg seat in its bottom that communicates with said housing, doors for said receptacles said doors being spaced apart to provide a sight opening, a rod projecting from an opposite portion of said base and having an inwardly inclined upper end, and a reflector carried by said upper end and adapted to reflect light rays to said mirror.

4. An egg tester comprising a flat base, a vertically arranged supporting rod projecting from one portion thereof, a vertically arranged supporting strip projecting from an opposite portion of said base, a reflector carried by the upper end of said rod, a mirror housing carried by the upper end of said strip, a mirror therein, an egg receptacle forming the top of said housing, and a source of light adapted to be seated on said base between the supporting rod and strip.

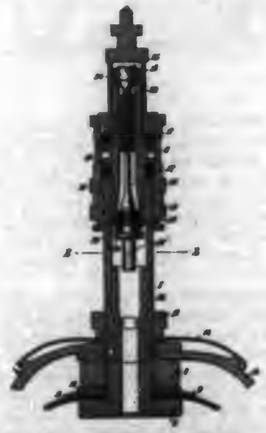
976,701. NUT-LOCK. WILLIAM C. SCHUMPERT, Chattanooga, Okla. Filed June 17, 1910. Serial No. 567,460.



1. In a nut lock, the combination with a bolt having threads at one end and a nut adapted to fit on said bolt, said nut having an opening therein, a channel extending transversely of the nut and intersecting said opening, the walls of said channel being tapered and gibbed, of a tapered wedge having its edges beveled to coöperate with the gib of the channel, a mandrel having a pointed end adapted to be seated in the opening of said nut, and a tapered portion formed on the under face of one edge of said wedge, said tapered portion causing the wedge to ride over the projecting end of the mandrel as said wedge is moved inwardly and forcing the pointed end of said mandrel into engagement with the threads of the bolt.

2. In a nut lock, the combination with a bolt having threads at one end and a nut adapted to fit on said bolt, said nut having an opening therein, a channel extending transversely of the nut and intersecting said opening, of a wedge having edges formed to slidably secure it in said channel, a mandrel having a pointed end adapted to be seated in the opening of the nut and a tapered portion formed on the under face of one of the free edges of said wedge, said tapered portion being adapted to ride over the projecting end of the mandrel as said wedge is moved inwardly and force said mandrel into engagement with the threads of said bolt.

976,702. VALVE. GUIDO SCHUSTER, Besztércze, Austria-Hungary. Filed Nov. 10, 1909. Serial No. 527,224.



1. In a valve for air-inflated articles, a tubular body through which the air is introduced into the article, constructed of two sections, the outer section threaded into the inner section and having an intermediate portion provided with annular grooves on the inner and outer faces thereof, each groove having a packing, with the packing of the inner groove forming an air-tight joint between the two sections of the body, and a cap threaded on the outer end of the outer section of the body and forming an air-tight joint with the outer packing.

2. In a nozzle for air-inflated articles, a tubular body through which the air is introduced in inflating the article, having an outer removable section threaded therein, with the outer section provided with an intermediate enlargement having an annular groove in the outer and inner faces thereof, packings within said grooves, with the packing of the inner groove forming an air-tight joint between the two sections of the body, and a cap threaded on the outer end of the tubular section of the body and forming an air-tight joint with the outer packing and having a cylinder projecting therefrom, inclosing the said enlargement.

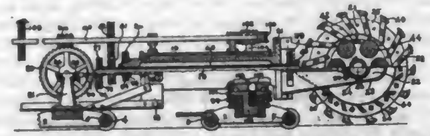
3. In a nozzle for air-inflated articles, a tubular body through which the air is introduced in inflating the article, having an outer removable section threaded therein, with the outer section provided with an intermediate enlargement having an annular groove in the outer and inner faces thereof, packings within said grooves, with the packing of the inner groove forming an air-tight joint between the two sections of the body, a cap threaded on the outer end of the tubular section of the body and forming an air-tight joint with the outer packing and having a cylinder projecting therefrom, inclosing the said enlargement, and a jam-nut threaded on the inner section of the tubular body and adapted to bind on the inner end of the cylinder.

4. In a valve for air-inflated articles, a tubular body through which the air is introduced into the article, constructed of an inner and an outer section, the outer section threaded into the inner section and having upper and lower external shoulders, a cap threaded on the outer end of the outer section of the tubular body, and a packing seating on each shoulder, with the lower packing forming an air-tight joint between the sections of the tubular body, and the upper packing forming a fluid-tight joint between the outer section of the tubular body and the cap.

5. In a valve for air-inflated articles, a tubular body through which the air is introduced into the article, constructed of an inner and an outer section threaded together, and a cap threaded on the outer end of the outer section, the outer section having externally-arranged packings respectively forming a fluid-tight joint between the sections of the body and the outer section of the body and the cap.

[Claim 6 not printed in the Gazette.]

976,703. DRILLING-MACHINE. ARON G. SEBERG and EDWIN G. SEBERG, Racine, Wis. Filed Oct. 19, 1909. Serial No. 523,451.



1. In a drill machine, the combination with a wheel; of shields yieldingly mounted in said wheel, drills slidably mounted in said shields, means to force said drills beyond the outer ends of said shields and means to rotate said wheel.

2. In a drilling machine, the combination with a rotating sleeve; of a wheel for said sleeve adapted to rotate therewith, a supporting axle around which said wheel revolves, means to rotate said wheel, a plurality of drills carried by said wheel and rotating means adapted to force said drills outwardly and enter the same into an object.

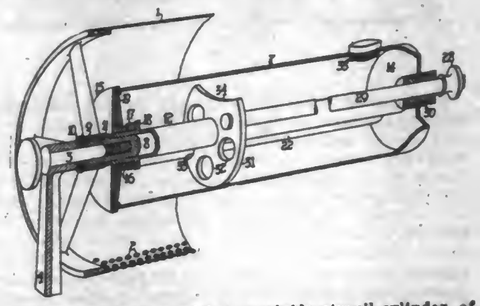
3. In a drilling device, the combination with a frame, supporting trucks therefor and a sleeve rotatably mounted on said frame; of a cross head at one end of said sleeve, ears on said cross head, a shaft carried by said ears, a wheel rotatably mounted on said shaft, shields carried by said wheel, drills carried by the shields, springs adapted to hold said shields in engagement with the wheel, additional springs adapted to hold the drills against leaving the shields and means to deliver a blow to the inner ends of said drills and force the same outwardly.

4. In a drilling device, the combination with a two-part wheel having channels therein, shields slidably mounted in said channels, springs adapted to yieldingly hold said shields in engagement with the wheel, drills slidably mounted in said shields, springs adapted to yieldingly hold said drills within the shields and means to move said drills longitudinally and project the ends thereof beyond the ends of the shields.

5. In a drilling device, the combination with a two-part wheel and means to rotate said wheel; of a plurality of shields yieldingly mounted on said wheel, drills yieldingly mounted in said shields, rotatably mounted hammers within said wheel and means to rotate the hammer supporting mechanism.

[Claims 6 to 10 not printed in the Gazette.]

976,704. STENCILING-MACHINE. ALEXANDER J. SMITH, Stamford, Conn., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 9, 1909. Serial No. 521,919.

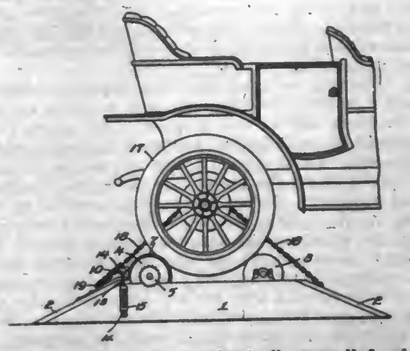


1. The combination with a revoluble stencil cylinder, of an interior central stud projecting from one end of the cylinder and having at said end means whereby it is detachably secured, and an ink fountain upon said stud, the latter having at its projecting end releasable means for securing the ink-fountain; the latter extending for substantially the entire length of the stencil cylinder.

2. The combination with a revoluble stencil cylinder and having at one end an interior central stud, of a closed ink-fountain having a central core whereby it is mounted upon said stud, said stud having a shoulder to bear against a hub provided upon the cylinder, and a nut threaded upon the stud to draw the shoulder against the hub.

3. The combination with a revoluble stencil cylinder having an interior central stud, of a closed ink-fountain having a central core whereby it is mounted upon said stud, said stud having at its inner end a shoulder to bear against a hub provided upon the cylinder, and a nut threaded upon the stud to draw the shoulder against the hub; said stud having at its inner end a threaded socket to receive the threaded end of a journal-screw.

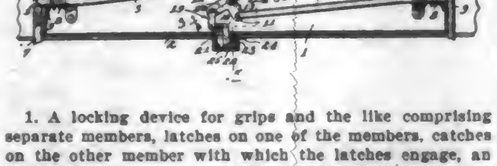
976,705. PORTABLE TESTING DEVICE FOR MECHANICALLY-PROPELLED VEHICLES. FRED I. SPELLMAN, Mansfield, Ohio. Filed Apr. 15, 1910. Serial No. 555,597.



A testing appliance for mechanically propelled vehicles comprising a framework, rotary supports mounted there-

on, a brake wheel fastened to one of said rotary supports, a brake band, a threaded rod for drawing the brake band about the brake wheel, a lever having one end engaged by said threaded rod, a testing scale, a threaded stem extended from the testing scale and engaging the opposite end of said lever, and a set nut mounted upon the threaded stem and forming a point of resistance for the said lever.

976,706. LOCKING DEVICE FOR VALISES. DE KELLER STAMEY, New York, N. Y. Filed Apr. 16, 1910. Serial No. 555,790.



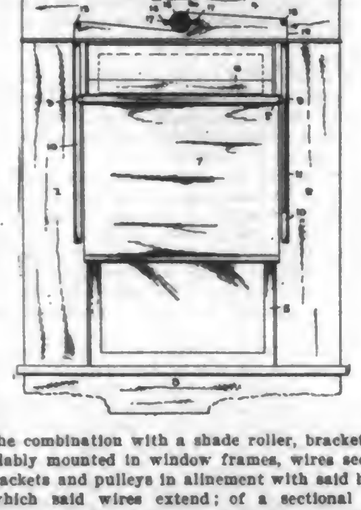
1. A locking device for grips and the like comprising separate members, latches on one of the members, catches on the other member with which the latches engage, an oscillatory member to which both latches are pivotally connected for simultaneous movement, an oscillatory device disposed in the same plane with the oscillatory member to engage the same when the latches are in locking position, means for yieldingly holding the device into or out of engagement with the member, and a lock disposed adjacent the device for permitting the latter to be shifted to and from member-engaging position by a key directly engaged with the device.

2. A locking device for grips and the like comprising a latch, a catch, means for yieldingly holding the latch in engagement with the catch, an oscillatory member connected with the latch, means for moving the member to disengage the latch from the catch, a pivoted device movable into and out of engagement with the member, a lock having a plug coincident with the axis on which the device moves, means on the device with which a key inserted in the lock engages for moving the device to and from member-engaging position, stops for limiting the movement of the device, and means for yieldingly holding the device in engagement with the stops when the device is in either extreme position.

3. A locking device of the class described comprising separate members relatively movable, a casing on one of the members, locking rods mounted in the casing projecting out of the ends thereof, a pivoted latch projecting out of the side of the casing, a lever pivoted in the casing and to which all the latches are connected for simultaneous movement, catches on the other member to be engaged by the latches, means for moving the lever to release the latches, a key actuated member pivoted in the casing to move into and out of engagement with the lever for locking and unlocking the same, means on the key-actuated member with which a key engages to move the member positively into and out of engagement with the lever, and a key lock arranged in coöperative relation with the key actuated member to engage the key with the last-mentioned means while the key is in the lock for actuating the member.

4. A locking device of the class described comprising separate members relatively movable, a casing on one of the members, locking rods mounted in the casing projecting out of the ends thereof, a pivoted latch projecting out of the side of the casing, a lever pivoted in the casing and to which all the latches are connected for simultaneous movement, catches on the other member to be engaged by the latches, means for moving the lever to release the latches, a key actuated member pivoted in the casing to move into and out of engagement with the lever for locking and unlocking the same, a key lock arranged in coöperative relation with the key actuated member to engage the key with the member while the key is in the lock for actuating the member, and means for yieldingly holding the key actuated member in either locking or unlocking position.

976,707. ATTACHMENT FOR WINDOW-SHADES. EDSON S. TAYLOR, Coldwater, Mich. Filed Dec. 22, 1909. Serial No. 534,511.



1. The combination with a shade roller, brackets therefor slidably mounted in window frames, wires secured to said brackets and pulleys in alinement with said brackets, over which said wires extend; of a sectional housing mounted above and about centrally of said shade roller, said housing containing a cylinder, about which said wires are wound, an extension forming substantially an inner cylinder, a spring within said first referred to cylinder and encompassing said inner cylinder, said spring having an end thereof in engagement with said extension and the other end in engagement with the housing, a notched pin extending from one section of said housing, and means within the inner cylinder adapted to engage the notches of said pin, for the purpose described.

2. The combination with a shade roller, brackets therefor slidably mounted in window frames, wires secured to said brackets and pulleys in alinement with said brackets, over which said wires extend; of a housing formed in sections, one section being provided with an inner lateral stem, a cylinder rotatably mounted on said stem about which said wires are adapted to wind, said cylinder being provided with a spaced apart portion to form substantially an inner cylinder, a spring mounted in the spaced portion around said cylinder and having one end in engagement therewith, the opposite end of said spring being engaged with said housing, and means carried by the inner cylinder adapted to engage notches in said stem, for the purpose described.

3. The combination with a shade roller, brackets therefor slidably mounted in window frames, wires secured to said brackets and pulleys in alinement with said brackets, over which said wires extend; of a housing formed in sections, one section being provided with an inner lateral stem having notches therein and the other with a small opening in the face thereof, a cylinder rotatably mounted on said stem, about which said wires are adapted to wind, said cylinder being provided with a spaced apart portion to form substantially an inner cylinder, a spring mounted in the spaced portion around said inner cylinder and having one end in engagement therewith, the opposite end of said spring being provided with a laterally extending lug, said lug being inserted within the opening in the section of said housing, and a pair of dogs pivotally mounted to said inner cylinder and adapted to engage the notches in said stem.

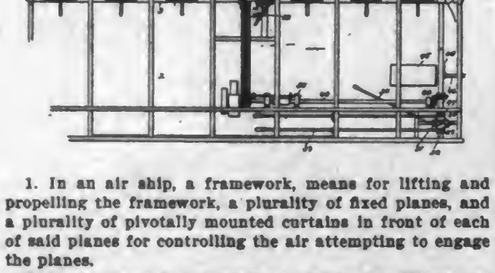
976,708. RAILWAY. CONSTANTINE B. VOYNOW and GEORGE B. TAYLOR, Philadelphia, Pa. Original application filed Dec. 6, 1907, Serial No. 405,445. Divided and this application filed Aug. 22, 1910. Serial No. 578,425.

1. A railway system comprising lines of rails with a continuous unbroken uniform flat rolling surface and lateral guiding flanges integral with their heads, said flanges varying in height at different points in the system according to the requirements of the traffic thereover.



2. A railway system comprising high speed and low speed sections, each section equipped with rails having a continuous unbroken uniform flat rolling surface and lateral flanges integral with their heads, said rolling surfaces being connected at the same level and said flanges being at different heights approximately proportional to the speeds.

976,709. AIRSHIP. HERMAN THADEN, Atlanta, Ga. Filed Nov. 20, 1909. Serial No. 529,085.



1. In an air ship, a framework, means for lifting and propelling the framework, a plurality of fixed planes, and a plurality of pivotally mounted curtains in front of each of said planes for controlling the air attempting to engage the planes.

2. In an air ship, a framework, means for lifting and propelling the framework, a plane mounted at the upper part of the framework, an independent side wing arranged at each side of said plane for forming a partial housing whereby a substantially parachute effect is provided when the ship is being lowered, and a plurality of pivotally mounted curtains arranged in front of said planes, and independent means for controlling each of said curtains.

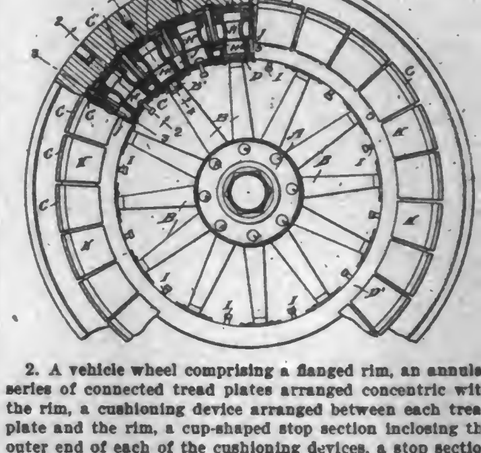
3. In an air ship, a framework, propelling means arranged on said framework, a plurality of planes arranged at the top of said framework and extending transversely thereof, said planes being positioned at an angle to the general direction of the ship but in line with each other, a pair of horizontally pivotally mounted curtains positioned in the front of each of said frames, rigidly positioned side curtains extending downward from the ends of said planes for inclosing the air engaging said planes, and means for controlling the position of said curtains for varying the air pressure against said planes.

4. In an air ship, a framework, means for lifting and propelling the framework, a plane mounted at the upper part of the framework, and a plurality of pivotally mounted curtains independently controlled for varying the action of the air pressing on said plane.

5. In an air ship, a framework, means for raising and propelling the ship, a plurality of planes arranged at an angle to the general direction of the air ship, a pair of curtains arranged in front of each of said planes, and means for regulating the position of a plurality of said curtains at one time.

976,710. VEHICLE-WHEEL. OSCAR TREIER, New York, N. Y. Filed Jan. 31, 1908. Serial No. 413,503.

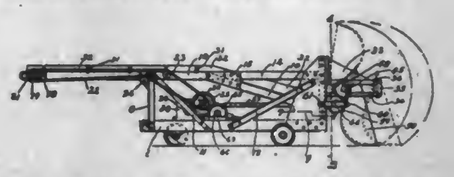
1. A vehicle wheel comprising a flanged rim, an annular series of connected tread plates arranged concentric with the rim, a cushioning device consisting of an inflatable chamber arranged between each tread plate and the rim, said chamber being connected, and sundry of the chambers being provided with valves, a cup-shaped stop section encircling the outer end of each of the inflatable chambers and abutting against the tread plate, a stop section arranged between each pair of adjacent chambers, said first-named stop section having flanges, and the last named stop section having lugs for engaging the flanges of a pair of adjacent first-named stop sections, and a tire encircling the wheel resting on the tread plates.



2. A vehicle wheel comprising a flanged rim, an annular series of connected tread plates arranged concentric with the rim, a cushioning device arranged between each tread plate and the rim, a cup-shaped stop section inclosing the outer end of each of the cushioning devices, a stop section arranged between each pair of adjacent cushioning devices, said last named stop section having lugs for engaging a pair of the adjacent first named stop sections, and a tire seated on the tread plates.

3. A vehicle wheel comprising a flanged rim, an annular series of connected tread plates concentric with the rim, a tire seated on the tread plates, a bolt securing each tread plate to the tire, said tire being countersunk to receive the head of the bolt and the tread plate having an internally threaded boss for engagement by the bolt, a cushioning device between each tread plate, and the rim, a stop section inclosing the outer end of each of said cushioning devices and a stop section arranged between the inner ends of the adjacent cushioning devices, said stop sections having interengaging stops for limiting the movement of the sections away from each other.

976,711. LOADING-MACHINE. WILLIAM WHALEY, Knoxville, Tenn. Filed Mar. 21, 1908. Serial No. 422,488. Renewed Apr. 22, 1910. Serial No. 557,074.



1. In a machine of the nature described, forward-and-rearward shiftable and turnable, power-driven supporting mechanism, a scoop immovably secured rearward of its front end to said supporting mechanism so that the scoop partakes of the forward and rearward and turning movements of said supporting mechanism, whereby the scoop is moved bodily forward and backward while the forward portion is moved through an orbit, substantially as described.

2. In a machine of the nature described, forward-and-rearward shiftable and turnable, power-driven supporting mechanism, conducting mechanism behind said supporting

mechanism, a scoop immovably secured rearward of its front end to said supporting mechanism so that the scoop partakes of the forward and rearward and turning movements of said supporting machanism, whereby the scoop is moved bodily forward and backward while the forward portion is moved through an orbit, substantially as described.

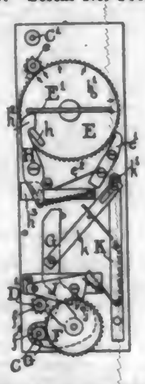
3. In a machine of the nature described, guide-ways extending forward and rearward, turnable, power-driven supporting mechanism confined in said guide-ways, a scoop immovably attached rearward of its front end to said supporting mechanism so that the scoop partakes of the forward and rearward movement and the turning of said supporting mechanism, whereby the scoop is moved bodily forward and backward while the forward portion is moved through an orbit, substantially as described.

4. In a machine of the nature described, guide-ways extending forward and rearward, turnable, power-driven supporting mechanism confined in said guide-ways, conducting mechanism behind said supporting mechanism, a scoop immovably attached rearward of its front end to said supporting mechanism so that the scoop partakes of the forward and rearward movement and the turning of said scoop supporting mechanism, whereby the scoop is moved bodily forward and backward while the forward portion is moved through an orbit, substantially as described.

5. In a machine of the nature described, guide-ways extending forward and rearward, slide-blocks confined in said guide-ways, a scoop secured to said slide-blocks rearward of its front portion, and mechanism for moving said slide-blocks forward and backward and turning said scoop in said blocks, substantially as described.

[Claims 6 to 14 not printed in the Gazette.]

976,712. PHOTOGRAPHIC SHUTTER. FRANK PHILIP WHITEHEAD, Balham, London, England, assignor to The Thornton-Pickard Manufacturing Company Limited, Altrincham, England, a Corporation of Great Britain. Filed July 19, 1909. Serial No. 508,498.



1. In a photographic shutter the combination with two blinds traveling in the same direction and means for releasing such blinds to travel simultaneously of means by which the capping blind is disconnected from the exposure blind and permitted to travel separately to automatically return and cover the exposure aperture substantially as described.

2. In a photographic shutter, the combination with two blinds, of a driving roller carried by one blind, a roller carried by the other blind, gearing connecting the rollers to cause the blinds to travel simultaneously, and means for disconnecting the blinds.

3. In a photographic shutter, the combination with two blinds and mechanism for releasing said blinds, of rollers carried by the blinds, pinions on said rollers, a rocking plate and a gear wheel mounted on said plate and permanently in engagement with one of said pinions and adapted to mesh temporarily with the other pinion.

4. In a photographic shutter the combination with two blinds and rollers upon which they are respectively mounted and pinions on the ends of the rollers, of a setting wheel to gear with the top roller a pawl to engage therewith, pins or projections on the setting wheel, a movable stop piece to arrest the rotation of the wheel, a carrier wheel to gear the bottom rollers and connect them, a rocking lever on which the carrier wheel is pivoted to hold it permanently in gear with one roller and temporarily in gear with the other roller and means for moving the retaining pawl and the rocking lever simultaneously substantially as described.

5. In a photographic shutter the combination with two blinds A and B rollers C C' and D D' upon which they are respectively mounted and pinions *e f f'* on the ends of the rollers of the setting wheel E engaging the pinion *e* of the top roller, a pawl *e'*, pins or projections *h h'* on the setting wheel E, a movable stop piece H to arrest the rotation of the setting wheel, a spring h^2 to retain the stop piece H in position, a rocking lever G, a carrier wheel F thereon gearing with the pinions *f f'* and a lever K by which the pawl *e* and the rocking lever F are simultaneously moved substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

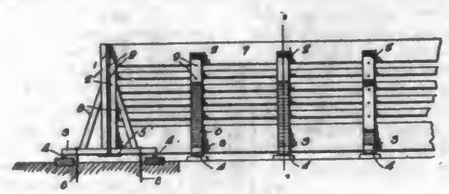
976,713. VALVE-REGULATOR. THOMAS M. WILKINS, East Randolph, N. Y., assignor to Ziermore Regulator Company, Johnsonburg, Pa., a Corporation of Pennsylvania. Filed May 6, 1910. Serial No. 559,848.



The combination with a valve casing and reciprocating valve mounted therein of a valve stem extending outwardly through the valve casing, an adjusting screw inserted through the valve casing and adapted to variably limit the movement of the valve, hollow diaphragms connected with and to operate the valve stem, a closed tube communicating with the interior of the diaphragms, a casing surrounding the tube, a water column carrying and communicating with the casing, and a tube extending downwardly from the casing a predetermined variable distance into the water column.

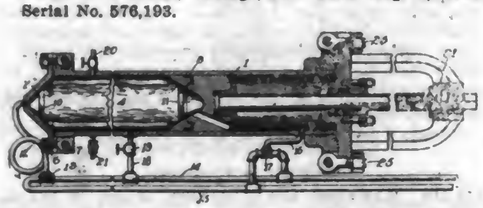
976,714. TEMPORARY FENCE. WILLIAM J. WILLIAMS, Birmingham, Ala. Filed Sept. 28, 1909. Serial No. 519,916.

The herein described temporary fence, including a plurality of longitudinally extending spaced bores, supporting members for these bores, said supporting members comprising a base member having a resilient depressed central portion, vertical members projecting adjacent the sides of said depressed portions, one of said vertical members being provided with a plurality of inwardly projecting dowels adapted to serve as a rest for the fence sections, angular supports for the vertical members, feet upon the extremities of the base member, and the said base members being provided with a plurality of downwardly extending



retaining members adapted to enter the ground to prevent the movement of the fence.

976,715. APPARATUS FOR IMPREGNATING TIMBER. SIGMUND WILLNER, Chicago, Ill. Filed Aug. 8, 1910. Serial No. 576,193.



1. A device for injecting fluids into logs, comprising a cylinder having a head at one end, a second head slidably mounted in said cylinder and having a fluid-tight joint therewith, means for forcing said movable head toward said first head for supporting a log between them, one of said heads having therein a conical socket so formed as to have fluid-tight engagement around the edges of the adjacent end of the log when trimmed to conical form, and means for forcing a fluid into one of said heads through the log and withdrawing it at the other head.

2. A device of the class described, comprising a cylinder, a head removably mounted at one end of said cylinder, a movable head in the form of a piston fitting within and slidable along said cylinder, pipes connected with said heads and adapted to permit a fluid to be forced into one of said heads and be withdrawn from the other, and means for equalizing the fluid pressure in said cylinder and one of said heads, said heads having therein opposed conical sockets adapted to have a wedging fit around the outer edges of the ends of a log when trimmed to conical form.

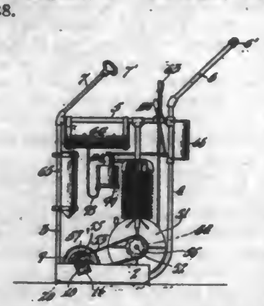
3. A device of the class described, comprising a cylinder, a pair of heads mounted at opposite ends of said cylinder and adapted to engage opposite ends of a log, one of said heads being movable toward and away from the other, each of said heads having therein a socket adapted to fit fluid-tight around the periphery of the log and provide a fluid chamber within said head at the end of the log, a fluid pressure pipe, a suction pipe, individual pipes connected with the sockets in said heads and each having connection with said fluid pressure pipe and said suction pipe, valves controlling said pipe connections and adapted to cause fluid to flow in either direction through the log without disturbing the other parts of the device, and a pipe connecting said pressure pipe with said cylinder between said heads.

4. A device for injecting fluids into logs, comprising a cylinder having a head at one end, a second head slidably mounted in said cylinder and having a fluid-tight joint therewith, means for forcing said movable head toward said first head for supporting a log between them, each of said heads having therein a conical socket formed to have fluid-tight engagement around the edges of the adjacent end of the log when trimmed to conical form, and means for forcing a fluid into one of said heads through the log and withdrawing it at the other head, the concave surfaces of said sockets being extended so as to substantially meet the walls of the cylinder whereby a log in said cylinder will be lifted and centered in said sockets so as to be properly supported between the heads through the act of moving said movable head toward the other.

5. A device for injecting fluids into logs, comprising a cylinder having a head at one end, a second head slidably mounted in said cylinder and having a fluid-tight joint therewith, a stationary part secured to said cylinder adjacent to said slidable head, means interposed between said stationary part and slidable head for forcing said heads together for supporting a log between them, one of said heads having therein a conical socket formed to have fluid-tight engagement around the edges of the adjacent end of the log when trimmed to conical form, and means for forcing a fluid into one of said heads through the log and withdrawing it at the other head.

[Claims 6 and 7 not printed in the Gazette.]

976,716. FLOOR-SURFACING MACHINE. FRANCIS H. WRIGHT, Los Angeles, Cal. Filed May 29, 1909. Serial No. 499,238.



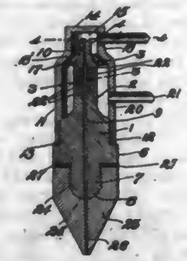
1. A floor surfacing machine comprising a base, a rotary cutter journaled thereon and provided with cutting portions having rasp teeth, and with other cutting portions having oblique ridged teeth, a handle member for said base, and means supported on said base for driving the rotary cutter.

2. In a floor surfacing machine, a base, a rotary cutter journaled thereon, means for driving said rotary cutter, and scraping means movably mounted at the rear of the rotary cutter to engage the floor at the rear of the cutter said scraping means consisting of a plate pivoted at its rear end to the base and having a sharp edge at its forward end to rest on the floor.

3. A floor surfacing machine comprising a base, a rotary cutter, journal bearings for the rotary cutter supported on said base at the respective sides thereof, the bearing at one side extending longitudinally within the rotary cutter, and means supported on the base for driving the rotary cutter.

4. In a floor surfacing machine, a rotary drum provided with peripheral means having teeth, a cushioning band surrounding the drum and covering the cutting teeth, a sand paper strip surrounding the cushioning means, and a clamp securing the ends of the sand paper strip to the drum.

976,717. TORCH. NEWTON J. ANDERSON, Coffeyville, Kans. Filed Apr. 27, 1910. Serial No. 557,987.



1. A burner comprising a body having a reduced extension at one end and a threaded extension at its other

end, said body and extensions having a longitudinal passage formed through them, said reduced extension provided with spaced transverse slots that communicate with said passage, a chamber carried by said body and surrounding said reduced extension in spaced relation, a collar carried by said reduced extension and sealing the upper end portion of said chamber to provide a compartment therein, an oxygen supplying pipe having a direct communication with said compartment, an acetylene gas supplying pipe communicating with said chamber, and a burner tip detachably engaging said threaded extension and provided with a longitudinal opening that forms a continuation of the opening through said body and extensions.

2. A burner comprising a body provided with a longitudinal opening and with transverse slots that communicate with said opening, a chamber surrounding one end portion of said body, said chamber having a reduced end compartment, removable means carried by the surrounded end of said body for sealing said compartment against communication with the major portion of said chamber, means for supplying oxygen to said compartment, means for supplying actylene gas to said chamber, and a burner tip carried by the other end portion of said body.

3. A burner comprising a body provided with a reduced extension at one end that terminates in a neck, said neck provided with a beveled shoulder a threaded extension at the other end of said body, said body and extensions having a longitudinal opening formed through them and said reduced extensions provided with transverse slots that communicate with said opening, a chamber engaging said body and surrounding the reduced extension in spaced relation, said chamber having a closed end portion that surrounds said neck, means seated on said shoulder for sealing the inner end of said closed end portion to provide a compartment, means for supplying oxygen to said compartment, means for supplying acetylene gas to said chamber, and a burner tip engaging the threaded extension of said body.

4. A burner torch comprising a body provided with externally threaded reduced end extensions, said body and extensions provided with a longitudinal slot and one extension provided with regularly spaced transverse slots that intersect the longitudinal slot, a chamber carried by the body and inclosing the transversely slotted extension in spaced relation, a burner tip for the other extension, means removably seated on the outer end of the slotted extension for dividing the outer end of said chamber into an independent sediment compartment, means for supplying oxygen to said compartment, and means for supplying gas to said chamber.

976,718. SOUNDING TOY. WILLIAM BARTHOLOMAN, New York, N. Y., assignor of one-half to Harry Zimmerman, New York, N. Y. Filed June 3, 1910. Serial No. 564,786.

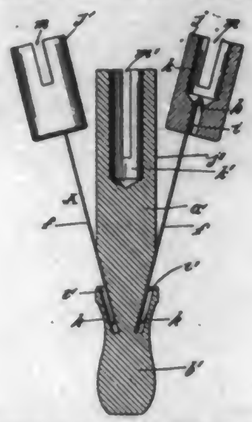
1. A sounding toy having in combination a carrier; spring-arms supported thereby; and sounding members which have different tones and which are fitted on the free ends of said spring-arms arranged to strike against the carrier, when the toy is shaken.

2. In combination in a sounding toy, a carrier which is formed with an aperture; a striking member formed with an aperture; and an arm which connects said carrier and striking member and which is formed with hooks which engage the walls of said apertures.

3. In combination in a sounding toy, a carrier formed with an aperture; a striking member; and an arm which connects the latter to said carrier and is bent back upon itself at one end, which engages in said aperture.

4. In combination in a sounding toy, a carrier; a striking member formed with an aperture; and an arm which connects said striking member and carrier together and which is bent back upon itself at one end, the latter engaging in said aperture.

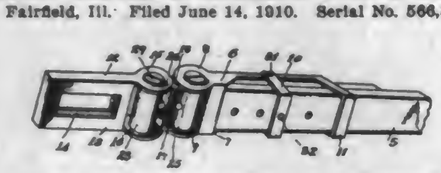
5. In combination in a sounding toy, a carrier; a striking member formed with an aperture; and a spring arm which connects said striking member and carrier



together and which is bent back upon itself at one end, the latter engaging in said aperture.

[Claims 6 to 12 not printed in the Gazette.]

976,719. HARNESS ATTACHMENT. FRANK G. BLACK, Fairfield, Ill. Filed June 14, 1910. Serial No. 566,800.



A trace attachment comprising a trace receiving member, a U-shaped cock eye having its opposite limbs channeled, and a member including a pair of sections pivotally connected at one end and having their opposite ends pivotally secured to the trace receiving member and cock eye.

976,720. HEAD-GATE. JOHN H. BUTTORFF, Fort Collins, Colo. Filed June 4, 1910. Serial No. 565,005.



1. The combination with a head gate having a stem, of a stop block slidably mounted on the stem, a set bolt threaded in the block for securing the block in place on the stem, and means for locking the set bolt against movement, substantially as described.

2. The combination with a head gate having a stem, a frame in which the head gate is movable, the frame having a cross bar provided with an opening through which the stem of the gate passes, a stop block mounted on the stem below the cross bar of the frame, a set bolt threaded in the block, and means for locking the set bolt against turning, substantially as described.

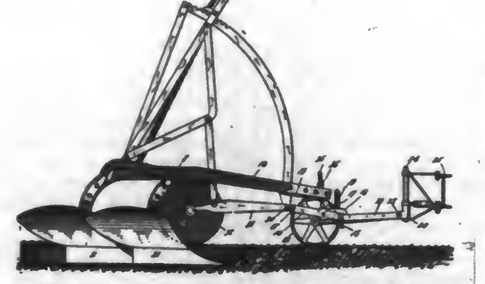
3. The combination with a frame, a head gate movable in the frame, and having a stem passing through an opening formed in a cross bar with which the frame is provided, a stop block slidably mounted on the stem below the cross bar, a set bolt threaded in the stop block and having its inner extremity pointed to enter recesses with which the stem is provided, a link pivotally connected with the set bolt, and means coöperating with the link for locking the set bolt against turning movement, substantially as described.

4. The combination with a head gate having a stem, of a stop block slidably mounted on the stem, a set bolt threaded in the stop block, a link connected with the set bolt, and means coöperating with the link for locking the set bolt against turning and for simultaneously locking the gate against downward movement.

5. The combination with a head gate frame, and a head gate having a stem, of a stop block adjustably mounted on the stem, a set bolt carried by the stop block, a slotted link connected with the outer extremity of he set bolt, an eye mounted on a top cross bar with which the head gate frame is equipped, and arranged to register with the slot of the link, and a padlock for securing the link to said eye, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

976,721. GANG-PLOW. HARRY C. CLAY, Columbus, Ind., assignor to Reeves & Company, Columbus, Ind., a Corporation of Indiana. Filed Apr. 8, 1910. Serial No. 554,133.



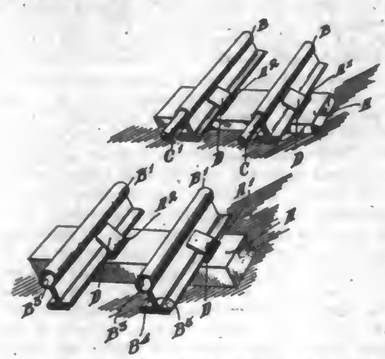
1. The combination, with a plow, of a draft frame, a link pivotally connected at its rear end to the plow beam and connected at its forward end to the draft frame, a threaded tie rod and a nut, said tie rod and nut forming a connection between the forward end of the plow beam and the link forward of its pivotal connection with the plow beam, for the purpose set forth.

2. The combination, with a plow, of a draft frame, a link pivotally connected at its rear end to the plow beam and connected at its forward end to the draft frame, a threaded tie rod connected to said link at an intermediate point, a ball-shaped nut threaded upon said tie rod, and a socket connection between said nut and the plow beam.

3. The combination, with a plow unit comprising two plows, of a draft frame, two links each pivotally connected at its rear end to a plow beam and connected at its forward end to the draft frame, a threaded tie rod and a nut for each link, said tie rod and nut forming a connection between the forward end of its plow beam and its link forward of its pivotal connection with the plow beam, for the purpose set forth.

4. The combination, with a plow unit comprising two plows, of a draft frame, two links each pivotally connected at its rear end to a plow beam and connected at its forward end to the draft frame, a threaded tie rod connected to each link at an intermediate point, a ball-shaped nut threaded upon said tie rod, and a socket connection between said nut and a plow beam.

976,722. TOY-RAILWAY RAIL. JOSHUA L. COHEN, New York, N. Y., (by judicial change of name now Joshua L. Cowen,) assignor to The Lionel Manufacturing Company, a Corporation of Connecticut. Filed Dec. 18, 1909. Serial No. 533,821.



1. A toy railway track embodying a tie, a rail and a pin in one end of said rail united by a clip in fixed combination.

2. A toy railway track comprising a tie, a rail and a pin in one end of said rail, and a clip the ends of which press against said rail adjacent to said pin and serve to hold said pin in fixed position in said rail.

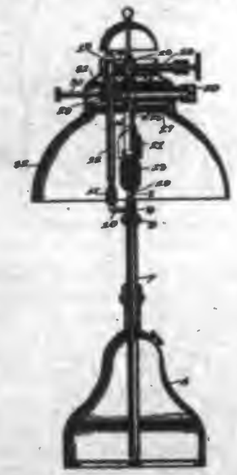
3. A toy railway track comprising a tie having slots formed therein, a rail having members B^4 and B^5, a pin having a depending web resting between said members and a clip the ends of which extend through said slots and embrace said rail members opposite said web, thus uniting said parts in fixed position relative to each other.

4. A toy railway track comprising a tie formed of sheet metal and a rail having a hollow tread and a pin fastened permanently in said hollow tread and projecting therefrom, and a clip embracing said rail and serving to prevent the enlargement of said hollow tread.

5. A toy railway track comprising a cross-tie having slots therein, a sheet metal rail, a pin connected to said rail and projecting therefrom, and a clip made of sheet metal and of heavier material than that from which the rail is made which extends through slots in the tie and embraces the rail directly under said pin to hold the tie, rail and pin together in fixed relation.

[Claims 6 and 7 not printed in the Gazette.]

976,723. LAMP. WILLIAM C. COLEMAN, Wichita, Kans. Filed Mar. 25, 1910. Serial No. 551,557.



1. In a lamp, the combination with a support, of a vaporizing tube and a standard, both mounted on the sup

port, air mixing means mounted on and supported by the standard, said means being associated with the vaporizing tube, and an inverted burner suspended from the air mixing means and associated with the vaporizing tube and with the mixing means for heating both.

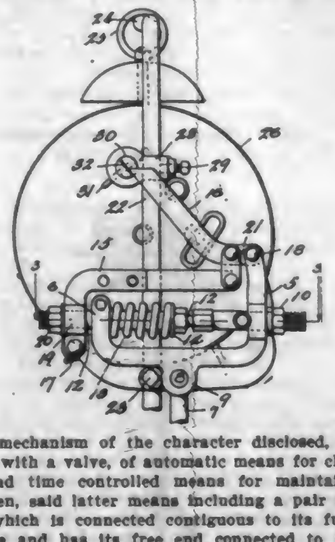
2. In a lamp, the combination with a support, of a vaporizing tube and a standard, both mounted on the support, air mixing means mounted on and supported by the standard, said means being associated with the vaporizing tube, and an inverted burner suspended from the air mixing means and associated with the vaporizing tube, said burner being disposed adjacent to the lower portion of the air mixing means for heating the same.

3. In a lamp, the combination with an upright support, of a vaporizer mounted thereon and having a depending discharge nozzle, air mixing and burning means adjustably mounted on the support independently of the vaporizer and movable downwardly out of associated relation with the discharge nozzle, and means for securing the said mixing and burning means against movement.

4. In a lamp, the combination with a support, of a vaporizing tube mounted thereon, a standard located alongside the tube and carried by the support, a depending discharge nozzle connected to the tube, air mixing and burning means slidably mounted on the standard and detachably associated with the nozzle, said means being movable downwardly to expose the nozzle, and means for securing the air mixing and burning means against its sliding movement on the standard and in associated relation with the nozzle.

5. In a lamp, the combination with a substantially upright fuel conducting pipe, of a head carried by the upper end thereof, a vaporizing tube mounted on the head and communicating with the pipe, a standard also mounted on the head, a depending nozzle connected to the upper end of the vaporizing tube, a controlling valve interposed between the nozzle and tube, air mixing and burning means having collars slidably mounted on the standard and tube, and a set screw threaded into one of the collars and engaging the standard.

976,724. AUTOMATIC CUT-OFF. WILLIAM C. COLEMAN, Wichita, Kans. Filed July 7, 1909, Serial No. 506,294. Renewed July 1, 1910. Serial No. 569,986.



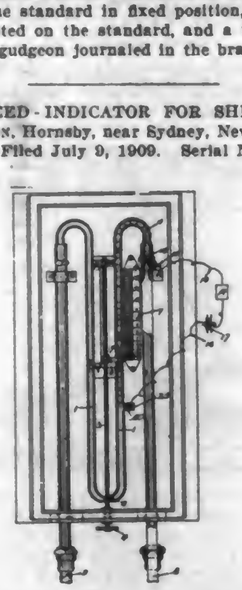
1. In mechanism of the character disclosed, the combination with a valve, of automatic means for closing the same, and time controlled means for maintaining the valve open, said latter means including a pair of levers, one of which is connected contiguous to its fulcrum to the valve and has its free end connected to the other lever contiguous to the latter fulcrum.

2. In mechanism of the character disclosed, the combination with a valve, of automatic means for closing the same, time controlled means for maintaining the valve open, said latter means including a pair of oppositely extending levers fulcrumed at their outer ends, one of said levers being connected contiguous to its fulcrum to the valve, the other being connected contiguous to the fulcrum to the free end of the first mentioned lever, and means for normally maintaining said levers in a predetermined position.

3. In mechanism of the character disclosed, the combination with a substantially U-shaped frame, of a valve casing mounted in one arm of the frame, a valve located in the casing and having a stem slidable in the other arm of the frame, a spring interposed between the arms and engaging the stem for urging the valve to closed position, oppositely extending levers fulcrumed on the arms of the frame and having a link connection between them, one of the levers engaging the valve stem, an alarm clock supporting standard mounted on the frame, and time controlled means that engages one of the levers for holding it in a predetermined position, said means being journaled on the standard.

4. In mechanism of the character disclosed, the combination with a substantially U-shaped frame, of a valve casing mounted thereon, a valve in the casing having a reciprocatory stem slidable in the frame, a spring bearing against the stem for urging the valve to closed position, a supporting standard for the frame, oppositely extending levers fulcrumed at their outer ends on the frame, one of the levers being engaged with the stem and having a link connection with the other lever, a clock supporting standard slidably mounted on the frame, means for holding the standard in fixed position, a bracket adjustably mounted on the standard, and a time controlled lever holding gudgeon journaled in the bracket.

976,725. SPEED-INDICATOR FOR SHIPS. LEO ARTHUR COTTON, Hornsby, near Sydney, New South Wales, Australia. Filed July 9, 1909. Serial No. 506,791.

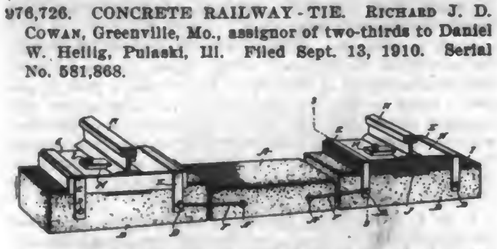


1. In a marine speed indicator, the combination with a Pitot tube and an immersion pressure balance tube; throttling plugs 24 in said tubes below the water level for constricting the area of said tubes; of a mercury manometer tube; piping connecting said Pitot and immersion balance tubes to the manometer tube, said manometer tube at its lower end being reduced in size; a scale contiguous to said manometer; and a pointer for indicating the mercury level on said scale, substantially as described.

2. In a marine speed indicator, an immersion pressure balance tube, said tube comprising two sections; an elbow adjustably connecting the sections, one of said sections extending horizontally through the side of a vessel, and having the end portion outside the vessel bent at an angle to the part passing through the side of the vessel, substantially as described.

3. In a marine speed indicator, the combination of a Pitot tube; an immersion balance tube; a mercury manometer tube; piping connecting the Pitot and immersion balance tubes to the manometer tube; and throttling plugs 24 in said Pitot and immersion balance tube below the water level, substantially as described.

976,726. CONCRETE RAILWAY-TIE. RICHARD J. D. COWAN, Greenville, Mo., assignor of two-thirds to Daniel W. Heilig, Pulaski, Ill. Filed Sept. 13, 1910. Serial No. 581,868.



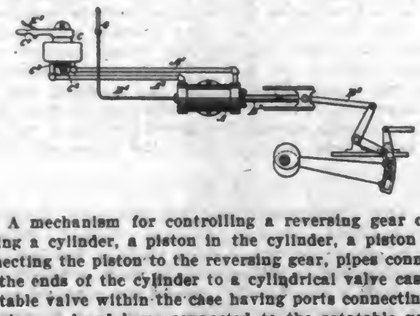
1. A tie substantially as described, composed of a central section and end sections consisting of concrete, reinforcing rods therein having eyes at their ends, cross bolts extending through the said eyes, coupling rods connecting the cross bolts of the central section with the adjacent cross bolts of the opposite end sections, the end sections being provided in their upper faces with recesses and with sub-recesses intermediate the ends thereof to underlie a rail, cushioning rail seats in the recesses of the said end sections and clamps securing said rail seats and having their end arms secured by the cross bolts of their respective sections, substantially as and for the purposes set forth.

2. A tie composed of an intermediate section, end sections on opposite sides of the intermediate section, coupling rods connecting the end and intermediate sections, cushioning rail seats on the end sections, and clamps securing the rail seats to their respective sections, substantially as set forth.

3. The combination with a concrete tie section having longitudinal reinforcing rods provided at their ends with eyes and cross bolts passing through the eyes of said reinforcing rods, of clamps having end arms secured by said cross rods and a cross bar extending from side to side above the tie and a cushioning rail seat secured by said clamps, substantially as set forth.

4. The combination of a concrete tie composed of an intermediate section and end sections having longitudinal reinforcing rods provided with end eyes, bolts extending through said eyes and projecting beyond the tie sections, coupling rods connecting the adjacent bolts of the end and intermediate sections whereby to secure the intermediate and end sections in connection, rail seats on the end sections and yokes securing said rail seats and held by the cross bolts of their respective tie sections, substantially as set forth.

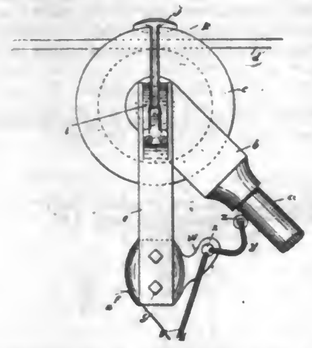
976,727. REVERSING-GEAR. ROBERT B. CRUMP, Brooklyn, N. Y., assignor of one-fourth to James E. Kemmer and one-fourth to Francies Ann Murphy, Brooklyn, N. Y., and one-fourth to John R. Rehak, Rockland Lake, N. Y. Filed Apr. 4, 1910. Serial No. 553,299.



1. A mechanism for controlling a reversing gear comprising a cylinder, a piston in the cylinder, a piston rod connecting the piston to the reversing gear, pipes connecting the ends of the cylinder to a cylindrical valve case, a rotatable valve within the case having ports connecting to the pipes, a hand lever connected to the rotatable valve, an exhaust valve central in the rotatable valve, mechanism for moving the exhaust valve in the rotatable valve by the grip of the hand on the hand lever, substantially as shown and described.

2. A mechanism for controlling a reversing gear comprising a cylinder, pipes connecting the cylinder with a rotary or oscillating valve, a handle connected to the rota table valve, a mechanism on the handle for controlling a exhaust valve in the center of the rotatable valve, a pis ton in the cylinder, a piston rod connecting the piston t the reversing gear, a chamber in the piston rod, a pisto in the chamber in the piston rod and secured in a fixe position to the cylinder head, a pipe connecting the cham ber in the piston rod with an indicator outside of th cylinder combined substantially as shown and described.

976,728. TROLLEY FOR ELECTRIC CARS. ARMAND DEL VALLE, New York, N. Y., assignor of one-half t Charles J. Bender, New York, N. Y. Filed July 1910. Serial No. 570,319.



1. In combination with a trolley having a wheel pinne to revolve within a forked end of the trolley pole, a co tact retainer comprising two sides pivoted near their u per ends to the fork of the trolley to swing in the plane the trolley wheel, a weight secured between the sides ne the lower ends to space said sides and insure stability, an retainers positioned above the trolley wheel having sten mounted to revolve in the side members and to spread ou wardly.

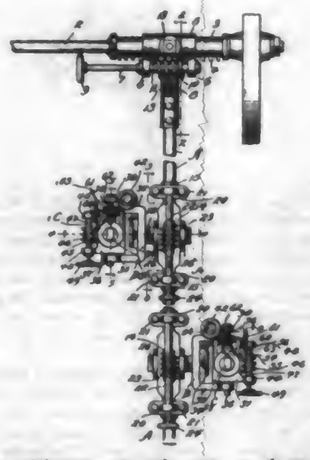
2. In combination with a trolley having a wheel pinn to revolve within a forked end of the trolley pole, a co tact retainer comprising two sides pivoted near their u per ends to the fork of the trolley to swing in the pla of the trolley wheel, a weight secured between the sid near their lower ends to space said sides and insure st bility, retainers positioned above the trolley wheel, sten extending from the lower sides of the retainers, rece tacles formed in the side members for receiving the ste to permit them to revolve and swing outwardly a springs pressing against the stems to retain them no mally in position to assist continuous contact of t trolley wheel with the wire.

3. In combination with a trolley having a wheel pinn to revolve within a forked end of the trolley pole, a co tact retainer comprising two sides pivoted near their u per ends to the fork of the trolley to swing in the pla of the trolley wheel, a weight secured between the sid near their lower ends to space said ends and insure st bility, circular retainers having convex upper surfac and concave lower surfaces positioned above the troll wheel, stems extending from the lower sides of the r tainers having enlarged lower ends convex at the bottom receptacles formed in the side members open at the t and front and having enlarged lower parts concave at t bottoms for receiving the stems to permit them to revol and swing outwardly and springs pressing against t stems to retain them normally in position to assist co tinuous contact of the trolley wheel with the wire.

4. In combination with a trolley having a wheel pinn to revolve within a forked end of the trolley pole, a co tact retainer comprising two sides mounted near the upper ends on extended ends of the trolley wheel pin swing in the plane of the trolley wheel, a weight secur between the sides near their lower ends to space said sid and insure stability, circular retainers having convex u

per surfaces and concave lower surfaces positioned above and inclined toward the trolley wheel, stems extending from the lower sides of the retainers having enlarged lower ends convex at the bottoms, receptacles formed in the side members open at the top and the front and having enlarged lower parts concave at the bottoms for receiving the stems to permit them to revolve and swing outwardly but locked against upward displacement, springs secured to the front of the receptacles and having free ends extending in the open fronts of the receptacles and pressing against the stems to retain them normally in position to assist continuous contact of the trolley wheel with the wire, a controlling cord secured at one end to the lower part of the contact retainer and having its other end free to be pulled by the operator to swing the upper part of the contact retainer forward when disengaging or engaging the trolley and wire, and a stop cord having one end secured to the contact retainer and the other end secured to the trolley pole to limit the swinging of the contact retainer.

976,729. CULTIVATOR. LUTHER S. ELLETT, Celina, Tex. Filed July 22, 1910. Serial No. 573,320.



1. In a cultivator, an axle arm, a sleeve journaled thereon and having a rack, a collar slidable on the sleeve and having a slot through which the rack projects, a shaft supported for rotation upon the sleeve and having a worm meshing with the rack through the slot in the collar, projections upon diametrically opposite sides of the collar, and a beam having a yoke pivoted upon said projections.

2. In a cultivator, a beam having a slot and a half-box formed adjacent to the slot, a yoke having a half-box mating the half-box upon the beam, said yoke being provided at the ends thereof with half-boxes straddling the beam, half-boxes mating with the half-boxes upon the yoke to collapse the beam between them, said latter half-boxes being provided with bearings, a worm carrying shaft supported in said bearings and having a hand wheel, a sleeve supported in the half-boxes of the beam and the yoke and having a rack segment projecting through the slot of the beam and meshing with the worm upon the worm carrying shaft, and a standard carrying yoke having an arm connected with said sleeve.

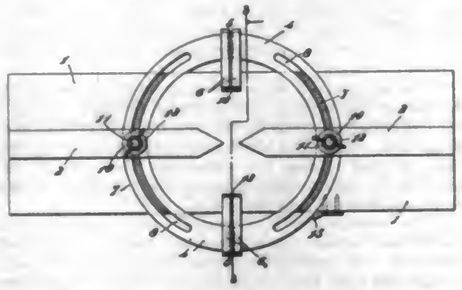
3. In a cultivator, a beam, a yoke connected therewith, mating half-boxes upon the beam and the yoke, a sleeve supported for oscillation in said half-boxes and having a bore of non-circular cross section and provided with internal rack teeth, means for rocking said sleeve in its bearings, a hollow arm movable longitudinally in the sleeve and having at one end a standard carrying yoke, said arm being provided with a slot, a shaft supported for rotation longitudinally within the arm and having a worm engaging the rack teeth of the sleeve which project through the slot in the arm, means for retaining the worm carrying shaft against longitudinal displacement, and means for rotating said shaft.

4. In a cultivator, a beam, a rocking sleeve supported for oscillation transversely of the beam, an arm adjustable longitudinally of said sleeve and having a yoke at one end, a block having trunnions pivotally engaging the side members of the yoke, one of said trunnions being provided with a segment rack, and a worm carrying shaft supported for rotation in bearings upon one of the side members of the yoke in mesh with the segment rack; and a plow foot or standard carried by the block.

5. In a cultivator, a beam, a rocking sleeve supported transversely of the beam, an arm slidable longitudinally in said sleeve and having a yoke at one end, a block pivotally supported in the yoke and having a recess, a plate mounted in the recess and having a segment rack projecting at one side of the block, bearing members upon said block, a shaft supported in the bearings and having a worm meshing with the rack segment, and a jubular member extending through the block and the plate and connected with said plate to move therewith when said plate is actuated by the worm engaging the rack upon said plate.

[Claims 6 and 7 not printed in the Gazette.]

976,730. MITER-BOX. WARREN FUHRMANN, Newark, N. J. Filed Mar. 16, 1910. Serial No. 549,697.

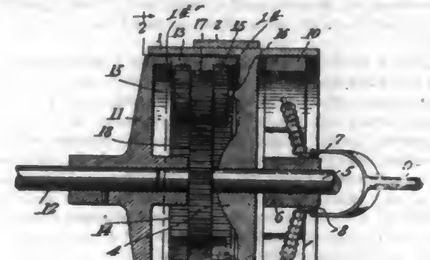


1. A miter box comprising a base, a ring seated upon the base and provided at opposite points with slotted arms forming saw guides, said ring having portions upon opposite sides of the arms circumferentially slotted, a work rest secured upon the base at a middle point and extending over the slotted portions of the ring, and headed fastenings mounted in the work rest and having their headed portions passing through the slotted portions of the ring and engaging the lower side thereof to secure the ring in an adjusted position.

2. The herein described miter box comprising a base having an approximately circular groove in its upper face, a ring fitted in said groove and provided at opposite points with arms terminating at their upper ends in cross heads, said arms and cross heads being provided with kerfs to receive a saw blade and the ring having portions upon opposite sides of the arms circumferentially slotted, a work rest secured upon the base and extending over the slotted portions of the ring, and bolts mounted in the work rest and passing through the slotted portions of the ring and having their heads engaging the under side of the ring.

976,731. REVERSE-GEARING. HARRY A. GARRISON, Fayette, Iowa. Filed Jan. 11, 1910. Serial No. 537,488.

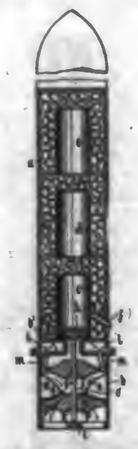
1. In reverse gearing, a drive shaft, a rim having a hub portion loosely mounted on the shaft, a master gear on the shaft, a driven shaft, a fixed drum supported by the driven shaft and having its rim extended to lie immediately beneath the said first named rim, the rim of the said drum having a plurality of annular toothed surfaces, shafts extending from said hub, gear wheels supported by the said last named shafts and meshing with the toothed surfaces of the said drum and with said master gear, a brake band for the first named rim, and a sliding clutch member mounted on the drive shaft and operable to engage the said first named rim to cause the same to rotate in a direction with the drive shaft.



2. Reverse gearing comprising a drive shaft, a master gear wheel mounted fast on said shaft, a driven shaft, a drum fast on said driven shaft and provided with an annular toothed surface, a rim surrounding the drum and supported by the said drive shaft, pairs of spaced gears supported by the rim and meshing with the said toothed surface of the drum, gear wheels supported by the rim and disposed between the said spaced gear wheels and meshing with the said master gear wheel, a sliding clutch collar on the engine shaft, clutch shoes adapted to be moved thereby into frictional engagement with the rim for holding the latter fast to the shaft, and a brake adapted for engagement with the rim to hold it against rotation with the shaft when the clutch is moved to its released position.

3. In reverse gearing, a drive shaft, a rim having a hub portion loosely mounted on the said shaft a brake band surrounding the rim, a sliding clutch on the drive shaft for engaging the rim to cause tne same to rotate with the shaft, a driven shaft having a rim portion extending into the first named rim, and having also a bearing portion receiving one end of said drive shaft, a master gear secured to the drive shaft, and pinions on the hub of the first named rim geared to the said second named rim, and with said master gear.

976,732. GYROSCOPIC ROCKET. NICOLAS GHERASSIMOFF, St. Petersburg, Russia. Filed June 8, 1910. Serial No. 565,674.

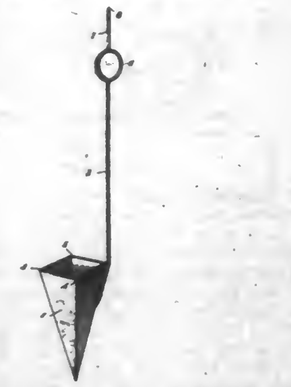


1. In a gyroscopic rocket, the combination of an explosive charge; a gyroscopic device comprising a driving and a propelling wheel, carried by said rocket and adapted to give stability to said rocket during flight; and means for leading the gases evolved from said charge to said gyroscopic device for the purpose of rotating the same, substantially as described.

2. In a gyroscopic rocket the combination of an explosive charge; a driving wheel adapted to receive the gases evolved from said charge; a propelling wheel driven from said driving wheel and provided with means for increasing the velocity of the gases received from said driving wheel, said wheels being of sufficient weight to constitute a gyroscopic device adapted to give stability to said rocket during flight; and means for igniting said charge, substantially as described.

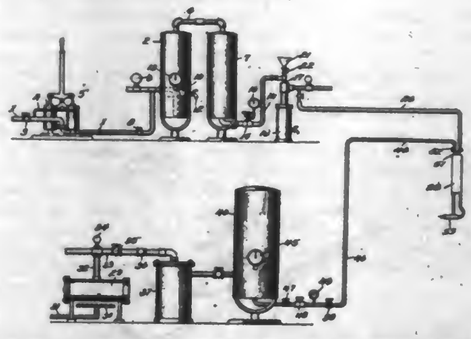
3. In a gyroscopic rocket, the combination of an explosive charge; a casing containing said charge; a driving wheel adapted to receive the gases evolved from said charge; a propelling wheel driven from said driving wheel and provided with means for increasing the velocity of the gases received from said driving wheel, said wheels being of sufficient weight to constitute a gyroscopic device adapted to give stability to said rocket during flight; a second casing having perforations for the escape of gases, containing said wheels; a shaft mounted in said second casing carrying said wheels; and means for igniting said charge, substantially as described.

976,733. SKIMMER. MARIA A. GILLILAND, Brookline, Mass. Filed May 25, 1910. Serial No. 563,462.



A skimmer comprising an inverted pyramidal bowl, and a handle attached to one of the corners of the bowl.

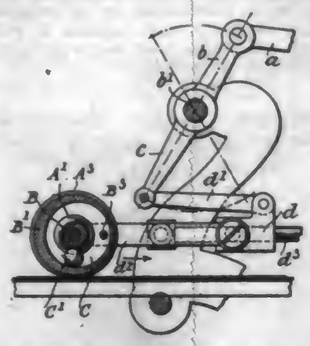
976,734. GAS-DISTRIBUTING SYSTEM. GEORGE A. HANLY and GEORGE R. MARTIN, Chicago, Ill. Filed June 1, 1909. Serial No. 499,283.



1. In a gas distributing system, the combination of a gas supply pipe, a cooling tank containing a body of water into which the said pipe delivers gas, a storage tank connected with the gas space of the cooling tank, a pipe leading from the storage tank, a water seal chamber into which the last mentioned pipe extends, and a pipe leading from the said chamber.

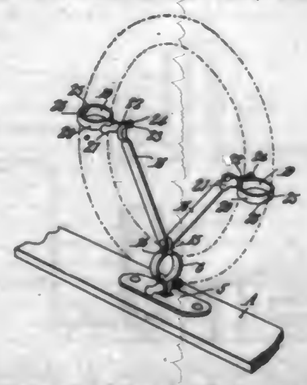
2. In a gas distributing system, the combination of a gas supply pipe, a pump connected therewith for raising the pressure of the gas, a cooling tank connected directly with the discharge side of the pump and containing a body of water into the bottom of which the gas enters from the pump, a storage tank adjacent the cooling tank, means for connecting the tops of the tanks together to permit the cooled gas to flow into the storage tank, a pipe leading from the storage tank, a water-sealed chamber with which the last-mentioned pipe communicates, and a pipe connected with the water-sealed chamber to conduct gas therefrom.

976,735. PAPER-FEEDING DEVICE. GEORGE EDWARD HARDMAN, East Ham, London, England, assignor to Caribonum Company Limited, London, England, a Corporation of Great Britain and Ireland. Filed Nov. 26, 1909. Serial No. 529,975.



A paper feeding device comprising a roller, elastic paper contacting bands carried by the same and adjustable thereon, an axle on which said roller is rotatably mounted, a hollow casing secured to the axle at one end of the roller, a wheel secured to the roller at the same end and projecting into the casing said casing being bored eccentrically and coöperating with the wheel to form a race of varying width, a ball within the casing and adapted to be engaged between the casing and the wheel so as to prevent the roller from rotating in one direction, a pin carried by the casing for rendering the ball inoperative when the roller is rotated in the opposite direction and means for reciprocating the carrying axle.

976,736. TIRE-SUPPORT. ARTHUR C. HAYDEN, Brockton, Mass. Filed May 15, 1909. Serial No. 496,116.



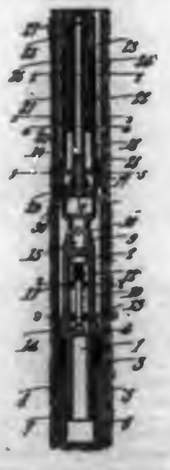
1. In a device of the class described, a supporting arm, and tire clamping means at the end of the arm, said means comprising a fixed tire clamping member and a movable tire clamping member, said movable member having a stem projecting through a portion of the fixed member and a spring upon the stem tending normally to hold the movable member in coöperative relation with respect to the fixed member, said movable member being movable away from the fixed member in the plane thereof and being movable upon the stem as a pivot to lie at an angle to such plane.

2. In a device of the class described, a supporting arm, and tire clamping means at the end of the arm, said means comprising a fixed tire clamping member and a movable tire clamping member, said movable member having a stem projecting through a portion of the fixed member, a spring upon the stem tending normally to hold the movable member in coöperative relation with respect to the fixed member, and a handle projecting from the movable member in alinement with the stem, said movable member being movable away from the fixed member in the plane thereof and being movable upon the stem as a pivot to lie at an angle to such plane.

3. In a device of the class described, a supporting arm, a tire clamping means at the end of the arm, said means comprising a fixed tire clamping member and a movable tire clamping member, each of said members being substantially semi-annular, said movable member having a stem projecting through a portion of the fixed member, and a spring tending normally to hold the movable member in coöperative relation with respect to the fixed member, said movable member being movable away from the fixed member in the plane thereof, and being movable upon the stem as a pivot to lie at an angle to such plane, the said members being arranged for mutual engagement at their coöperating ends in such manner as to normally prevent movement of the movable member upon the stem as a pivot.

4. In a device of the class described, a supporting arm, a tire clamping means at the end of the arm, said means comprising a fixed tire clamping member and a movable tire clamping member, said movable member having a stem projecting through a portion of the fixed member, and a spring upon the stem tending normally to hold the movable member in coöperative relation with respect to the fixed member, said movable member being movable away from the fixed member in the plane thereof, and being movable upon the stem as a pivot to lie at an angle to such plane, one of the members being formed at one end with a notch and the other member being formed with a lug seating in the notch when the ends of the two members are in coöperative engagement, the engagement of the lug in the notch serving to prevent movement of the movable member upon the stem as a pivot.

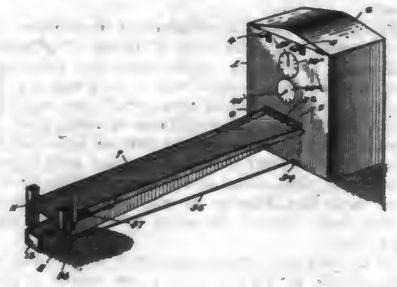
976,737. WELL-PACKER. WILLIAM HEMME, Altoona, Kans. Filed Dec. 24, 1909. Serial No. 534,817.



1. A well packer comprising hollow members carrying at their adjacent ends a valve and a valve seat respectively, expansible dams carried by the members, means carried by the members and adapted to be manipulated to expand the dams, the member having the valve adapted to close the member having the seat and being provided with an aperture leading from its exterior to its interior.

2. A well packer comprising hollow members carrying at their adjacent ends a valve and a valve seat respectively, expansible dams carried by the members, the member having the valve adapted to close the member having the seat and being provided with an aperture leading from its exterior to its interior, means passing through one of the members and adapted to be manipulated to expand the dam upon the other member, said means also being adapted to be manipulated to expand the dam upon that member through which it passes.

976,738. BOWLING APPARATUS. CARL C. HILDRETH and HERBERT F. COOK, Lake Mills, Iowa. Filed Sept. 24, 1909. Serial No. 519,404.



1. A bowling apparatus embodying a casing having an opening, means for moving an object past the opening, a ball runway leading to the opening, means actuated by the object when struck by a ball to indicate a hit, and means operated by the object when passing beyond the opening to indicate a miss.

2. A bowling apparatus embodying a casing having an opening therein, an endless carrier carrying pivotal figures movable across the opening, a ball runway leading to the opening, a register, means operated by a struck object to actuate said register, a second register, and means actuated by an unstruck object moving past the opening to actuate said second register.

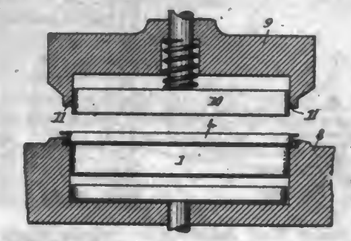
3. A bowling apparatus embodying a casing having an opening, an endless carrier provided with pivoted figures arranged to be successively presented at the opening, a ball runway leading to the opening, registering devices adapted to be actuated respectively by struck and unstruck figures, and means for resetting said devices for a repetition of their indicating operation.

4. A bowling apparatus embodying a casing having an opening, an endless carrier provided with pivoted figures movable successively across the opening, a ball runway leading to the opening, a registering device for indicating the number of figures struck by the propelled balls, a second registering device for indicating the number of figures missed by the propelled balls, and means for respectively actuating said devices.

5. A bowling apparatus embodying a casing having an opening, an endless carrier provided with pivoted figures movable successively across the opening, a ball runway leading to the opening, a registering device for indicating the number of figures struck by the propelled balls, a second registering device for indicating the number of figures missed by the propelled balls, means actuated by a struck figure for operating the first named registering device, and means actuated by each unstruck figure for actuating the second named registering device.

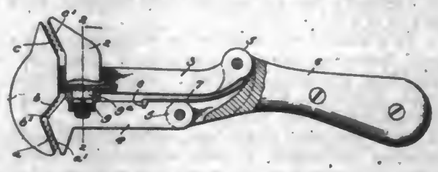
[Claims 6 and 7 not printed in the Gazette.]

976,739. METHOD OF SEAMING CAN-HEADS TO CAN-BODIES. JOHANNES HÖILAND and KARL J. HALLELAND, Stavanger, Norway, assignors to Rosenstein Brothers, Inc., New York, N. Y., a Corporation of New York. Original application filed May 10, 1907, Serial No. 372,955. Divided and this application filed June 19, 1909. Serial No. 503,100.



The herein-described process of seaming a can body with a can head, which consists in providing both the body and head with edge flanges such that they may be freely moved one within the other and the flange of the head seated on the flange of the body, then by a single operation jamming the flanges together to bind a double layer of one flange between a fold in the other flange.

976,740. WRENCH. STEPHEN A. HOLMAN, Santa Maria, Cal. Filed Nov. 26, 1909. Serial No. 529,986.



1. A wrench of the character described, comprising an outer jaw, an inner jaw, a shank secured to the outer jaw and movable through the inner jaw, an arm to which the inner jaw is connected, a handle pivotally connected to the shank and arm, and a plate spring connected to said handle and interposed between the shank and arm and exerting a tension upon the same to spread them apart.

2. A wrench of the character described, comprising an outer jaw, an inner jaw, a shank to which the outer jaw is connected, said shank being movable through the inner jaw, an arm to which the inner jaw is connected, a handle having a pivotal connection with both arm and shank, and a plate spring connected to one end of the handle and extending forwardly between the shank and arm, the forward free end of said spring being formed with side lugs embracing the said arm.

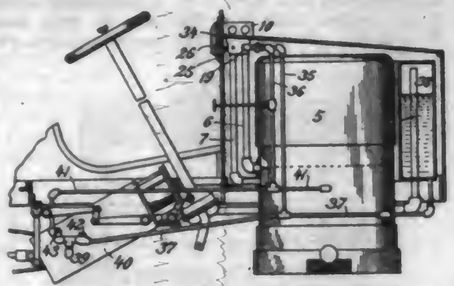
3. A wrench of the character described, comprising an outer jaw, a shank to which said jaw is connected, an inner jaw through which the shank extends, an arm to which the inner jaw is connected, a handle having pivotal connection with both arm and shank, and means carried by the inner jaw arranged to be rigidly engaged with the shank.

4. A wrench of the character described, comprising an outer jaw, a shank to which said jaw is connected, an inner jaw through which the shank extends, an arm to which the inner jaw is connected, a handle having pivotal connection with both arm and shank, a movable block carried by the inner jaw and designed to engage the shank, and means for holding said block in rigid engagement with the shank.

976,741. WATER-LEVEL REGULATOR AND INDICATOR. GEORGE LANE, Poughkeepsie, N. Y., assignor to Lane Motor Vehicle Company, a Corporation of New York. Filed Feb. 15, 1909. Serial No. 477,897.

1. In a combined water level indicator and regulator, an indicating mechanism, a plurality of temperature de-

vices operating upon said indicating mechanism successively to indicate the water level, and means coöperating with one of said devices for regulating the water level.



2. A water level indicator for boilers, comprising an indicating mechanism movable in the same direction to indicate successive water levels, a plurality of temperature devices responsive to different levels in the boiler, said temperature devices successively acting on the indicating mechanism to indicate successive levels of the water in the boiler.

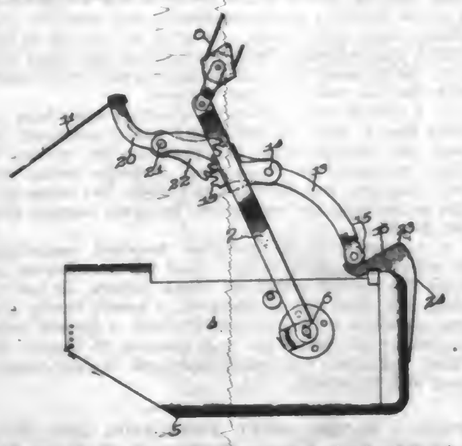
3. In a combined water level indicator and regulator, an indicator, a water feed, a device variable in length to actuate the indicator and operate the water feed at a certain level, an auxiliary temperature device in association therewith and acting upon said indicator when the water is at a lower level.

4. In a water level indicator for steam boilers, a single visual indicating means, a plurality of expansion tubes coöperating therewith, adapted to expand in similar direction, said tubes being successively responsive to varying conditions within the boiler.

5. In a combined water level indicator and regulator, indicating mechanism, a main temperature device controlling simultaneously the water feed and operating said indicating mechanism, and an auxiliary temperature device coöperating with said first named device to extend the range of said indicating mechanism.

[Claims 6 to 10 not printed in the Gazette.]

976,742. EXCAVATOR-BUCKET. OSCAR J. MARTINSON, Chicago, Ill., assignor to Monighan Machine Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 28, 1910. Serial No. 584,365.



1. In an excavator, the combination of a bucket, a bail pivoted thereto back of the center of gravity, hoisting means connected to said bail for lifting the bucket, a hauling cable connected with the front of the bucket, a lever connected with said hauling cable and fulcrumed on said bail, means on said bucket providing a cam surface behind said bail and adapted to coact with said lever for controlling the relative angular positions of said bucket and bail.

2. In an excavator, the combination of a bucket, a bail pivoted thereto back of the center of gravity, hoisting means connected to said bail for lifting the bucket, a hauling cable connected with the front of the bucket, a lever connected with said hauling cable and fulcrumed on said bail, a roller carried by said lever, means on said bucket providing a cam surface behind said bail and adapted to coact with said roller for controlling the relative angular positions of said bucket and bail.

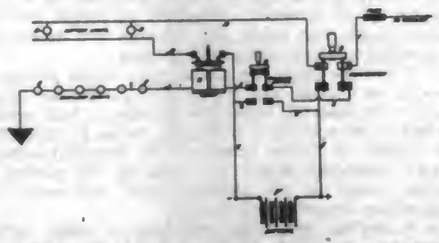
3. In an excavator, the combination of a bucket, a bail pivoted thereto back of the center of gravity, hoisting means connected with said bail for lifting said bucket, a hauling cable operatively connected to the front of said bucket, a gear sector journaled on said bail, means operatively connecting said sector with said hauling cable and adapted to control the angular position of said sector on its axis through the tension on said hauling cable, and a second gear sector meshing with the first and adapted to control the relative angular positions of said bucket and bail.

4. In an excavator, the combination of a bucket, a bail pivoted thereto at a point back of its center of gravity, a hauling cable operatively connected to the front of said bucket, hoisting means connected to said bail for lifting said bucket, a pair of levers separately fulcrumed on said bail and operatively connected, one of said levers being adapted to engage the rearward part of said bucket for controlling the angular movement thereof with respect to said bail and said other lever being connected to said hauling cable and adapted to control the movements of said first lever through variation of the strain on said hauling cable.

5. In an excavator, the combination of a bucket, a bail pivoted thereto at a point back of its center of gravity, a hauling cable operatively connected to the front of said bucket, hoisting means connected to said bail for lifting said bucket, a pair of levers separately fulcrumed on said bail and operatively connected, intermeshing gear sectors respectively connected to said levers, one of said levers having a forwardly extending arm connected to said hauling cable, and the other said lever having a rearwardly extending arm adapted to coact with the rearward part of the bucket for controlling the relative angular positions of said bucket and bail, whereby the tilting of the bucket may be controlled by the hauling cable.

[Claims 6 and 7 not printed in the Gazette.]

976,743. LIGHTING AND BATTERY CIRCUITS. JAMES F. MCELROY, Albany, N. Y., assignor to Consolidated Car Heating Company, a Corporation of West Virginia. Filed Apr. 29, 1910. Serial No. 558,319.

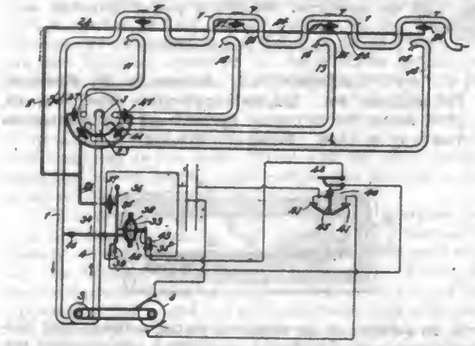


1. The combination with a supply-circuit of a normal circuit therefrom, lamps in series therein, a battery-circuit, lamps in said battery-circuit, a switch in said normal circuit for closing the same and adapted to coöperate with the terminals of the battery portion of said battery-circuit to include the battery in the normal circuit in series with the lamps therein for charging, and a relay in the normal circuit for opening the lamp portion of said battery circuit.

2. The combination with a normal circuit, of a battery, a battery circuit, a switch in the latter circuit, a relay in the normal circuit and controlling said switch, and a charging switch having contacts in said former circuit and having also contacts in said latter circuit between said relay-controlled switch and the battery, whereby the battery may be included in the normal circuit for charging without interference from said relay.

3. The combination with a normal circuit containing lamps in series, of a battery circuit containing lamps in multiple, a common controlling switch for both circuits, a relay in the normal circuit controlling contacts located in said battery circuit between the battery and the lamps, and a switch normally closing the normal circuit but adapted to connect the two parts of the normal circuit on each side of itself with the respective battery terminals.

976,744. PNEUMATIC-DESPATCH-TUBE APPARATUS. JOHN T. NEEDHAM, New York, N. Y., assignor to Interstate Pneumatic Tube Company, Brooklyn, N. Y., a Corporation of New York. Filed May 10, 1909. Serial No. 495,127.



1. A pneumatic despatch tube apparatus comprising a single transmission tube, a plurality of receiving terminals in said tube separated a suitable distance from each other, a plurality of return tubes, a blower, means for operating said blower to draw air through the single transmission tube, a pressure pipe leading from the blower, a transmitting device connected to the receiving ends of all of the return tubes, and means for connecting the pressure pipe from the blower to the receiving end of any one of the return tubes.

2. A pneumatic despatch tube apparatus comprising a single transmission tube, a plurality of receiving terminals in said tube, a plurality of return tubes, a motor, means for driving said motor to draw air through the single transmission tube, a pipe connected to the pressure side of said blower, and movable means connected to said pipe and adapted to direct the air to the receiving end of any one of the return tubes.

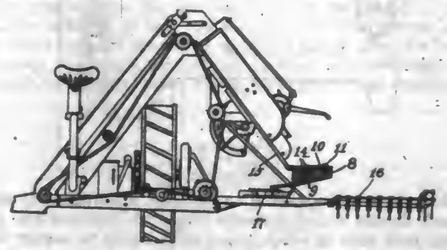
3. A pneumatic despatch tube apparatus comprising a single transmission tube, a plurality of receiving terminals in said tube, a plurality of return tubes, a pressure pipe, a blower, means to operate said blower to draw air through the transmission tube and force it through the pressure pipe, and a pneumatic switch connected to the pressure pipe and adapted to be connected to the receiving end of any one of the return tubes.

4. A pneumatic despatch tube apparatus comprising a single transmission tube, a plurality of receiving terminals in said tube, a plurality of return tubes, a pressure pipe, a blower, means to operate said blower to draw air through the transmission tube and force it through the pressure pipe, a pneumatic switch connected to the pressure pipe and adapted to be connected to the receiving end of any one of the return tubes, and a slide carried by said pneumatic switch and adapted to extend laterally beyond the end of the switch.

5. A pneumatic despatch tube apparatus comprising a single transmission tube, a plurality of receiving terminals in said tube separated a suitable distance from each other, a plurality of return tubes, a blower, means for operating said blower to draw air through the single transmission tube, a pressure pipe leading from the blower, means for connecting the pressure pipe from the blower to the receiving end of any one of the return tubes, a timing device for said blower operating means, and means at each receiving terminal to independently set said timing device.

[Claims 6 to 23 not printed in the Gazette.]

976,745. GRAIN-SAVING DEVICE. BRUCE G. NELSON, Devils Lake, N. D. Filed Jan. 11, 1910. Serial No. 537,456.



1. The combination with a grain binder, of a grain saving device comprising a casing including a front cross bar, and a roller idly supported in the casing and spaced from the front cross bar.

2. The combination with a grain binder, of a grain saving device including a casing having a downwardly and forwardly inclined bottom, and a roller supported for rotation adjacent to the rear wall of the casing, the latter being provided with a front cross bar spaced from the roller.

3. The combination with a grain binder, of a grain saving device including a casing supported adjacent to the lower edge of the grain board and having a downwardly and forwardly inclined bottom, and a roller supported for rotation adjacent to the rear wall of the latter.

4. The combination with a grain binder, of a device of the class described consisting of a casing including side pieces, a downwardly and forwardly inclined bottom, and a rear wall having an inturned flange at its upper edge, a roller supported for rotation adjacent to said flange, and a front cross bar spaced from said roller.

5. The combination with a grain binder, of a grain saving device comprising a casing including a front cross bar, a roller idly supported in the casing and spaced from said cross bar, and a valve supported adjacent to the space between the roller and the front cross bar.

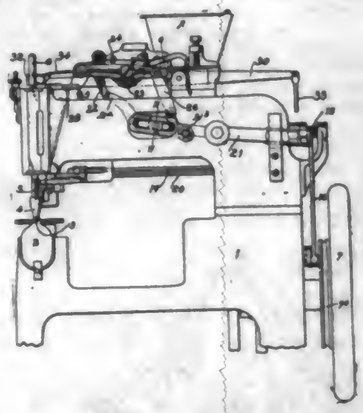
[Claim 6 not printed in the Gazette.]

976,746. WAX-THREAD SEWING-MACHINE. CHRISTIAN PEDERSEN, St. Louis, Mo., assignor to Landis Machine Company, St. Louis, Mo., a Corporation of Missouri. Filed Apr. 23, 1909. Serial No. 491,667.

1. In a wax thread sewing machine, a horizontally disposed thread finger pivotally mounted intermediate its ends, both ends of which finger are adapted to engage the thread, a take-up arm pivotally mounted at one end to one side of the pivot point of the thread finger, the free end of which take-up arm engages the thread at a point adjacent one end of the thread finger, and means whereby said finger and take-up arm are simultaneously actuated to cause the thread-engaging ends thereof to move in opposite directions.

2. In a wax thread sewing machine, a horizontally disposed thread finger pivotally mounted intermediate its ends, both ends of which finger are adapted to engage the thread, a take-up arm pivotally mounted at one end to one side of the pivot point of the thread finger, the free end of which take-up arm engages the thread at a point adjacent one end of the thread finger, independent links

connected to the thread finger and the take-up arm and a pivoted take-up lever to which said links are connected.

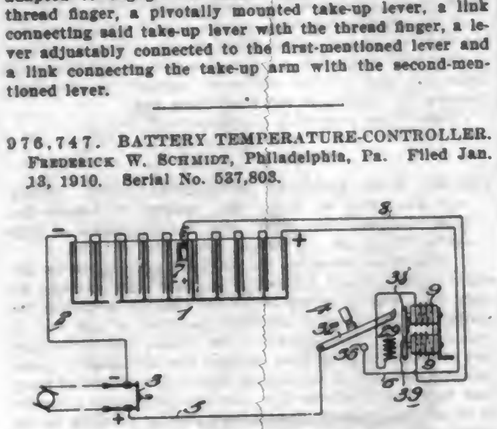


3. In a wax thread sewing machine, a horizontally disposed thread finger pivotally mounted intermediate its ends, both ends of which finger are adapted to engage the thread, the take-up arm pivotally mounted at one end to one side of the pivot point of the thread finger, the free end of which take-up arm engages the thread at a point adjacent one end of the thread finger, independent links connected to the thread finger and the take-up arm, a pivoted take-up lever to which said links are connected and there being an adjustable joint in said take-up lever for adjusting the throw of the pivoted take-up arm.

4. In a wax thread sewing machine, a thread finger pivotally mounted intermediate its ends, both ends of which thread finger are adapted to engage the thread, a take-up arm pivoted at one end and its free end engaging the wax thread adjacent one end of the thread finger, a pair of independently pivoted adjustably connected take-up levers and links connecting said levers with the take-up arm and thread finger.

5. In a machine of the class described, a thread finger pivotally mounted intermediate its ends, both ends of which finger are adapted to engage the wax thread, a take-up arm pivotally mounted at one end and its opposite end adapted to engage the thread adjacent one end of the thread finger, a pivotally mounted take-up lever, a link connecting said take-up lever with the thread finger, a lever adjustably connected to the first-mentioned lever and a link connecting the take-up arm with the second-mentioned lever.

976,747. BATTERY TEMPERATURE-CONTROLLER. FREDERICK W. SCHMIDT, Philadelphia, Pa. Filed Jan. 13, 1910. Serial No. 537,803.



In a device of the character stated, a charging circuit, a storage battery in such circuit, a branch circuit having one terminal connected to a terminal of the charging circuit, a thermostat immersed in the battery solution and having one contact member connected to one terminal of the branch circuit and the other contact member in contact with a metallic element in the solution, an automatically opening circuit breaker between terminals of the charging circuit and one terminal of the branch circuit, and an electro-magnetic releasing device for such circuit-breaker and wound in the branch circuit.

976,748. CONTROL FOR CHARGING STORAGE BATTERIES. FREDERICK W. SCHMIDT, Philadelphia, Pa. Filed May 4, 1910. Serial No. 559,286.



In a device of the character stated, a thermostat having an electrically conducting acid-resisting metallic casing, and an apertured insulating jacket inclosing such casing.

976,749. THERMOSTAT. FREDERICK W. SCHMIDT, Philadelphia, Pa. Original application filed Jan. 13, 1910, Serial No. 537,803. Divided and this application filed Aug. 8, 1910. Serial No. 576,121.



1. In a device of the character stated, a thermostat having a casing of electrically conducting acid-resisting material, a thermostatic arm suitably supported at one end within and electrically connected to said casing, a contact piece insulated from the casing and adjustably carried thereby adjacent the free end of said arm, and an insulating liquid substantially filling said casing serving to protect the parts and acting as a conductor of heat in order to assist in the actuation of the thermostat.

2. In a device of the character stated, a thermostat formed of a casing of electrically conducting acid-resisting material, a thermostatic arm in suitable electric communication with said casing, a contact piece insulated from said casing, a binding post supported by and insulated from said casing, a conductor between said contact piece and said binding post, transformer oil substantially filling said casing and serving to protect the parts and acting as a conductor of heat in order to assist in the actuation of the thermostat.

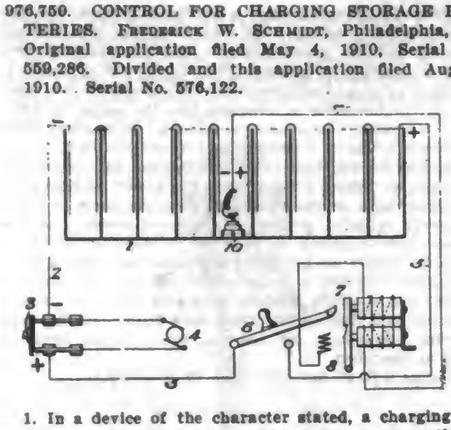
3. In a device of the character stated, a thermostat having a lead casing, an arm supported at one end within and electrically connected with said casing, formed of brass and steel suitably connected together in order to bend or bow when subjected to heat, a contact piece in said casing and insulated therefrom situated adjacent the free end of said arm, a binding post, a conductor connected with said contact piece and said binding post and means for insulating said binding post from said casing, and acid-resisting material protecting said binding post.

4. In a device of the character stated, a thermostat provided with an acid-resisting and electrically-conductive casing and having two contacts, one of which is electrically connected to said casing.

5. In a device of the character stated, a thermostat consisting of an acid-resisting and electrically-conductive casing, a stationary contact in said casing, a movable contact in the casing, and a filling of an insulating and heat-conducting liquid within said casing and covering said contacts, one of the contacts being electrically connected to the casing.

[Claims 6 to 9 not printed in the Gazette.]

976,750. CONTROL FOR CHARGING STORAGE BATTERIES. FREDERICK W. SCHMIDT, Philadelphia, Pa. Original application filed May 4, 1910, Serial No. 559,286. Divided and this application filed Aug. 8, 1910. Serial No. 576,122.



1. In a device of the character stated, a charging circuit, a storage battery in said circuit, an automatically opening circuit-breaker in the circuit, a shunt circuit having one terminal connected to the charging circuit, an electro-magnetic retaining and releasing device for the circuit-breaker and wound in the shunt-circuit, and a thermostat immersed in the battery solution and inclosed in an acid-resisting metallic casing and having one contact connected to the shunt circuit and the other contact connected to the casing,—said casing thus forming a terminal of the shunt-circuit in the battery.

2. In a device of the character stated, a charging circuit, a storage battery in said circuit, an automatically-opening circuit-breaker in the circuit, a shunt-circuit having one terminal connected to the charging circuit, an electro-magnetic retaining and releasing device for the circuit-breaker and wound in the shunt circuit, and a thermostat immersed in the battery solution and having an electrically-conductive and acid-resisting casing electrically connected to one of its contacts and the other contact connected to the other terminal of the shunt circuit,—said thermostat thus forming a terminal of the shunt-circuit in the battery.

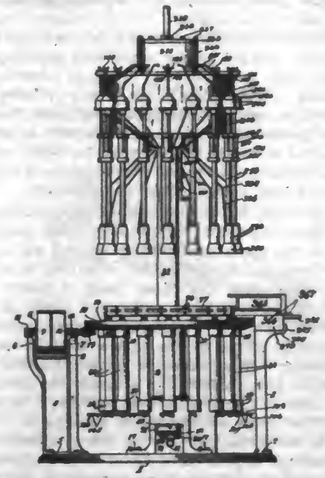
3. In a device of the character stated, a charging circuit, a storage battery in the same, an automatically-opening circuit-breaker having electro-magnetic controlling means, a shunt-circuit having one terminal connected to the charging circuit and connected to actuate said controlling means, and an incased thermostat immersed in the battery solution and having one contact connected to a terminal having electrical contact with the battery solution and one contact connected to the other terminal of the shunt circuit.

4. In a device of the character stated, a charging circuit, a storage battery in such circuit, means in said circuit for cutting out the battery, and a thermostat having an electrically-conducting and acid-resisting casing and wholly within the storage battery and connected to control said cutting out means.

5. In a device of the character stated, a charging circuit, a storage battery in such circuit, an automatically opening circuit-breaker in the charging circuit, a branch circuit having one terminal normally connected to the charging circuit by the circuit-breaker, a thermostat immersed in the battery solution and having a metallic element exposed to the same and having one contact connected to such element and the other contact connected to the other terminal of the branch circuit, and an electro-magnetic releasing device for the circuit-breaker and wound in the branch circuit.

976,751. MACHINE FOR BOTTLING LIQUIDS. ADOLPH SCHNEIDER, Chicago, Ill. Filed Apr. 7, 1908. Serial No. 425,657.

1. In a machine for bottling liquids, the combination of a hollow main standard, a rotatable table mounted and rotatable on the upper end of the standard, an upper head depending from and carried by the rotatable, a lower head coinciding with the upper head, a power cylinder between the upper and lower heads, a pressure tube between the upper and lower heads and adapted to be brought into communication with the power cylinder at each end thereof, a rotatable pressure controlling valve in the upper head, a rotatable pressure controlling valve in the lower head, a connection between the upper and lower pressure controlling valves, means for simultaneously rotating both valves for one valve to induct and the other valve to educt pressure between the pressure tube and the power cylinder at each end of the cylinder, means for supplying pressure to the pressure tube, a piston in the power cylinder actuated in both directions by pressure admitted to the opposite sides of the piston in the power cylinder, a reciprocating stem for the piston, and a bottle support connected with the piston stem for both raising the bottle into filling position and lowering the bottle for removal after filling, substantially as described.



2. In a machine for bottling liquids, the combination of a hollow main standard, a rotatable table mounted and rotatable on the upper end of the standard, an upper head depending from and carried by the rotatable table, a lower head coinciding with the upper head, a power cylinder between the upper and lower heads, a pressure tube between the upper and lower heads and adapted to be brought into communication with the power cylinder at each end thereof, a pressure controlling valve in the upper head, a pressure controlling valve in the lower head, a hollow rod or stem connecting the upper and lower pressure controlling valves and having a plurality of holes in its wall for admitting pressure from the pressure tube into the hollow valve rod, means for simultaneously operating both valves for one valve to induct and the other valve to educt pressure between the pressure tube and the power cylinder at each end of the cylinder, means for supplying pressure to the pressure tube, a piston in the power cylinder actuated in both directions by pressure admitted to the opposite sides of the piston in the power cylinder, a reciprocating stem for the piston, and a bottle support connected with the piston stem for both raising the bottle into filling position and lowering the bottle for removal after filling, substantially as described.

3. In a machine, for bottling liquids, the combination of a hollow main standard, a rotatable table mounted and rotatable on the upper end of the standard, an upper head depending from and carried by the rotatable table, a lower head coinciding with the upper head, a power cylinder mounted between the upper and lower heads, a pressure tube mounted between the upper and lower heads, a pressure controlling valve in the upper head having an

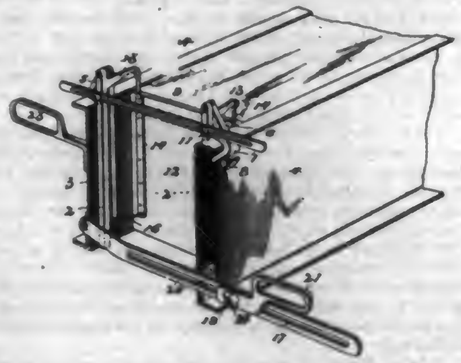
induction passage for pressure in communication with the pressure tube, and an eduction passage for pressure, the induction passage of the valve adapted to be brought into communication with an induction passage in the upper head and an induction port in the power cylinder, and the eduction passage of the valve adapted to be brought into communication with an eduction passage in the head and an eduction port in the power cylinder, a pressure controlling valve in the lower head having an induction passage for pressure, in communication with the pressure tube, and an eduction passage, the induction passage of the valve adapted to be brought into communication with an induction passage in the lower head opening below the power cylinder, and the eduction passage of the valve adapted to be brought into communication with an eduction passage in the head opening below the power cylinder, a connection between the upper and lower pressure controlling valves, means for simultaneously operating both valves for one valve to induct pressure and the other valve to educt pressure at the same time between the pressure tube and the power cylinder at each end of the cylinder, means for supplying pressure to the pressure tube, a piston in the power cylinder operating between the induction and eduction passages of the upper and lower heads and actuated in both directions by pressure admitted to the opposite sides of the piston in the power cylinder through the induction passages of the upper and lower heads, a reciprocating piston stem for the piston, and a bottle support connected with the piston stem for both raising the bottle into filling position and lowering the bottle for removal after filling, substantially as described.

4. In a machine for bottling liquids, the combination of a hollow main standard, a rotatable table mounted and rotatable on the upper end of the standard, an upper head depending from and carried by the rotatable table, a lower head coinciding with the upper head, a power cylinder mounted between the upper and lower heads, a pressure tube mounted between the upper and lower heads, a pressure controlling valve in the upper head having an induction passage for pressure in communication with the pressure tube, and an eduction passage for pressure, the induction passage of the valve adapted to be brought into communication with an induction passage in the upper head and an induction port in the power cylinder and the eduction passage of the valve adapted to be brought into communication with an eduction passage in the head and an eduction port in the power cylinder, a pressure controlling valve in the lower head having an induction passage for pressure, in communication with the pressure tube, and an eduction passage, the induction passage of the valve adapted to be brought into communication with an induction passage in the lower head opening below the power cylinder, and the eduction passage of the valve adapted to be brought into communication with an eduction passage in the head opening below the power cylinder, a hollow rod or stem connecting the upper and lower pressure controlling valves and having a plurality of holes in its wall for admitting pressure from the pressure tube into the hollow valve rod, means for simultaneously operating both valves for one valve to induct pressure and the other valve to educt pressure at the same time between the pressure tube and the power cylinder at each end of the cylinder, means for supplying pressure to the pressure tube, a piston in the power cylinder operating between the induction and eduction passages of the upper and lower heads and actuated in both directions by pressure admitted to the opposite sides of the piston in the power cylinder through the induction passages of the upper and lower heads, a reciprocating piston stem for the piston, and a bottle support connected with the piston stem for both raising the bottle into filling position and lowering the bottle for removal after filling, substantially as described.

5. In a machine for bottling liquids, the combination of a rotatable table, a power cylinder suspended from and rotatable with the table, a pressure tube suspended from and rotatable with the table and located in correlation to the power cylinder and having communication at each end with the power cylinder, a rotatable valve at the upper end of the pressure tube controlling the induction of pressure into the power cylinder from the pressure tube and the eduction of pressure from the power cylinder, a rotatable valve at the lower end of the pressure tube controlling the induction of pressure into the power cylinder from the pressure tube and the eduction of pressure from the power cylinder, a connection between the two valves, and means for simultaneously rotating the two valves for one valve to induct pressure into the power cylinder and the other valve at the same time to educt pressure from the power cylinder, means for supplying pressure to the pressure tube, a piston in the power cylinder operating between the points for inducting and educting pressure from the power cylinder, a reciprocating piston stem for the piston, and a bottle support connected with the piston stem for both raising the bottle into filling position and lowering the bottle for removal after filling, substantially as described.

[Claims 6 to 27 not printed in the Gazette.]

976,752. MOLDING-MACHINE. ELIAS B. SHEETS, Terre Haute, Ind. Filed Mar. 18, 1909. Serial No. 484,094.



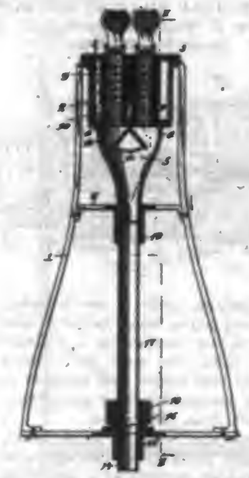
1. In a molding machine, the combination with uprights, means for adjustably connecting the uprights together, of clamps pivotally connected to the uprights, sides connected to the clamps, ends pivotally mounted on the uprights, means connecting the ends and sides together, and levers connected to the sides for swinging the sides and ends out of engagement with the molded article.

2. In a molding machine, the combination with uprights, of sides and ends hinged thereto, a lever hinged to one side, a link extending from the other side to the lever, whereby the lifting of the lever will swing the sides outwardly, and the lowering of the lever to its normal position will return the sides to their normal position and lock them by swinging the link past the dead center, and rods connecting the sides and ends together, whereby the ends are swung simultaneously with the sides.

3. In a molding machine, the combination with uprights, and means for adjustably connecting them together, of sides and ends hinged to the uprights, and means connected with the sides and ends for simultaneously swinging them in one direction or the other, said means comprising a lever connected directly to one side, a link connecting the lever to the other side, and rods extending from the sides to the ends.

4. In a molding machine, the combination with uprights, slotted bars, and bolts extending through the slots of these bars to the uprights for adjustably connecting the uprights together, of sides and ends hinged to the uprights, a slotted lever hinged to one of the sides, a link pivoted to the other side, a handle, and a bolt passing through one end of the link, the slot in the lever and one end of the handle, whereby the link and handle are adjustably connected with the lever.

976,753. TRANSFER-TUBE SYSTEM. JOHN F. SKIRROW, East Orange, N. J., and JOHN T. NEEDHAM, New York, N. Y., assignors, by mesne assignments, to Inter State Tube Company, a Corporation of New York. Filed May 23, 1905, Serial No. 261,913. Renewed Feb. 15, 1910. Serial No. 544,077.



1. A transfer tube system comprising a terminal having a plurality of carrier receiving chambers, a single transmission tube connected to said chambers and adapted to receive carriers therefrom, covers for the carrier receiving chambers, means to open one cover when the other is closed and means to prevent the outward passage of air through the open chamber.

2. A transfer tube system comprising a stationary terminal having a plurality of carrier receiving chambers, covers therefor and means whereby carriers may be placed alternately in said carrier receiving chambers, and a single transmission tube connected to said chambers and adapted to receive carriers therefrom.

3. A transfer tube system comprising a stationary terminal head having a plurality of carrier receiving passages, an air supply, a cover for each passage, a single transmission tube connected to said head and means whereby carriers may be placed alternately in the carrier receiving chambers.

4. A stationary terminal head for transfer tube systems having a plurality of carrier receiving chambers connected to a single discharge tube and means whereby carriers may be placed alternately in the carrier receiving chambers.

5. A transfer tube system comprising a carrier receiving chamber, a discharge chamber connected thereto, a delivery tube, a transmission tube formed with a movable section and means for connecting the free end of said movable section, to the discharge chamber or to the delivery tube.

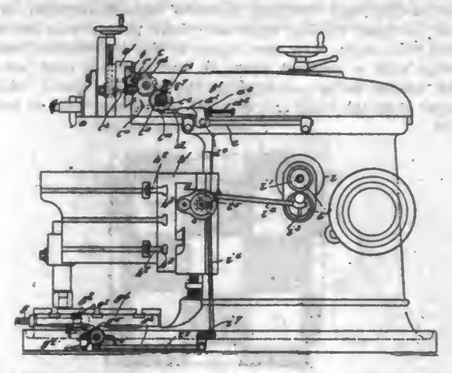
[Claims 6 to 43 not printed in the Gazette.]

976,754. MACHINE FOR SHAPING METALS. GEORGE SONNENTHAL and HENRY BAMFORD, London, England. Filed July 10, 1908. Serial No. 442,965.

1. In a shaping machine the combination with the tool carriage of a work table, a laterally movable bottom table, a traversing cross-slide situated between said tool carriage and bottom table, and a table hinged to said cross-slide.

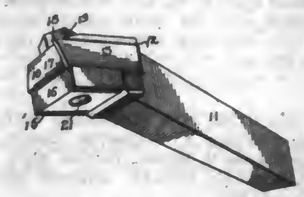
2. In a shaping machine the combination of a tool carriage, a bottom table, a traversing cross-slide situated between said tool carriage and bottom table, a table hinged to said cross-slide, and means for imparting lateral movement to said tool carriage and bottom table.

3. In a shaping machine the combination of a reciprocating ram, a tool carriage on said ram, a bottom table, means for imparting lateral movement to said tool carriage and bottom table, a traversing cross slide situated



between said tool carriage and bottom table, and a table hinged to said cross slide.

976,755. CUTTING-OFF TOOL. VICTOR ST. JOHN, Fairmont, Minn. Filed Oct. 16, 1909. Serial No. 523,013.



1. A holder having a recess and groove therein, a block provided with a plurality of grooves and adjustable to bring any one of said grooves into the same transverse plane with the recess in the holder, and means mounted upon said holder to draw said block toward said holder.

2. A holder having a recess and groove therein, a reversible block having upon its opposite faces a plurality of grooves, and clamping means mounted upon said holder to draw said block toward the same.

3. A holder having a recess and groove therein, a block provided with a plurality of grooves and adjustable to bring any one of said grooves into the same transverse plane with the groove in the holder, and a bolt extended through said holder and threaded into said block to draw it toward the groove of said holder.

4. A holder having a recess at one side thereof and a rib upon the opposite side, a block provided with a tool holding groove and a groove to engage said rib, and a bolt extended through said holder and threaded into said block.

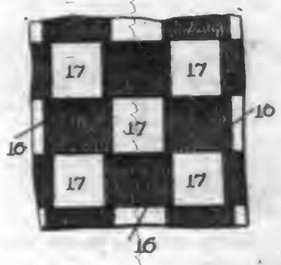
5. A holder having a recess and groove therein and an aperture therethrough, a block provided with a plurality of grooves and adjustable to bring any one of said recesses into the same transverse plane with the groove in the holder, and a bolt extended through said holder to engage and draw said block toward the holder and of less diameter than the aperture in the holder.

[Claim 6 not printed in the Gazette.]

976,756. CARDING-MACHINE. WILLIAM SULLIVAN, Leicester, Mass. Filed Apr. 3, 1909. Serial No. 487,662.

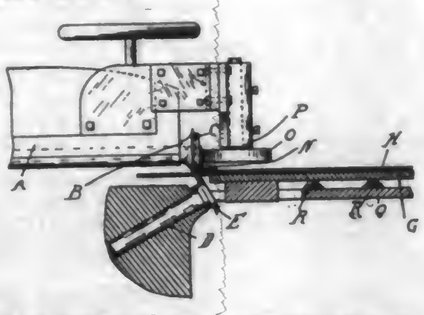
1. A stripper for a carding machine for transferring stock from a worker to the main cylinder, having card clothing helically wound thereon, said card clothing having alternate clear spaces and spaces filled with teeth, each clear space in one convolution registering with a toothed space in the next on both sides, the card clothing having bent teeth with their outer ends extending rearwardly with respect to the rotation of the stripper.

2. As an article of manufacture for transferring stock from a worker to the main cylinder, a carding machine roll having card clothing helically wound thereon, said card clothing having alternate clear spaces and spaces filled with teeth, each clear space in one convolution registering with a toothed space in the next on both sides, said spaces being rectangular the toothed spaces being longer than the clear spaces so as to overlap them at both ends.



3. As an article of manufacture, a carding machine roll having card clothing helically wound thereon, said card clothing having alternate clear spaces and spaces filled with teeth, each clear space in one convolution registering with a toothed space in the next on both sides, said spaces being quadrangular, the teeth thereof projecting rearwardly at their outer ends with respect to the direction of rotation of the roll.

976,757. MACHINE FOR SHEARING SHEET-METAL BLANKS. WILBER A. SYLVESTER, Detroit, Mich., assignor to Charles R. Wilson, Detroit, Mich. Filed Oct. 30, 1909, Serial No. 525,548. Renewed Sept. 30, 1910. Serial No. 584,767.



1. The combination with a rotary shearing cutter, of a workholder for a sheet metal blank, a guide flange on said holder, and an abutment in fixed relation to said shearing cutter against which said guide flange is held during the advancement of the work.

2. The combination with a rotary shearing cutter, of a workholder for the sheet metal blank, a guide flange on said holder, and an anti-friction roll against which said guide flange is held during the advancement of the work.

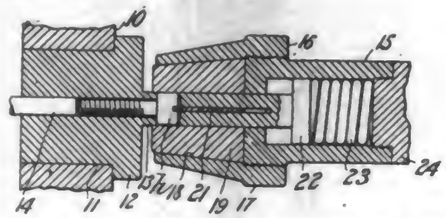
3. The combination with a rotary shearing cutter, of a workholder for embracing a sheet metal blank, clamps for securing said holder to said blank, a guide flange on said holder, and an anti-friction roll revoluble in the plane of the movement of said work against which said guide flange is held.

4. The combination with a rotary shearing cutter of a coöperating shearing cutter arranged with its plane of rotation oblique to that of the first-mentioned cutter, and mechanism positioned in proximity to one of said cutters and forming therewith a means for guiding the work in relation to said cutter.

5. The combination with a rotary shearing cutter, a coöperating shearing cutter, having its plane of rotation oblique to the first-mentioned cutter, a holder for the blank to be sheared, a guide flange thereon, and an abutment or rest for said guide flange adjacent to the meeting point of said coöperating shearing cutters.

[Claim 6 not printed in the Gazette.]

976,758. SCREW-HEAD SHAPING AND SLOTTING DEVICE. GEORGE T. WARWICK, Springfield, Mass. Filed Jan. 22, 1909. Serial No. 473,675.



1. The combination, with a work-holder, of a tool-holder, one of said parts being movable relatively to the other, said tool-holder comprising a sizing-head adapted to engage and confine the work to be operated upon, a tool fixed in said tool-holder and adapted to enter upon the work in the tool-holder, and an ejector plunger for releasing the work from the holder.

2. The combination, with a work-holder, of a tool-holder, one of said parts being movable relatively to the other, said tool-holder comprising a sizing-head adapted to engage and confine the work to be operated upon, a tool fixed in said tool-holder and adapted to enter upon the work in the tool-holder, an ejector plunger for releasing the work from the holder, and yielding means for actuating said plunger.

3. The combination, with a work-holder, of a tool-holder, one of said parts being movable relatively to the other, said tool-holder comprising a sizing-head adapted to engage and confine the work to be operated upon, a tool fixed in said tool-holder and adapted to enter upon the work in the tool holder, an ejector plunger for releasing the work from the holder, means for guiding said plunger in the sizing-head, and a spring for actuating the same to release the work from the sizing-head.

4. The combination, with a work-holder, of a tool-holder, one of said parts being movable relatively to the other, said tool-holder comprising a sizing-head adapted to engage and confine the work to be operated upon, a chambered sleeve having a centrally disposed aperture, an ejector plunger yieldingly mounted in said sleeve and sizing-head, a slotting blade carried by said sizing-head, and means for securing said blade, sizing-head and sleeve together.

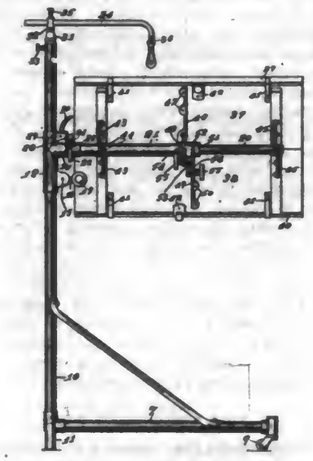
5. In screw head shaping and slotting devices, the combination of a stationary member adapted to receive and support a screw, of a movable member having a head constructed to entirely receive and completely inclose the head of the screw, and means in the movable member for forming a slot in said head and finishing the head.

[Claims 6 to 8 not printed in the Gazette.]

976,759. TABLE. IGNAZ WEINGARTNER, St. Louis, Mo. Filed Sept. 16, 1909. Serial No. 518,042.

1. In a table, the combination of a base; a vertical upright carried by the base; a sleeve slidably and rotatably mounted upon said upright support; a friction cam for locking said sleeve in place upon said support; a horizontal supporting member carried by the sleeve; two table sections independently hinged upon said horizontal support; hinged bars mounted upon the outer edges of said table sections, slotted segmental guides and screws for locking the table sections in set position, substantially as described.

2. In a table, the combination of a base; a vertical upright carried by the base; a sleeve slidably and rotatably mounted upon said upright support; a friction cam for locking said sleeve in place upon said support; a horizontal supporting member carried by the sleeve; two table sections independently hinged upon said horizontal support; segmental slotted guides and screws for locking each of said table sections in position; and hinged bars mounted upon the outer edges of said table sections, substantially as described.



3. In a table, the combination of a base; a vertical upright carried by the base; an elongated sleeve slidably and rotatably mounted upon said upright support; a friction cam for locking said sleeve in place upon said support; a horizontal supporting member carried by the sleeve; two table sections independently hinged upon said horizontal support; hinged bars carried by the table sections for supporting the articles placed thereon; a slotted segmental guide carried by each of the table sections whereby the table section is supported at any set position, substantially as described.

976,760. PYROPHORIC MASS. CARL AUER VON WELSBACH, Vienna, Austria-Hungary, assignor to The Firm of Treibacher Chemische Werke Gesellschaft m. b. H., Treibach, Austria-Hungary. Filed Jan. 19, 1910. Serial No. 538,926.

1. A pyrophoric alloy containing a metal of the cerium group; said metal being thoroughly impregnated with small quantities of its suboxid.

2. A pyrophoric alloy containing a metal of the cerium group; said metal being thoroughly impregnated with small quantities of its suboxid and its nitrid.

3. A pyrophoric alloy containing metals of the cerium group; said metals being thoroughly impregnated with small quantities of their suboxids.

4. A pyrophoric alloy containing metals of the cerium group; said metals being thoroughly impregnated with small quantities of their suboxids and their nitrids.

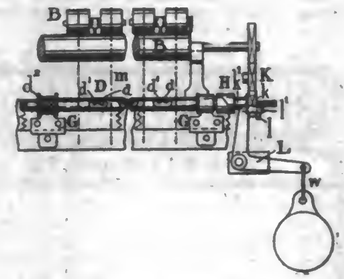
5. A pyrophoric alloy containing cerium thoroughly impregnated with small quantities of its suboxid.

[Claims 6 to 8 not printed in the Gazette.]

976,761. DOUBLING-FRAME. PHILIP BRUCE WHITEHEAD, Stockport, England, assignor of one-half to The Fine Cotton Spinners and Doublers Association Limited, Manchester, England. Filed Apr. 25, 1910. Serial No. 557,497.

1. In a doubling frame dispensing with the thread board, the combination with the top and bottom rollers B, of a roller substituted for the thread board having gaps, tongues projecting into said gaps, and a guide means behind the roller to direct the yarn from the said top and bottom rollers B, the tongues operating to catch the thread of yarn.

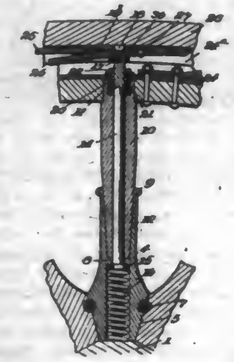
2. In a doubling frame dispensing with the thread board, a rotating roller substituted for the thread board and having gaps and coöperating means to catch a thread of yarn, and a guide means placed behind the roller to direct the yarn thereto.



3. In a doubling frame dispensing with the use of a thread board, a roller having a smooth surface and provided with gaps at intervals, and tongues projecting into said gaps, the roller with the gaps and tongues being substituted for the thread board.

4. In a doubling frame wherein the use of a thread board is dispensed with, a roller with a smooth surface and constructed with gaps at intervals, each gap being provided with tongues means of fish tail shape to catch the yarn when draw over the gaps, the said roller with the gaps and tongue means serving as a substitute for the thread board.

976,762. SPRING-WHEEL. JAMES A. WIBLE, Oakdale, Pa. Filed Sept. 15, 1909. Serial No. 517,804.

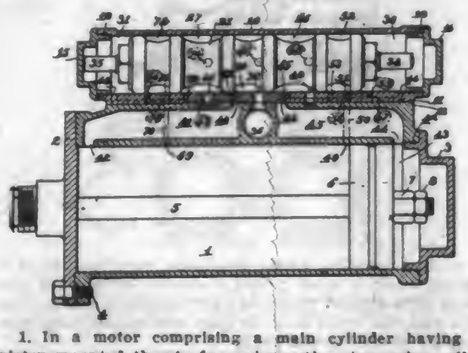


1. A spring wheel comprising a hub, a rim, a plurality of hollow spokes connecting the hub and the rim, each of said spokes having near its inner end a diaphragm provided with a central opening, a rod in each spoke having a headed end inside of the diaphragm, a coil spring between the headed end and the hub, a concave facing on the rim, a plate spring connected with the outer end of each rod, a leaf spring connecting each plate spring with the facing, said leaf springs being arranged in overlapping relation and with the outer end of one opposite the inner end of the succeeding one, a solid tire having a groove in its inner face seated on the springs, the springs being received in the groove, bolts passing through the sides of the groove and across the same inside of the springs, and ring plates on each side of the tire and seated inside the edges of the facing.

2. A spring wheel comprising a rim, a hub, and hollow spokes connecting the rim and the hub, a rod slidable in each spoke, a spring between the inner end of each rod and the hub, a tire having a groove on its inner face, a plate spring arranged in the groove adjacent to each

spoke, and a leaf spring connecting the outer end of each rod and the adjacent plate spring with the outer face of the rim, said springs being inclined with respect to the rim.

976,763. MOTOR. CHARLES L. WILKINS, Columbus, Ohio. Filed June 3, 1908. Serial No. 436,357.



1. In a motor comprising a main cylinder having a piston mounted therein for reciprocation, two valve cylinders having valves mounted therein for reciprocation and having passageways through the walls thereof for communication with each other and with the main cylinder, packing rings disposed on said valves to engage the walls of the respective valve cylinders whereby chambers are formed therein, there being one chamber in one of said cylinders wherein motive pressure is constantly maintained, and one chamber in the other of said valve cylinders being adapted to be placed in communication with the motive pressure in said main cylinder as the piston head therein is traveling in either direction, to receive and retain the motive pressure until the reversing of said piston head for travel in the opposite direction.

2. In a motor comprising a main cylinder having a piston mounted therein for reciprocation, and two valve cylinders having valves with packing rings distributed thereon at intervals mounted therein for reciprocation, and having passageways through the walls thereof for communication with each other and with said main cylinder, there being one chamber in one of said valve cylinders wherein motive pressure is constantly maintained, and a chamber in the other of said valve cylinders being adapted to be placed in communication with said main cylinder to receive the motive pressure when said piston has nearly reached the limit of its movement in either direction, said last mentioned chamber being adapted to be placed in communication with a chamber in the first mentioned of said valve cylinders when the piston head has progressed in its movement, whereby motive pressure is admitted from said main cylinder through said last mentioned chamber into said first mentioned chamber in said other valve cylinder.

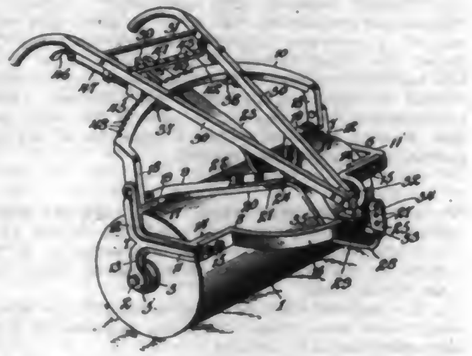
3. In a motor comprising a main cylinder having a piston mounted therein for reciprocation, two valve cylinders having valves with packing rings disposed thereon at intervals mounted therein for reciprocation, and having passageways through the walls thereof for communication with each other and the said main cylinder, there being a chamber in one of said valve cylinders wherein motive pressure is adapted constantly to be maintained, a chamber in the other of said valve cylinders adapted to receive motive pressure from the main cylinder and retain the same during the travel of the piston head in either direction, and a chamber in the first mentioned valve cylinder adapted to be placed in communication with the first mentioned valve cylinder chamber to form a passageway for motive pressure from said main cylinder to said first mentioned valve cylinder when said piston head has nearly reached the limit of its movement in either direction.

4. In a motor comprising a main cylinder having a piston mounted therein for reciprocation, two valve cylinders having valves mounted therein for reciprocation and having passageways through the walls thereof for communication with each other and with the main cylinder, packing rings disposed on said valves to engage the walls of the respective valve cylinders whereby chambers are formed therein, one chamber of one of said valve cylinders being adapted to be placed in communication with the motive pressure in said main cylinder as the piston head therein is traveling in either direction, to receive and retain the motive pressure until the reversing of said piston head for travel in the opposite direction.

5. In a motor comprising a main cylinder having a piston mounted therein for reciprocation, and two valve cylinders having valves with packing rings distributed thereon at intervals mounted therein for reciprocation, and having passageways through the walls thereof for communication with each other and with said main cylinder, a chamber in one of said valve cylinders being adapted to be placed in communication with said main cylinder to receive the motive pressure when said piston has nearly reached the limit of its movement in either direction, said chamber being adapted to be placed in communication with a chamber in the other of said valve cylinders when the piston head has progressed in its movement, whereby motive pressure is admitted from said main cylinder through said first chamber into said second chamber in said other valve cylinder.

[Claim 6 not printed in the Gazette.]

976,764. LAND-ROLLER. DENNIS F. WILLIAMS, Fruitvale, Tenn. Filed July 10, 1910. Serial No. 572,782.



1. A land roller comprising a frame, a roller mounted therein, a draft beam pivotally connected with the frame, and adjustable handles connected with the frame and with the pivoted beam.

2. A land roller comprising a frame, a roller mounted therein, a draft beam pivotally connected with the frame, and adjustable handles pivoted to the frame and connected with the beam.

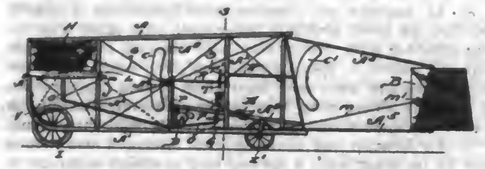
3. A land roller comprising a frame, a roller mounted therein, a draft beam pivotally connected with the frame, adjustable handles connected with the frame and with the pivoted beam, and means for locking the handles to the frame to secure the same and the pivoted beam in their adjustment.

4. A land roller comprising a frame, a roller mounted in the frame, a draft beam pivoted at an intermediate point to the frame, and adjustable handles mounted on the frame and connected with the rear portion of the beam.

5. A land roller comprising a frame, a roller mounted in the frame, a draft beam pivoted at an intermediate point to the frame, and adjustable handles pivoted to the frame in advance of the pivot of the beam and connected with the latter in rear of the pivot thereof.

[Claims 6 to 26 not printed in the Gazette.]

976,765. FLYING-MACHINE. JOHN HOLMES WILSON, Middlesex township, Cumberland county, Pa. Filed May 26, 1909. Serial No. 498,591.



1. In a flying machine the combination of a supporting frame standing edgewise, laterally projecting aeroplanes independently adjustable on opposite sides of the front end of the frame, laterally projecting fixed aeroplanes at the rear end of the frame, and propellers one of which is located behind the front aeroplanes and the other of which is located behind the rear aeroplanes, the axes of the propellers being in line with the frame.

2. In a flying machine, the combination of a narrow supporting frame standing edgewise, front and rear aeroplanes projecting laterally from the frame at the front and rear ends thereof respectively, said aeroplanes being located at opposite sides of the frame and below the plane of the top thereof, and front and rear propellers located respectively behind the front and rear aeroplanes and with their axes in line with the frame.

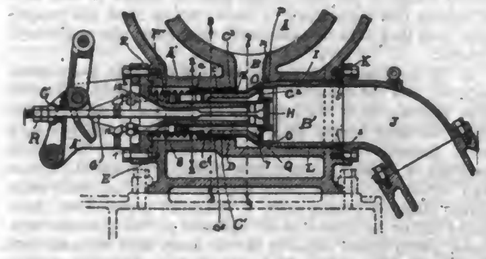
3. In a flying machine, the combination of a frame narrowed transversely to occupy substantially a single plane, and of much greater height than width, front and rear aeroplanes projecting laterally on opposite sides of said frame and in planes within the top and bottom lines of said frame, and propellers located with their axes in line with said frame and in position behind the respective front and rear aeroplanes and within the top and bottom lines of the frame.

4. In a flying machine, the combination of a narrow frame having longitudinal top and bottom bars extending from the front end to the rear end of the frame, and uprights connecting said bars, front and rear aeroplanes projecting from and beside said frame and in horizontal planes within the lines of said top and bottom bars, the front planes being adjustable and a vertical aeroplane pivoted below the top bar and above the front aeroplane, to swing laterally.

5. In a flying machine the combination of a narrow frame standing edgewise and occupying substantially a single vertical plane, adjustable front aeroplanes projecting from the sides of said frame, and a fixed rear aeroplane, diamond shaped in cross section and with its longer axis extending across the frame and its shorter axis coincident with the vertical plane of the frame.

[Claims 6 to 10 not printed in the Gazette.]

976,766. ENGINE-VALVE. RUDOLF WINTZER, Milwaukee, Wis., assignor to Power and Mining Machinery Company, New York, N. Y., a Corporation of New Jersey. Filed Sept. 4, 1906. Serial No. 333,223.



1. In a gas engine, exhaust devices comprising an exhaust pipe, an exhaust valve, a sleeve or tube fitting within said pipe and providing a seat for the valve, said exhaust pipe having a removable section to permit of the withdrawal of said sleeve from in front of the valve, independently of the valve.

2. In a gas engine, exhaust devices comprising an exhaust pipe, an exhaust valve, a sleeve or tube fitting within said pipe and providing a seat for the valve, said exhaust pipe having a removable elbow to permit of the withdrawal of said sleeve from in front of the valve, independently of the valve.

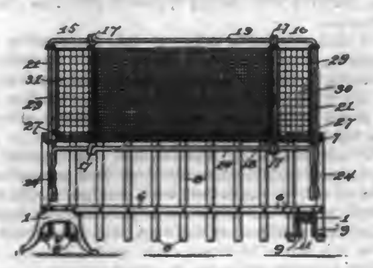
3. In a gas engine, exhaust devices comprising an exhaust pipe, an exhaust valve, a sleeve or tube fitting within said pipe and rotatable therein and providing a seat for the valve, said exhaust pipe having a removable section to permit of the withdrawal of said sleeve from in front of the valve, independently of the valve.

4. In a gas engine, exhaust devices comprising an exhaust pipe, an exhaust valve, a sleeve or tube fitting within said pipe and providing a seat for the valve and having an outside diameter greater than the outside diameter of the valve and said exhaust pipe having a removable section to permit of the withdrawal of said sleeve from in front of the valve, independently of the valve.

5. In a gas engine, exhaust devices comprising an exhaust pipe, an exhaust valve, a sleeve or tube fitting within said pipe and providing a seat for the valve, said exhaust pipe having a removable section adapted to hold said sleeve in position or permit the withdrawal of said sleeve from in front of the valve, independently of the valve.

[Claims 6 to 13 not printed in the Gazette.]

976,767. FIREPLACE FENDER AND SCREEN. CHARLES MILTON YARBOROUGH, Savannah, Ga. Filed May 4, 1910. Serial No. 559,376.

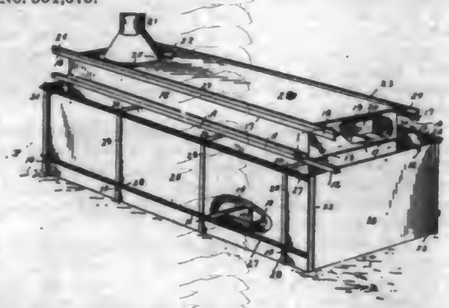


1. The combination, with andirons, and a fender having vertical slats and a horizontal bottom bar, of means for holding the fender upon the irons, comprising a pair of plates for each iron, and bolts for clamping the plates to the irons, each of said plates having a slot for the said bar and a slot for certain of the said slats.

2. The combination, with andirons, and a fender having a horizontal bottom bar, and vertical slats, of a pair of L-shaped plates for each iron, the long arm of each plate having a slot in its end for the said bar and the short arm of each plate having a slot perpendicular to the long arm slot for certain of the said slats, and means for clamping the plates to the irons.

3. The combination, with andirons, a fender comprising horizontal bars and vertical slats, and a pair of plates secured to and depending from each iron and each plate having a slot to hold one of the bars and a slot to hold certain of the slats for holding the fender on the irons, of a two-part telescopic screen-frame each part comprising an individual wire which is coiled to form corner eyes for sliding engagement with the other part and extended from such eyes to form a rectangular frame-part, the wire being joined together at and depending from one end of said frame-part, such joined portion of the wire being inclined upwardly from said depending portion to form offset arms and extending vertically from the arms and terminating in hooks for hanging the screen to the fender in vertical position.

976,768. SOIL-STERILIZING FURNACE. AMPS P. YOUNG, Cave City, Ky. Filed June 11, 1909. Serial No. 501,675.



1. In a soil sterilizing furnace, the combination of a box forming a combustion chamber, a soil holding pan at the top thereof, a removable cover for said pan, and a smoke stack carried by said removable cover, the bottom of the pan having an opening for the passage therethrough of smoke and products of combustion into the pan.

2. In a soil sterilizing furnace, the combination of a box forming a combustion chamber, a soil holding pan at the top thereof, a removable cover for said pan, and a smoke stack hinged to and carried by said removable cover, the bottom of the pan having an opening for the passage therethrough of smoke and products of combustion into the pan.

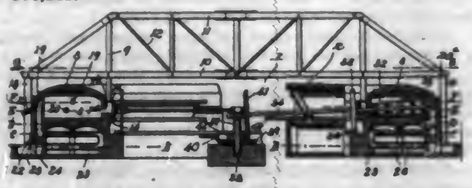
3. In a soil sterilizing furnace, the combination of a box containing a combustion chamber, and removable side boards and an end wall extending from one side board to the other, forming soil holding spaces at the sides and end of the furnace.

4. In a soil sterilizing furnace, the combination of a box containing a combustion chamber, and removable side boards having inturned portions at one end, and an end wall at the other end of the side boards extending from one side board to the other, forming soil holding spaces at the sides and end of the furnace.

5. In a soil sterilizing furnace, the combination of a box containing a combustion chamber, bars projecting on both sides of said box provided with notches, a side board at each side of the box having a notch-engaging member, and detachable connections between the side board and the box.

[Claim 6 not printed in the Gazette.]

976,769. ANNULAR ORE-ROASTING KILN. JOHN ZELLWEGER, St. Louis, Mo. Filed Jan. 14, 1910. Serial No. 538,142.



1. An annular ore roasting kiln having doors at each end of the chamber, a slotted side wall, a rotating shield ring arranged in juxtaposition to said side wall, sand seals coöperating with said seal ring, a swinging arm which supports the shield ring at its outer end, and gears for rotating said arms.

2. An annular ore roasting kiln having a charging and discharging space, doors at each end of the kiln chamber adjacent said space, a slotted side wall, a rotating shield ring for closing the slot in said side wall, sand shields coöperating with said shield ring, arms extending from the center of the kiln for supporting said shield ring, and supporting wheels on said arms near the shield ring.

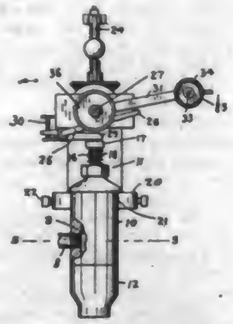
3. An annular ore roasting kiln having a slot in its inner wall, a sealing ring for closing said slot, wheels for supporting said ring, and arms on which said wheels are mounted, said arms extending from a central support.

4. An annular ore roasting kiln comprising a hearth portion, an outer wall and inner wall, said inner wall being provided with circumferentially disposed slot throughout its length, a roof portion and over head frame for supporting the inner over head edges of said roof portion, a rotating shield ring for closing said slot, and wheels supported upon radial arms for carrying said shield ring.

5. An annular ore roasting kiln having a continuous slot in its inner wall, a sealing ring arranged adjacent to said slot, sealing means coöperating with said ring, arms extending radially from a central support to support said ring, and arm supporting wheels on the arms near the ring.

[Claims 6 to 26 not printed in the Gazette.]

976,770. INTERNAL-COMBUSTION ENGINE. PETER M. ALLMON, Parker, Ind. Filed Aug. 1, 1907. Serial No. 386,672.



1. In an internal combustion engine of the kind described, a fuel-supply pump operated by the engine, a supply pipe leading from the pump to the engine, a governor actuated by the engine and having its stem disposed downwardly, a valve having its stem sustained yieldingly upwardly in normally closed position and adapted to be engaged by the stem of the governor, a device whereby the said governor stem and the said valve stem may be moved to and held at varied distances apart, a pipe leading from the supply pipe and into the said valve at a point above the seat thereof.

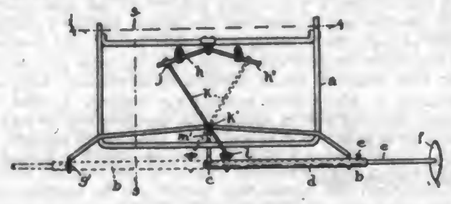
2. In an internal combustion engine of the kind described, a fuel-supply pump operated by the engine, a supply pipe leading from the pump to the engine, a frame, a centrifugal governor mounted thereon to be actuated by the engine and having its stem disposed downwardly, a by-pass valve supported thereunder on said frame and having its stem sustained yieldingly upwardly in normally closed position and adapted to be engaged by the stem of the governor, an adjustable device supported by the said frame and capable of being operated between the said stems whereby the said stems may be moved to and held at varied distances apart, a pipe leading from the supply-pipe and into said by-pass valve at a point above the seat thereof.

3. In an apparatus for regulating internal combustion engines, the combination of a fuel-supply pump, a supply pipe leading from the pump to the engine, a pipe leading from the said supply pipe, a valve in said pipe having a stem therein to sustain this valve normally in closed position, a frame, a centrifugal governor mounted thereon and driven by a belt from the engine the governor-stem being disposed downwardly a weighted arm loosely journaled on the horizontal shaft operable by the governor having a pulley-wheel adapted to rest upon said belt and said arm being provided with the lug 31ª on its side, a shaft journaled on said frame having its end 26 bent at an angle to be engaged by the said lug, a lever 29 secured to said shaft to engage the valve plunger, and a lever 28 loosely journaled on the shaft 25 having its one end to engage the governor-stem, means carried by said levers whereby the distance between same may be adjusted, substantially as described.

4. In an apparatus for regulating internal combustion engines, the combination with a fuel supply pump operated by the engine, a fuel-supply pipe leading from the pump to the engine, a pipe leading from the supply-pipe, a governor adapted to be actuated by the engine and having its stem disposed downwardly, a valve in said pipe to be controlled by said governor consisting of a body having a vertical chamber provided with a stuffing-box at its top and a lateral inlet opening for the said pipe, a removable-cup shaped bottom portion having its internal diameter larger than that of the said chamber and provided with an opening, a plunger of diameter smaller than that of the chamber, its lower end being flared and adapted to close the bottom of the chamber and its upper end being adapted to pass through said stuffing-box and having a removable head thereon, a spring to press the plunger upwardly, substantially as described.

5. In an apparatus for regulating internal combustion engines, a fuel supply pump adapted to be operated by the engine, a fuel supply-pipe leading from the pump to the engine, a pipe leading from the supply pipe, a governor adapted to be actuated by the engine and having its stem disposed downwardly, a valve in said pipe that leads from the fuel supply pipe, said valve being disposed beneath the governor and consisting of a body having a vertical cylindrical chamber provided with a stuffing-box at its top and having a lateral opening for said pipe, a removable cup-shaped bottom portion having its internal diameter larger than that of the said chamber and provided with an opening therein, a plunger of diameter smaller than that of the chamber and being prismatic in form, its lower end being conical shaped and flared to a diameter slightly larger than that of the chamber the upper end of the said plunger being adapted to pass through said stuffing-box and having a removable head thereon, a spring between said head and the stuffing-box, to press the plunger upwardly, means to maintain the governor-stem and plunger at varied distance apart, substantially as described.

976,771. MARKER FOR CORN-PLANTERS. SCARFF BERNARD ARTZ, Osborn, Ohio. Filed July 15, 1910. Serial No. 572,199.



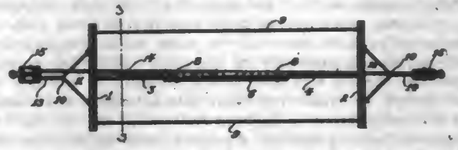
1. In a marker for corn planters, a supporting frame, a marker pole having a pivotal connection with said frame and a marking device, double foot levers, an operating connection between one of said foot levers and said pole to swing said pole and its marking device over to the opposite side of the machine into engagement with the other foot lever, and spring means having connection with the frame and with said operating connection, normally under tension, to assist in raising the marker pole and adapted to be automatically put under tension upon the fall of the marker pole to cushion such fall.

2. In a marker for corn planters, a supporting frame, a marker pole having a pivotal connection with said frame and a marking device, double foot levers and an operating connection between one of said foot levers and said pole, having movement as a whole vertically and laterally to swing said pole and its marking device over to the opposite side of the machine into engagement with the other foot lever.

3. In a marker for corn planters, a supporting frame, a marker pole having a pivotal connection with said frame and a marking device, double foot levers and an operating connection between one of said foot levers and said pole, having movement as a whole vertically and laterally to swing said pole and its marking device over to the opposite side of the machine into engagement with the other foot lever, and spring means having connection with the frame and with said operating connection to assist in raising the marker pole and to cushion the fall thereof.

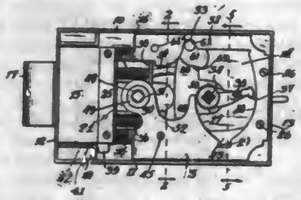
4. In a marker for corn planters, a supporting frame, a marker pole having at its inner end a swivel connection with said frame and at its outer end a marker disk, double foot levers, means whereby upon operation of said foot-lever the marker pole and disk may be swung over upon said fulcrum connection into operative position at the opposite side of the machine, including a laterally and vertically working connecting lever having at one end thereof an anti-friction bearing engagement with one of said foot levers and at its opposite end a swivel connection with the marker pole, a supporting hook at each side of the machine for the marker pole, and a coiled spring having at one end attachment to said connecting lever and at its opposite end attachment to said frame to assist in raising the marker pole and to cushion the fall thereof.

976,772. CLOTHES-HANGER. PULLON ASHTON, New York, N. Y., assignor of one-half to Andreas Leibhart, New York, N. Y. Filed May 26, 1909. Serial No. 498,458.



In a device of the character described, a pair of cross bars located at a distance from each other, a central longitudinally adjustable brace member connecting said cross bars, the latter having longitudinal transverse passageways, an endless rope extending through said passageways and from one of said cross bars to the other at each end thereof, said rope on the outer side of each of said bars forming a bridle, means for elevating and lowering and suspending said clothes support from a ceiling, consisting of a double pulley, a rope extending from one of said bridles through said pulley, a single pulley, a second rope extending from the other bridle through said pulley to the double pulley, and extending through said double pulley parallel with the rope attached to the first-named yoke.

976,773. COMBINED LATCH AND BOLT MECHANISM. EDWIN C. BELKNAP and ERSKINE H. JACKSON, Chicago, Ill. Filed Mar. 8, 1908. Serial No. 418,922.



1. In a lock of the class described, the combination of a bolt, a latch slidable within the bolt head, a main shaft, mechanism actuated by a movement of the main shaft for operating the bolt, mechanism pivotally mounted in axial alinement with said shaft for moving the latch, and an intermediate member mounted to engage said latch actuating mechanism and be engaged by the bolt actuating mechanism, whereby the latch and the bolt can both be actuated by movements of the main shaft, substantially as described.

2. In a lock of the class described, the combination of a bolt, a latch slidable within the bolt head, a main shaft, mechanism actuated by a movement of the main shaft for operating the bolt, mechanism pivotally mounted in axial alinement with said shaft for moving the latch, an intermediate member mounted to engage said latch actuating mechanism and be engaged by the bolt actuating mechanism, whereby the latch and the bolt can both be actuated by movements of the main shaft, and supplemental mechanism, independent of the main shaft, for moving the bolt, substantially as described.

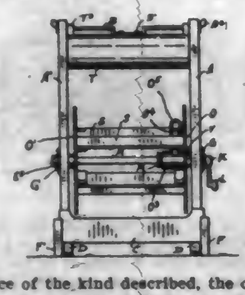
3. In a lock of the class described, the combination of a bolt, a latch slidable within the bolt head, a main shaft, mechanism actuated by a movement of the main shaft for operating the bolt, mechanism pivotally mounted in axial alinement with said shaft for moving the latch, an intermediate member mounted to engage said latch actuating mechanism and be engaged by the bolt actuating mechanism, whereby the latch and the bolt can both be actuated by movements of the main shaft, and a trip mechanism mounted in position to be thrown by a movement of the bolt actuating mechanism for locking the bolt in retracted and projected positions, substantially as described.

4. In a lock of the class described, the combination of a bolt, a latch slidable within the bolt head, a main shaft, mechanism actuated by a movement of the main shaft for operating the bolt, mechanism pivotally mounted in axial alinement with said shaft for moving the latch, an intermediate member pivoted to engage said latch actuating mechanism and be engaged by the bolt actuating mechanism, whereby the latch and the bolt can both be actuated by movements of the main shaft, supplemental mechanism, independent of the bolt shaft, for moving the bolt, and a trip mechanism mounted in position to be thrown by either the main bolt actuating mechanism or the independent mechanism for locking the bolt both in retracted and projected positions, substantially as described.

5. In a lock of the class described, the combination of a slidable bolt and a latch slidably mounted within the bolt, a shank frame secured to and movable with the bolt, a main shaft entered through the frame and provided with an arm adapted to engage the frame for projecting and retracting the bolt, a tumbler arm rotatably mounted in axial alinement with the main shaft and adapted to actuate the latch, an intermediate cam lever mounted on the shank frame and adapted, when the bolt is retracted, to be engaged by the arm on the main shaft, and, when thus engaged, to impart a movement to the tumbler arm, substantially as described.

[Claims 6 to 14 not printed in the Gazette.]

976,774. HOSE-CARRIER. ABRAM P. BOLNER, Hartford City, Ind., assignor of one-half to Samuel J. Peck, Filed Apr. 16, 1910. Serial No. 555,793.



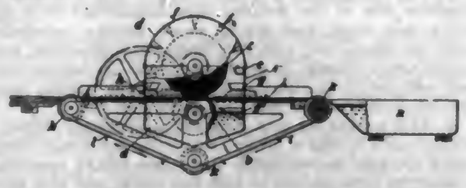
1. In a device of the kind described, the combination of a pair of supports, a hollow axle member having its one end secured in one of said supports, a hose reel having one of its disks journaled in the other support and provided with a central bore in which the inner end of the hollow axle member is journaled, there being a passageway in the body of the disk to communicate with the said bore and terminated at a point near the periphery of said reel and capable of receiving a hose connection, a hood member supported by and connecting the uprights and having a tooth to engage the said reel, and which hood member is capable of being supported at positions disengaged from said reel.

2. In a device of the kind described, the combination of a pair of supports having vertical slots therein, transverse struts and longitudinal base bars to sustain the uprights a proper distance apart at their bottoms and to form a base, a transverse hood member having a handle bar thereon provided with threaded ends that extend into the said slots, wing nuts having their body portions to engage said slots and which are screwed onto the ends of the handle bar, boxings secured to said uprights one of which boxings has a smooth bore and the other having the external portion of its bore threaded to receive a hose connection, a hollow axle member having its ends secured in the bore of the last named boxing, a hose reel having one of its disks journaled in the first named boxing and provided with a bore in which the inner end of the hollow axle member is journaled there being an extension formed integral with said disk and provided with a passageway to communicate with said bore, the end of said extension being threaded to receive a hose connection.

3. A hose-carrier of the kind described, comprising a hollow axle member, a boxing secured on its outer end and threaded to receive a hose connection, a reel disk carried loosely on the said hollow axle member, a second reel disk having an interiorly extended hub with a central bore in which the inner end of the axle member is journaled, and there being a radial extension having a passageway to communicate with the said bore and that is threaded at its end to receive a hose connection, a packing box to form a water tight jointure of the said hollow axle member and the said bore, a boxing having a smooth bore, an axle shaft journaled in said boxing and secured to the center of the said second reel disk, tie bars to connect the said disks, a portable frame having members in which the aforesaid boxings are secured.

4. A hose-carrier of the kind described comprising a hollow axle member, a boxing secured on its outer end and threaded to receive a hose connection, a reel disk carried loosely on the said hollow axle member, a second reel disk having an interiorly extended hub provided with a central bore in which the inner end of the axle member is journaled, and there being a radial extension having a passageway to communicate with the said bore and that is threaded at its end to receive a hose connection, a packing box to form a water tight jointure of the said hollow axle member and the said bore, a boxing having a smooth bore, an axle shaft journaled in said boxing and secured to the center of said second reel disk, tie bars to connect the said disks, a frame comprising oppositely disposed uprights in which said boxings are secured, a hood to shelter the reel and to connect the uprights and having a tooth to engage the said reel, said hood being capable of being sustained at raised or lowered position, substantially as described.

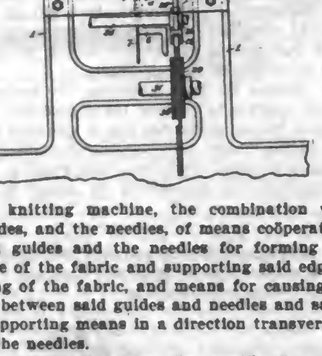
976,775. CLEANING-MACHINE. ARVID ADOLF HJALMAR BÖRJESON and ERIK ARTUR FAGERLUND, Stockholm, Sweden. Filed June 29, 1910. Serial No. 569,547.



1. A plate cleaning machine, comprising two rotating brushes, a vessel to contain water, in which one of the brushes is immersed and an endless conveyer arranged and adapted to travel between the brushes and means to rotate said brushes against the plate in opposite directions.

2. A plate cleaning machine comprising two rotating brushes, a vessel to contain water, in which one of the brushes is immersed and an endless conveyer arranged and adapted to travel between the brushes and means to rotate said brushes against the plate.

976,776. ATTACHMENT FOR WARP-KNITTING MACHINES. THOMAS BRANSON, Philadelphia, Pa., assignor to Sibson & Stern, Incorporated, Philadelphia, Pa., a Corporation of Pennsylvania. Filed May 29, 1909. Serial No. 499,142.



1. In a knitting machine, the combination with the thread guides, and the needles, of means coöperating with the thread guides and the needles for forming the crocheted edge of the fabric and supporting said edge during the knitting of the fabric, and means for causing relative movement between said guides and needles and said forming and supporting means in a direction transverse to the extent of the needles.

2. In a knitting machine, the combination with the thread guides, and the needles, of means associated therewith for supporting the crocheted edge of the fabric being knitted, and means for imparting movement to said supporting means in a direction transverse to the extent of the needles.

3. In a knitting machine, the combination with the thread guides, and the needles, of a movable support arranged adjacent to said needles, means carried by said support and upon which the crocheted edge of the fabric being knitted is formed and means for actuating said support in a direction transverse to the extent of the needles.

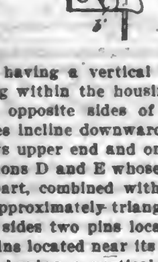
4. In a knitting machine, the combination with the thread guides, and the needles, of means coöperating with the thread guides and the needles for forming the crocheted edge of the fabric and supporting said edge during the knitting of the fabric, and means for reciprocating said forming and supporting means in a direction transverse to the extent of the needles.

5. In a knitting machine, the combination with the thread guides, and the needles, of a plurality of crochet needles arranged intermediate said guides and the first-mentioned needles, and means for imparting to said crochet needles reciprocatory movement in a direction transverse to the extent of the guides and the first-mentioned needles

[Claims 6 to 11 not printed in the Gazette.]

976,777. GRAVITY SASH-LOCK. EDWARD N. BROWN, East Cleveland, Ohio, assignor, by direct and mesne assignments, of one-half to John F. Peterson and one-half to J. M. Bostick, Canton, Ohio. Filed Nov. 10, 1909. Serial No. 527,207.

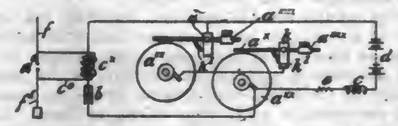
1. In combination with a window frame and sash, a sash lock comprising a housing having a vertical slot in its front face and provided on the interior with shoulders and forwardly and downwardly inclined surfaces, a gravity locking member having portions within the housing projecting laterally beyond the slot and having a portion which projects outwardly from the slot above and in the path of the sash when said locking member is in its lowermost position, said locking member being adapted to abut against said shoulders to lock the sash, and to ride up on the inclined surfaces so that the outwardly projecting portion is withdrawn into the housing to permit the sash to be raised.



2. A housing having a vertical slot in its front face plate and having within the housing near the lower end thereof and on opposite sides of said slot, projections whose front faces incline downwardly and forwardly, and having also in its upper end and on opposite sides of said slot, the projections D and E whose lower ends are a suitable distance apart, combined with a freely moving locking member of approximately triangular shape having projecting from its sides two pins located near its upper end and two other pins located near its lower rear corner.

3. A housing having a vertical slot in its front face plate and having within the housing near the lower end thereof and on opposite sides of said slot, projections whose front faces incline downwardly and forwardly, and having also in its upper end and on opposite sides of said slot, the projections D and E whose lower ends are a suitable distance apart, the projections D having downwardly and forwardly inclined front faces, combined with a freely moving locking member of approximately triangular shape having projecting from its sides two pins located near its upper end and two other pins located near its lower rear corner.

976,778. APPARATUS FOR PRODUCING AND UTILIZING ELECTRIC CURRENTS OF HIGH PERIODICITY. SIDNEY GEORGE BROWN, London, England. Filed Dec. 17, 1906. Serial No. 348,309.



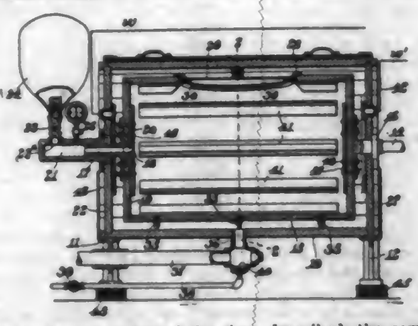
1. In an apparatus for producing and utilizing electric currents of high periodicity, the combination of a spark gap formed between electrodes lying in contact with and adapted for movement relatively to each other, a source of continuous current in series with said spark gap, an oscillatory circuit shunting said spark gap, and means for varying the periodicity of the oscillating circuit consisting in introducing therein a microphone capable of varying the resistance of said circuit.

2. In an apparatus for producing and utilizing electric currents of high periodicity, the combination of a spark gap formed between a balanced metal pole and a revolving disk on which said metal pole lightly rests, a source of continuous current in series with said gap, an oscillatory circuit shunting said gap, and a microphone for varying the periodicity of said oscillatory circuit by varying the resistance.

3. In an apparatus for producing and utilizing electric currents of high periodicity, the combination of a spark gap formed between a balanced metal pole and a revolving disk on which said metal pole lightly rests, means for pre

venting arcing, a source of continuous current in series with said gap, an oscillatory circuit shunting said gap, and a microphone for varying the periodicity of said oscillatory circuit by varying the resistance.

976,779. APPARATUS FOR TREATING SUGAR-CANE AND SIMILAR SUBSTANCES. GEORGE D. BURTON, Boston, Mass. Filed Oct. 17, 1906, Serial No. 339,336. Renewed Apr. 7, 1910. Serial No. 554,041.



1. In an apparatus of the class described, the combination of a revoluble receptacle provided with mixing devices, an electrode at each end thereof, a tank in which said receptacle is revolved, means for connecting said electrodes in an electric circuit, an annular flanged rim set into an opening in said revoluble member, a closure therefor, and means for clamping said closure to said rim.

2. In an apparatus of the class described, the combination of a revoluble receptacle provided with mixing devices, an electrode at each end thereof, a tank in which said receptacle is revolved, means for connecting said electrodes in an electric circuit, an annular flanged rim set into an opening in said revoluble member and provided with inwardly projecting ears, a closure therefor, a member adapted to co-act with said ears, and a rotatable member threaded thereto adapted to clamp said closure to said rim.

3. In an apparatus of the class described, the combination of a revoluble receptacle provided with mixing devices, an electrode at each end thereof, a tank in which said receptacle is revolved, an annular electrode on the inner face of either end of said tank and surrounding the axis of said revoluble member, and means for connecting said electrodes in an electric circuit.

4. In an apparatus of the class described, the combination of a revoluble receptacle provided with mixing devices, an electrode at each end thereof, a tank in which said receptacle is revolved, an electrode on the inner face of each of the heads of said tank, means for connecting said electrodes in an electric circuit, a closure for said revoluble receptacle and a plurality of valved outlets for said receptacle.

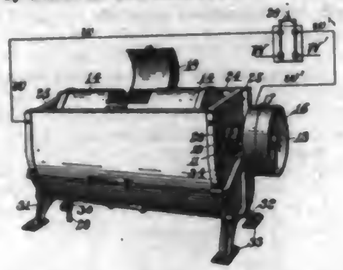
5. In an apparatus of the class described, the combination of a revoluble receptacle provided with mixing devices, an electrode at each end thereof, a tank in which said receptacle is revolved, an electrode on the inner face of each of the heads of said tank, means for connecting said electrodes in an electric circuit, a closure for said revoluble receptacle, and a plurality of valved outlets for said receptacle diametrically opposite said closure.

[Claims 6 to 14 not printed in the Gazette.]

976,780. PROCESS OF MANUFACTURING ICE-CREAM, SHERBET, &c. GEORGE D. BURTON, Boston, Mass. Filed Oct. 9, 1906, Serial No. 338,123. Renewed Apr. 7, 1910. Serial No. 554,042.

1. The process of manufacturing ice cream, sherbet, etc., which consists in placing the ingredients thereof in a receptacle revoluble in a tank containing a freezing compound, and subjecting said ingredients to the action of an electric current.

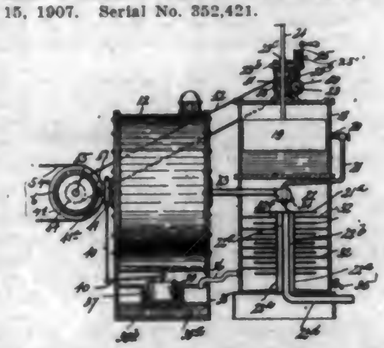
2. The process of manufacturing ice cream, sherbet, etc., which consists in placing the ingredients thereof in a receptacle provided with an electrode at each end, revolving said receptacle in a tank containing a freezing compound, and passing an electric current through the ingredients by means of said electrodes.



3. The process of manufacturing ice cream, sherbet, etc., which consists in placing the ingredients thereof in a receptacle provided with an electrode at each end and having a plurality of radially disposed mixing blades, revolving said receptacle in a tank containing a freezing compound, and passing an electric current through the ingredients by means of said electrodes.

4. The process of manufacturing ice cream, sherbet, etc., which consists in placing the ingredients thereof in a receptacle having electrodes and a plurality of radially disposed mixing blades, revolving said receptacle in a tank containing a freezing compound, and passing an electric current through the ingredients by means of said electrodes.

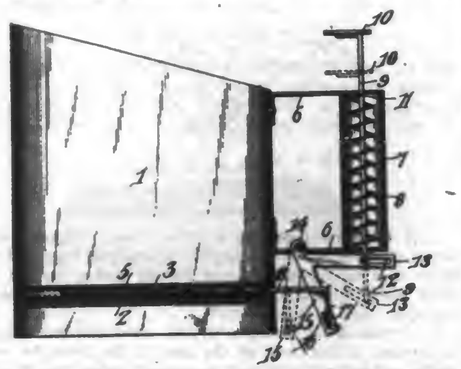
976,781. APPARATUS FOR PRODUCING CARBURETED AIR. RICHARD BUSCH, Hanover, Germany. Filed Jan. 15, 1907. Serial No. 352,421.



1. In apparatus for producing carbureted air the combination of a carbureting chamber, a series of superposed alternating circular and annular plates therein, a gasolene chamber, means of communication from the latter to a point within the carbureting chamber centrally above the uppermost plate, a displacing piston in said gasolene chamber adapted to feed the gasolene through said means of communication, an air compressor, means connecting said piston and compressor to give related movement thereto and means for passage of air from the compressor to the carbureting chamber to points surrounding the gasolene inlet.

2. In apparatus for producing carbureted air the combination of a carbureting chamber, a series of superposed alternating circular and annular plates therein, a gasolene chamber, means of communication from the latter to a point centrally above the uppermost of said plates, a piston in said gasolene chamber adapted to force the gasolene through said means of communication, a rotary air compressor, means for operating the piston proportionally to the operation of the air compressor, an air inlet nozzle within the carbureting chamber surrounding the gasolene inlet and having divergent discharge apertures, means of communication between said nozzle and the air compressor, a float controlled by the pressure of the carbureted air from said carbureting chamber, and a brake controlled by said float operating on the air compressor.

976,782. FLOUR-SIFTER. WILLIAM SANDERS BUTLER, Duluth, Minn. Filed Jan. 31, 1910. Serial No. 541,197.



1. In a sifter, the combination of a casing having a screened bottom, a stirrer arranged to reciprocate across the casing in contact with the bottom, a vertically-disposed tubular handle having lugs at the top and bottom which are secured to the casing at an angle thereto, a vertically-disposed pitman passing through the handle and arranged to reciprocate longitudinally of the same and extended above the top of the handle in convenient reach of the thumb so as to be actuated thereby, a spring housed within the handle and directly acting on said pitman, and connections between the lower end of the pitman and the stirrup, said connections being arranged outside the handle.

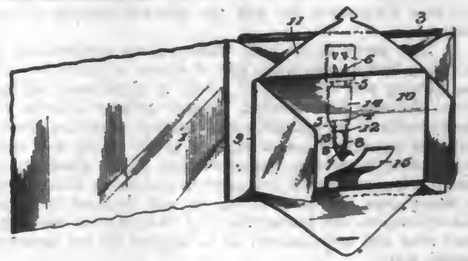
2. In a sifter, the combination of a casing having a screened bottom, a stirrer mounted within the casing over the bottom, a tubular handle secured to the casing at one side thereof, a pitman passing through the handle and projecting from each end thereof, the upper end being provided with a thumb plate, a coiled spring arranged within the handle and connected with the pitman, and a lever pivoted to the lower end of the handle and connected, respectively, with the pitman and the stirrer.

3. In a sifter, the combination of a casing having a screened bottom, a stirrer mounted to reciprocate on the said bottom and having one end projecting through the casing, a handle secured to and disposed substantially parallel with the casing, a pitman mounted longitudinally within the handle and provided with a thumb-plate at its upper end, a spring coiled around the pitman within the handle and having its opposite ends secured respectively to the handle and the pitman, and an angle lever having its ends connected with the lower end of the pitman and with the projecting end of the stirrer respectively.

976,783. MAILING DEVICE. ALEXANDER CLUTTER, Youngstown, Ohio. Filed Jan. 15, 1909, Serial No. 472,480. Renewed Apr. 23, 1910. Serial No. 557,267.

1. A safety mailing device comprising an outer envelop having a sealing flap, an inner envelop placed within the outer envelop, a metallic fastener secured to the sealing flap and adapted to be inserted through corresponding walls of the envelops and engaged with the inner envelop on the interior thereof, and a protecting flap secured within the inner envelop and extending partially over the said wall thereof to prevent the fastener from injuring the contents of the envelop.

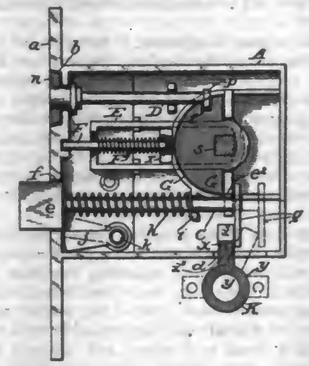
2. A safety mailing device comprising an outer envelop having a sealing flap, an inner envelop placed within the outer envelop and designed to contain an article of value, the inner and outer envelops being formed in their walls adjacent to the sealing flap with alining slits, a metallic fastener secured to the sealing flap and inserted through the slits and engaged with the inner envelop on the interior thereof, and a protecting flap secured within the inner envelop and adapted to extend substantially over the slit therein to prevent the fastener from coming in contact with the article of value.



3. A safety mailing device comprising an outer envelop, an inner envelop contained in the outer envelop, the said envelop being formed in their walls adjacent to the sealing flap with alining slits extending therethrough, a reinforcing guard disposed within the inner envelop and in the form of a flattened tube leading from the slit therein, and a metallic fastener secured to the sealing flap and inserted through the slits and projecting into and engaged with the guard.

4. A safety mailing device comprising an outer envelop having a sealing flap, an inner envelop contained in the outer envelop, both of said envelops being formed in their walls adjacent to the sealing flap with alining slits extending therethrough, a guard disposed within the inner envelop and in the form of a flattened tube leading from the slit therein, the tube being provided with a tab extension passing through such slit and fixed to the opposite face of the corresponding wall of the inner envelop, and a metallic fastener secured to the sealing flap and passing through the slits and projecting into and engaged with the guard.

976,784. LOCK. WILLIAM CURLETT, San Francisco, Cal. Filed June 16, 1909, Serial No. 502,414. Renewed Oct. 3, 1910. Serial No. 585,157.

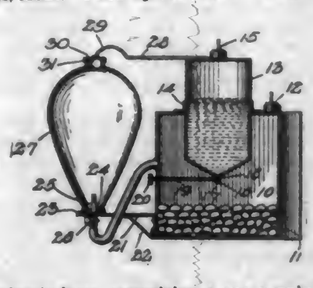


1. In a device of the kind described, the combination of a casing having a fixed transverse bar and also having side walls one of which is provided with an opening and the other of which is imperforate at the point opposite said opening, a rod interposed between and supported by the front of the casing and said transverse bar, spindle sections movable independently of each other, a disk on each of said sections; the disk adjacent the said opening in the casing wall having a notch in its edge, a longitudinal rock-shaft journaled in the casing and having a

finger-piece and also having an arm adapted to enter the opening in the casing wall and the notch in the adjacent disk and also adapted to be stopped by the opposite casing wall, a bolt having an enlargement on its rear portion, a spring for pressing said bolt forward, a frame movable longitudinally on the said rod and having portions disposed back of the disks and also having a portion disposed in front of the enlargement on the bolt, and a coiled spring surrounding the longitudinal rod and interposed between the said transverse bar and the forward portion of the frame.

2. In a device of the kind described, the combination of a casing having side walls one of which is provided with an opening and the other of which is imperforate at the point opposite said opening, spindle sections movable independently of each other, a disk on each of said sections; the disk adjacent the said opening in the casing wall having a notch in its edge, means movable by the disks, and a longitudinal rock-shaft journaled in the casing and having a finger-piece and also having an arm adapted to enter the opening in the casing wall and the notch in the adjacent disk and also adapted to be stopped by the opposite casing wall.

976,785. MINER'S LAMP. MARTIN JAMES CURTIS, Billings, Mont. Filed Apr. 23, 1910. Serial No. 557,195.

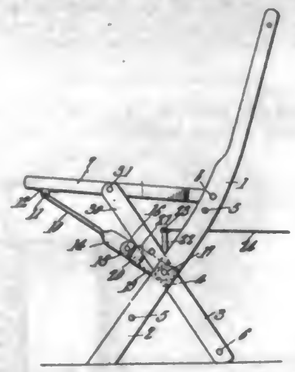


1. A miner's lamp comprising a gas supply reservoir, a bracket secured adjacent the bottom of the front wall of the reservoir and having a pair of openings therethrough, a burner pipe extending from the reservoir, said pipe being disposed downwardly through one of said openings and upwardly through the other of said openings, a burner carried thereby, a globe supported upon said bracket and a keeper secured to the top of the reservoir and engaged with the upper end of the globe to hold the same in position.

2. A miner's lamp comprising a suitable gas generating vessel, having means for securing the same to the cap of the user, a supporting bracket secured to the vessel and extending outwardly therefrom, said bracket having a circular base upon its outer end provided with an annular groove, a valve controlled burner carrying pipe in communication with the vessel and extending through the base, a globe having an enlarged upper portion and a restricted lower end seated in said groove, and means for bracing the globe at its upper end.

3. A lamp comprising a suitable generating vessel for gas, said vessel having a concaved inner surface, means secured to said surface for attaching the same to an object, a bracket secured to the lower front wall of said vessel, a cylindrical base carried by said bracket, said base having a central aperture therethrough, a burner pipe extending from said vessel and adapted to convey gas therefrom, said burner pipe extending upwardly through said aperture and provided with a suitable burner, a valve in said pipe for regulating the supply of gas, a globe supported upon said base and over the burner and a spring keeper secured to said generating vessel, said keeper comprising an arm extending outwardly from said vessel and having a depending hanger formed thereon and a pair of cross arms provided with depending portions engageable over the upper end of the globe, for holding the same in a rigid position but allowing of the raising thereof to permit the lighting of the burner.

976,786. TRICK CHAIR. ERASTUS DE MOULIN, Greenville, Ill. Filed May 9, 1910. Serial No. 560,335.



1. A trick chair having a tiltable seat, trigger mechanism therefor, an outer pair of supporting legs, and an inner pair of supporting legs having joints therein located inside of and concealed by the adjacent portions of the outer legs.

2. A trick chair having a tiltable seat, and break joint mechanism independent of the legs of the chair for normally supporting said seat and for causing it to drop when desired.

3. A trick chair having a supporting back, a seat pivotally connected therewith, and break joint mechanism independent of the legs of the chair and connected at its upper end with the seat and at its lower end with said supporting back.

4. A trick chair comprising a supporting back, a seat pivotally connected therewith, a break joint mechanism connected at its lower end with said supporting back and at its upper end with said seat, and a releasing device for breaking the joint of said mechanism to drop said seat.

5. A trick chair having a supporting back, foot pieces rigidly connected therewith, a seat pivotally connected therewith, leg extensions connected with said seat and lying normally in alinement with said foot pieces, said foot pieces and leg extensions being on the inside of the side pieces of said supporting back whereby the joint between the foot pieces and the extension thereof is concealed.

[Claim 6 not printed in the Gazette.]

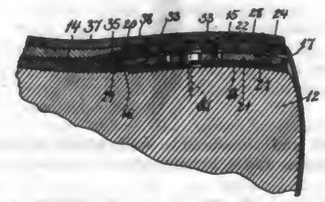
976,787. WATER-TIGHT COUPLING. WILLIAM J. DONNELLEY, San Francisco, Cal. Filed May 31, 1910. Serial No. 564,264.



1. In a coupling, a threaded tube having an annular flange at or near its top, a rubber washer above the flange, a threaded sleeve on the tube, a groove at or near the top of the sleeve, hollow conical sectors having internal bottom flanges adapted to engage the groove, top internal flanges adapted to engage an obstruction on a faucet and an outer threaded sleeve adapted to collapse the sectors for the purpose described and in the manner set forth.

2. In a coupling for securing a hose and attachments to water faucets in bath tubs, a plurality of hollow conical sectors having internal annular flanges at the top, adapted to engage an annular protuberance on the faucet, similar flanges at the bottom of the sectors adapted to engage a groove on a hollow threaded sleeve, a second sleeve mounted thereon and adapted to engage the sectors for the purpose of causing their collapse, an inner tube having a collar near the top, and a rubber washer on the collar, for the purpose set forth.

976,788. HEEL-SEAT EXTENSION FOR LASTS. JOSEPH A. DOW, Lynn, Mass., assignor to Relindo Cushion Shoe Company, Lynn, Mass., a Corporation of Massachusetts. Filed Aug. 15, 1908. Serial No. 448,637.



1. A heel-seat extension for lasts comprising a filling portion having an area considerably less than that of the heel seat of a last whereby said filling portion may occupy an opening in a cushion-confining lift, and an outer clenching portion, said extension being separable from the last with which it is used.

2. A heel-seat extension for lasts comprising a filling portion having an area considerably less than that of the heel seat of a last whereby said filling portion may occupy an opening in a cushion-confining lift, and an outer clenching portion, said extension being formed in two parts which are separable from each other and from the last with which they are used.

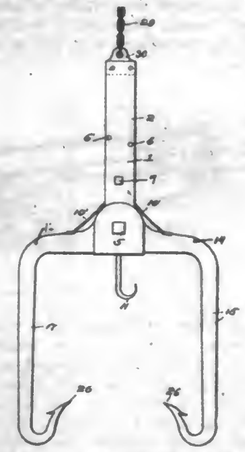
3. A heel-seat extension for lasts comprising a filling portion having an area considerably less than that of the heel seat of a last whereby said filling portion may occupy an opening in a cushion-confining lift, and an outer clenching portion, said extension being separable from the last with which it is used, the extension being provided with fastener-engaging means which permit adjustment of the extension relatively to the last and parts of the boot or shoe thereon.

4. A heel-seat extension for lasts comprising a filling portion having an area considerably less than that of the heel seat of a last whereby said filling portion may occupy an opening in a cushion-confining lift, and an outer clenching portion, said extension being formed in two parts which are separable from each other and from the last with which they are used, said parts being provided with coinciding longitudinal slots, adapted to receive fastening devices.

5. A heel-seat extension for lasts, separable from the last with which it is used, said extension having an area considerably less than that of the heel-seat of such last, the entire margin of said extension having an outwardly extending flange, substantially as and for the purpose set forth.

976,789. ANIMAL-TRAP. JOHN DRUBKO, Willow River, Minn. Filed Mar. 24, 1910. Serial No. 551,275.

1. In an animal trap, the combination of a body portion with a pair of jaws pivotally held thereto, means to secure the jaws in open or unsprung position, comprising latches, resilient means to cause the jaws to close when sprung and means to spring the jaws at the proper time, the last-mentioned means consisting of a slide to which is formed integral therewith a bait hook, said latches normally acting as a connection between the jaws and the body portion when the trap is in unsprung position, said slide having lugs formed thereto which unlatch the latches when the slide and bait hook are drawn downward, said slide so constructed as to slide within the body portion of the device.



2. In an animal trap, the combination of a body portion with a pair of jaws pivotally connected therewith, means to secure the jaws in unsprung position consisting of latches pivotally held to the body portion, said latches engaging lugs formed integral with the jaws, resilient means to cause the jaws to close when sprung and means to spring the jaws comprising a bait hook and a slide, the bait hook formed integral with the slide.

3. In an animal trap, the combination with a body portion of a pair of curved jaws, said body portion comprising two vertical members held in spaced relation to each other by a crosspiece and nut and bolt connection, said jaws each pivoted to said bolt and between the members, means to secure the jaws in open or unsprung position, said means consisting of latches and pins, each latch pivotally mounted upon a respective pin, which pins are interposed between the members, a lug provided upon one face of each jaw and in such position that it will be engaged by its respective latch, resilient means to cause the jaws to close when the latches are released; means comprising a slide to release the latches at the proper time, said slide provided with a pair of lugs, each of which contacts the inner end of and is adapted to trip a respective latch when the slide is drawn downward, said slide adapted to slide between the members of the body portion and means to secure the jaws in locked position when sprung.

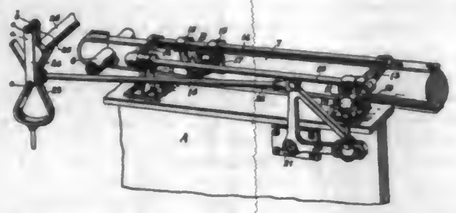
4. In an animal trap the combination with a body portion of a pair of jaws, said body portion comprising two vertical members held in spaced relation to each other by a crosspiece and nut and bolt connection, said jaws each pivoted to said bolt and between the members, a plurality of teeth cut in the edge of the jaws at their inner ends, means to secure the jaws in open or unsprung position, and means to secure the jaws in locked position when sprung, the last-named means comprising a slide traveling vertically between the members of the body portion, a lug provided upon one face of the slide and adapted to engage said teeth at the inner ends of the jaws when the slide is drawn downward and the trap is sprung.

976,790. VALVE MECHANISM FOR STEAMBOAT-ENGINES. ROBERT EATON, Lake City, Minn. Filed Aug. 19, 1910. Serial No. 577,984.

1. In an engine, the combination of a cylinder, a valve controlling the admission and exhaust of steam, a pitman, a rock shaft operatively connected with the pitman and disposed parallel with the plane of movement thereof, and means for connecting the rock shaft with the valve.

2. In an engine, the combination of a cylinder, a valve therefor, a rock shaft, means for connecting the rock shaft

with the valve, said rock shaft extending transversely to the axis of the cylinder, a rock shaft disposed parallel with the axis of the cylinder and operatively connected with the first mentioned rock shaft, a pitman disposed parallel with the second rock shaft, and means for operatively connecting the pitman with the second rock shaft to rock the same.



3. In an engine, the combination of a cylinder, a valve therefor, a pitman, a cross head to which the pitman is connected, a floating shaft disposed along side the pitman, a connecting device slidably connected with the floating shaft and connected with the pitman in its longitudinal center line and at a point inwardly from the cross head, and means between the floating shaft and valve for reciprocating the latter.

4. In an engine, the combination of a cylinder, a valve therefor, a pitman, a cross head to which the pitman is connected, a floating shaft disposed along side the pitman, a connecting device slidably connected with the floating shaft and connected with the pitman in its longitudinal center line and at a point inwardly from the connecting rod, a rock shaft to which the floating shaft is rigidly connected, a bell crank lever connected with the rock shaft, and means between the bell crank lever and valve for reciprocating the latter.

5. In an engine, the combination of a cylinder, a valve therefor, a pitman, a cross head to which the pitman is connected, a floating shaft disposed along side the pitman, a connecting device slidably connected with the floating shaft and connected with the pitman in its longitudinal center line and at a point inwardly from the cross head, a rock shaft to which the floating shaft is rigidly connected, a bell crank lever connected with the rock shaft, and means between the bell crank lever and valve for reciprocating the latter, said means including a variable stroke reversing device.

[Claims 6 to 11 not printed in the Gazette.]

976,791. STORAGE-BATTERY ELECTRODE. THOMAS A. EDISON, Llewellyn Park, Orange, and JONAS W. AYLSWORTH, East Orange, N. J., assignors to Edison Storage Battery Company, West Orange, N. J., a Corporation of New Jersey. Filed Apr. 28, 1905. Serial No. 257,807.

1. An electrode unit comprising a substantially non-deformable, perforated, inclosing pocket made from metal of a comparatively high tensile strength and active material compressed therein, and maintained under elastic pressure, substantially as set forth.

2. An electrode unit comprising a perforated, substantially non-deformable, inclosing pocket made from metal of a comparatively high tensile strength and active material compressed therein, the perforations being of such size as to result in the retardation of any gas generated within the active mass to effect an elastic pressure of the active particles, substantially as set forth.

3. An electrode unit, comprising a tubular perforated non-active inclosing pocket made from metal of a comparatively high tensile strength and with closed ends, and active material compressed therein under elastic pressure, substantially as set forth.

4. An electrode unit, comprising a tubular perforated inclosing pocket, having closed ends and coated with cobalt-nickel alloy, and active material therein under elastic pressure, substantially as set forth.

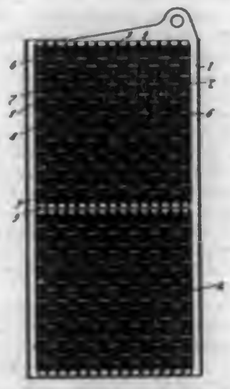
5. An electrode unit, comprising a tubular perforated non-active, inclosing pocket made from metal of a comparatively high tensile strength and having a vertical



welded seam and closed ends, and active material compressed therein under elastic pressure, substantially as set forth.

[Claims 6 to 11 not printed in the Gazette.]

976,792. STORAGE BATTERY. THOMAS A. EDISON, Llewellyn Park, West Orange, N. J., assignor to Edison Storage Battery Company, West Orange, N. J., a Corporation of New Jersey. Filed May 24, 1910. Serial No. 563,044.



1. In a storage battery, in combination, a supporting plate, a plurality of perforated tubes mounted side by side upon said plate, said tubes being formed of ribbons of resilient metal, spirally wound, the spiral winding of said tubes as mounted being alternately right and left handed, said tubes containing highly compressed active material under a constant tendency to expand, and means carried by said plate for supporting said tubes, substantially as described.

2. In a storage battery, in combination, a supporting plate, a plurality of perforated tubes mounted side by side upon said plate, said tubes being formed of thin, resilient metal wound in tubular form and the edges joined, the said tubes as mounted being alternately wound in opposite directions, said tubes containing highly compressed active material under a constant tendency to expand, and means carried by said plate for supporting said tubes, substantially as described.

3. In a storage battery, in combination, a supporting plate, tongues integral therewith arranged in two parallel rows, a plurality of perforated tubes mounted side by side upon said plate with their ends secured by said tongues, said tubes being formed of thin, spirally wound resilient metal, the spiral winding of said tubes as mounted being alternately right and left handed, said tubes containing highly compressed active material under a constant tendency to expand, substantially as described.

4. In a storage battery, in combination, a supporting plate, having parallel flanges integral therewith, a plurality of parallel tubular pockets with flattened ends, said pockets being mounted side by side on said plate with their ends secured by said flanges, said pockets being formed of ribbons of resilient thin metal, spirally wound in tubular form and the edges joined, the spiral joints in said tubes extending in one direction in the odd numbered tubes and in the opposite direction in the even numbered tubes, as mounted, said tubes containing highly compressed active material under a constant tendency to expand, substantially as described.

976,793. FERTILIZER. CARLETON ELLIS, Larchmont, N. Y. Filed Oct. 14, 1908. Serial No. 457,635.

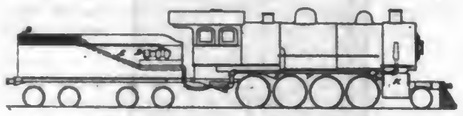
1. A fertilizer consisting of salts containing nitrogen, phosphorus and potash incorporated in a substantially granular form by Portland cement and admixed with granular lime-coated peat.

2. A fertilizer comprising salts containing nitrogen, phosphorus and potash incorporated in a substantially granular form by a cementing agent and admixed with granular lime-coated peat, and carrying a modicum of basic calcium formate.

3. A fertilizer comprising salts containing nitrogen, phosphorus and potash incorporated in a substantially granular form by a cementing agent and admixed with granular lime-coated peat, and carrying a modicum of a salt of formic acid.

4. A fertilizer comprising salts containing nitrogen, phosphorus and potash incorporated in a substantially granular form by cement, and admixed with granular lime-coated peat.

976,794. DEVICE FOR HEATING FEED-WATER. JOHN FOURNIA, Albany, N. Y., assignor of one-half to Frederick R. Greene, Albany, N. Y. Filed Mar. 21, 1908. Serial No. 422,421.

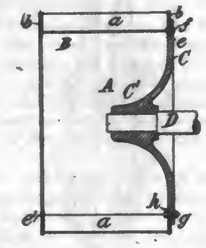


The combination with a locomotive and its tender of means for heating the feed water for a locomotive; comprising a box located on the tender; a coil of pipe arranged in such a manner that there shall be a series of rows of pipe separated from each other, with a space between adjacent pipes of each series, whereby the steam supplied to the box will circulate between and about each of the pipes forming the coil, coming in contact with the entire surface thereof; a means for conveying water to be heated to said coil; a means for connecting said coil with the boiler of the locomotive; a means for conveying steam to the interior of said box.

976,795. CENTRIFUGAL FAN OR PUMP. ARTHUR C. FRASER, New York, N. Y., assignor, by mesne assignments, to American Blower Company, Green Island, N. Y., a Corporation of New York. Filed Mar. 10, 1908. Serial No. 420,179.

1. In a centrifugal fan or pump of the multiblade drum type, the combination with a single inlet casing of a rotor comprising an end support and a reversible drum formed with two substantially like rings with numerous curved blades fastened between them, said blades arranged to inclose a large intake chamber, and said drum being adapted for attachment at either end to said support for driving to either right or left.

2. In a centrifugal fan or pump of the multiblade drum type, the combination with a single inlet casing of a rotor comprising a single supporting disk opposite said inlet and a reversible drum formed with two substantially like rings with numerous curved blades fastened between them, said blades arranged to inclose a large intake chamber, and attaching means adapted for the attachment of either of said rings to said disk for driving to either right or left.



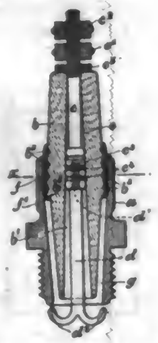
3. In a centrifugal fan or pump of the multiblade drum type, the combination with a single inlet casing of a rotor comprising a single supporting disk opposite said inlet and a reversible drum formed with two like rings with numerous curved blades fastened between them, said blades arranged to inclose a large intake chamber and having their outer edges turned forward, said rings having holes coinciding with holes in said disk, and fastenings engaging said holes to unite either ring to the disk whereby the drum is adapted for attachment at either end to said disk for driving to either right or left.

976,796. BLOWPIPE. BERNARD C. GILLIGAN, Toledo, Ohio, assignor to Luvina A. Gilligan, Toledo, Ohio. Filed Apr. 24, 1909. Serial No. 492,083.



A blow-pipe, comprising tube sections of unequal length, detachably coupled, and of which sections, the short section is formed as the head of the pipe and the long section forming the main body of the pipe and terminating in a mouthpiece; a counter-bore through the main body of the pipe, terminating with a shoulder at the mouth opening into the bore of the pipe, a counter-bore of equal diameter as the main body of the pipe and formed in the end of the head of the pipe joining the mouth section, a tubular non-corrosive lining press-fitted in the counter-bore of the main body of the pipe and abutting the shoulder, and being of a length to enter as a pilot the counter-bore of the head, when the pipe sections are joint coupled.

976,797. SPARKING PLUG FOR INTERNAL-COMBUSTION ENGINES. ROBERT FREDERICK HALL, Moseley, Birmingham, England. Filed Oct. 30, 1908. Serial No. 460,320.



1. A spark plug for explosive engines comprising an insulator body tapered externally so as to diminish in diameter toward the outer end of the plug and also having a tapered bore which diminishes in diameter toward the outer end of the plug, a metal attaching shell adapted to serve as one of the electrodes of the plug, a metallic sleeve having an internal taper corresponding to and coöperative with the external taper upon the insulator body, said sleeve having a rigid gas-tight connection with said shell, and a conductor extending through the bore of the insulator body and having a tapered part which corresponds to and coöperates with the wall of the tapered bore of the insulator body, the tapers upon the exterior of the insulator body and the coöperating sleeve, and also the taper of the bore of such insulator body and tapered portion of the conductor being such that the pressure of the gas acting upon the inner end of the plug will tend to tighten such parts.

2. A sparking plug for internal combustion engines, having an insulator body part provided with a hole which tapers uniformly from end to end of the insulator body part, and a central conductor rod provided with an enlarged taper-sided collar adapted to make a locking wedge connection directly with the wall of the internal hole in the body, said taper-sided part of the rod being provided with annular gas-check rings or grooves.

3. A spark plug for explosive engines comprising a metal attaching shell capable of serving as an electrode, an insulator body fitted therein and provided with a bore which tapers from end to end thereof, the wider portion of the bore being arranged at the inner end of the plug, and a conductor rod having a short tapered collar directly engaging and forming a gas-tight joint within said tapered bore, and an electrode extending inwardly from said collar, the inner end of the insulator body being arranged between the metallic shell and the inclosed portion of the electrode and being separated from said shell and electrode by annular spaces.

976,798. ARTIFICIAL TOOTH. FRANK Z. HANSCOM, Chicago, Ill. Filed Jan. 31, 1910. Serial No. 540,953.

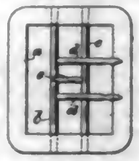


1. An artificial tooth having its cervical end undercut around a portion of the periphery thereof, such undercut portion tapering or receding from the outer or buccal side of the tooth toward the lingual side thereof.

2. The combination of a coping having an undercut, upwardly extending flange extending partially around the periphery thereof, such flange receding or tapering from one side of the coping toward the other side, and a tooth having an undercut portion adapted to engage with the plate and flange of said coping.

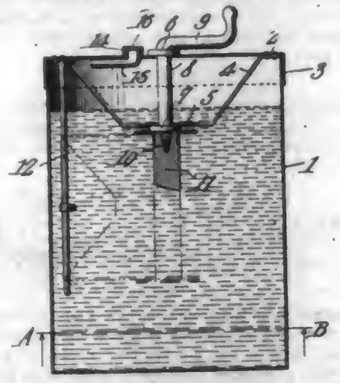
3. The combination with a support or coping having an undercut flange, said flange being tapered or receding from one side of the coping toward the other side thereof, and a tooth having its end undercut to engage with said coping and flange, the shoulder formed by the undercutting of the tooth, resting upon the upper edge of said flange.

976,799. BUCKLE. JOSEPH BODY HAWKINS, London, England. Filed Nov. 13, 1909. Serial No. 527,893.



A buckle comprising an open frame having end cross bars a pair of substantially central cross bars, and oppositely disposed arms carried by said cross bars and each extending across the space between said bars, one of said arms resting on one of said end cross bars and said arms being pivotally mounted relatively to said frame, substantially as described.

976,800. FILM-DEVELOPER. ARTHUR C. HAYDEN, Brockton, Mass. Filed May 14, 1909. Serial No. 495,911.



1. In an apparatus of the class described, a suitable tank, a removable cover therefor, and an arbor carried by the cover and extending beyond the inner face of the latter, said arbor having its inner end formed to receive and suspend the spool on which the film is carried in the camera.

2. In an apparatus of the class described, a tank, a cover therefor, an arbor extending through the cover and having spaced bearings carried by the cover, one of the bearings being interior to the tank when the cover is applied, and said arbor having means at its inner end for attachment to and sustaining a film reel or spool, and a guide carried by the cover at one side of the axis of the arbor and provided with means for holding the free end of the protecting envelop of the film.

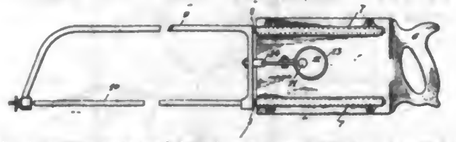
3. In an apparatus of the class described, a suitable receptacle, and an arbor entering the same and provided with suspension means for the film reel or spool upon which the film is carried in the camera, said suspension means entering one end of the spool.

4. In an apparatus of the class described, a suitable receptacle, and an arbor entering the same and provided at its inner end with screw threads adapted to engage a film reel or spool within the receptacle and constituting the sole means for supporting said spool.

5. In an apparatus of the class described, a tank, a cover therefor, an arbor carried by the cover and provided with a bearing interior to the tank and spaced from the cover, said arbor being also provided with a screw-thread extension adapted to engage and sustain a film reel or spool, and a guide member carried by the cover and provided with adjustable means for holding the outer end of the protecting extension of the film.

[Claim 6 not printed in the Gazette.]

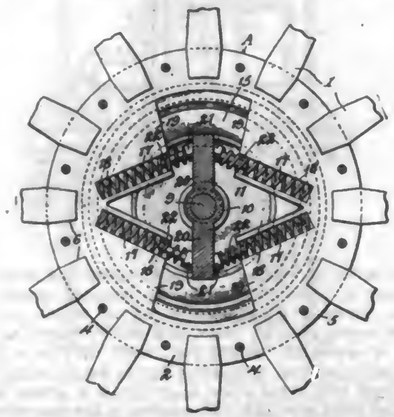
976,801. POWER-OPERATED HANDSAW. WILLIAM H. HENDERSON, Los Angeles, Cal., assignor of one-half to Anna Carpenter, Los Angeles, Cal. Filed June 30, 1909. Serial No. 505,152.



1. A power operated hand saw, comprising a handle, a body portion attached to said handle, parallel guide-ways carried by said body portion, an eccentrically mounted driving means located between said parallel guideways, means for transmitting power to said driving means, a clutch between said transmission means and said driving means, a lever coöperating with said clutch carried by said body portion and terminating in a thumb piece adjacent said handle, a saw frame having means thereon to coöperate with said guideways, and means connecting said saw frame with said driving gear.

2. A hand controlled power tool, comprising a handle, a body portion attached to said handle, guideways on said body portion, a saw frame, means connected to said saw frame and coöperating with said guideways, means to transmit power to said body portion, and driving means located on said body portion between said guideways.

976,802. AUTOMOBILE WHEEL-HUB. CHARLES TURNEY HIXSON and ASA LAFAYETTE TARRANT, Ringwood, Okla. Filed Apr. 10, 1909. Serial No. 489,099.



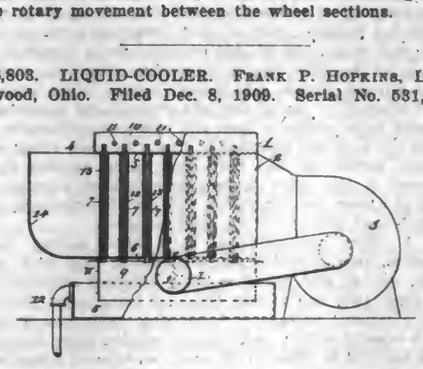
1. A wheel hub comprising an outer annular section, an inner section, cushioning means between the sections, a diametrically-arranged abutment on the inner section having flat sides, a pair of springs at each side of the abutment and mounted on the outer section in angular relation to each other, and a shoe carried by each spring and slidably bearing on the flat sides of the abutment.

2. A hub comprising an outer section in the form of a housing, an inner section, pneumatic cushioning devices between the sections, a diametrically-arranged abutment on the inner section, internal lugs on the outer section spaced apart to constitute stops between which the extremities of the abutment move, said lugs having spring-receiving pockets, straight springs disposed in the pockets and projecting therefrom, said springs being arranged in the form of a rhombus with the center thereof coincident with the axis of rotation, and members on the projecting ends of the springs engaging and independently movable on the opposite sides of the abutment.

3. A wheel hub comprising an outer section, an inner section, cushioning means between the sections, an axle connected with the inner section, oppositely-disposed members on the axle having parallel opposite sides, two pairs of springs carried by the outer section, and devices carried by the springs for slidably engaging the parallel sides of the oppositely-disposed members the devices at opposite sides of said members being independent of each other.

4. A wheel hub comprising a pair of annular members detachably connected and forming an outer section, internal seats on the members, a pair of spaced disks arranged concentrically within the said section, seats on the disks arranged opposite the first-mentioned seats, pneumatic cushioning elements engaging the seats, a sleeve on which the disks are mounted for independent rotation and coöperating therewith to form an inner section, an axle on which the sleeve is mounted, a diametrically-arranged abutment fixed on the sleeve and disposed between the disks to form a spacer therefor, internal lugs arranged on the outer section in a plane coincident with the abutment and said lugs being spaced apart to form stops between which the abutment moves, said lugs having spring-receiving pockets, pairs of oppositely acting straight springs disposed in the pockets with their outer ends projecting therefrom, said springs being disposed to form the outline of a rhombus, of which the said abutment is one of the diameters and the center of the rhombus being coincident with the axle, and members carried by the projecting ends of the springs and slidably engaging the opposite sides of the abutment, the members of one pair of springs being simultaneously movable outwardly on the abutment and the members of the other pair simultaneously movable inwardly as the sections of the wheel change to and from concentric position and the members being slidable independently on the abutment during relative rotary movement between the wheel sections.

976,803. LIQUID-COOLER. FRANK P. HOPKINS, Lakewood, Ohio. Filed Dec. 8, 1909. Serial No. 531,946.



1. In a cooler, the combination with a liquid pan open to the air above, a blower, a cooling chamber underneath the liquid pan, communicating with the blower at one end and with the outer air at the other end, a sealed chamber communicating with said blower and located underneath said cooling chamber, outer and inner pipes, concentrically arranged in pairs and secured in the upper and lower walls of said cooling chamber, the inner pipes projecting above the outer pipes, between which outer and inner pipes the liquid is adapted to circulate, the inner pipes adapted to convey air, and a vertical wall for the outlet opening against which the discharged air impinges.

2. In a cooler, a liquid receiving pan, a cooling chamber for air thereunder, concentric pipes adapted to receive liquid between them and passing through said cooling chamber, the inner pipes adapted to receive air, a sealed

chamber below the cooling chamber adapted to receive the discharged liquid from said pipes, and a blower adapted to draw the air into said sealed chamber through said inner pipes and to discharge it laterally against the outer pipes in said cooling chamber.

3. In a hot liquid cooler, a system of outer and inner vertical pipes concentrically arranged and adapted to permit hot liquid to fall by gravity between them, a blower for causing a current of air to flow through said inner pipes at a high rate of velocity, means for supplying a current of liquid between said concentric pipes, said blower being adapted also to force said current of air against the surfaces of the outer pipes.

4. In a hot liquid cooler, a system of outer and inner vertical pipes, concentrically arranged and adapted to permit hot liquid to fall by gravity between them, a blower for causing a current of air to flow through said inner pipes at a high rate of velocity, means for supplying a current of liquid to flow between said concentric pipes, said blower being adapted also to force said current of air against the surfaces of the outer pipes, and means for regulating the flow of liquid through the spaces between said concentric pipes.

976,804. VALVE. JAMES H. HULINGS, Parsons, W. Va., assignor of one-half to Wade H. Miller, Parsons, W. Va. Filed Feb. 15, 1910. Serial No. 544,115.



1. A valve comprising a valve shell having three branches, two of which branches are each provided with a tapered passage, two of said branches being in line with each other, one of said branches being disposed angularly to the other two, a valve plug comprising a stem and a tapered portion, said tapered portion being arranged to be inserted in one of the said two tapered passages in the said valve casing to open and close communication between the said two branches in line with each other, said tapered portion of said valve plug being adapted to be inserted in the other of said two tapered passages to open and close communication between the angularly disposed branch and one of the other branches.

2. A valve comprising a valve shell having three branches, two of which are arranged in line with each other, one of said branches being disposed angularly to the other two, two of said branches being each provided with a tapered passage, a valve plug comprising a stem and a tapered portion, said tapered portion being arranged to be inserted in either of the said two tapered passages in the said valve casing to open and close communication between the two branches in line with each other or between the angularly disposed branch and one of the other branches.

3. A valve of the character described comprising three branches, two of which are each provided with a tapered passage one tapered passage crossing the other, a valve plug adapted to be inserted in either of the said two branches and to be seated in either of the two tapered passages.

4. A valve comprising three branches two of which are in line to provide a straight passage, the other branch being disposed angularly to the two first mentioned branches, and means for opening and closing communication between one of the said two branches and either of the other two.

5. A valve of the character described comprising a valve casing having three branches, two of said branches being in line with each other in such manner as to provide a straight direct passage through the valve casing, the other of the said three passages being arranged in said casing angularly to the said two branches, a valve plug being adapted to be inserted in the angularly disposed branch to open or close the straight direct passage through the valve casing, said valve plug being also adapted to be inserted in one of the other branches to open and close communication between the angularly disposed branch and the other branch.

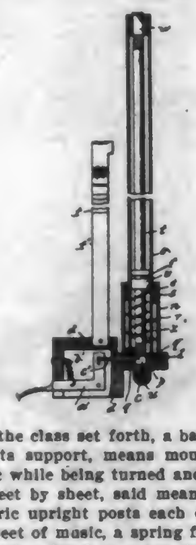
[Claims 6 to 8 not printed in the Gazette.]

976,805. PENHOLDER. JEHU JACOBS, Henley, Cal. Filed July 6, 1909. Serial No. 506,069.



In a pen-holder a penstock having a relatively large cut-away portion at one side at its outer end and with a relatively small cut-away portion opposite the larger cut-away portion, a divided ferrule mounted for rotation upon said penstock and with a cut-away portion corresponding to the larger cut-away portion of the same, said ferrule having its terminals directed outwardly to form finger grips, said smaller cut-away portion of the penstock adapted to facilitate the insertion of the butt end of a pen-point.

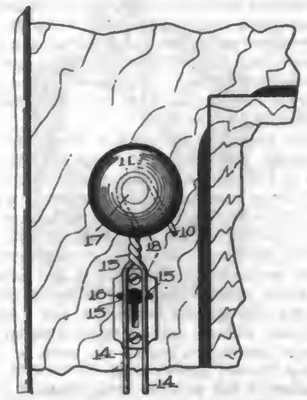
976,806. MUSIC-LEAF TURNER. AUGUST IVAR JOHNSON, Concord, N. H. Filed Nov. 9, 1909. Serial No. 526,988.



In a device of the class set forth, a base and means for attaching it to its support, means mounted thereon for holding the music while being turned and means for turning the music sheet by sheet, said means consisting of a series of concentric upright posts each carrying a device for engaging a sheet of music, a spring for actuating each post, each post being fitted to rotate in a recess in the base and being provided with a notch in the part which is within the base, a radially slidable pin mounted in the base and engaging all said notches, a key for withdrawing said pin and thus releasing the posts successively, and a spring tending to hold said pin in engagement with all of said posts.

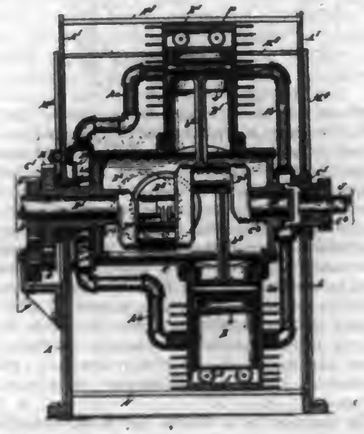
976,807. KEY-FASTENER. FRANK D. JOHNSON, Worcester, Mass. Filed Jan. 10, 1910. Serial No. 537,114.

1. As an article of manufacture, a key holder comprising a hook consisting of a wire bent double and formed into a hook with a front and rear portion thereof in parallel planes and having its ends arranged in the form of a pair of separated legs with their ends unobstructed, said legs being in a plane perpendicular to and between the planes of the parts of said hook and rigidly connected therewith, and a portion between the hook and legs being twisted together to form a firm body connection between them.



2. As an article of manufacture, a key holder comprising a pair of parallel legs adapted to be inserted into a pair of eyes in a key, said legs being twisted together above to form a body and having extending upwardly therefrom in a plane at right angles to the plane of the two legs a body portion bent around at the end to form a hook for resting on a shaft of a door knob, and provided with an inward bend just below the hook for preventing the holder from being raised.

976,808. ENGINE. PETER W. KANE, Detroit, Mich. Filed Apr. 8, 1907. Serial No. 366,943.



1. In an engine, the combination of a crank case provided with a trunnion resting in a bearing, a main shaft resting in a bearing in said trunnion, one or more cylinders upon said crank case, a stationary and a movable wall surrounding said trunnion and inclosing a chamber, a pipe extending from the port or ports of said cylinder or cylinders to said chamber, and an outlet passage in the stationary part of the walls surrounding said chamber.

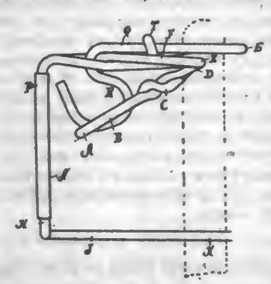
2. In an engine, the combination of a crank case provided with a trunnion resting in a bearing, a main shaft resting in a bearing in said trunnion, one or more cylinders upon said crank case, a stationary and movable wall surrounding said trunnion and inclosing a chamber, a pipe extending from the port or ports of said cylinder or cylinders to said chamber, an outlet passage in the stationary part of the walls surrounding said chamber, and a shield L^a for keeping the exhaust gases from the bearing.

3. In an engine, the combination of a revoluble cylinder, a valve in said cylinder, a rotary part pivoted on said cylinder adapted to actuate said valve, a lug connected with said rotary part adapted to contact a stationary part to turn said rotary part, and a stationary part adapted to be contacted by said lug.

4. In an engine, the combination of a revoluble cylinder, a valve in said cylinder, a rotary part pivoted on said cylinder adapted to actuate said valve, a lug connected with said rotary part adapted to contact a stationary part to turn said rotary part, a stationary part adapted to be contacted by said lug, a cam on said rotary part and means for holding said cam at its various adjusted positions.

5. In an engine, the combination of a revoluble cylinder, a valve in said cylinder, a rotary part pivoted on said cylinder, adapted to actuate said valve, a lug connected with said rotary part adapted to contact a stationary part to turn said rotary part, a stationary part adapted to be contacted by said lug, notches on said rotary part, and a stationary pawl adapted to engage said notches, for the purpose described.

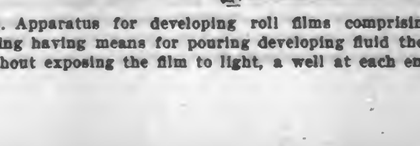
976,809. BROOM-HOLDER. HERBERT M. KELLER, Philadelphia, Pa. Filed Oct. 21, 1909. Serial No. 523,834.



1. In a device of the character described a piece o wire bent to form a loop, the strands thereof then being coiled about one another passing forwardly and sidewise then extending obliquely, rearwardly, then downwardly then at right angles, and forwardly forming arms which are curved outwardly to form grasping members, a back plate secured to the downwardly extending members and a holding member fulcrumed on the obliquely extending members where they cross.

2. In a device of the character described a piece o wire bent to form a loop, the strands thereof then being coiled about one another passing forwardly and sidewise then extending obliquely, rearwardly, then downwardly then at right angles and forwardly forming arms which are curved outwardly to form grasping members, a back plate secured to the downwardly extending members and a holding member formed of a piece of wire bent to produce an S shape portion and a circle as specified.

976,810. APPARATUS FOR DEVELOPING PHOTOGRAPHIC FILMS. WILLIAM FRASER CLAUGHTON KELLY, Kensington, London, and THOMAS BOLAS, Chiswick, England. Filed Dec. 12, 1906. Serial No. 347,519.



1. Apparatus for developing roll films comprising casing having means for pouring developing fluid therein without exposing the film to light, a well at each end

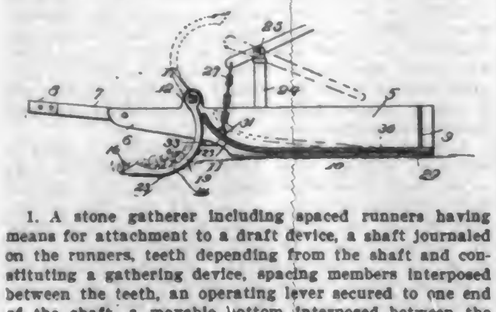
the casing adapted to receive a spool containing the film and the developing liquid, and an intervening raised portion upon which the film is adapted to travel when wound backward and forward, the liquid in the said wells serving to wet the film while the raised portion enables the film to be lifted from the liquid and exposed to the air whereby the action of development is expedited.

2. In a developing apparatus for roll films, the combination of a casing having a well at each end, an intervening raised portion covering substantially the entire length between said wells, means for supporting a pair of film spools in said wells of the casing, means for imparting movement to the film by causing said spools to rotate, and means for pouring developing liquid into said casing without exposing the film to light.

3. In a developing apparatus for roll films, the combination of a casing having a well at each end adapted to contain developing fluid, means for admitting the developing fluid therein without exposing the film to light, a raised portion intermediate of and extending substantially the entire length between said wells, film spools journaled within the wells, one of said spools having a resilient connecting means exteriorly of the developer casing whereby the spool may be readily disconnected for removal, a gearing connection between the spools, and a mechanism on one of the spools adapted to effect the rotation of both spools in either direction.

4. In a developing apparatus for roll films, the combination of a casing having a well at each end adapted to contain developing fluid, means for admitting the developing fluid therein without exposing the film to light, a raised portion intermediate of and extending substantially the entire length between said wells, film spools mounted in said wells, the mounting of one of said spools comprising trunnion bearing members having telescoping sleeves, and a spring within and connecting said sleeves, said sleeves adapted to have relative movement whereby to disconnect the trunnions from the spool, a gearing connection between the spools, and a double pawl and ratchet mechanism on one of the spools adapted to effect the rotation of said spools.

976,811. FIELD-STONE COLLECTOR. ERNST LUDWIG KLOSS, Minisink Ford, N. Y. Filed June 23, 1910. Serial No. 568,567.



1. A stone gatherer including spaced runners having means for attachment to a draft device, a shaft journaled on the runners, teeth depending from the shaft and constituting a gathering device, spacing members interposed between the teeth, an operating lever secured to one end of the shaft, a movable bottom interposed between the runners and having one end thereof curved upwardly, a standard, and a lever pivotally mounted on the standard and operatively connected with the curved end of the bottom for tilting the latter to effect the dumping of the load.

2. A stone gatherer including spaced runners, a plate interposed between the runners and constituting a movable bottom, a shaft journaled on the runners, teeth depending from the shaft and constituting a gathering device, a removable screen secured to the teeth, a lever for oscillating the shaft to transfer the stones from the gathering device to the movable bottom, and means operatively connected with one end of said movable bottom for tilting the latter to effect the dumping of the load.

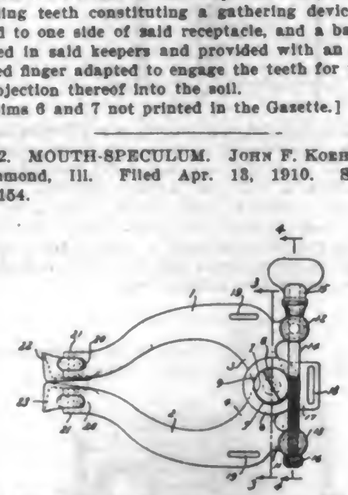
3. A stone gatherer including spaced runners having their lower longitudinal edges provided with seating recesses and their inner faces formed with guiding grooves, detachable tread pieces seated in said recesses, an end gate seated in the grooves, a shaft journaled on the runners at the front of the gatherer, teeth depending from the shaft and having their free ends curved in the direction of the draft device, tubular spacing members interposed between the teeth, a lever secured to one end of the shaft, a standard secured to one of the runners, a plate interposed between the runners and having its front end curved upwardly, said plate constituting a movable bottom, a lever pivotally mounted on the standard, and a flexible connection between the short end of the lever and the curved end of the plate for tilting the latter to effect the dumping of the load.

4. A stone gatherer including a receptacle having a movable bottom, a plurality of teeth pivotally mounted on one end of the receptacle and constituting a gathering device, and means mounted on the receptacle and adapted to engage the teeth below their pivotal axes for regulating the projection of said teeth into the soil.

5. A stone gatherer including a receptacle, a shaft journaled on one end of the receptacle and provided with depending teeth constituting a gathering device, keepers secured to one side of said receptacle, and a bar slidably mounted in said keepers and provided with an angularly disposed finger adapted to engage the teeth for regulating the projection thereof into the soil.

[Claims 6 and 7 not printed in the Gazette.]

976,812. MOUTH-SPECULUM. JOHN F. KOEHLER, West Hammond, Ill. Filed Apr. 18, 1910. Serial No. 555,154.



1. A mouth speculum, comprising a pair of pivotally connected jaw-bars, a bolt support journaled on each jaw-bar and a bolt journaled on one of said supports and having threaded connection with the other support and adapted when rotated to open or close the bars.

2. A mouth speculum, comprising a pair of side members adapted to be connected together, each side member having pivotally connected jaw-bars, a bolt connecting the jaw-bars and adapted to open and close the same and supporting means for said bolt journaled in the jaw-bars.

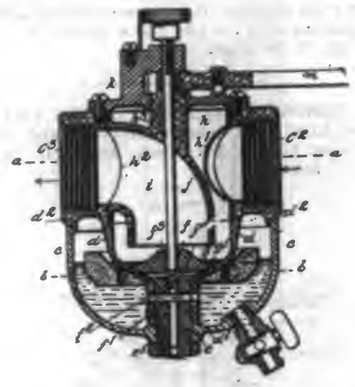
3. A mouth speculum, comprising a pair of side members adapted to be connected together, each side member comprising a pair of pivotally connected jaw-bars, apertured posts journaled on said jaw-bars and rotative means connecting the posts and adapted to open or close the jaw-bars.

4. A side member for a mouth speculum, comprising a pair of jaw-bars, means pivotally connecting the jaw-bars at their rear ends, a post on each jaw-bar, and a bolt journaled in one post and having threaded connection in the other post.

5. A side member for a mouth speculum, comprising a jaw-bar having a socket therein, a laterally offset, apertured plate carried on said bar at one side of said socket, a jaw-bar having a laterally directed, internally threaded boss journaled in the aperture in said plate, a screw engaged in said aperture and having its head overlapping said plate, apertured posts journaled on said jaw-bars, and an operating bolt journaled in one post and having threaded engagement in the other post.

[Claim 6 not printed in the Gazette.]

976,813. CARBURETER. OSCAR C. KARIS, Jr., Detroit, Mich., assignor to Gray Motor Company, Detroit, Mich., a Corporation of Michigan. Filed Mar. 1, 1909. Serial No. 480,548.



1. In a carbureter, the combination of a passage for air having its intake end opening downwardly, said passage being adapted to have the charge drawn through it, means for directing the current of air to be drawn into said intake downward along the outer wall of said passage and inward to the intake to said passage, and a delivery opening for gasolene located below the intake to said passage and in the current of air moving inward to the intake to said passage, said delivery opening being so constructed that it shall deliver the gasolene at right angles to the current of air moving inwardly to the intake to said passage, substantially as described.

2. In a carbureter, the combination of a passage for air having a circular intake end opening downward, said passage being adapted to have a charge drawn through it, means for directing the current of air to be drawn into said intake downward along the outer wall of said passage and inward to the intake to said passage, and an annular delivery opening for gasolene so located below the intake to said passage that the air shall be drawn radially across said annular opening when the current of air is moving inward to the intake to said passage.

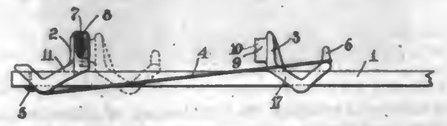
3. In a carbureter, the combination of a passage for air having an intake end bounded by a circular wall opening downward, said passage being adapted to have the charge drawn through it, means for directing the current of air to be drawn into said intake downward along the outer wall of said passage and inward to the intake of said passage, and an annular delivery opening for gasolene axially in line with the bounding wall of said intake and located below the wall of said intake so that the current of air shall pass radially across said annular opening.

4. In a carbureter, the combination of a hollow inclosure C^1 having apertures C^2, C^2 through its wall, a casing h adapted to fit against the interior wall of said inclosure and turn therein, for the purpose described, and having apertures h^1, h^2 adapted to register with the apertures C^2, C^2, and an elbow i having its opening at one end corresponding to one of the apertures in the shell h, the other end opening within said inclosure, said inclosure being provided with a delivery mouth for gasolene located opposite the end of said elbow opening into said inclosure, and means for drawing air into said elbow through the opening of the elbow in said inclosure.

5. In a carbureter, the combination of a hollow inclosure C^1 having apertures C^2, C^2 through its wall, a casing h adapted to fit against the interior wall of said inclosure and turn therein, for the purpose described, and having apertures h^1, h^2 adapted to register with the apertures C^2, C^2, and an elbow i having its opening at one end corresponding to one of the apertures in the shell h, the other end opening downward in said casing, means for connecting the intake passage of an engine with the upper end of said elbow, and means for feeding liquid fuel to said inclosure below the end of the elbow i which opens into said casing, for the purpose described.

[Claims 6 to 11 not printed in the Gazette.]

976,814. CAP-EXPLODING DEVICE. ALVAH F. LENT, Newark, N. J., assignor to Charles F. Paulus, Newark, N. J. Filed Jan. 25, 1910. Serial No. 539,976.



1. A device such as described, comprising a guide, an anvil having a base portion secured to the guide, and an actuating portion extending upwardly from the guide, a hammer having a base portion mounted to slide on said guide, and an upright actuating portion, and an elastic band connecting said hammer to a fixed portion of the device and tending normally to draw the hammer toward the anvil, said anvil having in its upright actuating portion a cap-holding recess and the hammer having a portion adapted to enter said recess to strike against a cap held therein.

2. A device such as described, comprising a guide, and a hammer and an anvil mounted thereon, said hammer and anvil each comprising an upright actuating portion and rearwardly extending supporting portion, the latter having two apertures in line with one another for the passage of the guide.

3. A device such as described, comprising a guide, and a hammer and an anvil mounted thereon, said hammer and anvil each comprising an upright actuating portion and rearwardly extending supporting portion, the latter having two apertures in line with one another for the passage of the guide, such rearwardly extending portion comprising cross pieces on opposite sides of the guide.

976,815. SELF-FILLING FOUNTAIN-PEN. JOSEPH LIPIC, St. Louis, Mo. Filed Dec. 9, 1909. Serial No. 532,162.



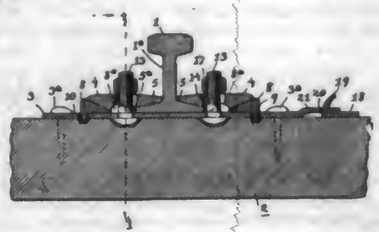
1. A self-filling fountain pen having a chamber provided with an aperture in its wall, a vacuum bag or sac located in said chamber, said pen having a duct extending from the pen's pen-point and communicating with the interior of said bag or sack, said bag or sack having an elongated plate secured thereto provided with a lug extending through the aperture, a pocket pen clip carried by the pen and provided with a spring portion having means adapted to extend through the aperture to engage the lug.

2. A self-filling fountain pen having a chamber, a vacuum bag or sack located in said chamber and provided with a plate having a member penetrating the wall of the chamber, and a pocket pen clip carried by the pen and provided with a spring portion having means to engage the member.

976,816. MEANS FOR FASTENING RAILS AND PREVENTING THE SPREADING THEREOF. DAVID MARTIN, Jr., Harrisburg, Pa. Filed Aug. 4, 1910. Serial No. 575,591.

1. In a rail fastener, the combination of a surface plate a stop block having engagement with said surface plate to hold it in position and an inclined surface, a rockable lever block having an interval between the same and said surface plate, a bearing at one end adapted for fulcrum engagement with the rail flange, and at its opposite end an inclined surface for engagement with the inclined surface of said stop block, and a clamp bolt connecting said

lever block intermediately of its length with said surface plate.



2. In a rail fastener, the combination of a surface plate, a stop block having an engagement with said surface plate to hold it in position and a toothed inclined surface, a rockable lever block having an interval between the same and said surface plate, a bearing at one end adapted for fulcrum engagement with the rail flange, at its opposite end an inclined toothed surface for engagement with the toothed inclined surface of said stop block, and an intermediate perforation, and a clamp bolt engaging said perforation and connecting said lever block with said surface plate.

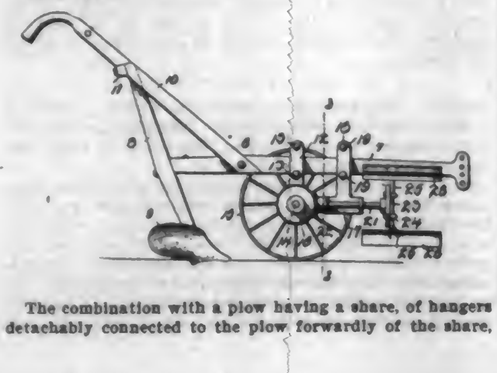
3. A rail fastener having in combination a metal surface plate having a plurality of slots, a stop block having a depending lug detachably engaging one of said slots, a lever block having an inclined plane toothed engagement with said stop block, a bearing upon the flange of the rail and a clamp bolt having an elongated head detachably engaging another of said slots of the surface plate and detachably connecting said lever block and said surface plate.

4. A rail fastener having in combination a metal surface plate having a plurality of slots, a stop block having a depending lug detachably engaging one of said slots, a lever block having at one end portion thereof an inclined plane toothed engagement with said stop block, and a bearing at its opposite end portion for engagement with the flange of the rail, and a clamp bolt located intermediately of the length of said lever block and having an elongated head detachably engaging another of said slots of the surface plate and detachably connecting said lever block and surface plate.

5. A rail fastener having in combination a stop block, and a lever block having at one end portion thereof an inclined plane toothed engagement with said stop block and at the opposite end portion thereof a bearing for engagement with the flange of the rail, and a clamp bolt located intermediately of the length of the lever block and capable of connecting the same with the railroad cross tie, said lever block having an end bearing for engagement with the web of the rail, and a depending lug having a bearing for engagement with the free edge of the rail flange.

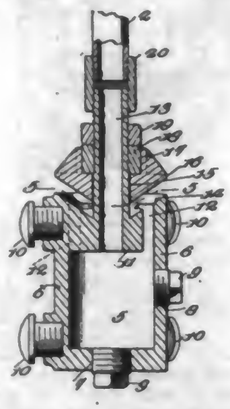
[Claims 6 and 7 not printed in the Gazette.]

976,817. COTTON-CHOPPER. BENJAMIN F. MASON, Hot Springs, Ark., assignor of one-fifth to William L. Bishop, Hot Springs, Ark. Filed Jan. 18, 1910. Serial No. 538,621.



The combination with a plow having a share, of hangers detachably connected to the plow forwardly of the share, an axle journaled in the hangers transversely of the beam, a ground wheel fixed to one end of the axle, a beveled gear fixed to the other end of the axle, a bracket detachably fixed to the beam in advance of the hangers and extending laterally from said beam, a shaft journaled in the bracket at right angles to the axle and having a pinion at one end meshing with the gear and a chopper fixed to the opposite end of the shaft.

976,818. COMPRESSED-AIR APPARATUS FOR ELEVATING LIQUIDS. LOUIS S. MATHEUS and CHARLES LEINDECKER, Lawrenceburg, Ind. Filed Aug. 19, 1909. Serial No. 513,639.



1. In an apparatus of the character described, the combination with a stand-pipe, of a compressed air inlet pipe extending into the stand-pipe, a plurality of chambers, pipes connecting said chambers in series, and a connection between the lower end of the compressed air pipe and the lowermost one of said chambers, each of said chambers being provided with an upwardly opening outlet.

2. In apparatus of the class described, the combination with a stand pipe, of a compressed air inlet pipe extending into the stand pipe and then extending upward, said upward extension of the inlet pipe being provided with a plurality of chambers at different levels, each of said chambers being closed at its bottom and having discharge openings at its top, and means for deflecting the air passing from said openings outward and upward.

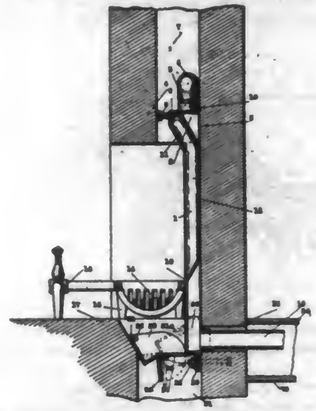
3. In apparatus of the class described, the combination with a stand pipe, of a compressed air inlet pipe extending downward into the stand pipe and returned upon itself at its lower end and then extending upward, said upwardly extending portion of the inlet pipe being provided with a plurality of chambers at different levels, each of said chambers being closed at the bottom and sides and having discharge openings at their upper ends, and a cover mounted above each chamber, normally resting upon said chamber and covering said openings, said cover being adapted to lift when the air is being forced out of said chambers.

4. In apparatus of the character described, the combination with a stand pipe, of a compressed air inlet pipe extending into the stand pipe, and a plurality of distributing chambers connected in series to each other, each of said chambers having a discharge opening at its upper end, said inlet pipe being connected to the lowermost of said chambers and means for deflecting the air passing from said upper ends of said chambers outward and upward.

5. In an apparatus of the class described, the combination with a compressed air inlet pipe, of an air distributing head therefor, said head being chambered and provided at its side, lower end and upper end with means for the attachment of said compressed air inlet pipe, the head being formed with an air discharge opening in its upper end.

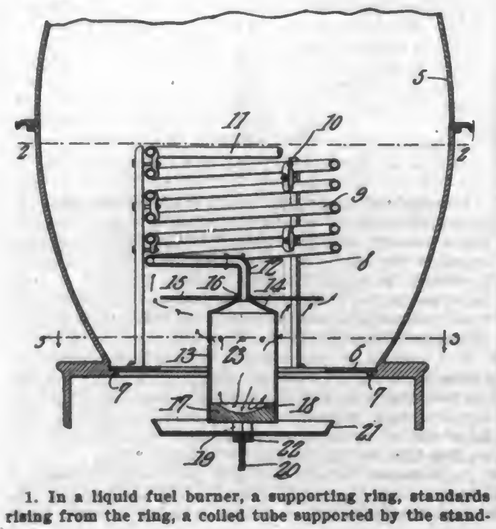
[Claims 6 to 17 not printed in the Gazette.]

976,819. FIREPLACE-FURNACE. ALBERT J. MATTER, Portland, Oreg., assignor of one-half to Joseph Gaston, Portland, Oreg. Filed Oct. 4, 1909. Serial No. 521,027.



The combination with a fire-place fire-back having a flat back, a corrugated front provided with a plurality of openings at the top, and having the length of the corrugations vertically placed except at the top where they are inclined forward at a slight angle and form a horizontal air chamber just back of the corrugated portion, a lower horizontal air chamber connected with the corrugated portion and having its lower portion slightly narrower so as to fit within the ash-pit opening to a point below the hearth line, a supply pipe for supplying air to the lower horizontal air chamber through the back of said fire-back, a plurality of pipes connected with the openings at the top of said corrugated front piece for taking the hot air from the upper horizontal air chamber and conducting it to any desired point, of means for fastening said fire-back within and to the back of a fire-place and an ash dump open at its rear side, the bottom of said dump arranged to coöperate with the bottom of the said lower air chamber when in normal position, said air chamber forming a closure for the rear of said ash dump, substantially as described.

976,820. LIQUID-FUEL BURNER. WILLIAM R. MCHILL, Moran, Kans., assignor of one-third to James H. Cramer, Moran, Kans. Filed Apr. 11, 1910. Serial No. 554,689.



1. In a liquid fuel burner, a supporting ring, standards rising from the ring, a coiled tube supported by the standards, and a casing carried by the coil at its lower end and encircled by the ring in spaced relation therewith, into which casing the coil discharges, said casing having outlet openings.

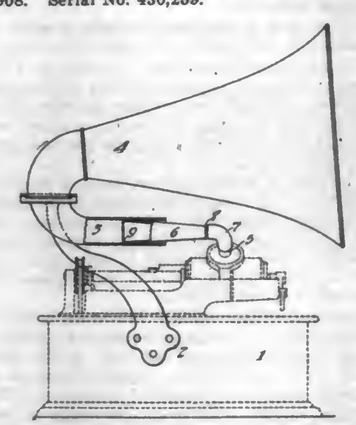
2. In a liquid fuel burner, a supporting ring, standards rising therefrom, a coiled tube supported on the standards and a casing carried by the lower end of the coil into which casing the coil discharges, said casing being encircled by the ring in spaced relation therewith, and having outlet openings.

3. In a liquid fuel burner, a supporting ring, standards rising from said ring, a coiled tube supported on the standards, a casing carried by the lower end of the coil and encircled by the ring in spaced relation therewith, into which casing the coil discharges, said casing having outlet openings, and a deflector arranged above the casing between the same and the lower end of the coil.

4. In a liquid fuel burner, a supporting ring, standards rising from the ring, a coiled tube supported on the standards, a casing carried by the lower end of the coil, into which casing the coil discharges, said casing having outlet openings, and a pan located below the casing.

5. In a liquid fuel burner, a supporting ring, standards rising from the ring, a coiled tube supported on the standards, a casing carried by the lower end of the coil, into which casing the coil discharges, said casing having outlet openings, a stem carried by the lower end of the casing and a pan located beneath the casing, said pan being supported on the stem.

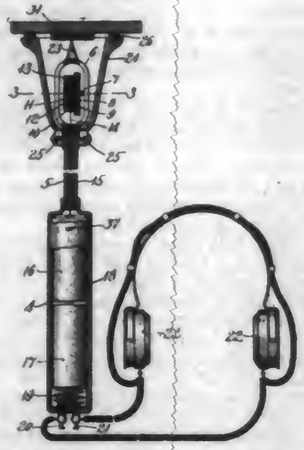
976,821. PHONOGRAPH. WALTER H. MILLER, Orange, N. J., assignor to New Jersey Patent Company, West Orange, N. J., a Corporation of New Jersey. Filed May 1, 1908. Serial No. 430,259.



1. In a phonograph, the combination with a permanently positioned horn section, a movable reproducer, a fixed tube having its longitudinal axis parallel to the path of the movement of the reproducer and communicating with said permanently positioned horn section and a tapering tube attached to the neck of the reproducer and adapted to travel in a straight line within the said tapering tube and having a rounded inwardly flanged portion at its larger end where it slides within the said cylindrical tube forming thereby a substantially ball joint, substantially as set forth.

2. In a phonograph, the combination of a permanently positioned horn section, supported substantially centrally above one end of the phonograph cabinet, a reproducer, a fixed tube communicating with said horn section and extending longitudinally of the machine and substantially parallel with the path of movement of the reproducer and a tube having a rounded inwardly flanged portion at its inner end adapted to slide longitudinally and oscillate transversely of its axis in said fixed cylindrical tube and having means of connection with said reproducer, substantially as set forth.

976,822. SUBMARINE SIGNALING. JOSIAH B. MILLET, Boston, Mass., assignor to Millet Signal Company, Boston, Mass., a Corporation of Maine. Filed June 23, 1909. Serial No. 503,801.



1. The method of determining on board a vessel or the like the direction of a source of submarine sound, which consists in acoustically applying a microphonic sound detector to one part of the ship's hull, transferring and acoustically applying the same detector to another part of the ship's hull, and comparing the relative intensities of the sounds produced.

2. The method of determining on board a vessel or the like the direction of a source of submarine sound, which consists in electro-microphonically converting a submarine sound received at one part of the ship's hull into audible sound, similarly converting through the same agency sound received from the same source at another part of the ship's hull and comparing the intensities of the two audible sounds.

3. The method of determining on board a vessel or the like the direction of a source of submarine sound, which consists in ascertaining that point in the ship's hull at which the sound is received with the greatest intensity, and estimating from the location of said point and the curvature or shape of the vessel's hull thereat the direction of the said sound source.

4. The method of determining on board a vessel or the like the direction of a source of submarine sound, which consists in transferring from one part of the vessel to another an electro-microphonic detection agency, applying the same agency by acoustical contact to different points in the vessel's hull, and comparing the relative intensities of the sounds received at different parts of the vessel's hull.

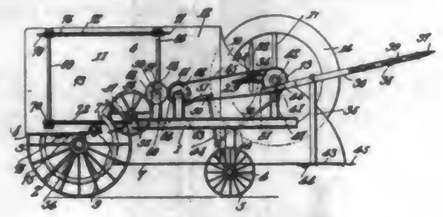
5. The method of microphonically detecting submarine signals on shipboard which consists in placing the microphone in acoustic connection with the side of the ship and so maintaining it as to utilize the transverse rolling of the vessel to agitate the granules without substantially changing the contact relations between the granules and the electrodes.

976,823. CANE-HARVESTER. MEDERIC C. MOLLERE, Cut Off, La., assignor of one-half to Francis I. Cretini, Cut Off, La. Filed Nov. 28, 1908. Serial No. 464,894.

1. A stalk-cutter comprising stalk-severing means, stalk-straightening arms mounted for vertical movement in advance of the said stalk-severing means, and foliage-straightening wheels journaled upon the said arms.

2. A stalk-cutter comprising stalk-severing means, stalk-straightening arms mounted for vertical movement in advance of the said stalk-severing means, and foliage-straightening wheels journaled upon said arms and having radially disposed spokes.

3. A stalk-cutter comprising stalk-severing means, stalk-straightening arms mounted for vertical movement in advance of the said stalk-severing means, said arms having their forward end portions disposed away from each other, and foliage-straightening wheels carried by the said arms.



4. A stalk-cutter comprising stalk-severing means, stalk-straightening arms mounted for vertical movement in advance of the stalk-severing means and having their forward end portions disposed laterally away from each other, foliage-straightening wheels [illegible] upon the arms and having radially disposed spokes.

5. A stalk-cutter comprising a body having a stalk passage therethrough, a stalk-inverting means located at the forward portion of the passage, stalk-severing means located at the forward end of the passage, and top-severing means located in the passage behind the said stalk-inverting means.

[Claims 6 to 14 not printed in the Gazette.]

976,824. GRID FOR REVERSIBLE GALVANIC BATTERIES. WILLIAM MORRISON, Des Moines, Iowa. Filed Sept. 26, 1910. Serial No. 583,709.



1. A pressed or stamped grid for use in reversible batteries, in which an alkaline electrolyte is used, comprising a bottom section having a plurality of openings stamped therein and projections extending upwardly therefrom, an upper section having a plurality of openings therein and projections extending downwardly therefrom, the projections of one plate extending substantially through the openings in the other plate.

2. A pressed or stamped grid for use in reversible batteries, in which an alkaline electrolyte is used, comprising two plates or sections between which the active material is held, a plurality of openings stamped in each plate and a plurality of projections on each plate extending into the openings in the opposite plate.

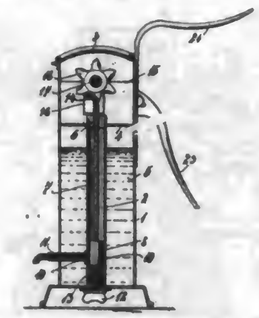
3. A pressed or stamped grid for electric batteries in which an alkaline electrolyte is used, comprising a plurality of substantially rectangular plates between which the active material is held, and a plurality of conducting projections extending from each of said plates at substantially right angles into said active material.

4. A pressed or stamped grid for electric batteries in which an alkaline electrolyte is used, comprising a plurality of plates between which the active material is held, and a plurality of conducting projections extending into said material, whereby a high internal conductivity is obtained.

5. A pressed or stamped grid for use in reversible batteries, in which an alkaline electrolyte is used, comprising a bottom section having a plurality of openings stamped therein and projections extending upwardly therefrom, an upper section having a plurality of openings therein, and projections extending downwardly therefrom.

[Claims 6 to 10 not printed in the Gazette.]

976,825. CONTAINER FOR LUBRICANTS. ADOLF NĚMEČEK, Josefstadt, Austria-Hungary. Filed Sept. 4, 1909. Serial No. 516,288.



1. In a device of the class described, the combination with a container for the oil, of a pump cylinder communicating with said container, an outlet leading from the pump cylinder, a piston in said cylinder shaped to control the passage of oil from said container through said cylinder to said outlet, means applying pressure to said piston to move the same in one direction and mechanisms acting in opposition to said means, for depressing and rotating said piston to force the oil from said cylinder through said outlet.

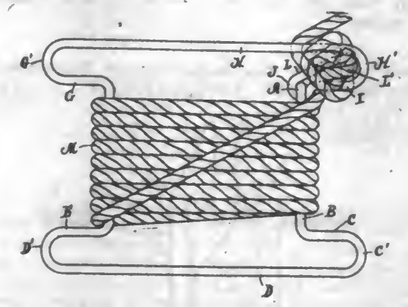
2. In a device of the class described, the combination with a container for the oil, of a pump cylinder having an opening communicating with said container, an outlet leading from said pump cylinder, a piston in said cylinder provided with means for alternately closing said opening and outlet to control the passage of oil from said container through said cylinder to said outlet, means applying pressure to said piston to actuate the same in one direction, and mechanisms acting in opposition to said means, for depressing and rotating said piston to force the oil from said cylinder into said outlet.

3. In a device of the class described, the combination with a container for the oil, of a pump cylinder having an opening communicating with said container, an outlet leading from said pump cylinder, a piston in said cylinder provided with ports arranged to coact with said opening and outlet to alternately cut the same into and out of communication with said cylinder, a spring normally tending to force the piston in one direction to permit entrance of the oil to said cylinder, means acting in opposition to said spring for rotating and depressing the piston, to eject the oil therefrom, and means for limiting the rotary movement of said piston.

4. In a device of the class described, the combination with a container for the oil, of a pump cylinder having an opening communicating with said container, an outlet leading from said pump cylinder, a piston having ports for alternately cutting said opening and outlet into and out of communication with said cylinder, means normally acting to move said piston in one direction to permit entrance of the oil to said cylinder, a toothed wheel for rotating and depressing said piston against the action of said means to eject the same therefrom, and means for limiting the rotary movement of said piston.

5. In a device of the class described the combination with a container for the oil, of a pump cylinder having an opening communicating with said container, an outlet leading from said pump cylinder, a piston in said cylinder provided with recessed ports for alternately cutting said opening and outlet into and out of communication with said cylinder to permit entrance of the oil to said cylinder and to eject the same therefrom, a piston rod for said piston, means engaging the bottom of said piston for urging the same in one direction, a toothed wheel for acting against said means and serving to rotate and depress said piston, and means adapted for engagement by said rod for limiting rotary movement of said piston.

976,826. CLOTHES-LINE REEL. LAWRENCE T. OBELE, Philadelphia, Pa. Filed Nov. 11, 1909. Serial No. 527,473.



The herein described line reel consisting of a wire bent to form parallel end members, parallel inner side members and parallel outer side members, the end of the strand wire forming one of the end members having an eye formed therefrom, the end of the strand of wire forming one of the inner side members having an eye formed therefrom engaging with said first named eye and continued obliquely toward one of the outer side members ending in proximity thereto, leaving a passage way, as shown and described.

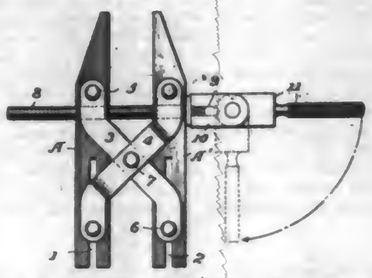
976,827. METHOD OF MANUFACTURING SUBSTITUTES FOR LEATHER-BOARD. ANDERS JOHN OSTBERG, St. Kilda, Victoria, Australia. Filed Sept. 29, 1909. Serial No. 520,129.

The improved method of manufacturing a substitute for leather-board consisting in reducing leather waste to slivers about one thirty-sixth of an inch in thickness, removing the tannic acid therefrom, partly drying said slivers, saturating them with an adhesive composition, extracting the superfluous adhesive composition therefrom, laying the said slivers layer upon layer to constitute a sheet of a predetermined size, submitting to pressure, partly drying the sheet produced and subsequently calendering same.

976,828. CLAMPING DEVICE. SAMUEL R. PARADISE, Valparaiso, Ind. Filed Jan. 3, 1910. Serial No. 535,021.

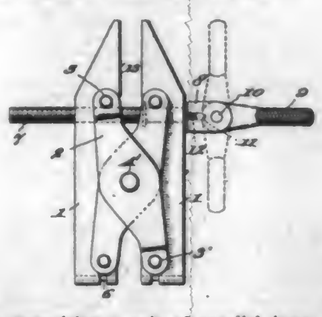
In a clamping device, a pair of parallel jaws having longitudinally disposed slotted portions open at one end, a pair of crossed toggle levers connecting said jaws, said levers being pivotally connected between their ends, and having pivotal connections at one end to the jaws and having pins on the other ends thereof adapted to move within said slotted portions; and adjusting means connecting said jaws comprising, a screw threaded bolt having threaded engagement with one of the jaws, an annular member on the bolt engaging with the inner face of the

other jaw and a head on the outer end of the bolt lying against the outer face of said jaw, said head having a slot formed therein and also provided with a recess; a lever pivotally mounted within said slot, and serving to



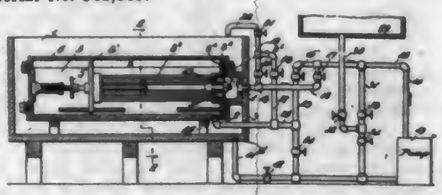
effect the manipulation of the bolt; and a spiral spring and a dog seated within the recess, said dog adapted to engage with and lock the lever through the medium of said spring.

976,829. CLAMP. SAMUEL R. PARADISE, Valparaiso, Ind. Filed Feb. 24, 1910. Serial No. 545,785.



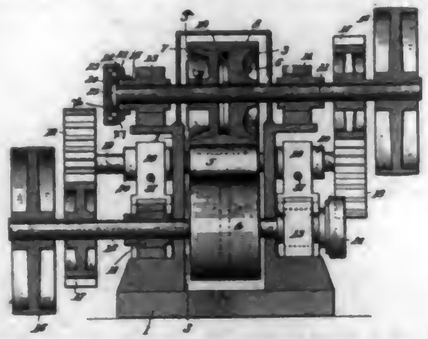
A clamp comprising a pair of parallel jaws, pivotally connected toggle levers disposed to either side of the jaws and having pivotal connection therewith at one end of each toggle member, longitudinally disposed slots formed in the jaws adjacent to the lower side edges thereof, the opposite ends of said toggle levers having connecting pins engaging within and movable in said slots, cross pins secured within the lower ends of the jaws and closing the ends of said slots, a bolt having a fixed collar and a fixed head securing said bolt to one of the jaws and the outer end of said bolt having screw threaded connection with the other jaw, said bolt head having a slot and a recess formed therein, a lever pivotally mounted within said slot and adapted to be set in various positions, and a spring pressed latch seated within said recess and adapted to engage with said lever and to hold the same in position.

976,830. APPARATUS FOR DYEING YARN. JESSE MIDLETON PAYNE, Phoenix, and GEORGE GREGORY WALLACE, Girard, Ala., assignors of one-sixth to E. W. Swift and one-sixth to J. P. Kyle. Filed Jan. 31, 1910. Serial No. 541,069.



The improved yarn dyeing apparatus herein described and shown comprising a vat, a horizontally disposed casing within the vat having an enlarged chambered end, a warper beam disposed horizontally within the casing and provided at one end with openings adapted to register with the chambered portion of the end of the casing, a packing ring between said end of the casing and the adjacent end of the beam, means interposed between the opposite end of the casing and the beam to secure the beam and compress said packing ring, a pipe leading through the end of the vat and the casing and having a branch leading over the vat and terminating above the same, a pipe leading from the bottom of the casing and having a branch connected with the first mentioned branch, a pipe leading from the bottom of the vat and having a branch connected with the pipe leading from the bottom of the casing, a pump, and connections between the pump and the several pipes.

976,831. PULVERIZER. GUY J. PETERSON, Cyanide, S. D., assignor of one-half to Peter N. Hanson, Deadwood, S. D. Filed Jan. 11, 1910. Serial No. 537,496.



In a pulverizer, a base frame, an upper and lower roll and an intermediate roll resilient means for moving the intermediate roll away from and toward the other rolls, means for shifting said upper and lower rolls longitudinally with respect to said intermediate rolls, means for raising and lowering said intermediate roll comprising a wedge shaped block, supporting said roll having an upwardly projecting bifurcated arm, a second wedge shaped block slidably mounted upon said first named block provided with a threaded pin projecting from one end thereof, said pin working through said bifurcated arm, an internally threaded gear wheel carried by the threaded pin and a worm gear carried by a crank mounted in said arm meshing with said wheel.

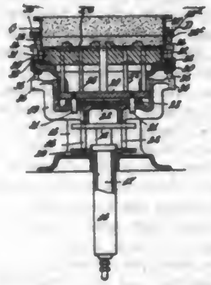
976,832. TICKET-HOLDER. ROMAN F. POLSKI, St. Paul, Minn. Filed Nov. 10, 1909. Serial No. 527,164.



1. A holder for tickets, comprising, in combination, a shank formed in a single piece of wire bent to form a body adapted to be attached to a ticket, and a point lying behind the ticket having a looped shoulder adjacent to the shank and curved concave to the ticket and extending beyond the ticket a distance substantially equal to the thickness of the material on which said ticket is designed to be mounted, said extremity being curved and its extreme end lying approximately in the plane of the ticket, whereby said extremity is adapted to readily pierce only one thickness of material when being attached and to hold said ticket flat upon said material after being attached.

2. A holder for tickets, comprising, in combination, a single piece of wire bent midway between its ends to form a body portion, means for engaging said body portion to said ticket, and a pair of substantially parallel shanks depending from said body portion and spaced apart, each of said shanks being formed with an abrupt shoulder projecting back from the ticket, said shoulder being formed with a first bend of slightly more than ninety degrees from the plane of the ticket and a sharp recurvature to meet the back of said ticket substantially as shown, and with a point depending from said shoulder and bowed outwardly between its ends, the lower extremity of said point extending below the lower end of said ticket, a distance equal to the thickness of the material on which the ticket is designed to be placed and the end of said point extended inwardly to the plane of the back of the ticket, said shoulder and point being adapted to pass through the material and secure the ticket thereon.

976,833. MOLDING-MACHINE. EUGENE RONCERAY, Paris, France, assignor to Societe Anonyme des Etablissements Ph. Bonvillian & E. Ronceray, Paris, France, a Corporation of France. Filed July 25, 1910. Serial No. 573,702.



1. In combination in a sand molding machine, a pattern member, a sand frame mounted thereabove for vertical telescopic movement thereover, a flask carried upon the sand frame and adapted to move vertically therewith, a presser means above the flask for moving the flask and sand frame and the sand carried thereby downwardly, a stripping plate upon the pattern member, and means for raising the flask and stripping plate simultaneously.

2. In combination in a sand molding machine, a pattern member, a sand frame in telescopic relation with the pattern member and yieldingly held with its upper edge above the pattern member, a flask carried upon the sand frame, a presser means above the flask, a stripping plate upon the pattern member, and means whereby the stripping plate and flask are moved upwardly simultaneously after the pressing operation.

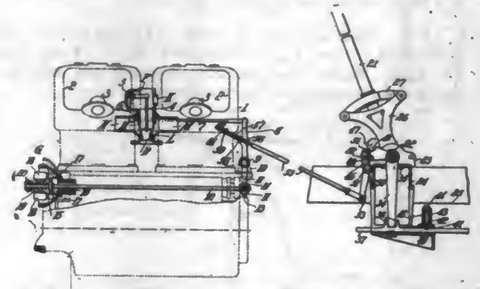
3. In combination in a sand molding machine, a pattern member, a sand frame yieldingly held with its upper edge above the pattern member, a stripping plate upon the pattern member, a flask carried upon the sand frame, a presser means above the flask, and means whereby the stripping plate is made to follow the mold when the presser means, flask and sand frame move upward after the pressing operation.

4. In combination in a sand molding machine, a pattern member, a sand frame lying with its upper edge above the pattern member, yielding means for normally moving the sand frame to such position and holding it there, a flask carried upon the sand frame, a presser means above the flask, a stripping plate upon the pattern plate, and means whereby the said yielding means engages the stripping plate to move it upwardly with the sand frame and flask as the presser means moves upward after the pressing operation.

5. In combination in a sand molding machine, a pattern member, a flask spaced away from the pattern member, a sand frame interposed between the edge of the flask and the edge of the pattern member, presser means whereby the flask and member are forced to approach each other, compressing the sand in the sand frame and flask and causing the sand frame to telescope over the pattern member, a stripping plate above the pattern member, and means for moving the flask and stripping plate simultaneously away from the pattern member.

[Claims 6 to 8 not printed in the Gazette.]

976,834. SPEED-REGULATING DEVICE FOR AUTOMOBILES AND THE LIKE. HIPPOLYT SAUREB, Arbon, Switzerland. Filed Sept. 8, 1909. Serial No. 516,712.



1. In an auto-truck driving mechanism, the combination with the motor, a governor carried by said motor, a distributing valve controlled by said governor, a gear changing apparatus, and a flexible connection between said governor-controlled valve and said gear changing apparatus whereby a constant speed of the vehicle is maintained under various gears by automatic regulation of said distributing valve.

2. In an auto-truck driving mechanism, the combination with the motor, a governor carried by said motor, a distributing valve controlled by said governor, a gear changing apparatus, a rod flexibly connected to said governor controlled valve, and means carried by said gear changing apparatus and adjustably bearing on said rod for automatically changing the position of said distributing valve when said gear changing apparatus is operated.

3. In an auto-truck driving mechanism, the combination with the motor, a governor carried by said motor, a distributing valve controlled by said governor, a gear changing apparatus, and means adjustably connecting said valve and said gear changing apparatus, whereby change of the latter's position automatically regulates said valve to maintain a constant position.

4. In an auto-truck driving mechanism, the combination with the motor, a governor carried by said motor, a distributing valve, rocking means connecting said valve and said governor, a gear-changing apparatus, a rod having a flexible connection with said valve and governor connecting means and a rocking connection with said gear-changing apparatus, a gear lever carried by said apparatus, and means whereby, when various gears are thrown in, said rod is automatically actuated to regulate said valve.

976,835. MINING-MACHINE BIT. RALPH E. NOBLE, Chicago, Ill., assignor to Morgan-Gardner Electric Company, Chicago, Ill. Original application filed Oct. 14, 1907, Serial No. 397,348. Divided and this application filed Mar. 18, 1909. Serial No. 484,200.

1. A bit for mining machines having a front or cutting face and having a cutting portion curved forwardly from the body portion and terminating in a relatively wide cutting edge, said body portion being tapered back from the front or cutting face and the cutting portion also converging backwardly from the front or cutting face.

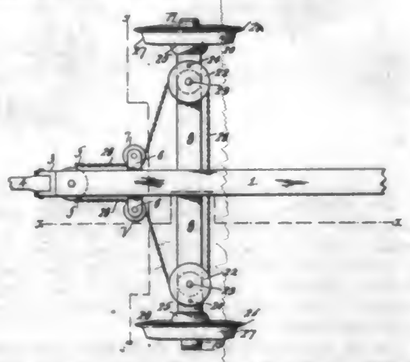
2. A bit for mining machines, comprising a bar of suitable material having a front or cutting face, with sides converging backwardly from said front or cutting face to the back edge thereof, and having one end curved



forwardly to form a cutting portion, said cutting portion terminating in a relatively sharp edge, the sides of said cutting portion also converging backwardly from the cutting face.

REISSUES.

13,169. TONGUE-TRUCK FOR HARVESTERS AND BINDERS. JOHN FLAIG, Broadview, Mont. Filed July 27, 1909. Serial No. 509,953. Original No. 882,820, dated Mar. 24, 1908, Serial No. 371,146.



1. A tongue truck for harvesters and binders, consisting of a longitudinal beam 1, having pivoted to its front end a tongue holder 3, on each side of which is a staple 5 and to each side of which is journaled a grooved pulley 7, and in the under side of said beam is a cross recess 12; bearings 11, secured about midway and to the under face of said beam; rock bar 9, pivoted in said bearings; axle 8, secured to said rock bar and at right angles to said beam, said axle terminating at each end in a projection 14; bifurcated spindle holders 15, pivoted to said projections, the outer end of the spindle holder on the left hand end of the axle inclined inwardly from the top downwardly, the spindle also inclined downwardly at right angles to said inclined end 18; the outer end 16, of the spindle holder on the right hand end of the axle inclined downwardly and outwardly, the spindle 17, turning slightly upwardly at a right angle to said incline 16; wheels 20, each provided with an annular flange 26, and shoulder 27; grooved pulleys 22, rigidly secured on the top faces of said spindle holders 15; a chain 28, passing around pulleys 7 and 22, and through recess 12, and having its ends secured to staples 5, and a tongue 4, hinged in said tongue holder 7, substantially as shown and described, and for the purposes set forth.

2. In a tongue truck for harvesters and binders, the combination of a longitudinal beam 1, having in its lower face a cross recess 12; bearings 11, secured near the middle and to the under face of said beam; rock bar 9, journaled in said bearings; axle 8, secured to said rock bar at right angles to said beam; a spindle holder pivoted to each end of said axle; wheels 20, journaled on the spindles of said holders; pulleys 22, rigidly secured on the upper faces of said spindle holders; pulleys 7, one journaled on each side of said beam and in front of the axle; a tongue holder 3, pivoted to the front end of said beam; a chain passing around said pulleys and having its ends secured, one to each side of said tongue holder, said chain adapted to turn said wheels to the right or left when said spindle holders are turned to the right or left, and a tongue 4, pivoted in the front end of said tongue holder, substantially as shown and described and for the purposes set forth.

3. A tongue truck for agricultural implements, comprising a longitudinal beam, an axle connected with said beam, and held against horizontal oscillation, but capable of vertical oscillation, a member pivotally attached to the forward end of said beam, and a steering tongue pivotally attached at its inner end with said member, and in such a manner that said steering tongue may be swung up or down and from side to side.

4. A tongue truck for agricultural implements, comprising a longitudinal beam, an axle connected with said beam, and locked against horizontal oscillation, but capable of being vertically oscillated, wheels having a swiveled connection with the opposite ends of said axle, and a steering tongue having a pivotal connection at its inner end with the forward end of said beam, whereby said steering tongue may be swung up or down and from side to side, and steering connections between the steering tongue and wheels.

5. A tongue truck of the character described, comprising a beam, an axle having connection with said beam, whereby it may be oscillated in a vertical plane, but held against horizontal oscillation, wheels having a swiveled connection with said axle, a member pivotally connected with said beam, steering means connected with said member and with said wheels, and a steering tongue pivotally connected with said member.

6. A tongue truck of the character described, comprising a beam, an axle having connection with said beam, whereby it may be oscillated in a vertical plane, but held against horizontal oscillation, wheels having a swiveled connection with said axle, a member pivotally connected with said beam, a steering tongue pivotally connected with said member, and a chain operatively connected with said wheels and also with said member, whereby when said steering tongue is swung from side to side said chain will be operated to steer said wheels.

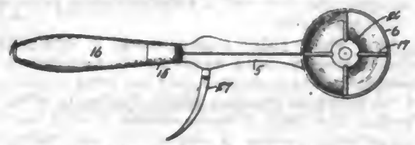
7. A tongue truck of the character described, comprising a beam, an axle extending transversely of said beam and suitably connected thereto, a steering tongue pivotally attached at its inner end with said member, and in such a manner that said tongue may be swung up or down and from side to side, steering wheels having a swiveled connection with said axle, grooved pulleys operatively connected with said steering wheels, and a chain operatively connected with said pulleys and also said steering tongue, whereby when said tongue is swung from side to side, said chain will be operated to steer said wheels.

8. A tongue truck of the character described, comprising a beam, an axle extending transversely of said beam, a rock bar extending transversely of the axle and connected thereto, suitable bearings for said rock bar, attached to said beam, wheels having a swiveled connection with the opposite ends of said axle, a steering tongue pivotally attached at its inner end with said beam, and in such a manner that said tongue may be swung up or down and from side to side, and steering connections between said steering tongue and said wheels.

9. A tongue truck of the character described, comprising a beam, an axle extending transversely of said beam, a rock bar extending transversely of the axle and connected thereto, suitable bearings for said rock bar, attached to said beam, wheels having a swiveled connection with the opposite ends of said axle, grooved pulleys operatively connected with said wheels, a steering tongue pivotally attached at its inner end with said beam, and in such a manner that said tongue may be swung up or down and from side to side, a steering chain connecting said steering tongue with said grooved pulleys, and guides for said chain between said steering tongue and said pulleys.

10. A tongue truck of the character described, comprising a beam and a steering tongue, connections between said tongue and beam, said connections being such that the tongue may be swung from side to side and up or down, an axle having connection with said beam, whereby said axle may accommodate itself to the unevenness of the ground, bifurcated spindle holders pivotally connected with the opposite ends of said axle, flanged wheels carried by the spindles of said holders, grooved pulleys operatively connected with said holders, a chain connecting said steering tongue with said grooved pulleys, and guides for said chain between said steering tongue and said grooved pulleys.

13,170. ICE-CREAM SPOON. DOSIER H. MOSTELLER, Chicago, Ill., assignor to The Mosteller Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 12, 1910. Serial No. 555,111. Original No. 951,571, dated Mar. 8, 1910, Serial No. 489,664.



1. In an ice-cream spoon, the combination of a cup-shaped receptacle, scraping mechanism within the receptacle, a hollow elongated shank outwardly extending for the major portion of its length from the lower end of the receptacle and having its bottom cut away, a cross wall extending through the shank longitudinally thereof and at a point midway vertically thereof, and forming the bottom of the receptacle, a stem attached to the scraper mechanism and projecting below the cross wall, a lug on the stem, a finger piece, a connection between the finger piece and the stem, said finger piece and connection lying below the cross wall, a pivot stem upon which the finger piece is mounted, a cover forming a closure for the bottom, and said pivot stem serving as a mounting for the cover, substantially as described.

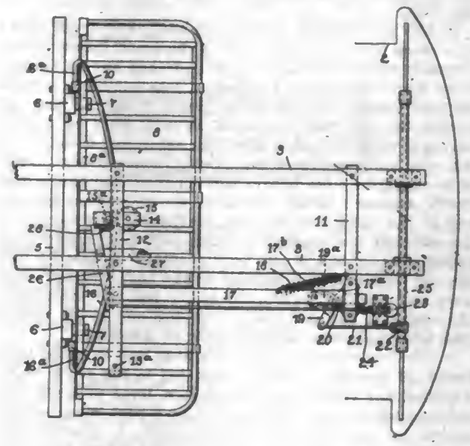
2. In an ice-cream spoon, the combination of a cup-shaped receptacle, scraping mechanism within the receptacle, a hollow elongated shank outwardly extending for the major portion of its length from the lower end of the receptacle, and having its bottom cut away, a cross wall extending through the shank longitudinally thereof and at a point midway vertically thereof, and forming the bottom of the receptacle, a finger piece, a connection between the finger piece and scraper mechanism, said finger piece and connection lying below the cross wall, a pivot stem upon which the finger piece is mounted, a cover forming a closure for the open bottom of the shank, and said pivot stem serving as a mounting for the cover, substantially as described.

3. In an ice-cream spoon, a recessed shank forming a handle for the spoon and merging at its forward end into a cup, a movable scraper within the cup, comprising outwardly diverging prongs united at their ends in a plate having a downwardly projecting stem inserted through the opening in the bottom of the cup, a collar locked to the end of the stem and having a lug formed thereon, a trigger pivotally mounted to a stem at the outer end of the recessed shank, a spring having one of its ends connected to the trigger and its other end secured within the recessed shank, a link connected to the trigger and the lug of the collar, whereby when the trigger is moved the scrapers will be actuated within the cup, and a cover for protecting the mechanism within the shank, the outer edge of the cover being maintained in place by a fastening member at its front end entered into the bottom edge of the cup, and at its inner end by engagement with the pivot stem, to which it is locked by an adjustable nut, substantially as described.

13,171. [WITHDRAWN.]

13,172. LIFE-GUARD FOR RAILWAY-CARS. GEORGE A. PARMENTER, Cambridge, Mass. Filed Sept. 26, 1910. Serial No. 583,976. Original No. 955,678, dated Apr. 19, 1910, Serial No. 536,738.

1. The combination with a car body and swiveled truck frame, of a scoop pivotally supported by the truck frame, a curved bar connected with the scoop, a rocking lever pivotally supported from the car body, anti-friction means carried by the rocking lever and engaging said curved bar, means for normally holding said lever in position to hold the scoop elevated, and tripping means.



2. The combination with a car body and swiveled truck frame, of a scoop pivotally carried by the truck frame, and having upwardly extending arms, a curved bar carried by said arms, a lever pivotally supported from the car body, means effecting a sliding connection between said lever and said curved bar, a longitudinally movable locking bar connected at its rear end to said lever, means normally locking said movable bar against movement and tripping means.

3. The combination with a car body and swiveled truck frame, of a scoop pivotally carried by the truck frame and having upwardly extending arms, a curved bar carried by said arms, a lever pivotally supported from the car body, means effecting a sliding connection between said lever and said curved bar, a longitudinally movable locking bar, pivotally connected at its rear end to said lever and having on its side a lug or shoulder, a guide for the forward end of said bar having a co-acting shoulder, a spring tending to swing said bar laterally to hold said shoulders in engagement, and tripping means for swinging said bar against the tension of the spring to disengage said shoulders.

4. The combination with a car body and truck frame of a scoop pivotally connected to the truck frame, a lever pivotally supported from the car body and having an operative connection with the scoop, a longitudinally movable bar disposed at one side of the center of the car body and having its rear end pivotally connected to said lever, a guide supported from the car platform in which the forward end of said bar is supported to have a limited swinging movement, said bar and said guide having locking parts adapted to be engaged by said swinging movement, and tripping means for swinging said bar to disengage said parts.

5. The combination with a car body and truck frame, of a scoop pivotally connected to the truck frame, a lever pivotally supported from the car body, and having an operative connection with the scoop, a longitudinally movable bar disposed at one side of the center of the car body and having its rear end connected to said lever by a pivot having a vertical axis, a guide for the forward end of the bar, said guide and said bar having locking parts adapted to be engaged by the lateral movement of said bar, and tripping means for swinging said bar to disengage said parts.

6. The combination with a car body and truck frame, of a scoop pivotally connected to the truck frame, a lever pivotally supported from the car body and having an operative connection with the scoop, a longitudinally movable

bar disposed at one side of the center of the car body and having its rear end connected to said lever by a pivot having a vertical axis, a guide for the forward end of the bar, said guide and said bar having locking parts adapted to be engaged by the lateral movement of said bar, a diagonally arranged spring connected at one end to said bar and at the other end with a stationary part carried by the car body.

7. The combination with a car body, and truck frame, of a scoop pivotally connected to the truck frame, a lever pivotally supported from the car body and having an operative connection with the scoop, a longitudinally movable bar disposed at one side of the center of the car body and having its rear end connected to said lever by a pivot having a vertical axis, a guide for the forward end of the bar, said guide and said bar having locking parts adapted to be engaged by the lateral movement of said bar, a diagonally arranged spring connected at one end to said bar and at the other end with the stationary part carried by the car body and tending to bring said locking parts into engagement, a bell crank lever pivotally supported from the car body and in proximity to the bar, said bell crank lever and said bar having the one a slot and the other a pin engaging the slot and a tripping device for rocking said bell crank lever, substantially as described.

8. The combination with a car body and swiveled truck frame, of a scoop pivotally connected to the truck frame, a curved bar carried by the scoop, a lever pivotally supported from the car body and having a part engaging said curved bar with a sliding engagement, a longitudinally movable bar disposed at one side of the center of the car and connected at its rear end with said pivoted lever, locking means for holding said longitudinally movable bar against movement, tripping means for releasing said bar, a pivoted resetting lever carried by the car body, a manually operable device on the car platform and connections between said manually operable device and the resetting lever, said connections being also disposed at one side of the center of the car body.

9. In combination with a car body and its swiveled truck frame, of a scoop pivotally supported from the truck frame and having upwardly extending arms at its rear edge, a curved bar connected with said arms, a lever pivotally connected to the car platform, a bracket carried by said lever, approximately centrally of the car body and having a wheel acting on said curved bar, a longitudinally movable locking bar disposed at one side of the center of the car body and connected at its rear end to said lever, means for locking said bar normally against movement, and a tripping means for tripping said bar, a resetting lever pivotally supported from the car body and having one end operably connected to said first named lever, a manually operable device on the car platform, and connections between said device and the opposite end of the tripping lever, substantially as described.

10. In a wheel guard, a drop scoop, a longitudinally movable locking bar with means at the rear end thereof for normally holding the scoop elevated, said bar being capable of a limited lateral swinging movement and having on its side a lug or shoulder, a guide for the forward end of the bar having a coacting shoulder, a spring tending to swing said bar laterally to hold said shoulders in engagement, and tripping means for swinging said bar laterally against the tension of the spring to disengage said shoulders.

11. In a wheel guard a drop scoop, a longitudinally movable locking bar for normally holding said scoop elevated, said bar being capable of a lateral swinging movement, guiding means for said bar, means whereby the lateral swinging movement of the bar locks and unlocks the same, a spring acting on said bar and tending to swing it laterally in one direction to lock it and also to draw it longitudinally when unlocked, and tripping means for swinging the bar laterally to unlock it to release the scoop.

12. In a wheel guard a drop scoop, a longitudinally movable locking bar with means at the rear end coacting with the scoop for holding said scoop elevated, said bar being capable of a limited lateral swinging movement, a guide for the forward portion of the bar, a lug on the side of the bar arranged to coact with a stationary lug to hold said bar in locking position, a diagonally arranged spring connected at one end to said bar and at the other end to a stationary part and tending to hold said lugs in engagement and also, when the latter are disengaged, to draw the bar forward, and tripping means for swinging the bar laterally to disengage said lugs.

13. In a wheel guard, a drop scoop, a longitudinally movable locking bar with means at the rear end thereof for holding the scoop elevated, said bar being capable of a limited lateral swinging movement, means whereby the lateral swinging movements lock and unlock the bar, a pivoted bell crank lever located in proximity to the bar, said bell crank lever having the one a slot and the other a pin engaging the slot, and a tripping device for rocking said bell crank lever.

14. In a wheel guard a drop scoop, a longitudinally movable locking bar with means at the rear end thereof for holding the scoop elevated, said bar being capable of a lateral swinging movement, a spring tending to swing said bar toward the limit of its movement toward one side, and in locking position, a trip device, and connections whereby the operation of the trip device swings said bar against the tension of the spring into unlocking position.

15. In a wheel guard a drop scoop, a longitudinally movable locking bar with means at the rear end thereof for holding the scoop elevated, said bar being capable of a lateral swinging movement, a spring tending to swing said bar toward the limit of its movement toward one side, and in locking position, a bell crank lever having one arm arranged to coact with a part on the bar, and a trip device connected with said bell crank lever for causing it to swing the bar into unlocking position.

16. The combination with a railway car of a drop scoop carried thereby, a longitudinally movable locking bar supported from the car and capable of a limited horizoutal swinging movement for locking and unlocking the same, means at the rear end of said bar for holding the scoop elevated, a bell crank lever pivotally supported from the car and having one arm extending substantially parallel with the bar and provided with an elongated slot, a pin or projection carried by the bar and engaging said slot, said pin resting in the rear end of the slot when the bar is in locking position, the other arm of said bell crank lever extending substantially at right angles to the bar, and a swinging trip frame supported from the front of the car and operatively connected to said other arm of the bell crank lever.

17. Means for supporting the scoops or baskets of car fenders, comprising a bracket adapted to be secured to the truck frame and having a vertical guide way, a hanger vertically movable in said guide way, and a spring located in said guide way and supporting the hanger.

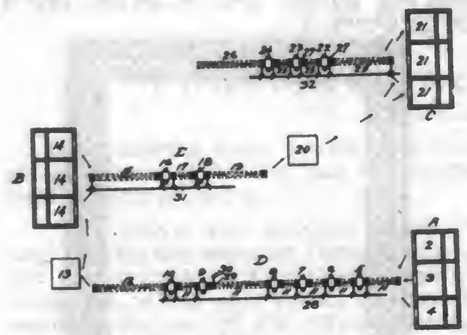
18. In a car fender, the combination with the pilot board of a truck, of a bracket carried by said pilot board and having a vertical guide way with an abutment or shoulder near the lower end, a hanger having a part movably held in said guide way and having a corresponding shoulder, a spring interposed between said shoulders, and a scoop or basket pivotally supported by said hanger.

19. In a car fender, the combination with the pilot board of a truck, of a bracket secured thereto, and having a vertical guide way with overhanging flanges, a hanger having a T shaped part engaging said guide way, a spring in the guide way supporting the hanger, a removable cap closing the upper end of the guide way, and a scoop supported by the hanger, substantially as described.

20. In a car fender, a hanger carried by the pilot board of the truck and having an open recess, a scoop having a rear bar of L shaped angle iron, and a removable bolt having a turned down end engaging one flange of said angle iron.

21. The combination with a car body and swiveled truck frame, of a pair of hangers resiliently supported from the truck frame, a scoop pivotally carried by the hangers and having upwardly extending members, a curved bar hinged to said members, a longitudinally movable locking bar having at its rear end a sliding engagement with said curved bar, and tripping means.

13,173. ROLLING BLACK PLATES OR SHEETS. WILLIAM H. DONNER, Pittsburg, Pa., assignor to Percy E. Donner, Pittsburg, Pa. Filed June 18, 1909. Serial No. 503,043. Original No. 620,541, dated Feb. 28, 1899, Serial No. 701,309.



1. In the manufacture of black plates or sheets, a heating furnace, a continuous train made up of several sets of rolls arranged adjacent thereto in tandem, a doubler arranged to act upon the metal after passing through the continuous train, a heating-furnace to which the doubled pack is taken, and another continuous train to which the metal is taken from the latter furnace; substantially as described.

2. The method of making black-sheets, which consists in rolling a series of heated packs successively by passing each pack through the several sets of rolls of a continuous train, doubling each pack, reheating the doubled packs in series, rolling each pack successively by passing it through the several sets of rolls of a second continuous train, and continuously supplying the packs to the furnaces and to the continuous trains; substantially as described.

3. The method of making black-sheets, which consists in rolling a series of heated packs successively by passing them through a continuous train made up of separate sets of rolls, doubling the rolled packs, placing the doubled packs in a series in a furnace-chamber at a point remote from those being rolled, rolling each pack successively by passing it through a second continuous train of rolls and supplying the packs in series to the furnaces and to the rolls, so as to keep the latter at a substantially uniform temperature; substantially as described.

4. In a plant for rolling black-plate, a continuous train made up of several coöperating sets of sheet rolls, having two of the sets of rolls in said train sufficiently removed from each other to allow the bars or sheets to be matched between said sets of rolls, and matching mechanism between said sets of rolls.

5. The method of rolling black-plate, consisting in feeding the sheet bars separately and successively through several coöperating sets of rolls in a continuous train, stopping and holding one plate between two of the sets of rolls of the train until another plate comes up and is matched with it, and then passing the pack so formed through the other sets of rolls in the continuous train.

6. In the manufacture of black plates or sheets, the combination with a set of rolls, of driven chains arranged to carry the plates or sheets to said rolls, and rollers in front of the rolls and arranged to prevent twisting or spreading of the metal; substantially as described.

7. In a plant for the manufacture of black-plate, the combination with several continuous trains, each made up of two or more sets of rolls arranged in tandem, of furnaces arranged between the trains and arranged to heat the metal coming from each train; substantially as described.

8. In the manufacture of black-plates or sheets, a heating-furnace, a continuous train made up of several sets of rolls arranged in tandem, a doubler arranged to act upon the metal after passing through the continuous train, a heating furnace to which the doubled pack is taken, another continuous train to which the metal is taken from the latter furnace, and positively-driven feed mechanism between the sets of rolls of each continuous train, substantially as described.

13,174. SECONDARY BATTERY. WILLIAM MORRISON, Des Moines, Iowa. Filed May 28, 1909. Serial No. 499,059. Original No. 916,575, dated Mar. 30, 1909, Serial No. 160,645.



1. An electric reversible galvanic battery in which there is a suitable alkaline electrolyte, a positive pole electrode and a negative pole electrode containing zinc, said zinc element being in excess of that which the electrolyte can take up in solution, the major part of the zinc being oxidized in the working of the battery, without being taken up in the solution, to produce electric current.

2. An electric reversible galvanic battery in which there is a suitable alkaline electrolyte, a positive pole electrode and a negative pole electrode containing zinc, said zinc element being greatly in excess of that which the electrolyte can take up in solution, the major part of the zinc being oxidized in the working of the battery, without being taken up in the solution, to produce electric current.

3. An electric reversible galvanic battery in which there is a suitable alkaline electrolyte, a positive pole electrode, a negative pole electrode containing zinc, together with mercury in contact with the negative pole electrode, said zinc being in excess of that which the electrolyte will take up in solution, the major part of the zinc being oxidized in the working of the battery to produce electric current, without being taken up in solution.

4. An electric reversible galvanic battery in which there is a suitable alkaline electrolyte, a positive pole electrode, a negative pole electrode containing zinc, together with mercury in contact with the negative pole electrode, said zinc being greatly in excess of that which the electrolyte will take up in solution, the major part of the zinc being oxidized in the working of the battery to produce electric current, without being taken up in solution.

5. An electric reversible galvanic battery in which there is a suitable alkaline electrolyte, and in which zinc is one of the elements, said zinc element being in excess of that which the electrolyte can take up in solution, the major part of the zinc being oxidized in the working of the battery without being taken up in solution to produce electric current, and a positive pole electrode, substantially insoluble in said electrolyte.

6. An electric reversible galvanic battery in which there is a suitable alkaline electrolyte, and in which zinc is one of the elements, said zinc element being greatly in excess of that which the electrolyte can take up in solution, the major part of the zinc being oxidized in the working of the battery, without being taken up in solution, to produce electric current, and a positive pole electrode, substantially insoluble in said electrolyte.

7. In a reversible storage battery in which zinc is one of the elements, an alkaline electrolyte, and a positive pole electrode substantially insoluble in the electrolyte, said zinc being greatly in excess of that which the electrolyte can take up in solution, whereby the excess of zinc is oxidized without being taken up in solution, thereby producing an electric current.

8. In a reversible storage battery, an alkaline electrolyte, a positive pole electrode substantially insoluble in said electrolyte, and a negative pole electrode containing zinc, said zinc being greatly in excess of that which the

electrolyte can take up in solution, whereby the excess of zinc is oxidized by the said electrolyte without being taken up in solution, the zinc being oxidized to produce electric current, the positive pole electrode being of sufficient size to maintain the flow of electric current thus produced.

9. In an electric reversible galvanic battery in which there is a suitable alkaline solution, a negative-pole electrode at or near the bottom of the cell, zinc in contact with the negative-pole electrode, and a positive-pole electrode above the negative-pole electrode substantially insoluble in said electrolyte, insulating means located between said electrodes adapted to subdivide the electrolyte between said electrodes, said zinc being in excess of that which said electrolyte can take up in solution, the zinc being oxidized to produce electric current, the positive pole being of sufficient size to maintain the flow of electric current thus produced.

10. In an electric reversible galvanic battery in which there is a suitable alkaline solution, zinc as the positive active element, a negative-pole electrode disposed at or near the bottom of the cell in substantially a horizontal position so that gravity tends to cause the active material to remain in contact with the negative-pole electrode, and a positive pole electrode substantially insoluble in said electrolyte, above the negative-pole electrode, together with mercury in contact with the negative-pole electrode, said zinc being in excess of that which said electrolyte can take up in solution, and being oxidized in the working of the battery.

11. In an electric reversible galvanic battery, in which there is a suitable alkaline solution, a negative-pole electrode at or near the bottom of the cell, zinc in contact with said electrode, a positive-pole electrode above the negative-pole electrode, and insulating means located between said electrodes adapted to subdivide the entire body of the electrolyte between said electrodes, said zinc being greatly in excess of that which the electrolyte can take up in solution, whereby the excess of zinc is oxidized by said electrolyte without being taken up in the solution, thereby producing an electric current.

12. In an electric reversible galvanic battery in which there is a suitable alkaline solution, a negative-pole electrode at or near the bottom of the cell, zinc and mercury in contact with said electrode, a positive-pole electrode above the negative-pole electrode and insulating means located between said electrodes adapted to subdivide the entire body of the electrolyte between said electrodes, said zinc being greatly in excess of that which the electrolyte can take up in solution, whereby the excess of zinc is oxidized by said electrolyte without being taken up in the solution, thereby producing an electric current.

13. In an electric reversible galvanic battery in which there is a suitable alkaline solution, zinc as the positive active element, a negative-pole electrode so disposed at or near the bottom of the cell in a substantially horizontal position that gravity tends to cause the active material to remain in contact with the negative-pole electrode, a positive-pole electrode above the negative-pole electrode, said zinc being greatly in excess of that which the electrolyte can take up in solution, whereby the excess of zinc is oxidized by said electrolyte without being taken up in solution, thereby producing an electric current.

14. In an electric reversible galvanic battery in which there is a suitable alkaline solution, zinc as the positive active element, a negative-pole electrode disposed at or near the bottom of the cell in substantially a horizontal position so that gravity tends to cause the active material to remain in contact with the negative-pole electrode, and a positive-pole electrode above the negative-pole electrode, together with mercury in contact with the negative-pole electrode, the mercury re-amalgamating the negative-pole electrode in each successive charge, and insulating means between said electrodes adapted to subdivide the body of electrolyte therebetween, said zinc being greatly in excess of that which the electrolyte can take up in solution, whereby the excess of zinc is oxidized by said electrolyte without being taken up in solution, thereby producing an electric current.

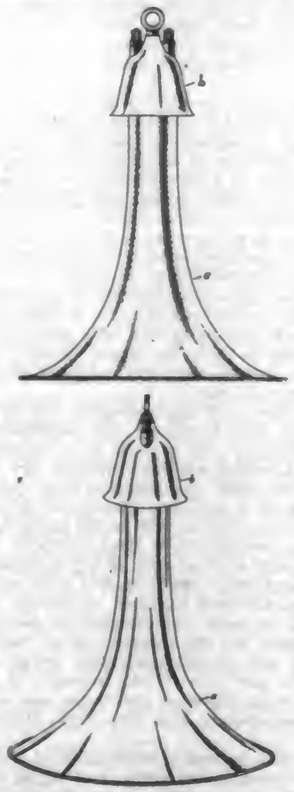
DESIGNS.

40,994. FRAME FOR PICTURES, MIRRORS, OR SIMILAR ARTICLES. JOHN R. FOSTER, Arlington, Mass. Filed Sept. 12, 1910. Serial No. 581,739. Term of patent 3½ years.



The ornamental design for a frame for pictures, mirrors, and similar articles as shown.

40,995. LAMP-CASING. WILLIAM H. GARDINER, New York, N. Y. Filed Nov. 23, 1909. Serial No. 529,654. Term of patent 14 years.



The ornamental design for a lamp casing as shown and described.

TRADE-MARKS

PUBLISHED NOVEMBER 22, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 24,076. (CLASS 48. MALT EXTRACTS AND LIQUORS.) BARTHOLOMAY BREWERY COMPANY, Rochester, N. Y. Filed Dec. 17, 1906. Used ten years.



Particular description of goods.—Beer and Ale.

Ser. No. 41,085. (CLASS 32. FURNITURE AND UPHOLSTERY.) ENTERPRISE BED COMPANY, Hammond, Ind. Filed Mar. 11, 1909.

HYGEIA

Particular description of goods.—Spring-Beds, Spring-Mattresses, and Bed-Springs.

Ser. No. 43,474. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE CHANDLER AND RUDD COMPANY, Cleveland, Ohio. Filed July 12, 1909.

Sweet Clover

Particular description of goods.—Hams, Bacon, and Sausages.

Ser. No. 44,207. (CLASS 48. MALT EXTRACTS AND LIQUORS.) ED LOEFLUND & Co., Grunbach, Germany. Filed Aug. 18, 1909.



The facsimile-signature shown being that of Ed. Loeflund, no claim being made to the words "Loeflund's Malt Soup" and "Prof. Dr. A. Keller."

Particular description of goods.—Malt Extract Containing Potassium Carbonate.

Ser. No. 45,627. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) BOREN-STEWART COMPANY, Dallas, Tex. Filed Oct. 30, 1909.



Particular description of goods.—Coffee and Canned Fruits, Vegetables, Fish, and Oysters.

Ser. No. 45,639. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) LIMONEIRA COMPANY, Santa Paula, Cal. Filed Nov. 1, 1909.



Particular description of goods.—Nuts.

Ser. No. 45,681. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE H. & M. HAIR TONIC COMPANY, Seattle, Wash. Filed Nov. 2, 1909.



Particular description of goods.—Hair-Tonics.

Ser. No. 46,939. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE E. KAHNS' SONS CO., Cincinnati, Ohio. Filed Jan. 6, 1910.



Particular description of goods.—Bacon, Ham, Pure Lard, Sausage, Pure Beef-Fat; and Fresh Meats Comprising Beef, Beef-Tongues, Veal, Lamb, Mutton, Selected Sweetbreads, and Poultry.

Ser. No. 47,480. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) W. H. BULL MEDICINE COMPANY, St. Louis, Mo. Filed Jan. 31, 1910. Used ten years.



Particular description of goods.—A Medicinal Preparation Made from Herbs and Iron.

Ser. No. 47,537. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) S. STRUNZ & SON, Pittsburg, Pa. Filed Feb. 2, 1910.

LIN-O

Particular description of goods.—Semiliquid Soap.

Ser. No. 47,559. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) CARL DAMCKE & SON, New York, N. Y. Filed Feb. 3, 1910.



Particular description of goods.—Starch Polish.

Ser. No. 47,631. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) SMITH, KLINE & FRENCH COMPANY, Philadelphia, Pa. Filed Feb. 7, 1910. Used ten years.

NORWOOD

Particular description of goods.—Root-Beer Extract.

Ser. No. 48,094. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) NATHEN CUPERSMITH, Philadelphia, Pa. Filed Mar. 1, 1910.

AERO

Particular description of goods.—Furnaces, Steam-Boilers for Heating Purposes, Coal and Wood Stoves for Heating and Cooking Purposes, Stovepipes, and Grate-Bars.

Ser. No. 48,689. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) SYLVESTER B. CURRY, Cincinnati, Ohio. Filed Mar. 26, 1910.



Particular description of goods.—Cough-Drops.

Ser. No. 48,728. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) A. FREDERICK COLLINS, Newark, N. J. Filed Mar. 29, 1910.

A. Frederick Collins

Which consists of my facsimile-signature.
Particular description of goods.—Telegraphic and Telephonic Apparatus.

Ser. No. 49,099. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) BRISTOL DRUG MFG. CO., Bristol, Va., assignor to Bristol Drug and Gum Corporation, Bristol, Tenn., a Corporation of Virginia. Filed Apr. 14, 1910.



The portrait being that of Mr. E. C. Lockett.
Particular description of goods.—Chewing-Gum.

Ser. No. 49,581. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) THE WEIDEMAN COMPANY, Cleveland, Ohio. Filed May 7, 1910.



Particular description of goods.—Ginger-Ale, Sarsaparilla, Birch-Beer.

Ser. No. 49,609. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) JAMES ARTHUR JONES, Sioux City, Iowa. Filed May 9, 1910.



Particular description of goods.—A Remedy for Diseases of the Eyes.

Ser. No. 49,854. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) BEAUMONT MEDICINE CO., Beaumont, Tex. Filed May 21, 1910.



Particular description of goods.—Remedies for Diseases of the Liver and for Diarrhea.

Ser. No. 49,913. (CLASS 17. TOBACCO PRODUCTS.) J. FRED WILCOX & COMPANY, Chicago, Ill. Filed May 25, 1910.



The picture being fanciful.
Particular description of goods.—Cigars.

Ser. No. 49,933. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) LICHTENSTEIN & ENGLISH, San Francisco, Cal. Filed May 26, 1910. Used ten years.

The cross being printed in red.
Particular description of goods.—Antiseptic Fluid.

Ser. No. 50,016. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) THE SUMMIT CITY SOAP WORKS, Fort Wayne, Ind. Filed May 31, 1910.



Particular description of goods.—Soap and Washing Powder.

Ser. No. 50,059. (CLASS 17. TOBACCO PRODUCTS.) ALLEN R. CRESSMAN'S SONS, Philadelphia, Pa. Filed June 2, 1910.

Counsellor

Particular description of goods.—Cigars.

Ser. No. 50,384. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) PHILADELPHIA QUARTZ COMPANY, Philadelphia, Pa. Filed June 17, 1910.

TROLLEY

Particular description of goods.—Soap.

Ser. No. 50,402. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) EGBERT B. HAWK, Bloomington, Ill. Filed June 22, 1910.

SMAX

Particular description of goods.—A Non-Alcoholic Drink Composed of Grape-Fruit, Sugar, Citric Acid, and Water.

Ser. No. 50,738. (CLASS 35. BELTING, HOSE, MACHINERY PACKING, AND NON-METALLIC TIRES.) THE BRADFORD BELTING CO., Cincinnati, Ohio. Filed July 7, 1910. Used ten years.

MONARCH

Particular description of goods.—Leather Belting.

Ser. No. 50,756. (CLASS 39. CLOTHING.) THE HUISKAMP BRO'S CO., Keokuk, Iowa. Filed July 8, 1910.

CALENDAR

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 50,979. (CLASS 15. OILS AND GREASES.) UNITED OIL REFINERIES, (INC.), Los Angeles, Cal. Filed July 22, 1910.

AUTOLINE

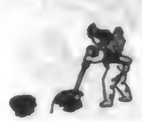
Particular description of goods.—Fuel-Oil.

Ser. No. 51,308. (CLASS 32. FURNITURE AND UPHOLSTERY.) BUCKINGHAM-RAE COMPANY, Chicago, Ill. Filed Aug. 8, 1910.



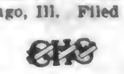
Particular description of goods.—Garment Racks and Holders for Holding, Supporting, Displaying, and Storing All Kinds of Garments and Dry Goods.

Ser. No. 51,410. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) LOUIS P. SAVAGE, Laporte, Ind. Filed Aug. 15, 1910.



Particular description of goods.—Remedies for Diseases of the Eyes.

Ser. No. 51,411. (CLASS 39. CLOTHING.) SEARS, ROEBUCK AND CO., Chicago, Ill. Filed Aug. 15, 1910.



Particular description of goods.—Corsets and Women's and Children's Underwaists.

Ser. No. 51,480. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) KLIPPEL MANUFACTURING COMPANY, Chicago, Ill. Filed Aug. 22, 1910.

K&T

Particular description of goods.—Automatic Valves, Pressure-Regulators, Back-Pressure Valves, Automatic Exhaust-Relief Valves, Automatic Pump Regulators and Receivers, Balance-Valves, Float Tank-Valves, Steam-Traps, Grease and Oil Traps, Hot-Water-Tank Regulators, Blower-Regulators.

Ser. No. 51,492. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE NORTH FORK FRUIT GROWERS ASSOCIATION, Paonia, Colo. Filed Aug. 22, 1910.



No claim being made to the representation of apples.
Particular description of goods.—Fresh Apples in Boxes.

Ser. No. 51,520. (CLASS 14. METALS AND METAL CASTINGS AND FORGINGS.) HOYT METAL COMPANY, St. Louis, Mo. Filed Aug. 24, 1910.

E. R. Hoyt.

Consisting of the facsimile-signature of E. R. Hoyt.
Particular description of goods.—Babbitt Metal.

Ser. No. 51,583. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) W. D. WALLACE, Clinton, Ind. Filed Aug. 27, 1910.

EXCELLO

Particular description of goods.—Remedies for Piles.

Ser. No. 51,631. (CLASS 19. VEHICLES, NOT INCLUDING ENGINES.) GRIFFIN S. ACKLEY, New York, N. Y. Filed Aug. 31, 1910.

ABCo

Particular description of goods.—Hand-Operated Brakes for Railway-Cars.

Ser. No. 51,783. (CLASS 39. CLOTHING.) PERCY EDWARD MARLOW, Northampton, England. Filed Sept. 12, 1910.

SIR ROGER



The picture shown being an ideal head and not a portrait of any person either living or dead.
Particular description of goods.—Boots, Shoes, Slippers, Leggings, and Gaiters Made of Leather.

Ser. No. 51,803. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) OTIS CO., Ware, Mass. Filed Sept. 14, 1910.

MILLONARIO

Particular description of goods.—Cotton Piece Goods.

Ser. No. 51,860. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WINTER LOEB GROCERY CO., Montgomery, Ala. Filed Sept. 17, 1910.

CONGRESS

Particular description of goods.—Wheat-Flour.

Ser. No. 51,984. (CLASS 6. CHEMICALS, MEDICINES AND PHARMACEUTICAL PREPARATIONS.) SOCIETY OF CHEMICAL INDUSTRY IN BASLE, Basel, Switzerland. Filed Sept. 27, 1910.

LIPOBROMINE

Particular description of goods.—A Pharmaceutical Product Containing Bromin and Suitable to be Employed as a Substitute for Potassium Bromid.

Ser. No. 51,908. (CLASS 39. CLOTHING.) OPPENHEIM OBERNDORF & CO., Baltimore, Md. Filed Sept. 28, 1910.

Raintex

Particular description of goods.—Men's Overshirts Made of Woven Cotton Fabric.

Ser. No. 51,909. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) HERMAN G. CHERRY, Kansas City, Mo. Filed Sept. 28, 1910.

CHERRYMO

Particular description of goods.—Stock Food.

Ser. No. 52,008. (CLASS 17. TOBACCO PRODUCTS. WILLIAM TALMAGE EDWARDS, Americus, Ga. Filed Sept. 28, 1910.

MUCKALEE

Particular description of goods.—Cigars, Cheroots, and Cigarettes.

Ser. No. 52,010. (CLASS 44. DENTAL, MEDICAL, AND SURGICAL APPLIANCES.) MORGAN AND MAXFIELD, Holyoke, Mass. Filed Sept. 29, 1910.

M-M

Particular description of goods.—Disk Mandrels, Points, Polishers, and Polisher-Holders for Dental Use.

Ser. No. 52,012. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) BUSH AND ILTEN, Grand Forks, N. D. Filed Sept. 29, 1910.

SlipO

Particular description of goods.—A Calcimining Compound.

Ser. No. 52,021. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) THE CAPEWELL HORSE NAIL COMPANY, Hartford, Conn. Filed Sept. 29, 1910.

SILVER KING

Particular description of goods.—Horse-Nails.

Ser. No. 52,079. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) A. MULLER & Co., Strassburg, Germany. Filed Oct. 3, 1910.

Damier

Particular description of goods.—Chewing-Gum.

Ser. No. 52,099. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) STEWART MCGLASHEN & SON LIMITED, Edinburgh, Scotland. Filed Oct. 4, 1910.

M◇M

Particular description of goods.—Glass-Cutters' Stone Wheels.

Ser. No. 52,106. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) PENN PETROLEUM AND SUPPLY CO., Philadelphia, Pa. Filed Oct. 4, 1910.

LINSINE

Particular description of goods.—Substitute for Linseed-Oil.

Ser. No. 52,140. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) CAMBRIA DRUG AND MANUFACTURING COMPANY, Johnstown, Pa. Filed Oct. 6, 1910.



Particular description of goods.—Liniment.

Ser. No. 52,159. (CLASS 47. WINES.) UNITED WINE & TRADING CO., New York, N. Y. Filed Oct. 7, 1910.



Particular description of goods.—Sherry and Port Wine.

Ser. No. 52,327. (CLASS 44. DENTAL, MEDICAL, AND SURGICAL APPLIANCES.) THE MEIER DENTAL MANUFACTURING COMPANY, St. Louis, Mo. Filed Oct. 19, 1910.

USONA

Particular description of goods.—Dental Regulating Appliances, Consisting in Spur-Wires, Retaining-Pipes, Expansion-Arches, Jack-Screws, Retracting-Screws, Heavy Band Metal, Molar Clamp-Bands, Wrenches, and Bicuspid Clamp-Bands.

Ser. No. 52,426. (CLASS 39. CLOTHING.) E. ROSENFELD AND CO., Baltimore, Md. Filed Oct. 24, 1910.

757

Particular description of goods.—Dress-Shirts, Negligée Shirts, and Work-Shirts.

Ser. No. 52,427. (CLASS 39. CLOTHING.) E. ROSENFELD AND CO., Baltimore, Md. Filed Oct. 24, 1910.

826

Particular description of goods.—Dress-Shirts, Negligée Shirts, and Work-Shirts.

Ser. No. 52,428. (CLASS 39. CLOTHING.) E. ROSENFELD AND CO., Baltimore, Md. Filed Oct. 24, 1910.

1923

Particular description of goods.—Dress-Shirts, Negligée Shirts, and Work-Shirts.

Ser. No. 52,429. (CLASS 39. CLOTHING.) E. ROSENFELD AND CO., Baltimore, Md. Filed Oct. 24, 1910.



Particular description of goods.—Dress-Shirts, Negligée Shirts, and Work-Shirts.

Ser. No. 52,430. (CLASS 39. CLOTHING.) E. ROSENFELD AND CO., Baltimore, Md. Filed Oct. 24, 1910.

1881

Particular description of goods.—Night-Shirts and Pajamas.

Ser. No. 52,543. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE HOFFMANN-LA ROCHE CHEMICAL WORKS, New York, N. Y. Filed Oct. 31, 1910.

Thiocol

Particular description of goods.—Potassium Guiacol-Sulfonate, a Remedy for Phthisis.

Ser. No. 52,544. (CLASS 6. CHEMICALS, MEDICINES AND PHARMACEUTICAL PREPARATIONS.) THE HOFFMANN-LA ROCHE CHEMICAL WORKS, New York, N. Filed Oct. 31, 1910.

ARSYLIN

Particular description of goods.—A Medicinal Tonic.

Ser. No. 52,545. (CLASS 6. CHEMICALS, MEDICINES AND PHARMACEUTICAL PREPARATIONS.) THE HOFFMANN-LA ROCHE CHEMICAL WORKS, New York, N. Filed Oct. 31, 1910.

ASTEROL

Particular description of goods.—A Product Having Antiseptical Properties.

TRADE-MARKS

REGISTERED NOVEMBER 22, 1910.

80,203. POLISHES. Adams & Elting Company, Chicago, Ill.
Filed May 11, 1910. Serial No. 49,645. PUBLISHED SEPTEMBER 20, 1910.

80,204. PLAYING-CARDS. American Bank Note Company, New York, N. Y.
Filed November 4, 1909. Serial No. 45,709. PUBLISHED MARCH 15, 1910.

80,205. FURNITURE-POLISH. John Morton Barth, East St. Louis, Ill.
Filed January 31, 1910. Serial No. 47,476. PUBLISHED SEPTEMBER 20, 1910.

80,206. COTTON LAMP-WICKING. Robert Bishop, Trustee Of The Estate Of Robert Bishop, Boston, Mass.
Filed June 4, 1908. Serial No. 35,136. PUBLISHED SEPTEMBER 20, 1910.

80,207. PAPER, ENVELOPS, TABLETS, AND BLANK BOOKS. J. C. Blair Company, Huntingdon, Pa.
Filed June 17, 1908. Serial No. 35,460. PUBLISHED SEPTEMBER 1, 1908.

80,208. TEA. Norval Landon Burchell, Washington, D. C.
Filed June 17, 1910. Serial No. 50,360. PUBLISHED SEPTEMBER 20, 1910.

80,209. CANNED FRUITS AND RAISINS. California Fruit Canners Association, San Francisco, Cal.
Filed February 19, 1909. Serial No. 40,692. PUBLISHED NOVEMBER 16, 1909.

80,210. COMPOSITION ROOFING. The Cincinnati Sheet Metal & Roofing Company, Cincinnati, Ohio.
Filed July 20, 1910. Serial No. 50,945. PUBLISHED SEPTEMBER 20, 1910.

80,211. STRAIGHT WHISKY. Daniel Clemens, Fort Wayne, Ind.
Filed July 26, 1910. Serial No. 51,063. PUBLISHED SEPTEMBER 20, 1910.

80,212. STRAIGHT WHISKY. Daniel Clemens, Fort Wayne, Ind.
Filed July 26, 1910. Serial No. 51,064. PUBLISHED SEPTEMBER 20, 1910.

80,213. STRAIGHT WHISKY. Daniel Clemens, Fort Wayne, Ind.
Filed July 26, 1910. Serial No. 51,065. PUBLISHED SEPTEMBER 20, 1910.

80,214. STRAIGHT WHISKY. Daniel Clemens, Fort Wayne, Ind.
Filed July 26, 1910. Serial No. 51,066. PUBLISHED SEPTEMBER 20, 1910.

80,215. WIRE-CLOTH. Clinton Wire Cloth Company, Clinton, Mass.
Filed July 21, 1910. Serial No. 50,963. PUBLISHED SEPTEMBER 20, 1910.

80,216. WIRE-NETTING. Clinton Wire Cloth Company, Clinton, Mass.
Filed July 21, 1910. Serial No. 50,964. PUBLISHED SEPTEMBER 20, 1910.

80,217. WIRE-CLOTH. Clinton Wire Cloth Company, Clinton, Mass.
Filed July 25, 1910. Serial No. 51,046. PUBLISHED SEPTEMBER 20, 1910.

80,218. HYDRAULIC CEMENT. Colloseus Cemen Company, New York, N. Y.
Filed February 23, 1910. Serial No. 47,965. PUBLISHED SEPTEMBER 20, 1910.

80,219. VERMIN-EXTERMINATING PREPARATIONS Connolly & Slaven, Galesburg, Ill.
Filed May 26, 1910. Serial No. 49,937. PUBLISHED SEPTEMBER 20, 1910.

80,220. CERTAIN KINDS OF STONES AND RAZOR HONES. The Deealick Oil Stone Company, Chagrin Falls, Ohio.
Filed April 13, 1910. Serial No. 49,056. PUBLISHED SEPTEMBER 20, 1910.

80,221. BED-MATTRESS PROTECTORS. Excelsio Quilting Company, New York, N. Y.
Filed June 6, 1910. Serial No. 50,138. PUBLISHED SEPTEMBER 20, 1910.

80,222. CERTAIN CHEMICALS. Fritzsche Brothers New York, N. Y.
Filed August 3, 1910. Serial No. 51,248. PUBLISHED SEPTEMBER 20, 1910.

80,223. MEDICINE FOR CERTAIN DISEASES. Morit Goodman, San Francisco, Cal.
Filed March 1, 1910. Serial No. 48,087. PUBLISHED SEPTEMBER 20, 1910.

80,224. WATERPROOFING COMPOSITION. Impervious Products Company, New York, N. Y.
Filed May 17, 1910. Serial No. 49,771. PUBLISHED SEPTEMBER 20, 1910.

80,225. INFANTS' AND CHILDREN'S CAPS. A. D Katcher & Bro., New York, N. Y.
Filed June 9, 1910. Serial No. 50,218. PUBLISHED SEPTEMBER 20, 1910.

80,226. HOSIERY. Klusewitz Bros., Reading, Pa.
Filed May 20, 1910. Serial No. 49,827. PUBLISHED SEPTEMBER 20, 1910.

80,227. FACE-POWDER, ROUGE, AND NAIL-POLISH SPREAD ON PAPER. La Francesa Co., Louisville Ky.
Filed July 18, 1910. Serial No. 50,876. PUBLISHED SEPTEMBER 20, 1910.

80,228. LINEN AND WOOL PIECE GOODS. Edouar Leurent, Tourcoing, France.
Filed June 22, 1909. Serial No. 43,178. PUBLISHED SEPTEMBER 20, 1910.

80,229. LINEN AND WOOL PIECE GOODS. Edouar Leurent, Tourcoing, France.
Filed June 22, 1909. Serial No. 43,179. PUBLISHED SEPTEMBER 20, 1910.

80,230. LINEN AND WOOL PIECE GOODS. Edouar Leurent, Tourcoing, France.
Filed June 22, 1909. Serial No. 43,183. PUBLISHED SEPTEMBER 20, 1910.

80,231. WIRE-CLOTH AND CERTAIN NAMED HARD WARE. Ludlow-Saylor Wire Company, St. Louis Mo.
Filed March 21, 1910. Serial No. 48,558. PUBLISHED AUGUST 16, 1910.

80,232. CERTAIN FOODS. Albert Mackie Groce Company, Ltd., New Orleans, La.
Filed March 21, 1910. Serial No. 48,574. PUBLISHED SEPTEMBER 20, 1910.

80,233. BIT-BRACES. MARKT & Co., LTD., New York, N. Y.
Filed June 17, 1908. Serial No. 35,446. PUBLISHED SEPTEMBER 20, 1910.

80,234. CERTAIN PRECIOUS-METAL ARTICLES. VICTORINE C. MORTON, New York, N. Y.
Filed March 8, 1910. Serial No. 48,277. PUBLISHED AUGUST 2, 1910.

80,235. ENAMELED METAL WARE. THE REPUBLIC METALWARE COMPANY, Buffalo, N. Y.
Filed June 27, 1910. Serial No. 50,602. PUBLISHED SEPTEMBER 20, 1910.

80,236. STRUCTURAL BLOCKS AND TILES OF TERRA-COTTA AND CLAY. NATIONAL FIRE PROOFING COMPANY, Pittsburg, Pa.
Filed June 27, 1910. Serial No. 50,607. PUBLISHED AUGUST 23, 1910.

80,237. ABDOMINAL SUPPORTERS AND BANDAGES AND SUSPENSORIES. THE OHIO TRUSS CO., Cincinnati, Ohio.
Filed April 23, 1910. Serial No. 49,263. PUBLISHED SEPTEMBER 20, 1910.

80,238. CARBOLIC ACID, CRESOL, AND DISINFECTANTS. F. RASCHIG, Ludwigshafen-on-the-Rhine, Germany.
Filed April 21, 1910. Serial No. 49,225. PUBLISHED SEPTEMBER 20, 1910.

80,239. WHEAT-FLOUR. THE REA-PATTERSON MILLING COMPANY, Coffeyville, Kans.
Filed January 7, 1910. Serial No. 46,966. PUBLISHED MARCH 8, 1910.

80,240. COMBINATION-WRENCH. ALBERT ROBEN, Providence, R. I.
Filed April 30, 1910. Serial No. 49,394. PUBLISHED JUNE 14, 1910.

80,241. BRANDY. THE ROSENBLATT Co., San Francisco, Cal.
Filed July 30, 1910. Serial No. 51,188. PUBLISHED SEPTEMBER 20, 1910.

80,242. BEER. GABRIEL SEDLMAYR, BRAUEREI ZUM SPATEN, Munich, Germany.
Filed August 6, 1909. Serial No. 44,008. PUBLISHED SEPTEMBER 20, 1910.

80,243. CANDY. SOUR KROUT CANDY CO., Chicago, Ill.
Filed July 2, 1910. Serial No. 50,676. PUBLISHED SEPTEMBER 20, 1910.

80,244. GOLF-BALLS. A. G. SPALDING & BROS., Jersey City, N. J., and New York, N. Y.
Filed August 1, 1910. Serial No. 51,215. PUBLISHED SEPTEMBER 20, 1910.

80,245. LUBRICATING-OILS. STANDARD OIL CO. OF NEW YORK, New York, N. Y.
Filed July 20, 1910. Serial No. 50,938. PUBLISHED SEPTEMBER 20, 1910.

80,246. LUBRICATING-OILS. STANDARD OIL CO. OF NEW YORK, New York, N. Y.
Filed July 20, 1910. Serial No. 50,939. PUBLISHED SEPTEMBER 20, 1910.

80,247. LUBRICATING-OILS. STANDARD OIL CO. OF NEW YORK, New York, N. Y.
Filed July 20, 1910. Serial No. 50,940. PUBLISHED SEPTEMBER 20, 1910.

80,248. LUBRICATING-OILS. STANDARD OIL CO. OF NEW YORK, New York, N. Y.
Filed July 20, 1910. Serial No. 50,941. PUBLISHED SEPTEMBER 20, 1910.

80,249. ENAMELED METAL WARE AND HOUSEHOLD AND COOKING UTENSILS. STANZ-UND EMAILLIRWERKE, VORMALS CARL THIEL & SÖHNE, ACTIEN-GESELLSCHAFT, Lübeck, Germany.
Filed April 6, 1910. Serial No. 48,873. PUBLISHED AUGUST 16, 1910.

80,250. CERTAIN FURNITURE. CHARLES H. THUNER FURNITURE & CARPET CO., St. Louis, Mo.
Filed July 16, 1910. Serial No. 50,865. PUBLISHED SEPTEMBER 20, 1910.

80,251. WEEKLY PERIODICAL. TOBACCO WORLD CORPORATION, Audubon, N. J., and Philadelphia, Pa.
Filed June 10, 1910. Serial No. 50,254. PUBLISHED SEPTEMBER 20, 1910.

80,252. WEEKLY PERIODICAL. TOBACCO WORLD CORPORATION, Audubon, N. J., and Philadelphia, Pa.
Filed June 10, 1910. Serial No. 50,255. PUBLISHED SEPTEMBER 20, 1910.

80,253. PAPER BAGS. THE UNION BAG AND PAPER COMPANY, Jersey City, N. J., and New York, N. Y.
Filed May 16, 1910. Serial No. 49,763. PUBLISHED SEPTEMBER 20, 1910.

80,254. SYRINGES. TYRRELL'S HYGIENIC INSTITUTE, New York, N. Y.
Filed February 13, 1909. Serial No. 40,530. PUBLISHED OCTOBER 12, 1909.

80,255. FRUIT-FLAVORED CIDERS. W. W. WHITE & Co., Norfolk, Va.
Filed May 24, 1910. Serial No. 49,897. PUBLISHED SEPTEMBER 20, 1910.

80,256. MUSICAL STRINGS. THE RUDOLPH WURLITZER CO., Cincinnati, Ohio.
Filed September 3, 1908. Serial No. 37,152. PUBLISHED NOVEMBER 9, 1909.

80,257. TELESCOPES. CARL ZEISS, Jena, Germany.
Filed September 22, 1908. Serial No. 37,542. PUBLISHED SEPTEMBER 20, 1910.

80,258. TELESCOPES. CARL ZEISS, Jena, Germany.
Filed September 22, 1908. Serial No. 37,543. PUBLISHED SEPTEMBER 20, 1910.

LABELS

REGISTERED NOVEMBER 22, 1910.

15,397.—*Title:* "OLD BRIDGEPORT MONONGAHELA PURE RYE WHISKEY." (For Straight Rye Whisky.) HAMBURGER DISTILLERY LTD., Pittsburg, Pa. Filed September 30, 1910.

15,398.—*Title:* "WILD CHERRY ADE." (For Syrup for Making Beverages.) THOMAS H. CLARK, Dubuque, Iowa. Filed August 19, 1910.

15,399.—*Title:* "AUTO-LAKS." (For Medicated Chocolates of a Laxative Nature.) UNION CO-OPERATIVE ASSOCIATION, Newark, N. J. Filed September 27, 1910.

15,400.—*Title:* "BRYANT'S BENZINE." (For Fireproof Benzin.) THE LITHOS CHEMICAL COMPANY, New York, N. Y. Filed November 4, 1910.

15,401.—*Title:* "THE AMERICAN SPRAYER." (For Sprayers and Roller-Sprays.) AMERICAN TYPE FOUNDERS COMPANY, Jersey City, N. J. Filed November 10, 1910.

15,402.—*Title:* "AD-EL-ITE." (For Paint Specialties.) ADAMS & ELTING COMPANY, Chicago, Ill. Filed October 20, 1910.

15,403.—*Title:* "LEAGUE BASE BALL GAME REAL BASE BALL AT HOME." (For a Game of Base-Ball.) AMERICAN GAMES MANUFACTURING COMPANY, New York, N. Y. Filed October 12, 1910.

15,404.—*Title:* "HIGHSPIRE." (For Carpets and Floor-Coverings.) C. H. MASLAND & SONS, Philadelphia, Pa. Filed June 7, 1910.

15,405.—*Title:* "STANDARD MILLS." (For Cotton Piece Goods.) JACOB EPSTEIN, Baltimore, Md. Filed September 12, 1910.

15,406.—*Title:* "ONCE A YEAR." (For Shoes.) J. K. ORR SHOE COMPANY, Atlanta, Ga. Filed November 3, 1910.

15,407.—*Title:* "WORK IN COMFORT WITH ECONOMY." (For Shoes.) J. K. ORR SHOE COMPANY, Atlanta, Ga. Filed November 3, 1910.

PRINTS

REGISTERED NOVEMBER 22, 1910.

2,668.—*Title:* "THE SIMPSON GIRL." (For Beverages.) SIMPSON SPRING CO., Easton, Mass. Filed November 2, 1910.

2,669.—*Title:* "PRO-PHY-LAC-TIC TOOTH BRUSH." (For Tooth-Brushes.) FLORENCE MANUFACTURING COMPANY, Northampton, Mass. Filed November 7, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE MELLIN AND REID.

Decided November 4, 1910.

APPLICATION—DRAWINGS—THIN SHEET-METAL SECTIONS—SOLID BLACK PERMITTED.

Extended shading, either surface or sectional, in solid black should not be permitted, but sections of thin sheet metal may be so represented.

ON PETITION.

STEAM-PIPE FOR ARTICULATED LOCOMOTIVES.

Mr. J. Snowden Bell for the applicants.

MOORE, *Commissioner:*

This is a petition from a requirement of the draftsman that certain parts shown in section in Figure 3 of the drawings be hatched instead of shown in solid black.

Rule 52, section 3, requires that—

solid black should not be used for sectional or surface shading.

Applicants admit the propriety of this rule and disclaim any desire to have it set aside or modified, but point out that its application obviously cannot be extended to the showing of extremely thin materials in section—such, for instance, as sheet metal—where the width of a single line is as wide or wider than the thickness of the metal to be shown. They cite also the case of *ex parte Haskell*, (70 Mss. Dec., 232,) in which Commissioner Duell held as follows:

In this and similar cases I do not think the rule requiring that part of an apparatus illustrated in sections be shown by double lines with diagonal hatchings between them should be so strictly construed as it has been in this case. I see no valid reason why the requirement of the representation of thin sheet-metal sections by hatching should not be waived. My attention has been called to numerous patents issued by the Office, some at a comparatively recent date, where this requirement has not been made. Paragraph 3 of Rule 51 should not be construed to extend to the representation of thin sheet-metal sections by solid black in drawings analogous to the one forming a part of the application herein.

The structure under consideration in that case was a baggage-truck and is shown in the patent to Haskell, No. 669,199. The objection made in the present case applies to a sectional showing of a locomotive-boiler in which the shell and boiler-tubes are shown in solid lines. The shell of the boiler is shown in lines rather heavier than those usually used in patent drawings. By actual measurement they are found to be for the most part slightly heavier than the sheet-metal parts as shown in Fig. 1 of the drawing under consideration in the case above cited. The boiler-tubes are shown in lines decidedly narrower than those there under consideration.

While the rule should not be construed to permit any extended shading, either surface or sectional, in solid black, it is thought that the solid lines as used in this instance add rather than detract from the clearness of the drawing and fall within the ruling in *ex parte Haskell, supra.*

The petition is granted.

EX PARTE NEWTON.

Decided November 7, 1910.

TRADE-MARKS—"NEW-TONE," FOR A FINISHING PREPARATION—DESCRIPTIVE.

The word "New-Tone" as applied to a liquid preparation used to give a new luster to painted or varnished surfaces which have become dull *Held* properly refused registration as being descriptive of the goods to which it is applied.

ON APPEAL.

TRADE-MARK FOR PREPARATION IN THE NATURE OF A VARNISH FOR USE ON ALL INTERIOR AND EXTERIOR WOOD AND METAL WORK, ETC.

Mr. E. G. Siggers for the applicant.

MOORE, *Commissioner:*

This is an appeal from the decision of the Examiner of Trade-Marks refusing to register the word "New-Tone" as applied to—

a transparent, colorless liquid preparation for use on all interior and exterior wood and metal work, including passenger coaches, cars, automobiles, etc.

The Examiner has objected to the particular description of goods on the ground that it is indefinite by reason of the use of the word "including" and the abbreviation "etc." This objection is clearly well taken, and the description of the goods should be amended.

The Examiner refused registration on the ground that the mark is descriptive of the goods to which it is applied, basing this holding on the definition of the word "tone" as given in the *Century Dictionary* and the work entitled "*Painters' Colours Oils and Varnishes*," by George H. Hurst.

The word "tone" is defined in the *Century Dictionary* as a quality of color, a tint, a shade. It appears from the applicant's statement and from the pamphlet filed with the brief on this appeal that the object of this material is to give a new luste

to surfaces which have been varnished or painted and have become dull. In the pamphlet, under the title "When to Use New-Tone," appears the following statement:

When the luster is first gone on the car, or within a short time thereafter, is the proper time to give the car the first coat, and about every 90 to 100 days thereafter. This will produce an appearance of uniform newness at all times and will take the place of emulsions, modoc and other forms of teasing the varnish to last its allotted time.

There was filed with the amendment of July 29, 1910, a specimen of material which had been treated with the goods upon which this mark is used. It is evident from the statement above quoted and from an examination of this specimen that the goods are designed to give to painted or varnished surfaces which have become dulled an appearance of newness—in other words, to give them a "new tone." This is evidently the impression which the mark will produce upon the mind of any one, and it is believed that it is clearly descriptive of the goods upon which it is used. The action of the Examiner in refusing registration was right.

The decision is affirmed.

EX PARTE INMAN.

Decided November 11, 1910.

1. APPLICATION—PROSECUTION—RULE 65.

"It is well settled by the decisions construing Rule 65 that when the pertinency of the references is obvious, as where the disclosure is simple or includes only the invention of the applicant, a detailed application of the references is unnecessary."

2. SAME—SAME—RESPONSIVE ACTION.

Where the pertinency of the references has been pointed out by the Examiner or where their pertinency is obvious, an action which does not point out wherein the claims are supposed to avoid these references is not completely responsive.

ON PETITION.

GARMENT-SUPPORTER.

Mr. Victor J. Evans for the applicant.

MOORE, *Commissioner:*

This is a petition requesting that the Examiner be instructed to state more fully his reasons for rejection by pointing out—

wherein the features positively recited in the claims have their substantial and full equivalent in the same relation in the citation,

and that he be advised that the period within which applicant must act to save the case from abandonment does not date from the Office letter of November 19, 1909.

In the first Office action the Examiner rejected the seven claims in the case upon two references—a French patent and a patent to Kraus—pointing out the features of the Kraus patent relied upon. The applicant responded by canceling all but two of the claims and submitting two new claims. He failed to point out wherein these claims distinguished from the references of record, as he should have done. The Examiner passed over the insufficiency of this action, and on November 19, 1909, rejected three of the claims then in the case on the French patent of record in connection with the patent to Searle and the other claim upon a patent to Anderson. In response to this rejection the applicant canceled two of the four claims and discussed the pertinency of one of the three references cited—the patent to Searle—which was used in connection with the French patent in the Examiner's rejection.

The Examiner then refused further action on the merits until the applicant should have completed his response to the previous rejection by pointing out wherein the claims distinguished from the art as cited by him. The applicant, upon the other hand, insists upon a fuller application of the reference before he responds to the Examiner's rejection and cites Rule 65 in support of his contention.

It is well settled by the decisions construing Rule 65 that when the pertinency of the references is obvious, as where the disclosure is simple or includes only the invention of the applicant, a detailed application of the references is unnecessary. (*Ex parte Samstag*, 133 O. G., 1188; *ex parte Floyd*, 152 O. G., 229, and *ex parte Moyers*, 154 O. G., 1411.) In the present case the references are believed to be of this character. Furthermore, as above pointed out, applicant has canceled claims in view of the references of record, and it is not unreasonable to assume that he understands them and their points of similarity to his invention.

It was stated at the hearing that applicant had pointed out wherein the claims presented distinguish from the references, but it appears that this statement is correct only as applied to one of the three references. Such response was therefore clearly insufficient to comply with Rule 69. (*Ex parte Hahn*, 96 O. G., 1429; *ex parte Broderick*, 96 O. G., 1430; *ex parte Reiss*, 137 O. G., 1712.)

The Examiner's holding that the year within which to amend runs from the date of the Office letter of November 19, 1910, is not so clearly in error as to require a consideration at this time. (*Ex parte Copeland*, 149 O. G., 309.) The time to review his holding on this point will be when the application has been held abandoned by him.

The petition is denied.

CURTIS *v.* KLEINERT.

Decided November 14, 1910.

INTERFERENCE—MOTION TO DISSOLVE—APPEAL.

On a motion to dissolve brought by C. the Primary Examiner held all the counts unpatentable and on a motion brought by K. held the structure of C., so far as defined by counts 2 and 5, inoperative. His decisions were affirmed by the Examiners-in-Chief. From their decision only C. appealed. *Held* that as the decision holding all the counts unpatentable has become final the interference stands dissolved, and C.'s appeal is dismissed.

APPEAL from Examiners-in-Chief.

ON PETITION.

MACHINE FOR FASTENING HOOKS AND EYES ON CARDS.

Messrs. Southgate & Southgate for Curtis.

Messrs. Knight Bros. for Kleinert.

MOORE, *Commissioner:*

This case is before me (1) upon an appeal by Curtis from the decision of the Examiners-in-Chief affirming a decision of the Primary Examiner holding that the structure of Curtis, so far as called for by counts 2 and 5 of the issue, is inoperative, and (2) upon a petition by Kleinert to dismiss the above appeal of Curtis.

The record shows that upon a motion to dissolve the interference brought by Curtis the Examiner held all counts of the issue unpatentable, and upon a motion to dissolve made by Kleinert the Examiner held the Curtis structure, as called for by counts 2 and 5 of the issue, to be inoperative. Both parties appealed to the Examiners-in-Chief, who affirmed the decision of the Primary Examiner. Curtis appealed to the Commissioner from that portion of the decision of the Examiners-in-Chief which denied his right to make counts 2 and 5 of the issue upon the ground of inoperativeness of his structure. Kleinert did not appeal from the decision of the Examiners-in-Chief, but filed a petition requesting that the appeal of Curtis be dismissed upon the ground that it raises a moot question.

Inasmuch as the motion of Curtis to dissolve the interference upon the ground that all counts of the issue are unpatentable was granted and no appeal was taken by Kleinert from the decision of the Examiners-in-Chief affirming this holding of the Primary Examiner, but, on the contrary, it was acquiesced in, that decision has become final, and the interference stands dissolved. Since counts 2 and 5 are held to be unpatentable, the question of whether the Curtis structure covered thereby is inoperative is a moot question which it would serve no useful purpose to determine in the interference proceedings. (*Story* v. *Criswell*, 100 O. G., 683; C. D., 1902, 262; *Selden* v. *Gerts* v. *Palmer*, 105 O. G., 1531; C. D., 1903, 262; *Fickinger and Black* v. *Hulett*, 111 O. G., 2492; C. D., 1904, 360; *Newell* v. *Hubbard*, 115 O. G., 1847; C. D., 1905, 128.) Inasmuch as the interference now stands dissolved, the question of what claims Curtis may be entitled to is one for *ex parte* consideration before the Examiner.

The petition of Kleinert is granted, and the appeal of Curtis is dismissed.

EX PARTE LORENZ.

Decided November 12, 1910.

APPLICATION—PROSECUTION—RESPONSIVE ACTION.

Where at the end of the year following a final rejection of certain claims applicant filed an amendment to each of such claims accompanied merely by a statement that the amendment is believed to place the case in condition for allowance, *Held* that such action is not responsive and that the application is abandoned.

ON PETITION.

HERMETIC CLOSURE FOR RECEPTACLES.

Mr. William H. Honiss for the applicant.

MOORE, *Commissioner:*

This is a petition that the above-entitled application "be revived as a pending application" and that an amendment filed July 21, 1910, be entered and considered.

On July 29, 1909, the Examiner finally rejected claims 1 to 7 and allowed the remaining claims. On July 21, 1910, an amendment was filed directing that an amendatory clause be entered in each of the finally-rejected claims, and closing merely with the statement—

it is believed that this amendment places the application in condition for allowance.

On August 6, 1910, the Examiner informed the applicant that the proposed amendment could not be entered and that the case was abandoned because of applicant's failure to make a proper response to the final rejection of July 29, 1909, within a year thereof.

The holding of the Examiner in this case is clearly right. After the final rejection it was incumbent upon applicant to respond within a year either by appeal, by cancelation of the rejected claims, or by having the case reopened. None of these courses was pursued, and unless the last of the three was adopted, it is manifest that the prosecution before the Primary Examiner on the merits was closed. The amendment submitted on July 21, 1910, was not, therefore, such action as the condition of the case required. The reopening of the case might have been effected, among other ways, by an amendment accompanied by a duly-verified and satisfactory showing why it was not earlier presented, under the provisions of Rule 68. The showing required by this rule, however, is not in excuse of a failure to present such an amendment immediately after the final rejection, as applicant seems to think, but a showing in excuse of his failure to present it before the final rejection was entered, which, under normal conditions, closes the prosecution of the case before the Examiner, as above pointed out.

Applicant's amendment of July 21, 1910, was not accompanied by any showing, verified or otherwise, of why it was not earlier presented, and the refusal to enter it was therefore clearly right. (*Ex parte Brown and Sprink*, 135 O. G., 1801.)

Since no other action was made by the applicant within the year, the holding that the case stands abandoned was also proper.

The request that the case be "revived as a pending application" cannot be granted, since there is no showing whatever in excuse of applicant's failure to take proper action within the year. There is no warrant in law for extending the time and holding the case not abandoned except upon a satisfactory showing that the delay was unavoidable.

The petition is denied.

EX PARTE SUMMERS.

Decided October 10, 1910.

APPLICATION—PROSECUTION—CROSS-REFERENCE.

A cross-reference to a copending application which does not include the serial number and date of filing of such application *Held* insufficient.

ON PETITION.

COKING-FURNACE.

Messrs. Sheridan, Wilkinson, Scott & Richmond for the applicant.

TENNANT, *Assistant Commissioner:*

This is a petition from the action of the Examiner requiring that applicant give the serial number and date of filing of a copending application referred to in a certain cross-reference.

On July 12, 1910, the Examiner required a cross-reference to a copending application of this applicant in which certain features disclosed in the above application, but not claimed therein, were shown and claimed. On July 18, 1910, applicant directed the insertion in the specification of the following paragraph:

Certain features of the invention described herein are also set forth in a copending application hitherto filed by me in the Patent Office.

On August 2, 1910, the Examiner held that cross-reference insufficient, as it did not contain the serial number and date of filing, and from this requirement the present petition is taken.

The requirement is believed to be not only in accordance with the decisions cited by the Examiner, but clearly proper. The subject-matter not claimed in this application is presumptively disclaimed, and if applicant has claimed it in another application the public is entitled to be notified not only of that fact, but of the data of that application, in order that when the patents issue it may be a matter of easy determination in what patent this matter is actually claimed. Should a patent be issued on the present application and a suit brought thereon prior to the issuance of the patent on the other application, the parties to such suit are entitled to know in what application this matter is claimed. This requirement is not believed to be in violation of the rule of secrecy prescribed by Rule 15 of the Rules of Practice. Furthermore, it is noted that in the record of the present application both the Examiner and the applicant himself have referred to the other application by serial number and filing date.

The petition is denied.

RIES v. FRICK.

Decided November 7, 1910.

INTERFERENCE—TAKING OF TESTIMONY—SUFFICIENCY OF NOTICE.

Where on Saturday counsel for F. were notified by telegraph that testimony on behalf of R. would be taken on the next Tuesday, but the names and residences of the witnesses were not given, and on Monday counsel were formally notified that the testimony of R. "and perhaps others" would be taken, *Held* that the notice was insufficient, and that the testimony taken in the absence of counsel for F. was properly stricken out.

ON APPEAL.

METHOD OF AND MEANS FOR MAKING WELDED TUBING.

Mr. Charles S. Champion for Ries.

Messrs. Robertson & Johnson for Frick.

TENNANT, *Assistant Commissioner:*

This is an appeal from the decision of the Examiner of Interferences striking out certain testimony presented by Ries upon the ground that counsel for Frick had not been given sufficient notice.

It appears that on September 10, 1910, a telegram was sent by Champion, attorney for Ries, to Robertson & Johnson, attorneys for Frick, which reads as follows:

Shall begin taking testimony Ries v. Frick, Tuesday 13 at my office.

This telegram was received by Robertson & Johnson at 11.30 the same day. In reply thereto a telegram was sent to Ries's attorney protesting against the insufficiency of the notice in that no witnesses were named. On Monday, September 12, at ten a. m., a formal notice was received by Frick's attorneys that the testimony of Ries and perhaps others would be taken in New York at eleven a. m., September 13. A reply was immediately sent by counsel for Frick protesting against the short notice and stating that it would be impossible to attend the taking of testimony.

The Examiner held that the first notice given to counsel for Frick was informal in that the names and residences of the witnesses were not given, as required by Rule 154, and that the formal notice did not give counsel for Frick reasonable time to prepare to attend the taking of the proposed testimony. The Examiner of Interferences therefore granted Frick's motion to suppress the testimony presented in behalf of Frick which was taken on September 13, 1910.

It is urged in behalf of Ries that because of his poverty Ries was unable to take his testimony at an earlier date, that the time set for taking his testimony was about to expire, and that Champion, attorney for Ries, notified Frick's attorneys that testimony would be taken on the 13th as soon as he, Champion, had decided to defray the expenses of taking such testimony.

The record shows that Ries's time for taking testimony had been twice extended by the Examiner of Interferences, and no adequate reason appears why due and sufficient notice of the taking of Ries's testimony might not have been given within the time allowed. I agree with the Examiner of Interferences that the notice given to counsel for Frick was entirely too short and that testimony taken under such circumstances should be stricken out.

The decision of the Examiner of Interferences is affirmed.

ADJUDICATED PATENTS.

The Gathright patent, No. 436,916, for a tabulating attachment for type-writing machines, *Held* not anticipated, valid, and infringed. *Underwood Typewriter Co.* v. *Fox Typewriter Co.*, (C. C.,) 181 Fed. Rep., 530.

The Gathright patent, No. 436,916, for a tabulating attachment for type-writers, *Held* infringed. *Underwood Typewriter Co.* v. *Fox Typewriter Co.*, (C. C.,) 181 Fed. Rep., 541.

The Gathright patent, No. 452,268, for a tabulating attachment for type-writing machines, construed and *Held* not infringed. *Underwood Typewriter Co.* v. *Fox Typewriter Co.*, (C. C.,) 181 Fed. Rep., 530.

The Schlesinger patent, No. 546,059, for a system of distribution of electricity for electric railways, claim 1 *Held* infringed. *McDuffee* v. *Hestonville, M. & F. Pass. Ry. Co.*, (C. C.,) 181 Fed. Rep., 503.

The Welker patent, No. 575,187, for a sanding-machine, is void for lack of patentable invention. *Wysong & Miles Co.* v. *Oakley*, (C. C. A.,) 181 Fed. Rep., 492.

The Sarfert patent, No. 667,140, for a process of treating hosiery, *Held* void for lack of invention. *Sarfert Co.* v. *Chipman*, (C. C.,) 181 Fed. Rep., 518.

The Sarfert patents, No. 667,142, for a process of singeing hosiery, and No. 758,937, for a machine for practicing such process, *Held* void for anticipation. *Sarfert Co* v. *Chipman*, (C. C.,) 181 Fed. Rep., 518.

The Rose patent, No. 754,242, for a folding typewriter, *Held* valid and infringed, affirming an order granting a preliminary injunction. *Standard Typewriter Co.* v. *Standard Folding Typewriter Sales Co.*, (C. C. A.,) 181 Fed. Rep., 500.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 16, 1910.

Sharpless Bros., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Consolidated Cotton Duck Co., of Continental Trust Building, Baltimore, Md., for registration of a trade-mark and the trade-mark registrations to Minot, Hooper & Co., of 40 Thomas street, borough of Manhattan, New York, N. Y., registered August 29, 1905, No. 45,761; Lindeke, Warner & Schurmeier, of East Fourth and Sibley streets, St. Paul, Minn., registered April 20, 1897, No. 29,854; Sharpless Bros., of 812–814 Market street, Philadelphia, Pa., registered May 23, 1893, No. 23,072; Denny, Poor & Co., of New York, N. Y., registered December 30, 1890, No. 18,761; John Dunn, of East Orange, N. J., registered June 22, 1886, No. 13,436, and Stark Mills, of Manchester, N. H., registered November 8, 1881, No. 8,822, and March 13, 1906, No. 50,391, and the Office actions sent to Sharpless Bros. at their address of record have been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Sharpless Bros., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 16, 1910.

Steinfeld, Kerngood and Co., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Chas. E. Shedaker & Sons, Eighth and Walnut streets, Philadelphia, Pa., for registration of a trade-mark and trade-mark registration No. 8,568, dated August 16, 1881, to Steinfeld, Kerngood and Co., of Baltimore, Md., and the notice of such declaration sent by registered mail to the said Steinfeld, Kerngood and Co. at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Steinfeld, Kerngood and Co., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 4, 1910.

Samuel A. Richmond, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the applications of the Wehrman Medicine Company, of 1269 Michigan avenue, Columbus, Ohio, and G. H. Mullen, of Guyandotte, W. Va., for registrations of trade-marks and the trade-mark registrations to the Good Samaritan Ointment Company, of 222 Broadway, Camden, N. J., registered August 21, 1906, No. 55,682; Samuel A. Richmond, of Tuscola, Ill., registered MAY 13, 1890, No. 17,915, and December 16, 1890, No. 18,714, and Charles C. Brooks, of Waverly, N. Y., registered April 4, 1882, No. 9,253, and the notice of such declaration sent by registered mail to the said Samuel A. Richmond at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Samuel A. Richmond, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 4, 1910.

John Dunn, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Consolidated Cotton Duck Company, of Continental Trust Building, Baltimore, Md., for registration of a trade-mark and the trade-mark registrations to Minot, Hooper & Company, of 40 Thomas street, borough of Manhattan, New York, N. Y., registered August 29, 1905, No. 45,761; Lindeke, Warner & Schurmeier, of East Fourth and Sibley streets, St. Paul, Minn., registered April 20, 1897, No. 29,854; Sharpless Brothers, of 812–814 Market street, Philadelphia, Pa., registered May 23, 1893, No. 23,072; Denny, Poor & Company, of New York, N. Y., registered December 30, 1890, No. 18,761; John Dunn, of East Orange, N. J., registered June 22, 1886, No. 13,436, and Stark Mills, of Manchester, N. H., registered November 8, 1881, No. 8,822, and March 13, 1906, No. 50,391, and the notice of such declaration sent by registered mail to the said John Dunn at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said John Dunn, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 20, 1910.

Frederick M. Hall, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Maine Manufacturing Company, of Nashua, N. H., and the application of the Grand Rapids Refrigerator Company, 17 to 27 Ottawa street and 20 to 50 Clyde Park avenue, Grand Rapids, Mich., for registration of trade-marks and trade-mark registrations No. 36,235, dated April 9, 1901, to Christian Schmidt, 157 and 159 Springfield avenue, Newark, N. J., and No. 12,637, dated October 13, 1885, to Frederick M. Hall, 71 Randolph street, Chicago, Ill., and the notice sent by registered mail to the said Frederick M. Hall at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Frederick M. Hall, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE

for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 27, 1910.

Henry Werner & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Bennett, Hollander & Lewis, of 947 Pennsylvania avenue, Pittsburg, Pa., for registration of a trade-mark and the trade-mark registration to Joseph Bennett & Company, of 713 Pennsylvania avenue, Pittsburg, Pa., registered April 10, 1900, No. 34,453, and Henry Werner & Company, of 366 Gratiot avenue, Detroit, Mich., registered March 26, 1895, No. 26,267, and the notice of such declaration sent by registered mail to the said Henry Werner & Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Henry Werner & Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 11, 1910.

Edward A. Donaldson, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the National Cleanser Mfg. Co., 347 Greenwich street, New York, N. Y., for registration of a trade-mark and trade-mark registration No. 23,634, dated September 19, 1893, to Edward A. Donaldson, of Galesburg, Ill., and the notice of such declaration sent by registered mail to the said Edward A. Donaldson at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Edward A. Donaldson, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 11, 1910.

Union Tubing Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Pennsylvania Flexible Metallic Tubing Company, 1305 Arch street, Philadelphia, Pa., for registration of a trade-mark and trade-mark registration No. 10,115, dated March 13, 1883, to the Union Tubing Company, of New York, N. Y., and the notice of such declaration sent by registered mail to the said Union Tubing Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Union Tubing Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

ISSUE OF NOVEMBER 22, 1910.

Patents	666	No. 976,138 to No. 976,835, inclusive.
Designs	2	No. 40,994 to No. 40,995, inclusive.
Trade-Marks	56	No. 80,203 to No. 80,258, inclusive.
Labels	11	No. 15,397 to No. 15,407, inclusive.
Prints	2	No. 2,668 to No. 2,669, inclusive.
Reissues	6	No. 13,169 to No. 13,174, inclusive.
Total	775	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	5	.....	Ohio	55	4
Arkansas	2	.....	Oklahoma	10	.....
California	31	3	Oregon	3	.....
Colorado	5	.....	Pennsylvania	55	5
Connecticut	19	.....	Rhode Island	4	1
Delaware	1	.....	South Carolina	2	.....
Florida	2	.....	South Dakota	6	.....
Georgia	5	2	Tennessee	4	.....
Idaho	1	.....	Texas	16	.....
Illinois	50	5	Utah	2	.....
Indiana	17	4	Vermont	1	.....
Iowa	20	1	Virginia	6	1
Kansas	12	1	Washington	6	.....
Kentucky	3	1	West Virginia	2	.....
Louisiana	2	1	Wisconsin	14	.....
Maine	3	.....	Wyoming	.....	.....
Maryland	2	1			
Massachusetts	46	6	Alaska, District of	.....	.....
Michigan	27	.....	Arizona Territory	1	.....
Minnesota	15	.....	District of Columbia	2	1
Mississippi	.....	.....	Hawaii Territory	1	.....
Missouri	20	2	New Mexico Ter'ty	2	.....
Montana	1	.....	Panama	.....	.....
Nebraska	7	.....	Philippine Islands	.....	.....
Nevada	.....	.....	U. S. Army	.....	.....
New Hampshire	4	.....	U. S. Navy	.....	.....
New Jersey	23	6			
New York	102	16	Total to citizens of the United States	621	61
North Carolina	2	.....			
North Dakota	2	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina	1	.....	Netherlands	.....	.....
Austria-Hungary	9	.....	Newfoundland	.....	.....
Belgium	.....	.....	New South Wales	1	.....
Brazil	.....	.....	New Zealand	.....	.....
British West Indies	.....	.....	Norway	1	.....
Canada	9	.....	Persia	.....	.....
Cape Colony	.....	.....	Queensland	.....	.....
Chile	.....	.....	Russia	1	.....
China	.....	.....	Scotland	.....	.....
Costa Rica	1	.....	South Australia	.....	.....
Cuba	.....	.....	Spain	.....	.....
Denmark	1	.....	Sweden	6	.....
Ecuador	.....	.....	Switzerland	3	.....
England	17	.....	Tasmania	.....	.....
France	7	3	Transvaal, South Africa	1	.....
Germany	19	5	Victoria	1	.....
Haiti	.....	.....	Western Australia	.....	.....
Ireland	.....	.....			
Italy	1	.....	Total to citizens of foreign countries	79	8
Japan	.....	.....			
Mexico	.....	.....			

THE
OFFICIAL GAZETTE
OF THE
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Printed copies of patents are furnished by the Patent Office at 5 cents each. For the latter, address the Commissioner of Patents, Washington, D. C.

CONTENTS.

	Page.
ISSUE OF NOVEMBER 29, 1910	1043
THE OFFICIAL GAZETTE	1043
FOREIGN PATENTS	1043
APPLICATIONS UNDER EXAMINATION	1044
TRADE-MARKS	1044
PATENTS GRANTED	1045
REISSUES	1249
DESIGNS	1251
TRADE-MARKS—REGISTRATION APPLIED FOR	1257
TRADE-MARKS—REGISTERED	1267
LABELS AND PRINTS	1269
COMMISSIONER'S DECISIONS—	
Ex parte Stimpson	1271
Ex parte Barrett Manufacturing Company	1272
Ex parte Litle, Jr.	1272
DECISIONS OF THE U. S. COURTS—	
Elliott & Co. v. Youngstown Car Mfg. Co	1273
ADJUDICATED PATENTS	1275
CHANGES IN CLASSIFICATION	1275
INTERFERENCE NOTICES	1276

ISSUE OF NOVEMBER 29, 1910.

Patents	589	No. 976,836 to No. 977,424, inclusive.
Designs	27	No. 40,996 to No. 41,022, inclusive.
Trade-Marks	38	No. 80,259 to No. 80,296, inclusive.
Labels	7	No. 15,408 to No. 15,414, inclusive.
Prints	1	No. 2,670.
Reissues	2	No. 13,175 to No. 13,176, inclusive.
Total	664	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	2	.....	Ohio	54	4
Arkansas	2	.....	Oklahoma	6	1
California	13	1	Oregon	2	.....
Colorado	12	.....	Pennsylvania	70	2
Connecticut	16	.....	Rhode Island	6	.....
Delaware	.....	.....	South Carolina	.....	.....
Florida	1	.....	South Dakota	.....	.....
Georgia	8	2	Tennessee	4	1
Idaho	1	.....	Texas	11	1
Illinois	63	1	Utah	4	.....
Indiana	10	2	Vermont	2	.....
Iowa	2	.....	Virginia	2	1
Kansas	8	2	Washington	7	.....
Kentucky	1	.....	West Virginia	2	.....
Louisiana	8	.....	Wisconsin	8	1
Maine	2	.....	Wyoming	.....	.....
Maryland	8	2			
Massachusetts	36	6	Alaska, District of	.....	.....
Michigan	17	1	Arizona Territory	1	.....
Minnesota	8	.....	District of Columbia	3	.....
Mississippi	2	.....	Hawaii Territory	1	.....
Missouri	16	2	New Mexico Ter't'y	.....	.....
Montana	1	.....	Panama	.....	.....
Nebraska	4	.....	Philippine Islands	.....	.....
Nevada	1	.....	U. S. Army	.....	.....
New Hampshire	1	.....	U. S. Navy	1	.....
New Jersey	21	.....			
New York	104	14	Total to citizens of the United States	552	45
North Carolina	3	1			
North Dakota	1	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina	.....	.....	Netherlands	1	.....
Austria-Hungary	.....	.....	Newfoundland	.....	.....
Belgium	4	.....	New South Wales	.....	.....
Brazil	.....	.....	New Zealand	.....	.....
British West Indies	.....	.....	Norway	.....	.....
Canada	10	.....	Persia	.....	.....
Cape Colony	.....	.....	Queensland	.....	.....
Chile	.....	.....	Russia	1	.....
China	.....	.....	Scotland	.....	.....
Costa Rica	.....	.....	South Australia	.....	.....
Cuba	.....	.....	Spain	.....	.....
Denmark	.....	.....	Sweden	2	.....
Ecuador	.....	.....	Switzerland	4	.....
England	17	1	Tasmania	.....	.....
France	7	.....	Transvaal, South Africa	.....	.....
Germany	15	.....	Victoria	.....	.....
Haiti	.....	.....	Western Australia	.....	.....
Ireland	.....	.....			
Italy	2	.....	Total to citizens of foreign countries	64	1
Japan	.....	.....			
Mexico	.....	.....			

The Official Gazette.

The OFFICIAL GAZETTE is published every Tuesday, simultaneously with the weekly issue of patents. From January 1, 1872, (the commencement of its publication,) to June 30, 1883, it was published and bound in semi-annual volumes; from July 1, 1883, to December 31, 1902, in quarterly volumes; from January 1, 1903, to December 31, 1908, in bimonthly volumes; since January 1, 1909, in monthly volumes. Terms: Annual subscriptions, $5; monthly, 50 cents. For postage upon foreign subscriptions, except those from Canada and Mexico, $5 or more, as required. Moneys received from foreign subscribers in excess of the subscription price of $5 will be deposited to the credit of the subscriber and applied to postage upon the subscription as incurred. Single copies, 10 cents; if mailed to foreign countries, excepting Canada and Mexico, 10 cents additional for postage. *Payment in advance required. No club rates. No discount to newsdealers. No sample copies.* All subscriptions must commence with the beginning of a volume. None taken for less than an entire volume. All orders should be addressed to "The Superintendent of Documents, Government Printing Office, Washington, D. C."

Foreign Patents.

RULE 29. The receipt of Letters Patent from a foreign government will not prevent the inventor from obtaining a patent in the United States, unless *the application on which the foreign patent was granted was filed more than twelve months prior to the filing of the application in this country, in which case no patent shall be granted in this country.*

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business November 22, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Oct. 10	Oct. 10	384
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Oct. 24	Oct. 24	182
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Oct. 24	Nov. 9	189
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Oct. 11	Oct. 14	493
167	5. Bookbinding; Harvesters; Jewelry; Music.	Sept. 10	Sept. 10	486
318	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilisers; Medicines; Preserving; Sugar and Salt.	Sept. 27	Oct. 20	306
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	Oct. 3	Oct. 10	537
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Oct. 4	Oct. 12	336
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	Oct. 1	Sept. 6	256
235	10. Carriages and Wagons	Oct. 3	Oct. 6	689
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	Sept. 29	Sept. 24	379
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	Oct. 3	Oct. 5	606
329	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	Aug. 22	Oct. 17	472
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making, Tools; Wire-Working.	Oct. 24	Oct. 24	331
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	Oct. 8	Oct. 10	614
109	16. Telegraphy; Telephony	Oct. 3	Sept. 12	259
303	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Oct. 24	Oct. 22	195
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	Oct. 24	Oct. 14	196
246	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	Oct. 24	Oct. 13	302
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Sept. 26	Oct. 14	221
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	Sept. 9	Sept. 12	463
249	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	Sept. 7	Aug. 25	633
379	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	Sept. 23	Oct. 4	309
144	24. Apparel; Apparel Apparatus; Sewing-Machines.	Sept. 2	Sept. 13	496
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Oct. 29	Nov. 2	123
106	26. Electricity, Generation; Motive Power.	Oct. 5	Sept. 20	333
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Oct. 24	Oct. 24	279
46	28. Internal-Combustion Engines.	Sept. 22	Sept. 27	374
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Wood-working; Woodworking-Tools.	Sept. 6	Oct. 8	375
182	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	Oct. 1	Sept. 28	318
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Oct. 22	Oct. 22	253
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispending-Cans; Fine Arts; Packaging Liquids; Refrigeration.	Sept. 23	Oct. 24	355
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	Oct. 22	Oct. 15	342
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	Oct. 5	Sept. 21	348
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Oct. 24	Oct. 27	508
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	Sept. 28	Sept. 26	660
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	Sept. 15	Sept. 19	596
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	Sept. 12	Oct. 3	465
321	39. Water Distribution	Sept. 16	Sept. 12	401
280	40. Baggage; Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Oct. 27	Oct. 22	364
125	41. Railway Draft Appliances; Resilient Tires and Wheels.	Aug. 15	Aug. 24	611
279	42. Electric Railways; Electric Signaling; Electricity, Medical and Surgical; Railway Signaling; Signals; Surgery.	Sept. 2	Sept. 14	595
382	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	Aug. 27	Sept. 14	553

Oldest new case, Aug. 15; oldest amended, Aug. 24.

Total number of applications awaiting action 17,367

61	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	Oct. 24	Oct. 29	909
	Designs	Oct. 27	Oct. 27	139
	Labels and Prints	Nov. 14	Nov. 15	37

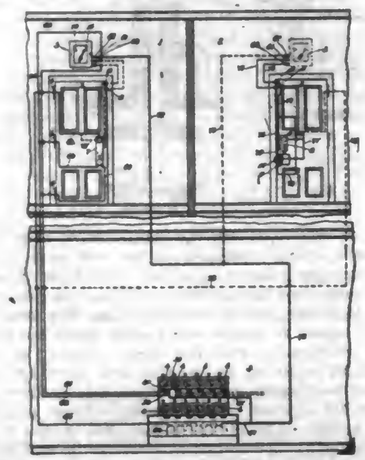
Trade-Marks.

Extra copies of the trade-mark portion of the GAZETTE, which will be sold separately, may be obtained single or in quantities for five cents each. Coupons will be taken in payment thereof.

PATENTS

GRANTED NOVEMBER 29, 1910.

976,836. ELECTRIC ANNUNCIATING APPARATUS. HENRY JACOB ALTHER, Boston, Mass., assignor of one-half to George W. Gill, Medford, Mass. Filed Mar. 18, 1909. Serial No. 484,250.



1. The combination of an annunciator to indicate whether a room is occupied or unoccupied, a door to said room provided with an opening, a plurality of electric circuits connected with said annunciator so as to operate the same, and make and break devices in said circuits connected with said door, and means for operating said devices and for insertion within said opening, whereby the operation of said means makes and breaks said circuits and operates the annunciator.

2. The combination of an annunciator to indicate whether a room is occupied or unoccupied, a door to said room, a lock casing secured to said door, and provided with an opening, a plurality of electric circuits connected with said annunciator so as to operate the same, and make and break devices in said circuits and inclosed within said casing, whereby means may be inserted within said opening and caused to operate said devices to make and break said circuits and operate the annunciator.

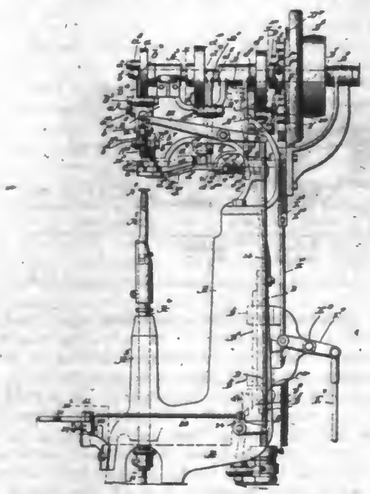
3. The combination of an annunciator to indicate whether a room is occupied or unoccupied, a door to said room, a lock casing secured to said door, and provided with an opening, a plurality of electric circuits connected with said annunciator so as to operate the same, and make and break devices in said circuits and inclosed within said casing, and means for operating said devices and for insertion within said opening, whereby the circuits may be made and broken and the annunciator may be operated.

4. The combination of an annunciator to indicate whether a room is occupied or unoccupied, a door to said room, a lock casing secured to said door, and provided with an opening, a plurality of electric circuits connected with said annunciator so as to operate the same, terminal contacts connected respectively with the two circuits of the annunciator, and inclosed within said casing, and a contact secured to the bolt in the casing and adapted to contact with said terminals, whereby the operation of the bolt will make and break said circuits and operate the annunciator.

5. The combination of an annunciator to indicate whether a room is occupied or unoccupied, a door to said room, a lock casing secured to said door, and provided with an opening, a plurality of electric circuits connected with said annunciator so as to operate the same, terminal spring contacts connected respectively with the two circuits of the annunciator, and inclosed within said casing, and a contact secured to the bolt in the casing and adapted to contact with said terminals, whereby the operation of the bolt will make and break said circuits and operate the annunciator.

[Claims 6 to 13 not printed in the Gazette.]

976,837. MACHINE FOR INSERTING SLUGS OR FASTENINGS IN STOCK. GEORGE A. AMBLER, Newark, N. J., assignor to United Shoe Machinery Company, Paterson, N. J., and Boston, Mass., a Corporation of New Jersey. Filed Aug. 31, 1901. Serial No. 74,036.



1. In a machine of the class described, wire-feeding rolls, actuating mechanism therefor, adjustable shields to determine the extent of movement imparted to said rolls, and a manually controllable device for changing the position of one of said shields while the machine continues in operation to render operative or inoperative one of the feeding rolls whereby one or more rows of fastenings may be inserted at will without stopping the machine.

2. In a machine of the class described, wire feeding rolls, actuating mechanism therefor, a stud upon which said rolls are mounted, adjustable shields fulcrumed on said stud, one shield being located at the side of one feeding roll and the other shield at the side of the other feeding roll, and locking means for retaining said shields yieldingly in their adjusted positions.

3. In a machine of the class described, wire feeding rolls, pawls to actuate said rolls, shields for controlling the operation of said pawls and a manually controllable device for changing the position of one of said shields, while the machine continues in operation, to render operative or inoperative one of the feeding rolls, whereby

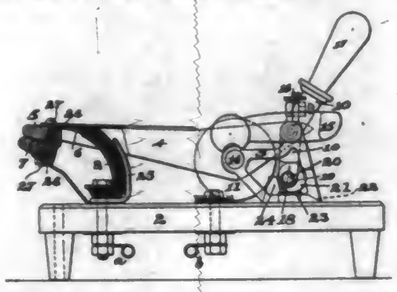
the machine may be changed from one row to a plurality of rows or vice versa without stopping the machine.

4. In a machine of the class described, mechanism for forming and inserting fastenings from wire fed thereto, a wire feeding roll, a ratchet wheel connected therewith, a pawl to engage said ratchet wheel and actuate the feeding roll and a device for disengaging said pawl from the ratchet wheel at the end of its feeding stroke, adjustable to reduce the effective length of the feeding stroke to zero whereby the insertion of fastenings may be interrupted while the forming and inserting mechanism continus in operation.

5. In a machine of the class described, mechanism for forming and inserting fastenings from wire fed thereto, a wire feeding roll, a ratchet wheel connected therewith, a pawl to engage said ratchet wheel and actuate the feeding roll, said pawl being arranged to engage the ratchet wheel always at the same point, a device for disengaging said pawl at the end of the feeding stroke and means for controlling said device to vary the stroke of the feeding mechanism constructed and arranged to move said device into position to prevent engagement of the pawl with the ratchet wheel whereby the insertion of fastenings may be interrupted while the forming and inserting mechanism continues in operation.

[Claims 6 to 38 not printed in the Gazette.]

976,838. CIRCUIT-OPENER. CHARLES C. BADEAU, Swissvale, Pa., assignor to Switchboard Equipment Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 27, 1905. Serial No. 257,783.



1. In a circuit opener, the combination of a fixed contact member, a movable member, an operating member, a roller loosely journaled in an enlarged bearing in the operating member, and a seat adapted to hold the roller.

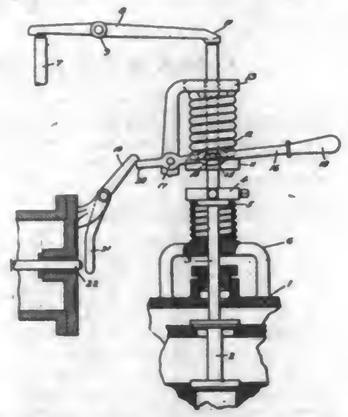
2. In a circuit opener, the combination of a fixed contact member, a movable contact member, a resilient, electro-magnet coil, the core of said coil extending through the same, and beyond the sides thereof, and constituting together with the coil, an electro-magnet, and a pivoted armature within the magnetic field of the magnet and capable of engagement with the core, and means actuated by the movement of the pivoted armature to release the movable member whenever the condition of the circuit becomes abnormal.

3. In a circuit opener, the combination of a fixed contact member, a movable contact member, an operating member pivoted to the movable contact member, a roller journaled in the operating member and a seat adapted to hold the roller.

976,839. GOVERNING APPARATUS. HENRY L. BARTON, Pittsburg, Pa., assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed Sept. 1, 1909. Serial No. 515,579.

1. The combination with a motor and its supply valve, of means for controlling the position of said valve, a spring, which when extended will hold said valve closed, means for rendering said spring inoperative during normal speeds of said motor and trip mechanism for releasing said spring to render it operative.

2. The combination with a motor and its supply valve provided with a stem, speed responsive means for controlling the position of said valve, a spring surrounding said valve stem and adapted when extended to close said valve, means for holding said spring in an inoperative position and trip mechanism for releasing said spring.



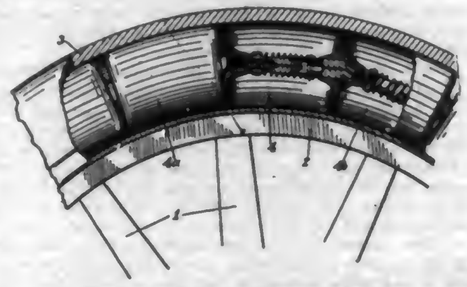
3. The combination with the supply valve of a motor, an expansion spring tending to unseat said valve, a lever, a speed responsive device to actuate said lever to impart a closing movement to the valve, a spring opposed to and stronger than the first mentioned spring and means responsive to speed to release said second mentioned spring.

4. The combination with the supply valve of a motor, an adjustable collar on the stem of said valve, an expansion spring bearing against said collar, a lever movable to exert pressure opposed to said spring, a speed responsive device to actuate said lever, a collar loose on the stem, a spring opposed to the first mentioned spring and bearing against said last mentioned collar, means for normally holding said last mentioned spring inactive and means for releasing it.

5. The combination with the supply valve of a motor, a throttle mechanism for the valve comprising a spring and a speed responsive device actuated lever and a valve seating mechanism comprising a spring stronger than and opposed to the first mentioned spring and means for holding said last mentioned spring out of operation.

[Claim 6 not printed in the Gazette.]

976,840. SECTIONAL PNEUMATIC TUBE. FRANCIS R. BAYLIS, Lansing, Mich. Filed Jan. 6, 1910. Serial No. 536,596.



1. In a sectional tube, an elastic hollow member having openings therethrough, rigid members adapted to be positioned within these openings in telescopic relation, and resilient means for maintaining said members in the desired relative position.

2. In a sectional tube, an elastic hollow member having openings therethrough, rigid members adapted to be positioned within these openings in telescopic relation, and resilient means for maintaining said members in the desired position, there being a passageway provided through such members, and means for obstructing said passageway.

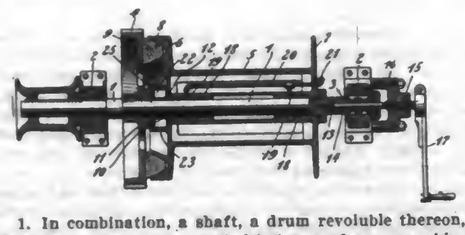
3. In a sectional tube, an elastic hollow member having openings therethrough, rigid members adapted to be positioned within these openings in telescopic relation, and resilient means for maintaining said members in the desired position, there being a passageway provided through such members, and means for obstructing said passageway, one of said members having openings therethrough communicating with said passageway.

4. In a sectional tube, an elastic hollow member having openings therethrough, rigid members adapted to be positioned within these openings in telescopic relation, and resilient means for maintaining said members in the desired position, there being a passageway provided through such members, and means for obstructing said passageway, one of said members having openings therethrough communicating with said passageway when said rigid members are in normal position, said openings being adapted to be obstructed when the members are abnormally telescoped.

5. In a sectional tube, an elastic hollow member having openings therethrough, rigid members inserted through said openings in telescopic relation, there being a communicating passageway through said members, one of said members having a hollowed portion forming a part of said passageway, a notched member positioned in said hollow portion, and closure means for said passageway placed on opposite sides of said notched member.

[Claims 6 to 14 not printed in the Gazette.]

976,841. FRICTION-DRUM. JOHN V. BEEKMAN, Plainfield, N. J., assignor to Lidgerwood Manufacturing Company, a Corporation of New York. Filed Apr. 23, 1909. Serial No. 491,749.

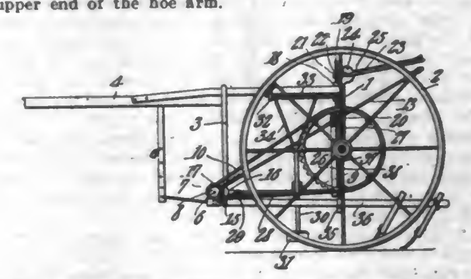


1. In combination, a shaft, a drum revoluble thereon, a driving member, interposed friction surfaces operable to connect and disconnect the drum and driving member by movement of one of the latter relative to the other longitudinally of the shaft, a drum bushing, an oil pipe supplying oil within the same, a circular flange bridging the space between said drum and said driving member, and movable revolubly and longitudinally upon a projection of one of the same whether the friction surfaces are engaged or disengaged to form a closed chamber into which the space between the drum and shaft opens, whereby oil oozing from within the said bushing is restrained within said chamber from radial escape.

2. In combination a shaft, a drum on the shaft, a driving element on the shaft, said element having an annular extension, friction surfaces on the drum and element to couple the same, means for sliding one of said elements longitudinally of the shaft to engage and disengage said friction surfaces, an annular extension on the drum slidably and revolubly engaging the annular extension on the driving element throughout the relative movement of the drum and driving element, said annular extensions engaging and constituting a closed chamber irrespective of the position of the drum and driving element, and means for supplying lubricant between one of said elements and said shaft.

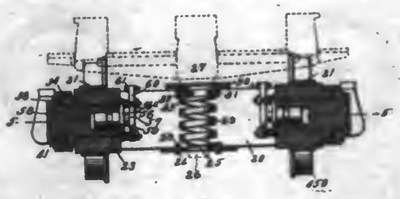
976,842. COTTON-CHOPPER ATTACHMENT. HARVEY SCOTT BERRY, Milford, Tex. Filed Mar. 9, 1910. Serial No. 548,310.

1. A chopper attachment for a wheel cultivator comprising bearings adapted to be applied to the frame of a cultivator, a shaft journaled in said bearings, means for operatively connecting said shaft with one of the supporting wheels of the cultivator, a bar adapted to be applied to the cultivator, a sub-shaft journaled upon said bar, intermeshing wheels connecting said sub-shaft with the first said shaft, a frame adapted to be supported upon the cultivator frame, a crank shaft journaled in said frame, a universal joint connecting said crank shaft to the sub-shaft, a hoe arm pivoted on the crank of the crank shaft, a hoe blade carried by said hoe arm, a second set of bearings adapted to be applied to the frame of the cultivator, a shaft journaled in the last said bearings, an arm fixed to the last said shaft and pivotally connected with the upper end of the hoe arm.



2. A chopper attachment adapted to be applied to a wheel cultivator comprising bearings adapted to be attached to the arch bar of the cultivator, a shaft journaled in said bearings, means operatively connecting said shaft with one of the supporting wheels of the cultivator, a bar adapted to be attached to the arch bar, a sub-shaft journaled on said bar, means operatively connecting said sub-shaft with the first said shaft, guides mounted upon the cultivator frame, rods adjustably mounted in said guides, a cross bar adjustably connecting the upper ends of the said rods, a lever mechanism for raising and lowering the cross bar and rods, a cross bar fixed to the lower ends of the rods, a frame slidably mounted upon the last said cross bar, a crank shaft journaled at one end in the lower portion of said frame, a universal joint connecting the forward end of said crank shaft with said sub-shaft, a hoe arm pivoted upon the crank of the crank shaft, a hoe blade carried by said hoe arm, bearings adapted to be attached to the frame of the cultivator, a shaft journaled in said bearings, arms attached to said shaft and converging toward each other at their outer ends and pivotally connected with the upper end of the hoe arm.

976,843. CAR-TRUCK. HENRY W. BLAKE, Ball Ground, Ga. Filed Nov. 23, 1909. Serial No. 529,649.



1. A truck comprising a bolster, side frames in facial contact with the bolster approximately centrally of the frames, each frame having its bolster-contacting face on a plane extending on or outside of the plane of the side of the main remaining portion of the frame, wheels carried by the frame, and means removable from both parts for securing the side frames to the bolster, said means supporting and positioning the bolster within the truck, the particular location of the contacting faces of the bolster and frames permitting a free disengaging movement of these parts without necessitating relative movements in directions longitudinally of the bolster.

2. A truck comprising a bolster, side frames in facial contact with the bolster approximately centrally of the

frames, each frame having its bolster-contacting face on a plane extending on or outside of the plane of the side of the main remaining portion of the frame, wheels carried by the frame, and means removable from both parts for securing the side frames to the bolster, said means supporting and positioning the bolster within the truck, the particular location of the contacting faces of the bolster and frames permitting a free disengaging movement of these parts without necessitating relative movement in directions longitudinally of the bolster, said frames being removable independently of one another.

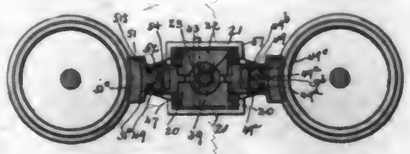
3. A truck comprising a bolster, side frames in facial contact with the bolster approximately centrally of the frames, each frame having its bolster-contacting face on a plane extending on or outside of the plane of the side of the main remaining portion of the frame, wheels carried by the frame, and means removable from both parts for securing the side frames to the bolster, said means supporting and positioning the bolster within the truck, the particular location of the contacting faces of the bolster and frames permitting a free disengaging movement of these parts without necessitating relative movements in directions longitudinally of the bolster, said bolster and said means forming the sole connection of one side frame with the other.

4. A truck comprising a bolster, side frames in facial contact with the bolster approximately centrally of the frames, each frame having its bolster-contacting face on a plane extending on or outside of the plane of the side of the main remaining portion of the frame, wheels carried by the frame, means for removably securing the side frames to the bolster, said means supporting and positioning the bolster within the truck, the particular location of the contacting faces of the bolster and frames permitting a free disengaging movement of these parts without necessitating relative movements in directions longitudinally of the bolster, said means including a bearing formed in the end of the bolster, and a connecting member extending through the side frame and removably secured within the bearing.

5. A truck comprising side frames, and a bolster located between said frames, said bolster being of a length equal to but not greater than the distance between said frames, said bolster and frames being free from inter-engagement means being provided for removably securing each side frame to the bolster.

[Claims 6 to 33 not printed in the Gazette.]

976,844. BRAKE MECHANISM FOR CAR-TRUCKS. HENRY W. BLAKE, Ball Ground, Ga. Filed Nov. 23, 1909. Serial No. 529,650.



1. In a truck, a bolster, brake shoe carriers removably carried by the bolster and movable in a single plane extending substantially midway of the top and bottom planes of the bolster, and a brake operating mechanism for imparting reciprocating movement to said carriers.

2. In a truck, a bolster, side frames, connecting members for the side frames and bolster, brake-shoe carriers removably supported on the bolster, and brake operating mechanism removably supported within said members, said operating mechanism imparting reciprocating movement to said carriers.

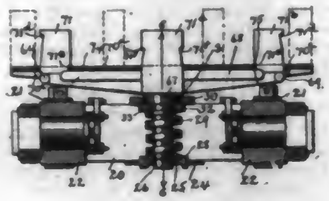
3. In a truck, a bolster, reciprocating brake-shoe carriers mounted on the bolster, rotatable means for operatively connecting and reciprocating in either direction said carriers in pairs, and a support for the means for each pair.

4. In a truck, a bolster, side frames, connecting members for the side frames and bolster, brake-shoe carriers supported by the bolster, and operating mechanism for said carriers, said mechanism being removably secured to said members, the securing of the mechanism locking the bolster and side frames against separation.

5. In a truck, a bolster, side frames, connecting members for the side frames and bolster, brake-shoe carriers supported by the bolster, and operating mechanism for said carriers, said mechanism being removably secured to said members, the securing of the mechanism locking the bolster and side frames against separation, said mechanism including a pivotally mounted element for each pair of carriers, connections between said element and its pair of carriers, and means for simultaneously imparting movements to all of the elements.

[Claims 6 to 21 not printed in the Gazette.]

976,845. EQUALIZING MECHANISM FOR CARS. HENRY W. BLAKE, Ball Ground, Ga. Filed Nov. 23, 1909. Serial No. 529,651.



1. As a means for equalizing the load weight on trucks, in combination, a pair of trucks, and a car-body seated thereon, the operative connection of car body and each truck being located solely at the center of the truck, said connection embodying two elements complementally formed to provide a shifting of the point of support of the car-body without changing the location of the connection with respect to the center of the truck.

2. As a means for equalizing the load weight on trucks, in combination, a pair of trucks, and a car-body seated thereon, the operative connection of car-body and each truck being located solely at the center of the truck, said operative connection comprising a king-bolt carried by the truck and a complemental member carried by the car-body, said bolt being held against pivotal movement in a horizontal plane relative to the car body.

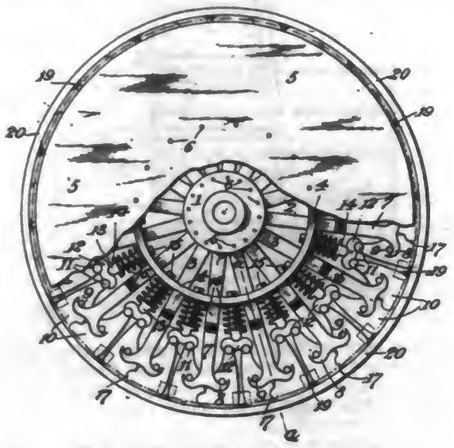
3. The combination with a car-body, and a pair of trucks, of a king-bolt pivotally mounted at the center of the truck, said bolt having a head elongated laterally, and a bolster plate secured to the car-body and adapted to position the bolt relative to said body, said plate preventing relative pivotal movements of car-body and bolt in a horizontal plane.

4. The combination with a car-body and a pair of trucks, of a king-bolt pivotally mounted at the center of the truck, said bolt having a head elongated laterally, and a bolster plate secured to the car-body and adapted to position the bolt relative to said plate, said plate preventing relative pivotal movements of car-body and bolt in a horizontal plane, the connection of truck and plate through the bolt permitting a limited rocking movement laterally of the car-body relative to the truck.

5. The combination with a car-body and a pair of trucks, and a king-bolt pivotally mounted at the center of the truck, said bolt having a head elongated laterally, and a bolster plate secured to the car-body and adapted to position the bolt relative to said body, said plate preventing relative pivotal movement of car-body and bolt in a horizontal plane, and independent means for coupling the trucks to restrain them against a free and independent pivotal movement.

[Claims 6 to 25 not printed in the Gazette.]

976,846. CUSHION-TREAD VEHICLE-WHEEL. HENRY C. BROWN, New York, N. Y., assignor of two-thirds to Henry Stockman, New York, N. Y. Filed Sept. 6, 1906. Serial No. 333,440.



1. A vehicle wheel comprising peripheral thrust-blocks interengaging in pairs and having radial bodily movement, elastic means normally forcing the thrust blocks outwardly, seat plates between said blocks and the elastic means to permit said blocks to rock in the plane of the wheel, stops engaging the thrust-blocks limiting outward bodily movement of the blocks, means preventing lateral displacement of the blocks, and a yielding tire applied around the outer ends of the blocks.

2. A vehicle wheel comprising successive pairs of interengaging peripheral thrust-blocks having radial bodily movement, elastic means acting on adjacent non-engaging pairs of thrust-blocks for normally forcing them outwardly, seat plates between said blocks and the elastic means to permit said blocks to rock in the plane of the wheel, stops limiting outward movement of the blocks, and means preventing lateral displacement of the blocks.

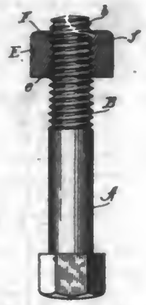
3. A vehicle wheel comprising peripheral thrust blocks inter-engaging in pairs at the periphery of the wheel and having radial bodily movement, elastic means normally forcing the blocks outward, said means comprising a series of resilient devices, each device acting through rocking means on a non-inter-engaging pair of thrust blocks and serving as a seat therefor to permit said blocks to rock in the plane of the wheel, means preventing lateral displacement of the blocks, and a yielding tire applied to the outer ends of the same.

4. A vehicle wheel comprising peripheral thrust-blocks interengaging in pairs at the periphery of the wheel and having radial bodily movement, elastic means normally forcing the blocks outward, stops limiting outward bodily movement of the blocks, means preventing lateral displacement of the blocks, and elastic media interposed between outer parts of adjoining pairs of non-inter-engaging blocks and permitting a limited cushioned circumferential movement of all the blocks.

5. The combination in a cushion-tread vehicle wheel, of spokes having forked portions, opposed members on each fork limb ranging in the plane of the wheel, radially movable thrust-blocks applied between the spoke fork limbs and having pins adapted to rest against said opposed members, and means normally forcing the blocks outward until their pins rest on said members to limit outward movement of the blocks, a part of said means serving as seats to permit said blocks to rock in the plane of the wheel.

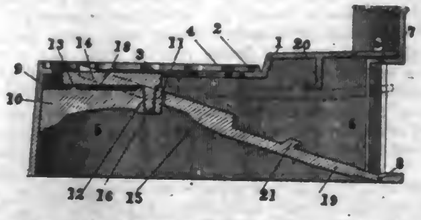
[Claims 6 to 14 not printed in the Gazette.]

976,847. LOCK-NUT. NEWTON F. CHAMBERLIN, Libertyville, Ill., assignor of one-half to J. May Morrison, Bethesda, Md. Filed Feb. 24, 1910. Serial No. 545,641.



A lock nut, comprising a nut and bolt formed of metal in the same condition as to hardness, the said nut having lower and normal threads, intermediate threads arranged above and in continuation of the said normal threads, the said intermediate threads being less in diameter than said normal threads, and upper threads arranged above and in continuation of said intermediate threads, and the said upper threads being less in diameter than the said intermediate threads, whereby the threads of nut and bolt are equally reformed when the nut is applied.

976,848. GRATE FOR STOVES OR FURNACES. WILLIAM CLERKIN, Akron, Ohio, assignor to The Taplin, Rice-Clerkin Company, a Corporation of Ohio. Filed Dec. 19, 1908. Serial No. 468,312.



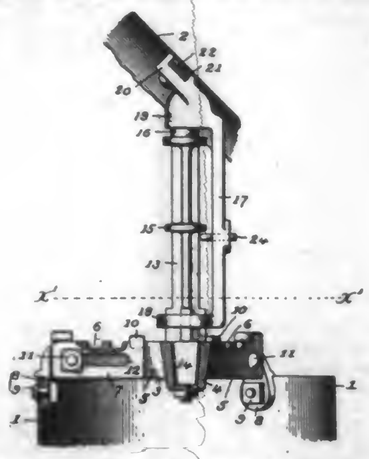
1. A grate for stoves or furnaces comprising two portions pivotally hinged together and moving together when shaking the grate, a pivot for the entire grate, an arm carried by one portion, said arm provided with a hook-shaped lug, and an angle-shaped member depending from and arranged centrally of the upper wall of the entrance to the ash-pit of and within said stove or furnace adapted to hold said arm and grate portion horizontal during the shaking thereof.

2. A grate for stoves or furnaces comprising two portions pivotally hinged together and moving together when shaking the grate, a pivot for the entire grate, an arm carried by one portion, said arm provided with a hook-shaped lug, and a transversely-extending fixed ledge or flange depending from the upper wall of the entrance to the ash-pit of said stove or furnace stopping short of the side walls thereof and constituting a supporting medium for said arm and connected grate portion during the shaking operation, said lug adapted to be disengaged from said ledge or flange when said arm is moved to the extreme right or left position, thereby permitting said arm and grate portion to be inclined for the purpose of cleaning the grate.

976,849. CHIMNEY-CAP. EDWIN JAMES COCHRAN, Sterling, Ill. Filed Oct. 6, 1910. Serial No. 585,690.

1. In a chimney cap, the combination of a revoluble cowl, a fixed support for the same comprising a spider formed with a central hub and a plurality of radial arms,

a series of bracket bars secured to said arms in a radially adjustable manner, and means for interlocking said bars and arms at their adjustments, substantially as set forth.



2. In a chimney cap, the combination of a revoluble cowl, a fixed support for the same comprising a spider formed with a central hub and a plurality of radial arms, a series of bracket bars secured to said arms in a radially adjustable manner, and means for interlocking said bars and arms at their adjustments, the same comprising a series of notches in one of said parts and lateral lugs on the other parts for engagement in said notches, substantially as set forth.

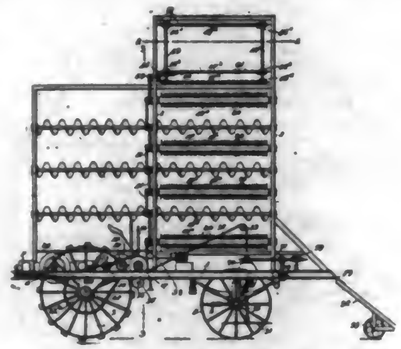
3. In a chimney cap, the combination of a revoluble cowl, a transverse ductile bar having permanent attachment thereto, a fixed spider having radial arms adapted for engagement with a smoke pipe or collar and formed with a vertical orifice in its hub portion, a vertical standard carried by said hub and formed with a collar intermediate of its height and with a central bearing stem at top and a revoluble spider comprising a main vertical portion provided at its lower end with a lateral collar encompassing the aforesaid standard, at its intermediate height with means for engaging beneath the aforesaid collar, and at its upper end with an enlarged head having an open bottom recess for engagement with the bearing stem aforesaid, the said head having an angular extension formed with a transverse recess for the reception of the ductile bars aforesaid, substantially as set forth.

4. In a chimney cap, the combination of a revoluble cowl, a transverse ductile bar having permanent attachment thereto, a fixed spider having radial arms adapted for engagement with a smoke pipe or collar and formed with a vertical orifice in its hub portion, a vertical standard carried by said hub and formed with a collar intermediate of its height and with a central bearing stem at top, and a revoluble spider comprising a main vertical portion provided at its lower end with a lateral collar encompassing the aforesaid standard, at its intermediate height with a transverse pin having engagement beneath the aforesaid collar, and at its upper end with an enlarged head having an open bottom recess for engagement with the bearing stem aforesaid, the said head having an angular extension formed with a transverse recess for the reception of the ductile bar aforesaid, substantially as set forth.

976,850. SUGAR-CANE STRIPPER AND TOPPER. FRANCIS M. COCKRELL, Jr., New Orleans, La. Filed Jan. 30, 1906. Serial No. 298,626.

1. In a cane stripper, a movable stripper for stripping the cane upwardly in relation to the leaves thereof, in combination with a conveyer for passing the cane through said stripper in a general sidewise direction during the stripping operation.

2. In a cane stripper, rotary strippers adapted to both strip and advance the cane, in combination with a conveyer for passing the cane sidewise in the direction of the length of said rotary strippers during the stripping operation.



3. In a cane stripper, rotary strippers having flexible fingers for stripping the cane lengthwise thereof, in combination with means for moving the cane sidewise in the direction of the length of said rotary strippers during the stripping operation.

4. In a cane stripper, the combination with rotary strippers adapted to both advance and strip the cane, of screw conveyers for passing the cane through said strippers.

5. In a cane stripper, an adjustable topping cutter, in combination with conveyers having flexible means for presenting the stalks thereto, whereby the tops of the stalks can be cut off at any desired distance from the upper ends of the stalks.

[Claims 6 to 8 not printed in the Gazette.]

976,851. INITIATION DEVICE. ERASTUS DE MOULIN, Greenville, Ill. Filed Feb. 24, 1910. Serial No. 545,564.



1. A paddle machine comprising a casing, one wall of the casing being movable relatively to the remainder of the casing and serving as a disguised paddle, means for operating said paddle, means for locking said paddle in inoperative position, and means for unlocking said paddle to permit its operation.

2. An initiation device comprising a box, a portion of said box being in the form of a disguised paddle, means for locking said paddle in inoperative position, means for releasing said paddle, and means for operating said paddle.

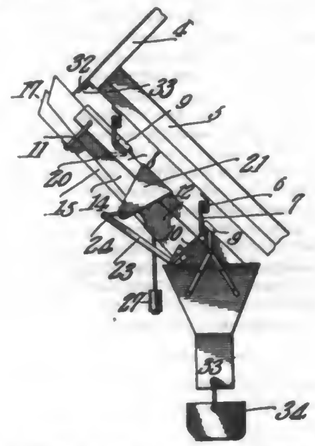
3. An initiation device comprising a casing, a disguised paddle connected with said casing and having a slidable pivot, means for locking said paddle in inoperative position, means for releasing said paddle, and means for operating said paddle when released.

4. An initiation device comprising an elongated box having a stationary cover portion, a movable cover portion forming a disguised paddle, and means for locking said paddle in inoperative position, means for releasing said paddle, and means for moving said paddle into operative position when released.

5. An initiation device having a casing, a disguised paddle having a sliding pivotal connection with said casing, means for locking said paddle in inoperative position, means for releasing said paddle, means for operating said paddle when released, and sensation devices adapted to be operated when said paddle is operated.

[Claims 6 and 7 not printed in the Gazette.]

976,852. INTERCEPTING-CHUTE. WALTER W. DORSEY and JAMES C. DORSEY, Las Animas, Colo., assignors of one-fourth to Raymond Baublits and one-fourth to Martin F. Loub, Las Animas, Colo. Filed Dec. 9, 1909. Serial No. 532,278.



1. An extensible chute having an outer section, the side walls of which are extended in their planes to form oppositely disposed arms, an inner section pivotally connected at one end to said arms adapted to be rocked therebetween, a supporting frame having spaced side bars extending longitudinally of said outer section, rocker frames pivotally connecting each of said sections to the side bars of said supporting frame, and a link connecting one of said arms with the side bar of said supporting frame and coöperating with the inner section rocker frame to expand and retract said inner section.

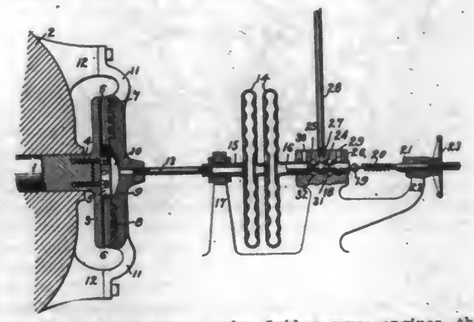
2. An extensible chute having an outer section, the side walls of which are extended in their planes to form oppositely disposed arms, an inner section pivotally connected at one end to said arms and adapted to be rocked between the free ends thereof, a supporting frame having spaced side bars extending longitudinally of said outer section, rocker frames pivotally connecting each of said sections to the side bars of said supporting frame, hangers carried by said side bars and extending beyond the bottom walls of said sections, a crank shaft journaled in the extremities of said hangers, a link pivotally connected at one extremity to said outer section and at the other extremity to the crank of said crank shaft, and a counterbalancing weight connected to the extremity of said shaft adapted to rotate the same whereby to advance said sections longitudinally of said supporting frame.

3. An extensible chute having an outer section, the side walls of which are extended in their planes to form oppositely disposed arms, an inner section pivotally connected at one end to the arms of said outer section and adapted to be rocked therebetween, a supporting frame, the side walls of which extend longitudinally of said sections, rocker frames pivotally connecting each of said sections with said side bars, a trap door pivotally connected at one end to said side bars and adapted when closed to extend to the bottom wall of said inner section and form a receptacle in the intake end of said section, a link pivotally connected at one end to the free end of said trap door and at the other end pivotally connected to said outer section, and a counterbalancing weight carried by said outer section adapted to simultaneously advance said outer section longitudinally of said frame to close said trap door.

4. An extensible chute having an outer section, the side walls of which are extended in their planes to form oppositely disposed arms, an inner section pivotally connected at one end to the arms of said outer section and adapted to be rocked therebetween, a supporting frame, the side walls of which extend longitudinally of said sections, rocker frames pivotally connecting each of said sections with said side bars, a crank shaft carried by said supporting frame and spaced from the bottom walls of said sections, a link connected at one extremity to the crank of said crank shaft and at the other extremity to the outer section, a counterbalancing weight assembled with said crank shaft and operating to rotate the same and advance said sections longitudinally of said supporting frame, and a link connecting said supporting frame and outer section and coöperating with the inner section rocker frame to expand the sections simultaneously with their advancing movement.

5. An extensible chute having an outer section, the side walls of which are extended in their planes to form oppositely disposed arms, an inner section pivotally connected at one end to said arm and adapted to be rocked between the free ends thereof, a supporting frame having spaced side bars extending longitudinally of said outer section, rocker frames pivotally connecting each of said sections to the side bars of said supporting frame, a link connecting a side bar of the supporting frame with an arm of the outer section, said link being less in length than the side bars of the upper section rocker frame whereby to cause the free extremities of said arm to rock in an arc of less radius than the free end of said inner section, a trap door pivotally mounted on said supporting frame and adapted when closed to form a receptacle in the intake end of said inner section, a link connecting the free end of said trap door to said outer section, a crank shaft carried by said supporting frame and extending transversely the bottom walls of said sections, a link connected at the end to the crank of said crank shaft and at the other end to said outer section, a counterbalancing weight adapted to rotate said crank shaft whereby to simultaneously advance the sections longitudinally of said supporting frame, expand the free ends of the sections and close the trap door.

976,853. GOVERNING MECHANISM FOR FLUID-PRESSURE ENGINES. HERBERT H. DOW, Midland, Mich. Filed Aug. 6, 1904. Serial No. 219,789.



1. In a speed governor for fluid-pressure engines, the combination with the engine shaft and a disk mounted thereon and provided with a recess or chamber and with passages or ducts branching outwardly therefrom to the atmosphere, of a chamber having a flexible wall or diaphragm and in communication with said disk chamber, and means governed by the movements of said wall or diaphragm to control the admission of fluid to the engine.

2. The combination, in a fluid-pressure engine having a controllable inlet valve, a suction device, comprising a centrifugal pump attached to said engine shaft, a chamber having a flexible wall or diaphragm in communication with said pump and means dependent on the speed of the engine and actuated by said flexible wall or diaphragm for governing the operation of said inlet valve.

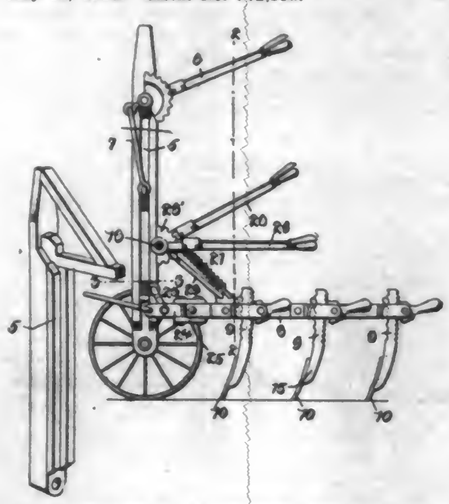
3. In combination with a fluid pressure engine a speed governor comprising a centrifugal pump attached to the engine shaft, a chamber having a flexible wall or diaphragm, an air conduit between said pump and said chamber, a valve operated by the movement of said diaphragm and fluid pressure connections governed by said valve to control the fluid supply to said engine in accordance with the speed.

4. In a fluid-pressure engine, the combination with a suction device comprising a centrifugal pump attached to and operated by the engine shaft, of a chamber having a flexible wall or diaphragm, a connection between said suction device and said chamber, a fluid-pressure-actuated inlet valve for the engine and a spring adjusted valve connected to said flexible wall or diaphragm for controlling said fluid-pressure in accordance with the speed of the engine.

5. In a fluid-pressure engine, the combination with a disk having a central recess and radial passages or ducts leading therefrom to the atmosphere and means for fastening said disk to the engine shaft, of a stationary disk adjacent to the first named disk and having a recess cooperating with the central recess in said disk to form a chamber, a chamber having flexible walls one of which is connected to said chamber by a passage, a valve connected to the other flexible wall of said chamber, an inlet valve for the engine having a controlling piston, and fluid-pressure connections to the two sides of said piston which are controlled by the valve which is connected to the said flexible wall or diaphragm.

[Claims 6 to 14 not printed in the Gazette.]

976,854. CULTIVATOR. EWELL MONROE DOWDY, Water Valley, Tex. Original application filed Apr. 2, 1910, Serial No. 553,146. Divided and this application filed July 18, 1910. Serial No. 572,593.



1. In a machine of the character described, the combination with a vertically slidable frame and guides therefor, of a plurality of cultivator bars having one of their ends connected to the frame, means for simultaneously raising and lowering the frame and the cultivator bars, and means for elevating said bars independently of the frame.

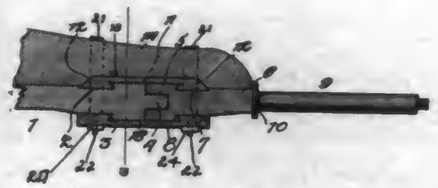
2. In a machine of the character described, the combination with wheel supported guides, a frame vertically slidable in said guides, of a plurality of cultivator bars pivotally supported at one of their ends by said frame, means for raising and lowering said frame and bars, and means arranged on the frame and connected to the cultivator bars whereby said bars may be elevated independently of the frame.

3. In a machine of the character described, the combination with a vertically movable frame, oscillatory blocks carried by said frame, cultivator bars pivoted on said blocks for transverse movement, means yieldingly holding said cultivator bars in alinement with the blocks and in their normal operative positions, means for simultaneously raising and lowering the frame and the bars and means for independently elevating said cultivator bars to an inoperative position.

4. In a machine of the character described, the combination with a vertically movable frame, of U-shaped shafts secured to the frame, an oscillatory block mounted on each of the shafts, a cultivator bar pivoted to one end of each of said blocks for transverse movement, levers mounted on the frame, springs connecting said levers and the cultivator bars to yieldingly maintain the cultivator bars in alinement with the blocks, means for simultaneously raising and lowering the frame and bars, and means for moving said bars to an inoperative position independently of the frame.

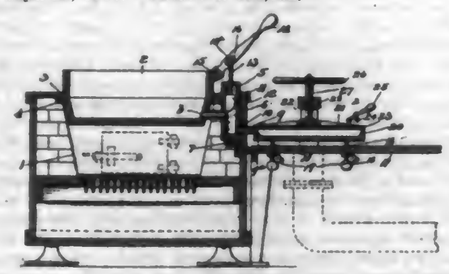
5. In a machine of the character described, the combination with a vertically movable frame, of U-shaped shafts carried by said frame, an oscillatory block mounted on each of the shafts, a cultivator bar pivoted upon each block for transverse movement, a transverse shaft mounted on the frame, adjusting levers rotatably mounted on the shaft, springs connecting said levers and cultivator bars to yieldingly maintain said bars in their operative positions, means for simultaneously elevating the frame and bars and another lever mounted on said transverse shaft and connected to said cultivator bars to elevate the same independently of the frame."

976,855. AXLE. WALTER J. DUNKLIN and GREEN B. MARLEY, Greenville, Ala. Filed May 17, 1910. Serial No. 561,887.



In a device of the class described, the combination, with a stock, a detachable spindle, a bolster, said stock provided with a dovetail groove formed upon the upper surface thereof, said spindle provided with a dovetail groove formed upon the upper surface thereof, an upper clamp provided with dovetail depending ends fitting in said grooves, said stock provided with an inclined notch formed upon its under surface, said spindle provided with an inclined notch formed upon its under surface, a bottom clamp comprising a shank portion, a plurality of lip portions formed thereon, said lip-portions being beveled upon their under surface, said lip-portions engaging said notches formed in the under surface of said stock and spindle, said bottom clamp provided with laterally extending apertured ends, and means passing over said bolster and through said apertures for clamping said stock and spindle to said bolster.

976,856. APPARATUS FOR BACKING ELECTROTYPE-PLATES. GEORGE E. DENTON, New York, N. Y. Filed Sept. 23, 1907. Serial No. 394,152.

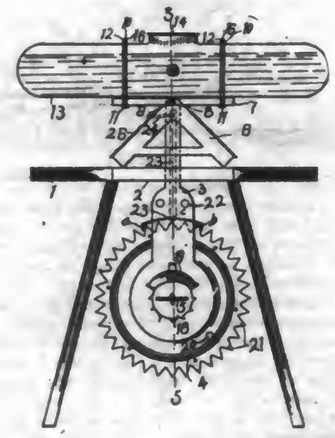


1. In an apparatus for backing electrotype plates, a furnace, a melting pot, a backing pan, a cylinder having an inlet substantially parallel with the bottom of the melting pot, and an outlet substantially parallel with the inlet and below the bottom of said melting pot, a pipe connecting the outlet of the said cylinder with the backing pan, the outer end of said pipe being below the bottom of said melting pot and a piston in said cylinder for cutting off the flow of metal into and forcing it out of the cylinder, substantially as described.

2. In an apparatus for backing electrotype plates, a furnace, a melting pot, a backing pan, a cylinder having an inlet substantially parallel with the bottom of the melting pot and an outlet below the bottom of said melting pot, said outlet being substantially parallel with the inlet, a pipe connecting the outlet of said cylinder with the backing pan and being substantially parallel with the upper portion of the backing pan, the outer end of said pipe being below the bottom of said melting pot and a piston in said cylinder for cutting off the flow of metal into and forcing it out of said cylinder, substantially as described.

3. In an apparatus for backing electrotype plates, a melting pot, a cylinder having an inlet pipe connected to and substantially parallel with the melting pot, an outlet pipe below the outlet end of the inlet pipe and a piston in said cylinder for cutting off the flow of metal into and forcing it out of said cylinder, substantially as described.

976,857. MECHANICAL MOTOR FOR OPERATING CHURNS. SARAH FRANCES DYKES, Hawkinsville, Ga. Filed Feb. 14, 1910. Serial No. 543,850.



1. In combination with a rotary spring-casing provided with peripheral teeth and a spring within said casing for turning the same, a pivoted suspending frame for said casing adapted to permit and accompany its pendulum-like oscillation, a pawl pivoted in said frame, engaging said teeth and arranged and adapted to carry the said frame and casing with it in its oscillating movement and means for supporting a receptacle moving with said frame, pawl and casing substantially as and for the purpose set forth.

2. In combination with a rotary spring-casing provided with peripheral teeth and a spring within said casing for turning the same, a pivoted suspending frame for said casing adapted to permit and accompany its oscillation, a pawl pivoted in said frame, engaging said teeth and arranged and adapted to carry the said frame and casing with it in its oscillating movement.

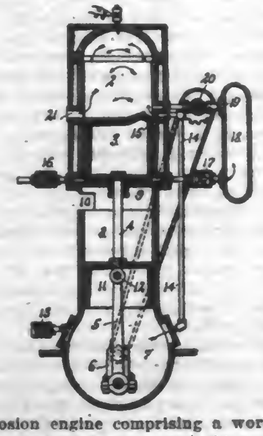
3. In combination with a rotary spring-casing provided with peripheral teeth and a spring within said casing for turning the same, a pivoted suspending frame, a shaft on which said frame is pivoted, said casing being mounted on the lower part of said frame, a pawl pivoted in position to engage said teeth and arranged and adapted to carry the said frame and casing with it in its oscillating movement.

4. In combination with a rotary spring-casing provided with peripheral teeth and a spring within said casing for turning the same, a shaft, two suspending bars between the lower ends of which said casing is rotatably mounted, said bars being pivotally mounted on said shaft, a platform connected to the upper ends of said bars, and a pawl pivoted between said bars to engage said teeth and arranged and adapted to carry the said bars, casing and platform with it in its oscillating movement.

5. In combination with a rotary and oscillating spring-casing having peripheral teeth, a spring inclosed therein to turn the same, a suspending frame therefor pivoted at its upper end, a platform rocking with said frame, an anchor escapement-pawl provided with two pallets for engaging with said teeth and pivoted in said frame and an arm attached to the stem of said pawl below the pivotal point of said frame and a fixed part engaging the said arm so as to compel said frame and pawl to move together in oscillation substantially as set forth.

[Claim 6 not printed in the Gazette.]

976,858. INTERNAL-COMBUSTION ENGINE. ERNEST EASTHOPE, Jr., Vancouver, British Columbia, Canada. Filed Sept. 23, 1909. Serial No. 519,129.



1. An explosion engine comprising a working cylinder inclosing an explosion chamber, a working piston operating in said cylinder, a piston rod connected with said piston and projecting through the end of said cylinder, a crank case having an upwardly projected cylinder portion to which said working cylinder is secured and into which said piston rod projects, a supplemental piston in said crank case cylinder portion connected to said piston rod, said crank case cylinder portion having an opening above said supplemental piston to effect communication with the atmosphere, a valved air inlet to said crank case, a crank shaft having a crank working in said crank case, a connecting rod between said supplemental piston and said crank, said working cylinder having an air inlet port, said working cylinder having an exhaust port opposite said inlet port, a pipe connection between said air inlet port of said working cylinder and said crank case, a working agent inlet port for the working chamber of said working cylinder, said working cylinder also inclosing a pumping chamber, in which said working piston compresses working agent, a valved intake port to said pumping chamber and a valved outlet port for said pumping chamber, a reservoir connected with said valved outlet port of said pumping chamber, a connection between said working agent inlet port of said working chamber and said reservoir, a valve in said connection, and means connecting said valve with the crank shaft to operate the same.

2. In an internal combustion engine, a crank case having an upwardly projected cylinder portion, a piston operating in said upwardly projected cylinder portion, a crank shaft having a crank operating in said crank case, a valved intake for said crank case, a connecting rod between said piston and said crank, a working cylinder supported on and above said cylinder portion of said crank

case, said cylinder portion of said crank case above said piston having an aperture to maintain atmospheric pressure within said crank case cylinder portion above said piston, a working piston in said working cylinder dividing the same into a working chamber and a pumping chamber, a connection between said working piston and said first named piston, an exhaust port for said working chamber, a piston controlled air inlet port for said working chamber, pipe connections between said air inlet port and said crank case, a valved intake for the pumping chamber of said working cylinder and a valved outlet from said pumping chamber, said working cylinder having a piston controlled working agent inlet for said working chamber in communication with said valved outlet of said pumping chamber, and a mechanically controlled valve for controlling the passage of working agent into said working chamber of said working cylinder, and means for operating said last named valve from said crank shaft.

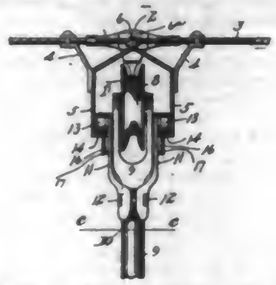
3. An internal combustion engine comprising a crank case having a projecting cylinder portion open at one end, a closed ended working cylinder secured to said cylinder portion to close the other end thereof, said crank case cylinder portion having an aperture to effect atmospheric pressure within said cylinder portion, a piston within said cylinder portion below said aperture, a crank shaft having a crank working in said crank case, a connecting rod between said piston and said crank, a valved intake to said crank case, a working piston operating in said working cylinder and dividing it into a working chamber and a pumping chamber and a connection between said working piston and said piston in the crank case cylinder, said working cylinder having a piston controlled exhaust port and having a piston controlled air inlet port and having a piston controlled working agent inlet port, pipe connections between said air inlet port and said crank case, a reservoir, a valved pipe connection between said pumping chamber and said reservoir, a pipe connection between said reservoir and said working agent inlet port to said working chamber, a rotary valve in said last named pipe connection, and transmission gearing between said rotary valve and said crank shaft.

4. In a gas engine, an explosion cylinder and its working piston, a closed crank chamber, a supplementary air compression cylinder in direct communication with the crank chamber but separated from direct communication with the explosion cylinder, a piston in said supplementary cylinder, a rod connecting said pistons together, a crank operating in said crank chamber, a connecting rod between said crank and said supplementary cylinder piston, a suction valve leading into the crank chamber, said explosion cylinder having a port which is uncovered by the working piston when at the lower extremity of its stroke, means for delivering compressed air from said crank chamber into the explosion cylinder through said port, a suction valve connected to lead into the lower end of the explosion cylinder beneath its piston, a reservoir, a duct between the lower end of the explosion cylinder and said reservoir, a check valve in said duct, a valve controlled duct between said reservoir and said explosion cylinder, said explosion cylinder having a port adjacent to the port that is in communication with the crank chamber with which port said valve controlled duct communicates and means operated from the crank shaft for operating the valve in said valve controlled duct.

976,859. TROLLEY-GUARD. MICHAEL EISELE, West Carrollton, Ohio. Filed Nov. 19, 1909. Serial No. 528,966.

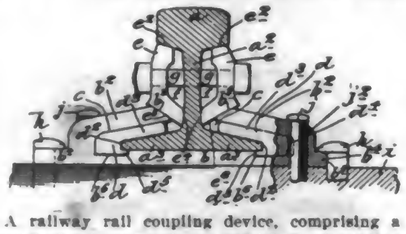
1. In a device of the type specified, a trolley wire, a guard opened at its lower side and surrounding said wire, the lower open side of said guard being provided with inwardly and downwardly extending flanges, a trolley rod, a wheel mounted on said rod and engaging said wire, adjustable brackets mounted on said rod, and rollers mounted on said brackets and adapted to engage the inwardly and downwardly extending flanges of the trolley guard.

2. A trolley guard consisting of a casing inclosing the trolley wire and wheel, the lower portion of said guard or casing being open to permit the passage of the supporting rod of the trolley wheel, and the lower portion of said guard or casing terminating in inwardly and downwardly extending bearings 14 and 17, adjustable brackets



mounted upon the trolley wheel support, and two series of rollers mounted on said brackets and engaging the inwardly and downwardly extended bearings of the trolley guard.

976,860. RAILWAY-RAIL JOINT. SMITH FERRIS, New York, N. Y. Filed May 11, 1910. Serial No. 560,553.



1. A railway rail coupling device, comprising a shoe composed of a base member on which the base flanges of the rails rest, said shoe being provided on its upper surface and inwardly of the opposite edges thereof with upwardly and inwardly curved side wings or flanges which range longitudinally of the shoe and which are adapted to overlap the base flanges of the rails and between which and said flanges of the rails are longitudinal spaces, wedges adapted to be driven into said spaces and which when in position abut against the opposite side edges of the flanges of the rails and overlap said flanges, and side plates adapted to be secured to the opposite sides of the web portions of the rails and between which and said web portions of the rail when said plates are in position are longitudinal spaces, the bottom surfaces of said plates and the inner edge portions of said wings or flanges being provided with downwardly and inwardly inclined surfaces, and the top surfaces of said plates being adapted to fit under the bottom side surfaces of the head or bearing portion of the rails.

2. A railway rail coupling comprising a shoe, on which the base flanges of the rails rest, said shoe being provided on the top surface thereof and inwardly of its opposite side edges with upwardly and inwardly curved and longitudinally ranging wings or flanges between which and the flanges of the rails are longitudinal spaces, wedges which are driven into said spaces and which bear on the opposite side edges of the flanges of the rails and on the top surface of said flanges, side plates bolted to the webs of the rails between said wings or flanges and the head or bearing portions of said rail, said plates being hollowed out longitudinally of their inner side to form longitudinal spaces, the top surfaces of said plates bearing on the bottom side surfaces of the head or bearing portions of the rails, and the bottom surfaces of said plates and the corresponding surfaces of said wings or flanges being inclined downwardly and inwardly.

3. A railway rail coupling comprising a shoe, on which the base flanges of the rails rest, said shoe being provided on the top surface thereof and inwardly of its opposite side edges with upwardly and inwardly curved and longitudinally ranging wings or flanges between which and the flanges of the rails are longitudinal spaces, wedges which are driven into said spaces and which bear on the opposite side edges of the flanges of the rails and on the top surface of said flanges, side plates bolted to the webs of the rails between said wings or flanges and the head or bearing portions of said rail, said plates being hollowed out longitudinally of their inner side to form longitudinal spaces, the top surfaces of said plates bearing on the bottom side surfaces of the head or bearing portions of the rails, and the bottom surfaces of said plates and the corresponding surfaces of said wings or flanges being inclined inwardly and downwardly, said wedges being wider at one end than the other and being driven into the shoe from the opposite ends thereof.

4. A railway rail coupling device, comprising a shoe composed of a base member provided on its upper surface and inwardly of the opposite side edges thereof with upwardly and inwardly curved side wings or flanges which range longitudinally of the shoe and which are adapted to overlap the base flanges of the rails and between which and said flanges of the rails are longitudinal spaces, wedges adapted to be driven into said spaces from the opposite end portions of the shoe and which when in position abut against the opposite side edges of the flanges of the rails and overlap said flanges and side plates adapted to be secured to the opposite sides of the web portions of the rails, the bottom surfaces of said side plates bearing on the top inner surface of said wings or flanges and the top surfaces of said side plates bearing on and fitting under the bottom side surfaces of the head or bearing portion of the rails.

976,861. FIRE-ESCAPE. LOUIS H. FIRESTONE, Chicago, Ill. Filed Sept. 16, 1909. Serial No. 518,093.

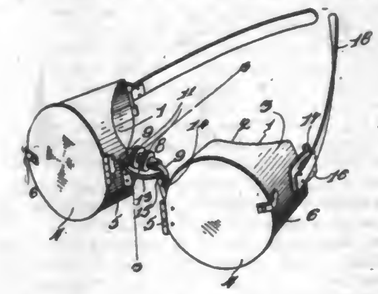
1. A controlling device for fire escapes comprising a casing, a plurality of clamping jaws therein, threaded shafts rigidly secured to opposite sides of the casings and hand wheels threaded on said shafts and connected with the clamping jaws.

2. A controlling device for fire escapes comprising a casing having a passage therethrough to receive a cable, clamping jaws in the casing, threaded shafts secured to the casing, pins secured to each clamping jaw and projecting through the casing, one on each side of the respective shafts, collars, one secured to each set of pins and hand wheels threaded on the shafts and having swiveled connection with the collars.

3. In a device of the class described the combination with a cable of a casing through which the same runs, oppositely movable clamping jaws in the casing adapted to grip the cable therebetween, oppositely directed threaded shafts on the outer side of said casing, a nut engaged on each of said threaded shafts and connected with one of the clamping jaws and permitting regulation of the pressure thereof, and an adjustable harness for the operator supported on said controller.

4. In a device of the class described a cable, a casing having a passage therethrough to receive the cable, clamping blocks, one on each side of the cable and concave to fit partly around the cable, a collar connected with each clamping block, threaded shafts secured to the casing and a hand wheel threaded on each threaded shaft and having a swivel connection with the collars adapted when rotated on the shafts to reciprocate the clamping blocks to grip or release the cable.

976,862. MEDICAL EYE-CUP. JASON S. FOX, Honolulu, Hawaii. Filed Mar. 15, 1910. Serial No. 549,407.



1. A device of the class described comprising a pair of eye cups, an adjustable bridge connecting the same, said bridge comprising a link portion secured to each cup, said link portion provided with an angularly disposed portion for adjusting the cups relative to each other and links carried by one cup adapted to engage the other cup for preventing the swing of either cup relative to the other cup after the cups have been adjusted relative to each other.

2. A device of the class described comprising a pair of eye cups, an adjustable bridge connecting said cups, a pivoted bridge carried by one cup, and engaging the other cup for preventing rotation of one cup relative to the other after the same have been adjusted through the medium of said adjustable bridge.

3. A device of the class described comprising a pair of eye cups, link members connected thereto, and provided with angularly disposed portions, means adjustably connecting said angularly disposed portions, a pivoted bridge carried by one of said link members, a bracket carried by the other link member, and spaced apart therefrom at one end thereby forming a socket adapted to receive the free end of said pivoted bridge for holding the cups in a set position relative to each other.

4. A device of the class described, comprising a pair of cups, side guards or frames hingedly secured to said cups and provided with forwardly extending ends adapted to engage the sides of said cups for exerting an inward pressure upon the rear ends of the cups for holding the cups firmly upon the head of the patient.

5. A device of the class described comprising a pair of eye cups, an adjustable bridge connecting the same, a bridge member carried by one of said cups, a bracket carried by the other cup and adapted to be engaged by said bridge member, said bridge member provided with a slot, and adjustable means passing through said bracket and slot in said bridge member engaging one of said cups for limiting the movement of said cups relative to each other.

976,863. STALLION-SHIELD. GEORGE M. FRAMPTON. Pendleton, Ind. Filed Dec. 2, 1909. Serial No. 531,043.

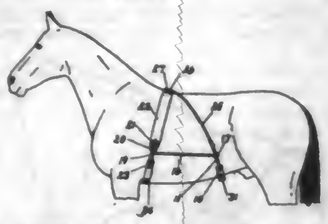
1. A stallion-shield comprising a spur plate having spurs adapted to engage the belly, and a suitable support therefor.

2. A stallion-shield comprising a vertically movable spur plate having spurs adapted to engage the belly, and a support for said spur plate.

3. A stallion shield comprising a horizontal rockshaft, a vertically swinging spur plate carried by said rockshaft and adapted to be moved upwardly to engage the belly, and means for eliminating the downward movement of said spur plate.

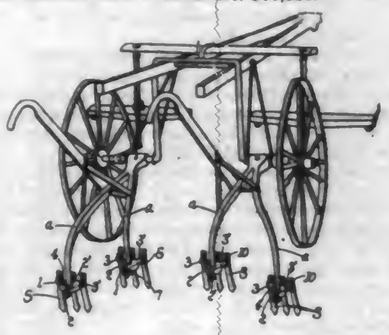
4. The combination, with a distracting member of a stallion-shield, of a supporting harness therefor compris-

ing members adapted to encircle the body of a horse, a pair of rearwardly extending longitudinally stiff struts, and a pair of suspension members each connected at its lower end to the rear end of a strut and at its upper end to the body-encircling member.



5. The combination, with a distracting member of a stallion-shield, of a supporting harness therefor comprising members adapted to encircle the body of a horse, a pair of rearwardly extending longitudinally stiff but transversely flexible struts, and a pair of suspension members each connected at its lower end to the rear end of a strut and at its upper end to the body-encircling member.

976,864. CULTIVATOR. EDWARD GIESELMANN, Mount Olive, Ill., assignor of one-fourth to Edward H. Meyer and one-fourth to George Gieselmann, Mount Olive, Ill. Filed June 22, 1910. Serial No. 568,316.



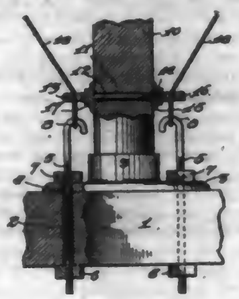
1. In combination with a cultivator having a depending arm, a bracket composed of two hinged sections clamped thereto and provided with arms on opposite sides of the hinge axis of the sections, and shovels mounted on the arms and adjustable vertically thereon, and capable of horizontal oscillation about their axes of support.

2. In combination with a cultivator having a depending arm, a bracket-clamp composed of two hinged sections secured thereto and provided with arms disposed on opposite sides of the hinge axis of the sections, a shovel for each arm, a member on each shovel provided with a socket having lateral offsets, and a sectional clasp locked within the socket and clamped to each of the arms of the bracket-clamp.

3. In combination with a cultivator having a depending arm, a bracket-clamp composed of two hinged sections secured thereto and provided with arms on opposite sides of the hinge-axis of the sections, a shovel for each arm, a member on each shovel provided with a socket having lateral offsets, and a sectional clasp locked within the socket and clamped to each of the arms of the bracket-clamp, the said clamp being capable of an up and down adjustment and rotatable about its axis of support.

976,865. TAKE-UP DEVICE FOR GUY-WIRES. EARL C. GILLESPIE, Woodhaven, N. Y. Filed May 16, 1910. Serial No. 561,619.

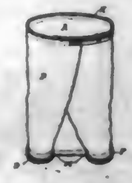
1. A device of the character described comprising a plate provided with a socket, a standard for said socket, cable adjusting bolts carried by said plate and adapted to detachably fasten said plate to a support, and cable guiding means detachably fastened to said standard.



2. A device of the character described comprising a plate provided with a standard socket, cable adjusting bolts for detachably fastening said plate to a support, said bolts provided with a cable-engaging hook at one end, a standard for said socket, and cable guiding eyes detachably connected to said standard.

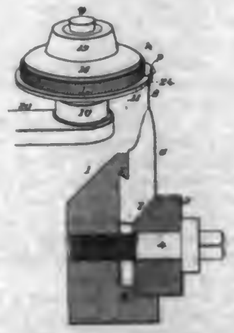
3. A device of the character described comprising a base provided with a socket, said socket provided with a side recess, said recess having an inclined bottom, obliquely arranged cable engaging means extending through said recess, a nut seated on said inclined bottom and adapted to adjust the cable engaging means, a standard seated in said socket, and cable-guiding means carried by said standard.

976,866. AUTOMOBILE-ROBE. JOHN P. GORDON, Columbus, Ohio. Filed May 2, 1910. Serial No. 558,884.



A robe comprising a body portion, a waterproof sheet covering one side of said body portion, shoes for said robe, means for connecting the shoes at the instep to the lower edge of the robe, devices for fastening the corners of the robe about the back of the shoes, and means for fastening the upper portion of the robe about the body of the wearer.

976,867. CASTING-OFF BUR FOR CIRCULAR-KNITTING MACHINES. ROBERT W. GORMLY, Troy, N. Y. Filed Jan. 18, 1909. Serial No. 472,799.



1. In a circular knitting machine of the class described, a cast off bur, and means for causing the radial deflection

from its orbit of the head of each successive needle while the old loop is being cast off by the casting off bur, substantially as specified.

2. In a circular knitting machine employing fixed spring needles and burs for feeding the yarn and for casting off, the combination with said needles of a device for radially deflecting the needle heads outwardly during the casting-off operation, substantially as specified.

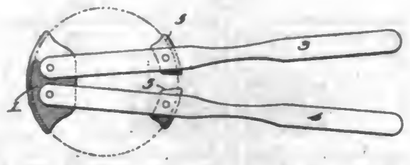
3. In a circular knitting machine equipped with a single series of fixed spring needles, the combination with said needles of means for deflecting the heads of said needles outwardly, and means for casting off the old loops at the point of greatest deflection of said needles, substantially as specified.

4. In a circular knitting machine of the class described, the combination of a series of fixed spring needles, a casting-off bur provided with a concentric deflector adapted to bear against the back side of the needles and spring them outwardly as the cylinder revolves substantially in the manner described and for the purposes specified.

5. In a circular knitting machine of the class described, the combination of a series of spring needles, a casting-off bur provided with a concentric deflector adapted to bear against the back side of the needles and spring them outwardly as the cylinder revolves, and to cast off the old loops concurrently with the greatest deflection of the needles, substantially as specified.

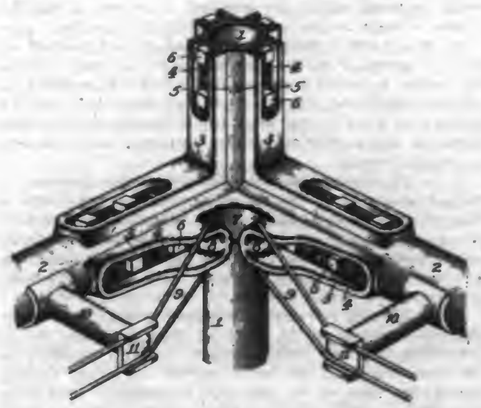
[Claims 6 to 11 not printed in the Gazette.]

976,868. FRUIT-JAR WRENCH. LORY J. GRAFFORT and PETER L. HOFFMAN, New Carlisle, Ind. Filed June 22, 1910. Serial No. 568,303.



A jar wrench comprising a main clamping plate provided with a depending flange, handles pivoted to said plate, and depending auxiliary clamping members pivoted to said handles and each provided with a depending flange.

976,869. FITTING FOR REINFORCING-FRAMES. GEORGE M. GRAHAM, Chicago, Ill., assignor, by mesne assignments, to Suspension Steel Concrete Company, a Corporation of Delaware. Filed Apr. 21, 1909. Serial No. 491,343.

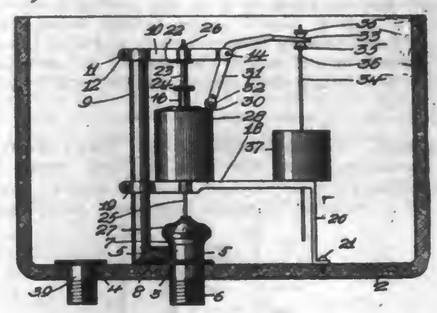


1. The combination in a skeleton reinforcing frame for concrete structures, of a round post, a pair of round beams in angular relation and abutting against said post, coupling pieces the members of which are in angular relation, each member having a concaved surface on one side to fit a post or beam, an elongated recess in the other side formed by border flanges on the member and a series of bolt holes in the web of said recess, and a series of fastening bolts passing through said members and entirely through the posts and beams, substantially as set forth.

2. The combination in a skeleton reinforcing frame for concrete structures, of a round post, a pair of round beams in angular relation and abutting against said post, coupling pieces the members of which are in angular relation, each member having a concaved surface on one side to fit a post or beam, an elongated recess in the other side formed by border flanges on the member and a multiple series of bolt holes in the web of said recess, and a series of fastening bolts passing through said members and entirely through the posts and beams in staggered relation, substantially as set forth.

3. The combination in a skeleton reinforcing frame for concrete structures, of a round post, a pair of round beams in angular relation and abutting against said post, coupling pieces the members of which are in angular relation and provided with an enlargement at their point of intersection, the enlargement having an open side orifice forming opposed horns, a series of fastening bolts passing through said members and entirely through the posts and beams, and a lateral truss consisting of intermediate struts and tension members extending from post to post, over said struts, and looped around the horns aforesaid, substantially as set forth.

976,870. FLUSHING APPARATUS. WILLIAM GUYTON, Avalon, Pa., assignor of one-half to Robert Stinson, Pittsburg, Pa. Filed Mar. 31, 1910. Serial No. 552,607.

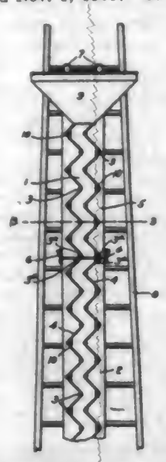


1. In a flushing apparatus, a tank having a water inlet and a water outlet, an overflow pipe connecting with said water outlet, a valve adapted to normally close said water outlet, a support arranged within said tank and connecting with said overflow pipe, a secondary float normally resting upon said support and adapted to elevate said valve, a bracket carried by the upper end of said overflow pipe, a lever pivotally mounted at the outer end of said bracket and adapted to normally hold said secondary float upon said support, a rod carried by said lever and extending through said support, and a primary float movably mounted upon said rod and adapted to be elevated by the contents of said tank to move said lever and release the secondary float.

2. In a flushing apparatus, a tank having a water inlet and a water outlet, an overflow pipe in communication with said water outlet, a support arranged within said tank, a bracket carried by the upper end of said overflow pipe, a slotted tube arranged between said support and said bracket, a valve stem movably mounted in said tube, a valve carried by the lower end of said stem and adapted to normally close said water outlet, a transverse pin carried by said stem and protruding through the slots of said tube, a secondary float movably mounted upon said tube and adapted to engage said pin and elevate said valve, a lever pivotally supported by said bracket and adapted to normally retain said secondary float upon said support, a

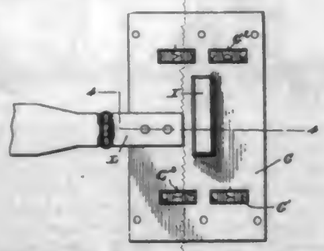
rod connected to the outer end of said lever and extending downwardly through said support, and a primary float movably mounted upon said rod and adapted to be elevated by the contents of said tank to move said lever and release said secondary float.

976,871. FRUIT-CONVEYER. HUGH HAMMOND, Rochester, N. Y. Filed Nov. 1, 1909. Serial No. 525,837.



A fruit conveyer having, in combination, two series of pins arranged in staggered parallel alinement, a strip of flexible material arranged in zig-zag position about each series of pins to form a zig-zag passage between said strips, and a yielding cushion fixed to said strip in each inner corner of said passage and inside of the pin in said corner, to prevent contact between the fruit and the pins.

976,872. COMBINATION-LOCK. HARRIS HANFLIG, Charlestown, Mass. Filed Oct. 15, 1909. Serial No. 522,735.



1. The combination with a casing provided with a hasp receiving opening, of a hook bolt slidably mounted within the casing, adjacent said opening, arms carried by said bolt provided with heads at their ends, notched annularly grooved tumblers co-acting with said heads, dials for operating said tumblers and means for operating said bolt.

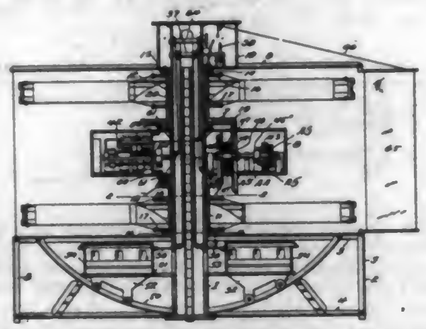
2. A lock comprising a casing provided with a bottom having slots formed therein, shafts mounted in said casing, tumblers mounted on said shafts carrying dials extending through said slots, a face plate arranged on said casing provided with slots to receive said dials, a bolt slidably mounted on the under side of said face plate, headed arms carried by said bolt co-acting with said tumblers, and a member slidably mounted on the face plate connected to said bolt for operating the same.

3. A lock comprising a casing provided with vertical dove-tailed shaped grooves in its ends, dove-tailed supporting blocks arranged in said grooves, shafts mounted in said blocks, notched tumblers mounted on said shafts, dials adjustably mounted on said tumblers, a face plate secured on said casing, a bolt member carried by said face plate, arms extending outwardly from said bolt member provided with heads co-acting with said tumblers, and means for operating said bolt.

4. A lock comprising a casing having spaced shafts detachably mounted therein provided with shoulders, notched tumblers provided with annular grooves arranged on said shaft against said shoulders, said tumblers being provided with disks having toothed edges, dial rings provided with toothed portions co-acting with said disks, a face plate secured upon said casing, a bolt provided with spaced arms mounted under said face plate and coacting with said tumblers, and a slide mounted on said face plate connected to said bolt.

5. A lock comprising a casing having dove-tailed shaped grooves formed in its ends, supporting blocks mounted in said grooves provided with recesses, shafts mounted in said recesses provided with reduced portions, notched tumblers mounted on the reduced portions of said shafts provided with annular grooves, dials adjustably mounted on said tumblers, a face plate secured upon said casing provided with slots to receive said dials, a bolt member slidably mounted on the under side of said face plate, arms extending outwardly from said bolt member provided with heads adapted to fit within the annular grooves of the tumblers, and a slide mounted on said face plate connected to said bolt member for operating the same.

976,873. AIRSHIP. THADDEUS S. HARRIS, Modesto, Ill. Filed Mar. 30, 1909. Serial No. 486,671.



1. An air ship including a standard, a wing member rotatively mounted on the standard near the upper end of the latter, a second wing member rotatively mounted on the standard near the lower end of the latter, and driving mechanism fixed to the standard intermediate said wing members, said wing members operating in parallel planes at right angles to the length of the standard.

2. An air ship including a standard, a wing member rotatively mounted on the standard near the upper end of the latter, a second wing member rotatively mounted on the standard near the lower end of the latter, driving mechanism fixed to the standard intermediate said wing members, and a steering member operating below the second wing member.

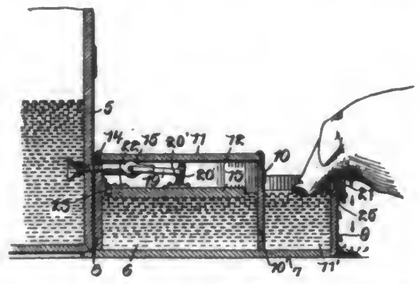
3. An air ship including a standard, a wing member rotatively mounted on the standard near the upper end of the latter, a second wing member rotatively mounted on the standard near the lower end of the latter, driving mechanism fixed to the standard intermediate said wing members, a curved track arranged below the second wing member, and a weight adapted for travel on said track.

4. An air ship including a standard, a wing member rotatively mounted on the standard near the upper end of the latter, a second wing member rotatively mounted on the standard near the lower end of the latter, driving mechanism fixed to the standard intermediate said wing members, a curved track arranged below the second wing member, a weight adapted for travel on said track, and means for operating the weight, whereby to provide an excess thereof on one or the other sides of the standard.

5. An air ship including a standard, a wing member rotatively mounted on the standard near the upper end of the latter, a second wing member rotatively mounted on the standard near the lower end of the latter, driving mechanism fixed to the standard intermediate said wing members, a curved track arranged below the second wing members, a weight adapted for travel on said track, means for operating the weight, whereby to provide an excess thereof on one or the other sides of the standard, and means for turning the standard to direct the excessively weighted portion of the air ship in any direction.

[Claims 6 to 10 not printed in the Gazette.]

976,874. WATERING-TROUGH. BERNARD HASMAN, Jr., Lindsay, Nebr. Filed Aug. 17, 1910. Serial No. 577,720.



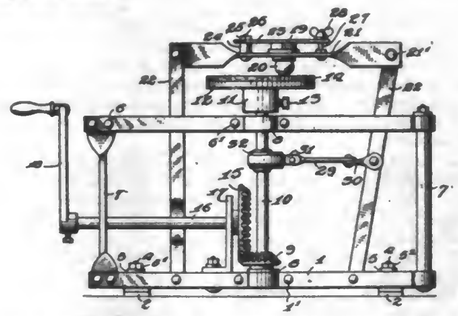
1. A watering trough of the character described comprising a base, a rear wall rising from the base, parallel spaced walls arranged on said base and engaging at their ends with the rear wall, said parallel walls providing a water space between them, one of said walls having a plurality of water outlet openings therein, a removable plate arranged upon the latter wall and the rear wall to form a chamber, in combination with a water supply pipe extending into said chamber having a valve therein, and a float in said chamber connected to said valve to actuate the same and control the water supply.

2. A trough of the character described comprising a base, front and rear walls rising therefrom, an intermediate wall arranged on the base in parallel relation to the front wall, said wall having a plurality of openings therein, a removable cover plate on the intermediate and rear walls to provide a chamber between them, a scraping plate secured to the upper edge of the front wall, in combination with a water supply pipe extending through the rear wall from a suitable source of water supply and having a valve in its end, and a float in said chamber hinged to the rear wall and connected to said valve to actuate the same and control the water supply.

3. The combination with a supply pipe, of a trough arranged closely adjacent thereto and comprising front and rear walls, said front wall being of less height than the rear wall, an intermediate wall arranged nearest to the front wall and of the same height as the rear wall, said intermediate wall having a plurality of openings therein, a cover plate removably arranged upon the intermediate and rear walls to form a chamber between them, a scraping blade secured to the upper edge of the front wall throughout its length, a water supply pipe extending through the rear wall and through the wall of the supply tank, and means for automatically controlling the supply of water from said tank to the chamber.

976,875. GRINDING AND POLISHING MACHINE. FRANK HAYDEN, Otsego, Ohio. Filed July 8, 1910. Serial No. 570,989.

1. In a machine of the character described, a frame, a horizontal grinding wheel mounted in said frame, mechanism for rotating said grinding wheel, a reciprocating frame for holding a valve seat, and ball therein, said ball resting on the grinding wheel, and means for reciprocating said frame.

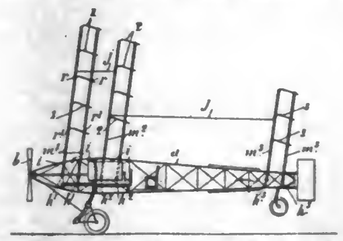


2. In a machine of the character described, a frame, a horizontal grinding wheel mounted in said frame, mechanism for operating said grinding wheel, vibratable arms operated by said mechanism, and a clamping frame for supporting a valve seat and holding the valve and ball against said grinding wheel.

3. In a machine of the character described, a frame, a vertical rotary shaft in said frame, a horizontal grinding wheel on the upper end of said shaft, a mechanism for rotating said shaft, a pair of vibratable arms pivotally connected to said frame, means connecting said arms with said rotary shaft for operating the same, a transverse clamping frame pivotally connected with the upper ends of said vibrating arms, and means carried by said transverse frame for holding a valve seat and its ball against said grinding wheel.

4. In a machine of the character described, a frame, a vertical rotary shaft in said frame, a horizontal detachable disk-shaped head in the upper end of said shaft, a mechanism for rotating said shaft a pair of vibratable arms pivotally connected to said frame, means connecting said arms to said rotary shaft for operating the same, and a clamping frame pivotally connected with and detachable from the upper ends of said vibratable arms.

976,876. AEROPLANE. LOUIS ADOLPHE HAYOT, Beauvais, France. Filed Aug. 31, 1909. Serial No. 515,520.



1. In an aeroplane, the combination with the wings and the body of the machine, of means connecting the wings and the body of the machine, whereby each wing can move freely parallel to itself in the direction of the length of the apparatus to occupy any one of a plurality of positions in different planes parallel to the normal plane of the wings, as set forth.

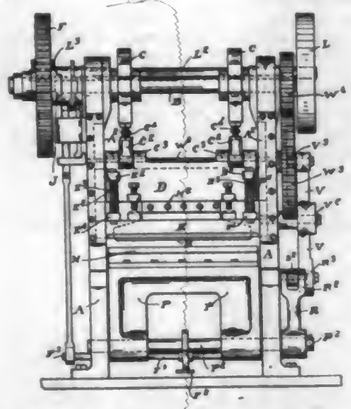
2. In an aeroplane, the combination with the wings and the body of the machine of parallel vertically extending supports arranged in groups of two, in the direction of the length of the aeroplane, said supports being jointed to the body of the machine, and means jointing the wings to said supports whereby each wing can move freely, said parts being so positioned and arranged that the line joining the joints of each wing with the two supports forming a group, the two parallel supports forming said group, and the line joining the joints of said two parallel supports with the body of the machine forms a jointed parallelogram.

3. In an aeroplane, the combination with the body of the machine, of a series of groups of wings, rods supporting said wings, and bars jointed to the forward supporting rods of the wings and connecting two successive groups of wings, said bars being parallel to the axes of the corresponding joints, whereby a jointed bar, the rods and corresponding joints constitute a jointed parallelogram, for the purpose of insuring a simultaneous displacement of the whole of the planes of the aeroplane, as set forth.

4. In an aeroplane of the type specified, the combination with a spindle-shaped hull, of wings for supporting said hull, wing supports, joints connecting said wing supports to said hull, located at points such that the center of the system of parallel forces acting through said supports, shall coincide during normal flight at the ordinary speed, with the center of gravity of the body of the machine, as set forth.

5. In an aeroplane of the type specified, the combination with a spindle-shaped hull, of wings for supporting said hull, wing supports, a horizontal rudder acting as a means of support and joints connecting said wing supports to said hull, so located that the center of the system of parallel forces acting through said supports, shall coincide during normal flight at the ordinary speed with the center of gravity of the machine, the reaction acting upon the axis of said horizontal rudder parallelly to said wing supports being comprised in the said system of parallel forces, as set forth.

976,877. PUNCHING-MACHINE. CHRISTIAN F. HEINES, Cincinnati, Ohio. Filed July 11, 1910. Serial No. 571,437.



1. In a machine for punching and the like, two female dies fixed to a common shaft, a lever fixed to said shaft, a second lever connected by a connecting rod to the first named lever, and means for oscillating this second lever, and thereby moving said female dies back and forth alternately under the male die, and providing periods of rest for such female dies when one is under the male die, and the other is being relieved of the metal operated on by said die and a new piece of metal to be worked is being placed thereon.

2. In a machine for punching and the like, two female dies fixed to a common shaft, a lever fixed to the said shaft, a second lever connected by a connecting rod to the first named lever, and means for oscillating this second lever, and thereby moving said female dies back and forth alternately under the male die, and providing periods of rest for such female dies when one is under the male die, and the other is being relieved of the metal operated on by the die, and a new piece of metal to be worked is being placed thereon, the said connecting rod adapted to be lengthened and shortened, as desired.

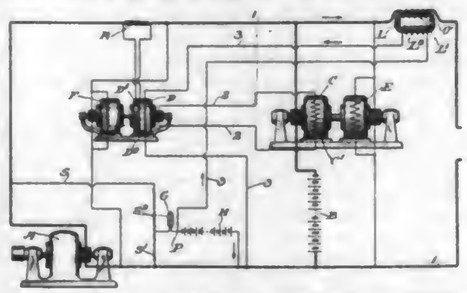
3. In a machine for punching and the like, two female dies fixed to a common shaft, a lever fixed to said shaft, a second lever connected by a connecting rod to the first named lever, and means for oscillating this second lever, and thereby moving said female dies back and forth alternately under the male die, and providing periods of rest for such female dies when one is under the male die, and the other is being relieved of the metal operated on by the die and a new piece of metal to be worked is being placed thereon, the lower end of the second named lever being provided with a slot T^2, and the pivot connection of the adjacent end of the said connecting rod being adapted to be moved in said slot, and fixed at a desired point therein.

4. In a machine for punching and the like, two female dies fixed to a common shaft, a lever fixed to said shaft, a second lever connected by a connecting rod to the first named lever, and means for oscillating this second lever, and thereby moving said female dies back and forth alternately under the male die, and providing periods of rest for such female dies when one is under the male die, and the other is being relieved of the metal operated on by the die and a new piece of metal to be worked is being placed thereon, and the said connecting rod provided with means for lengthening and shortening it, the lower end of the second named lever being provided with a slot T^2, and the pivot connection of the adjacent end of the said connecting rod being adapted to be moved in said slot and fixed at a desired point therein.

5. In a machine for punching and the like, two female dies fixed to a common shaft, a lever fixed to said shaft, a second lever connected by a connecting rod to the first named lever, and means for oscillating this second lever, and thereby moving said female dies back and forth alternately under the male die, and providing periods of rest for such female dies when one is under the male die, and the other is being relieved of the metal operated on by the die and a new piece of metal to be worked is being placed thereon, the lower end of the second named lever being provided with a slot T^2, and the pivot connection of the adjacent end of the said connecting rod being adapted to be moved in said slot, and fixed at a desired point therein, and the said connecting rod consisting of the end sections and of a central right and left hand screw whereby the sections can be approximated or separated.

[Claims 6 to 8 not printed in the Gazette.]

976,878. ELECTRICAL SYSTEM OF DISTRIBUTION. ALBERT S. HUBBARD, Belleville, N. J., assignor to Gould Storage Battery Company, a Corporation of New York. Filed June 19, 1908. Serial No. 439,293.



1. In an electrical system of distribution, the combination of a distribution circuit, a booster and battery, connected thereto, a transformer in said circuit, an exciter for said booster provided with two field coils, one of said coils having a current varying in intensity with the current of said circuit, the other of said coils normally producing a substantially constant magnetomotive force and being connected to said transformer.

2. In an electrical system of distribution, the combination of a distribution circuit, a booster and a storage apparatus connected thereto, induction apparatus in said circuit, a regulating dynamo for said booster provided with two opposing field coils, one of said coils being arranged to have a current varying in intensity with the current of the system and the other of said coils normally producing a substantially constant magnetomotive force and being connected to said induction apparatus.

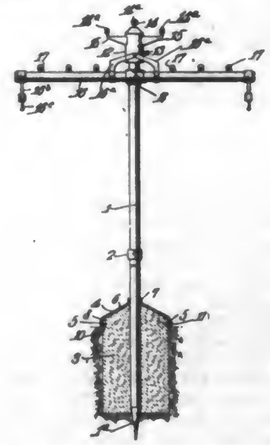
3. In an electrical system of distribution, the combination of a distribution circuit, a booster connected thereto, induction apparatus in said circuit, an exciter for said booster, provided with two field coils, one of said coils being arranged to have a current varying in intensity with the load on said circuit and the other of said coils being arranged to be normally excited by a substantially constant current and being connected to said induction apparatus.

4. In an electrical system of distribution, the combination of a direct current distribution circuit, a booster connected thereto, a regulating dynamo for said booster, provided with two field coils the magnetomotive force of one of which varies as the load on the system and the magneto-motive force of the other of which varies as the rate of change of said load.

5. In an electrical system of distribution, the combination of a distribution circuit, a battery and booster connected thereto, an induction apparatus in said circuit, a regulating dynamo for said booster provided with two field coils the magneto-motive force of one of which varies as the current in said circuit and the other of which is connected to said induction apparatus and the magneto-motive force of which varies as the rate of change of said load.

[Claims 6 to 22 not printed in the Gazette.]

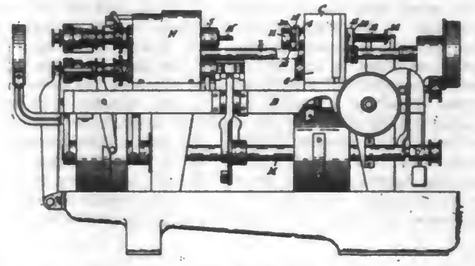
976,879. BASE FOR POLES OR POSTS. HARDIN M. HUGHS, Healing Springs, Ark. Filed June 7, 1909. Serial No. 500,527.



The combination with a pole or post, and a concrete base formed around the same and provided with spaced peripheral locking notches; of a metallic cap having a conical top and an annular flange to fit the base and a sleeve at its apex to fit the pole, lugs within said flange adapted to engage said notches, and set screws tapped through the flange and adapted to be tightened into contact with the base at points between its notches for the purpose set forth.

976,880. LEFT-HAND-THREADING DEVICE. HUGH M. HUNTER, Cleveland, Ohio, assignor to The National Acme Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed July 13, 1909. Serial No. 507,294.

1. In a multiple spindle lathe, the combination of a carrier, a sleeve rotatable in the carrier, a die spindle rotatable in the sleeve, a clutch member connected with the die spindle, a clutch member on the sleeve arranged to engage the clutch member on the die spindle, said members being arranged to disengage upon relative endwise movement of the die spindle and sleeve, and a clutch having one member connected with the sleeve and the other member connected with the die spindle, the latter clutch being organized to cause the sleeve to drive the die spindle in one direction but to permit the die spindle to travel faster than the sleeve in the same direction.



2. In a multiple spindle lathe, the combination of a carrier, a sleeve rotatable in the carrier but prevented from endwise movement, a die spindle rotatable in the sleeve, a clutch member connected with the die spindle, a clutch member on the sleeve arranged to engage the clutch member on the die spindle to prevent the die spindle rotating faster than the sleeve is rotated in a certain direction, said members being arranged to disengage upon endwise movement of the die spindle in the sleeve, a spring arranged to normally retain the die spindle in position with said clutch members in engagement, and a clutch having one member secured to the sleeve and the other member connected to the die spindle, the latter clutch being organized to cause the sleeve to drive the die spindle in said certain direction but to permit the die spindle to travel faster than the sleeve in said direction, said clutch members being constructed and arranged for constant operative engagement throughout the endwise movement of the die spindle in the sleeve.

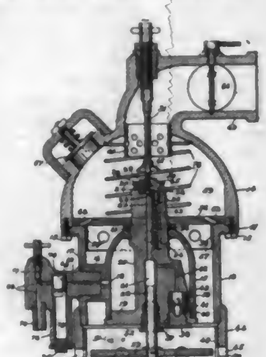
3. In a threading machine, the combination of a work carrying spindle, actuating means for rotating the spindle at a predetermined speed, stopping means for holding the work carrying spindle stationary at a predetermined time, a die spindle carrying a die, shifting means for actuating the die toward and from the work, actuating means for rotating the die spindle at a predetermined speed during the threading operation and less than that of the work carrying spindle, and means effective to permit at a predetermined time the rotation of the die spindle at the same speed as the work carrying spindle, but at a greater speed than the speed of the die actuating means, the organization being effective to permit the die to back off on the stoppage of the work carrying spindle on the continued rotation of such die spindle.

4. In a multiple spindle lathe, the combination of a carrier, a sleeve rotatable in the carrier, means for preventing endwise movement of the sleeve on the carrier, a die spindle rotatable in the sleeve, a clutch member connected with the die spindle, a clutch member on the sleeve arranged to engage the clutch member on the die spindle to prevent the die spindle rotating faster than the sleeve is rotated in a certain direction, said members being organized and arranged to disengage upon endwise movement of the die spindle in the sleeve, and a clutch having one member secured to the sleeve and the other member connected to the die spindle, the latter clutch being organized to cause the sleeve to drive the die spindle in said certain direction but to permit the die spindle to travel faster than the sleeve in said direction, and means on said clutch members constructed and arranged to retain them in operative engagement throughout the endwise movement of the die spindle in the sleeve.

5. In a threading machine, the combination of a work carrying spindle, actuating means for rotating the spindle at a predetermined speed, stopping means for holding

the work carrying spindle stationary at a predetermined time, a die spindle carrying a die, shifting means for acuating the die toward and from the work, actuating means for rotating the die spindle at a predetermined speed during the threading operation and less than that of the work carrying spindle, and means effective to permit at predetermined time the rotation of the die spindle at the same speed as the work carrying spindle, but at a greater speed than the speed of the die actuating means, the organization being effective to permit the die to back off on the stoppage of the work carrying spindle on the continued rotation of such die spindle, said means comprising a clutch member on the die spindle having notches in the periphery with the bottom walls inclined in the same rotative direction, a sleeve loose on the spindle, a clutch member on the sleeve surrounding the said clutch member, rollers in the notches between the two clutch members permitting free relative movement in one direction but causing rotation of the die spindle by the sleeve in the other direction, the sleeve clutch member being connected therewith for axial movement but rotating therewith.

976,881. CARBURETER. BARAT IVOR, Chicago, Ill. Filed Jan. 13, 1910. Serial No. 537,872.



1. A carbureter consisting of a main casing having a mixing chamber at one end thereof, means at its other end to admit air thereto, a reservoir within the casing, a pump within the reservoir having a valve-controlled intake port communicating therewith and a valve-controlled discharge port communicating with the mixing chamber, and a spring-actuated valve connected to the plunger of the pump to open and close one end of the main casing.

2. A carbureter consisting of a main casing having a mixing chamber at one end thereof, means at its other end to admit air thereto, a reservoir within the casing, a pump within the reservoir having a valve-controlled intake port communicating therewith and a valve-controlled discharge port communicating with the mixing chamber, and also having a valve-controlled by-pass communicating at its upper end with the upper portion of the discharge port and at its lower end with the reservoir, and a spring-actuated valve connected to the plunger of the pump to open and close one end of the main casing.

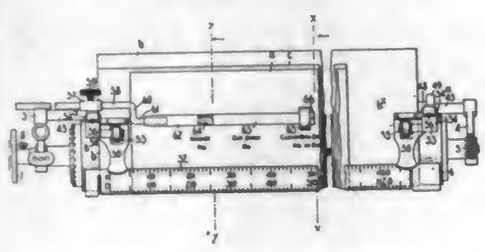
3. A carbureter consisting of a main casing having a mixing chamber at one end thereof, means at its other end to regulate the admission of air thereto, a reservoir within the casing, a pump within the reservoir extended therethrough and into the mixing chamber, said pump having a valve-controlled intake port communicating with the reservoir and a valve-controlled discharge port communicating with the mixing chamber, and a spring-actuated valve movably mounted on the pump cylinder and connected to the plunger of the pump to open and close one end of the main casing.

4. A carbureter consisting of a main casing having a mixing chamber at one end thereof, means at its other end to admit air thereto, a reservoir within the casing, a pump within the reservoir extended therethrough and into the mixing chamber, said pump having a valve-controlled intake port communicating with the reservoir, and a valve-controlled discharge port communicating with the mixing chamber, and also having a valve-controlled by-pass communicating at its upper end with the upper portion of the discharge port and at its lower end with the reservoir, and a spring-actuated valve connected to the plunger of the pump to open and close one end of the main casing.

5. A carbureter consisting of a main casing having a mixing chamber at one end thereof, means at its other end to admit air thereto, a reservoir within the casing, a pump cylinder within the reservoir having a valve-controlled intake port communicating therewith and a valve-controlled discharge port communicating with the mixing chamber, an apertured spreader on the discharge end of the cylinder, a valve to regulate the flow of liquid through the opening in the spreader, and a spring-actuated valve connected to the plunger of the pump to open and close one end of the main casing.

[Claims 6 and 7 not printed in the Gazette.]

976,882. TYPE-WRITING MACHINE. HUBBARD N. JOSLEYN, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Oct. 28, 1907. Serial No. 399,436.



1. In a typewriting machine, the combination of a platen; a paper apron; a platen frame; bracket arms rigidly secured to said platen frame; a platen scale mounted independently of said paper apron and pivoted to said bracket arms; and hand actuated means for turning said platen scale on its pivots and for moving the paper apron away from the platen.

2. In a typewriting machine, the combination of a platen; a platen frame; bracket arms rigidly secured to said platen frame; a platen scale pivoted to said bracket arms; paper feed rollers; independent connecting devices between said pivoted platen scale and said feed rollers; and hand actuated means for moving said feed rollers away from the platen, and through said connections, for simultaneously turning said platen scale on its pivots away from the platen.

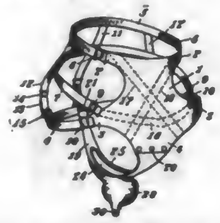
3. In a front strike typewriting machine, the combination of a platen; a paper apron; a platen frame; bracket arms extending forwardly beneath the platen and rigidly secured to said platen frame; a platen scale mounted independently of said paper apron and pivoted to said bracket arms; paper feed rollers; and hand-actuated means for simultaneously moving said paper apron, paper feed rollers and paper scale away from the platen.

4. In a typewriting machine, the combination of a platen; a paper apron; a platen frame; bracket arms rigidly secured to said platen frame; a platen scale mounted independently of said paper apron and pivoted to said bracket arms; paper fingers coöperative with said platen scale; and hand actuated means for moving said platen scale on its pivots, thereby moving the paper fingers away from the platen.

5. In a typewriting machine, the combination of a platen; a platen frame; bracket arms rigidly secured to said platen frame; a platen scale pivoted to said bracket arms; paper fingers coöperative with said platen scale; a paper apron mounted independently of said platen scale; paper feed rollers; and hand actuated means for concurrently moving said paper feed rollers, paper apron and platen scale away from the platen.

[Claims 6 to 16 not printed in the Gazette.]

976,883. COMBINED ABDOMINAL SUPPORTER AND CATAMENIAL SACK. RUDOLPH H. KRAGY and MARTIN L. KRAGY, Canton, Ohio, assignors of one-half to Daniel L. Holwick, Canton, Ohio. Filed Apr. 28, 1910. Serial No. 558,103.

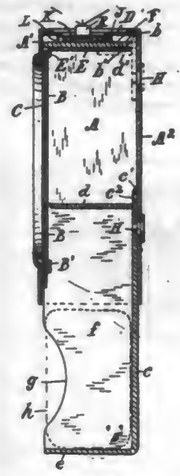


1. A combined abdominal supporter and catamenial sack, comprising an abdominal apron adapted to cover and support the lower ventral portion of the body and having integral upper and lower lateral extensions and a sack attaching flap; a waistband adjustably attached to said upper lateral extensions; a super-sacral band and a sub-sacral band adjustably attached to said lower lateral extensions; a dorsal connecting strap and two dorso-lateral connecting straps attached at their upper ends to said waistband, intermediate their ends to said super-sacral band and at their lower ends adjustably attached to said sub-sacral band; a supporting band attached to said apron and running from one lower lateral extension to the other, said supporting band lying in the same inclined plane as the super-sacral band; auxiliary supporting bands attached to said apron and crossing each other near the center thereof, each extending from the upper lateral extension on one side to a point at the edge of said apron intermediate the lower lateral extension and the sack attaching flap on the other side; and a catamenial sack composed of a single piece of rubber detachably connected to said sack attaching flap and said sub-sacral band.

2. A combined abdominal supporter and catamenial sack, comprising an abdominal apron adapted to cover and support the lower ventral portion of the body; bands attached to said apron and adapted to attach said apron to a body and to support the abdomen; a rubber suspending band provided with a plurality of air openings and adapted to be detachably connected to said apron and one of said bands, said suspending band also provided with a vulvar opening intermediate its ends; an integral roll located around the edge of said vulvar opening; an integral receiving cup located below said opening and on the under side of said suspending band; an integral receptacle located below said receiving cup, the wall of said cup having an opening leading into said receptacle; an integral back-draining receptacle located below the rear portion of said receiving cup and to the rear of said receptacle, the interior of said receptacle communicating with said back-draining receptacle; a screen arranged across the opening from said cup to said receptacle; an outlet valve at the bottom of said receptacle; a screen arranged above said valve; and a sponge holder and sponge therein held located intermediate said screens in said retaining receptacle.

976,884. COIN-OPERATED DROP-BOX. SAMUEL J. KELLY, White Plains, N. Y. Filed Feb. 10, 1910. Serial No. 543,051.

1. A package-holder consisting of a parallel bodied casing having within its top, a bolt and means for actuating the same, a parallel bodied package-box open upon the front and movable downward within the casing to deliver the package below the same, and means upon the package-box for engaging the said bolt.



2. A package-holder having a sealed chamber in the top with a bolt and mechanism therein for shifting the bolt, a rectangular package-box open upon the front and movable downward within the casing to deliver the package below the bottom of the same, a head-piece in the top of the package-box and a lug or hasp projecting upward from the head-piece to engage the bolt.

3. A package-holder having a sealed chamber in the top with a bolt and mechanism therein for shifting the bolt, a rectangular package-box open upon the front and movable downward within the casing to deliver the package below the bottom of the same, a stop to limit the descent of the package-box with the package when unlocked, and means upon the box for engaging the bolt.

4. A package-holder having a sealed chamber in the top with a bolt and mechanism therein for shifting the bolt, a rectangular package-box open upon the front and movable downward within the casing to deliver the package below the bottom of the same, the back of the casing and the back of the package-box having a slot and stud engagement to limit the descent of the box, a head-piece in the top of the box and a lug or hasp projecting above the head-piece to engage the bolt.

5. A package-holder having a sealed chamber in the top with a bolt and mechanism therein for shifting the bolt, a rectangular package-box open upon the front and movable downward within the casing to deliver the package below the bottom of the same, the sides of the package-box being notched at their front edges for grasping the package, and means upon the package-box to engage the bolt.

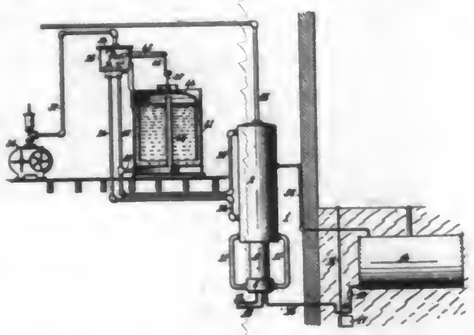
[Claims 6 to 8 not printed in the Gazette.]

976,885. CARBURETING APPARATUS. CLARENCE M. KEMP, Baltimore, Md. Filed Nov. 18, 1901. Serial No. 82,751.

1. In a carbureting apparatus, the combination of a carbureter, an air pump means leading therefrom for supplying absorbent air to the carbureter, means also leading from said pump for supplying diluent air to the carbureter, and a regulating means connected with the diluent air supply to control the amount of air admitted to the carbureter.

2. In a carbureting apparatus, the combination of a carbureter, an air pump means leading therefrom for supplying absorbent air to the carbureter, means also leading from said pump supplying diluent air to the carbureter, and a regulating means connected with the diluent air supply, operating by the variations of demand on the apparatus.

3. In a carbureting apparatus, the combination of a carbureter, a means for supplying air thereto, a regulating means connected to said air supply and said carbureter, said regulating means controlling the air supply to both the upper and lower parts of said carbureter, an automatic valve associated with said regulating means to control said air supplies to said carbureter, and a manually operable means connected with said valve to proportion the air supply to both the said parts of said carbureter.

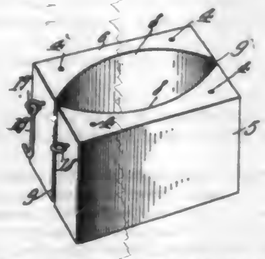


4. In a carbureting apparatus, the combination of a carbureter, a means for supplying air thereto, a regulating means connected with said air supply and said carbureter, said carbureter having upper and lower air supply ports which have respective connections with said regulating means, said regulating means controlling the air supply to the upper and lower ports of said carbureter, an automatic valve associated with said regulating means to control the air supplies to both ports of said carbureter, and a manually operable means connected with said valve to proportion the said air supplies to said carbureter.

5. In a carbureting apparatus, the combination of a carbureter, a means for supplying air thereto, an air chest having a valve therein, said air chest connected to said air supplying means, separate connections leading from said air chest to said carbureter to supply air thereto, a manually operable means connected with said valve to proportionstely regulate the air supply to said carbureter through said separate connections, and said valve being automatically controlled by the variations of demand on the apparatus.

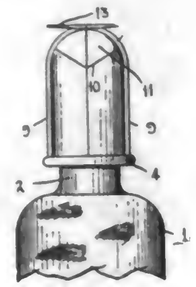
[Claims 6 to 22 not printed in the Gazette.]

976,886. CARROT TOBACCO-MOLD. AUGUST LA CHANCE, Ste. Genevieve, Mo. Filed July 5, 1910. Serial No. 570,441.



A mold comprising a base member having an elliptical depression in the upper surface thereof and a plurality of upwardly extending guide rods, removable side members detachably connected with said guide rods and having elliptical depressions in their inner walls, the ends of said side members being slightly spaced from each other to form vertical slots, a plunger having an elliptical depression in its lower surface and adapted to fit between the side walls of said mold, eye members connected with the ends of the plunger and movable in said vertical slots, hook members for locking said side walls together, and hook members for engaging said eye members and locking said plunger to said base member.

976,887. NIPPLE-COVER. CHARLES W. LADLEY, Ingram, Pa. Filed Sept. 10, 1910. Serial No. 581,378.



1. A nipple cover for nursing bottles, comprising a ring adapted to frictionally engage the neck of the bottle, semi-cylindrical sections having the lower edges thereof connected to said ring, segment-shaped sections connected to the upper edges of said semi-cylindrical sections and adapted to form the upper end of said cover, and lateral extensions carried by the confronting edges of said segment-shaped sections.

2. A nipple cover for nursing bottles, comprising a ring, semi-cylindrical sections connected to said ring, segment-shaped sections movably connected to said semi-cylindrical sections and adapted to close the upper ends of said sections, and means carried by said segment-shaped sections to facilitate the opening of said sections.

3. A nipple cover comprising semi-cylindrical sections, segment-shaped sections movably connected to the upper edges of said semi-cylindrical sections and adapted to form the top of said cover, and lateral extensions carried by said segment-shaped sections.

4. The combination with a bottle provided with a nipple, of a cover, said cover comprising semi-cylindrical sections movably connected to the neck of said bottle, segment-shaped sections movably connected to said semi-cylindrical sections and adapted in conjunction with said sections to inclose said nipple, and means carried by said segment-shaped sections to facilitate the opening of said cover.

976,888. ARCH-SUPPORT. WILLIAM R. LEE, Rochester, N. Y. Filed Nov. 22, 1909. Serial No. 529,328.



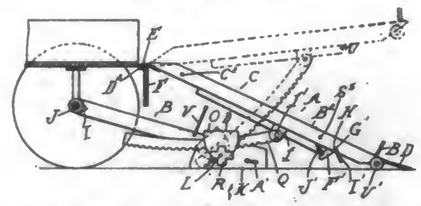
1. An insertible arch support for shoes having a pocket therein opening at one edge of the support, a flexible finger being provided on a wall of the pocket and projecting in a direction away from the opening.

2. An insertible arch support for shoes formed of two pieces of sheet material secured together along the greater portion of their edges and separated along the other portion to provide a pocket between them, one wall of the pocket being provided with a flexible finger cut from one of the pieces of sheet material.

3. An insertible arch support for shoes having a pocket therein opening at one edge of the support, the upper wall of the pocket being provided with an opening and with a flexible finger operable through said opening to secure a height increasing member in the pocket.

4. An insertible arch support for shoes having a pocket therein opening at one edge of the support, the upper wall of the pocket being provided with an opening and with a flexible finger operable through said opening and extending in a direction away from the opening of the pocket, combined with a height increasing member having a slit therein into which the finger is adapted to be inserted to retain said member in the pocket.

976,889. SKID. AUGUST LEMKE, Detroit, Mich. Filed Nov. 11, 1909. Serial No. 527,522.



1. In a skid, the combination with an article-engaging section, of a retaining member pivoted thereto, and a spring-pressed dog for automatically locking said member in its retaining position.

2. In a skid, the combination with an article-engaging section, of a pivoted retaining member therefor, means for locking said member in its retaining position, and means operable from the side of the skid for releasing said retaining means.

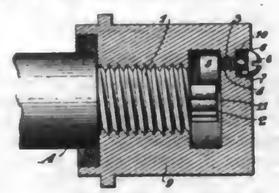
3. In a skid, the combination with a movable section, of an angle-shaped retaining member pivotally connected thereto, and a spring-pressed dog for automatically locking said angle-shaped member in its retaining position.

4. In a skid, the combination with a movable section, of a retaining member pivotally connected thereto, means for locking said member in its retaining position, and means operable from the side of the skid for releasing said retaining means.

5. In a skid, the combination with a movable section, of a retaining member pivotally connected thereto, means for locking said member in its retaining position, and means operable from both sides of the skid for releasing said retaining means.

[Claims 6 to 17 not printed in the Gazette.]

976,890. NUT-LOCK. HARRY A. LUCK, Lewistown, Pa. Filed Jan. 8, 1910. Serial No. 537,069.

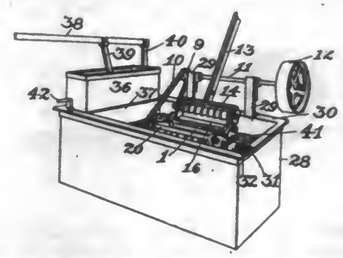


1. The combination with a threaded member and a nut, the threaded portion having a toothed extension, of a lock comprising a screw which turns in a threaded orifice in the nut, and a pawl or dog on the inner end of the screw arranged to be thrown into engagement with the toothed extension by turning the screw outward.

2. The combination with a threaded member and a nut, the threaded portion having a toothed extension, of a lock comprising a screw which turns in a threaded orifice in the nut, and a pawl or dog on its inner end arranged to be thrown into engagement with the toothed extension by turning the screw outward, the pawl or dog being thereby forced frictionally against the inner end wall of the nut.

3. The combination with a threaded member and a nut, the threaded portion having a toothed extension, of a lock comprising a screw which turns in a threaded orifice in the nut, and a pawl or dog on its inner end arranged to be thrown into engagement with the toothed extension by turning the screw outward, the pawl or dog being thereby forced frictionally against the inner end wall of the nut, and a resilient split washer bearing outwardly against the screw.

976,891. STRAIGHTENING AND HARDENING APPARATUS. ADOLPH W. MACHLET, Elizabeth, N. J. Filed Feb. 1, 1906. Serial No. 298,948.



1. An apparatus for straightening and hardening shafts or the like, comprising means for straightening the heated shaft by pressing and simultaneously rolling the same, a tank arranged to contain liquid, and means to effect a relative movement between the rolling means and the liquid contained in the tank, to submerge the shaft after it is straightened and while it is being still pressed and rolled.

2. A shaft-straightening and hardening apparatus comprising a set of shaft-straightening members provided with manually controlled means for forcing the heated shaft into a slightly sinuous form, means for effecting between the shaft and the straighteners a relative rolling movement circumferentially of the shaft while the latter is distorted by the straighteners, and means for immersing the shaft in a chilling bath as soon as it becomes straight and before the cessation of the movement of the shaft-straightening members.

3. A shaft-straightening and hardening apparatus, comprising a tank arranged to contain liquid, a system of shaft straightening rolls, means for rotating them, and means for effecting a relative movement between the rolls and the liquid contained in the tank, for immersing the shaft and rolls while the shaft is being rotated in the grip of the rolls.

4. An apparatus for straightening and hardening shafts or the like, comprising a tank arranged to contain liquid, sets of coöperative shaft-straightening rolls journaled within said tank, manually operated means for controlling the grip of said rolls upon the heated shaft, means for rotating the rolls while gripping the shaft under such control; the rolls being so separated and related and controlled as to produce sinuosity of the heated shaft during the rotating movement, and means to submerge the shaft and rolls in liquid contained in the tank while the rolls are in operation.

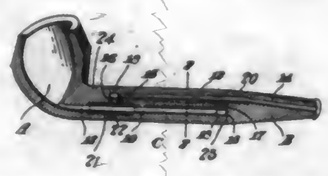
5. A shaft-straightening apparatus comprising a tank arranged to contain liquid, a system of shaft-straightening rolls mounted within the tank, means for rotating the rolls and causing them simultaneously to grip the shaft, means to effect a relative movement between the rolling means and the liquid contained in the tank, to immerse the shaft, and means extending along the rolls within the tank for supplying cooling fluid to the shaft throughout its length.

[Claims 6 to 16 not printed in the Gazette.]

976,892. TOBACCO-PIPE. JOHN BEVERLEY MACLAUGHLIN, Ottawa, Ontario, Canada. Filed June 20, 1910. Serial No. 568,007.

A tobacco pipe comprising a bowl section formed with a bowl and short stem leading therefrom formed with a flat outer face, a mouth piece formed with a bare and flat inner face, an intermediate section having flat faces

adapted to abut the flat faces on the bowl section and mouth piece, and a tubular connecting member countersunk in the intermediate section and bowl section and mouth piece respectively, and holding the same together, the tubular members 20 and 21 connecting the intermediate section to the stem section and bowl section respectively being eccentrically mounted in said section whereby the stem section may be swung around to expose said transverse grooves, and said intermediate section swung clear of the bowl section without entirely disconnecting said parts, said intermediate section being



formed with three bores, two of which register with the mouth piece and bowl respectively, and the third of which is connected with the other bores by countersunk transverse channels at the end in such a way that the smoke will pass successively through the three bores in the intermediate section, the bores in the bowl section and stem section respectively being of substantially the same size as and forming continuations of one of the bores in said intermediate section, and said transverse channels being adapted to be exposed when the mouth piece and bowl are separated.

976,893. CONCENTRATING APPARATUS. JULIUS MATTER, Laaken, near Barmen, Germany. Filed Sept. 22, 1909. Serial No. 519,091.



1. An apparatus of the class described comprising in combination, a plurality of evaporating pans arranged for one to deliver to the other and provided with means for causing the liquid to flow in a circuitous or tortuous path, independent means for heating each pan, and a plurality of partitions arranged slightly above said first mentioned means and transversely with respect to the flow of the liquid.

2. An apparatus of the class described comprising in combination, an evaporating housing provided with an outlet, an evaporating pan disposed in said housing and in an inclined position and provided with means for causing the liquid to flow thereover in a circuitous or tortuous path, means for heating the pan, and a plurality of partitions arranged slightly above and between said first mentioned means and forming a plurality of compartments in the pan for permitting the vapor to rise therefrom.

976,894. BOILER COMPOUND. JOHN QUINCEY MAULE, Terrell, Tex. Filed Jan. 14, 1910. Serial No. 538,141.

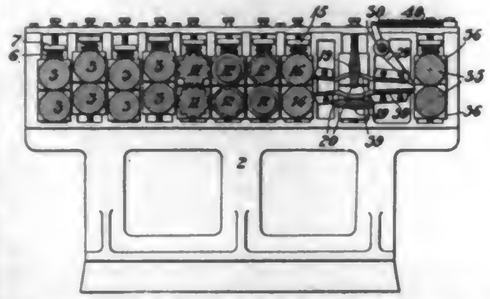
1. The herein described composition of matter, consisting of castor oil, crude petroleum and molasses, substantially as described, and for the purposes specified.

2. The herein described composition of matter, for softening and purifying water for steam boilers, consisting of castor oil, 19 gallons, crude petroleum, 19 gallons, and molasses, 2 gallons.

3. The herein described composition of matter for cleansing, purifying and softening water and precipitating sediment therein for steam boilers, consisting of castor oil, crude petroleum and molasses, substantially as described and for the purpose specified.

4. The herein described composition of matter for cleansing, purifying and softening water for steam boilers, consisting of castor oil, 19 gallons, crude petroleum, 19 gallons, molasses 2 gallons, substantially as described and for the purposes specified.

976,895. APPARATUS FOR OPENING PACKS. ARTHUR R. MCARTHUR, Elwood, Ind., assignor to American Sheet & Tin Plate Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Jan. 30, 1908. Serial No. 413,405.



1. In apparatus for opening packs, beaters arranged to act upon the packs, and means for rotating the same, substantially as described.

2. In apparatus for opening packs, beaters arranged to act upon the packs, means for rotating the beaters, and means for reversing the direction of action of the beaters while they are acting upon the packs, substantially as described.

3. In apparatus for opening packs, rotary beaters arranged to act against opposite surfaces of the packs, and means for feeding the packs to the action of the beaters, substantially as described.

4. In apparatus for opening packs, means for bending the packs, and rotary beaters arranged to beat the bent packs, substantially as described.

5. In apparatus for opening packs, means for bending the packs, and rotary beaters arranged to beat the bent packs, together with means for reversing the direction of rotation of the beaters while they are acting upon the packs, substantially as described.

[Claims 6 to 18 not printed in the Gazette.]

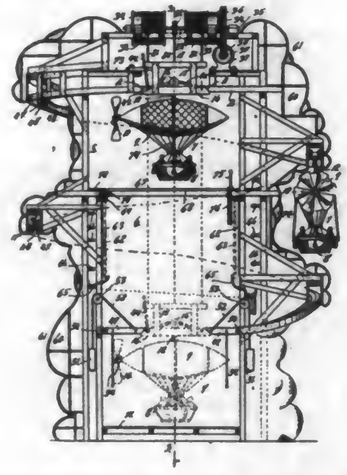
976,896. AMUSEMENT APPARATUS. WILLIAM W. MCFARLAND, Denver, Colo., assignor of one-third to Harry L. Weber and one-third to Theodore Nollenberger, Denver, Colo. Filed Mar. 8, 1910. Serial No. 548,085.

1. In amusement apparatus, the combination with a structure having a central shaft, an exteriorly located spiral track, a carriage, a car vertically movable in the shaft on said carriage, and means for transferring the car from the carriage to the spiral track, substantially as described.

2. In amusement apparatus, the combination of an upright structure, having a central shaft for the travel of a car, an exteriorly located spiral track, a carriage vertically movable in the shaft, a car detachably connected with the carriage, means for lowering and raising the latter, and means for transferring the car from the carriage to the spiral track, substantially as described.

3. In amusement apparatus, the combination of an upright frame having a centrally located vertical shaft, an exteriorly located spirally arranged undulatory track, a carriage vertically movable in the shaft, a car having a trolley detachably connected with the carriage, means for raising and lowering the carriage, and means for transferring the trolley of the car from the carriage to the spiral track, substantially as described.

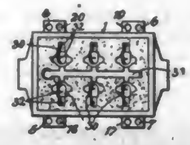
4. Amusement apparatus comprising a framework inclosing a shaft, a spiral track exteriorly mounted upon the main framework, an auxiliary framework outside of the main framework, fabric arranged upon the auxiliary framework and given a wave-like or billowy form to produce a cloud effect, a portion of the fabric being arranged outside of the spiral track and another portion inside of the track, a carriage vertically movable in the shaft, a car provided with a trolley detachably engaging the carriage, means for elevating the carriage into alinement with the spiral track, and means for transferring the trolley of the car from the carriage to the spiral track, substantially as described.



5. In amusement apparatus, the combination of a main framework inclosing a central shaft, a carriage vertically movable in the shaft, a car equipped with a trolley detachably connected with the carriage, a track spirally arranged outside of the main framework and having its upper and lower extremities protruding into the shaft and adapted to assume positions of alinement with the lower portion of the carriage when the latter is at its upper and lower limits of movement, and means for transferring the car trolley from the carriage to the upper extremity of the track and from the lower extremity of the track to the carriage, substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

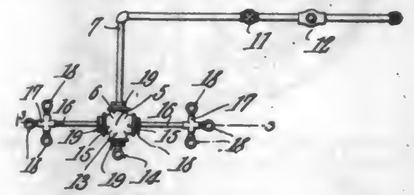
976,897. MAKING MASTER-PLATES. HUGH MCPHEE, Tarrytown, N. Y. Filed June 15, 1910. Serial No. 566,904.



1. The herein described method of making master plates which consists in first forming a mold from a master pattern in a two-part flask comprising a cope and nowel, then pouring pattern metal into each separate and individual mold thus formed and flush with the parting line to form, when cooled, working patterns, then place a skeleton master plate over the cope and nowel and fill said plates with a non-shrinkable material and allow it to set, then remove the master plates with the working patterns firmly secured to the said material and allow said material to become thoroughly hardened.

2. The herein described method of making master pattern plates which consists in first forming a mold from a master pattern in a two-part flask and insert anchorage pins in the mold, then pouring pattern metal into each separate and individual mold thus formed and flush with the parting line to form, when cooled, working patterns, then place a skeleton master plate over one-half of the separated flask and fill said skeleton plate with a non-shrinkable material with the anchorage pins embedded therein, allow the material to set, then remove the pattern plate with the working patterns firmly anchored thereto and allow said material to become thoroughly hardened before using the master plate.

976,898. LIQUID-FUEL BURNER. JAMES CRAVENS MCQUERRY and ARCH LETROBE EVERETT, North Fortworth, Tex. Filed Mar. 12, 1910. Serial No. 548,800.



A liquid fuel burner comprising a cruciform retort chamber, a fuel supply pipe connected to one of the branches of the chamber, a burner nozzle connected to the branch which is opposite the last mentioned branch and located in close proximity to the retort chamber to heat the same, pipes connected to the other branches of the chamber and extending outwardly therefrom horizontally, cross couplings mounted on the outer ends of the pipes, and burner nozzles connected to the branches of the couplings.

976,899. PROCESS OF MANUFACTURING FLEXIBLE TUBES FOR FOUNTAIN PAINT-BRUSHES AND THE LIKE. GOTTFRIED MEYER, Philadelphia, Pa. Filed Dec. 3, 1909. Serial No. 531,270.

1. The herein described method of producing tubes for use in connection with fountain paint brushes and the like consisting in subjecting the intestines of an animal to the action of a mixture of sodium sulfid and water and then treating the intestines with glycerin.

2. The herein described method of producing tubes for use in connection with fountain paint brushes and the like consisting in subjecting the intestines of an animal to the action of a mixture of sodium sulfid and water, then washing the intestines, then stretching the same upon an expanding coil, and then treating the intestines with glycerin.

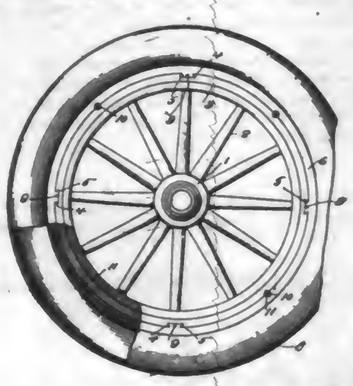
3. The herein described method of producing soft flexible tubing consisting in subjecting the intestines of an animal to the action of a mixture of sodium sulfid and water, then treating the intestines with glycerin, then drying the product and subsequently uniting the intestines with a cement consisting of glue, gelatin, glycerin, white vinegar and acetate of alumina.

976,900. DETACHABLE AND SECTIONAL RIM FOR VEHICLE-WHEELS. JOHN W. MILLER, South Sharon, Pa. Filed May 17, 1907, Serial No. 374,119. Renewed Apr. 26, 1910. Serial No. 557,824.

1. The combination with the felly and tire of a wheel, said felly having equally spaced dove-tail tapering grooves formed therein, and having a flange at the smaller end of each of said grooves, of a sectional rim adapted to engage said tire, depending dove-tail tapering tongues carried by each section and adapted to fit in said grooves, screw bolts for securing the sections of said rim together, and nuts and bolts for securing said rim upon said felly.

2. The combination with the felly and tire of a wheel, said felly having dove-tail grooves formed therein, of a

sectional rim adapted to engage said tire, depending tongues carried by said sections and adapted to fit in



said grooves, screw bolts for securing said sections together, and means for securing said rim upon said felly.

976,901. LEVER. CHARLES A. MURPHY, Baltimore, Md. Filed Apr. 6, 1910. Serial No. 553,702.



1. A lever of the type set forth, having an opening extending to a face of the working end thereof and through which sand or like material may be fed.

2. A lever of the type set forth, having means associated therewith for discharging sand or like material at a face of the working portion thereof.

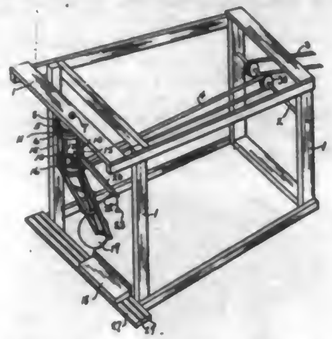
3. A lever of the type set forth, having an opening which extends to a face of its working portion and through which sand may be passed, and means for varying the efficient size of said opening.

4. A lever of the type set forth, having a downwardly tapered opening extending to a face of the working portion thereof and through which sand or like material may be passed.

5. A lever of the type set forth, having an opening which extends to one of the faces of its working portion and through which sand or like material may be passed and having also a second opening which extends at an angle from the first-named opening to another face of the said working portion and through which a portion of the sand or material passing through the first-named opening will flow.

[Claims 6 and 7 not printed in the Gazette.]

976,902. SAW ATTACHMENT. CHARLES W. NEWTON, Houston, Tex. Filed Sept. 10, 1909. Serial No. 517,117.

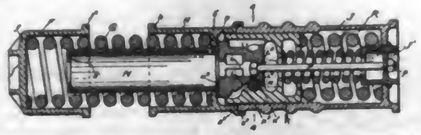


1. In a machine of the character described, a main supporting frame, a member rigidly mounted thereon, a second member pivotally mounted in connection with the aforesaid member, supports suspended from each of the above members and braced at their lower extremities, a hingedly attached frame suspended from said pivotally mounted support and member, a driving means, and a cutting means operated by said driving means located on the hingedly attached frame.

2. In a machine of the character described, a main supporting frame, a circular table rigidly mounted on the front and center thereof, a second circular table pivotally connected to the aforesaid table, downwardly extending supports from each of the aforesaid tables and braced at their lower extremities the inner of said supports carrying a frame within which pulleys are located a cutting means, belts adapted to operate said cutting means through said pulleys and a hingedly attached frame suspended from said pivotally mounted support and table.

3. In a machine of the character described, a main supporting frame with an overhanging extension at the end, a circular table rigidly mounted thereon, a second circular table pivotally mounted in connection with the aforesaid table, slots at a mean distance from the center of said first mentioned table extending partially around the center, downwardly extending supports from each of the above said tables and braced at their lower extremities, a hingedly attached frame suspended from said pivotally mounted support and table, a cutting means, a frame pivotally mounted within the inner suspended table, said frame being located so that its center is directly beneath the center of the circular tables, and a driving means for operating said cutting means in such a manner as to allow the cutting means to move in a changeable direction.

976,903. FRICTION-BUFFER FOR RAILWAY-CARS. JOHN F. O'CONNOR, Chicago, Ill., assignor, by mesne assignments, to William H. Miner, Chicago, Ill. Filed Oct. 30, 1909. Serial No. 525,411.



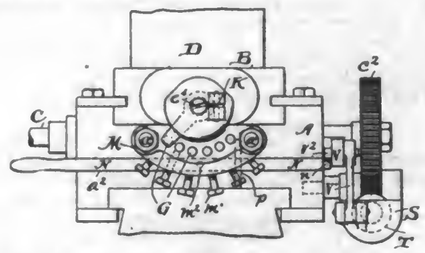
1. In a friction buffer for railway cars, the combination with a buffer cage having a saddle for receiving and supporting the buffer bar and its cushioning devices, of a buffer bar, a spring cap engaging said bar, an intermediate thrust member, a main buffer spring interposed between said spring cap and intermediate thrust member, a friction shell engaging said intermediate thrust member at one end and said buffer cage at the other, a spring, friction shoes, a wedge with interposed anti-friction rollers within said shell and a secondary thrust member interposed between said wedge and said spring cap to transmit the thrust of the buffer bar to said wedge and friction shoes after the main buffer spring has been partially compressed, substantially as specified.

2. In a friction buffer for railway cars, the combination with a buffer cage having a saddle for receiving and supporting the buffer bar and its cushioning devices, of a buffer bar, a spring cap engaging said bar, an intermediate thrust member, a main buffer spring interposed between said spring cap and intermediate thrust member, a friction shell engaging said intermediate thrust member at one end and said buffer cage at the other, a spring, friction shoes, a wedge with interposed anti-friction rollers within said shell and a secondary thrust member interposed between said wedge and said spring cap to transmit the thrust of the buffer bar to said wedge and friction shoes after the main buffer spring has been partially compressed, said secondary thrust member having an externally projecting flange adapted to engage said intermediate thrust member, substantially as specified.

3. In a friction buffer, the combination with a buffer bar and spring cap, of a friction shell having a spring, friction shoes and wedge therein, a main buffer spring interposed between said spring cap and said friction shell and a secondary thrust member interposed between said wedge and said spring cap and operating to transmit the pressure of the buffer bar to the wedge, friction shoes and said spring within said friction shell independent of said main buffer spring after said main spring has been partially compressed, both said springs coacting together to resist and cushion the final portion of the buffer bar movement, substantially as specified.

4. In a friction buffer, the combination with a buffer bar, spring cap and main buffer spring reacting against said cap, of a friction shell against which said main buffer spring reacts, a spring, friction shoes and wedge within said shell, and a secondary thrust member interposed between said wedge and said spring cap and operating to transmit the pressure of the buffer bar to the wedge independent of said main buffer spring, substantially as specified.

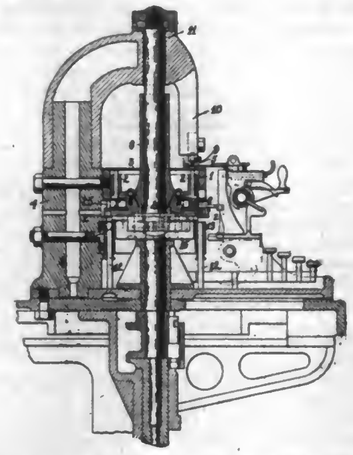
976,904. INDEPENDENT STOP MECHANISM FOR TURRET-LATHES. JOHN G. OLIVER, Cleveland, Ohio. Filed Apr. 3, 1906. Serial No. 309,599.



1. In a turret lathe, the combination of a turret slide, a support therefor, a turret on said slide, releasable power mechanism for feeding the turret slide, a longitudinal rock shaft upon the turret slide, a finger secured to the rear end of said rock shaft and incapable of moving lengthwise thereof independently of the slide, two horizontal guide bars secured to the rear end of the slide support, a block slidably supported upon said guide bars, a series of independently adjustable stops supported by said block in the range of said finger, a lever pivoted to said bed on a vertical pivot and projecting between the block and the end of the bed, a mechanism controlled by said lever for disengaging the power feeding mechanism from the turret slide.

2. In a turret lathe the combination of a turret slide, a support therefor, a turret on said slide, a longitudinal rock shaft mounted upon the turret slide, a finger secured to the rear end of said rock shaft, mechanism transmitting motion from the turret to the rock shaft, a series of longitudinally extended stop bars in the range of said finger and adjustably connected with the support for the slide, and a latch for holding said finger out of line with any of said stop bars.

976,905. EMBOSSING-MACHINE. CHARLES OWENS, Chattanooga, Tenn., assignor to Montague Mailing Machinery Co., New York, N. Y. Filed Jan. 16, 1909, Serial No. 472,718. Renewed Apr. 12, 1910. Serial No. 555,103.



1. In combination in a machine of the class described, a rotary die carrier, an impression plate and punch, a constantly rotating member, a clutch between the said impression plate and the constantly rotating member, a fixed notched ring, said clutch comprising a movable member for disengaging the impression plate from the constantly rotating member and at the same time engaging it with the fixed ring, substantially as described.

2. In combination in a machine of the class described, a rotary die carrier, a constantly rotating member, a clutch between the said carrier and the constantly rotating member, said clutch including a shifting member to release the carrier, and means to be engaged by the shifting member when it is shifted to thereby hold the carrier against rotation, substantially as described.

3. In combination a rotary die carrier, an impression plate connected thereto, a punch, a cam for moving the impression plate axially, said impression plate having a series of teeth or notches and a detent to be engaged thereby to hold the impression plate against revolution while being moved axially, a fixed member, a rotary driving member, a clutch between the same and the impression member, said clutch comprising a shifting member on the impression plate having a double tooth, one to engage the other member of the clutch and the other to engage the fixed member when shifted to release the impression plate from the rotary driving member, substantially as described.

4. In combination in a machine of the class described, a die carrier, a constantly rotating driving member, a ring or frame encircling the driving member, a clutch between the driving member and the die carrier, said clutch having a sliding member with an inner and an outer tooth, pins slidable through the encircling member, key connections for operating the pins, a stop for contacting with the pins, said stop rotating with the clutch and operating the sliding clutch member, said encircling member having teeth or notches, and the sliding clutch member having its outer tooth to engage said teeth or notches, and means for closing the dies, when the clutch is released, to make the impression, substantially as described.

5. In combination, a rotary die carrier, a rotary driving member, an impression plate movable axially, cam means for operating the said plate for making the impression, clutch means between the rotary driver and the impression plate, said clutch means comprising a member rotat-

ing with the driving member and having a tooth and a sliding member connected with the impression plate, and having a tooth to engage the rotary clutch tooth and having also a cam shaped tooth to be engaged by the rotary clutch tooth for resetting the sliding clutch member, and means for operating the sliding clutch member, substantially as described.

[Claims 6 to 15 not printed in the Gazette.]

976,906. WIRE-CLAMP. DAVID P. PAGE, Grand Rapids, Mich. Filed Oct. 26, 1909. Serial No. 524,706.

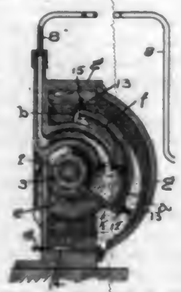


1. A wire clamp, comprising two T bars having their head members arranged parallel and spaced apart, a plate having its side edges bent to embrace the edges of the said members, and spaced apart therefrom, said plate also having recesses in the side edges to receive a wire and one end bent to transversely engage the edges of the said members and support the plate substantially parallel with the T bars and a bolt extending between the T bars and through the plate, said plate and bolt being adjustable longitudinally of the bars.

2. A wire clamp, comprising T-bars having their head members spaced apart in parallel planes, a bolt extending between said bars, a plate through which the bolt extends, said plate having extensions at its respective sides at one end and turned toward the bars and recessed to engage a wire and also having one end turned toward the bars to rest against the same, and a lug on said end extending between the bars to prevent the plate from turning about the axis of the bolt.

3. A wire clamp, comprising two metal bars having projecting edges spaced apart, a plate having its side edges turned toward the bars to embrace the projecting edges of the same and spaced apart therefrom and also having one end turned toward the bars and transversely thereof, and a bolt extending between the bars through the plate and adjustable longitudinally of the bars, and a washer between the bolt head and the bars having its edge bent inward to embrace the bars and hold the same.

976,907. MOTION-TRANSMITTING DEVICE. JOHN F. PAGENDARM, San Francisco, Cal., assignor of one-half to William H. Binns, San Francisco, Cal. Filed Nov. 20, 1909. Serial No. 529,073.



1. In a device operating to transmit motion through the medium of a non-compressible fluid and having a motor piston and cylinder to which the motive force or power is applied, and a piston and cylinder operatively connected therewith by a body of non-compressible fluid, a fluid tight case containing a body of fluid and means operating in the movements of the said cylinders and pistons with relation to each other for opening communication between the body of fluid under pressure of the transmitting force or power and the confined body of fluid in the case.

2. In a motion transmitting device adapted to operate through the medium of a body of non-compressible fluid, the combination of a motor piston and cylinder movable relatively to each other, a similar cylinder and piston reversely arranged with respect to the first named cylinder and piston and actuated thereby and means for actuating the said cylinders and pistons relatively to each other, comprising a non-compressible fluid contained in passages and connecting the cylinder spaces in front of the pistons in one motor with corresponding spaces in the cylinders of the motors to be actuated, a fluid tight case inclosing the cylinders and their pistons, and means operated by the movement of the piston in each cylinder to set up or shut off communication between the case and the cylinder spaces at a predetermined period in such movement.

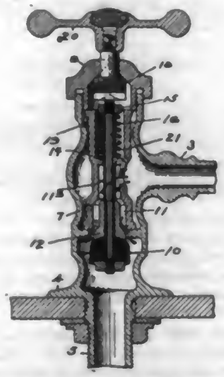
3. In a motion transmitting device, an actuating motor having reversely arranged cylinders and pistons therein movable relatively to the cylinders, and adapted to transmit their motion through a non-compressible fluid according to the direction in which the motive force is caused to actuate the said cylinders and pistons, the combination therewith of a fluid tight case connecting said cylinders and means operating to alternately open and close communication between the cylinder spaces and the fluid holding space in the case at predetermined periods in the operation of the motor.

4. In a motion transmitting device operating through the medium of a non-compressible fluid, a motor having reversely arranged cylinders and pistons therein movable relatively to the cylinders, one of said cylinders operating to expel and the other to simultaneously fill with the transmitting fluid, and means operating to maintain a condition of equilibrium in the fluid acted on by the two pistons and cylinders, including a fluid tight case and means operating by the movements of the pistons in their respective cylinders to alternately set up and shut off communication between the cylinders and the said case at a predetermined period in their movement.

5. The combination with a motor comprising cylinders reversely arranged and pistons therein movable relatively to the cylinders, of fluid carrying passages connecting separately the cylinder spaces with the parts adapted to be actuated by the hydraulic pressure transmitted through the fluid, and means for replacing loss of fluid in the said passages, comprising apertures in the cylinders and a fluid tight casing common to said cylinders with which said apertures are arranged to communicate when opened, and means operating through the movements of the pistons with relation to the cylinders to shut off communication in the working stroke of said parts.

[Claims 6 to 8 not printed in the Gazette.]

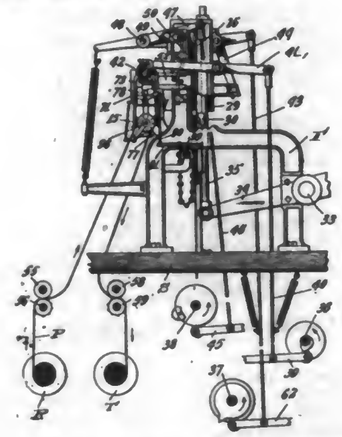
976,908. VALVE. THOMAS F. PAYNE, Pittsburg, Pa. Filed Oct. 3, 1907. Serial No. 395,676.



In a self-closing valve, a casing having an interior annular flange, a removable barrel supported upon said flange and having a lower chamber constituting a fluid

channel having passages of different diameters and provided at its lower end with a valve-seat, and an upper chamber constituting a housing for a valve spring, a valve stem having a valve and double plug arranged to enter said passages and form an intermediate closed annular pocket when the valve approaches the valve-seat, an intermediate wall separating said chambers and forming a seat for said valve spring, and a port connecting said upper chamber with the valve outlet.

976,909. JACQUARD MECHANISM FOR LOOMS. WILLIAM PEARSALL, Worcester, Mass., assignor to Matthew J. Whittall, Worcester, Mass. Filed Mar. 21, 1904. Serial No. 199,109.



1. In a loom, the combination with weaving mechanism, of a continuous pattern surface having a border pattern section provided with perforations, and a double pattern section or repeat having perforations in alternating rows, the perforations of one set of rows representing half of a figure, and those of the alternate set, taken in reverse order, representing the other half, whereby the pattern surface may be fed forward by a single step motion along the border pattern section to weave the border, then fed continuously forward, but with a two-step motion, to weave the first single pattern section, then fed back with a two-step motion to complete the double pattern section, whereby the pattern surface will then be in position to repeat the double pattern section or to weave the other border, without resetting the pattern surface.

2. In a loom, the combination with weaving mechanism, of a continuous pattern surface having a border pattern section provided with perforations, and a double pattern section or repeat having perforations in alternating rows, the perforations of one set of rows representing half of a figure, and those of the alternate set, taken in reverse order, representing the other half, and means for feeding the pattern surface forward by a single-step motion, to weave one border, continuing the forward feed by a two-step motion over said double pattern section, automatically reversing the same and feeding back by a two-step motion over the double pattern section, but on the alternate rows of perforations, automatically repeating both two-step motions the required number of times, whereby the pattern surface will be left at a point from which either the double pattern section or border may be woven without resetting and then feeding the pattern surface back over the border pattern section to weave the section border.

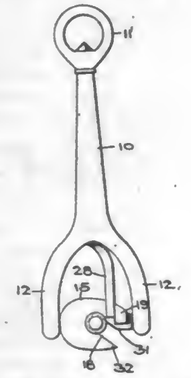
3. In a loom, the combination with weaving mechanism, of a continuous pattern surface having a border pattern section provided with perforations, and a double pattern section or repeat having perforations in alternating rows, the perforations of one set of rows representing half of a figure, and those of the alternate set, taken in reverse order, representing the other half, and means for feeding the pattern surface forward by a single-step motion, to weave one border, continuing the forward feed by a two-step motion over said double pattern section, moving the pattern surface one step to change from one row of perforations to the next one and weave one pick, automatically reversing the same and feeding back by a two-step motion over the double pattern section but on the alternate rows of perforations, automatically repeating both two-step motions the required number of times, whereby the pattern surface will be left at a point from which either the double pattern section or border may be woven without resetting, and then feeding the pattern surface back over the border pattern section to weave the second border.

4. In a repeating jacquard mechanism for looms, the combination of a perforated pattern surface having alternate lines of perforations for controlling successive picks, and feeding devices for automatically imparting thereto a complete forward double space feed for a design or part of a design, automatically reversing, and then feeding a double space reverse feed during which the successive picks are controlled by the lines of perforations of the controlling material alternating with those controlling the picks on the forward feed, whereby the parts will automatically be restored to first position upon the completion of a design or part of a design.

5. In a jacquard mechanism for looms, the combination of a pattern surface, a ratchet-wheel, a vertically movable slide, means operable by said slide for engaging the ratchet wheel to turn it in two directions and at a plurality of different speeds, and means for shifting said means operable by the slide to produce different feeds in either direction.

[Claims 6 to 22 not printed in the Gazette.]

976,910. ELEVATOR FOR SUCKER-RODS. ARCHIE R. PETERS, Ochelata, Okla. Filed Feb. 11, 1910. Serial No. 543,378.

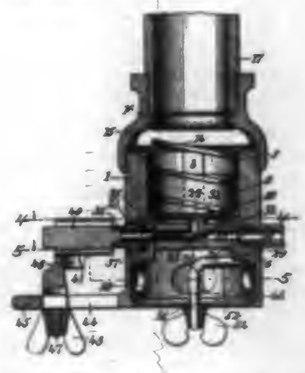


1. An elevator for sucker-rods comprising a body member having spaced supports, a transverse member revoluble therebetween and provided with spaced jaws adapted for embracing engagement with a sucker-rod, a projecting lug carried upon one side of the revoluble member, and a spring pressed latch member carried by the first named body member, said latch member having a finger offset from the axis of the first named body member and of the revoluble member, and adapted to project between the jaws of the revoluble member when in horizontal position and to be engaged outwardly by said lug for support against lateral displacement when said revoluble member is disposed in a vertical plane, and means for limiting the movement of the latch member as described.

2. An elevator for sucker-rods comprising a body member having spaced supports, a transverse member revoluble therebetween provided with spaced jaws extending diagonally with respect to its axis and adapted for embrac-

ing engagement with a sucker-rod, and a spring pressed latch member longitudinally reciprocal in the body member, said latch member having a finger offset from the axis of the first named body member and from the axis of the revoluble member, and adapted to project between the jaws of the revoluble member when in horizontal position, and to partially project across the space between the jaws when in vertical position, and means to check upward movement of the latch with the extremity of said finger immediately adjacent the pane of the revoluble member when in horizontal position.

976,911. CARBURETER. JOHN N. PETERSEN and WILLIAM F. PETTIT, New Orleans, La. Filed Nov. 14, 1908. Serial No. 462,583.



1. A carbureter comprising a valve casing having a substantially straight air passage therethrough, means for supplying gasolene to said valve casing, means for supplying air thereto, a plurality of longitudinal flanges in said valve casing, means for controlling the supply of air and gasolene to said valve casing, a mixture valve mounted to slide in said valve casing and having its periphery in contact with the inner faces of said longitudinal flanges, and two valve seats to which the gasolene supply and the air supply respectively lead, the said seats being arranged to be simultaneously engaged by said mixture valve, to check the flow of air and gasolene.

2. A carbureter, comprising a valve casing having a central passage for the supply of gasolene thereto and apertures for admitting air thereto, a valve for controlling the supply of gasolene to said passage, an elongated pinion on the stem of said valve, a cap rotatably mounted at the end of said valve casing and having apertures for admitting air, which coöperate with the apertures in said valve casing, a handle on said cap provided with a radial slot, a rack coöperating with said pinion mounted to slide on said handle and guided by said slot, and means whereby said rack may be secured in adjusted position.

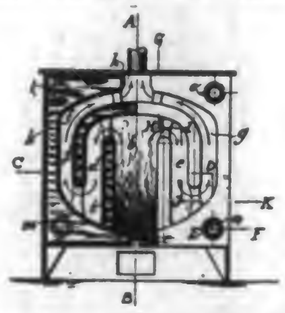
3. A carbureter, comprising a valve casing having a central passage for the supply of gasolene thereto and apertures for admitting air thereto, a valve for controlling the supply of gasolene to said passage, an elongated pinion on the stem of said valve, a cap rotatably mounted at the end of said valve casing and having apertures coöperating with the apertures in said valve casing, for admitting air, a handle on said cap provided with a radial slot, a sector-shaped rack meshing with said pinion and mounted to slide on said handle while guided by said slot, means for securing said rack in adjusted position, and means for holding the said cap in rotatable relation with the end of said valve casing.

4. A carbureter, comprising a valve casing having means for supplying gasolene thereto and apertures for admitting air thereto, a cap rotatably mounted on said valve casing, having apertures adapted to co-act with the apertures in said valve casing, and a central hole with communicating recesses, a pair of wires supported in said body and projecting through said hole, and a nut on said wires engaging the outside of said cap and having lugs adapted to enter said recesses.

5. A carbureter comprising a valve casing having means for supplying gasolene thereto, and apertures for admitting air thereto, a cap rotatably mounted on said casing and having apertures adapted to register with the apertures in the valve casing, the said cap having a central hole in its bottom, a pair of spring wires having horizontal arms extending through apertures in the valve casing, and vertical arms brought together and screw threaded, the said vertical arms extending through the hole in the bottom of the cap, and a nut on said threaded arms and engaging the outside of said cap.

[Claims 6 to 9 not printed in the Gazette.]

976,912. BOILER. SALVATOR PRÉBANDIER, Neuchatel, Switzerland. Filed Mar. 22, 1910. Serial No. 550,965.

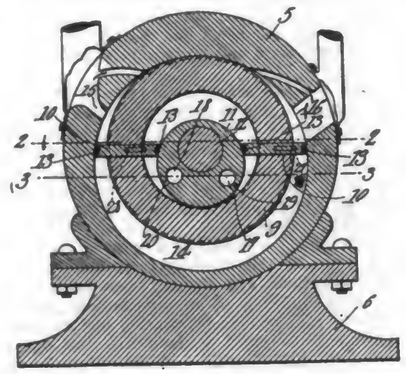


In a boiler of the character specified, provided with a gas escape port in one wall thereof, the combination of a series of hollow substantially U-shaped chambers extending longitudinally within each side of the casing, the ends of one series of chambers being opposed to the ends of the other series and the upper ends of said chambers lying in proximity to the gas escape port, a grate at the lower part of the boiler and over the lower opposed ends of said chambers, a series of vertically standing hollow chambers extending the length of the boiler at each side of the grate, a series of hollow curved chambers at each side of the boiler intermediate the vertical and U-shaped chambers and so arranged as to form two vertical passages from the grate to the gas escape port, and hollow webs connecting the series of chambers at each side of the boiler, the arrangement being such that gases arising from the grate pass upwardly, downwardly and again upwardly to the escape port and in their passage impinge against the chambers of all the series of sections.

976,913. ROTARY ENGINE. JOHN PUTMAN, Paris, Ill. Filed May 25, 1910. Serial No. 563,346.

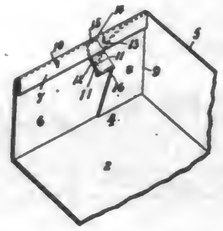
1. In a rotary engine, a cylinder having inlet and exhaust ports, a drum in the cylinder, a shaft carrying said drum, a stationary cam in the drum through which cam the shaft loosely passes, said cam having longitudinal inlet and exhaust ports opening through the sides of the cam into the drum, and radially sliding blades carried by the drum, and extending into the cylinder and the interior of the drum, the ends of the blades being in sliding contact with the cylinder wall and the periphery of the cam, respectively.

2. A rotary engine having a stationary casing, a shaft eccentric to the interior of the casing, a fixed abutment eccentric to the shaft and concentric to the interior of the casing, a drum concentric to the shaft, the exterior of the drum touching the inner wall of the casing at one point and the inner wall of the drum touching the exterior of the abutment at a point opposite the point of contact of the drum with the casing, blades carried by the drum and extending from the abutment outward to the casing, an inlet in the casing on one side of the center of the shaft, an inlet in the abutment at an opposite point with relation to the center of the shaft, an exhaust port in the casing, and an exhaust port in the abutment, the exhaust port of the abutment being at an opposite point with relation to the center of the shaft from the exhaust port in the casing.



3. A rotary engine having a casing, a shaft eccentric to the interior of the casing, an abutment fixed with relation to the casing and eccentric to the shaft, said abutment being concentric to the interior of the casing, a drum concentric to the shaft and being movable relatively to the abutment and casing, the exterior of the drum touching the inner wall of the casing at one point and the inner wall of the drum touching the exterior of the abutment at a point opposite the point of contact of the drum with the casing, blades carried by the drum and extending radially from the exterior of the abutment to the interior of the casing, inlet and exhaust ports through the abutment on opposite sides of the point of contact of said abutment with said drum, and inlet and exhaust ports through the casing on opposite sides of the point of contact of the drum with said casing, the exhaust port in the abutment being on one side of the shaft, and the exhaust port of the casing being on the opposite side of the shaft, the inlet of the abutment being on one side of the shaft and the inlet of the casing being on the opposite side of the shaft.

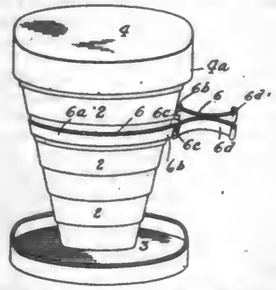
976,914. FOLDING-BOX CONSTRUCTION. DAVID J. REX, Ingram, Pa. Filed June 20, 1910. Serial No. 567,774.



1. In a foldable box construction, a base, a side wall and end wall hingedly connected to the base along folding lines, a corner flap carried by one of the walls and foldable to lie against the other wall, a fold carried by the last named wall, the corner flap being adapted for reception by the fold, means for fastening the fold to its respective wall, and a tongue carried by the flap and adapted to be folded upwardly thereon for insertion beneath the fold.

2. In a foldable box construction, a base, a side wall and end wall hingedly connected to the base along folding lines, a corner flap carried by one of the walls and foldable to lie against the other wall, a fold carried by the last named wall, the corner flap being adapted for reception by the fold, means for fastening the fold to its respective wall, and a tongue carried by the flap and adapted to be folded upwardly for insertion beneath the fold and adjacent the fastening means.

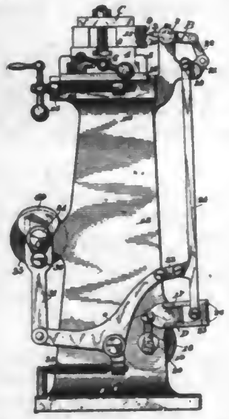
976,915. FLUID-HEATING DEVICE. CHARLES M. RICH, St. Louis, Mo. Filed Mar. 21, 1910. Serial No. 550,789.



1. A device of the character described, comprising a collapsible receptacle, a base affixed thereto, and a handle said handle being freely detachable from said receptacle and freely adjustable thereupon and adapted to fold and to conform with the external contour thereof, and said base adapted to retain a heating medium adjacent said receptacle.

2. A device of the character described, comprising a collapsible receptacle, a base affixed thereto, and a handle said handle being freely detachable from said receptacle and freely adjustable thereupon and adapted to frictionally grip said receptacle and to fold and to conform with the external contour thereof, and said base adapted to retain a heating medium adjacent said receptacle.

976,916. MECHANICAL MOVEMENT. FRANCIS H. RICHARDS, Hartford, Conn., assignor, by mesne assignments, of one-half to American Typographic Corporation, a Corporation of Arizona. Filed Nov. 30, 1906. Serial No. 38,250.



1. The combination, with a driving member and a v
brating lever upon which said member is mounted ar
along which it is adjustable, of a driven member su
ported and adapted for reciprocatory movement, an act
ator connection operated by the driving member and co
nected to operate the driven member, and comprising
connection with said driving member mounted on th
vibrating lever, and means adjacent to the driven memb
whereby an adjustment of said driving member w
effect a change in the frequency of the movements of th
driven member relatively to the movements of the drivi
member.

2. In a mechanical movement, the combination with a member movable in reversible directions, of means for varying the movement of the same, an oscillatory driven member, a rock shaft, members extending from the same a connecting member pivoted to the member first named and one of the members mentioned secondly, and a link pivoted to the other of the second mentioned members, and to the driven member, the parts being so organized that said link is capable of being shifted from one side to the other of the line drawn from the axis of said rock shaft to the pivotal axis of the joint between the link and the driven member.

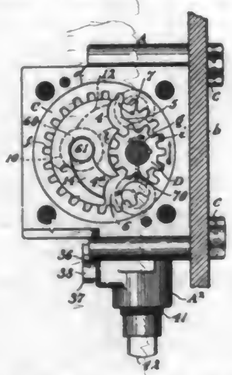
3. In a mechanical movement, the combination with a member movable to and fro, of an actuator for varying the throw of the same, an oscillatory driven member, a rock shaft, arms extending from the rock shaft, a connecting rod pivoted to the first named member and to one of the arms, a link pivoted to the other arm and to the driven member, the parts being so organized that said link is capable of being shifted from one side to the other of the line drawn from the axis of said rock shaft to the pivotal axis of the joint between the link and the driven member.

4. In a mechanical movement, the combination with a member movable in a given path, of an actuator, an oscillatory driven member, a rock shaft, arms extending from the rock shaft, a connecting rod pivoted to the first named member and to one of the arms, a link pivoted to the other arm and to the driven member, and a link extending from said actuator to the connecting rod, the parts being so organized that the link connecting one of said parts to the driven member is capable of being shifted from one side to the other of the line drawn from the axis of the rock shaft to the pivotal axis of the joint between the link and the driven member.

5. In a mechanical movement, the combination with a block movable to and fro, of means for varying the throw of the same, an oscillatory driven member, a rock shaft, arms extending from the shaft, a connecting rod pivoted to the block and one of the arms and a link pivoted to the other arm, and to the driven member, the parts being so organized that said link is capable of being shifted from one side to the other of the line drawn from the axis of said rock shaft to the pivotal axis of the joint between the link and the driven member.

[Claims 6 to 13 not printed in the Gazette.]

976,917. FORCE-PUMP. FRANCIS H. RICHARDS, Hartford, Conn., assignor, by mesne assignments, of one-half to American Typographic Corporation, a Corporation of Arizona. Filed May 7, 1902. Serial No. 106,259.



1. A force pump comprising a casing having an inlet and an outlet port and provided with an opening, a movable ring in the casing having internal gear teeth, a pinion engaging such teeth, a stationary member having curved surfaces against which the teeth of the ring and of the pinion move in the operation of said elements, said member having therethrough a conduit in line with the said opening of the casing, and provided with channels leading from the ends of said conduit to the said inlet and outlet ports respectively, a recessed plug fitting said opening, a valve normally closing the channel to the inlet port and reciprocatory in the said conduit and in the said recess of the plug, said valve being hollow and formed with slots and ports and divided by a partition intermediate said slots and ports, and a spring for closing the valve.

2. A force pump, comprising a cylinder having inlet and outlet ports, a pair of rotating pistons therein, and having their juncture of operation between said inlet and outlet ports, an intermediary member between said pistons, and provided with channels also communicating with said inlet and outlet ports, a relief valve communicating with said channels, and an additional relief valve communicating with one of said ports.

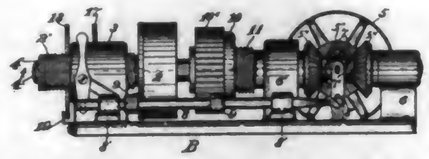
3. A force pump, comprising a cylinder having inlet and outlet ports, a pair of pistons rotating therein and in opposite directions, and adapted to communicate from one port to the other port, an intermediary member located between said oppositely rotating pistons, and provided with channels which communicate with said ports, a relief valve communicating with said channels and an additional relief valve communicating with one of said ports.

4. A force pump, comprising a fixed member having inlet and outlet ports, a driving member within said fixed member, a driven member between said driving member and fixed member, a gear construction between said driving and driven member, an intermediary member between said driving and driven member, and provided with a means of short circuit from the inlet and outlet ports of the pump, a relief valve situated in said short circuit, and a second relief valve operatively connected with one of the ports.

5. A force pump, comprising a fixed member, a driving member within said fixed member, a driven member between said driving member and fixed member, a gear construction between said driving and driven member, an intermediary member between said driving and driven member, and provided with a means of short circuit from the inlet and outlet ports of the pump, a relief valve situated in said short circuit, a second relief valve operatively connected with one of the ports, and devices for adjusting said relief valves.

[Claims 6 to 11 not printed in the Gazette.]

976,918. MECHANICAL MOVEMENT. FRANCIS H. RICHARDS, Hartford, Conn., assignor, by mesne assignments, of one-half to American Typographic Corporation, a Corporation of Arizona. Filed Nov. 14, 1902. Serial No. 131,303.



1. The combination with an angularly movable driving member shiftable along a predetermined rectilinear path, of a latch, and an actuatable member also movable along a predetermined path and with which the driving member is constructed and adapted for engagement by a latch at some point in the path of movement of such driving member in its angular and rectilinear movement, and for continuing such engagement throughout the movement of the actuatable member.

2. The combination with an angularly movable driving member shiftable along a predetermined rectilinear path, of a latch, and an actuatable member also movable along a predetermined path and with which the driving member engages by a latch at some point in the line of movement of such driving member, and which engagement continues throughout the movement of the actuatable member in opposite directions.

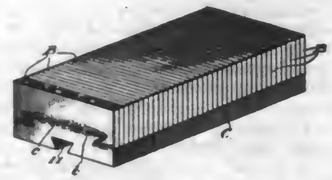
3. The combination with a driving member movable along a predetermined path, of a latch, and an angularly movable actuatable member shiftable along a predetermined rectilinear path and with which the driving member engages at some point by a latch in the line of movement of such driving member, and which engagement continues throughout the movement of the actuatable member.

4. The combination with a driving member movable along a predetermined path, of a latch, and an angularly movable actuatable member shiftable along a predetermined path, and with which the driving member engages by a latch at some point in the line of movement of such driving member, and which engagement continues throughout the movement of the actuatable member in opposite directions.

5. The combination with an axially movable driving member shiftable along a predetermined rectilinear path, of a latch, and an angularly movable actuatable member also shiftable along a predetermined rectilinear path and with which the driving member engages by a latch at some point in the path of movement of such driving member and which engagement continues throughout the movement of said actuatable member.

[Claims 6 to 41 not printed in the Gazette.]

976,919. TYPOGRAPHIC FORM. FRANCIS H. RICHARDS, Hartford, Conn., assignor, by mesne assignments, to American Typographic Corporation, a Corporation of Arizona. Filed July 25, 1901, Serial No. 69,621. Renewed Dec. 2, 1908. Serial No. 465,693.



1. A typographic form embodying, in combination a main base plate and a plurality of column wide form base plates or carriers slidingly locked in place thereon by interlocking grooves and projections respectively and each constituting one member of a form, and a plurality of type bars constituting another member of said form, one of said members having an undercut groove, while the other member has a corresponding projection or guide fitting into the groove.

2. A galley or main plate for making a large form, said plate being adapted to have interlocked with it a plurality of small forms, each of which comprises a plurality of type bars interlocked with a base plate whose width is substantially equal to the length of the typebars.

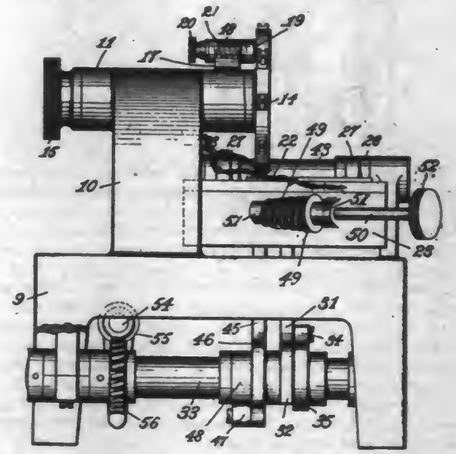
3. A galley or main plate for making a large form, said main plate being provided with a number of grooves and locking pieces or keys for connecting a plurality of small forms to it, each small form comprising a plurality of typebars interlocked with a base plate whose width is substantially equal to the length of the typebars.

4. A galley or main plate provided with a number of undercut grooves and locking pieces or keys for connecting a plurality of small forms to it, each small form comprising a plurality of typebars interlocked with a base-plate whose width is substantially equal to the length of the typebars.

5. In combination with a galley or main plate adapted to support a number of small forms, locking-pieces for connecting the small forms to the main or galley-plate, each form and the galley or main plate having aligning grooves in which the locking-pieces are adapted to fit and each small form comprising a plurality of typebars interlocked with a base plate whose width is substantially equal to the length of the typebars.

[Claims 6 to 10 not printed in the Gazette.]

976,920. MECHANISM FOR MAKING TYPE AND TYPE-BARS. FRANCIS H. RICHARDS, Hartford, Conn., assignor, by mesne assignments, to American Typographic Corporation, a Corporation of Arizona. Filed Mar. 11, 1903, Serial No. 147,219. Renewed July 12, 1910. Serial No. 571,658.



1. The combination with a die of a holder having work feeding means operative upon the holder to bring the die and work into engagement, and means to act upon the work auxiliarily to and in excess of the feed of the holder.

2. The combination with a die of means to feed the work thereto, and means to act upon a portion of the work to advance such portion in excess of the feed.

3. The combination with a die, of a holder having work feeding means operative upon the holder to bring the die and work into engagement, and means to act upon the work in excess of the feed of the holder.

4. The combination with a die, of means for advancing a blank bodily in the general direction of the die, and means for advancing a portion of the blank in the direction of the die.

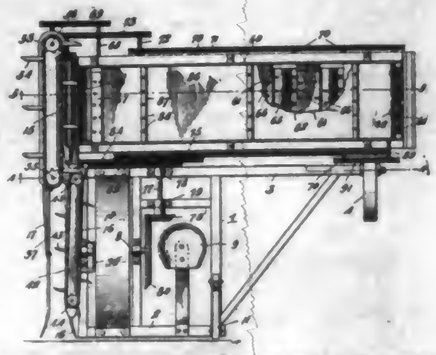
5. The combination with a series of dies, of means for shifting a selected die into the working position; a blank-carriage; means for advancing the carriage for advancing a blank carried by the same against the die; a coöperative die carried by the carriage; and means for advancing the same against the blank during the advance of the carriage.

[Claims 6 to 69 not printed in the Gazette.]

976,921. CORN-HARVESTER. JAMES RICKEL, Verndale, Minn. Filed June 26, 1909. Serial No. 504,558.

1. In a machine of the character described, the combination of a main frame, a vertically adjustable frame thereon, snapping rolls arranged on said vertically adjustable frame, gathering arms arranged in advance of the snapping rolls, an endless fingered feeding chain arranged on one of said arms, a driving sprocket wheel for said chain, a shaft section having said sprocket wheels secured to its upper end and having its lower end provided with a tubular portion, a second shaft section journaled in a bearing upon the main frame and having a flat faced upper end to slide in the tubular lower portion of the first mentioned shaft section, a ground wheel on the main frame, and driving means between said ground wheel and said second shaft section, a fingered feeding chain arranged over said snapping rolls, means for driving the

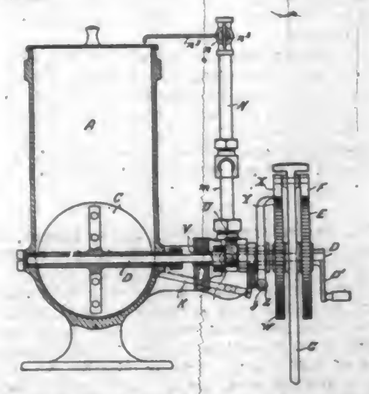
last mentioned chain and said rolls, and means to receive ears of corn from said rolls.



2. In a machine of the character described, the combination of a wheel supported main frame, a vertically adjustable frame, snapping rolls arranged on said vertically adjustable frame, vertically adjustable gathering arms arranged in advance of said snapping rolls, a fingered feeding chain on one of said arms, a fingered feeding chain arranged over said snapping rolls, means for driving said rolls and said chains, a hopper to receive the ears of corn from said rolls, a trough extending upwardly from said hopper, spaced bottom plates in said trough, pairs of husking rollers between said bottom plates, one roller of each pair being grooved and the other having teeth, an endless apron for feeding ears of corn through the trough and over said husking rollers, and means for driving said apron and said husking rollers.

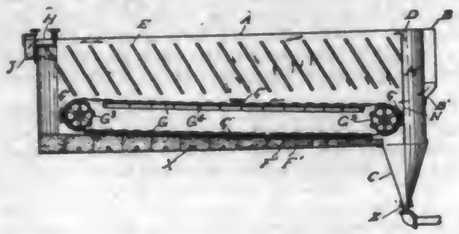
3. In a machine of the character described, the combination of a frame, a pair of gathering arms pivoted for vertical swinging movement, snapping rolls arranged in rear of said arms and means for operating said rolls, an adjusting lever having a slot and pin connection with one of said arms, means for securing said lever in an adjusted position, guides, and a flexible connection arranged in said guides and having one end connected to said lever and its other end to the other of said arms.

976,922. AUTOMATIC LUBRICATOR. FREDERICK RINGROSE, Hamilton, Scotland. Filed May 14, 1910. Serial No. 561,412.



An automatic lubricator comprising in combination a vessel for containing lubricant, means for pumping said lubricant from said vessel, stirring means located within said vessel, devices for operating said pumping means, and devices for operating said stirring means, said devices being adapted to be operated simultaneously or independently of one another and being arranged coaxially in relation to one another, substantially as described.

976,923. TANK FOR SETTLING, FILTERING, AND COLLECTING SOLIDS FROM LIQUIDS. JOHN EDWARD ROTHWELL, Denver, Colo., assignor to Colorado Iron Works Company, Denver, Colo. Filed June 17, 1909. Serial No. 502,739.



1. In combination with a settling tank, a perforated partition near the feed end thereof for retarding and distributing the mixture of solids and liquid to be separated, said partition having an overflow at its top, substantially as described.

2. In combination with a settling tank, a partition forming a settling chamber and a collecting receptacle below and communicating with said settling chamber, said partition having an overflow, and a conveyer operating in the main part of the tank to deliver the solids to the collecting receptacle, substantially as described.

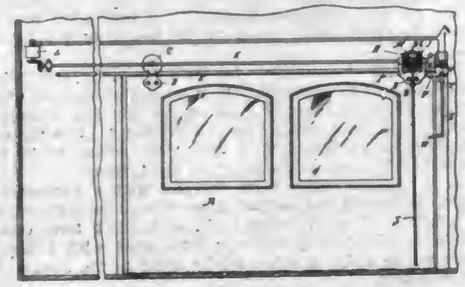
3. In combination with a settling tank, a partition forming a settling chamber near the feed end having an underflow and an overflow, a collecting receptacle communicating with said settling chamber and with the main chamber of the tank, and a conveyer in the main chamber to deliver the solids to the collecting receptacle, substantially as described.

4. In combination with a settling tank, baffles therein at the upper part thereof, means for maintaining a water level at or near the top of the said baffles, and inlet means for the mixed liquid and solid at a point below the water level, substantially as described.

5. In combination in a settling tank, a partition near the inlet end having a perforated lower part and an imperforate upper part terminating below the top of the tank to permit the lighter material and liquid to pass thereover, baffles at the upper part of the main chamber of the tank, a scraping conveyer operating along the bottom of the tank and a collecting receptacle communicating with the main tank and with the settling chamber formed by the said partition, substantially as described.

[Claims 6 to 24 not printed in the Gazette.]

976,924. DOOR-MOVING MECHANISM. HAROLD ROWNTREE, Chicago, Ill., assignor, by mesne assignments, to National Pneumatic Company, a Corporation of West Virginia. Filed Apr. 22, 1909. Serial No. 491,517.



1. The combination with a door, and means for moving the same, of controlling devices for the door moving means, said devices located upon and adjacent the front edge of the door, and operable in either direction to put in operation the door moving means to move the door in corresponding direction, said devices operating, when released, to arrest the door moving means.

2. The combination with a door, a motor, and connections between the door and motor for moving the door, of means mounted on the door, and located adjacent the front edge thereof, for controlling said connections, and operating, when released, to disconnect said connections and door.

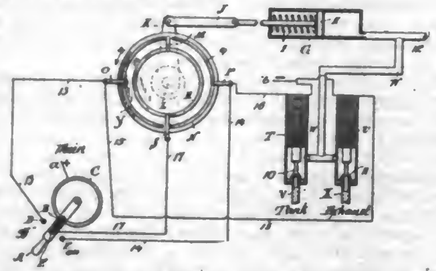
3. The combination with a door, of a motor, gearing actuated by the motor for moving the door, means mounted upon and located adjacent the front edge of the door for controlling such gearing, said controlling means arranged when in normal position to disconnect the door and bearing, but adapted when actuated in one direction or the other from its normal position to connect the door and gearing to move the door in corresponding direction.

4. The combination with a door, and a motor, of gearing intermediate the door and motor and including clutch devices for operatively connecting and disconnecting said gearing, said clutch devices being arranged to normally disconnect the door and gearing but adapted when actuated in one direction or the other to connect the door and gearing to move the door in corresponding direction, and means mounted upon and located adjacent the front edge of the door for controlling said clutch devices.

5. The combination with a door and a suspending roller therefor of a motor, gearing intermediate the motor and roller, and including friction clutch devices for operatively connecting and disconnecting the roller from such gearing, a control member for said devices located adjacent the front edge of the door operating when moved in either direction from its normal position to connect said gearing to move the roller in corresponding direction and a track on which said roller operates.

[Claims 6 to 16 not printed in the Gazette.]

976,925. AUTOMATIC PRESSURE-CONTROLLING DEVICE FOR BRAKE MECHANISMS. HAROLD ROWNTREE, Chicago, Ill., assignor to National Pneumatic Company, a Corporation of West Virginia. Filed Jan. 19, 1910. Serial No. 538,848.



1. In a brake mechanism for cars, the combination with pressure supply controlling devices, of actuating devices therefor, and means controlled conjointly by the pressure supply and the speed of the car for controlling said actuating devices.

2. In a brake mechanism for cars, the combination with pressure supply and exhaust controlling devices, of electrical devices for operating the same, and means controlled by the speed of the car for controlling the circuits of said electrical devices.

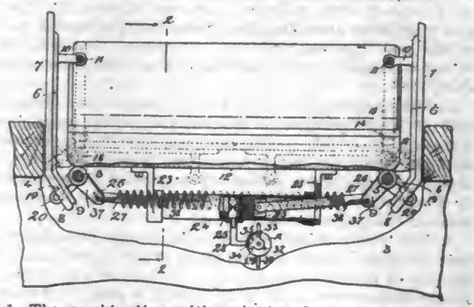
3. In a brake mechanism for cars, the combination with a pressure supply controlling valve and an independent exhaust controlling valve, of means controlled by the speed of the car for respectively controlling the operation of said valves.

4. In a brake mechanism for cars, the combination with pressure supply and exhaust controlling valves, of means controlled conjointly by the pressure medium and the speed of the car for respectively controlling the operation of said valves.

5. In a brake mechanism for cars, the combination with pressure supply and exhaust controlling valves, of electrical devices for operating said valves, and means controlled by the speed of the car for controlling the circuits of said electrical devices.

[Claims 6 to 20 not printed in the Gazette.]

976,926. COMBINED DOOR AND STEP OPERATING MECHANISM. HAROLD ROWNTREE, Chicago, Ill., assignor to National Pneumatic Company, Chicago, Ill., a Corporation of West Virginia. Original application filed Apr. 3, 1909, Serial No. 487,667. Divided and this application filed July 1, 1910. Serial No. 569,842.



1. The combination with swinging doors, of a cylinder, pistons operating therein and respectively connected to the doors to operate the same, means for yieldingly opposing the movements of the pistons, a step, intermediate connections between the pistons and step for securing coincident movement of the doors and step, and means for controlling the supply and exhaust of operating medium to and from the cylinder.

2. The combination with a door and step, of power mechanism for moving the door in one direction, a spring for moving the door in the other direction and connections for moving the step coincidently with the door movements.

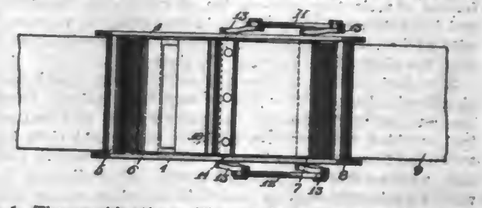
3. The combination with a door and step, of a rock shaft, connections between said shaft and the door and step respectively, pressure operated mechanism for rocking the shaft in one direction and means for yieldingly opposing such rocking movement.

4. The combination with door jambs, swinging doors for controlling the entry between said jambs, a movable step, intermediate connections between the door and step to secure coincident movement, a cylinder having oppositely faced pistons respectively connected to the doors on opposite sides of the entry, and means for controlling the supply and exhaust of operating medium to and from the cylinder at a point intermediate the pistons.

5. The combination with swinging doors, of a rock shaft carrying each door, a step, connections between each shaft and said step, a pressure operated means for rocking said shafts coincidently, and means for controlling said power mechanism.

[Claim 6 not printed in the Gazette.]

976,927. RAZOR-SHARPENING MACHINE. WILLIAM F. RUNDEL, Fairport, N. Y., assignor to Rundel Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed Feb. 27, 1909. Serial No. 480,391.



1. The combination with a main holder having a pair of jaws formed with opposed grooves and clamping por-

tions on the inner and the outer sides of the grooves, of an auxiliary holder embodying a pair of jaws formed with enlarged portions between its inner and outer ends lying in the grooves and with portions on opposite sides of the enlarged portions clamped by the inner and outer clamping portions of the main holder.

2. The combination with a main holder embodying a pair of jaws formed with opposed grooves, the walls of which converge toward the outer ends of the jaws and have shoulders formed at their inner ends, said jaws being provided with opposed grooves in rear of the shoulders, of a removable auxiliary holder embodying a pair of hinged jaws formed with enlarged portions between the hinge and their outer ends, the hinge being engaged by the walls of the inner grooves and the enlarged portion being received within the outer grooves and engaging the shoulders.

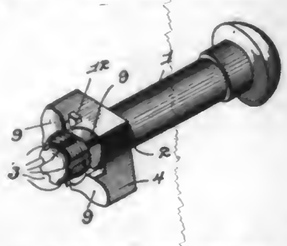
3. The combination with a main holder embodying a pair of jaws formed with opposed grooves converging toward the outer ends of the jaws, said jaws being provided with clamping portions in rear of the grooves, of a removable auxiliary holder embodying a pair of jaws engaged by the clamping portions of the main holder on opposite sides of the grooves of the latter.

4. The combination with a main holder embodying a pair of jaws formed with opposed grooves, and opposed grooves in rear of the first named grooves, of an auxiliary holder having two hinged jaws, the hinge lying in the rear grooves and the forward portions of the auxiliary jaws being engaged by forward portions of the main jaws.

5. An auxiliary razor blade holder embodying a pair of jaws hinged together along a line parallel with the edges of the blade in the holder, one of said jaws having a shoulder thereon to coöperate with a shoulder on a blade to retain the latter in a certain position between the jaws.

[Claims 6 to 11 not printed in the Gazette.]

976,928. NUT-LOCK. OSCAR SALISBURY, Bassano, Alberta, Canada. Filed Jan. 22, 1910. Serial No. 539,479.

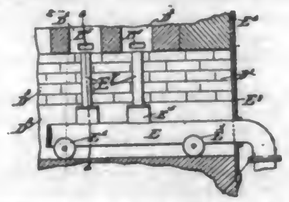


1. A device of the character described comprising a slotted bolt, a nut for said bolt, said nut being counterbored to form a seat, the outer end of said nut provided with concave portions forming guides and being provided with slots between said guide portions, and a locking washer adapted to fit within said seat and provided with tongues to fit within the slots in said bolt and nut.

2. A device of the character described comprising a longitudinally-slotted bolt, a nut on said bolt, the outer surface of said nut being counter-sunk to form a seat, the walls of said seat provided with radial slots, a locking washer adapted to fit within said seat, said washer being formed of a circular body-portion provided with outwardly and inwardly-projecting lugs, said lugs being in alinement with each other and adapted, respectively, for engagement with the slots of the bolt and the slots of the nut.

3. A device of the character described comprising a longitudinally-slotted bolt, a nut on said bolt, said nut being counter-sunk to form a seat, the outer wall of said seat being provided with concave portions and radial slots between said concave portions, a washer fitting within said seat, said washer being provided with outwardly and inwardly-projecting lugs to fit within the slots in said nut and bolt, the walls of said radial slots adapted to be upset to lock said washer in place.

976,929. BURNER FOR COKE-OVENS. FREDERIC W. C. SCHNIEWIND, New York, N. Y. Filed Oct. 24, 1907. Serial No. 398,900.



1. In combination with a coke oven having an elongated burner chamber open at one side of the chamber to a combustion space, an elongated burner body located in said chamber and readily removable from and insertible in said chamber through one end thereof, and nozzles or twyers supported by and removable and insertible with said burner body, said twyers extending from the burner body to said combustion space.

2. In combination with a coke oven having an elongated burner chamber open at one side only to a combustion space, an elongated burner body removably inserted in said chamber through one end thereof, nozzles or twyers supported by and removable and insertible with said burner body, said twyers extending from the burner body to said combustion space, bodies of refractory material supported on said burner body and surrounding the twyers to influence the form and direction of the air currents blowing by the flame ends of the twyers, said bodies serving also to protect the burner body from heat from the combustion space.

3. In combination with a coke oven having an elongated burner chamber open at one side only to a combustion space, an elongated burner body removably inserted in said chamber at one end thereof and located adjacent the side of the chamber remote from the combustion space, nozzles or twyers supported by and removable and insertible with said burner body, said twyers extending from the burner body to said combustion space, and interchangeable and removable bodies of refractory material supported on said burner body and provided with air deflecting walls for influencing the form and direction of the air currents blowing by the flame ends of the twyers.

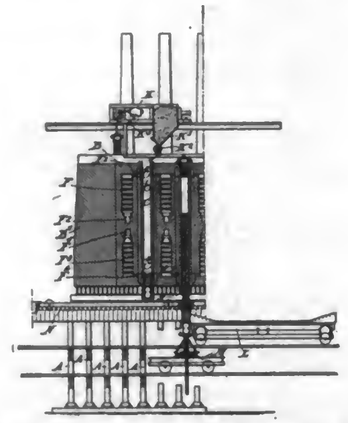
4. In combination with a coke oven having an elongated burner chamber open at its lower side only to a combustion space, an elongated burner body removably inserted in said chamber at one end thereof and supported adjacent the upper side of the burner chamber, said burner body being provided with a series of openings formed in its upper and lower walls, each lower opening registering with the upper opening, a twyer projecting through each lower opening to the combustion space, each twyer being inserted through the corresponding upper opening in the burner body and being provided with a collar arranged to prevent the twyer from falling through the lower opening and removable covers for the upper openings in said body.

5. In combination a coke oven, and a burner construction therefor comprising an elongated burner body, a plurality of twyers extending from and along one side of said body, and a plurality of interchangeable and removable bodies of refractory material supported by said burner body and so shaped and arranged that a pair of said bodies at opposite sides of each twyer unite to provide air deflecting walls for influencing the form and direction of the air current blowing by the flame-end of the twyer.

[Claim 6 not printed in the Gazette.]

976,930. COKE-OVEN AND HEATING ARRANGEMENT THEREFOR. FREDERIC W. C. SCHNIEWIND, New York, N. Y. Filed Oct. 24, 1907. Serial No. 398,902.

1. A coke oven structure comprising a continuous masonry body portion having formed in it a plurality of horizontally elongated and deep coking chambers, each of capacity to produce twenty tons or more of coke per charge, arranged side by side, and having removable top and bottom walls for each chamber, whereby each chamber may be charged along its length through its upper end when the top wall is removed and the coke formed in the chamber may be discharged through its lower end when the bottom wall is removed, and provisions, including heating flues at the sides of the chamber and extending between opposite edges thereof and burners at the opposite ends of the flues for heating said chambers uniformly and in such manner as to maintain substantially uniform pressure conditions in the various heating flues.



2. The combination with a coke oven structure comprising a continuous masonry body portion having formed in it a plurality of horizontally elongated and deep coking chambers arranged side by side, and having removable top and bottom walls for each chamber, whereby each chamber may be charged along its length through its upper end when the top wall is removed, and the coke formed in the chamber may be discharged through its lower end when the bottom wall is removed and having vertical heating flues at the sides of the chambers, and burners at the opposite ends thereof; of tracks arranged above and below the body portion and extending transversely to the lengths of the coking chambers, charging and discharging apparatus running on said tracks and across the upper and lower ends of said chambers, and means for supplying air and gas to said flues in such manner as to maintain substantially uniform pressure conditions in the various heating flues.

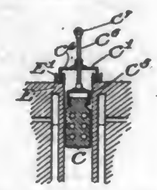
3. The combination with a coke oven structure comprising a continuous masonry body portion having formed in it a plurality of retorts or coking chambers, of a heating system for said retorts comprising a plurality of independent heating units, each unit heating only a portion of the total number of retorts, the units having separate waste gas escape stacks and independent air and fuel admission controlling devices.

4. The combination with a coke oven structure comprising a continuous masonry body portion having formed in it a plurality of retorts or coking chambers, of a heating system for said retorts comprising a plurality of independent heating units, each unit heating only a portion of the total number of retorts, each heating unit comprising two regenerators, a set of flues connecting the regenerators, a separate stack for and connected to each regenerator, and two groups of burners operating alternately.

5. In a coke oven structure, a heating unit comprising a pair of regenerative chambers each having an external connection and each being internally connected to the other by a set of parallel heating flues through which the heating gases flow in the same direction during any one stage of the heating operation, the regenerators, flues, and external connections being so arranged that the gas paths between the external connections of the two regenerative chambers through the various flues are all of equal length.

[Claims 6 to 28 not printed in the Gazette.]

976,931. COKE-OVEN AND DOOR THEREFOR. FREDERIC W. C. SCHNIEWIND, New York, N. Y. Filed Oct. 24, 1907. Serial No. 398,904.



1. In combination, a coke oven having a coking chamber provided with vents for the escape of the volatile constituents of the charge coked, and means acting automatically as the charge changes in volume to prevent the formation of a space or spaces in the high temperature portion of said chamber in which the volatile constituents can collect and remain stagnant.

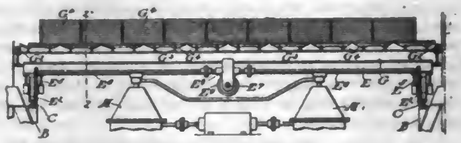
2. In combination, a coke oven having a coking chamber provided with vents for the escape of the volatile constituents of the charge coked, and means for preventing the formation of a relatively stagnant body of such volatile constituents in the high temperature portion of said chamber, said means comprising a movable follower held against the surface of the coking body during the coking operation, said follower being of such horizontal and vertical dimensions as to substantially fill the high temperature portion of the upper end of the coking chamber not occupied by the charge being coked.

3. In combination, a coke oven structure having a coking chamber and a movable top wall for said chamber bearing on the top of the charge during the coking operation and free to move with it as the charge shrinks or expands, said follower being of such dimensions horizontally and vertically as to substantially fill the high temperature portion of the upper end of the coking chamber not occupied by the charge being coked.

4. In combination, a coke oven structure having a coking chamber and a movable top wall for said chamber comprising an outer sealing portion and an inner portion of refractory material which substantially fills the upper end of said retort and bears on the charge and is free to rise or fall with the charge as the latter expands or shrinks during the coking operation.

5. In combination, a coke oven having a coking chamber provided with vents for the escape of the volatile constituents of the charge coked, said vents being formed at different levels in each end wall of the retort, and means for preventing the formation of a relatively stagnant body of such volatile constituents in the high temperature portion of said chamber, said means comprising a movable follower held against the surface of the coking body during the coking operation, said follower being of such horizontal and vertical dimensions as to substantially fill the high temperature portion of the upper end of the coking chamber not occupied by the charge being coked.

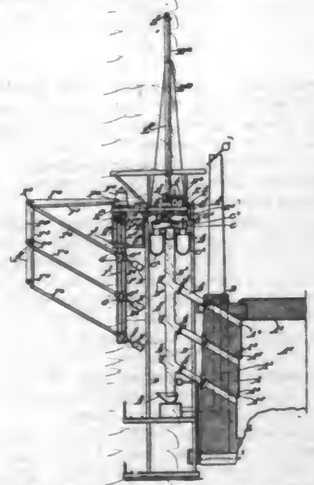
976,932. CAR CONSTRUCTION. FREDERIC W. C. SCHNIEWIND, New York, N. Y. Original application filed Oct. 24, 1907, Serial No. 398,901. Divided and this application filed Jan. 7, 1909. Serial No. 471,046.



A receiver for hot coke discharged from coke oven retorts, comprising a carriage body having parallel platform beams provided with lateral flanges and platform

plates provided on their under side with apertures or grooves shaped to receive the lateral flanges on said beams, whereby the flanges and beams are removably but positively secured together.

976,933. APPARATUS FOR CLEANING GAS-PIPES. FREDERIC W. C. SCHNIEWIND, New York, N. Y. Filed Oct. 24, 1907, Serial No. 398,899. Renewed Apr. 28, 1910. Serial No. 557,265.



1. A machine for cleaning a main pipe and lateral connections thereto, said machine comprising a supporting structure, bearings carried by said structure, a main pipe cleaner and lateral pipe cleaners, shafts carrying said cleaners and mounted in said bearings and axially movable therein, the lateral pipe cleaner carrying shafts extending at an angle to the main pipe cleaner carrying shaft, and mechanism supported on said structure for rotating said shafts and controlling their axial movement.

2. A machine for cleaning a main pipe and lateral connections thereto, said machine comprising a supporting structure, bearings carried by said structure, a main pipe cleaner and lateral pipe cleaners, shafts carrying said cleaners and mounted in said bearings and axially movable therein, the lateral pipe cleaner carrying shafts extending at an angle to the main pipe cleaner carrying shaft, mechanism supported on said structure for rotating said shafts and controlling their axial movement, and means for moving the lateral pipe cleaner shafts bodily about an axis parallel to the main pipe cleaner shaft.

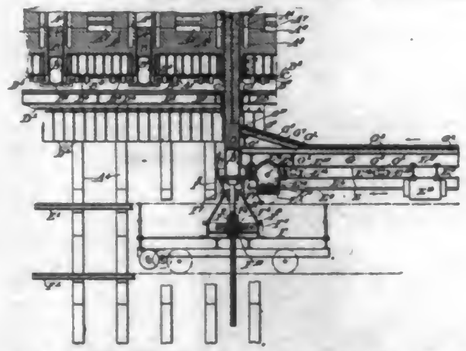
3. In a pipe cleaning machine, a frame comprising a plurality of tubular members, a pipe cleaner shaft extending into and projecting from each of said tubular members, means for rotating said shafts while permitting them to move axially in said tubular members, and means for controlling the axial movement of said shafts in said tubular members.

4. In a pipe cleaning machine, a frame comprising a plurality of tubular members, a pipe cleaner shaft extending into and projecting from each of said tubular members, means for rotating said shafts while permitting them to move axially in said tubular members, and means for controlling the axial movement of said shafts in said tubular members, said means including a flexible connection for each shaft, each connection entering the corresponding tubular member at one of its ends and being connected to its shaft within said tubular member, and winding mechanism to which all of said flexible connections are connected.

5. In a pipe cleaning machine, a supporting frame, a plurality of pipe cleaning shafts journaled in said frame, mechanism for rotating said shafts and for regulating their movement in the direction of their lengths, said mechanism including a single motor on said frame and operating connections from it to each shaft for rotating the latter and for controlling its longitudinal movement.

[Claims 6 to 13 not printed in the Gazette.]

976,934. COKE-OVEN-DISCHARGING APPARATUS. FREDERIC W. C. SCHNIEWIND, New York, N. Y. Filed Oct. 24, 1907, Serial No. 398,901. Renewed Oct. 22, 1910. Serial No. 588,539.



1. In combination with a coke oven having a vertical retort discharging through its lower end, a coke receiver movable under said retort to receive the coke as it is discharged from the retort, said receiver having its coke receiving surface extended in the direction of movement of the receiver to permit a movement of the latter under the retort while it is being discharged of a length several times greater than the dimension of the retort parallel to the direction of movement of the receiver, said surface being upwardly inclined at its forward end.

2. In combination with a coke oven having a vertical retort discharging from its lower end, a coke receiver movable under said retort to receive the coke as it is discharged from the retort, said coke receiver having its coke receiving surface extended in the direction of movement of the receiver to permit a movement of the latter under the retort while it is being discharged through a distance several times as long as the dimension of the retort parallel to such movement, and having the front and rear ends of said surface upwardly inclined.

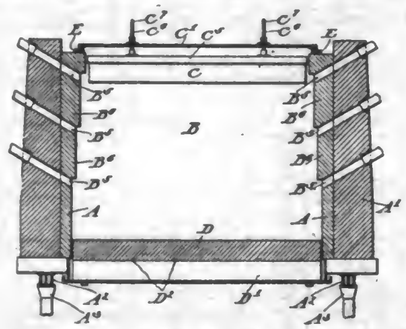
3. In a coke oven structure having a vertical retort discharging through its lower ends, a coke receiver movable beneath the retort to receive coke from the retort and transport it to a discharge station, and a cover arranged to extend over the coke on the receiver during the discharging operation and to be bodily movable independently of the receiver and means for moving said cover with the receiver as the latter moves to carry the coke to the discharge station.

4. In combination with a coke oven structure, having a plurality of retorts which are emptied through their lower ends, and having a track for a coke receiving carriage running under the retorts, a coke receiving carriage running on said track, a second track parallel to the first, and a cover carriage running on said second track and movable with and above the coke receiver to protect the oven structure from the heat of the coke on the coke receiver.

5. In combination with a coke oven structure having a plurality of horizontally elongated retorts discharging through their lower ends, a receiver carriage movable transversely to the direction of the horizontal elongation of the retorts, and a pair of cover devices located above and movable in a direction parallel to that of the coke receiving carriage, means for causing said covers to have a relative movement to grip the coke between them with regulated pressure in discharging a retort, one of said covers being movable with said receiver when the latter having received a charge from one retort moves away to discharge the same.

[Claims 6 to 19 not printed in the Gazette.]

976,935. COKE-OVEN AND DOOR THEREFOR. FREDERIC W. C. SCHNIEWIND, New York, N. Y. Original application filed Oct. 24, 1907, Serial No. 398,904. Divided and this application filed June 6, 1908, Serial No. 437,042. Renewed Oct. 22, 1910. Serial No. 588,540.

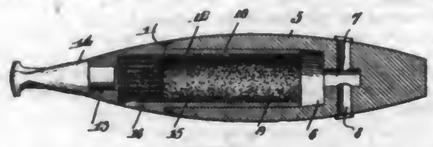


1. A door for a coking retort open at the top, said door comprising an outer sealing member and an inner member movably connected thereto, formed of heat resisting material and adapted to fill the upper end of the retort and to rest on and rise and fall with the coking body during the coking operation, said inner member being of such vertical depth that its upper edge may be maintained throughout the coking operation above the highly heated portions of the retort walls.

2. A door for a coking retort open at the top, said door comprising an outer sealing member and an inner member of heat resisting material adapted to fill the upper end of the retort and rest on and rise and fall with the coking body during the coking operation, and rods connected to said inner body and passing freely through said outer member for engagement by operating devices, said inner member being of such vertical depth that its upper edge may be maintained at all times above the highly heated portions of the retort walls.

3. In combination a coke oven structure having a coking chamber and a trough running around the upper end of said chamber and a removable top wall for said chamber comprising an upper sealing member having a flange entering said trough and a lower follower partition filling the upper end of said chamber and movably connected to said sealing member whereby said follower member may bear on the top of the charge during the charging operation and is free to rise or fall with it as the charge expands or shrinks, said inner member being of such vertical depth that its upper edge may be maintained at all times above the highly heated portions of the retort walls.

976,936. TOBACCO-PIPE. HENRY F. SCHULTE, Hopedale, Ill. Filed Mar. 16, 1910. Serial No. 549,707.

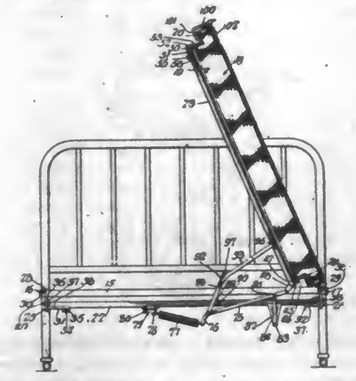


1. A cigar pipe comprising a casing provided with an axial bore extending from one end to the medial portion of the casing, and further provided with a pair of air conduits arranged at right angles to each other, one of said conduits extending transverse the casing at a point between the inner end of the bore and closed end of the casing, and the other of said conduits extending longitudinally of the casing having one end communicating with the inner end of the bore and its opposite end leading into the transverse conduit, and a tubular tobacco holder telescoping into the bore of said casing.

2. In a cigar pipe comprising a casing provided with an axial bore extending from one end to the medial portion of the casing, and further provided with a pair of air conduits of less diameter than the bore and arranged at right angles to each other, one of said conduits extending transverse the casing at a point between the inner end of the bore and closed end of the casing, and the other of said conduits extending longitudinally of the casing having one end communicating with the inner end of the bore and its opposite end leading into the transverse conduit, and a tubular tobacco holder telescoping into the bore of said casing.

3. A cigar pipe comprising a casing provided with an axial bore and an air conduit leading from the outer end of the casing to the inner end of the bore, a tubular tobacco holder having a cylindrical end portion to slidingly fit in the bore of the casing and provided at its opposite end with a bit, said cylindrical portion being provided with an axial bore extending from one end to a point adjacent the opposite end and terminating in a reduced longitudinal opening to receive a mouthpiece, a lining of asbestos positioned on the inner surface of said cylindrical portion, and an asbestos coil positioned at the base of the bore of said holder, for the purposes described.

976,937. DEVICE FOR RAISING BED-SPRINGS. CHARLES M. SCHWAB, Oak Park, Ill. Filed Feb. 27, 1909. Serial No. 480,314.



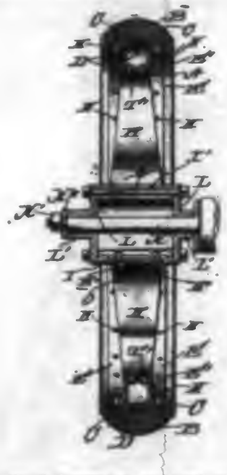
1. A device for the purpose set forth, comprising a stationary bar provided at its ends with hangers adapted for engagement with the side rails of a bedstead, a swinging bar provided with means for attaching a mattress thereto, and a hinge connection between said bars, comprising upper and lower links pivotally connected at their rear ends to the rear end of said swinging bar, a lever pivoted between its ends to the stationary bar to which the forward ends of said links are pivotally connected, a supporting lever pivoted at its upper end to the lower link and at its lower end to a part carried by the stationary bar, and a lifting spring connecting the forward end of the lower link to the stationary bar.

2. A device for the purpose set forth, comprising a stationary bar provided at its ends with means for attaching it to the side rails of a bedstead, a swinging bar provided with means for holding a mattress thereon, and a hinge connection between the rear ends of said bars comprising upper and lower links pivotally connected at their rear ends to the rear end of the swinging bar, a vertically swinging lever, to the ends of which the forward ends of said links are connected and having between its ends a lateral pivot arm by which it is pivoted to the stationary bar, a vertically swinging supporting lever pivoted at its upper end to the rear end of the lower link and at its lower end to a part carried by the stationary bar, and a lifting spring connecting the forward end of the lower link with the stationary bar.

3. A device for the purpose set forth, comprising a stationary bar provided at its ends with means for attaching it to the side rails of a bedstead, a swinging bar provided with means for holding a mattress thereon, and a

hinge connection between the rear ends of said bars comprising upper and lower links pivotally connected at their rear ends to the rear end of the swinging bar, a vertically swinging lever, to the ends of which the forward ends of said links are connected and having between its ends a lateral pivot arm by which it is pivoted to the stationary bar, a vertically swinging supporting lever pivoted at its upper end to the rear end of the lower link and at its lower end to a part carried by the stationary bar, a lifting spring connecting the forward end of the lower link with the stationary bar, and a stop on the upper end of the first mentioned lever arranged to engage the upper link to limit the upward swinging movement of the swinging bar.

976,938. VEHICLE-WHEEL. SELDEN L. SIMPSON, Washington, D. C., assignor to The Simpson Specialty Company, Cleveland, Ohio, a Corporation of Ohio. Filed June 7, 1909. Serial No. 500,943.

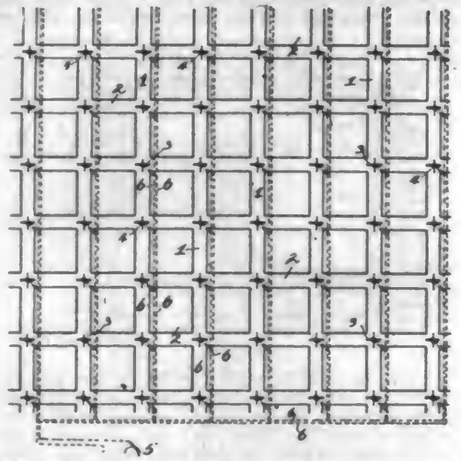


A vehicle wheel having a grooved rim with a central circumferential portion which is convexed, a hollow circular outlined member having its opposite edges outwardly bent and in the same plane, fastening means engaging the edges of said member to the inner surface of the grooved portion of the rim upon either side of the central convexed part, a hub, series of spokes having their inner ends secured to said hub, the outer ends of the spokes engaging the inner periphery of said member and having its opposite edges flush with the opposite sides of the member, and means for fastening the latter and said spokes together.

976,939. STREET-TRAFFIC SYSTEM. ERNEST E. SIMAINE, Chicago, Ill. Filed Apr. 28, 1910. Serial No. 558,255.

1. A street traffic system including sign devices located substantially at the intersections of the axes of a group of streets having one general direction and of a group of streets crossing the first, said sign devices being operable to have alternate display conditions alternately to indicate that the streets on which they are located are closed to traffic and are open to traffic, and means whereby said sign devices at the street intersections are substantially simultaneously operated, said sign devices being so relatively arranged that, as a consequence of their substantially simultaneous operation, they present signs of similar import substantially simultaneously to the streets of each group.

2. A street traffic system including sign devices located substantially at the intersections of the axes of a group of streets having one general direction and of a group of streets crossing the first, said sign devices being operable to have alternate display conditions alternately to indicate that the streets on which they are located are closed to traffic and are open to traffic, and means whereby said sign devices are substantially simultaneously operated, said sign devices being so relatively arranged that, as a consequence of their substantially simultaneous operation, they present signs of similar import substantially simultaneously to the streets of each group.



3. A street traffic system including sign devices located at the intersections of a group of streets having one general direction and of a group of streets crossing the first, said sign devices being operable to have alternate display conditions alternately to indicate that the streets on which they are located are closed to traffic and are open to traffic, and means whereby said sign devices at the street intersections are substantially simultaneously operated, said sign devices being so relatively arranged that, as a consequence of their substantially simultaneous operation, they present signs of similar import substantially simultaneously to the streets of each group.

4. A street traffic system including sign devices located at the intersections of a group of streets having one general direction and of a group of streets crossing the first, said sign devices being operable to have alternate display conditions alternately to indicate that the streets on which they are located are closed to traffic and are open to traffic, and means whereby said sign devices are operated at predetermined intervals.

5. A street traffic system including sign devices located upon the streets of two intersecting groups of streets, said sign devices being operable to have alternate display conditions to indicate the streets on which they are located are closed to traffic and are open to traffic, and means whereby said sign devices are substantially simultaneously operated, said sign devices being so relatively arranged that, as a consequence of their substantially simultaneous operation, they present signs of similar import to the streets of the same general direction substantially simultaneously.

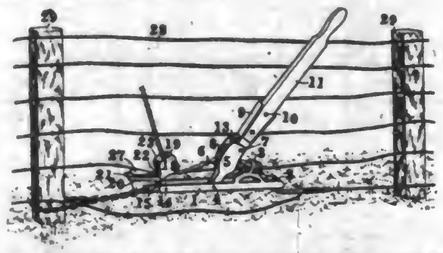
[Claim 6 not printed in the Gazette.]

976,940. ROPE AND CHAIN CLAMP. JOSEPH S. SOUREK, Bath township, Summit county, Ohio. Filed Sept. 10, 1909. Serial No. 517,163.



A rope or chain clamp embodying a pair of spaced body members, a transverse member united to and extending between the upper ends thereof, the inner face of said transverse member adapted to constitute a fixed jaw, each of said members provided with an aperture, said apertures in alinement with each other, a pin in said alined apertures, a movable member pivotally-mounted on said pin one end of which is fashioned to constitute a jaw for cooperating with said fixed jaw, said movable member provided at a point approximately opposite said jaw portion with means for connecting said movable member to an anchorage and further provided with a radially-projecting finger to constitute means for withdrawing said movable jaw from operative engagement with a rope or chain.

976,941. ROPE, CHAIN, OR WIRE STRETCHER. JOSEPH S. SOUREK, Bath township, Summit county, Ohio. Filed Oct. 10, 1908, Serial No. 457,094. Renewed May 27, 1910. Serial No. 563,787.

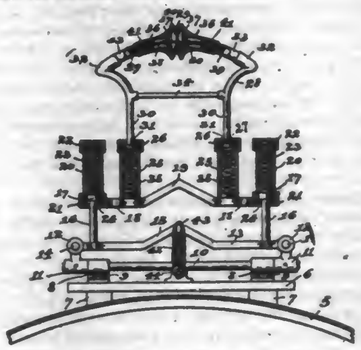


1. A device for stretching ropes and the like comprising a pair of spaced companion bars, a plurality of pins extending between said bars, one of said pins positioned near the front ends of said bars, a rope clamp provided with a manually-operable releasing mechanism pivotally-mounted on said latter pin, a member also mounted on said pin constituting an anchorage for said device, a gripping lever mounted on one of said pins between said bars consisting of a lower portion provided with means to receive said pin having a fixed jaw and with a lateral member integral therewith, a pin carried by said lateral member, a lever provided with a rope-gripping jaw adapted to coöperate with said fixed jaw pivotally-mounted on the pin on said lateral member, said jaws, adapted when moved in one direction, to grip and advance a rope toward said clamp and inoperative when the movement of said lever is reversed, a pin constituting an abutment carried by said lateral member adapted to limit the inoperative movement of said lever and a rope guide positioned rearwardly of said gripping lever for directing the passage of a rope or the like to the jaws carried by said lever.

2. A device for stretching ropes and the like comprising a pair of spaced companion bars, a plurality of pins extending between said bars, one of said pins positioned near the front ends of said bars, a rope-clamp provided with a manually-operable releasing mechanism pivotally-mounted on said latter pin, a member also mounted on said pin constituting an anchorage for said device, a gripping lever also mounted on one of said pins between said bars consisting of a lower portion provided with means to receive said pin having a fixed jaw and with a lateral member integral therewith, a pin carried by said lateral member, a lever provided with a rope-gripping jaw adapted to coöperate with said fixed jaw pivotally-mounted on the pin on said lateral member, said jaws adapted when moved in one direction to grip and advance a rope toward said clamp and inoperative when the movement of said lever is reversed and a pin constituting an abutment carried by said lateral member adapted to limit the inoperative movement of said lever.

976,942. TROLLEY-POLE. CHARLES M. SPECK and CLARENCE F. EARL, Chicago, Ill. Filed Mar. 18, 1909. Serial No. 484,197.

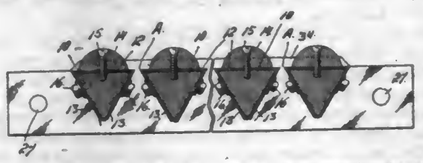
1. A trolley pole comprising a main frame member, a second frame member, in yielding engagement with said main frame member, an arm in yielding engagement with said second frame member and a contact wheel connected to said arm and capable of sidewise movement, substantially as described.



2. A trolley pole comprising a main frame member, means for connecting said member to a car body, whereby said member has a rocking movement relative thereto, a second frame member connected to said main frame member and in yielding engagement therewith, an arm connected to said second frame member, and in yielding engagement therewith, a contact wheel carried by said arm and spring means for normally maintaining said contact wheel in a central position relative to said arm, but permitting sidewise movement thereof, substantially as described.

3. A trolley pole comprising a main frame member, means for connecting said member to a car body whereby said member has a rocking movement relative thereto, means for normally maintaining said member in a substantially vertical position relative to said car body, a second frame member connected to said main frame member, spring means for holding said members in yielding engagement, an arm connected to said second frame member, spring means for normally holding said arm and second frame member in yielding engagement, a contact wheel on said arm and spring means for normally holding said contact wheel centrally of said arm, but permitting a sidewise movement thereof, substantially as described.

976,943. ORE-SCREEN. PHILIP R. STANHOPE, Denver, Colo. Filed Mar. 9, 1908. Serial No. 420,071.



1. A screen composed of a series of triangular bars arranged in suitable proximity to each other and provided on their rear sides with plates adjustable to cause their forward line of adjustment to intersect, the forward or inner edges of adjacent plates being separated to allow the material to pass between the bars when reduced to the desired mesh, and means for holding the said parts in the assembled relation, substantially as described.

2. An ore screen composed of a series of bars having inclined rear surfaces, and plates adjustably attached to said surfaces to cause their forward line of adjustment to intersect when properly produced, the forward or inner edges of adjacent plates being spaced to determine the mesh of the screen, and means for holding the said bars in the assembled relation, substantially as described.

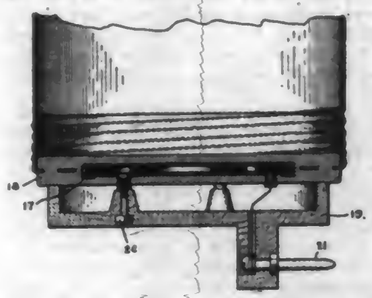
3. A screen composed of a series of bars, each bar having two inclined rear surfaces, the inclination of the adjacent faces of any two bars being such that the said faces approach each other as they extend inwardly, and plates adjustable to cause the forward line of adjustment of any two adjacent plates to intersect when properly produced

applied to the said inclined faces of the bars, the inner edges of the plates being spaced to determine the mesh of the screen, and means for holding the said bars in the assembled relation, substantially as described.

4. A screen composed of a series of triangular bars equipped with metal face plates, the inner plates of the bars forming the inner surface of the screen, and the rear plates adjustable to cause the forward line of adjustment of any two adjacent plates to intersect when properly produced, whereby their forward edges are spaced to determined the mesh of the screen, and means for holding said bars in the assembled relation for the purpose set forth.

5. A screen composed of bars triangular in cross section and provided with face plates, the plates applied to one face of each bar forming the inner face of the screen, deflecting members applied to the inner face plates and secured to the bars, the forward edges of the rear face plates being spaced to determine the mesh of the screen, the said plates being adjustable, and means for holding said bars in the assembled relation for the purpose set forth.

976,944. ELECTRIC HEATING-RECEPTACLE. WILLIAM STANLEY, Great Barrington, Mass., assignor to General Electric Company, a Corporation of New York. Filed May 13, 1909. Serial No. 495,752.



1. The process of forming electrically heated utensils which consists in securing a heating unit to a flat sheet of metal and bending the metal around the unit to form a receptacle.

2. The process of forming electrically heated utensils which consists in casting an electric heating unit to a sheet of metal and bending the metal around the unit to form a receptacle.

3. The process of forming electrically heated utensils which consists in securing a heating unit in the center of a circular metallic disk and then bending the metal around the unit to form a receptacle.

4. The process of forming electrically heated utensils which consists in casting an electric heating unit in the center of a circular disk and then bending the metal around the unit to form a receptacle.

5. The process of forming electrically heated utensils which consists in casting a flat heating unit in the center of a circular disk of sheet metal and spinning the metal around the unit to form a receptacle.

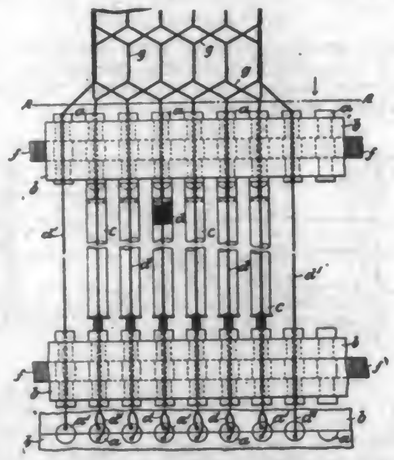
[Claims 6 to 8 not printed in the Gazette.]

976,945. GREASE-GUN. GEORGE W. STONE, Jr., Burlington, Wis., assignor of one-half to Herbert J. Julien, Milwaukee, Wis. Filed Aug. 9, 1909, Serial No. 511,991. Renewed June 20, 1910. Serial No. 569,580.



An oil gun comprising an outer tube, an inner tube arranged therein, means for locking the inner tube in the outer tube, a longitudinal operating screw passing through the inner tube, a handle for the operating screw, a nozzle carried by the outer tube, a piston screwing on the operating screw, and a longitudinal guide wire passing through the piston to hold it against turning when the operating screw is turned.

976,946. MACHINE FOR WEAVING WIRE-NETTING. ANDREW WILLIAM STOREY, Manchester, England. Filed June 14, 1909. Serial No. 502,048.



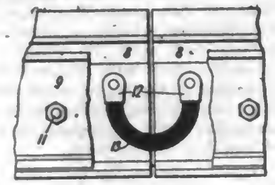
1. In a machine for weaving wire netting, in combination, a pair of oppositely reciprocating sliding traverse bars, a plurality of pairs of wired half pinions mounted in said bars, a plurality of additional wired half pinions mounted in said bars, means for moving said bars to carry the half pinions associated with one of said bars over a plurality of half pinions associated with the other of said bars, and a sliding rack operatively associated with said pinions to rotate the same to interlace or intertwist the wires.

2. In a machine for weaving wire netting, in combination, a pair of oppositely reciprocating sliding traverse bars, a plurality of pairs of wired half pinions mounted in said bars, two additional wired half pinions mounted in said bars, means for moving said bars to carry the half pinions associated with one of said bars over two half pinions associated with the other of said bars, and a sliding rack operatively associated with said pinions to rotate the same to interlace or intertwist the wires.

3. In a machine for weaving wire netting, in combination, a pair of oppositely reciprocating sliding traverse bars, a plurality of pairs of wired half pinions mounted in said bars, an additional wired half pinion mounted in one of said bars, a second additional wired half pinion mounted in one of said bars, means for moving said bars to carry the half pinions associated with one of said bars past an adjacent half pinion associated with the other bar and into registry with the next adjacent half pinion associated with the other bar, and a sliding rack operatively associated with said pinions to rotate the same to interlace or intertwist the wires.

4. In a machine for weaving wire netting, in combination, a pair of reciprocating sliding traverse bars, a plurality of pairs of wired half pinions mounted in said bars, an additional half pinion mounted in one of said bars, a second additional wired half pinion mounted in the other of said bars, said additional pinions being positioned at opposite ends of said bars and at points beyond said plurality of pairs of half pinions, means for moving said reciprocating bars, and a rack associated with said pinions for rotating the same to intertwist or interlace the wires.

976,947. RAIL-BOND. CHARLES R. STURDEVANT, Worcester, Mass., assignor to The American Steel & Wire Company, Pittsburg, Pa., a Corporation of New Jersey. Filed June 25, 1910. Serial No. 568,863.



1. A rail bond comprising a flexible member having terminals secured to the end thereof, the terminals and adjoining ends of the conductor being coated with solder, the solder extending any desired distance on the connector beyond the terminals toward the center of the length of the bond to stiffen and maintain its ends in the shape into which the bond is bent; substantially as described.

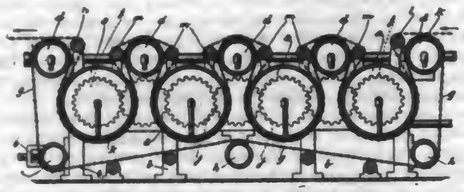
2. A rail bond comprising a flexible member having terminals secured to the ends thereof and a layer of solder on the ends of the bond adapted to stiffen and increase the conductivity of the ends of said flexible member; substantially as described.

3. A rail bond comprising a strand of wire having a plurality of wires forming a flexible connector, solid terminals on the ends thereof and a coating of solder on the ends of the strand adapted to stiffen and unite the wires adjacent to the terminals into a solid connector; substantially as described.

4. A rail bond comprising solid terminals connecting the ends of a flexible member, and a coating of solder extending inwardly from the ends of the flexible member toward the center of its length for stiffening and maintaining the coated portions thereof in the bent shape into which such portions are formed; substantially as described.

5. A rail bond comprising solid terminals connecting the ends of a plurality of wires forming a flexible conductor therefor and a coating of solder on the ends of the flexible connector adjacent to the terminals to stiffen and maintain the solder coated end portions of the connector in the desired curved shape to which such end portions are bent; substantially as described.

976,948. APPARATUS FOR DRYING PAPER. JOHN D. TOMPKINS, Vinlatie, N. Y. Filed May 25, 1908. Serial No. 434,936.



1. In a paper-drying apparatus, the combination of a drying drum and a foraminous metal apron consisting of hinged plates traveling with a web of paper over said drum and adapted to maintain the traveling web of paper in contact with the drying drum.

2. In a paper-drying apparatus, the combination of a drying drum a heated foraminous metal apron consisting of hinged plates traveling with a web of paper over said drum and adapted to maintain the traveling web of paper in contact with the drying drum and means for heating said apron.

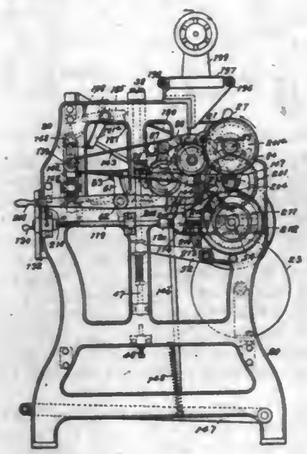
3. In a paper-drying apparatus, the combination of a drying drum, a foraminous metal apron consisting of hinged plates traveling with a web of paper over said drum and adapted to maintain the traveling web of paper in contact with the drying drum, and an auxiliary heating drum for preheating the metal apron prior to its being led into coöperation with the drying drum.

4. In a paper-drying apparatus, the combination of a drying drum, a heated foraminous metal apron consisting of hinged plates traveling with a web of paper over said drum and adapted to maintain the traveling web of paper in contact with the drying drum, and one or more guide rolls for supporting the web of paper out of contact with the foraminous metal apron, when the latter is separated from the drying drum, so as to allow it to dry evenly and means for heating said apron.

5. In a paper-drying apparatus, the combination of a drying drum, a foraminous metal apron consisting of hinged plates traveling with a web over said drum and adapted to maintain the traveling web of paper in contact with the drying drum, an auxiliary heating drum for preheating the metal apron prior to its being led into coöperation with the drying drum, and one or more guide rolls for supporting the web of paper out of contact with the foraminous metal apron, when the latter is separated from the drying drum, so as to allow it to dry evenly.

[Claims 6 to 13 not printed in the Gazette.]

976,949. MACHINE FOR MAKING WINDOW-SHADES. BENJAMIN W. TUCKER, Newark, N. J., assignor to John Beecher Patton, Kent, Ohio. Filed Feb. 14, 1906. Serial No. 301,072.



1. In a machine for making window shades, the combination with means for holding a web of shade material, of shade-roller holding means, means for rotating the shade-roller holding means to wind the material on the roller, means for feeding the material, means for trimming the edges of the material lengthwise thereof, means for cutting the material transversely, mechanism for creasing the material transversely thereof for forming the loop for the shade slat, means for measuring the length of shade, a clutch mechanism operatively connected with the material feeding means, together with connections between the clutch mechanism and the measuring means whereby the feed of the material is automatically stopped when the proper length of shade has been fed forward.

2. The combination with means for holding a web of shade material, of folding and creasing devices adapted to fold and crease the material for forming the loop for the shade slat, means for cutting the material lengthwise thereof, devices for feeding the material toward the creasing devices, driving mechanism operatively connected with the feeding devices and the creasing devices, together with mechanism for automatically stopping the feeding devices when the proper length of material for a shade has been fed forward without stopping the main driving mechanism.

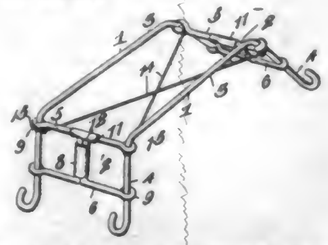
3. The combination with means for holding shade material, of means for feeding the material, means for forming a shade-slat loop or hem, means for stopping the feeding means, together with a device for automatically operating the feed stopping means at a fixed point according to length of shade to be made.

4. The combination with means for holding shade material, of means for feeding the material, means for forming a shade-slat loop, an automatically actuated knife movable across the machine to cut the material transversely, means by which a fixed amount of material may be fed and then the feeding means stopped, together with automatically actuated mechanism for operating the loop-forming means.

5. The combination with means for holding shade material, of loop forming means, shade-roller holding means, together with mechanism for feeding a fixed length of material according to the length of shade at two distinct periods for the purpose set forth.

[Claims 6 to 50 not printed in the Gazette.]

976,950. FOLDING FRAME FOR MOSQUITO-BARS. EVA TYNES, Canon City, Colo. Filed Mar. 28, 1910. Serial No. 552,037.



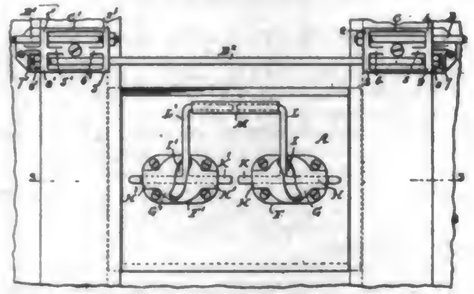
1. A device of the character described comprising two side members each formed from a piece of wire by bending it at suitable points to provide a central portion and depending legs, inwardly folding end members composed of half sections, each of the latter being formed from a piece of wire bent into U-form and having the extremities of its arms bent to form hinge eyes which engage the legs, a hinge strap uniting the closed portions of the two U-shaped half sections, a sliding catch for each end member mounted for sliding movement on one half section of the same and having a channel portion to engage the opposing half section, and flexible elements between the two side members.

2. A device of the character described comprising two side members each having side bars and downwardly extending legs, inwardly folding end members each composed of hingedly connected half sections, the latter having at their outer ends eyes to loosely engage the legs, whereby said sections are hingedly connected to the legs, flexible elements to support a mosquito bar or canopy at the central portion of the frame, and attaching means for said elements arranged on said legs beneath the eyes on the sections of the end members, whereby said fastening means for the elements will prevent the end members from slipping downwardly on the legs.

3. A device of the character described comprising two side members each formed from a piece of wire by bending it at suitable points to provide a central portion and depending legs, inwardly folding end members composed of half sections, each of the latter being formed from a piece of wire bent into U-form and having the extremities of its arms bent to form hinge eyes which engage the legs, a hinge strap uniting the closed portions of the two U-shaped half sections of each end member, and catches for locking the end members in open position.

976,951. DOOR FOR SILOS. FRANK J. VAN COTT, Unadilla, N. Y. Filed Jan. 21, 1910. Serial No. 539,423.

1. In a silo, a door therefor having its edges beveled to engage the inside of the silo and limit the outward movement of the door, a pair of plates secured to the door and each having a groove or recess formed in the side adjacent the door, shafts mounted in said grooves and slidable therein, L-rods secured to the shafts and projecting outwardly through cam slots formed in the plates, and a sleeve engaged on and connecting the ends of the rods, upon the depression of said sleeve the rods and thus the shafts being forced outward by the cam slots, and the shafts each having an enlarged cam-shaped outer end adapted to contact with the outside of the silo, the further depression of the sleeve rocking the shafts to cause the cam portions to press against the silo and draw the door outward into tight engagement with the inside of the silo and lock it in said position.



2. In a silo, the combination with the staves forming the body thereof, said staves being spaced apart at one side to provide a door way, the jamb or side edges of said door-way having an ogee formation for coöperation with a corresponding ogee formation on the door, of a plate secured exteriorly of the silo at each side of the door-way, said plate comprising a base portion, a transversely disposed lug formed at each end thereof having a pair of openings formed therein, the openings in the lugs being in alined pairs, a flanged extension formed on the plate in alinement with one pair of the openings and forming a nut receiving socket, a band passed around the staves and having its ends passed through one pair of openings of the plate and having a nut engaged on its projecting end to secure it in position, and a rod passing across the door way and passing through the other pair of openings, and nuts in the sockets for engaging the ends of the rod to secure it in position.

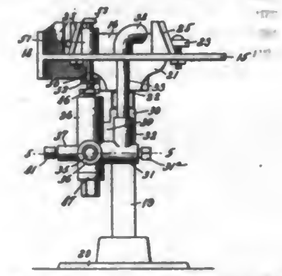
3. In combination with a silo having a door opening formed therein, a door for the opening having means engaging the interior of the silo, casing secured to the exterior of the door and having cam faces, rock shafts journaled in said casings, and means projecting from the shafts and adapted to rock the same, said means being engaged and pressed outward by the cam faces of the casings, carrying with them the shafts and forcing the latter into engagement with the silo, the ends of the shafts being formed with cam portions for clampingly engaging the silo to lock the door in position.

4. In combination with a silo having a door opening formed therein, a door for the opening having means engaging the interior of the silo, casing secured to the exterior or outer side of the door, said casings having slots formed therein having cam faces, rock shafts journaled in the casings, means projecting through the slots for rocking the shafts, the rocking of said shafts bringing said means into engagement with the cam faces of the slots which force said means and the shafts outward, the shafts being formed with cam ends adapted when forced outward to clampingly engage the silo to lock the door in position, and abutment portions on the casings limiting the movement of the operating means to cause them to stand out from the door to provide steps on the face thereof.

5. In a silo, the combination with the doorway, of a door therefor having means engaging the interior of the silo for securing it in position, members mounted in pairs on the face of the door, L-shaped operating rods carried thereby, a sleeve engaged on the ends of the said rods, and cam plates carried by the door and engaging the other leg of said rods and adapted when the said members are rocked to force the rods and thus the members outward, the members engaging the exterior of the silo to secure the door in position with respect thereto.

[Claims 6 and 7 not printed in the Gazette.]

976,952. SAD-IRON HEATER. WILLIAM H. VAN HORN, Baltimore, Md., assignor to Clarence M. Kemp, Baltimore, Md. Filed May 27, 1910. Serial No. 563,772.



1. A heater of the class described, comprising a gas burner, means for supporting above the burner an object to be heated, a valve casing having a through opening larger at its ends than at an intermediate point, a valve therein and having normally a bearing against a seat, a plug secured into one end of said casing and having a bore for a spring to hold said valve seated, a stuffing box in the other end of said casing through which the valve stem passes, and a slidable pin supported on said valve stem but disconnected therefrom, extending above the burner in position to be depressed and open said valve when an object is placed on said supporting means.

2. A heater of the class described comprising a main burner and a pilot burner, a valve casing having a through opening reduced in size intermediate its ends, a valve seat being formed at the lower end of the reduced portion, said valve casing having an integral branch for attachment of the gas inlet pipe and a like branch connected to the pilot burner below the valve seat, and an integral branch above the valve seat connected to the main burner, a valve in said valve casing, a stuffing box in the upper end of the casing for the stem of said valve, a pin resting on said valve stem for opening the valve when depressed, a plug in the lower end of said valve casing and a spring in said plug to normally hold the valve seated.

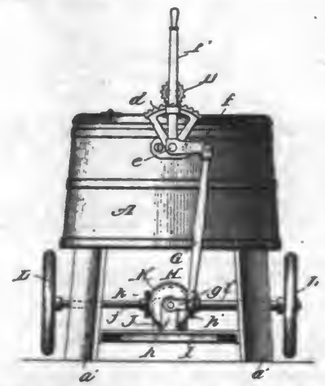
3. A heater of the class described comprising a burner, a valve casing having a passage therethrough reduced in size intermediate its ends, and a valve seat at the lower end of the reduced portion, a valve in said casing mounted on a valve stem slidable in said reduced portion and guided thereby and extending within the casing, a portion of said valve stem next the valve being cut away to permit the passage of gas when the valve is open, independent sliding means for opening said valve when an object is placed over the burner, and means for automatically closing said valve when the object is removed.

4. A heater of the class described comprising a burner, a valve casing having a passage therethrough reduced in size intermediate its ends, a valve seat at the lower end of the reduced portion, said casing having formed integral therewith projecting branches each provided with a channel, one of said channels leading from above said reduced portion of the valve passage to the burner, another to the pilot burner and a third connected to the gas inlet pipe, a valve in said casing mounted on a valve stem slidable in said reduced portion and guided thereby and extending without the casing, a portion of said valve stem next the valve being cut away to permit the passage of gas when the valve is open, independent sliding means for opening said valve when an object is placed over the burner, and means for automatically closing said valve when the object is removed.

5. A heater of the class described, comprising a main burner and a pilot burner, a valve casing, a normally closed gas inlet valve and a valve stem in said casing, said casing being formed with a branch projecting therefrom and provided with a channel above said valve connected to the main burner, a second branch below the valve for the inlet of gas, and a third channeled branch also below the valve for conducting gas to the pilot burner.

[Claim 6 not printed in the Gazette.]

976,953. MECHANICAL MOVEMENT. ALEXANDER FERDINAND VICTOR, Toledo, Ohio. Filed Mar. 11, 1909. Serial No. 482,764.



1. Means for operating a washing machine comprising a vertically disposed rotary reciprocal shaft, a vertical lever, means connected thereto above its fulcrum for actuating said shaft, two balance-wheels mounted upon a common shaft, and means including speed-increasing mechanism connected to said lever below its fulcrum for revolving said balance-wheels in opposite directions.

2. Means for operating a washing machine comprising a vertically disposed rotary reciprocal shaft, a vertical lever, means connected thereto above its fulcrum for actuating said shaft, a horizontally disposed shaft below said reciprocal shaft, balance wheels mounted on opposite ends of the same, and means including speed-increasing mechanism connected to said lever below its fulcrum for revolving said balance-wheels in opposite directions.

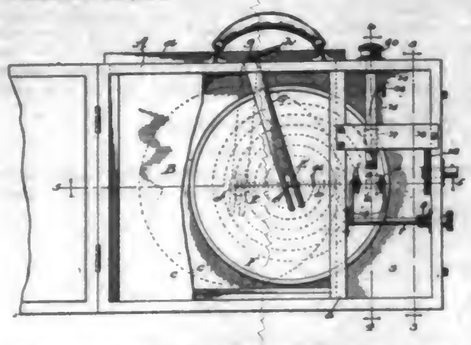
3. Means for operating a washing machine comprising a vertically disposed rotary reciprocal shaft, a vertical lever, means connected thereto above its fulcrum for actuating said shaft, a horizontally disposed shaft below said reciprocal shaft, a sleeve on one end of said horizontal shaft, a balance-wheel on the outer end of said sleeve, and a balance-wheel on the opposite end of said shaft and adapted to revolve in the opposite direction to the balance-wheel on the end of said sleeve.

4. Means for operating a washing machine comprising a vertically disposed rotary reciprocal shaft, a vertical lever, means connected thereto above its fulcrum for actuating said shaft, a horizontally disposed shaft below said reciprocal shaft, a sleeve on one end of said horizontal shaft, a balance-wheel on the outer end of said sleeve, a balance-wheel mounted on the opposite end of said shaft, and means connected to said lever below its fulcrum for revolving said balance wheels.

5. Means for operating a washing machine comprising a vertically disposed rotary reciprocal shaft, a vertical lever, means connected thereto above its fulcrum for actuating said shaft, a horizontally disposed shaft below said reciprocal shaft, a sleeve on one end of said horizontal shaft, a balance-wheel on the outer end of said sleeve, a balance-wheel mounted on the opposite end of said shaft, and means connected to said lever below its fulcrum for revolving said balance wheels in opposite directions.

[Claims 6 to 14 not printed in the Gazette.]

976,954. MOVING-PICTURE MACHINE. ALEXANDER FERDINAND VICTOR, Toledo, Ohio. Filed Feb. 14, 1910. Serial No. 543,749.



1. A moving picture machine comprising a film-holder having bearings for the axial elements of the film and means for moving the said axial elements in and out of said film holder.

2. A moving picture machine comprising a film-holder having immovable opaque sides, bearings for the axial member of the film, and means for moving said axial members in and out of said holder.

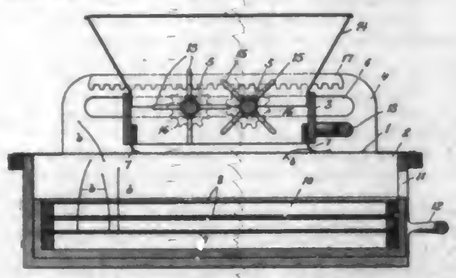
3. A moving picture machine comprising a film-holder having immovable sides, laterally elongated bearings for the axial member of the film, and means for moving said axial members in and out of said holder.

4. A moving picture machine comprising a film-holder having immovable sides and laterally elongated bearings for the axial member of said film, and a carrier having journaling members which are adapted to be seated and move laterally in said bearings.

5. A moving picture machine comprising a film-holder having immovable sides, laterally elongated bearings for the axial elements of the film, and an arm pivoted in the edge of said holder and adapted to engage the axial element of the film and move the same laterally in said bearings.

[Claims 6 to 23 not printed in the Gazette.]

976,955. BRISTLE-REDEEMING MACHINE. ERNEST VOGEL, Boston, Mass., assignor to John L. Whiting-J. J. Adams Company, Boston, Mass., a Corporation of Maine. Filed Apr. 30, 1910. Serial No. 558,615.



1. A machine for arranging bristles with their corresponding ends extending all one way, comprising a support having perforations adapted to admit the butt ends of the bristles and to exclude the split outer ends thereof, and means arranged over said support to act on a quantity of bristles lying thereon and so place certain of the bristles that their butt ends may pass through the support.

2. A machine for converting a disordered confused mass of bristles into an orderly condition with corresponding ends of the bristles all pointing the same way, comprising a perforated support, and means arranged above said support operable to stir and toss the bristles lying thereon, whereby such of the bristles as fall butt-end downward in line with perforations of the support are enabled to enter and pass through such perforations.

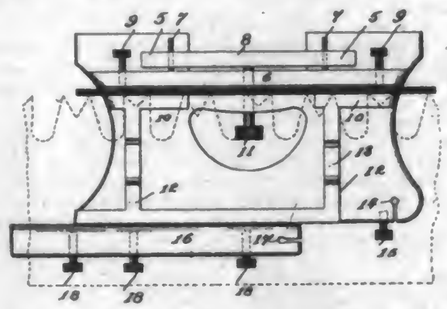
3. A machine for redeeming bristles, comprising a perforated support on which a disordered mass of bristles is placed, and a soft, flexible rubbing member having a frictional surface, mounted and arranged to travel back and forth across said support in contact therewith, or with bristles lying thereon, whereby the bristles are moved butt-end first and caused to pass through the support.

4. A machine for redeeming bristles, comprising a perforated support on which a disordered mass of bristles is placed, and a stirring device having arms arranged to enter the mass and lift the bristles, whereby such as fall with their butt-ends downward and in line with the perforations of the support are caused to pass through the same.

5. A machine for redeeming bristles, comprising a perforated support on which a mass of bristles is placed, and a frame arranged and guided above said support so as to travel back and forth thereover, a flexible rubbing member carried by said frame adapted to engage the bristles frictionally and move them butt-end first, whereby such ends are caused to enter the perforations of said support, and stirring means carried by said frame for arranging the bristles more or less in the direction of travel of said frame.

[Claims 6 to 9 not printed in the Gazette.]

976,956. SAW-TOOL. WILLIAM WAKLEY, Indian Lake, N. Y. Filed Nov. 27, 1909. Serial No. 530,176.

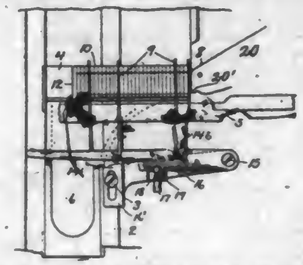


A saw tool of the character specified comprising a stock having spaced abutment plates along one of its longitudinal edges, a gage member movable between the said plates and formed to provide a raker tooth-receiving opening, oppositely extending wings formed on the said gage member and slidable against one side of the said stock and formed to provide vertical apertures, a longitudinally extending rib on one side of the stock and located immediately beneath the wings of the said gage member, pins supported by the said rib and extending through the apertures of the wings of the said gage member, a plurality of fixed ribs located beneath the first named rib, set screws on the first named rib and adjustable toward or away from the said plurality of ribs, and a set screw operatively connected with the said gage member.

976,957. SPACE-BAND BUFFER FOR LINOTYPE-MACHINES. GUSTAF E. WALLIN, Kansas City, Mo., assignor to Inland Manufacturing Company, Kansas City, Mo., a Corporation of Missouri. Filed Jan. 3, 1910. Serial No. 536,148.

1. The combination with a supporting bracket, of a buffer mounted on said bracket and comprising a finger having an incline in its upper edge rising in the direction of travel of the space bands which it is adapted to support.

2. The combination with a linotype machine, of a space band buffer pivotally mounted on the machine and comprising an elongated finger having a notch in its upper edge, one edge of said notch being inclined upwardly in the direction of travel of the space bands to be carried thereby.

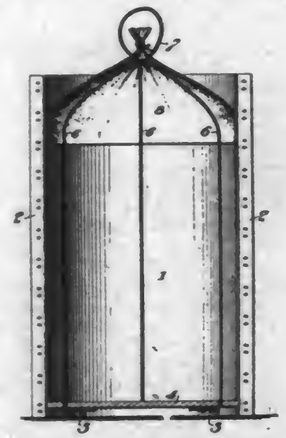


3. A space-band buffer comprising a narrow finger pivotally supported at one end having its upper surface formed with an initial upward incline merging into a rectilinear surface, which rectilinear surface is parallel to the path of movement of the space-bands in the assembler.

4. In combination, a bracket provided with a vertically adjustable buffer support and a pivot stud; a buffer pivotally mounted on said stud and supported by said support consisting of a finger provided with an initial upwardly inclined surface and a rectilinear surface communicating with the upwardly inclined surface.

5. The combination with a linotype machine having elevator guides, of a bracket adjustably mounted on one of said guides, a space band buffer having one end pivotally mounted on the free end of said bracket and having an incline on its upper edge, a lug on said bracket and a stop adjustably mounted in said lug, said stop being slotted at its upper end to receive said buffer, substantially as set forth.

976,958. COLLAPSIBLE CRATE. HARRISON B. WALTER, Danville, Ill., assignor of one-third to Orville J. Gunnell and one-third to Joseph W. Meitzler, Danville, Ill. Filed Jan. 8, 1910. Serial No. 537,031.



1. As an article of manufacture, a collapsible crate composed of flexible sheets brought together at the edges and fastened, the sheets being scored adjacent to these fastened edges and capable of being bent to form a drum, the edges serving as reinforcing ribs to strengthen the crate throughout its length, and means adapted to be inserted within the drum to afford internal lateral support therefor.

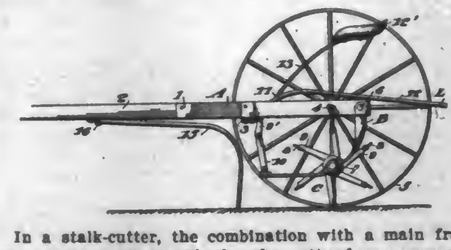
2. As an article of manufacture, a collapsible crate composed of flexible sheets brought together at the edges and fastened, the sheets being scored adjacent to these fastened edges and capable of being bent to form a drum, the edges serving as reinforcing ribs to strengthen the crate throughout its length, and a bottom removably held in the drum.

3. As an article of manufacture, a collapsible crate composed of flexible sheets brought together at the edges and fastened, the sheets being scored adjacent to these fastened edges and capable of being bent to form a drum, the edges serving as reinforcing ribs to strengthen the crate throughout its length, and a bottom removably held in the drum, cords strung through the bottom and brought up through the crate and having a handle formed therein at the upper end, whereby the crate and contents may be carried to throw the strain entirely upon the bottom.

4. As an article of manufacture, a collapsible crate composed of flexible sheets brought together at the edges and fastened, the sheets being scored adjacent to these fastened edges and capable of being bent to form a drum, the edges serving as reinforcing ribs to strengthen the crate throughout its length, flexible flaps secured inside of the drum at or near its lower end, a removable bottom, and means for securing the bottom to the flaps.

5. As an article of manufacture, a collapsible crate comprising mats composed of relatively stiff but flexible material, having their edges secured together and bent laterally from the main portion of the mat and lengthwise of the crate to form ribs, and means removably secured within the crate adapted to afford internal lateral support for the walls thereof.

976,959. STALK-CUTTER. JOHN R. WEATHERLY, Savannah, Ga. Filed Apr. 11, 1910. Serial No. 554,638.



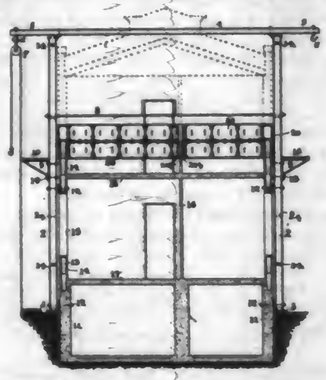
In a stalk-cutter, the combination with a main frame supported by suitable wheels, of a cutter-frame suspended therefrom, and a lever fulcrumed on the main frame having one end in the form of an arm, and the other a goose neck and handle, a rigid link connecting the arm with the free end of the cutter frame, the goose-neck being positioned to rest upon some part of the main frame when the lever shall have crossed the dead center in raising the cutter frame, whereby to retain and lock the frame in that position.

976,960. APPARATUS FOR ERECTING CONCRETE STRUCTURES. PETER WEBER, Orange, N. J. Filed Feb. 11, 1909. Serial No. 477,338.

1. In apparatus for erecting concrete structures, the combination of a temporary framing comprising a series of upright members forming vertical guides connected and braced together and arranged to provide an unobstructed space bounded by the said temporary framing within which the building is to be constructed, and mold forms arranged within the said space bounded by the upright members and guided and supported thereby and consisting of two tiers of molds, each tier composed of a series of detachable mold plates connected end to end, and the plates of the two tiers connected respectively by their tops and bottoms and arranged to be alternately secured to and above each other as the concrete wall is increased in height.

2. In apparatus for erecting concrete structures, the combination of a temporary framing comprising a series of upright members forming vertical guides connected and braced together and arranged to provide an unobstructed space bounded by the said temporary framing within which the building is to be constructed, vertically adjustable brackets adjustably secured to the upright members

of the temporary framing upon the outside of the upright supports upon which the mold forms are guided, platforms supported by the brackets, and mold forms arranged within the said space bounded by the upright members and guided and supported thereby and consisting of two tiers of molds, each tier composed of a series of detachable mold plates connected end to end, and the plates of the two tiers connected respectively by their tops and bottoms and arranged to be alternately secured to and above each other as the concrete wall is increased in height.



3. In apparatus for erecting concrete structures, the combination of a temporary framing comprising a series of upright members forming vertical guides connected and braced together and arranged to provide an unobstructed space bounded by the said temporary framing within which the building is to be constructed, vertically adjustable platforms extending from and supported by said upright guide members in an outward direction away from the framing as a whole, and adjustable sectional mold forms arranged within the space bounded by the temporary framing and guided in a vertical direction upon the upright members thereof.

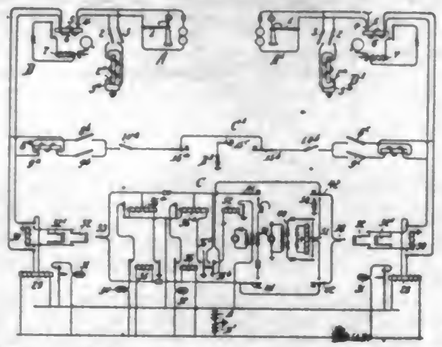
4. In apparatus for erecting concrete structures, the combination of a temporary framing comprising a series of upright members forming vertical guides connected and braced together and arranged to provide an unobstructed space bounded by the said temporary framing within which the building is to be constructed, vertically adjustable platforms extending from and supported by said upright guide members in an outward direction away from the framing as a whole, adjustable sectional mold forms arranged within the space bounded by the temporary framing and guided in a vertical direction upon the upright members thereof, and additional mold forms for the interior walls of the building extending across the space bounded by the uprights of the temporary framing and connected at their ends to the mold forms guided upon the said upright members.

5. A mold plate for molding concrete walls which consists of a rectangular cast metal plate flat on one face and bounded by outwardly extending top, bottom and side flanges directed away from the flat face, each of said flanges being provided with notches opening to the edges thereof for detachably receiving the clamping bolts in the general plane of the plate as a whole, and said plate also having transverse holes extending through its flat surface at a distance from each corner for receiving transverse bolts.

[Claims 6 to 10 not printed in the Gazette.]

976,961. COMBINED TELEPHONE AND SERVICE SYSTEM. HARRY G. WEBSTER, Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company, a Corporation of Illinois. Filed Jan. 6, 1908. Serial No. 409,523.

1. A combined telephone and service system including a telephone line, a central source of current, means for causing a steady flow of current from said source in series over the limbs of said line, means for causing a flow of steady current in parallel over the limbs of said line, a device for said line responsive to said flow of current in series but unresponsive to said flow of current in parallel, a second device for said line responsive to said flow of current in parallel but unresponsive to said flow of current in series, and means rendering said devices simultaneously and independently operable.



2. A combined telephone and service system including a telephone line, a central source of current, telephone signaling mechanism operable by steady current from said source over said line, means for transmitting special service signals by steady currents over said line, and means for preventing interference with said mechanism by said signal currents.

3. A combined telephone and service system including a telephone line, a central source of current for supplying energy to said line, and means for transmitting special service impulses by steady current over said line while preventing operative interference with the telephone service currents thereby.

4. A combined telephone and service system including a telephone line, a central source of current adapted to energize said telephone line for telephone service, means for transmitting special service signals over said line by completing an additional path for the flow of steady current over said line, and means for preventing interference between the telephone currents and the service currents when simultaneously flowing over said telephone line.

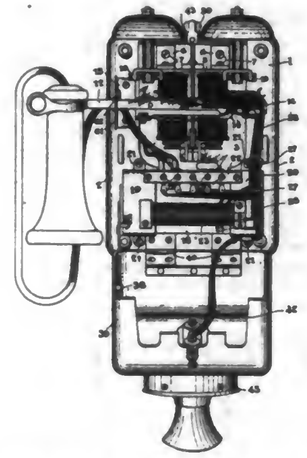
5. A combined telephone and service system including a telephone line, a central source of current, telephone signaling mechanism operable by steady current from said source over said line, means for transmitting special service signals by steady currents over said line, and means preventing interference between said mechanism and the service signals when simultaneously operating.

[Claims 6 to 14 not printed in the Gazette.]

976,962. WALL SET. ALFRED H. WEISS, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed June 17, 1908. Serial No. 438,937.

1. In a subscriber's telephone set, the combination with a base or wall plate, of a box-like cover hinged thereon and adapted when in a closed position to inclose the apparatus of the set, a ringer supported by and in front of the wall plate and having bell posts extending outside the top of the box, the portion of the cover back of said bell posts being rigidly secured to the wall plate and the movable cover being cut away at the top to register with the portion secured to the wall plate, substantially as described.

2. In a subscriber's telephone set, the combination with a wall plate, of a ringer mounted in an exposed position thereon and having adjustable bell posts, a removable cover for the apparatus of the set having the portion back of the bell posts cut away and having openings permitting the adjustment of the bell posts, and a stationary member back of said bell posts adapted to complete the inclosure when the cover is in place, whereby the ringer mechanism may be readily removed, substantially as described.



3. In a subscriber's set, the combination with a wall plate, of a box-like cover hinged thereto at the bottom of the wall plate, said cover carrying the transmitter and being adapted to be opened to expose the apparatus of the set from all sides for purposes of adjustment, an arm pivotally secured at one end to said wall plate and having a hook at its free end, said hook being adapted to automatically engage said cover to limit its downward movement, and adapted to be folded within the cover when the cover is closed, substantially as described.

4. In a telephone wall set, the combination with a back plate, of a ringer mounted thereon, bell-posts extending from the ringer parallel to but spaced from the back plate, a top wall back of the ringer posts and in front of the back plate and a box-like cover hinged to the back plate and adapted to open downwardly to expose the apparatus of the set from all sides, substantially as described.

5. In a subscriber's telephone set, the combination with a wall plate, of a box-like cover for the apparatus of the set hinged to the wall plate and adapted to be opened downwardly to expose the parts of the set from all sides, and a retaining member hinged to the back plate and provided with a hook adapted to automatically engage the cover to prevent it from being opened far enough to strike the wall, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

976,963. COLLARET-MACHINE. JOHN P. WEIS and LOUIS KRUG, Nyack, N. Y., assignors to Metropolitan Sewing Machine Company, Nyack, N. Y., a Corporation of New York. Filed Oct. 21, 1904. Serial No. 229,407.

1. In combination, a sewing-machine having a work-plate; a stitch-forming mechanism; a feeding mechanism, and means for causing the same to traverse the work in a defined path; the work-plate being slotted from its edge to a point in advance of the stitching position; a folding device; and means for pivotally supporting the folding-device upon the work-plate, comprising a work-supporting plate sustaining said folding-device in the slot of the work-plate with a portion above and a portion below the latter and its delivery end close to the stitching position; whereby a binding may be folded upon the work and the two delivered together close to the stitching position, and the folding device may be swung into and out of position at will.

2. In combination, a sewing-machine having a work-plate; a stitch-forming mechanism; a feeding mechanism, and means for causing the same to traverse the work in a defined path; the work-plate being slotted from its edge to a point in advance of the stitching position; a folding-device; means for pivotally supporting the folding-device upon the work-plate, comprising a work-supporting plate sustaining said folding device in the slot of the work plate with a portion above and a portion below the latter and its delivery end close to the stitching position, and means whereby the folding-device may be adjusted on the work-plate so as to position its delivery end properly relatively to the feeding mechanism and the stitching position; the several devices and mechanisms also coöperating whereby a binding may be folded upon the work and the two delivered together close to the stitching position, and the folding device may be swung into and out of position at will.



3. In combination, a stitch-forming mechanism; feeding mechanism comprising a main and an auxiliary feed-dog; a folding-device for guiding and folding a strip of material; a work-supporting plate, connected to the folding-device, which supports the body material in position to have the binding applied thereto; and means for pivotally and adjustably sustaining said plate, whereby the folding device may be swung into and out of position at will and may also be adjusted so as to locate its delivery end in front of the stitching position, in line with the main feed-dog and beside the auxiliary feed-dog.

4. A sewing-machine having stitch-forming mechanism, feeding mechanism, and a folding-device, in combination with a cloth-plate having a throat-plate the forward end of which latter is provided with an open-end slot and a beveled portion in advance of the stitching point, and means for pivotally supporting the folding-device on the cloth-plate so that it may be swung into position with its delivery-end within said slot and into coöperation with the beveled portion of the throat-plate, and a portion of said delivery-end in rear of said beveled portion.

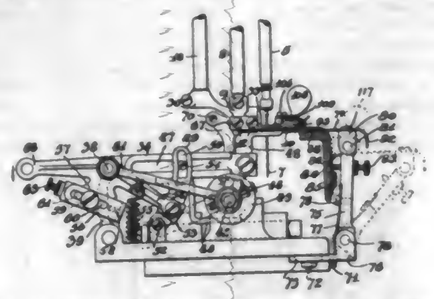
5. A sewing-machine having stitch-forming and feeding mechanisms, and having its cloth-plate provided with a slot extending from its front edge to the stitching position; a folding-device having a work-supporting plate extending horizontally from its left side; means for pivotally supporting said folder upon said cloth-plate so that it may lie in said slot and be swung into and out of the same; and means for limiting the swinging movement of said folder so as to accurately position its delivery-end relatively to the stitch-forming and feeding mechanisms.

[Claims 6 to 12 not printed in the Gazette.]

976,964. BINDING MECHANISM FOR SEWING-MACHINES. JOHN P. WEIS and WILLIS C. ROBBINS, Nyack, N. Y., assignors to Metropolitan Sewing Machine Company, Nyack, N. Y., a Corporation of New York. Filed May 29, 1905. Serial No. 262,810.

1. In combination with the stitch-forming mechanism of a sewing machine, a binding device, a plate supporting said device, a lever pivotally supported at the front of the machine and extending perpendicularly to the work-plate thereof, means for normally pressing said lever in the direction of the said stitch-forming mechanism, and means pivotally connecting said lever to the said supporting plate,

whereby by shifting said lever the binding device can be removed from its operative position and held in engagement with a stationary part of the machine and returned to operative position by turning the supporting plate on its pivot.



2. In combination with a sewing machine, a lever pivotally attached thereto, a binder-head pivotally attached to said lever, means for normally holding the binder-head in operative position under tension, said means including devices whereby the binder-head may be moved from operative position under a tension normally and constantly tending to return the same to operative position.

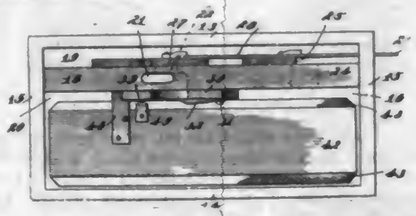
3. A sewing machine having in combination a stitch-forming mechanism, a feeding mechanism, a throat-plate provided with slots through which certain portions of the feeding mechanism operate, a binding mechanism including a binder-support having an open-end slot coöperating with one of the slots of the throat-plate, whereby a portion of the feeding mechanism may operate in the slot of the binder-support, and a binder-head carried by said support and operating over said slot and feeding portion.

4. In combination, stitch-forming mechanism and binding mechanism, the binding mechanism including a binder-head, a support for said head, an arm pivoted below the work-plate and carrying said support, and means for adjusting said support laterally on said arm relatively to the stitching point, whereby different sizes of binders may be accommodated and the binder-head adjusted relatively to the stitching point.

5. In combination, stitch-forming mechanism, feeding mechanism, and binding mechanism, the binding mechanism including a binder-head, and the feeding mechanism including a feed-dog having a portion extending under said head at one side of the stitching position, and means for adjusting said head relatively to said dog and the stitching point, whereby the binding is engaged by the said dog as it emerges from the binder.

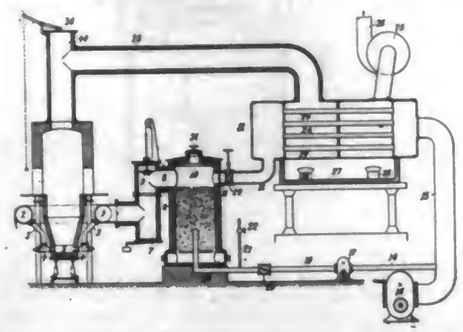
[Claims 6 to 10 not printed in the Gazette.]

976,965. RETARD DEVICE. FRANK J. W. WEMSER, Chicago, Ill., assignor to George P. Bent Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 22, 1909. Serial No. 484,899.



In a device of the class described, a box having a partition providing a compartment and a communicating chamber, a tempo valve on the partition controlling the communication from the compartment to the chamber, a wind-chest communicating with the chamber, a retard valve comprising a blade pivoted on the partition and controlling the latter communication, a pneumatic regulator device in the chamber comprising a bellows having a movable back-board, a spring for collapsing the bellows, connections between the retard valve and the back-board to open the valve, a retard lever and means intermediate the lever and valve and having an element normally disconnected from the latter to operate the valve against the tension of the spring by the lever.

976,966. METHOD OF HEATING AIR. GEORGE WESTINGHOUSE, Pittsburg, and ALEXANDER M. GOW, Edgewood Park, Pa., assignors to said Westinghouse. Filed May 2, 1903. Serial No. 155,258.



1. The method of heating air for the blast of a smelting or other furnace, which consists in delivering all the air to a combustion chamber coincident with the delivery thereto of gas from a producer, utilising a portion of the oxygen of the air in the combustion chamber in supporting the combustion of the gas, causing the products of combustion to mingle with the air, utilising a portion of the waste heat of the furnace in preheating the air prior to its delivery to the combustion chamber and delivering the products of combustion and air to the smelting furnace.

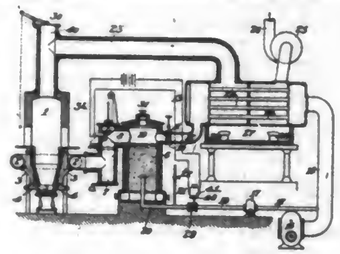
2. The method of heating air for the blast of a smelting or other furnace, which consists in generating producer gas, mingling all the air to be heated with the producer gas, utilizing a portion of the oxygen of the air to support the combustion of the gas, mingling the products of combustion with the air to be heated, utilizing a portion of the waste heat of the furnace in preheating the air prior to its mingling with the producer gas and then delivering products of combustion and heated air to the smelting furnace.

3. A method of heating air for the blast of a smelting or other furnace, which consists in generating producer gas, burning the gas generated so as to conserve the sensible heat of the generating operation, mingling the products of the combustion of the gas with all the air to be heated near the fuel bed and utilizing a portion of the waste heat of the furnace in preheating the air.

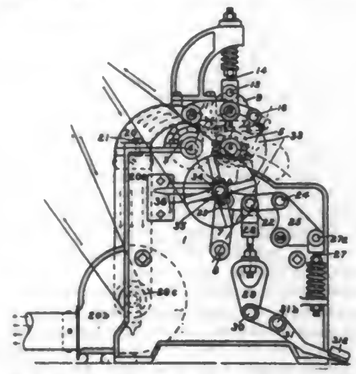
976,967. APPARATUS FOR HEATING AIR. GEORGE WESTINGHOUSE, Pittsburg, and ALEXANDER M. GOW, Edgewood Park, Pa.; said Gow assignor to said Westinghouse. Original application filed May 2, 1903, Serial No. 155,258. Divided and this application filed Sept. 17, 1903. Serial No. 173,510.

1. The combination with a smelting furnace of a pre-heater, in which air is heated by the waste gases from the furnace, a gas producer located between the pre-heater and the furnace, a combustion chamber in which said pre-heated air has added to it hot products of combustion derived from the combustion of gas made, and means dependent on the heat of the blast to said furnace for controlling the operation of said producer.

2. The combination of a smelting furnace, a gas producer, a blower discharging air through a combustion chamber connected to the producer and thence to the furnace, and an auxiliary blower discharging air into the bottom of a gas producer, causing the production of gas and its discharge into the combustion chamber, and means dependent on the temperature of air supplied to said furnace for controlling the operation of said producer.



976,968. LEATHER-WRINGING MACHINE. ROBERT F. WHITNEY, Winchester, Mass. Filed Mar. 16, 1910. Serial No. 549,640.



1. A machine of the character described comprising a work roll; a feed roll; a bed roll mounted in bearings movable toward and away from said work roll; a floating roll movable to and away from said feed roll; and means for accomplishing said movements; substantially as described.

2. A machine of the character described comprising a work roll; a feed roll; a bed roll mounted in bearings movable toward and away from said work roll; a perforated pipe movable to and away from said feed roll; and means for accomplishing said movements; substantially as described.

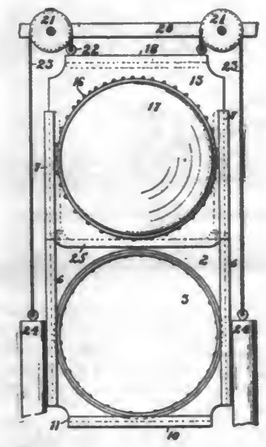
3. A machine of the character described comprising a work roll; a feed roll; a bed roll mounted in bearings movable toward and away from said work roll; means for accomplishing said movements; a flue with its intake disposed near the top and front of said work roll; and a blower connected with said flue; substantially as described.

4. A machine of the character described comprising a work roll; a feed roll; a bed roll mounted in bearings movable toward and away from said work roll; a floating roll movable to and away from said feed roll; means for accomplishing said movements; a flue with its intake disposed near the top and front of said work roll; and a blower connected with said flue; substantially as described.

5. A machine of the character described comprising a work roll; a feed roll; a bed roll mounted in bearings movable toward and away from said work roll; a perforated pipe movable to and away from said feed roll; means for accomplishing said movements; a flue with its intake disposed near the top and front of said work roll; and a blower connected with said flue; substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

976,969. QUICK-OPENING DOOR FOR VULCANIZERS. JOHN K. WILLIAMS, Akron, Ohio, assignor of one-half to The Williams Foundry and Machine Company, a Corporation of Ohio. Filed June 23, 1910. Serial No. 568,581.



1. The combination with a receptacle for containing a fluid under pressure and a radially-shiftable closure member therefor, one of which is provided with an annular groove in the face thereof which opposes the other member, of a packing ring mounted in said groove and provided with an inwardly-extending wedge-shaped integral flange arranged to be forced against the coöperating member by the fluid under pressure contained in said receptacle.

2. The combination with a receptacle for containing a fluid under pressure and a radially-shiftable closure member therefor, one of which is provided with an annular groove in the face thereof which opposes the other member, of a packing ring mounted in said groove and provided in its rear face with a groove or channel and a duct communicating with said groove in the rear of said packing ring for forcing the latter outwardly into snug engagement with the coöperating member.

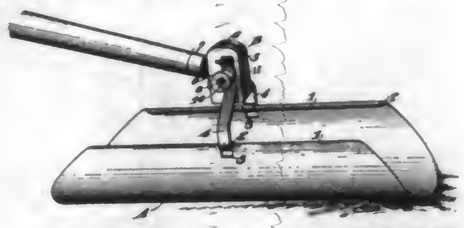
3. The combination with a receptacle for containing a fluid under pressure and a radially-shiftable closure member therefor, one of which is provided with an annular groove in the face thereof which opposes the other member, of a packing ring mounted in said groove and provided with an inwardly-extending wedge-shaped integral flange at its outer portion and having in its inner or rear face a circumferentially-extending groove or channel and a duct communicating with said annular groove in the rear of said packing ring to admit a fluid under pressure for forcing said packing ring into snug engagement with the coöperating member for forming a fluid-tight joint.

4. The combination with a receptacle for containing a fluid under pressure and a radially-shiftable closure member therefor, one of which is provided with an annular groove in the face thereof which opposes the other member, a portion of the groove-bearing member being cut away within said groove to provide a space between said member and the complementary member, of a packing ring mounted in said groove and provided with an inwardly-extending wedge-shaped integral flange positioned in said space to permit the fluid in said receptacle to engage the rear face of said wedge-shaped flange for forcing it into snug engagement with said complementary member for forming a fluid-tight joint therewith.

5. The combination with a receptacle for containing a fluid under pressure and a radially-shiftable closure member therefor, guiding means for said closure member, said receptacle provided in the end thereof which opposes the closure member with an annular groove, of a packing ring mounted in said groove and provided with an inwardly-extending wedge-shaped integral flange at its outer portion

and a duct communicating with said annular groove in the rear of said packing ring to admit a fluid under pressure for forcing said packing ring into snug engagement with the closure member for forming a fluid-tight joint.

976,970. DITCHING-TOOL. WILBUR W. WOLARY, Washington, Iowa. Filed May 13, 1910. Serial No. 561,147.



1. A ditching tool, comprising a blade and handle, and means connecting the blade to the handle whereby the blade can be adjusted to present different convex surfaces.

2. A ditching tool, comprising a blade and handle, and means for adjusting the blade whereby different convex surfaces can be presented.

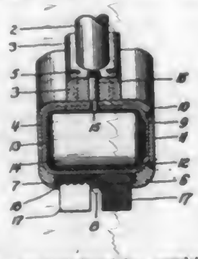
3. A ditching tool, comprising a blade and handle, arms connected to the blade, and means for adjustably connecting the arms to the handle whereby the blade can be adjusted to present different convex surfaces.

4. A ditching tool, comprising a blade having a convex surface, a handle, means for connecting the handle to the blade whereby the blade can be adjusted to present different convex surfaces.

5. A ditching tool, comprising a blade having a convex surface, a handle, arms connected to the blade, and means adjustably connecting the arms to the handle whereby the blade can be adjusted to present different convex surfaces.

[Claims 6 and 7 not printed in the Gazette.]

976,971. ANTISKIDDING TIRE. WILLIAM B. YODER, Pittsburg, Pa. Filed Aug. 12, 1909. Serial No. 512,491.



1. A wheel tire comprising the combination with the felly of a wheel, of a casing having its inner wall mounted against and secured to the felly and its outer wall grooved on its inner face and further provided with two rows of circumferentially-arranged openings, the openings of one row being staggered with respect to the openings of the other row, resilient tread blocks seated in said groove and against the inner face of the outer wall of the casing and projecting through said openings, a yieldable sheath mounted in said casing and engaging the inner ends of said blocks, an inflatable air tube arranged within said sheath and adapted to retain the sheath in engagement with the tread blocks, said casing having one side provided with an annular opening whereby access can be had to the interior thereof, and an annular plate secured to the casing for closing said annular opening.

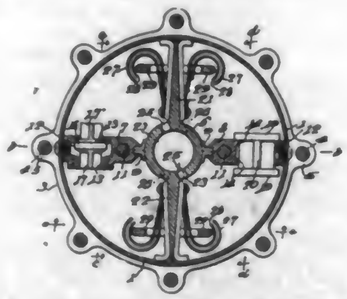
2. A wheel tire comprising a casing mounted upon the felly of the wheel and having the inner face of the tread side thereof formed with a circumferentially-extending groove and further having said tread-side formed with two rows of circumferentially-disposed openings, the openings of one row being staggered with respect to the openings of the other row, resilient tread blocks provided with heads, said heads mounted in the groove and said blocks extending through said openings, a yieldable sheath mounted in said casing and engaging the heads of said blocks, and an inflatable air tube mounted within said sheath and retaining the latter in engagement with the heads of the tread blocks.

3. A wheel tire comprising a casing mounted upon the felly of the wheel and having the inner face of the tread side thereof formed with a circumferentially-extending groove and further having said tread side formed with two rows of circumferentially-disposed openings, resilient tread blocks provided with heads, said heads mounted in the said groove and said blocks extending through said openings, a yieldable sheath mounted in said casing and engaging the heads of said blocks, an inflatable air tube mounted within said sheath and retaining the latter in engagement with the heads of the tread blocks, said casing having one side provided with an annular opening, and an annular plate secured to the casing for closing said opening.

4. A wheel tire comprising a casing mounted upon the felly of the wheel and having the inner face of the tread side thereof formed with a circumferentially-extending groove and further having said tread side formed with two rows of circumferentially-disposed openings, the openings of one row being staggered with respect to the openings of the other row, resilient tread blocks provided with heads, said heads mounted in the groove and said blocks extending through said openings, a yieldable sheath mounted in said casing and engaging the heads of said blocks, an inflatable air tube mounted within said sheath and retaining the latter in engagement with the heads of the tread blocks, said casing having one side provided with an annular opening, and an annular plate secured to the casing for closing said opening.

5. A wheel tire comprising an annular casing substantially rectangular in cross section and having one side thereof open, said casing having the inner face of the outer wall thereof cut away to provide a circumferentially-extending groove and said outer wall further having a circumferentially-extending row of rectangular openings, resilient tread blocks provided with rectangular heads, said heads mounted in said groove and said blocks extending through said openings, means for closing the open side of said casing, a yieldable sheath mounted in said casing and engaging said heads, and an inflatable air tube mounted within said sheath and retaining the latter in engagement with said heads.

976,972. WATER-MOTOR. HENRY W. YOST, Springfield, Ohio, assignor to The Yost Gearless Motor Company, Springfield, Ohio, a Corporation of Ohio. Filed Aug. 23, 1909. Serial No. 514,118.



1. In a water motor, a cylinder, a shaft journaled in said cylinder, abutments mounted in said cylinder on opposite sides of said shaft, one of said abutments having inlet ports connected to a source of supply and communicating with the interior of said cylinder on each side of

said abutment, the other of said abutments having exhaust ports communicating with the interior of said cylinder on each side of said abutment and connected with an exhaust pipe, valves to control said ports, pistons connected to the opposite sides of said shaft, conduits connecting that portion of the interior of the cylinder lying between the abutment having the inlet port and one of the pistons with the space lying between the abutment having the exhaust port and the other of said pistons, and a two part spring secured to each side of each of said pistons and adapted to actuate the respective valves.

2. In a motor, the combination, with a cylinder, a piston mounted therein, and a valve adapted to be actuated by the movement of said piston, of a spring carried by one of said members and comprising two parts having different degrees of resiliency.

3. In a motor, the combination, with a cylinder, a piston mounted therein, and a valve adapted to be actuated by the movement of said piston, of a spring carried by said piston and comprising two flat springs having their outer ends curved, the curved portion of one part of said spring being of less diameter than the curved portion of the other part of said spring and being arranged within the curved portion of said other part of said spring.

4. In a motor, the combination, with a cylinder, a piston mounted therein, and a valve adapted to be actuated by the movement of said piston, of a spring carried by said piston and comprising two flat springs having their outer ends curved, the curved portion of one part of said spring being of less diameter than the curved portion of the other part of said spring and being arranged within the curved portion of said other part of said spring, and an apertured lug carried by said piston adapted to receive the two parts of said spring to support the same in their proper positions and to form a stop to limit the compression thereof.

976,973. SPRING-ATTACHING CLIP. LEONARD A. YOUNG, Detroit, Mich. Filed Dec. 26, 1908. Serial No. 469,473.



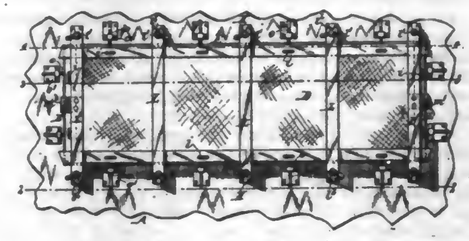
1. A structure for attaching a curved wire spring to a straight border wire comprising a staple-like member having relatively long end prongs adapted to separately wrap around the spring and border wires on each side of their point of contact, the free ends of said prongs passing into contiguity between said wires, and central prongs relatively wide and shorter in length than said end prongs adapted to embrace the spring and border wires collectively at their point of contact.

2. A clip for attaching springs to a border wire comprising a staple-like member having end prongs adapted to be formed around said wires and interposed central prongs relatively wide and short, and having beveled end portions, said central prongs being adapted to embrace said wires between said end prongs.

976,974. HATCH-FASTENER. LUCIOUS W. YOUNG, Tonawanda, N. Y., assignor of one-fourth to John T. Kinney and one-fourth to William J. Kinney, Buffalo, N. Y. Filed Mar. 5, 1908. Serial No. 419,240.

1. A hatch fastener comprising longitudinal clamping bars adapted to engage with the longitudinal parts of the hatch cover and transverse clamping bars adapted to engage with the transverse parts of the same, the opposing ends of said longitudinal and transverse bars being constructed to interlock.

2. A hatch fastener comprising longitudinal clamping bars adapted to engage with the longitudinal parts of the hatch cover and transverse clamping bars adapted to engage with the transverse parts of the same, the opposing ends of said longitudinal and transverse bars being constructed to interlock by means of a lip arranged on one of said opposing members and engaging with the respective end of the other member.



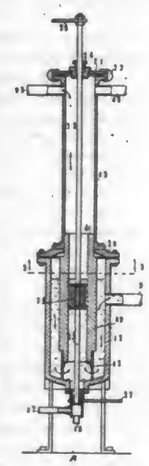
3. A hatch fastener comprising longitudinal clamping bars adapted to engage with the longitudinal parts of the hatch cover and transverse clamping bars adapted to engage with the transverse parts of the same, the opposing ends of said longitudinal and transverse bars being constructed to interlock by means of an inclined lip arranged on one of said opposing members and engaging with the respective end of the other member.

4. A hatch fastener comprising clamping bars adapted to engage with the margin of the hatch cover, tie bars adapted to engage with the top of the clamping bars, and means for detachably connecting the tie bars with the deck.

5. A hatch fastener comprising clamping bars adapted to engage with the margin of the hatch cover, tie bars adapted to engage with the top of the clamping bars, and each provided at opposite ends with notches, and swivel bolts connected with the deck and adapted to engage with said notches of the tie bars.

[Claims 6 to 13 not printed in the Gazette.]

976,975. OIL-CONVERTING PROCESS. JOSEPH H. ADAMS, Brooklyn, N. Y. Filed Feb. 25, 1908. Serial No. 417,713.



1. A process of the nature disclosed, consisting in internally applying to hydro-carbon oils an incandescent temperature of sufficient intensity to locally crack and convert the same into oils differing essentially in character from untreated oils.

2. A process for converting oils as contradistinguished from a process of fractional distillation, consisting in internally applying to an oil a decomposing incandescent heat, collecting and condensing the evolved vapors, and retreating the condensate as before.

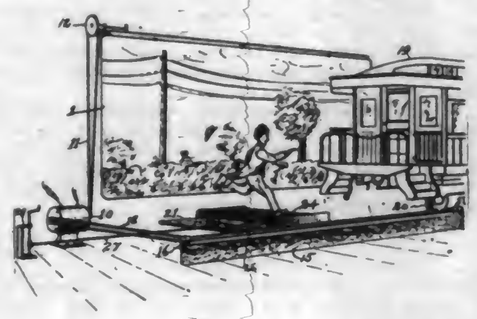
3. A process of raising the gravity on the Baumé scale of oils as contradistinguished from the process of fractional distillation, consisting in maintaining a heat enduring body at an incandescent temperature while submerged in a mass of oil, and collecting and condensing the evolved vapors of converted oil.

4. A process of converting oils as contradistinguished from the process of fractional distillation, consisting in electrically maintaining an electrode at an incandescent temperature while submerged in a mass of oil whereby said incandescent temperature will produce a local decomposition or conversion of said oil.

5. A process of the nature disclosed consisting in maintaining a partial vacuum over a mass of oil within a suitable containing vessel, and locally applying to such oil an incandescent temperature adapted to precipitate carbon from said oil and convert the same into an oily product characterized by a higher gravity on the Baumé scale.

[Claims 6 to 14 not printed in the Gazette.]

976,976. APPARATUS FOR PRODUCING ILLUSORY DRAMATIC EFFECTS. TIMOTHY R. BARRETT, Bordentown, N. J. Filed July 20, 1908. Serial No. 444,556.



1. An apparatus for producing illusory dramatic effects, consisting of an endless panoramic curtain movably suspended and adapted to serve as a background in a stage-setting, a second endless panoramic curtain movably suspended a distance in front of said background curtain and adapted to serve complementary thereto as a lower foreground in a stage-setting, means for moving both curtains simultaneously in the same direction, a simulated vehicle located between said curtains and provided with a wheel in contact with and rotated by said foreground curtain, a treadmill, provided with an endless belt or apron arranged to run horizontally, and movably located between said curtains rearwardly of said vehicle and concealed by said foreground curtain, means for driving said endless apron, and other means for moving said treadmill bodily in the same direction with said curtains.

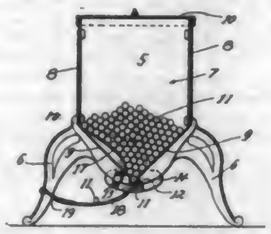
2. In an apparatus for producing illusory dramatic effects having a background endless panoramic curtain and an endless panoramic foreground curtain, and means for moving both said curtains simultaneously in the same direction, the combination with said parts of a simulated vehicle located between said curtains and provided with a wheel in contact with and rotated by said foreground curtain.

976,977. PROCESS FOR OBTAINING SILK FIBROIN. CARL RUDOLF BAUMANN, Gavirate, Italy, and GOTTLIEB GOTTFRIED DIESSER, Zurich, Switzerland. Filed Nov. 27, 1908. Serial No. 464,646.

1. The process of obtaining silk-fibroin, which consists in dissolving the spinning glands of silkworms with formic acid, as set forth.

2. The process of obtaining silk fibroin which consists in dissolving the spinning glands of silk worms with formic acid by the aid of heat.

976,978. DELIVERY-MACHINE. JOSEPH M. BRAVO, Los Angeles, Cal., assignor, by mesne assignments, to Premo Specialty Manufacturing Company, Los Angeles, Cal., a Corporation of California. Filed Aug. 24, 1908. Serial No. 449,907.



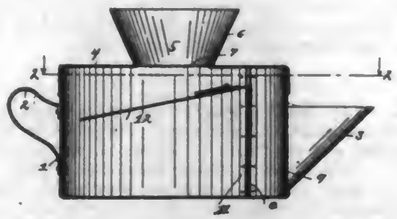
1. In a device of the class described, a hopper having a delivery opening, a movable gate normally closing said delivery opening, resilient agitating members projecting into said hopper adapted to agitate the articles held therein, said agitating members affording means for returning said gate when displaced.

2. In a device of the class described in combination, a hopper having a delivery opening, a gate normally closing said delivery opening, and adapted to be displaced laterally to deliver one of the articles from said hopper, resilient agitating members projecting into the interior of said hopper to agitate the articles held therein, said members being connected with said gate and affording means for returning said gate when displaced.

3. In a device of the class described in combination, a hopper having an inclined bottom and a delivery opening therebelow, a gate mounted to swing upon the pivots at the ends of said hopper, and normally obstructing said delivery opening, said gate affording means for delivering articles from said hopper when displaced laterally, springs disposed within said hopper adapted to agitate the articles therein and connected with said gate to return the same when displaced.

4. In a device of the class described in combination, a hopper having a delivery opening therebelow, a main gate extending longitudinally of said opening normally obstructing said delivery opening, end pieces attached to said gate and pivotally supported to enable said gate to swing away from said opening, a second gate moving with said main gate, and adapted to obstruct said opening when said main gate is displaced, thereby preventing the escape of the articles within said hopper and delivering the lowermost of said articles, springs mounted within said hopper adapted to agitate the articles therein, said springs being connected with said gates and affording means for returning the same when displaced.

976,979. KITCHEN UTENSIL. OTTO C. BERCHTOLD, Lakewood, Ohio. Filed Jan. 8, 1910. Serial No. 536,985.



1. In a device of the character described, the combination of a receptacle, an apertured partition dividing said receptacle into two chambers, said receptacle being provided with an inlet into one of said chambers and with an outlet from the other of said chambers, and a baffle plate disposed below said inlet.

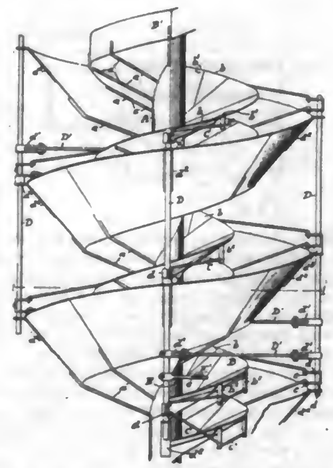
2. In a device of the character described, the combination of a receptacle, a partition dividing said receptacle into two chambers and having an aperture near the bottom of the receptacle, said receptacle being provided with an inlet into one of said chambers and with an outlet from the other of said chambers, and a baffle plate disposed below said inlet.

3. In a device of the character described, the combination of a receptacle, a partition dividing said receptacle into a receiving and a discharging chamber and said partition having an aperture near the bottom of the receptacle, and a transverse plate in the upper portion of the receiving chamber, such plate inclining downwardly into the receiving chamber from such partition.

4. In a device of the character described, the combination of a receptacle, a partition dividing said receptacle into a receiving and a discharging chamber and said partition having an aperture near the bottom of the receptacle, and a transverse plate entirely within the upper portion of the receiving chamber, said plate inclining downwardly from and wholly supported by said partition.

5. In a device of the character described, the combination of a receptacle, a partition removably held in said receptacle and dividing the same into two chambers and said partition having an aperture near the bottom of the receptacle, said receptacle being provided with an inlet opening into one of said chambers and with an outlet from the other of said chambers, and a baffle plate disposed below said inlet.

976,980. SPIRAL SEPARATOR. FRANCIS H. BLATCH, Hazleton, Pa., assignor to Anthracite Separator Company, a Corporation of Pennsylvania. Filed Apr. 11, 1910. Serial No. 554,882.



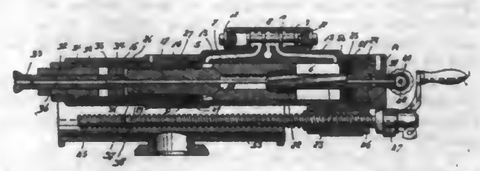
1. A spiral separator plate having fixed and adjustable portions, in combination with suitably supported rotatable shafts, lever-connections from said shafts to the adjustable features, and means for partially rotating said shafts whereby a movement may be imparted to the adjustable features.

2. A spiral separator having plate elements provided with an adjustable portion whereby the plate is adapted for flare adjustment, in combination with suitably connected and supported rotatable shafts, an operating lever connected with one of said shafts, and lever connections from the shafts to the adjustable parts, whereby a partial rotation of one shaft imparts a like motion to the others and exerts a leverage by which the flare and pitch is changed.

3. A spiral separator having plate elements with an adjustable portion and provided with arms, in combination with suitably supported and connected rotatable shafts with fixed arms, push and pull means connecting the arms of the shafts with the arms of the plates, and means for partially rotating said shafts, whereby the flare and pitch may be changed.

4. A spiral separator having plate elements with an adjustable portion and provided with arms, in combination with push and pull means connecting the arm of one plate with the arm of another, suitably connected and supported rotatable shafts, means connecting each rotatable shaft with the arm of one plate, and means for partially rotating said shafts, whereby the flare and pitch may be changed.

976,981. ROCK-DRILL. SANFORD W. BROTHERS, Denver, Colo. Filed Aug. 21, 1908. Serial No. 449,651.



1. A rock drill comprising a cylinder, a piston hammer having an opening extending longitudinally therethrough, means for imparting a rotary movement to the piston hammer, a hollow drill steel having a conical inner end, a pipe for delivering fluid through the piston hammer into the drill steel, a sleeve engaging the piston hammer at one end and a chuck interlocked therewith and engaging the drill steel at the opposite end whereby the rotary movement of the piston hammer is communicated to the drill steel, a ring forming a guide movable longitudinally in the first mentioned sleeve between the chuck and piston hammer and having a conical aperture extending entirely through the same in which the conical end of the drill steel seats and through which the extremity of the drill steel projects in position to be struck by the piston hammer whereby the end of the drill steel is held against lateral movement to prevent rupture of the fluid delivery pipe.

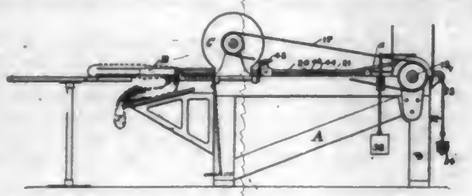
2. A rock drill comprising a cylinder, a piston hammer, a sleeve surrounding the lower portion of the hammer, a rear extremity of the sleeve having its interior surface polygonal in shape, and the engaging extremity of the hammer being correspondingly shaped, a drill-steel-holding-chuck whose rear extremity interlocks with the forward extremity of the sleeve, a hollow drill steel, a tube entering said hollow drill steel for delivering water therethrough, and a ring surrounding the rear extremity of said drill steel which protects the same from the hammer blows and prevents any lateral movement of the drill steel and tube, substantially as described.

3. In a rock drill the combination with a cylinder, a piston hammer, a sleeve located within the cylinder and engaging the piston hammer, the sleeve and hammer being connected to rotate in unison, a drill-steel-holding-chuck having lugs thereon and the forward extremity of said sleeve being provided with notches to receive said lugs, whereby the two parts are interlocked, means for rotating the hammer during its reciprocating movement, a hollow drill steel, a tube entering said hollow drill steel and delivering fluid therethrough, and a ring surrounding the rear extremity of the said drill steel for protecting the same from the hammer blows and also preventing any lateral movement of the said drill steel and tube, substantially as described.

976,982. STUFFING-MACHINE. RALPH BROWNSON and PERCY J. BROWNSON, St. Paul, Minn. Filed May 14, 1906. Serial No. 316,691.

1. In an apparatus of the class described, a tube provided with forwardly extending interior teeth, and a plunger slidable within said tube and provided with upwardly

and forwardly extending teeth coöperating with the interior teeth of said tube and provided at its forward end with laterally extending teeth for the purpose set forth.



2. In an apparatus of the class described, a rectangular tube provided with a plurality of rows of forwardly extending interior teeth for substantially the length of said tube, and a plunger rectangular in cross section slidable within said tube and provided with a plurality of rows of teeth extending forwardly between the rows of teeth carried by said tube.

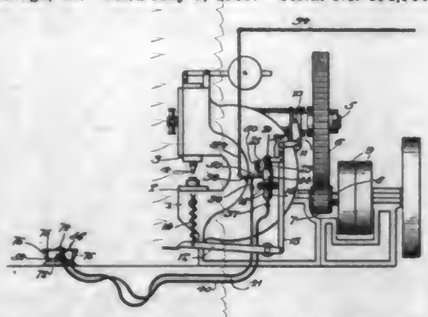
3. In an apparatus of the class described, a tube, a toothed plunger slidable therein, pad supporting devices slidably supported alongside said tube, and means for applying tension to said supporting devices.

4. In an apparatus of the class described, a tube, a toothed plunger slidable therein, pad supporting bars slidable alongside said tube, means for exerting tension upon said bars, and means for adjusting the normal position of said bars.

5. In an apparatus of the class described, an interiorly toothed tube, a plunger slidable within said tube, pad supporting bars slidable alongside said tube, means for exerting tension upon said bars, abutments for said bars, and means for holding said abutments in adjusted positions.

[Claims 6 to 11 not printed in the Gazette.]

976,983. FLUID-PRESSURE MOTOR AND CONTROLLING MECHANISM THEREFOR. WILLIAM H. CAHALL, Chicago, Ill. Filed May 8, 1909. Serial No. 494,900.



1. The combination with a fluid pressure motor, of a portable controlling device and flexible connections between said device and said motor, said device being arranged to control the admission and exhaust of fluid under pressure to and from said motor and comprising a cylinder, a shiftable part fitting said cylinder and having a projecting stem with a push-button thereon, said part being spring-held in normal, neutral position, substantially as described.

2. The combination with a fluid pressure motor, of a portable valve casing, flexible pipes for connecting said casing to said motor and to a suitable source of supply, and a shiftable valve in said casing spring-held in normal, neutral position, said valve in neutral position being arranged to connect said motor cylinder to the exhaust and in shifted position to the supply, substantially as described.

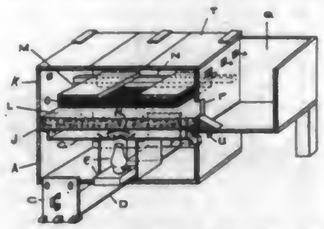
3. The combination with a motor cylinder, of a portable valve casing having inlet and exhaust ports and an intermediate port, flexible pipes connecting said intermediate port and said inlet port to said motor cylinder and to a suitable source of supply, a shiftable valve in said casing, and a spring for holding the same in normal, neutral position, said valve being arranged to connect said intermediate port to said exhaust port when in normal, neutral position and, in shifted position, to connect said intermediate port to said inlet port, said valve having a stem projecting from said casing whereby it may be manually shifted.

4. The combination with a fluid pressure motor and a supply pipe for fluid under pressure, of a portable valve casing having inlet and exhaust ports and an intermediate port, flexible pipes connecting said casing to said supply pipe and to said motor and communicating respectively with said inlet port and said intermediate port, a slide valve in said casing, and a spring for holding said valve in neutral position, said valve being arranged to connect said intermediate and exhaust ports in neutral position and said intermediate and inlet ports in shifted position, and said valve having a projecting stem provided with a push-button, substantially as described.

5. The combination with a motor cylinder, a piston in said cylinder having an enlarged piston rod, and a supply pipe communicating with the inner end of said cylinder, a portable valve casing having inlet and exhaust ports, flexible pipes connecting said casing to the outer end of said cylinder and to said supply pipe, and a shiftable valve in said casing for alternately connecting the outer end of said cylinder to said exhaust and said inlet ports, substantially as described.

[Claims 6 to 11 not printed in the Gazette.]

976,984. POULTRY-BROODER. CHARLES L. CAMBRIDGE, Hindsboro, Ill. Filed Feb. 26, 1910. Serial No. 546,293.



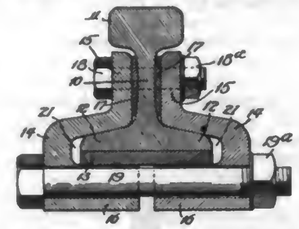
1. The combination, in a poultry brooder, of a brooding chamber having slidable and removable hover-boards and hover-cloth, a heating chamber having a deflecting plate shaped to the form of a segment of a hollow sphere, directly below which is a circular opening to admit heat from a lamp beneath, all substantially as described.

2. In a poultry brooder, the combination, of a heating chamber, with a lamp, a lamp-slide and a base, the heating chamber having an upper plate of length and width to correspond with length and width of base and resting thereon, the body of the chamber hanging within the base, there being a channel attached to the under surface of the heating chamber into which the lamp-slide is placed, thus affording a shield around the lamp, all substantially as illustrated.

976,985. RAIL-JOINT. HENRY A. CHRISTY, Kenilworth, Ill. Filed Aug. 4, 1910. Serial No. 575,536.

1. In a rail joint, the combination of a pair of clamping members adapted for wedging engagement with the base flanges of the ends of adjacent rails, said members having upstanding portions on opposite sides of the rail webs, and means to fasten said members together, said members being out of contact with the heads and webs of the rails and the edge portions of the base flanges, substantially as described.

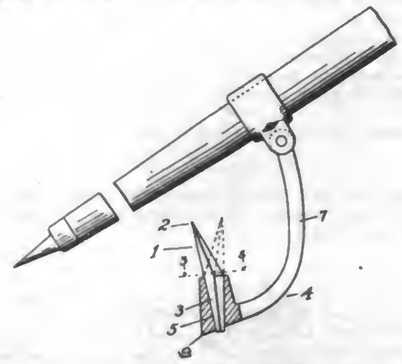
2. In a rail joint, the combination of a pair of clamping members adapted for wedging engagement with the base flanges of the ends of the adjacent rails, the portions of said members below said base flanges being of substantial thickness, said members having upstanding portions upon opposite sides of the rail webs, and means cooperating with the portions of said members below said base flanges adapted to clamp said members together, said members being out of contact with the heads and webs of the rails and the edge portions of the base flanges.



3. In a rail joint, the combination of a pair of clamping members adapted for wedging engagement with the base flanges of the ends of adjacent rails, said members having upstanding portions on opposite sides of the rail webs, compressible fillers between said upstanding portions and the opposite sides of the rail webs, and means to fasten said members together, said members being out of contact with the heads and webs of the rails and the edge portions of the base flanges.

4. In a rail joint, the combination of a pair of clamping members adapted for wedging engagement with the base flanges of the ends of adjacent rails, said members having horizontal rail-supporting portions of substantial thickness adapted to be disposed beneath the base flanges of the rails, said members having upstanding portions on opposite sides of the rail webs, bolts extended through apertures in the horizontal supporting portions of said members and adapted to clamp the members together, and additional bolts extended through apertures of the rail webs and upstanding portions adapted to assist in clamping said members together, said members being out of contact with the heads and webs of the rails and the edge portions of the base flanges.

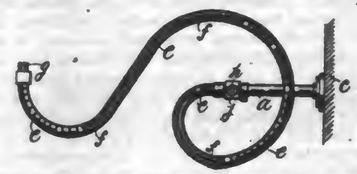
976,986. CANT-DOG. FRANCIS A. CLOUDY, Startup, Wash. Filed Mar. 7, 1910. Serial No. 547,941.



A cant dog hook having a socket angular in cross section and tapered, and a tooth tapered in opposite directions to provide a shank for engagement in the socket of said hook, and a gripping point, said gripping point being formed at the juncture of adjacent side faces which form continuations of and are in alinement with the corresponding side faces of said shank.

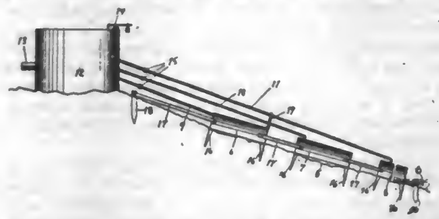
976,987. GAS-FITTING. WILLIAM COBBRIDGE, Bury, England. Filed Jan. 15, 1907. Serial No. 352,338.

In a bracket, the combination with a supply pipe having a rigid connection, a flexible tube pivotally connected thereto, a wire spring of a determined configuration resiliently carrying said flexible tube, and means for adjusting



the whole in different relative positions without affecting the configuration thereof.

976,988. WAVE-MOTOR. BENJAMIN CUTLER, Crawfordsville, Oreg. Filed July 5, 1910. Serial No. 570,513

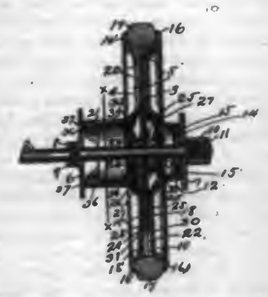


1. The combination with a storage tank, of a plurality of compression chambers open at their rear ends, said chambers being disposed successively in advance of each other and upon an inclined plane, pipes leading from said chambers to the storage tank, check valves in said pipes opening toward said storage tank, and a plurality of anchoring points carried by each of said chambers.

2. The combination with a storage tank, of a plurality of compression chambers open at their rear ends, said chambers being disposed successively in advance of each other and upon an inclined plane, pipes leading from said chambers to the storage tank, check valves in said pipes opening toward said storage tank, a plurality of anchoring points carried by each of said chambers, and braces extending between said chambers to hold them in proper relation to each other.

3. The combination with a storage tank, of a plurality of compression chambers open at their rear ends, said chambers being disposed successively in advance of each other and upon an inclined plane, pipes leading from said chambers to the storage tank, check valves in said pipes opening toward said storage tank, a plurality of anchoring points carried by each of said chambers, braces extending between said chambers to hold them in proper relation to each other, and a bracket carried by one of said chambers by which the pipes from the other of said chambers are supported.

976,989. RESILIENT WHEEL. LAWRENCE F. DELANEY, Watertown, N. Y. Filed June 20, 1910. Serial No. 567,787.



1. A vehicle wheel, comprising front and rear concentric frame sections, joined together to form one part, oppo

sitely facing tubular hubs formed on said sections and arranged concentric to each other, the bore of said hubs being of greater diameter than the axle of the vehicle, a floating bearing box mounted on the axle within and normally free from contact with said sections, a series of cushion springs for connecting the floating-box to one of said sections, the said springs disposed radially around said floating-box and inclosed between said sections, and a series of guy-springs connecting the opposite ends of said floating-box with the corresponding sections of the frame, said guy-springs and said cushion springs adapted to coöperate for holding the said frame normally concentric to the floating bearing box and the axle.

2. The combination with the axle of a vehicle, and a resilient wheel, comprising a frame arranged in two concentric sections having oppositely facing hollow hubs, of a pair of circular flange-guards mounted on the axle, at opposite sides of said frame and concentric to said hubs, said guards having a greater diameter than said hubs and adapted to hold said frame at right angles to the axle, an anti-friction means interposed between the free ends of each hub and the adjacent guard, a bearing-box journaled on the axle between said guards, and resilient means comprising a series of radially arranged cushion springs and a series of guy-springs for connecting said frame to said bearing-box.

3. A resilient wheel, comprising front and rear frame sections held together by a series of bolts, the peripheral edge of each section formed into an annular hook-rim adapted to grip and hold a solid tire when the sections are bolted together, each section having a like number of coinciding radial concavo-convex ribs for forming tubular spring sockets, the said sockets opening into the cavity of the rims for admitting air to cool the tire, the central portion of each section provided with a tubular hub arranged to face away from the adjacent section, the interior of the said hubs connecting with each of said spring sockets, a vehicle axle, a cylindrical bearing box journaled on said axle, the said box disposed opposite the inner ends of said spring sockets, the opposite ends of said box spaced inwardly from the free ends of said hubs, the said box being normally free from contact with either of said sections, a series of cushion springs disposed in said tubular sockets, the inner ends of said springs connected to the said box, the outer ends of said springs connected to lugs disposed in the said sockets between the said hubs and the said rims, and means connected with the outer ends of said springs for increasing or decreasing the tension of the springs.

4. The combination with a wheel, comprising two circular sections of equal diameter detachably joined as one part, and an independent bearing box disposed concentrically in said frame and spaced from the frame, the abutting faces of said sections provided with coinciding grooves for forming a series of radial tubular spring sockets, the portions of said sections lying between said sockets having coinciding perforations to receive bolts for securing said sections together, an integral lug disposed in each of said sockets, said lugs formed by perforating the side of one section in the line of and between the ends of said grooves, the said perforations adapted to admit cold air into said sockets for cooling the rim and tire of the wheel, a series of cushion springs connecting the floating-box with the lugs in said sockets, said springs adapted for normally holding said frame concentric to said floating-box, and for rendering the wheel resilient, and a pair of flange-disks carried by the axle of the vehicle adapted for holding said frame at right angles to the axle and for providing frictional bearings for the corresponding sections of the frame.

5. In a resilient vehicle wheel, the combination with a frame comprising two like concentric sections, arranged at their peripheral edges for gripping and holding a solid tire, the central portions of said sections being hollow and arranged with oppositely facing hubs, of a box journaled on the axle of the vehicle and disposed in the hollow center of the frame, said box being of less diameter than said hollow center and normally spaced from the frame and also from the ends of said hubs, a series of spring sockets arranged between said sections, the inner ends of said sockets facing the said box, a series of springs extending part way into said sockets for connecting said frame to said box, a series of springs disposed in the hollow center of the frame and connecting the opposite ends of said box to the corresponding hubs of the frame, and a pair of flange-guards carried by the axle for holding the wheel in place.

[Claim 6 not printed in the Gazette.]

976,990. ELECTRODE. JOHN T. H. DEMPSTER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 20, 1905, Serial No. 270,470. Renewed Apr. 6, 1910. Serial No. 553,842.



1. An electrode consisting of a casing and a filling therefor in successive sections of substantially uniform density.

2. An electrode consisting of a casing and a filling therefor in successive sections of substantially uniform density, each section consisting of a compound giving a luminous arc.

3. An electrode consisting of a casing, and a filling therefor, the composition of which varies along the length of the electrode.

4. An electrode, the body portion of which varies in composition along its length and is capable of giving a luminous arc.

5. An electrode, the body portion of which is compounded of refractory materials of different degrees of refractoriness, the percentage of the more refractory constituents increasing toward the arcing end of the electrode.

[Claims 6 to 13 not printed in the Gazette.]

976,991. BRAKE MECHANISM FOR CARS. WILLIAM H. DURANT, Concord, N. H. Filed July 13, 1910. Serial No. 571,686.



1. The combination with a brake-shaft and a ratchet fixedly mounted thereon and having a circularly-arranged series of teeth, of a pivotally mounted pawl to coöperate with said teeth and lock the ratchet, a weighted pawl-controller to coöperate with and lift the pawl into engagement with the ratchet, and a common fulcrum for the pawl and its controller.

2. The combination with a brake-shaft and a ratchet fixedly mounted thereon and having a circularly-arranged series of radial teeth, of a pivotally mounted pawl to coöperate with said teeth at right angles thereto and lock

the ratchet, a pawl-controller adapted to engage the under side of the pawl in front of its fulcrum and having a weighted body extended behind the fulcrum, to lift said pawl into operative position, a common fulcrum for said pawl and the controller, and a stop shoulder on the controller to engage the top of the pawl and limit swinging movement of the controller in one direction.

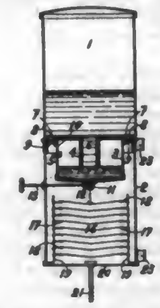
3. The combination with a brake-shaft and a ratchet fixedly mounted thereon and having a circularly-arranged series of teeth, of a pivotally mounted pawl to coöperate with said teeth and lock the ratchet, a pawl-controller bifurcated to embrace the pawl and engaging the underside thereof in front of its fulcrum, said controller having a weighted body extended over the rear end of the pawl, said controller serving to lift the pawl to coöperate with the ratchet, and a common fulcrum for the pawl and its controller.

4. The combination with a brake-shaft and a ratchet fixedly mounted thereon and having a circularly-arranged series of teeth, of a pivotally mounted pawl to coöperate with said teeth and lock the ratchet, a fixed fulcrum for the pawl, near its rear end, and a pawl-controller pivotally mounted on said fulcrum and engaging the underside of the pawl in front of its fulcrum, said controller having a weighted body extended above the pawl behind the fulcrum, the weight of the body causing the controller when operative to lift the pawl into engagement with the ratchet.

5. The combination with a brake-shaft, and a ratchet fixed thereon and having a circularly-arranged series of teeth, of a pivotally mounted pawl having its heavier end between its fulcrum and its tip, a swinging controller engaging the underside of the heavier end of the pawl and having a weighted body extended rearward, to lift the pawl into locking engagement with the ratchet teeth, and means on the controller to coöperate with the upper side of the pawl and limit movement of the controller to inoperative position.

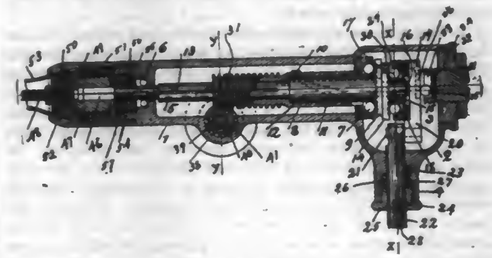
[Claims 6 to 11 not printed in the Gazette.]

976,992. DISINFECTING APPARATUS. PIERRE CLAUDE FRANCOIS EFFANTIN and CLEMENT STANISLAS EFFANTIN, Paris, France. Filed Dec. 2, 1908. Serial No. 465,694.



An improved apparatus for disinfecting by evaporation and by dropping the disinfecting liquid slowly and drop by drop into the devices to be disinfected, comprising in combination, a reservoir for the disinfecting liquid, an outflow tube in the bottom-plate of said reservoir, a box fixed to the lower surface of the bottom plate of said reservoir, a tube serving as envelop for the outflow pipe of the reservoir which penetrates into said box terminating a short distance above the bottom of the same, so that the level of the liquid in said box is determined and remains constant, an outflow nozzle of said box, means for regulating the orifice of said nozzle, a perforated cylinder connected with the reservoir, evaporating disks of suitable absorbing material superposed in said perforated cylinder and below the outflow nozzle of the box, so that the disinfecting liquid dropping out of said nozzle filters through said disks in being simultaneously evaporated, and a pipe from the bottom of said evaporating cylinder for discharging the disinfecting liquid which collects upon the bottom of said cylinder, substantially as described and for the purpose set forth.

976,993. MASSAGE-VIBRATOR. AXEL E. ELLIS, Quincy, Mass. Filed May 7, 1906, Serial No. 315,477. Renewed July 24, 1909. Serial No. 509,449.



1. In combination, a reciprocating plunger, a rotating shaft, a crank pin carried by said shaft, an adjustable eccentric mounted on said crank pin, and means for adjusting the eccentric while the shaft is in rotation, substantially as described.

2. In combination, a reciprocating plunger, a rotating shaft, a crank pin carried by the shaft, an adjustable eccentric mounted on the crank pin, a sleeve mounted on the shaft to turn thereon, connections between the sleeve and eccentric and means for turning the sleeve to adjust the eccentric, substantially as described.

3. In combination, a reciprocating plunger, a rotating shaft, a crank pin carried by the shaft, an adjustable eccentric mounted upon said crank pin, a sleeve mounted upon the shaft and connected with the adjustable eccentric, and a longitudinally movable sleeve splined to said shaft and having a spiral slot engaging a pin on the first mentioned sleeve, substantially as described.

4. In combination, a reciprocating plunger, a rotating shaft provided with a crank pin, an adjustable eccentric mounted upon said crank pin, a longitudinally movable sleeve splined to said shaft, means to move said sleeve along said shaft, and connections between the sleeve and eccentric whereby the longitudinal movement of the sleeve will adjust the eccentric on the crank pin, substantially as described.

5. In combination, a reciprocating plunger, a rotating shaft carrying a crank pin, an adjustable eccentric mounted on said crank pin, a longitudinally movable sleeve splined to said shaft, a thumb wheel and connected mechanism for moving said sleeve along said shaft, and connections between said sleeve and the adjustable eccentric for adjusting said eccentric, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

976,994. DECORATIVE LEAF AND PROCESS OF MAKING THE SAME. JULIUS A. C. FICHTMUELLER, New York, N. Y., assignor to Diamond Decorative Leaf Company, Brooklyn, N. Y., a Corporation of New York. Filed Oct. 21, 1908. Serial No. 458,914.

1. The process of making decorative leaf which consists in forming a liquid protector by dissolving approximately three to four parts of camphor, two to three parts of gum gamboge, one to three parts of sandarac, three to four parts of shellac and one to four parts of soluble nitrated cellulose in sixty-four parts of amyl acetate and sixty-four parts of alcohol, in spraying the same upon backing fabric coated with water-soluble size, in substantially uniformly spraying thereon a carrier liquid formed by dissolving approximately three to four parts of camphor, three to six parts of shellac and one to three parts of soluble nitrated cellulose in sixty-four

parts of amyl acetate and ten parts of acetone with which metallic coloring matter has been incorporated so as to form a body on said backing and in spraying thereon additional protector liquid and drying the same to form adherent to said backing fabric an integral compound leaf having a body comprising metallic coloring matter and a protector layer on both sides of the same, in immersing the same in aqueous size solvent to dissolve or loosen the size on said backing fabric and in detaching said leaf from said backing while in substantial contact with a supporting fabric.

2. The process of making decorative leaf which consists in forming a liquid protector by dissolving approximately three to four parts of camphor, two to three parts of gum gamboge, one to three parts of sandarac, three to four parts of shellac and one to four parts of soluble nitrated cellulose in one hundred and twenty-eight parts of volatile organic solvents therefor, in spraying the same upon a backing, in substantially uniformly spraying thereon a liquid carrier formed by dissolving approximately three to four parts of camphor, three to six parts of varnish gums and one to three parts of soluble nitrated cellulose in seventy-four parts of volatile organic solvents therefor with which coloring matter has been incorporated so as to form a body on said backing adherent to said protector, in loosening the leaf from said backing and detaching the same therefrom.

3. The process of making decorative leaf which consists in spraying upon a backing a liquid protector comprising varnish gums and nitrated cellulose dissolved in volatile solvents therefor and in substantially uniformly spraying thereon, a carrier liquid formed by dissolving gummy colloidal material in organic solvents therefor and incorporating coloring matter therewith to form a leaf body adherent to the protector layer on said backing, in loosening the leaf from said backing and detaching the same therefrom.

4. The process of making decorative leaf which consists in spraying upon a backing a liquid protector comprising dissolved colloidal material, in spraying thereon a liquid carrier comprising dissolved binding material and incorporated coloring matter to form a leaf body adherent to the protector layer, in loosening the leaf from said backing and detaching the same therefrom.

5. The process of making decorative leaf which consists in spraying upon a backing a liquid protector comprising dissolved protective material, in spraying thereon a carrier comprising dissolved binding material and incorporated coloring matter to form a body adherent to the protector layer and in loosening the leaf from said backing and detaching the same therefrom.

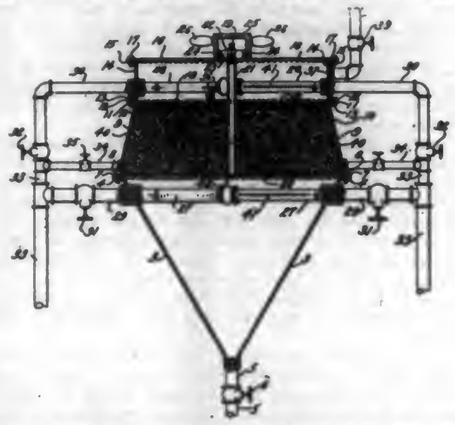
[Claims 6 to 33 not printed in the Gazette.]

976,995. FILTER. GEORGE FLEMING, Chicago, Ill. Filed July 6, 1909. Serial No. 506,110.

1. In filters, the combination of two chambers; a horizontal filtering partition between them; valve controlled outlets from each of said chambers; valve controlled pressure jets entering said chambers near said partition, and horizontally curved spraying nozzles attached to said pressure jets, arranged with their convex sides in the same circular direction, and provided, on said convex sides only, with a series of openings, for the purpose described.

2. In filters, the combination of a cone-shaped base with valve-controlled outlet at its lower end, with an upward tapering ring attached to the top thereof; a cylindrical ring attached to the top of the first named ring; a cover attached to the top of the cylindrical ring; perforated plates constituting horizontal partitions near the top and bottom of the tapering ring; a flange on the inside of the tapering ring on which the upper perforated plate rests; means for drawing the lower perforated plate toward the upper perforated plate; filtering material interposed between the two perforated plates; valve controlled pressure jets entering each of the chambers of said filter; and a valve-controlled outlet from the upper chamber, substantially as described.

3. In filters, the combination of a cone-shaped base with valve-controlled outlet at its lower end, with an upward tapering ring attached to the top thereof; a cylindrical ring attached to the top of the first named ring; a cover attached to the top of the cylindrical ring; perforated plates constituting horizontal partitions near the top and bottom of the tapering ring; a flange on the inside of the tapering ring on which the upper perforated plate rests; a vertical bolt penetrating the two perforated plates, having a head resting against the lower side of the lower per-



forated plate and carrying a nut threaded on its upper end; a tube surrounding said bolt, the lower end of which rests against the upper surface of said upper perforated plate while the upper end thereof rests against said nut; a cap-closed opening in the cover to give access to said nut; filtering material interposed between the two perforated plates; valve controlled pressure jets entering each of the chambers of said filter; and a valve-controlled outlet from the upper chamber, substantially as described.

976,996. PROCESS OF MANUFACTURING REFRACTORY MATERIAL. GEORGE CANNAN FLUDDER, GEORGE ERIC FLUDDER, and ALBERT WILLIAM FLUDDER, Alresford, Colchester, England. Filed Dec. 31, 1909. Serial No. 535,732.

1. The hereindescribed process, which consists in agglomerating a refractory substance before kilning by a solution of aluminium sulfate.

2. The hereindescribed process, which consists in agglomerating a refractory substance before heating by the addition of aluminium sulfate and hot water, molding this mixture in a heated mold, and then burning.

3. The hereindescribed process, which consists in agglomerating a mixture of silica and a magnesium silicate before kilning by a solution of aluminium sulfate.

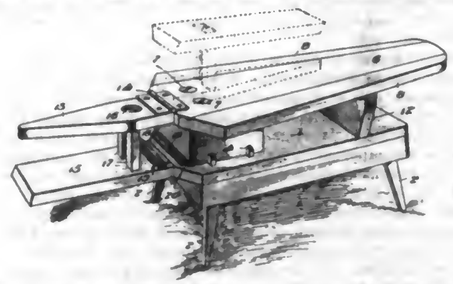
4. The hereindescribed process which consists in agglomerating a refractory substance and a substance adapted to sinter at a high temperature by the addition before heating of aluminium sulfate and water.

5. The hereindescribed process, which consists in agglomerating a refractory substance and a material adapted to sinter at a high temperature by the addition before heating of aluminium sulfate and hot water, molding the mixture in a heated mold and then burning.

976,997. IRONING-TABLE. ANDREW J. FOSTER, Northbend, Wash. Filed Oct. 19, 1909. Serial No. 523,531.

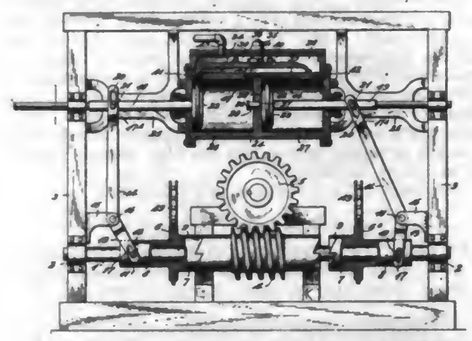
1. In a device of the class described, the combination with the ironing table and an ironing board supported thereover, of a sleeve-board hinged to and adapted to fold on top of the ironing board which is provided with a base or foot piece connected thereto and spaced therefrom adapted to engage the ironing table when the sleeve-board is in extended position.

2. In a device of the class described, the combination with the ironing table and an ironing board supported thereover, of a sleeve-board hinged to and adapted to fold on top of the ironing board which is provided with a part adapted to abut the ironing table when the sleeve-board



is in extended position, and coil springs respectively carried by the ironing table and the part of the sleeve board which is adapted to abut the same, as aforesaid, said coil springs being so disposed that they will jointly serve as a sad iron support when the sleeve board is extended.

976,998. FLUID-OPERATED ROTARY-MOVEMENT-REVERSING MECHANISM. GEORGE A. FOWLER, Denver, Colo. Filed May 22, 1909. Serial No. 497,776.



1. A reversing mechanism comprising a reversibly rotatable driving shaft; oppositely rotated clutch-bearing members adapted to alternately engage said driving shaft; and automatically-controlled fluid-operated means for effecting said alternate engagement.

2. A reversing mechanism comprising a reversibly rotatable driving shaft; oppositely rotated clutch-bearing members adapted to alternately engage said driving shaft; a cylinder in proximity to said driving shaft; fluid-operated pistons in said cylinder; and operating connections between said pistons and said rotated clutch-bearing members.

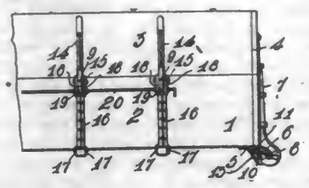
3. A reversing mechanism comprising a reversibly rotatable driving shaft; oppositely rotated clutch-bearing members adapted to alternately engage said driving shaft; a multi-chamber cylinder in proximity to said driving shaft; fluid inlet and outlet ports in each chamber; a valve for controlling the inflow and discharge of the fluid to and from the chambers; a reciprocating piston in each chamber; and operating connections between the pistons and said rotated clutch-bearing members.

4. A reversing mechanism comprising a reversibly rotatable driving shaft; oppositely rotated clutch-bearing members adapted to alternately engage said driving shaft; a multi-chamber cylinder in proximity to said driving shaft; a fluid-operated piston in each chamber; a fluid passage connecting the chambers; fluid inlet and exhaust passages in the chambers; a valve for controlling the inflow and discharge of fluid to and from the chambers, and so arranged that when in one position the pistons are moved successively to one end of the chambers, and when in the other position the pistons are moved successively to the opposite end of the chambers; and operating connections between the pistons and said rotated clutch-bearing members.

5. A reversing mechanism comprising a reversibly rotatable driving shaft; oppositely rotated clutch-bearing members adapted to alternately engage said driving shaft; a multi-chamber cylinder in proximity to said driving shaft; a fluid-operated reversible piston in each chamber; and means including a pivoted rock arm and a pin-bearing collar loosely mounted on the driving shaft, adjacent to said rotated clutch-bearing members, for operatively connecting the pistons and said rotated clutch-bearing members, to move the latter into operative engagement with the driving shaft.

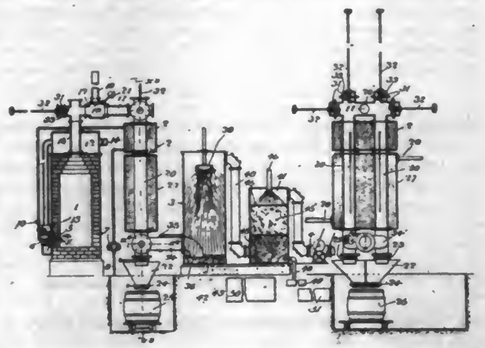
[Claims 6 to 13 not printed in the Gazette.]

976,999. HINGE. WILLIAM H. FROMHART, Golden, Colo. Filed July 18, 1910. Serial No. 572,547.



In a wagon box hinge, a stationary member comprising a bracket adapted to be secured to a fixed part of the wagon, slit engaging flanges formed on the lower end of said stationary member whereby the latter is adapted to form a brace, a pair of pivot lugs formed on the upper end of said stationary member, a movable hinge member pivotally mounted between said pivot lugs, said hinge member having formed therein a series of ratchet notches, a pawl pivotally mounted in said pivot lugs, an operating bar extending transversely through the pawl whereby to connect a series of the pawls for simultaneous operation, and a spring fastened to said stationary member and engaging said operating bar.

977,000. PROCESS FOR THE PRODUCTION OF CARBON-BLACK TOGETHER WITH COMBUSTIBLE GAS. WARREN H. FROST and JOSHUA J. NIX, Los Angeles, Cal.; said Nix assignor to said Frost. Filed Mar. 24, 1909. Serial No. 485,534.



1. The process of producing carbon black together with combustible gas, which consists in producing a condition of suction in a combustion chamber, continuously supplying petroleum to said chamber, admitting a restricted quantity of air to said chamber to cause partial combustion of the petroleum, the condition of suction in the chamber being such that the resulting temperature is sufficiently high to substantially break up the tarry matter

and to cause the unconsumed petroleum to be decomposed substantially into combustible gas and free carbon, drawing off the combustible gas to maintain the condition of suction in the combustion chamber, and delivering such combustible gas.

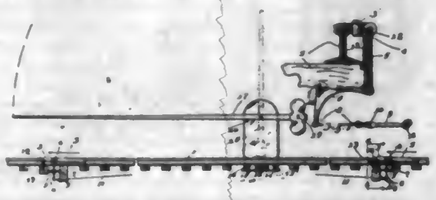
2. The process of producing carbon black together with combustible gas, which consists in producing a condition of suction in a combustion chamber, continuously supplying petroleum to said chamber, admitting a restricted quantity of air to said chamber to cause partial combustion of the petroleum, the condition of suction in the chamber being such that the resulting temperature is sufficiently high to substantially break up the tarry matter and to cause the unconsumed petroleum to be decomposed substantially into combustible gas and free carbon, drawing off the combustible gas to maintain the condition of suction in the combustible chamber, and delivering such combustible gas, the petroleum being supplied to the chamber and atomized under its own expansive pressure.

3. The process of producing carbon black together with combustible gas, which consists in producing a condition of suction in a combustion chamber, continuously supplying petroleum to said chamber, admitting a restricted quantity of air to said chamber to cause partial combustion of the petroleum, the condition of suction in the chamber being such that the resulting temperature is sufficiently high to substantially break up the tarry matter and to cause the unconsumed petroleum to be decomposed substantially into combustible gas and free carbon, drawing off the combustible gas to maintain the condition of suction in the combustion chamber, and delivering such combustible gas, exposing the gas to the action of a cooling surface to separate carbon black therefrom, and removing the carbon black from such cooling surface.

4. The process of producing carbon black together with combustible gas, which consists in producing a condition of suction in a combustion chamber, continuously supplying petroleum to said chamber, admitting a restricted quantity of air to said chamber to cause partial combustion of the petroleum, the condition of suction in the chamber being such that the resulting temperature is sufficiently high to substantially break up the tarry matter and to cause the unconsumed petroleum to be decomposed substantially into combustible gas and free carbon, drawing off the combustible gas to maintain the condition of suction in the combustion chamber, and delivering such combustible gas, exposing the gas to the action of a cooling surface to separate carbon black therefrom, and removing the carbon black from such cooling surface, and subsequently subjecting the gas to the action of water to separate an additional portion of carbon black therefrom.

5. The process of making a carbon black which consists in effecting partial combustion of petroleum at sufficient temperature to decompose the tarry matter and to produce hot gases containing free carbon, and applying water to the gases to reduce the temperature thereof and to separate the carbon in the form of finely divided carbon black.

977,001. RAILWAY-GATE. WILLIAM E. GEDDES, Chicago, Ill. Filed Feb. 17, 1910. Serial No. 544,349.



1. In a device of the class described, an oscillating shaft, a gate fixed thereto, a weight loosely mounted on said shaft, means on said shaft for limiting the movement of said weight thereon, means actuated from points remote from said gate for imparting initial movement to the gate and to shift said weight to complete the movement of the gate.

2. In a device of the class described, an oscillating shaft and a gate fixed thereto, in combination with a weight loosely mounted on said shaft, a pair of spaced arms fixed to said shaft and adapted to limit the movement of the weight thereon, means for imparting initial movement to said gate and shaft to shift said weight whereby said weight shall complete the movement of the gate.

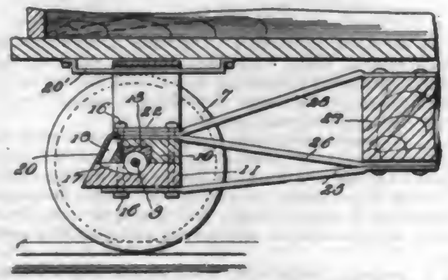
3. In a device of the class described, an oscillating shaft, a gate fixed thereto, a weight loosely mounted on said shaft, a pair of spaced arms fixed to said shaft, stops projecting from said weight and adapted to engage said arms to limit the movement of the weight, and means actuated from points remote from said gate for imparting initial movement to said gate and for shifting said weight.

4. In a device of the class described, an oscillating shaft, a gate operatively connected thereto, means for imparting a step by step rotation to said shaft in one direction from a point remote from said gate and for imparting a like rotation in the opposite direction from another point remote from said gate, a double ratchet member fixed to said shaft, a pair of pawls arranged adjacent said ratchet, means for simultaneously throwing either of said pawls into engagement with its respective ratchet and for disengaging the opposite pawl, and means on said shaft for shifting the pawl throwing means, substantially as described.

5. In a device of the class described, an oscillating shaft, a gate operatively connected thereto, means for imparting a step by step rotation to said shaft in one direction from a point remote from said gate and for imparting a like rotation in the opposite direction from another point remote from said gate, a double ratchet member fixed to said shaft, a pair of pawls arranged adjacent said ratchet, a member pivotally mounted adjacent said pawls and adapted in one position to throw one of said pawls into engagement with its respective ratchet and to disengage the opposite pawl, and in another position to reverse said pawls, and a pair of spaced members on said shaft adapted to engage and operate the pawl shifting member, substantially as described.

[Claims 6 to 11 not printed in the Gazette.]

977,002. INDEPENDENT CAR-AXLE. CHARLES A. GIST, JOHN T. WILSON, and ALBERT ATKINS, Rainier, Oreg. Filed Apr. 12, 1910. Serial No. 555,124.



1. The combination with a car including a truck, of a casing suspended from the bottom of the car and free to move independently of the car, and a sectional axle, the inner ends of which are journaled in said casing and provided with registering recesses, and a single coupling member seated in said recesses and forming a connection between the axle sections.

2. The combination with a car including a truck, of a rub iron secured to the bottom of the car, a casing, a bracket suspended from the rub iron and secured to the casing, an axle journaled in the casing and formed of mating sections having their abutting ends provided with registering recesses, and a coupling member seated in said recesses and forming a connection between the axle sections.

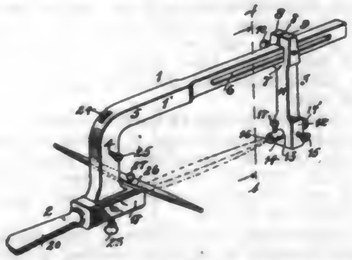
3. The combination with a car including a truck, of a sectional casing, an axle journaled in the casing and formed of mating sections, a rub iron secured to the bottom of the car, a bracket suspended from the rub iron and provided with flanges bearing against the upper casing section, and fastening devices extending through the flanges of the bracket and engaging the sections of the casing for clamping the several parts in assembled position.

4. The combination with a car including a truck, of a casing suspended from the bottom of the car and formed of mating sections provided with registering grooves, a sectional axle journaled in the grooves of the casing, there being an inclined groove formed in one of the casing sections for the reception of a lubricant, and a cover slidably mounted on the other casing section and forming a closure for the outer end of the inclined grooves.

5. The combination with a car including a truck, of a casing suspended from the bottom of the car and formed of mating sections, one of which is provided with a groove for the reception of a lubricant and the other with an opening communicating with said groove and having its side walls provided with dove-tailed recesses, a cover slidably mounted in the dove-tailed recesses and forming a closure for the groove and opening, respectively, an axle formed of mating sections, and fastening devices piercing said casing sections for holding the latter in assembled position.

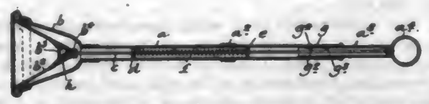
[Claims 6 to 8 not printed in the Gazette.]

977,003. FILING APPARATUS. WILLIE T. GRADY, Orange, Va. Filed June 5, 1909, Serial No. 500,426. Renewed Oct. 22, 1910. Serial No. 588,576.



In a tool as described, a handle and a yoke member secured thereto, said handle being formed with a longitudinal opening at one end thereof, a chuck rotatable in said opening formed with a central annular groove and with an opening in its outer end to receive one end of the file, a set screw carried by the handle to engage in said groove, an arm on the yoke having an opening therein, a chuck rotatable in said opening and having an opening in its inner end to receive the opposite end of the file, and a set screw projected through said arm to secure the second chuck against movement.

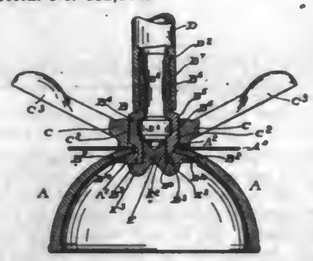
977,004. DEVICE FOR GIVING HORSES PILLS. JOHN J. GRIMM, New York, N. Y. Filed June 18, 1910. Serial No. 567,544.



1. A device of the class described, comprising a tubular handle member provided at one end with a telescopic part and at the opposite end with a cup-shaped head, closed by a flexible and elastic diaphragm provided centrally of its outer side with a socket or recess, a rod passing through the tubular handle member and connected with said telescopic part and with said diaphragm, means for locking the telescopic part of the handle member and said rod in their outermost position and a tension device within the handle member for forcing said rod and telescopic part of the handle member in the direction of the cup-shaped head.

2. A device of the class described, comprising a tubular handle member provided at one end with a cup-shaped head closed by a transverse elastic diaphragm provided centrally of the outer side thereof with a socket or recess, said handle member being provided at its opposite end with a telescopic part, a rod passing through the handle member and connected centrally with the flexible diaphragm and also with said telescopic part, means for withdrawing the telescopic part to its outermost position and a tension device for forcing said rod and telescopic part of the handle member in the direction of the cup-shaped head.

977,005. APPARATUS FOR CLEARING OBSTRUCTIONS FROM DRAIN AND OTHER PIPES. WORCESTER HADDOCK, Cincinnati, Ohio, assignor, by direct and mesne assignments, of one-fourth to R. John Berne and one-half to Henry Volx, Cincinnati, Ohio. Filed Mar. 8, 1909. Serial No. 482,144.



1. In a device for cleansing sink pipes, an elastic cup, a shank having a passageway through it, this shank being extended through the top portion of the cup, a stopple adapted to close that end of the passageway within the cup, an annular flange of the shank below the adjacent top portion of the cup, a disk on the shank next above the cup, an enlarged portion of the shank above this loose disk, and provided with a peripheral screw thread, a sleeve screwed upon this enlarged portion and adapted to compress the rubber cup between the disk and the annular flange, arms extended from the sleeve, an upper end portion of the shank provided with a screw thread and a flexible pipe or hose connected thereto and adapted to be connected to a faucet, substantially as and for the purposes specified.

2. In a device for cleansing sink holes, the combination of a shank, a handle connected thereto, a cup connected to the shank, the shank provided with a passageway and a pipe, in connection with the shank, adapted to be connected to the faucet, and a stopple adapted to be connected to the shank and to close the passageway thereof, substantially as and for the purposes specified.

3. In a device for cleansing sink or drain pipes, a rubber cup, a shank onto which the said cup is fitted, an annular flange on the shank below the cup, a device for compressing the cup against the flange, a handle for depressing the cup, and a cage, adapted to be within the cup, and having a perforated bottom and an open top, the opening in the top of the cage adapted to receive within it the said annular flange and permit the cup itself to impinge against the edge of this top opening of the cage and to make a tight joint therewith, the shank having an inlet conduit opening into the top opening of the cage, and adapted to make connection with a pipe for supplying water to the shank, substantially as and for the purposes specified.

4. In a device for cleansing sink pipes, an elastic cup, a shank having a passageway through it, the shank being extended through the top portion of the cup, an annular flange integral with the shank and located below the adjacent top portion of the cup, a disk on the shank next above the cup, an enlarged portion on the shank above the disk provided with a peripheral screw thread, thus

leaving a diminished portion or neck between the annular flange below and the enlarged screw threaded portion above, the edge of the cup being received into the recess thus formed, a sleeve screwed upon the enlarged portion of the shank, arms on the shank, the shank adapted when screwed down to compress the adjacent portion of the rubber cup between the disk and the annular flange, and means for enabling the shank to connect with a pipe for introducing water into the cup, substantially as and for the purposes specified.

5. In a device for cleansing sink holes, a rubber cup, a shank upon which the cup is mounted, radial arms for operating the device secured to the shank, a conduit in the shank and a flexible connection therefor to supply water to the inside of the cup, and a stopple for closing the conduit as desired.

[Claim 6 not printed in the Gazette.]

977,006. TRAMWAY-POINT. ROBERT ABBOTT HADFIELD, Sheffield, England. Filed Mar. 21, 1910. Serial No. 550,694.



1. A tramway point comprising a tongue having an enlarged rounded end provided with an outwardly extending projection, and a point body adapted to receive said tongue and having a part thereof shaped to form a bearing for the rounded end of said tongue and allow of the tongue freely turning in the bearing but not of moving in a vertical or endwise direction, part of the point body forming the bearing being made vertically movable.

2. A tramway point comprising a tongue having an enlarged rounded end provided with an outwardly extending projection, and a point body adapted to receive said tongue and having a part thereof shaped to form a bearing for the rounded end of said tongue and allow of the tongue freely turning in the bearing but not of moving in a vertical or endwise direction, part of the point body forming the bearing being made with an opening to admit of the enlarged rounded end of the tongue being placed in said bearing, and a removable block adapted to close said opening.

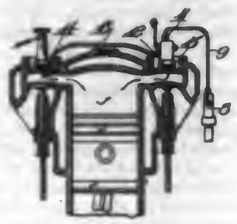
3. A tramway point comprising a tongue having an enlarged rounded end provided with an outwardly extending projection, and a point body adapted to receive said tongue and having a part thereof shaped to form a bearing for the rounded end of said tongue and allow of the tongue freely turning in the bearing but not of moving in a vertical or endwise direction, part of the point body forming the bearing being made with a lateral opening and with vertical guides, and a removable block adapted to be inserted in said guides and close said opening.

4. A tramway point comprising a tongue having an enlarged rounded end provided with an outwardly extending projection, a point body formed with a part bearing adapted to receive the enlarged rounded end of the tongue and prevent longitudinal movement thereof and with a recess in which said projection can work, and a removable block adapted to complete the bearing and normally close an opening in the bearing through which the enlarged end of the tongue can pass.

5. A tramway point comprising a tongue having an enlarged rounded end provided with an outwardly extending projection, a point body formed with a part bearing adapted to receive the enlarged rounded end of the tongue and prevent longitudinal movement thereof and with a recess in which said projection can work, a removable block adapted to complete the bearing and normally close an opening in the bearing through which the enlarged end of the tongue can pass and means for securing said block to the point body.

[Claims 6 to 9 not printed in the Gazette.]

977,007. GAS-ENGINE-STARTING DEVICE. WILLIAM A. HANSEN, San Francisco, Cal. Filed July 3, 1909. Serial No. 505,906.



1. The combination with an internal combustion engine, and a main carbureter, of a supplemental vaporizer, a hydrocarbon supply device between the main carbureter and said vaporizer, and a controlling needle-valve, a chamber, means for admitting air under pressure into said chamber, a pipe conducting gasolene through said chamber, said chamber having an annular exterior passage for the air, and a distributing chamber into which the mixture is admitted and from which it is delivered to the cylinders.

2. The combination with an internal combustion engine, and the main carbureter, of a supplemental carbureter, means for admitting and controlling a supply of hydrocarbon thereto from the main carbureter, a mixing and distributing chamber, pipes leading therefrom, a cock located at one side of the cylinder having a plurality of passages therethrough, means for opening and closing it, and a pipe leading from one passage of said cock and discharging into a chamber contiguous to the igniting device of the engine, from which the charge acts to scavenge the cylinder and discharge through the first-mentioned cock.

3. The combination with an internal combustion engine, and a supplemental carbureter, of means to control the flow of gas from the carbureter, said means including cocks having a plurality of passages, one of which communicates with the intake opening of the cylinder, and the other with the exhaust.

4. The combination with an internal combustion engine, of a means to supply an explosive starting mixture thereto, said means including cocks having a plurality of passages, one of which communicates with the cylinder intake opening, and the other with the exhaust, and mechanism by which said passages are opened and closed in unison.

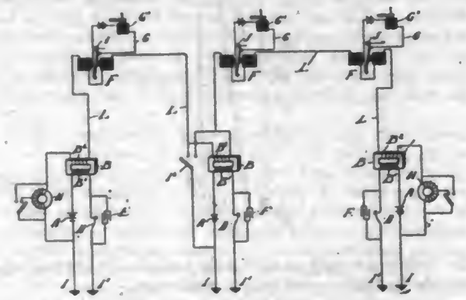
5. The combination with an internal combustion engine, and a supplemental carbureter, of cocks having a plurality of passages, certain of which communicate respectively with the intake and the exhaust, and certain with the supplemental carbureter and a source of air supply.

[Claims 6 to 8 not printed in the Gazette.]

977,008. TELEGRAPH SYSTEM. GEORGE E. HINES, New York, N. Y., assignor of one-half to William T. Daley, Brooklyn, N. Y. Filed Apr. 13, 1907. Serial No. 368,041.

1. The combination of a main line conductor continually grounded at each end so as to provide a closed electric circuit, closed magnetic circuit transformers having secondary windings in series with said conductor and a key-controlled primary circuit in series with a source of constant current, relays having movable polarised armature and also in series with said conductor, and jockeys restraining said armatures against movement due to the action of stray currents.

2. The combination of a main line conductor grounded at each end, closed magnetic circuit transformers having secondary windings in series with said conductor and a key-controlled primary circuit in series with a source of constant current, relays having movable polarized armatures also in series with said conductor, jockeys restraining said armatures against movement due to the



action of stray currents, and an adjustable self induction device also in series with said conductor.

977,009. CLAY AND SAND SCREEN. ADOLPH W. HOLL, Cleveland, Ohio. Filed Aug. 2, 1909. Serial No. 510,028.



1. In a screening device, in combination with the screening bars, a plurality of rock shafts, a set of oscillatory clearing blades mounted on said shaft, and adapted to enter between said bars, and sliding means operatively connected to said rock shafts to cause the latter to oscillate said blades between said oars in successive order.

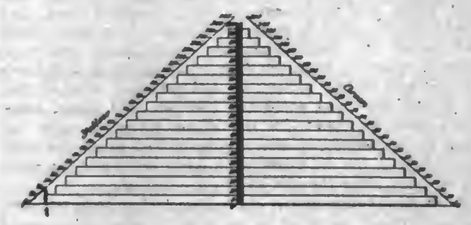
2. In a screening device, in combination with the screening bars, a plurality of transverse rock-shafts, clearing blades mounted on said rock-shafts to enter between said bars, and slide-bars operatively connected to said rock-shafts to oscillate said blades.

3. In a screening device, in combination with the screening bars, a plurality of transverse rock-shafts, crank arms carried by said rock-shafts, longitudinally movable slide-bars having slotted connections with said crank arms, means for reciprocating said slide-bars and clearing blades mounted on said rock shafts and adapted to be oscillated between said screen bars.

4. In a screeing device, in combination, with the screening bars, a plurality of oscillatory clearing blades adapted to enter between said bars, means for mounting said blades, and means to rock said blades, said blades comprising elongated fingers having eccentrically formed heels apertured to be mounted on said mounting means and adapted to project a portion thereof continuously between said screen-bars.

5. A screen, comprising, in combination, a frame having longitudinal channel-bars at its sides, slide-bars operative in said channel-bars, means to reciprocate said slide-bars, transverse rock-shafts operatively connected to said slide-bars, longitudinal screen-bars and clearing blades mounted on said rock-shafts and adapted to be oscillated between said screen-bars.

977,010. CARD GAME. NEVIL MONROE HOPKINS, Washington, D. C. Filed June 25, 1910. Serial No. 568,015.



1. A card game, comprising a set of cards, each card having printed thereon the name of some personal qualification and the specification and a numeral indicating the value thereof.

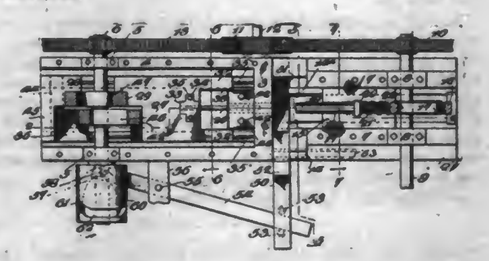
2. A card game, comprising a set of cards of two different colors, each card having printed thereon the name of some personal qualification and the specification and a numeral indicating the value thereof.

3. A card game, comprising a set of cards of two different colors, each card having printed thereon the name of some personal qualification and the specification thereof, some cards being numbered with a fixed value and the ooher cards numbered with graded values.

4. In combination with a set of cards, each card having printed thereon the name of some personal qualification and the specification and a numeral indicating the value thereof, a scoring device consisting of a triangular figure having inclined scales at its sides and a vertical central scale.

5. In combination with a set of cards of two different colors, each card having printed thereon the name of some personal qualification and the specification thereof, some cards being numbered with a fixed value and other cards being numbered with graded values, a scoring device consisting of a triangular figure having inclined side scales of different colors, corresponding to those of the cards, and a vertical central scale.

977,011. NUT-MAKING MACHINE. JACOB S. HOFFMAN, Wilkes-Barre, Pa. Filed Mar. 13, 1909. Serial No. 483,241.



1. In a nut-making machine, a base, a transverse abutment mounted on the base, a female die mounted in said abutment, a tubular ejecting and compressing plunger fitting in and movable with relation to the die, a punch mov-

able in the compressing plunger, superposed parallel horizontally disposed sliding heads to which the punch and ejecting plunger are respectively attached, vertically disposed parallel yokes carried by said heads, a shaft extending through said yokes, cams mounted on the shaft one in advance of the other and engaging said yokes, and means for holding a blank in the die while being compressed and for ejecting the core after the nut has been punched.

2. In mechanism of the class described, a base, a transverse fixed abutment mounted on the base, a female die carried thereon, a tubular compressing and ejecting plunger mounted within the female die, a punch mounted within the compressing plunger, horizontally disposed sliding heads carrying the compressing plunger and punch respectively, said heads having a sliding engagement with each other, and each head having a vertical yoke, each head being recessed to receive the yoke of the other head, and permit its longitudinal movement, guide walls extending upwardly from the base between which said heads are movable and by which they are guided, a shaft mounted on the base and extending through said yokes, oppositely mounted cams on the shaft engaging with the yokes to independently move the same, and means for holding a blank in the die while being compressed and for ejecting the core after the nut has been punched.

3. In mechanism of the class described, a base, a transverse abutment mounted on the base, a female die carried by said abutment, a tubular compressing and ejecting plunger mounted within the female die, a punch mounted within the compressing plunger, a horizontally disposed sliding head upon which the compressing plunger is mounted, said head having a recess rearward of the compressing plunger formed with parallel side walls, a sliding head supported upon said first-named sliding head and having a downward extension upon which said punch is mounted, said extension projecting into and fitting the recess in the first named sliding head, a yoke attached to each of the sliding heads, guide walls extending upwardly from the base between which said heads are movable and with which they have sliding engagement, mechanism engaging with said yokes to reciprocate said heads, a reciprocating feeding mechanism movable transversely in front of said fixed abutment, a slide mounted in front of said abutment and longitudinally reciprocable, a tubular plunger carried by the slide and movable into the female die, an ejecting rod within the plunger, and means for forcing the ejecting rod outwardly upon a rearward movement of the plunger.

4. In a nut-making machine, a base, a transverse fixed abutment mounted on the base, a female die carried thereon, a tubular compressing and ejecting plunger mounted within the die, a punch mounted within the compressing plunger, vertical yokes connected to the compressing plunger and the punch respectively, a shaft passing through said yokes, oppositely mounted cams on the shaft engaging with the yokes to independently move the same as the shaft rotates, means for holding a blank in place within the female die while being compressed by the compressing plunger, and means for feeding a blank into position before said die.

5. In a nut-making machine, a base, a transverse fixed abutment on the base, a female die carried by the abutment, a tubular compressing and ejecting plunger mounted within the female die, a punch disposed within the compressing plunger, sliding heads carrying the compressing plunger and punch respectively and having sliding engagement with each other, and common means for reciprocating said heads, said heads having interengaging portions acting to mutually guide the heads upon each other.

[Claims 6 and 7 not printed in the Gazette.]

977,012. METHOD OF MAKING SIDING. TIMOTHY J. HOUSE, Troy, Vt. Filed Apr. 22, 1910. Serial No. 556,972.

The herein described method of making weather-boarding from partially defective stock, the same consisting in longitudinally grooving one edge thereof, sawing an oblique kerf from one corner of the groove through the other edge of the stock so as to produce one perfect clap-board and a second strip which is defective, and notching away



the defective corner of said strip between its thicker edge and the initially outer face of said stock.

977,013. PROCESS FOR ELIMINATION OF COLORING-MATTER FROM PAPER-STOCK. MELVIN H. HUBBARD, Utica, N. Y. Filed Apr. 9, 1910. Serial No. 554,518.

1. The process of removing coloring matter from paper-stock, which consists in reducing the latter to pulp; treating the pulp with a compound consisting of soap and an earth mixed in water; and then bleaching.

2. A step in the process of removing coloring matter from paper-stock, which consists in reducing the latter to pulp; and treating the pulp with a compound consisting of soap and whiting mixed in water.

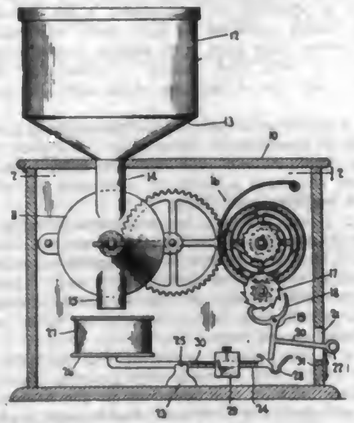
3. The process of removing coloring matter from paper-stock, which consists in reducing the latter to pulp; treating the pulp with a compound consisting of soap and an earth mixed in water; and then adding a solution of chlorid of lime.

4. The process of removing coloring matter from paper-stock, which consists in reducing the latter to pulp; adding to the pulp a mixture of soap, whiting and water; washing the pulp thus treated; and finally adding a bleaching agent.

5. The process of removing coloring matter from paper-stock, which consists in reducing the latter to pulp; adding to the pulp a mixture of soap, an earth and water; washing the pulp thus treated; and finally adding a bleaching agent.

[Claim 6 not printed in the Gazette.]

977,014. AUTOMATIC WEIGHING APPARATUS. CLARENCE R. HUTCHINSON, French Settlement, La. Filed May 24, 1910. Serial No. 563,104.



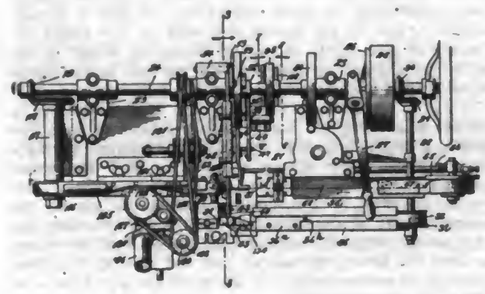
1. The combination with a grinding mill, of a motor operatively connected to said mill and including an escapement device having an arm partaking of its vibratory motion, a weighing device including a balanced beam adapted to support a receiver for the product of the mill and having a socket for engaging when in one position with said escapement arm, said weighing device arranged for operation when a predetermined quantity of material has been discharged from the mill to automatically couple the socket with the escapement arm and stop the motor.

2. The combination with a grinding mill, of a motor operatively connected to said mill and including an escapement device having an arm partaking of its vibratory motion, a weighing device including a balanced beam adapted to support a receiver for the product of the mill and having a socket for engaging when in one position with said escapement arm, a rod extending from said escapement arm, and a stop latch for engaging said rod.

3. The combination with a motor including an escapement device having an arm partaking of its vibratory motion, a weighing device including a balanced beam having a receiver and with a socket for engaging when in one position with said escapement arm, whereby the balanced beam is operated and coupled by its socket to the arm and the motor stopped when a certain predetermined quantity of material is deposited in the receiver.

4. The combination with a motor including an escapement arm which partakes of its motion, a body from which material is discharged, means operative by said motor for causing the discharge of said material, a weighing device including a balanced beam having a receiver for the product of said body, and with a socket for engaging when in one position with said arm, said weighing device arranged for operation when a predetermined quantity of material has been discharged from the body and to automatically couple the socket with the escapement arm and stop the motor.

977,015. MACHINE FOR TIPPING CIGARETTES. GEORGE B. HUTTON, New York, N. Y., assignor to William H. Butler, New York, N. Y. Filed Sept. 21, 1907. Serial No. 393,877.



1. In a machine of the character described, the combination with a platform, of means for feeding cigarettes thereto with a portion of each cigarette projecting beyond the edge of the platform, means for forming and applying mouth piece blanks, means for moving the cigarettes across the platform from the feeding means to the mouth piece blank applying means, and means for applying adhesive to the cigarettes while the latter are being moved across the platform.

2. In a machine of the character described, the combination with a platform, of means for successively feeding a plurality of cigarettes end on to said platform with a portion of each cigarette projecting beyond the edge of the platform, means adjacent the platform for providing the cigarettes with adhesive, means for forming and applying mouth piece blanks, and means for moving the cigarettes across the platform from the feeding means to the mouth piece blank applying means.

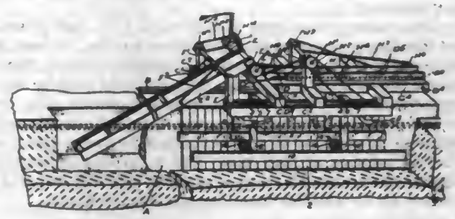
3. In a machine of the character described, the combination, with the tip forming and attaching mechanism, of a platform, means for successively delivering cigarettes upon said platform each with a minor portion projecting over the edge thereof, means for moving said cigarette across the platform to said forming and attaching mechanism and thereby bringing its projecting end into contact with means for delivering thereto an adhesive compound.

4. In a machine of the character described, the combination, with an operating platform of means for successively delivering individual cigarettes upon said platform each with a minor portion projecting over the edge thereof, means for moving each cigarette in turn laterally along said edge across the platform and applying an adhesive compound to the bottom side of said projecting end, means for bringing a suitable blank into proper positional contact with the gummed part of the cigarette, and means for wrapping said blank around said cigarette, securing the same in cylindrical form and discharging the tipped cigarette from the machine.

5. In a machine of the character described, the combination with a platform, of means for feeding cigarettes thereto with a portion of each cigarette projecting beyond the edge of the platform, means for feeding a strip of mouth piece material, means for severing mouth piece blanks from the strip, means for applying adhesive to the cigarettes, and means for moving the cigarettes across the platform against the adhesive applying means to the blank severing means.

[Claims 6 to 20 not printed in the Gazette.]

977,016. SEWER-TRENCH EXCAVATOR. JOHN HERBERT JOHNSON, Barrie, Ontario, Canada. Filed May 28, 1910. Serial No. 563,999.



1. In a trenching machine the combination with a suitable movable supporting carriage, of clamping means supported by and movable with said carriage and depending therefrom for holding side boards against the side walls of a trench, substantially as described.

2. In a trench excavator, the combination with the carriage supported on wheels running on suitable tracks on each side of the trench, of hangers depending from each side of the carriage in proximity to the walls of the trench, longitudinal bars connecting a pair of hangers located at each side of the trench together, and means for spreading the longitudinal bars apart to clamp them against the walls of the trench, as and for the purpose specified.

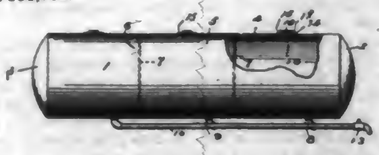
3. In a trench excavator, the combination with the carriage supported on wheels running on suitable rails located on each side of the trench, of means for clamping the side boards of the trench to the walls thereof comprising a pair of depending hangers located on each side of the carriage, longitudinal bars connecting the lower ends of the hangers together, a divided spindle extending between the longitudinal bars having right and left hand threaded inner ends, and a turn nut designed to co-act with such threaded ends to spread the longitudinal bars apart, as and for the purpose specified.

4. In a trench excavator, the combination with the carriage supported on wheels running on suitable tracks located on each side of the trench, of means for clamping the side boards of the trench to the walls thereof, longitudinally slotted cross bars secured to the carriage by bolts extending through such slots, depending hangers swung from the inner ends of the slotted bars, longitudinal bars connecting the lower ends of the depending

hangers together, and means for spreading the longitudinal bars apart so as to clamp them against the side boards of the trench as and for the purpose specified.

5. In a trench excavator, the combination with the main carriage supported on wheels running on suitable rails on each side of the trench, of depending hangers extending from the carriage, longitudinal bars secured to the lower ends of the depending hangers, means for spreading the bars apart against the side bars of the trench, and means for adjusting the hangers to the width of the trench, as and for the purpose specified.

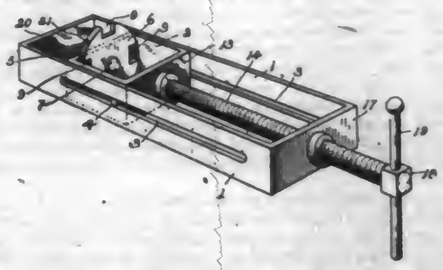
977,017. AUTOMATIC WARNING-WHISTLE. THOMAS E. KINNEY, Waverly, Ohio. Filed Dec. 24, 1909. Serial No. 534,763.



1. The combination with a tank, having both ends thereof closed, of a discharge pipe for said tank, said tank being provided with an opening formed through its wall whereby material may be supplied within said tank, a closure plug removably mounted within said opening and having an opening formed therethrough, said last named opening communicating with the interior of the tank, and a whistle disposed within the last named opening and adapted to be actuated by the passage of air through the same into said tank.

2. The combination with a tank having its ends closed, of a discharge pipe therefor, said tank having its periphery provided with a screw threaded opening formed therethrough to serve as means whereby material may be supplied within the tank, a screw threaded closure plug removably mounted within said screw threaded opening and having an opening formed therethrough in communication with the interior of said tank, and a whistle removably mounted within the last named opening and adapted to be actuated by air passing therethrough into said tank.

977,018. KEY-EXTRACTOR. JULIUS KOPIETZ, Detroit, Mich. Filed Dec. 22, 1909. Serial No. 534,446.

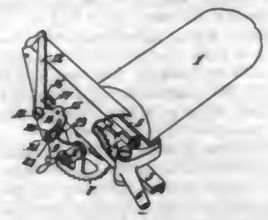


1. A device of the character described comprising a supporting frame, a carrier movable upon said frame, a rotatable head on said carrier having a series of notches of varying sizes adapted to engage keys, and means for moving the carrier longitudinally of the frame.

2. A device of the character described comprising an open supporting frame having sides and ends, an open carrier frame within the supporting frame slidable longitudinally thereof, a rotatable head having a series of notches of various sizes adapted to engage keys and pivotally attached to one end of the carrier, and a screw shaft attached at one end to the other end of the carrier and extending through the screw-threaded opening in the end of the supporting frame.

3. A device of the character described comprising a supporting frame having sides provided with longitudinal slots and a screw threaded opening in one end, an open carrier having end walls and adapted to slide within the supporting frame, means on the carrier engaging the slots in the sides of the frame, a rotatable head having a series of notches of varying sizes adapted to engage keys and pivotally secured within the carrier to one of the end walls thereof, and a screw shaft engaging the screw-threaded opening in the frame and attached at its inner end to the other end wall of the carrier.

977,019. TYPE-WRITING MACHINE. ALFRED G. F. KUROWSKI, New York, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of Delaware. Filed Aug. 19, 1910. Serial No. 577,940.

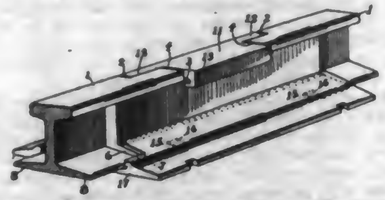


1. In a typewriting machine, the combination with a platen, line-space mechanism therefor including a notched or toothed wheel connected with the platen, and a detent engaging the wheel, of a tooth to turn the wheel and platen through part of a line-space, a vibratory finger lever controlling the tooth, and a cam controlled by the lever to cast off the detent on the initial stroke of the lever.

2. In a typewriting machine, the combination with a platen, line-space mechanism therefor including a notched or toothed wheel connected with the platen, and a detent engaging the wheel, of a tooth to turn the wheel and platen through part of a line-space, and a vibratory finger lever controlling the tooth and having a recess to accommodate a pin on the detent, one wall of the recess operating to cast off the detent on the initial stroke of the lever, and a dwell portion to which the wall of the recess leads to hold the detent disengaged.

3. In a typewriting machine, the combination of a platen, a notched or toothed wheel connected with the platen, a detent to engage the wheel, said detent having a pin, a finger lever having a tooth to turn the wheel through part of a line-space, said lever having a cam recess, one wall of which bears against the pin on the detent to cast off the detent, a dwell portion forming one edge of the slot and connected to the wall of the recess to hold the detent disengaged, one end of said slot being enlarged to accommodate the throw of the pin when cast off by the releasing lever.

977,020. RAIL-JOINT. CHARLES LAKOSKY, Cooks Mills, Mich. Filed July 21, 1910. Serial No. 572,982.



1. The combination with a pair of alined railroad rails whose adjacent ends are separated by an interval, of a pair of fish plates having foot flange ribs overlapping the margins of the rail base flanges and upper portions interlocking against lateral displacement and forming a continuation of the rail tread between the rail ends, a cradle supporting the rail ends and locking the fish plates against lateral displacement, and means interlocking the rails and fish plate flanges against longitudinal movement.

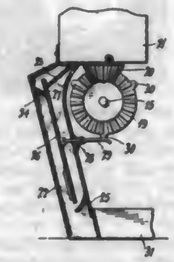
2. The combination with a pair of alined railroad rails whose adjacent ends are separated by an interval, of a pair of fish plates having foot flange ribs overlapping the margins of the rail base flanges and upper portions interlocking against lateral displacement and forming a continuation of the rail tread between the rail ends, a cradle supporting the rail ends and locking the fish plates against lateral displacement, the superposed fish plate and rail flanges being correspondingly notched, and filler blocks in the notches resting on the cradle.

3. The combination with a pair of alined railroad rails whose tread portions near their ends are cut away and correspondingly gained, of an outer fish plate having a foot flange rib that overlaps the margins of the rail base flanges and an upper marginal lip, an inner fish plate having a foot flange rib that overlaps the margins of the rail base flanges and an upper tread portion interlocking with the companion plate lip and filling the interval between the ends of the rail treads, and a rail cradle supporting the rail ends and locking the fish plates against lateral displacement.

4. The combination with a pair of alined railroad rails whose tread portions near their ends are cut away and correspondingly gained, of an outer fish plate having a foot flange rib that overlaps the margins of the rail base flanges and an upper marginal lip, an inner fish plate having a foot flange rib that overlaps the margins of the rail base flanges and an upper tread portion interlocking with the companion plate lip and filling the interval between the ends of the rail treads, and a rail cradle supporting the rail ends and having inturned longitudinal flanges adapted to retain the fish plates against lateral movement.

5. The combination with a pair of alined railroad rails whose tread portions near their ends are cut away and correspondingly gained, of an outer fish plate having a foot flange rib that overlaps the margins of the rail base flanges, and an upper marginal lip, an inner fish plate having a foot flange rib that overlaps the margins of the rail base flanges and an upper tread portion interlocking with the companion plate lip and filling the interval between the ends of the rail treads, a rail cradle supporting the rail ends and having inturned longtiudinal flanges adapted to retain the fish plates against lateral movement, and filler blocks removably secured in matiag notches of the fish plate and rail flanges, and adapted to permit slight longtiudinal movement of the rails.

977,021. CORN-PLANTER. ALPHA H. LEATHERMAN, Moundridge, Kans. Filed Mar. 7, 1910. Serial No. 547,752.



1. In a corn planter, a seed tube, a slide extending longitudinally of said tube and having an opening adjacent its upper end, a partition fixed in said tube and extending partly across the same with its free edge bearing against one side of said slide, a second partition fixed in said tube and extending partly across the same with its free edge bearing against the opposite side of said slide, and means to move said slide and momentarily open both the chambers in the tube formed by the slide and partitions.

2. In a corn planter, a seed tube, a slide extending longitudinally of said tube and having an opening adjacent its upper end, a partition extending from the rear of said tube inward and downward and having its front edge bearing against the rear of said slide and normally just above the opening therein, a second partition extending from the front of said tube inward and downward and having its rear edge bearing against the bottom of the front of said slide, and means to raise said slide and momentarily open both the chambers in the tube formed by the slide and partitions.

3. In a corn planter, a seed tube, a slide extending longitudinally of said tube and having an opening adjacent its upper end, a partition fixed in said tube and extending partly across the same with its free edge bearing against one side of said slide, a second partition fixed in said tube and extending partly across the same with its free edge bearing against the opposite side of said slide, and means to move said slide and momentarily open both the chambers in the tube formed by the slide and partitions, said means including a lever pivoted intermediate its ends to the tube and having its inner end connected to the slide and its outer end extending beyond the tube, a wheel having a series of projections thereon in the paths of which the outer end of the lever lies, a shaft supporting said wheel, and rotating mechanism for the shaft.

4. In a corn planter, a seed tube, a slide extending longitudinally of said tube and having an opening adjacent its upper end, a partition extending from the rear of said tube inward and downward and having its front edge bearing against the rear of said slide and normally just above the opening therein, a second partition extending from the front of said tube inward and downward and having its rear edge bearing against the bottom of the front of said slide, and means to raise said slide and momentarily open both the chambers in the tube formed by the slide and partitions, said means including a lever pivoted intermediate its ends to the tube and having its inner end conneced to the slide and its outer end extending beyond the tube, a wheel having a series of projections thereon in the paths of which the outer end of the lever lies, a shaft supporting said wheel, and rotating mechanism for the shaft.

5. In a corn planter, a seed tube, a slide extending longitudinally of said tube and having an opening adjacent its upper end, a partition fixed in said tube and extending partly across the same with its free edge bearing against one side of said slide, a second partition fixed in said tube and extending partly across the same with its free edge bearing against the opposite side of said slide, and means to move said slide and momentarily open both the chambers in the tube formed by the slide and partitions, said means including a lever pivoted intermediate its ends to the tube and having its inner end connected to the slide and its outer end extending beyond the tube, a wheel having a series of projections thereon in the paths of which the outer end of the lever lies, a shaft supporting said wheel, and a guide wheel fixed to the shaft and engaging the ground as the implement is moved.

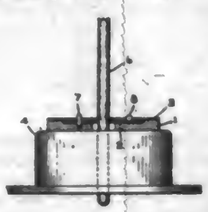
[Claim 6 not printed in the Gazette.]

977,022. ELECTRIC-ARC LAMP. WILLY LÆGEL, Berlin, Germany, assignor to General Electric Company, a Corporation of New York. Filed Feb. 3, 1910. Serial No. 541,908.

1. In an electric arc lamp in which the arc is controlled by a lateral displacement of one electrode, the combination of said electrode with means for actuating the same, an economizer provided with an aperture for said electrode, and means for sealing said aperture consisting of a fixed and two movable superimposed guide plates, each movable plate being pivoted to the next lower plate and covering a definite portion of the said aperture.

2. In an electric arc lamp in which the arc is controlled by a lateral displacement of one electrode, the com-

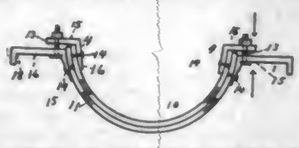
bination of the laterally movable electrode with an economizer provided with a wide aperture for both electrodes, and means for sealing said aperture consisting of a fixed plate secured to said economizer, a sliding guide plate provided with means for connection to the regulating mechanism of the lamp, and a second movable plate placed between and pivoted to the two other plates.



3. In an electric arc lamp in which the arc is controlled by a lateral displacement of one electrode, the combination of the laterally movable electrode with an economizer provided with an aperture for the passage of both electrodes and the lateral displacement of one of them, and means for sealing said aperture consisting of a series of apertured superimposed plates, each plate being pivoted to and having an aperture smaller than that of the next lower, the lowermost plate being fixed, and the uppermost plate having means for connection to the regulating mechanism of the lamp.

4. In an electric arc lamp in which the electrodes are converging and the arc is controlled by a lateral displacement of one electrode, the combination of an economizer provided with an aperture permitting the lateral displacement of said electrode, a series of superimposed guide plates for sealing said aperture, each plate being pivoted to the next in the series, the uppermost having means for connection to the regulating mechanism of the lamp, and the lowermost being secured to the economizer.

977,023. CONNECTING-COUPLING FOR EXTENSIBLE CONVEYERS AND RECEPTACLES. WILLIAM LENNON, Manitou, Colo. Filed Dec. 22, 1909. Serial No. 534,465.



1. In a conveyer or receptacle consisting of a series of trough-like units, troughs each composed of a single sheet of metal corrugated transversely at its ends, brackets attached to the opposite edges of the trough units near their respective ends, lugs on said brackets etxending outwardly from said units and in opposite directions, the shank of each lug where fastened to the corrugated surface of the trough units being concave or convex longitudinally to fit the surface of the corresponding corrugation to which it is attached, substantially as set forth.

2. In a conveyer or receptacle, consisting of a series of trough-like units, trough units of sheet metal corrugated transversely at their ends suitable to interlock when lapped one inside of the other at the ends, brackets rigidly attached to the opposite sides of the interlapped trough units, near their top edges, lugs extending from the tops of said brackets, outwardly from the trough units and just above their edges, the lug on the inner bracket extending above the other lug and free from it and parallel thereto, elongated holes extending longitudinally in said lugs so as to match each the other, bolts extending through said holes, and connecting said lugs and provided to force them together, all substantially as set forth and for the purposes as specified.

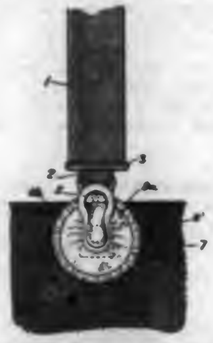
3. In a connection for the units of a conveyer or receptacle comprising a series of trough shaped units, the combination of trough shaped units having corrugations extending transversely near the ends of the units, brackets rigidly attached to the longitudinal edges of said units near the ends of same in such a manner that there will be on opposite sides of the union of the two units, lugs on the outer brackets extending outwardly from the units, lugs on the inner brackets extending outwardly from the respective units and extending above the edge of the units and above and near to the lugs on the brackets on the outer or under units, elongated holes in both the sets of lugs provided to receive a bolt arranged to draw the said pairs of lugs toward each other, substantially as set forth.

4. In a conveyer or receptacle connection for units of sheet metal troughs, the combination of two or more trough units of corrugated sheet metal, brackets riveted to the sides of the units near their respective corners, lugs 15, 15, on said brackets and extending outwardly parallel to each other but not close enough to touch each other the lug on the inner bracket being above the lug on the outer bracket, an elongated hole 17 in each of the lugs 15 and opposite each other, a clamping bolt 13 provided to extend through said elongated holes 17, and to draw said lugs 15, 15 toward each other, concave or convex faces respectively on the part of said brackets attached to the metal units suitable to fit the convex or concave surfaces respectively of the corrugated surfaces of the respective units to which they are attached, all substantially as set forth.

5. In a conveyer or receptacle, formed of units of sheet metal or fiber, a connection or union-joint consisting of the combination of two matching units transversely corrugated near their respective interlapping ends and provided so as to interlock one with the other, a bracket attached at the top edge of each unit matching the bracket on the other unit, bolts connecting each pair of brackets, bolts and brackets forming means for clamping said units together by forcing the top edges of the inner curved unit toward the bottom of the outer curved unit and forcing the top edges of the outer curved unit toward the edges of the inner curved unit, substantially as set forth.

[Claim 6 not printed in the Gazette.]

977,024. HOSE-SUPPORTER. EMILY D. LOWAY, Philadelphia, Pa. Filed Oct. 29, 1909. Serial No. 525,246.



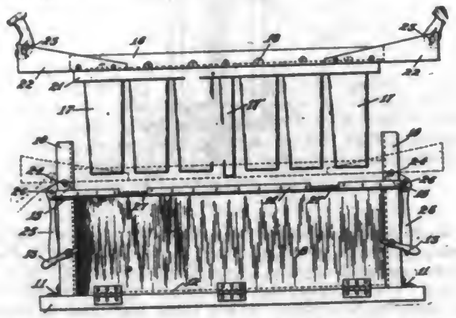
1. A hose supporter comprising a bearing member having a body of flexible material and means for keeping said body expanded, in combination with a button member, and a clasp for engaging said bearing member to said button member, said means being adapted to coact with said button member and clasp to hold said bearing member in place.

2. A hose supporter comprising a bearing member having a body of flexible material with a comparatively rigid rim, and means adapted to engage said flexible material and clamp said rim upon the hose engaged thereby.

3. A hose supporter comprising a substantially circular member having a comparatively rigid rim and a flexible body loose within said rim, in combination with a button and a clasp adapted to clamp the rim and engage the loose part of said body to said button.

4. A hose supporter comprising a hanger having a button thereon, a circular member having a body of loose and flexible material with a comparatively rigid rim, said member having an ear engaged to said hanger, and a clasp for clamping said rim and holding said member on a fabric and in engagement with said button.

977,025. MOLD FOR HOLLOW PARTITION-BLOCKS. JOHN F. MAKOWSKI, San Francisco, Cal., assignor to Plaster Block Company, San Francisco, Cal., a Corporation of California. Filed May 28, 1909. Serial No. 499,037.



1. A mold having inclosing sides, bottom and ends, a core carrier having tapered cores, said carrier having horizontal projections at its ends extending beyond the ends of the mold, levers pivoted to the ends of the mold, and lugs on the levers adapted to engage beneath the projecting portions of the core carrier and adapted to lift the core carrier out of the hardening mass of material in the box when said levers are operated.

2. A mold having inclosing sides, bottom and ends hingedly connected together, a core carrier movable out of the space inclosed by said mold, said carrier having tapered cores, plates secured to and projecting from the ends of the core carrier, and provided with hand levers, and levers fulcrumed to the ends of the material having projecting lugs engaged beneath said plates when the levers are raised whereby the core carrier is lifted out of the hardening mass of material.

3. A mold having inclosing sides, bottom and ends hingedly connected together, and tapered cores mounted on a core carrier movable out of the space inclosed by said mold, said cores having one of its members longer than the others, and adapted to extend clear through the molded block, and means carried by the ends of the mold for removing the cores from the cast, said means including plates secured to and projecting from the ends of the core carrier and provided with hand levers.

977,026. LOCKING DEVICE FOR TROMBONES. HENRY C. MARTIN, Elkhart, Ind. Filed June 29, 1908, Serial No. 440,847. Renewed Oct. 20, 1910. Serial No. 588,186.

1. The inner and outer sliding tubes of a wind instrument, and a lock therefor comprising a rotatable member having a lug upon its inner wall, a coöperating lug interengaging therewith, the same, when not in use, being concealed from view at the end of one of said tubes and a yielding cushion against which the end of the outer slide abuts when the parts are in closed position.

2. The combination with the inner and outer sliding tubes of a wind instrument, of a lock therefor, comprising a rotatable member having a lug upon its inner wall, a cooperating lug on the outer wall of the outer tube, a cushion seated in a cavity embraced by said rotatable member, said cushion and the interengaging parts being concealed within said rotatable member when the instrument is not in use.

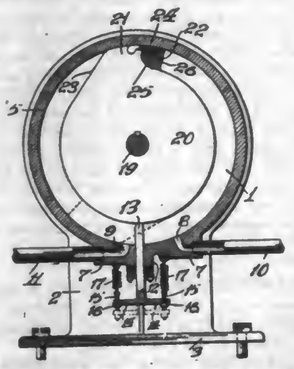
3. The combination with the inner and outer sliding tubes of a wind instrument, of a rotatable tubular member having an interior lug with shoulder and a coöperating lug on the outer slide tube receivable within the rotary member, and a cushion seated within a cavity in the end of the portion to which said rotatable member is secured and between which and the lug of the rotatable member the lug on the outer slide tube is received.



4. The combination with a trombone, of a concealed lock for the inner and outer sliding tubes thereof comprising a rotatable tubular member having a lug within the same, the outer tube having a coöperating lug, and a cushion independent of but concealed within the rotatable member and against which the end of the outer tube engages.

5. The combination with the inner and outer tubes of a trombone the latter provided with an exterior lug having a right angled portion, a tubular member having a cavity in its adjacent end, a cushion seated in said cavity and against which the end of said tube abuts, a ring having interior threads and an interior lug having a right angled portion said ring being screwed on to the end of said tubular member.

977,027. ROTARY ENGINE. HARRY A. MASSEY, East St. Louis, Ill., assignor of one-half to George H. Stein, St. Louis, Mo. Filed Nov. 15, 1909. Serial No. 527,990.

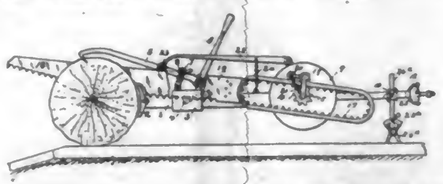


1. In a rotary engine, the combination with a casing and piston carrier coacting to form a cylinder, a piston having an inclined forward face carried by the carrier, a spring actuated packing plate pivotally mounted on the piston, a steam inlet and a steam exhaust, an abutment between said inlet and exhaust arranged to be actuated in one direction by the forward face of the piston, laterally projecting arms carried by the abutment, springs connecting said arms and said casing and means for varying the tension of said springs.

2. In a rotary engine, the combination with a casing and a piston carrier coacting to form a cylinder, a piston, formed integral with said carrier, having an inclined for-

ward face, a packing plate arranged on the periphery of the piston and means for normally holding the packing plate in engagement with the casing, a steam inlet and a steam exhaust, an abutment arranged between said inlet and exhaust, springs for normally holding the abutment in engagement with the piston and carrier and means for varying the tension of said springs.

977,028. DRAG-SAW. MARTIN L. MAXWELL, Goodwater, Mo. Filed Jan. 16, 1908. Serial No. 411,187.



1. A sawing apparatus of the character described, comprising a stock adapted to be secured at one end to a log, a slide block mounted on said stock, means for holding said block at different adjustments on the stock, a movable clamping arm pivotally mounted on the slide block, a hand lever for manipulating said clamping arm, means for securing said arm to the slide block at different adjustments, and a saw and actuating means therefor supported by said stock.

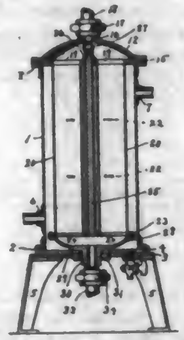
2. A sawing apparatus of the character described, comprising a stock, means for supporting said stock in operative relation to a log, a case secured to said stock, the stock being provided beyond the case with a tubular extension, a shaft journaled in said extension, a bevel pinion secured to one end of said shaft, another shaft journaled in the case, a miter wheel mounted on said last named shaft and meshing with the pinion, a spur pinion secured to said last named shaft, a blade, an endless rack frame secured to the rear end of the saw blade, and two rollers adapted to travel on the outside of the saw frame, one of said rollers having a connection with the last named shaft, and the other roller being yieldingly mounted, as and for the purpose set forth.

3. A sawing apparatus of the character described, comprising a stock, means for supporting said stock in operative relation to a log, a case secured to said stock, a shaft journaled in said case, means for turning said shaft, a spur pinion secured to said shaft, a blade, an endless rack frame with interior teeth, said frame being secured to the rear end of the blade, the pinion meshing with said rack, a roller carried by said arm and bearing upon the outer surface of the rack, a forwardly projecting arm pivoted to the first named arm, a roller carried by the forwardly projecting arm and also bearing against the outer side of the rack, and a contractile spring secured to said last named arm and arranged to hold the last named roller under tension against the outer surface of the rack.

977,029. PASTEURIZER. WILLIAM J. MCKEE, Detroit, Mich., assignor to McKee-Newton Manufacturing Company, Detroit, Mich., a Corporation of Michigan. Filed Mar. 26, 1910. Serial No. 551,637.

1. In a pasteurizing device, the combination of an exterior shell, an upper head for the same, a diaphragm secured between said head and the upper edge of the shell, flat tubes extending downward from said diaphragm, a second diaphragm connected to the lower ends of the tubes, a lower head connected to said lower diaphragm and having a central extending portion projecting through an opening in the bottom of the outer shell, means for forming a fluid-tight joint between said lower head and bottom, and means for conducting fluids into said device for circulation through the tubes and to the outer shell for circulation around the tubes.

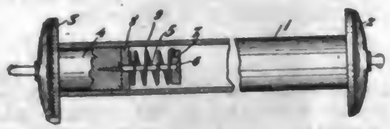
2. In a pasteurizing device, the combination of a shell having a top and bottom, a series of flat tubes within the shell, diaphragms connected to the upper and lower ends of the tubes, a downwardly convex head below said tubes and connected to the lower diaphragm, means for insuring a tight joint between the lower head and the bottom of the shell, and connections for the circulation of fluids through and around said tubes.



3. In a pasteurizing device, the combination of a plurality of flat tubes, diaphragms at opposite ends of the tubes, outwardly convex heads of different diameters secured to said diaphragms to form chambers, connections to said heads through which fluids may flow to pass through said tubes, a shell removably connected to the larger head and surrounding the smaller head, and connections whereby fluids may circulate around said tubes within the shell.

4. In a pasteurizing device, the combination of a series of flat tubes, radially-slotted diaphragms connecting to opposite ends of the tubes, heads of different diameters secured to said diaphragms, connections to said heads through which fluids may flow to pass through said tubes, a shell surrounding the tubes and the smaller head, a flange at one end of said shell, fastening devices to form a fluid-tight joint between the flange and a diaphragm, a bottom for said shell, means to form a fluid-tight joint between the bottom and the smaller head adjacent to the connection to the same, and connections whereby fluids may circulate around said tubes within the shell.

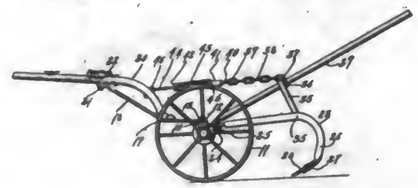
977,030. AUTOMATICALLY-ADJUSTABLE SPOOL FOR PERFORATED MUSIC-SHEET ROLLS FOR MECHANICAL PIANO-PLAYERS. HARRY G. MILLER, Cincinnati, Ohio, assignor to The Vocalstyle Music Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Aug. 8, 1910. Serial No. 576,059.



A spool for music rolls comprising a tube, flanges at the ends thereof, one flange being adjustable and having a stem thereon adapted to fit loosely in said tube of the spool, a pin projecting from the inner end of said stem, a washer mounted and held on said pin, a friction disk loosely mounted on said pin and adapted to engage said tube, and a spring interposed between said washer and said friction disk, substantially as set forth and for the purposes specified.

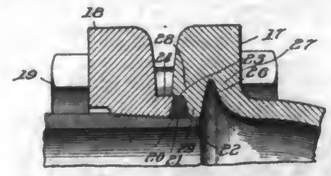
977,031. CULTIVATOR. BENJAMIN L. NEHF, Dinuba, Cal. Filed June 27, 1910. Serial No. 569,073.

A cultivator comprising an axle, a U-shaped member having an intermediate portion fixed to said axle and having up-standing spaced legs arranged adjacent to the spindles of said axle and provided with alining orifices, a pin passed through said orifices and disposed approximately in parallelism with said axle, a draft tongue having a branched attaching iron provided with terminal eyes encircling said pin, whereby the draft pole may rock in a perpendicular plane relatively to the axle, a pair of spaced beams fixed at their forward ends to said axle and having



down curved rear ends, a single blade carried by said down curved ends, an inclined handle bar arranged intermediate said beams, an inverted V-shaped brace element terminally connected to said beams and having its apex secured to said handle bar and operating to maintain said handle bar and said beams in a constant fixed relation.

977,032. FLANGED FITTING END. EUGENE F. OSBORNE, Chicago, Ill., assignor to Osborne Steam Engineering Company, Chicago, Ill., a Corporation of Illinois. Filed July 23, 1909. Serial No. 509,109.



1. A hollow fitting for high pressure joints and the like, provided around the opening thereof with a flange by which the fitting is connected to another part, the fitting being formed at the junction of the flange with the fitting wall with of interior temperature equalizing space which extends a substantial distance radially into the flange, for the purpose set forth.

2. A hollow fitting for high pressure joints provided around the opening thereof with a flange by which the fitting is connected to another part, the fitting being formed at the junction of the flange with the fitting wall with an inerior temperature equalizing space which extends a substantial distance radially into the flange, the fitting wall being gradually increased in thickness at the point where it merges into the flange, for the purpose set forth.

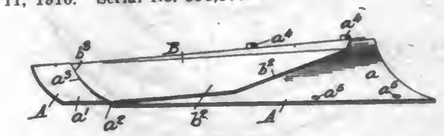
3. A fitting for high pressure joints, having an opening to receive a tubular member constituting part of the fluid passage and provided around said opening with a flange arranged to constitute part of a joint between said fitting and tubular member, the fitting being formed at the junction of the flange with the fitting wall with an interior temperature equalizing space which extends a substantial distance radially into the flange for the purpose set forth.

4. A fitting for high pressure joints having an opening to receive a tubular member constituting part of the fluid passage and provided around said opening with a flange arranged to constitute part of a joint between said fitting and said tubular member, the fitting being formed at the junction of the flange with the fitting wall with an interior, annular temperature equalizing space which extends a substantial distance radially into the flange and provided between said space and the end of the fitting with an annular packing supporting flange or abutment.

5. A fitting for high pressure joints having an opening to receive a tubular member constituting part of the fluid conduit, and provided around said opening with a flange arranged to constitute part of a joint between said fitting and said tubular member, the fitting being formed with an interior annular temperature equalizing space which extends into the flange radially beyond the junction of the wall of the fitting with said flange and the fitting being formed with a fillet at the interior angle between said wall and flange.

[Claim 6 not printed in the Gazette.]

977,033. PLATE FOR SPIRAL SEPARATORS. FRANK PARDEE, Hazleton, Pa., assignor to Anthracite Separator Company, a Corporation of Pennsylvania. Filed Apr. 11, 1910. Serial No. 554,870.



1. A plate for spiral separators, said plate being graduated with varied degrees of axial inclination along radial lines whereby the general inclination of said plate is varied, and the pitch and flare are changed thereby forming runways and retarding surfaces for materials differing in specific gravity and frictional resistance.

2. A plate for spiral separators comprising plane and warped surfaces, said plate being graduated with varied degrees of axial inclination along radial lines whereby the general inclination is changed thereby forming runways and retarding surfaces, said plate being adapted for a differential action on materials differing in specific gravity and frictional resistance.

3. A plate for spiral separators, said plate having one element provided with warped surfaces near the axis and near the periphery, and another element presenting plane surfaces between the warped surfaces of said first mentioned element, whereby the general inclination of the plate is changed thereby forming runways and retarding surfaces for the heavier materials.

4. A plate for spiral separators, said plate having an under element and an upper element of less radial dimensions, said under element being provided with a shoulder of helical formation, and said upper element having its periphery adapted to rest on and against said shoulder whereby the inclination is changed and the rise steepened from said shoulder to the outer periphery of said under element.

5. A plate for spiral separators, said plate being composed of an under element having a helically formed shoulder, and an upper element, the peripheral part of which is adapted to rest on said under element along said shoulder, from which the rise is steepened outwardly to the periphery while its upper edge rests on the upper edge of said under element, the inner edge of said upper element being above said under element with a space between thereby allowing the material to drop.

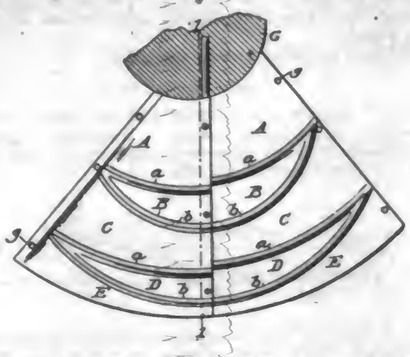
977,034. PLATE FOR SPIRAL SEPARATORS. FRANK PARDEE, Hazleton, Pa., assignor to Anthracite Separator Company, a Corporation of Pennsylvania. Filed Apr. 11, 1910. Serial No. 554,871.

1. In a spiral separator, a suitably supported plate, said plate being graduated with varied degrees of axial inclination along radial lines and comprising retarding surfaces forming runways for the heaver materials, said surfaces having creased curved perimeters whereby the heavier substances may be retarded and guided helically and inwardly.

2. A spiral separator plate, said plate being graduated with varied degrees of axial inclination along radial lines whereby the general inclination of said plate is varied thereby forming runways for different materials, said plate also comprising retarding surfaces having creased curved perimeters by which the heavier substances may be retarded and guided helically and inwardly.

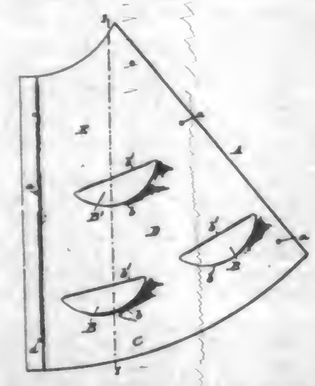
3. In a spiral separator, a suitably supported pair of plates, said plates comprising runways for different mate-

rials and with curved creases diverging on one of said plates and converging on the other for neutralizing the



centrifugal force, and whereby the heavier materials may be retarded and guided helically and inwardly.

977,035. PLATE FOR SPIRAL SEPARATORS. FRANK PARDEE, Hazleton, Pa., assignor to Anthracite Separator Company, a Corporation of Pennsylvania. Filed Apr. 11, 1910. Serial No. 554,872.



1. A spiral separator plate having an inward and downward pitch, and provided with retarding surfaces disposed at intervals, leaving intervening helical spaces approximately defining the runways for the different materials, the outer edge of said retarding surfaces being adapted to guide and draw the heavier materials, on the outer side thereof helically and inwardly.

2. A spiral separator plate having an inward and downward pitch, and provided with retarding surfaces disposed at intervals, leaving intervening spaces approximately defining the runways for the different materials, the outer edge of said retarding surfaces being curved and adapted to guide and draw the heavier materials, on the outer side thereof, helically and inwardly.

977,036. RETARDER FOR MATERIALS IN SPIRAL SEPARATORS. FRANK PARDEE, Hazleton, Pa., assignor to Anthracite Separator Company, a Corporation of Pennsylvania. Filed Apr. 11, 1910. Serial No. 554,873.

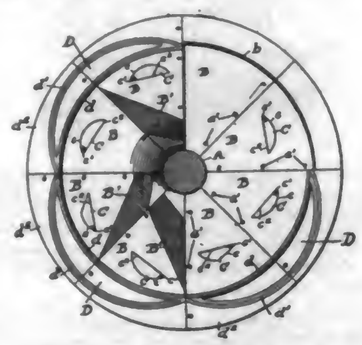
1. A retarder for materials in a spiral separator, said retarder having an outer contour adapted to have edge-frictional contact with the heavier materials, and to guide and draw contactual materials in the direction of said contour.

2. A retarder for materials in a spiral separator, said retarder having a sloped end adapted to act as a divider, and an inner and outer contour the latter adapted to have edge-frictional contact with the heavier materials, and to



guide and draw contactual materials in the direction of said contour.

977,037. SPIRAL SEPARATOR. FRANK PARDEE, Hazleton, Pa., assignor to Anthracite Separator Company, a Corporation of Pennsylvania. Filed Apr. 11, 1910. Serial No. 554,874.



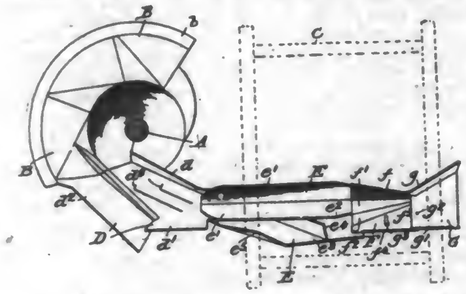
1. A spiral separator having plate elements graduated with varied degrees of axial inclination along radial lines, whereby the general inclination is changed and runways are formed for materials differing in specific gravity and frictional resistance, said spiral being also provided with retarders adapted to slow up and change the course of contactual heavier materials.

2. A spiral separator having plate elements graduated with varied degrees of axial inclination along radial lines whereby the general inclination is changed, said elements having plane and warped surfaces and being also provided with retarders, whereby the varied surfaces and retarders form runways adapted for differential action on different materials.

3. A spiral separator having plate elements graduated with varied degrees of axial inclination along radial lines whereby the general inclination is changed, said elements having plane and warped surfaces, said elements being provided with retarding surfaces having creased curved perimeters by which the heavier materials may be retarded and guided helically and inwardly.

4. A spiral separator having plate elements on some of which the general inclination is changed by plane and warped runway surfaces, other plate elements of said spiral being provided with retarding surfaces disposed at intervals and approximately defining the runways for the different materials.

977,038. FEED APPARATUS FOR SPIRAL SEPARATORS. FRANK PARDEE, Hazleton, Pa., assignor to Anthracite Separator Company, a Corporation of Pennsylvania. Filed Apr. 11, 1910. Serial No. 554,875.



1. A spiral separator feed-plate formed with varied retarding surfaces adapted to impart an entering spread and circular tendency to the mixed substances, whereby further separation by the spiral may be facilitated.

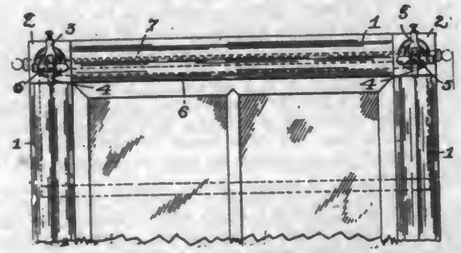
2. A spiral separator feed-plate adapted to give an entering spread and circular tendency to the mixed substances, said plate being provided with retarding surfaces and with angular outer flanges for acting on the different materials.

3. A spiral separator feed-apparatus comprising a trough, in combination with a feed-plate adapted to give an entering spread and circular tendency to the different materials, said trough being adapted to concentrate the materials prior to passing on the plate, said feed-plate being provided with retarding surfaces for the heavier materials.

4. A feed apparatus for separate threads of a spiral separator, comprising a trough for each thread to be fed, said trough being adapted to feed the materials from one point, in combination with a feed plate for each thread to be fed, said feed plates being adapted to receive the materials, passing from the exit point of said trough, and to give them an entering spread and circular tendency.

5. A feed apparatus for a spiral separator comprising a feed plate adapted to give an entering spread and circular tendency to the materials passing to the spiral, in combination with a trough adapted to discharge the supply of materials from a single point to said plate, and adjustable means for conveying the mixed substances from a source of supply to said trough.

977,039. WINDOW-BRACKET. JAMES N. PARRAHM, Wichita, Kans. Filed Dec. 10, 1909. Serial No. 532,416.

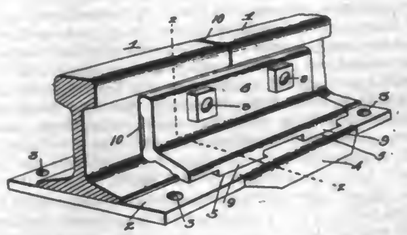


1. In a fixture of the class described, an extension bracket, oppositely extending slidably connected clamping members provided with lips engaging and clamping between them the opposite edges of the extension bracket, said clamping members having ends adapted to engage opposite edges of a window frame molding, and clamping means carried by one of said members, substantially as described.

2. In a fixture of the class described, an extension bracket, oppositely disposed slidably connected clamping members provided with lips engaging and clamping between them the opposite sides of the extension bracket and means for simultaneously moving said members in opposite directions and clamping them to a window frame, substantially as described.

3. In combination a pair of clamping members, the one having a bifurcated portion and the other a part sliding or fitting in said bifurcated portion, said clamping members having overturned ends, teeth or projections carried by one overturned end, a set screw carried by the other overturned end, and a supporting bracket clamped to said clamping members, substantially as described.

977,040. RAIL-JOINT. OCTAVE PAYZANT, New York, N. Y. Filed Feb. 24, 1910. Serial No. 545,586.

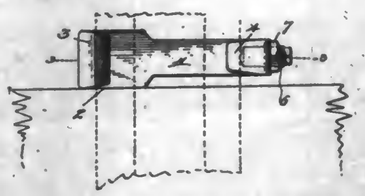


1. In a railway rail joint, a base plate having formed therein locking slots, angle iron splice bars engaged with the opposite sides of the rails, fastening bolts arranged through the rails and said splice bars, locking lugs formed on said splice bars and adapted to be engaged with the slots in said base plate, and means engaged by said locking lugs whereby said splice bars are adapted to brace the opposite sides of the rail.

2. In a railway rail joint, a base plate adapted to span the space between two ribs, said plate having formed therein locking slots, stop flanges formed on said base plate, angle iron splice bars bolted to the opposite sides of the rails, locking lugs formed on said splice bars and adapted to be engaged with the slots in said base plate and with the stop flanges thereon whereby said splice bars serve to rigidly brace the opposite sides of the rail.

3. In a railway rail joint, a base plate adapted to span the space between two ties, said plate having formed in its opposite ends spike holes whereby said ends are spiked to the ties and locking slots also formed in said plate, downwardly projecting stop flanges formed on the opposite edges of the plate, angle iron splice bars bolted to the opposite sides of the rails, hook-shaped locking lugs formed on the lower edges of said splice bars and adapted to be engaged with the slots and said stop flanges on the base plate, whereby said splice bars are caused to firmly clamp the rails into engagement with the base plate and to rigidly brace said rails against lateral horizontal pressure.

977,041. RAIL-FASTENING. OCTAVE PAYZANT, New York, N. Y. Filed Mar. 7, 1910. Serial No. 547,865.



1. An anti-creeping rail fastening comprising a body portion, means carried thereby to engage a tie, hooks adapted to embrace the opposite base flanges of a rail, and pointed adjustable means carried by one of said hooks to pivotally secure the fastening to the adjacent rail flange.

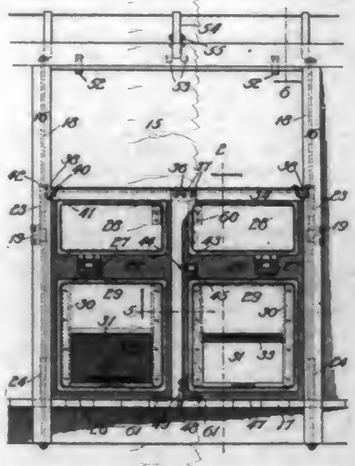
2. An anti-creeping fastening device for railway rails comprising a body portion adapted to be applied to the under side of the rail, means on said body portion to engage the side of a tie, base flange engaging hooks formed on the opposite ends of said body portion, and a clamping screw having a pointed end adapted to be screwed into engagement with the side edge of one of the base flanges of the rail.

3. An anti-creeping fastening for railway rails comprising a flat body portion adapted to be engaged with the under side of a rail, a tie engaging head formed on one end of said body portion, a flange engaging hook formed on said headed end of the fastening, an elongated hook formed on the opposite end thereof, and a clamping screw arranged in said end and elongated hook, and adapted to be screwed into binding engagement with the adjacent edge of the rail flange.

4. An anti-creeping rail fastening formed from one piece of metal and comprising a flat body portion having a greater width at one end, a tie engaging head formed on said wider end, a flange engaging hook formed above said head, an elongated flange engaging hook formed on the opposite end of said plate, said end and hook having formed therein a threaded socket, a pointed clamping screw arranged in said socket and adapted to be screwed into engagement with the edge of the adjacent rail flange, and a jam nut arranged on said screw.

5. In an anti-creeping rail fastening adapted to be engaged with a rail, a pointed set screw, having engagement with and adapted to drill or indent its own seat into the flange of the rail, to secure the fastening in place on the rail and form a pivot upon which the fastening may swing relatively to the rail.

977,042. GRAIN-DOOR. EDWARD POSSON, Chicago, Ill., assignor to Grain Belt Car Specialty Company, a Corporation of Maine. Filed July 6, 1908. Serial No. 442,010.



1. In combination, a wall with a door opening therein, doors hinged at the sides so that they may slide vertically on their hinges, and a rigid T-shaped brace to hold the doors, the bottom member thereof engaging the door sill and the ends of the top member engaging the side posts of the door opening.

2. In combination, a wall with a door opening therein, a vertical rod adjacent to each side post of the door opening, a pair of doors each having one edge rotatively and slidably engaging a respective rod, and a rigid T-shaped brace to support the doors when closed, the bottom member thereof engaging the door sill and the ends of the top member engaging the side posts of the door opening.

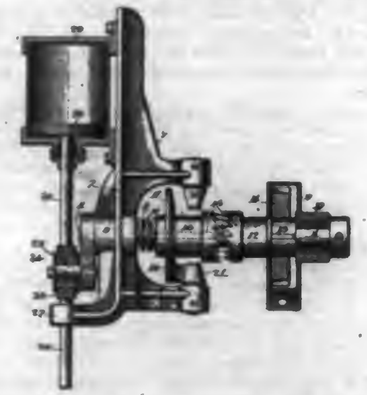
3. In combination, a wall with a door opening therein, doors hinged at the sides so that they may slide vertically or rotate horizontally, and a removable rigid T-shaped brace to hold the doors, the bottom member thereof being adapted to engage the door sill, the ends of the top member being adapted to engage the side posts of the door opening, and means to support the T-brace in the car ceiling when not in place across the door opening.

4. In combination, a wall with a door opening therein, doors adapted to close said door opening, and a rigid T-shaped brace to hold the doors, said brace lying across the meeting edges of the doors and the bottom member thereof engaging the door sill and the ends of the top member engaging the side posts of the door opening.

5. In combination, a wall with a door opening therein, doors hinged at the sides so that they may slide vertically or rotate horizontally, said doors being adapted when closed to extend across the lower part of the door opening, and a removable rigid brace adapted to lie across the meeting edges of the doors when closed and to engage the door sill and side posts of the door opening.

[Claims 6 to 14 not printed in the Gazette.]

977,043. ENGINE-STARTER. FRANK C. PRIESTLY, Los Angeles, Cal. Filed Dec. 2, 1909. Serial No. 531,097.



1. An engine starter comprising a shaft, a driven ratchet on the shaft, a driving ratchet on the shaft, a cylinder, a piston therein, a piston rod on the piston, a crank on said shaft, a connection between said crank and piston rod, means for moving said ratchet members out of contact with each other when the driving ratchet is in a certain angular position, and valve means for admitting a compressed fluid to or exhaust the same from either side of said piston.

2. An engine starter comprising a shaft, a driven ratchet on the shaft, a driving ratchet on the shaft, a cylinder, a piston therein, a piston rod on the piston, a crank on said shaft, a connection between said crank and piston rod, means for disconnecting said ratchet members when the driving ratchet is in a certain angular position in its forward stroke and for disconnecting said ratchets when the driving ratchet is in a certain angular position in its retraction stroke, and valve means for admitting a compressed fluid to or exhaust the same from either side of said piston.

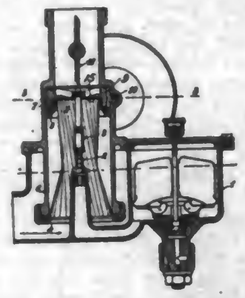
3. A shaft, a driven ratchet loose thereon, a gear on the driven ratchet adapted to mesh with a gear on the cam shaft or crank shaft of the motor, a driving ratchet splined on the first named shaft, a spring normally holding said ratchets in engagement, a cam on one ratchet, an abutment onto which said cam rides to shift the driving ratchet out of engagement with the driven ratchet, a crank on the first named shaft, a cylinder, a piston therein, a piston rod on the piston, a yoke on the piston rod, a pin on the crank projecting into said yoke, and valve means for admitting a compressed fluid to or exhaust the same from either side of said piston.

4. A frame, a shaft journaled at one end therein, a journal for the other end of said shaft, a gear housing formed with the latter journal, a driven ratchet loose on said shaft, a gear fixed on the driven ratchet within said gear housing, a driving ratchet splined on said shaft, a spring for normally holding the driving ratchet in engagement with the driven ratchet, a cam on the driving ratchet, rollers at each end of the stroke of said cam for causing said cam to move said driving ratchet out of engagement with the driven ratchet, a cylinder, a piston therein, a yoke connected with the piston, a crank on said shaft connected with said yoke, and valve means for admitting a compressed fluid to or exhaust the same from either side of said piston.

5. A frame, a shaft journaled therein, a driven ratchet loose on said shaft, a gear fixed on the driven ratchet, a driving ratchet splined on said shaft, a spring between the driving ratchet and the frame, a beveled flange on the driving ratchet, a cam on said flange, a pair of beveled rollers mounted on said frame, a cam on said flange adapted to ride upon either of said rollers and move the driving ratchet out of engagement with the driven ratchet, a crank on said shaft, a pin on the crank, a roller on the crank pin, a cylinder on the frame, a piston in the cylinder, a piston rod extending from the piston, a bracket on the frame through which the lower end of said piston rod slides, a yoke formed in said piston rod, the roller on the crank pin operating in said yoke, and valve means for admitting a compressed fluid to or exhaust the same from either side of said piston.

[Claim 6 not printed in the Gazette.]

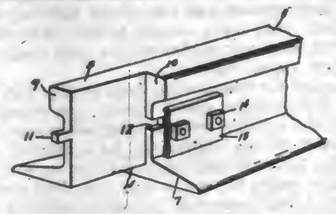
977,044. CARBURETER. BENJAMIN REBOURG, Denain, France, assignor to Société Francaise de Constructions Mecaniques (Anciens Etablissements Cail), Denain, France. Filed Apr. 26, 1910. Serial No. 557,765.



1. A carbureter comprising in combination: a constant level tank, a sprayer having orifices situated at various levels, a tube sliding over the sprayer and adapted to cover more or less the orifices in the latter, an expansible annular part having a constricted passage for the air approximately on the level of the orifice in the sprayer, and having its lower end secured to the carbureter body, and its upper end connected to the tube sliding over the sprayer, and means for rotating the upper end of said part, substantially as described and for the purpose set forth.

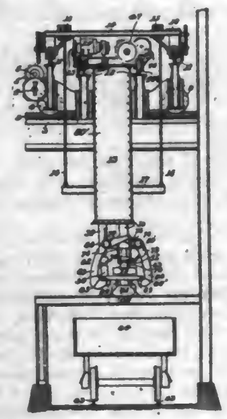
2. A carbureter comprising in combination: a constant level tank, a sprayer having orifices situated at various levels, a tube sliding over the sprayer and adapted to cover more or less the orifices in the latter, an expansible annular part having a constricted passage for the air approximately on the level of the orifices in the sprayer, and having its lower end secured to the carbureter body, and its upper end connected to the tube sliding over the sprayer, teeth on said upper end, a rack engaging with said teeth, a piston on said rack, a closed chamber in which said piston can move in and out an orifice in the wall of the chamber affording communication between one face of the piston and the suction of the engine, means for admitting the air to the other face of the piston and a spring adapted to force the piston against the air pressure, substantially as described and for the purpose set forth.

977,045. RAIL-JOINT. GEORGE W. ROBBINS, Laurel, Minn. Filed Feb. 10, 1910. Serial No. 543,088.



In a rail joint, interfitting rail ends each having a side portion of its head and web removed, one of said rail ends having a side portion of its base flange removed, the remaining side portion of said rail base flange having its under side cut away horizontally, and the other of said rail ends having the upper side of the corresponding half of its base flange cut away horizontally, said mutilated portions bearing one upon the other, a locking lug projecting forwardly from the remaining side portion of each rail web, and a locking recess formed in the mutilated side portion of each rail web engaging said locking lug.

977,046. PIG-HANDLING APPARATUS. JAMES F. SCHNABEL, Pittsburg, Pa., assignor to The Electric Controller and Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Dec. 30, 1907. Serial No. 408,513.



1. In a pig-breaking machine, the combination of a lifting magnet, pig-supporting hooks below the magnet during the operative position of the hooks, means for moving the said hooks into and away from the said position, plungers arranged to engage and break the pig-metal while supported by the hooks, connections among the plungers, the hooks, and the magnet to cause the magnet to sink and the hooks to rise, whereby the magnet may be operatively applied to a bed of pig iron.

2. In a pig-breaking machine, the combination of upper and lower cross-heads, supporting hooks for a pig-bed, carried by one cross-head, a pig-breaking plunger carried by the other cross-head, and means acting on the cross-heads to cause the plunger to engage and break the pig-metal while supported by the hooks.

3. In a pig-breaking machine, the combination of upper and lower cross-heads, supporting hooks for a pig-bed, carried by one cross-head, a pig-breaking plunger carried by the other cross-head, means acting on the cross-heads to cause the plunger to engage and break the pig-metal while supported by the hooks, and a connection between the plunger and the hooks for swinging the latter.

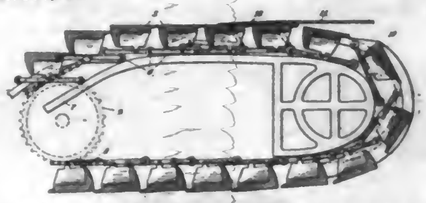
4. In a pig-breaking machine, the combination of upper and lower cross-heads, one cross-head carrying hooks to support a bed of pig iron, the other cross-head carrying

plunger for breaking the pig iron while on the said hooks, a screw connecting the cross-heads to cause the cross-heads to move toward and away from each other, a support for said cross-heads secured to the lower cross-head, and counter-balancing mechanism for said cross-heads secured to the upper cross-head.

5. In means for transporting beds of pigs and breaking the same, a pig-breaker bed on which a bed of pigs may be deposited, two hoisting trolleys arranged to travel from a position over the pig casting bed to a position over the said breaker-bed, a lifting magnet carried by each trolley, and separate tracks for the trolleys, one trolley being constructed to bridge and pass over the other, and whereby the former trolley may coöperate with the latter at either side thereof.

[Claims 6 to 20 not printed in the Gazette.]

977,047. CONVEYER. CHARLES D. SEEBERGER, Yonkers, N. Y. Continuation of application filed Aug. 18, 1905, Serial No. 274,807. This application filed Apr. 9, 1906, Serial No. 310,587. Renewed Apr. 25, 1910. Serial No. 557,591.



1. In a device of the class described, a conveyer, a stationary exit landing, and an interposed landing engaging with and controlled by the conveyer.

2. In a device of the class described, a conveyer, a stationary exit landing, and an interposed landing supported by the conveyer.

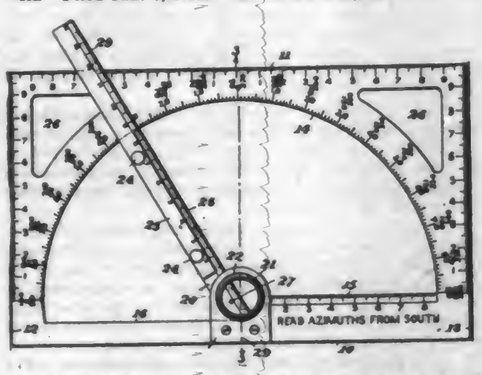
3. In a device of the class described, the combination with a conveyer, of a stationary exit landing, and an interposed substantially horizontal landing supported by the conveyer.

4. In a device of the class described, the combination with a moving tread surface, of a stationary exit landing, and an interposed landing maintained in substantially horizontal position by the tread surface.

5. In a device of the class described, the combination with a moving tread surface composed of a series of steps having their treads horizontal at the landing, of a stationary exit landing, and an interposed float supported by each step as it passes the receiving end of the float.

[Claims 6 to 25 not printed in the Gazette.]

977,048. PROTRACTOR. JAMES ELMO SMITH, Urbana, Ill. Filed Jan. 7, 1910. Serial No. 536,930.



1. A protractor comprising a base plate rectangular in shape and provided with a plurality of base edges, three edges of said base being provided with trigonometric graduations, and a protractor arm pivoted near the remaining edge at a point equidistant from said graduated edges and coöperating with all of said graduations, a portion of the base between said pivot and graduations being open, and the inside edge of said open space being provided with arc graduations.

2. A protractor comprising a base plate rectangular in shape and provided with a plurality of base edges, the outside edges of said base being provided with equal graduations, the graduations on one of said edges running in opposite directions from zero at its center to ten at its intersections with the adjacent edges, and the graduations on said adjacent edges running from zero to ten at said intersections, and an arm pivoted on said base at the intersection of lines drawn from said zero points and at right angles to said edges, and coöperating with said graduations.

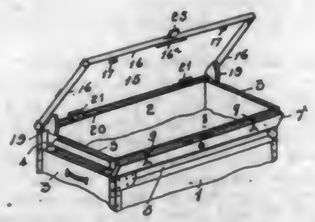
3. A protractor comprising a base plate rectangular in shape and provided with a plurality of base edges, the outside edges of said base being provided with equal graduations, the graduations on one of said edges running in opposite directions from zero at its center to ten at its intersections with the adjacent edges, and the graduations on said adjacent edges running from zero to ten at said intersections, and an arm pivoted on said base at the intersection of lines drawn from said zero points and at right angles to said edges, and coöperating with said graduations, said arm having equal graduations thereon running from zero at the pivot toward its end, and in the same units as said other graduations.

4. A protractor comprising a base plate rectangular in shape, three edges of said base being provided with graduations, and an arm pivoted near the remaining edge at a point equidistant from said three graduated edges, a portion of the base between said pivot and graduations being open forming an inside edge extending from said pivot toward one of said edges, said edge being provided with graduations, said arm having a graduated edge arranged to be placed in alinement with said inside edge.

5. A protractor comprising a base plate rectangular in shape, three edges of said base being provided with graduations, and an arm pivoted near the remaining edge at a point equidistant from said three graduated edges, a portion of the base between said pivot and graduations being open forming an inside edge extending from said pivot toward one of said edges, said edge being provided with graduations, said arm having a graduated edge arranged to be placed in alinement with said inside wedge, all of the graduations on said edges being in the same units, the zero on the outside edges being opposite the said pivot point and the zero on the inside edge and arm being at the pivot point.

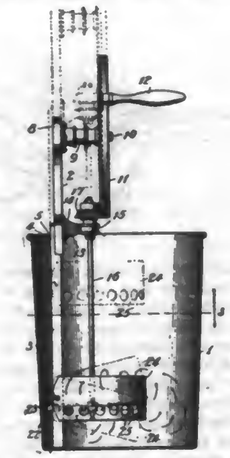
[Claims 6 to 13 not printed in the Gazette.]

977,049. TRUNK, CHEST, OR THE LIKE. WILLIAM H. SMITH, Arlington, Ill., assignor of one-half to Frank B. Mott, Galesburg, Ill. Filed Sept. 13, 1909. Serial No. 517,533.



An article of the class described comprising a body portion provided with a ledge extending along its front and a ledge along its rear sides and disposed near its upper portion, a wing hinged to one of said ledges and adapted to rest thereon in one position, a lock-member carried by said wing, a cover, a wing hinged thereto, its lower portion adapted to rest on the other of said ledges, a lock-member in said lower portion, a lock-member in said last recited ledge adapted for engagement with the one in the wing last recited, and a lock member in the cover adapted for engagement with the one disposed in that wing which is hinged to the body.

977,050. BUTTER-SEPARATOR. WILLIAM B. SPENCER, Chicago, Ill. Filed Jan. 24, 1910. Serial No. 539,837.



1. A separator of the class described in which is combined a rotary agitator mounted upon a vertical shaft, said agitator having horizontally arranged knife-like blades with depending flanges at the rear, means for rotating said agitator, and a peripheral shield near the ends of said blades, the plane of the shield being at an angle to that of the blades.

2. A separator of the class described in which is combined a rotary agitator mounted upon a vertical shaft, said agitator having substantially horizontally arranged knife-like blades with depending flanges at the rear, a peripheral perforated shield near the ends of said blades, and means for rotating said agitator.

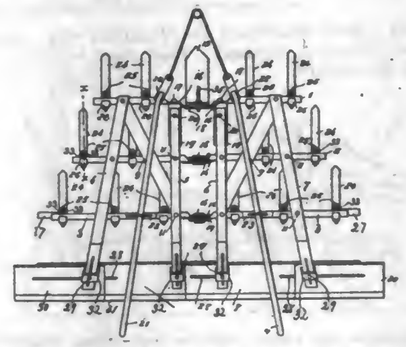
3. A separator of the class described in which is combined an agitator mounted upon a rotary shaft, said agitator being provided with blades having means thereon for inducing a vortex-whirl in the liquid in which they are rotated, means for actuating said shaft, a peripheral shield in proximity to the ends of said blades, and means for adjusting said shield at varying angles.

4. A separator of the class described in which is combined an agitator mounted upon a hollow rotary shaft, said agitator being provided with blades having means thereon for inducing a vortex-whirl in the liquid in which they are rotated, means for actuating said shaft, a collapsible tube having one end jointedly connected with said hollow shaft while the other end is open to the air, the body of said tube being supported in curved form, and means for compressing said tube from its open end toward said shaft to force air into the latter and thence into the liquid beneath the agitator.

977,051. CULTIVATOR. BENJAMIN F. STOVALL, Paradise, Tex. Filed Oct. 12, 1908. Serial No. 457,299.

1. A cultivator comprising a series of beams, each beam consisting of two wings having vertical portions thereof pivotally connected together at the central part of the cultivator and each wing having lateral extensions, braces holding said beams in operative relation, and plows attached to said beams, said beams being slotted at the connections with said plows for lateral adjustments of said plows.

2. A cultivator comprising a series of beams, each beam being composed of right and left wings pivotally connected together whereby said wings are adapted to swing upward or downward at the outer ends, plows attached to said beams, braces holding said beams in operative relation, said beams being bent down at the rear ends, and a drag composed of wings pivotally connected together and carried by the ends of said beams.

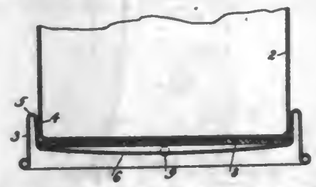


3. A cultivator comprising a series of beams, each beam being composed of right and left wings pivotally connected together, plows attached to said wings, braces holding said wings in operative relation, said braces being drooped downwardly behind the last of said series of beams, and a drag composed of two wings pivotally connected together and carried by the drooped portion of said braces.

4. A cultivator comprising a series of beams, each beam having right and left wings and each beam except the front beam being pivotally connected together, a yoke pivotally connecting the wings of said front beam and constituting a plow stock and having arms extending rearwardly, a series of braces holding said beams in operative relation, the central braces engaging said arms of said yoke, and plows attached to said beams.

5. A cultivator comprising a series of beams, each beam consisting of right and left wings having vertical portions thereof pivotally connected together, braces holding said beams in operative relation, plows attached to said beams, said beams being slotted at the connections with said plows, and handles for holding said wings at different positions.

977,052. COOKING OR HEATING UTENSIL. MAURICE STRANSKY, New York, N. Y. Filed Sept. 29, 1909. Serial No. 520,102.



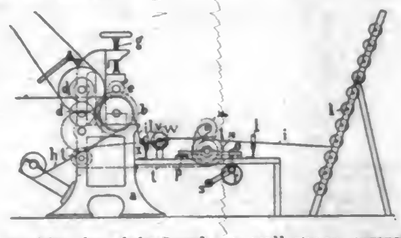
A one-piece sheet metal base for a food container comprising an outer tubular portion, an inner tubular portion adapted to receive the container, and a bottom plate for supporting and precluding the application of too high a degree of heat to the bottom of the container, said inner tubular portion being of less diameter than and integrally connected to said outer tubular portion by a rounding part whereby an annular heating space is formed and said bottom plate being integral with and extending laterally from said inner tubular portion over the entire cross sectional area thereof.

977,053. AMID OF β-β-DIETHYLPROPIONIC ACID. LUDWIG TAUB, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Original application filed Oct. 21, 1909, Serial No. 523,805. Divided and this application filed Feb. 15, 1910. Serial No. 543,078.

The herein-described new amid of beta-beta-diethylpropionic acid being a white crystalline compound melting at

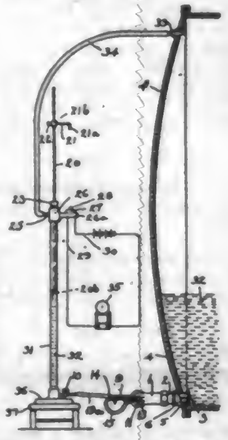
127.5° C., soluble in hot alcohol and hot benzene; liberating the free acid when reacted upon by caustic alkali and exhibiting valuable therapeutic especially sedative properties, substantially as described.

977,054. MANUFACTURE OF WALL-PAPER. ALFRED TROO, Elberfeld, Germany. Filed June 16, 1910. Serial No. 567,304.



A machine for gluing cords on wall paper, comprising two press rolls, means for pressing the same together, means for rotating them in opposite directions, combs, a glue tank, a gluing roll rotating therein, an abutting roll, means for pressing said gluing roll against the abutting roll, and excess glue removing rods, the cords being passed with the wall paper band through said press rolls after the cords have been guided through said combs, have been glued by the gluing roll, and have had the excess glue removed by being passed over the excess glue removing rods.

977,055. GAGE. FERDINAND TUREK, Cleveland, Ohio. Filed Feb. 2, 1910. Serial No. 541,552.



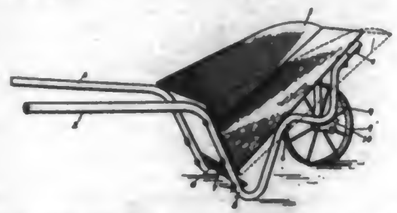
1. The combination of a tank, an outlet pipe connection to the tank, and a gage provided with connections to the tank, the gage connections including a tube extending and movable through said pipe and into the tank.

2. The combination of a tank, an outlet pipe from the tank, a valve at the inner end of the pipe, and a gage connection including a tube extending through the wall of the pipe and movable to advance the inner end of the tube beyond the valve seat and into the tank.

3. The combination of a tank, an outlet pipe from the tank, said pipe being provided with a valve, and a gage connection including a tube in the pipe with its inner end located in the valve seat opening, and on the opposite side of the valve to the tank, the tube being slidable to advance its inner end through said opening, when the valve is forced from its seat.

4. The combination of a tank, a valved outlet nozzle fastened thereto, an outlet pipe detachably connected to said nozzle, and a gage connection including a tube mounted on said pipe and removable therewith, said tube being movable with respect to the pipe to advance its inner end through the nozzle and into the tank, when the pipe is attached.

977,056. WHEELBARROW. HOLLY M. VERPLANCK, Lansing, Mich., assignor to Lansing Wheelbarrow Company, Lansing, Mich. Filed Aug. 7, 1908. Serial No. 447,425.



The combination with a wheel and a tray consisting of a flat bottom and side and rear walls, of handles, legs, wheel brackets, and tray supports, said handles, legs, wheel brackets and tray supports being formed integrally of a single piece of material bent into double loops, the rear loops constituting the legs, the forward loops the wheel brackets, the forward arms of the forward loops having forwardly-extending arms thereon arranged against and secured to the bottom of the tray to support and brace the forward end thereof, the connecting portions of the central arms of the loops being secured to the central portion of the tray bottom, the rear arms of the rear loops being arranged against and secured to the rear wall of the tray, the rear arms of the rear loops being extended into the handles.

977,057. METHOD OF REDEEMING BRISTLES. ERNEST VOGEL, Boston, Mass., assignor to John L. Whiting-J. J. Adams Company, Boston, Mass., a Corporation of Maine. Original application filed Apr. 30, 1910, Serial No. 558,615. Divided and this application filed July 16, 1910. Serial No. 572,262.

1. The method of arranging in orderly manner a disordered mass of bristles, which consists in placing the mass on a screen and stirring or rubbing the same to propel the individual bristles butt-end foremost toward and through the interstices of the screen.

2. The method of redeeming waste and disordered bristles, which consists in placing the bristles on a screen, rubbing or agitating the bristles to push them butt-end foremost through the screen, and collecting those bristles which pass through the screen.

3. The method of so arranging disordered bristles that their corresponding ends all point the same way, which consists in placing the disordered bristles upon a perforated support, moving such bristles about over the support to cause the butt ends thereof to pass into the perforations, rubbing the bristles which thus enter the perforations so that they are propelled, by engagement of their barbs with the rubbing agent, through the perforations, and retaining the bristles which pass through the perforations in the same relation to each other, as regards direction, occupied by them during their passage through the perforations.

977,058. ELECTRIC CUT-OUT. BENJAMIN M. WALPOLE, Providence, R. I. Filed Mar. 18, 1909. Serial No. 484,083.

1. In an electric cut-out, the combination of a tube or casing of insulating material having ends of conducting material, spring contact plates on said ends, a fuse link strip extending through said casing and beyond the ends thereof, the projecting ends of said fuse strip adapted to pass between said contact plates, the fuse block members for retaining the fuse in its operative position, and means independent of said fuse block members for binding said plates to said fuse link.



2. In an electric cut-out, the combination of an outer housing comprising a tube of insulating material having ends of conducting material, spring contact plates on said ends, a renewing cartridge adapted to be inserted into said housing, a fuse link strip extending through said cartridge and beyond the ends thereof, the projecting ends of said fuse strip being adapted to pass between said contact plates as said cartridge is positioned within the housing, a locking member provided with an aperture adapted to fit tightly into and compress said plates causing the same to firmly grip both sides of said fuse link, said locking member being also adapted to be readily removed therefrom.

3. In an electric cut-out, the combination of inner and outer tubes of substantially equal length, the outer tube being of insulating material having ends of conducting material, means on said ends for conuecting with the fuse block contacts, the inner tube forming the shell of a renewing cartridge, a fuse link and a filling in said inner tube, movable heads in said inner tube, said heads supporting the link and holding the filling between them and adapted to yield to an excess pressure generated within said inner tube, and electrical connections between the cartridge and the conducting ends of the outer tube.

4. In an electric cut-out, the combination of inner and outer tubes of substantially equal length, the outer tube being of insulating material having ends of conducting material, spring contact plates on said ends adapted to connect with the fuse block contacts, the inner tube forming the shell of a renewing cartridge, a fuse link strip extending through said inner tube and beyond the ends thereof, a filling in said tube around said fuse, filling and fuse link supporting heads movably mounted in said inner tube and adapted to yield to an excess pressure generated within said tube, the projecting ends of said fuse strip being adapted to pass between said spring contact plates as said cartridge is positioned within the housing.

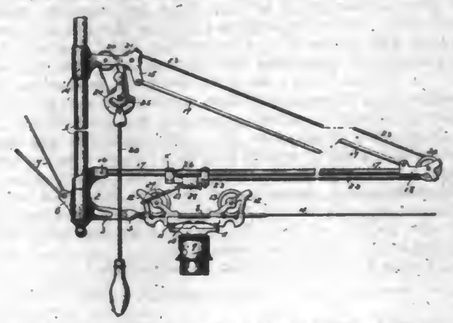
5. A cut-out comprising a tube of insulating material having end caps of conducting material, a fuse link formed of a continuous strip or ribbon of fusible material of substantially uniform thickness, the width of said strip being reduced at its middle portion to provide a definite blowing point, said fuse extending through the tube and beyond the ends thereof, a filling in said tube around said fuse, heads within said tube held in position by frictional contact with said tube and adapted to yield and be pressed outward by an excess pressure generated within the tube, contact plates on the said caps for supporting the projecting ends of said fuse link, and a collar provided with an aperture for receiving said plates, said collar when positioned being adapted to draw said plates together to tightly grip both sides of said fuse link.

[Claim 6 not printed in the Gazette.]

977,059. CASH AND PACKAGE CARRIER. HENRY M. WEAVER, Mansfield, Ohio. Filed Jan. 2, 1909. Serial No. 470,461.

1. In apparatus of the character described, the combination with a trackway for a car and a trackway for a trolley, of a trolley freely movable on said last mentioned trackway, a wire loop attached to said trolley and projecting downwardly and rearwardly therefrom, the rear end of said loop terminating an appreciable distance rearwardly of the trolley, and means for propelling said trolley to propel the car.

2. In an apparatus of the character described, the combination with a depending standard and a trackway for a car secured thereto, of a rigid bar supported by said standard above the trackway, a trolley freely movable on said bar and provided with arms or projections, a loop connected with said arms or projections and extending downwardly and rearwardly an appreciable distance rearwardly of the trolley, and means for operating said trolley to propel a car.



3. In an apparatus of the character described, the combination with a trackway for a car, of a bar disposed parallel therewith, a trolley freely movable on said bar, lugs projecting laterally from said trolley, a metal loop secured at its ends to said lugs and disposed in position to be engaged by a car on the trackway, and means for propelling the trolley to propel the car.

4. In an apparatus of the character described, the combination with a support and a trackway for a car connected with said support, of a bar also connected with said support and disposed parallel with said trackway, a trolley movable on said bar and provided with engaging means for a car, a bracket projecting from the support, pulleys mounted in said bracket, a pulley at the forward end of said bar, a sheave-block or frame, a sheave therein, a cord secured at one end to said sheave-block or frame and passing over the sheave therein and the pulleys in said bracket and also over the pulley at the forward end of said bar and having its other end attached to the trolley, and means connected with the sheave-block or frame for operating the same to transmit motion to the trolley for propelling the car.

977,060. GRINDING-MACHINE. FREDRICK WELKER, Williamsport, Pa., assignor to American Wood Working Machinery Co., Rochester, N. Y., a Corporation of Pennsylvania. Filed Feb. 3, 1910. Serial No. 541,825.



1. In a knife grinding machine, a work holding bar comprising in its construction means for securing ordinary slotted knives on a flat face on one side of the bar, and separate means opposite the flat face and comprising a separate knife-bearing-face of the bar, and a clamp overlying said latter face for clamping plain knives, for the purposes set forth.

2. A work holding bar for a knife grinding machine comprising in its construction means for holding ordinary slotted knives on a flat face, separate means opposite the flat face and at an angle thereto and comprising a separate face of the bar and a coöperating clamp for clamping plain knife strips, and means for adjusting said work holder to the required grinding positions.

3. A work holding bar for a knife grinding machine, comprising a flat face with means for securing ordinary slotted knives thereon, journals at the ends thereof, bearings mounted on a reciprocating carriage, and permitting

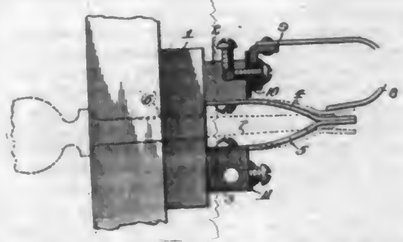
a partial or entire revolution of said bar, a plain knife clamping device located substantially opposite the flat face thereof and at an angle thereto, whereby plain knife strips may also be secured and brought into position to be ground on one or both sides.

4. In a knife grinding machine, a knife holding bar having a plurality of bearing faces, and separate knife-attaching devices for holding knives in three or more positions with reference to the grinding wheel, journals for revolving and supporting said bar, an index disk secured to one journal having as many groups of notches on its periphery as there are positions required for said grinding contact, whereby a grinding position is quickly found.

5. A work holding bar for a knife grinding machine, comprising a flat face with provision for attaching slotted knives, a thin knife supporting wing and clamp projecting substantially opposite said flat face and at an angle thereto, journals on said bar, and an index plate secured to one journal whereby the bar may be positioned and locked at the required grinding point.

[Claims 6 to 10 not printed in the Gazette.]

977,061. MEANS FOR MEASURING CURRENT IN THREE-PHASE SYSTEMS. CARL WILER, Chicago, Ill., assignor, by mesne assignments, to General Electric Company, a Corporation of New York. Filed Jan. 7, 1909. Serial No. 471,166.



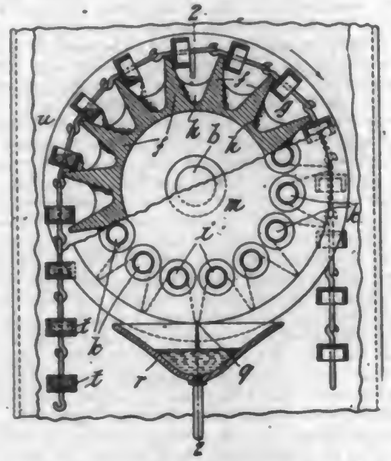
1. The combination with the mains of a three phase alternating current system, of a transformer in two of said mains, an electrical measuring instrument, a pair of switches each consisting of spring members normally in contact to connect the transformers in parallel through the instrument, an auxiliary member for each switch, and a plug for separating said members and simultaneously causing one of them to make contact with an auxiliary member to short circuit the corresponding transformer.

2. The combination with the mains of a three phase alternating current system, of a transformer in two of said mains, an electrical measuring instrument, a pair of switches each consisting of spring members normally in contact to connect the transformers in parallel through the instrument, and a plug for separating the members of each switch.

3. Circuit controlling mechanism consisting of a switch board, a pair of jacks mounted thereon, each provided with a pair of normally closed springs arranged to be opened by the insertion of a plug in the jack, a bar permanently connecting a corresponding spring of each jack, and a second bar extending between said other springs and arranged to be electrically connected with either of the same when the plug is inserted in the corresponding jack.

4. Means for measuring the current in each of the phases of a three-phase alternating current system, said means comprising a pair of jacks each provided with a pair of normally closed springs arranged to be opened by the insertion of a plug in the jack, a bar permanently connecting a corresponding spring of each jack, a second bar extending between said other springs and arranged to be electrically connected with either of the same when the plug is inserted in the corresponding jack, transformers included in the circuit of two said phases, each transformer having one terminal of its secondary connected to one of said last-mentioned springs, and a measuring instrument having one of its terminals connected to said first-mentioned bar and its other terminal connected to said second bar and to the other terminals of the secondaries of said transformers.

977,062. ELEVATOR-WHEEL. JOHN F. BARKER, Springfield, Mass., assignor to Gilbert & Barker Manufacturing Company, Springfield, Mass., a Corporation. Filed Mar. 18, 1910. Serial No. 550,113.



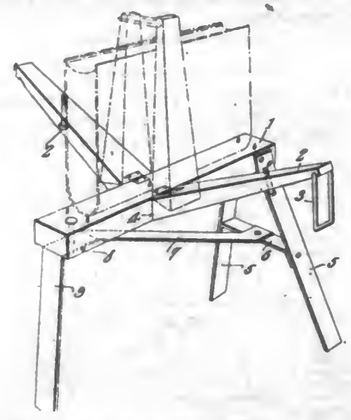
1. An elevator wheel of the class described comprising parallel flanged members, a series of spaced partitions extending transversely of the flanged members for forming a series of pockets in the periphery of the wheel, the bottoms of the pockets being formed as a portion of the surface of a cone, a series of recesses in the side of the wheel and openings forming communication between the recesses and the pockets, and a disk member surrounding the recesses and extending beyond the edge portion of the recesses, the sides of the recesses converging toward the openings, whereby when the liquid is discharged into the pockets the same will freely flow to the edge portion of the disk, as described.

2. An elevator-wheel for fuel gas machines comprising a series of liquid-receiving pockets arranged on the periphery of the wheel, a series of recesses in the sides of the wheel, openings forming communication between the pockets and recesses, a disk member surrounding the recesses and flush with the outer edge of the recesses and provided with a thin edge, whereby liquid can freely flow from the pockets to the edge of the disk member for discharge.

3. An elevator wheel for liquid-fuel gas machines, provided with means for conveying the liquid to the side portion of the wheel, said means comprising a series of pockets with bottoms which are inclined at an angle to the axis of the wheel, a side of the wheel having a series of recesses whose sides are inclined, the pockets and recesses being connected by openings, and a thin disk element having its outer face flush with the outer edge of the recesses, and the peripheral portion extending beyond the recesses whereby said fuel will freely flow by gravity to the thin peripheral portion of the disk.

977,063. DISPLAY-RACK AND SILENT SALESMAN. HORATIO BARNETT, Malvern, Ark. Filed Mar. 24, 1909. Serial No. 485,441.

A display rack including an inclined bar, pointed book engaging projections extending upwardly from the bar, arms hingedly connected to opposite portions of the bar, and having ends designed to abut against the bar to hold the arms in inclined position, said arms being interposed between the projections, means carried by one of the arms for detachably engaging the other arm to hold said arms



against separation, and adjustable means carried by each arm for binding upon a book contained between the arms.

977,064. COMBINED MOP AND SCRUBBING-BRUSH. JOSEPH O. BEAZLEY, Baltimore, Md., assignor to The Brush Mop Wringer Manufacturing Company, Baltimore, Md., a Corporation of Maryland. Filed June 26, 1909. Serial No. 504,565.



1. A device of the class described including a mop head, clamping devices arranged at one of the faces of the mop head for holding a brush, means mounted on the mop head for holding a mop cloth at the other face of the same, a bracket comprising a sleeve and provided with alined arms and having inner and outer laterally projecting tubular extensions, the inner tubular extensions being provided with side openings, a handle secured in the sleeve, rods passing through the tubular extensions and engaging the said openings, said rods being connected with the mop head and adapted to be arranged at an angle to either face of the same, and a wringing shaft supported by the said arms and provided with means for connecting it with a mop cloth.

2. A device of the class described including a mop head provided with opposite laterally extending lugs, a handle having longitudinal connecting rods hinged to the mop head and adapted to swing with respect thereto to arrange the handle at an angle to either face of the mop head, said rods being arranged to engage detachably with the lugs for securing the handle in one position, means arranged at one of the faces of the mop head for holding a brush, and means mounted on the other face of the mop head for the attachment of a mop cloth.

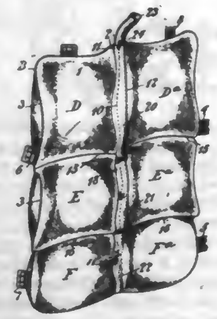
3. A device of the class described including a mop head provided with spaced slots and having laterally extending lugs located at the said slots, a handle provided with longitudinal connecting rods hinged to one side of the mop head and arranged to swing into the slots and to project to the other side of the mop head and engaged with the lugs to hold the handle in position, means arranged at one of the faces of the mop head for holding a brush, and means mounted on the other face of the mop head for the attachment of a mop cloth.

4. A device of the class described including a mop head provided with an upstanding arm having an engaging portion, a handle provided with spaced connecting rods hinged to the mop head and adapted to swing with respect thereto to arrange the handle at an angle to either face of the mop head, one of the rods coöperating with the said engaging portion of the upstanding arm to secure the handle in one position of its adjustment, means arranged at one face of the mop head for holding a brush, and means mounted on the other face of the mop head for the attachment of a mop cloth.

5. A device of the class described including a mop head provided with a slot and having a lug at one side of the slot, said mop head being also provided at the opposite side with an upstanding arm having engaging means, a handle having a connecting rod hinged to the mop head at one side thereof and adapted to be arranged at an angle to either face of the same and arranged to engage either the lug or the upstanding arm to secure the handle in its different positions, means arranged at one of the faces of the mop head for holding a brush, and means mounted on the other face of the mop head for the attachment of a mop cloth.

[Claims 6 and 7 not printed in the Gazette.]

977,065. SWIMMING-BAG. ROBERT L. F. BERRY, Miller Place, N. Y., assignor of one-third to Frederick W. Schwer, Glen Ridge, N. J., and one-third to Caroline C. Bahr, Yonkers, N. Y. Filed Mar. 29, 1910. Serial No. 552,222.



1. A swimming bag formed of cloth which becomes impervious to air when wet by virtue of its being made of fine mesh, stitching dividing said bag into independent closed compartments and forming a portion of the bag into an air conduit having openings into said compartments, said conduit extending along said compartments and of a size to be collapsed and sealed by the pressure of air in the compartments.

2. A swimming bag formed of cloth which becomes impervious to air when wet by virtue of its being made of fine mesh, stitching dividing said bag into independent closed compartments and forming a portion of the bag into an air conduit having openings into said compartments, said conduit extending along said compartments and of a size to be collapsed and sealed by the pressure of air in the compartments, and a tube of the described material connected at one end to said air conduit and provided at the other end with a mouth-piece, and of sufficient length to enable it by collapsing to seal the bag.

3. A swimming bag formed of cloth which becomes impervious to air when wet by virtue of its being made of fine mesh, a portion of the body of said bag being formed by means of stitching into an air conduit opening into the body of the bag and extending along said body and of a size to be collapsed and sealed by means of the pressure of air in the bag, and a valve tube connected to said conduit.

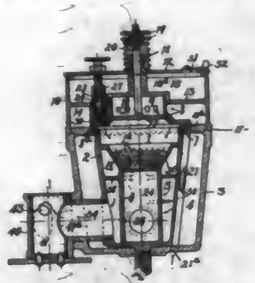
4. A swimming bag formed of cloth which becomes impervious to air when wet by virtue of its being made of fine mesh, said bag divided by stitching into independent closed compartments, so that when one compartment is

punctured the others will not be affected, a portion of said bag also formed by stitching into an air conduit in communication with all of said compartments, said conduit extending along said compartments and of a size to be collapsed and sealed by the pressure of the air in the compartments, and a mouth-piece for said conduit.

5. A swimming bag formed of cloth which becomes impervious to air when wet by virtue of its being made of fine mesh, said bag comprising main body portions which are out of communication with each other, each of said main portions divided by stitching into independent compartments, and a portion of each of said main portions being formed by stitching into air conduits having independent openings into the different compartments, said air conduits being contiguous and collapsible by pressure of the air in the compartments, and a mouth piece communicating with said conduits.

[Claims 6 to 10 not printed in the Gazette.]

977,066. CARBURETER. PEHR MARTIN BLOM, Toledo, Ohio. Filed Jan. 29, 1909. Serial No. 475,003.



1. In a carbureter, a vaporizing-chamber, a frusto-conical mixing-chamber located within said vaporizing-chamber and having its small end closed and its side wall provided with a plurality of perforations to open communication between said chambers, and channels provided through the vaporizing-chamber and around the outer wall thereof for the passage of the exhaust from an engine.

2. In a carbureter, a vaporizing-chamber, a frusto-conical mixing-chamber located within said vaporizing-chamber and having its small end closed and its conical wall perforated to open communication between said chambers, an exhaust-chamber located within the vaporizing-chamber at one side of the closed end of the mixing-chamber, and passages around said vaporizing-chamber and also through the same into said exhaust-chamber for the passage of the exhaust from an engine.

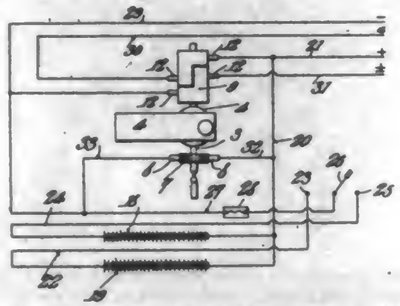
3. In a carbureter, a series of casings arranged one without the other and forming internal mixing and exhaust-chambers, a vaporizing-chamber surrounding portions of said chambers and in communication with the mixing-chamber, and an exhaust passage around the vaporizing-chamber and having communication with said internal exhaust-chamber, and means controlling the admission of air and liquid fuel to the mixing-chamber.

4. In a carbureter, a series of casings arranged one without the other and forming superimposed internal mixing and exhaust chambers, a vaporizing-chamber encircling said mixing and exhaust chambers in communication with the mixing-chamber, and having baffle plates therein, and an external exhaust passage around the vaporizing-chamber and having communication with said exhaust-chamber, an air-chamber in valve controlled communication with said mixing-chamber, tubes opening communication between the atmosphere and air-chamber through said external exhaust passage, a source of liquid fuel supply in valve controlled communication with the mixing-chamber.

5. In a carbureter, a plurality of casings forming an internal-mixing-chamber, a vaporizing-chamber arranged around and in communication with said mixing-chamber, passages around the vaporizing-chamber for the exhaust from an engine, an air passage over the mixing-chamber in communication with the atmosphere through said exhaust passage, a fuel storage-chamber over the air passage, and means controlling the admission of liquid fuel and air to the mixing-chamber.

[Claims 6 to 11 not printed in the Gazette.]

977,067. CENTRAL-STATION CALL SYSTEM FOR TELEPHONE-LINES. WILLIAM E. BUTLER, David City, Nebr. Filed Feb. 15, 1909. Serial No. 478,003.



1. In a ringing system for telephone lines, a source of direct current, a rotatable pole changer, a direct current motor for driving the pole changer, means for coupling the source of current to the motor and at the same time to the pole changer and through the latter to the line conductors, and a transformer coupled to the source of current through the pole changer.

2. In a ringing system for telephone lines, a source of constant current, a rotatable pole changer, a constant current motor for driving the pole changer, means for coupling the source of current to the motor and at the same time to the pole changer and through the latter to the line conductors, a transformer coupled to the source of current through the pole changer, and a condenser and resistance in series bridged across the secondary winding of the transformer.

3. In a ringing system for telephone lines, a source of constant current, a rotatable pole changer, a constant current motor for driving the pole changer, means for coupling the source of current to the motor and at the same time to the pole changer and through the latter to the line conductors, a transformer coupled to the source of constant current through the pole changer, and a condenser and a non-inductive resistance in series bridged across the secondary winding of the transformer.

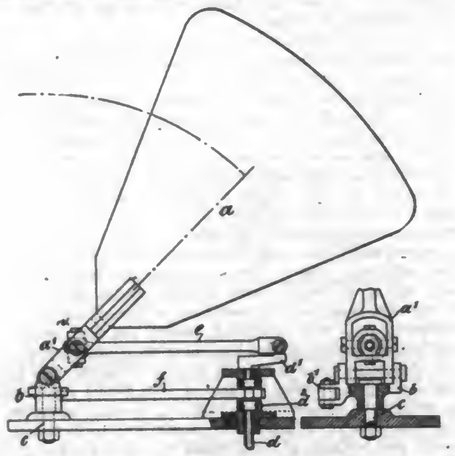
4. In a ringing system for telephone lines, a source of constant current, a rotatable pole changer, a constant current motor for driving the pole changer, an adjustable retardation or choke coil in the circuit of the pole changer, a transformer for converting the current supplied by the constant current source into alternating current, and a condenser and resistance in series bridged across the secondary of the transformer.

5. In a ringing system for telephone lines, a source of constant current, a rotatable pole changer, a constant current motor for driving the pole changer, an adjustable retardation or choke coil in the circuit of the pole changer, a transformer for converting the current supplied by the constant current source into alternating currents, and a condenser and non-inductive resistance in series bridged across the secondary of the transformer.

[Claims 6 and 7 not printed in the Gazette.]

977,068. PROPELLER FOR OPERATING ON FLUIDS. BERTRAM GEORGE COOPER, Surbiton, England. Filed Jan. 30, 1909. Serial No. 475,265.

1. A propeller for operating on fluids, comprising a blade, a carrier thereof and mechanism for effecting a cycle of operations on the blade by causing it to move forward and alternately recede, relatively to the carrier, in such a manner as to impart to the fluid a motion the resultant re-active force of which, due to the receding motion, is in the same direction as the resultant re-active force due to the forward motion.



2. A propeller for operating on fluids, comprising a blade, a carrier thereof and mechanism for causing the blade to perform a figure of 8 orbit relatively to the carrier and, throughout the entire orbit, exert a propelling force in a direction which is at right angles to the height of the figure of 8 and in the average plane of the orbit.

3. A propeller for operating on fluids, comprising a blade, a carrier thereof and mechanism for causing the blade to perform a figure of 8 orbit relatively to the carrier, the average plane of the blade during the portions of the orbit which cross one another deviating only a little from the line of motion of the blade and being, at the extremities of the orbit, approximately normal to the line of motion.

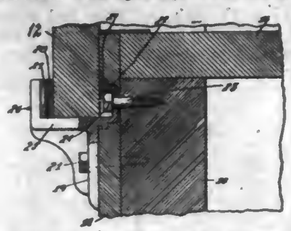
4. A mechanism for actuating the blade of a propeller in a figure of 8 orbit comprising a carrier, one element of a first pivot secured to the carrier, a second pivot whose axis is at right angles to that of the first, a blade-inclining lever formed with an element of each of the two said pivots, a blade-carrying lever formed with the other element of the second pivot and means for imparting to the blade-inclining lever a single to-and-fro swing about the first pivot while to the blade-carrying lever is imparted, during the same period, a single to-and-fro swing about the second pivot.

5. A mechanism for actuating the blade of a propeller in a figure of 8 orbit, comprising a carrier, one element of a first pivot secured to the carrier, a second pivot whose axis is at right angles to that of the first, a blade-inclining lever formed with an element of each of the two said pivots, a blade-carrying lever formed with the other element of the second pivot and a motor-actuated crank-shaft for imparting to the blade-inclining lever a single to-and-fro swing about the first pivot while to the blade-carrying lever is imparted, during the same period, a single to-and-fro swing about the second pivot.

[Claims 6 and 7 not printed in the Gazette.]

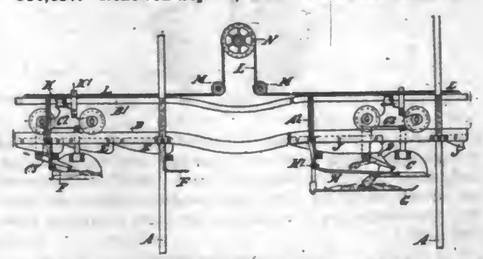
977,069. CAR-DOOR GUIDE AND GUARD. MICHAEL L COTTER, Somerville, Mass. Filed Feb. 3, 1910. Serial No. 541,848.

An attachment for freight cars comprising a bracket having an upper portion U-shaped in cross-section and including a horizontal portion and spaced legs extending upward therefrom and arranged to closely embrace the lower edge of a door, a lower portion integral with the horizontal part of the upper portion and extending downward therefrom, said lower portion having one face adapted to engage against the sheathing of a car, said lower portion being furthermore slightly offset from one leg of the upper portion, and spaced bosses projecting from the outer face of the last mentioned leg, said leg and bosses being adapted to be seated in a recess in the car sheathing conforming to said leg and the bosses thereon, said bosses being each provided with openings therethrough to receive



a lag screw, the openings extending through the leg and being provided with enlarged ends to receive the heads of the lag screw.

977,070. CABLE-CARRIER APPARATUS. JAMES T. COWLEY, Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed Aug. 2, 1907, Serial No. 386,697. Renewed Sept. 2, 1910. Serial No. 580,181.



1. In an apparatus of the character described, a track or way, carriers adapted to travel on said track or way, means for driving said carriers, despatching stations or shelves located along the path of travel of said carrier, mechanism located on said carrier adapted to be selectively operated to sweep articles from said shelves into said carriers, and selective means adapted to operate said mechanism on a designated carrier to remove articles from a designated despatching station into said carrier.

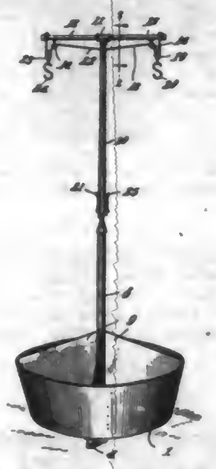
2. In an apparatus of the character described, a track or way, carriers adapted to travel on said track or way, means for driving said carriers, receiving stations located along the path of travel of said carriers, mechanism located at said receiving stations and adapted to be selectively operated by mechanism on said carriers to sweep articles from said carriers into said stations, and selective means adapted to operate said mechanism at a designated station to remove the articles from a designated carrier into said station.

3. In an apparatus of the character described, a track or way, carriers adapted to travel on said track or way, means for driving said carriers, despatching stations or shelves located along the path of travel of said carrier, mechanism located on said carrier adapted to be selectively operated to remove articles from said shelves into said carriers, selective means adapted to operate said mechanism on a designated carrier to remove articles from a designated despatch station into said carrier, receiving stations or shelves located along the path of travel of said carrier, movable mechanism located at each receiving station to remove articles from the carrier into said receiving station, and selective means located in each receiving station for operating the mechanism on a designated carrier to operate the removing mechanism at said receiving station.

977,071. PORTABLE FRUIT-DISPLAYER. WILLIAM FRED CRANDALL, Jasper, Mo., assignor of one-half to Virgil Henry Hendricks, Jasper, Mo. Filed Apr. 28, 1910. Serial No. 558,315.

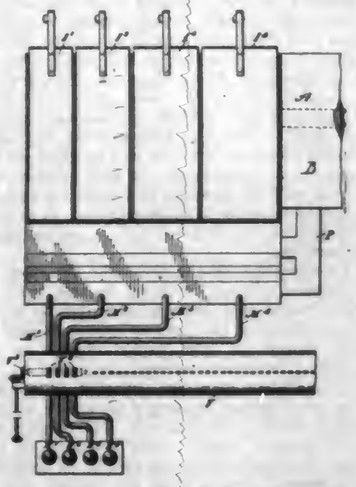
A display rack including a tub-like base, crossed reinforcing strips secured upon the bottom thereof and ex-

tending throughout the diameter of said bottom, a plate upon the center portion of the bottom of the base and having an interiorly screwthreaded tubular extension, means extending through the plate and strips for securing them to the base, a tubular standard screwed into the extension, wings radiating from the bottom portion of



the standard and adapted to contact with the wall of the base and divide the interior of said base into separate compartments, an extension on the upper end of the standard, oppositely extending arms thereon, and means upon each arm for engaging and raising or lowering an article to be displayed.

977,072. AUTOMATIC PLAYER. WALTER R. CRIPPEN, Boston, Mass., assignor to Emerson Piano Company, Boston, Mass., a Corporation of Illinois. Filed Oct. 9, 1906. Serial No. 338,104.



1. In an automatic player, action ppeumatics, a windway having a passage leading to said action pneumatics, a collapsible pneumatic regulator therefor operated in one direction by a difference in air tension between the inside and outside of said regulator, said wind-way passage extending through said regulator, a valve to control the passage of air through said regulator, means of connection between said regulator and said valve whereby the latter will be operated thereby, means for acting upon the regulator in opposition to the tension of air, said means comprising a plurality of auxiliary pneumatics, passages for connecting said auxiliary pneumatics with said wind-way, valves for said passages, pneumatics for said valves, and a tracker-board having special ducts leading to the last mentioned pneumatics for operating the latter automatically.

2. In an automatic player, action pneumatics, a windway having a passage leading to said action pneumatics, a collapsible pneumatic regulator therefor operated in one direction by a difference in air tension between the inside and outside of said regulator, said wind-way passage extending through said regulator, a valve to control the passage of air through said regulator, means of connection between said regulator and said valve whereby the latter will be operated thereby, means for acting upon the regulator in opposition to the tension of air, said means comprising a plurality of auxiliary pneumatics, passages for connecting said auxiliary pneumatics with said wind-way, valves for said passages, pneumatics for said valves, a tracker-board having special ducts leading to the last mentioned pneumatics for operating the latter automatically, and auxiliary means for manually controlling the action of the last mentioned pneumatics.

3. In an automatic player, action pneumatics, a windway having a passage leading to said action pneumatics, a collapsible pneumatic regulator therefor operated in one direction by a difference in air tension between the inside and outside of said regulator, said wind-way passage extending through said regulator, a valve to control the passage of air through said regulator, means of connection between said regulator and said valve whereby the latter will be operated thereby, means for acting upon the regulator in opposition to the tension of air, said means comprising a plurality of auxiliary pneumatics, passages for connecting said auxiliary pneumatics with said wind-way, valves for said passages, pneumatics for said valves, and a tracker-board having special ducts leading to the last mentioned pneumatics for operating the latter automatically, said auxiliary pneumatics being of different power.

4. In an automatic player, action pneumatics, a windway having a passage leading to said action pneumatics, a collapsible pneumatic regulator therefor operated in one direction by a difference in air tension between the inside and outside of said regulator, said wind-way passage extending through said regulator, a valve to control the passage of air through said regulator, means of connection between said regulator and said valve whereby the latter will be operated thereby, means for acting upon the regulator in opposition to the tension of air, said means comprising a plurality of auxiliary pneumatics of different resistance, passages for connecting said auxiliary pneumatics with said wind-way, valves for said passages, pneumatics for said valves, and a tracker-board having special ducts leading to the last mentioned pneumatics for operating the latter automatically.

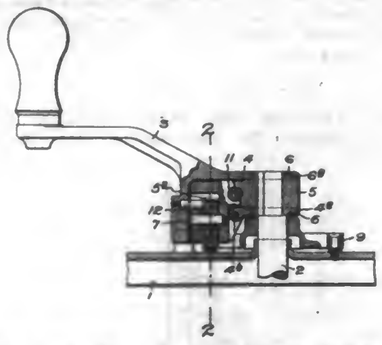
5. In an automatic player, action pneumatics, an action wind-chest common to both solo and accompaniment action pneumatics, means for producing both solo and accompaniment effects by the pressure in said common chest, and means for automatically varying the power of the solo effect independently of the accompaniment effect.

[Claims 6 to 10 not printed in the Gazette.]

977,073. LOCKING MECHANISM FOR CONTROLLER-HANDLES. ARCHIBALD S. CURTIT, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Nov. 9, 1905. Serial No. 286,506.

1. In a controller, a movable member adapted to be moved in opposite directions from its "off" position, an operating handle, means for locking said member against movement at one or more points in either direction from the "off" position, and means for releasing said member operative upon movement of said handle toward the "off" position.

2. In a controller, a movable member adapted to be moved in opposite directions from its "off" position, an operating handle, means for locking said member against movement at one or more points in either direction of movement from the "off" position, and means controlled by a movement in said handle toward the "off" position for releasing said member.



3. In a controller, a movable member adapted to be moved in opposite directions from its "off" position, an operating handle, two series of stops, a pair of dogs one of which engages with one series of stops to lock said member against movement in one direction from the "off" position and the other of which engages with the other series of stops to lock the member against movement in the opposite direction from the "off" position, and means for releasing said dogs from said stops operative upon movement of the handle toward the "off" position.

4. In a controller, a movable member adapted to be moved in opposite directions from its "off" position, an operating handle, two series of stops, a pair of dogs one of which engages with one series of stops to lock said member against movement in one direction from the "off" position and the other of which engages with the other series of stops to lock the member against movement in the opposite direction from the "off" position, and means controlled by movements of the handle toward the "off" position for releasing said dogs from said stops.

5. In combination, a controller handle, a single pawl carried by the handle and entirely covered thereby, a notched member with which the pawl coöperates to stop the handle at predetermined points in its forward movement, and means operated by the handle during a slight backward movement thereof for releasing said pawl.

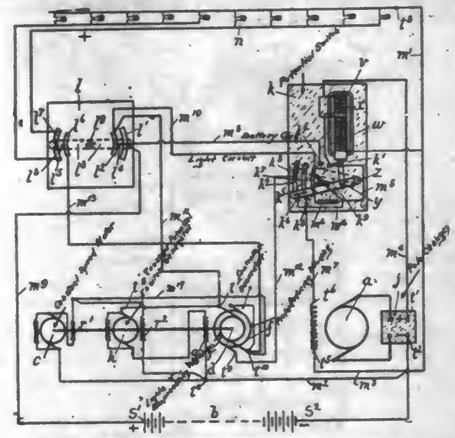
[Claim 6 not printed in the Gazette.]

977,074. VOLTAGE-REGULATED ELECTRIC-LIGHTING SYSTEM FOR RAILWAY AND OTHER CARRIAGES. JAMES DALZIEL, Derby, England. Filed Sept. 27, 1904. Serial No. 226,186.

1. In a system of electrical distribution, the combination with a generator and its field magnet exciting coils supplied from any proper source, a unitary source of auxiliary electromotive force, means comprising a second unitary source which introduces into the circuit of the said main generator's exciting coils a varying potential from said auxiliary source on a variation from the normal potential of the system, in such a direction as to maintain constant potential on the system.

2. In a system of electrical distribution, the combination with a main generator supplying translating devices with electrical energy at constant potential, exciting coils for said main generator and supplied from any proper source, a unitary source of variable potential and means comprising a second unitary source governed by the variation of main line potential for introducing into the exciting coils of the main generator a varying potential from the unitary source of variable potential on a variation of main line potential, in such a direction as to maintain constant potential on the system.

3. In a system of electrical distribution, the combination of a main generator, translating devices, a constant potential generator, a source of variable potential, means for putting in circuit with the exciting coils of the main generator the source of variable potential after the potential of said main generator reaches a certain predetermined amount and circuit connections whereby the source of variable potential is excited by the algebraic sum of the potentials of the main generator and the constant potential generator.



4. In a system of electrical distribution, the combination of the main generator, of translating devices supplied therefrom, exciting coils for said main generator and supplied with energy from said main generator, a source of auxiliary energy, and means for connecting said auxiliary source in circuit with the exciting coils of the said main generator when the potential of the said main generator has reached a certain predetermined amount, means which cause said auxiliary source of energy to aid or oppose the energy from the main generator supplied to its exciting coils.

5. In a system of electrical distribution, the combination of a main generator, of translating devices supplied therefrom, exciting coils for said main generator and supplied with energy from said generator, a source of auxiliary energy and a second auxiliary generator, and means for connecting said auxiliary source in circuit with the exciting coils of the main generator when the potential of the main generator reaches a certain predetermined amount, means acted upon by the respective potentials of the main generator and the second auxiliary generator to cause the source of auxiliary energy to aid or oppose the energy from the main generator supplied to its exciting coils.

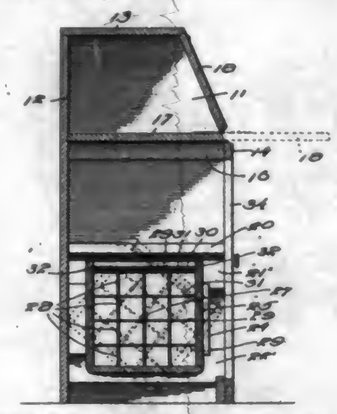
[Claims 6 to 18 not printed in the Gazette.]

977,075. COMBINATION EGG-CABINET. WILLIAM H. DEAR, Anthony, Kans. Filed June 15, 1910. Serial No. 566,973.

1. A device of the class described, comprising, a cabinet substantially rectangular in cross-section, a plurality of slotted supports arranged within said cabinet, members adapted to slide within said supports, said members being adapted to pivotally support a drawer, means for locking said drawer to said members, a member slidably arranged above said drawer and adapted to form a cover for the same, said cover being adapted to prevent said drawer from tilting when the same is in its closed position.

2. A device of the class described, comprising, a cabinet substantially rectangular in cross-section, grooved members arranged within said cabinet, members adapted to slide within said grooved members, said members being adapted to pivotally support a drawer, a member slidably arranged above said drawer and adapted to form a cover for the same, a tray arranged within said drawer, a plurality of followers adapted to rest upon said tray, one of said followers being provided with pivoted members, the end portions of which are adapted to enter cut-away portions in the side walls of said drawer.

3. A device of the class described, comprising, a cabinet, substantially rectangular in cross-section, grooved supports arranged within said cabinet, members adapted to slide between said supports, a drawer pivotally supported by said members, means carried by said drawer for locking the same to said members, and sliding means for locking said drawer against tilting, said means being adapted to form a cover for said drawer.



4. A device of the class described, comprising, a cabinet substantially rectangular in cross-section, a plurality of spaced supports arranged within said cabinet, members adapted to slide between said supports, a drawer pivotally supported by said members and a member slidably arranged upon said supports, said member being adapted to form a closure for said drawer.

977,076. EXPLOSIVE. MAURICE DELVIGNE, Namur, Belgium. Filed Jan. 11, 1910. Serial No. 537,498.

1. An explosive composition of matter comprising an oxidizing agent and an alkaline-earth silicid.

2. An explosive composition of matter comprising ammonium nitrate and an alkaline-earth silicid.

3. An explosive composition of matter comprising ammonium nitrate and calcium silicid.

4. An explosive composition of matter comprising an oxidizing agent and calcium silicid.

5. An explosive composition of matter consisting of an explosive substance, an oxidizing agent, and an alkaline-earth silicid.

[Claims 6 to 8 not printed in the Gazette.]

977,077. CHURN. JOSHUA E. DINWIDDIE, Farmington, Kans. Filed Sept. 29, 1909. Serial No. 520,181.



The combination with a churn including a receptacle, of upper and lower bearing bands spaced apart and surrounding said receptacle, each bearing band being formed in two parts hingedly united at one side and detachably coupled at the other side, a plurality of supporting legs connected at one end to said upper bearing band and directed outwardly and downwardly therefrom, and a connecting member between each of said leg members and the lower bearing band.

977,078. FURNACE FOR STEAM-BOILERS. FRANCIS DUFFY, Chicago, Ill. Filed Mar. 2, 1910. Serial No. 546,818.



1. In combination, a steam boiler having a substantially flat front through which there is an opening leading into the fire box, and a shallow dished preheating chamber secured to the boiler front surrounding said opening and communicating therewith and contacting the boiler front at its periphery, the boiler front forming the back of the preheating chamber, and said preheating chamber having inlets for air at its edges whereby the draft will draw air through said chamber across the boiler front before entering the fire box.

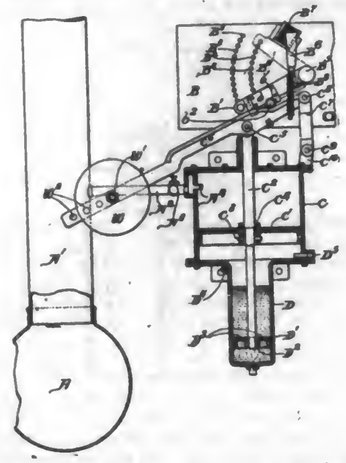
2. In combination, a steam boiler having a fire-box and an opening in the front leading thereinto, and a flat preheating chamber secured to the boiler front surrounding said opening and communicating therewith, said preheating chamber having inlets for air at its edges and having a steam duct with apertures arranged around the margin of said opening for the purpose described.

3. In combination, a steam boiler having a fire-box and an opening in the front leading thereinto, a steam duct arranged around the margin of said opening and having apertures leading thereinto, and a flat preheating chamber secured to the front of the boiler and discharging into the boiler adjacent to the steam duct, substantially as described.

4. In combination, a steam boiler, having a fire-box and an opening in the front leading thereinto, and a flat preheating chamber secured to the boiler front surrounding said opening and communicating therewith, said preheating chamber consisting of cast metal and having a duct formed in the metal and arranged to extend around the margin of said opening where it will be exposed to the heat of the fire in the fire box, there being small steam outlets leading from said duct into said opening, substantially as described.

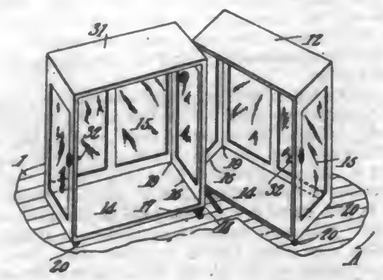
977,079. AUTOMATIC PRESSURE-CONTROLLER. HOWARD REGINALD DUNBAR, Canton, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed July 1, 1907. Serial No. 381,653.

1. In an automatic pressure controller, a source of air-pressure, a supply pipe of a pneumatic despatch tube system communicating with said source of air-pressure, a cylinder communicating at one end with said supply pipe and opening at the other end to the outside air, a piston movable in said cylinder by the variation of pressure in the cylinder through the latter's communication with said supply pipe, a pivoted lever actuated by said piston, and the hinged contact-arm of a rheostat having sliding engagement with said lever and controlled by the movement of said lever.



2. In an automatic pressure controller, a source of air-pressure, a supply pipe of a pneumatic despatch tube system communicating with said source of air-pressure, a cylinder communicating at one end with said supply pipe and opening at the other end to the outside air, a piston movable in said cylinder by the variation of pressure in the cylinder through the latter's communication with said supply pipe, a piston-rod leading from said piston to the exterior of the cylinder, a lever having a movable fulcrum connected with the outer end of said piston-rod, a weight adjustable on the free end of said lever, and the hinged contact-arm of a rheostat having a sliding engagement with said lever and controlled by the movement of said lever.

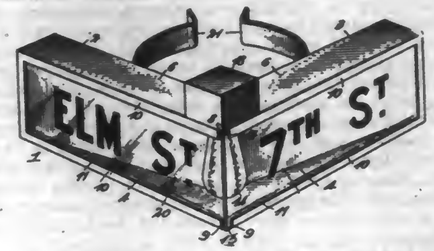
977,080. DISPLAY-CABINET. ARTHUR T. DUNCAN, Clinton, Mo., assignor of one-half to John M. Williams, Clinton, Mo. Filed Feb. 12, 1910. Serial No. 543,465.



1. A device of the class described comprising a fixed main track; fixed auxiliary tracks extended from the intermediate portion of one side of the main track; display members having pivotally mounted elements to engage the main track and pivotally mounted elements to engage the auxiliary tracks.

2. A device of the class described comprising a fixed main track; fixed auxiliary tracks extended from the intermediate portion of one side of the main track; display members having pivotally mounted elements to engage the main track and pivotally mounted elements to engage the auxiliary tracks; and fixed stops to limit the movement of the elements along the tracks.

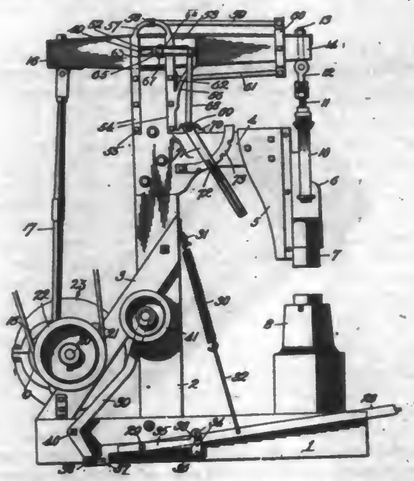
977,081. ELECTRIC STREET-INDICATING SIGN. JAMES W. ELLIS, Denver, Colo. Filed Sept. 7, 1909. Serial No. 516,474.



1. An illuminated street corner sign, comprising a box, consisting of two wing portions extending from an apex portion, a removable letter display plate arranged on each of the wing portions of said box, a lamp within said box at its apex, and light deflecting surfaces in each wing portion of said box arranged to deflect the light of said lamp to illuminate the said sign letters.

2. An electric street sign, comprising a box provided with two winged letter displaying sides provided with display plates adapted to display the name of intersecting streets in the day time, and to display illuminated names of streets in the night time, a lamp in said box at the intersection of said wing portions, and a deflecting plate in each wing portion diverging from the apex portion of said box toward said display plates, and adapted to deflect the light of said lamps along the whole length of said display plates.

977,082. POWER-HAMMER. CLARENCE R. EMBRY, Wamego, Kans. Filed Jan. 4, 1909. Serial No. 470,711.



1. A power hammer, comprising a base equipped with an anvil and a standard, a vertically-reciprocatory hammer suitably supported above the anvil, a pair of parallel frames supported by the standard and provided with slots, a pair of collars fitting slidingly in said slots, a lever arranged between said frames and provided with a slot communicating with but narrower than the slots of said frames, a cross-bar fitting slidingly and nonrotatably in the slot of the lever and provided with cylindrical stems projecting from its ends through the said collars, means pivotally engaging said stems for securing said cross bar at the desired point of adjustment in the slot of the lever, connections linking the front end of the lever with said hammer, a rock-frame mounted on the lever and forwardly converging links pivoted at their front ends to the opposite ends of the rock-frame and

pivoted at their rear ends to points fixed with relation to the standard.

2. A power hammer, comprising a base equipped with an anvil and a standard, a horizontal transversely-arranged fulcrum bar suitably supported above the standard, a lever provided with a longitudinal slot through which said bar extends non-rotatably, means to adjust said bar longitudinally in the slot of the lever, a rock frame mounted on the lever near its front end, and forwardly converging links pivoted at their front ends to the upper and lower ends of said rock frame and bearing a fixed pivotal relation at their rear ends to the standard and in planes above and below the lever, and a suitably guided hammer vertically above the anvil connected to the front end of the letter to move upward and downward therewith.

3. A power hammer, comprising a base, an anvil and a standard thereon, a lever extending over the standard and suitably fulcrumed at a point above the same and at its front end overlapping the anvil, a suitably-guided hammer connected to the front end of the lever, a rock frame mounted on the lever near its front end, and a pair of links pivoted at their front ends to the upper and lower ends of the rock frame and pivoted at their rear ends at points fixed with relation to the standard and in planes above and below the fulcrum point of the lever.

4. A power hammer, comprising a base equipped with an anvil and a standard, a vertically-reciprocatory hammer suitably supported above the anvil, a pair of parallel frames supported by the standard and provided with slots, a pair of collars fitting slidingly in said slots, a lever arranged between said frames and provided with a slot communicating with but narrower than the slots of said frames, a cross-bar fitting slidingly and nonrotatably in the slot of the lever and provided with cylindrical stems projecting from its ends through the said collars, and links pivotally engaging said stems.

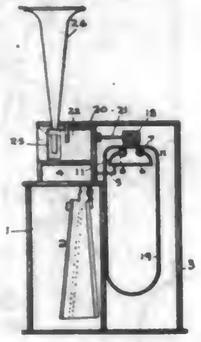
977,083. CARRIER FOR PNEUMATIC-DESPATCH-TUBE APPARATUS. MERTON L. EMERSON, Braintree, Mass. Filed Sept. 24, 1908. Serial No. 454,623.



A packing ring for pneumatic despatch tube carriers consisting of strips of material of different degrees of hardness with the strip of greater hardness and of the same diameter located between the strips of less hardness, said strips being arranged and proportioned so that the strip of greater hardness will contact with the tube as well as the strips of less hardness during the passage of the carrier through the tube.

977,084. AUTO-ORGAN. JAMES ROSS ENGLAND, Dallas, Tex. Filed Nov. 1, 1909. Serial No. 525,636.

1. An auto-organ comprising a bellows and a casing therefor, a music roll casing connected to said bellows casing, a compressed air casing connected with and having communication with said bellows casing, an air vent casing mounted in said music roll casing, a pipe connecting said compressed air casing and said air vent casing, music roll rollers mounted on each side of the discharge opening of said air vent casing, a music roll holder bearing yieldingly on a music roll passing over said rollers and provided with ducts therethrough, reeds and cells therefor, flexible pipes connecting said reed cells and said music roll holder and forming a communication with said reeds and the music roll passing under said holder, and horns operatively connected to said reed cells.



2. An auto-organ having a music roll casing, an air vent chamber mounted in said music roll casing and provided with a discharge opening, means for supplying air to said air vent chamber, music roll rollers mounted on each side of said discharge opening, a music roll holder bearing yieldingly on a music roll passing over said rollers, a resonance chamber, flexible pipes forming a communication from the music roll through said holder to said resonance chamber, reeds in operative relation with said resonance chamber, reed cells in communication with said reeds, and horns connected with said reed cells.

3. An auto-organ having an air vent chamber provided with a discharge opening, means for supplying air to said chamber, roll rollers forming the edges of said opening, a roll holder having ducts therethrough and bearing yieldingly on a music roll passing over said rollers, a resonance chamber, means for conveying drafts from said holder to said resonance chamber, reeds and cells therefor in said resonance chamber, and graduated horns connected with said reeds.

4. An auto-organ having an air vent chamber provided with a discharge opening, roll rollers having yielding surfaces and forming the edges of said opening, means for supplying air to said chamber, a roll holder bearing yieldingly on a music roll passing over said rollers, reeds and cells therefor in communication with said roll holder, said holder having ducts for the passage of drafts from the music roll, and graduated horns in communication with said reed cells.

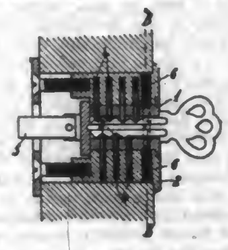
5. An auto-organ having an air vent chamber provided with a discharge opening, roll rollers having yielding surfaces and forming the edges of said opening, means for supplying air to said chamber, a roll holder bearing yieldingly on a music roll passing over said rollers, reeds and cells therefor in communication with said roll holder, said holder having ducts for the passage of drafts from the music roll, graduated horns in communication with said reed cells, a wheeled vehicle carrying said organ, and gearing actuated by the wheels of the vehicle for driving said music roll rollers.

977,085. LOCK. VINCENT JOSEPHUS MARIE ERAS, Dordrecht, Netherlands. Filed Apr. 9, 1910. Serial No. 554,556.

1. A pin tumbler lock having a screw of hardened steel located within the cylinder in advance of and completely protecting the pins and also provided with a plug recessed to receive the end of said screw.

2. A pin tumbler lock having a screw of hardened steel located within the cylinder and projecting into an annular groove in the plug, said screw being in advance of, and completely protecting the pins.

3. A pin tumbler lock having screws of hardened steel located within the cylinder and projecting into an annular groove in the plug at opposite points thereof, said screws being in advance of and completely protecting the pins.



4. A pin tumbler lock having a screw of hardened steel located within the cylinder in advance of and fully protecting the pins, said screw having a small integral end of hardened steel fitting into an annular groove in the plug and adapted to turn any boring instrument.

5. A pin tumbler lock having screws of hardened steel located in the cylinder, said screws having slightly decreased inwardly presented tips fitting into an annular groove in the plug, said pins being located in front of and completely protecting the pins.

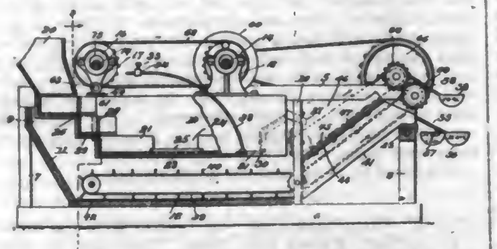
[Claims 6 and 7 not printed in the Gazette.]

977,086. ELECTRICAL ELEMENT. AXEL THEODOR KONSTANTIN ESTELLE, Filseryd, Sweden, assignor to Nya Ackumulator Aktiebolaget Jungner, Filseryd, Sweden, a Company. Filed May 20, 1909. Serial No. 497,360.

1. A positive electrode mass for alkaline accumulators consisting of a nickel hydrate as active material, said active material being mixed with a conductive substance consisting of finely granulated natural-graphite and finely powdered cadmium-oxid.

2. A positive electrode mass for alkaline accumulators consisting of an anhydrohydrate of nickel as an active material, said active material being mixed with a conductive substance consisting of finely granulated natural-graphite and finely powdered cadmium-oxid.

977,087. ORE AND COAL WASHER. HENRY W. FALKER, Ashland, and FRANKLIN SCHULTZ and JOHN F. WAGNER, Tamaqua, Pa. Filed Feb. 5, 1910. Serial No. 542,350.



1. In combination, a tank, a jig screen suspended within the tank and having its feed end provided with steps, the treads and risers of which are perforated, and means for gyrating said screen in a vertical plane.

2. In combination, a tank, a jig screen suspended within the tank and having its feed end provided with steps, the treads and risers of which are perforated, that portion of the screen between the steps and the discharge end thereof being substantially in one plane, and means for gyrating said screen in a vertical plane.

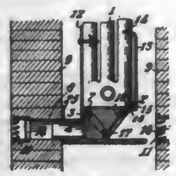
3. In combination, a tank, a jig screen suspended within the tank and having its feed end provided with steps the treads and risers of which are perforated, that portion of the screen between the steps and discharge end thereof being substantially in one plane and provided with an opening, means for automatically controlling the discharge of the heavier material through said opening into the tank, separate discharge means at the other end of the screen for the heavier and lighter grades, and means for gyrating said screen in a vertical plane.

4. In combination, a tank, a jig screen suspended in the tank and having its feed end provided with steps the treads and risers of which are perforated, that portion of the screen between the steps and the discharge end thereof being formed of a plurality of flat removable perforated sections, separate discharge means for removing the heavier and lighter grades at the end of the screen opposite the steps, and means for gyrating said screen in a vertical plane.

5. In combination, a tank, a jig screen suspended within the tank and having its feed end provided with steps, the treads and risers of which are perforated and its sidewalls provided with cleats having guiding grooves formed therein, removable screen sections seating in said guiding grooves, a portion of the cleat on each side of the screen being cut away to permit the insertion and removal of the screen sections.

[Claims 6 and 7 not printed in the Gazette.]

977,088. ADJUSTABLE VENTILATING CONNECTION FOR RADIATORS. LINCOLN A. GIRVIN, Toledo, Ohio, assignor to The Novelty Iron Company, Canton, Ohio, a Corporation of Ohio. Filed Nov. 30, 1909. Serial No. 530,642.



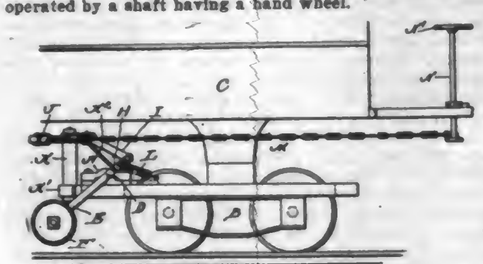
1. An adjustable ventilating connection for radiators comprising a trough shaped box adapted to be located directly below a radiator, the sides of said box provided with a series of air intake apertures, said box also provided with a vertical plate depending from the upper edge of one of the sides of said box and having a cut out portion in its lower edge, an air conducting pipe positioned in the cut out portion of said plate and provided with laterally extending flanges adapted to abut against the inner face of the vertical plate and to slide thereon, the cut out portion of the vertical plate being of greater length than the width of said pipe, and a damper provided with air intake openings, said damper adapted to open and close the air intake apertures in the sides of said box, substantially as described.

2. An adjustable ventilating connection for radiators comprising a trough shaped box adapted to be located directly below a radiator, the sides of said box provided with a series of air intake apertures, said box also provided with a vertical plate depending from the upper edge of one of the sides of said box and having a cut out portion in its lower edge, an air conducting pipe positioned in the cut out portion of said plate and provided with laterally extending flanges adapted to abut against the inner face of the vertical plate and to slide thereon, the cut out portion of the vertical plate being of greater length than the width of said pipe, and a damper provided with air intake openings, said damper adapted to open and close the air intake apertures in the sides of said box, and a back plate extended upwardly from the side of the box and adapted to upwardly direct the incoming air, substantially as and for the purpose specified.

977,089. EMERGENCY STREET-CAR BRAKE. JOHN A. GUTMANN, Wilkes-Barre, Pa. Filed June 25, 1910. Serial No. 568,813.

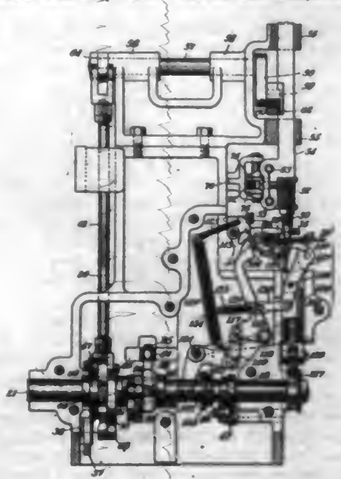
1. The combination with a car, of bearings secured to the truck of the car, to the rear of the wheels, a shaft

mounted in said bearings, provided with crank arms at its ends, having square portions, brake shoes comprising grooved disks, mounted on the ends of said crank arms, said shaft being provided with a central arm, a spring connecting said arm to the truck, a post carried by support arranged on said truck, a lever pivotally mounted on said post, a link connecting one end of said lever to said arm, and a chain connected to the other end of said lever, operated by a shaft having a hand wheel.



2. The combination with a car, of a crank shaft mounted in bearings carried by the truck of the car, removable brake shoes carried by the arms of said crank shaft, said shaft being provided with a central arm, a spring connecting said arm to said truck, for holding said shoes above the track, a post carried by a support arranged on said truck, a lever pivotally mounted on said post, a link connecting said lever to said arm, a chain connected to the other end of said lever, and an operating shaft mounted in the platform of the car, to which the free end of said chain is connected.

977,090. MACHINE FOR SETTING LACING-HOOKS. ARTHUR R. HAVENER, Waltham, Mass., assignor to American Lacing Hook Co., a Corporation of New Jersey. Filed Feb. 28, 1910. Serial No. 546,373.



1. A machine for setting a lacing hook or the like in the upper of a boot or shoe having, in combination, a punch and anvil, a die adapted to coöperate with said punch, mechanism adapted to move said punch and anvil longitudinally thereof toward said die, mechanism adapted to subsequently move said die out of alinement with said punch while said punch is inserted in said upper, mechanism adapted to move said punch laterally thereof to feed said upper, a carrier adapted to hold a lacing hook in alinement with said punch and anvil prior to said lateral feeding movement of said punch, and mechanism adapted to move said carrier toward said punch and anvil, whereby the shank of said lacing hook may be driven through said upper and clenched upon said anvil prior to the feeding of said upper and whereby said punch may be caused to perforate said upper and to subsequently feed the same while projecting into said lacing hook.

2. A machine for setting a lacing hook or the like in the upper of a boot or shoe having, in combination, a punch and anvil, a die, mechanism adapted to move said punch and anvil longitudinally thereof toward said die until said punch enters said upper, mechanism adapted to subsequently move said die out of alinement with said punch, a carrier adapted to hold a lacing hook in alinement with said punch and anvil, mechanism adapted to move said carrier toward said punch and anvil, whereby the shank of said lacing hook may be driven through said upper and clenched upon said anvil with said punch projecting into said lacing hook, means to move said carrier out of engagement with said hook, and mechanism adapted to move said punch laterally thereof while the same is projecting into the shank of said lacing hook, whereby said upper is pierced by said punch, said lacing hook is set in said upper with said punch projecting thereinto, and said upper is fed by said punch.

3. A machine for setting lacing hooks and the like in the upper of a boot or shoe having, in combination, means adapted to set a lacing hook in said upper embodying a punch adapted to pierce a hole in said upper and to project into the shank of said lacing hook during the setting operation and mechanism adapted to move said punch laterally thereof after the setting operation and while said punch still projects into said shank, whereby said upper may be fed to space said hooks.

4. A machine for setting a lacing hook or the like in the upper of a boot or shoe having, in combination, a punch, an annular shoulder thereon, constituting an anvil, a die adapted to coöperate with said punch to punch holes in said upper, mechanism adapted to move said punch laterally thereof to feed said upper, a carrier adapted to hold a lacing hook in alinement with said punch prior to said lateral feeding movement of said punch, mechanism adapted to move said punch toward said die to punch said upper, mechanism adapted to move said die laterally relatively to said punch while said punch projects into said upper, and mechanism adapted to subsequently move said carrier toward said punch, whereby a lacing hook may be set in said upper around said punch prior to the feeding of said upper, by said punch.

5. A machine for setting lacing hooks or the like in the upper of a boot or shoe having, in combination, a punch, an annular shoulder thereor constituting an anvil, a die adapted to coöperate with said punch to punch a hole in said upper, a carrier adapted to hold a lacing hook in alinement with said punch, mechanism adapted to move said punch toward said die and into said upper, mechanism adapted to move said die laterally relatively to said punch while said punch projects into said upper, mechanism adapted to move said carrier toward and away from said punch and anvil, and mechanism adapted to move said punch laterally thereof while the same is in engagement with said lacing hook subsequent to the setting operation, whereby said upper may be punched and fed to space said hooks, by said punch.

[Claims 6 to 27 not printed in the Gazette.]

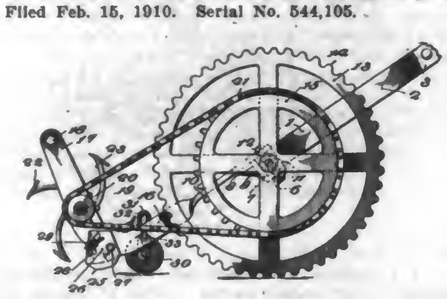
977,091. SHOE-CLEANER. CHARLES K. HAW and JAMES K. SOUTHER, Kansas City, Kans. Filed May 13, 1909. Serial No. 495,824.



1. A shoe-cleaner, comprising a metallic housing formed with an upwardly projecting scraper-rib and with supporting-legs, all cast in one piece, an arm hinged to each supporting-leg, bent inwardly over the adjacent end of the housing and terminating in a vertically-disposed brush-carrying end, and means for holding both arms in yielding position.

2. A shoe-cleaner, comprising a metallic housing formed with an upwardly projecting scraper-rib and with supporting-legs, all cast in one piece, an arm hinged to each leg, said arm being bent over the adjacent end of the housing and terminating in a vertically disposed and laterally extended end, a brush carried by each arm, and a coil spring arranged within the housing and yieldingly connecting the two arms together.

977,092. LAWN-MOWER. ROSS E. HEDGES, Scio, Ohio. Filed Feb. 15, 1910. Serial No. 544,105.

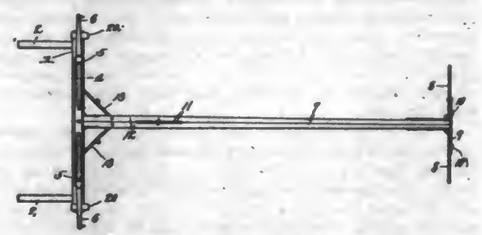


1. In a lawn mower, a framework embodying handle bars provided near one end with apertures, a transversely extending stationary shaft having its ends passed through said apertures, the handle bars being formed with outwardly deflected ends in front of the shaft and with ledges in front of said ends, the handle bars being further provided with webs connecting the ledges and deflected ends, blocks mounted on the ends of the shaft and engaging the rear faces of the deflected ends of the handle bars, side bars having their rear ends resting upon said ledges and formed at the rear of said ledges with apertures, bolts extending through the apertures in the respective side bars and through the blocks and shaft whereby to detachably secure the parts together, ground wheels journaled on the ends of said shaft, the side bars extending downwardly and forwardly from their attached ends, a cutter bar shaft journaled in the side bars, cutter bars carried thereby, and a driving connection between the ground wheels and the cutter bar shaft.

2. In a lawn mower, a framework embodying handle bars provided near one end with apertures, a transversely extending stationary shaft having its ends passing through said apertures, the handle bars being formed with outwardly deflected ends in front of the shaft and with ledges in front of said ends, side bars having their rear ends resting upon said ledges and formed at the rear of said ledges with apertures, bolts extending through the apertures in the respective side bars and through the shaft, whereby to detachably secure the parts together, ground wheels journaled on the ends of said shaft, the side bars extending downwardly and forwardly from their attached ends, a cutter bar shaft journaled in the side bars, cutter bars carried by the cutter bar shaft, and a driving connection between the ground wheels and the cutter bar shaft.

977,093. COMBINED CARRIAGE POLE AND SHAFTS. ETHAN J. HOLMES, Farmington, Conn. Filed Feb. 3, 1910. Serial No. 541,668.

1. In a device of the character described, the combination of a cross bar, keepers at the ends of the cross bar, arms hinged to the cross bar at the middle portion thereof so as to either fold against the same or project outwardly therefrom, shaft members loosely connected to the arms, keepers upon the shaft members, and bolts upon the arms, the said bolts being designed to engage either the keepers upon the shaft members to hold the latter in alinement with the arms when the latter project outwardly, from the cross bar and the shaft members are brought together to form a tongue or to engage the keepers upon the cross bar when the shafts have folded against the cross bar and the shaft members are separated to form a pair of shafts.

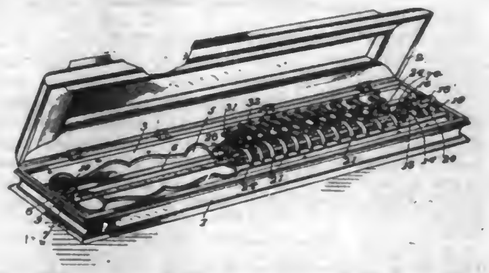


2. In a device of the character described, the combination of a cross bar, shaft members carried by the cross bar and mounted so as to be either brought together to form a pole or separated to form shafts, independent neck yoke sections carried by the shaft members, and means coöperating with the neck yoke sections to hold the same in operative position and also to hold the ends of the shaft members together when the device is used as a pole.

3. In a device of the character described, the combination of a cross bar, shaft members carried by the cross bar and mounted so as to be either brought together to form a pole or separated to form shafts, a neck yoke section hinged upon each shaft member, and means for holding the neck yoke sections in alinement with each other.

4. In a device of the character described, the combination of a cross bar, shaft members carried by the cross bar and mounted so as to be either brought together to form a pole or separated to form a pair of shafts, a neck yoke section hinged upon each of the shaft members, and a hook member carried by one of the neck yoke sections and adapted to engage the opposite neck yoke section to hold the shaft members together and retain the neck yoke sections in operative position.

977,094. PIANO-TUNING APPLIANCE. FRED HUGGINS, West Granby, Conn. Filed Nov. 30, 1909. Serial No. 530,541.



1. In an appliance for use in tuning musical instruments, the combination of a musical string, means for holding said string under tension, clips arranged on opposite sides of said string and movable freely in a lateral direction with the string while in contact therewith, means tending to draw said clips together into engagement with the string, and means for holding said clips out of engagement with said string.

2. In an appliance for use in tuning musical instruments, the combination of a musical string, means for holding said string under tension, clips arranged on opposite sides of said string, a support to which said clips are pivotally connected, contractile springs connected to said clips and arranged to draw them together, whereby

the clips will clamp the spring, and means acting on said clips for holding the clips out of engagement with the string against the tension of the springs.

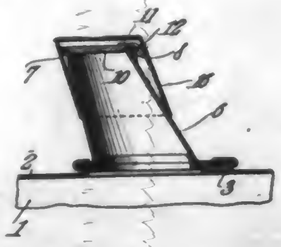
3. In an appliance for use in tuning musical instruments, the combination of a musical string, means for holding said string under tension, clips arranged to engage said string, supports on which said clips are pivotally mounted, means tending to move the clips into engagement with the string, arms mounted on the respective supports and adapted to engage the clips and press the clips away from the string, and means mounted on said support for pressing said arms into engagement with the clips.

4. In an appliance for use in tuning musical instruments, the combination of a musical string, means for holding said string under tension, clips arranged on opposite sides of said string, a support to which said clips are pivotally connected intermediate of their ends, contractile springs connected to said clips at one end thereof and arranged to draw said ends together whereby the clips will clamp the string, and means acting upon opposite ends of said clips for holding said clips out of engagement with the string against the tension of the springs.

5. In an appliance for use in tuning musical instruments, the combination of a musical string, means for holding said string under tension, clips arranged on opposite sides of said string, supports to which said clips are pivotally connected, means tending to draw said clips together and clamp said string between them, arms mounted on the respective supports and adapted to engage the clips at one end and press the clips away from the string, and means mounted on said supports for pressing said arms into engagement with the clips.

[Claims 6 to 13 not printed in the Gazette.]

977,095. POWDER-CAN SPOUT. JAMES R. HUGHES, Uhrichsville, Ohio, assignor of one-third to Jennie M. Hughes, Uhrichsville, Ohio. Filed May 4, 1909. Serial No. 493,945.



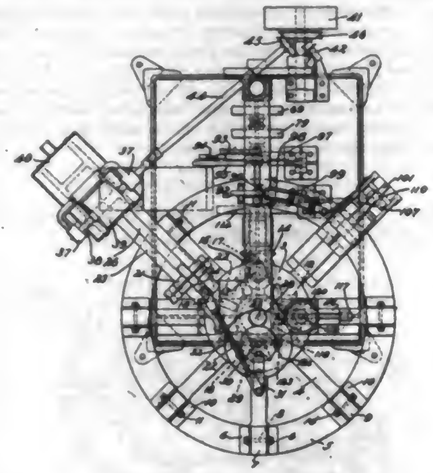
A device of the class described comprising an approximately triangular strip adapted to be secured adjacent its middle portion to a can; a quadrilateral plate having elements arranged to be slid into wedging position upon two of the edges of the strip; and a spout mounted upon the plate and inclined at its top toward the third edge of the strip.

977,096. TREATMENT OF ORES. CHARLES MORRIS JOHNSON, Avalon, Pa., assignor to Crucible Steel Company of America, a Corporation of New Jersey. Filed June 18, 1910. Serial No. 567,647.

1. The herein described process of treating tungsten ore which consists in taking a body of the ore, with its native adulterants and dross, mixing it with a body of carbon, and submitting the mixture to the action of a reducing furnace.

2. The herein described process of treating a sulfur-containing tungsten ore which consists in taking a body of ore, with its native adulterants and dross, roasting it, and then, mixing the roasted ore with a body of carbon, and submitting the mixture to the action of a reducing furnace.

977,097. CARTON-SEALING MACHINE. WILLIAM A. JOPLIN, Lawrence, Mass., assignor to Pneumatic Scale Corporation Limited, Quincy, Mass., a Corporation of Maine. Filed Nov. 15, 1909. Serial No. 528,028.



1. In a machine for closing and sealing the flaps of cartons, a rotary carrier having a series of holders each adapted to hold an empty carton bottom upward, a series of pockets each adapted to hold a filled carton, said holders for the empty cartons and for the filled cartons alternating with each other, means for intermittently rotating said carrier, means for gluing and sealing the end closing flaps for the bottom of the unfilled cartons and the top closing flaps of the filled cartons at a certain point in the travel of each carton, the pockets for the filled cartons being open on their outer sides, a reciprocable plunger and mechanism actuated at each alternate period of rest of the carrier which engages one of the filled cartons at one of the stations of rest after it has passed the sealing mechanism to eject the filled carton from the pocket.

2. In a machine for closing and sealing the flaps of cartons, a rotary carrier for the cartons, means for intermittently moving the carrier, two glue rolls normally located outside the path of the cartons, means for reciprocating said glue rolls whereby said glue rolls will at each stroke in either direction embrace between them one of the flaps of the carton and travel across the same gluing both faces thereof, means for controlling the movement of said glue rolls and carton carrier whereby one carton will be glued during the forward stroke of the glue rolls during a period of rest of the carton carrier, the glue rolls remaining stationary while the carton carrier moves to bring another carton into position for gluing, the glue rolls then being moved through the return stroke and embracing the flap of said second carton.

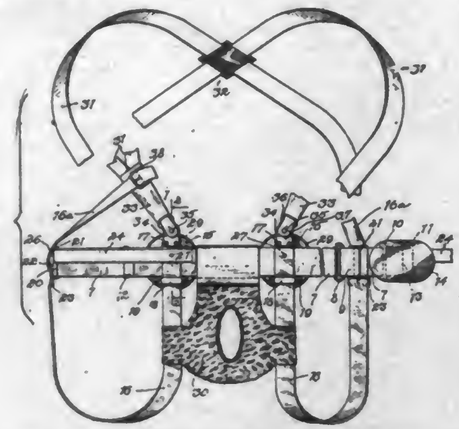
3. In a machine for closing and sealing the flaps of cartons, a rotatable carrier having a series of blocks each adapted to hold an empty carton slipped thereon, a series of pockets each adapted to hold a filled carton, said pockets alternating with the said blocks, flap gluing mechanism, mechanism for actuating said carrier whereby the empty cartons and filled cartons are alternately brought to a position to be glued and mechanism for actuating said flap gluing mechanism whereby said gluing mechanism applies glue alternately to a flap of one of the empty cartons and to a flap of one of the filled cartons, said pockets being open on the outer side and closed on the other three sides, and means whereby after the filled cartons have passed the gluing mechanism the said filled packages are ejected from the pockets through the outer open side thereof.

4. In a machine for closing and sealing the flaps of cartons, a rotary carrier having a series of blocks each adapted to receive an empty carton slipped thereon in an inverted position, a series of pockets each adapted to hold a filled carton in an upright position, means for rotating said carrier, means for turning outwardly one of the flaps on the uppermost end of each of the cartons in turn whether filled or unfilled, gluing mechanism and means for actuating said gluing mechanism whereby the glue will be applied to said turned flap of either the unfilled or the filled cartons at a predetermined point in the movement of each carton, said pockets for the filled cartons being open on their outer sides and having an opening through the wall of the inner side, a reciprocable plunger and mechanism which at a certain point in the position of the pocket after it has passed the gluing mechanism actuates the plunger to engage the inner face of the carton through the opening in the rear wall of the pocket and eject the carton from the pocket.

5. In a machine for closing and sealing the flaps of cartons, a carrier for the cartons, a reciprocable glue-roll carrier, two rotary glue rolls mounted thereon parallel with each other and so located that their peripheries are adjacent to each other, means for moving said glue-roll carrier in such manner as to cause the two glue rolls to embrace between them one of the flaps of the carton and travel across the same gluing both faces thereof, and means for positively rotating one of the glue rolls during the reciprocation of the glue-roll carrier independently of its contact with the flap with which it engages.

[Claims 6 to 9 not printed in the Gazette.]

977,098. TRUSS. JOHN WILLIAM KAYSER, Madison, Wis. Filed May 7, 1909. Serial No. 494,656.



1. In a truss, in combination, a belt, a cushion member slidably mounted on said belt, and a perineal strap secured at one end to said cushion member and crossing over said belt to press upon and retard the same and at the other end slidably connected with said belt.

2. In a truss, in combination, a belt carrying cushions, perineal straps hanging from said belt, shoulder bands for attachment to said belt, and means whereby one end of said perineal straps may be extended to said shoulder bands to form auxiliary bracing means.

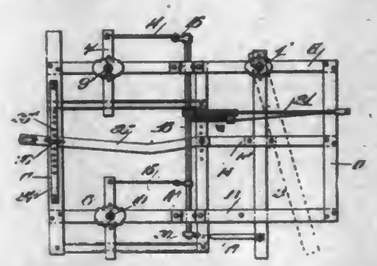
3. In a truss, in combination, a belt carrying cushions, a button connected with said belt, a bracing strap having a metallic end plate secured thereto for engaging under said button, and an auxiliary flexible flap carried by said bracing strap also for engagement under said button over said plate to retain said plate in place.

4. In a truss, in combination, a belt, a loop slidably mounted on said belt, a metal keeper surrounding one side of said loop, a hook stamped from said keeper, a buckle hung in said hook, and a perineal strap engaging in said buckle.

5. In a truss, in combination, a belt carrying a cushion member, a loop slidably mounted on said belt, a metal keeper surrounding one side of said loop, and an auxiliary strap secured to said loop inside said keeper and extending therefrom through a slot therein and connected with said cushion member.

[Claims 6 and 7 not printed in the Gazette.]

977,099. DISK HARROW. WILLIAM C. KING, Campbell, Cal., assignor, by direct and mesne assignments, of one-half to Thomas A. Crow and one-half to Laura A. Crow, San Jose, Cal. Filed Nov. 13, 1909. Serial No. 527,832.



1. The combination in a plow, of a main rectangular frame with a fixed transverse bar, a draft bar pivoted, and adjustable upon the transverse bar, and with relation to the front frame bar, plow disk carrying shafts having vertical hangers, and channel iron top bars, plates having downwardly turned lugs clasping the side frame bars and convex segments upon opposite sides, guide pins fixed in the channel bars, and in contact with the segments, and a central pivot pin.

2. The combination in a plow, of a rectangular main frame and centrally located draft bar, independent plow disk carrying shafts, channel iron bars to which the shaft hangers are fixed, plates pivoted through the main frame and channel bars, said plates having lugs clasping the main frame bars, and convex segments projecting over the channel bars, and guide pins or stops on the channel bars, in contact with the segments.

3. The combination in a disk plow, of a main frame, channel iron bars with dependent hangers, plow disks fixed to shafts which are journaled in the hangers, pivot pins about which the channel bars and plows are turnable with relation to the main frame, supplemental plates having lugs clasping the edges of the main frame bars, with convex segments extending over the channel iron bars, and pins on the channel iron bars turnable in contact with the segments.

4. A disk plow having a main frame, channel iron bars with hangers in which the plow shafts are journaled, pivot pins about which the plow-carrying frames are turnable with relation to the main frame, a reinforce for the pivot pins, consisting of plates through which the pivot pins pass, said plates having lugs clasping the main frame side bars and convex segments, and pins in the channel bars which travel against the segments when the plow-frames are turned.

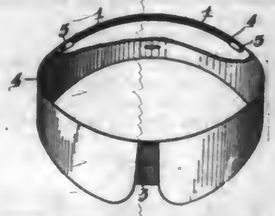
5. In a plow having independent series of plowing disks turnable about a vertical axis, a swivel joint including an angle plate clasping the main frame side bar, a channel bar from which the disk hangers depend, a pivot pin passing through said three members, and a reinforce for said pin consisting of pins projecting from the channel bar, and circular segments projecting from the angle plate between the pins.

[Claims 6 to 8 not printed in the Gazette.]

977,100. SPACING DEVICE FOR USE WITH TURNED-DOWN COLLARS. CHARLES J. KINTNER, New York, N. Y. Filed Oct. 31, 1908. Serial No. 460,440.

1. As an article of manufacture a flexible spacing device adapted to be frictionally held in place above the rear button-hole and in the curved space between the adjoining folds of a turned down collar, when in position around

the neck of the wearer, said device being of sufficient size to afford a space below it in which a tie may be freely drawn back and forth.



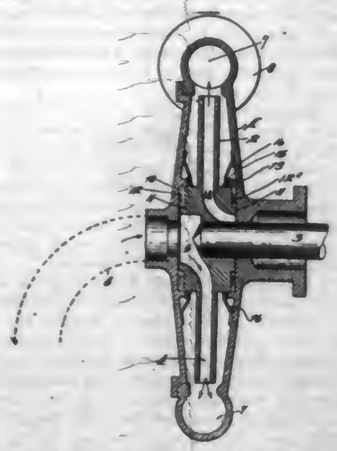
2. As an article of manufacture a detachable or removable flexible spacing device adapted to separate the folds of a turned down collar, when in position around the neck of the wearer, sufficiently to admit of the adjustment of a string or four-in-hand tie in the space below it.

3. As an article of manufacture a flexible spacing device provided with means for frictionally holding it in concealed position in place between the folds of a turned down collar.

4. As an article of manufacture a flexible spacing device provided with means at its opposite ends for holding it in concealed position in place between the folds of a turned down collar.

5. As an article of manufacture a spacing device for use between the folds of a turned down collar, said device being constructed of soft rubber tubing and provided at its opposite ends with enlargements.

977,101. CENTRIFUGAL PUMP. FERDINAND W. KROGH, San Francisco, Cal. Filed June 29, 1909. Serial No. 505,079.



1. The combination in a centrifugal pump, of a casing having central inlet and peripheral discharge passages, an impeller revoluble within the casing, the impeller having curved water ways connecting with the inlet passage and having a hub through the center of one side of which the inlet ends of the water-ways open, said hub and the inner faces of the casing having annular flanges forming with the adjacent sides of the casing and hub, intermediate chambers, and said impeller having other passage-ways which are independent of the first-named ones and whose inner ends open through the side of the hub opposite to that through which the inlet ends of the first passages open, both of said passages leading outwardly through the periphery of the impeller.

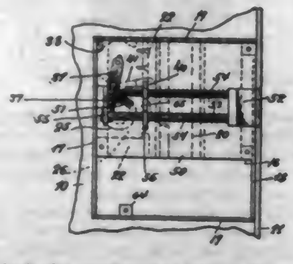
2. The combination in a centrifugal pump of a casing and co-acting impeller, said impeller having a hub and said hub having annular flanges on its opposite faces between its periphery and axial center, and said casing having inwardly extending flanges within which the periphery of the hub has a running fit, said impeller having two sets of water-ways, one of which opens through one side of the hub and leads outwardly through the periphery of the impeller, and the other has its inlet end opening through the side of the hub opposite to that containing the inlet end of the first-named water-ways, and leading outwardly through the periphery of the impeller.

3. The combination in a centrifugal pump of an incased impeller, a shaft upon which it is mounted, means forming inclosed chambers at opposite sides of the hub between said hub and casing, said impeller having one set of water-ways, the inlet ends of which open through one side of the hub and thence lead outwardly through the periphery of the impeller, and having a second series of water-ways, the inlet ends of which open through the other side of the impeller while their outer ends lead through the periphery of the impeller, the second-named water-ways being independent of the first one and serving to create a counterbalance to the suction on the opposite side of the impeller.

4. A centrifugal pump having in combination a casing having a central inlet and a peripheral discharge, an impeller inclosed and revoluble within the casing, having a hub adapted to contact endwise with the opposite sides of the casing, said casing having annular inwardly extending flanges within which the ends of the hub of the impeller have a running fit, said flanges on the hub and casing and the adjacent faces of the hub and casing inclosing side chambers, said impeller having curved water-ways connecting at their inner ends with the inlet passage of the casing, and said impeller having other and independent curved water-ways whose inner ends lead through the hub on the side thereof opposite to that which contains the inlet end of the first-named passages, said second water-ways leading through the periphery of the impeller.

5. The combination in a centrifugal pump, of a casing having a centrally located inlet passage upon one side, and an annular peripheral discharge passage, a shaft-driven impeller revoluble within the casing, said impeller having curved waterways connecting with the inlet passage at one end of the impeller hub, other waterways connecting with the casing through the hub at the opposite side from the inlet passage, flanges on the hub and the casing forming chambers at each end of the hub, and annular spring-pressed rings forming joints with the flanges of the casing.

977,102. LOCK. FRANK KUBA, Brooklyn, N. Y. Filed Feb. 11, 1910. Serial No. 543,210.



1. In a lock the combination of a bolt, a key cylinder for operating said bolt, a trip lever adapted to engage said cylinder when the bolt is withdrawn and means for automatically rotating said cylinder to protract the said bolt when the said trip lever is acted upon.

2. In a lock the combination of a bolt, a revoluble key cylinder for retracting said bolt and maintaining the same in its unlocking position, a stationary support for the said cylinder and a trip lever adapted to engage and lock said cylinder in a fixed position with relation to the said stationary support and means for automatically rotating said cylinder and protracting the bolt when the said trip lever is disengaged from the said cylinder.

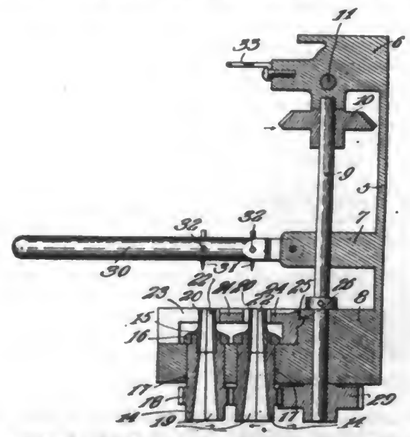
3. The combination of a door provided with a cut out portion, a lock casing adapted to fit over said cut out portion and having a top and bottom member projecting through the same to the inside of the door, a bolt operating mechanism within said casing and outside of the door, a holding plate for securing said mechanism in position, a bolt mounted adjacent said plate, means projecting through the latter from the said mechanism and engaging the said bolt, a second plate, fastening means passing through the said two plates and into the said casing and a cover secured to the casing for concealing the said fastening means from the inside of the door.

4. The combination of a casing having its top and bottom of greater width than its sides, a key cylinder and a registering device mounted within said sides, a plate for securing said cylinder and the said device, an operating connection between the cylinder and the device for operating the latter, said connection being on the outside of the said plate, a bolt mounted adjacent said plate, means for operating the bolt from the said cylinder through the plate, a holding plate mounted between and abutting the top and bottom of the said casing and fastening means for securing the said two plates to the said casing.

5. The combination of a bolt, a cylinder block provided with a trip socket and a slot, a cylinder in said block and also provided with a trip socket and a slot adapted to register with the slot in the block when a key is inserted, a spring stop adapted to enter the said two slots when the same register, a trip lever normally engaging the socket in the said block and adapted to enter the trip socket in the cylinder when the latter is turned to withdraw the bolt.

[Claims 6 and 7 not printed in the Gazette.]

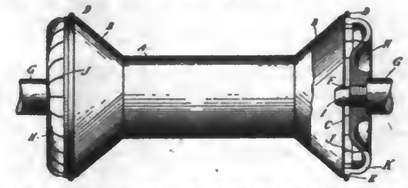
977,103. MACHINE-WRENCH. EDWARD T. LADD, Denver, Colo. Filed July 29, 1910. Serial No. 574,505.



In a wrench of the class described, a body member including a supporting portion, a rotatable chuck mounted in the supporting portion, means for rotating the chuck, and a work support removably mounted upon the supporting portion of the body and including spaced side members between which the upper end of the nut socket projects, the said upper end of the chuck being in substantially the same plane as the upper faces of the said sides of the work support.

977,104. WINDING APPARATUS. MEREDITH LEITCH, Springfield, Mass., assignor to The American Thread Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 4, 1910. Serial No. 553,286.

1. In a winding apparatus, a sheet metal spool having a cylindrical body portion and two enlarged heads, said heads having thin sheet metal closures provided with recesses having near the peripheries of said heads internal surfaces concentric with the cylindrical body portion, in combination with two driving spindles having faces engaging the bottoms of said recesses adjacent to their peripheries and having extended portions provided with external surfaces adapted to engage said internal concentric surfaces upon said heads, the external engaging surfaces of the extended portions being concentric with the axis of revolution of said spindles.



2. In a winding apparatus, a spool having a cylindrical body portion and two enlarged heads, the enlarged heads having yielding sheet metal closures, in combination with two driving spindles having enlarged portions carrying opposing faces engaging with said yielding end closures adjacent to their peripheries, and means for centering said spools relatively to the axis of said spindles.

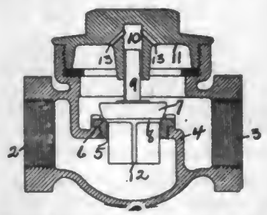
3. In a winding apparatus, the combination of a sheet metal spool having a cylindrical body portion and two enlarged heads having thin sheet metal closures and recesses therein provided near the peripheries of said heads with internal surfaces concentric with the cylindrical body portion, with two driving spindles having extended portions carrying external surfaces engaging the internal concentric surfaces upon said heads, the external surfaces being concentric with the axis of revolution of said spindles, and having faces engaging the bottoms of said recesses adjacent to their peripheries said heads being perforated approximately at their centers and said spindles having portions entering said perforations and fitting loosely therein.

4. In a winding apparatus, a spool having a cylindrical body portion and enlarged heads, the enlarged heads having near their peripheries internal surfaces concentric with the cylindrical body portion, in combination with driving spindles, having extended portions engaging said concentric surfaces upon said heads, the engaging surfaces of the extended portions being concentric with the axis of revolution of said spindles, said extended portions having yielding arms on their outer peripheries adapted to hug said internal surfaces under the influence of centrifugal force.

5. In a winding apparatus, a spool having a cylindrical body portion and enlarged heads, the enlarged heads having near their peripheries internal surfaces concentric with the cylindrical body portion in combination with driving spindles having extended portions engaging said concentric surfaces upon said heads, the engaging surfaces of the extended portions being concentric with the axis of revolution of said spindles, said extended portions being cup-shaped and having slits formed in their outer peripheries so as to produce yielding arms adapted to hug said internal surfaces under the influence of centrifugal force.

[Claim 6 not printed in the Gazette.]

977,105. VALVE. HENRY LIPPOLD, Erie, Pa., assignor to Lippold Valve Company, Erie, Pa., a Corporation of Pennsylvania. Filed July 24, 1907. Serial No. 385,289.

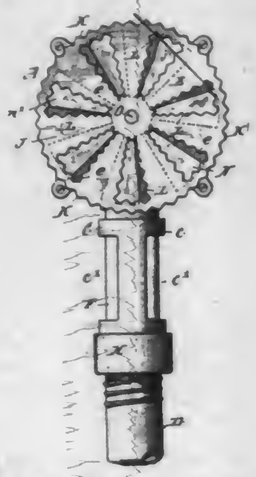


1. In a valve, the combination of a body having inlet and outlet passages; a diaphragm with an opening through it, and a seat upon it, the axis of said opening being at an angle to one of said passages; a disk op-

erating upon said seat; vanes on the side of the disk toward the inlet of the valve, said vanes being deflected from a direction radial to the axis of the disk, whereby a greater pressure is exerted upon the vanes at one side of the disk than at the opposite side of the disk, and the disk rotated by a movement of fluid laterally to the axis of the disk.

2. In a valve, the combination of a body having inlet and outlet passages; a diaphragm having an opening therethrough, and a seat upon it, the axis of said opening being at an angle to both of said passages; a disk operating upon said seat; vanes on the side of the disk toward the inlet of the valve, said vanes being deflected from a direction radial to the axis of the disk, whereby a greater pressure is exerted upon the vanes at one side of the disk than at the opposite side of the disk, and the disk rotated by a movement of fluid laterally to the axis of the disk.

977,106. HORSE-CLEANING IMPLEMENT. BART LOSEE, Buffalo, N. Y. Filed Mar. 30, 1909. Serial No. 486,794.



1. In a device of the character described, a hollow body having its sides serrated at its outer end and being provided with a tubular outlet and with a wall having an inlet, said wall forming a plane contact-surface adapted to bear against the object to be cleaned.

2. In a device of the character described, a hollow body having a contact wall provided with an inlet-opening and having serrations around its edge facing laterally.

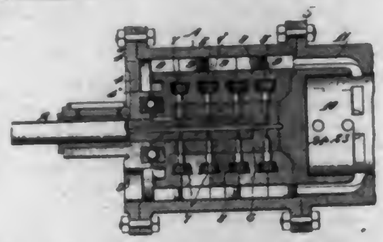
3. In a device of the character described, a hollow body provided with a tubular extension and having a plane contact-surface and an inlet-opening whose walls are serrated, said inlet-opening being in the wall forming said plane contact-surface and said hollow body being also provided with serrations around its perimeter.

4. In a device of the character described, a hollow substantially conical body having a tubular handle and a plane contact-surface provided with a circular series of radially disposed elongated openings whose confining walls are serrated.

5. In a device of the character described, a hollow body having a tubular handle and a plate secured to one side of said body and provided with an inlet-opening; said plate having its edge serrated and being also serrated along the walls of said opening.

977,107. TURBINE-MOTOR. THOMAS J. LOFTUS, Castella, Cal., assignor of one-half to Charles T. Loftus, Castella, Cal., and one-half to Harmon Bell, Oakland, Cal. Filed Feb. 9, 1910. Serial No. 542,867.

1. In a fluid pressure motor, the combination with a drive shaft and a turbine disk fixed thereto, of a plurality of loosely mounted disks having impact wings upon the periphery thereof, and means interposed between the adjacent loose disks and between one of the loose disks and said fixed disk whereby the disks will be rotated in opposite directions.



2. In a fluid pressure motor, the combination of a drive shaft and a series of disks arranged side by side parallel with the shaft, one of said disks being fixed to said shaft and the remaining disks being loosely mounted relatively to each other and to the shaft, and interengaging connections between the loose disks and between one of said loose disks and the fixed disk whereby the disks will be rotated in opposite directions.

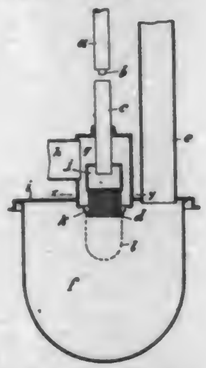
3. In a fluid pressure motor, a plurality of independent freely revoluble disks, a drive shaft, a disk fixed to the drive shaft, said fixed and revoluble disks having fluid pressure impact surfaces and each of said disks having an annular rack surface, and pinions between the revoluble disks and between one of said revoluble disks and the fixed disk whereby the disks are revolved in opposite directions and the drive shaft operated, and a housing for the disks.

4. In a fluid pressure motor, a drive shaft, a disk keyed on said shaft, impact blades on the periphery of said disk, a series of revoluble turbine disks mounted independent of said shaft, means for rotating said disks, means whereby adjacent disks will be caused to rotate in opposite directions, and means for transmitting the motion of said disks to said drive shaft.

5. In a fluid pressure motor, a plurality of revoluble disks, means whereby the motion of each disk is transmitted to its adjacent disk in an opposite direction, means for transmitting the combined motion of said disks to a drive shaft so as to revolve said shaft, and means for rotating said disks, each of said disks having peripheral wings which revolve in close proximity to each other, and combined wings forming passages through which the fluid pressure is directed in a line parallel with the shaft.

[Claims 6 to 10 not printed in the Gazette.]

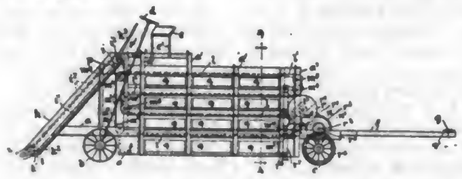
977,108. INVERTED INCANDESCENT GAS-LAMP. PAUL LUCAS, Südende, near Berlin, Germany. Filed May 26, 1910. Serial No. 563,464.



1. In an inverted incandescent gas-lamp, the combination with a gas tube above, of a nozzle at the lower end of said gas tube, a mixing tube beneath said nozzle and adapted to receive the gas jet and the air thereby injected, a mixing chamber at the lower end of said mixing tube, a burner at the bottom of said mixing chamber and consisting of a plurality of pendent thin tubes, an annular cover surrounding said burner, a globe suspended from said cover, a ring closing the space between the outside of said burner and the inside edge of said annular cover, an inverted incandescent mantle suspended from said ring, and a chimney disposed on said annular cover outside said burner and adapted to suck in supplementary air from without between the burner tubes to the flame and to discharge upward the products of combustion.

2. In an inverted incandescent gas-lamp, the combination with a gas tube above, of a nozzle at the lower end of said gas tube, a mixing tube beneath said nozzle and adapted to receive the gas jet and the air thereby injected, a mixing chamber at the lower end of said mixing tube, a burner at the bottom of said mixing chamber and consisting of a plurality of pendent thin tubes, an annular cover surrounding said burner, a globe suspended from said cover, a ring closing the space between the outside of said burner and the inside edge of said annular cover, an inverted incandescent mantle suspended from said ring, a casing on said annular cover and surrounding said mixing chamber, it being adapted to receive air from without, and a chimney disposed on said annular cover outside said casing and adapted to suck in supplementary air from without through said casing between the burner tubes to the flame and to discharge upward the products of combustion.

977,109. SNOW-MELTING MACHINE. WILLIAM N. LUX, South Milwaukee, Wis., assignor of one-half to Andrew Kubert, Milwaukee, Wis. Filed Jan. 11, 1910. Serial No. 537,517.



1. A snow-melting machine comprising an elevator, a plurality of melting-tables in different planes one above another, a conveyer adapted to receive the snow from said elevator and convey it over the tables, and means for heating said tables.

2. A snow-melting machine comprising, in combination, an elevator adapted to receive the snow from the roadway, a plurality of melting-tables disposed one below the other and so formed that the snow as it reaches the end of each table drops to the table next below, means for propelling the snow longitudinally over each table, and means for melting the snow as it passes over the tables.

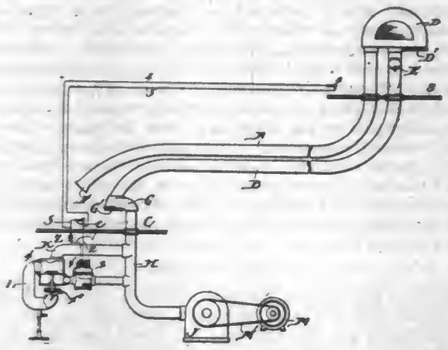
3. A snow-melting machine comprising, in combination, an elevator adapted to receive the snow from the roadway, a plurality of melting-tables disposed one below the other and so formed that the snow as it reaches the end of each table drops to the table next below, means for propelling the snow longitudinally over each table, and a series of heating-devices arranged below said tables.

4. A snow-melting machine comprising, in combination, an elevator adapted to receive the snow from the roadway, a plurality of melting-tables disposed one below the other and so formed that the snow as it reaches the end of each table drops to the table next below, means for propelling the snow longitudinally over each table, and a series of ovens arranged below said tables.

5. A snow-melting machine comprising, in combination, means for elevating the snow from the roadway, a series of melting-tables disposed one below the other, each table being arranged to deliver the snow from the end of it to the table next below, means for heating the snow as it passes along said tables, and a belt-conveyer passing successively over said tables from bottom to top and propelling the snow in opposite directions on the successive tables.

[Claims 6 to 15 not printed in the Gazette.]

977,110. PNEUMATIC-DESPATCH-TUBE APPARATUS. JAMES G. MACLAREN, Weehawken, N. J., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed Mar. 25, 1908, Serial No. 423,180. Renewed June 20, 1910. Serial No. 567,999.



1. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, a blower or pump, a connection between said transmission tube and said blower or pump, a branch tube or air inlet in communication with said connection, a valve adapted to control the flow of air through said air inlet, mechanism operated on one side by the blower for normally holding said valve open to admit air to said inlet thereby short circuiting the flow of air to and relieving the load upon said blower, and means for causing the blower to act on the opposite side of said mechanism to close said valve to cut off the flow of air through said inlet and switch the same through said transmission tube for driving carriers.

2. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, a blower or pump, a connection between said transmission tube and said blower or pump, a branch tube or air inlet in communication with said connection, a valve adapted to control the flow of air through said air inlet, mechanism operated on one side by the blower for normally holding said valve open to admit air to said inlet thereby short circuiting the flow of air to and relieving the load upon said blower, means for causing the blower to act on the opposite side of said mechanism to close said valve to cut off the flow of air through said inlet and switch the same through said transmission tube for driving carriers, and time controlled means for restoring said valve to normal or open position.

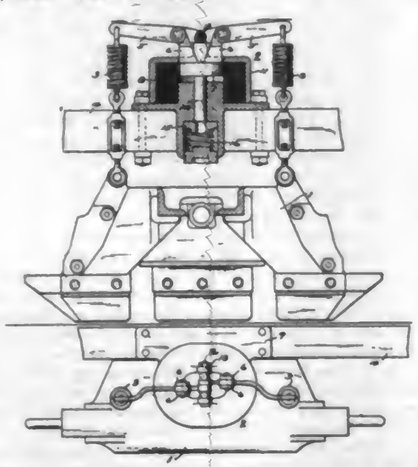
3. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, a blower or pump, means for driving said blower or pump, a connection between said blower or pump and said transmission tube, a branch tube or air inlet in communication with said connection, a valve adapted to control the flow of air through said air inlet, a diaphragm connected with said valve and adapted to be actuated by the blower on one side to hold said valve normally open thereby short circuiting the flow of air to and relieving the load upon said blower, a normally closed passage connecting the opposite side of said diaphragm with said blower, and means for opening said passage to operate said diaphragm and close said valve whereby the flow of air is switched through said transmission tube for driving carriers.

4. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, a blower or pump, means for driving said blower or pump, a connection between said blower or pump and said transmission tube, a branch tube or air inlet in communication with said connection, a valve adapted to control the flow of air through said air

inlet, a diaphragm connected with said valve and adapted to be actuated by the blower on one side to hold said valve normally open thereby short-circuiting the flow of air to and relieving the load upon said blower, a normally closed passage connecting the opposite side of said diaphragm with said blower, means for opening said passage to operate said diaphragm and close said valve whereby the flow of air is switched through said transmission tube for driving carriers, and means for timing the closure of said passage to permit said valve to resume its normal or open position.

5. In a pneumatic despatch apparatus, a tube for the transmission of carriers, a blower or pump, a connection from said tube to said blower whereby air is exhausted from said tube, a branch tube provided with an air inlet and in communication with said connection, a chamber formed in said branch tube, a diaphragm in said chamber, a valve arranged to close said air inlet and connected on said diaphragm, a second connection from said chamber on the other side of the diaphragm from the branch tube to said exhaust connection, a valve in such second connection, means connected to said valve to operate the same, said means being arranged to open the valve upon the introduction of a carrier into the transmission tube and to then close said valve, and means controlling the operation of said first means in closing said valve.

977,111. MAGNETIC BRAKE DEVICE. JOSEPH N. MAHONEY and OSCAR S. MCCURDY, Wilkinsburg, Pa., assignors to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 20, 1908. Serial No. 428,165.



1. In a car brake, the combination with a magnetic brake shoe adapted upon engagement with a friction surface to cause braking action, of electrically governed means for moving said shoe into engagement with the friction surface.

2. In a car brake, the combination with a magnetic brake shoe adapted upon engagement with a friction surface to cause braking action, of electrically controlled means for positively moving said shoe to engage said friction surface.

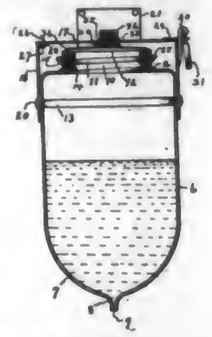
3. In a car brake, the combination with a magnetic brake shoe adapted by frictional engagement with a rail to produce braking action, of means operating independently of the magnetic attraction between shoe and rail in the act of applying the brakes, for bringing the shoe into engagement with the rail.

4. In a car brake, the combination with a magnetic brake shoe adapted by frictional engagement with a rail to produce braking action, of electrically operated means, independent of the magnetic attraction between shoe and rail in the act of applying the brakes, for causing the shoe to engage the rail.

5. In a car brake, the combination with a magnetic brake shoe adapted by frictional engagement with a rail to produce braking action, of means operating upon the initial flow of current in applying the brake, to cause the shoe to engage the rail.

[Claims 6 to 14 not printed in the Gazette.]

977,112. DISPENSING DEVICE FOR LIQUIDS. JOSEPH MANDELBERG, Omaha, Nebr. Filed June 22, 1910. Serial No. 568,286.



1. A dispensing device for liquids, comprising, in combination with a supporting collar having an internal annular groove; an upright cylindrical receptacle provided with a neck portion, a downwardly tapered bottom portion with an apertured, terminal stem, and having an annular ridge formed between its neck and bottom; an inclosing cap having a wall provided with a normally convex top; said receptacle adapted to have a seating within said collar, its ridge engaging within said groove; and a plunger member seated upon the top of the inclosing cap and maintained centrally of said collar, one of the movements of the plunger causing a depression of said convexed top.

2. A dispensing device for liquids, comprising, in combination with a supporting collar having an internal annular groove; an upright cylindrical liquid container provided with a neck portion, a downwardly tapered bottom portion with an apertured, terminal stem, and having an annular ridge formed between its neck and bottom; an inclosing-cap having a convexed top and a wall fitting over said neck portion; said container adapted to have a seating within said collar, its ridge engaging within said groove; an apertured disk removably mounted upon said collar and disposed above said receptacle; and a plunger seated in the aperture of said disk and bearing upon the top of the inclosing cap, a movement of said plunger causing a depression of said convexed top.
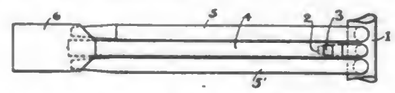
3. A device for the purpose described, comprising, in combination with a support, a collar mounted upon the support and having an apertured cover; a liquid container having a terminal with an intake aperture, its opposite terminal being provided with a discharge port, said container adapted to have a mounting within said collar with its intake aperture disposed adjacent to said apertured cover; a flexible plate normally having an outward curvature adapted to cover the intake aperture; and a plunger member seated within the aperture of said cover and bearing upon said flexible plate, one of the movements of the plunger operating to depress said flexible plate.

4. A device for the purpose described, comprising, in combination with a support, a collar mounted upon the support and having an apertured cover; a transparent liquid container having one of its ends provided with an intake aperture, its opposite end being formed with a convergent wall with a terminal discharge port, said container being mounted within said collar with its intake aperture disposed adjacent to said apertured cover; a flexible plate normally having an outward curvature adapted to make a closure for the intake aperture; and a plunger member seated within the aperture of said cover and bearing upon said flexible plate, one of the movements of the plunger operating to depress said flexible plate.

5. A device for dispensing liquids, comprising, in combination with a support, a collar provided with a cover and mounted upon the support; a liquid container provided with an intake aperture and a discharge port, said container being mounted within said collar with its intake aperture disposed adjacent to and below said cover; a flexible plate normally having an outward curvature adapted to make a closure for said intake aperture; and an actuating member movably secured to said cover and adapted to have a bearing upon said flexible plate, one of the movements of said actuating member causing a movement of the curved portion of said flexible plate inwardly of said receptacle.

[Claim 6 not printed in the Gazette.]

977,113. FUEL-BURNER FOR CEMENT-KILNS. MAX F. MANGELSDORFF, New York, N. Y., assignor to Combustion Utilities Company, New York, N. Y., a Corporation of New York. Filed Apr. 7, 1906. Serial No. 310,574.



1. A flat-flame burner for cement kilns comprising a source of air under pressure, a flattened nozzle chamber having an unrestricted, full-area flame outlet, a coal-jet conduit connected to said source and ending at and communicating with the nozzle chamber, means for discharging powdered coal into said pipe, and an air conduit, also connected to said source and ending within said chamber, adapted to form an air jet parallel to and contacting with the air-coal jet coming from the first-named conduit, the shape of the nozzle chamber and flame-outlet being such as to produce a flattened flame and maintain the separate existence of the several jets.

2. A flat-flame burner for cement kilns comprising a source of air under pressure, a flattened nozzle chamber having a flattened, unrestricted, full-area flame outlet, a coal-jet conduit connected to said source and ending at and communicating with the nozzle chamber, means for feeding powdered coal into said pipe, and an air conduit, also connected to said source and ending within said chamber, adapted to form an air jet parallel to and contacting with the air-coal jet coming from the first-named conduit, the shape of said nozzle chamber and flame outlet being such as to produce a flattened flame and maintain the separate existence of the several jets.

3. A flat-flame burner for cement kilns comprising a source of air under pressure, a nozzle chamber, of a flattened shape with a median constriction and having a flattened, full-area flame outlet, a coal-jet conduit connected to said source and ending within the nozzle chamber behind said constriction, means for feeding powdered coal into said pipe, and an air conduit, also connected to said source and ending within the chamber behind the constriction, adapted to form an air jet parallel to and contacting with the air-coal jet coming from the first-named conduit, the shape of said nozzle chamber and flame outlet being such as to produce a flattened flame and maintain the separate existence of the several jets.

977,114. RELAY. RAY H. MANSON, Elyria, Ohio, assignor to The Dean Electric Company, Elyria, Ohio, a Corporation of Ohio. Original application filed May 25, 1904, Serial No. 209,615. Divided and this application filed June 6, 1906. Serial No. 320,477.

1. In a relay, the combination with a flux bar, of an angular armature associated therewith, a plurality of contact springs mounted upon said flux bar and having contact points visible and accessible from the front of the relay, an intermediate spring of the contact springs having direct connection with the armature, and pivot mechanism for pivoting the armature to the bar, the contact springs serving to lock the armature in its operative position.



2. In a relay the combination with a flux bar, of an angular armature pivoted thereon, a group of contact springs mounted upon said flux bar extending longitudinally of the relay and having contact points visible and accessible from the front of the relay, and a connecting stud carried by an operative spring of the group back of the contact points, such stud adapted to lie in the path of the armature.

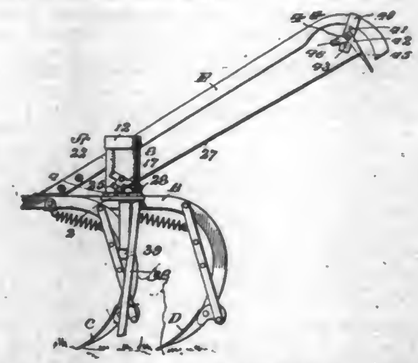
3. In a relay the combination with a flux bar, of an angular armature pivoted thereon, a group of contact springs secured to said flux bar extending longitudinally thereof and provided with contact points visible and accessible from the front of the relay, a stud carried by the operative spring of the group back of the contact points and projecting into the path of movement of the armature, and means for spacing apart the different springs of the group.

4. In a relay the combination with a flux bar, of an angular armature pivoted thereon, a group of contact springs secured to said flux bar and extending longitudinally thereof to a point adjacent to the front end of the relay and there being provided with contact points fully visible and accessible from the front end of the relay, a stud carried by the operative spring of the group and extending into the path of movement of the armature, and means for spacing apart the different springs of the group, said means holding the armature in proper pivotal relation with the flux bar.

5. In a relay the combination with a flux bar, of an angular armature loosely pivoted thereon, a group of contact springs secured to said flux bar and extending over a portion of the armature at the front of the relay and there provided with contact points fully visible and accessible from the front of the relay, a stud carried by the operative spring of the group and extending through the lower spring of the group into engagement with the armature, and an insulating stud loosely mounted upon the flux bar and adapted to space apart the several springs of the group, said insulating stud also holding the armature in proper pivotal relation with the flux bar.

[Claims 6 to 10 not printed in the Gazette.]

977,115. REPLANTER ATTACHMENT FOR CULTIVATORS. FRANK E. MARKLEY, Paola, Kans. Filed Oct. 13, 1909. Serial No. 522,497.



1. A mechanism of the class described having a seed receptacle open at its lower end, a rotatable disk closing the lower end of the receptacle, the periphery of the disk projecting beyond the circumference of the receptacle and

being formed with ratchet teeth, said disk having a plurality of open-ended chambers in it, a base plate upon which the disk is supported, having an opening with which the openings in the disk successively aline, a guard supported within the receptacle immediately above the opening in the base plate and contacting with the upper face of the rotatable disk, a reciprocating dog pivoted upon the side of the receptacle but having bodily lateral movement, said dog having a downwardly projecting extension engaging with the teeth of the disk, means for reciprocating the dog, and a spring forcing the dog bodily inward toward the receptacle and against the teeth on the periphery of the disk.

2. A mechanism of the character described having a seed receptacle, a rotatable disk closing the lower end thereof and having a plurality of open-ended chambers in it, said disk projecting beyond the circumference of the receptacle and having ratchet teeth on its periphery, a supporting base plate on which the disk rotates, having an opening with which the openings in the disks successively aline, a dog pivoted on the side of the seed receptacle but having free bodily lateral movement away from the receptacle, a spring for resisting the rotative movement of the dog on its pivot, manually operated mechanism for drawing the dog against the force of the spring to engage the teeth on the ratchet disk and turn said disk, a spring forcing the dog bodily inward toward the receptacle and holding the dog in engagement with the toothed periphery of the disk, said spring permitting the dog to move bodily outward to ride over said teeth, and a stop for limiting the movement of the disk when actuated by the dog.

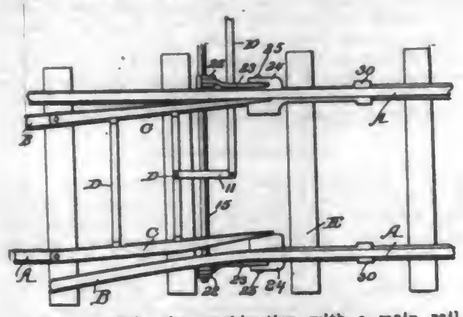
3. A mechanism of the class described, having a seed receptacle, a rotatable disk closing the lower end thereof and having a plurality of open-ended chambers in it, said disk having ratchet teeth upon its periphery, a supporting base plate upon which the disk rotates, having an opening with which the openings in the disk successively aline, a dog pivoted to the side of the seed receptacle, a spring for drawing the dog in one direction, manually actuated mechanism for drawing the dog in the other direction to engage the teeth on the ratchet disk, a spring surrounding the pivot of the dog and forcing the dog inward toward the receptacle, said spring also forcing said dog against the periphery of the disk, but permitting the dog to ride over the said teeth, a stop for limiting the movement of the disk when actuated by the dog, and a pawl engaging with the tooth to prevent a reverse movement of the disk.

4. In mechanism of the class described, a supporting bar, a supporting plate rotatably mounted on the bar and adjusted to any angular position, a bolt passing upwardly from the supporting bar and plate, a supporting sleeve surrounding the bolt and resting upon said plate, said sleeve having outwardly projecting arms, a rotatable disk mounted on the sleeve and supported on the plate, having a plurality of openings through it adapted to aline with an opening in the said supporting plate and being provided with peripheral ratchet teeth, a seed receptacle carried by the arms of said supporting member, a vertically adjustable brush carried upon one of said arms, above the opening through the supporting plate, the bristles of the brush contacting with the upper face of the disk, a three-armed dog pivotally mounted upon the seed receptacle and having a projecting finger engaging with the teeth on the disk, a spring attached to one of said arms and fixed at its other end, hand-actuated means attached to the other of said arms, a stop for limiting the movement of the ratchet disk in one direction, a dog for preventing the movement of the ratchet disk in the other direction, and a chute supported beneath the opening in the supporting plate.

5. In mechanism of the class described, a seed receptacle, a rotatable disk closing the lower end of the receptacle and having a plurality of open-ended chambers in it, a supporting base plate having an opening with which the openings in the disk successively aline, said disk being provided with peripheral ratchet teeth, a three-armed dog pivotally mounted upon the seed receptacle, one of said arms engaging with the ratchet teeth, a spring attached to another of said arms, a hand-actuated device attached to the remaining arm, and a stop projecting from the tooth-engaging arm and adapted, when the arm is moved to rotate the disk, to frictionally engage with a tooth on the disk to prevent too great a movement thereof.

[Claims 6 to 14 not printed in the Gazette.]

977,116. SAFETY-LOCK FOR RAILWAY-SWITCHES. JOHN R. MCKINNIS, St. Joseph, Mo. Filed Apr. 18, 1910. Serial No. 555,228.



1. In a switch, the combination with a main rail, a switch point, and means for moving the switch point, of a point locking device including a member embracing the main rail, but slidable therealong said member fitting between the base flange and the head of the rail, a point engaging member beveled on both sides and adapted to engage either over the switch point or between the switch point and the main rail, and means for moving the point locking device out of engagement with the point, shifting the point and moving the locking device again into engagement with the point.

2. In a switch lock, the combination with a main rail, and switch point, of means for locking the switch point in its open or closed position, said means comprising a point locking device including a longitudinally extended member having a head formed at one end, the said head being beveled on its inside face, said member having sliding engagement with the rail between the head and base flange thereof, a slide disposed on the other side of said rail and comprising a longitudinally extended member also fitting between the head and base flange of the rail formed at one end with a bifurcated head, and a tie web extending between and integral with the heads of the slide and point locking member and fitting beneath the base flange of the rail, a web connecting the rear ends of the slide and point locking member and fitting over the base flange on each side and extending beneath the base flange of the rail, and a longitudinal extending web connecting said tie webs and disposed beneath the base flange of the rail.

977,117. PLAYING-CARDS. FRANK G. MCPHERSON, Beaver Falls, Pa. Filed Mar. 9, 1910. Serial No. 548,247.



1. A game apparatus comprising a pack of cards having sequential relation and bearing characters which, when the cards are assembled in their sequential relation, indicate the termination and spell the result of the game.

2. A game apparatus comprising a pack of cards, each card having dissimilar indicia at its opposite ends, and the cards having a sequential relation whereby the indicia on the assembled cards will spell words to announce to the opposed players their relative standing at the close of the game.

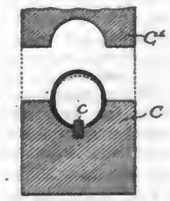
3. A pack of cards consisting of groups having a sequential relation, the cards of each group being provided with characters on their faces which when the cards are assembled in the sequential order of the groups will spell an announcement indicating the termination and also the result of the game.

4. A pack of cards comprising four cards having a sequential relation provided on their faces, at opposite sides of their transverse centers, with the characters "I" and "Se," "W" and "Lo," "I" and "U," and "N" and "Yo" respectively, whereby when the cards are exposed in the order of play they will simultaneously spell announcements reading "I win" and "You lose" facing the opposed players.

5. A pack of cards composed of several groups having a sequential relation, each card being divided transversely by lines and having letters on each division, all the cards of each group having the same letters but the letters on the cards of one group differing from the letters on the cards of the other groups, which letters when the cards of different groups are assembled in their proper order will indicate the termination and spell the result of the game.

[Claims 6 and 7 not printed in the Gazette.]

977,118. METHOD FOR MAKING SLOTTED TUBULAR TRACKS. ROBERT MINSHULL, Harvard, Ill, assignor to Hunt, Helm, Ferris & Company, Harvard, Ill., a Corporation of Illinois. Filed Nov. 5, 1909. Serial No. 526,466.



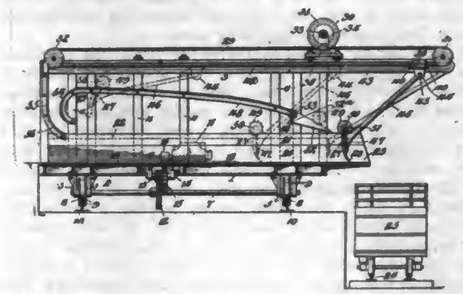
1. In a method of manufacturing lengths of slotted hollow track, the steps which consist in imparting to the central portion of the blank a curvature sharper than that desired in the finished track, bringing the edges of the blank to the required distance apart to form the slot and thereafter pressing the blank into its final contour while resisting edgewise movement along substantially the length of the slot.

2. In a method of manufacturing lengths of slotted hollow track, the steps which consist in imparting to the central part of the blank a curvature sharper than that desired in the finished track, bringing the edges of the blank to the required distance apart to form the slot, resisting further movement of the edges of the slot toward each other, and pressing the blank into its final contour while the movement of the edges is so resisted.

977,119. APPARATUS FOR HANDLING COKE, &c. WILLIAM CLARK MITCHELL, Sydney, Nova Scotia, Canada. Filed Mar. 31, 1910. Serial No. 552,704.

1. An apparatus for handling coke, etc., including a wheeled frame adapted to be transferred from one coke oven to another and provided with a coke-receiving platform, a conveyer member extending across the platform and arranged to sweep or carry the material along the same and discharge it at one end thereof, and means mounted on the wheeled frame for reciprocating the conveyer member.

2. An apparatus for handling coke, etc., including a wheeled frame adapted to be transferred from one coke oven to another and provided with a coke-receiving platform, a motor mounted on the frame, gearing for transmitting motion from the motor to the wheels of the frame, a conveyer member extending across the platform and arranged to sweep or carry the material along the same and discharge it at one end thereof, and means mounted on the frame for reciprocating the conveyer member.



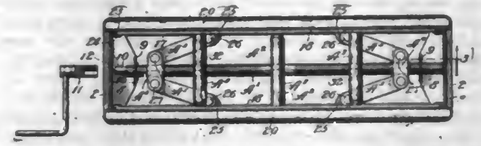
3. An apparatus for handling coke, etc., including a frame open at its ends and provided with transversely disposed wheels arranged to permit the frame to be moved laterally to transfer it from one coke oven to another, a coke-receiving platform carried by the frame, and means mounted on the frame and movable longitudinally of the platform for carrying or sweeping the coke longitudinally thereof to discharge it at one end of the frame.

4. An apparatus for handling coke, etc., including a frame open at its ends, axles extending longitudinally of the frame and supporting the same and provided with wheels arranged transversely of the said frame to permit the latter to be moved transversely from one coke oven to another, a coke-receiving platform carried by the frame, and means mounted on the frame and movable longitudinally of the platform for sweeping or carrying the material along the platform and for discharging the material at one end thereof.

5. An apparatus for handling coke, etc., including a frame open at its ends and provided with a coke-receiving platform extending longitudinally of the frame, axles supporting the frame and extending longitudinally thereof and provided with wheels arranged transversely of the frame to permit the same to move laterally from one coke oven to another, a motor mounted on the frame at one side thereof, a train of gears connecting the motor with one of the axles, and means mounted on the frame and movable longitudinally of the platform for sweeping or carrying the coke to and discharging it at one end thereof.

[Claims 6 to 22 not printed in the Gazette.]

977,120. LOOSE-LEAF BINDER. JOSEPH A. MUDD, Chicago, Ill. Filed Apr. 19, 1909. Serial No. 490,868.



1. In a binder of the character set forth, the combination of a back section comprising a sheet-metal plate having its end portions folded upon the body of the plate and the extremities of the folded portions bent forwardly to afford end-guides, the inner plies of the material being separated from the outer plies by spaces, slidable sections mounted on said back and provided with flanges received by said guides, and mechanism connecting the back section and said slidable sections.

2. In a binder of the character set forth, the combination of a back section comprising a sheet-metal member having its extremities folded back to lie parallel with the body of the plate and the loop ends of the plies thus formed bent forwardly at right angles to the body of the plate to afford end-guides, the portions of the inner

plies lying parallel with the body of the plate affording back guide-members and the extremities of the inner plies bent at right angles to the body of the plate and provided with perforations affording rod-bearings, a right-and-left threaded rod journaled in said rod-bearings, post-equipped binder sections having flanges engaging said guides, nuts on said rod, and links connecting said second-named binder sections with said nuts.

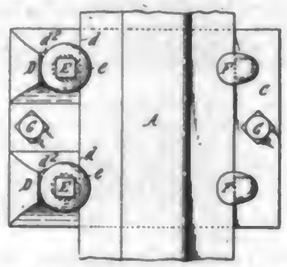
3. In a binder of the character set forth, the combination of a back section equipped with end-guides and back guides, a pair of transversely slidable sheet-metal sections having flanges received in said guides and post-carrying flanges at right angles thereto, a rod journaled on said back and equipped with nuts, links connecting said nuts with said pair of transversely slidable sections, a pair of side pieces flanking said post-carrying flanges of said slidable sections, said side pieces having nut-receiving sockets in their outer surfaces, nuts in said sockets, screws extending through the metal post-carrying flanges and connected with said nuts, a pair of cover sections, and binding material covering said side pieces and connected with said cover sections and affording flexible connections between the cover sections and the transversely slidable sections of the binder frame.

4. In a binder of the character set forth, the combination of a sheet-metal back section having forwardly extending end-guides formed integrally therewith, said end-guides comprising inner and outer plies of metal, a pair of transversely slidable sheet-metal binder sections, each comprising a sheet-metal plate having its extremities extending forwardly at right angles to the body of the plate and having at its outer lateral edge a flange extending forwardly at right angles to the body of the plate, said end portions received by said guides of said back section and having inwardly turned ears, the inner plies of said end-guides having recesses to accommodate said ears in the collapsed condition of the binder, and a relatively short and thick sheet-metal side plate secured to said forwardly turned lateral flange and to said ears, binding-posts carried by said relatively thick side plates, a right-and-left threaded rod journaled on said back section and equipped with nuts, and links connecting said nuts to said transversely slidable binder-sections.

5. In a binder of the character set forth, the combination of a sheet-metal back section having forwardly extending double-ply end-guides with the plies thereof separated to afford guide-spaces, the inner plies of said end-guides having their lateral edges provided with recesses, a separately formed back piece of wood, or the like, secured to the body of said sheet-metal back section and having its edges projecting beyond the edges of the sheet-metal back piece and beyond said end-guides, a pair of transversely slidable sheet-metal binder sections, each comprising a sheet-metal plate having its extremities bent forwardly and forming guide flanges received in said guides of said back section, the outer lateral edges of said end flanges having inturned ears, and relatively short and thick sheet-metal side plates secured to said ears and adapted to fit between said end-guides in the collapsed condition of the binder, binder-posts carried by said last-named plates, separately formed side pieces of wood, or the like, secured to said last-named plates and having their extremities projecting beyond the ends of said plates, cover sections flexibly connected with said last-named side pieces, a right-and-left threaded rod journaled on said back section and equipped with nuts, and links connecting said nuts to said relatively thick plates.

977,121. TIE-PLATE. ANDREW J. NEAFIE, Boonton, N. J., assignor to The Delaware, Lackawanna & Western Railroad Company, New York, N. Y. Filed May 2, 1910. Serial No. 558,951.

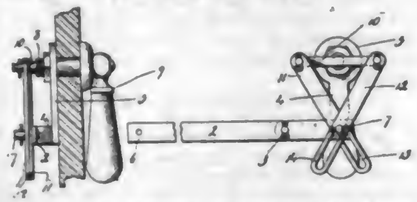
1. A tie plate provided at one end with raised bearing portions which are separated by an intervening portion of the plate and which have abrupt inner edges forming shoulders for contact with the outer edge of the rail base, holes in said bearing portions for rail-securing screw spikes, and inclined bearing surfaces adjacent to said holes which are adapted to engage the under side of the heads of said screw spikes, said tie plate being provided at its opposite end with holes for rail-securing spikes and having at both ends holes for independent plate-securing means, substantially as set forth.



2. A tie plate provided at one end with raised bearing portions which are separated by an intervening portion of the plate and have beveled outer and side edges and abrupt inner edges forming shoulders for contact with the outer edge of the rail base, holes in said bearing portions for rail-securing screw spikes, and inclined bearing surfaces adjacent to said holes which are adapted to engage the under side of the heads of said screw spikes, said tie plate being provided at its opposite end with holes for rail-securing spikes and having at both ends holes for independent plate-securing means, substantially as set forth.

3. A tie plate provided at one end with raised bearing portions which are spaced apart and have abrupt inner edges forming shoulders for contact with the outer edge of the rail base, holes in said bearing portions for rail-securing screw spikes, and inclined bearing surfaces adjacent to said holes which are adapted to engage the under side of the heads of said screw spikes, said tie plate being provided at its opposite end with holes for rail-securing spikes and having at both ends outside of the rail-securing spikes, holes for independent plate-securing means, one of said holes being formed in the plate between said raised bearing portions, substantially as set forth.

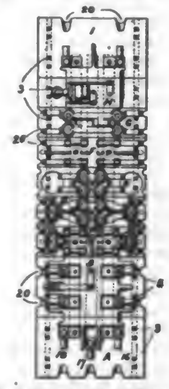
977,122. FLUSH-TANK-OPERATING DEVICE. WILLIAM G. NEWTON, New Haven, Conn., assignor to The Peck Bros. & Co., New Haven, Conn., a Corporation. Filed Aug. 2, 1910. Serial No. 575,136.



1. A flush tank operating device consisting of a spindle and a handle therefor, a bar connected with the inner end of said spindle, a link connected to each end of the said bar, said links formed with slots, and a pivotal valve-operating lever carrying a stud projecting through the said slots whereby the movement of the handle in either direction will turn the arm.

2. A flush tank operating device comprising a bracket adapted to be secured to the inner face of a flush tank and formed at its lower end with an arm, a lever pivotally connected with said arm, a spindle passing through the upper end of said bracket, a handle secured to the outer end of said spindle, a bar secured to the inner end of said spindle, a link secured to each end of said bar, said links formed at their lower ends with slots, and a pin carried by said lever and extending through said slots whereby the turning of the arm 10 in either direction will turn the lever, and the extent of movement of the bar will be limited by the said slots.

977,123. PANEL-BOARD. RAYMOND H. OLLEY, Syracuse, N. Y. Filed July 27, 1908. Serial No. 445,541.



1. In a panel board, a series of sections of insulating material consisting of front outside portions having a surface at one level and a middle projecting portion having a surface at another and a higher level, each section having grooves for bus-bars in its rear face behind the said middle portion and having recesses in the outer parts of said middle portion connecting with the bus-bar grooves, each section having notches in its edge for holding and spacing outside wires; bus-bars lying in said grooves; electrical conductors lying in the recesses; and means for fastening the bus-bars and said conductors directly together.

2. In a panel board, the combination of a series of sections of insulating material, each having registering grooves in the rear face constituting longitudinal grooves in the whole series, and a transverse recess extending inward from the edge of one section in the front face thereof, the bottoms of the grooves and the recess lying in the same plane; whereby conductors therein may be connected at said intersection, but are insulated at all other points.

3. In a panel board, the combination of a series of sections of insulating material, each being of a unit width or of a width that is a multiple of the unit width and having registering grooves in the rear face constituting longitudinal grooves in the whole series, and a transverse recess extending inward from the edge of one section in the front face thereof, the bottoms of the grooves and the recess meeting in the same plane; whereby conductors therein may be connected at said intersection, but are insulated at all other points.

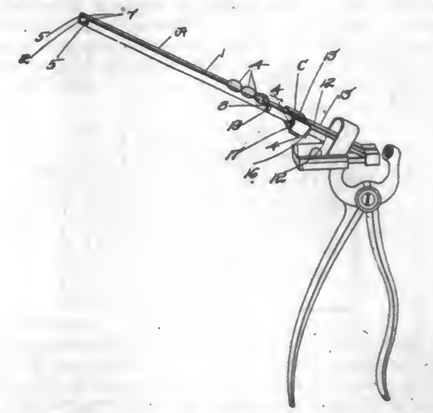
4. In a panel board, the combination of a series of sections of insulating material, each having registering grooves in the rear face constituting longitudinal grooves in the whole series, and a transverse recess in the front face of one section, the bottoms of the grooves and the recess meeting in the same plane; whereby conductors in the grooves and the recess may be connected at said intersection, but are insulated at all other points.

5. In a panel board, the combination of a series of sections of insulating material, each being of a unit width or of a width that is a multiple of the unit width and having registering grooves in the rear face constituting longitudinal grooves in the whole series, and transverse grooves in the front face of one section, the bottoms of the front and rear grooves intersecting in the same plane; whereby conductors in the grooves may be connected at said intersections, but are insulated at all other points.

[Claims 6 and 7 not printed in the Gazette.]

977,124. FEED-TUBE FOR BUTTONS AND BUTTON-FASTENERS AND COUPLING MECHANISM. GEORGE E. PARKER, Brookline, Mass., assignor to Heaton-Peninsular Button Fastener Company, Boston, Mass., a Corporation of Maine. Filed Dec. 15, 1909. Serial No. 533,161.

1. A feed tube for buttons and attached fasteners having a longitudinal slot throughout its length in the upper side for the passage of the eye of the button, the flanges on each side of the slot being turned upwardly forming a raised seat for the heads of the buttons.



2. A feed tube for buttons and attached fasteners having a longitudinal slot throughout its length in the upper side for the passage of the eyes of the buttons, the flanges on each side of the slot being turned upwardly forming a raised seat for the heads of the buttons, the upturned flanges being slightly concaved in cross-section.

3. A feed tube for buttons and attached fasteners having a longitudinal slot throughout its length in the upper side for the passage of the eyes of the buttons, the flanges on each side of the slot being turned upwardly, in combination with a movable tubular clamp which is adapted to connect said feed tube with a setting implement, said clamp having a longitudinal slot in its upper side in alinement with the longitudinal slot in the feed tube.

4. A feed tube for buttons and attached fasteners having a longitudinal slot throughout its length in the upper side for the passage of the eyes of the buttons, the flanges on each side of the slot being turned upwardly, in combination with a movable tubular clamp which is adapted to connect said feed tube with a setting implement, said clamp having a longitudinal slot in its upper side in alinement with the longitudinal slot in the feed tube, the slot in said coupling being wider than the slot in the feed tube.

5. A feed tube for buttons and attached fasteners having a longitudinal slot throughout its length forming flanges on which the buttons are seated while the shanks of the buttons extend through the slot into the tube, lateral grooves in the sides of the feed tube which form seats and guides for the legs of the fasteners and a central groove in the bottom of the feed tube for the eyes of the buttons, the flanges on each side of the longitudinal slot of the tube being turned upward along the edges of the slot to form raised seats for the buttons as they slide down the feed tube.

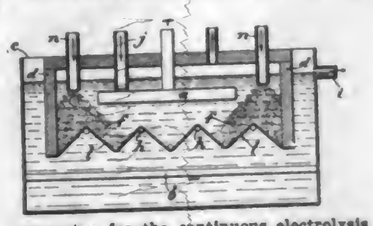
[Claims 6 to 11 not printed in the Gazette.]

977,125. APPARATUS FOR CONTINUOUS ELECTROLYSIS OF AQUEOUS SOLUTIONS. ALBERT PIETZSCH, Triberg, Germany, and EWALD STEINBUCH, Monthey, Switzerland, assignors to Society of Chemical Industry in Basle, Basel, Switzerland. Filed Nov. 17, 1909. Serial No. 528,598.

1. An apparatus for the continuous electrolysis of an aqueous solution, having two superposed electrodes in different compartments, and means to cause the electrolyte to flow from the upper to the lower electrode, in combination with a support of permeable and non-conducting material situated between the two electrodes and designed to receive solid salt, and with means to feed solid salt into the upper electrode compartment in proximity of the said upper electrode substantially as described.

2. An apparatus for the continuous electrolysis of an aqueous solution, having two superposed electrodes in dif-

ferent compartments, and means to cause the electrolyte to flow from the upper to the lower electrode, and a support of permeable and non-conducting material situated between the two electrodes and designed to receive solid salt, in combination with a device forming a trap for the gases generated at the lower electrode and with means to feed solid salt into the upper electrode compartment in proximity of the said upper electrode, substantially as described.



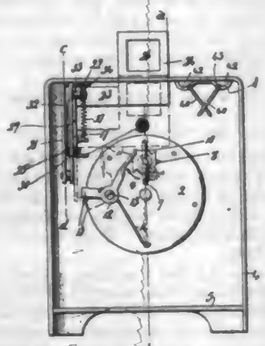
3. An apparatus for the continuous electrolysis of an aqueous solution, having two superposed electrodes in different compartments, and means to cause the electrolyte to flow from the upper to the lower electrode, in combination with a porous fabric adapted between the two electrodes to receive solid salt, and with means to feed solid salt into the upper electrode compartment in proximity of the said upper electrode, substantially as described.

4. An apparatus for the continuous electrolysis of an aqueous solution having two superposed electrodes in different compartments, and means to cause the electrolyte to flow from the upper to the lower electrode, a porous fabric adapted between the two electrodes to receive solid salt, in combination with a device forming a trap for the gases generated at the lower electrode, and with means to feed solid salt into the upper electrode compartment in proximity of the said upper electrode, substantially as described.

5. An apparatus for the continuous electrolysis of an aqueous solution, having two superposed electrodes in different compartments, and means to cause the electrolyte to flow from the upper to the lower electrode, a porous fabric situated between the two electrodes and designed to receive solid salt and a second substantially horizontal fabric closing the bottom of the compartment of the upper electrode and stretched in zigzag manner in order to form a trap for the gases generated at the lower electrode, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

977,126. CLOCK-BANK. WILSON E. PORTER, New Haven, Conn., assignor to New Haven Clock Co., New Haven, Conn., a Corporation. Filed Feb. 26, 1910. Serial No. 546,222.



1. In a clock-bank, the combination with a clock-movement, of locking means normally preventing the winding thereof, and coin-operated mechanism coacting with the said locking means to temporarily retire the same to permit the clock-movement to be wound, the said coin-operated mechanism including a vertically movable manually operated lever projecting through the top of the clock-case and forming a handle for the clock.

2. In a bank-clock, the combination with a clock-movement, of a locking-ratchet mounted upon the winding-arbor of the said movement, a pawl normally engaged with the said ratchet to prevent the rotation thereof, and a coin-operated mechanism for temporarily disengaging the said pawl from the said ratchet, the said mechanism comprising a coin-chute, a manually operated operating-lever, and an independent, pivotal releasing-lever located within the coin-chute and operated by a coin under the control of the said operating-lever which projects through the clock-case and forms a handle therefor.

3. In a bank clock, the combination with the movement thereof, of a locking-ratchet mounted upon the winding-arbor of the said movement, a pawl normally engaging with the said ratchet, a releasing-arm connected with the said pawl, an operating-lever adapted to engage with the said releasing-arm when sufficiently depressed, a coin-chute an operating-pin extending into the coin-chute from the said operating-lever, a releasing-lever located within the coin-chute, and a stop-pin carried by the releasing-lever and normally limiting the downward movement of the operating-lever, the said releasing-lever being swung out of its normal position by the introduction of a coin, so as to clear its stop-pin from the operating-lever and permit a sufficient movement thereof to disengage the pawl from the locking-ratchet.

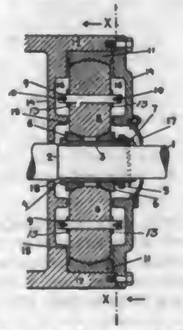
977,127. BANJO. ARTHUR G. RENGERT and RICHARD S. SCHWANDT, Detroit, Mich. Filed Sept. 28, 1909. Serial No. 520,032.



1. A banjo, having in combination a hollow neck member of cast metal, an integral extension piece projecting from the inner end thereof, a fret surface secured to the upper face of said neck member, an annular grooved body portion resting upon said extension piece and secured to the outer end thereof, whereby it is rigidly held in place with respect to said neck member, a membrane extending across said grooved body, and means for regulating the tension of the same, substantially as described.

2. In a banjo, in combination with a hollow, metallic neck, having an integral projection at the lower end thereof, an annular body portion resting upon said projection and secured to the outer end thereof, a membrane extending thereover, a hoop member engaging the peripheral edges of said membrane, and means for adjusting the position of said hoop member and thereby varying the tension of said membrane, substantially as described.

977,128. ROLLER-BEARING. GUSTAV RENNERFELT, Scranton, Pa. Filed May 13, 1907. Serial No. 373,358.

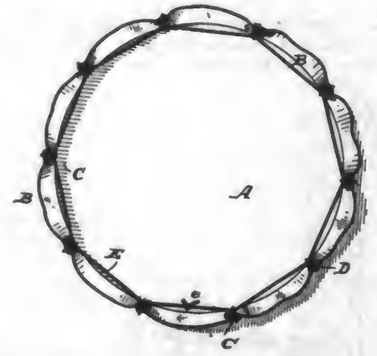


1. In a roller bearing, the combination of a shaft, a track, a plurality of rollers arranged to sustain all axial and radial pressure between the shaft and the track, said rollers having flat ends and spherical faces, a plate fastened to the track in close proximity to the flat ends of the rollers and arranged to limit the deviation in parallelism between the rollers and the shaft, and a continuous ring arranged to maintain the distance between the rollers, the side plate being formed with a chamber to provide a clearance for the ring, the diameter of each roller being greater than its length.

2. In a roller bearing, the combination with a shaft, a track, a plurality of rollers arranged to sustain all pressure between the shaft and the track, said rollers having flat ends and spherical faces, means for adjusting the bearing, plates fastened to the track in close proximity to the flat ends of the rollers and arranged to limit deviation in parallelism between the rollers and the shaft, and a pair of continuous flexible rings arranged to maintain the distance between the rollers, the side plates being formed with a chamber to provide a clearance for the ring.

3. The combination of a shaft, a pair of oppositely beveled bushings thereon, a track, four rollers having flat sides and spherical faces in contact with the bushings and with the track, a flexible ring connecting the rollers together and maintaining the distance between them, and washers between said ring and the rollers.

977,129. TOILET UTENSIL. BRUCE REYNOLDS, Cincinnati, Ohio. Filed Oct. 29, 1909. Serial No. 525,253.

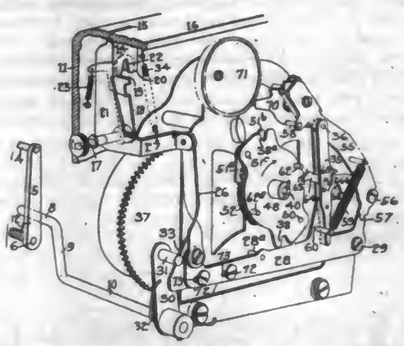


In a utensil of the kind and for the purpose explained, a foldable body of flexible water-proof material adapted to be formed into a liquid-container when a portion around the edge of the flattened-out body is turned up, folds being formed in this upturned part, rings seated in the upper ends of these folds to hold them in shape and a single, endless cord which passes through all these rings to hold the upturned portion in side-forming position.

977,130. TIME-CONTROLLING MECHANISM FOR TYPE-WRITING MACHINES, &c. CHARLES DE LOS RICE and LYMAN D. BROUGHTON, Hartford, Conn., assignors to Underwood Automatic Typewriter Pay Station Company, New York, N. Y., a Corporation of New York. Filed May 22, 1909. Serial No. 497,606.

1. The combination of a clockwork, a rotatable head or device, and manually controlled mechanism to connect said head to said clockwork to be rotated thereby, said manually controlled mechanism including both a head-releasing member and a latch to retain said releasing member in ineffective position; said head having means to trip said latch, to render said releasing member effective.

2. The combination of a clockwork, a rotatable head or device, and manually controlled mechanism to connect said head to said clockwork to be rotated thereby, said manually controlled mechanism including both a head-releasing member and a latch to retain said releasing member in ineffective position; said head having means to trip said latch, to render said releasing member effective; means being provided to lock said head against rotation when it is disconnected from the clockwork.



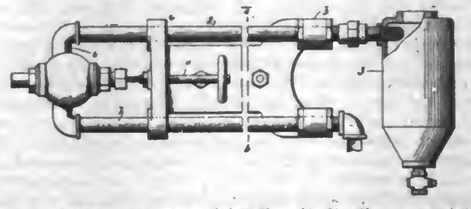
3. The combination of a clockwork, a rotatable head or device, and manually controlled mechanism to connect said head to said clockwork to be rotated thereby, said manually controlled mechanism including both a head releasing member and a latch to retain said releasing member in ineffective position; said head having means to trip said latch, to render said releasing member effective, a manually operable machine, a movable device normally preventing manipulation of said machine, and means for causing said movable device to move to ineffective position simultaneously with the connection of the head of the clockwork.

4. The combination of a clockwork, a rotatable head, a clutch to connect the rotatable head to the clockwork, a spring to close said clutch, an arm having means to open said clutch to release the head from the clockwork, manually operable means to cause said arm to permit the clutch to close and enable the clockwork to turn the head, a latch to hold said arm out of effective position, a spring tending to return said arm to effective position, and means upon said head to trip said latch to permit said arm to unclutch the head from the clockwork.

5. The combination of a clockwork, a rotatable head, a clutch to connect the rotatable head to the clockwork, a spring to close said clutch, an arm having means to open said clutch to release the head from the clockwork, and to lock said head against rotation, manually operable means to cause said arm to permit the clutch to close and enable the clockwork to turn the head, a latch to hold said arm out of effective position, a spring tending to return said arm to effective position, and means upon said head to trip said latch to permit said arm to unclutch the head from the clockwork and to lock said head against rotation.

[Claims 6 to 23 not printed in the Gazette.]

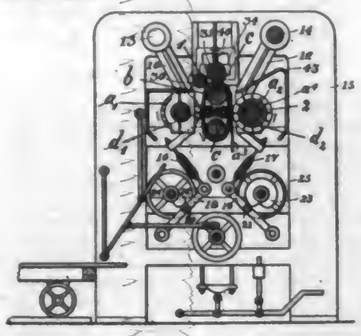
977,131. STEAM-TRAP. MICHAEL L. RICHARDS, New Haven, Conn. Filed Nov. 1, 1909. Serial No. 525,790.



1. A steam trap comprising longitudinally expansible inlet and outlet pipes, bearings to which one end of said pipes is rigidly connected and through which the opposite ends may be moved longitudinally, a valve connected with the free ends of said pipes, said valve including a spring-actuated plug and a fixed spindle entering said valve in line with said plug and adapted when the pipes contract to engage with said plug and cause the valve to open.

2. A steam trap comprising longitudinally movable inlet and outlet pipes, a bearing in which one end of said pipes is rigidly mounted and in which the opposite ends are supported for longitudinal movement, a valve between the outer ends of said pipes, said valve including a spring-actuated plug, a fixed spindle entering said valve in line with said plug and adapted when the inlet pipe contracts to engage with said plug and cause the valve to open, and a separator connected with the fixed end of the inlet pipe.

977,132. MACHINE FOR PREPARING HIDES AND SKINS OF EVERY DESCRIPTION. LOUIS RICHTER, Crimmitschau, Germany. Filed June 10, 1910. Serial No. 566,217.



1. In a machine of the class described, in combination, substantially parallel working rolls rotatable in opposite directions, and one of which is movable toward and from the other, and a work-support located between said rolls in a fixed position with relation thereto and movable in a direction to carry the hide or skin in one direction past the roll on one side of the work-support and in the opposite direction past the other roll on the other side of the work-support, the latter having its upper surface accessible from above the working rolls to permit the hide or skin to be placed in the machine from above the working rolls with the upper portion of the hide or skin resting on the upper part of the work-support between the working rolls and with the lower part hanging down between said work-support and one of said rolls, whereby the suspended portion of the hide or skin may be automatically smoothed out on the work-support as it is being treated by one of the working rolls on one side of the work-support, and the upper part resting on the work-support may be manually smoothed out before it is presented to the working roll on the other side of the work-support, substantially as described.

2. In a machine of the class described, in combination substantially parallel rotatable working rolls, one of which is bodily movable toward the other, a work-support located between said rolls in a fixed position with relation thereto and movable in a direction to carry the hide or skin in one direction past the roll on one side of the working support snd in the opposite direction past the other roll on the other side of the work-support, and cams to automatically govern the engagement of the working rolls with the hide or skin, one of said cams being constructed to permit one of the rolls to be moved into its inoperative position while the other of said rolls is maintained in its operative position by its cam, substantially as described.

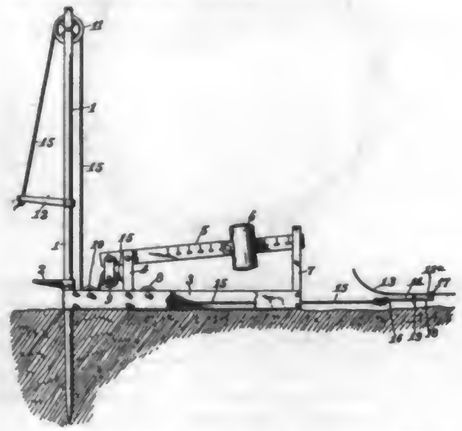
3. In a machine of the class described, in combination, substantially parallel rotatable working-rolls, one of which is bodily movable toward the other, a work-support located between said rolls in a fixed position with relation thereto and movable in a direction to carry the hide or skin in one direction past the roll on one side of the work-support and in the opposite direction past the other roll on the other side of the work-support and a cam to automatically govern the engagement of the bodily movable working roll with the hide or skin substantially as described.

4. In a machine of the class described, in combination, substantially parallel rotatable working-rolls separated from each other, a work-support located between said rolls in a fixed position with relation thereto and movable in a direction to carry the hide or skin in one direction past the roll on one side of the work-support and in the opposite direction past the other roll on the other side of the work-support, and means to effect a separation between one of said working rolls and the side of said work-support adjacent thereto to enable the hide or skin to be placed in the machine from above the working rolls with the upper portion of the hide or skin resting on the upper part of the work-support and the lower portion hanging down in the space thus formed, substantially as described.

977,133. INDUSTRIAL MICROBIOLOGICAL VEGETAL RETTING PROCESS BY PECTIC AEROBIC MICROBES IN A GAS-CURRENT. GIACOMO ROSSI, Portici, Italy. Filed Apr. 2, 1908. Serial No. 424,793.

The above described vegetal retting process comprising cleaning the vegetals, inserting same into suitable tight vessels, pouring a bacilliculture of a pectic aerobic microbe into the vessel, and passing a purified gas current through the vegetals and liquid in the vessel, the temperature at which the retting process is effected corresponding as much as possible to the optimum of the conditions of life of the microbe used.

977,134. TENSION DEVICE FOR CHECK-ROW PLANTERS. ENOCH W. RYDER, Dowagiac, Mich. Filed July 29, 1910. Serial No. 574,489.



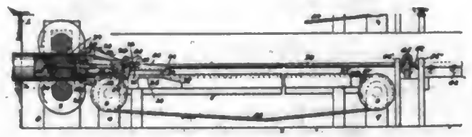
1. A tension device, comprising a stake, a pivoted lever connected to the stake, a weight adjustable on the lever, a pulley carried by the lever, pulleys below the plane of the pulley on the lever, a cord engaging the lower side of the last named pulleys and the upper side of the pulley on the lever, means for attaching the cord to a check row wire, and means for attaching the cord to the stake.

2. A tension device, comprising a stake, and arm adjustable on the stake, parallel bars attached to the stake, pulleys journaled between the bars, a hanger extending upward from the bars, a lever pivoted to the hangers, a weight on the long arm of the lever, a pulley carried by the short arm of the lever, a cord extending below the pulleys between the bars and above the pulley on the lever and attached to the arm on the stake, and means for attaching the cord to a check row wire.

3. A tension device, comprising a stake, parallel bars attached to the stake, a hanger extending upward from the bars, a lever pivoted to the upper end of the hanger, a pulley carried by the short end of the lever, pulleys journaled between bars and at the respective sides of the pulley on the lever, an arm adjustable on the stake, a cord extending between the bars and below the pulleys therebetween and also extending above the pulley on the lever and attached to the arm on the stake, and means for attaching the cord to a check row wire.

4. A tension device, comprising a stake, a pulley at the top of the stake, an adjustable arm and a foot rest on the stake, parallel bars attached to the stake below the foot rest, two pulleys journaled between the bars and spaced apart, a lever pivotally supported above the bars, a pulley carried by the lever above and between the first named pulleys, a weight adjustable on the lever, a cord attached to the arm and thence extending over the pulley at the top of the stake, thence beneath one of the pulleys between the bars, thence over the pulley on the lever, thence under the other pulley between the bars and thence outward between the bars, and means for attaching said cord to a check row wire.

977,135. PIPE-DRAWING MACHINE. FRANK A. SCHUSTER, Sharpsburg, Pa. Filed Feb. 3, 1910. Serial No. 541,717.



1. In a machine for drawing lap-weld pipe, the combination of welding rolls having a welding ball within the same, a ball-bar for carrying said ball, and a gripping device on and movable along said bar for engaging with one end of the pipe after it emerges from such rolls to draw said pipe during its welding operation.

2. In a machine for drawing lap-weld pipe, the combination with welding rolls having a welding ball within the same, a ball-bar for carrying said ball, of a gripping device on and movable along said bar for engaging with one end of the pipe after it emerges from such rolls to draw said pipe during its welding operation, and power-driven means adapted to be connected to said device for moving the same in the welding operation.

3. In a machine for drawing lap-weld pipe, the combination with welding rolls having a welding ball within the same, a ball-bar for carrying said ball, of a gripping device on and movable along said bar for engaging with one end of the pipe after it emerges from such rolls to draw said pipe during its welding operation, and power-driven chains adapted to be connected to said device for moving the same in the welding operation.

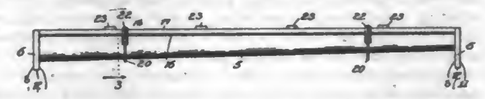
4. In a machine for drawing lap-weld pipe, the combination with welding rolls having a welding ball within the same, a ball-bar for carrying said ball, of a gripping device on and movable along said bar for engaging with one end of the pipe after it emerges from such rolls to draw said pipe during its welding operation, power-driven chains, and spring operated arms on said device for engaging with said chains to move said device in the welding operation.

5. In a machine for drawing lap-weld pipe, the combination with welding rolls having a welding ball within the same, a ball-bar for carrying said ball, of a gripping device on and movable along said bar for engaging with one end of the pipe after it emerges from such rolls to draw said pipe during its welding operation, power-driven chains, means on said device for engaging with said chains to move said device in the welding operation, means for releasing said device, and means for closing the device on the pipe for the welding operation.

[Claims 6 to 33 not printed in the Gazette.]

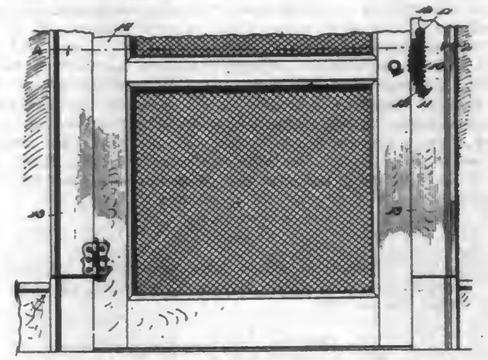
977,136. POST-MOLD. LOUIS H. SCOTT, Buda, Ill., assignor to Illinois Concrete Machinery Company, Buda, Ill., a Corporation of Illinois. Filed May 13, 1910. Serial No. 561,249.

A mold formed of bearing-heads provided with flat bottom portions and curved sides, brackets secured on the inner faces of the heads to extend transversely of such faces and provided with shouldered portions forming seats, and a trough connecting the heads together and provided



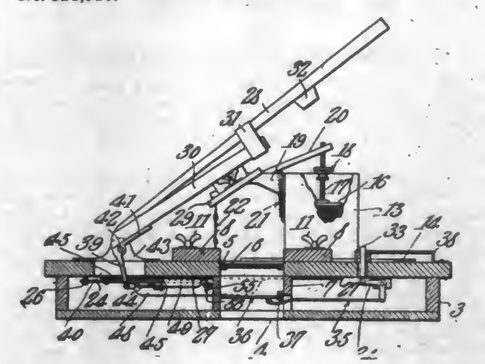
with outwardly-extending flanges seating at their ends upon and secured to said shouldered portions of the brackets.

977,137. COMBINED LATCH AND CATCH FOR DOORS. CHARLES M. SEXTON, Aurora, Ill. Filed Sept. 13, 1910. Serial No. 581,889.



As a new article of manufacture, a combined latch and catch for doors formed of a coil of wire, greatest in diameter intermediate its ends, and with means at the ends for attachment to a door casing, with the larger intermediate portion of the coil extending into the path of a door and engaged thereby when same is opened and closed.

977,138. PHOTOGRAPHIC-PRINTING MACHINE. JOHN J. SHAFER, Lenox, Mich. Filed Oct. 27, 1909. Serial No. 524,917.



1. A photograph printing apparatus comprising an upright frame having a negative receiving opening, a hopper located above said opening, a card supporting bail located adjacent the lower end of said opening, means for feeding a card from the hopper to the negative receiving opening, means for operating the bail to discharge the printed card, a lever, and connections between it and both said means for operating them alternately.

2. The combination of a frame having an upright negative receiving opening, a hopper disposed above the said opening, means for feeding a card from the hopper, and guide plates adjustably secured at the sides of the said opening to guide a card into the same.

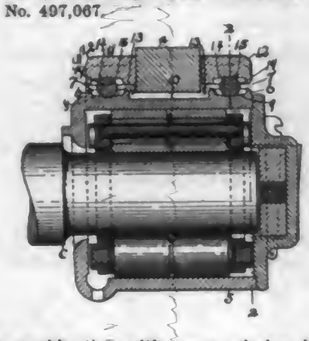
3. The combination of a frame having a negative receiving opening, a normally closed shutter arranged within the said opening, a slidable pin mounted in the frame at one side of the said opening, a loop secured on the frame adjacent to the said pin, connections between the inner end of the said pin and the shutter, and an operating lever mounted on the frame at the opposite side of the negative receiving opening and carrying a presser plate adapted to enter the said opening, the said lever being arranged to bear upon the slidable pin and lie upon the loop adjacent thereto.

4. In a photograph printing device, the combination of a frame having an upright negative receiving opening, a hopper mounted on the frame above the said opening, a slide arranged to move across the bottom of the hopper to feed a card therefrom, means for operating the said slide, and concurrently operating means for applying pressure to the cards in the hopper on the feeding movement of the slide and for relieving the cards of such pressure on the return movement of the slide.

5. In a photograph printing machine, the combination of a frame having a negative receiving opening, a hopper disposed adjacent the said opening, means for feeding cards from the said hopper, a follower within the hopper, a presser arm mounted on the side of the hopper, and means for actuating the said presser arm to apply pressure to the follower during the feeding of the cards and to remove the pressure when the cards are not being fed.

[Claims 6 to 23 not printed in the Gazette.]

977,139. CAR-AXLE BOX AND SADDLE. ELIEL L. SHARPNECK, Winthrop, Mass. Filed May 19, 1909. Serial No. 497,067.



1. The combination with a car axle box having a pair of turrets furnished with depressions, and rolls contained in said depressions, of a saddle having inverted seats, to receive said rolls, and side bearings and supports for side frames, said supports being below said last mentioned cavities.

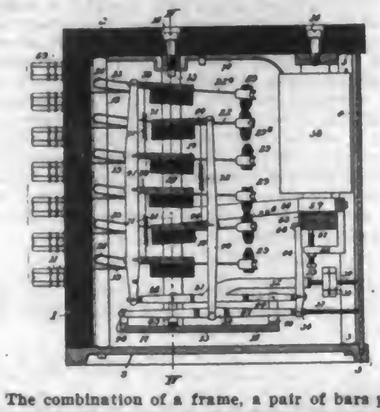
2. The combination with a car axle box having a pair of turrets and a depression between said turrets, and antifriction bearings carried by said turrets, of a saddle mounted on said bearings and having depending members furnished with end frame supports the upper surfaces of which are below the tops of said turrets.

3. The combination with a car axle box having transverse ways, and rolls rotatable in said ways, of a saddle having side bars mounted on said rolls and having depending ends connected in pairs by ribs whereby the supporting surfaces of said ribs are below the axes of said rolls.

4. The combination with a car axle box having turrets furnished with depressions each having a pair of oppositely inclined surfaces, and rolls in said depressions, of a saddle having cavities, to receive said rolls, each having a pair of oppositely inclined surfaces, said saddle having side frame supports located below said cavities.

977,140. ELECTRIC SWITCH. PERCY L. SIBOLE, Wilkinsburg, Pa. Filed Sept. 20, 1909. Serial No. 518,558.

1. The combination of a frame, a pair of bars pivotally connected to the sides of the frame, switch-arms connected to the bars, contacts on the switch-arms, links connected to the switch-arms, levers connected to the links, and an actuating element connected through the links and levers, to move said contacts simultaneously toward and from each other into mutual engagement and disengagement.



2. The combination of a frame, a pair of bars pivotally connected to the sides of the frame, switch-arms attached to the bars, contacts on the switch-arms, links attached to the switch-arms, lever mechanism connected to the links, and an actuating element connected to the links and lever mechanism, the parts being so proportioned that the full energy of the actuating element may be transmitted to the contacts substantially undiminished.

3. The combination of a frame, a pair of bars pivotally connected to the sides of the frame, switch-arms attached to the bars, contacts on the switch-arms, links attached to the switch-arms, lever mechanism connected to the links, and an actuating element connected to the links and lever mechanism, the parts being so proportioned that a portion of the motion developed at the element may close the said contacts and the remainder of said motion may apply pressure to the contacts.

4. The combination of an electric circuit, two movable switch elements therein adapted to mutually engage, an actuating element, and connections between the said switch elements and the said actuating element, to move the switch elements toward each other into mutual engagement.

5. The combination of an electric circuit, two movable switch elements therein adapted to mutually engage, an actuating element, and connections between the switch elements and the actuating element to move the switch elements simultaneously toward each other into mutual engagement.

[Claims 6 to 25 not printed in the Gazette.]

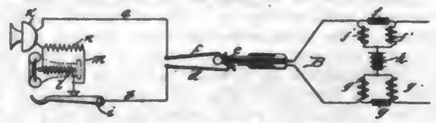
977,141. BAKING-IRON. GEORGE N. SMITH, Akron, Ohio. Filed Nov. 2, 1909. Serial No. 525,952.



A cooking utensil comprising a pair of members each provided with a body-portion and one adapted to be

mounted upon the other and each formed with a laterally-extending hollow handle section projecting from its respective body-portion, one of said body-portions having its inner face provided with a shallow recess and the other having its inner face flat throughout, a lateral lug projecting from said recessed body-portion and having its upper face provided with a groove of less length than the length of the lug and which opens at its inner end into the recess of the body-portion, apertured ears projecting from the outer terminus of said lug, a lateral lug projecting from the other of the body-portions and having an enlarged cylindrical end extending between said ears, means for pivotally connecting the ears and cylindrical end together, and an outlet means for said groove at the outer end of the latter.

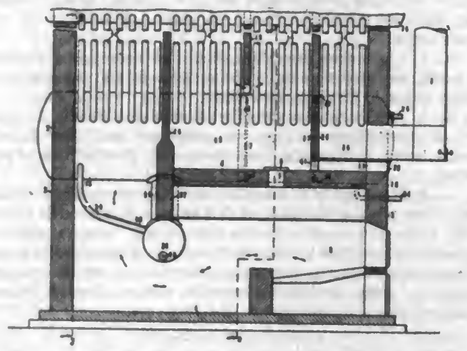
977,142. TELEPHONE SYSTEM. FRANK X. STAUB, Fort Wayne, Ind., assignor to Corwin Telephone Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 8, 1910. Serial No. 554,097.



1. A telephone system including a telephone line having a telephone station which includes a receiver having a soft iron readily magnetizable and demagnetizable core provided with a winding serially included with the line and with means at the same station with the receiver for impressing voice currents upon the line; a substantially non-inductive shunt about turns of the receiver winding and also serially related with said means; and a source of direct current included in circuit with the receiver winding by the telephone line.

2. A telephone system including a telephone line having a telephone station which includes a receiver having a soft iron readily magnetizable and demagnetizable core provided with a winding serially included with the line and with a transmitter at the same station with the receiver for impressing voice currents upon the line; a substantially non-inductive shunt about turns of the receiver winding and also serially related with said transmitter; and a source of direct current included in circuit with the receiver winding and the transmitter at the same station therewith by the telephone line.

977,143. BOILER CONSTRUCTION. ALISON B. STIRLING, Pleasant Mount, Pa. Filed Dec. 18, 1909. Serial No. 533,932.



1. In a steam boiler, in combination, a fire-box, a water-drum, a transversely extending drum, a wall supported by said transverse drum and extending up to and around said water-drum, an arch extending beneath said water drum rearwardly to said wall, and water evaporating tubes connecting said drums.

2. In a steam boiler, in combination, a fire-box, a water-drum, a transversely extending drum disposed beneath the rear portion of said water drum, means connecting said drums, tubes extending from said transverse drum rearwardly and upwardly to said water-drum, and a baffle supported by said tubes.

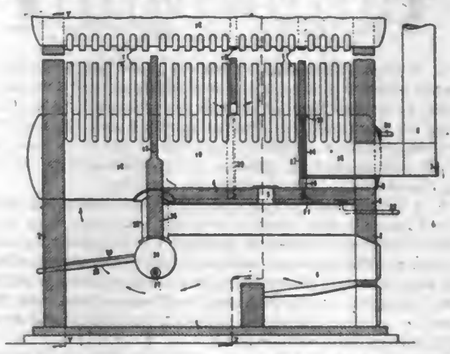
3. In a water tube boiler, in combination, a fire-box, a water-drum, a transversely extending drum, means connecting said drums, tubes further connecting said drums and positioned substantially beneath the rear portion of said water-drum, and a baffle supported by said tubes adapted to protect said drum from the direct flow of the furnace gases.

4. In a water tube boiler, in combination, a fire-box, a water-drum, a transversely extending drum located beneath said water-drum and connected therewith, and water-tubes extending rearwardly from said transverse drum and connected to said water drum.

5. In a steam boiler, in combination, a fire-box, a longitudinal water-drum, a transverse drum positioned beneath the rear portion of said water-drum, a steam and water drum, water tubes extending upwardly from said water-drum to said steam and water drum, water tubes extending from said transverse drum rearwardly to said water-drum, and a wall supported upon said transverse drum and projecting upwardly among said first set of tubes.

[Claims 6 to 15 not printed in the Gazette.]

977,144. BOILER CONSTRUCTION. ALISON B. STIRLING, Pleasant Mount, Pa. Original application filed Dec. 18, 1909, Serial No. 533,932. Divided and this application filed May 20, 1910. Serial No. 562,373.



1. In a steam boiler, in combination, a fire-box, a longitudinally extending water-drum, a transversely extending drum located beneath the rear portion of said water-drum and connected therewith, the ends of said second drum projecting beyond the sides of said first drum, and closed end water-tubes extending rearwardly from said transverse drum.

2. In a steam boiler, in combination, a fire-box, a water-drum, a transversely extending drum located beneath said water-drum, a wall supported by said transverse drum extending up to and around said water-drum, an arch extending beneath said water-drum rearwardly to said wall, a water connection between said drums, and closed end tubes extending rearwardly and downwardly from said transverse drum.

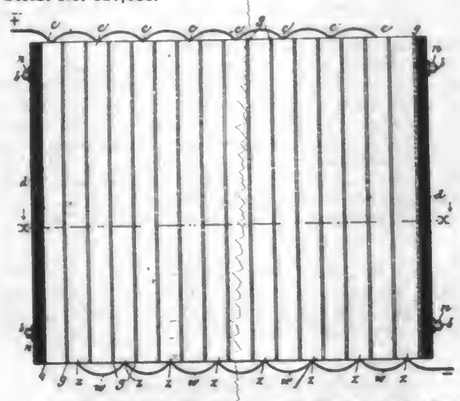
3. In a steam boiler, in combination, a fire-box, a water-drum, a transversely extending drum located beneath said water-drum, means connecting said drums, closed end tubes extending rearwardly from said transverse drum, and a baffle supported by said tubes in parallel relation therewith.

4. In a steam boiler, in combination, a fire-box, a water-drum, a transversely extending drum located beneath said water-drum, means connecting said drums, closed end tubes extending rearwardly from said transverse drum and positioned beneath the rear portion of said water-drum, and a baffle supported by said tubes adapted to protect said drum from the direct flow of the furnace gases.

5. In a steam boiler, in combination, a fire-box, a longitudinal water-drum, a transverse drum positioned beneath the rear portion of said water-drum and connected therewith, a steam and water-drum, water-tubes extending upwardly from said water-drum to said steam and water-drum, closed end water-tubes extending rearwardly from said transverse drum, and a wall supported upon said transverse drum and projecting upwardly among said first set of tubes.

[Claims 6 to 8 not printed in the Gazette.]

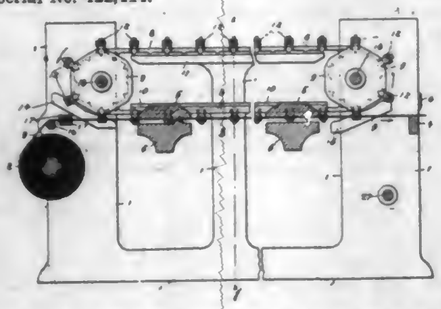
977,145. PRIMARY-BATTERY PLATE. ALFRED O. TATE, Toronto, Ontario, Canada. Filed Feb. 25, 1908. Serial No. 417,688.



1. A bifunctional primary battery plate embracing interleaved positive and negative sections separated from each other by porous insulating material, the positive sections being all connected together at one end and the negative sections similarly connected together at the other end, and all of said parts held together by insulating bolts extending therethrough, substantially as described.

2. A bifunctional primary battery plate embracing interleaved positive and negative sections separated from each other by porous insulating material; in combination with insulating side bars and insulating bolts extending through the side bars and the sections, the positive sections of the plate being all connected together at one end and the negative sections similarly connected together at the other end, substantially as described.

977,146. PAPER-FEEDING APPARATUS. CHARLES VON GLAHN, Watervliet, N. Y. Filed Mar. 21, 1908. Serial No. 422,414.

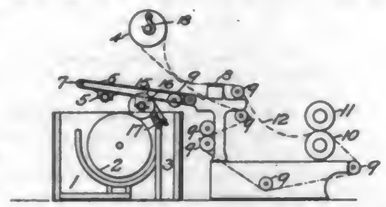


1. In an apparatus for feeding a web of paper or the like, and in combination, a pair of endless carriers, located on opposite sides of the path of the web with their lower stretches in substantially the plane of the web; slideway-supports for the lower stretches of said carriers, the members of said carriers and said supports being similarly dove-tailed in cross-section and said slideways opening downwardly at their contracted side; paper-gripping mechanisms carried by the respective carriers and adapted to grip the opposite edges of said web, said mechanisms being suspended from said carriers through the openings in said slideway-supports; means for automatically closing the several gripping mechanisms upon the edges of the web; means for automatically opening the several gripping mechanisms successively to receive the web; and means for opening the gripping mechanisms successively to release the web.

2. In an apparatus for feeding a web of paper or the like, and in combination, an endless carrier located at one side of the path of the web, with one of its stretches in substantially the plane of the web; a slideway-support for said stretch of said carrier provided with a downwardly opening slot; and paper-gripping mechanisms carried by said carrier and adapted to grip the edge of said web, said mechanisms being suspended from said carrier through the downwardly opening slot in said slideway-support.

3. In an apparatus for feeding a web of paper or the like, and in combination, a pair of endless carriers located on opposite sides of the path of the web, with their lower stretches in substantially the plane of the web; slideway-supports for the lower stretches of said carriers, said supports being provided with longitudinal slots on their underside; paper-gripping mechanisms carried by the respective carriers and adapted to grip the opposite edges of said web, said mechanisms being suspended from said carriers through the slots in the underside of the respective slideway-supports; means for automatically closing the several gripping-mechanisms upon the edges of the web; means for automatically opening the several gripping-mechanisms, successively, to receive the web; and means for opening the gripping-mechanisms, successively, to release the web.

977,147. PULP MACHINERY. JOSEPH H. WALLACE, New York, N. Y. Filed Mar. 7, 1910. Serial No. 547,836.



1. Means for enabling the vat and drum or cylinder of a Standard feltless wet machine to be utilized in connection with a Standard wet machine, embracing a couch-arm provided with two sets of journal bearings and two detachable couch-rolls, said journal bearings being located at different distances from the point of support of the couch-arm.

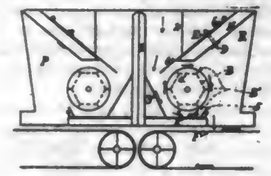
2. A couch-arm provided with two couch-rolls located at different distances from the stationary end thereof, said rolls being detachable therefrom.

3. A couch-arm provided with two couch-rolls located at different distances from the stationary end thereof, said rolls being detachable therefrom and of different diameters.

4. A Standard wet machine embracing a base or frame provided with a plurality of felt rolls, a felt carried thereby, a pivoted couch-arm carried by the base, a pair of couch-rolls carried by the couch-arm, said couch rolls being detachable from the arm; together with a vat, a cylinder mold, a pulp discharge chamber, and a pivoted doctor located above the discharge chamber.

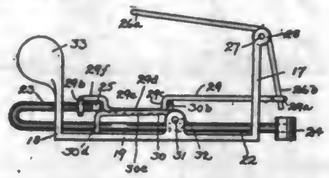
977,148. FEED-REGULATOR. CHARLES E. WARNER, Batavia, N. Y. Filed July 12, 1909. Serial No. 507,212.

1. A feed regulator consisting of a hopper having a slanting front plate, a slotted slide adjustable on said plate and adapted to close the discharge opening in said hopper, a prismatic discharge roller mounted below said slide, a deflector plate secured in said hopper opposite said slide and adjacent said roller, a track below said discharge roll, and a slide on said track having an upturned flange at its end.



2. A feed regulator consisting of a hopper having a slanting front plate, a slotted slide adjustable on said plate and adapted to close the discharge opening in said hopper, a retainer plate secured in said hopper transversely thereof over said slide, a prismatic discharge roller mounted below said slide, a deflector plate secured in said hopper opposite said slide and adjacent said roller, a track below said discharge roll, and a slide on said track having an upturned flange at its end.

977,149. BASE-BALL-GAME APPARATUS. ARTHUR W. WEEDEN, Somerville, Mass., assignor of one-half to Arvid W. Erickson, Cambridge, Mass. Filed Mar. 28, 1910. Serial No. 552,057.



1. In combination with a game board having a playing territory apportioned off into areas of assigned values, a projectable element or ball, and a ball projecting device; an angularly adjustable batting device loosely pivoted upon said game board and rendered operative by the impact of said ball to strike the same in the desired direction.

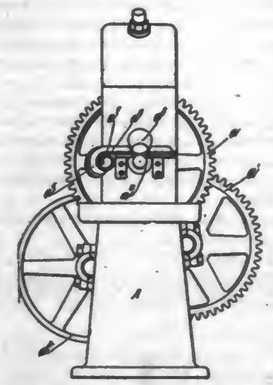
2. In combination with a game board having a playing territory apportioned off into areas of assigned values, a projectable element or ball, and an angularly adjustable ball projecting device; a batting device embodying a longitudinally movable striker rendered operative by the impact of said ball to repel the same, said striker being slidably mounted on a frame secured to said game board and having a capacity for substantially instantaneous angular adjustment upon said board whereby the striker may be caused to repel said ball in the desired direction.

3. In combination with a game board having a playing territory apportioned off into areas of assigned values, a projectable element or ball, and a ball projecting device; an angularly adjustable spring operated batting device rendered operative by the impact of said ball to strike the same in the desired direction, said spring having a free portion under the control of the operator whereby the tension upon the said spring may be varied.

4. In combination with a game board having a playing territory apportioned off into areas of assigned values, a projectable element or ball, and a ball projecting device; a batting device comprising a frame loosely pivoted on said game board so as to be angularly adjustable thereupon, a carrier bar longitudinally movable in said frame, a striker carried upon said carrier bar, a spring carried on said frame, an actuator bar operatively connecting said spring and said carrier bar, and a locking piece swingingly mounted in said frame, said locking piece being adapted, in its locking position, to lock the actuator bar against longitudinal movement, and being retained in said locking position by said carrier bar.

5. In combination with a game board having a playing territory apportioned off into areas of assigned values, a projectable element or ball, a ball projecting device; and a batting device comprising a frame loosely pivoted on said game board so as to be angularly adjustable thereupon, a carrier bar longitudinally movable in said frame, the forward end of said carrier bar having a striker mounted thereon, the rear end of said carrier bar being reversed substantially parallel to itself, and having a cross-piece laterally extending from said reversed end, a spring mounted upon said frame for actuating said carrier bar, an actuator bar for operatively interconnecting said spring and said carrier bar, and a locking-piece swingingly mounted in said frame, said piece embodying a horizontal extension 30^c secured in its locking position under said cross-piece, and a connecting piece 30^b by which, in the locking position of said locking piece said actuator bar is locked against an actuating movement in response to the tension of said spring.

977,150. MACHINE FOR MAKING SHEET-METAL TUBES. FRANK C. WHEELER, Springfield, Ohio, assignor to The American Seeding Machine Company, Springfield, Ohio, a Corporation of Ohio. Filed Apr. 5, 1909. Serial No. 487,912.



1. In a machine for forming a spiral tube from a flat band, means for feeding said band and expanding one edge thereof, a cone-shaped former adapted to form whirls in said band after same has been operated on by said first-mentioned means, substantially as specified.

2. In a machine of the character mentioned, the combination of a stationary former adapted to form whirls in said band, means for feeding said band to said former, and for operating on both edges of said band to form one edge of concave form and the other edge of convex form, substantially as specified.

3. In a machine for forming a spiral tube from a metal band, means for feeding said band, a former adapted to form a spiral tube from said band, and a curved plate for preventing the whirls of said spiral tube from being elongated during the process of forming same to an extent preventing the overlapping of said whirls, substantially as specified.

977,151. EYEGLASSES. LEO F. ADT, Albany, N. Y. Filed May 3, 1907. Serial No. 371,747.



1. In an eyeglass mounting, the combination with a bridge and a lens attaching member, of coöperating bearing members permanently carried by the lens attaching member and the bridge and detachably and pivotally connecting said parts, a spring rigidly secured at one end to one of said parts out of contact with the bearing members

to position the lens attaching member, and coöperating portions on the spring and the other part of the mounting for retaining the bearing members in engagement.

2. In an eyeglass mounting, the combination with a bridge, and a lens attaching member, of bearing members permanently carried by the lens attaching member and the bridge and detachably engaging each other, a spring for turning the lens attaching member, carried by the bridge, out of contact with the bearing members, and coöperating portions on the spring and the lens attaching member retaining the bearing members in engagement.

3. In an eyeglass mounting, the combination with a bridge having a bearing thereon, of a lens attaching member having a bearing member detachably coöperating with the bearing member on the bridge, a nose guard mounted also to swing relatively on the bridge and detachably engaging one of said bearing members, a spring for turning the lens attaching member and the nose guard relatively to the bridge, and coöperating portions on the spring and a portion of the mounting acting to retain the bearing members in engagement.

4. In an eyeglass mounting, the combination with a bridge and a lens attaching member, of a pivot pin permanently carried by one of said parts, a bearing on the other part detachably engaging the pivot pin, a spring rigidly secured at one end to one of said parts to position the lens attaching member, and coöperating portions on the spring and the other part of the mounting for retaining the bearing in engagement with the pivot pin.

5. In an eyeglass mounting, the combination of a bridge having spring arms, and lens-attaching members mounted to swing relatively to the bridge, held in normal positions by the spring arms and carrying means to engage the spring arms near their free ends to hold the parts in coöperative relation.

[Claims 6 to 11 not printed in the Gazette.]

977,152. NOSE-GUARD FOR EYEGLASSES. LEO F. ADT, Albany, N. Y. Filed July 17, 1907. Serial No. 384,270.



1. A nose guard for eyeglasses comprising a downwardly looped lower nose engaging pad, an attaching end secured to the upper end of one arm of the pad, an upper nose engaging pad, and means connecting the upper pad to the upper end of the other arm of the loop embodying two loops, one lying substantially in the plane of the arms of the lower loop, and the other lying substantially transverse to said plane.

2. The combination with a pair of lenses and a bridge connecting them, of nose guards each comprising a downwardly extending looped lower nose engaging pad, having one arm in advance of the other, the forward arm being secured and the rearward arm being movable relatively to the secured arm, an upper nose engaging pad, and a connection between the rear arm of the lower nose engaging loop and the upper pad embodying a loop permitting the adjustment of the upper pad independently of the lower pad.

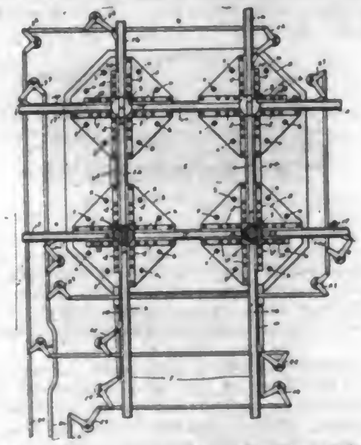
3. The combination with a pair of lenses and a bridge connecting them, of nose guards each comprising a downwardly extending looped lower nose engaging pad, having one arm in advance of the other, the forward arm being secured and the rear arm being movable relatively to the secured arm, an upper nose engaging pad, and a connection between the rear arm of the lower nose engaging loop and the upper pad embodying an upwardly extending pliable loop permitting the adjustment of the upper pad independently of the lower pad.

4. The combination with a pair of lenses and a bridge connecting them, of nose guards each comprising a downwardly extending looped nose engaging pad having only the forward arm thereof secured, and the other arm movable independently thereof, an upper nose engaging pad and a connection between the rear arm of the lower nose engaging loop and the upper pad embodying an upwardly extending loop permitting the adjustment of the upper pad independently of the lower pad.

5. The combination with a pair of lenses and a bridge connecting them, of nose guards each comprising a downwardly extending loop having its arms arranged substantially transverse to the plane of the lenses and forming a lower bearing pad, the rear arm being movable relatively to the forward arm, an upwardly extending pliable loop having its arms also arranged substantially transverse to the plane of the lens, and one arm merging into the rear arm of the lower bearing pad, and an upper bearing pad connected to the other arm of the upwardly extending loop.

[Claims 6 to 12 not printed in the Gazette.]

977,153. RAILWAY-CROSSING. LEWIS ALEXANDER, Clinton, Ill., assignor to Alexander Crossing Company, Clinton, Ill., a Corporation of Illinois. Filed May 16, 1910. Serial No. 561,601.

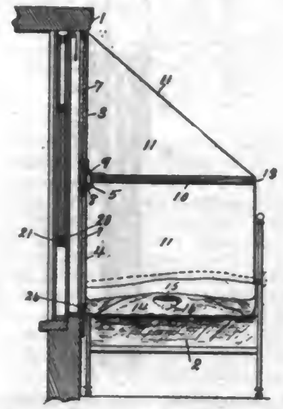


1. In a railway crossing, the combination with a series of bearings, tracks whose rails break over the bearings, tumblers journaled in said bearings and having openings therethrough, locking members adapted to lie within the openings in the tumblers, enlarged heads on the tumblers, rail sections on the heads adapted to bridge the breaks in the tracks, blocks rigid with the rails having extensions projecting therefrom to limit the movement of the rail sections on the heads, pinions on the tumblers, a rack bar in a channeled recess in each bearing adapted to engage the pinions, means for actuating the rack bar, and separate means for actuating the locking pins to hold the tumblers in their respective positions.

2. In a railway crossing, the combination with a series of bearings, tumblers journaled in the latter, tracks whose rails have breaks over said tumblers, rail sections on the tumblers adapted to bridge the breaks, pinions on the tumblers, a rack bar lying in a journaled recess in the bearing adapted to engage the pinions, means rigid with the rail sections for limiting the revolution of the tumblers, reciprocating locking pins extending into slots in the tumblers for locking the rail sections in longitudinal and transverse position, and means for rotating the tumblers.

977,154. WINDOW-TENT. JOHN G. ALLEN, Peoria, Ill. Filed Aug. 31, 1906. Serial No. 332,791.

1. The combination with a window, comprising the casing, and the upper and lower sash vertically movable in the casing, of a frame mounted in the upper part of the casing inside the sash, a second frame in the lower part of the casing swingably connected with the first mentioned frame and adapted to swing to a position adjacent the first mentioned frame, a tent carried by said frame adapted to cover the entire window, a third frame adapted to project inwardly from the aforesaid frames for holding the tent extended, said last mentioned frame being pivotally mounted to swing to a position alongside the first mentioned frame.



2. The combination with a window, of a tent wholly on the inside of and covering the entire window, said tent being closed on all sides except the side next the window and means on the said tent for detachably fastening said tent to the casing of the window.

3. The combination with a window, of a folding frame mounted at the inside of the window, a tent carried by said frame adapted to cover the entire window and interengaging means on the folding frame and window casing for detachably securing the tent in the window.

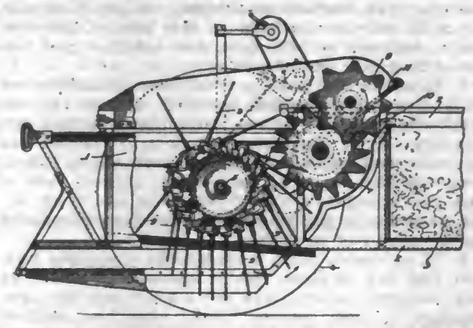
4. The combination with a window, of a frame mounted in the upper part of the window, a second frame pivotally connected with the first mentioned frame and adapted to swing from a position in the lower part of the window to a position alongside the first mentioned frame, interengaging parts on the second mentioned frame and the casing for locking the second mentioned frame in its position at the lower part of the window, a tent carried by said frame covering the entire window and a swinging frame projecting inwardly from the above mentioned frames for holding the tent extended.

5. The combination with a window, comprising the casing and the upper and lower sash vertically movable in the casing, of a frame in the upper part of the window inside the sash, interengaging parts on the said frame and casing for detachably securing the frame to the casing, a second frame pivotally connected with the first mentioned frame and adapted to swing from a position at the lower part of the window inside the sash, to a position alongside the first mentioned frame, interengaging parts on the second mentioned frame and the casing for detachably fastening the said second mentioned frame in position in the lower part of the window, a tent carried by said frames covering the entire window, and a frame pivotally mounted to swing from a position at angles to the first mentioned frame, to a position, alongside the first mentioned frame for holding the tent extended.

[Claims 6 to 24 not printed in the Gazette.]

977,155. COTTON-PICKING MACHINE. JOHN F. APPLEBY, Chicago, Ill. Filed Aug. 15, 1906. Serial No. 330,744.

1. A cotton picking machine including picking and stripping mechanism and having an opening through which the stripped cotton is discharged, and a fender for intercepting cotton cast from the machine, said fender including projecting teeth, which are channeled to cause the air to follow directions to promote the exit of the cotton through said opening, said stripping mechanism including wheels disposed between the teeth.



2. A cotton picking machine including picking and stripping mechanism and having an opening through which the stripped cotton is discharged, a fender for intercepting cotton cast from the machine, said fender including projecting teeth, and a base portion from which the teeth project, said teeth being channeled to cause the air to follow directions to promote the exit of the cotton through said opening, said stripping mechanism including wheels disposed between the teeth.

3. A cotton picking machine including picking and stripping mechanism and having a passage through which the stripped cotton is cast by the stripping mechanism, and a fender constituting an upper wall of said passage and serving to intercept cotton that is not cast by the stripping mechanism through said passage, whereby substantially all of the cotton being discharged is forced to pass through the passage of which said fender forms a wall, said fender including projecting teeth while the stripping element includes wheels passing between said teeth.

4. A cotton picking machine including picking and stripping mechanism and having a passage through which the stripped cotton is cast by the stripping mechanism; and a fender constituting an upper wall of said passage and serving to intercept cotton that is not cast by the stripping mechanism through said passage, whereby substantially all of the cotton being discharged is forced to pass through the passage of which said fender forms a wall.

977,156. ELECTRIC TRUCK. ASA F. BATCHELDER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Apr. 7, 1906. Serial No. 310,413.



1. In an electric truck, a truck-frame comprising transom members and end members rigidly connected together, an axle journaled between each end member and the corresponding transom member, a motor armature mounted upon one of said axles, and a field magnet supported upon the end member and the transom member between which said armature is located.

2. In an electric truck, a truck-frame comprising end members and intermediate transom members rigidly connected together, an axle arranged between each end member and the corresponding transom member, a yielding connection between said truck and said axles, motor armatures mounted on said axles, and a field magnet supported upon each end member and the corresponding transom member.

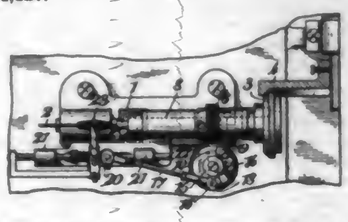
3. In an electric truck, a truck-frame comprising four U-shaped members arranged to form two rectangles and top and bottom pieces rigidly connecting said members together, two of said members forming the transom and the other two members constituting end pieces, an axle journaled between the ends of each pair of members, motor armatures on said axles, and a field magnet supported upon each pair of members.

4. In an electric truck, a truck-frame comprising two pairs of U-shaped members arranged to form two rectangles and top and bottom pieces rigidly uniting said members, two of said members forming a transom and the other two members constituting end pieces, journal boxes yieldingly mounted between the adjacent ends of each pair of members, axles journaled in said boxes, motor armatures on said axles, and a field magnet supported upon each pair of members.

5. In an electric truck, a truck-frame comprising transom and end members rigidly connected together, an axle journaled between each end member and the corresponding transom member, motor armatures mounted upon said axles, and a U-shaped field magnet supported upon each transom member and the corresponding end member.

[Claims 6 to 11 not printed in the Gazette.]

977,157. BOBBIN-WINDER. ERNST BERGER, Thal, Switzerland, assignor to The Firm of Henri Levy, Rorschach, Switzerland. Filed Sept. 3, 1907. Serial No. 391,127.

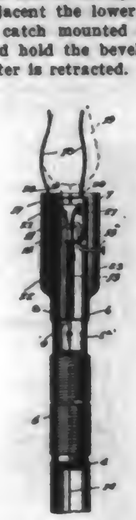


In combination, a slidable bracket, a shaft rotatable therein, lateral guides for the bracket, a friction wheel on the shaft, a friction wheel to drive the latter wheel, a worm fixed on the shaft, a laterally projecting slotted plate mounted on the bracket, a spindle adjustably mounted in said slot, a worm-wheel journaled on the spindle in mesh with the worm, bearings formed on the bracket, a rod reciprocably mounted in the bearings parallel to said shaft, a thread-guide mounted on the rod, a crank-pin on the worm-wheel and a pitman connecting the thread-guide with the crank-pin.

977,158. INCANDESCENT-LAMP MANIPULATOR. ROBERT H. BRAKSTRESSER, York, Pa. Filed June 10, 1909. Serial No. 501,401.

1. In an incandescent lamp manipulator, the combination of a tubular handle, lamp-grasping fingers pivoted to the upper portion thereof and having extensions disposed below their pivots and in the tubular handle, yielding means on the handle for throwing the fingers outward and the depending extensions thereof inward, a cone-shaped spreader disposed and movable endwise between said extensions, means for operating said spreader, connected therewith and extending to a point adjacent the lower end of the handle and adjustable housing for said fingers.

2. In an incandescent lamp manipulator, the combination of a tubular handle, lamp-grasping fingers pivoted to the upper portion thereof and having extensions disposed below their pivots and in the tubular handle, yielding means on the handle for throwing the fingers outward and the depending extensions thereof inward, a spreader, of inverted cone shaped, disposed and movable endwise between said extensions and having a stem guided in the handle and also having a beveled shoulder, an abutment in the handle, an expansion spring interposed between the spreader and said abutment, retracting means connected to the lower end of the spreader stem and extending to a point adjacent the lower end of the handle, and a spring-pressed catch mounted in the handle and adapted to engage and hold the beveled shoulder of the spreader when the latter is retracted.



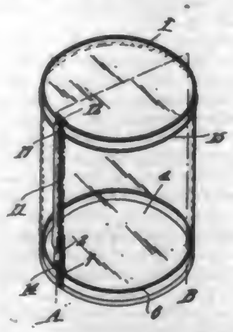
3. In an incandescent lamp manipulator, the combination with a container, of movable fingers carried thereby which are adapted for grasping the lamp, and an adjustable housing for said fingers.

4. In an incandescent lamp manipulator, the combination with a container, of movable fingers carried thereby which are adapted for grasping the lamp, and a housing for said fingers, said housing and fingers being adapted for relative movement to cause the fingers to be contained within the housing or located outside of it.

5. In an incandescent lamp manipulator, the combination with a container, of movable fingers carried thereby, and a housing slidable on said container and adapted to receive the fingers.

[Claim 6 not printed in the Gazette.]

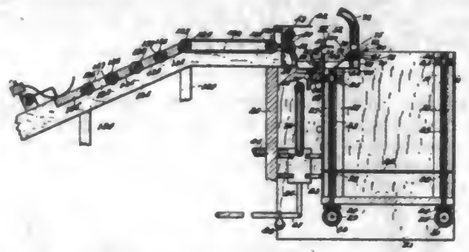
977,159. FLEXIBLE FOLDING CUP. ANDREW G. BRANDT, Scranton, Pa. Filed Sept. 28, 1910. Serial No. 584,315.



1. A cup comprising a collapsible body; a bottom hinged to the body; and a keeper slidably and pivotally secured to the body and adapted to embrace the outside of the body.

2. A cup comprising a collapsible body; a movable bottom effecting a closure of the body; a guide secured to the outside of the body longitudinally of the body; and a body inclosing ring slidable between the guide and the body and adapted to be swung over the lower end of the body and to be slid to the top of the body.

977,160. PNEUMATIC SEPARATOR. FREDERICK A. BRENNER, Milwaukee, Wis. Filed Feb. 8, 1908. Serial No. 414,874.



1. In pneumatic separators, a suction box having a flat bottom, and subdivided by a series of partitions into separate compartments or chambers, each compartment or chamber having a plurality of openings provided in the bottom of the box, and said partitions provided with valve-controlled openings, whereby when one or more of the valves are turned to an open position, the adjacent chambers are thrown into communication with each other, a suction pipe leading from one of the chambers and communicating with a suction creating means, and a valve adapted when adjusted to an open position to permit the suction means to create a suction from the box and through the suction pipe, and, when closed, to shut off or stop the suction.

2. In pneumatic separators, a suction box subdivided by a series of partitions into separate compartments or chambers, the central chamber being of greater length than the other chambers, and the bottom of the box provided with openings leading to the different chambers, and said partitions provided with valve-controlled openings, whereby when one or more of the valves are turned to an open position the adjacent chambers are thrown into communication with each other, a suction pipe leading from the central long chamber and communicating with a suction creating means, and a valve adapted when adjusted to an open position to permit the suction means to create a suction from the box and through the suction pipe, and when closed, to shut off or stop the suction.

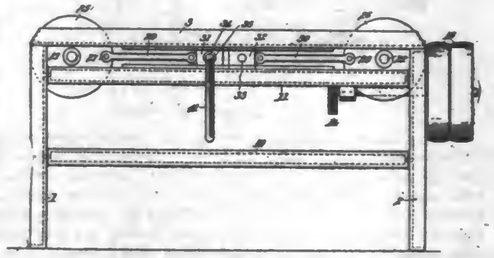
3. In pneumatic separators, the combination of a forwardly and backwardly reciprocating suction box provided with bottom openings, a suction pipe leading from the suction box, a chamber with which said suction pipe connects, a piston in said chamber, a connection between the piston and the tripper mechanism of the printing press, and adapted, when operated, to stop or check the impression cylinder of the printing press, a pipe section leading from the chamber and to a suction creating means, a valve for regulating the suction pipe which leads from the suction box, said valve adapted, when adjusted to an open position, to permit the suction means to create a suction from the box, through the suction pipe, through the chamber in the space above the piston of said chamber, and through the pipe section leading to the suction creating means, and said valve, when closed, adapted to shut off or stop the suction.

4. In pneumatic separators, the combination of a forwardly and backwardly reciprocating suction box provided with bottom openings, a suction pipe leading from the suction box, a chamber with which said suction pipe connects, a piston in said chamber, said piston having a piston stem extending therefrom, a pivoted lever having a pivotal connection with the lower end of the piston stem and also connected with the tripper mechanism of the printing press, and adapted, when operated to stop or check the impression cylinder of the printing press, a pipe section leading from the chamber and to a suction creating means, a valve for regulating the suction pipe which leads from the suction box, said valve adapted, when adjusted to an open position, to permit the suction means to create a suction from the box, through the suction pipe, through the chamber in the space above the piston of said chamber, and through the pipe section leading to the suction creating means, and said valve, when closed, adapted to shut off or stop the suction.

5. In pneumatic separators, the combination of a forwardly and backwardly reciprocating suction box provided with bottom openings, means for creating suction from said suction box, a rotatable roller located to the rear of the normal forward position of the suction box, and air blowing mechanism to the rear of the roller and constructed to direct blasts of air over the roller and toward the suction box, and thereby serve to separate or disengage surplus sheets of paper from the bottom of the suction box.

[Claims 6 to 16 not printed in the Gazette.]

977,161. CANDY-PULLING MACHINE. HENRY S. BREWINGTON, Baltimore, Md. Filed Dec. 17, 1909. Serial No. 533,523.



1. In a machine of the character described, the combination of two slidable pulling bars, and a third pulling bar carried by one of the first mentioned bars, means for revolving the said last mentioned bar, and means for reciprocating the said first mentioned bars.

2. In a machine of the character described, the combination of two slidable pulling bars, and a third pulling bar carried by one of the said first mentioned bars, means for revolving the said last mentioned bar, and means for reciprocating the said first mentioned bars toward and from each other.

3. In a machine of the character described, the combination of two slidable pulling bars, and a third pulling bar carried by one of the first mentioned bars, means for revolving the said last mentioned bar, and means for reciprocating the remaining pulling bar into and out of the circle of revolution of the said last mentioned bar.

4. In a machine of the character described, the combination of two slidable pulling bars, and a third pulling bar carried by one of the said first mentioned bars, means for revolving the said last mentioned bar, and means for reciprocating the remaining pulling bar across the path of movement of the said last mentioned bar.

5. In a machine of the character described, the combination of two slidable pulling bars, and a third pulling bar carried by one of the said first mentioned bars, means for revolving the said third bar, and means for reciprocating the remaining pulling bar in a path in line with that of the other first mentioned bar.

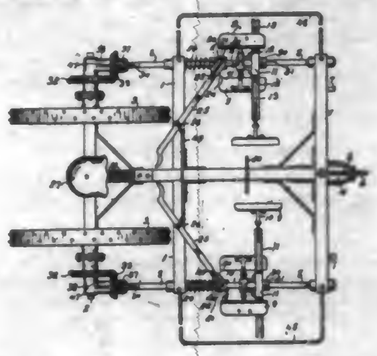
[Claims 6 to 41 not printed in the Gazette.]

977,162. PLANT-THINNING MACHINE. JOHN W. BRISCOE, Chattanooga, Okla. Filed Mar. 26, 1909. Serial No. 486,003.

1. In a plant thinning machine, the combination with a rotary shaft disposed parallel with the line of draft, of driving means for rotating said shaft, a support rotative with said shaft and movable parallel with the line of draft, one or more cutting devices carried by said support, means for moving said support parallel with said shaft and a stop adjustable lengthwise on and having means for being rigidly secured to the shaft, for limiting the parallel movement of said support.

2. In a plant thinning machine, the combination with a rotary shaft, parallel with the line of draft, of means for rotating said shaft, one or more cutting devices carried

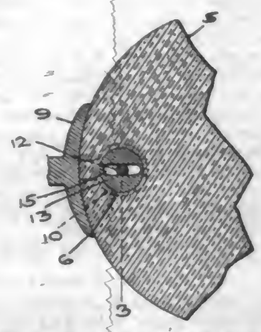
by and rotative with said shaft, manually operated means for shifting said cutting devices in one direction parallel with said shaft, means for shifting said devices in the opposite direction and a stop adjustable lengthwise on and having means for being rigidly secured to the shaft, for limiting the parallel movement of said devices.



3. In a plant thinning machine, the combination with driving means, of a shaft rotative thereby and disposed parallel with the line of draft, a support movable lengthwise on and rotative with said shaft, one or more cutting devices carried by said support, a lever for shifting said support lengthwise in one direction, means for shifting said support in the opposite direction and a stop adjustable lengthwise on and having means for being rigidly secured to the shaft, for limiting the parallel movement of said support.

4. In a plant thinning machine, the combination with a rotary shaft disposed parallel with the line of draft, a support movable lengthwise on and rotatable with the shaft, one or more cutting devices carried by said support, a stop adjustable lengthwise on and having means for being secured rigidly to said shaft, a spring for normally forcing the support against said stop, and manually operated means for forcing the support in the opposite direction.

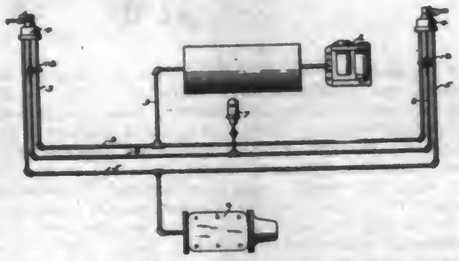
977,163. EYEGLASS-MOUNTING. WILLIAM B. BROWN, Jr., Mount Vernon, Ohio. Filed Mar. 1, 1909. Serial No. 480,671.



1. In combination with an eye glass mounting, a lens adapted to be removably secured to the latter and provided with an opening, a plug within said opening, said plug having a slot extending therethrough, and a screw passing through the said mounting and freely received by the slot formed in the plug, whereby the lens may be adjusted in its proper position with respect to the mounting.

2. In combination with an eyeglass mounting, a lens adapted to be adjustably secured thereto, said lens having an opening formed therein adjacent to its edge, a yielding plug removably located within the opening of the lens and of a length slightly greater than the thickness of the lens, said plug having a slot positioned substantially lengthwise of the lens, and a screw passing through the mounting and through the slot of the plug, the diameter of said screw being equal to the width of the slot, whereby the yielding washer will not be expanded sufficiently to destroy the lens when the binding screw is properly adjusted for securing the several parts.

977,164. DUPLEX-PRESSURE STRAIGHT-AIR BRAKE. CHRISTOPHER P. CASE, St. Louis, Mo., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 4, 1907. Serial No. 371,888.



1. In a fluid pressure brake, the combination with a reservoir, brake cylinder, straight air pipe and a brake valve for controlling the supply of air from the reservoir to the brake cylinder, of means opening to the brake cylinder in service applications for limiting the brake cylinder pressure.

2. In a straight air brake system, the combination with a reservoir, brake cylinder, straight air pipe and a brake valve for controlling the supply of air from the reservoir to the brake cylinder, of a safety valve adapted to be connected to the brake cylinder in service applications for limiting the brake cylinder pressure to a predetermined degree.

3. In a straight air brake system, the combination with a reservoir, brake cylinder, straight air pipe and a brake valve for controlling the supply of air from the reservoir to the brake cylinder, of a safety valve for limiting the brake cylinder pressure and means in said brake valve for opening communication between said safety valve and the brake cylinder in service applications of the brakes.

4. In a straight air brake system, the combination with a reservoir, brake cylinder, straight air pipe and a brake valve for controlling the supply of air from the reservoir to the brake cylinder, of a safety valve for limiting the brake cylinder pressure and means in said brake valve for opening communication between said safety valve and the brake cylinder in service applications of the brakes and for closing said communication in emergency applications.

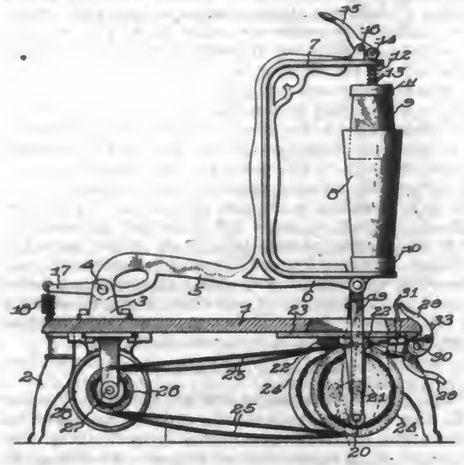
5. In a straight air brake system, the combination with a reservoir, brake cylinder, straight air pipe and a brake valve for controlling the supply of air from the reservoir to the brake cylinder, of a safety valve for limiting the brake cylinder pressure, and means in said brake valve for establishing communication between the safety valve and brake cylinder in the lap position of the brake valve.

[Claim 6 not printed in the Gazette.]

977,165. LIQUID-SHAKER. NIELS CHRISTENSEN, Chicago, Ill. Filed Sept. 12, 1910. Serial No. 581,545.

1. A machine for mixing liquids, comprising a receptacle, an oscillatory frame for supporting said receptacle, pitman mechanism for shaking the receptacle and comprising a pulley, a crank shaft connected therewith, a movable support for said pulley and crank shaft, a belt passing around said pulley, and means for shifting said support to move said pulley into and out of driving relation with said belt.

2. A device of the class described, comprising a receptacle, an oscillatory frame for supporting said receptacle, mechanism for oscillating said frame to shake the receptacle and comprising a pair of pulleys and a belt connecting them, a support for one of said pulleys movable toward and away from the other pulley for shifting said one pulley into and out of driving engagement with said belt, a lever, and a link connecting said lever and movable support, whereby the operation of said oscillatory frame may be started and stopped by the movement of said lever.



3. A machine for mixing liquids, comprising a receptacle, an oscillatory frame for removably supporting said receptacle, a crank shaft, a pitman connecting said shaft and frame for oscillating said frame, mechanism for rotating said shaft, a movable support for said shaft adapted to shift it into and out of operative relation with said mechanism, and toggle mechanism for shifting said support.

4. In a device of the class described, the combination of a supporting frame, a horizontal driving shaft journaled therein, a plurality of liquid shaking machines mounted on said frame and each having an individual crank shaft for operating it, belts connecting said crank shafts with said driving shaft, individual movable supports for said crank shafts and adapted to allow said crank shafts to be individually shifted into and out of driving relation with their belts, and means for individually shifting said crank shaft supports.

5. In a device of the class described, the combination of a supporting frame, a horizontal driving shaft journaled therein, a plurality of liquid shaking machines mounted on said frame and each having an individual crank shaft for operating it, belts connecting said crank shafts with said driving shaft, individual movable supports for said crank shafts and adapted to allow said crank shafts to be individually shifted into and out of driving relation with their belts, means for individually shifting said crank shaft supports, and pitman connections between said crank shafts and their respective machines, the movement of each of said supports being in the plane of operative movement of its respective pitman, whereby the pitman will at all times remain in operative relation to its crank and machine.

977,166. THREAD-SELECTING DEVICE. HOWARD D. COLMAN, Rockford, Ill., assignor, by mesne assignments, to Barber-Colman Company, Rockford, Ill., a Copartnership. Filed Jan. 15, 1906. Serial No. 296,023.

1. A thread-selecting device adapted to impale a thread.

2. A thread-selecting device having an impaling member located at a point between the ends of said device.

3. A thread-selecting device provided with a hook having a sharp impaling end.

4. A thread-selecting device provided at a point between its ends with a hook having a sharp impaling point.

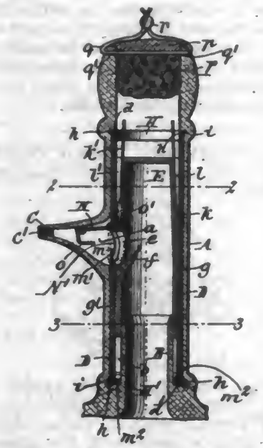
5. A thread-selecting device provided at a point between its ends with a hook, one edge of said device being



alined with one side of said hook, the other side of said hook having an impaling point.

[Claims 6 to 18 not printed in the Gazette.]

977,167. BOTTLE-STOPPER. GIUSEPPE COLUCCI, Buffalo, N. Y. Filed July 8, 1910. Serial No. 571,035.



1. The combination of a bottle having a neck provided in its side with a port, and a cup-shaped valve slidable lengthwise in the neck and provided in its side with a port which is adapted to register with the port of the neck and also provided at the inner edge of its port with an inwardly projecting baffle.

2. The combination of a bottle provided with a neck having a port in its side and also provided in its bore with longitudinal grooves and annular grooves at the inner and outer ends of the longitudinal grooves, a cage comprising longitudinal bars arranged in said longitudinal grooves and split rings connecting the inner and outer ends of said bars and seat in said annular grooves, longitudinal leaf springs secured at their inner ends to said cage and converging outwardly, and a cup-shaped valve slidable lengthwise with said neck and cage and having a port in its side adapted to register with the neck port and also provided on its outer side with longitudinal grooves which receive said springs.

3. The combination of a bottle provided with a neck having a port in its side and also provided in its bore with longitudinal grooves and annular grooves at the inner and outer ends of the longitudinal grooves, a cage comprising longitudinal bars arranged in said longitudinal grooves and split rings connecting the inner and outer ends of said bars and seat in said annular grooves, longitudinal leaf springs secured at their inner ends to said cage and converging outwardly, a cup-shaped valve slidable lengthwise with said neck and cage and having a port in its side adapted to register with the neck port and also provided on its outer side with longitudinal grooves which receive said springs, said cage having one of its bars provided with a port in line with the port of the neck, and an auxiliary valve pivoted on said cage and adapted to close the port of said cage bar.

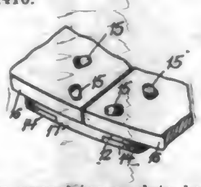
4. The combination of a bottle provided with a neck having a port in its side and also provided in its bore with

longitudinal grooves and annular grooves at the inner and outer ends of the longitudinal grooves, a cage comprising longitudinal bars arranged in said longitudinal grooves and split rings connecting the inner and outer ends of said bars and seat in said annular grooves, longitudinal leaf springs secured at their inner ends to said cage and converging outwardly, a cup-shaped valve slidable lengthwise with said neck and cage and having a port in its side adapted to register with the neck port and also provided on its outer side with longitudinal grooves which receive said springs, said cage having one of its bars provided with a port in line with the port of the neck, and an auxiliary valve pivoted on said cage and adapted to close the port of said cage bar and provided on its inner side with a hook which is adapted to be engaged by the upper edge of the main valve port in the closed position of said valves.

5. The combination of a bottle having a neck provided in its side with a port, a main valve slidable lengthwise in the neck and provided in its side with a port adapted to register with the port of the neck, a cage arranged between the neck and main valve and having a port in line with the neck port, and an auxiliary valve adapted to close the port of the cage.

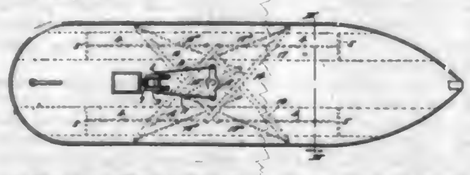
[Claim 6 not printed in the Gazette.]

977,168. BELT-FASTENER. JOHN H. CONSTANTINE and BONNIE V. TUCKER, Rumford, Me. Filed Jan. 17, 1910. Serial No. 538,410.



A belt fastener comprising a plate having its opposite edges recessed, whereby the said edges are reduced in thickness, said reduced portions having slots, and two prong-carrying strips adapted to fit the recessed portions of the plate and provided with prongs arranged to pass through the slots and the end portions of a belt bearing on the inner side of the plate, each prong being oblong in cross section, and adapted to be clenched on the inner side of the belt, the slots being obliquely arranged, and some of the slots of each series having an opposite obliquity from the others, and the prongs having a corresponding arrangement, whereby the sides of the portions of the prongs of each series which pass through the belt, are caused to stand at different angles, the sides of each of said portions being oblique to the length of the belt.

977,169. BOAT-PROPELLING MECHANISM. WILLIAM L. CRAMER, Brooklyn, N. Y. Filed Jan. 6, 1910. Serial No. 536,661.



1. In a propelling mechanism, a boat, said boat having cylindrical channels formed upon either side of its keel at a point below the water line, pistons adapted to reciprocate within said channels, a power shaft passing through the central portion of said boat, a pair of crossed levers mounted upon said shaft, rods pivoted to said crossed levers, a lever pivoted to the end portion of each piston, said lever being pivoted at a point near its other end to the central portion of another piston.

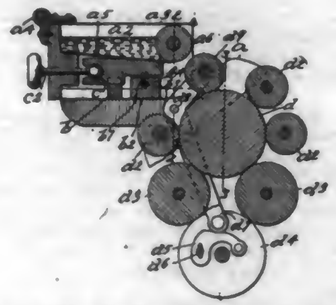
2. In a propelling mechanism, a boat provided with channels formed upon either side of its keel at a point below the water line, pistons adapted to reciprocate within said channels, a shaft passing through the central portion of said boat, crossed levers secured to said shaft, links pivoted to said crossed levers, levers connected at one end to the end portion of a piston and at their other end to one of the said links, said levers being connected at a point near their ends to the central portion of a piston.

3. In a propelling mechanism, a boat having cylindrical channels formed upon either side of its keel, pistons adapted to reciprocate in said channels, a power shaft extending through the central portion of said boat, crossed levers adapted to rotate with said shaft, rods pivotally connected to said levers, a second set of levers pivotally connected to the ends of said rods, said levers being adapted to reciprocate said pistons.

4. In a propelling mechanism, a boat, cylindrical channels formed upon either side of the keel of said boat at a point below the water line, pistons adapted to reciprocate in said channels, levers connecting the central portion of one piston with the end portion of another piston.

5. In a propelling mechanism, a boat provided with cylindrical channels on either side of its keel and below the water line, a shaft passing through the central portion of said boat, a member secured to one end of said shaft, rods connecting said member with a driving mechanism, levers secured on the other end of said shaft, means for connecting said levers with a second set of levers, said second set of levers being adapted to reciprocate said pistons.

977,170. PRINTING-PRESS INKING DEVICE. DWIGHT W. CUSTER, New York, N. Y., assignor, by mesne assignments, to Automatic Printing Press Company, New York, N. Y., a Corporation of Arizona. Filed Sept. 22, 1909, Serial No. 518,958. Renewed Sept. 30, 1910. Serial No. 584,783.



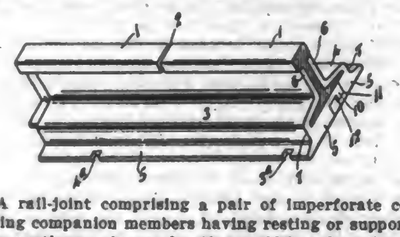
1. In a printing press, an ink fountain provided with a flexible ink blade, a roller coacting therewith, a plurality of independently adjustable wedges bearing on said blade, a plate provided with inclined teeth supporting all of said wedges, and means for moving said plate to adjust all of said wedges simultaneously, toward or from said roller.

2. In a printing press, an ink fountain provided with a flexible ink blade, a roller coacting therewith, a plurality of independently adjustable wedges bearing on said blade, a plate provided with inclined teeth supporting said wedges and a supplemental plate, correspondingly toothed, for moving said first named plate, and thereby said wedges, toward or from said roller.

3. In a printing press, an ink fountain provided with a flexible ink blade, a roller coacting therewith, a plurality of independently adjustable wedges bearing on said plate, a bar for holding said wedges against side movement, a supplemental bar provided with a longitudinal groove, and means operable in said groove for moving all of said wedges simultaneously, away from or toward said ink blade.

4. In a printing press, an ink fountain provided with a flexible ink blade, a roller coacting therewith, a plurality of independently adjustable wedges bearing on said blade, means for preventing side movement of said wedges, a plate provided with inclined teeth supporting all of said wedges, and means for moving said plate to adjust all of said wedges toward or from said roller, simultaneously.

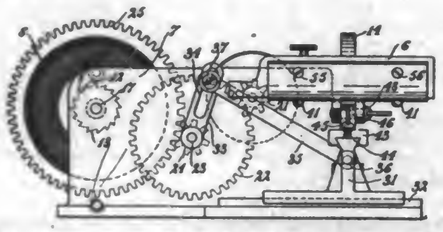
977,171. RAIL-JOINT. ASA DALY, Lebanon, Ohio. Filed Nov. 23, 1908. Serial No. 464,063.



1. A rail-joint comprising a pair of imperforate corresponding companion members having resting or supporting bottom portions or bases of uniform width and on the same lower plane with each other and angular upright limb portions, each the full length of the joint, corresponding grooves or guide-ways constructed part way along the upper face of each of said bases and having straight side walls running parallel to the side edges of said bases and tongue formations made along part of the slightly elevated lateral portions of said bases and with their side walls parallel to said side edges of the bases and adapted to slidingly and frictionally engage said guide-ways approximately their full lengths.

2. A rail-joint comprising a pair of companion members each having a base portion and an angular upright limb portion, each the full length thereof, adapted to contiguously engage under and over the rail bases and against the rail webs, respectively, inwardly-projecting portions along part of said base portions, tongue or elevated formations along said inwardly-projecting portions, grooves or guide-ways constructed parallel to said tongue-formations in said bases and adapted to receive said tongue-formations with a frictional-fit, and tapered mouths or distended throats in the outer ends of said grooves or guide-ways.

977,172. SHARPENING DEVICE FOR RAZORS. ANIELLO DE VIVO, Bayonne, N. J. Filed July 25, 1910. Serial No. 573,744.



1. In a grinder for razors, the combination of a frame, a motor on the frame, a grinding wheel rotatable on the frame, driving means between the motor and the grinding wheel, a carriage, means for reciprocating the carriage from the motor, a guideway on the frame on which the carriage is movable in a plane parallel with the axis of the grinding wheel, a clamp member arranged to engage a razor blade and to support it on the side opposite to the face being ground, said clamp being adjustably carried on the said carriage, the clamp being adjustable on the carriage toward and from the axis of the grinding wheel, and also adjustable to swing on an axis parallel with the axis of the grinding wheel.

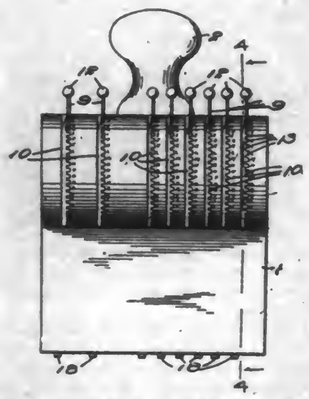
2. In a grinder for razors, the combination of a frame, a motor on the frame, a grinding wheel rotatable on the frame, driving means between the motor and the grinding wheel, a carriage, means for reciprocating the carriage from the motor, a guideway on the frame on which the carriage is movable in a plane parallel with the axis of the grinding wheel, adjustable clamping means for a razor blade on the carriage, comprising a frame having a U-shaped clamping portion to engage the back of the blade and an extension to engage one side of the blade, and screws in the U-shaped portion to engage the blade and position it in the holder.

3. In a grinder for razors, the combination of a frame, a motor on the frame, a grinding wheel rotatable on the frame, driving means between the motor and the grinding wheel, a carriage, means for reciprocating the carriage from the motor, a guideway on the frame on which the carriage is movable in a plane parallel with the axis of the grinding wheel, comprising a frame having a U-shaped clamping portion to engage the back of the blade and an extension to engage one side of the blade, and screws in the U-shaped portion to engage the blade and position it in the holder, means for shifting the holder on the carriage toward and from the grinding wheel, and means for swinging the holder on an axis parallel to the axis of the grinding wheel and for clamping it in adjusted positions.

4. In a device of the character described, the combination of a grinding wheel, means for rotating the grinding wheel, a carriage and means for reciprocating the carriage, of a blade holder comprising a channel shaped portion to engage the back of the blade and having an extension to engage and cover one side face of a blade, an adjusting screw in said extension, and adjusting screws in the channel portions to shift the blade in the holder.

5. In a grinder for razors, the combination of a frame, a motor on the frame, a grinding wheel rotatable on the frame, driving means between the motor and the grinding wheel, a carriage, means for reciprocating the carriage from the motor, a guideway on the frame on which the carriage is movable in a plane parallel with the axis of the grinding wheel, a clamp member arranged to engage a razor blade and to support it on the side opposite to the face being ground, said clamp being adjustably carried on the said carriage, a carrier slidable on the carriage in a path at right angles to the path of movement of the carriage, a razor clamp adapted to clamp a razor blade and support the face of the blade opposite to the one being ground on the wheel, said clamp being pivotally supported on the carrier to swing on an axis parallel with the axis of the grinding wheel.

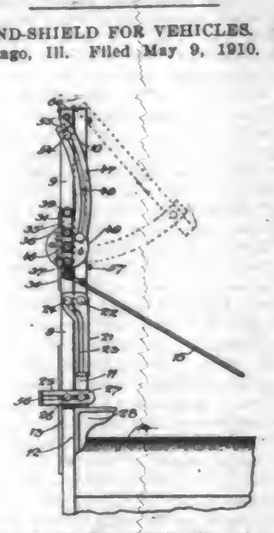
977,173. ADDRESSING-STAMP. THOMAS DILLARD, Richmond, Va. Filed Sept. 6, 1910. Serial No. 580,518.



A hand stamp comprising a casing, end and side walls on said casing, the upper portion of the casing being outwardly curved on opposite sides thereof to form housing, shafts in said housing and journaled in the end walls of the casing, segmental gears loosely mounted on said shafts, shafts below the first mentioned shafts, belt wheels loosely mounted on said shafts, gears formed on said belt wheels and adapted to mesh with the segmental gears, the lower portion of the casing tapering downwardly, parallel shafts journaled in the lower end of said tapering portion, belt wheels mounted on said shafts, type belts passing around the first and second named belt wheels and adapted to project through an opening formed in the bottom of said tapered portion, and operating levers secured to said segmental gears, said levers being formed of resilient metal and in a compound curve, the said outwardly curved portions of the casing being formed with vertically disposed slots having notches in one wall of said slot, and letters formed on the said curved walls and disposed opposite the

notches, said operating levers protruding through said slots and adapted to be moved longitudinally therein, and seated normally in any one of said notches.

977,174. WIND-SHIELD FOR VEHICLES. CHARLES O. DOAN, Chicago, Ill. Filed May 9, 1910. Serial No. 560,190.



1. In a wind shield the combination of a continuous vertical wind guard, an upper vertical panel extending diagonally downward and outward from the upper portion of the vertical wind guard and having its upper end in contact therewith, a lower deflecting panel extending diagonally upward and outward from the lower portion of the wind guard and having its lower end spaced away therefrom, and a closure extending from each end of the upper diagonal panel to the adjacent portion of the end of the vertical wind guard, substantially as described.

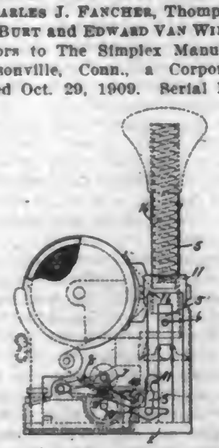
2. In a collapsible wind shield for vehicles, the combination of a lower vertical panel permanently secured to the vehicle frame, an upper vertical panel hinged thereto and adapted to rotate backwardly into contact therewith, means for securing the upper panel in vertical position, an upper diagonal panel hinged in its upper portion to the upper portion of the upper vertical panel and adapted to rotate into facial contact therewith, and a lower diagonal panel movably secured to the lower vertical panel and adapted to lie in facial contact therewith, means for securing the upper vertical panel in contact with the lower vertical panel and the upper diagonal panel in facial contact with the upper vertical panel when the latter is in rotated postion, and means for securing the lower diagonal panel in facial contact with the lower vertical panel, substantially as described.

3. In a collapsible wind shield for vehicles, the combination of a lower vertical panel permanently secured to the vehicle frame, an upper vertical panel hinged thereto and adapted to rotate backwardly into contact therewith, an upper diagonal panel hinged in its upper portion to the upper portion of the upper vertical panel and adapted to rotate into facial contact therewith, and a movable lower diagonal panel adjacent the lower vertical panel and adapted to lie in facial contact therewith, a slotted arm attached to the lower vertical panel and a thumb screw entered within the slot and engaging the lower portion of the upper diagonal panel for securing the same in angular position with respect to the upper vertical panel, and for securing the upper vertical panel in contact with the lower vertical panel and the upper diagonal panel in facial contact with the upper vertical panel when the same has been rotated into contact with the lower vertical panel, a slotted arm attached to the upper portion of one of the lower panels and a thumb screw entered through the slot and engaging the other lower panel to secure the lower diagonal panel in fixed position relative to the lower vertical panel, substantially as described.

4. In a collapsible wind shield for vehicles, the combination of a lower vertical panel permanently secured to the vehicle frame and having thumb screw holes in its upper and lower portions, an upper vertical panel hinged thereto and adapted to rotate backwardly into contact therewith and having in its upper portion a screw threaded hole, means for securing the upper panel in vertical position, an upper diagonal panel hinged in its upper portion to the upper portion of the upper vertical panel and adapted to rotate into facial contact therewith, and having a screw threaded hole in its lower portion, a slotted arm pivoted to the upper portion of the lower vertical panel and a screw entered through the slot and engaging the hole in the upper diagonal panel for holding the same in angular position with respect to the upper vertical panel when the same is in vertical position and for holding the upper diagonal panel in facial contact with the upper vertical panel when the same is rotated backwardly into contact with the lower vertical panel, a lower diagonal panel having a screw threaded hole in its lower portion, a slotted arm pivoted to the upper portion of the lower diagonal panel and a screw threaded through the slot thereof and engaging the hole in the upper portion of the lower vertical panel for holding the diagonal panel in fixed angular relation to the vertical panel, and a slotted arm and a screw entered through the slot thereof and engaging the hole in the lower portion of the lower diagonal panel and another screw entered through said slot and engaging the hole in the lower portion of the lower vertical panel for maintaining the lower end of the lower diagonal panel in fixed position with respect to the lower vertical panel, and entered through said slot and engaging the hole in the upper end of the upper vertical panel for holding the same in contact with the lower vertical panel when it has been rotated backwardly into such position, substantially as described.

5. In a collapsible wind shield for vehicles, the combination, with a lower vertical panel rigidly secured to the vehicle frame, an upper vertical panel hinged thereto and adapted to rotate backwardly into contact therewith, and an upper adjustable panel hinged in its upper portion to the upper portion of the upper vertical panel, of a pin rigidly secured to one side of the lower vertical panel, an arm pivoted on the same and provided with a slot, a pin passed through the slot into the adjustable panel, for maintaining the same in fixed position with respect to the vertical panels, a bar on the pivotal pin, a pin passed through the bar into the lower vertical panel, and two pins passed through the bar into the upper vertical panel, for maintaining the same in upright positions, substantially as described.

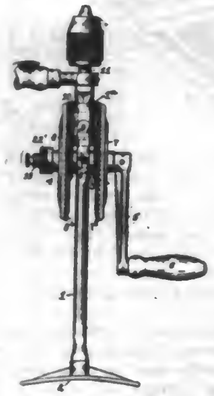
977,175. MACHINE FOR AFFIXING STAMPS AND LABELS. CHARLES J. FANCHER, Thompsonville, Conn., and JAMES H. BURT and EDWARD VAN WINKLE, Brooklyn, N. Y., assignors to The Simplex Manufacturing Company, Thompsonville, Conn., a Corporation of Connecticut. Filed Oct. 29, 1909. Serial No. 525,345.



1. In a machine of the class described, a reciprocating plunger provided with means for advancing the stamps over a wick, in combination with means for locking the plunger when not in use, means actuated by the aforesaid locking means for raising the stamps away from the wick.

2. In a machine of the class described, a reciprocating plunger and stamp-feeding means, in combination with a manually-operated means for locking the plunger, but automatic in its release, means actuated by the aforesaid locking means for raising the feeding means.

977,176. RATCHET-DRILL. FRED E. FARLEY, Greenfield, Mass., assignor to Goodell-Pratt Company, Greenfield, Mass., a Corporation of Massachusetts. Filed Aug. 25, 1909. Serial No. 514,565.



1. The combination in a breast drill, of a frame, a spindle journaled therein, a crank shaft also journaled in said frame, a bevel gear on the spindle, a pair of bevel gears journaled on the shaft and meshing with the gear on said spindle, and means carried by said shaft adapted to be moved into and out of engagement with said second mentioned bevel gears for altering the character of movement of said spindle with respect to said shaft, substantially as described.

2. The combination in a breast drill, of a frame, a spindle journaled therein, a hollow crank shaft journaled in said frame, and extending at an angle with respect to said spindle, a bevel gear on said spindle, bevel gears journaled on said shaft meshing with said first mentioned bevel gear and having their hubs provided with internal notches, a pawl carrier mounted within said hollow shaft and having pawls, said shaft having slots through which the pawls may project to engage the notches in the gear hubs, and means for projecting and retracting said pawls, substantially as described.

3. The combination in a breast drill, of a frame, a spindle journaled therein, a hollow crank shaft journaled in said frame, and extending at an angle with respect to said spindle, a bevel gear on the spindle, a bevel gear journaled on the shaft, and having a notched hub, said shaft having slots therein, a pawl carrier longitudinally movable within the hollow shaft, and having pawls tending to project outwardly through said slots to engage the notches in the gear, said pawls having bevel ends for engaging the ends of the slots, and means for moving the pawl carrier longitudinally within the hollow shaft, substantially as described.

4. The combination in a breast drill, of a frame, a spindle journaled therein, a hollow crank shaft journaled in said frame, a bevel gear on the spindle, a bevel gear journaled on the shaft, and having a notched hub, said shaft having slots therein, a pawl carrier longitudinally movable within the hollow shaft, and having pawls tending to project outwardly through said slots to engage the notches in the gear, said pawls having bevel ends for engaging the ends of the slots, and means for moving the pawl carrier longitudinally within the hollow shaft, said means comprising a sleeve rotatably mounted on th shaft and having a pin engaging a spiral groove in th pawl carrier, substantially as described.

5. The combination, in a breast drill, of a frame, spindle journaled therein, a hollow driving shaft jou naled in said frame, a gear operatively associated with sa spindle, a gear operatively mounted upon said shaft an meshing with said first-mentioned gear, means for o eratively connecting said second-mentioned gear to sa shaft when the latter is rotated in one direction on and means for operatively connecting said second-me tioned gear to said shaft when the latter is rotated in th opposite direction only.

[Claims 6 to 9 not printed in the Gazette.]

977,177. MEASURING DEVICE. HARRY L. FELLOWE Chicago, Ill. Filed Feb. 4, 1910. Serial No. 542,086.



1. In a device of the character described, the combin tion of a graduated height bar adapted to be attache vertically to a suitable support, a graduated posture ba slidably mounted on said height bar, and a collar be slidable on and outstanding from said posture bar, wher by the height of the coat collar and the posture of th person being measured will be indicated on said heigh and posture bars, respectively, substantially as describe

2. In a device of the character described, the combin tion of a graduated height bar adapted to be attache vertically to a suitable support, a slide movable on sa height bar, a graduated posture bar pivoted on said slid a clip slidable on said graduated posture bar, and a co lar bar pivoted to said clip, said posture bar being adapte to be swung into a position at right angles to said heig bar, said collar bar being adapted to be swung into a p sition at right angles to said posture bar, whereby th height of the coat collar and the posture of the perso being measured will be indicated on said height an posture bars respectively, substantially as described.

3. In a device of the character described, the combin tion of a graduated height bar adapted to be attache vertically to a suitable support, a graduated posture ba slidably and pivotally mounted on said height bar, a co lar bar slidably and pivotally mounted on said posture ba said posture and collar bars being of the same width, sai posture and collar bars being shaped to limit the swinging on their pivots whereby to determine the righ angle positions of said bars relatively to said height an posture bars, whereby the height of the coat collar an the posture of the person being measured will be ind cated on said height and posture bars respectively, su stantially as described.

977,178. METAL-CLENCHING MACHINE. HARRY FERGUSON, Canton, Ohio, assignor to The Empire No elty Company, Canton, Ohio, a Corporation of Ohi Filed Feb. 9, 1910. Serial No. 542,958.

1. In a machine of the class described, the combinatio of a standard and base, a reciprocating plunger, a fixe die, the reciprocating plunger provided with relativel movable die-jaws, said die-jaws provided at their free end with grooves and means for imparting relative movemen

between one of the die-jaws and the plunger during the upward and downward stroke of said plunger, substantially as and for the purpose specified.



2. In a machine of the class described, the combination of a standard and base, a reciprocating plunger, means for imparting reciprocating movement to the plunger, die jaws carried by the plunger, one of said die jaws relatively fixed to the plunger and movable therewith, the other die jaw carried by the plunger adapted for pivotal movement with reference to the plunger, said die jaws provided with grooves upon their inner adjacent faces and a fixed die provided with a die point and means for relatively moving the die jaws with reference to the plunger, substantially as and for the purpose specified.

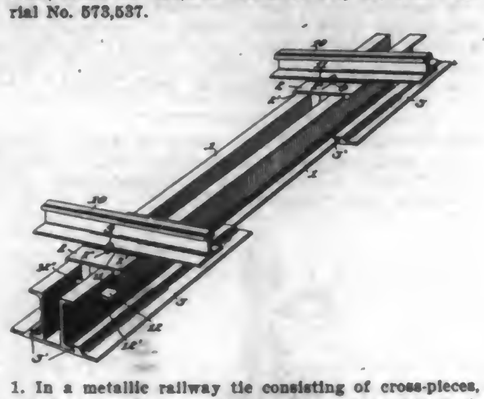
3. In a machine of the class described, the combination of a base and standard, a reciprocating plunger carried by the standard, means for imparting reciprocating movement to the plunger, said plunger provided with die jaws, one fixed and the other movable with reference to the plunger, said plunger provided with a screw threaded aperture located below the die jaws, a screw threaded bolt located in the screw threaded aperture, a hinged block provided with an aperture and the aperture adapted to receive the screw threaded bolt, said bolt provided with a head adapted for contact with the hinged block, a lever arm fixed to the screw threaded bolt, a spring secured to the opposite end of the lever arm and the lever arm adapted to rotate the screw threaded bolt in opposite directions by the reciprocating movement of the plunger, and a fixed die, substantially as and for the purpose specified.

4. In a machine of the class described, the combination of a base and standard, a reciprocating plunger carried by the standard, means for imparting reciprocating movement to the plunger, said plunger provided with die jaws, one fixed and the other movable with reference to the plunger, said plunger provided with a screw threaded aperture located below the die jaws, a screw threaded bolt located in the screw threaded aperture, a hinged block provided with an aperture and the aperture adapted to receive the screw threaded bolt, said bolt provided with a head adapted for contact with the hinged block, a lever arm fixed to the screw threaded bolt, a spring secured to the opposite end of the lever arm and the lever arm adapted to rotate the screw threaded bolt in opposite directions by the reciprocating movement of the plunger, a fulcrum post located below the lever arm and a fixed die, substantially as and for the purpose specified.

5. In a machine of the class described, the combination of a base and standard, a reciprocating plunger carried by the standard, means for imparting reciprocating movement to the plunger, said plunger provided with die jaws, one fixed and the other movable with reference to the plunger, said plunger provided with a screw threaded aperture located below the die jaws, a screw threaded bolt located in the screw threaded aperture, a hinged block provided with an aperture and the aperture adapted to receive the screw threaded bolt, said bolt provided with a head adapted for contact with the hinged block, a lever arm fixed to the screw threaded bolt, a spring secured to the opposite end of the lever arm and the lever arm adapted to rotate the screw threaded bolt in opposite directions by the reciprocating movement of the plunger, an adjustable fulcrum post located below the lever arms and a fixed die, substantially as and for the purpose specified.

[Claim 6 not printed in the Gazette.]

977,179. METALLIC RAILWAY-TIE. WILLIAM D. FORSYTH, Youngstown, Ohio, assignor, by mesne assignments, to A. M. Neeper, Pittsburg, Pa. Filed May 6, 1909, Serial No. 494,430. Renewed July 23, 1910. Serial No. 573,537.



1. In a metallic railway tie consisting of cross-pieces, a rail fastening device consisting of grooved members adjustable to each other and the cross pieces of said tie; adjustable bushings having an aperture of similar but slightly smaller cross section than the rail fastener to be driven therein; and a resilient bushing containing said adjustable bushing, adapted to be entered and held in the aperture formed by the grooves of said grooved member.

2. In a metallic railway tie consisting of cross-pieces, a rail fastening device consisting of grooved members adjustable to each other and the cross pieces of said tie; adjustable bushings having an aperture of similar but slightly smaller cross section than the rail fastener to be driven therein; a resilient bushing containing said adjustable bushing, adapted to be entered and held in the aperture formed by the grooves of said grooved members; and means for limiting the motion of said grooved members along the said cross pieces.

3. In a metallic railway tie consisting of cross-pieces, a rail fastening device consisting of pairs of grooved members adjustable to each other and the cross pieces of said tie; adjustable bushings having apertures of similar but slightly smaller cross section than the rail fastener to be driven therein; and resilient bushings containing the adjustable bushings, adapted to be entered and held in the apertures formed by the grooves of said grooved members.

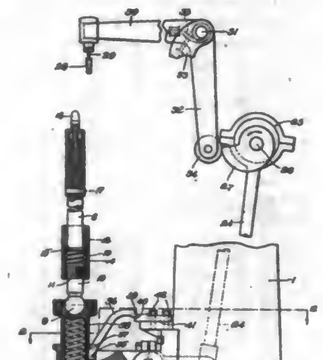
4. In a metallic railway tie consisting of cross-pieces, a rail fastening device consisting of pairs of grooved members adjustable to each other and the cross pieces of said tie; adjustable bushings having apertures of similar but slightly smaller cross sections than the rail fastener to be driven therein; and resilient bushings containing the adjustable bushings, adapted to be entered and held in the apertures formed by the grooves of said grooved members; and means for limiting the motion of said grooved members along said cross pieces.

5. In a metallic railway tie consisting of cross-pieces, a rail fastening device consisting of grooved members adjustable to each other and the cross pieces of said tie; adjustable bushings having an aperture of similar but slightly smaller cross section than the rail fastener to be driven therein; a resilient bushing containing said adjustable bushing, adapted to be entered and held in the aperture formed by the grooves of said grooved members; and means for insulating said adjustable bushing.

[Claims 6 to 12 not printed in the Gazette.]

977,180. SHOE-SUPPORTING JACK. LOUIS G. FREEMAN, Cincinnati, Ohio. Filed Feb. 9, 1909. Serial No. 476,963.

1. The herein described jack, comprising a jack post, a jack pin pivotally mounted in the upper end of said post, and guiding means affording said pin a guided lateral swinging movement limiting the work-holding position of said pin to substantially longitudinal alinement with said jack post, said pin being shaped to permit the shoe and last to remain in substantially the same horisontal position relatively to the post irrespective of the position of the pin.



2. The herein described jack, comprising a jack post, a jack pin pivotally mounted to swing in the upper end of said post, and stationary guiding means supporting the outer end of said pin against tipping transversely of the direction of said swinging movement, said post having a laterally extending upper end in position to engage vertically beneath and support the front of the heel seat of a shoe when the pin and the last and shoe are swung to the extreme position in an opposite direction.

3. The herein described jack, comprising a jack post, a jack pin pivotally mounted to swing in the upper end of said post, guiding means affording said pin a guided lateral swinging movement limiting the work-holding position of said pin to substantially longitudinal alinement with said jack-post, and a removable retaining cap inclosing said pin and post, slotted at its outer end to constitute a guide and stop for the swinging movement of said pin.

4. The herein described jack, comprising a jack post, a swinging jack pin mounted in its upper end, and a removable sleeve inclosing said jack pin for retaining and limiting the latter in its said swinging movement said pin having beveled sides extending at an angle to the length of the pin to permit a shoe and last to remain substantially horizontal when on the pin, swung to an extreme lateral position.

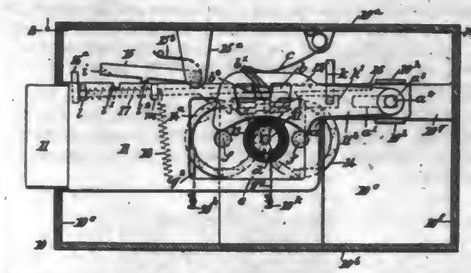
5. The herein described jack, comprising a vertically movable part, a jack post carried in the upper end of said part, a jack pin mounted to swing in the upper end of said post, means restricting said swinging movement to a single vertical plane with relation to said post, and yielding means normally holding said jack post against axial rotation but permitting said post to be forcibly turned by the operator to change the direction of swinging movement of the jack pin with relation to the rest of the jack.

[Claims 6 to 14 not printed in the Gazette.]

977,181. LOCK. JULES ALBERT FREMON, Leeper, Mo. Filed Oct. 10, 1908, Serial No. 457,041. Renewed Apr. 29, 1910. Serial No. 558,336.

1. A lock embodying a slidable bolt, means for holding the bolt from sliding, a key that will release and slide said bolt, and means within the lock adapted to prevent a re-use of the key until said key is altered.

2. In a lock, the combination with a rectangular case, and an arm projected from an end wall within the case, of a hollow key barrel loosely mounted at one end in the arm and at the other end engaged in an opening in a si wall of said case.



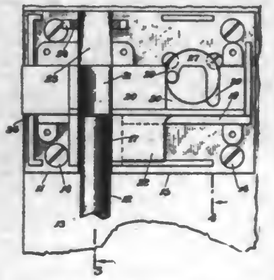
3. In a lock, the combination with a rectangular cas an arm projected from an end wall of said case, and slide bolt mounted loosely at one end on the arm and the other end in an opening in the opposite end wall the case, of a hollow key barrel loosely mounted in th arm and extending therefrom through an opening in th slide bolt, and at the other end thereof loosely engage in an opening in a side wall of the case.

4. In a lock, the combination with a case, and a slid bolt reciprocal in the case, of a scroll wheel journaled o one side wall of the case and rotatable therein, and mean controlled by the reciprocal slide bolt and adapted fo giving a step by step rotatable movement to the scro wheel.

5. In a lock, the combination with a case, and a slid bolt reciprocal in the case, of a scroll wheel having ratchet toothed end wall, and centrally journaled on side of the case therein, and means controlled by th slide bolt and adapted by a successive engagement wit the teeth of the end wall of the scroll wheel for giving step by step rotatable movement to the scroll wheel.

[Claims 6 to 24 not printed in the Gazette.]

977,182. DOOR-SECURER. EMIEL R. FUCHS, New York N. Y. Filed June 30, 1909. Serial No. 505,114.



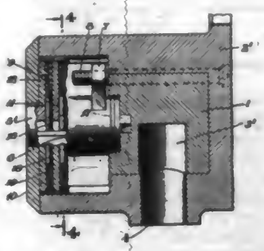
1. Door-securing means comprising a bar, floor and doo abutments for the respective ends thereof, said door abut ment comprising a sliding member having a socketed por tion, a casing in which said member is mounted, and key operated means for actuating said member to set its sock eted portion into and out of alinement with the upper en of the bar.

2. Door-securing means comprising a bar, floor and doo abutments for the respective ends of the bar, said doo abutment embodying a sliding member having a socketed portion and a laterally depending portion, a casing in which said member is mounted, said casing being provided with a recessed portion for the reception of the upper end of the bar, and key-actuated means for moving said member to set its socketed portion into or out of aline ment with the upper end of the bar and its depending por tion across and from the recessed portion of the casing.

3. In a door-securing means, the combination with casing adapted to be secured to the inner side of a door, o a movable locking and unlocking member in said casing, key-actuated mechanism including a rotary device mount

ed in said casing and connected with the said member, a casing for said mechanism adapted to extend through the door to the exterior thereof, said latter casing being provided with lateral screw-receiving portions, and securing screws extending from the inner casing through such portions and having their heads partially covered by the said rotary device.

977,183. DOOR-SECURING DEVICE. EMIEL R. FUCHS, New York, N. Y. Filed June 30, 1909. Serial No. 505,115.



1. Door-securing means comprising a bar, and floor and door abutments for the respective ends thereof, the door abutment comprising a rotary member, a casing in which said member is mounted, and key-operated means for bodily turning said member into and out of locking engagement with the upper end of the bar.

2. Door-securing means comprising a bar, and floor and door abutments for the respective ends thereof, the door abutment comprising a rotary member having a radial socket, a casing within which said member is mounted, said casing having an aperture for the reception of the upper end of the bar, and key-operated means for actuating said member to move its socket into and out of alinement with the upper end of the bar.

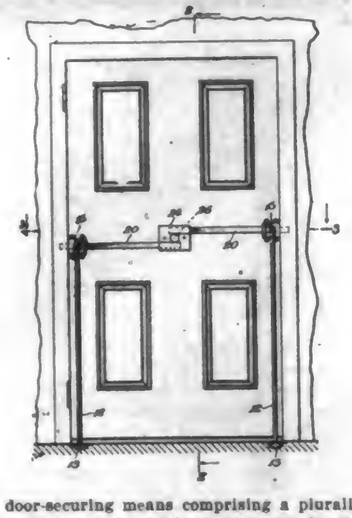
3. Door-securing means comprising a bar, and floor and door abutments for the respective ends thereof, the door abutment comprising a rotary member having a radial socket, a casing within which said member is mounted, said casing having an aperture for the reception of the upper end of the bar, key-operated means for actuating said member to move its socket into and out of alinement with the upper end of the bar, and for locking said member in each position to which it may be set.

4. In a door-securing means, the combination with a casing adapted to be secured to a door, of a rotary bar-locking member in said casing, a key-actuated mechanism comprising a cylinder provided with peripheral sockets and with a key-way, said cylinder being connected with the locking member, a barrel for said cylinder, and two diametrically opposed sets of plungers adapted to register at intervals with the said sockets.

977,184. DOOR-SECURER. EMIEL R. FUCHS, New York, N. Y. Filed Dec. 17, 1909. Serial No. 533,559.

1. Door-securing means comprising a plurality of inclined brace bars, floor and door abutments for the respective ends of the bars, means for supporting the door abutments adjacent the respective vertical edges of a door, a common operating means located on the door between the said supporting means, and connections controlled by said operating means for effecting relative movement between the upper ends of the bars and their proximate door abutments, whereby the said bars and door abutments can be simultaneously moved into or out of locking engagement with each other.

2. Door-securing means comprising inclined brace bars, floor abutments therefor, fixtures on the door adjacent its respective vertical edges, a casing on the door between said fixtures, rotatable key-controlled means in said casing, abutments in said fixtures for the upper ends of the brace bars, and oppositely-movable members extending from and controlled by said key-controlled means and adapted to effect relative movement between the upper ends of the inclined bars and their proximate door abutments and thereby simultaneously move them into or out of locking engagement with each other.



3. A door-securing means comprising a plurality of inclined brace bars, floor and door abutments for the respective ends of the bars, oppositely-movable members extending transversely of the door, connections between the said members and the respective brace bars whereby the latter can be moved into and out of engagement with their door abutments, and a common operating means for said members.

4. A door-securing means comprising a plurality of inclined brace-bars, floor and door abutments for the respective ends of the bars, said door abutments being located adjacent the opposite edges of the door, a casing intermediate the door abutments, oppositely-movable members extending transversely of the door and supported and guided at their inner ends in said casing, connections between the said members and the respective brace bars, whereby the latter can be moved into and out of engagement with their door abutments, and a common key-controlled means within said casing for simultaneously operating the said members.

5. A door-securing means comprising inclined brace bars, floor and door abutments for the respective ends of the bars, oppositely-movable members extending transversely of the door, vertical guides on said members affording connections for the respective brace-bars whereby the latter can be moved into and out of engagement with the door abutments, and a key-controlled means for simultaneously operating said members.

[Claim 6 not printed in the Gazette.]

977,185. CRUMB-TRAY. AMOS V. GREEN, Denver, Colo. Filed June 19, 1909. Serial No. 503,132.



1. A device of the class described, comprising a receptacle having a front opening, a hinged lid for closing the same, the said lid having an inwardly protruding slotted part, located at one extremity thereof, a spring actuated stem provided with a lug adapted to enter the slot of the inwardly projecting part of the lid, whereby as the stem is pressed downwardly, the lid is thrown to the open position, substantially as described.

2. An article of the class described, comprising a receptacle having a hinged closure in front and an inwardly projecting bottom member extending beyond the closure, the device being provided with a retaining flange extending upwardly from the bottom thereof, a lid hinged to the top of the receptacle and having an inwardly protruding slotted part located at one extremity of the receptacle, a spring-actuated stem having one extremity externally located, while the other extremity is concealed within the device and equipped with a lug, which engages the slotted part connected with the lid for operating purposes, substantially as described.

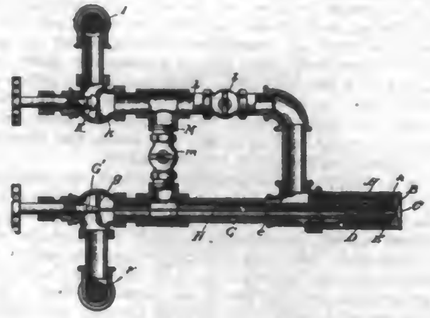
3. A device of the class described, comprising a receptacle having an opening in the front of the lid adapted to close said receptacle, and having an inwardly projecting part located at one end of the receptacle, an auxiliary compartment located at one end of the receptacle and separated therefrom by a slotted partition, an operating stem protruding into the said compartment, a spring also located in the compartment and engaging the stem, the stem having a lug protruding through the slot of the partition, and an operative connection between the said lug and the inwardly projecting part of the lid for the purpose set forth.

4. A crumb tray comprising a receptacle closed in the rear, but having a front opening, and a bottom member extending forwardly, a lid hinged to the forward part of the device and normally closing the opening, the lid having an inwardly projecting slotted part at one extremity, a spring actuated stem, provided with a lug mounted in the receptacle, the lug adapted to enter the slot of the inwardly projecting part of the lid, whereby as the stem is pressed downwardly, the lid is actuated for opening the same, substantially as described.

5. A crumb tray, comprising a crumb receptacle, having a front opening, and a normally projecting bottom portion, a crumb retaining plate or flange located in the receptacle rearwardly of the projecting portion, a hinged closure occupying a position forwardly of the retaining plate, when in a closed position, the closure having an inwardly projecting slotted member, and means engaging the slotted member for opening the closure for receiving the material beyond the retaining plate, substantially as described.

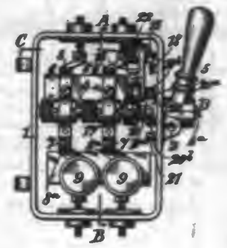
[Claim 6 not printed in the Gazette.]

977,186. HYDROCARBON-BURNER. WILLIAM M. GREEN, Evanston, Ill., assignor of one-half to Howard Pew, Weehawken, N. J. Filed Aug. 31, 1905, Serial No. 276,490. Renewed May 12, 1910. Serial No. 560,987.



In a burner, an outer shell and a T-member connected by one of its branches to one end thereof, and a cap at the other end provided with a burner orifice and with the inner face concave, a feed pipe for the liquid fuel connected into another branch of said T-member, a feed pipe for steam or air under pressure connected into the remaining branch of the T-member, a burner tube within said shell and connected at one end into the inner end of said fuel feed tube and with the other end conforming to and bearing against the concave face of said cap and wit a central valve seat, a valve engaging said valve seat an provided with an elongated stem extending through sa burner tube and the fuel feed pipe.

977,187. SWITCH-BOX. GOTTLIEB GUT, Seebach, nea Zurich, Switzerland, assignor to The Firm of Aufzug & Räderfabrik Seebach, Seebach, near Zurich, Switze land. Filed July 6, 1910. Serial No. 570,643.



1. In a switch-box, in combination, a box, a cover there for, a switching-shaft mounted on the latter, and an aux iliary shaft mounted in the box wall, and means whic when the cover is closed couples the two shafts and thu enables transmission of motion from the auxiliary to the switching-shaft, substantially as described.

2. In a switch-box, in combination, a box, a cover there for, a switching-shaft mounted on the latter, and an aux iliary shaft mounted in the box wall, means which when the cover is closed couples the two shafts, and means for automatically locking the cover in the coupled position of the shaft, substantially as described.

3. In a switch-box, in combination, a box, a cover there for, a switching-shaft mounted on the latter, and an aux iliary shaft mounted in the box wall, and means which when the cover is closed couples the two shafts and simultaneously locks the cover, substantially as described.

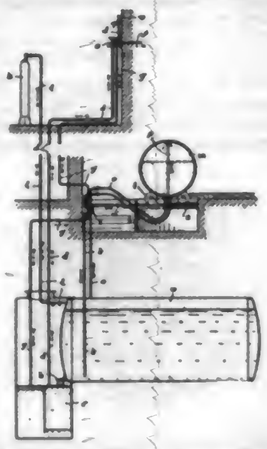
4. In a switch-box, in combination, a box, a cover there for, a switching-shaft mounted on the latter, and an aux iliary shaft mounted in the box wall, means mounted on the auxiliary shaft, and a plate mounted on the switching-shaft and presenting two projections of which in the closed position of the cover the one is engaged by the said means and enables the motion of the auxiliary shaft to be transmitted to the switching-shaft, while the second projection engages with the auxiliary shaft and locks the cover, substantially as described.

5. In a switch-box, in combination, a box, a cover therefor, a switching-shaft mounted on the latter, and an auxiliary shaft mounted in the box wall, a device mounted on the auxiliary shaft and presenting two catches, and a cam-plate mounted on the switching-shaft and presenting two projections parallel with the latter shaft, of which projections the one is engaged by the said catches, while the other projection engages with the auxiliary shaft and locks the cover, and spring-operated means mounted on the cover engaging with and controlling the position of said cam-plate, and means for limiting the rotation of the said device, substantially as described.

977,188. APPARATUS FOR STORAGE AND DELIVERY OF INFLAMMABLE LIQUIDS. ROBERT HAUSDORF, Bochum, Germany. Filed May 3, 1910. Serial No. 559,220.

1. Apparatus for storage and delivery of inflammable liquid, comprising a storage reecptacle, means for introducing an inert gas into the space evacuated by the liquid in the storage receptacle, a liquid supply barrel, a liquid supply conduit connecting said barrel with the storage receptacle, an auxiliary receptacle adapted to communicate with the storage receptacle, a pressure conduit communicating with the auxiliary receptacle, a valve in each

of said conduits, and means for so connecting said valves that while one valve is opened the other valve is closed.



2. Apparatus for storage and delivery of inflammable liquid, comprising a storage receptacle, means for introducing an inert gas into the space evacuated by the liquid in the storage receptacle, a liquid supply barrel, a liquid supply conduit connecting said barrel with the storage receptacle, an auxiliary receptacle adapted to communicate with the storage receptacle, a pressure conduit communicating with the auxiliary receptacle, a valve in each of said conduits, means for so connecting said valves that while one valve is opened the other valve is closed, means for rotatably supporting the supply barrel, and means actuated by a rotation of the barrel for operating the valves.

977,189. WIRE-FENCE-ATTACHING MEANS FOR POSTS. LOUIS A. HENNING, Toledo, Ohio. Filed Nov. 3, 1909. Serial No. 525,999.



1. A channel post having its central portion longitudinally corrugated and provided with rounded bearing surfaces, and a wire fastening means projected through said central portion and having pivotal bearings on said rounded surfaces, substantially as described.

2. A channel post having its central portion perforated and provided with rounded bearing surfaces, and wire fastening means projected through said perforations from the outer side of the post and having heads provided with bearing surfaces which are complemental to and adapted to pivotally seat on the rounded surfaces of the post.

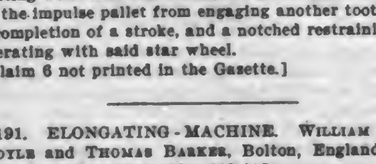
3. In combination a channel post having a central longitudinally corrugated portion and webs extending therefrom, a wire fastening member loosely projected through said central portion from the outer side thereof and between the webs and adapted to hold the line wire to the web edges, said central portion and member having complemental concave and convex bearing surfaces adapted to permit a free lateral oscillation of the member relative to the post.

4. In combination a post U-shaped in cross-section having a central portion provided with a rounded surface, a wire fastening member projected through said central portion from the outer side thereof between the webs of the post to adapt an end thereof to engage and hold a wire to the outer edges of such webs, the outer end of said member being provided with a head which is rounded on its inner face to adapt it to present a complemental surface to and seat on the rounded surface of the post to adapt the fastening member to have universal pivotal movements.

5. In combination, a channel post having a central longitudinally corrugated portion and webs extending from opposite sides thereof, a wire fastening member projected inwardly through said portion and having its outer end headed and pivotally seating on one of the ridges of the corrugations within the plane of the outer edges of said central portion, said member having its other end adapted to engage with a wire to hold it to the edges of the flanges, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

977,190. FULL-STROKE MECHANISM FOR CALCULATING-MACHINES, &c. WILLIAM W. HOPKINS, St. Louis, Mo., assignor to Moon-Hopkins Billing Machine Company, St. Louis, Mo., a Corporation of Missouri. Original application filed Apr. 9, 1909, Serial No. 488,883. Divided and this application filed June 21, 1909. Serial No. 503,394.



1. In a device of the character described, the combination of the controlled part and means for compelling a full stroke thereof, said means comprising a rotatable star wheel and an escapement fork or lever coöperating therewith.

2. In a device of the character described, the combination of the controlled part and means for compelling a full stroke thereof, said means comprising an escapement wheel and a fork or lever which is operated by said controlled part and which is provided with an impulse pallet and a stop pallet.

3. In a device of the character described, the combination of the controlled part and means for compelling a full stroke thereof, said means comprising a star wheel and a conjoined ratchet, an escapement fork operated by said controlled part, said fork having an impulse pallet cooperating with the conjoined ratchet and a stop pallet cooperating with said star wheel, and means on said fork to prevent the impulse pallet from engaging another tooth before the completion of a stroke.

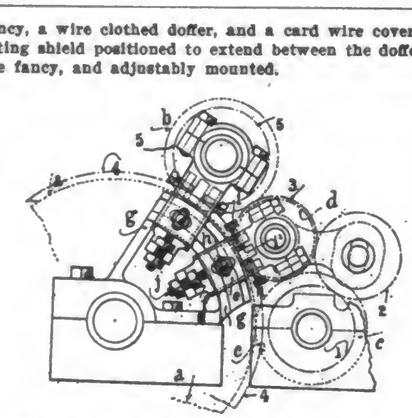
4. In a device of the character described, the combination of the controlled part and means for compelling a full stroke thereof, said means comprising a star wheel and a conjoined ratchet, an escapement fork operated by said controlled part, said fork having an impulse pallet cooperating with the conjoined ratchet and a stop pallet cooperating with said star wheel, and means on said fork to prevent the impulse pallet from engaging another tooth before the completion of a stroke, said means also preventing retrograde movement of said star wheel.

5. In a device of the character described, the combination of the controlled part and means for compelling a full stroke thereof, said means comprising a star wheel and a conjoined ratchet, an escapement fork operated by said controlled part, said fork having an impulse pallet cooperating with the conjoined ratchet and a stop pallet cooperating with said star wheel, means on said fork to prevent the impulse pallet from engaging another tooth before the completion of a stroke, and a notched restraining pawl coöperating with said star wheel.

[Claim 6 not printed in the Gazette.]

977,191. ELONGATING-MACHINE. WILLIAM HENRY HOYLE and THOMAS BARKER, Bolton, England. Filed July 7, 1908. Serial No. 442,416.

1. In an elongating machine, a wire cloth cylinder to which the material is fed in sections, a card wire clothed fancy, a wire clothed doffer, and a card wire covered rotating shield positioned to extend between the doffer and the fancy, and adjustably mounted.



2. In an elongating machine, a wire cloth cylinder to which the material is fed in sections, a fancy, a doffer, and a driven wire covered roller filling the gap between the doffer and fancy and acting as a shield to insure the fiber sections being preserved.

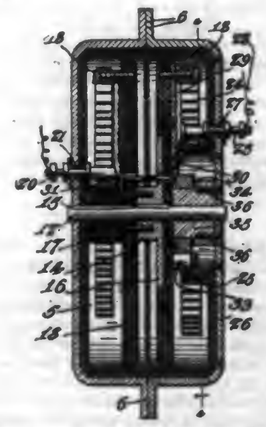
3. In an elongating machine, a wire cloth cylinder to which the material is fed in sections, a wire covered doffer, a fancy, a wire clothed rotating shield filling the gap between the fancy and the doffer and rotating in the opposite direction to the main cylinder, adjustable supporting means for said shield, and means for rotating the wire-clothed rotating shield, as set forth.

4. In an elongating machine, a wire cloth cylinder to which the material is fed in sections, a wire covered doffer, a fancy, a wire clothed rotating shield for the doffer, adjustable supporting means for said shield, and spur gear for rotating the fancy, the doffer, and the wire clothed rotating shield, as set forth.

5. In an elongating machine, a wire cloth cylinder to which the material is fed in sections, a doffer, a fancy, a wire clothed rotating shield rotating oppositely to the wire clothed cylinder, gear for driving same, a fixed lug *i'*, a bracket *f*, screws *i*, *i*, in said bracket bearing against a fixed lug for adjusting the position of the bracket, a bracket *e*, means for adjustably mounting such bracket on the bracket *f*, and inclosing means, as set forth.

[Claims 6 and 7 not printed in the Gazette.]

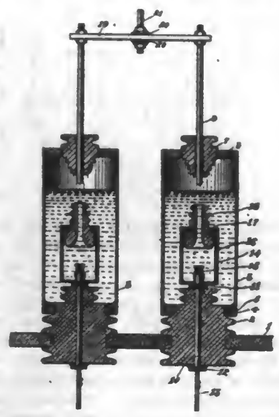
977,192. ELECTRIC-DROP-CORD ADJUSTER. WARREN S. HULL, Sheldon, Ill. Filed Jan. 15, 1910. Serial No. 538,247.



1. A device of the character described comprising a casing formed in two sections, each of said sections having an insulated lining, a shaft centrally journaled in the casing sections, a spool keyed on said shaft, said spool comprising two plates of insulating material, a metallic hub rigidly secured to and connecting the spool sections, a cord adapted to be wound on said spool extending through the casing, a binding post secured to each of the casing sections, a binding post secured to each of the spool sections, flexible electrical conductors secured to said binding posts, one of said conductors comprising a coil spring adapted to rotate the spool, electrical connections between said cord and the binding posts on said spool, an annular flange formed on the insulating lining of one of the casing sections, a ratchet head rigidly secured to said casing section and gravity pawls mounted on the side of one of the spool sections engaging with said ratchet head to normally hold the spool against rotation.

2. A device of the character described comprising a sectional casing, a sleeve secured in the bottom of said casing between the sections, a shaft centrally journaled in the casing sections, a spool keyed on said shaft, a cord adapted to be wound on said spool extending through the sleeve, binding posts secured to the opposite sides of said spools and to the casing, electrical conductors between said binding posts for the primary and secondary electrical circuits, one of said conductors comprising a coil spring adapted to rotate the spool, a plate secured to said spool by one of the binding posts and adapted to convey the electric current from the other of said conductors, a screw securing the other end of said plate to the spool, and constituting the terminal of the secondary circuit, said spool having opposed openings therein, and electrical connections between the drop cord, said screw and the binding post upon the opposite side of the spool.

977,193. OIL BREAK-SWITCH. HARRY J. HUNSICKER, Albany, N. Y. Filed May 29, 1907. Serial No. 376,432.



1. In an electric switch, the combination of a base, insulating means mounted thereon, an outer and an inner vessel mounted on said insulating means, both of said vessels containing an insulating fluid and the inner vessel covered thereby and adapted to confine its contained fluid under initial pressure, a pair of electrodes adapted to make and break contact within said inner vessel, and means for restricting the arc formed after breaking, said means acting to direct the fluid put under pressure in the arc into the path of the moving electrode and against the arc so as to rupture the latter.

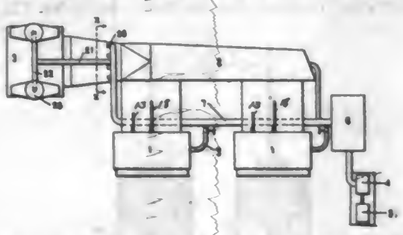
2. An electric switch comprising in combination a base or support, an insulator mounted thereon, an oil pot with an opening in its bottom to receive the head of the insulator and supported thereon, a pressure pot in the oil pot, supported upon the head of the insulator, oil in the oil pot covering and filling the pressure pot, a fixed electrode in the pressure pot having a connecting stem passing down through the insulator with its end projecting therefrom for mechanical and electrical connections, and a movable

electrode operated through one wall of the oil pot and adapted to pass into and out of an opening in the pressure pot, through the wall, whereby the arc formed upon breaking will be drawn out and attenuated in the oil, and will be extinguished thereby.

3. An electric switch comprising in combination an insulator having a circular figure in cross section, a cylindrical oil pot receiving the head of said insulator through an opening in its bottom and secured upon the neck thereof, a pressure pot mounted upon the head of the insulator within the oil pot, a fixed electrode seated in the bottom of said pressure pot with a connection passing through the insulator, an insulating bushing in the wall of the pressure pot opposite the fixed electrode and having its bore alined therewith, an insulating bushing seated in an opening in the top of the oil pot and having its bore alined with the bore of the first mentioned bushing and the fixed electrode, and a movable electrode passing through both of said bushings to make contact with the fixed electrode in the pressure pot, and withdrawn through the first bushing in breaking, whereby an arc created blast from the pressure pot will follow the arc through said first bushing, and extinguish it.

4. An electric switch comprising an oil pot and a pressure pot, with a single insulator having a reduced neck and supporting one pot upon the shoulder around its neck and the other pot upon its head, the oil pot having an opening in its bottom to receive said head, together with oil in the pots, a fixed electrode in the pressure pot and a movable electrode adapted to pass in and out of said pressure pot in making and breaking the circuit.

977,194. COTTON-GIN. WALTER W. JAMES, Atwell, Tex. Filed Aug. 2, 1909. Serial No. 510,771.



1. In a device of the character described, the combination with the gin frame and gin saws, of air compressing means, a distribution pipe receiving the air from said means, a feeder pipe within the gin frame receiving air from said distribution pipe, a plurality of branch pipes extending from said feeder pipe discharging between the saws, and a pipe discharging rearwardly from said feeder into the lint discharging aperture of the gin.

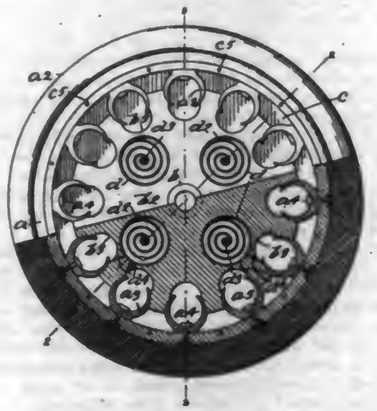
2. In a device of the character described, the combination with a gin, a lint flue and a condenser, latter being provided with flues, of air compressing means, a distribution pipe receiving the air from said means, a feeder pipe within the gin, longitudinal thereof, receiving air from said distribution pipe, a plurality of pipes branching from said feeder pipe and discharging between the saws, a pipe discharging from said feeder into the lint flue, a plurality of pipes discharging from said distribution pipe into the lint flue, toward the condenser, and a plurality of pipes discharging upwardly within the condenser into the dust flues, and connected with said distribution pipe.

3. In a device of the character described, the combination with a gin, a lint flue and a condenser, the latter being provided with dust flues, of a plurality of pipes discharging compressed air upon the gin saws to remove the lint therefrom, a plurality of pipes discharging compressed air into the lint flue, toward the condenser, and a plurality of pipes discharging compressed air into the dust flues of the condenser in an upward direction, all of said pipes having a common source of air pressure.

4. In a device of the character described, the combination with a gin frame, saws and ribs, of a source of compressed air, a pipe extending longitudinally of the gin at the rear of the saws connected with said source of compressed air, means whereby said pipe may be adjusted vertically, a plurality of pipes branching from said pipe, having funnel-shaped discharge outlets above and between the saws, and directed slightly to the rear, and means preventing upward motion of said branch pipes, said means being adapted to permit a pivotal movement of said pipes so that the discharge angle of the outlets may be varied.

5. In a device of the character described, the combination with a gin frame, saws, ribs, and mote board, the latter being transversely adjustable of the frame, of air compressing means, a lint flue, a condenser having dust flues, pipes discharging air compressed by said means into the lint flue toward the condenser, a pipe adjacent to the saws and parallel to the saw cylinder, receiving air from said means, a plurality of pipes branching from the last named pipe, discharging downwardly and rearwardly between the saws, means whereby the angle of discharge of said branch pipes may be varied, and pipes connected with said air compressing means, discharging upwardly into the flues of the condenser.

977,195. VEHICLE-WHEEL. WILLIAM Q. KENNEDY, Paterson, N. J. Filed Jan. 8, 1909. Serial No. 471,239.

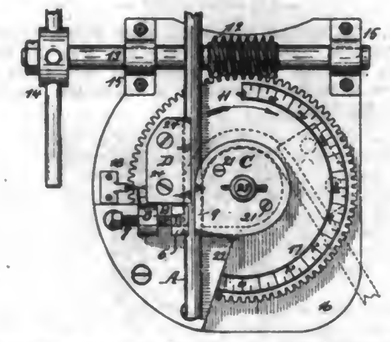


1. A vehicle wheel, comprising a felly, a plurality of segmental springs thereon, the ends of which are directed inwardly, a hub, and a plate connected with said hub and having peripheral recesses forming shoulders bearing upon the ends of corresponding springs, and means for preventing lateral movement of said felly with relation to said hub.

2. In a vehicle wheel, a felly, a plurality of segmental springs thereon and the ends of which are directed inwardly, a hub, and a plate secured thereto and being provided with peripheral recesses forming shoulders bearing upon the ends of corresponding springs, said recesses having the same contour as said spring ends at the points of contact therewith and means for preventing lateral movement of said felly with relation to said hub.

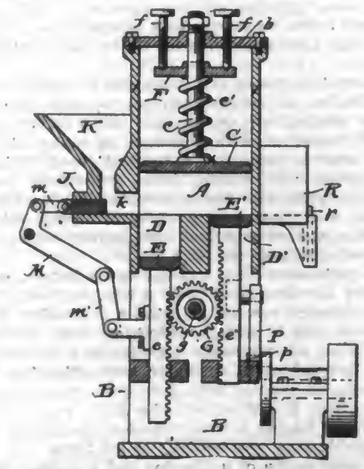
977,196. TUBE-BENDING MACHINE. RICHARD KIESELING, Sr., Cincinnati, Ohio. Filed Jan. 3, 1910. Serial No. 535,968.

In a tube-bending machine, the combination of a bed-frame, a vertical post rigidly secured thereto, a worm-wheel mounted on this post, a bracket rigidly secured to the bed-frame opposite the face of the worm-wheel and extending laterally over a part thereof, a forming-member rigidly secured to the upper side of this extended part of the bracket, the side of which member is shaped circular except where part of it is left straight to form one of two complementary clamping jaws, this part, as well as the circular part of the side of this member being provided with a semi-circular groove and that part of the bracket which supports the circular part of the forming-member being also circular and congruent thereto, a grooved clamping-jaw provided opposite to the clamping-jaw formed by the straight part of the forming-member and complementary thereto, a screw on the end of which it is supported, a post on the upper side of the bracket in which this screw is mounted so as to permit adjustment of the clamping-jaw carried on it with reference to the clamp-



ing-jaw formed by the straight part of the forming-member, a bending-member grooved complementary to the forming-member, connected to the worm-wheel and adapted to occupy an initial position opposite the grooved side of the forming-member where the straight part thereof merges into the circular part and means to rotate the worm-wheel so as to carry the bending-member around the circular part of the forming-member and the circular part of the bracket on which it is supported.

977,197. GRAIN-DECORTICATING MACHINE. ROBERT E. KIMBALL, Cleveland, Ohio, assignor of one-third to L. H. Webb and one-third to E. L. Thurston, Cleveland, Ohio. Filed Jan. 5, 1905. Serial No. 239,702.



1. A grain holding chamber having one inwardly pressed and outwardly yielding wall section, combined with means for moving the grain back and forth in said chamber while it is subjected to pressure from said wall section, said chamber being sufficiently closed during operation to enable the malatenance of pressure on the grain.

2. A grain holding chamber having one inwardly pressed and outwardly yielding wall section, combined with means for moving the grain back and forth in said chamber while it is subjected to pressure from said wall section, said chamber being provided with a feed opening, and with a remotely placed discharge opening, said chamber being sufficiently closed during operation to enable the maintenance of pressure on the grain.

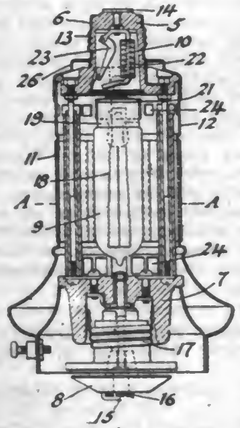
3. The combination of a substantially closed chamber of variable shape, and means for subjecting the mass of grain therein to yielding pressure, with means for causing the chamber to repeatedly change its shape,—positively contracting in one part and concurrently enlarging in another part, and vice versa,—whereby the imprisoned grains will be caused to flow back and forth from the contracting part toward the enlarging part of said chamber in contact with one another and under pressure.

4. The combination of a substantially closed chamber of variable shape having one inwardly pressed but outwardly yielding wall section, and means for increasing the pressure upon the imprisoned rice in one part of the chamber and concurrently relieving the pressure in another part of the chamber, and vice versa.

5. The combination of a chamber of variable shape having one inwardly pressed but outwardly yielding wall section, with means acting periodically and regularly for enlarging one part of said chamber and for correspondingly contracting another part thereof and vice versa.

[Claims 6 to 25 not printed in the Gazette.]

977,198. COOLING-VANE FOR SECOND-CLASS GLOWER-LAMPS. ANTON KUSEBAUCH, Pittsburg, Pa., assignor, by mesne assignments, to Nernst Lamp Company, a Corporation of Pennsylvania. Filed Nov. 11, 1908. Serial No. 462,122.



1. In combination with a ballast tube, of a lamp the filaments of which are composed of second-class conductors, a cylindrical shell located concentrically with said tube and resilient vanes located within said shell and held by their resilience in contact with said tube.

2. In combination with the inclosing shell of a lamp in which the filaments are composed of second-class conductors, a ballast tube located concentric within said shell and resilient vanes located within said shell and held by their resilience in contact with said tube.

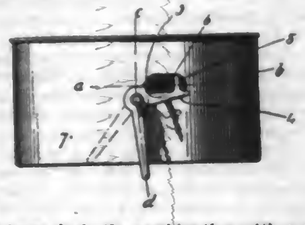
3. In combination with the inclosing shell of a lamp in which the filaments are composed of second class conductors, a ballast tube located concentrically within said shell and a plurality of resilient vanes located within said shell surrounding said tube and held in contact therewith.

4. In combination with the inclosing shell of a lamp in which the filaments are composed of second-class conductors, a ballast tube located concentrically within said shell and a plurality of radially extending cooling vanes located between said shell and said ballast tube.

5. In combination with the inclosing shell of the body portion of a lamp, a ballast tube, a plurality of separately formed resilient cooling vanes surrounding said tube and located between it and said shell.

[Claim 6 not printed in the Gazette.]

977,199. ALARM-CLOCK. WILLIAM J. LARKIN, Waterbury, Conn., assignor to Waterbury Clock Co., Waterbury, Conn., a Corporation. Filed Aug. 10, 1910. Serial No. 576,507.



1. In an alarm clock, the combination with a cylindrical sheet-metal case, of a vertical bell-post fastened at its lower end in the top of the said case, a bell mounted upon the upper end of the said post, a hammer-wire and hammer-head, the former extending upward into the bell through a clearance-opening formed in the case, and a sheet-metal alarm-switch pivotally mounted upon the said bell-post and comprising an operating-arm, an alarm stop-arm coacting with the said hammer-wire, and a safety stop which extends downward into the said clearance-opening and engages with opposite points on the wall thereof to limit the swinging movement of the switch and thus prevent the bending of the hammer-wire by the alarm stop-arm of the switch.

2. In an alarm clock, the combination with a cylindrical sheet-metal case formed in its upper portion with a clearance-opening, of a hammer-wire extending upward through the said opening and carrying a hammer-head, a vertical bell-post fastened at its lower end in the top of the said case, a bell mounted upon the upper end of the said bell-post, and a sheet-metal alarm-switch formed with a struck-up washer-like hub having a central opening receiving the lower end of the said post which passes downward through the said struck up hub and through the top of the said case to which it is secured, and the said switch being also formed with an operating-arm whereby it is swung upon the said post, with an alarm-stop arm co-acting with the said hammer-wire and with a safety-stop co-acting with opposite points on the wall of the said opening to prevent the said alarm stop-arm from bending the hammer-wire.

977,200. MASHING PROCESS. ALFRED J. M. LASCHÉ, Milwaukee, Wis. Filed Mar. 9, 1908. Serial No. 420,081.

1. The herein described method, consisting in taking liquid distillery slop, and infecting the same with a micro organism possessing the property of secreting liquefying and saccharifying enzyms, permitting the organism to propagate in the slop, for a desired length of time, and finally separating the substance so treated from the organism.

2. The herein described method, consisting in taking liquid distillery slop, and infecting the same with a micro organism possessing the property of secreting liquefying and saccharifying enzyms, permitting the organism to propagate in the slop, for a desired length of time, separating the substance so treated from the organism, and finally applying the substance so separated to the grain mash.

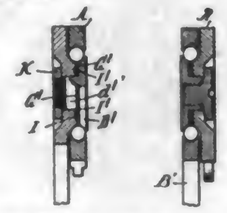
3. The herein described method, consisting in permitting the suspended particles of distillery slop to settle, draining the clear liquid from the sediment, infecting the drained liquid with a micro organism possessing the property of secreting liquefying and saccharifying enzyms, permitting the organism to propagate in the liquid for a desired length of time, and finally draining the liquid clear or free from the organism.

4. The herein described method, consisting in sterilizing and neutralizing distillery slop, infecting the same with a micro organism possessing the property of secreting liquefying and saccharifying enzyms, permitting the organism to propagate therein for a desired length of time, and finally separating the substance so treated from the organism.

5. The herein described method, consisting in taking liquid distillery slop, and infecting the same with an organism known as mold in the form of pure culture, permitting the organism to propagate in the slop, for a desired length of time, and finally separating the substance so treated from the organism.

[Claims 6 and 7 not printed in the Gazette.]

977,201. TYPE-BAR BEARING FOR TYPE-WRITING MACHINES. EMMIT G. LATTA and MAX E. HEAMANN, Syracuse, N. Y., assignors to said Latta and Harvey A. Moyer, Syracuse, N. Y. Filed Mar. 18, 1908. Serial No. 421,873.



1. The combination of a type-bar and a hanger, one of which parts has an internal ball groove, a fixed cone and an adjustable cone supported by said other part, bearing balls, said adjustable cone having a concentric shank slidably fitting in a hole in the part supporting said cones, an annular yielding locking device between opposing annular portions of said cones, and a screw device for forcing said adjustable cone toward the fixed cone against said locking device, substantially as set forth.

2. The combination of a type-bar and a hanger, one of which parts has an internal ball groove, a fixed cone and an adjustable cone supported by said other part, bearing balls, said adjustable cone having a smooth concentric cylindrical shank slidably fitting in a cylindrical hole in said part supporting said cones concentric with the fixed cone, an annular yielding locking device surrounding said shank between opposing annular portions of said cones, and a screw device for forcing said adjustable cone toward the fixed cone against said locking device, substantially as set forth.

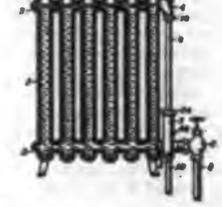
3. The combination of a type-bar and a hanger, one of which parts has an internal ball groove, said other part having an integral cone on one side and a smooth cylindrical hole concentric with said cone, an adjustable cone having a smooth concentric cylindrical shank fitting in said cylindrical hole, bearing balls, an annular locking device surrounding said shank between opposing annular portions of said cones, and a screw for forcing said adjustable cone toward said fixed cone against said locking device, substantially as set forth.

4. The combination of a type-bar and a hanger, one of which parts has an internal ball groove, said other part having an integral cone on one side, a depression on the opposite side and a smooth cylindrical hole concentric with said cone, an adjustable cone having a smooth concentric cylindrical shank fitting in said cylindrical hole, bearing balls, an annular locking device between opposing annular portions of said cones, and a device seated in said depression and having a screw-threaded engagement with said adjustable cone, substantially as set forth.

5. The combination of a type-bar and a hanger, one of which parts has an internal ball groove, said other part having an integral cone on one side and a smooth surfaced hole concentric with said cone, an adjustable cone having a smooth surfaced shank slidably fitting in said hole, bearing balls, an annular device arranged between opposite annular portions of said cones for holding said adjustable cone from turning, and means located inside of the circle of said holding device for drawing said cones together against opposite sides of said holding device, substantially as set forth.

[Claims 6 to 9 not printed in the Gazette.]

977,202. RADIATOR. JAMES J. LAWLER, Pelham Heights, N. Y. Filed Jan. 8, 1910. Serial No. 536,964.



1. In combination a radiator having an upper and a lower opening, an upper member having a partition whereby two chambers are formed therein, said member being adapted for connection with the upper opening of the radiator, a lower member provided with two chambers—one chamber being adapted for connection with the lower opening of said radiator and the other chamber being adapted for steam connection, and of two pipes connecting the respective chambers of one member with the respective chambers of the other member.

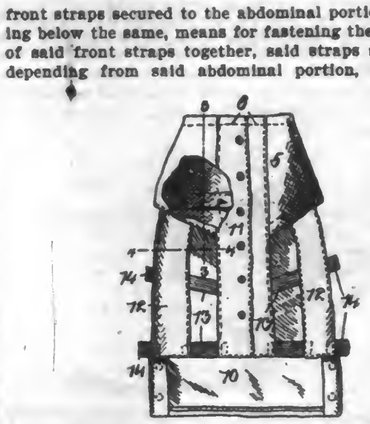
2. The combination with a radiator, of a fitting communicating therewith for changing from a hot water to a steam radiator comprising an upper and a lower member each provided with an inner and an outer chamber, means whereby communication is permanently established between the chambers of the upper member and the upper portion of a radiator, means whereby communication is permanently established between the inner chamber of the lower member and the lower portion of the radiator, a pipe for connecting the inner chamber of one member to the inner chamber of the other member, a pipe for connecting the outer chamber of the upper member to the outer chamber of the lower member, said outer chamber of said upper member having a water inlet, and said outer chamber of said lower member having a steam inlet, and said lower member further provided with a by-pass whereby water can be drained from the radiator, and a valvular means carried by the lower member for closing said by-pass.

3. The combination with a radiator, of a fitting communicating therewith for changing from a hot water to a steam radiator comprising an upper and a lower member each provided with an inner and an outer chamber, means whereby communication is permanently established between the chambers of the upper member and the upper portion of a radiator, means whereby communication is permanently established between the inner chamber of the lower member and the lower portion of the radiator, a pipe for connecting the inner chamber of one member to the inner chamber of the other member, a pipe for connecting the outer chamber of the upper member to the outer chamber of the lower member, said outer chamber of said upper member having a water inlet, said outer chamber of said lower member having a steam inlet, and said outer chamber of said lower member provided with an outlet, and said lower member provided with a by-pass whereby water can be drained from the radiator and a valvular means carried by said lower member for closing the by-pass.

977,203. SANITARY SKIRT-SHIELD. SARA WILLA LITTLE, St. Louis, Mo. Filed May 28, 1910. Serial No. 563,914.

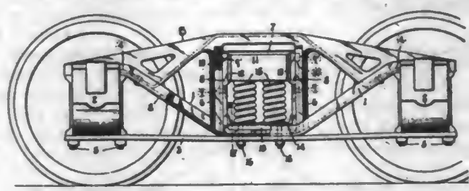
1. A shield for the purpose specified comprising an underskirt consisting of an abdominal portion and a skirt portion secured together, front straps secured to said abdominal portion adapted to overlap and be secured together, elastic connections between said front straps and the skirt to yieldingly hold said skirt closely upon the rear of the wearer's thighs, and a sheet of waterproof material detachably secured to said skirt.

2. A shield for the purpose specified comprising an underskirt consisting of an abdominal portion, a yoke and a skirt portion sewed together in the manner set forth, front straps secured to the abdominal portion and depending below the same, means for fastening the meeting edges of said front straps together, said straps secured to an depending from said abdominal portion, a plurality



elastic bands connecting the side and front straps, a plurality of elastic bands connecting the side straps and the skirt portion, and a sheet of waterproof material detachably secured to said skirt portion.

977,204. TRUCK-FRAME. WILLIAM D. LOWRY, St. Louis, Mo. Filed Aug. 29, 1910. Serial No. 579,428.



1. A truck frame, having a bolster receiving opening, a spring seat in the lower portions of said opening, and bolster guides mounted on the side walls of said opening the lower portion of said bolster guides being arranged under the spring seat.

2. A truck frame having a bolster receiving opening, spring seat in the lower portion of said opening, and bolster guide mounted in said opening, the lower portion of said bolster guide being arranged under the spring seat.

3. A truck frame, having a bolster receiving opening, spring seat in the lower portion of said opening, and rigid bolster guides forming a support for said spring seat.

4. A truck frame, having a compression member provided with a bolster receiving opening, a tension member below said compression member, means for connecting the compression member to the tension member, and bolster guides arranged in said opening and secured to the compression member, the lower portion of the bolster guide being interposed between the spring seat and tension member.

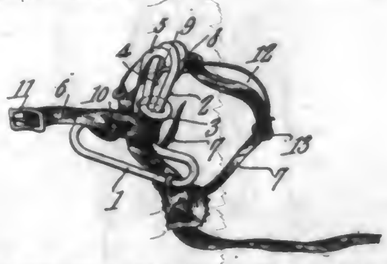
5. A truck frame having a compression member provided with a bolster receiving opening, a tension member below said compression member, means for connecting the compression member to the tension member, and bolster guides arranged in said opening and secured to the compression member, the lower portion of the bolster guide being interlocked with the tension member.

[Claims 6 to 10 not printed in the Gazette.]

977,205. CORN-HUSKER. THOMAS I. LUDWIG, Jackson, Mich. Filed Nov. 8, 1909. Serial No. 526,835.

1. A corn husker including a wire bent to form an eye and an outstanding portion, said outstanding portion having its terminal wrapped in engagement with an intermediate portion of the wire, and a stem integral with the eye and extending within and bearing upon the outstanding portion, said stem having a hook at the free end thereof, and the point of which is directed toward the eye.

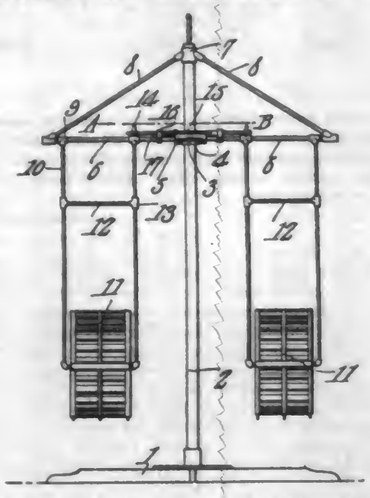
2. A corn husker formed of a single length of wire bent into an eye and an outstanding loop, one end of said wire being attached to an intermediate portion thereof and the other end of the wire being extended outwardly to constitute a hook the point of which is directed toward the eye, said hook being disposed in a plane perpendicular to the plane occupied by the loop.



3. A corn husker including a wire eye having an integral outstanding portion having opposite sides thereof fixed relatively to the eye, a stem within and fixed relatively to said outstanding portion, and a husking hook formed by one end of the stem.

4. A corn husker including an eye having an integral outstanding portion, opposite sides of said portion being fixed relatively to the eye, a stem within and fixed relatively to said portion, and an outstanding husking hook formed by one end of the stem.

977,206. SWING. ARTHUR WARREN LYDA, Canton, Ohio. Filed Mar. 21, 1910. Serial No. 550,620.



1. A swing including a supporting structure mounted for rotation, a seat suspended therefrom and adapted to oscillate, an oscillatory power transmitting element upon the supporting structure and adapted to be actuated by the seat when oscillated in one direction, and a fixed device, said element being movable against the fixed device to move the supporting structure in one direction.

2. A swing including a fixed ratchet, a supporting structure movable relative thereto, a seat supporting hanger mounted to oscillate upon said structure, and means operated by the hanger and cooperating with the ratchet for shifting the supporting structure relative to the ratchet.

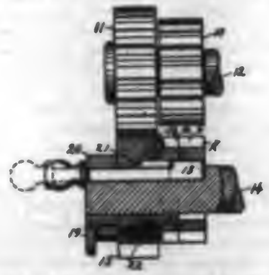
3. A swing including a ratchet, a supporting structure mounted to move relative thereto, a seat supporting hanger mounted to oscillate upon said structure, a ratchet engaging dog movably mounted upon the supporting structure, and means operated by the hanger during the oscillation thereof, for actuating the dog to shift the supporting structure relative to the ratchet.

4. A swing including a standard, a ratchet fixed relative thereto, an arm mounted to rotate upon the standard and adjacent the ratchet, means carried by the arm and cooperating with the ratchet for shifting said arm upon the standard, and a seat carrying hanger mounted to oscillate upon the arm and to actuate said means.

5. A swing including a standard, a cap mounted to rotate thereon and supported thereby, an arm extending from the cap, a ratchet fixed relative to the standard, a dog carried by the arm and normally engaging the ratchet, a seat carrying hanger mounted to oscillate upon the arm, and means movable with said hanger for actuating the dog to shift the arm about the standard.

[Claim 6 not printed in the Gazette.]

977,207. GEARING. JOHN H. MALLEY, Harrisville, R. I. Filed Apr. 29, 1909. Serial No. 492,814.



1. In a device of the nature described, the combination with a driven shaft, a gear rotatably supported on the shaft, a flanged collar surrounding the shaft, a compound gear surrounding the shaft, means for locking the compound gear to the shaft and operable also to disengage the compound gear and to lock the collar to the shaft, and means for locking the collar to the first named gear.

2. In a change gear mechanism for looms, the combination with a driven shaft, of a gear rotatably supported on the shaft, a collar surrounding the shaft, means for locking the collar to the gear, means for locking the collar to the shaft, and a compound gear surrounding the shaft, the last named means being operable to disengage the collar and to lock the compound gear to the shaft.

3. In a device of the nature described, the combination with a driven shaft, a gear rotatably supported on the shaft, a flanged collar surrounding the driven shaft, a compound gear surrounding the driven shaft, and a stepped gear connecting the gear with the compound gear, of means for connecting or disconnecting the first named gear to the flange of the collar, and means for connecting or disconnecting the collar and the compound gear to the shaft.

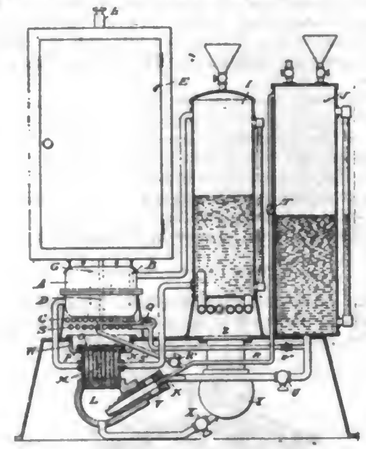
4. In a device of the nature described, the combination with a driven shaft, a gear assembled thereon, a flanged collar assembled thereon, a compound gear assembled thereon, and a stepped gear connecting the first named gear with the compound gear, of a latch to connect the collar and the first named gear, and means for connecting or disconnecting the compound gear and the collar to the driven shaft.

5. In a device of the nature described, a driven shaft, a pair of gears, and an intermediate element, means for coupling the intermediate element and one of the gears and means for putting the intermediate element into driven relation with the shaft when said element is coupled to said gear and for putting the other gear in driven relation with the shaft when said element is uncoupled from said gear.

[Claim 6 not printed in the Gazette.]

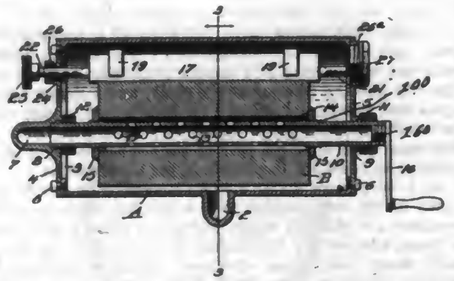
977,208. METHOD OF COMBUSTION OF OIL AND GAS MIXTURES. HUDSON MAXIM, New York, N. Y. Filed Apr. 19, 1902. Serial No. 103,726.

1. A process of the character described, consisting in superheating a moving body of commingled steam and oil, introducing air into said moving body, subdividing the fluid mixture into a plurality of streams and cooling the latter in proximity to the zone of combustion.



2. A process of the character described, the steps consisting in superheating a rapidly moving body of commingled oil and steam, mixing air with the resulting product on its way to the zone of combustion, subdividing the last-named mixture into a plurality of streams, cooling the same, and maintaining said streams lighted in the zone of combustion by means of refractory fibrous material.

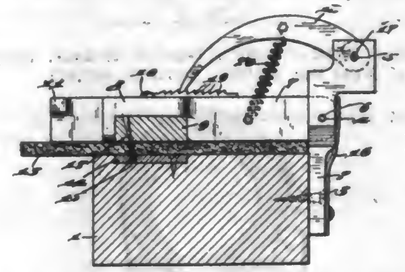
977,209. WATER-FILTER. MARK G. MELVIN, Scranton, Pa., assignor, by direct and mesne assignments, of three-eighths to Julius D. Stevens, Scranton, Pa., and three-eighths to Sterling Sales Company, Scranton, Pa., a Corporation of Delaware. Filed Feb. 25, 1909. Serial No. 479,896.



In a filter, the combination with a cylindrical casing having bearings in its heads beneath its axis and an opening in one head above such axis, a cylindrical filtering element mounted on a shaft journaled in said bearings and having an exterior crank, inlet and outlet pipes, and means for closing said opening; of a scraper support comprising a rock shaft journaled in said heads and having a hand wheel on one of its extremities, arms projecting from said shaft and U-shaped forks on said arms opening downward, and a scraper loosely mounted in said forks opposite said opening in the head of the casing and with its cutting edge resting by gravity on the filter element.

977,210. CARPET-STRETCHER. WILLIAM HENRY METCALFE, Philadelphia, Pa. Filed May 26, 1910. Serial No. 563,494.

1. In an apparatus of the character described, the combination with a frame adapted to receive a carpet thereon, of a plurality of arms pivoted to the frame, bars secured to said arms and extending parallel with the frame, and downwardly projecting teeth on said bars constructed to engage a carpet and said bars clamp the carpet against the frame, substantially as described.



2. In an apparatus of the character described, the combination with a frame adapted to receive a carpet thereon, a bracket secured to the rear face of the frame, an arm pivoted to the bracket, and a toothed bar secured to the lower face of said arm and constructed to engage a carpet and clamp it between the bar and the frame, substantially as described.

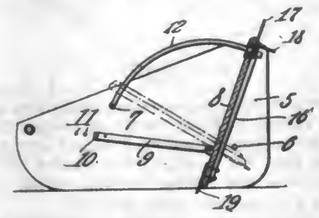
3. In an apparatus of the character described, the combination with a frame, a bracket secured to the frame, an arm pivoted to the bracket, a toothed bar secured to the lower face of the arm and extending at right angles thereto, and a plate countersunk in the frame and having openings to receive the teeth of said bar, substantially as described.

4. In an apparatus of the character described, the combination with a frame, of a bracket secured to the rear face of the frame, an arm pivoted to the bracket, a toothed bar secured to the lower face of the arm and extending at right angles thereto, and means for locking the arm in its horizontal position, substantially as described.

5. In an apparatus of the character described, the combination with a frame, a bifurcated bracket secured to the rear face of the frame, an arm pivoted in said bracket, a toothed bar secured to the lower face of said arm and projecting at right angles thereto, a finger hold on the free end of said arm, and a spring secured to said bracket engaging said arm at its pivoted end and constructed to hold said arm in operative position.

[Claims 6 and 7 not printed in the Gazette.]

977,211. ICE-SCRAPER. GEORGE B. MILLER, Eau Claire, Wis., assignor of one-half to George Laut, Eau Claire, Wis. Filed May 16, 1910. Serial No. 561,624.



1. In a machine of the class described, sides, bars pivoted at their forward ends to the sides, a blade carrying board to which the rear ends of the bars are pivoted, arcuate bars carried by the said sides and formed each with a notch, and means carried by the blade board and engaging the said notches for holding the board in upright position.

2. In a machine of the class described, sides, bars pivoted at their forward ends to the sides, the points of pivotal connection of the bars with the sides at their said ends being variable, a blade carrying board to which the rear ends of the bars are pivoted, arcuate bars carried by the said sides and formed each with a notch, rollers carried

by the boards at the upper corners thereof and receiving between them the said arcuate bars, and means carried by the blade board and engaging the said notches for holding the board in upright position.

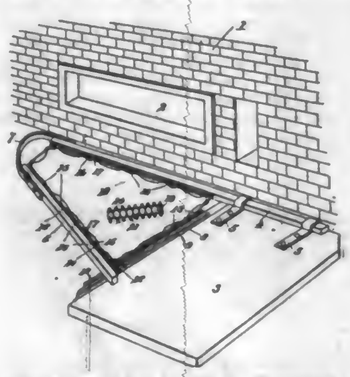
977,212. TIRE-CLAMP. BERNARD MORGAN, Newport, R. I. Filed Dec. 4, 1909. Serial No. 531,317.



1. A device of the class described, comprising a bar having one end adapted to engage with the flange of the clencher rim, a strap secured to the opposite end of said bar, and means for attaching the opposite end of the strap to said bar.

2. A device of the class described, comprising a curved bar having one end thereof bent outwardly to form a hook, and having a stud or button upon the outer surface intermediate the ends of the bar, and a flexible strap having one end thereof secured to said bar at the end opposite to said hook and the free end of said strap having a series of apertures or recesses adapted to engage with said stud.

977,213. BREAD OR OTHER COMMODITY CATCHING DEVICE. GEORGE MUELLER, Salt Lake City, Utah. Filed May 28, 1910. Serial No. 563,982.



1. A device of the class described, comprising a supporting means, an arm fixedly secured to the supporting means, a rod on the supporting means, a second arm slidable at one end on said rod, a connection between the arms at their outer ends, and flexible material having connection at its edges with said arms and said rod.

2. A device of the class described, comprising a supporting means, an arm fixedly secured to the supporting means, a rod on the supporting means, a second arm slidable at one end on said rod, a yieldable connection between the arms at their outer ends, and flexible material having connection at its edges with said arms and said rod.

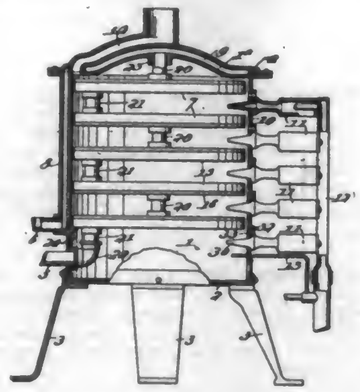
3 A device of the class described, comprising a supporting means, an arm fixedly secured to the supporting means, a rod on the supporting means, a second arm slidable at one end on said rod, a connection between the arms at their outer ends, and flexible material having connection at its edges with said arms and said rod, the flexible material having an opening.

4. A device of the class described, comprising a supporting means, an arm fixedly secured to the supporting means, a rod on the supporting means, a second arm slidable at one end on said rod, a connection between the arms at their outer ends, and flexible material having connection at its edges with said arms and said rod, the flexible material having an opening and lacing extending over said opening.

5. A device of the class described, comprising a supporting means, an arm fixedly secured to the supporting means, a rod on the supporting means, a second arm slidable at one end on said rod, a yieldable connection between the arms at their outer ends, and flexible material having connection at its edges with said arms and said rod, the flexible material having an opening.

[Claims 6 to 10 not printed in the Gazette.]

977,214. BURNER FOR WATER-HEATERS. JAMES MUIRHEAD, Pawtucket, R. I. Filed July 15, 1909. Serial No. 507,679.



1. The combination, with the shell of a water heater, said shell having an opening and a slot formed therein adjacent each other; of a burner projecting through said opening into the interior of the shell; and a flange formed upon said burner and adapted for attachment to said shell, said flange being formed with a slot registering with the first-mentioned slot, the pair of slots constituting a sight-opening to allow for inspection of the burner flame.

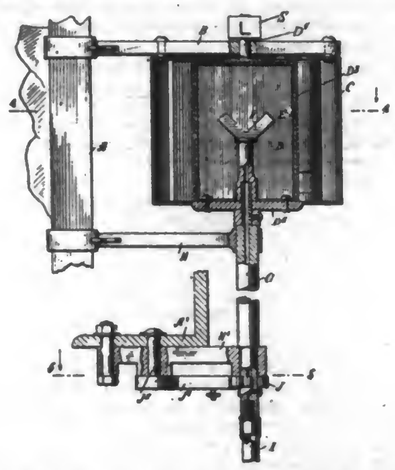
2. A burner for water heaters composed of a body provided at its rear portion with a mixing chamber having separate air and fuel inlets, and at its front portion with a flange adapted for attachment to the shell of the heater, said flange having an elongated nozzle projecting forwardly therefrom, the sides of the nozzle being spaced from the longitudinal edges of the flange.

3. A burner composed of a body provided at its rear portion with a mixing chamber, and at its forward portion with an elongated attaching flange, said flange having a flat longitudinally arranged nozzle projecting forwardly therefrom, the sides of said nozzle being spaced from the longitudinal edges of the flange.

4. A burner for water heaters composed of a hollow body having a gas opening in its rear end, and an air opening in its bottom adjacent the rear end of the body, an attaching flange secured to the body, and a nozzle connected to the body and extending on the front side of said flange.

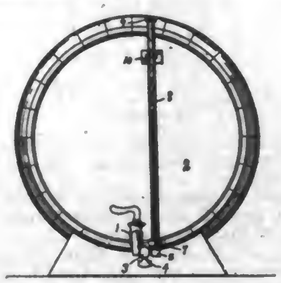
5. In combination with a water heater having a series of openings, a series of burners, each burner consisting of a nozzle projecting through one of said openings and a hollow body portion connected to the nozzle, the hollow body portion of each burner having an opening for the ingress of air in its bottom side and having an opening in its rear end, and a gas supply pipe arranged at the rear ends of the burners and having connection with said rear ends of the burners through said openings thereat.

977,215. SIGNALING DEVICE FOR AUTOMOBILES. WILLIAM GARDINER NASH, Daytona, Fla. Filed Sept. 18, 1909. Serial No. 518,388.



A device of the character specified, comprising an outer casing having a display opening, a shaft journaled vertically in the casing, an inner casing secured to the shaft, said casing being polygonal in cross section and having cut out portions in its faces forming symbols, a burner within the casing for illuminating the same, said shaft being hollow and the burner being connected with the shaft, a fuel supply pipe for the burner connected with the shaft outside of the casing, a hand lever, a connection between the said lever and the shaft for rotating the shaft in one direction, and a spring for returning the shaft.

977,216. CASK-FAUCET GAGE. JULIUS C. NEWMAN, Detroit, Mich., assignor to National Liquid Register Company, a Corporation of Arizona. Filed Nov. 23, 1908. Serial No. 464,145.



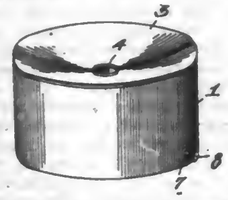
In a container gage, the combination of a faucet, a connection screwing into the body of the faucet, a valve in said connection, an elbow at the free end of the connection, a stuffing box mounted on said elbow, a vertical glass tube resting in the stuffing box, a plate secured between the stuffing box and elbow, a graduated scale mounted on the plate and extending parallel to the tube, and means for bracing the upper end of the tube and scale.

977,217. PRINTER'S RULE IN CORNER, STRAIGHT-STRIP, CURVED, OR TUBULAR FORM. WILLIAM C. F. PAPKE, Cincinnati, Ohio. Filed Sept. 25, 1909. Serial No. 519,645.

Printer's-rule comprising an angulated corner having a plane base or body portion, integral, irregularly curved or angulated printing-wing portions or extensions pressed or struck-up inwardly away from said base to suit the desired design and form slug stops and a perpendicularly unbroken or continuous corner comprehending said base and printing portions of the rule.



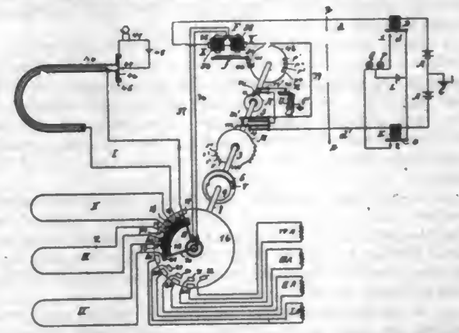
977,218. SPITTOON. JOSEPH B. PATE, Durham, N. C. Filed Apr. 25, 1910. Serial No. 557,482.



1. A device of the character described comprising a body having a top and a bottom of concavo-convex form, the bottom having its convex side uppermost, and the top having its concave side uppermost and formed with a central inlet opening, a surrounding upright wall uniting the top and bottom, a tube depending from the inlet opening in the top and terminating adjacent the center of the body, and means supported within the body in spaced relation from the inner or lower end of said tube for preventing the escape of liquid from the latter when the device is inverted.

2. A device of the character described comprising a body having a top and a bottom of concavo-convex form, the bottom having its convex side uppermost and the top having its concave side uppermost and formed with a central inlet opening, a surrounding upright wall uniting the top and bottom, a tube depending from the inlet opening in the top and terminating adjacent the center of the body, a concavo-convex plate supported within the body in spaced relation from the inner or lower end of said tube, and a flat plate supported between the last mentioned plate and said tube and in spaced relation from the inner or lower end of said tube, for the purpose specified.

977,219. ELECTRICAL SIGNALING SYSTEM. CLARK H. POOL, New York, N. Y., assignor to International Electric Protection Company, a Corporation of New York. Filed May 2, 1910. Serial No. 558,828.



1. In combination with a line circuit, a signal translating device, a transmitter constructed to send a succession of current impulses to line, a plurality of loops in circuit, and means automatically operating on a break or ground in any one of said loops for controlling said trans

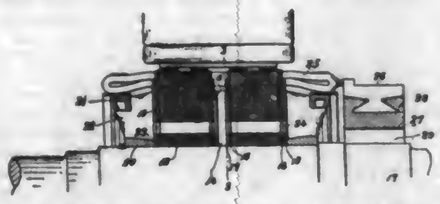
mitter to send a predetermined number of impulses, the said number of impulses being different for each of said loops.

2. In combination with a line circuit, a signal translating device, a transmitter constructed to send a succession of current impulses to line, a plurality of loops in circuit, means automatically operating on a break or ground in any one of said loops for cutting said loop out of circuit and substituting therein a resistance equal to that of said loop, and means also automatically operating on said break or ground for controlling said transmitter to send a predetermined number of impulses.

3. In combination with a line circuit, a signal translating device, a transmitter constructed to send a succession of current impulses to line, a plurality of loops in circuit, means automatically operating on a break or ground in any one of said loops for cutting a certain number of said loops out of circuit, and means also automatically operating on said break or ground for controlling said transmitter to said impulses corresponding in number to the loops cut out.

4. In combination with a line circuit, a signal translating device, a transmitter constructed to send a succession of current impulses to line, a plurality of loops in circuit, means automatically operating on a break or ground in any one of said loops for cutting a certain number of said loops out of circuit and substituting a compensating resistance, and means also automatically operating on said break or ground for controlling said transmitter to send impulses corresponding in number to the loops cut out.

977,220. DYNAMO-ELECTRIC MACHINE. WILLIAM H. POWELL, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed July 30, 1906. Serial No. 328,325.



1. In a dynamo-electric machine, a laminated toothed core, spacing members between the laminæ, said spacing members not extending substantially beyond the base of the teeth of the core, and a plurality of toothed disks stiffer than the laminæ of the core and located at each side of each of said spacing members for bracing the teeth of the core, the teeth of the disks remote from said spacing members being longer than those of the disks adjacent thereto.

2. In a dynamo-electric machine, a core consisting of laminæ arranged in groups, toothed sheet metal disks at each end of each group, said disks having a greater stiffness than the laminæ and being successively shorter in the teeth, a support separate from the disks, and spacing members mounted on said support and bearing against the disks and extending substantially to the base of the teeth.

3. In a dynamo-electric machine, a core consisting of toothed laminæ, and means for bracing the teeth of the laminæ comprising a plurality of toothed sheet metal disks having greater stiffness than the laminæ, the teeth of one of said disks being shorter than the teeth of the disk adjacent thereto.

4. In a dynamo-electric machine, a rotary core comprising toothed laminæ, toothed sheet metal disks of greater stiffness than the laminæ and located at each end of the core, the teeth of said disks being successively shorter and bracing the teeth of the laminæ, and end-heads having circumferentially spaced ribs bearing against the outer disks.

5. In a dynamo-electric machine, a core comprising a plurality of groups of toothed laminæ, and a plurality of spring metal disks at each end of each group of laminæ and bracing the teeth thereof, said disks being of greater thickness than the laminæ and having successively shorter teeth.

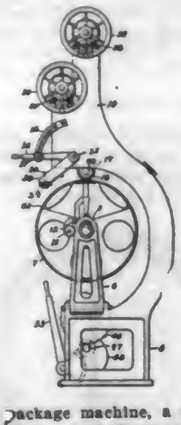
[Claims 6 to 8 not printed in the Gazette.]

977,221. KEY-RING. JOHN ALBERT PRIGGE, Jr., New York, N. Y. Filed Mar. 23, 1910. Serial No. 551,033.



A key ring comprising a single spring metal wire bent to form a cross bar and two loops extended therefrom, said loops being disposed in the same plane and having straight free end sections disposed in parallel contactual relation with the said cross bar, the free ends of said straight sections being out-turned from said cross bar in the same plane with said loops to form lip extensions for threading the said wire through the handles of keys.

977,222. VENEER-PACKAGE MACHINE. HENRY ROBERTS, Pittsburg, Pa. Filed Mar. 23, 1910. Serial No. 551,067.



1. In a veneer package machine, a forming drum having segmental portions pivotally mounted upon substantially peripheral fulcrums and adapted to fold inwardly, the free ends of the segments being adapted to abut when the segments are normally extended, and thereby form a continuous unbroken surface, and a radially movable support engaging the free ends of the segments.

2. In a veneer package machine, a forming drum having segmental portions mounted upon substantially peripheral fulcrums and foldable inwardly with their free ends overlapping, the free ends of the segments being adapted to abut when the segments are normally extended, and thereby form a continuous unbroken surface, and a radially movable support engaging the free end of the inner segment in folded position and the ends of both segments in extended position.

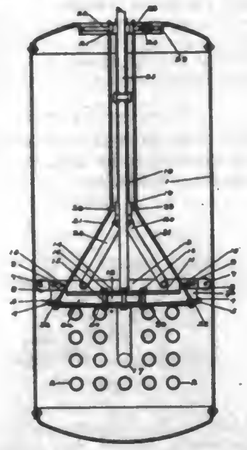
3. In an apparatus of the character described, the combination with a supporting frame, of a forming drum, a shaft journaled in the frame and extending longitudinally of the face of the drum, and a series of rollers loosely rotatively carried by the shaft and arranged in sets of a plurality of rollers each; the rollers of each set being coöperatively recessed for the reception of the stiffening hoops, and means for relatively adjusting the sets and the individual rollers of each set along the shaft.

4. In an apparatus of the character described, the combination with a supporting frame, of a forming drum, sliding blocks carried by the frame, a shaft journaled in the blocks and extending across the face of the drum, a series of rollers loosely rotatively carried by the shaft and arranged to coöperatively guide the stiffening hoops in their passage to the body of the package, means for shifting the rollers into and out of operative association with the drum and means for relatively adjusting the sets and the individual rollers of each set along the shaft.

5. In an apparatus of the character described, the combination with a supporting frame, a forming drum, a shaft journaled in the frame and extending longitudinally of the face of the drum, a series of rollers loosely rotatively carried by the shaft and arranged to coöperatively guide the stiffening hoops in their passage to the body of the package; the rollers being in sets of a plurality each, and means for relatively adjusting the sets and the individual rollers of each set along the shaft.

[Claims 6 and 7 not printed in the Gazette.]

977,223. TUBE-CLEANING APPARATUS. CLINTON ROBINETT and JOHN PATRICK REID, Dayton, Ohio, assignors to The Lagonda Manufacturing Company, Springfield, Ohio, a Corporation of Ohio. Filed Sept. 21, 1908. Serial No. 454,094.



1. The combination of a feed hose having a rotary tube cleaner on one end thereof, two supporting carriages therefor located in the steam drum of a water tube boiler, means within said drum on which said carriages are adapted to move longitudinally at an angle to each other, and separate means, each extending outside of said drum and manipulated from a position outside thereof to cause said movement of the respective carriages, substantially as described.

2. The combination of a flexible member having a tube cleaner thereon, two supporting carriages therefor located in the steam drum of a water tube boiler, means on one of said carriages on which the other is adapted to move longitudinally at an angle to the movement of both on the inner walls of said drum and separate means each extending outside said drum and manipulated from a position outside thereof to cause the respective movements of the carriages, substantially as described.

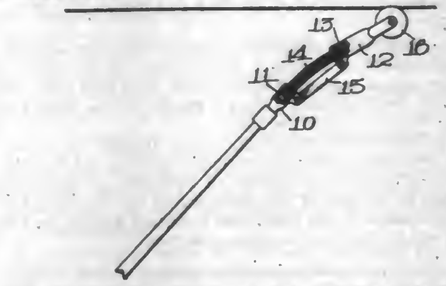
3. The combination of a feed hose having a rotary tube cleaner on one end thereof, a support therefor extending longitudinally in the drum of a boiler and having a transversely extending track or railway in said drum, a carriage movable on said track having a guide to direct said feed hose and cleaner into a tube and means manipulated from a position outside said drum to impart movement to said carriage and position said guide to direct said hose and cleaner into any one of a row of tubes, substantially as described.

4. The combination of a member having a tube cleaner thereon, a support therefor movable longitudinally in the drum of a boiler with means manipulated from a position outside the drum to impart said movement, said support having a track or railway thereon disposed at an angle to its line of advancement in the drum, a carrriage movable on said track or railway having a guide to direct said member and cleaner into a tube, means to fix said support in an adjusted position and means manipulated from a position outside the drum to impart movement to said carriage and position said guide to direct said member and cleaner into any one of a row of tubes, substantially as described.

5. The combination of a member having a tube cleaner thereon, a support therefor extending into the drum of a boiler with means on which it is adapted to move on the inner walls of said drum, said support having a track or railway thereon disposed at an angle to its line of advancement in the drum, a carriage movable on said track or railway adapted to guide and direct said member and cleaner into a tube, means to fix said support in an adjusted position and means manipulated from a position outside said drum to impart movement to said carriage, substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

977,224. TROLLEY-POLE. ROBERT F. ROBINSON and HENRY A. OWEN, Whitinsville, Mass. Filed Nov. 30, 1909. Serial No. 530,572.



1. As an article of manufacture, a trolley pole having located in the length thereof a plurality of parallel springs, a trolley head connected with the upper ends of said springs, said springs being parallel with the pole and free to move individually on the pole, and a link connecting the upper part of the pole with said head.

2. In a trolley pole, the combination with a supporting pole having a socket at the end thereof, a plurality of parallel springs inserted in and filling said socket and projecting therefrom, a trolley head having a socket for receiving the ends of said springs, a link connecting said sockets and a trolley wheel on the head, each of said springs being free to move longitudinally with respect to the others.

3. In a trolley pole, the combination with a supporting pole having a socket at the end thereof, a plurality of parallel springs inserted in and filling said socket and projecting therefrom, a trolley head having a socket for receiving the ends of said springs, a link connecting said sockets and a trolley wheel on the head, each of said springs being free to move in the socket into which its end projects.

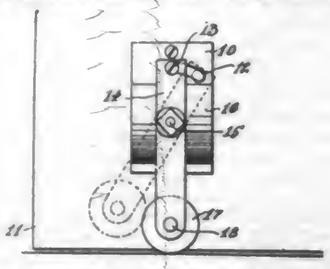
4. In a trolley pole, the combination with a supporting pole having a socket at the end thereof, a plurality of parallel springs inserted in and filling said socket and projecting therefrom, a trolley head having a socket for receiving the ends of said springs, a trolley wheel on the head, each of said springs being free to move in the socket into which its end projects, and a link connecting the supporting pole with said head and located parallel with said springs and on the lower side thereof.

5. In a device of the character described, the combination of a trolley pole, a head thereon having an open-

ended socket at the end thereof, a link pivotally connected with said head near the upper end and on the lower side thereof, a trolley head pivotally connected with the upper end of said link and having an open-ended socket in the bottom parallel with the first named socket, and a series of springs each having its ends in said socket for separating the head from the pole.

[Claims 6 and 7 not printed in the Gazette.]

977,225. DOOR-HOLDER. CLARENCE T. ROGERS, New York, N. Y. Filed Feb. 26, 1910. Serial No. 546,263.

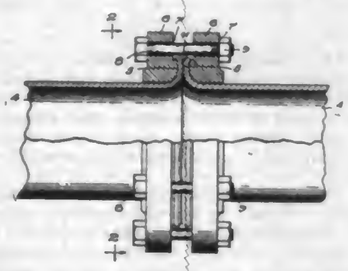


1. A door holder comprising a plate adapted for attachment to a door, a lever pivoted on the plate, and means for limiting the movement of the lever, a friction spring supported on the plate between the plate and the lever to retard the free swinging of the lever, a contacting surface on the lower end of the lever, and a striking piece on the lever.

2. A door holder comprising a supporting plate adapted for attachment to a door, a lever pivoted on the plate, a friction spring supported between the plate and the lever to retard the lever, and a contact surface on the lower end of the lever to engage the floor.

3. A door holder comprising a plate adapted for attachment to a door, said plate having a limiting slot therein, a lever pivoted on the plate, an abutment on the lever working in the slot of the plate, means for retarding the free movement of the lever, and a contact surface on the lower end of the lever to engage the floor.

977,226. PIPE-COUPLING. FREDERICK SARGENT, Glencoe, Ill., assignor of one-half to Olaf E. Oleson, Chicago, Ill. Filed Dec. 18, 1909. Serial No. 533,933.



1. A pipe coupling comprising the abutting ends of pipes, said ends being welded to form a sealed joint, and means for mechanically clamping said ends together.

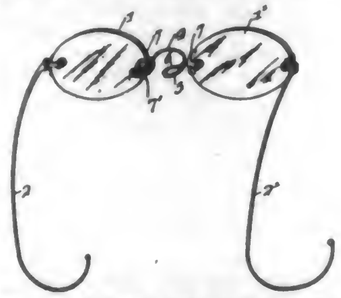
2. A pipe coupling comprising the integral flanged ends of abutting pipes, said ends being welded together, and means for mechanically clamping said ends together.

3. A pipe coupling comprising the integral flanged ends of abutting pipes, said ends being welded together, a clamping ring engaging each of said flanged ends, and bolts for securing said flanged ends together.

4. A pipe coupling comprising the abutting ends of pipes, said ends being welded to form a sealed joint, and means for permanently mechanically clamping said ends together.

5. A pipe coupling comprising the flanged ends of abutting pipes, the edges of said flanges being turned back to leave an annular groove, and said ends being welded together, and means for mechanically clamping said ends together.

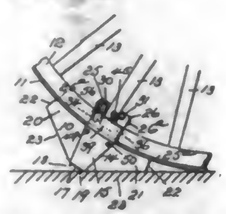
977,227. BRIDGE CONNECTION FOR LENSES FOR SPECTACLES. JOSEPH SAVOIE, Central Falls, R. I. Filed July 7, 1910. Serial No. 570,775.



1. In spectacles, a lens connection including a bridge, having a pair of wings, each wing being formed of two spaced members, the wings being curved outwardly with respect to each other and extending upwardly to about a line with the top of the bridge.

2. In a guard for spectacles, a pair of members arranged in spaced relation, thread wound about said members, so that the strands of the thread are in spaced relation, and a cement applied on the outer face of the thread.

977,228. LOCK FOR BICYCLE OR OTHER WHEELS. BENJAMIN SCHESTOPOL, New York, N. Y. Filed Aug. 1, 1910. Serial No. 574,949.



1. A wheel lock of the character described, comprising a body; a tapered arm formed upon said body, said arm having a curved top surface and a flat face upon the underside thereof; a locking element hinged upon one part of the body and adapted to straddle a spoke and overlap the rim of a wheel; and means formed upon an opposite part of the body and adapted to lock the locking element and said body together.

2. A wheel lock of the character described, comprising a body; two tapered substantially rectangular arms provided upon said body and disposed in opposite directions, each of said arms having a curved top face and a flat face upon the underside thereof; a substantially U-shaped locking element having a lug hinged upon one part of the body; a recess formed in an opposite part of the body; a casing held in the recess; a lock fastened interiorly of the casing; and means formed upon the U-shaped locking element and adapted to engage the lock in locking engagement.

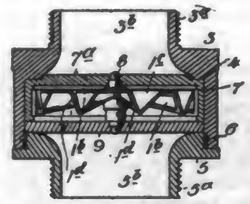
3. A wheel lock of the character described, comprising a substantially V-shaped body; two substantially rectangular tapered arms formed upon the body and disposed in substantially V-shaped arrangement in opposite directions crosswise of said body, each of said arms having a top surface curved in conformity with the curvature of the tire of a wheel; a locking element having a lug pivoted upon one end of the V-shaped body; one long arm and one short arm arranged in U-shaped formation provided upon the lug; a notched-clip formed upon one end of the long arm; a recess provided in the opposite end of the V-shaped body; a casing held within the recess and having a top plate in which is formed an opening and a keyhole; a lock held to the top plate interiorly of the casing and having a tongue adapted to be engaged by the notched clip upon the end of the long arm of said locking element.

4. A wheel lock of the character described, comprising a substantially V-shaped body; two arms formed upon the body and disposed in substantially V-shaped arrangement in opposite directions crosswise of said body, each of said arms having a top face curved to conform with the curvature of the tire of a wheel; two parallel arranged lugs provided upon one end of the body; a lug pivotally held between the two lugs; one long curved arm and one short arm formed in spaced apart arrangement upon the pivoted lug between said two lugs; two parallel arranged lugs provided upon the end of the curved long arm; a catch pivoted between the lugs of the curved arm; a casing held upon the end of the V-shaped body; a lip formed upon one part of the casing and adapted to be engaged by the catch to lock the long curved arm to said casing.

5. In a wheel lock, in combination, a substantially V-shaped body having two opposed side faces and a knee formed at the apex of the side faces; two spurs provided upon the knee; a locking element having a body hinged to one part of the top of the V-shaped body; a curved long arm formed upon the body and adapted to overlap the rim of a wheel; a curved short arm also formed upon said body and spaced apart from the long arm whereby the two arms may straddle the spoke of a wheel; a flange provided upon the free end of the long arm; a notched-clip projecting from the face of the flange opposite to the long arm; a recess formed in the top of the V-shaped body opposite to the part hinged to the locking element; a substantially rectangular casing fastened in the recess and having a top plate in which is formed an opening and a key hole; and means held to the top plate within the casing and adapted to engage the notched-clip of said locking element to connect the wheel lock to a wheel.

[Claims 6 and 7 not printed in the Gazette.]

977,229. FUEL-MIXER. ALFRED SCHMIDT, Lake Hopatcong, N. J. Filed Feb. 18, 1910. Serial No. 544,595.



1. A fan provided with blades and webs extending in the spaces between the blades, said webs connecting the edges of adjacent blades, said webs having openings.

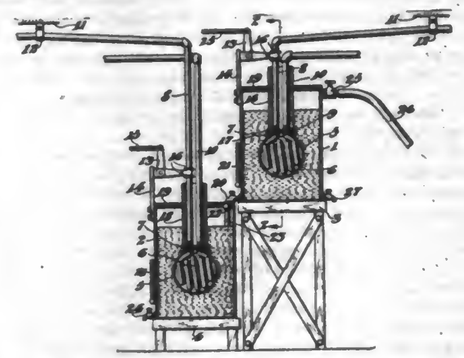
2. A fan provided with blades, and having laterally disposed webs between the blades provided with openings, said webs connecting the adjacent edges of adjacent blades.

3. A fan provided with blades, webs extending from the edges of the blades, said webs being provided with openings, and webs connecting said first named webs with the adjacent blades, the second named webs being provided with openings.

4. A fan made from a single sheet of metal having integral blades and webs between the blades, said webs connecting the edges of adjacent blades, said webs extending at an angle to said blades and being provided with openings.

977,230. COMBINED PASTEURIZING AND REFRIGERATING APPARATUS. SAMUEL SHAPIRO, Philadelphia, Pa. Filed June 22, 1910. Serial No. 568,293.

1. In an apparatus of the character described, the combination with a tank, of a ball or sphere mounted to move in the tank, and a pipe constituting a fluid passage to regulate the temperature of the ball, located within the ball and in contact with the inner face thereof, substantially as described.



2. In an apparatus of the character described, the combination with a tank, of a hollow ball or sphere mounted to move in the tank, a pipe coil in the ball or sphere and contacting with the inner face thereof, and pipes connected to the ends of said coils for compelling a passage of fluid through the coil, substantially as described.

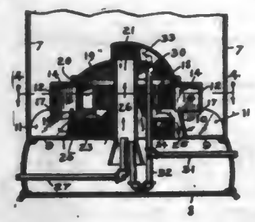
3. In an apparatus of the character described, the combination with a tank, of a hollow ball or sphere mounted to move in the tank, a pipe coil in the ball or sphere and contacting with the inner face thereof, pipes connected to the ends of said coils for compelling a passage of fluid through the coil, and means for reciprocating the ball in the tank, substantially as described.

4. In an apparatus of the character described, the combination with a tank, of a hollow ball or sphere mounted to move in the tank, a pipe coil in the ball or sphere, pipes connected to the ends of said coils for compelling a passage of fluid through the coil, means for reciprocating the ball in the tank, and a tube inclosing that portion of said pipes within the tank and secured to the ball, substantially as described.

5. In an apparatus of the character described, the combination with a tank, a hollow ball or sphere within the tank, an internally screw threaded collar on the ball, a tube screwed into said collar, a coil within the ball, and supply and exhaust pipes in said tube connected to the respective ends of said coil, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

977,231. COMBINATION GAS AND OIL BURNER. GREENE ALLEN SMITH, Indianapolis, Ind. Filed Dec. 11, 1909. Serial No. 532,587.



1. In a hydrocarbon burner, a distributing chamber having walls with a series of gas-exit openings, a plate separated by an air-space from every adjacent wall of said distributing chamber and thereby providing an air supply, said plate having larger openings which register with said exit openings of the distributing chamber, a superheating chamber connected by conduits to said distributing chamber, a mixer pipe supplying mixed air and hydrocarbon vapors to said chamber, and a pipe supplying hydrocarbon vapor to said mixer pipe.

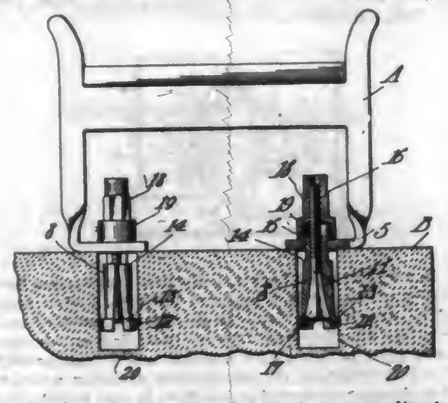
2. In a hydrocarbon burner, a distributing chamber having walls with a series of gas-exit openings, a plate separated by an air-gap from every adjacent wall of said distributing chamber and thereby providing an air supply, said plate having larger openings which register with said exit openings of the distributing chamber, a superheating chamber connected by conduits to said distributing chamber, a mixer-pipe supplying gas to said chamber, an oil chamber wherein oil is volatilized by the heat from the burner, means for supplying oil to said oil chamber, and a pipe discharging the oil vapors from the oil chamber into said mixer pipe.

3. The combination with a stove or furnace, of a distributing chamber located therein having gas exits, a superheating chamber communicating with said distributing chamber, a pipe discharging into said superheating chamber, and a partition dividing the stove into upper and lower compartments, said partition being separated by an air-space from the walls of said distributing chamber and having openings through said partition opposite said gas-exits from said distributing chamber whereby an additional mixture of air will be made with the gas as it passes across the air-space between the partition and distributing chamber.

4. The combination with a stove or furnace of an approximately horizontal partition having a central opening surrounded by an upwardly extending flange, said flange having a series of transverse gas exit holes, a distributing chamber located in the opening of said horizontal partition, said distributing chamber having perforations in its outer wall opposite the gas exit holes in said flange, said flange and distributing chamber being separated by an air-space, a superheating chamber above said distributing chamber communicating with the latter, a mixer-pipe discharging into said superheating chamber, and means for supplying gas or vapors to said mixer-pipe.

5. The combination with a stove or furnace of an approximately horizontal partition having a central opening surrounded by an upwardly extending flange, said flange having a series of transverse gas exit holes, a distributing chamber located in the opening of said horizontal partition, said distributing chamber having perforations in its outer wall opposite the holes in said flange, said flange and distributing chamber beng separated by an air-space, a superheating chamber above said distributing chamber communicating with the latter, a mixer pipe supplying gas to said superheating chamber, an oil chamber wherein oil is volatilized by heat from said gas burner, means for supplying oil to said oil chamber, and a pipe discharging the oil vapors from the oil chamber into said mixer pipe.

977,232. EXPANSION-BOLT. GROVER C. SMITH, La Crosse, Kans. Filed Apr. 11, 1910. Serial No. 554,818.



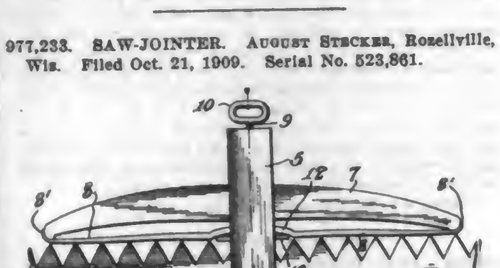
1. In a device of the class described, an expanding bolt, expansive sleeve sections fitted upon the bolt, each section comprising a body, a shank, and a head; and a nut threaded upon the bolt and having a hollow body portion receiving and housing the said heads of the expansive sleeve sections.

2. In a device of the class described, an expanding bolt, expansive sleeve sections fitted upon the bolt, each section comprising a shouldered body, a shank, and a head at the upper end of the shank; and a nut threaded upon the shank of the bolt and housing the upper portion of the said shank, the nut having a hollow cylindrical body portion housing the heads of the expansive sleeve sections.

3. In a device of the class described, an expanding bolt, expansive sleeve sections fitted upon the bolt, each section comprising a body; a shank; and a head, the said shank, being located between the body and head and affording shoulders at the points of its juncture with the body and the head, the distance between hte shoulders being greater than the thickness of element to be secured, and a nut threaded upon the shank of the bolt.

4. In a device of the class described, an expanding bolt, expansive sleeve sections fitted upon the bolt, each section comprising a body, a shank, and a head, the said shank being located between the body and head and affording shoulders at the points of its juncture with the body and the head, the distance between the shoulders being greater than the thickness of an element to be secured, and a nut threaded upon the shank of the bolt, the shoulder at the juncture of the shank and the head being designed to rest upon the edges of the opening in an element to be secured, through which opening the shanks of the sections engage.

977,233. SAW-JOINTER. AUGUST STECKER, Rozellville, Wis. Filed Oct. 21, 1909. Serial No. 523,861.



1. In a device of the character described, a head block having a central opening therethruogh adapted for movable engagement with a saw blade, a bar disposed in said opening and extending laterally from the opposite edges of said block, a spring blade spaced from the lower edge of said bar but having its extremities engaged with the opposite ends thereof, and means for adjusting said bar vertically in the aperture of said block to bow said spring blade, said blade carrying a file adapted to engage with the saw teeth as the block is moved upon the saw blade.

2. In a device of the character described, a head block having a central rectangular aperture therethrough, the lower portion of said block having a kerf therein communicating at its upper end with said aperture and adapted to receive the blade of the saw to position the block thereon, a bowed bar disposed in said aperture and extending laterally from the opposite sides of the block, an adjusting screw having threaded engagement in the block and connected at its lower end to the center of said bar, said screw being adapted to move the bar vertically in said aperture, a spring blade spaced from the lower edge of the bar having its extremities engaged with the ends thereof, said blade extending through the aperture, the vertical adjustment of said bar being adapted to bow the spring longitudinally in substantially the same arc as the saw teeth, and a file secured to the central portion of said spring blade and disposed through said aperture adapted to engage with the saw teeth as the block and blade are moved longitudinally over the same.

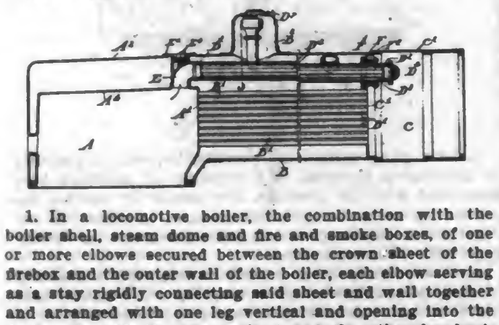
3. In a device of the character described, a head block having a central longitudinal aperture therethrough, a kerf in the lower portion of said block communicating at its upper end with said aperture and adapted to receive a saw blade, the block having longitudinal movement thereon, an arcuate bar vertically movable in said aperture and extending laterally from the opposite sides of the block, an adjusting screw disposed through the block, the lower end of said screw being engaged with the bar and adapted to move the same, a spring blade disposed in spaced relation to the lower edge of the bar and extending through said aperture, the extremities of said blade being engaged with the ends of the bar, the central portion of the blade being raised, a file secured to said raised portion and spaced therefrom, said file being adapted to engage with the saw teeth as the head block is moved upon the blade.

4. In a device of the character described, a head block having a central rectangular aperture therethrough and a saw receiving kerf communicating in its upper end with said aperture, an adjusting rod in the block engaging with the bar and adapted to move the same vertically in the aperture, a spring blade having its extremities engaged with the ends of the bar and formed with a central raised portion disposed through the aperture in spaced relation to the bar, a file carried by the raised portion of said blade and spaced from the under side thereof, the adjustment of said bar being adapted to bow the spring blade into substantially the same arc as the saw teeth, the file being disposed above the plane of the end portions of the spring blade and adapted to engage with the longer teeth of the saw to reduce them to a uniform length as the block is moved longitudinally on the saw blade.

5. In a device of the character described, a head block having a central opening therethrough, a bar movably disposed in said opening and extending laterally from the opposite sides of the block, a spring blade spaced from the lower edge of said bar, the ends of the bar bearing upon the extremities of said blade, said blade gradually increasing in thickness toward its longitudinal center, an adjusting screw disposed through said block and engaged with the bar, and a file carried by said spring and disposed in longitudinal alinement therewith, substantially as and for the purpose set forth.

[Claims 6 to 8 not printed in the Gazette.]

977,234. LOCOMOTIVE-BOILER SUPERHEATER. WILLIAM STEPHAN, Fort Wayne, Ind. Filed Jan. 2, 1908. Serial No. 408,964.



1. In a locomotive boiler, the combination with the boiler shell, steam dome and fire and smoke boxes, of one or more elbows secured between the crown sheet of the firebox and the outer wall of the boiler, each elbow serving as a stay rigidly connecting said sheet and wall together and arranged with one leg vertical and opening into the firebox through the crown sheet and the other leg horizontal and opening toward the smokebox, and a set of tubes leading from said other end of each elbow to the smoke box, a large pipe surrounding each set of tubes, and connections to said pipe whereby it serves as a portion of the steam pipe for conveying steam from the top of the steam dome to the steam outlet of the boiler.

2. In a locomotive boiler, the combination with the boiler shell, steam dome, firebox and smokebox, of one or more elbows secured between the crown sheet of the firebox and the outer wall of the boiler, each elbow serving as a stay rigidly connecting said sheet and wall together and having one branch open to the firebox through the crown sheet and the other pointing toward the smokebox, of a pipe extending from said other branch of each elbow to the smokebox, a pair of diaphragms in said pipe adjacent its ends, a set of relatively small tubes located within the pipe and extending through the diaphragms, and lateral connections to the pipe between its ends whereby said pipe serves as a portion of the steam pipe for conveying steam from the top of the steam dome to the steam outlet of the boiler, and whereby the steam passing through said pipe is dried or superheated by the furnace gases passing through said tubes.

3. In a locomotive boiler, the combination with the boiler shell, steam dome, firebox and smokebox, of one or more elbows secured between the crown sheet of the firebox and the outer wall of the boiler, and having one branch open to the firebox through the crown sheet and the other pointing toward the smokebox, of a pipe extending from said other branch of each elbow to the smoke box, a pair of diaphragms in said pipe adjacent its ends, a set of relatively small tubes located within the pipe and extending through the diaphragms, and lateral connections to each pipe between its ends whereby said pipe serves as a portion of the steam pipe for conveying steam from the top of the steam dome to the steam outlet of the boiler, and the steam passing through said pipe is dried or superheated by the furnace gases passing through said tubes, and a screen across the smokebox end of each pipe to prevent large pieces of fuel from being carried into the smokebox.

4. In a locomotive boiler the combination with the boiler shell, steam dome and fire and smoke boxes of one or more elbows each arranged with one downwardly extending vertical leg secured at its lower end to the crown sheet of the boiler and opening therethrough into the firebox and with the other leg horizontal and opening toward the smokebox, each elbow being formed with a seat at its upper side and parallel to and above the lower end of the vertical leg of the elbow, a cap member engaging the outer wall of the boiler and bolted against said seat whereby said elbow serves as a stay rigidly connecting the crown sheet and the outer wall of the boiler and a set of tubes leading from the end of the horizontal leg of each elbow to the smokebox a large pipe surrounding each set of tubes and connections to said pipe whereby it serves as a portion of the steam pipe for conveying steam from the top of the steam dome to the steam outlet of the boiler.

5. In a locomotive boiler the combination with the boiler shell, steam dome, firebox, smokebox and the main set of tubes connecting adjacent ends of said boxes of three pipes arranged side by side above said set of tubes and connecting each at its opposite ends to the fire and smoke boxes, diaphragms in said pipes adjacent their ends, a set of tubes located in each pipe and open through the end connection thereof to the fire and smoke boxes whereby a superheating space is formed in each pipe between its diaphragms and surrounding the tubes inclosed by it, a steam outlet connection leading from the superheating space of the central pipe at its smoke box end, a connection between the superheating space of the central pipe and one of the other pipes adjacent their firebox ends, a steam supply pipe leading from the upper end of said steam dome to the superheating space of the third pipe and a transverse pipe extending over the central pipe adjacent its smoke box end and connecting the superheating spaces of the other two pipes.

977,235. CRUSHING-MILL. THOMAS JOSEPH STURTEVANT, Wellesley, Mass., assignor to Sturtevant Mill Company, a Corporation of Maine. Filed Feb. 2, 1910. Serial No. 541,657.

1. In a crushing mill, the combination with two rotating crushing disks which are tilted or inclined relative to each other, of two shafts, one inclosed within the other by which said disks are carried, and which shafts have their axes inclined relative to each other, and a rolling contact bearing between portions of said shafts.

2. In a crushing mill, the combination with two vertically disposed rotating crushing disks which are tilted or inclined relative to each other, of two shafts, one i

closed within the other, by which said disks are carried, and which shafts have their axes inclined relative to each other, and a rolling contact bearing between portions of said shafts.



3. In a crushing mill, the combination with two rotating crushing disks which are tilted or inclined relative to each other, of two shafts, one inclosed within the other, by which said disks are carried, and which shafts have their axes inclined relative to each other, and a flanged bearing or wear bushing interposed between parts on said shafts and comprising longitudinal and radial bearing portions between said parts, thus affording practically a rolling contact bearing.

4. In a crushing mill the combination with two vertically disposed rotating crushing disks which are tilted or inclined relative to each other, of two shafts, one inclosed within the other, by which said disks are carried, and which shafts have their axes inclined relative to each other, and a flanged bearing or wear bushing interposed between parts on said shafts and comprising longitudinal and radial bearing portions between said parts, thus affording practically a rolling contact bearing.

5. In a crushing mill, the combination with two rotating crushing disks which are tilted or inclined relative to each other, of two shafts, one of which is inclosed within the other, by which said disks are carried, and which shafts have their axes inclined relative to each other, an eccentric sleeve affording a bearing for the inner shaft at a point widely removed from the disk carried by said shaft, means for maintaining said sleeve stationary while said shaft rotates, and a ball and socket device encircling said sleeve and permitting of variations of the inclination of the axis of said inner shaft relative to the axis of the outer shaft without binding.

[Claims 6 to 12 not printed in the Gazette.]

977,236. WIRE-GRIP. CLAES A. SVENSSON, Buffalo, N. Y. Filed Mar. 18, 1910. Serial No. 550,173.



1. A grip having a pair of jaws which are relatively movable for opening and closing the grip, a draft member operatively connected with said jaws and movable into and out of its normal position, and means for holding said jaws in an open position while the draft member is in its abnormal position and which permit said jaws to close upon moving the draft member into its normal position.

2. A grip having a body provided with a stationary jaw, a movable jaw coöperating with the stationary jaw, a lever pivotally connecting the jaws, a draft member slidable lengthwise on the body and movable laterally into its normal or abnormal position, a link connecting the draft member and lever, a spring for closing said jaws, and means which operate to hold said jaws in an open position when the draft member is in its abnormal position and which permit said jaws to close upon moving the draft member into its normal position.

3. A grip having a body provided with a stationary jaw, a movable jaw coöperating with the stationary jaw, a link connecting said jaws, a lever pivotally connecting the jaws, a draft member slidable lengthwise on the body and movable laterally into its normal or abnormal position, a link connecting the draft member and lever, a spring for closing said jaws, and means which operate to hold said jaws in an open position when the draft member is in its abnormal position and which permit said jaws to close upon moving the draft member into its normal position.

4. A grip having a body provided with a stationary jaw, a movable jaw coöperating with the stationary jaw, a link pivotally connecting said jaws, a lever pivotally connecting said jaws, a draft member slidable lengthwise on the body, a link connecting the draft member with said lever, and means operated by said draft member for pressing said last-mentioned link against said body.

5. A grip having a body provided at its rear end with a longitudinal slot and a stationary jaw at its front end, a movable jaw coöperating with the stationary jaw, a link pivotally connecting said jaws, a lever pivotally connecting said jaws, a coupling link having two sections which are pivotally connected at their front ends with said lever and are arranged at their rear ends on opposite sides of said body, a draft loop having the front ends of its arms arranged on the outer side of said coupling link sections, a pin passing through said draft loop arms, said coupling link sections and the slot of said body, and a retaining finger arranged on one arm of the draft loop adjacent to said pin and having an inclined under side and adapted to engage with one of said coupling link sections.

[Claim 6 not printed in the Gazette.]

977,237. WRITING-MACHINE FOR THE USE OF THE BLIND. ALBERT SWINDLER, Browns Valley, Ind. Filed Aug. 12, 1909. Serial No. 512,574.



1. In a punctograph, the combination with a plurality of puncturing plungers, of a plurality of operating keys associated with the plungers, and means for varying the relation between the keys and plungers to adapt the machine for producing punctographic characters in accordance with different systems.

2. In a punctograph, the combination, with a plurality of puncturing plungers, of a plurality of operating keys therefor, and means for shifting the plungers relative to the keys to vary the coöperative relation thereof, for the purpose set forth.

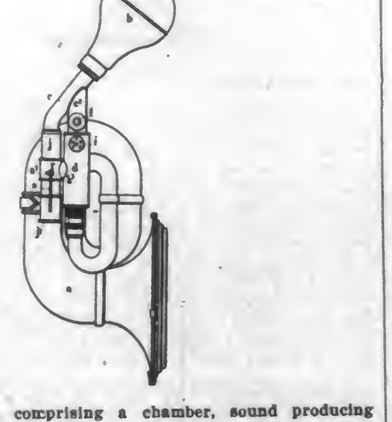
3. In a punctograph, the combination with a plurality of puncturing plungers and a plurality of operating keys therefor, of a paper carriage, means for driving said paper carriage in one direction, spacing dogs controlling the movement of said carriage, a plurality of spacing blocks controlling the relative movement of the spacing dogs, a plurality of controlling bars connected with the spacing blocks, means carried by the plunger operating keys for engaging the controller bars, means for varying the relation between the operating keys and plungers, and means for correspondingly varying the relation between the controller bars and keys whereby the effect of the operating keys upon the carriage may be varied in accordance with the relation between the operating keys and the plunger.

4. In a punctograph, the combination with a plurality of plungers and a plurality of operating keys coöperating with said plungers, of a paper carriage arranged in conjunction with the plungers, means for driving said carriage in one direction, spacing dogs controlling the movement of said carriage, a plurality of spacing blocks cooperating with the spacing dogs to vary the action thereof relative to the carriage, a plurality of controller bars one for each spacing block and overlapping each other in one direction, intermediate connections between the several keys and certain of the spacing blocks, and means for shifting the controller bars relative to said intermediate connections to vary the relation between the operating keys and the spacing blocks.

5. In a punctograph, the combination with a plurality of plungers and a plurality of operating keys coöperating with said plungers, of a paper carriage arranged in conjunction with the plungers, means for driving said carriage in one direction, spacing dogs controlling the movement of said carriage, a plurality of spacing blocks cooperating with the spacing dogs to vary the action thereof relative to the carriage, a plurality of controller bars one for each spacing block and overlapping each other in one direction, intermediate connections between the several keys and certain of the spacing blocks, and means for permanently shifting one or more of initial ones of the spacing blocks to produce uniform movement of the carriage.

[Claims 6 to 12 not printed in the Gazette.]

977,238. AUTOMATIC TREMBLER PARTICULARLY APPLICABLE TO WARNING APPARATUS. ETIENNE TESTE, Paris, France. Filed Dec. 28, 1908. Serial No. 469,578.



1. A horn, comprising a chamber, sound producing means in the chamber, a second chamber communicating with the first chamber, a fluid pressure device connected with the second chamber, a trembler movably mounted in the second chamber, and means for adjusting the trembler.

2. A horn, comprising a chamber, sound producing means in the chamber, a second chamber communicating with the first chamber, a fluid pressure device connected with the second chamber, a trembler movably mounted in the second chamber and having openings and a valve controlling the openings, and means for adjusting the trembler.

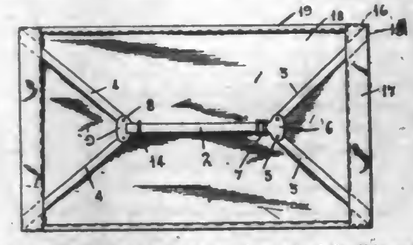
3. A horn, comprising a chamber, sound producing means in the chamber, a second chamber communicating with the first chamber, a fluid pressure device connected with the second chamber, a hollow and spring pressed piston in the second chamber and provided with an opening in one side, a perforated sleeve within the piston and carried thereby, the perforations of the sleeve registering with the opening of the piston, a sliding and spring pressed valve for controlling the openings of the sleeve, and means for limiting the movement of the piston.

4. A horn, comprising a chamber, sound producing means in the chamber, a second chamber communicating with the first chamber, a fluid pressure device connected with the second chamber, a hollow and spring pressed piston in the second chamber and provided with an opening in one side, an apertured sleeve within the piston and carried thereby, said sleeve having one end open to the fluid pressure device and its apertures registering with the opening of the piston, a socket-shaped valve for closing the end of the sleeve and the openings thereof, and means for limiting the movement of the piston.

5. A horn, comprising a reed chamber, a chamber communicating with the reed chamber, and provided with an angular slot, a slotted ring rotatably mounted on the said chamber and provided with a slot adapted to register with the slot of the chamber or to be moved out of register therewith, an air bulb connected with said chamber, a hollow and spring pressed piston in the slotted chamber and provided with a stud working in the slots of the chamber and ring, said piston being open at one end and provided with an opening in its side, a perforated sleeve within the piston and carried thereby, said sleeve being open at one end to the air bulb and its apertures registering with the opening of the piston, and a spring pressed socket-shaped valve in the sleeve for closing the end of the sleeve and the openings thereof.

[Claim 6 not printed in the Gazette.]

977,239. FOLDING TRAY. JOSEPH C. TOYNBEE, Glen Osborne, Pa. Filed July 16, 1910. Serial No. 572,335.



In a folding tray, a tray top formed of flexible materia and provided at the ends with pockets on the under sid of the tray top, in combination with means for stretch ing said tray top and securing same in stretched pos tion, comprising two pairs of arms having the outer end removably seated in said pockets, plates to which th inner ends of said arms are pivoted, a pair of stretche bars pivoted one at one end to the plates of one pair arms and the other at the opposite end to the plates the other pair of arms, a hinged link carried by th free end of one of said stretcher bars and receiving th other stretcher bar therethrough, and a keeper slidabl on the bars and acting to hold the bars closed one again the other.

977,240. RAT-TRAP. WILLIAM SILKWORTH WARD, Ke newick, Wash. Filed May 11, 1910. Serial No. 560,56

1. A rat trap having doors and provided with mean for suspending it from a hawser, the said means arrange to keep the doors face up by the weight of the trap, an a barrier arranged to prevent the rat from passing acro the hawser without passing onto the doors.

2. A rat trap having trap doors and provided wit means for suspending it from a hawser, and skids a ranged over the hawser to slide the rat onto the doors.

3. A rat trap comprising two cage sections, each ha ing trap doors at the top, and hawser engaging mea arranged between the sections of the cage in a positio to keep the doors face up by the weight of the trap.

4. A rat trap comprising cage sections hinged togeth at the bottom to swing to and from each other, each ca

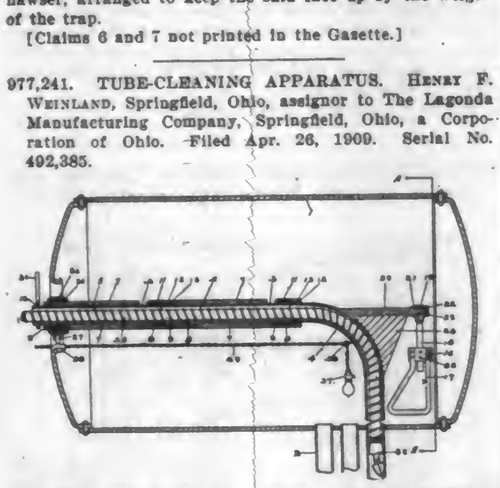
section having trap doors, hawser engaging devices arranged between the sections of the cage, and barrier sections carried by the cage sections above the doors and having means to adjustably connect them together.



5. A rat trap having an approximately flat upper face, a barrier extending upwardly from the said face of the trap to prevent the rat from traveling directly across said face, and means for suspending the trap from a hawser, arranged to keep the said face up by the weight of the trap.

[Claims 6 and 7 not printed in the Gazette.]

977,241. TUBE-CLEANING APPARATUS. HENRY F. WEINLAND, Springfield, Ohio, assignor to The Lagonda Manufacturing Company, Springfield, Ohio, a Corporation of Ohio. Filed Apr. 26, 1909. Serial No. 492,385.



1. The combination of a casing or tubing having a curved portion at its inner end, said casing or tubing adapted to be inserted into and manipulated from outside of the drum of a boiler to position its inner end over any one of a longitudinal row of tubes, means independent of the tube, accessible from outside said drum, to fix said casing or tubing to the drum, in its adjusted position, a member having a tube cleaner thereon, movable from a position outside said drum through said casing or tubing into the tube, said casing or tubing permitting the withdrawal of said member and cleaner from said tube and drum without disturbing said casing or tubing in its adjusted position in the drum, substantially as described.

2. The combination of a casing or tubing having a curved portion at its inner end and a support therefor freely movable on the inner walls of the drum of a boiler, said casing or tubing adapted to turn axially in said support and to be inserted, with said support, into and manipulated from outside of said drum, to position its inner end over any one of a longitudinal or transverse row of tubes, means independent of the tube, accessible from outside said drum, to fix said casing or tubing to the drum in its adjusted position, a member having a tube cleaner thereon, movable from a position outside said drum through said casing or tubing into the tube, said casing or tubing permitting the withdrawal of said member and cleaner from said tube and drum without disturbing said casing or tubing in its adjusted position in the drum, substantially as described.

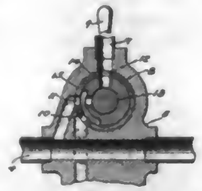
3. The combination with a member having a tube cleaner thereon of a casing or tubing extending into the drum of a boiler and having a curved portion terminating over the open end of a boiler tube, through which said member and cleaner are advanced and withdrawn from outside said drum into said tube, said curved portion having an adjustable extension, substantially as described.

4. The combination with a member having a tube cleaner thereon of a casing or tubing extending into the drum of a boiler and having a curved portion with an adjustable extension terminating over the open end of a boiler tube, through which said member and cleaner are advanced and withdrawn from outside said drum into said tube, a support having runners resting solely on the inner wall of the bottom of said drum and freely movable thereon, said support being adapted to adjust and carry said casing or tubing in the longitudinal center of the drum, substantially as described.

5. The combination with a member having a tube cleaner thereon of a casing or tubing through which said member and cleaner are advanced, said casing or tubing being divided into sections, the adjacent ends of the sections having complementary engaging portions coupling the sections to turn axially in unison and means to fix said engagement, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

977,242. COCK FOR AIR-BRAKES. HENRY H. WESTINGHOUSE, New York, N. Y., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Mar. 16, 1909. Serial No. 483,818.



1. The combination with a train pipe vent valve, a triple valve device, and train pipe, of a cut-out cock having positions for cutting either the triple valve or the vent valve out of action.

2. The combination with a train pipe vent valve, a triple valve device, and train pipe, of a cut-out cock having positions for respectively cutting out either the triple valve device, or the vent valve, or both.

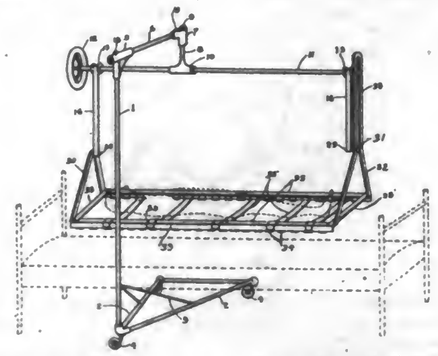
3. The combination with a train pipe vent valve, a triple valve device, and train pipe, of a cut-out cock normally connecting the train pipe to the triple valve device and to the vent valve and having other positions for respectively cutting out the triple valve device, the vent valve, and both triple valve device and vent valve.

4. The combination with a train pipe vent valve, a triple valve device, and train pipe, of a cut-out cock located at the juncture of the triple valve branch pipe and train pipe for controlling communication from the train pipe to the triple valve device and from the train pipe to the vent valve.

5. The combination with a train pipe vent valve, a triple valve device, and train pipe, of a cut-out cock located at the juncture of the triple valve branch pipe and train pipe and having one position for cutting the triple valve device out of action and another position for cutting the vent valve out of action.

977,243. INVALID-LIFTING APPARATUS. GARRETT WHITE, Chapel Hill, Tenn., assignor of one-half to William B. Neely, Chapel Hill, Tenn. Filed July 23, 1910. Serial No. 573,544.

1. An invalid lifting apparatus having, in combination, a movable base frame, a vertical post rigidly supported by said frame, a horizontal frame member rigidly supported at one end by the upper end of said post, a depending windlass support located at the other end of said horizontal member and having a subjacent horizontal bore, a free-ended and full length horizontal windlass having a midlength bearing in said bore and substantially balanced therein, means for suspending a patient from said windlass and beneath the same in a horizontal position, and means for manipulating said windlass from one end thereof.



2. The combination with an invalid lifting windlass of a movable base frame, a vertical post rigidly supported by said frame, a right-angled coupling piece at the upper end of said post having a horizontal bore, a horizontal frame member supported at one end by said coupling piece and movable in said bore, a depending windlass support attached to the other end of said frame member, and means for fastening and unfastening said frame member arranged to interact with said coupling piece.

3. The combination with an invalid lifting windlass of a movable base frame, a vertical post rigidly supported by said frame, a right-angled coupling piece at the upper end of said post having a horizontal bore, a horizontal frame member supported at one end by said coupling piece and movable in said bore, a depending windlass support attached to the other end of said frame member, and a set screw interacting with said coupling piece to render said frame member normally fastened and to provide for unfastening it.

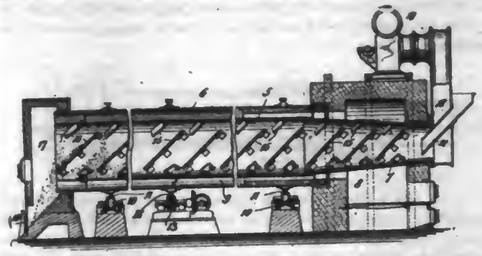
4. The combination, in an invalid lifting apparatus, of a movable base frame, a vertical post rigidly supported by said frame, a horizontal frame member rigidly supported at one end by the upper end of said post, a right-angled coupling piece fast on the other end of said frame member and having a vertical bore, a windlass support having a vertical member rotatable in said bore and having a displacement-preventing head at its upper end and a subjacent horizontal sleeve portion, and a free-ended horizontal windlass having a midlength bearing in said sleeve portion.

5. The combination, in an invalid lifting apparatus, of a movable base frame, a vertical post rigidly supported by said frame, a horizontal frame member rigidly supported at one end by the upper end of said post, a right-angled coupling piece fast on the other end of said frame member a depending T-shaped windlass support, rotatable in the vertical bore of said coupling piece and having a head at its upper end constructed with radial sockets, a spring bolt the housing of which is attached to said coupling piece and which interacts with said sockets, and a horizontal windlass having a midlength bearing in a sleeve portion of said windlass support.

[Claims 6 to 9 not printed in the Gazette.]

977,244. DRYING APPARATUS. SIGURD WIEBE, Brooklyn, N. Y., assignor to Wiebe Engineering Company, New York, N. Y., a Corporation of New York. Filed Mar. 4, 1910. Serial No. 547,183.

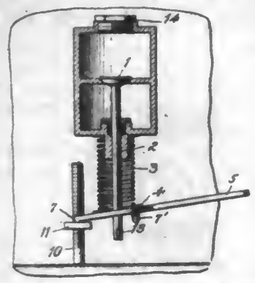
1. In a drying apparatus, the combination with two concentric shells spaced apart but secured together, the whole being rotatably supported, the inner said shell projecting at one end beyond the outer said shell, of a furnace chamber for receiving the projecting end of the inner shell whereby the products of combustion in the said chamber will impinge directly upon the walls of the inner shell and will then pass between the two shells to the opposite end thereof and thence return through the inner shell, and means for rotating the shells.



2. In a drying apparatus, the combination with two concentric shells spaced apart but secured together, the whole being rotatably supported, the inner said shell projecting at one end beyond the outer said shell, of a furnace chamber for receiving the projecting end of the inner shell whereby the products of combustion in the said chamber will impinge directly upon the walls of the inner shell and will then pass between the two shells to the opposite end thereof and thence return through the inner shell, the inner shell being provided upon its inner wall with obliquely disposed shovels, and means for rotating the shells.

3. In a drying apparatus, the combination with two concentric shells spaced apart but secured together, the whole being rotatably supported, the inner said shell projecting at one end beyond the outer said shell, of a furnace chamber for receiving the projecting end of the inner shell whereby the products of combustion in the said chamber will impinge directly upon the walls of the inner shell and will then pass between the two shells to the opposite end thereof and thence return through the inner shell, the inner shell being provided upon its inner wall with obliquely disposed transversely curved shovels, and means for rotating the shells.

977,245. VALVE-REMOVER. PETER C. WIEST, York, Pa. Filed May 19, 1909. Serial No. 496,960.

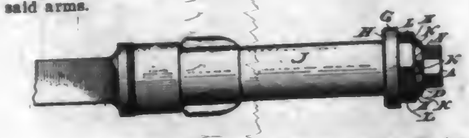


A valve remover comprising a threaded stem forming a fulcrum block support, a fulcrum block having threaded and rotatable connection with said stem, and a valve spring-compressing lever embodying a forked end, the arms of which form an open slot to receive said stem and are provided with a plurality of sets of fulcrum points spaced apart along the length of the slot for engagement with the fulcrum block.

977,246. AXLE-NUT. JOSEPH B. WISMER, Franconia, Pa. Filed June 15, 1909. Serial No. 502,216.

1. A nut having thereon threaded segments with longitudinally extending passages therebetween and a reduced

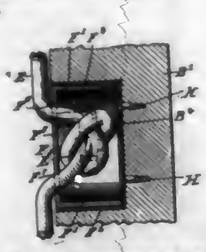
inner end beyond said segments and passages, a non-rotatable collar on said reduced inner end of said nut and provided with arms slidably occupying said passages and having shoulders at their outer ends, an interiorly threaded rotatable sleeve encircling said segments and arms and having threaded engagement with the threads of said segments and freely ridable over said arms and confined between said shoulders and collar, said collar being flanged, and a washer received within said flange and extended beyond the inner face thereof, said sleeve being swiveled on said arms.



2. A nut having thereon threaded segments with longitudinally extending passages therebetween and a reduced inner end beyond said segments and passages, a non-rotatable collar on said reduced inner end of said nut and provided with arms slidably occupying said passages and having shoulders at their outer ends, an interiorly threaded rotatable sleeve encircling said segments and arms and having threaded engagement with the threads of said segments and freely ridable over said arms and confined between said shoulders and collar, said collar being flanged, and a washer received within said flange and extended beyond the inner face thereof, said sleeve being swiveled on said arms, said reduced inner end being unthreaded, and the sleeve being held out of contact with said arms and bearing against staid collar and holding the same out of contact with the shoulders formed by the inner ends of said segments.

3. A nut having thereof threaded segments with longitudinally extending passages therebetween and a reduced inner end, a non-rotatable collar on said reduced inner end of said nut provided with arms slidably occupying said passages and having shoulders at their outer ends, said reduced inner end being unthreaded and an interiorly threaded rotatable sleeve encircling said segments and arms and engageable with the threads of the segmets and freely ridable over said arms out of contact with said unthreaded inner end and confined between said shoulders and collar.

977,247. SASH-CORD FASTENER. ALBERT M. WOERNER, New York, N. Y., assignor of one-half to Frederick Friederich, Brooklyn, N. Y., and one-half to Francis L. Bouquet, Edgewater, N. J. Filed Sept. 22, 1909. Serial No. 518,903.

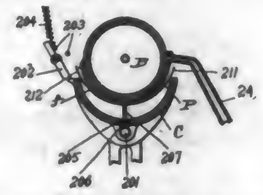


1. A sash cord fastener, comprising two tubular members, each having an open and a closed end, and secured one within the other with their closed ends outward, the closed end of one member being apertured for the passage of the cord.

2. In a sash opening and closing device, a fastening device formed of an inner tubular member and an outer tubular member, the members having bayonet slots and studs for engagement with the bayonet slots to lock the members together, the closed outer end of the inner member having apertures for the passage of the cord.

3. In a sash opening and closing device, a pull cord, and a fastening device formed of an inner tubular member and an outer tubular member, the members having bayonet slots and studs for engagement with the bayonet slots to lock the members together, the closed outer end of the inner member having apertures for the passage of the cord, and the latter having a knot within the said inner member.

977,248. STEREOTYPE-PRINTING-PLATE-CASTING MECHANISM. HENRY A. WISE WOOD, New York, N. Y., assignor to Campbell Printing Press & Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Feb. 7, 1902, Serial No. 92,978. Renewed Feb. 12, 1906. Serial No. 300,624.



1. A resilient matrix for casting a plurality of curved stereotype printing plates, which can be bent to curved shape in the casting box, and which will spring from the surface of the cast plates by its own resiliency when the box is opened after each casting operation.

2. A resilient matrix for casting a plurality of curved stereotype printing plates having resilient means embodied therein, whereby the matrix can be bent to curved shape in the casting box, whereby the resilient means will tend to free the matrix from the surface of the cast plate when the box is opened, and whereby the matrix can be restored to curved shape for the next cast.

3. A resilient matrix for casting a plurality of curved stereotype printing plates having resilient means embodied therein along two of its edges, whereby the matrix can be bent to curved shape in the casting box, whereby the same will tend to free itself from the surface of the cast plate when the box is opened, and whereby the same can be restored to curved shape in the casting box for the next cast.

4. The combination of a stereotype printing plate casting apparatus made up of a core and segmental-back, the annular space between the two forming a curved casting chamber, and a resilient matrix from which a plurality of plates can be cast arranged in said box so as to free itself from the surface of each cast plate when the core and back are separated.

5. The combination of a stereotype printing plate casting apparatus made up of a core and segmental back, the annular space between the two forming a curved casting chamber, and means for holding a resilient matrix in said chamber so that the same will assume the proper curved shape for casting and so that the same will strip itself by its own resiliency from the surface of the cast plate without disconnection from the holding means when the core and segmental back are separated.

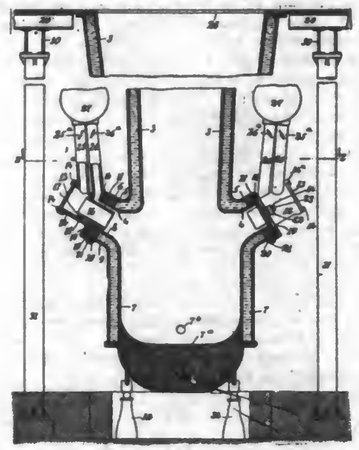
[Claims 6 to 17 not printed in the Gazette.]

977,249. FURNACE. BURT L. WORTHEN, Tucson, Ariz., assignor of one-half to Merrill P. Freeman, Tucson, Ariz. Filed May 31, 1905. Serial No. 263,052.

1. The combination of upper and lower water jackets supported independently of each other, a joining plate mounted upon said upper jacket and depending loosely so as to engage said lower jacket and a bracket, mounted upon said lower jacket and provided with a portion hooking over said joining plate.

2. In a furnace, the combination of upper and lower water jackets, a joining plate supported upon said upper water jacket and depending obliquely upon said lower water jacket, said joining plate being provided with a plurality of separate openings spaced apart, and a plurality of twyers reaching directly through said joining plate and extending obliquely downward therefrom.

3. In a furnace, the combination of an upper portion provided with a water jacket, and also with a throat, a lower portion of greater diameter than said upper portion, plates connected with said upper portion and inclined obliquely so as to engage said lower portion, and twyers detachably connected with said plates.

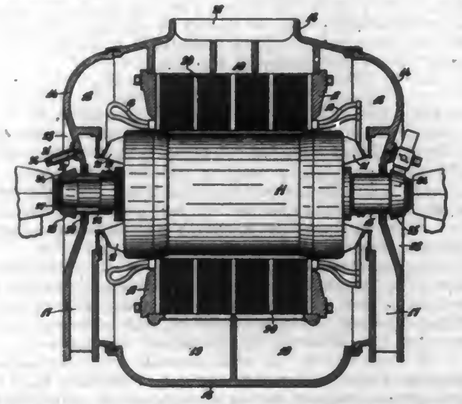


4. In a furnace, the combination of an upper portion provided at its lower end with a throat, a lower portion of greater diameter than said throat, said upper portion and said lower portion being separated by a continuous space, and a plurality of individual twyers extending into said space for the purpose of partially merging the effects of said twyers.

5. In a furnace, the combination of an upper portion provided with a throat, a lower portion having an opening of greater diameter than said throat, means for supporting said upper portion independently of said lower portion, plates connected with said upper portion and depending into engagement with said lower portion, the space adjacent to said plate and intermediate said upper portion and said lower portion being continuous, and a plurality of twyers mounted upon said plate and extending therethrough into said space.

[Claim 6 not printed in the Gazette.]

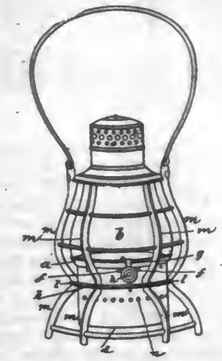
977,250. INCLOSED DYNAMO-ELECTRIC MACHINE. ALFRED H. WOUTERS, Norwood, Ohio, assignor to Allis-Chalmers Company, a Corporation of New Jersey, and The Bullock Electric Manufacturing Company, a Corporation of Ohio, jointly. Filed Mar. 1, 1907. Serial No. 359,954.



1. In a dynamo-electric machine, a housing inclosing a stator and rotor thereof, a shaft extending through openings in the ends of the housing, the end walls of the housing being inclined inward around the shaft so as to form recessed portions, collector rings carried by said shaft and having brush bearing surfaces located within said recessed portions, and brush supports mounted on said housing.

2. In a dynamo-electric machine, a stator, a rotor, a housing inclosing said stator and rotor, a shaft extending through the openings in said housing, said housing having end portions provided with walls inclined inward around the shaft forming recessed or hollowed portions, collector rings having cone shaped brush bearing surfaces located within said recessed portions, and brush studs mounted on the inclined walls of the housing.

977,251. RAILWAY-LANTERN. JAMES WRIGHT, Hamilton, Ontario, Canada. Filed Sept. 23, 1908. Serial No. 454,413.

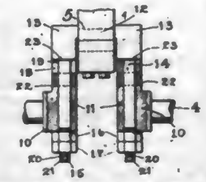


1. A railway lantern comprising a body, an oil reservoir made to enter the body from the top, and a globe holding ring formed flaring at the top, vertical in the center and horizontal at the bottom, rigidly secured on the body, a vertical slot formed in the ring from top to bottom for a wick spindle, and to allow the oil reservoir to be removed from the body of the lantern.

2. A railway lantern comprising a body, an oil reservoir made to enter the body from the top, and a globe holding ring formed outwardly flaring at the top, vertical at the center, and inwardly projecting horizontally at the bottom sufficient to support the globe and to allow of an annular air space between the bottom of the ring and the oil reservoir.

3. In a railway lantern comprising a body, a series of recesses formed in the body a ring, a series of projections formed on the ring to engage with the recesses in the body a wick spindle slot formed in the ring and body from the top to the wick spindle, and rivets on each side of the wick spindle slot for securing the ring to the body.

977,252. EXTENSION-CRANK. AUGUSTUS C. ZIERATH, Los Angeles, Cal. Filed Apr. 23, 1910. Serial No. 557,294.

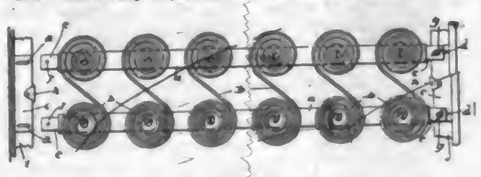


1. An extension crank comprising two shaft portions formed with transverse channels, a U-shaped member formed with a wrist pin and with side bars fitting in said channels, said shaft portions and U-shaped member being provided with heads, spacing blocks surrounding said side portions of the U-shaped member and located between said heads to radially space the wrist pin on the U-shaped member, and means for securing said side bars of the U-shaped member to said shaft portions.

2. An extension crank comprising two shaft portions

formed with transverse channels, a U-shaped member formed with a wrist pin and with side bars fitting in said channels, said shaft portions and U-shaped member being provided with heads, spacing blocks surrounding said side portions of the U-shaped member and located between said heads to radially space the wrist pin on the U-shaped member, means for securing said side bars of the U-shaped member to said shaft portions comprising screw-threaded portions on said side portions of the U-shaped member, and nuts engaging said screw-threaded portions and said shaft portions.

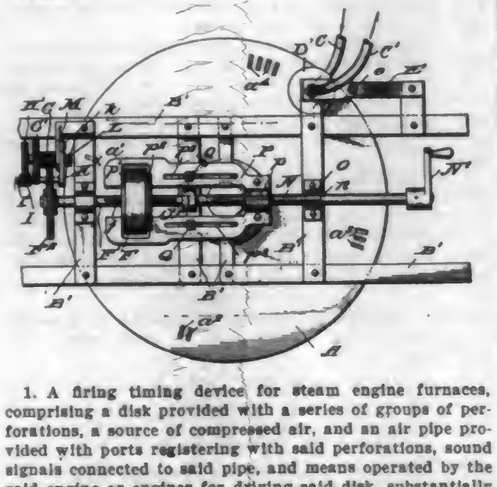
977,253. SPRING-BED. WILLIAM F. ADE, Williamsport, Pa. Filed May 21, 1910. Serial No. 562,582.



1. The combination with the slats of a spring mattress of head pieces adapted to rest upon the top of the end or side rails of a bed, clips carried by said head pieces adapted to engage the inner sides of said rails, and means for adjustably securing said head pieces to said slats.

2. In a spring bed bottom, in combination, a series of channel shaped metallic slats, flat metal plates secured to and projecting out from the ends of said slats, head pieces adapted to lie upon the tops of the end or side rails of a bed, a clip carried by said head pieces adapted to engage the inner side of the rail, and means for adjustably securing said head pieces to said metal plates.

977,254. FIRING TIMING DEVICE. EDWARD G. AFFLECK, U. S. Navy, assignor to Theodore S. Wilkinson, Jr., U. S. Navy. Filed May 31, 1910. Serial No. 564,317.



1. A firing timing device for steam engine furnaces, comprising a disk provided with a series of groups of perforations, a source of compressed air, and an air pipe provided with ports registering with said perforations, sound signals connected to said pipe, and means operated by the said engine or engines for driving said disk, substantially as described.

2. A firing timing device for steam engine furnaces, comprising a disk provided with a series of groups of perforations, a source of compressed air, and an air pipe provided with ports registering with said perforations, sound signals connected to said pipe, means operated by the said engine or engines for driving said disk, and independent means for varying the speed of rotation of said disk, substantially as described.

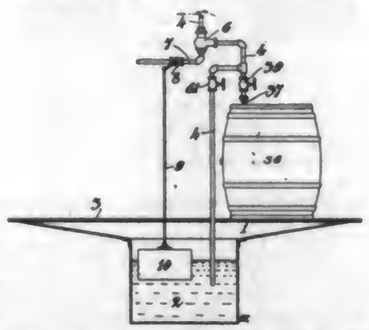
3. A firing timing device for steam engine furnaces, comprising a disk provided with a series of groups of perforations, a source of compressed air, and an air pipe provided with ports registering with said perforations, sound signals connected to said pipe, a friction roller engaging said disk, and means operated by the said engine for driving said friction roller at a reduced speed, substantially as described.

4. A firing timing device for steam engine furnaces, comprising a disk provided with a series of groups of perforations, a source of compressed air, and an air pipe provided with ports registering with said perforations, sound signals connected to said pipe, a friction roller engaging said disk, means operated by the said engine for driving said friction roller at a reduced speed, and hand operated means for moving said friction roller toward or away from the axis of said disk, substantially as described.

5. A firing timing device for steam engine furnaces, comprising a disk provided with a series of groups of radial slots, a source of compressed air, and an air pipe provided with ports registering with said slots, whistles connected to said pipe, and means operated by the said engine or engines for driving said disk, substantially as described.

[Claims 6 to 15 not printed in the Gazette.]

977,255. SYSTEM OF LUBRICATION. CARL ALBERT JULIUS ALBERT, Kvillebäcksvägen, Gottenborg, Sweden. Original application filed June 1, 1906, Serial No. 319,670. Divided and this application filed Feb. 28, 1908. Serial No. 418,204.



1. In combination, an oil receptacle for receiving drip oil from an engine, measuring and distributing devices for delivering oil to the parts of the engine, an oil purifying mechanism intermediate of the drip receptacle and the measuring and distributing devices and means under the control of the oil in the drip receptacle for automatically forcing the oil from the drip receptacle to the purifying mechanism.

2. In combination, a drip receptacle for receiving the waste oil from an engine, measuring and distributing devices for distributing the oil to the parts of the engine, a supply tank of fresh oil, an oil purifying mechanism and means under the control of the oil in the drip receptacle for automatically forcing oil from the drip receptacle or supply tank to the purifying mechanism.

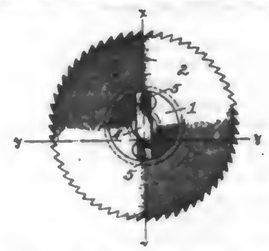
977,256. ROTARY-SAW TRIMMER. FREDERICK W. ALBRECHT, Toledo, Ohio, assignor of one-half to Charles H. Shields, Toledo, Ohio. Filed July 27, 1910. Serial No. 574,103.

1. In combination, a saw carrying arbor, work planing means removably carried thereby, and a saw mounted on such arbor in the plane of said means and coöperating with the arbor to rigidly hold said means.

2. In combination, a saw-carrying arbor having its outer face grooved, work trimming means removably mounted within such groove, and a rotary saw carried by the arbor in the radial plane of said means and coöperating with the arbor to rigidly hold said means.

3. In combination, an arbor having a diametrically-disposed groove in its outer face, a bar removably mounted in such groove and having work trimming teeth on its outer side adjacent to its ends, and a rotary saw removably mounted on such arbor and coöperating therewith to hold said bar.

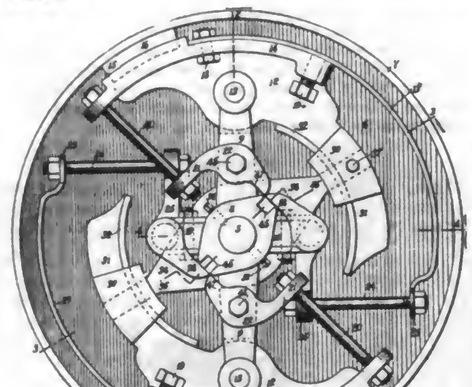
4. In combination, an arbor having a diametrically-disposed dove-tailed groove in its outer face, a bar removably fitting into such groove and having work trimming means on its outer side, and a saw removably carried by the arbor and preventing a removal of said bar therefrom.



5. In combination, an arbor having a groove across its face, a trimmer bar removably mounted in such groove, and a rotary saw removably threaded onto such arbor and the outer ends of such bar.

[Claim 6 not printed in the Gazette.]

977,257. FRICTION CLUTCH-PULLEY. ARENT S. ANDERSON, Elliott, Ill. Filed May 18, 1910. Serial No. 561,987.



1. In a friction clutch pulley, a shaft, two members mounted on the shaft, one of the members having an arm, a lever, having a threaded orifice, pivoted to the arm, a shoe mounted on the arm of the lever, for engaging the other member, a leaf spring secured to the lever, a screw in the threaded orifice in the lever, the screw being adapted to engage the spring to regulate its tension, and means connecting the spring with the member having the arm.

2. In a friction clutch pulley, a shaft, two members mounted on the shaft, one of the members having an arm, a lever fulcrumed to the arm, a shoe mounted on the lever, for engaging the other member, a cam having an arm pivoted to the arm of the said member, means connecting the lever with the arm of the cam, and a member slidably mounted on the shaft for engaging the cam.

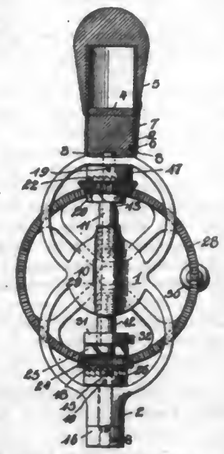
3. In a friction clutch pulley, a shaft, two members mounted on the shaft, one of the members having an arm, a lever fulcrumed to the arm, a shoe mounted on the lever, for engaging the other member, a cam having an arm pivoted to the arm of the member, a spring secured to the lever, and means connecting the spring with the member carrying the arm.

4. In a friction clutch pulley, a shaft, two members mounted on the shaft, one of the members having two arms, a member pivoted to each of the arms, shoes mounted on the pivoted members respectively, for engaging the other member, weights having guideways slidably mounted on the pivoted members respectively, and an equalizer having two arms, one disposed in each of the guideways, by which the weights may be moved simultaneously relatively to the pivoted members.

5. In a friction clutch pulley, a shaft, two members mounted on the shaft, one of the members having two arms, two levers, one fulcrumed to each of the arms, shoes mounted on the levers respectively, for engaging the other members, weights having guideways slidably mounted on the levers respectively, and an equalizer having two arms for traveling in the guideways respectively, the equalizer being mounted to rotate concentrically with the shaft.

[Claims 6 to 11 not printed in the Gazette.]

977,258. COMBINED VALVE GRINDER AND DRILL. OTIS R. ANGELL, Dorchester, Mass. Filed July 12, 1909, Serial No. 507,204. Renewed Apr. 27, 1910. Serial No. 558,002.



1. In a combined valve grinder and drill, a frame, bearing sleeves arranged in said frame, cam teeth formed on said sleeves, a tool operating shaft revolubly mounted in said frame and sleeves, clutch members fixedly mounted on said shaft, operating pinions loosely mounted on the shaft, clutch members on one side of said pinions and cam teeth on the opposite side of said pinions, one of said pinions having a greater number of said teeth than the other, an operating gear engaged with said pinions to revolve the same on said shaft and thereby bringing the cam teeth on first one pinion and then the other into engagement with the teeth on said bearing sleeves, whereby the pinions are shifted to alternately engage the clutch members thereon with the fixed clutch members on the shaft, thus locking said pinions to the shaft and turning the latter first in one direction a certain number of revolutions and then in the opposite direction a different number of revolutions, and means whereby one of said pinions may be continuously driven by said gear to continuously operate the shaft in one direction.

2. In a combined valve grinder and drill, a frame, a tool operating shaft revolubly mounted in said frame, clutch members arranged on said shaft, means to lock said clutch members to the shaft, operating pinions loosely mounted on said shaft, clutch members arranged on said pinions, an operating gear engaged with said pinions, means to alternately shift said pinions to engage the clutch members thereon with the clutch members on said shaft, whereby the gears are alternately locked into engagement with the shaft to operate the same first in one direction and then in the other, springs arranged in said pinions to disengage the same from the clutch members on said shaft, and a stop collar adapted to hold one of said pinions in engagement with one of said fixed clutch members, whereby said shaft may be continuously driven in one direction when the fixed clutch member of the opposite pinion is released from the shaft

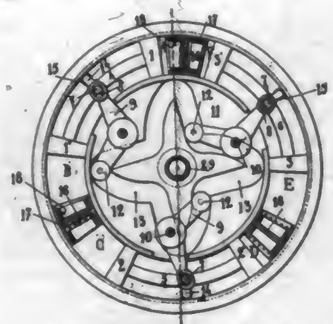
977,259. PNEUMATIC ACTION FOR MUSICAL INSTRUMENTS. WILLIAM F. BAYER, Buffalo, N. Y., assignor to The Chase & Baker Company, Buffalo, N. Y., a Corporation of New York. Filed Feb. 13, 1900. Serial No. 477,567.



1. In a pneumatic action for musical instruments, the combination of a chest having an exhaust chamber, motor pneumatics, valve mechanisms controlling communication between the motor pneumatics and said exhaust chamber, a series of secondary pneumatics controlling said valve mechanisms and a series of corresponding primary pneumatics, the primary pneumatics being arranged opposite the spaces between the secondary pneumatics and having air inlet channels arranged between the secondary pneumatics.

2. In a pneumatic action for musical instruments, the combination of a wind chest having an exhaust chamber, a motor pneumatic, valve mechanism controlling communication between the motor pneumatic and said exhaust chamber, a secondary pneumatic controlling said valve mechanism, a primary pneumatic coöperating with the secondary pneumatic and arranged out of line therewith transversely of the wind-chest, the chest containing a transverse air passage leading to the primary pneumatic, a horizontal longitudinal air passage, and a second transverse passage connecting said longitudinal passage with the secondary pneumatic, and a valve controlling the admission of the atmosphere to said longitudinal passage and actuated by the primary pneumatic.

977,260. ROTARY EXPLOSION-MOTOR. FRÉDÉRIC BECK, Neuilly, France. Filed Dec. 7, 1909. Serial No. 531,889.



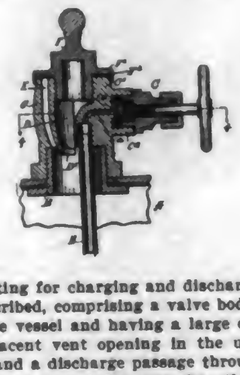
1. In a rotary explosion motor, the combination with a ring motor cylinder divided by radiating partitions into a plurality of concentric working chambers and a pair of reciprocating motor pistons connected by a bar, in each working chamber, of a stationary frame plate formed with a star-shaped cam groove, a bell crank lever jointed at one end to said bar, and a roller mounted on the other end of said bellcrank lever, so as to roll in the star-shaped cam groove of said stationary frame plate whereby the reciprocatory motion of each pair of pistons revolving around the central axis of the motor is converted into a continuous rotary motion of the motor, as set forth.

2. In an explosion motor, the combination with a ring motor cylinder divided by radiating partitions into a plurality of concentric working chambers, a pair of reciprocating motor pistons in each working chamber, a bar connecting together the pistons of each pair, a stationary frame plate formed with a star-shaped cam groove, a bell crank lever jointed at one end to said bar, a roller mounted on the other end of said bell crank lever so as to roll in said star-shaped cam groove, an extension of said bar, and a roller carried by said extension rolling on the internal face of the respective working chamber, whereby the deformation of the motor cylinder by the pistons under the action of centrifugal forces is prevented, as set forth.

3. In a rotary explosion motor, the combination with a ring motor cylinder divided by radiating partitions into a plurality of concentric working chambers, and a pair of reciprocating motor pistons connected by a bar, in each working chamber, of a stationary frame plate formed with a star-shaped cam groove, a bell crank lever jointed at one end to said bar, and a roller mounted on the other end of said bellcrank lever, so as to roll in the star-shaped cam groove of said stationary frame plate a distributing ring movable in each working chamber, and means operated by the motor shaft for moving said distributing ring to-and-fro to control the admission to and the exhaust from said working chamber, as set forth.

4. In a rotary explosion motor, the combination with a ring motor cylinder divided by radiating partitions into a plurality of concentric working chambers, and a pair of reciprocating motor pistons connected by a bar, in each working chamber, of a stationary frame plate, formed with a star-shaped cam groove, a bellcrank lever jointed at one end to said bar, and a roller mounted on the other end of said bellcrank lever, so as to roll in the star-shaped cam groove of said stationary frame plate, a distributing ring slidable in each working chamber, a partition in said distributing ring, a cranked axle engaging said partition, a rod connected at one end to said cranked axle, a pin on the other end of said connecting rod, and a cam rotated by the motor shaft, engaging said pin, whereby said distributing ring is moved to control the admission to and the exhaust from its working chamber, as set forth.

977,261. VALVE-FITTING. JULIUS F. BRANSTEIN, New York, N. Y., assignor to William J. Cunningham, New York, N. Y. Filed Nov. 11, 1909. Serial No. 527,401.



1. A valve fitting for charging and discharging a vessel of the class described, comprising a valve body adapted to be secured to the vessel and having a large central filling opening, an adjacent vent opening in the upper part of the valve body and a discharge passage through the valve body, a plug screw-threadedly engaging the said valve body for closing the said openings, a valve for controlling the said passage, a pipe held on the said valve body and connected with one end of the said passage, and a nipple on the said valve body at the other end of the said passage.

2. A valve fitting for charging and discharging a vessel of the class described, comprising a valve body adapted to be secured to the vessel and having a filling opening and a vent opening, the said openings communicating with the interior of the vessel and the said openings extending from the lower portion of the body to the top thereof, a shield between the lower ends of the said openings, a screw plug screwing into the upper end of the said filling opening and having a flange for closing the said vent opening at the upper end thereof, and valved means on the said valve body for controlling the inflow of gas to the said vessel and the outflow of the charged liquid contained in the vessel.

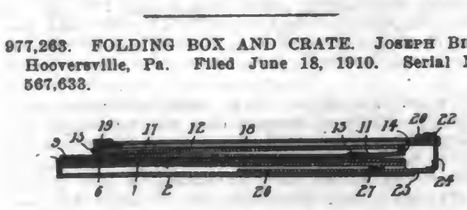
3. A valve fitting for charging and discharging a vessel of the class described, comprising a valve body adapted to be secured to the vessel and having a large central filling opening, an adjacent vent opening in the upper part of the valve body and a discharge passage through the valve body, a plug screw removably engaging the said valve body for closing the said openings, and a valve for controlling the said passage.

977,262. INSULATING-HANGER. NEAL JAY BIGHAM, Detroit, Mich., assignor to Harry A. Robertson, Grand Rapids, Mich. Filed Apr. 28, 1910. Serial No. 558,150.



A hanger for electric wires comprising a body part provided with hanging hooks of which the bills are directed toward one another, and a belaying projection located above the opening between the bills of said hooks and below a notch intervening between the belaying projection and the body of the hanger, substantially as described.

977,263. FOLDING BOX AND CRATE. JOSEPH BIRO, Hooversville, Pa. Filed June 18, 1910. Serial No. 567,633.

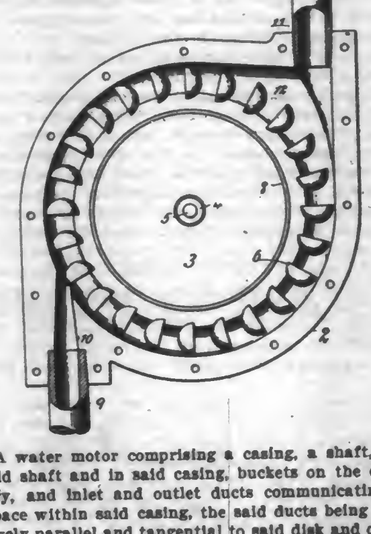


1. A folding box embodying a hollow bottom having the front edge thereof open, end walls hinged to the ends of said hollow bottom and adapted to fold inwardly upon said hollow bottom, a rear wall hinged to the rear edge of said hollow bottom and adapted to fold inwardly upon said end walls, a sectional lid hinged to the upper rear edge of said rear wall and adapted to fold rearwardly upon the outer side of said rear wall, a front wall hinged to the forward edge of said lid, and a sectional slide hinged to the lower edge of said front wall and adapted to slide in said hollow bottom, substantially as described.

2. A folding box embodying a hollow bottom having the front edge thereof open, end walls hinged to the ends of said hollow bottom and adapted to fold thereon, a rear wall hinged to the rear edge of said hollow bottom and adapted to fold upon said end walls, a sectional lid hinged to the upper edge of said rear wall and adapted to fold rearwardly thereon, a front wall hinged to the front edge of said lid, said front wall having an opening formed therein, a slide door carried by said front wall and adapted to close said opening, and a sectional slide hinged to the lower edge of said front wall and adapted to slide into said hollow bottom.

3. A folding box embodying a hollow bottom having the front edge thereof open, end walls hinged to the ends of said hollow bottom and adapted to fold thereon, a rear wall hinged to the rear edge of said hollow bottom and adapted to fold upon said end walls, a sectional lid hinged to the upper edge of said rear wall and adapted to fold rearwardly thereon, a front wall hinged to the front edge of said lid, said front wall having an opening formed therein, a slide door carried by said front wall and adapted to close said opening, a sectional slide hinged to the lower edge of said front wall and adapted to slide into said hollow bottom, and means adapted to connect the vertical edges of said front wall to the vertical front edges of said end walls to retain said slide within said hollow bottom when the box is in a set-up position.

977,264. WATER-MOTOR. HENRY F. BLACKWELL, New York, N. Y., assignor to International Electric Protection Company, a Corporation of New York. Filed May 10, 1910. Serial No. 560,457.



1. A water motor comprising a casing, a shaft, a disk on said shaft and in said casing, buckets on the disk periphery, and inlet and outlet ducts communicating with the space within said casing, the said ducts being disposed relatively parallel and tangential to said disk and on opposite sides of a wheel diameter parallel to their longitudinal axes.

2. A water-motor comprising a casing, a shaft, a disk on said shaft and in said casing, buckets on the disk periphery, inlet and outlet ducts communicating with the space within said casing, the said ducts being disposed relatively parallel and tangential to said disk and on opposite sides of a wheel diameter parallel to their longitudinal axes, and means for preventing direct flow from said inlet to said outlet duct across said disk.

3. A water motor comprising a casing, a shaft, a disk on said shaft and in said casing, buckets on the disk periphery, inlet and outlet ducts communicating with the space within said casing, the said ducts being disposed relatively parallel and tangential to said disk and on opposite sides of a wheel diameter parallel to their longitudinal axes, and means on said disk for preventing direct flow from said inlet to said outlet duct across said disk.

4. A water motor comprising a casing, a shaft, a disk on said shaft and in said casing, buckets on the disk periphery, inlet and outlet ducts communicating with the space within said casing, the said ducts being disposed relatively parallel and tangential to said disk and on opposite sides of a wheel diameter parallel to their longitudinal axes, and ring flanges on opposite sides of said disk entering recesses in said casing.

977,265. PUZZLE. JOERGEN VON BERTHORST, Paxton, Ill. Filed Feb. 10, 1910. Serial No. 543,078. (Model.)



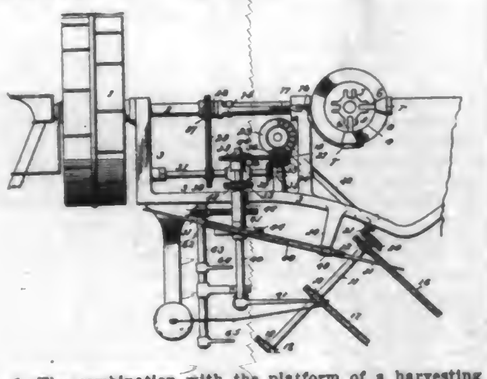
1. In a puzzle, a pair of members of identical construction entwined, each of said members being formed with a plurality of loops which necessitate an entire circle to be described by one member before the same may be removed from the other.

2. A puzzle comprising a pair of entwined members, each of said entwined members being formed with a body portion, a hook, and a loop connecting said bodying portion and said hook, said loop being spaced from said body portion.

3. A puzzle comprising entwined members of identical construction, each of said members comprising an eye, a body extending therefrom bent upon itself for forming a loop, one end of said loop being spaced from said body, and a hook merging into said loop.

4. A puzzle comprising members of identical construction, each of said members being formed with a body, an enlargement extending from one end of said body, a hook extending from the other end of said body and the lower part of said body being formed into a loop for extending said hook in a direction at substantially right angles to the direction of the body, said loop being spaced from said body at the point at which it passes the body.

977,266. HARVESTING-MACHINE. DOUGLASS J. BROWER, Duluth, Minn. Filed Sept. 20, 1906. Serial No. 335,528.



1. The combination with the platform of a harvesting machine having a cutter bar at its forward edge, rakes carrying the grain from the cutter bar to the rear of the platform, a binder on the platform, endless chains at an angle to the cradle of the binder for gathering and conveying the grain to a position adjacent the binder, an arm for engaging the butt end of the grain and moving it around into a position adjacent the binding mechanism.

2. The combination with a platform of a harvesting machine having a cutter bar at its forward edge, rakes carrying the grain to the rear of the platform, a binder mechnism on the platform, endless chains at an angle to the cradle of the binder and having a reciprocating motion for gathering and conveying and stacking the grain adjacent the binder, an arm for engaging the butt end of the grain and moving it around into a position adjacent the binding mechanism, means for operating said binding mechanism, and means for discharging said bundles from the platform.

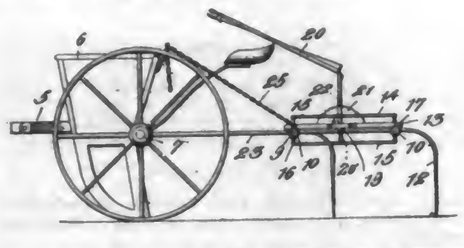
3. A harvester, comprising a main drive wheel, a platform supported thereby, a cutter-bar carried by the platform, rakes carried by the platform, an endless conveyer in rear of the cutter-bar, a binding and tying mechanism adjacent the endless conveyer with its grain cradle at an angle to the delivery end of the conveyer, means for engaging one end of the grain and moving it around to binding position, and means operated by the drive wheel for operating the rakes, cutter-bar, conveyer, binder and grain-moving means in proper unison with one another.

4. A harvester, comprising a supporting wheel, a shaft carried thereby, a platform supported by the shaft, a cutter bar and rakes carried by the platform and driven by the shaft, means carried by the platform for conveying and binding the grain as it is delivered from the rakes, means operated by the shaft for operating the conveying mechanism and binding mechanism, and means operated by the rakes for coupling the conveying and binding mechanism to the wheel shaft for a predetermined length of time.

5. A harvester, comprising a supporting wheel, a shaft carried thereby, a platform supported by the shaft, a cutter bar and rakes carried by the platform and driven by the shaft, a conveying and binding mechanism carried by the rear of the platform for conveying and binding the grain as it is delivered by the rakes, a discharging mechanism carried by the platform in rear of the binding mechanism, means operated by the shaft for driving said conveying, binding and discharging mechanism, and means operated by the rakes for coupling the conveying and binding and discharging mechanism to the wheel shaft for a predetermined length of time.

[Claims 6 to 9 not printed in the Gazette.]

977,267. DRILL ATTACHMENT. ROBERT A. BROWN and JOHN PITTINGS, Antler, N. D. Filed Mar. 31, 1910. Serial No. 552,567.



1. A drill attachment of the character described comprising parallel teeth carrying bars, rods connecting said bars adjacent to their ends, an elongated frame connecting the bars at their centers, said frame consisting of parallel longitudinal bars and connecting bars pivoted to the ends of said longitudinal bars, a longitudinal bar having bearings thereon to receive the teeth carrying bars, the longitudinal bars of the frame being disposed upon opposite sides of said last named bar, the connecting rods of said frame being rigidly secured upon the teeth carrying bars intermediate of their ends, an ear depending from said bar, and an operating lever pivoted to each of said longitudinal frame bars and to said ear centrally between said frame bars, said lever being adapted to collapse said frame and rotate the teeth carrying bars to elevate the teeth.

2. A drill attachment comprising parallel teeth carrying bars, rods connecting said bars adjacent to their ends adapted for attachment to the axle of the drill, a collapsible frame connecting said bars adjacent to their centers, a longitudinal bar having a bearing secured to each of its ends to receive the teeth carrying bars, and a lever mounted upon said longitudinal bar and connected to the frame adapted to adjust the same and rotate the bars in said bearings to elevate the teeth to an inoperative position.

3. A grain drill attachment comprising a plurality of teeth carrying bars, rods connecting said bars adjacent to their ends and loosely mounted upon the drill axle, an elongated rectangular frame connecting the teeth carrying bars, the ends of the frame bars being pivotally connected, a longitudinal bar having bearings arranged thereon to receive the teeth carrying bars, and an operating lever pivotally connecting said longitudinal bar and the frame bars, the adjustment of said lever being adapted to collapse said frame and rotate the teeth carrying bars to elevate the teeth.

4. A drill attachment of the character described comprising parallel teeth carrying bars, rods connecting said bars to the drill shaft, said bars being rotatably carried by the rods, a collapsible frame connecting said bars adjacent to their centers, a longitudinal bar arranged adjacent to said frame having bearings secured thereto to receive the teeth carrying bars, a rack segment secured on said longitudinal bar, and an adjusting lever pivoted to said longitudinal bar and the frame bars, the adjustment of said lever being adapted to collapse the frame and rotate the teeth carrying bars in their bearings to elevate the teeth to an inoperative position.

977,268. SHIELD FOR HOLLOW ARTICLES IN SAND-BLASTING. LEOPOLD BUCSKO, Monaca, Pa. Filed Feb. 2, 1910. Serial No. 541,659.



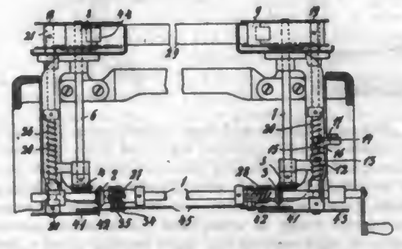
1. A protecting device used in sand blasting hollow glass articles which have an opening within the same of smaller diameter than the body, which consists of a removable flexible shield adapted for insertion within such article through said opening and having its outer edge contacting with the inner surface of the article so as to cover a portion of said article by such shield and thereby permit another portion of such article to be operated upon.

2. A protecting device used in sand blasting hollow glass articles which have an opening within the same of smaller diameter than the body, which consists of a removable flexible hollow shield of conical shape adapted for insertion within such article through said opening and having its large end contacting with the inner surface of the article so as to cover a portion of said article by said shield and thereby permit another portion of such article to be operated upon.

3. A protecting device used in sand blasting hollow glass articles which have an opening within the same of smaller diameter than the body, which consists of a removable flexible shield adapted for insertion within such article through said opening and having its outer edge contacting with the inner surface of the article so as to cover a portion of said article by such shield and thereby permit another portion of such article to be operated upon, said shield having an opening through the same.

4. A protecting device used in sand blasting hollow glass articles which have an opening within the same of smaller diameter than the body, which consists of a removable flexible hollow shield of conical shape adapted for insertion within such article through said opening and having its large end contacting with the inner surface of the article so as to cover a portion of said article by said shield and thereby permit another portion of such article to be operated upon, said shield having an opening through the apex of the same.

977,269. AUTOMATIC TYPE-WRITER-RIBBON-REVERSING MECHANISM. THEODOR EUGEN BUSCHMANN, Chemnitz, Germany, assignor to The Firm of Wanderer Werke vorm, Winklhofer & Jaenicke A. G., Schonau, near Chemnitz, Germany. Filed Feb. 21, 1910. Serial No. 545,151.



1. In mechanism for reversing the longitudinal direction of motion of the ink ribbon in typewriters, the combination with a frame, two spool shafts mounted therein each having a gear wheel, and carrying a spool, a ribbon on the spools, two spring-controlled feeder shafts each having a feeler adapted to coact with one of the spools, and driving means attached to each feeler shaft, of a revoluble and axially-movable shaft having two worms and two gear wheels adapted to mesh alternately with the former gear wheels, two pawls each adapted to engage with a worm, means positively connecting said pawls, and means connected with each pawl and adapted to be actuated by said driving means for alternately bringing each pawl into engagement with one of the worms.

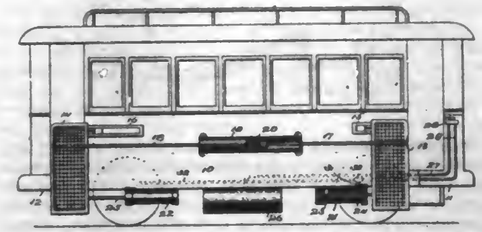
2. In mechanism for reversing the longitudinal direction of motion of the ink ribbon in typewriters, the combination with a frame, two spool shafts mounted therein each having a gear wheel, and carrying a spool, a ribbon on the spools, two spring-controlled feeler shafts each having a feeler adapted to coact with one of the spools, and driving means attached to each feeler shaft, of a revoluble and axially-movable shaft having two worms and two gear wheels adapted to mesh alternately with the former gear wheels, two pawls each adapted to engage with a worm, a rod positively connecting said pawls, and an angle lever connected with each pawl and adapted to be actuated by said driving means for alternately bringing each pawl into engagement with one of the worms.

3. In mechanism for reversing the longitudinal direction of motion of the ink ribbon in typewriters, the combination, with a frame, and a revoluble and axially-movable shaft having two worms mounted therein, of two pawls adapted to engage alternately in said worms, each pawl having an arm for limiting the motion thereof in one direction by abutting against the frame, a rod pivotally connecting said pawls, and means for driving said pawls.

4. In mechanism for reversing the longitudinal direction of motion of the ink ribbon in typewriters, the combination, with a frame, and a revoluble and axially-movable shaft having two worms mounted therein, of two pawls adapted to engage alternately in said worms, each pawl having an arm for limiting the motion thereof in one direction by abutting against the frame, a curved angle lever secured to each pawl, a rod positively connecting the angle levers, and means for driving the angle levers, the motion of the angle levers being limited in both directions by the frame, substantially as shown.

5. In mechanism for reversing the longitudinal direction of motion of the ink ribbon in typewriters, the combination, with a rod (45), of an angle lever (36, 37, 38, 39) carrying a bolt (46) passing through said rod, a spring (47) around said bolt pressing said rod on said lever, and a pawl (23, 33) secured on said lever, substantially as shown and for the purpose specified.

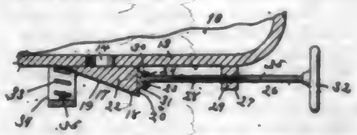
977,270. GATE FOR CARS. JOSEPH WARREN BUSSEY, Black Diamond, Wash. Filed May 24, 1910. Serial No. 563,218.



The combination with a car having front and rear platforms, of guideways mounted upon the sides of the car, gates adapted to slide horizontally in the guide ways and to cover the exits of both of such platforms, a tube mounted upon the car, a spring within the tube, rods carried by the gates and extending into the tube and against the spring whereby the spring serves to hold the gates

normally yieldingly closed, cylinders mounted upon the sides of the car, pistons within the cylinders, piston rods connecting the pistons with the gates, and means to admit a fluid under pressure to the cylinders and against the pistons to open the gates against the tension of the spring.

977,271. LADLE FOR POURING MOLTEN METAL. JAMES W. CALLAGHAN, Newark, N. J. Filed Feb. 11, 1910. Serial No. 543,341.

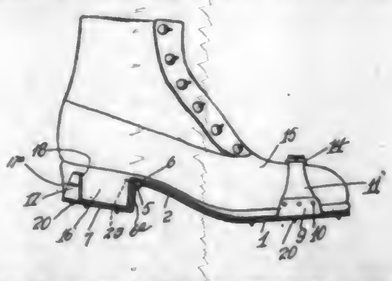


1. The combination with a casting ladle having an outlet in its bottom, of a stopper or closure outside said ladle with its bottom inclined upward to form an acute angle with the top at one edge of the stopper, means for holding said top of the stopper or closure in sliding engagement with the bottom of the ladle, and means for sliding said stopper or closure to move its said sharp edge back and forth across said outlet of the ladle.

2. The combination with a casting ladle having an outlet in its bottom, of slideways upon the outer surface of the bottom of said ladle at opposite sides of said outlet, a stopper or closure mounted at its opposite lateral edges in said slideways and imperviously engaging at its top the bottom of the ladle, the bottom of said stopper or closure being inclined longitudinally upward to form an acute angle with the top at one end of the stopper, and means connected to the other or thick end of the stopper or closure for sliding it in said slideways.

3. The combination with a casting ladle having an outlet in its bottom, of slideways upon the outer surface of the bottom of said ladle at opposite sides of said outlet, a stopper or closure mounted at its opposite lateral edges in said slideways and imperviously engaging at its top the bottom of the ladle, a hanger depending from the ladle bottom, a shaft threaded in said hanger in alinement with the direction of sliding of the stopper or closure, means rotatably securing the inner end of said shaft to the stopper or closure, and means at the outer end of the said shaft for turning the same.

977,272. SOLE AND HEEL PLATE. JOHN T. CLISHUM, Pittsburg, Pa. Filed Dec. 30, 1909. Serial No. 535,656.



Combined sole and heel plates comprising a sole plate having its inner portion provided with a centrally-disposed extension adapted to engage in the top of the forward part of the heel of a shoe when the plate is mounted against the sole of the shoe, a U-shaped heel plate having a portion of each of its arms bent at right angles with respect to the remaining portion and engaging the inner end of the arch of the shoe, said angularly disposed portions of the heel plate arranged one at each side of said extension, means extending through the free terminus of each of the angularly extending portions of the heel plate and connected with said extension intermediate its ends for pivotally connecting the two plates together, spaced vertically-disposed lugs carried at the rear portion of the edge of the heel plate and having their tops bent to provide inwardly-extending prongs adapted to engage in the heel and coöperate with said extension for retaining the heel plate in position, protuberances upon the underside of each of said plates, and means connected with the forward end of the sole plate for coupling it with a shoe whereby said plate is maintained in position.

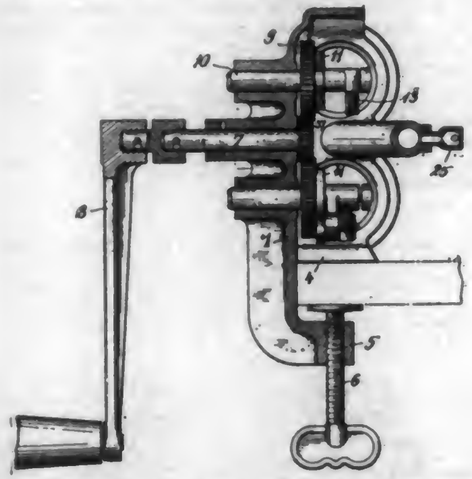
977,273. CHAIN CONVEYER. THOMAS A. COLEMAN, Longville, La., assignor to C. T. Patterson Company, Ltd., New Orleans, La., a Corporation of Louisiana. Filed June 16, 1909. Serial No. 502,519.



1. The combination with a conveyer-chain, of a flight comprising a vertically disposed plate, a head on the end thereof, in the underside of which head is formed a link receiving groove, a reinforcing flange integral with the rear side of the plate, and with the head, a block positioned on the head, in which block is formed a link receiving groove, an extension on the block which overlies a portion of the reinforcing flange, and fastening means passing through the extension, and the reinforcing flange.

2. The combination with a conveyer chain, of a flight comprising a vertically disposed plate, a head formed on one end thereof, there being a link receiving groove formed in the under side of the head, a reinforcing flange on the rear side of the plate, a block positioned on the head and provided with a link receiving groove, an ear projecting from said block and engaging the reinforcing flange, and a fastening device passing through said ear and the flange.

977,274. AIR-PUMP. WILLIAM A. COOK, New York, N. Y. Filed Mar. 25, 1910. Serial No. 551,427.

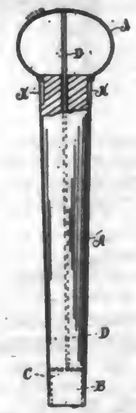


1. A pump having a frame formed of a single casting and consisting of a central wall and four cylinders integral therewith and located two at either side of said wall and in axial alinement with the two on the other side, attaching means formed on said central wall for removably securing the pump to a support, passages for air formed directly in said casting and each leading from a cylinder, the several passages being joined together within said casting, a shaft journaled in said central wall, a pinion carried thereby, two gears meshing with said pinion and

mounted for rotation on said central wall, a crank secured to each gear, pistons in said cylinders, the axially alined pistons being connected to the same crank, and a connection to the single air passage in the casting leading to all said cylinders for carrying aid therefrom, substantially as set forth.

2. A pump having a frame formed of a single casting and consisting of a central wall and four cylinders integral therewith and located on one side of the plane of said wall and two at either of the lateral edges of said wall, the cylinders at one of the lateral edges being in axial alinement with those at the other edge, attaching means formed on said central wall for removably securing the pump to a support, passages for air formed in said casting and each leading from a cylinder, the passages for the cylinders at one edge of said wall being joined to those at the other edge by a single tubular member formed integral with said casting and lying at the side of said cylinders opposite said wall, a shaft journaled in said wall, a pinion carried by said shaft, two gears meshing with said pinion and mounted for rotation on said wall, a crank secured to each gear, pistons in said cylinders, connecting rods connecting each crank to two pistons in axial alinement, and a connection to said tubular member for carrying air therefrom, substantially as set forth.

977,275. MINING-NEEDLE. PATRICK F. COSTELLO, Vintondale, Pa. Filed Feb. 2, 1910. Serial No. 541,554.



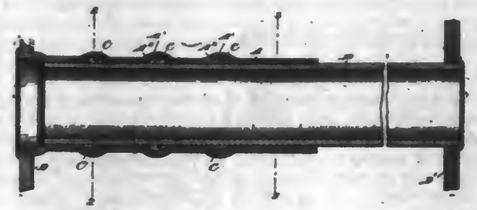
1. In a mining needle, a body, the side walls of which taper inward toward the lower end thereof, a handle mounted at the top of said body, means for holding a dynamite or concussion cap, and means for automatically ejecting said cap.

2. In a device of the character described, a tapering body having a pocket formed in its lower end, a central opening leading upward from the pocket entirely through the body, a plunger, a stem passing through the central opening, brackets secured to the sides of the body, a handle swingingly mounted in said brackets, and means for connecting the handle to the stem.

3. In a device of the character described, a tapering body having a pocket formed in its lower end, a central opening leading upward from the pocket entirely through the body, a plunger, a stem passing through the central opening, brackets secured to the sides of the body, a handle having a crank bent therefrom swingingly mounted in said brackets, and a link for connecting the crank portion of said handle with the upper end of the stem.

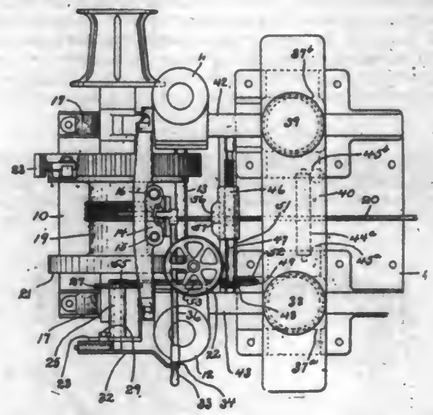
977,276. BOILER-FLUE. JOHN ROBERT CROWLEY, Atlanta, Ga., assignor of one-half to Nathaniel Nelms Boyden, Atlanta, Ga. Filed Apr. 8, 1909. Serial No. 488,602.

1. The combination substantially as herein described of front and rear flue sheets, a flue extending between the same and consisting of sections telescoping at their inner ends and suitably secured at their outer ends to their respective flue sheets, the outer one of said sections being provided with annular corrugations forming annular grooves on its inner side, and packing within the said grooves and surrounding the inner section all substantially as and for the purposes set forth.



2. The improvement herein described consisting of a front sheet, a rear sheet, flues extending between the front and rear sheets and composed each of sections suitably secured at their outer ends to the said sheets and telescoping at their inner ends, annular grooves being provided between the telescoping portions of said flues and gaskets within said grooves and adapted to be expanded by the action of the moisture within the boiler whereby to prevent the leakage of steam and water without retarding the longitudinal expansion and contraction of the telescoped tube sections, all substantially as and for the purposes set forth.

977,277. TOWING-MACHINE. EDMUND DALGLEISH, Cleveland, Ohio. Filed July 12, 1909. Serial No. 507,101.



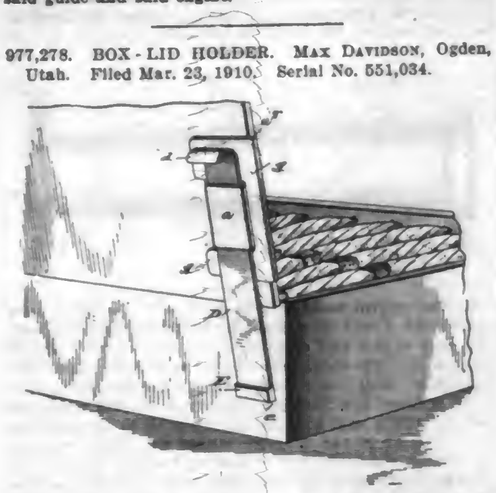
1. In combination, a towing machine comprising a drum adapted to carry a line and an engine for operating the drum, a towing bitt arranged adjacent the engine and provided with a set of rollers between which the line may be led, and a reciprocating or traveling guide or carriage receiving the line and arranged to cause even winding thereof on the drum.

2. In combination with a base, a towing machine mounted on said base, said towing machine comprising a towing drum and a vertical engine for rotating the drum, a pair of uprights mounted on said base and rigidly braced to the towing machine and means arranged between said uprights for guiding the line as it is wound on or off of the said drum.

3. In combination with a base, a towing machine mounted on the base, said towing machine comprising a towing drum and a vertical engine for rotating the drum, a pair of uprights mounted on said base and rigidly braced to the towing machine, a set of rollers mounted on the said uprights between which the line may be led and

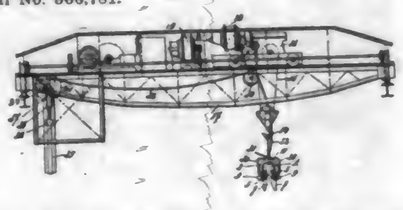
reciprocating guide arranged between said uprights and the drum adapted to receive the line and cause even winding thereof on the drum and means operatively connecting said guide and said engine.

977,278. BOX-LID HOLDER. MAX DAVIDSON, Ogden, Utah. Filed Mar. 23, 1910. Serial No. 551,034.



A lid holder and handle comprising a stationary member consisting of a single piece of metal having a body portion, a pair of integral spring arms bent back upon the body portion, one of said spring arms having a lateral flange and a stamped portion bent out of the plane of the main body portion, a strip of metal slidably carried between said stamped portion and said main body portion, said strip having a curved upper end and being provided with a lug on its lower end arranged to engage one edge of the stamped portion and adapted to be moved in position for engaging the side of the box for supporting the lid in varied inclined positions.

977,279. APPARATUS FOR TRANSPORTING AND MANIPULATING SHEETS OF PLATE-GLASS. LUCIEN DE BAY, Auvelais, Belgium. Filed June 14, 1910. Serial No. 566,781.



1. An apparatus for the manipulation and transport of sheets of plate-glass said apparatus comprising a gripper, pneumatic cushions formed on said gripper; means for distributing a fluid under pressure to said cushions and means for lifting and transporting said gripper.

2. An apparatus for the manipulation and transport of sheets of plate-glass, said apparatus comprising a gripper, pneumatic cushions formed on said gripper, means for lifting and transporting said gripper and means for controlling the supply of a fluid under pressure to the cushions of the gripper.

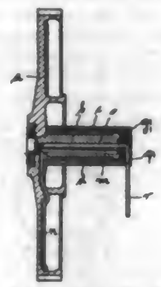
3. An apparatus for the manipulation and transport of sheets of plate-glass, said apparatus comprising a gripper, pneumatic cushions formed on said gripper, means for lifting and transporting said gripper and controlling means for supplying a fluid under pressure to said cushions, the said controlling means being carried by the lifting and transporting means for the gripper.

4. An apparatus for the manipulation and transport of sheets of plate-glass, said apparatus comprising a gripper, pneumatic cushions formed on said gripper, a traveling bridge, a lifting machine on said bridge and means for controlling a supply of air under pressure from said traveling bridge to the pneumatic cushions.

5. An apparatus for the manipulation and transport of sheets of plate-glass, said apparatus comprising a gripper, pneumatic cushions formed on said gripper, a traveling bridge, a lifting machine on said bridge, said machine carrying the gripper, a reservoir of air under pressure mounted on the traveling bridge and means for supplying air under pressure from said reservoir to the pneumatic cushions notwithstanding the displacements of the gripper with relation to the reservoir mounted on the bridge.

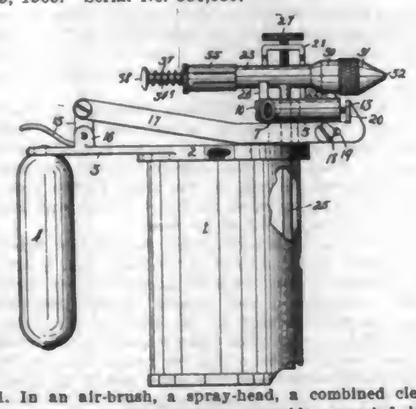
[Claims 6 to 9 not printed in the Gazette.]

977,280. LINE SETTING AND CASTING MACHINE. HEINRICH DEGENER, Berlin, Germany. Filed Apr. 19, 1909. Serial No. 490,748.



In a line setting and casting machine in combination a rotating pin, a casting wheel adapted to support a mold and secured to the rotating pin, said pin having a central and a lateral perforation and being provided with a lid the adjoining surfaces of the lid and the pin having annular recesses forming together an annular circuit, in which the lateral perforation opens, a fixed sleeve for said pin and means for pressing the pin and the lid against each other, substantially as described.

977,281. AIR-BRUSH. THOMAS A. DE VILBISS, Toledo, Ohio, assignor to The De Vilbiss Manufacturing Company, Toledo, Ohio, a Corporation of Ohio. Filed Nov. 29, 1909. Serial No. 530,359.



1. In an air-brush, a spray-head, a combined cleaning and spray regulating member movably mounted in the throat of such head, adjustable means for regulating said member and limiting the movement thereof away from the discharge end of the throat, and means influencing such movements of said member.

2. In an air-brush, the combination with a spray-head, of a member mounted in the spray-head throat and manually movable in one direction to eject matter from the discharge end of such throat, means influencing the movement of such member in the opposite direction, and adjustable means for limiting the movement of such member in said opposite direction to regulate the spray density, substantially as described.

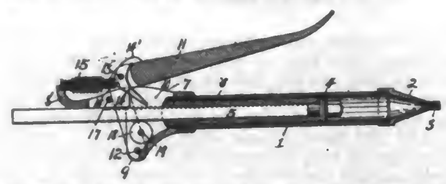
3. In an air-brush, the combination with a spray-head of a combined throat cleaning and spray regulating member mounted in the spray-head throat and manually movable in one direction to clean the discharge end of such throat and automatically movable in the other direction to retract said member, and adjustable means for limiting the automatic movements of such member.

4. In an air-brush, the combination with a spray-head, of a combined throat cleaning and spray regulating member movably mounted in the spray-head throat and having a part projecting without such throat, an element adjustably carried by the head and coöperating with the member to limit its regulating movement away from the discharge end of said throat, and means yieldingly retaining the member retracted from the throat discharge, substantially as described.

5. In an instrument of the class described, the combination with a spray-head having a straight bore therethrough and a discharge nozzle at one end thereof, such nozzle having a part conically reduced to form a restricted discharge-orifice, of a plunger mounted for yielding movements in said bore and having a stem projecting therefrom into the nozzle throat to adjacent its restricted discharge-orifice and manually movable to eject matter from such orifice, means for normally maintaining the plunger in retracted position, and adjustable means for limiting the retracting movements of the plunger, the adjustment of such means being determined by the required spray density.

[Claims 6 to 16 not printed in the Gazette.]

977,282. MODELING-PENCIL. THOMAS A. DE VILBISS, Toledo, Ohio, assignor to The De Vilbiss Manufacturing Company, Toledo, Ohio, a Corporation of Ohio. Filed May 9, 1910. Serial No. 560,351.



1. In an instrument of the class described, a barrel having a discharge nozzle at one end, a plunger working in said barrel and having a toothed stem projecting therefrom through the end of the barrel opposed to its nozzle, a bracket member rigidly carried by the barrel end through which the stem projects, a finger fulcrumed to such bracket, a pawl carried by such finger and operative to engage the toothed portion of the stem and move it and the plunger in one direction when the finger is moved from normal position, means serving to yieldingly hold the finger in one position of its movement, and means coöperating with said bracket to cause it to frictionally grip said stem to prevent free longitudinal movements thereof relative to the bracket.

2. In an instrument of the class described, a barrel having a nozzle at one end, a plunger working in such barrel and having a toothed stem projecting through the end of the barrel opposed to its nozzle, a bracket rigidly carried by the barrel and having a slotted portion through which the stem works, an angled finger fulcrumed to such bracket, a pawl carried by such finger and adapted on a movement of the finger from normal position to engage and move the stem in one direction, means serving to yieldingly hold the finger in one position of its movement, and adjustable means coöperating with the bracket to cause it to frictionally grip the stem and prevent free longitudinal movements thereof relative to the bracket.

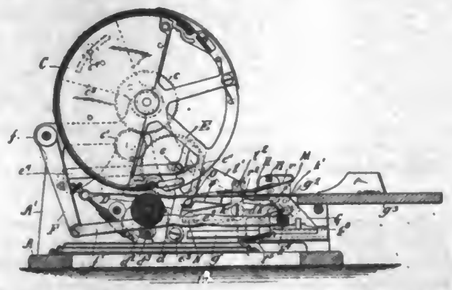
3. In an instrument of the class described a barrel having a nozzle at one end, a plunger working in such barrel, a stem projecting from such plunger through the end of the barrel opposite to its nozzle and having a series of ratchet teeth thereon, an angled finger pivoted to the barrel adjacent its rear end and having a portion extending along the barrel at one side thereof, a pawl carried by such finger and adapted to engage the teeth on the stem and impart movements to the stem in one direction when the finger is oscillated from normal position, and means attached to the pawl and yieldingly acting thereon to retain it in engagement with said teeth and on the finger to normally hold it in one position of its movement.

4. In an instrument of the class described, a barrel having a discharge nozzle at one end thereof, a plunger working in said barrel and having a stem projecting therefrom, said stem having ratchet teeth formed on one side thereof, a finger pivoted to said barrel adjacent the end thereof opposed to the nozzle, means acting on the finger to normally retain it in one position of its movements, and a pawl carried by such finger and adapted to engage the toothed portion of the stem to impart movements thereto in one direction when the finger is moved from normal position, said pawl having a part coacting with the finger to positively retain the pawl out of tooth engaging position when the finger is in normal position.

5. In an instrument of the class described, a barrel having a discharge nozzle at one end, a plunger working in the barrel, a stem projecting from the plunger through one end of the barrel and having ratchet teeth on one side thereof, an angled finger pivoted to the barrel adjacent one end thereof and having a portion projecting along one side of the barrel, a pawl carried by the finger and adapted to move into engagement with said teeth and impart movements in one direction to the stem when the finger is depressed toward the barrel, and means acting on the finger to normally retain it in one position relative to the barrel and on the pawl to influence its engagement with the stem teeth, said pawl having a tail piece which coacts with a portion of the finger when in normal position to counteract the influence of said means on the pawl and positively retain the pawl out of engagement with the stem teeth.

[Claim 6 not printed in the Gazette.]

977,283. SHEET-FEEDING APPARATUS. ALBERT B. DICK, Lake Forest, Ill., assignor to A. B. Dick Company, Chicago, Ill, a Corporation of Illinois. Filed Apr. 6, 1908. Serial No. 425,407.



1. Sheet-feeding apparatus, comprising the combination of a feed-board, a gripper-jaw mounted above the plane of the surface of the feed-board, a second gripper-jaw, means for moving the same toward said first-named gripper-jaw to raise a portion of the sheet between said jaws off said board and away from said gripper-jaw to release said sheet, and means for simultaneously reciprocating said gripper-jaws with the first gripper-jaw moving above and parallel to the plane of the surface of the feed-board, substantially as set forth.

2. The combination of a rotary printing member, means for rotating the same, a movable member coöperating with said member and forming therewith a printing couple, a feed-board having an opening therein, a gripper-jaw mounted above the surface of the feed-board, a second gripper-

jaw, means for moving the same in said opening to carry its end toward said first-named gripper-jaw to raise a portion of the sheet between said jaws off said board and away from said jaw to release said sheet, means for reciprocating said gripper-jaws in accordance with the rotation of said rotary member with the first gripper-jaw moving above and parallel to the surface of the feed-board, and means for effecting an adjustment of the time of operation of the gripper-jaws with respect to the rotation of said rotary member, substantially as set forth.

3. Sheet-feeding apparatus comprising the combination of a feed-board, an upper gripper-jaw mounted above the plane of the surface of the feed-board, a lower gripper-jaw movable toward and away from the upper gripper-jaw, means for reciprocating the gripper-jaws with the upper gripper-jaw moving above and parallel to the plane of the surface of the feed-board, an upwardly extending stop, means for moving the stop downwardly to inoperative position below the plane of the feed-board, and means for returning the stop to operative position to arrest the movement of a sheet forwarded into coaction with the stop immediately after the forward edge of another sheet has been moved past the stop by said gripper-jaws, substantially as set forth.

4. Sheet-feeding apparatus comprising the combination of a rotary printing member, a feed-board, an upper gripper-jaw, lying above the plane of the feed-board, a lower gripper-jaw movable toward and away from the upper gripper-jaw, a single means for rotating said member and reciprocating said gripper-jaws with the upper gripper-jaw moving above and parallel to the plane of the surface of the feed-board, means for adjusting the time of the reciprocation of the gripper-jaws with respect to the rotation of said member, an upwardly extending stop, means for moving the stop downwardly to inoperative position below the plane of the feed-board, and means for returning the stop to operative position to arrest the movement of a sheet fed over said board into coaction with said stop immediately after the forward edge of another sheet has been moved past said stop by said gripper-jaws, substantially as set forth.

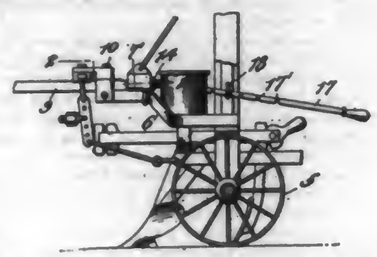
5. The combination of a rotary printing member, means for rotating the same, a movable member coöperating with said member and forming therewith a printing couple, a feed-board having an opening therein, a gripper-jaw mounted above the surface of the feed-board, a second gripper-jaw, means for moving the same in said opening to carry its end toward said first-named gripper-jaw to raise a portion of the sheet between said jaws off said board and away from said jaw to release said sheet, means for reciprocating said gripper-jaws in accordance with the rotation of said rotary member with the first gripper-jaw moving above and parallel to the surface of the feed-board, an upwardly extending stop for arresting a sheet in position for co-action with said gripper-jaws, and means for moving said stop downwardly to permit the sheet to pass it, substantially as set forth.

[Claims 6 to 14 not printed in the Gazette.]

977,284. DRAFT DEVICE. EWELL MONROE DOWDY, Water Valley, Tex. Original application filed Apr. 2, 1910, Serial No. 553,146. Divided and this application filed July 18, 1910. Serial No. 572,504.

1. In a device of the character described, the combination of a supporting block, said block having an enlargement formed on one end provided with a concaved face, a tongue pivoted on said block, a head formed on one end of the tongue movable over the concaved face of the block and provided with a central socket therein, a locking pin longitudinally movable through the enlarged end of the block for engagement in said socket to lock the tongue against pivotal movement and means for actuating said locking pin.

2. In a device of the character described, the combination of a supporting block, a tongue pivotally mounted on said block, a locking pin movably mounted in the block for engagement with said tongue to lock the same against pivotal movement, a lever pivotally mounted upon said block adjacent to one end and pivoted to said locking pin, and a manually movable bar connected to the other end of said lever to move said locking pin.



3. In a device of the character described, the combination of a supporting block having an enlargement formed on one end thereof, a tongue pivoted upon said block adjacent to its other end, said tongue having oppositely disposed transverse extensions on one end to form a head, the outer face of said head being convex, the enlarged end of the supporting block having a concave face opposed to the convex face of said head, said head being provided with a central socket, the end of said block having an opening therein, a longitudinally movable pin in said opening adapted for engagement in said socket to lock the tongue against pivotal movement, a lever pivoted upon the supporting block adjacent to one end, said end of the lever being pivoted to one end of the locking pin, and a manually-movable bar connected to the other end of said lever to actuate the same and move the locking pin.

977,285. EXPANDED METAL BAR OR MEMBER. HERBERT KEMPTON DYSON, Finsbury Park, England. Filed Jan. 28, 1909. Serial No. 474,737.



1. An expanded metal member formed from a bar having flanged edges and the web portions slit into a single row of parallel strands each inclined to the longitudinal axis of the bar, and comprising end portions expanded in a plane transverse to that of the bar, and each comprising an upper and lower flanged edge connected by inclined strands formed from the expansion of the diagonally slitted web portion, the strands in the aforesaid end portions being oppositely inclined and the flanged edges continuous throughout the length of the bar.

2. An expanded metal member formed from a bar having flanged edges and a web portion diagonally slit throughout, and comprising a middle portion having the strands formed by the slitted web portion each severed at one end and turned up transverse to the plane of the bar, and end portions expanded in a plane transverse to that of the bar and each comprising an upper and lower flanged edge connected by inclined strands formed from the expansion of the diagonally slitted web portion, the strands in the aforesaid end portions being oppositely inclined.

3. An expanded metal member formed from a bar having flanged edges and a web portion slitted diagonally throughout, and comprising a middle portion having the strands formed by the slitted web portion severed at alternate ends and turned up latticework transverse to the plane of the bar, and end portions expanded in a plane transverse to that of the bar and each comprising an upper and lower flanged edge connected by inclined strands formed from the expansion of the diagonally slitted web portion, the strands in the aforesaid end portions being oppositely inclined.

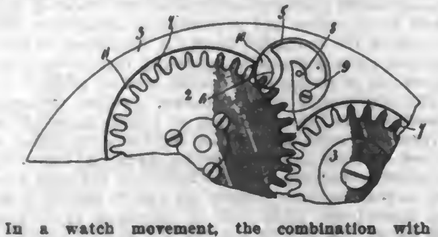
4. An expanded metal member formed from a bar having flanged edges and a web portion slitted into a single row of parallel strands, each inclined to the longitudinal axis of the bar, and comprising end portions expanded in a plane transverse to that of the bar and each comprising

an upper and lower flanged edge connected by inclined strands formed from the expansion of the slitted web portion, the upper flanged edge at one end being formed by bending up one of the flanged edges of the bar out of the plane of the bar, and the upper flanged edge at the opposite end being formed by bending the other flanged edge out of the plane of the bar, said bent edges being continuous with the remaining unbent portions of said flanged edges.

5. An expanded metal member formed from a bar having flanged edges and a web portion slitted diagonally in the same direction throughout, and comprising a middle portion having the strands formed by the slitted web portion severed at one end and turned up transverse to the plane of the bar, and end portions expanded in a plane transverse to that of the bar and each comprising an upper and lower flanged edge connected by inclined strands formed from the expansion of the diagonally slitted web portion, the upper flanged edge at one end being formed by bending up one of the flanged edges of the bar out of the plane of the bar, and the upper flanged edge at the opposite end being formed by bending the other flanged edge out of the plane of the bar.

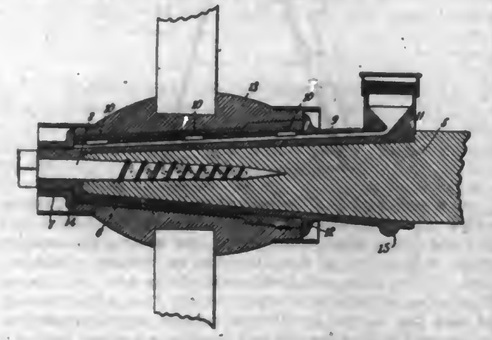
[Claims 6 to 8 not printed in the Gazette.]

977,286. RATCHET MECHANISM FOR WATCH-MOVEMENTS. WILLIAM HENRY EBELHARE, Waltham, Mass., assignor to The Keystone Watch Case Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 2, 1910. Serial No. 541,444.



In a watch movement, the combination with the ratchet wheel and the plate on which the same is journaled, of a spring having substantially the form of a segment of a circle and located in a substantially circular recess formed in the plate adjacent to the periphery of the wheel, said spring being fixed to the plate at its forward end and normally held in contact with the periphery of the recess by its own elasticity, and a detent carried by the rear end of the spring and arranged to engage the teeth of said wheel and to be moved forward thereby into the open interior of said recess.

977,287. AXLE-LUBRICATOR. CARL EMERSON and JULIUS PETERSON, Minneapolis, Minn. Filed Oct. 26, 1909. Serial No. 524,644.



1. An axle skein having a compression grease cup adjacent to its inner end and provided with a lubricating passage extending from the cup, the lubricating pass extending through the outer end of the skein and havin discharge opening at a point along the length of the jo nal portion of the skein.

2. An axle skein having an outer threaded end and p vided with a lubricating passage arranged in the w thereof and extending approximately the full length the skein, a compression grease cup communicating w the passage, and an axle nut threaded on the outer of the skein and closing the outer end of the lubricat passage.

977,288. GRASS-CUTTER. ALEXANDER EUCHENHOF Dayton, Ohio. Filed Dec. 1, 1909. Serial No. 530,7



1. In a grass clipper, a pair of shears, a flexible n resilient connecting member between the members of a shears, and means engaging said flexible non-resili member to shorten the effective length thereof to close shears.

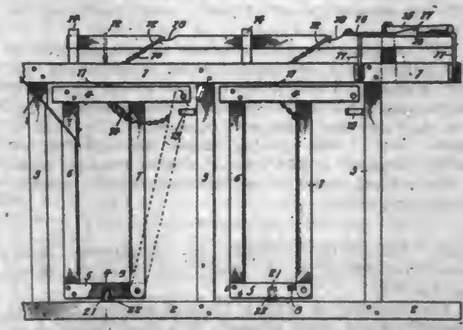
2. In a grass clipper, a pair of shears the members which are connected by a spring which maintains a shears normally open, a flexible connecting member tween the opposite members of said shears, and rotat means engaging said flexible member and adapted to crease the effective length of said flexible member and thereby close the shears against the tension of the spri

3. In a grass clipper, a pair of shears the members which are connected by a spring, a handle to which a shears are connected, a flexible member extending tween and attached to the members of said shears, a ro tive member engaging said flexible member and adap to decrease the length of said flexible member to cl the members of the shears, a reciprocative member, means interposed between said reciprocative member said rotative member whereby the reciprocation of member will rotate the other.

4. In a grass clipper, a pair of shears the members which are connected by a spring which normally ma tains said shears open, a flexible member between and tached to the members of said shears, a rotative mem engaging said flexible member to shorten the same thereby close the shears, cam devices controlling a rotative member, a reciprocating member operative in direction to rotate the rotative member in one directi and a spring operating the reciprocating member in other direction to reverse the movement of the rotat member, substantially as and for the purposes specif

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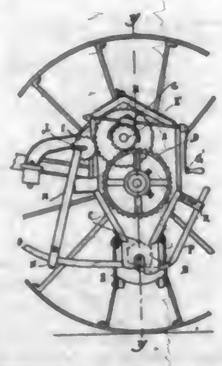
977,289. CATTLE-STANCHION. JOHN B. FORWO Forest Hill, Md. Filed Oct. 25, 1909. Serial 524,386.



The combination, with a fixed frame having fixed sl ted guides on its upper side, stanchions pivoted in s

frame and having a hollow pivot at their upper ends, of a bar adapted to slide in the guides and provided with notches, chains attached to the swinging stanchion bars and passing through the hollow pivots and provided with rings adapted to receive said bar and engage the notches therein, the said rings being adapted for individual disengagement from the notches and for contact with said guides, whereby they may be reengaged with the notches when the bar is slid the requisite distance, substantially as described.

977,290. CHEMICAL-MANURE DISTRIBUTER. LOUIS FERNNET, Ligny, Belgium. Filed Feb. 5, 1910. Serial No. 542,254.



1. The combination of a receptacle for the material to be discharged, said receptacle having a downward discharge opening, an oscillating member having oppositely inclined upper faces and movable transversely of and within said opening from and substantially to each of opposite sides of said opening, and means for imparting oscillating movement to said member, substantially as described.

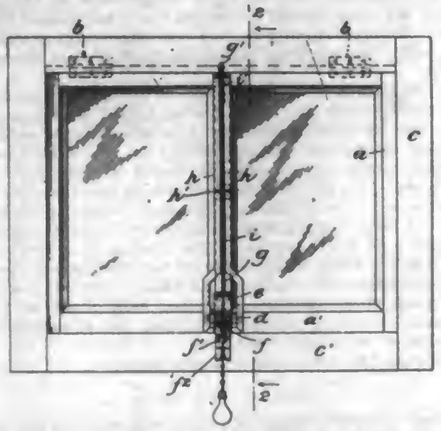
2. The combination of a receptacle for the material to be discharged, said receptacle having a downward discharge opening, supporting means for said receptacle comprising ground wheels, an oscillating member having oppositely inclined upper faces and pivoted to move transversely of and within said opening from and substantially to each of opposite sides of said opening, an arm extending from and rigidly attached to said member, an adjustable power-transmitting means operatively connecting the ground wheel with said arm, substantially as described.

3. The combination of a receptacle for the material to be discharged, said receptacle having a downward discharge opening, an oscillating member having oppositely inclined upper faces and movable transversely of and within said opening from and substantially to each of opposite sides of said opening, means for imparting oscillating movement to said member, and means, adjustable vertically, for supporting said member, substantially as described.

4. The combination of a receptacle for the material to be discharged, said receptacle having a downward discharge opening, an oscillating member having oppositely inclined upper faces and movable transversely of and within said opening from and substantially to each of opposite sides of said opening, means for imparting oscillating movement to said member, a sieve arranged under said member and means for oscillating said sieve, substantially as described.

977,291. TRANSOM-LIFTER, &C. ALEXANDER FROMHOLD, Rutherford, N. J. Filed Apr. 2, 1910. Serial No. 553,088.

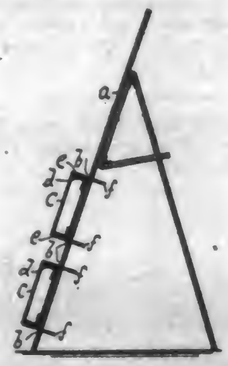
1. The combination with a transom adapted to swing to closed position when released, of a latch mounted on the transom, a catch mounted on the frame or casing, a guide rod mounted on the frame or casing, and an operating rod connected with the latch and having a projection to bear against the guide rod and its extremity extended beyond the guide rod to receive an operating cord or chain.



2. The combination with a transom adapted to swing to closed position when released, of a pivoted weighted latch mounted on the transom and having an oppositely extended short arm, a catch mounted on the frame or casing, a vertical guide rod mounted on the frame or casing, and an operating rod pivotally connected with the short arm of the latch and having a projection to bear against the guide rod and its extremity extended beyond the guide rod to receive an operating cord or chain.

3. The combination with a transom adapted to swing to closed position when released, of a latch mounted on the transom, a catch mounted on the frame or casing, a guide rod mounted on the frame or casing, an operating rod pivotally connected with the latch and having a projection to bear against the guide rod and its extremity extended beyond the guide rod, an operating chain connected to the free end of the rod and having a fusible link, and a catch for the chain.

977,292. DISPLAY-CARD. ROBERT GAIR, Brooklyn, N. Y. Filed July 7, 1909. Serial No. 506,846.



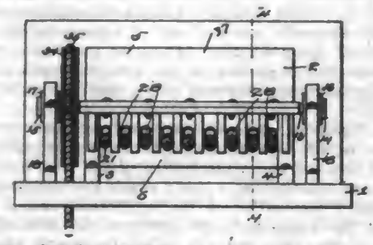
As a new article of manufacture, a box shaped from a single piece of flexible cardboard, comprising lateral upper and lower flaps, front upper and lower supplemental flaps, both series of flaps forming an integral continuation of the sides and front wall of the box, said front flaps being adapted to overlap the side flaps while the end of each flap is bent inwardly to edgage the inner portion of the rear wall of the box and constitute a secure closure; and attaching upper and lower flaps formed integral with and projecting horizontally from the rear wall of the box adapted for engagement with a support, each of said flaps having a perforated part located at its junction with the rear wall whereby the box can be ripped from the support.

977,293. HAND-STAMP. LOUIS R. GARBY, Lewiston, Idaho. Filed Aug. 19, 1910. Serial No. 577,988.



In combination with a dating stamp having its upper shaft projecting beyond the sides of the frame, a plate adapted to carry additional impression matter surrounding the dating characters, spring arms extending upwardly from the plate, the spring arms having apertures near their ends for receiving the ends of the shaft, and U-shaped projections on the spring arms adapted to fit the edges of the frame sides.

977,294. ELECTRICAL FLASHER. ARTHUR SYLVESTER GIBBS, Scranton, Pa. Filed Dec. 21, 1908. Serial No. 468,593.



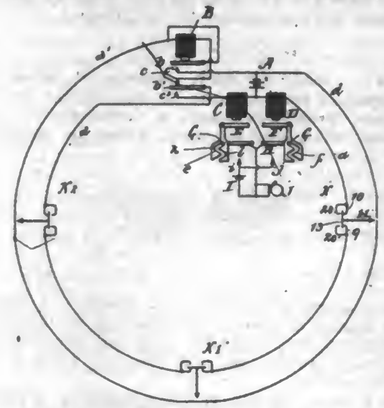
In an electrical flasher, a base, a housing connected with said base and divided into parts along a central line parallel with the base, means for securing the parts of said housing together, a shaft passing through said housing in the plane of said central line, a plurality of partitions arranged in said housing for forming a plurality of chambers, a mercury bath for each of said chambers, a contact member secured to said shaft in one of said chambers and arranged to continuously contact with the mercury therein, contacts secured to said shaft and positioned in each of the remaining chambers and designed to be brought into contact with the mercury bath in the respective chambers when said shaft is rotated, a contact member for each of said chambers contacting with the respective mercury baths and extending through said housing and means for rotating said shaft.

977,295. ELECTRICAL THERMOSTATIC ALARM SYSTEM. ALBERT GOLDSTEIN, New York, N. Y., assignor to International Electric Protection Company, a Corporation of New York. Filed May 2, 1910. Serial No. 558,819.

1. The combination in circuit of an electrical thermostat comprising a case, a diaphragm in said case and operated by air expansion therein, means controlled by said diaphragm for making successively three changes in the electrical condition of the circuit, and an alarm device operating only after the third change in said condition.

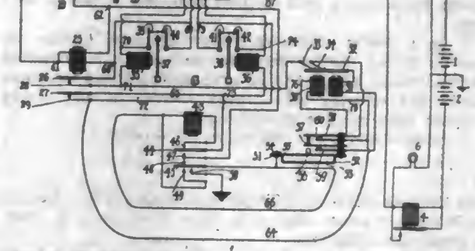
2. The combination in circuit of an electrical thermostat comprising a case, a diaphragm in said case and operated by air expansion therein, means controlled by said diaphragm for first making, then breaking and then making said circuit, and an alarm device operating only after said second make.

3. The combination in circuit of a magnet, a circuit closing switch controlled by said magnet to move over three successive portions of its path before closing circuit, and an electrical thermostat comprising a case, a



diaphragm in said case and operated by air expansion therein, and means actuated by said diaphragm to control said magnet to cause said movement of said switch.

977,296. CENTRAL-ENERGY ELECTRICAL TEMPERATURE-ALARM SYSTEM. ALBERT GOLDSTEIN and CLARK H. POOL, New York, N. Y., assignors to International Electric Protection Company, a Corporation of New York. Filed June 3, 1910. Serial No. 564,745.



1. An electrical alarm system comprising a line circuit connecting distant stations, and, at one station, a translating device, and, at a distant station, a transmitter, means operable only by a certain frequency current for controlling said transmitter to actuate said translating device, and means for producing said frequency current.

2. An electrical alarm system comprising a line circuit, a translating device, a transmitter, motor mechanism for said transmitter, a releasing device for said mechanism controlled only by a certain frequency current, and means for producing said current.

3. An electrical alarm system comprising a line circuit connecting distant stations, and, at one station, a translating device and a source of current, and, at a distant station, a transmitter, means operable only by a certain frequency current for controlling said transmitter to operate said translating device, and means for imposing a frequency on the current from said source.

4. An electrical alarm system comprising a line circuit, a source of current, a transmitter, a translating device, an independently operated means interposed in said circuit for imposing a certain frequency on said current, and means actuated only by said frequency current for controlling said transmitter.

5. An electrical temperature alarm system comprising a line circuit, a transmitter, a translating device, means operable only by a certain frequency current for controlling said transmitter, and means controlled only by temperature variations for producing said frequency current.

[Claims 6 to 10 not printed in the Gazette.]

977,297. WALL-SOCKET. GILBERT W. GOODRIDGE, Bridgeport, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a Corporation of Connecticut. Filed July 21, 1909. Serial No. 508,765.



1. In a device of the character described, a base, a latching element thereon for supporting an electric fitting, in combination with a canopy to fit over said base and spring means carried by said base for securing said canopy in position.

2. In a device of the character described, a base, a latching element for supporting an electric fitting and securing means for fastening the latter to said base in combination with a canopy to fit over said base and spring means held by said securing means for fastening said canopy in position.

3. In a device of the character described, a base, an electric fitting carrier mounted thereon, in combination with a canopy provided with an internal bead and adapted to fit over said base, and spring means coöperating with said bead for securing said canopy in position.

4. In a device of the character described, a base, an electric fitting carrier mounted thereon, in combination with a canopy provided with an internal bead and adapted to fit over said base, spring means coöperating with said bead for securing said canopy in position together with means for securing said spring and fitting carrier to said base.

5. In a device of the character described, a base, an electric fitting carrier mounted thereon, in combination with a canopy adapted to fit over said base and concealed means for securing said canopy thereto in any rotary position with relation to said base.

[Claims 6 and 7 not printed in the Gazette.]

977,298. LIQUID-DISPENSING APPARATUS. HORACE PROUTS GORMAN, Hazleton, Pa. Filed Dec. 2, 1908. Serial No. 465,871.

1. In dispensing apparatus a tiltably supported liquid receptacle, an outlet tube open at both ends and communicating at an intermediate point with the bottom thereof, and a sealing compartment interposed between said tube and receptacle and communicating therewith, said compartment opening adjacent the front thereof, into the receptacle and adjacent the rear thereof into the tube both ends of the tube being normally disposed above the bottom of the receptacle.

2. In dispensing apparatus a tiltably supported liquid receptacle, an outlet tube open at both ends, and a sealing compartment interposed between the tube and the bottom of the receptacle, said compartment communicating adjacent the front thereof with the receptacle and adjacent the rear thereof with the intermediate portion of the tube the open ends of the tube being normally disposed above the bottom of the receptacle.

3. In dispensing apparatus a liquid receptacle bodily tiltable, an outlet tube open at both ends, and a compartment interposed between the bottom of the receptacle and an intermediate portion of the tube, said compartment having an inlet and an outlet disposed out of alinement, the inlet being normally at a higher elevation than the outlet, said compartment being adapted to trap liquid to control the discharge thereof from the receptacle to the tube the open ends of the tube being normally disposed above the bottom of the receptacle.

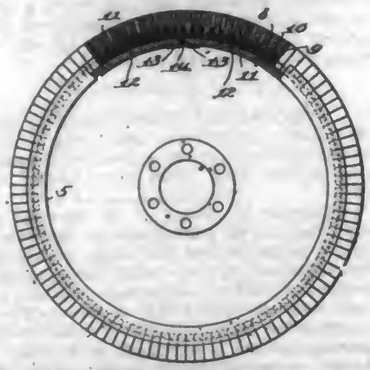


4. In dispensing apparatus a tiltable liquid receptacle, an outlet tube open at both ends and extending beyond opposite portions of the receptacle, a compartment for trapping liquid between the receptacle and an intermediate portion of the tube, said compartment having an inlet and an outlet normally located at different elevations and constantly disposed out of alinement, the said compartment being adapted to control the discharge of liquid from the receptacle of the tube the ends of the tube being normally disposed above the bottom of the receptacle.

5. In dispensing apparatus a liquid receptacle having an outlet in the bottom thereof, a tube having open end normally disposed above the bottom of the receptacle, one of said ends constituting a liquid outlet and disposed normally above the outlet of the receptacle, and a compartment for trapping liquid between the intermediate portion of the tube and the outlet to control the discharge of liquid from said outlet to the tube, said compartment having an inlet in the top thereof and an outlet in its bottom, the said inlet and outlet being out of register with each other, said receptacle and tube being bodily shiftable to bring the outlet of the tube below the normal level of the liquid therein.

[Claims 6 to 17 not printed in the Gazette.]

977,299. BLADING FOR TURBINES. LEWIS A. HAINES, Columbus, Ohio. Filed Apr. 25, 1910. Serial No. 557,448.



1. In a turbine, the combination with a circumferentially channeled supporting element, of a flexible blade bar composed of a plurality of blades and space blocks alternately arranged and threaded on a stringer, the bar being applied in the channeled supporting element and having the ends of the stringer passed through and secured to said supporting element.

2. In a turbine, the combination with a supporting element having a circumferential channel, of a plurality of alternately arranged blades or buckets and space devices of relative configurations, the blades or buckets and space devices being preliminarily disposed on a flexible stringer and applied in and bent around the said channel, the stringer having its extremities inserted through and secured to the supporting element.

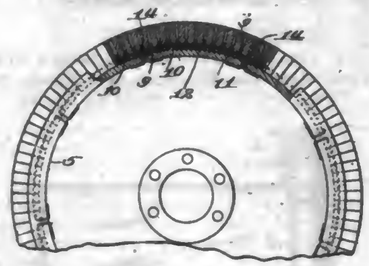
3. In a turbine, the combination with a supporting element, of a flexible blade or bucket bar applied around and secured to said supporting element and having a stringer extending therethrough, the blade or bucket bar being prepared preliminarily to its application to the supporting element and secured to the latter, and a key device inserted between the contiguous ends of the applied bar and fitted over the extremities of the stringer.

4. In a turbine, the combination with a supporting element, of a flexible blade or bucket bar applied around and secured to said supporting element and having a stringer extending therethrough, a key device inserted between the ends of the flexible blade or bucket bar when the latter is applied, and caiking means interposed between the applied blade or bucket bar and a portion of the supporting element and having a part of the same projected into the said element.

5. In a turbine, the combination with a supporting element, of a flexible blade or bucket bar applied around and secured to said supporting element, the blade or bucket bar being composed of a plurality of blades or buckets and space devices and a flexible strand threaded through the blades or buckets and space devices prior to the application of the latter to the supporting element, the extremities of the flexible strand being inserted through portions of the supporting element and serving as a holding means for the blade or bucket bar.

[Claims 6 and 7 not printed in the Gazette.]

977,300. BLADING FOR TURBINES. LEWIS A. HAINES, Columbus, Ohio. Filed Apr. 25, 1910. Serial No. 557,449.



1. In a turbine, the combination with a supporting element having a circumferential channel, of a plurality of independent sections of blades prepared prior to their application to the supporting element and individually separable from said element, said sections each consisting of motive agent engaging means having a stringer extending therethrough and under tension, and devices interposed between the contiguous ends of the sections and engaging a portion of the terminals of the stringers thereof.

2. In a turbine, the combination with a supporting element having a channel, of a plurality of independent motive agent engaging sections individually applied to and removable from said element and having individual stringers extending therethrough, the motive agent engaging means and stringers being tightened up and held in close assembled relation prior to their application to the supporting element, and securing means interposed between the ends of the sections and between the sides of the latter and one wall of the channel of the supporting element.

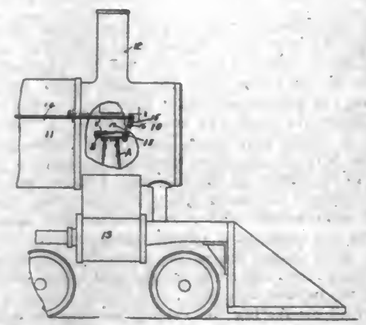
3. In a turbine, the combination with a supporting element, of a plurality of motive agent engaging sections applied to and removable from the element and having a flexible means extending through each section, the extremities of the flexible means of the sections engaging portions of the supporting element and serving as a part of the securing means for the sections, and means interposed between the sides of the sections and a portion of the supporting element to serve as an additional securing means for said sections.

4. In a turbine, the combination with a supporting element, of a plurality of groups of blades or buckets independently applied to and removable from the element and having a flexible means threaded therethrough prior to application of the groups of blades or buckets to the supporting element, the opposite extremities of the flexible means being projetced through the supporting element and serving as a portion of the securing means for the groups of blades or buckets.

5. A blade or bucket section for use with a plurality of similar sections on a turbine consisting of a series of interfitting blades or buckets and space blocks between the inner extremities of the blades or buckets, and a flexible strand threaded through the blades or buckets and blocks and bent inwardly over portions of the end blades or buckets.

[Claim 6 not printed in the Gazette.]

977,301. VARIABLE-EXHAUST NOZZLE FOR ENGINES. FRANK HAMILTON, Beardstown, and CALVIN R. TWYMAN, Galesburg, Ill. Filed Apr. 17, 1909. Serial No. 490,605.



1. A variable exhaust nozzle for engines comprising a stand connected with the exhaust of the cylinders and located in the smoke box beneath the smoke stack, a nozzle frame secured in the top of said stand formed with a closed rear end and an open front end, sliding plates partially covering the opening in said nozzle and mounted to slide in said frame to enlarge or contract said opening the front plate being arranged to slide through the open front of said frame, operating means connected to the outer end of said front plate adjacent to the front of the smoke-box, and connections between the rear plate and the front plate for sliding said plates simultaneously, substantially as set forth.

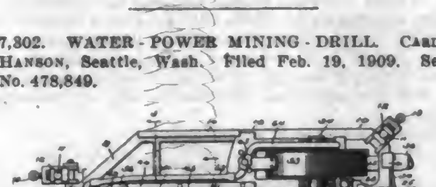
2. A variable exhaust nozzle for engines comprising a stand connected with the exhaust from the cylinders and located in the smoke-box, a nozzle frame formed with its front end open and its rear end closed secured in the top of said stand formed with an opening and a longitudinal way, a sliding part in said way of a form to control the area of said opening as it is slid back and forth and projecting beyond the front end of said frame, an operating rock-shaft, a connection between said rock-shaft and the front end of said sliding part through the open front end of said frame, and means for operating said rock-shaft, substantially as set forth.

3. In a variable exhaust nozzle construction for steam engines, the combination, of the stand connected with the exhaust of the cylinders, a nozzle frame formed closed at

its end toward the boiler flues and open at its end toward the front end of the smoke-box and with a ring on its under side adapted to fit into the top of said stand, said ring being formed with a groove in its side to receive the points of securing devices extending horizontally through the wall of said stand, said securing devices, sliding parts mounted in ways in said nozzle frame with semi-circular adjacent edges, and means for sliding said parts toward and from each other to vary the area of the opening between them, substantially as set forth.

4. A variable exhaust nozzle for engines comprising a stand with a top nozzle frame formed with an opening and open at its front and closed at its rear, sliding parts for controlling the area of said opening mounted in a way around the same, said sliding parts being formed with inter-engaging overlapping edges, and means for operating said sliding parts connected to the front end of the front part, whereby the rear end of said frame may be left closed, substantially as set forth.

977,302. WATER-POWER MINING-DRILL. CARL A. HANSON, Seattle, Wash. Filed Feb. 19, 1909. Serial No. 478,849.



1. The combination with a main frame, and means for supporting the same, of a second frame slidably mounted upon the main frame, a lever and ratchet adapted to advance the second frame upon the main frame, means for connecting the ratchet and main frame, a hammer mounted to reciprocate upon the second frame, a cross head mounted to reciprocate upon the second frame, yielding connection between the cross head and hammer, a drill in position to be struck by the hammer, a water wheel, and means to connect the water wheel with the cross head.

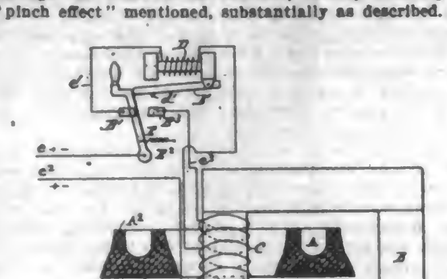
2. The combination with a main frame and means for supporting the same, of a second frame slidably mounted upon the main frame, means for manually advancing the second frame upon the main frame, said means including a ratchet mechanism mounted on the main frame, a cable, and a spring connecting the ratchet mechanism with the second frame, a hammer mounted to reciprocate upon the second frame, a cross head mounted to reciprocate upon the second frame, yielding connection between the cross head and hammer, a drill in position to be struck by the hammer, and a motor adapted to actuate the cross head.

3. The combination with a main frame and means for supporting the same, of a second frame slidably mounted upon the main frame, means for manually advancing the second frame upon the main frame, said means including a ratchet mechanism mounted on the main frame, a member slidably mounted on the main frame and connected with the second frame, a cable and a spring connecting said slidable member with the ratchet mechanism, a hammer mounted to reciprocate upon the second frame, a cross head mounted to reciprocate upon the second frame, yielding connection between the cross head and hammer, a drill in position to be struck by the hammer and a motor adapted to actuate the cross head.

977,303. ELECTRIC FURNACE. JOHANNES HIRDEN, London, England. Filed May 7, 1909. Serial No. 494,717.

1. In an induction furnace for melting metals, a crucible in the walls of which the induced current flows until a melt is established, said walls comprising an intimate mixture of a refractory material and a suitable conductor.

2. In an induction furnace for melting metals, a crucible in the walls of which the induced current flows until a melt is established, said walls comprising an intimate mixture of a refractory material and a suitable conductor in such proportions that upon a contraction of the melted charge at any point the current flows at that point through the walls of the crucible, thereby avoiding the "pinch effect" mentioned, substantially as described.



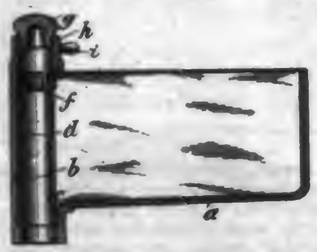
3. In an induction furnace for melting metals, a crucible having walls comprising an intimate mixture of refractory material and a suitable conductor in suitable proportions, said walls being of greater cross section in the body portion than at the lip, whereby a gradual heating of the charge from the bottom up is secured upon the passage of the induced current through said walls, substantially as described.

4. In an induction furnace for melting metals, a crucible having conducting walls through which the induced current passes during the establishment of a melt, said walls being of greater current carrying capacity in the body portion than at the lip, for the purpose described.

5. In an induction furnace, a melting chamber or crucible of relatively high conductivity, said crucible being of greater cross section in its body than at its lip, in combination with a divided primary winding adapted to be partially energized to induce a strong current through said crucible at the starting of the furnace to secure a preliminary melt and means for switching in a further length of said primary winding after a melt has been established.

[Claims 6 to 11 not printed in the Gazette.]

977,304. DISCHARGE AND OVERFLOW FITTING. GOTTFRIED HELBLING, Küsnacht, near Zurich, Switzerland. Filed June 23, 1909. Serial No. 503,837.



1. The combination with a vessel adapted to contain a liquid and having a slot extending the entire height of one of its sides, of a conduit having an open portion and adapted to be attached to said vessel so that the open portion of the conduit substantially registers with the said slot in the side of the vessel, and a tubular member fitting within the said conduit and revoluble therein and provided with a slot of substantially the same length as that in the side of said vessel.

2. The combination with a vessel adapted to contain a liquid and having a slot extending the entire height of one of its sides, of a conduit having an open portion and adapted to be attached to said vessel so that the open portion of the conduit substantially registers with the said slot in the side of the vessel, and a tubular member fitting within the said conduit and revoluble therein and provided with a slot of substantially the same length as that in the side of said vessel, the said tubular member being also provided with an overflow opening adjacent to its upper end.

977,305. DISPLAY-BOX. ERNEST H. HEPPE, Upper Montclair, N. J., assignor to Strauss Brothers & Company, New York, N. Y. Filed Aug. 23, 1910. Serial No. 578,530.



1. In a device of the character described, a pocket having a flanged open top and an open front, combined with an inclosed removable follower composed of a top plate, a bottom plate, expansible sides and a spring interposed between top plate and bottom plate.

2. A device of the character described, comprising a box having a notched front, an inclosed pocket that projects above said front and having an open flanged top and an open front, and a follower within said pocket, said follower having a top plate, a bottom plate, accordion plaited sides, and a spring interposed between top plate and bottom plate.

977,306. SUBWAY CONSTRUCTION. EDWARD B. HESS, New York, N. Y. Filed Sept. 26, 1910. Serial No. 583,728.



1. A railroad subway system comprising a track-way for carrying cars, an emergency exit and an emergency tunnel leading from the track-way to the emergency exit.

2. A railroad subway system comprising a track-way for carrying cars, an emergency exit, an emergency tunnel leading from the track-way to the emergency exit and a means for, under normal conditions, obstructing traffic through the tunnel between the emergency exit and the track-way.

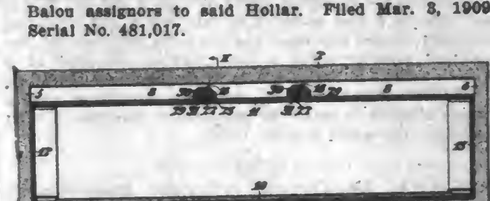
3. A railroad subway system comprising a track-way for carrying cars, an emergency exit, an emergency tunnel leading from the track-way to the emergency exit, a means for, under normal conditions, obstructing traffic through the tunnel between the emergency exit and the track-way and means for cutting off train-moving power from a contiguous section of the track-way when the tunnel is in emergency use.

4. A railroad subway system comprising a track-way for carrying cars, an emergency exit, an emergency tunnel leading from the track-way to the emergency exit, a means for, under normal conditions, obstructing traffic through the tunnel between the emergency exit and the track-way and means for setting into operation appropriately located signaling devices in the track-way when the emergency tunnel is in emergency use.

5. A railroad subway system comprising a track-way for carrying cars, an emergency exit, an emergency tunnel leading from the track-way to the emergency exit, a means for, under normal conditions, obstructing traffic through the tunnel between the emergency exit and the track-way, means for cutting off train-moving power from a contiguous section of the track-way when the tunnel is in emergency use and means for setting into operation appropriately located signaling devices in the track-way when the emergency tunnel is in emergency use.

[Claims 6 to 14 not printed in the Gazette.]

977,307. VAULT. WILLIAM H. HOLLAR, WALTER REES and HARRY F. BALOU, Philadelphia, Pa.; said Rees and Balou assignors to said Hollar. Filed Mar. 3, 1909. Serial No. 481,017.



1. In a vault, the combination with alined wall plates having overlapped margins and opposed undercut recesses in their adjacent edges; of a beam arranged to support said plates, having projections engaged in said recesses and having a web extending exterior to said plates; means supporting said beam and, means distinct from said plates and beam, detachably connecting said plates at their margins; said connecting means being inaccessible from the exterior of the vault.

2. In a vault, the combination with a ceiling wall comprising alined metal plates with adjacent edges, having recesses in said edges; of a beam supporting said plates having projections extending in said recesses in the plates and a web extending from said plates exterior to the vault; and, means supporting said beam at its ends, comprising walls independent of said vault.

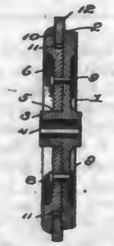
3. In a vault, the combination with a wall comprising metal plates with adjacent edges, having recesses in said edges; of a beam supporting said plates, having projections extending in said recesses in the plates and a web extending from said plates; and, means supporting said beam at its ends, comprising walls independent of said vault.

4. In a vault, the combination with a metal wall; of a metal beam having projections extending within said wall and a web extending from said wall, beyond the edge thereof; and means supporting said beam independently of said vault.

5. In a vault, the combination with a metal wall; of a metal beam having projections extending within said wall and a web extending from said wall; and, means supporting said beam independently of said projections.

[Claims 6 to 8 not printed in the Gazette.]

977,308. CAR-WHEEL. PETER HOLMGREN, Mammoth, Utah, assignor of one-fourth to Edward Pike, Mammoth, Utah. Filed Mar. 29, 1910. Serial No. 552,188.



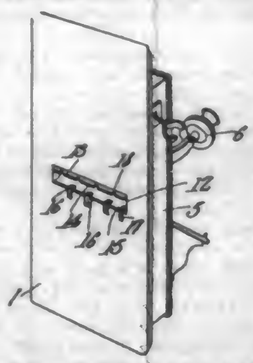
1. The combination with a car wheel, of a ring-flan carried thereby and capable of independent rotation wi respect thereto, and laterally disposed anti-friction rolle interposed between the wheel and the inner edge of t ring for facilitating said rotative movement.

2. In a car wheel, the combination with a main secti having a central opening in which the axle is journale

of a tread surface formed on the outer periphery of the main section, said section having an annular groove at one side of the tread surface, a peripheral band of anti-friction rollers carried by the groove, and a ring bearing against said rollers and projecting from the tread to form a guiding flange capable of independent movement with respect to th tread.

3. In a car wheel, the combination with a main section having an elongated sleeve forming a journal for the car axle, of a disk mounted on said sleeve and extending outward beyond the main section, bolts securing the two sections together, and a ring member mounted in a groove formed in the periphery of the disk and projecting from the periphery of the wheel to provide a guiding flange adapted to rotate in the opposite direction to that in which the wheel rotates.

977,309. BACKBOARD. JONATHAN BLAIR HORTON, Elkin, N. C. Filed Apr. 16, 1910. Serial No. 555,795.



1. In a telephone support, the combination with a telephone backboard, of a channel member carried thereby and having an acute down-bent flange and a flange beneath the first mentioned flange, the last mentioned flange being formed with notches, and supporting hooks adapted to pass through said notches and seat in the angle beneath the first mentioned flange.

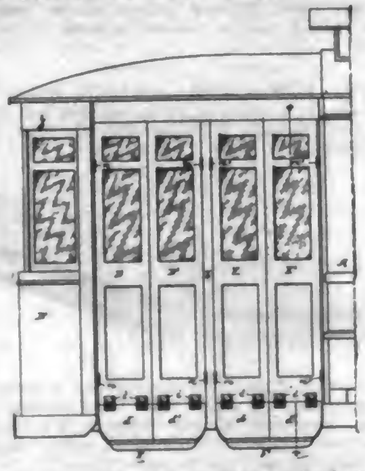
2. In a telephone support, the combination with a telephone back board, of a channel member carried thereby and having a flange projecting downwardly at an acute angle, and hook members adapted to seat in the angle of the said flange.

3. In a telephone support, the combination with a telephone back board, of a channel member carried thereby and having a flange projecting downwardly at an acute angle and having also a flange located below the first mentioned flange, the last mentioned flange being formed with notches and the first mentioned flange being formed also with notches out of vertical alinement with the notches in the last mentioned flange, and hook members adapted for engagement in the angle afforded by the first mentioned flange.

977,310. CAR-PLATFORM DOOR AND STEP GUARD. HENRY HOWSON, Philadelphia, Pa., assignor to The J. G. Brill Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Sept. 2, 1910. Serial No. 580,180.

1. The combination of a platform, a fixed step at one side of the platform, a hinged door for closing the step side of the platform, the step projecting beyond the line of the door when closed, with a guard pivotally mounted at the lower edge of the door and arranged to extend at an angle over the tread of the step when the door is closed, and, when the door is open, to assume a vertical position in line with the door.

2. The combination of a platform, a fixed step at one side of the platform, a hinged door arranged to close the side of the platform, the step projecting beyond the door when said door is closed, a movable guard carried by the door, and means for allowing the guard to assume a position at an angle to the door to cover the step when the door is closed and to allow the guard to assume a vertical position when the door is open.



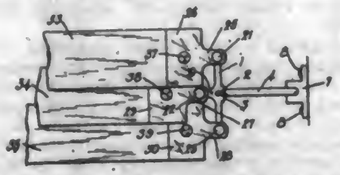
3. The combination of a platform, a fixed step at the side of the platform, a hinged door arranged to close the side of the platform, the step projecting beyond the door when in its closed position, a guard hinged to the lower edge of the door and extending at an angle over the step when the door is closed, and a spring tending to force the guard in a vertical line with the door when the door is opened.

4. The combination of a platform, a permanent step at one side of the platform, a hinged door arranged to swing outward and, when closed, to assume a position at the edge of the platform, a hinged guard hung from the lower end of the door and arranged to assume an angle in respect to the door and to extend over the tread portion of the step and, when the door is in the open position, the said guard will assume a vertical position in respect to the door.

5. The combination in a passenger car, of a platform, a hinged door arranged to swing outward, a guard hinged to the lower edge of the door, a spring tending to force the guard in a vertical line with the door, a step, and an inclined support on the step acting to force the guard to assume an inclined position in respect to the door when the door is closed, the guard, when the door is open, assuming a vertical position in respect to the door.

[Claim 6 not printed in the Gazette.]

977,311. RAZOR-STROP. ERNEST HUNOLD, Providence, R. I. Filed Nov. 16, 1909. Serial No. 528,352.



1. In a razor strop, the combination with a pivoted member and means for supporting the same, of clamping plates for holding strops arranged in series in different horizontal planes, and pivotal means for connecting the plates with the pivoted member.

2. In a razor strop, the combination with a pivoted member, and means for supporting the same, of pivotal clamping plates upon the pivoted member constructed to hold a strop, and means upon the pivoted member cooperating with the plates for maintaining the plates in a plane parallel with the plane of the pivoted member.

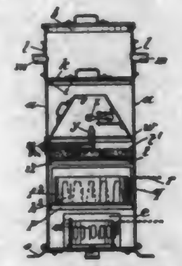
3. In a razor strop, the combination with a pivoted member, and means for supporting the same, of a post upon the pivoted member, and laterally swinging clamping plates mounted upon the post for holding a razor strop.

4. In a razor strop, the combination with a pivoted member and means for supporting the same, of vertical means on said pivoted member, clamping plates pivoted thereon for holding a razor strop, and means for maintaining said plates in a plane parallel with the plane of the pivoted member.

5. In a razor strop, the combination with a pivoted member, and means for supporting the same, of a plurality of posts upon the pivoted member, clamping plates pivotally mounted in different horizontal planes upon the posts for holding a razor strop.

[Claims 6 to 10 not printed in the Gazette.]

977,312. FUMIGATOR. OTTO IMMERMANN, Halle-on-the-Saale, Germany. Filed Apr. 26, 1909. Serial No. 492,119.



Apparatus for the purposes set forth comprising a casing having an eduction orifice, a liquid receptacle in said casing, a stove for the combustion of medicinal substances or disinfectants below the liquid receptacle, an apertured shutter slidable in front of the eduction orifice, a tube fixed to said shutter and registering with the aperture therein, and a foraminous screen in the path of the gas and vapor ascending from the stove and liquid receptacle.

977,313. FALSE REED FOR LOOMS. JACOB C. KAEMPFER, New York, N. Y. Filed Oct. 11, 1909. Serial No. 522,109.

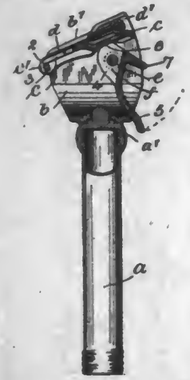


The combination of relatively broad parallel uprights, parallel rods penetrating the end-portions of said uprights, dents penetrated at their ends by the rods, parallel cross-sectionally U-shaped members having their open sides facing each other and fitted over the end-portions of said uprights and inclosing the rods, the portion of the face of each upright which is inclosed within the corresponding member being for the whole extent thereof in contact with the inside face of said member, means, penetrating each member and the end-portions of said uprights, for clamping said members and uprights together at the joints formed between them, and means, bearing against the outer faces of the uprights, for imposing tension on the rods, the longitudinal edges of said members being bent back upon themselves and thereby stiffening said members, substantially as described.

977,314. SAFETY-RAZOR. OTTO KAMPFF, New York, N. Y. Filed Mar. 4, 1910. Serial No. 547,186.

1. In a safety razor, the combination with a suitable handle, of a frame connected thereto having engaging parts, a guard-comb, pivots therefor at its forward edge, bearings in which said pivots are movable laterally and a manually actuated lever and cam device for lifting said guard-comb and securely holding the razor blade between the said guard and the engaging edges of the frame.

2. In a safety razor, the combination with a suitable handle, of a frame connected thereto having engaging parts, a guard-comb loosely pivoted therein at its forward edge, an arbor passing across between upright members of the frame and secured thereto, tube members surrounding said arbor and a manually actuated lever and cam device comprising parallel frame parts connected to said tubes, a plate simultaneously forming a finger-plate and stop plate connected to the parallel frame parts, a tang portion forming a support surface and the parallel frame parts having cam surfaces and said parts adapted for lifting the guard-comb and securely holding the razor blade between the said guard-comb and the engaging edges of the frame in one position, and in the other position acting as a support for the guard-comb in its released position.



3. In a safety razor, the combination with a suitable handle, of a frame connected thereto and formed as a flattened U or yoke shaped part with in-turned upper edges forming engaging parts, a guard-comb, pivots therefor at its forward edge and bearings in said frame in which said pivots are movable laterally, and a manually actuated lever device for lifting the said guard-comb and securely holding the razor blade between the said guard-comb and engaging edges of the frame.

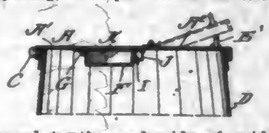
4. In a safety razor, the combination with a suitable handle, of a frame connected thereto and formed as a flattened U or yoke shaped part, with in-turned upper edges forming engaging parts and said over-turned edges being offset, or in other words, having parts in parallel planes, a guard-comb, pivots therefor at its forward edge and bearings in said frame in which said pivots are movable laterally, and said guard-comb in cross section having parts in parallel planes and a manually actuated lever device for lifting the said guard-comb and securely holding the razor blade between the said guard-comb and engaging edges of the frame.

5. In a safety razor, the combination with a suitable handle, of a frame connected thereto and formed as a flattened U or yoke shaped part, with in-turned upper edges forming engaging parts, a guard-comb loosely pivoted in said frame between the upright edges thereof and at its forward edge, the forward ends of the guard-comb being slotted and a reduced ended pin forming the pivot therein and a manually actuated lever and cam device pivotally mounted between the upright members of the frame and having cam surfaces to bear upon the under surface of the guard-comb and a plate which simultaneously forms a finger-plate and stop plate, whereby the lever device is manually actuated and swung into its opposite positions for lifting the guard-comb and securely holding the razor blade or releasing the same.

977,315. DISPLAY-COVER FOR BARRELS. SIMON H. KLEIN, Meridian, Miss. Filed Aug. 13, 1908. Serial No. 448,386.

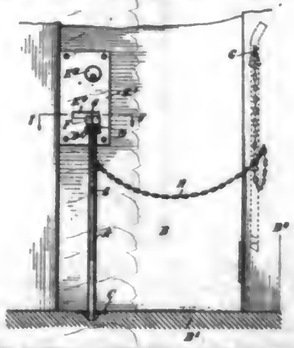
As a new article of manufacture, a display cover for barrels comprising a sectional cover formed of two sections, of unequal size hinged together, said sections being provided with depending flanges, the flange of the larger section being provided with clamping screws for securing the same in position on a barrel, said section being pro-

vided with an elongated opening, an oblong display tray hinged to the underside of said section co-acting with said opening, said tray being provided with a flanged upper edge, a pane of glass arranged in said flange for closing said opening, a keeper formed on one side of said



tray, eyes secured to the underside of said section adjacent said opening, a hasp mounted in said eyes adapted to engage said keeper and a spring surrounding said hasp for normally holding said hasp into engagement with said keeper.

977,316. DOOR-SECURER. JACOB KOHN, New York. N. Y., assignor to Emiel R. Fuchs, New York, N. Y. Filed June 17, 1909. Serial No. 502,702.



1. A door securer, comprising a door-securing bar, an abutment on the floor against which the lower end of the said bar is set, and a key-controlled means on the door adapted to move over the top of the said bar to hold the latter against movement and the door against opening.

2. A door securer, comprising a door-securing bar, an abutment on the floor against which the lower end of the said bar is set, a guide on the door for engagement by the upper end of the said bar, and a key-controlled means on the door adapted to move over the top of the said bar to hold the latter against movement and the door against opening.

3. A door securer, comprising a door-securing bar, an abutment engaged by the lower end of the bar, and a key controlled locking slide slidable sidewise and adapted to pass over the top of the said bar.

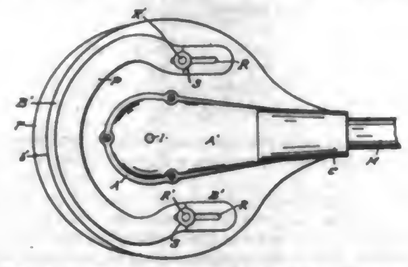
4. A door securer, comprising a door securing bar, an abutment against which the lower end of the bar is set, a key controlled locking slide slidable sidewise on the door and adapted to pass over the top of the said bar, and a guide on the door for the upper end of the said bar, the said guide being formed of a seat and an elongated loop.

5. A door securer, comprising a door securing bar, an abutment against which the lower end of the said bar is set, a key controlled locking slide, and a plate on the door having an elongated slot through which the said slide extends, said slide being slidable sidewise and adapted to pass over the top of the said bar, to hold the latter against movement.

[Claims 6 and 7 not printed in the Gazette.]

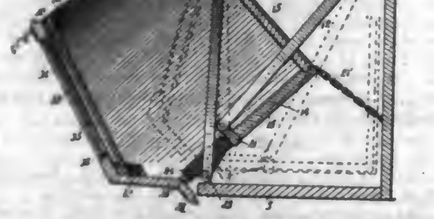
977,317. MACHINE FOR SKINNING AND SPLITTING CATTLE AND SCRIBING HOGS. JOSEPH LANCE, JOHN CALVIN FLOWERS, and GEORGE LANCE, St. Joseph, Mo. Filed Sept. 7, 1909. Serial No. 516,401.

1. A device of the kind herein described comprising a circular box provided with an elevated detachable lid and a circular opening at the bottom, a flange at the bottom of the front and sides of said box, a hollow stem on said box serving as a handle, a metal piece corresponding in size and shape with said flange and rigidly connected with the bottom of said stem, an upwardly projected flange extending part way around the rear of said metal piece, said bottom of the box, metal piece and flanges forming a low chamber, a bearing on the bottom of said metal piece and a bearing vertically above on the inside of the box lid, a vertical axle supported in said bearings, a horizontal drive wheel on the lower end of said axle operating in said circular opening, a circular blade the entire part of its upper face secured to the bottom face of the said drive wheel, a vertically operating pinion wheel engaging said drive wheel and a horizontal axle carrying said pinion wheel its outer end having engagement with means for operating said machine through said hollow handle, a semi-circular gage seated on the flange at the bottom of the front and sides of said box, said gage being provided with duplicate elongated slots in the opposite ends thereof, the dial pins integral with the top of the flange at the bottom of the front and sides of the box their upper ends threaded and the taps engaging said threaded ends to regulate the position of said gage to the size of the animal being skinned, split, or scribed, substantially as shown and set forth.



2. The combination in a cattle skinning, splitting, and hog scribing device with a circular box, a semi-circular flange at the bottom of the front and sides of the base thereof, a circular blade beneath said box and means to rotate said blade horizontally, of a semi-circular gage seated adjustably on said flange and provided with elongated slots near the ends thereof, dial pins their lower ends integral with the top of said flange and their upper ends threaded, and the taps to engage with the threaded ends of said dial pins to hold said gage to the position to which adjusted to the size of the animal being skinned, split, or scribed, substantially as described.

977,318. BIN. WILLIAM R. LIEBE and ALBERT P. BONNAFFONS, New Orleans, La. Filed Mar. 25, 1910. Serial No. 551,674.



1. A support, a cradle having transverse and side members, a bin, the side members being disposed against the bottom of the rear of the bin and being secured thereto, two plates with notches secured to the bin, one of the transverse members being disposed in the notches, two links pivoted to the support and to one of the transverse members, and two additional links pivoted to the support and to the cradle.

2. A support, a cradle having transverse and side members, a bin, the front wall of which is disposed upwardly and outwardly a distance from its bottom, the side members of the cradle being disposed against the bottom of the rear of the bin and being secured thereto, two plates, with notches, secured to the sides of the bin respectively near the bottom and in close proximity to its front wall, one of the transverse members being disposed in the notches, two links pivoted to the support and to one of the transverse members, and two additional links pivoted to the support and to the cradle.

3. Two horizontal members, one disposed over the other, a rear member connecting the horizontal members, a bin adapted to be disposed between the horizontal members, the front wall of the bin extending upwardly and outwardly for a distance, a depending flange at the front of the bin adapted to engage the lower horizontal member when the bin is normally disposed, a flange extending upwardly from the bin for engaging the upper horizontal member when the bin is normally disposed, two links pivoted relatively to the upper horizontal member, the two links being also pivoted to the bin near the depending flange, the bin being free to be swung forward on the links and be rocked relatively to the links when thus swung, and two additional links pivoted relatively to the upper horizontal member, the additional links being also pivoted to the bin.

977,319. WASH BOWL AND BASIN TRAP. ADAM MCINTOSH, Green Island, N. Y. Filed June 28, 1910. Serial No. 569,321.



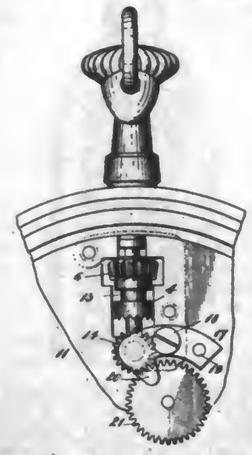
1. A washbowl and basin trap, comprising a cylinder having a delivery pipe extended from the bottom thereof and adapted to be fixedly attached to the waste pipe of the sewer system; a cap for said cylinder having depended therefrom an inverted cup-shaped cover to extend over and infold the upper end of said delivery pipe to form a water seal therewith; a sliding pipe section mounted in said cap and adapted to be secured to the drain pipe of a plumbing fixture; and a resilient member connected with said sliding pipe section, said member adapted to support the said trap on said sliding pipe section.

2. A washbowl and basin trap, comprising a cylinder having a delivery pipe extended from the bottom thereof and adapted to be fixedly attached to the waste pipe of the sewer system; a cap for said cylinder having depended therefrom an inverted cup-shaped cover to extend over and infold the upper end of said delivery pipe to form a water seal therewith; a sliding pipe section mounted in said cap and adapted to be secured to the drain pipe of a plumbing fixture; and a spiral spring mounted on said sliding pipe section to support the trap thereon.

3. A washbowl and basin trap, comprising a transparent glass cylinder having a delivery pipe extended from the bottom thereof and adapted to be fixedly attached to the waste pipe of the sewer system; a cap for said cylinder having depended therefrom an inverted cup-shaped cover to extend over and infold the upper end of said delivery pipe to form a water seal therewith; a sliding p section mounted in said cap and adapted to be secured the drain pipe of a plumbing fixture; and a resilient me ber connected with said sliding pipe section, said mem adapted to support the said trap on said sliding p section.

4. A washbowl and basin trap, comprising a transp ent glass cylinder having a delivery pipe extended fr the bottom thereof and adapted to be fixedly attached the waste pipe of the sewer system; a cap for said cy der having depended therefrom an inverted cup-sha cover to extend over and infold the upper end of said livery pipe to form a water seal therewith; a sliding p section mounted in said cap and adapted to be secured the drain pipe of a plumbing fixture; and a spiral spri mounted on said sliding pipe section to support the t thereon.

977,320. WATCH-MOVEMENT. WALTER B. MEHL, Ne ton, Mass., assignor to The Keystone Watch Case Co pany, Philadelphia, Pa., a Corporation of Pennsylvan Filed Apr. 14, 1910. Serial No. 555,401.



1. In a watch movement of the type in which the out end of the winding stem is adapted to be journaled the watch case, the combination of the winding stem ha ing a winding pinion and a sliding clutch thereon, a di plate recessed to receive said pinion and clutch, and yoke-shaped supporting piece secured to the dial plate a provided at its inner end with a bearing in which the inn end of the winding stem is mounted, said supporting pie being provided at its outer end with a recess adapted receive the adjacent portion of the winding stem with su ficient looseness to permit a slight lateral displacement the stem within the said recess when the outer portion said stem is fitted within its bearing in the watch case.

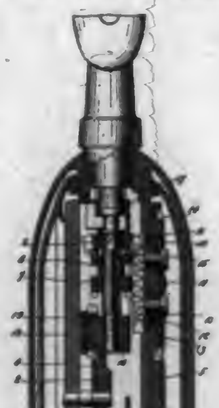
2. In a watch movement of the character described, th combination with the dial plate and winding stem, of supporting piece secured to the rear face of said di plate and provided with a bearing for the inner end of th winding stem, said supporting piece being also provide with a cylindrical stud passing through the dial plate a projecting on the front side thereof, and a setting whe journaled on said stud in front of the dial plate.

3. In a watch movement of the character described, th combination with the dial plate and winding stem, of supporting piece secured to the rear face of said dial pla and provided with a bearing for the inner end of the win ing stem, said supporting piece being also provided with cylindrical stud passing through the dial plate and pr jecting on the front side thereof, a setting wheel journale on said stud in front of the dial plate, and a cap pie secured to the dial plate and covering the outer end said stud.

4. In a watch movement of the character described, th combination with the dial plate and winding stem, of

supporting piece secured to the rear face of said dial plate and provided with a bearing for the inner end of the winding stem, said supporting-piece being also provided with a cylindrical stud passing through the dial plate and projecting on the front side thereof, a setting wheel journaled on said stud in front of the dial plate, and a cap piece secured to the dial plate and covering the outer end of said stud, said cap piece being provided with a laterally extending projection adapted to overlie the minute wheel of the watch movement.

977,321. WATCH-MOVEMENT. WALTER B. MEHL, Newton, Mass., assignor to The Keystone Watch Case Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Apr. 14, 1910. Serial No. 555,402.

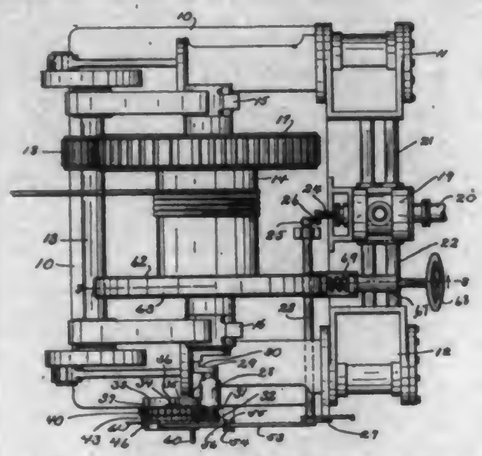


1. In a watch movement of the character described, the combination with the barrel bridge of separately-formed crown and winding wheels located respectively on the under and upper sides of said bridge, one of said wheels being provided with an integral hub journaled in the barrel bridge and with an integral stud projecting from said hub, concentric therewith, and entering a central opening in the other wheel, and attaching means passing through the latter wheel and into said hub.

2. In a watch movement of the character described, the combination with the dial plate of a winding stem having a winding pinion and a sliding clutch mounted thereon, a supporting bearing carried by the dial plate for the inner end of the winding stem, a barrel bridge having the form of a relatively thin flat plate, overlying and independent of the bearing for the inner end of the winding stem, a crown wheel located on the under side of the barrel bridge opposite said clutch and meshing with the winding pinion, and a winding wheel located on the upper or outer side of the barrel bridge and secured to the crown wheel, one of said wheels being provided with a hub journaled in said barrel bridge.

977,322. TOWING-MACHINE. FREDERICK METCALF and EDMUND DALGLEISH, Cleveland, Ohio. Filed Mar. 23, 1909. Serial No. 485,209.

1. In a towing machine, a drum adapted to carry a tow line, an engine connected to the drum, a valve controlling the supply of motive fluid to the engine cylinder, valve operating means directly connected with said valve and means for automatically actuating said valve operating means comprising a rotatable member operatively connected to said drum, a member mounted on said rotatable member and capable of being shifted radially thereon and adapted when in its operative position to engage with said valve operating means and means operatively connected with the drum and adapted to engage with said shiftable member so as to cause said shiftable member to travel radially on said rotatable member during the rotation of said rotatable member.



2. In a towing machine, a drum adapted to carry the tow line, an engine connected to said drum, a valve, means for automatically controlling said valve comprising a member which is rotated by the drum, and a valve shifting member, a device movably mounted on said rotatable member and arranged so that in its operative position it will engage said valve operating mechanism, means for shifting said device after a predetermined number of rotations of the drum in one direction to a position such that during further rotation in the same direction said device will not engage said valve operating member, and other means carried by said rotatable member for engaging said valve operating member so as to partially close the valve when the direction of the rotation of the drum is reversed.

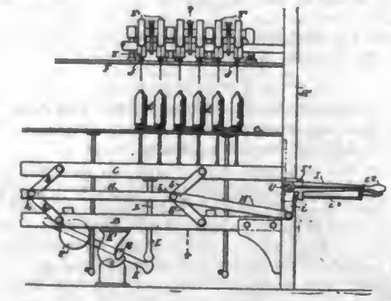
3. In a towing machine, a drum adapted to carry the tow line, an engine connected to the drum, a valve, means for automatically controlling said valve, said means comprising a member which is rotated by the drum, and a valve shifting link operatively connected to the valve, said rotatable member having a plurality of link shifting devices, one of said devices being movable relative to the rotatable member and serving to shift said link to close the valve, or to open the valve beyond its normal position when the load is augmented beyond the normal load, means serving to shift said device to an inoperative position if the drum is rotated beyond a predetermined amount to pay out the line and to again restore said device to an operative position with respect to the link when the engine overhauls the load and reverses so as to wind on the drum the line previously paid out, and another of said devices being fixed relative to said rotatable member and serving to partially close the valve to a position suitable for the forward running of the engine when the engine overhauls the load and reverses.

4. In a towing machine, a drum adapted to carry the tow line, an engine connected to the drum, a valve, means for automatically controlling said valve, said means comprising a member which is rotated by the drum, a valve shifting link operatively connected to the valve, and a plurality of horns carried by said rotatable member and adapted to engage and shift said link, one of said horns being movable relative to the rotatable member and when in its normal position serving to engage and shift the link during a predetermined number of rotations of the drum in either direction, means for moving said horn to an inoperative position when the drum is moved in one direction more than the predetermined number of rotations and to restore said horn to its normal position after the engine reverses and the drum is moved in the opposite direction, and a plurality of fixed horns carried by said rotatable member, one of said horns serving to engage and shift the link in one direction so as to partially close the valve to a position suitable for forward running of the engine, and another fixed horn serving to shift the link in the opposite direction so as to open the valve to its full extent if the load is again augmented before the proper amount of line is rewound upon the drum.

5. In a towing machine, a drum adapted to carry the tow line, an engine connected to the drum, a valve, means for automatically controlling said valve comprising a pair of adjacent gear members adapted to be rotated by the drum at slightly different angular speeds, a valve shifting link connected to the valve, and a plurality of horns carried by one of said gear members and adapted to engage and shift said link, a cam slot in the other of said gear members, one of said horns being movable in a radial direction and engaging said cam slot, said movable horn being normally in a position to engage said link and being drawn inward after a predetermined number of rotations of the drum in one direction and then moved outward when the engine reverses and the drum is moved in the opposite direction through a number of rotations, and the other horns being fixed relative to said gear member, one of said fixed horns serving to engage and shift the link so as to partially close the valve after the tow line has been paid out and after the engine overhauls the load and begins to wind in the tow line, and another fixed horn serving to engage and shift the link so as to again open the valve in case the load is again augmented and the line is paid out before the proper amount of line previously paid out has been rewound on the drum.

[Claims 6 to 9 not printed in the Gazette.]

977,323. CAP-SPINNING MACHINE. PATRICK J. MORONEY, Philadelphia, Pa. Filed Sept. 27, 1909. Serial No. 519,826.



1. The combination in a spinning machine, of draft rollers, a lifter plate, bobbins mounted thereon, a spindle rail, spindles mounted thereon and slidable through the said lifter plate and bobbins, caps mounted on the spindles and arranged to envelop the bobbins to feed yarn thereto, with means for lowering the spindle rail.

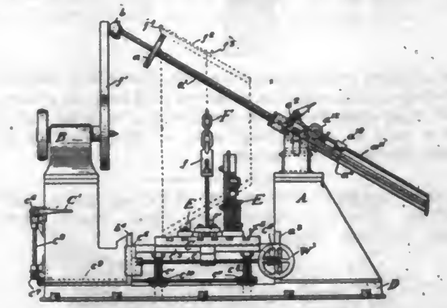
2. The combination in a cap spinning machine, of draft rollers, a lifter plate, bobbins mounted thereon, a spindle rail, spindles fixed thereon and slidable through the lifter plate and the bobbins, caps mounted on the spindles and arranged to envelop the bobbins, the said lifter plate being capable of vertical movement during the winding of the bobbins, and means for raising and lowering the spindle rail.

3. The combination in a cap spinning machine, of the supporting structure, draft rollers, a lifter plate, bobbins rotatably mounted thereon, said lifter plate being capable of vertical movement, a movable spindle rail, spindles mounted thereon, a fixed rail, a toggle joint connecting the fixed rail and the spindle rail, a hand lever pivoted on the supporting structure, and a link connecting the hand lever to the toggle joint.

4. The combination in a cap spinning machine, of the supporting structure, draft rollers, a lifter plate, bobbins rotatably-mounted thereon, a movable spindle rail, spindles mounted thereon, a fixed rail, a toggle joint connecting the fixed rail and the spindle rail, a hand lever pivoted to the supporting structure, a link connecting the hand lever to the toggle joint, and a counterbalance for the spindle rail.

5. The combination in a cap spinning machine, of the supporting structure, draft rollers, a lifter plate, bobbins rotatably mounted thereon, a movable spindle rail, spindles mounted thereon, a fixed rail, a toggle joint connecting the fixed rail and the spindle rail, a hand lever pivoted to the supporting structure, a link connecting the hand lever to the toggle joint, and a counterbalance for the spindle rail, with means on said hand lever for automatically locking the spindle rail in its upper and lower positions.

977,324. GRINDING-MACHINE. HENRY B. NICHOLS, Philadelphia, Pa. Filed Apr. 5, 1910. Serial No. 553,52



1. In a grinding machine, the combination with a wo support of a tool support, a tool spindle swiveled for u versal movement therein, means for adjusting said to spindle relative to said work, means to rotate said spind operative in all the angular positions thereof, and mea on the same side of said tool support as said work su port to impart to said spindle a motion which will gi the desired contour to the work.

2. In a grinding machine, the combination with a wo support of a tool support, a tool spindle swiveled for u versal movement therein, means for adjusting said to spindle relative to said work, means to rotate said spind operative in all the angular positions thereof, a driv member carrying an outboard bearing for the tool adapt to impart the desired contour to the work, and meane adjust said work support relatively to said tool support

3. In a grinding machine, the combination with frame thereof, of a work support carried by said frame tool support also carried by said frame, a tool spin mounted therein and means to rotate the same, means adjusting said tool spindle relative to said work, a driving means, also carried by said frame, and connec to the outer end of the spindle to impart to the latte shaping motion whereby the desired contour of the wo may be produced.

4. In a grinding machine, the combination with frame thereof of a work support mounted upon said fra means for adjusting the work support, a tool support s mounted upon the frame, and a grinding tool carr thereby so as to have universal motion thereon, means driving said tool so as to impart to it a cutting moti means for adjusting said tool spindle relative to s work and a driven member carrying an outboard bear for the spindle to guide the tool to impart the desi contour to the work.

5. In a machine of the class described, the combinat of a standard, a bearing swiveled thereon for univer movement, a rotary tool spindle journaled in said bear and carrying an abrading tool, a work support and me for adjusting it toward and away from said standard rotatable face plate located on the same side of said sta ard as said work support, and means carried by a spindle adapted to engage said face plate, whereby spindle may be caused to carry said tool in a curved p around the work.

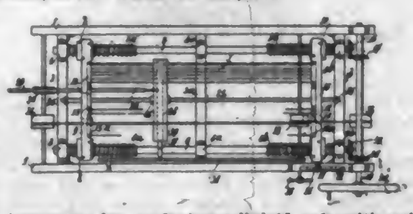
[Claims 6 to 19 not printed in the Gazette.]

977,325. GRINDING-WHEEL. HENRY B. NICHOLS, Philadelphia, Pa. Original application filed May 27, 1910, Serial No. 563,755. Divided and this application filed Aug. 22, 1910. Serial No. 578,367.



A grinding wheel having its body of abrasive material, a clamping plate adapted to secure said body to a hub or shaft, said plate having an annular groove in its surface, and a mass of anti-friction material compressed in said groove for calipering purposes.

977,326. MANUFACTURE OF POINTED CELLULOID RODS. GUSTAVE PETITCOLLIN, Paris, France. Filed Apr. 10, 1909. Serial No. 489,137.



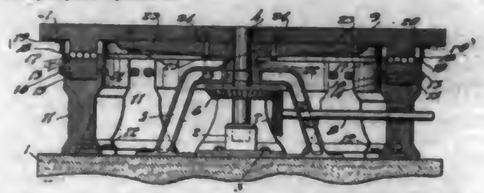
1. Apparatus for producing celluloid rods with pointed ends, comprising in combination a frame, a series of clamps on said frame each adapted to grip one end of one of a number of rods arranged parallel, a pair of movable cross bars adapted to carry the said clamps arranged in pairs one at one end of the frame and the other at the other end thereof, screw shafts operatively connected to the said crossbars and adapted on being rotated to cause the crossbars to advance toward or recede from one another, mechanism adapted to actuate the said screw shafts, and heating apparatus adapted to soften the said rods at predetermined points.

2. Apparatus for producing celluloid rods with pointed ends, comprising in combination a frame, mechanism for applying endwise traction to said rods, a carrier parallel with the frame axis, a box adapted to slide on said carrier in proximity to the celluloid rods and means for heating said box.

3. Apparatus for producing celluloid rods with pointed ends, comprising in combination a frame, journaled transverse bars on said frame, screw shafts supported on said transverse bars, matrices adapted to travel on said screw shafts, crossbars attached to and sharing the motion of said matrices, clamps on said crossbars adapted to grip the ends of the celluloid rods, a gage adapted to indicate the amount of displacement of the crossbars, a carrier rigidly supported on the frame and parallel to its longitudinal axis, a plurality of steam heating boxes adapted to slide on said carrier, a pipe adapted to convey steam to each heating box at any point, mechanism for moving the boxes along the carrier and an indicator for each box adapted to show its position.

977,327. DEVICE FOR POLISHING STONES. JAMES RATCLIFFE, Winnipeg, Manitoba, Canada. Filed June 2, 1910. Serial No. 564,643.

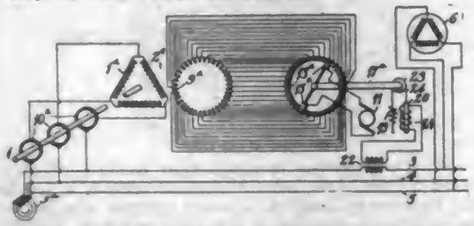
1. The combination with a rotatable vertically directed shaft having suitable arms radiating therefrom and rotatable therewith, and a plate having a smooth upper face carried by the arms and concentric with the shaft, said plate having a downwardly directed facial projection concentric with the shaft, of standards grouped around the shaft and having upwardly directed wings, a continuous track presenting a continuous channel concentric to the shaft, said track being secured to the wings, and balls located within the channel and supporting the downwardly directed facial projection aforesaid, as and for the purpose specified.



2. The combination with a rotatable vertically directed shaft having suitable arms radiating therefrom and rotatable therewith, and a plate carried by the arms and concentric with the shaft, said plate having a downwardly directed facial projection concentric with the shaft, of standards grouped around the shaft and having upwardly directed wings, tracks having channels formed in their upper faces and their ends passing between the wings to which they are bolted, said tracks being concentric with the shaft and continuous, balls located within the channels and receiving the downwardly directed facial projections aforesaid, as and for the purpose specified.

3. The combination with a rotatable plate having downwardly directed facial projections, standards located beneath the plates, tracks carried by the standards and having channels formed therein, and balls located within the channels and bearing against the facial projection, of upwardly directed bars secured to the standards, channel iron bars fixed to the plate and overlapping the latter bars, and opposing doors carried by both of the bars, as and for the purpose specified.

977,328. ELECTRICAL EQUALIZING SYSTEM. RUDOLF RICHTER, Grünau, near Berlin, Germany. Filed May 16, 1910. Serial No. 561,703.



1. The combination with an alternating current circuit, and a dynamo-electric machine connected thereto, one of the coil-bearing members of which rotates continuously when in service, of an automatically operating means for shifting the magnetic axis of one of said members in accordance with the load variations on said circuit.

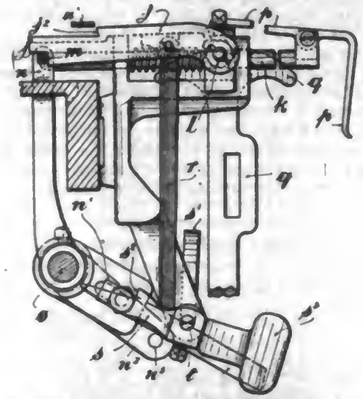
2. The combination with an alternating current circuit, and a synchronous dynamo-electric machine connected thereto, of means for shifting the magnetic axis of one of the members of said machine in accordance with the load variations on said circuit.

3. The combination with a work circuit having a variable load, of a synchronous dynamo-electric machine having its armature connected to said circuit, and means for so supplying an exciting current to the field magnet of said machine as to shift the magnetic axis of the field magnet in accordance with the load variations.

4. The combination with a work circuit having a variable load, of a dynamo-electric machine having its armature connected to said circuit, an exciter, a set of commutator segments and a pair of brushes interposed between said exciter and the field magnet winding of the dynamo-electric machine, and means for shifting the commutator brushes as the load on the circuit varies.

5. The combination with an alternating current work circuit and a synchronous dynamo-electric machine having its armature connected to said circuit, of an exciter, a set of commutator segments and a pair of brushes interposed between the exciter and the field magnet winding of said dynamo-electric machine, and means for effecting relative adjustment between said set of segments and said brushes, said means embodying an operating coil that is energized from the work circuit, whereby the magnetic axis of the field magnet of said dynamo-electric machine is shifted in accordance with load variations on the work circuit.

977,329. STOP-MOTION DEVICE FOR AUTOMATIC RESHUTTLING-LOOMS. JAMES ROSTRON, Manchester, England. Filed May 3, 1910. Serial No. 559,198.

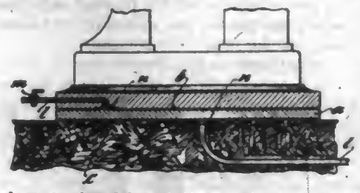


1. In automatic stop motion devices for use with looms fitted with reshuttling mechanism, and in combination with the usual hammer lever and weft fork, a weft fork holder, a link bar pivotally connected with the holder and having a shoulder upon its upper and under edges respectively, a stud forming part of automatic reshuttling mechanism upon which the link bar normally rests and against which the shoulder in its under edge normally lies, a fixed depending arm on the said link bar, a loom stopping lever, a plate-like extension pivoted to the loom stopping lever and overlying the said link bar, a lever having a shoulder on the upper edge of one arm adapted to be engaged by the depending arm and a weight on the other arm, a stud carrying such lever and a cranked lever arm connected to such stud and adapted to be engaged by the hammer lever, substantially as described.

2. In automatic stop motion devices for use with looms fitted with reshuttling mechanism, and in combination with the usual hammer lever and weft fork, a weft fork holder, a link bar pivotally connected with the holder and having a shoulder upon its under and upper edges respectively, a stud forming part of automatic reshuttling mechanism upon which the link bar normally rests and against which the shoulder in its under edge normally lies, means for raising the free end of the link bar when the link bar moves in one direction, a loom stopping lever and an extension piece pivoted to such lever and adapted to be engaged by the upper shoulder of the link bar when the same is in raised position and means for lowering the link bar when the weft fork holder remains stationary as set forth.

977,330. FOUNDATION FOR FRAMES OF EVERY DESCRIPTION, &c. ADOLPH VON RÜGEN, Moscow, Russia. Filed Jan. 28, 1907. Serial No. 354,459.

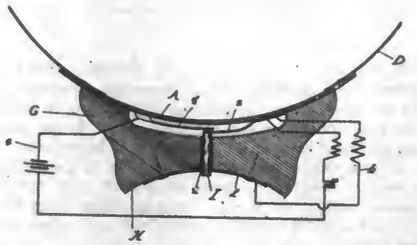
1. A foundation having a plane surface, a weighted member having a plane surface, an interposed elastic base member having both of its sides plane surfaced adapted to contact with the plane surface of the foundation and the plane surface of the weighted member, and be compressed by said weighted member, whereby the air is expelled from between said surfaces and adherence of the several members induced.



2. A plane surfaced foundation, a plane surfaced weighted frame member, and an interposed elastic base member both sides of which are plane surfaced.

3. A plane surfaced foundation, a vacuum pipe embedded in said foundation, a plane surfaced weighted member, a vacuum conduit in said member, and an interposed resilient base member both sides of which are plane surfaced.

977,331. ELECTRIC APPLIANCE FOR HORSES. JOHN P. SANBORN, Cleveland, Ohio, assignor to Charles B. Tuttle, Detroit, Mich. Filed May 1, 1908. Serial No. 430,360.



1. In an appliance of the character described, the combination with a supporting section adapted to be applied to the abdomen of the animal, of a member projecting transversely from its outer face, electrical apparatus upon the support including an induction coil, a secondary, and a normally-open primary circuit, and a circuit closer for the primary included in the secondary circuit, the closer extending outwardly through and beyond the projecting section.

2. In an appliance of the character described, the combination with a supporting section, of a transverse member projecting from one side thereof, electrical apparatus upon the support including an induction coil, a secondary circuit having spaced terminals positioned upon the outer edge of the transverse member, a normally-open primary circuit, and a closer for the primary forming one of the terminals of the secondary circuit.

3. In a device of the character set forth, the combination with a supporting plate adapted to be applied to the abdomen of the animal, of a transversely arranged outwardly projecting member thereon having a recessed outer edge, electrical apparatus upon the plate including an induction coil, a secondary circuit having a portion thereof positioned within the recessed portion of the transverse member, a normally open primary circuit, and a closer for said primary circuit included within the secondary and positioned within the recessed portion of the transverse member.

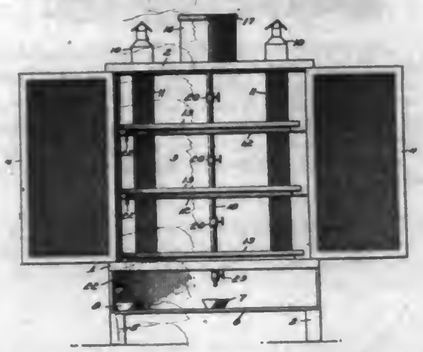
4. In an appliance of the character set forth, the combination with a supporting section, of a member projecting transversely from its outer face, having a recess therein, electrical apparatus thereon including an induction coil, normally open primary and secondary circuits, the contacts for the primary circuit being positioned within said recess, and a circuit closer for the primary circuit carried by one of said contacts projecting outwardly through said transversely-projecting member and forming one of the terminals of the secondary.

5. In an appliance of the character described, the combination with a support adapted to be applied to the abdomen of the animal, of a member projecting transversely therefrom, electrical apparatus upon the support includ-

ing an induction coil, secondary and primary circuits, normally-open contacts in the primary circuit, a closer for said contacts projecting outwardly through said transverse member, and a terminal for the secondary positioned upon the outer edge of the projecting member.

[Claim 6 not printed in the Gazette.]

977,332. REFRIGERATOR. FREDERICK C. SCHMIDT, Beeville, Tex. Filed Nov. 13, 1909. Serial No. 527,865.

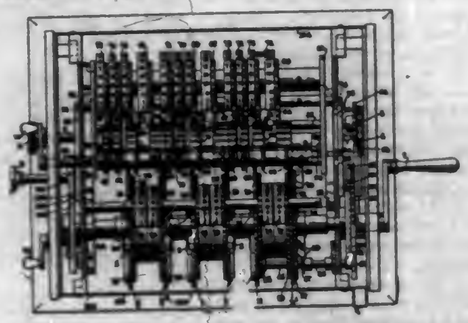


1. A refrigerator including a pan provided with a water receptacle and communicating therewith through a plurality of openings in the bottom of the pan, a drip pipe for the pan, a liquid-absorbent pad located in the pan, and means for supplying water to the water receptacle.

2. A refrigerator including a plurality of pans provided with water receptacles, liquid-absorbent pads located in the pans, a reservoir, a pipe communicating with the reservoir and with the water receptacles, and valves located in the pipe.

3. A refrigerator including a pan provided on the under side thereof with a water receptacle, the bottom of the pan being provided with openings to establish communication between the pan and the water receptacle, a liquid-absorbent pad located in the pan and means for supplying water to the water receptacle.

977,333. ADDING AND SUBTRACTING MACHINE. WILLIAM SCHOOLING, Westminster, London, England, assignor to The Schooling Calculating Machine Company Limited, London, England. Filed Mar. 2, 1909. Serial No. 480,975.



1. In an adding machine, the combination of three sets of racks, adapted respectively for gross, tare and net items, traveling mechanism having means for connecting the racks, and means for imparting a step-by-step movement to the said traveling mechanism, whereby the racks are connected in proper sequence.

2. In an adding machine, the combination of three sets of racks, adapted respectively for gross, tare and net items, traveling mechanism having means for connecting the racks, means for imparting a step-by-step movement to the said traveling mechanism, whereby the racks are connected in proper sequence, and means for directly setting the items upon the gross and tare racks.

3. In an adding machine, the combination of three sets of racks, adapted respectively for gross, tare and net items, traveling mechanism having means for connecting the racks, means for imparting a step-by-step movement to the said traveling mechanism, whereby the racks are connected in proper sequence, means for setting the items upon the racks, a totaling mechanism, means for bringing said totaling mechanism into gear with the racks after they have been set, and means for clearing the racks to zero to transfer the item set to the totaling mechanism.

4. In an adding machine, the combination of three sets of racks, adapted respectively for gross, tare and net items, traveling mechanism having means for connecting the racks, means for imparting a step-by-step movement to the said traveling mechanism, whereby the racks are connected in proper sequence, means for setting the items upon the racks, and deducting mechanism for the net racks.

5. In an adding machine, the combination of three sets of racks, adapted respectively for gross, tare and net items, traveling mechanism having means for connecting the racks, means for imparting a step-by-step movement to the said traveling mechanism whereby the racks are connected in proper sequence, means for setting the items upon the racks, and deducting mechanism for the net racks.

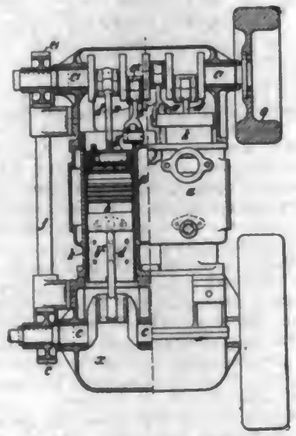
6. In an adding machine, the combination of three sets of racks, adapted respectively for gross, tare and net items, traveling mechanism having means for connecting the racks, a single setting lever, means operable by said lever for setting the items upon the racks, and means operable by said lever for imparting a step-by-step movement to the said traveling mechanism whereby the racks are connected in proper sequence.

4. In an adding machine, the combination of three sets of racks, adapted respectively for gross, tare and net items, traveling mechanism having means for connecting the racks, means for imparting a step-by-step movement to the said traveling mechanism, whereby the racks are connected in proper sequence, means for setting the items upon the racks, a totaling mechanism, means for bringing said totaling mechanism into gear with the racks after they have been set, and means for clearing the racks to zero to transfer the item set to the totaling mechanism.

5. In an adding machine, the combination of three sets of racks, adapted respectively for gross, tare and net items, traveling mechanism having means for connecting the racks, means for imparting a step-by-step movement to the said traveling mechanism whereby the racks are connected in proper sequence, means for setting the items upon the racks, and deducting mechanism for the net racks.

[Claims 6 to 9 not printed in the Gazette.]

977,334. INTERNAL-COMBUSTION ENGINE. JOHN EDWARD SEARS, Jr., Newcastle-upon-Tyne, England. Filed Dec. 28, 1909. Serial No. 535,285.



1. In an internal combustion engine the combination of a working cylinder provided with inlet and exhaust ports, two pistons working in said cylinder and a cylindrical valve sleeve between said pistons and the cylinder wall.

2. In an internal combustion engine the combination of a working cylinder provided with inlet and exhaust ports, two pistons working in said cylinder, a cylindrical valve sleeve working between said pistons and the cylinder wall, and means for imparting motion to said valve sleeve.

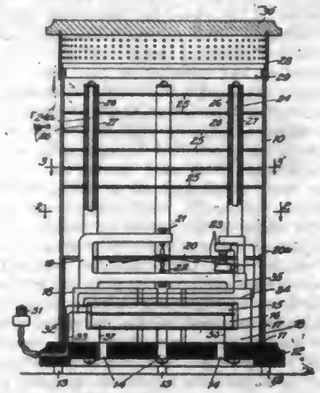
3. In an internal combustion engine the combination of a working cylinder provided with inlet and exhaust ports, two pistons working in said cylinder, a shaft driven by the main piston, means for driving said shaft by the main piston, a shaft driven by the auxiliary piston, means for driving said shaft by the auxiliary piston a cylindrical valve sleeve provided with ports and working between said pistons, and the cylinder wall, and means for imparting motion to said valve sleeve.

4. In an internal combustion engine the combination of a working cylinder provided with inlet and exhaust ports, a main piston in said cylinder driving the main crank shaft, an auxiliary piston in said cylinder driving an auxiliary crank shaft, a cylindrical valve sleeve provided with ports and working between said pistons and the cylinder wall, and means for reciprocating said valve sleeve from the auxiliary crank shaft.

5. In an internal combustion engine the combination of a working cylinder provided with inlet and exhaust ports, a main piston in said cylinder driving the main crank shaft, an auxiliary piston in said cylinder driving an auxiliary crank shaft, a cylindrical valve sleeve provided with ports and working between said pistons and the cylinder wall, means for reciprocating said valve sleeve from the auxiliary crank shaft, and means for gearing the main crank shaft with the auxiliary crank shaft.

[Claims 6 and 7 not printed in the Gazette.]

977,335. MEANS FOR FILTERING AIR AND PRODUCING OZONE. SAMUEL C. SHAFFNER, Chicago, Ill., assignor to National Air Filter Company, Chicago, Ill., a Corporation of Illinois. Filed May 10, 1909. Serial No. 495,098.



1. Means for filtering air and producing ozone comprising the combination of an inclosing casing, a screen disposed within the casing, a step-up transformer, a connection from one terminal of the high tension winding thereof to such screen, and means for passing the air to be purified through such screen, the core of such transformer so disposed as to assist by its heating effect in circulating the air to be purified through the casing and through such screen.

2. Means for filtering air and producing ozone comprising the combination of an inclosing casing, screens disposed within the casing, a step-up transformer, a connection from one of the terminals of the high tension winding thereof to alternate screens, a second connection from the other terminal of the high tension winding to the intermediate screens, and means for passing the air to be purified through such screens, the core of such transformer so disposed as to assist by its heating effect in circulating the air to be purified through the casing and through such screens.

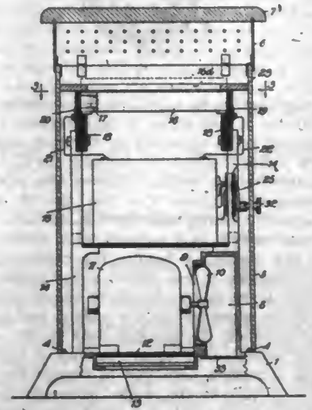
3. Means for filtering air and producing ozone comprising the combination of an inclosing casing, a conducting wire screen disposed within and across the casing, a step-up transformer, a connection from one terminal of the high tension winding thereof to such screen, and an electrically driven fan for driving the air to be purified through the casing and through such screen, the core of such transformer so disposed as to assist by its heating effect in circulating the air to be purified through the casing and through such screen.

4. Means for filtering air and producing ozone comprising the combination of an inclosing casing, a screen disposed within the casing, a step-up transformer, a connection from one terminal of the high tension winding thereof to such screen, means for passing the air to be purified through such screen, the core of such transformer so disposed as to assist by its heating effect in circulating the air to be purified through the casing and through such screen, and means for regulating the potential developed by the high tension winding of the transformer.

5. Means for filtering air and producing ozone comprising the combination of an inclosing casing, screens disposed within the casing, a step-up transformer, a connection from one of the terminals of the high tension winding thereof to alternate screens, a second connection from the other terminal of the high tension winding to the intermediate screens, means for passing the air to be purified through such screens, the core of such transformer so disposed as to assist by its heating effect in circulating the air to be purified through the casing and through such screens, and means for regulating the potential developed by the high tension winding of the transformer.

[Claims 6 to 19 not printed in the Gazette.]

977,336. MEANS FOR FILTERING AIR AND PRODUCING OZONE. SAMUEL C. SHAFFNER and SAMUEL T. HUTTON, Chicago, Ill., assignors to National Air Filter Company, Chicago, Ill., a Corporation of Illinois. Filed June 26, 1909. Serial No. 504,416.



1. In a machine for ozonizing air, the combination of a plurality of electrodes adapted to produce a high tension electrical field, alternate ones of such electrodes being inclosed in a high strength dielectric and the intermediate electrodes being exposed, and a step up transformer for charging such electrodes, such transformer having a primary winding wound in sections one or more of which may be connected in circuit as desired.

2. In a machine for ozonizing air, the combination of a plurality of electrodes adapted to produce a high tension electrical field, alternate ones of such electrodes being connected together by a common spring terminal and intermediate ones of such electrodes being connected together by a second common spring terminal.

3. In a machine for ozonizing air, the combination of a plurality of electrodes adapted to produce a high tension electrical field, alternate ones of such electrodes being connected together by a common spring terminal and intermediate ones of such electrodes being connected together by a second common spring terminal, and a step up transformer, the secondary winding of which is connected to such terminals.

4. In a machine for ozonizing air, the combination of a plurality of electrodes adapted to produce a high tension electrical field, alternate ones of such electrodes being connected together by a common spring terminal and intermediate ones of such electrodes being connected together by a second common spring terminal, a step up transformer, the secondary winding of which its connected to such terminals, and a fan for passing air through the electrified zones produced around such electrodes.

5. In a machine for ozonising air, the combination of a plurality of electrodes adapted to produce a high tension electrical field, alternate ones of such electrodes being connected together by a common spring terminal and intermediate ones of such electrodes being connected together by a second common spring terminal, and a step up transformer, the secondary winding of which is connected to such terminals, such transformer having a primary winding wound in sections one or more of which may be connected in circuit as desired.

[Claims 6 to 22 not printed in the Gazette.]

977,337. PADLOCK. FRANK SOLEY, Philadelphia, Pa., assignor to Miller Lock Co., Philadelphia, Pa., a Corporation of Pennsylvania. Filed May 11, 1910. Serial No. 560,635.



1. The combination in a padlock, of a casing, a shackle pivoted thereto, a cam plate, a bolt arranged to engage the shackle and to be actuated by the cam plate, a series of tumblers, a dog carried by the cam plate arranged to engage the tumblers, a spring actuated arm pivoted to the casing arranged to throw the dog out of engagement with the tumblers as the cam plate is shifted.

2. The combination in a padlock, of a casing, a shackle pivoted to the casing, a handle for operating the lock, a series of tumblers, a cam plate, a dog pivotally mounted on the cam plate and arranged to engage the tumblers, a bolt pivotally mounted in the casing and arranged to engage the nose of the shackle and to be acted upon by the cam plate, said shackle having a heel, the cam plate having a portion arranged to engage the heel when the shackle is closed, the plate being so proportioned that the heel will be released with the release of the nose of the shackle, and a spring actuated arm acting as a cam to force the dog out of engagement with the tumblers when the cam plate is shifted.

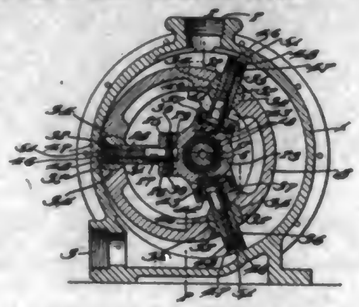
3. The combination in a padlock, of a casing, a shackle pivoted to the casing, a cam plate mounted within the casing, a pivoted bolt adapted to engage the nose of the shackle, the cam plate engaging the heel of the shackle and the bolt, a series of rotating tumblers, a handle arranged to rotate the tumblers, a dog pivoted to the plate and entering the notches in the tumblers, and a spring actuated arm pivoted to the casing and arranged to throw the dog out of the notches when the cam plate is moved so as to break the combination when the lock is closed.

4. The combination in a padlock, of a casing, a shackle pivoted thereto, a cam plate pivotally mounted in the casing, a pivoted bolt arranged to engage the nose of the shackle, a cam plate engaging the said bolt and the heel of the shackle, a pivoted dog on the cam plate, a pivoted arm for throwing the dog out of engagement with the tumblers, washers between the tumblers, a post carrying the washers extending through a slot in the cam plate, said post limiting the movement of the cam plate.

5. The combination in a padlock, of a casing, a shackle pivoted thereto, a cam plate pivotally mounted in the casing, a pivoted bolt arranged to engage the shackle and to be actuated by the cam plate as it is rotated, a series of tumblers, a dog carried by the cam plate and arranged to engage the tumblers, a spring actuated arm pivoted to the casing and arranged to throw the dog out of engagement with the tumblers as the cam plate is rotated in one direction.

[Claim 6 not printed in the Gazette.]

977,338. VACUUM-PUMP. ARTHUR H. SQUIER, Philadelphia, Pa., assignor to The Air Cleaner Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Jan. 8, 1910. Serial No. 536,968.



1. In a device of the character described, the combination with a casing, a shaft mounted concentrically in the casing, a cylinder mounted eccentrically in said casing, a shaft secured to and adapted to turn said cylinder, a series of radially disposed blades or vanes mounted in the cylinder and having their outer edges engaging the inner face of the cylinder, rings on said first mentioned shaft, screw threaded rods connected to said rings and having threaded engagement with said vanes, all of said rods being in the same plane and all of them having screw driver receiving grooves in their outer ends located in recesses in the edges of the blades or vanes.

2. In a device of the character described, the combination with a casing, of a shaft mounted concentrically in the casing, a cylinder mounted eccentrically in said casing, a shaft secured to and adapted to turn said cylinder, a series of radially disposed blades or vanes mounted in the cylinder and having their outer edges engaging the inner face of the cylinder, rings on said first mentioned shaft, screw threaded rods connected to said rings and having threaded engagement with said vanes, all of said rods being in the same plane and all of them having screw driver receiving grooves in their outer ends located in recesses in the edges of the blades or vanes, and said casing having inlet and outlet ports located in the same plane as the rods, and one of said ports disposed radially whereby a screw-driver may be inserted through said radial port to turn the rods and adjust the vanes.

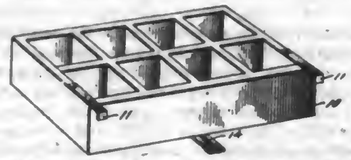
3. In a device of the character described, the combination with a cylindrical casing, of a fixed shaft mounted concentrically in the casing, a cylinder mounted eccentrically in the casing, means for turning said cylinder, said cylinder having longitudinal openings, three blades or vanes located in said openings in the cylinder and engaging the the inner face of the casing, three rings around the shaft, the outer rings having extensions projecting over the middle ring, rods having rotary mounting in said rings and screw threaded throughout the greater portion of their length, said vanes or blades having screw threaded openings to receive the rods and having enlarged recesses in their outer edges, jam nuts on the outer ends of said rods in said recesses, inlet and outlet ports in said casing, all of said rods being in alinement in the same plane as the inlet and outlet ports, and one of said ports disposed radially whereby a screw-driver may be inserted through said radial port to turn the rods and adjust the vanes.

4. In a device of the character described, the combination with a cylindrical casing, of a shaft secured concentrically in the casing, a cylinder mounted eccentrically in the casing, means for turning the cylinder, said cylinder having longitudinal openings, the walls of which are curved, blades or vanes located in said openings, curved blocks at opposite sides of said vanes engaging the curved walls of said openings, rings around said shaft, screw threaded rods swiveled in said rings and having screw threaded engagement with said vanes, all of said rods being in the same plane and constructed to be operated from their outer ends, and said casing having inlet and outlet ports in the same plane as the rods, and one of said ports disposed radially whereby a screw-driver may be inserted through said radial port to turn the rods and adjust the vanes.

5. In a device of the character described, the combination with a casing, a shaft mounted concentrically in the casing, a cylinder mounted eccentrically in said casing, a shaft secured to and adapted to turn said cylinder, a series of radially disposed blades or vanes mounted in the cylinder and having their outer edges engaging the inner face of the cylinder, rings on said first mentioned shaft, said vanes and rings having alined recesses, pins in said recesses, screw threaded rods connected to said rings and having threaded engagement with said vanes, all of said rods being in the same plane and all of them having screw driver receiving grooves in their outer ends located in recesses in the edges of the blades or vanes.

[Claims 6 to 8 not printed in the Gazette.]

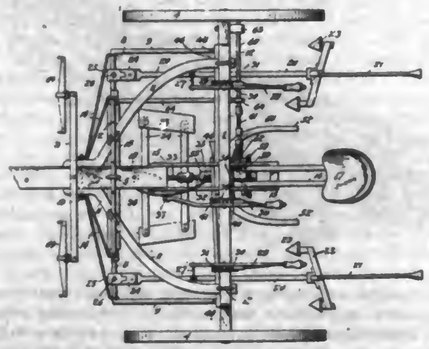
977,339. SUPPLEMENTARY TYPE-CASE. MOSES ARIEL STERN, Savannah, Ga. Filed Apr. 20, 1910. Serial No. 556,557.



1. The combination of a main type case, a supplemental type case so arranged that a side thereof abuts with a side of the main case, hooks projected from the said side of the supplemental case to engage over the abutting side of the main case, the main and supplemental cases having the under sides thereof substantially flush, and a movable locking member mounted on the under side of the supplemental case and movable so as to project beneath and into engagement with the under side of the main case to prevent upward movement of the supplemental case and disengagement of its hooks from the main case.

2. The combination with a main type case, a supplemental type case therefor, adjacent sides of said cases abutting, hooks carried by the said side of the supplemental type case and engaging over the abutting side of the main case, a locking member movably mounted on the under side of the flexible type case and projecting beneath the main case to prevent upward displacement of the supplemental case, and a member carried by the under side of the latter case detachably engaged by the said locking member to limit the movement of the same.

977,340. COMBINED COTTON CHOPPER AND CULTIVATOR. JOSEPH R. STOVALL, Atwood, Okla., assignor of one-half to Charles B. Irwin, Atwood, Okla. Filed May 13, 1910. Serial No. 561,216.



1. In a machine of the character described, the combination of a frame including an arched axle, a front arch and means connecting said parts, ground wheels on the axle, a cross bar uniting the vertical portions of the front arch and having a vertically slotted central portion, a pair of diagonal bars pivoted to the vertical ends of the axle and having crossed inner ends formed with longitudinal slots, a forwardly and rearwardly extending shaft having its front end guided in the slotted portion of said cross bar and its rear end guided in the slotted portions of said diagonal bars, a chopping wheel on said shaft, bearings on said shaft, an adjustable lever on the axle, a resilient U-shaped hanger between said lever and said bearings, and means for driving said shaft from one of the ground wheels.

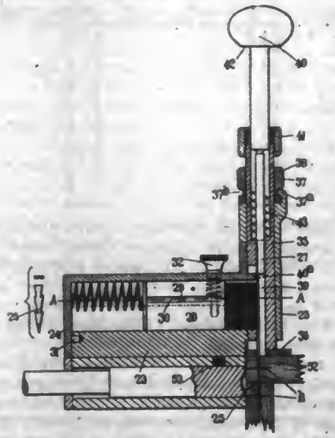
2. In a machine of the character described, the combination of a frame including an arched axle, a front arch and means connecting said parts, ground wheels mounted on the axle, a cross bar uniting the vertical portions of the front arch and having a vertically slotted central portion, a pair of diagonal bars pivoted to the vertical ends of the axle and having crossed inner ends formed with longitudinal slots, a forwardly and rearwardly extending shaft having its front end guided in the slotted portion of said cross bar and its rear end guided in the slotted portions of said diagonal bars, a chopping wheel on said shaft, bearings on said shaft, an adjustable lever on the axle, a resilient U-shaped hanger between said lever and said bearings, a gear fixed to the rear end of said shaft, a gear fixed to one of the ground wheels, a transverse shaft having inner and outer sections flexibly connected, a bearing for the inner section of the transverse shaft arranged on said forwardly and rearwardly extending shaft, bearings on the frame for the outside section of the transverse shaft, and gears on the two sections of the transverse shaft to mesh with the first mentioned gears.

977,341. TWEEZERS. EMIL A. STRAUB, Detroit, Mich. Filed Jan. 10, 1910. Serial No. 537,256.



An implement for the purposes described comprising a thin, spring sheet metal strip folded transversely into parallel spaced arms, a second spring sheet metal strip folded between its ends into jaws, and a pivot rivet passing through the jaws near the bend and through the arms near their extremities, the rivet holding the superposed strips in contact, and the jaws being spaced and having central wider portions frictionally engaging similarly widened portions of the arms when folded between them, the bend of the jaws being slightly thicker than the space between the arms to frictionally engage them when the jaws are extended and being adapted to project beyond the arms when the jaws are infolded.

977,342. MEANS FOR ATTACHING SEALS TO PACKING-CASES. SIGMUND STROH, London, England. Filed Sept. 24, 1909. Serial No. 519,464.



1. Means for sealing packing cases comprising means for automatically feeding through a device a supply of

seals consisting of a strip of metal cut and shaped to form a series of seals connected together by narrow necks of metal, means in said device adapted to separate and drive said seals individually, means for driving pins from a stock, and means for bringing a fresh seal and a fresh pin into position for use after each operation.

2. Means for sealing packing cases comprising means for automatically feeding through a device a supply of seals consisting of a strip of metal cut and shaped to form a series of seals connected together by narrow necks of metal, means in said device adapted to bend such seal into a U-shape, means in said device adapted to separate and drive said seals individually, means for driving pins from a stock, and means for bringing a fresh seal and a fresh pin into position for use after each operation.

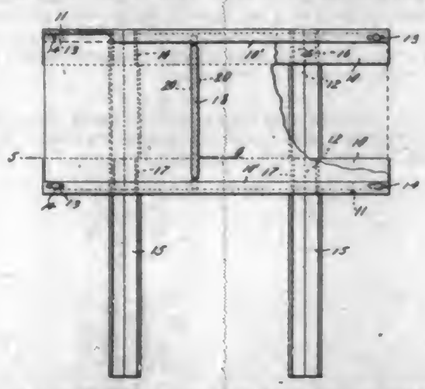
3. Means for sealing packing cases comprising a plunger adapted to be reciprocated and adapted to drive a seal on its forward stroke, a feeding pawl operatively connected to said plunger, said plunger being adapted to operate said feeding pawl on its return stroke, a second plunger arranged at right angles to said first plunger, said second plunger being adapted to drive a pin through said seal, substantially as set forth.

4. Means for sealing packing cases comprising a plunger adapted to be reciprocated and adapted to drive a seal on its forward stroke, a feeding pawl operatively connected to said plunger, said plunger being adapted to operate said feeding pawl on its return stroke, a second plunger arranged at right angles to said first plunger, said second plunger being adapted to drive a pin through said seal, and means for automatically bringing a pin into driving position, substantially as set forth.

5. Means for sealing packing cases comprising a plunger adapted to be reciprocated and adapted to drive a seal on its forward stroke, a feeding pawl operatively connected to said plunger, said plunger being adapted to operate said feeding pawl on its return stroke, a second plunger arranged at right angles to said first plunger, said second plunger being adapted to drive a pin through said seal; a bell crank lever connecting said first and second plungers, substantially as set forth.

[Claim 6 not printed in the Gazette.]

977,343. SIGN-HOLDER. WILLIAM H. SWEATT, Oklahoma, Okla. Filed Jan. 17, 1910. Serial No. 538,534.

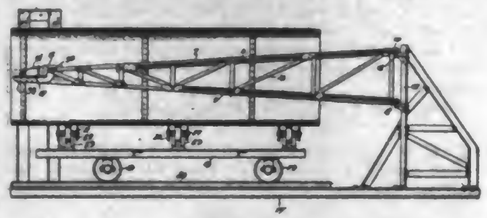


1. In a sign holder of the class described, the combination with horizontal side members having faced channels therein, of ridges formed on the back of said side members, angular posts adapted to receive said ridges and said posts having spaced notches adapted to receive said side members, and means whereby the sign plates may be retained in said channels.

2. In a device of the class described, the combination with horizontal side members, means for supporting sign plates between said side members, prismatic ridges formed on the rear of said side members, and posts formed of angle bars having notches therein to receive said side members, said ridges of the sides adapted to be received in the angle of said post.

3. A device of the class described comprising horizontal side members adapted to retain cards, means for supporting the sides in spaced relation and a removable partition to separate various cards, comprising a bar having arms at each extremity thereof adapted to engage therebetween the horizontal side members.

977,344. RIVETING-MACHINE. FRANK THOMPSON, Chicago, Ill. Filed Apr. 6, 1909. Serial No. 488,269.

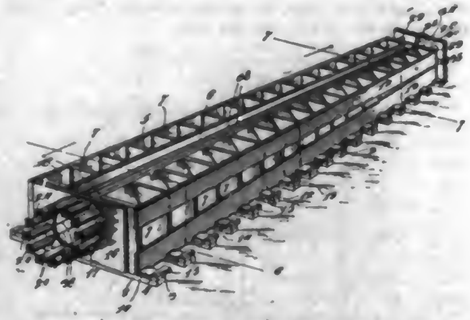


1. In a device of the class described, the combination of a supporting structure, a frame-work laterally extending therefrom, riveting devices carried by the frame-work, a wedge-shaped backing block held against up and down movement and adapted to bear against the outside of the work adjacent to the riveting device, and a wedge-shaped block operably connected to mechanism to actuate it and force the backing block into engagement with the work, substantially as described.

2. In a device of the class described, the combination of a supporting structure, an arm laterally extending therefrom, riveting devices carried by the arm, a movable support for the work located below the arm, power driven rollers mounted upon said support for rotating the work, and means for adjusting the rollers, substantially as described.

3. In a device of the class described, the combination of a supporting structure, an arm laterally extending therefrom, riveting devices carried by the arm, a movable support for the work located below the arm, rollers mounted upon said support, said rollers being located with respect to one another to form a semi-cylindrical seat for the work, means for revolving said rollers, whereby the work is rotated about its axis, and means for adjusting the rollers to vary the arc of the semi-cylindrical seat for the work provided thereby, substantially as described.

977,345. MOLDING APPARATUS. FREDERICK H. TIDNAM and JOHN N. GRAVES, Oklahoma, Okla. Filed Jan. 25, 1910. Serial No. 540,048.



1. A mold comprising a body, end closures therefor provided with openings for the passage of reinforcing rods, a tube communicating with each opening and into which said rods extend, an adjusting rod projecting into each tube and adapted to engage with the rod therein, a nut for each adjusting rod, and clamping means carried by the other end closure for holding said reinforcing rods.

2. A mold comprising a pallet, spaced apart transversely arranged supporting sleepers therefor, longitudinally arranged spaced apart side member on said pallet, and supporting means loosely mounted on said sleepers and provided with means for interlocking engagement with said side members.

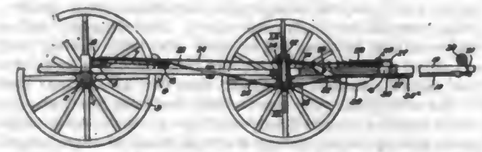
3. A mold comprising a pallet, transversely arranged spaced apart supporting sleepers therefor, spaced apart side members on said pallet, a supporting block on each sleeper provided with a notch for interlocking engagement with the side members, means for connecting the blocks at each side of the mold, and means for detachably holding said blocks in engagement with the side members.

4. A mold comprising a pallet, transversely arranged supporting sleepers therefor, spaced apart side members on said pallet, a pair of bracing blocks on each sleeper arranged to engage the outer surface of each side member, holding blocks at each end of said sleeper, a loose block arranged adjacent each holding block, and a wedge adapted to be forced between said blocks to adjust the pressure of the bracing blocks.

5. A mold comprising a body, a clamping plate carried by one end thereof, a second clamping plate adjustably and detachably connected to the first mentioned plate, said clamping plates adapted to engage reinforcements, and means at the other end of said body for regulating the tension of reinforcements.

[Claims 6 and 7 not printed in the Gazette.]

977,346. WAGON-BRAKE. JOHN L. TOMER, Export, Pa. Filed Feb. 2, 1910. Serial No. 541,488.



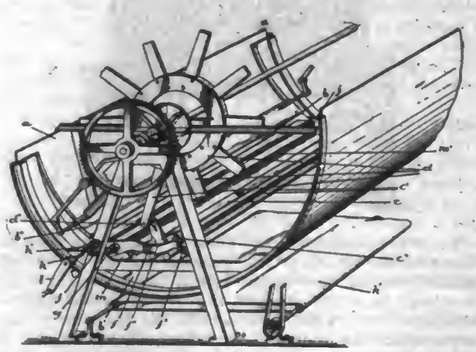
1. In a wagon brake, the combination with the wheels and axle; of a brake beam and shoes, a winding shaft connected with the brake beam, gearing connecting the winding shaft with the axle, clutch mechanism therefor, means embodying a neck yoke and a push rod for throwing said clutch mechanism into and out of gear dependent on whether backing or pulling movement is imparted to the wagon, a double tree, ratchet and pawl mechanism for locking and releasing the winding mechanism provided with primary and secondary pawls, a lever operatively connected with said pawls, and means connecting said lever with the double tree, substantially as set forth.

2. In a wagon brake, the combination with the wheels and axle; of a brake beam and shoes, a winding shaft connected with the brake beam, gearing connecting the winding shaft with the axle, clutch mechanism therefor, means embodying a neck yoke and a push rod for throwing said clutch mechanism into and out of gear dependent on whether backing or pulling movement is imparted to the wagon, ratchet and pawl mechanism for locking and releasing the winding mechanism embodying a pair of successively operable pawls, an actuating device connected with said pawls, a double tree, and means connecting the double tree with said ratchet and pawl actuating device.

3. In a wagon brake, the combination with the wheels and axle; of a brake beam and shoes, a winding shaft connected with the brake beam, gearing connecting the winding shaft with the axle, clutch mechanism therefor, means embodying a neck yoke and a push rod for throwing said clutch mechanism into and out of gear dependent on whether backing or pulling movement is imparted to the wagon, a ratchet wheel secured to the winding shaft, a pawl and operating mechanism therefor, a double tree, and means connecting the pawl-operating mechanism with the double tree, substantially as set forth.

4. In a wagon brake, the combination with the wheels and axle; of a brake beam and shoes, a winding shaft connected with the brake beam, gearing connecting the winding shaft with the axle, clutch mechanism therefor, means embodying a neck yoke and a push rod for throwing said clutch mechanism into and out of gear dependent on whether backing or pulling movement is imparted to the wagon, a ratchet wheel secured to the winding shaft, a pawl and operating mechanism therefor, a double tree, a spring for retracting the double tree, and means connecting the pawl-operating mechanism with the double tree, substantially as set forth.

977,347. BAKING-OVEN. SYDNEY TURNER, Toronto, Ontario, Canada, assignor to John Drysdale Nasmith, Toronto, Canada. Filed Aug. 24, 1909, Serial No. 514,467. Renewed Oct. 19, 1910. Serial No. 587,996.



1. In a baking oven in combination, a rotatable support, baking shelves carried thereby, means for dumping the baking shelves, and an oven casing having a segment movable into the same plane as the baking shelves in their dumped position.

2. In a baking oven in combination, a rotatable support, baking shelves carried thereby, dumping means to upset the baking shelves at the dumping place, an oven casing having a segment movable into the same plane as the baking shelves in their dumped position, and operable means for simultaneously positioning the dumping means and the oven casing segment.

3. In a baking oven in combination, a rotatable support, baking shelves rotatably connected thereto, a rock shaft, dumper arms mounted on the rock shaft having inclined surfaces to turn the baking shelves into a dumped position and surfaces to steady the baking shelves when re-assuming their horizontal position, means to position the dumper arms in and out of the path of the baking shelves, said means consisting of eccentrics to actuate the dumper arms, and means for operating the eccentrics.

4. In a baking oven a rotatable support, baking shelves rotatably connected to the rotatable support, dumping means for turning the baking shelves into a dumped position, an oven casing inclosing the baking shelves and rotatable support having a segment movable into the same plane as the baking shelves in their dumped position, and means to simultaneously position the oven casing segment and the dumping means.

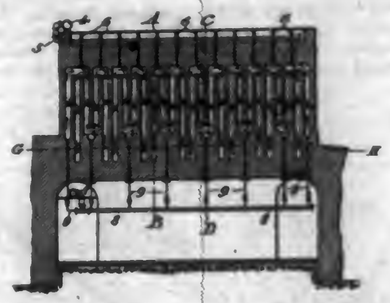
5. In a baking oven in combination, an oven casing, a rotatable support therein, baking shelves carried by the rotatable support and dumper arms having inclined dumping surfaces to engage the baking shelves and dump them, and steadying surfaces engaging the baking shelves to return them to their normal position.

[Claims 6 and 7 not printed in the Gazette.]

977,348. REGENERATIVE COKE-OVEN. EMIL WAGNER, Dahlhausen-on-the-Ruhr, Germany. Filed Sept. 27, 1910. Serial No. 584,035.

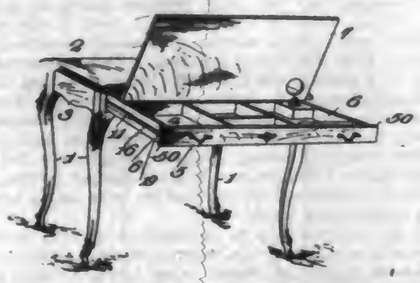
1. In a regenerative coke oven structure, the combination with the retorts, of sole channels beneath the retorts, vertical heating flues at the side of each retort arranged in groups in which adjacent flues are connected

together alternately at top and bottom, with the end flues of each group connected at their lower ends, one to one and the other to another of said sole channels, whereby each of said flue groups forms a continuously open channel between a pair of said sole channels, regenerative connections to said sole channels whereby the flow of air through said sole channels and the groups of flues connecting them may be reversed, continuously operating gas burners arranged at the tops of said end flues of each group and at the lower end of each of the two flues of each group adjacent the end flues thereof.



2. In a regenerative coke oven structure, the combination with the retorts of sole channels beneath the retorts, vertical heating flues at the side of each retort arranged in groups in which adjacent flues are connected together alternately at top and bottom, with the end flues of each group connected at their lower ends, one to one and the other to another of said sole channels, whereby each of said flue groups forms a continuously open channel between a pair of said sole channels, regenerative connections whereby the flow of air through said sole channels and the groups of flues connecting them may be reversed, continuously operating gas burners opening into the passage formed by each group of connected flues at a distance from the ends thereof, and air supply channels in the oven structure opening into said passages at distances from their ends through which atmospheric air may pass into said passages.

977,349. SUPPORTING AND GUIDING DEVICE FOR FURNITURE-DRAWERS. WILLIAM F. WAGNER, Philadelphia, Pa., assignor to Pooley Furniture Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 24, 1909. Serial No. 479,692.



1. In combination, a drawer housing having end slideways undercut from their inner ends outwardly for portions of their lengths, channeled slides set and slidable in said ways and having lateral projections at their inner ends in said undercut portions and limiting the movements of said slides to the lengths of said undercut portions, said slides having longitudinal side openings throughout their lengths, and longitudinal overhanging edges extending from their outer ends and terminating in stop shoulders forwardly from their inner ends, and a sliding drawer having exterior end rails longitudinally and slidably confined in said slides by said edges and having lateral projections to engage said shoulders and limit the independent outward movement of said rails in said slides.

2. In combination, a drawer housing having end slideways, hollow slides longitudinally movable in said ways, means to limit the outward movement of said slides in said ways, said slides having longitudinal side openings and longitudinal overhanging edges terminating a distance from the inner ends of the slides to form stop shoulders, and a sliding drawer having longitudinal exterior rails fixed thereto and longitudinally slidable in said slides, said slides being confined to said rails by said edges, the inner end portions of said rails having vertical projections to engage said stop shoulders to limit the independent outward sliding movement of said rails in said slides, substantially as described.

3. In combination, a drawer housing having end slide grooves with parallel flat top and bottom longitudinal faces, slides confined to longitudinal movement in said grooves and having longitudinal parallel flat top and bottom walls bearing against said faces, said slides being longitudinally channeled and at their outer sides having longitudinal vertical overhanging flanges about flush with the inner faces of the housing ends, a sliding drawer having its ends arranged closely adjacent to said flanges, and drawer supporting rails confined in said slides in longitudinal sliding engagement and having flat parallel top and bottom longitudinal faces bearing against said walls and longitudinal ribs arranged between and bearing against the edges of said flanges and set and secured in the drawer ends.

4. In combination, a drawer housing having longitudinal slideway grooves cut throughout the lengths of its ends, said grooves being undercut from about midway their lengths to their rear ends, longitudinally hollow slides in said grooves and at their rear ends having vertical stops to enter said under cut portions, the rear ends of said grooves formed to permit insertion of the rear ends of the slides into the grooves and undercut portions, said slides having longitudinal openings at their outer sides, said openings being enlarged for portions of their lengths to form intermediate stop shoulders, and a sliding drawer arranged between the outer sides of said slides and having supporting rails formed with longitudinal exterior portions confined to reciprocation within said slides and with portions extending through said longitudinal openings and fixed to the drawer ends, said rails having stops to engage said stop shoulders.

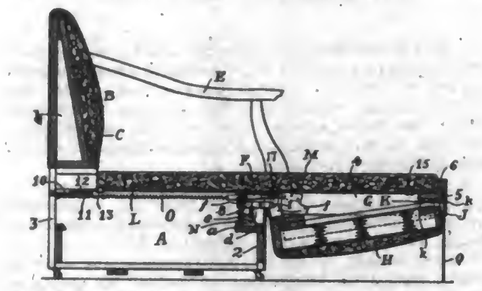
5. In combination, a drawer housing having longitudinal slide-way grooves in the inner faces of its ends, said grooves being approximately rectangular in cross section, longitudinally hollow slides approximately rectangular in cross section interiorly and exteriorly and slidably confined in said grooves, and a drawer having supporting rails, said rails having longitudinal heads about rectangular in cross section and slidably confined within said slides and having longitudinal ribs fixed to the drawer ends, said slides at their outer longitudinal sides having longitudinal side openings receiving said ribs and longitudinal edges bearing against said ribs, the longitudinal vertical outer side faces of said slides being approximately flush with the inner side faces of the drawer housing ends.

[Claims 6 to 10 not printed in the Gazette.]

977,350. SOFA-BEDSTEAD. CHARLES A. WARNER, New York, N. Y. Filed Aug. 1, 1910. Serial No. 574,877.

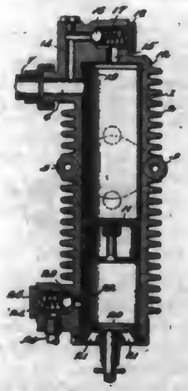
1. In a sofa-bedstead, the combination, with a box, and a frame-work hinged to said box, and a mattress-supporting spring connected between and within the said box and frame-work and adapted to be folded within the said box; of a seat embodying an upholstered frame, and hinges comprising two plates fulcrumed together and normally at right angles to each other and connecting the said box to the said frame, one of said plates having an extended arm, and a spiral spring connected to said arm at one end and to an interior wall of the said box at the other end, the said upholstered frame slidably mounted on the said frame-work, substantially as shown and described.

2. In a sofa-bedstead, the combination, with a box having an upholstered back and swinging side arms, and means for locking said arms in closed position, and a swinging framework, and hinges connecting said framework to the said box, and a mattress-supporting spring connected within and between the said box and the said framework, and folding legs connected to the said framework for supporting it at its free end when it is extended; of a seat embodying an upholstered frame, and hinges comprising two plates fulcrumed together and normally at right angles to each other and connecting the said box to the said frame, one of said plates having an extended arm, and a spring connected to said arm, and sliding plates extended laterally from the bottom of said seat, and rails mounted on the said swinging framework and engaging said plates, whereby the seat may slide on the said swinging frame, substantially as shown and described.



3. In a sofa-bedstead, the combination, with a box, and a framework hinged to said box, and a mattress-supporting spring connected between and within said box and framework and adapted to be folded within said box, of a seat embodying an upholstered frame, and hinges comprising two plates fulcrumed together and normally at right angles to each other, one attached to the seat and the other to the said box, one of said plates having an extended arm, and a spiral spring connected at one end to said extended arm and at the other end to the rear wall of the said box, substantially as shown and described.

977,351. POWER TIRE-PUMP. HAROLD D. WATERHOUSE, Wollaston, Mass. Filed June 27, 1910. Serial No. 569,220.



1. In a power tire pump, the combination of a pump cylinder, a floating piston therein, a port at one end of said cylinder adapted to be connected to the chamber of a motor cylinder, a valved by-pass communicating with said port and said cylinder, a port at the other end of said pump cylinder adapted to be connected to the tire to be inflated, and a valved port adapted to admit air into said pump cylinder, substantially as described.

2. In a power tire pump, the combination of a cylinder, a port at one end adapted to communicate with the chamber of an engine cylinder and to admit the gases into said pump cylinder, a port at the other end of said pump cylinder adapted to be connected with a tire to be inflated, a by-pass leading from said first mentioned port to said cylinder, a valve adapted to admit air into said cylinder, a valve adapted to admit air into said pump cylinder, and a floating piston in said pump cylinder adapted to prevent said air and gases from mixing, substantially as described.

3. In a power tire pump, the combination of a cylinder, a port at one end of said cylinder adapted to admit the combustion gases from an engine into said cylinder, a piston adapted to be subjected to the pressure of said gases on one face during the compressive stroke of the engine, and to close said port during the suction stroke thereof, a by-pass connected to said port and adapted to deliver said gases to said piston, a valve adapted to admit air to the other face of said piston and a valved port adapted to connect with the tire to be inflated, substantially as described.

4. In a power tire pump, the combination of a cylinder means to secure the same to an automobile, means to radiate the heat generated in said cylinder, a floating piston in said cylinder, a port to admit the combustion gases of an engine to one side of said piston and adapted to be closed by said piston; a valved by-pass connected to said port, and entering said cylinder; connections between said cylinder and said engine, and valved connections on the other side of said piston between said cylinder and the tire to be inflated, substantially as described.

5. In a power tire pump, the combination of a cylinder, a floating piston in said cylinder, a port located away from the extreme end of said cylinder and adapted to admit gases from the combustion chamber of an engine into said cylinder on one side of said piston, a valved by-pass connecting said port and the extreme end of said cylinder adapted to deliver combustion gases on the same side of said piston as said port, a check valve in the extreme other end of said cylinder adapted to deliver air on the other side of said piston, and a valved port on said last mentioned side of said piston adapted to deliver said air to the tire to be inflated, substantially as described.

[Claim 6 not printed in the Gazette.]

977,352. CALF-WEANER. JOSEPH S. WEATHERS, Windsor, Mo. Filed Aug. 6, 1910. Serial No. 575,864.

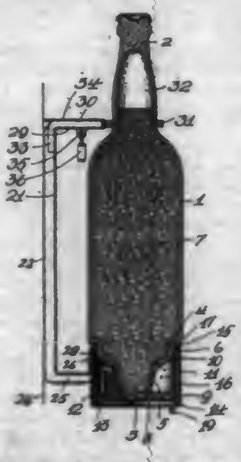


1. A muzzle for weaning calves, etc., comprising a cage adapted to fit onto the head of the animal and provided with an opening at its tapering end, a door hinged to the tapering end and adapted to swing within said opening and provided with flanges upon its edges for the purpose

set forth, and a swinging gravity ball-shaped member adapted to hold the door closed when the muzzle is held in a horisontal position.

2. A muzzle for weaning calves, etc., comprising a cage adapted to fit onto the head of the animal and provided with an opening at its tapering end, a door hinged to the tapering end and adapted to swing within said opening and provided with flanges upon its edges for the purpose set forth, a ball-shaped member having eyes at its ends, wires secured to the frame of the muzzle and to which said ball-shaped member is pivoted, the latter bent to form a coil and adapted to engage the free end of the door.

977,353. DISINFECTOR AND DEODORIZER. JOSEPH WILLIAMS, WILLIAM H. WILLIAMS, and EDWARD R. WILLIAMS, Sharpsburg, Pa. Filed June 9, 1910. Serial No. 565,918.



1. A device for the purpose set forth comprising a receptacle constituting a reservoir, said receptacle having an outlet at its lower end, an inner cup surrounding said outlet and engaging said receptacle at a point above said outlet and depending below said outlet, said inner cup being provided with a series of openings in the side walls at a point above said outlet, an outer cup surrounding said inner cup and having openings in its side walls, a tube arranged within said inner cup to establish communication between said cups, and a wick within said tube whereby the contents of said inner cup may be discharged into said outer cup by capillary attraction.

2. A device for the purpose set forth comprising a receptacle constituting a reservoir, said receptacle having an outlet at its lower end, an inner cup surrounding said outlet and engaging said receptacle at a point above said outlet and depending below said outlet, said inner cup being provided with a series of openings in the side walls at a point above said outlet, an outer cup surrounding said inner cup and having openings in its side walls, a tube arranged within said inner cup to establish communication between said cups, a wick within said tube whereby the contents of said inner cup may be discharged into said outer cup by capillary attraction, and means for discharging the contents of said outer cup at a point removed from the communication between said inner cup and said outer cup.

3. A device for the purpose set forth comprising a bracket, an outer cup carried by the lower end of said bracket, a receptacle supported by said outer cup and having the lower end thereof provided with an outlet, an inner cup detachably mounted upon the lower end of said receptacle, means for conveying the contents of said inner cup into said outer cup, and means for detachably connecting the upper end of said receptacle to the upper end of said bracket.

977,354. ELECTRIC RAILWAY. ROBERT POST WILLIAMS, San Francisco, Cal. Filed Oct. 29, 1908. Serial No. 460,171.



1. The combination in an electric railway, of a continuous track having an exterior overhanging flange, insulated trolleys vertically journaled beneath said flange, said trolleys having connections with a source of electrical supply, car trucks having dependent arms and an elastic bar fixed to said arms and adapted to travel in contact with the trolleys successively.

2. The combination in an electric railway, of a continuous track having an outwardly projecting overhanging flange, insulated trolleys vertically journaled beneath said flange, said trolleys having connection with a source of electrical supply, a car having independently swiveled trucks, rigid arms depending from each of the trucks, an elastic non-compressible bar fixed to said arms, said arms acting to bend the bar in unison with the changes of angle of the trucks in passing over the track, whereby the bar is moved in contact with the trolleys.

3. The combination in an electric railway of a car, wheeled trucks upon which the car is supported, said trucks being swiveled to follow the curvatures of the track, a motor carried upon the car, conducting hangers fixed to the trucks, a flexible bar fixed to the lower ends of the hangers, and capable of being curved in unison with the changes of position of the trucks when rounding curves, a rail having a protecting overhang, insulated trolleys carried beneath the overhang of the rail, and in line with the travel of the flexible bar, and means for energizing said trolleys so that a circuit is completed through the motor by successive contacts of the flexible bar with a plurality of the trolleys.

977,355. CHAIN OR CHAIN-LINK. THOMAS J. WILLIAMS, Washington, D. C., assignor of one-half to James Martin, Washington, D. C. Filed June 16, 1909. Serial No. 502,620.



1. A chain link having its ends provided, respectively, with an inwardly-projecting rounded surface, and an outwardly-projecting rounded surface, the outwardly-projecting rounded surface having its inner edge provided with oppositely-disposed recesses.

2. A chain link having its ends provided, respectively, with an inwardly-projecting rounded surface and an outwardly-projecting rounded surface, said outwardly-projecting rounded surface having its inner edge provided with oppositely-disposed recesses, and both of said rounded surfaces being provided with alined openings.

3. A chain comprising open links, each link provided with rounded ends, one of said ends projecting beyond its link and forming a socket member, said socket member having its inner edge provided with oppositely-disposed recesses, the other end projecting inwardly of its link and forming a ball member, said socket member and said ball member having openings through them which are in alinement, whereby when said links are assembled the ball member of one link engages with the socket member of the other link, and the recess of said socket engages with the end of the link carrying the ball member.

977,356. METHOD OF AND SECTIONAL CORE FOR MAKING CONCRETE PILING. JOHN FREDERICK DOUGLAS WITHROW, Toronto, Ontario, Canada, assignor to Raymond Concrete Pile Company, New York, N. Y., a Corporation of New Jersey. Filed July 26, 1905. Serial No. 271,289.



1. A temporary pile comprising a plurality of movable sections, a means holding said sections in a driving position, and a means adapted to move said sections apart, after the pile is driven, beyond the driving position.

2. A core for making piling composed of composite material, comprising a plurality of sections movable in relation to each other, and a means performing the dual function of holding the said sections in a fixed position while the core is being driven into the ground, and when the core is driven, expanding it by moving said sections out or apart beyond the driving position.

3. The combination in a temporary pile, of a plurality of movable sections provided with projections constructed with a lower interlocking surface, of a member between said sections and provided with blocks, the upper surfaces of which blocks are constructed to coact with the interlocking surfaces of said projections, so as to hold said sections in a driving position.

4. The combination in a temporary pile, of a plurality of movable sections provided with projections having a downward-inward-sloping upper surface, of a member between said sections and having blocks with their lower surfaces constructed with an upward-outward-slanting surface so as to coact with the downward-inward-sloping surfaces on the projections on said sections, said inner member and outer member being so adapted that when the inner member is movable downward, relatively to the other sections and beyond its position when the pile is adjusted for driving, the outer sections will be forced apart.

5. In a core or pile, the combination with a plurality of sections movable in relation to each other, each section provided with an upper block constructed with a lower interlocking edge, and a lower block constructed with a downward-inward-sloping upper surface; of a member surrounded by said sections and provided with a block the upper edge of which is constructed to coact with the lower interlocking edge of said first mentioned block so as to lock said sections in position; said lower interlocking edge being constructed with an upper outward slanting surface so as to coact with the downward-inward-slanting surface of said second mentioned block, so that as said member is moved downward the sections will be forced apart.

[Claims 6 to 135 not printed in the Gazette.]

977,357. TIRE-REINFORCING FABRIC AND METHOD OF MAKING SAME. CASIMIR ZEGLEN, Chicago, Ill., assignor to Charles A. Daniel, Philadelphia, Pa. Filed July 2, 1909. Serial No. 505,579.



1. A multi-ply fabric strip for tire reinforcement and the like, comprising a compactly woven body having at its end margins steps or offsets of graduated thickness, the fabric body consisting of superposed filling threads and warp threads laced through the filling threads from one side of the fabric to the other, said steps or offsets being woven finished during the weaving of the fabric by displacement of the filling and warp threads.

2. A multi-ply fabric strip for tire reinforcement and the like, comprising a compactly woven body having uniform filling threads and having at its end margins steps or offsets of graduated thickness, said steps or offsets being woven finished by displacement of the filling and warp threads during the weaving of the fabric and the steps having the same compact finished texture as the body of the fabric.

3. A woven multi-ply fabric web for the purpose set forth, provided at predetermined intervals along its length with sets of pockets, with the pockets of each set arranged in different weft planes to produce at said pockets matched offsets or steps.

4. A woven multi-ply fabric web which is designed to be separated into a plurality of strips having steps or offsets woven in the ends thereof to form lapping end margins, the said steps of the margins being woven in the body of the web, with the stepped margin of one strip overlying in matched relation to, and split or separated from the stepped margin of an adjacent strip.

5. A woven multi-ply fabric web comprising superposed filling threads and warp threads all of which are interlaced through the filling threads from the upper to the lower side of the fabric, and which is designed to be separated into a plurality of strips having stepped or offset lapping end portions, the steps of each end portion comprising varying numbers of piles, said steps being woven in the body of the fabric web with the setps of each strip woven in overlying matched relation to the steps of an adjacent strip, and with the warp threads carried from one of said lapping portions to the other at the sides of said steps.

[Claims 6 to 9 not printed in the Gazette.]

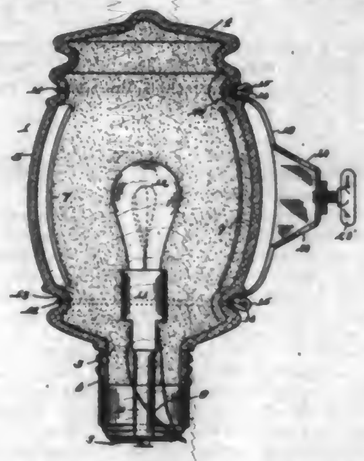
977,358. LAMP. JOSEPH E. ALLEN, Chicago, Ill. Filed Feb. 14, 1910. Serial No. 543,807.

1. A lamp comprising a body formed of a single piece of glass having but one opening therein, supporting means directly secured to said body, and electric illuminating means secured in said opening and entirely supported by said body, substantially as described.

2. A lamp comprising a hollow body formed of a single piece of glass, said body being provided with but a single opening, illuminating means arranged within said body, detachably mounted reinforcing metallic bands encircling said body, and a laterally disposed supporting bracket arranged upon the outer surface of said body and secured thereto by said bands, substantially as described.

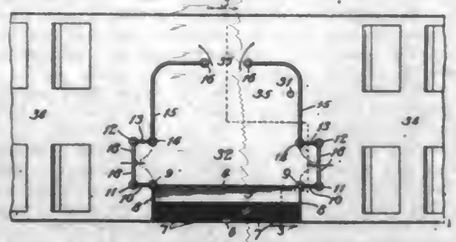
3. A lamp comprising a hollow body formed of a single piece of glass, one side of said body being open, a detachable closure for said opening, an electric light arranged within said body, adjustable reinforcing metallic bands encircling said body, grooves in the outer surface of said body for the reception of said bands, and supporting means for said body, substantially as described.

4. A lamp comprising a hollow substantially cylindrical body formed of a single piece of glass, a portion of the outer surface of said body being sand-blasted, said body being imperforate except for an opening in its under side,



a detachable closure for said opening, an electric light arranged within said body and supported upon said closure, reinforcing metallic bands encircling said body, and a bracket carried upon said body and secured thereto by said bands, substantially as described.

977,359. PASSENGER-CAR. CHARLES H. ANDERSON, Seattle, Wash. Filed Aug. 18, 1910. Serial No. 577,777.

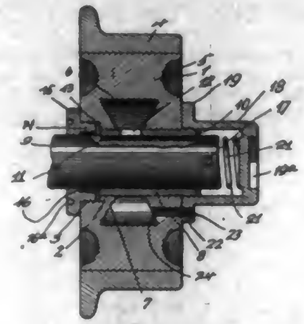


1. In a car-body, passenger-seating end-sections, an assembly-space for passengers between said sections, a main entrance and exit opening in the car-body at one side of said space, barriers separating said space from said sections, a single entrance-way between the barriers leading from said space to the end-sections, exit-ways from the end-sections to said space, gates in said exit-ways, and means, under control from a conductor's position, for locking and unlocking said gates.

2. In a car-body, passenger-seating end-sections, an assembly-space for passengers between said sections, a main door-controlled, entrance and exit opening in the car-body at one side of said space, barriers separating said space from said sections, a single entrance-way between the barriers leading from said space to the end-sections, separate exit-ways from the end-sections to said space, gates in said exit-ways, and means, under control from a conductor's position, for locking and unlocking said gates.

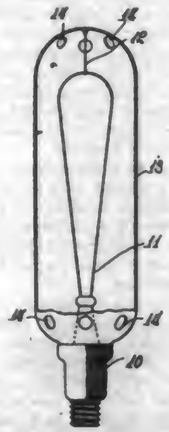
977,360. SELF-LUBRICATING PIT-CAR WHEEL. FRANK S. ARMSTRONG, Jr., Greensburg, Pa., assignor of one-half to Robert Gottlieb, Greensburg, Pa. Filed Apr. 29, 1910. Serial No. 558,367.

In a self-lubricating wheel, the combination with a spindle, of a wheel body, said body having a bore formed therein, said body having an annular lubricant reservoir formed therein, a bushing mounted in said bore and adapted to receive said spindle, said bushing having an opening formed therein communicating with said reservoir, said spindle having a longitudinal groove formed therein adapted to receive lubricant from the opening of said bushing, a gland mounted in one side of said wheel body, a cap carried at the opposite side of said wheel body and inclosing the end



of said spindle, said cap having a flange adapted to engage said wheel body, said flange having an opening formed therein, said wheel body having a port formed therein establishing communication between said reservoir and said opening, a plug detachably mounted in the opening of said flange, and a spring mounted in said cap between said cap and the end of said spindle, substantially as described.

977,361. RADIANT ELECTRIC HEATER. RAYMOND W. BAKER, New York, N. Y., VICTOR L. KING, Woodridge, N. J., and HERSCHEL C. PARKER, New York, N. Y., assignors to Parker-Clark Electric Company, New York, N. Y., a Corporation of New Jersey. Filed Dec. 29, 1909. Serial No. 535,470.



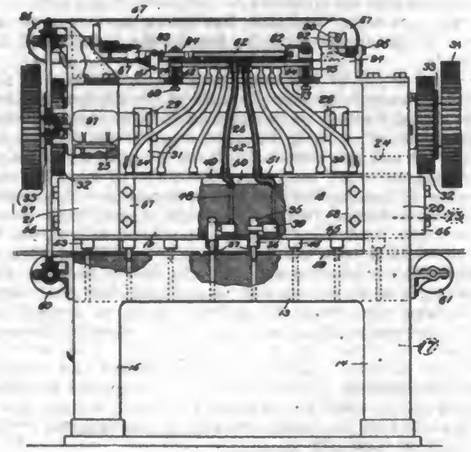
1. A radiant electric heater comprising a filament capable of glowing at a temperature of incandescence in the air, electrical connections for the filament, and a light permeable globe inclosing the filament, said globe having openings in the upper and lower parts thereof thereby causing a circulation of air through the globe.

2. A radiant electric heater comprising a heating unit or resister in filament form capable of being maintained at incandescence in the open air, electrical connections for the filament, a containing globe for the filament, and means for permitting a circulation of air through the globe.

3. A radiant electric heater comprising a heating unit in filament form constructed to glow at a temperature of incandescence in the open air, electrical connections for the heating unit, and a containing globe for the heating unit, said globe having an air inlet near the bottom and an air exit near the top.

4. A radiant electric heater comprising a stiff non-metallic resister in filament form which when cold is a conductor of electricity and which glows on the passage of a current of electricity through it, electrical connections for the resister or filament, and a containing globe open to the air for the filament.

977,362. MULTIPLE-PUNCH PRESS. THOMAS A. BANNING, Jr., Chicago, Ill., assignor to Frank Thompson, Chicago, Ill. Filed July 2, 1910. Serial No. 570,160.



1. In a multiple punch press, the combination of a movable press-head having in its lower face a plurality of retractable die members and a pneumatic piston for each die member adapted when extended to retain the die member in working projected position, a perforated templet and an air chamber adjacent thereto and adapted to deliver compressed air through the perforations of the templet to the die members whereby the die members are held in operative position in accordance with the perforations of the templet, substantially as described.

2. In a multiple punch press, the combination of a movable press-head having in its lower face a plurality of retractable die members and a plurality of pneumatic pistons adjacent the die members and adapted when extended to retain the die members in projected position, a perforated templet and a hollow air chamber having on one face a plurality of bosses adjacent the templet and a plate adjacent the other side of the templet and having a plurality of bosses in corresponding position to those of the air chamber, said last named bosses being pneumatically connected to the pistons in a manner whereby air may flow from the air chamber through the perforations of the templet, and connections to the pistons to retain the latter in projected position in accordance with the perforations of the templet, substantially as described.

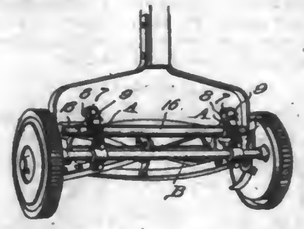
3. In a multiple punch press, the combination of a movable press-head having in its lower face a plurality of retractable die members and a perforated templet and means for retaining the retractible die members in extended position in accordance with the perforations of the templet, means for advancing the templet and the plate, and means for operating the press-head, and means for interlocking the movements of the templet and the plate and the press-head, substantially as described.

4. In a multiple punch press, the combination of a movable press-head, a plurality of movable die members therein and a perforated and slotted templet, and pneumatically controlled means for retaining the movable die members in accordance with the perforations of the templet, and means for feeding the templet and plate in accordance with the slots on the templet, substantially as described.

5. In a multiple punch press, the combination of a movable press-head, a plurality of movable die members therein, a perforated and slotted templet, means for moving the press-head and means for feeding the templet and plate in accordance with the slots of the templet, and means for interlocking said feeding means with the movements of the press-head, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

977,363. SHARPENING DEVICE FOR LAWN-MOWERS. PERCY D. BARBER, Amherst, and FREDERICK B. MCQUEEN, Brownhelm, Ohio. Filed Dec. 18, 1909. Serial No. 533,938.



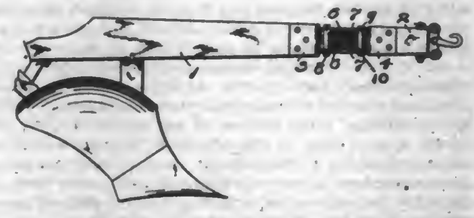
1. A pair of bracket members having spring leaves connected therewith, means for adjusting the spring leaves, clamping members carried by said spring leaves, and an abrading member carried by the clamps.

2. A pair of clamping members having spring leaves connected therewith, set screws bearing against said spring leaves, clamping members adjustably connected with the spring leaves, and an abrading member carried by said clamping members.

3. A pair of bracket members having clamping devices, spring leaves connected with said bracket members, set screws bearing against the spring leaves, clamping members adjustably connected with the spring leaves, and an abrading member carried by the clamping members.

4. In a device of the character described, a pair of bracket members, securing means for the same, spring leaves connected with the bracket members, clamping members connected adjustably with the spring leaves, means for adjusting the tension of the latter, a slotted tubular sleeve seated between the clamping members, and a cylindrical abrading member mounted in said slotted sleeve.

977,364. SHOCK-ABSORBER FOR PLOWS. EMMETT BARR, Garrett, Ind., assignor of one-half to Claude M. Parker, Garrett, Ind. Filed Dec. 7, 1909. Serial No. 531,835.

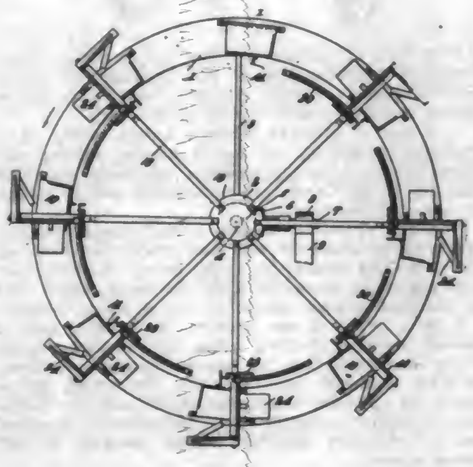


1. In a plow, the combination of a two-part beam with said parts yieldably connected, the connection of each part being substantially alike and each comprising a plurality of rigidly-fixed horizontally-disposed slide-bar extensions connected at their outer ends by a head, the bars of one extending through openings in the other to form a slidable connection, and a spiral spring disposed between said heads and inclosed by the inter-disposed slide-bars of the two parts, as shown and set forth.

2. In a plow, the combination of a two-part beam with said parts yieldably connected, the connection of each part being substantially alike and each comprising a plurality of rigidly-fixed horizontally-disposed slide-bar extensions connected at their outer ends by a head, the bars of one extending through openings in the other to form a slidable connection, a spiral spring disposed between said heads and inclosed by the inter-disposed slide-bars of the two parts, and a second spiral spring inclosed by the aforesaid spring, as shown and set forth.

3. In a plow, the combination of a two-part beam with said parts yieldably connected, the connection of each part being substantially alike and each comprising a strap secured to the beam part, a plurality of horizontally-disposed slide-bar extensions rigidly fixed to said strap and connected at their outer ends by a head, the bars of one extending through openings in the other to form a slidable connection, a spiral spring disposed between said heads and inclosed by the inter-disposed slide bars of the two straps, and a second spiral spring inclosed by the aforesaid spring, as shown and set forth.

977,365. APPLE-GRADING MACHINE. GEORGE LEE BEDKER, North Yakima, Wash. Filed Nov. 27, 1909. Serial No. 530,214.



1. A device of the class described, comprising an annular rotatable table, a plurality of receptacles arranged in spaced relation on the table and hinged near the outer edge thereof, a shaft arranged transversely of each receptacle and provided on its inner end with a crank arm extending beyond the inner edge of the table, and a plurality of grading and dumping devices arranged in spaced relation adjacent to the table, each of said devices comprising a fixed standard, an arm pivoted by one end to the standard and extending alongside the inner edge of the table, set-screws near the free end of the arm and arranged in spaced relation for engaging the crank arms to dump the receptacles, a rod secured by one end to the free end of the arm, a loop on the standard through which the other end of the rod extends, a vertical shaft journaled on the standard, a leaf adjustably secured to the shaft by one edge, the other edge extending into the path of movement of an article in the receptacle, said shaft having a crank arm, a link connected by one end to the crank, the other end extending adjacent to the rod, said rod having a lug for engaging the link, a horizontal shaft journaled in the standard, and provided at the end adjacent to the rod with a crank arm for engaging and lifting the rod when the shaft is oscillated, a leaf adjustably secured by one edge to the horizontal shaft, the other edge extending toward the receptacle, a stop on the rod, and a lug on the standard for engaging the stop, for the purpose specified.

2. A device of the class described, comprising an annular rotatable table, a plurality of receptacles arranged in spaced relation on the table and hinged near the outer edge thereof, a shaft arranged transversely of each receptacle and provided on its inner end with a crank arm extending beyond the inner edge of the table, and a plurality of grading and dumping devices arranged in spaced relation adjacent to the table, each of said devices comprising a fixed standard, an arm pivoted by one end to the standard and extending alongside the inner edge of the table, set-screws near the free end of the arm and arranged in spaced relation for engaging the crank arms to dump the receptacles, a rod secured by one end to the free end of the arm, a loop on the standard through which the other end of the rod extends, a plurality of leaves mounted to swing on each standard and adapted for engagement by an article in a receptacle, lugs on the rod, and stops connected to the leaves, and movable into and out of engagement with the lugs by the swinging of the leaves.

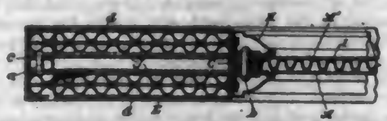
3. A device of the class described, comprising an annular rotatable table, a plurality of receptacles arranged in spaced relation on the table and hinged near the outer edge thereof, a shaft arranged transversely of each receptacle and provided on its inner end with a crank arm extending beyond the inner edge of the table, and a plurality of grading and dumping devices arranged in spaced relation adjacent to the table, each of said devices comprising a fixed standard, an arm pivoted by one end to the standard and extending alongside the inner edge of the table, set-screws near the free end of the arm and arranged in spaced relation for engaging the crank arms to dump the receptacles, a rod secured by one end to the free end of the arm, a loop on the standard through which the other end of the rod extends, a plurality of leaves mounted to swing on each standard and adapted for engagement by an article on a receptacle to swing said leaves, stops for engaging the rod to prevent movement thereof, and means operated by the swinging of the leaves for releasing the stops.

4. A device of the class described, comprising an annular rotatable table, a plurality of receptacles arranged in spaced relation on the table and hinged near the outer edge thereof, a shaft arranged transversely of each receptacle and provided on its inner end with a crank arm extending beyond the inner edge of the table, and a plurality of grading and dumping devices arranged in spaced relation adjacent to the table, each of said devices comprising means for engaging and lifting the receptacle, a plurality of leaves mounted to swing and adapted to be engaged by an article on a receptacle to swing said leaves, and a connection between said leaves and the lifting means for operating the same.

5. A device of the class described, comprising an annular rotatable table, a plurality of receptacles arranged in spaced relation on the table and hinged near the outer edge thereof, a shaft arranged transversely of each receptacle and provided on its inner end with a crank arm extending beyond the inner edge of the table, and a plurality of grading and dumping devices arranged in spaced relation adjacent to the table, each of said devices comprising means for engaging the crank arm to lift the receptacle, and means operated by the passage of an article in a receptacle for operating said lifting means.

[Claims 6 to 11 not printed in the Gazette.]

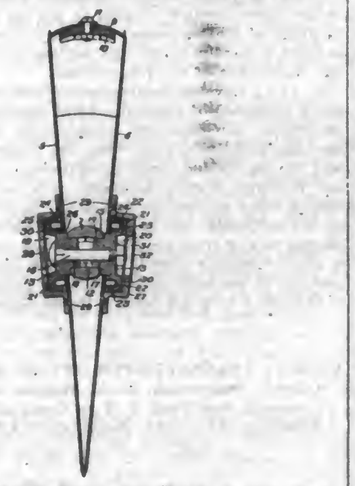
977,366. METALLIC DOOR. GEORGE B. BREAKEY, New York, N. Y., assignor to Herrmann & Grace Company, Brooklyn, N. Y., a Corporation of New York. Filed Apr. 28, 1909. Serial No. 492,723.



1. A metallic door comprising a pair of panel sheets; a pair of opposite hollow members having side and edge sections extending at least the full dimensions of the panel sheets and embracing the edges of said panel sheets, the inner surfaces of said edge sections along substantially their entire length being in contact with the edges of the panel sheets; a second pair of opposite hollow members embracing remaining edges of said panel sheets and having side sections extending between the side sections of said first named pair and an edge section extending at least the full dimension of the panel sheets, the inner surfaces of said edge section along substantially its entire length being in contact with said panel sheet edges; rigid distance pieces attached to and between the panel sheets along each outer edge of said sheets; rigid distance pieces attached to and between the panel sheets and the inner edges of the aforesaid hollow members along the entire length of said inner edges; tongues extended outwardly from each edge of each panel sheet and contacted with the inner surface of the side sections of the hollow members; and inner strengthening angles joining adjacent ends of the hollow members together, as and for the purpose described.

2. A metallic door comprising a pair of panel sheets; pairs of opposite hollow members constituting stiles and rails embracing the edges of said panel sheets and having their edge sections in contact with the edges of the panel sheets around the entire door; a rigid distance bar attached to and between the panel sheet edges around the entire door; a second inner distance bar between the panel sheets and around the entire door; tongues extended outwardly from each edge of each panel sheet and contacted with the inner surfaces of the sides of the stiles and rails; molding attaching clips spaced around the door; and rivets which pass through said molding attaching clips so as to pass through the panel sheet and the inner distance bar, as and for the purpose described.

977,367. DISK FURROW-OPENER. THOMAS BRENNAN, Jr., St. Louis Park, Minn., assignor to Monitor Drill Company, St. Louis Park, Minn., a Corporation of Minnesota. Filed Feb. 8, 1910. Serial No. 542,699.



1. In a furrow opener the combination of two disks, flexible means exerting an inward pressure on the centers of the disks for maintaining the edges of the disks in flexible contact, substantially as described.

2. In a furrow opener the combination of two disks, flexible means exerting an inward pressure on the centers of the disks for maintaining the edges of the disks in flexible contact near the point where the furrow is to be opened, substantially as described.

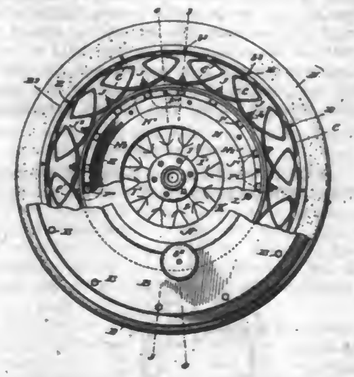
3. In a furrow opener the combination of two disks, flexible means exerting an inward pressure on the centers of the disks, the disks being supported at an angle so that they will come into contact on their edges, substantially as described.

4. In a furrow opener the combination of two disks, flexible means exerting an inward pressure on the centers of the disks, the disks being flexibly supported by a shank at a suitable angle so that their edges will be brought into contact near the point where the furrow is to be opened, substantially as described.

5. In a furrow opener the combination of two disks, flexible means tending to bring the disks toward each other near their central portion, the disks being supported at an angle so that they will come into contact on their edges, substantially as described.

[Claims 6 to 12 not printed in the Gazette.]

977,368. SPRING-WHEEL. ZENO A. BRUNGER and ROBERT D. BRUNGER, Culbertson, Mont. Filed Sept. 15, 1909, Serial No. 517,846. Renewed Oct. 31, 1910. Serial No. 589,951.



1. A wheel substantially as herein described comprising a central or body section and a rim section the latter having side sections, and a circumferential ring, and the body section being provided with a hub, a felly supported from the hub and having in its opposite faces circumferential grooves, and having a rim portion beyond said grooves notched transversely in its outer face with its notches communicating at their ends with the circumferential grooves in the felly, casing plates fitted to the opposite sides of the felly and provided on their inner faces with circumferential beads entering the grooves of the felly and having notches coinciding with the transverse notches in the rim portion of the felly, bolts securing the side plates of the body together and to the felly, spring securing bolts having heads adapted to pass through the notches in the beads of the casing plates and to be locked from turning in the transverse grooves of the rim portion of the felly, springs arranged between the body and rim sections in two circumferential series side by side and alternating with each other and held by the spring securing bolts, and means for limiting the movement of the central or body section relative to the rim section, substantially as and for the purpose set forth.

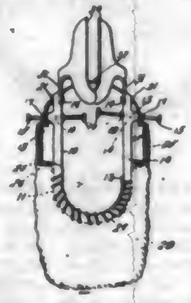
2. A wheel comprising a central or body section having a felly provided in its opposite faces with circumferential grooves and beyond the same with a rim portion having transverse notches communicating at their ends with the circumferential grooves, casing plates fitting against the opposite sides of the felly and having on their inner faces circumferential beads entering the grooves of the felly and one of said casing plates having a rim plate extending over the notched rim of the felly and provided with bolt holes communicating with the notches of said rim, springs on the outer side of said body section, bolts securing said springs and having heads held from turning in the notches of the rim portion of the felly, a rim section having side plates and a rim plate incasing said springs with the side plates slidable at their inner edges along the casing plates of the central or body section of the wheel, and means for limiting the movement of the

central or body section relative to the rim section, substantially as set forth.

3. The combination in a spring wheel with a rim section, and a central or body section having a felly, and casing plates fitted thereto and having a rim plate overlying the felly, the felly being notched in its outer face, elliptical springs bearing between the body section and the rim section, bolts securing said springs and passed through the rim plate of the casing of the body section and having their heads held in the notches of the felly, and means for limiting the movement of the central or body section relative to the rim section, substantially as set forth.

4. A wheel comprising a rim section, and a body section fitted therein and having a felly provided in its opposite sides with circumferential grooves, and a casing fitting over the felly and having a rim plate and side plates, the latter being provided with circumferential beads entering the grooves of the felly and provided with notches for the passage of bolt heads, bolts having heads adapted to pass through said notches, the bolts being passed through the rim plate of the casing, and springs held by said bolts and bearing between the body section and the rim section and means for limiting the movement of the central or body section relative to the rim section, substantially as set forth.

977,369. CHERRY-PICKER. WILLIAM N. BAYERS, Helmer, Mich. Filed Apr. 6, 1910. Serial No. 553,754.



1. A fruit picker, consisting of a frame having legs pivotally connected together, a spring loop connecting the free ends of the legs and operating to hold the same spread apart, a sack having an open end the edges of which are secured to the loop and legs of the frame, and cutting blades adjustably mounted on the free extremities of the legs.

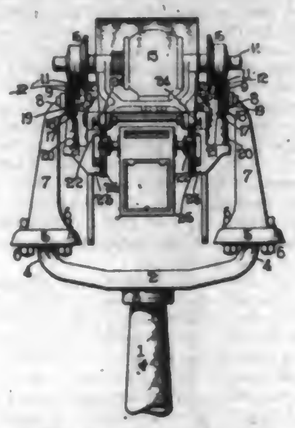
2. A fruit picker, consisting of a frame having its legs pivotally connected together, a spring loop connecting the extremities of said legs and normally holding said legs spread apart, means for limiting the movement of the legs, a sack having an open end the edges of which engage said loop and frame, and a pair of curved cutting blades adjustably mounted upon the free ends of said legs.

3. A fruit picker, consisting of a yielding U shaped frame having its cross bar offset from the plane of its legs, an open spring loop connecting said legs and operating to hold the legs spread apart, a sack having an open end the edges of which are secured to the spring loop and frame, and curved cutting blades having depending shanks adjustably mounted on the free ends of said legs.

977,370. TRANSPORTATION SYSTEM. WILLIAM C. CARR, Buffalo, N. Y. Filed June 17, 1909. Serial No. 502,695.

1. In a transportation system, a series of supports having branch rail supporting members and rails attached to said branch members; said rails being of a channel form and consisting of two vertical members one of which is greater in width than the other and is fastened to the rail supporting member and a transverse horizontal member connecting the upper ends of said members, the top of which constitutes a track surface which is of a flat form throughout.

2. In a transportation system, a series of supports having branch rails supporting members and rails attached to said branch members; said rails having two vertical members of unequal width arranged in separated relation and a top horizontal member connecting said vertical members.



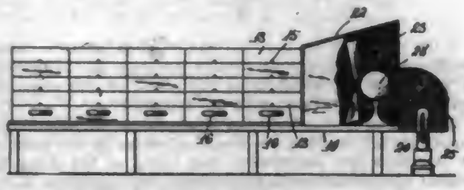
3. In a transportation system, a series of supports having branch rail supporting members and rails having two vertical members of unequal width arranged in separated relation and a top horizontal member connecting the vertical members and bolts for securing the wider member of each rail to a rail supporting member.

4. In an elevated transportation system, a series of supports each composed of a vertical standard, a transverse horizontal bar centrally mounted on the standard and curving slightly upward from the center toward its end, and having its ends bent abruptly up to form short vertical portions, branch members each having an enlarged lower portion secured to one of the short vertical portions of the horizontal bar and a vertical body having a short inwardly curved top portion and rails secured to the inner ends of the top portions.

5. In an elevated transportation system, a series of supports composed of vertical central standards, a transverse horizontal bar centrally mounted on the standard and curving slightly upward from the center toward its end and having its ends bent abruptly up to form short vertical portions, branch members each having an enlarged dished lower portion secured to the short vertical portions of the horizontal bar and a vertical body tapering and reducing in size from the dished portion upward and having a short inwardly curved top portion and channeled rails secured to the inner ends of the top portions.

[Claims 6 to 9 not printed in the Gazette.]

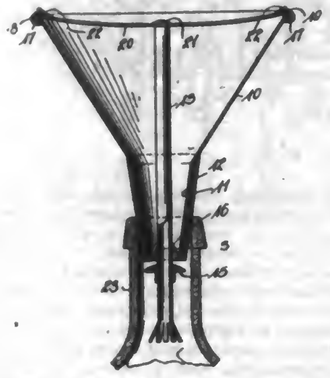
977,371. APPARATUS FOR DRYING EGGS. HENRY E. COFFIN, Hackensack, N. J., assignor to Brown & Root Company, New York, N. Y., a Corporation of New York. Filed Aug. 31, 1909. Serial No. 515,456.



An apparatus of the kind described comprising a table or support having cleats extending longitudinally on the upper surface thereof, a series of separable sections on the top of the table placed side by side and in close contact one with the other, each section comprising a bank of rectangular trays piled directly one upon the other and each tray having its outer or end portions of equal height,

sides lower than the ends, and a perforated bottom, a hood connected to one end of the series, and means in the hood to force air longitudinally through the series between the trays and between the cleats.

977,372. FUNNEL. WILLIAM E. CRANE, Corinth, W. Va. Filed Apr. 14, 1910. Serial No. 555,345.



1. In a funnel, a valve adapted to close the mouth thereof, a vertical stem secured to the valve, a resilient strip secured at diametrically opposed points to the funnel and of greater length than the straight line joining these points, and means for securing the valve stem to the strip at a point intermediate its length, whereby said valve will be retained in either an open or closed position by the strip.

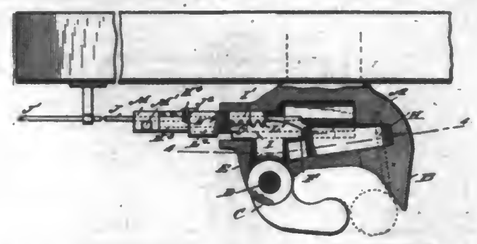
2. The combination with a funnel, of a vent tube extending therethrough and projecting below the discharge end of the same, a valve carried by said tube and adapted to close the funnel discharge when the tube is elevated, and a spring operating to maintain the tube depressed and the valve in open position, or to hold the tube elevated and the valve closed.

3. The combination with a funnel, of a vent tube extending therethrough and projecting below the discharge end of the same and split and distended at the lower end, a valve carried by said tube and adapted to close the funnel discharge when the tube is elevated, and a spring operating to maintain the tube depressed and the valve in open position, or to hold the tube elevated and the valve closed.

4. In a funnel, a body having a discharge nozzle with inwardly directed guide tongues, a resilient strip secured at its ends to the body, a vent tube connected at one end to said strip and extending through said body and nozzle, and a valve carried by said vent tube and seating upon the nozzle when the resilient strip and vent tube are elevated.

977,373. CAR-COUPLING. HENRY C. CRIGGER, Johnson City, Tenn., assignor of one-third to David O. Simpson, Kenova, W. Va. Filed Nov. 27, 1909. Serial No. 530,240.

1. The improvement in car couplings substantially as herein described, comprising the combination with a knuckle having a toothed segment and a locking dog cooperating with said knuckle, of an operating slide consisting of a main bar grooved in its opposite faces, adapted at its inner end to operate the locking dog and having one of its side grooves provided at its inner end with a stop shoulder, a rack bar having a box sliding longitudinally along the main bar and limited in its inward movement by the said shoulder, a keeper secured on the outer end of the main bar and limiting the outward movement of the rack bar and a handle bar rockable relatively to the main bar and movable in one position into engagement with the main bar and in its other position into engagement with the rack bar, all substantially as and for the purposes set forth.



2. In a car coupling, substantially as described, an operating slide composed of a main bar, a rack bar movable longitudinally along the main bar and means cooperating with the main bar for locking the rack bar from such movement in one direction, substantially as set forth.

3. The combination with a knuckle having rack teeth and a locking dog coöperating with said knuckle, of an operating slide having a main bar, a rack bar movable longitudinally along the main bar and means coöperating with the main bar for locking the rack bar from such movement in one direction.

4. The combination with a knuckle and a locking dog therefor, of an operating slide having a main bar, a rack bar movable longitudinally along the main bar and a handle rod rockably connected with the main bar and movable into position to coöperate with the main bar in locking the rack bar from movement in one direction along the main bar, substantially as set forth.

5. The combination with a knuckle having rack teeth and a locking dog for said knuckle, of an operating slide having a main bar, a rack bar movable longitudinally along the main bar and a handle rod having a rocking connection with the main bar and provided with a crank arm movable into position to coöperate with the main bar in locking the rack bar from movement in one direction along the main bar, substantially as set forth.

[Claims 6 to 12 not printed in the Gazette.]

977,374. TOBACCO-MOISTENER. CHARLES B. DE LANO, South Boston, Mass. Filed Jan. 21, 1910. Serial No. 539,213.



A tobacco moistener comprising a portable box adapted for insertion within cigar boxes, tobacco pouches and the like, comprising separable telescopingly-engageable parts, each part of which comprises a perforated plate having a lateral imperforate edge flange provided with a strengthening rib stamped thereabout adjacent the plate, and a stiff porous moisture-holding body within the box and fitting closely between the said plates whereby to assist in maintaining the box in shape.

977,375. WATER-GAGE. CHARLES L. DICKERSON, Clinton, Ill. Filed June 22, 1910. Serial No. 568,313.

1. A gage comprising a bottom plate provided with escape openings, an upper plate, corner strips connecting said plates, removable guiding means carried thereby, a sight tube extending through said plates, and transparent panels held in position to seal the openings between said strips by said guiding means.

2. A gage comprising a bottom plate provided with a central opening and a pendant centrally located nut-shaped lug, said lug provided with a threaded recess, a coupling for connecting said lug to a boiler fitting, a

gasket held in said recess by said coupling, a top plate similarly connected to a boiler fitting, a sight tube connecting said plates and engaging the gaskets of the lugs



thereof, corner strips connecting said plates and transparent panels carried by said plates and interposed between said strips.

977,376. DRYING-CYLINDER FOR PAPER-MAKING MACHINES. OTIS WM. DODGE, Port Edwards, Wis. Filed Mar. 11, 1910. Serial No. 548,658.



1. In combination with a drying cylinder, an axially disposed drain pipe arranged within the cylinder and extending substantially the length thereof, scooping means within and extending longitudinally of the cylinder, and convolutely bent pipes for conducting water from the scooping means into said drain pipe.

2. In combination with a drying cylinder, an axially disposed drain pipe arranged within the cylinder and extending longitudinally thereof, scooping means extending longitudinally of the cylinder, and convolutely bent pipes for conducting water from the scooping means into said drain pipe, some of the pipes having a greater convolute bend than others, whereby the time of discharge of said convolute pipes into the drain pipe is varied.

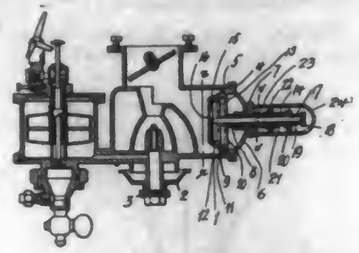
3. In combination with a drying cylinder, scooping means attached to the inner wall of and extending substantially from end to end of the cylinder, a drain pipe extending axially of and substantially from end to end of the cylinder, and pipes connecting said scoop with the drain-pipe, said connecting pipes being bent on convolute curves, substantially as described.

4. In combination with a drying cylinder, a drain-pipe within the cylinder, a scoop extending longitudinally of the cylinder and provided with pockets, and convolutely bent pipes for conducting water from the scoop pockets into said drain-pipe.

5. In combination with a drying cylinder, a longitudinally disposed scoop attached to the inner wall thereof and extending substantially from end to end of the cylinder, an axially disposed drain-pipe extending substantially from end to end of the cylinder, and convolutely bent pipes connecting said scoop with the drain-pipe.

[Claim 6 not printed in the Gazette.]

977,377. TRIPLE AUXILIARY AIR-VALVE FOR CARBURETERS. VINCENT H. DONNELLY, HARRY B. KOESSLER, and JOSEPH T. WEINZIERL, New Kensington, Pa. Filed Dec. 13, 1909. Serial No. 532,923.



1. In a carbureter, the combination with a carbureter casing, of an auxiliary air valve mechanism carried thereby, said mechanism comprising a spider carried by said casing, a valve slidably mounted in said spider and adapted to seat thereon, a valve slidably mounted in the last mentioned valve and adapted to seat thereon, a valve slidably mounted in the last mentioned valve and adapted to seat thereon, and adjustable means supported by said valves and for maintaining said valves in their seats.

2. The combination with a carbureter casing, of an auxiliary air valve mechanism carried thereby, said mechanism comprising a spider, a plurality of slidable valves supported by said spider and adapted to coöperate in closing said spinder, and adjustable springs supported by said valves for normally maintaining said valves in their seats.

3. In a carbureter, an auxiliary air valve mechanism, said mechanism comprising a spider, an apertured valve head adapted to seat upon said spider, an apertured valve head adapted to seat upon the first mentioned valve, a valve head adapted to seat upon the last mentioned apertured valve head, valve stems carried by said valve heads and slidably arranged one within the other, and means carried by each of the valve stems for normally maintaining its respective valves seated.

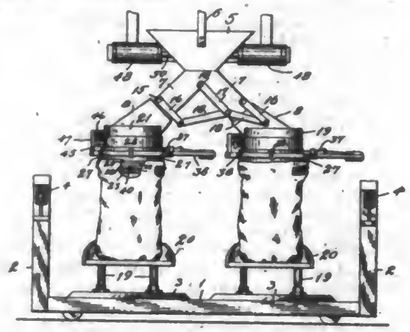
4. In a carbureter, an auxiliary air inlet valve mechanism, said mechanism comprising a spider and tubular valve stem slidably mounted in said spider, an apertured valve head carried by said stem and adapted to seat upon said spider, a tubular valve stem slidably mounted in the first mentioned stem, an apertured valve head carried by said stem and adapted to seat upon the first mentioned head, a valve adapted to seat upon the last mentioned head, a solid valve stem carried by said valve and adapted to extend through the last mentioned tubular stem, and adjustable means carried by the end of each stem for normally holding its respective valve seated.

5. An auxiliary air valve mechanism for carbureters comprising a supporting member, opening into the carbureter, a plurality of slidable valves supported by said member and coöperating to close the latter, and an adjustable resilient pressure exerting means for and supported by each of said valves and normally maintaining its respective valve seated.

[Claim 6 not printed in the Gazette.]

977,378. WEIGHING AND FILLING MACHINE. HARRY DUNKERLY, Houston, Tex. Filed Sept. 25, 1909, Serial No. 519,519. Renewed Oct. 3, 1910. Serial No. 585,156.

1. In a weighing mechaniam, the combination with a scale having a plurality of independent platforms and independent scale beams, each platform having connection with a scale beam, a suitably supported hopper having outlet chutes disposed above the platforms, a support on each platform, a spout carried by each support, each spout adapted to receive one of the hopper chutes and to move vertically without contacting with the chute, a double cut-off in the hopper adapted to retain a certain amount of material, sack fastening means below each spout, and means for operating the double cut-off to deflect the material alternately into the spouts comprising electrical means having individual circuits arranged to be closed by the scale beam.



2. In a weighing mechanism, the combination with a scale having a plurality of independent platforms and independent scale beams, each platform having connection with a scale beam, of a hopper adapted to be supported above the platforms and having delivery chutes, a deflecting valve in the hopper adapted to deflect the load into one chute or the other, a cut-off valve in each chute some distance below the deflecting valve adapted to be swung across the chutes alternately, the valves being connected by means for simultaneously swinging the same, a support mounted on each platform, a spout fixed on each support and adapted to receive one of the chutes and to move vertically without contacting with the chute, sack fastening means associated with each spout and arranged between the same and the platform, and electrical means for operating the valves comprising circuit closers arranged to be operated by the scale beam.

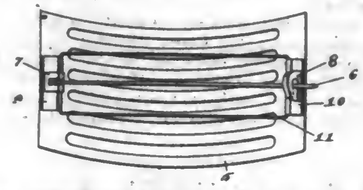
3. In a weighing mechanism, the combination with a scale having a plurality of independent platforms and independent scale beams, each platform having connection with a scale beam, of a hopper suitably supported having outlet chutes disposed above the platform, valves in the hopper arranged to alternately deflect the material into one chute and cut off the delivery of the material by the other chute, a support mounted on each platform, a spout mounted on each support, sack holding means carried by the support between each spout and the platform, solenoids mounted adjacent the hopper and connected to swing the valves, and a circuit closer supported in juxtaposition to each scale beam whereby the upward swing of the scale beam closes a circuit to one of the solenoids.

4. The combination with a platform scale having a plurality of platforms, and a scale beam for each platform, of a sack support mounted on each platform, a sack holding device carried by each support, a hopper, a chute delivering from each side of the hopper over one of the sack holding devices, a valve in each chute, a deflecting valve in the hopper controlling the delivery of material to the chutes, means for simultaneously operating the chute and hopper valves whereby material is alternately deflected in the chutes and delivered thereby, and a circuit closer on the scale connected with the valve operating means.

5. In a weighing device, a scale, a hopper mounted above the scale, diverging chutes extending from the hopper over the scale, a valve in each chute, a deflecting valve in the hopper at the intersection of the chutes, connections between the valves for swinging the same simultaneously, solenoids adjacent the hopper arranged to be alternately energized, and means having connection with the solenoids and the valves for swinging the latter.

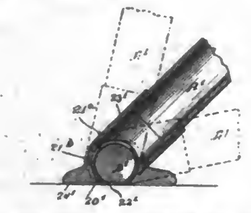
977,379. BARRETTE. MICHAEL J. FARRELL and PATRICK J. DOWD, Leominster, Mass. Filed July 19, 1910. Serial No. 572,661.

1. The combination with a barrette body and a tongue therefor, of hooks mounted at opposite ends of the barrette body, and an elastic band engaged with said hooks and between the side strands of which the tongue is adapted to pass.



2. The combination with a curved barrette body, of a wide hook member secured thereto at each end thereof, an elastic band engaging with said hooks and extending in a straight line between said hooks, and a tongue conforming substantially to the curvature of the barrette body and pivoted between the side strands of said elastic band.

977,380. VACUUM DUST-REMOVER. CHARLES B. FOSTER and WILMOT W. GLIDDEN, Oak Park, Ill. Filed Feb. 21, 1908. Serial No. 416,975.



1. A vacuum dust remover, comprising a hollow handle arranged to be connected with a suction apparatus, and a nozzle secured upon said handle and opening into the same, said nozzle having two relatively movable members, one member being rigidly secured upon the handle and having a segmental bearing face, and the other member being cylindrical and rotatively mounted on said segmental bearing face and having a flattened portion in its cylindrical wall containing a dust inlet, and transverse bearing shoes upon the ends of said second named nozzle member for maintaining the same in an upright position upon the object to be cleaned.

2. A vacuum dust remover, comprising a hollow handle arranged to be connected with a suction apparatus, a hollow nozzle member rigidly secured upon one end of said handle and opening into the same, and having a transversely extending hood which is formed with a segmental bearing face of greater extent than a semi-cylinder, a tubular nozzle member fitted to the cylindrical bearing face of the first named nozzle member and rotatively mounted therein, said second named nozzle member being formed with a flattened bearing face in its cylindrical wall containing a dust inlet, and having relatively long bearing shoes for maintaining the same in an upright position upon the object to be cleaned.

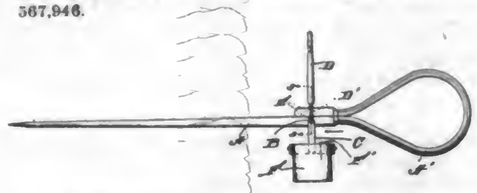
3. A vacuum dust remover, comprising a hollow handle arranged to be connected to a suction apparatus, a tubular hood connected to and opening into said handle, said hood being formed with a segmental bearing face having an opening therein, a tubular nozzle member fitting said segmental bearing face, and having an opening registering with the opening in the bearing face of the hood, said nozzle member being formed with a flattened portion in its cylindrical wall containing a dust inlet and having bearing shoes for maintaining the same in an upright position upon the object to be cleaned.

4. A vacuum dust remover, comprising a hollow handle arranged to be connected to a suction apparatus, a hood secured to one end of the handle and having a segmental bearing face of greater extent than a semi-cylinder, a tubular nozzle member rotatively mounted in said bearing face and having an opening communicated with the interior of the handle, said nozzle member being formed with a-

flattened portion in its cylindrical wall containing a dust inlet, bearing shoes upon said nozzle member and means for preventing endwise movemept of the nozzle member upon the hood.

5. A vacuum dust remover, comprising a hollow handle, a transversely extending nozzle swiveled thereon, means for preventing endwise movement of the nozzle upon the handle and bearing shoes upon the ends of the nozzle, said nozzle having a flattened bearing face containing a series of dust inlet perforations arranged longitudinally thereof.

977,381. MINER'S CANDLESTICK. GUSTAF FREELAND, Salt Lake City, Utah. Filed June 20, 1910. Serial No. 567,946.

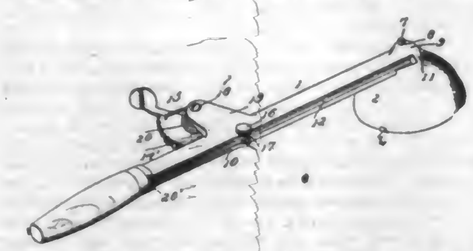


1. A miner's candle stick comprising a rod having a yoke journaled thereon, candle-engaging means fastened to said yoke, a hook having a threaded end engaging a threaded aperture in the shank of the rod and adapted to bear against the yoke to hold the same in an adjusted position.

2. A miner's candle stick comprising a rod with an aperture therein, a yoke journaled in said aperture in said rod, a resilient candle-holding member pivotally mounted in the arms of the yoke, a hook mounted in a threaded aperture in the rod and engaging the bearing portion of said yoke.

3. A miner's candle stick comprising a rod with an aperture therein, a yoke journaled in said aperture in the rod and having arms, a resilient band fastened to said arms, said band having a laterally projecting lip designed to frictionally engage and hold a candle.

977,382. ICE-CREAM SPOON. JAMES GEIER, Troy, N. Y., assignor to Catherine Nielsen and Henry S. Giles, Troy, N. Y. Filed Jan. 11, 1910. Serial No. 537,487.



1. An ice cream spoon comprising a bowl, a scraper operating in the bowl, a gear on the bottom of the scraper, a handle formed with a longitudinal groove in one side thereof, a rack bar engaging the gear and fitting in the groove and adapted to slide lengthwise therein, detachable means engaging the outside of and holding the rack bar in the groove and against the wall of the latter, a pivotally mounted finger piece having teeth which engage the rack bar, and a spring for holding the finger piece of rack bar in normal position.

2. An ice cream spoon comprising a handle, formed with a longitudinal groove in one side thereof, a rack bar fitting in the groove and adapted to slide lengthwise therein, detachable means engaging the outside of and holding the rack bar in the groove and against the wall of the latter, a pivotally mounted segmental rack engaging the rack bar, a spring for holding the pivotally mounted segmental rack and rack bar in normal position, a bowl at the end of the handle and formed with a depression which communicates with the groove in the handle, a scraper in the bowl and a pinion on the scraper which fits in the depression and engages with the rack bar.

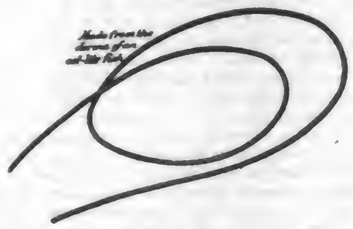
3. A nice cream spoon comprising a handle formed with a longitudinal open groove interrupted by a strip near one end to provide a guide, a rack bar fitting in the groove and adapted to slide lengthwise therein, a stop to limit the rearward sliding movement of the rack bar, a detachable locking device on the handle which engages the outside of the rack bar to hold said rack bar in the groove, and against the wall of the latter, a pivotally mounted segment for operating the rack bar, a spring for returning the segment to normal position and the rack bar against its stop, a bowl, a scraper therein, and a pinion on the scraper with which the sliding rack bar engages.

4. An ice cream spoon comprising a handle formed with a longitudinal open groove interrupted by a strip near one end to provide a guide, a rack bar fitting in the groove, and adapted to slide lengthwise therein, a stop to limit the rearward sliding movement of the rack bar in the groove, ears extending from the handle, a set screw operating in the ears and against which the outer edge of the rack bar engages to confine the latter in the groove and hold said rack bar against the wall of the groove, a pivotally mounted segment operating the rack bar, a spring for returning the segment to normal position and the rack bar against its stop, a bowl, a scraper consisting of a single arm operating in the bowl, and a pinion on the scraper with which the rack bar engages.

5. An ice cream spoon comprising a bowl formed with a depression and a centrally disposed opening, a scraper operating in the bowl, a pinion and trunnion on the bottom of the scraper, the pinion fitting in the depression and the trunnion fitting in the opening, a handle formed with and extending from the bottom of the bowl, said handle having a longitudinally disposed groove, a rack bar operating in the groove and adapted to slide lengthwise therein and engaging the pinion, a pivotally mounted finger segment engaging the rack bar, a spring for holding the same in normal position, and a set screw on the handle which engages the outside edge of the rack bar to retain the rack bar in the groove and against the wall thereof.

[Claim 6 not printed in the Gazette.]

977,383. CORD FOR SURGICAL LIGATURES AND OTHER PURPOSES. PAUL HENRI JEAN-BAPTISTE MARIE CHANTENET DE GÉRY, Nantes, France. Filed May 1, 1908. Serial No. 430,425.



1. As an article of manufacture, a fish-skin thread, string or cord which by reason of its being readily absorbable by living tissue is especially adapted for use in surgical sutures and for other analogous purposes, and which is made from fish-skin by slitting or dividing the skin into filaments or fibers suitable for the object intended free from non-absorbable parts of the fish-skin.

2. As a new article of manufacture, a cord absorbable into the tissues of living organism, obtained by removing the epidermis and slitting into strips, a skin of the fish of the eel-family.

3. As an article of manufacture, a cord made of the derma of fish-skin from which the epidermis has been removed, the derma being free from glands, so as to be absorbable into the tissues of living organism.

4. As an article of manufacture, a cord made of the derma of the skin of fish of the eel-like family, free from glands, so as to be absorbable into the tissues of living organism, and polished.

5. The process herein described, which consists in bathing a skin of the fish of the eel family in a cleaning solution for a suitable period, washing the skin in clear water, scraping the skin to such an extent on both the inner and outer surfaces as to free it of the epidermis and every part except the derma, and enable it to be absorbed into the tissues of living organism, dividing the skin into strips, and polishing the strips.

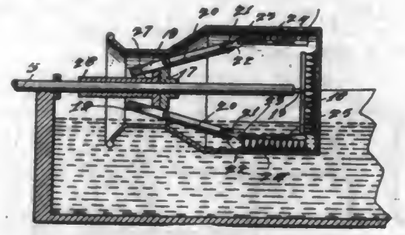
[Claim 6 not printed in the Gazette.]

977,384. SPRING GRIP-HOLDER FOR WIRE CORD. CYRUS L. GLYNN, Boston, Mass. Filed Mar. 24, 1910. Serial No. 551,405.



A grip-holder for cord consisting of a bifurcated piece of metal having a wedge-shaped slot between the two branches, both of said branches being curved outwardly before entrance to the wedge-shaped slot, the concave sides of the bows facing each other, forming an eye, one of said branches being bowed on a larger radius than the other and lapping past the free end of the other substantially parallel therewith whereby a parallel sided narrow passage is formed between the overlapped sides of the two branches, the branch of said larger radius terminating in a portion adapted to be secured to a support, the end of the branch of the smaller diameter being free to spring.

977,385. RECEPTACLE WASHER AND POLISHER. JOHN N. GRAVES, Oklahoma, Okla. Filed Mar. 26, 1910. Serial No. 551,749.

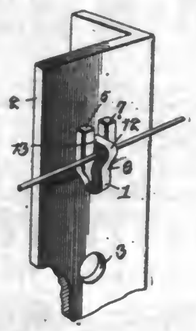


1. A receptacle cleaner comprising a rotatable shaft, a brush secured to the end of said shaft, a collar secured to said shaft, brush arms pivotally secured to said collar and provided at their outer ends with longitudinally extending sockets, slots formed in the walls of said socket, a brush for each arm, said brush being provided with a shank fitting within said socket and a pin passing through said slots and through said shank to retain said brush in place.

2. A receptacle cleaner comprising a rotatable shaft, a brush secured to the end of said shaft, a collar rigidly secured to said shaft, brush arms pivotally connected to said collar, brushes secured to the outer ends of said arms, a sleeve slidably mounted upon said shaft and provided with a flange adapted to be brought into contact with the ends of said arms to limit the outward swing of said arms due to their rotation.

3. A receptacle cleaner comprising a rotatable shaft, a collar secured to said shaft, brush arms pivotally connected to said collar, a brush secured to the outer end of each arm, each of said brushes formed of a plurality of sections hinged together and adapted to automatically adjust themselves to the desired shape, and a means for limiting the outward swing of said arms due to their rotation.

977,386. FENCE-WIRE FASTENING. JOHN G. HALL, St. Louis, Mo. Filed June 14, 1910. Serial No. 566,834.

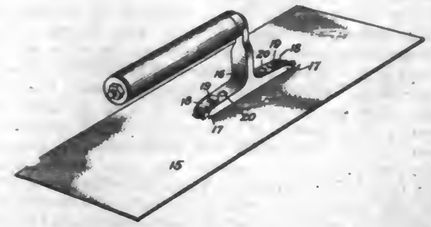


1. A wire fastener having a body provided with a hook-shaped arm adapted to enter an opening in an object, and a wire clamping arm upon the body adapted to be driven into said opening in the object to retain the hook-shaped arm therein.

2. A wire fastener formed from a flat metal blank having an enlarged end formed with slits to provide two outer tongues and an intermediate tongue, the latter being bent to form a hook-shaped arm adapted to be inserted in an opening in an object, the other end of said body being reduced to form a single tongue which is bent at an angle to the body for engagement with a wire and which is adapted to have its extremity driven into the opening in the object to retain said hook-shaped tongue therein.

3. The combination with a fence post body having an opening and a fence wire to extend across the post, of a fastener having a body portion to rest against one side of the post and provided with a hook-shaped arm to extend through said opening in the post body and have the extremity of the hook engage the opposite side face of the post and a wire clamping arm provided on the body of the fastener and bent at an angle thereto adapted to clamp said wire against the fastener and to have its extremity driven into said opening in the post body to retain said hook-shaped arm in position.

977,387. TROWEL. ALBERT A. HARVIE, Ottumwa, Iowa. Filed Jan. 17, 1910. Serial No. 538,424.



1. In a device of the class described, a relatively thin plate, tongues formed integrally therewith for attachment to a handle, means for attaching said tongues to the handle, and means for attaching the plate to the handle intermediate said tongues, the outer surface of the device being smooth and continuous adjacent to the point where the tongues are located, substantially as described.

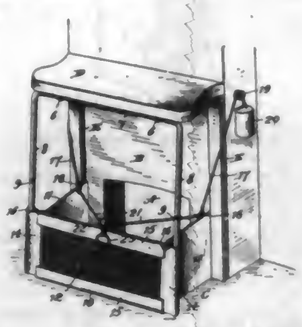
2. In a device of the class described, a relatively thin plate, tongues formed integrally therewith for attachment to a handle, the outer surface of the device being smooth

and continuous, adjacent to the point where the tongues are located, substantially as described.

3. In a device of the class described, the combination of a relatively thin plate, tongues struck from the plate for attachment to a handle, and means for presenting a smooth and continuous surface on the device adjacent to the points where the tongues are struck, substantially as described.

4. In a device of the class described, a relatively thin plate, tongues struck from the plate for attachment to a handle and means for filling the holes formed in the plate by striking the tongues therefrom, so as to present a smooth and continuous surface on the device adjacent to the points where the tongues are struck, substantially as described.

977,388. FIREPLACE-FENDER. SOLOMON B. HAYS, Buchanan, Tenn. Filed Mar. 14, 1910. Serial No. 549,120.



1. The combination, with a fireplace-fender, of a slide upon which said fender is vertically movable, said slide being jointed intermediate its ends whereby the lower portion thereof is foldable against the fender when the latter is in raised position, and means for holding said lower portion in folded position against the fender.

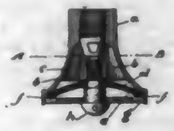
2. The combination, with a fireplace, of suitable supported slides, a fender vertically movable thereon and comprising a front screen and foldable wings thereon arranged to form side screens for the fireplace and adapted to fold against the front screen, and weighted cords connected to said wings and having a tendency both to raise the fender and swing the wings away from the front screen.

3. The combination, with a fireplace, of a screen, suitably supported slides having pivoted lower sections and upon which the screen is vertically movable, the lower sections being foldable against the screen when in raised position, and means on the screen whereby the lower sections are held in folded position.

4. The combination, with a fireplace, of suitably supported slides associated therewith and having pivoted foldable lower sections, a front screen vertically movable on said slides, wings pivoted to said screen and arranged to be swung outwardly to form side screens and to be folded against the front screen, a guide on said front screen, a cord connected to each of said wings and disposed through said guide, and means connected to said cords and arranged to engage the lower slide sections when those sections and said wings are in folded position.

5. The combination, with a fireplace, of slides suitably supported in proximity thereto and having jointed foldable sections, a fender vertically movable on said slides and comprising a front screen and foldable side screens thereon adapted to fold against the front screen, weighted cords connected to said wings and having a tendency to both raise the fender and swing the side screens away from the front screen, a guide on the front screen, a cord connected to each side screen and disposed through said guide, and a ring to which said last-mentioned cords are connected and arranged to engage the lower slide sections when these sections and the side screens are in folded position.

977,389. ROSE FOR SHOWER-BATHS. HERMANN HELDT, Gelsenkirchen, Germany. Filed Oct. 1, 1909. Serial No. 520,710.



A rose for shower baths, comprising in combination, a casing having lateral passages for the water and a nozzle formed into a shouldered socket, and two superposed, arched strainers and a perforated plate fitted in said socket and secured thereto by means of a screw-threaded bolt passed through a central aperture in the plate and screwed into the body of the casing, substantially as set forth.

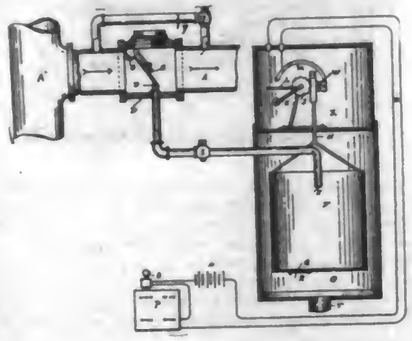
977,390. CORSET-CLASP. EDWARD B. HOWLAND, Sandwich, Mass. Filed Apr. 1, 1910. Serial No. 552,779.



1. In a device of the character described the combination with a pair of steels, of a stud carried by one steel, a plate carried by the other steel, said plate provided with an opening and a slot for engaging said stud, a lever pivoted to said plate and adapted to swing in a plane at right angles thereto, and a cam projecting at right angles to the outer surface of said lever and adapted to force said stud from said slot and opening.

2. A clasp of the character described comprising a plate provided with stud engaging means, a stud, a lever pivoted to said plate, a cam carried by said lever and adapted to extend longitudinally of said stud and abut against it when in a locked position.

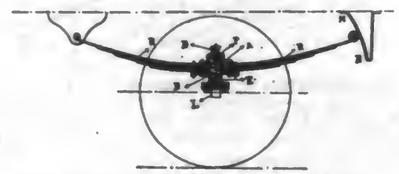
977,391. AUTOMATIC SPRINKLER ALARM AND INDICATOR. FRANK W. MILLIKEN, Auburn, Me., assignor of one-half to Cheney C. Brown, Auburn, Me. Filed July 8, 1909. Serial No. 506,512.



1. In an automatic sprinkler alarm and indicator system, a water main, a branch pipe leading therefrom, a valve seat and valve located in said branch pipe, a counter balanced receptacle, an open conduit leading from said branch pipe to said receptacle and adapted to be normally closed by said valve when seated and to discharge into said receptacle when said valve is open, an electric circuit, an alarm mechanism and means operable by movement of said receptacle to make and break said circuit and operate said alarm said receptacle being provided with an opening in the bottom of less capacity than said conduit.

2. In an automatic sprinkler alarm and indicator system, a water main, a branch pipe leading therefrom, a valve seat and valve located in said branch pipe, a counterbalanced receptacle, an open conduit leading from said branch pipe to said receptacle and adapted to be normally closed by said valve when seated and to discharge into said receptacle when the valve is open, a rack connected with and operable by said receptacle, two contacts one stationary and the other movable into contact therewith, a pinion in engagement with said rack and adapted to operate said movable contact, a weight adapted normally to hold said contacts out of engagement, and an electric circuit comprising a battery, signal, annunciator and suitable wiring.

977,392. SPRING SUSPENSION FOR VEHICLES. PROSPER MOREN, Brussels, Belgium. Filed Jan. 4, 1910. Serial No. 536,396.



1. In a suspension device for vehicles and the like, a supporting spring means fastened at one end to the vehicle frame and free at the other end, together with an inclined bearing surface rigid with the vehicle body over which said free end travels when the spring is subjected to stress, substantially as described.

2. In a suspension device for vehicles and the like, a supporting spring means fastened at one end to the vehicle frame and free at the other end, together with an inclined bearing surface rigid with the vehicle body over which said free end travels when the spring is subjected to stress, together with means for cushioning said spring means upon the axle of a wheel, substantially as described.

3. In a suspension device for vehicles and the like, a supporting spring means fastened at one end to the vehicle frame and free at the other end, together with a curved bearing surface rigid with the vehicle body over which said free end travels when the spring is subjected to stress, substantially as described.

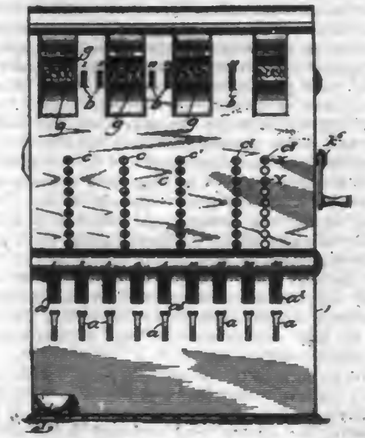
4. In a suspension device for vehicles and the like, a supporting spring means fastened at one end to the vehicle frame and free at the other end, together with a bearing surface curved approximately in the arc of the spring when the latter is subjected to stress, over which bearing surface the free end of the spring may travel, substantially as described.

977,393. CASH-REGISTERING, CHANGE-MAKING, AND RECORDING AND ACCOUNTING MACHINE. MONTFORD P. MORRISON, Atlanta, Ga. Filed Feb. 8, 1907. Serial No. 356,473.

1. In a machine of the character described, the combination with an exposed "Amount received" indicating device, of a bill receiving means, keys operating said bill receiving device and said indicating device, and coin receiving devices and means connected with said coin receiving devices whereby a coin when inserted operates the "Amount received" indicating device.

2. In a machine of the character described, the combination with an exposed "Amount received" indicating device, of a bill receiving means and coin receiving devices and means connected with the money receiving means whereby the "Amount received" indicating device is actuated from the bill receiving means, and means whereby a coin when inserted also actuates the said indicating device.

3. In a machine of the character described, the combination with a clerk indicating device and a series of keys for operating the same, of a cash and a credit registering device for each clerk, money receiving means, a series of sale keys and means whereby the keys for actuating the clerk indicating device will bring the credit registering device of the clerk shown by the clerk indicating device into operative relation with the sale keys and means whereby the money receiving means when operated will bring the cash registering device of such clerk into such operative relation.

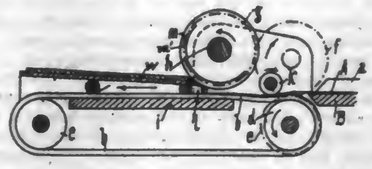


4. In a machine of the character described, the combination with a clerk indicating device and a series of keys for operating the same, of a series of registering devices for each clerk, a series of sale keys for actuating said registering devices and a series of conjointly moving selectors actuated by the clerk keys for bringing the registering device of the clerk shown by the clerk indicating device into operative connection with said sale keys.

5. In a machine of the character described, the combination with a clerk indicating device and a series of keys for actuating the same, of a credit registering device and a cash registering device for each clerk, sales keys and money receiving devices, means connected with said clerk keys for bringing the credit registering device of the clerk shown in the clerk indicating device into operative relation with the sale keys, and means connected with the money receiving devices for bringing the cash registering device of such clerk into operative relation with said sales keys, the construction including means whereby the money receiving devices also move the clerk indicating device to indicate a cash transaction.

[Claims 6 to 132 not printed in the Gazette.]

977,394. APPARATUS FOR MAKING MOUTHPIECE-TUBES. JOHANN CARL MÜLLER, Dresden, Germany. Filed Nov. 15, 1909. Serial No. 528,142.



1. In an apparatus for making paper tubes, a deflecting gage normally held in the path of the blank and adapted to curl the advancing end of the same, in combination with a moving support and a fixed counter-surface arranged opposite said moving support, means for withdrawing the gage out of the path of the blank, and means for feeding the blank forward against the gage and between said moving support and fixed counter-surface.

2. In an apparatus for making paper tubes, a deflecting gage having a curved surface facing toward the feeding end of the machine and adapted to deflect and curl the forward end of the blank, in combination with a moving support and a fixed counter-surface arranged opposite said moving support, means for withdrawing the deflecting

gage out of the path of the blank, and means for feeding the blank against the gage and between said moving support and fixed counter-surface.

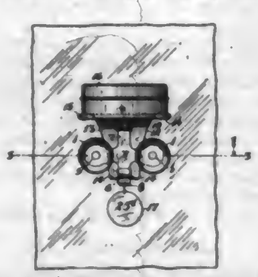
3. In an apparatus for making paper tubes, a deflecting gage having a concave surface facing toward the feeding end of the machine and adapted to be held in the path of the tube blanks and to deflect and curl the forward end of the blank, in combination with a moving support and a fixed counter-surface arranged opposite the said moving support, said counter-surface forming a forwardly flaring wedge-shaped space with the moving support, means for periodically withdrawing the gage from the path of the blank, and means feeding said blank against the gage and between the said moving support and fixed counter-surface.

4. In an apparatus for making paper tubes, a deflecting gage having a curved groove therein facing toward the feeding end of the machine and adapted to deflect and curl the forward end of the blank, means for periodically introducing and withdrawing the deflecting gage into and out of the path of the blank, in combination with a moving support and a fixed counter-surface arranged opposite the said moving support, and means for feeding the blank toward the gage and between the said moving support and fixed counter-surface.

5. In an apparatus for making paper tubes, a moving support for the blanks, in combination with a deflecting gage having a concave deflecting surface facing the feeding end of the machine and arranged in the path of the blank, and a roller arranged over the moving support and behind the gage, and rotating in a direction opposite to that of the moving support, whereby the blank is curled and rolled up at its forward end as it is fed against the gage.

[Claims 6 to 11 not printed in the Gazette.]

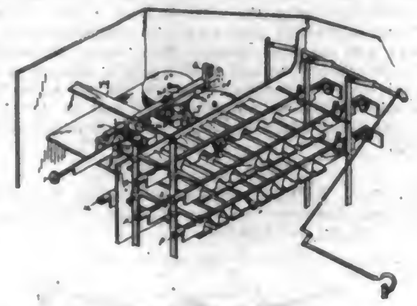
977,395. DISPLAY DEVICE. BERNARD W. NORTON, Alameda, Cal. Filed Oct. 7, 1909. Serial No. 521,516.



1. The combination of a pair of rubber vacuum disks, concave on one side whereby they may be supported on a window or other smooth surface by amospheric pressure, a cruciform holder having horizontal and vertical members, the horizontal member being secured to said vacuum disks, and a supporting bracket consisting of a horizontal seat portion and depending from one side thereof a plate, apertured in the upper portion, said aperture being engaged by the upper end of the vertical member, and the lower portion being forked to pass on opposite sides of the lower end of said vertical member, substantially as described.

2. The combination of a pair of rubber vacuum disks, concave on one side whereby they may be supported on a window or other smooth surface by atmospheric pressure, a cruciform holder having horizontal and vertical members, the horizontal member being secured to said vacuum disks, the vertical member being formed into a hook at its lower end, and said lower end being slitted to suspend therefrom a ticket, and a supporting bracket consisting of a horizontal seat portion to support an article and depending from one side thereof a plate, apertured in the upper portion, said aperture being engaged by the upper end of the vertical member, and the lower portion being forked to pass on opposite sides of the lower end of said vertical member, substantially as described.

977,396. DEVICE FOR INDEPENDENT VOTING. CHARLES H. OCUMPAUGH, Rochester, N. Y. Filed May 4, 1907. Serial No. 371,938.



1. The combination in a printing mechanism of a spool or reel having material carried thereby, the material being adapted to receive an impression, mechanism for imparting a step by step motion to the material to move it from the reel into the path of movement of printing devices, a type wheel having symbols thereon, a face plate having symbols to agree with the typo wheel, an operating handle for bringing any desired symbol on the type wheel in contact with the material to be impressed, a notch or guide for the handle, said handle having a part adapted to engage a notch or guide corresponding to the symbol on the type wheel.

2. In a voting machine, the combination of a single irregular voting mechanism normally inoperative, a plurality of rows of regular-candidate-voting-mechanisms, means in each of said rows for rendering said irregular mechanism operative, and interlocking mechanism between said single irregular mechanism and the rows of regular voting mechanism.

3. In a voting machine for regular and independent voting, the combination of coöperating rolls, a ballot sheet supported on said rolls, means for advancing the sheet from one roll to the other, normally inoperative means for printing on said sheet, a push key controlled by a voter rendering the printing means operative in relation to said sheet, said means also interlocking the regular voting devices, and separate means for actuating said printing means.

4. In an independent ballot mechanism, the combination of a key, an interlocking mechanism having a notched slide, a pair of coöperating rolls, from one to the other of which the ballot sheet passes, mechanism controlled by said key and slide to permit said rolls to be operated, printing mechanism, said printing mechanism being unlocked by operation of said key, and a resetting mechanism.

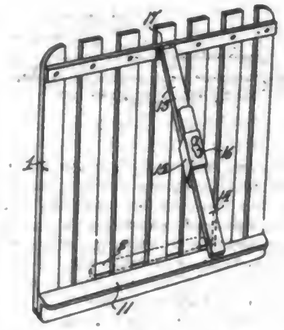
5. In an independent ballot mechanism, the combination of a key under control of a voter, a pair of coöperating rollers for feeding an independent ballot sheet, printing mechanism for voting on such sheet, the printing mechanism being normally locked, means operated by said key for unlocking the printing mechanism, a positively actuated means for actuating said feed rolls and printing mechanism, and a resetting mechanism.

[Claims 6 to 29 not printed in the Gazette.]

977,397. MUSIC-HOLDER. CARL G. PETERSON, West Duluth, Minn. Filed June 17, 1908. Serial No. 439,002.

A music holder comprising a rack provided on one face and adjacent to its lower end with a ledge and on its opposite face with an angular-shaped supporting bracket, one side of which extends in the direction of the length of the rack and rises to a point in a plane with the ledge, and the opposite side of which inclines outwardly and downwardly and is of less width than the first-named

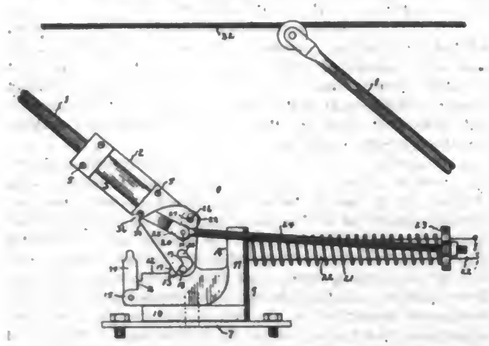
side, an extensible support comprising two sections the upper one of which has its upper end hinged to the upper end portion of the rack and its lower end provided with a



collar to receive the lower section, and a set screw for adjustably securing the said lower section within the collar

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977,398. TROLLEY-RETRIEVER. NELS PETERSON, Omaha, Nebr., assignor to Murphy Did It Company, Omaha, Nebr., a Corporation of Nebraska. Filed July 29, 1909. Serial No. 510,162.



1. A trolley retriever, comprising, in combination with a support provided with trunnions, and a resilient member mounted upon the support; a trolley yoke having arms connected with the resilient member and provided with angular slots, the trolley yoke adapted to have a seating upon said support, the trunnions thereof engaging within the angular slots of said arms.

2. A trolley retriever, comprising, in combination with an upright, rotatable support provided with a horizontal shaft; a resilient member mounted upon the support; a trolley yoke having a pair of arms connected with the resilient member, each of said arms being provided with an angular slot, said trolley yoke adapted to have a seating upon said support, the shaft of said support engaging the angular slot of each of said arms.

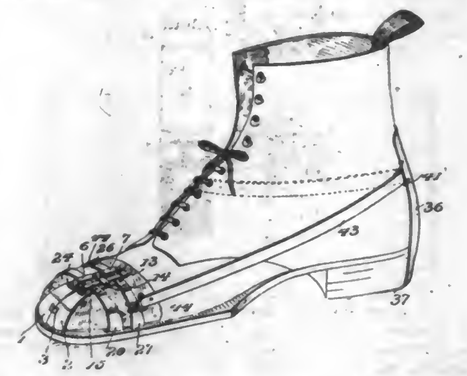
3. A trolley retriever, comprising a rotatable support provided with trunnions; longitudinally slidable, resiliently mounted links; a trolley yoke having a pair of arms connected with said links, each of said arms having elongated apertures formed therein, said trolley yoke adapted to have a seating upon said support, the trunnions of the support engaging within the elongated apertures of said arms.

4. In combination, a trolley retriever, comprising a horizontally rotatable, supporting-block with trunnions, and provided with a standard having an outwardly extending supporting-arm; a trolley yoke having vertically movable arms with elongated apertures formed longitudinally therein traversed by said trunnions; a striding piece seated upon the supporting-arm; a spring upon said supporting-arm intermediate the striding piece and said standard; a pair of links mounted longitudinally adjustable upon said striding piece and having pivotal mountings upon said yoke; the downward movement of said yoke arms causing an engagement of said trunnions upon the inner terminals of said elongated apertures; the upward movement of the yoke arms disposing said trunnions in the outer terminals of said elongated apertures.

5. In combination, a trolley retriever, comprising a horizontally rotatable supporting-block with trunnions, and provided with a standard having an outwardly extending supporting-arm and an inner, upright wall; a trolley yoke; a roller mounted upon the arms of said yoke, said yoke arms having elongated apertures extending longitudinally thereof and traversed by said trunnions; resiliently mounted links upon said supporting-arm and pivotally connected with the trolley yoke; said yoke adapted to have a pivotal movement in the direction of said standard in alinement with said supporting-arm, the roller contacting with the inner, upright wall of said standard, the trunnions of said block then engaging the lower terminals of said apertures; said yoke adapted to have a swinging movement in a direction opposed to said standard in a vertical plane passing through the supporting-arm, the trunnions of the block then engaging the upper terminals of said elongated apertures.

[Claims 6 to 9 not printed in the Gazette.]

977,399. BOOT AND SHOE PROTECTOR. CLYDE B. REESE, Reese, N. C. Filed Mar. 24, 1909. Serial No. 485,454.



1. A shoe protector, comprising two members linked together at their forward ends, flexible side arms adjustably secured to the member and locking the rear ends of said members together, and inwardly turned lower ends carried by the arms adapted to extend between the sole and upper of the shoe.

2. A shoe protector comprising two front members linked together, two loops carried by one of said members, pins carried by the member below the loops, a lever pivoted to the other member, pins carried by last mentioned member below the lever, and overlapping clamping arms below the loops and lever and through which the pins pass.

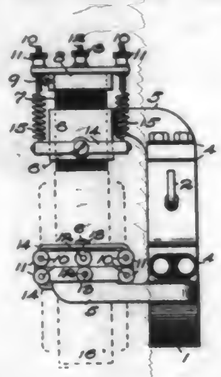
3. A shoe protector comprising two front members adapted to approximately fit the toe of the shoe, loops carried by one of said members, pins carried by the members below the loops, a lever pivoted to the other member, pins carried by the last mentioned member below the lever, clamping arms having the pins of each member passing therethrough, and clamping arms extending under the loops and having the pins of the second mentioned member passing therethrough.

4. A shoe protector comprising two front members linked together and having their outer ends turned inwardly and adapted to pass between the sole and upper of the shoe, loops carried by one of said members, pins carried by the member below the loops, pins carried by the second member, arms extending from one side of the members and having openings receiving the pins of both members, arms extending from the opposite direction under the loops and having openings to receive the pins of the second member, a lever pivoted to said member, guide loops carried by the second member for said lever, and a spring catch formed integral with one of the guide loops and adapted to engage and hold the lever.

5. A shoe protector comprising two front members movably secured together, two loops carried by one of said members, pins carried by the said member below the loops, a lever pivoted to the other member, pins carried by the last mentioned member below the lever, overlapping clamping arms below the loops and lever and through which the pins pass, and means for securing the lever in its inward position above the member to which it is pivoted.

[Claims 6 to 8 not printed in the Gazette.]

977,400. BRUSH-HOLDER. FREDERICK W. REEVES, Pittsburg, Pa., assignor to The Electric Accumulator Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Mar. 7, 1910. Serial No. 547,685.



1. A brush holder, comprising a holder proper, a pair of brushes slidably arranged therein, and means to place a yieldable pressure longitudinally on said brushes and equalize the same laterally.

2. A brush holder, comprising a holder proper, a pair of brushes slidably arranged thereon, and yieldable members disposed at opposite sides of said brushes to place pressure longitudinally thereon and equalize the same laterally.

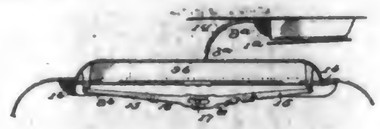
3. A brush holder, comprising a holder proper, a pair of brushes slidably arranged thereon, a cap carried by each brush, an equalising bar pivotally secured to the holder and disposed transversely of each brush, and a spiral spring connecting each end of the brush caps with the ends of the equalizer.

4. A brush holder, comprising a holder proper, a pair of brushes slidably arranged thereon, a cap carried by each brush, adjusting screws carried by each end of said cap, equalizing bars disposed transversely to the brushes and pivotally secured to the holder, and spiral springs connecting the ends of the equalizing bars with the said caps.

5. A brush holder, comprising a holder proper, a pair of brushes slidably arranged thereon, each including a pair of plates one disposed on the other, and means to place a yieldable pressure on each brush plate independent of the other and equalize the same laterally.

[Claims 6 and 7 not printed in the Gazette.]

977,401. ELECTRIC CONTACT-SHOE. CHARLES CLAYTON RICH, Mount Vernon, N. Y., assignor of one-half to Harry J. Douglas, Mount Vernon, N. Y. Filed July 6, 1909. Serial No. 506,164.



1. A contact shoe, comprising a main member formed with a longitudinal opening, an auxiliary member mounted in said opening and movable upwardly therethrough and formed with outwardly extending tongues adapted to engage the main member to limit the upward movement of the auxiliary member, and tensioning means arranged to move the auxiliary member upwardly in the slot above the upper surface of the main member.

2. A contact shoe, comprising a main member formed with a longitudinal opening, an auxiliary member mounted in said opening and formed with end tongues and side tongues, and springs secured to the main member at opposite sides of the slot and bearing upon the side tongues for the purpose specified.

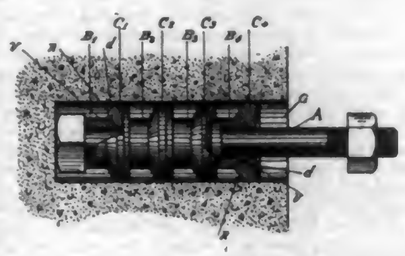
3. A contact shoe, comprising a main member, an auxiliary member formed with tongues adapted to engage the main member and limit the upward movement of the auxiliary member relative to the main member, and springs exerting an upward tension on the auxiliary member, and carried by the main member.

4. A contact shoe, comprising a main member formed with a longitudinal opening between its side edges, an auxiliary member of inverted channel formation mounted in said opening and formed with outwardly extending tongues, and springs secured to the main member and having their free ends bearing upwardly upon said tongues for the purpose specified.

5. A contact shoe of the character described, embodying a main member formed with a longitudinal opening therein, an auxiliary member mounted in said opening, springs connected to the main member and bearing upon the auxiliary member to effect a raising of the contact surface of the auxiliary member above the contact surface of the main member, and means connecting the auxiliary member and main member and arranged to effect the downward movement of one end of the auxiliary member relative to the main member by and upon the downward movement of the other end of said auxiliary member.

[Claims 6 to 8 not printed in the Gazette.]

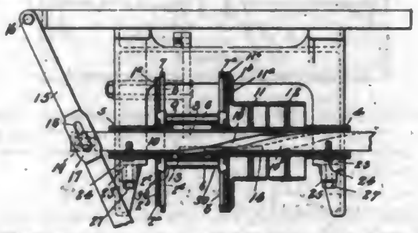
977,402. LEAD-PACKED ANCHOR-BOLT. GABRIEL E. ROHMER, Woodside, N. Y. Filed Apr. 26, 1910. Serial No. 557,725.



1. An anchor bolt, comprising a bolt, a soft metal collar beveled on one end and loosely surrounding said bolt, and an integral soft metal washer in the form of two truncated cones placed base to base contacting with the aforesaid collar, thereby constituting an anchorage unit substantially as described.

2. In combination, a bolt, a collar surrounding said bolt having one end plane and the other end beveled, a washer in the form of truncated cones secured at their bases contacting with said collar, said bolt by means of its head forming a stop for the collar, the other end of the bolt being threaded and provided with an adjusting nut, substantially as described.

977,403. VARIABLE-SPEED MECHANISM. RICHARD E. ROSEWARNE, Covington, Ky., assignor to The Miller Du Brul & Peters Manufacturing Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Nov. 19, 1907. Serial No. 402,830.



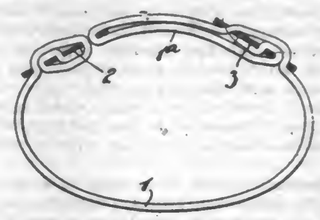
1. The combination of an axially movable shaft provided with a right-hand and a left-hand helical groove therein, a pair of spirally grooved disks, a sleeve rotatable on the shaft and connecting said disks rigidly together, said sleeve being provided with a recess inclined at the angle of the left-hand groove in the shaft, a relatively short block lying wholly within the space provided by said left-hand groove and its corresponding recess and adapted to have sliding movement in said groove, radially slotted disks connected rigidly together and disposed within and immediately adjacent the faces of the spirally slotted disks, rim sections supported by said disks, a pulley rigidly secured to said radially slotted disks and provided in the bearing face with a recess inclined at the same angle as the right-hand groove in the shaft, and a relatively short block lying within the space provided by said right-hand groove and its corresponding recess and adapted to have sliding movement in said groove.

2. The combination with radially slotted members and spirally grooved members and rim sections mounted therein, of means for rotating the radially slotted members relatively to the spirally grooved members, said means comprising an axially movable shaft having oppositely threaded helical grooves, a sleeve rigidly connecting said spirally grooved members and provided with a relatively short recess disposed within and medially of the ends of the sleeve, said recess being inclined to correspond to one of said grooves, a pulley rigidly connected with said radially-slotted members, said pulley being provided in its hub portion with a relatively short recess inclined to correspond to the other of said grooves, and relatively short blocks lying wholly within the spaces provided by said recesses and grooves and adapted to have sliding movement in said grooves.

3. The combination of a pair of operating shafts, an expansible pulley on each shaft, an operating lever for the shafts, bearings for the shafts, means whereby the bearings of one shaft may be adjusted to and from the bearings of the other shaft, and a connection between the operating lever and the operating shafts permitting adjustment of the bearings.

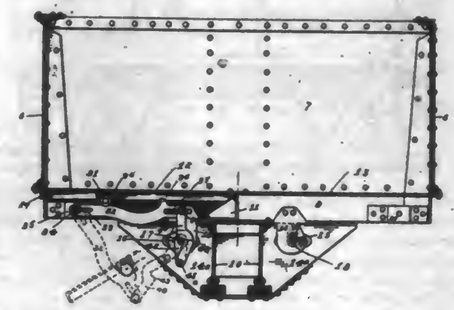
4. The combination with a pair of expansible pulleys each comprising a plurality of adjustable rim sections, of means for holding the rim sections on their seats when they pass from under their main belt; said means comprising a minor belt for each pulley, an additional pulley for each of the minor belts, and a connection between the additional pulleys whereby the tension on the minor belts is automatically maintained at any adjusted position of the expansible pulleys.

977,404. GARMENT-SUPPORTER. ERNEST N. HUMPHREY, New Britain, Conn., assignor to Traut & Hine Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Dec. 2, 1900. Serial No. 530,896.



As a new article of manufacture, an adjustable endless arm band, comprising a single length of webbing, a slide plate having three slots and a loop plate having three slots, one end of said webbing being secured to the said loop plate by threading through all three slots to entirely cover both sides of the plate between said slots and the under side of one end of said plate, the other end of said webbing being threaded flatwise through the two end slots in said slide plate and passed transversely through one slot in the loop plate and then being returned to, and threaded through, one of the first mentioned slots in the slide plate, the extremity of said webbing being tucked through the third or intermediate slot therein, whereby the entire lower surface of both of said plates adjacent to the slots will be covered by said webbing.

977,405. RAILWAY-CAR. FRANK L. IRWIN and JOHN E. TESSEYMAN, Columbus, Ohio, assignors to The Ralston Steel Car Company, Columbus, Ohio, a Corporation of Ohio. Filed June 6, 1910. Serial No. 565,170.



1. The combination with a car body, of a plurality of floor sections hingedly connected thereto, a rotative shaft arranged beneath said floor sections, pivotally and slidably mounted levers located beneath said floor sections and upon which said sections bear, crank arms on the shaft, and links connecting said arms with the levers, said links being adapted to bear against the shaft when the doors are closed.

2. The combination with a car body, of a plurality of floor sections hingedly connected thereto, a rotative shaft arranged beneath said floor sections, pivotally and slidably mounted levers located beneath said floor sections and upon which said sections bear, cranks on the shaft, links connecting the shaft and levers, anti-friction members carried by the floor sections and bearing upon the levers, and a hook extension at the inner end of each of said levers, with which the anti-friction member engages when the door is in its lowermost limit of movement.

3. The combination with a car body, of a plurality of floor sections hingedly connected thereto, a rotative shaft arranged beneath said floor sections, a pivotally and slidably mounted lever located beneath said floor sections and upon which said sections bear, and toggle mecha-

nism connecting said levers and said shaft, said toggle mechanism comprising a crank fast upon the shaft, a link one end of which is pivotally connected to said crank and the other end of which is slidably engaged with said lever.

4. The combination with a car body, of a plurality of floor sections hingedly connected thereto, a rotative shaft arranged beneath said floor sections, pivotally and slidably mounted levers located beneath said floor sections and upon which said sections bear, and toggle mechanism connecting said levers and said shaft, said toggle mechanism comprising a lever having a shoulder intermediate its ends which abuts against and fulcrums upon said shaft.

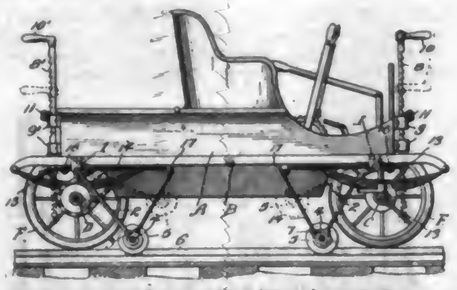
5. The combination with a car body, of a drop door, a lever pivotally connected with the underframe of said car at its outer end and forming a support for said door, the inner end of said lever having a slot and a member engaging said slot to support the inner end of the lever and thereby support the door in closed position.

[Claim 6 not printed in the Gazette.]

977,406. COMPOSITION OF MATTER TO BE USED FOR THE PURPOSE OF FLUXING METALS. MARTHA P. JEWETT, Evansville, Ind. Filed Mar. 1, 1910. Serial No. 546,630.

Fluor spar, clay, and dolomite, as a composition of matter.

977,407. RUNNING-GEAR FOR MOTOR-VEHICLES. WILFRED JUNEAU, Marksville, La. Filed July 11, 1910. Serial No. 571,321.



1. A motor vehicle, a pair of links pivotally connected therewith, a wheel carrying shaft supported by the links, bearings for said shaft, a slidably supported member, a suitably guided flexible element connecting said member with the shaft bearings, and means for supporting the slidable member in adjusted position.

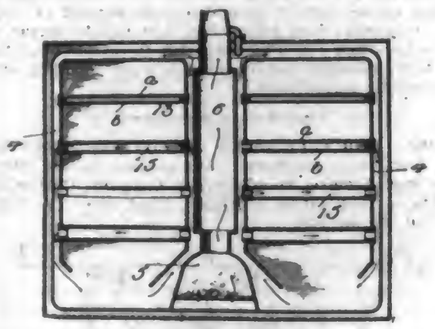
2. A motor vehicle, a pair of links pivotally connected therewith, shaft bearings carried by said links, a shaft supported in the bearings and having flanged guide wheels, a vertically slidable ratchet bar, a spring actuated latch to retain said bar in adjusted position, and a suitably guided flexible element connecting the ratchet bar with the shaft bearings.

3. A motor vehicle, pairs of links connected pivotally with the frame of said vehicle adjacent to the front and rear ends, respectively, said links being provided with shaft bearings, shafts supported in said bearings in proximity to the front and rear axles, respectively, of the vehicle, flanged guide wheels upon said shafts, and means whereby the front and rear wheel carrying shafts may be independently raised or lowered.

977,408. OVEN-SHELF. ALLAN B. KINGSLAND, Burlington, Vt. Filed Nov. 27, 1909. Serial No. 530,261.

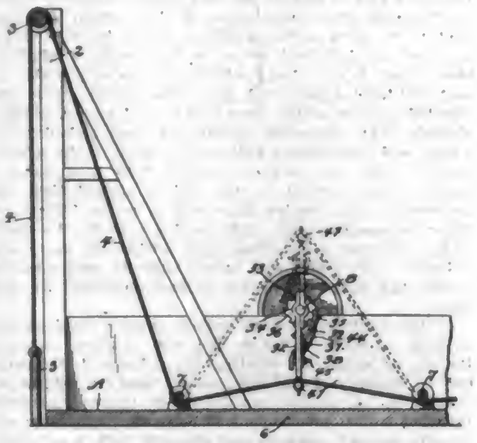
1. The combination with an oven having a continuous hot air flue, of double wall supporting shelves forming cross air flues which have their ends communicating with the said continuous air flue, the cross flues gradually diminishing in size from the bottom one to the top one.

2. The combination with an oven having a hot air flue surrounding the same, of box-like supporting shelves extending across the oven, and having completely open ends



communicating with the air-flue and forming cross-air flues, said shelves gradually diminishing in thickness from the bottom whereby cross air flues of different sizes are produced.

977,409. TOOL-DROPPING APPARATUS FOR DRILLS. HEZEKIAH KIRK, Yorkville, W. Va. Filed May 7, 1909 Serial No. 494,557.

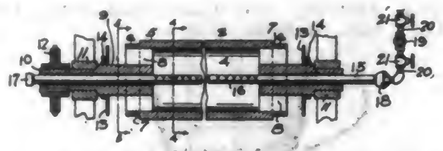


1. An apparatus of the class described comprising a driven shaft, a ratchet wheel upon the driven shaft, a frame suspended from the shaft, a pivoted dog adapted to be engaged by the teeth of the ratchet wheel to impart oscillatory movement to the frame, and means for engaging the pawl to hold it against pivotal movement to cause the frame to rotate with the shaft.

2. In an apparatus of the class described, a driven shaft, a ratchet wheel fixed on the shaft, a frame suspended from the shaft and free for oscillatory movement, a pivoted dog upon the frame adapted to be engaged by the ratchet wheel to impart movement to the frame, a pin extending from the frame, spring means for normally holding the pawl yieldingly engaged with the ratchet wheel, and means for engaging the pawl to hold it against pivotal movement to cause the frame to revolve with the shaft.

3. In an apparatus of the class described, a driven shaft, a ratchet wheel fixed to the shaft, a frame suspended from the shaft and adapted to rock thereon concentrically of the shaft, a pivoted pawl upon the frame, spring means engaging the pawl to hold it yieldingly engaged with the ratchet wheel, and a spring retaining bolt adapted to be engaged with the pawl to hold it against pivotal movement to cause the frame to revolve with the shaft.

977,410. DRYING-ROLL. JOSEPH A. LAMP and SAVENIOUS C. STINER, McKeesport, Pa. Filed Jan. 31, 1910. Serial No. 541,046.



1. A roll for the drying and heating of sheet-metal preparatory to coating, comprising a cylindrical shell with open ends, means for introducing heat into the interior thereof, and the outer ends of said roll being of smaller diameter than the working or intermediate faces.

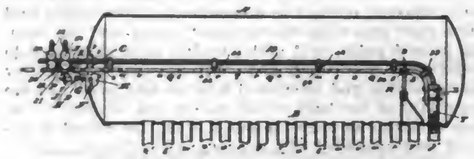
2. A roll for drying and heating sheet-metal preparatory to coating, comprising a cylindrical shell with open ends, means for introducing heat to the interior thereof, and the outer ends of said roll being of smaller diameter than the working or intermediate faces and forming shoulders on said roll.

3. A roll for drying and heating sheet-metal preparatory to coating, comprising a cylindrical shell with open ends means for introducing heat to the interior thereof, necks extending beyond the ends of said shell, and fenders on said necks.

4. A roll for drying and heating sheet-metal preparatory to coating, comprising a cylindrical shell with open ends, means for introducing heat to the interior thereof, necks extending beyond the ends of said shell, and adjustable fenders on said necks.

5. A roll for drying and heating sheet-metal preparatory to coating, comprising a cylindrical shell with open ends, means for introducing heat to the interior thereof, necks extending beyond the ends of said shell, said necks having elongated neck-portions of smaller diameter than the main body portion of said necks to form journals for said roll.

977,411. DEVICE FOR HANDLING FLUE-CLEANERS. MELVILLE O. LEWIS, Peoria, Ill. Filed Mar. 16, 1908. Serial No. 421,343.



1. The combination of a flue cleaning device, means to carry it and by which driving power is transmitted thereto, a horizontally disposed support extending into the drum of a boiler to carry said means, said support being proximate to the longitudinal axis of the drum, means carried by said support to guide the cleaning device into a flue and adapted to have an arc of movement across the mouths of the flues.

2. The combination of a flue cleaning device, means to carry it and by which power is transmitted thereto, a horizontally disposed support for said means extending into the drum of a boiler and proximate to the points from which the center line of the flues of each transverse row radiate and extending to the mouth of a flue and adapted to suspend the cleaning device above and positively direct it into a flue, and means in which the support is carried and adapted to rock.

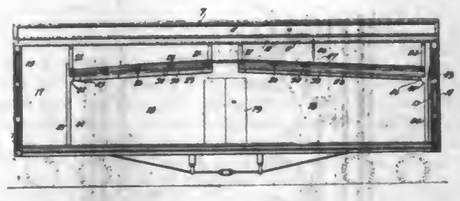
3. The combination of a flue cleaning device, means to carry it, a horizontally disposed support for said means extending into the drum of a boiler and proximate to the points from which the center lines of the flues of each transverse row radiate and extending to the mouth of a flue and adapted to suspend the cleaning device above and for positively directing it into a flue, and means in which the support is carried and adapted to rock and within which it is also adapted to shift longitudinally.

4. In combination with a flue cleaning apparatus comprising a member having a flue cleaning device at one end, of a support to carry the member, said support being located in the drum of a boiler and extending outside the same and having an extremity extending to the mouth of a flue to positively direct the flue cleaning device thereinto, means to carry the support and in which it is adapted to rock to impart to the cleaning device an arc of movement across the mouths of a transverse row of flues, and adapted also to shift substantially parallel to a longitudinal row of flues and movable from outside the drum.

5. The combination with a flexible member having a flue cleaning device at one end, of a support removably inserted in the drum of a boiler to carry the member, a single means resting upon the bottom of the drum to carry the support, said support extending to and terminating at the mouth of a flue and adapted for directing the cleaning device thereinto, said support adapted to impart to the cleaning implement an arc of movement across the mouths of transverse rows of flues and adapted also to shift in a direction parallel to longitudinal rows of flues and movable from outside the drum.

[Claims 6 to 45 not printed in the Gazette.]

977,412. REFRIGERATING-CAR. LEVI H. LISTER, Bay St. Louis, Miss., assignor of one-half to W. H. Bouslog, Gulfport, Miss. Filed June 17, 1909. Serial No. 502,651.



1. In a refrigerator car, an ice supporting floor located near the top of the car so as to form an overhead ice chamber, said floor sloping downwardly from the center toward the end of the car and supported by a plurality of transversely extending bars suitably secured to the car body, a door opening into the ice chamber above and in substantial alinement with the most elevated portion of the sloping floor, a series of inverted upper troughs below the ice chamber, and a series of independent lower troughs below the upper troughs and breaking joints, substantially as described.

2. A refrigerating car, an ice-supporting floor located near the top of the car so as to form an overhead ice chamber, said floor sloping downwardly from the center toward the ends of the car and supported by a plurality of transversely extending bars secured to the side walls of the car body, a door opening into the ice chamber above and in substantial alinement with the most elevated portion of the sloping floor, a series of inverted upper troughs below the ice chambers, and a series of independent lower troughs below the upper troughs and breaking joints therewith, the lower series of troughs being vertically adjustable toward and from the series of upper troughs, substantially as described.

3. A refrigerating car, an ice-supporting floor located near the top of the car so as to form an overhead ice chamber, said floor sloping downwardly from the center toward the ends of the car and supported by a plurality of transversely extending bars secured to the side walls of the car body, a door opening into the ice chamber above and in substantial alinement with the most elevated portion of the sloping floor, a series of independent lower troughs below the upper troughs and breaking joints therewith, and a transversely extending header

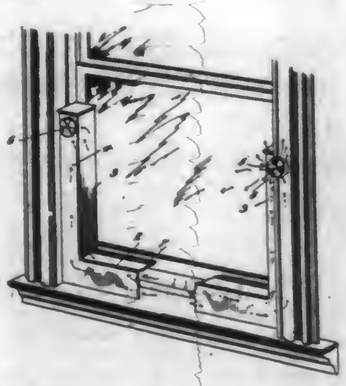
trough into which the lower troughs discharge, substantially as described.

4. A refrigerating car, an ice-supporting floor located near the top of the car so as to form an overhead ice chamber, said floor sloping downwardly from the center toward the ends of the car and supported by a plurality of transversely extending bars secured to the side walls of the car body, a door opening into the ice chamber above and in substantial alinement with the most elevated portion of the sloping floor, a series of inverted upper troughs below the ice chambers, a series of independent lower troughs below the upper troughs and breaking joints therewith, the lower series of troughs being vertically adjustable toward and from the series of upper troughs, and a transversely extending header trough into which the lower troughs discharge, substantially as described.

5. In a refrigerator car, an ice supporting floor located near the top of the car so as to form an overhead ice chamber, said floor sloping downwardly from the center toward the ends of the car and supported by a plurality of transversely extending bars secured to the side walls of the car body, a center icing door in the roof of the ice chamber above the most elevated portion of the floor, and means located above the ice supporting floor for preventing movement of the ice along said ice supporting floor, substantially as described.

[Claims 6 to 13 not printed in the Gazette.]

977,413. WINDOW-VENTILATOR. AVERY A. MATHESON, New York, N. Y. Filed Aug. 24, 1910. Serial No. 578,727.



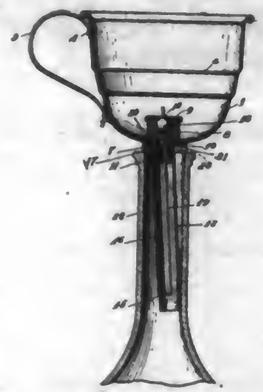
1. A ventilator including a casing adapted to rest upon the sill of a window and extend entirely across the same, said casing being open on its rear face, and ducts extending upward from the casing at each end thereof and provided with air outlet openings.

2. A ventilator of the character described comprising a base casing adapted to rest upon a window sill and extend entirely across the same, said casing being open on its rear face and closed at its ends and top, and ducts extending upward from the casing on each end thereof, said ducts being closed on all four sides and top and provided upon the front face with outlet openings.

3. A ventilator of the character described comprising a casing adapted to rest upon a window sill, said casing being open on its rear face and adapted to contact with the lower rail of a window sash, the casing at opposite ends being provided with upwardly extending ducts having air outlet openings, and means for regulating the passage of air through said openings.

4. A ventilator of the character described comprising an angular base closed at its ends but open at the bottom and one side, the top of said base being provided with a transversely extending outwardly projecting weather strip, the opposite ends of the base having upwardly extending ducts formed therewith, said ducts being adapted to fit against the casing of a window, the upper ends of the ducts being formed with outlet openings, and rotatable valves for controlling the passage of air through said outlet openings.

977,414. FUNNEL. JOHN MATHIS, Glassport, Pa. Filed Feb. 7, 1910. Serial No. 542,513.



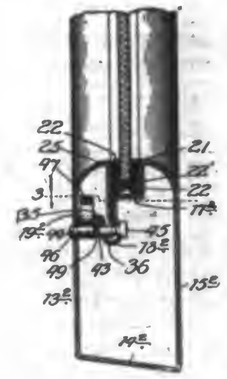
A funnel provided with an outlet, a spout of greater diameter than said outlet, said spout secured at its lower end to the body of the funnel and surrounding the outlet and provided with a slot at a point removed from its lower end, a nipple secured to the body of the funnel and surrounded by the upper end of the spout and registering with said outlet, a collar surrounding the spout, a rod having its upper end extending into the body of the collar and having an angularly disposed lower end projecting through said slot into the lower portion of the spout, a valve stem extending through said outlet, nipple and into the spout and terminating in the right angular lower portion of said rod, said slot providing means whereby the valve stem can be shifted by the rod when the collar is mounted upon a support, a vertically disposed foraminous cylindrical casing connected directly at its lower end to the inner face of the body of the funnel and surrounding said outlet, a guide secured upon the top of and having its ends overlapping said casing and formed with a centrally disposed opening in alinement with the outlet, said valve stem projecting through said casing and the opening in said guide, said outlet having its wall beveled to constitute a valve seat, and a globular valve carried by the valve stem and interposed between said guide and the inner face of the body of the funnel and adapted to engage said seat to close the outlet when the funnel is elevated from or moved off a support.

977,415. WINDOW-SASH. EDGAR M. MATTHEWS, Chicago, Ill., assignor of one-half to W. E. Rothermel, Chicago, Ill. Original application filed Mar. 16, 1910, Serial No. 549,642. Divided and this application filed June 3, 1910. Serial No. 564,734.

1. In a window-sash, the combination of a frame comprising rails provided with window-pane seats, beads cooperating with said seats to confine the pane, one of said beads comprising longitudinal alining sections, and key-operated means coöperating with a frame-rail and said sections to releasably lock the sections together.

2. In a window-sash, the combination of a frame comprising rails provided with window-pane seats, beads cooperating with said seats to confine the pane and pivotally connected end to end, one of said beads comprising longitudinal alining sections, and key-operated means cooperating with a frame-rail and said sections to releasably lock the sections together.

3. In a window-sash, the combination of a frame comprising rails provided with window-pane seats, trough-like cushions on said seats for confining a pane at its edges, said cushions being grooved along their seating faces, beads coöperating with said cushions to confine them, and key-operated means coöperating with a frame-rail and the bead thereon to releasably secure the beads in place.

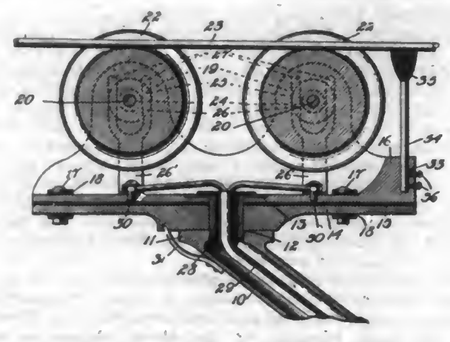


4. In a window-sash, the combination of a frame comprising rails provided with window-pane seats, trough-like cushions on said seats for confining a pane at its edges, said cushions being grooved along their seating edges, beads coöperating with said cushions to confine them and flexibly connected at their ends, one of said beads comprising longitudinal alining sections, and key-operated means coöperating with a frame-rail and said sections thereon to releasably lock the sections together.

5. In a window-sash, the combination of a frame comprising rails provided with window-pane seats and bead-seats with interposed sockets, beads removably fitting against said seats and having tongues extending into said sockets, one of said beads comprising longitudinal alining sections with a keeper on their adjacent ends, a key working in the frame-rail provided with said bead-sections and passing through the socket and tongue in its path, said key having a head on its inner end, and a latch on the key extending into the adjacent bead-section to engage said keeper.

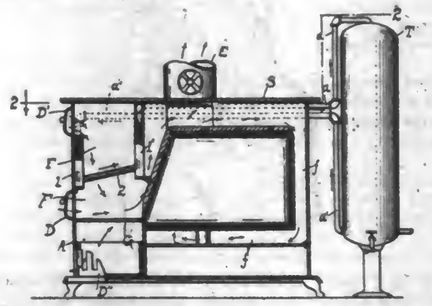
[Claim 6 not printed in the Gazette.]

977,416. TROLLEY-HEAD. EARL N. MCCALL, Goldfield, Nev. Filed Dec. 21, 1908. Serial No. 468,646.



The combination with a trolley pole having an enlarged flat bearing terminal, of a casting having a base with spaced vertical bearings rising therefrom, a supporting plate secured to the base of the casting and insulated therefrom, the said supporting plate being provided with a central flat faced boss resting upon the bearing terminal of the pole, the said base of the casting being provided with a central countersink, a hollow stem loosely passed through the base of the casting and the supporting plate and having one end inserted in the bearing of the trolley pole, a head formed on the opposite end of the hollow stem and received in the countersink, whereby the outer surface of the head will lie flush with the outer surface of the base of the casting, trolley wire engaging wheels journaled in the bearings, and yieldable collector elements fixed to the base of the casting and having resilient forked extremities engaging opposite sides of the said wheels.

977,417. STOVE AND RANGE CONSTRUCTION. JOHN P. MCDONOUGH, St. Louis, Mo., assignor of one-half to L. A. Ragan, St. Louis, Mo. Filed Apr. 8, 1910. Serial No. 554,196.



In combination with a stove having a bottom ash receptacle and a fire-box between said receptacle and stove top, a bottom grate separating the fire-box from the ash receptacle, a rearwardly and upwardly inclined water-tube grate mounted across the fire-box a suitable distance above the bottom grate and dividing the fire-box into two superposed sections, an outer header forming a wall for the upper fire-box section and discharging into the bottoms of the water-tubes, an inner header engaging the stove-top and forming a tight joint therewith and spaced a suitable distance from the rear wall of the fire-box and from the bottom grate and receiving the discharges from the inner upper ends of the water-tubes, a water-tank located outside, and extending above, the stove, circulating pipes leading from the upper portions of the respective headers and communicating with the top and bottom of the water-tank, doors above and below the outer header leading to the respective fire-box sections opposite thereto, an exit flue, and flues in the stove connecting said flue with the rear of the fire-box.

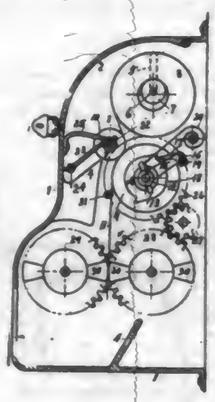
977,418. HOLDER FOR ROLL TOILET-PAPER. ARTHUR B. MCEACHRON, West De Pere, Wis., and EDGAR JAMES MCEACHRON, Rochester, N. Y. Filed June 19, 1909. Serial No. 503,244.

1. In a device of the character described, the combination with means for advancing paper from a roll comprising a feed-roll and coöperating means adapted to continuously clamp the paper, a spindle for said feed-roll, and a handle on the feed-roll spindle, of rotary paper-clamping members acting intermittently on the advanced paper in the same direction as and more rapidly than the feed-roll, and a stop for the paper feed, whereby the advanced paper will be torn off.

2. In a device of the character described, the combination of a paper-roll support, a feed-roll, a spindle therefor, a handle, a pawl and ratchet between the handle and feed-roll for turning the latter, two pairs of of paper-clamping members one pair in advance of the other, said advance pair acting intermittently on the paper and in the same direction as the feed roll and at a greater speed than the other pair, and means between said handle on the feed-roll spindle and said members for turning them.

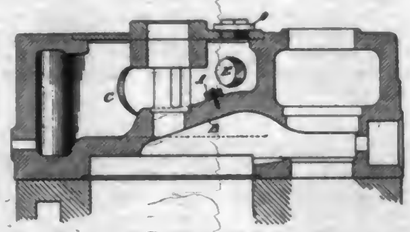
3. In a device of the character described, the combination with a paper-roll support, a feed-roll, a spindle therefor, a handle loosely sleeved on the spindle, a toothed

ratchet wheel and a separate gear wheel both on said spindle and fixed to move with the feed roll, a pawl moved by the handle and engaging said ratchet wheel, a returning spring for returning the pawl after operation, rotary paper-clamping members each comprising a gear wheel, and a pinion between one of the latter gear wheels and the gear wheel on the feed-roll spindle.



4. In a device of the character described, the combination with means for advancing paper from a roll comprising a feed-roll and a coöperating roll, the feed roll and the coöperating roll having cylindrical surfaces adapted to continuously clamp the paper to feed it, a spindle for said feed-roll, and a handle for the spindle, of rotary paper-tearing members in advance of said rolls and acting on the paper intermittently in the same direction as the feed-roll, and speed-increasing driving means between said handle and the operating part of the tearing members.

977,419. INDICATOR FOR INTERNAL-COMBUSTION ENGINES. EDWARD D. MEIER, New York, N. Y. Filed Apr. 17, 1908. Serial No. 427,752.

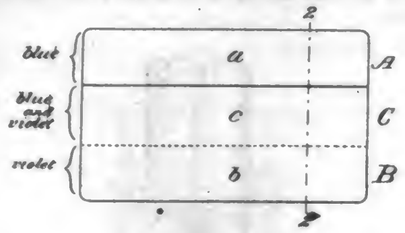


The combination with the water-jacket of an internal combustion engine having a normally closed window opening therein from the exterior, of a fusible metallic indicator within the water-jacket opposite and in the line of vision from said opening and consisting of a metallic alloy having a fusing point approximating a predetermined maximum temperature for the operation of the engine, being thereby adapted to indicate the occurrence of an excess above said temperature.

977,420. COLOR-SCREEN. HERBERT E. MERWIN, Hensonville, N. Y. Filed Mar. 23, 1910. Serial No. 551,127.

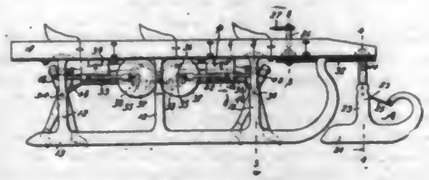
1. A color screen comprising two sheets of suitable material, and of different organic color, overlapped to form an intermediate bar containing both colors; substantially as set forth.

2. A color screen for the purpose specified comprising two sheets of suitable material, one violet and the other blue overlapped to form an intermediate bar combining both colors; substantially as described.



3. A flame color screen formed of two transparent celluloid sheets, one stained methyl violet and the other aniline blue, said sheets being partially overlapped to form a bar containing both colors; substantially as and for the purpose set forth.

977,421. MOTOR-SLED. MEYER MEYERSON, Bennetville, Minn., assignor of one-half to Bertram Baadnes, Aitkin, Minn. Filed Apr. 23, 1910. Serial No. 557,175.



1. In a motor sled, the combination with a body portion, of runners carried thereby, a plurality of cam grooved disks mounted in said body portions, a plurality of levers operating adjacent each runner, and means whereby each lever may be oscillated about its pivotal point and operated vertically by one of said cam grooved disks, and a foot carried at the bottom of said lever and pivotally connected thereto, adapted to normally operate in the direction in which said sled is operating.

2. A motor sled comprising in combination, a body portion, runners carried by said body portion, propellers adapted to operate adjacent said runners, the lower portions of said propellers being pivotal and adapted to operate in a normally straight direction while the sled is going around a curve, and means whereby the lower portion of said propellers may be returned normally in the direction in which the sled is operating.

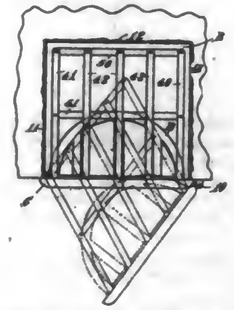
3. In a motor sled, the combination with a body portion, of runners carried thereby, shafts interposed between a portion of the supports of said runners, levers pivotally mounted on said shafts adjacent each runner, said levers having their pivotal points mounted in slots therein, a plurality of cam grooved disks mounted on said body portion adjacent to said levers, a double connection between the upper terminal of each lever with the groove of one of said disks, one portion of said connection being adapted to operate said lever vertically, while the opposite connection is adapted to oscillate said lever about its pivotal point, and pivotal feet carried at the lower terminals of said levers.

4. In a motor sled, the combination with a body portion, of runners carried thereby, a series of propelling levers adjacent said runners, and propelling feet carried at the lower terminals of said levers adapted to operate in a normally straight direction as the sled travels about a curve, and return to the direction in which the sled is operating after the same has completed the curve.

5. In a motor sled, the combination with a body portion, of runners carried thereby, a series of propelling levers adjacent said runners, propelling feet carried at the lower terminals of said levers adapted to operate in a normally straight direction as the sled travels about a curve, and return to the direction in which the sled is operating after the same has completed the curve, and means whereby said levers may be given an oscillatory and a vertical movement in opposite directions.

[Claims 6 to 9 not printed in the Gazette.]

977,422. OVEN-SHELF. JOSEPH E. MICHAUD and FRANCIS MCGRATH, Lawrence, Mass. Filed Feb. 5, 1910. Serial No. 542,273.



1. The combination in a stove, of an oven, and an oven door therefor, combined with a horizontal base bar attached to said door and projecting slats pivoted thereto, together with one or more connecting slats pivoted to the projecting slats.

2. The combination in a stove, of an oven, with a door therefor, and a casting which comprises a curved track and a base bar horizontally attached to the door, projecting slats pivoted at one end to the base bar, a connecting slat which pivotally connects the other ends of the projecting slats, and a supporting slat intermediate the base bar and the connecting slat which passes under the projecting slats and is pivotally attached thereto and which rests upon the top of the curved track of the casting as described.

3. The combination in a stove, of an oven, and a door therefor, with a horizontal base bar detachably attached to said door, and a horizontal automatically collapsible oven rack pivotally attached to said base bar.

4. The combination in a stove, of an oven, and a door therefor, with a horizontal base bar detachably attached to said door and vertically adjustable thereon, and a horizontal oven rack which is automatically and horizontally collapsible, and is pivotally attached to said base bar.

5. The combination in a stove, of an oven, with a door therefor, a supporting casting adjustably and detachably carried by said door, and a horizontal automatically collapsible oven rack pivotally attached to said casting and carried thereby.

[Claim 6 not printed in the Gazette.]

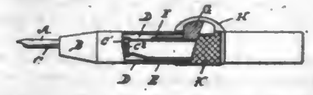
977,423. WATER AND AIR PROOF COMPOSITION OF MATTER. HENRY MIELCK and FERDINAND C. VON HEYDEBRAND, Garfield, N. J., assignors of one-third to John Karl, Garfield, N. J. Filed May 4, 1910. Serial No. 559,309.

1. An air and waterproof composition of matter, consisting of a liquid mixture of tar, caoutchouc, asphaltum, liquid and solid hydrocarbons, a filling material, glycerin, and China wood or tung oil.

2. An air and waterproof composition of matter, consisting of a liquid mixture of tar, caoutchouc, asphaltum, liquid and solid hydrocarbons, a filling substance, a drier, glycerin, and China wood or tung oil.

3. An air and waterproof composition of matter, consisting of a liquid mixture of tar, caoutchouc, asphaltum, pitch, earth-wax, resin, starch, dextrin, glycerin, and China wood or tung oil.

977,424. SELF-FILLING FOUNTAIN-PEN. THOMAS [illegible] GAYNOR, New York, N. Y. Filed Apr. 25, 1910. Serial No. 557,394.



1. In a fountain pen, the combination of a handle, a ink reservoir, a presser mechanism, and a guard projecting radially outwardly from the handle alongside of the presser mechanism.

2. In a fountain pen, the combination of a barrel handle having an opening in its side wall, an ink reservoir within the handle, a reservoir compression mechanism within the handle having a finger piece extending through said opening and beyond the outside of the handle, and a guard movably connected with the handle projecting outwardly therefrom alongside of the finger piece.

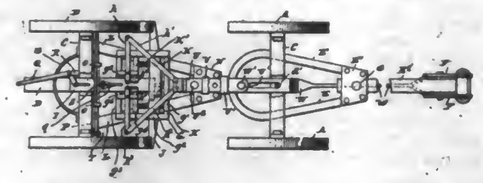
3. In a fountain pen, the combination of a barrel handle, an ink reservoir, a reservoir compression mechanism having a finger piece, a finger piece protecting guard, and a sleeve connected to the base of the guard and frictionally and movably fitted to the handle.

4. In a fountain pen, the combination of a barrel handle having an opening in its side wall, an ink reservoir within the handle, a reservoir compression mechanism within the handle having a finger piece extending outside of the handle through the opening therein, and a finger piece protecting guard secured to the handle by means of a sleeve movably fitted around the handle and the guard projecting radially outwardly from the handle and alongside of the finger piece.

5. In a fountain pen, the combination of a barrel handle having an opening in its side wall, an ink reservoir within the handle, a reservoir compression mechanism within the handle having a finger piece extending outside the handle through the opening therein, and a finger piece guard having a laterally projecting flange at its outer edge adapted to cover the top of the finger piece and being connected at its inner edge to a sleeve movably fitted over the handle.

REISSUES.

13,175. VEHICLE-BRAKE. GEORGE W. FISHER, Upperco, Md., assignor of one-half to L. C. Caltrider, Upperco, Md. Filed July 21, 1910. Serial No. 573,143. Original No. 948,418, dated Feb. 8, 1910, Serial No. 477,351.



1. The combination with the rear axle, a bolster on said axle, rear hounds, a rear draw-bar connected to the brake-bar, provided with a slot at one end, parallel slots at the opposite end and an intermediate slot, a forward adjustable draw-bar, a lever pivoted intermediate its length on said bolster and adapted to engage one of said end slots, a roller journaled on said bolster provided with a hand lever, a hook pivoted to the roller adapted to engage said intermediate slot, and pivoted toggle levers connecting said rear and forward draw-bars.

2. The combination with the rear axle, a bolster on said axle, rear hounds, a rear draw-bar provided with a slot at one end, parallel slots at the opposite end, and an intermediate slot, a brake-bar connected to said draw-bar, a forward draw-bar, a lever pivoted intermediate its length on said bolster and adapted to engage one of said end slots, a roller journaled on said bolster provided with a

hand lever, a hook pivoted to the roller adapted to engage said intermediate slot, pivoted toggle levers connecting said rear and forward draw-bars, a frame mounted on the hounds, and means connecting said frame and brake-bar to automatically return the brake-bar to its normal position.

3. The combination with a rear axle, a bolster on said axle, rear hounds, a rear draw-bar provided with a slot at one end, parallel slots at the opposite end, and an intermediate slot, a brake-bar connected to said draw-bar, a forward draw-bar composed of sections pivoted together and provided with a longitudinal slot to engage the kingpin of the wagon, a tongue, a lever pivoted intermediate its length on said bolster and adapted to engage one of said end slots, a roller journaled on said bolster provided with a hand lever, a hook pivoted to the roller adapted to engage said intermediate slot, pivoted toggle levers connecting the draw bars, a hook member pivoted adjacent to the forward end of the tongue, said hook member being pivotally connected to the front end of the forward draw-bar.

4. A brake, comprising front and rear draw-bars for applying the brakes automatically through the back pull of the draft animals, and a separate means connected to said rear draw-bar for applying said brake manually.

5. A brake, comprising front and rear draw-bars for applying the brakes through the back pull of the draft animals, and a plurality of separate means connected to said rear draw-bar for applying said brake manually.

6. A brake, comprising front and rear draw-bars for applying the brakes through the back pull of the draft animals, and a separate means connected to said rear draw-bar for applying said brake manually, said draw-bars being movable independently of each other.

7. A brake, comprising front and rear draw-bars for applying the brakes through the back pull of the draft animals, and a plurality of separate means connected to said rear draw-bar for applying said brake manually, said draw-bars being movable independently of each other.

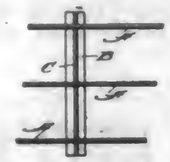
8. A brake, comprising front and rear draw-bars for applying the brakes through the back pull of the draft animals, a separate means connected to said rear draw-bar for applying said brake manually, means for returning the front draw-bar to normal position, and means for returning the brake to normal position.

9. A brake, comprising front and rear draw-bars for applying the brakes through the back pull of the draft animals, a plurality of separate means connected to said rear draw-bar for applying said brake manually, means for returning the front draw-bar to normal position, and for returning the brake to normal position.

13,176. FENCE. LAURENCE S. LACHMAN, New York, N. Y., assignor to Universal Electric Welding Company, New York, N. Y., a Corporation of New York. Filed May 4, 1910. Serial No. 559,417. Original No. 917,461, dated Apr. 6, 1909, Serial No. 449,398.

1. The combination of a plurality of wires and a plurality of metallic connecting elements therefor the latter having ridges, said wires and ridges being weldably united.

2. The combination of a plurality of wires and a plurality of metallic connecting elements therefor, the latter having ridges welded to the wires, portions of the wires adjacent to the points of welded union being in contact with but not welded to portions of the connecting elements adjacent to the ridges.



3. The combination of a series of spaced strand wires and a series of spaced metallic ridged connecting elements therefor, said wires and the ridges of the connecting elements being weldably united, the cross sectional areas of the ridges and wires at their places of contact being relatively such that they will reach a melting heat at approximately the same time.

4. The combination of a series of spaced strand wires and a series of ridged stays therefor, said wires and the ridges of the stays being weldably united.

5. A metallic structure comprising a series of wires and a series of ridged metal members, said wires being welded to the ridges of the members.

6. A metallic structure comprising a series of strand wires and a series of ridged metal stays weldably united, the cross sectional area of the ridges and that of the wires being relatively such that they will reach a welding heat at approximately the same time.

7. A metallic structure comprising a series of wires and a series of ridged metal members, said wires being welded to the ridges of the members, the cross sectional area of the ridges being approximately that of the wires, and the metal of the wires adjacent the point of welded union being in contact with but not welded to the adjacent surface of the members.

8. A fence comprising a series of strand wires and a series of ridged sheet metal stays, said strand wires being welded to the ridges of said stays, the cross sectional area of the ridges being approximately that of the strand wires, and the metal of the strand wires adjacent the point of welded union being in contact with but not welded to the flat surfaces of the stays.

9. A metallic structure comprising longitudinally extending round rods, and cross pieces having projections formed thereon to which the said rods are welded.

10. A metallic structure comprising longitudinally extending round rods, cross strips having longitudinally extending ridges, said rods and cross strips being electrically welded at the points of intersection.

11. A metallic structure consisting of a plurality of intersecting members, some of the members having welding projections to which the other members are weldably united.

DESIGNS.

40,996. EMBLEM. JOHN W. LANE, Newark, N. J., assignor to Supreme Court of the Foresters of America, Jersey City, N. J. Filed Sept. 15, 1910. Serial No. 582,256. Term of patent 14 years.



The ornamental design for an emblem as shown.

40,997. SPOON, FORK, OR SIMILAR ARTICLE. GUSTAV STROHHAKER, Wallingford, Conn., assignor to International Silver Co., Meriden, Conn., a Corporation of New Jersey. Filed Oct. 10, 1910. Serial No. 586,401. Term of patent 7 years.



The ornamental design for a spoon, fork or similar article, as shown.

40,998. HANDLE FOR POCKET-KNIVES. ROBERT C. VOM CLEFF, Hoboken, N. J. Filed Sept. 8, 1910. Serial No. 580,465. Term of patent 7 years.



The ornamental design for a handle for pocket knives, as shown.

40,999. DRINKING VESSEL. ADRIEN GREDELUE, New York, N. Y., assignor to Louis Bessiere, Paris, France. Filed June 21, 1910. Serial No. 568,221. Term of patent 14 years.



The ornamental design for a drinking vessel, as shown.

41,000. GLASS VESSEL OR SIMILAR ARTICLE. THOMAS G. HAWKES, Corning, N. Y. Filed Aug. 11, 1910. Serial No. 576,774. Term of patent 14 years.



The ornamental design for a glass vessel or similar article as shown.

41,001. JAR. DANIEL C. RIPLEY and CHARLES E. SCHMUNK, Pittsburg, Pa., assignors to Ripley & Company, Pittsburg, Pa., a Corporation of West Virginia. Filed Sept. 15, 1910. Serial No. 582,254. Term of patent 7 years.



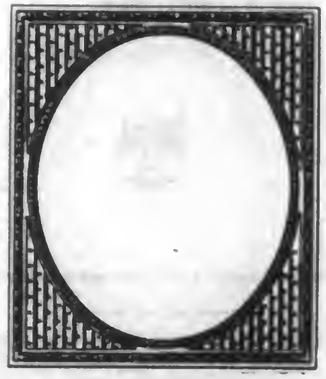
The ornamental design for a jar as shown.

41,002. JAR. DANIEL C. RIPLEY and CHARLES E. SCHMUNK, Pittsburg, Pa., assignors to Ripley & Company, Pittsburg, Pa., a Corporation of West Virginia. Filed Sept. 15, 1910. Serial No. 582,255. Term of patent 7 years.



The ornamental design for a jar as shown.

41,003. FRAME FOR MIRRORS, PICTURES, OR SIMILAR ARTICLES. JOHN R. FOSTER, Arlington, Mass. Filed Aug. 25, 1910. Serial No. 578,975. Term of patent 3½ years.



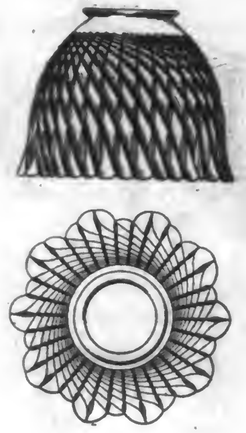
The ornamental design for a frame for pictures, mirrors, and similar articles, as shown.

41,004. LAMP. NELSON BLOUNT, New York, N. Y., assignor to United Lamp and Burner Company, New York, N. Y., a Corporation of Delaware. Filed Sept. 13, 1910. Serial No. 581,909. Term of patent 14 years.



The ornamental design for a lamp, as shown.

41,005. LAMP-SHADE. HARRY A. SCHNELBACH, Crafton, Pa., assignor to Jefferson Glass Company, Follansbee, W. Va. Filed July 21, 1910. Serial No. 573,152. Term of patent 7 years.



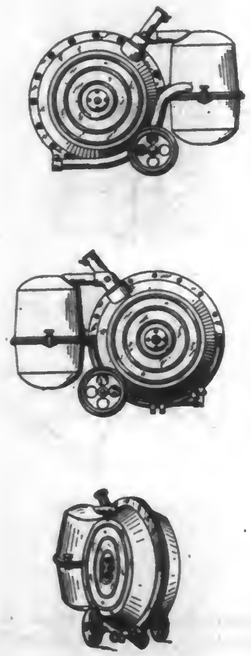
The ornamental design for a lamp shade, as shown.

41,006. HAT AND COAT HANGER. DULON F. BUCHMILLER and ERNEST SCHWARZ, Lancaster, Pa., assignors to The Safe Padlock and Hardware Company, a Corporation of Pennsylvania. Filed Sept. 29, 1910. Serial No. 584,582. Term of patent 3½ years.



The ornamental design for a hat and coat hanger, as shown.

41,007. CASING FOR PORTABLE SUCTION CLEANING APPARATUS. IRVING K. BAXTER, Utica, N. Y., and CHARLES F. BARRETT, Springfield, Mass., assignors to The Standard Vacuum Cleaner Company, Bridgeport, Conn., a Corporation of Connecticut. Filed July 19, 1910. Serial No. 572,751. Term of patent 14 years.



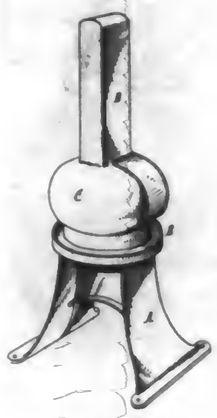
The ornamental design for a casing for a portable suction cleaning apparatus, as shown.

41,008. TALKING-MACHINE CABINET. JOHN C. ENGLISH, Camden, N. J., assignor to Victor Talking Machine Company, a Corporation of New Jersey. Filed Aug. 27, 1910. Serial No. 579,355. Term of patent 14 years.



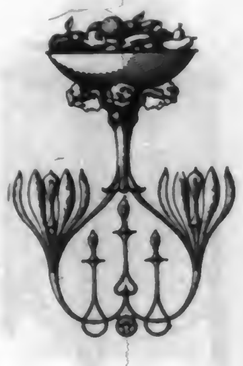
The ornamental design for a talking machine cabinet as shown.

41,009. FRAME FOR CENTRIFUGAL MACHINES. MATTHEW L. HOYT, Little Falls, N. Y., assignor to D. H. Burrell & Company, Little Falls, N. Y. Filed Oct. 16, 1909. Serial No. 523,089. Term of patent 14 years.



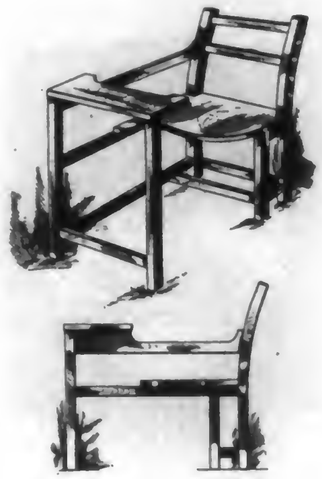
The ornamental design for a frame of a centrifugal machine, substantially as shown and described.

41,010. ELECTRIC TABLE DECORATION. JOSEPH GRAMIN, Chicago, Ill. Filed Sept. 24, 1910. Serial No. 583,690. Term of patent 14 years.



The ornamental design for an electric table decoration, as shown

41,011. UNITARY CHAIR AND TABLE. ERNEST HICK, Pittsfield, Mass. Filed June 25, 1910. Serial No. 568,945. Term of patent 14 years.



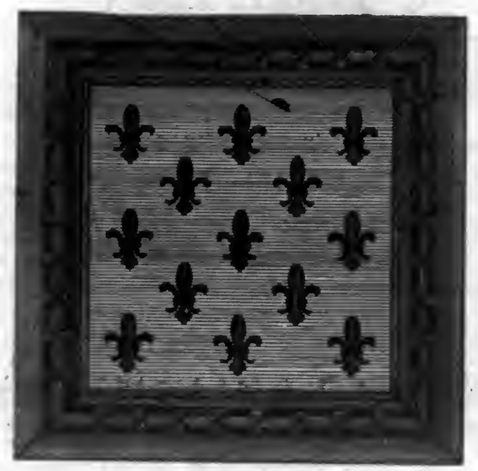
The ornamental design for a unitary chair and table, as shown.

41,012. CHAIR. LORENZ KILLIAN, Brooklyn, N. Y., assignor to Palmer & Embury Mfg. Co., New York, N. Y., a Corporation of New Jersey. Filed Dec. 21, 1909. Serial No. 534,399. Term of patent 7 years.



The ornamental design for a chair as shown and described.

41,013. MAT. ALEXANDER HENDERSON, Passaic, N. J., assignor to Manhattan Rubber Manufacturing Company, Passaic, N. J., a Corporation of New Jersey. Filed Dec. 24, 1909. Serial No. 534,900. Term of patent 14 years.



The ornamental design for a mat as shown and described.

41,014. CARPET. WILLIAM A. ELLIOT, Yonkers, N. Y. Filed Oct. 10, 1910. Serial No. 586,400. Term of patent 7 years.



The ornamental design for a carpet, as shown.

41,015. CARPET. WILLIAM A. SPRING, New York, N. Y. Filed Oct. 10, 1910. Serial No. 586,404. Term of patent 3½ years.



The ornamental design for a carpet, as shown.

41,016. LEVERS LACE. CHARLES WILFRED BIRKI Nottingham, England. Filed Aug. 3, 1910. Serial N 575,338. Term of patent 3½ years.



The ornamental design for Levers lace, as shown.

41,017. LEVERS LACE. CHARLES WILFRED BIRKI Nottingham, England. Filed Aug. 3, 1910. Serial No 575,339. Term of patent 3½ years.



The ornamental design for Levers lace, as shown.

41,018. LEVERS LACE. CHARLES WILFRED BIRKIN Nottingham, England. Filed Aug. 3, 1910. Serial No 575,340. Term of patent 3½ years.



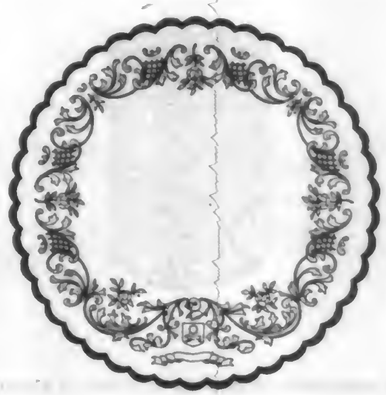
The ornamental design for Levers lace, as shown.

41,019. LEVERS LACE. CHARLES WILFRED BIRKIN, Nottingham, England. Filed Aug. 3, 1910. Serial No. 575,341. Term of patent 3½ years.



The ornamental design for Levers lace, as shown.

41,020. DOILY. ROBERT GAIR, New York, N. Y. Filed Oct. 15, 1910. Serial No. 587,349. Term of patent 3½ years.



The ornamental design for a doily, as shown.

41,021. DOILY. ROBERT GAIR, New York, N. Y. Filed Oct. 15, 1910. Serial No. 587,350. Term of patent 3½ years.



The ornamental design for a doily, as shown.

41,022. DOLL. DANIEL TROY HAILS, Montgomery, Ala. Filed Sept. 22, 1909. Serial No. 519,106. Term of patent 3½ years.





The ornamental design for a doll, as shown.

TRADE-MARKS

PUBLISHED NOVEMBER 29, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 39,611. (CLASS 17. TOBACCO PRODUCTS.) GODFREY PHILLIPS & SONS, London, England. Filed Dec. 30, 1908.



The name "Godfrey Phillips & Sons" appearing as written by the late Godfrey Phillips.

Particular description of goods.—Smoking-Tobacco and Cigarettes.

Ser. No. 41,903. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) KENNETH F. SMITH, Roanoke, Va. Filed Apr. 21, 1909.



K. F. Smith

Being a portrait of myself and a facsimile of my signature.

Particular description of goods.—A Remedy for Diseases of the Heart.

Ser. No. 43,249. (CLASS 10. FERTILIZERS.) THE PACIFIC GUANO & FERTILIZER CO., Honolulu, Hawaii, and San Francisco, Cal. Filed June 25, 1909.



Particular description of goods.—Fertilizers.

Ser. No. 43,463. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) LUCIEN GRAUX, Paris, France. Filed July 12, 1909.

Particular description of goods.—A Solvent for Uric Acid.

Ser. No. 43,545. (CLASS 32. FURNITURE AND UPHOLSTERY.) GOLD MEDAL CAMP FURNITURE MANUFACTURING CO., Racine Junction, Wis. Filed July 15, 1909.



Particular description of goods.—Chairs, Cots, Litters, Stands, Stools, and Tables.

Ser. No. 43,863. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) KAREN C. AUEN, Spokane, Wash. Filed July 29, 1909.

E. V. O.

Particular description of goods.—A Remedy for Rheumatism, Neuralgia, Pain in the Back, Headache, Catarrh, Sore Throat, Colds, La Grippe, Asthma, and Croup, and Also for Diseases of the Lungs, Stomach, Blood, and Liver.

Ser. No. 44,208. (CLASS 2. RECEPTACLES.) TRUSWEVE PACKAGE MANUFACTURING COMPANY, South Norwalk, Conn. Filed Aug. 18, 1909.

INSULOID

Particular description of goods.—Woven-Slat Packing-Cases.

Ser. No. 44,280½. (CLASS 15. OILS AND GREASES.) BAUGHMAN & WILLIAMS, Mansfield, Ohio. Filed Aug. 21, 1909.



Particular description of goods.—A Compound of Oils for Preventing Corrosion of Iron and Steel.

Ser. No. 44,968. (CLASS 37. PAPER AND STATIONERY.) CHEMICAL PAPER CO., Holyoke, Mass. Filed Sept. 25, 1909.

CRETONNE

Particular description of goods.—Writing and Printing Paper.

Ser. No. 45,374. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) GUSTAV E. AHRENS, New York, N. Y. Filed Oct. 16, 1909.



Particular description of goods.—Blended Rye Whisky.

Ser. No. 46,885. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) HUNT BROTHERS COMPANY, San Francisco, Cal. Filed Jan. 3, 1910. Used ten years.



Particular description of goods.—Canned Fruits.

Ser. No. 47,315. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) UNITED SALES CO., Davenport, Iowa. Filed Jan. 22, 1910.

SAKI

Particular description of goods.—A Rat-Poison.

Ser. No. 47,567. (CLASS 32. FURNITURE AND UPHOLSTERY.) CHAS. EMMERICH & CO., Chicago, Ill. Filed Feb. 3, 1910. Used ten years.

EMMERICH

Particular description of goods.—Feather Pillows.

Ser. No. 47,686. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) KENTUCKY REFINING CO., Louisville, Ky. Filed Feb. 9, 1910.

L M



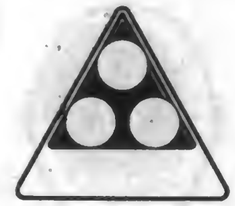
Particular description of goods.—Cotton-Seed Oil.

Ser. No. 47,688. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) KENTUCKY REFINING CO., Louisville, Ky. Filed Feb. 9, 1910.

SATURN

Particular description of goods.—Cotton-Seed Oil.

Ser. No. 47,835. (CLASS 17. TOBACCO PRODUCTS.) HCH. RHEINBOLDT, Baden-Baden, Germany. Filed Feb. 15, 1910.



Particular description of goods.—Cigarettes.

Ser. No. 47,862. (CLASS 28. JEWELRY AND PRECIOUS-METAL WARE.) YALE JEWELRY MANUFACTURING COMPANY, Providence, R. I. Filed Feb. 17, 1910.

OYP

Consists of the letters "OYP."

Particular description of goods.—Collar-Buttons, Cuff-Pins, Breast-Pins, Brooches, and Shirt-Studs Made of Gold, Silver, Gold Plate, Silver Plate, or German Silver.

Ser. No. 47,906. (CLASS 39. CLOTHING.) FRENCH TEA GOWN CO., New York, N. Y. Filed Feb. 18, 1910.

Phoebe Snow

Particular description of goods.—Ladies' and Misses' Shirt-Waists and Dresses.

Ser. No. 48,042. (CLASS 39. CLOTHING.) RICH-STIX DRY GOODS COMPANY, St. Louis, Mo. Filed Feb. 26, 1910.

CARNATION

Particular description of goods.—Petticoats.

Ser. No. 48,206. (CLASS 14. METALS AND METAL CASTINGS AND FORGINGS.) SANDERSON BROTHERS & NEWBOULD LIMITED, Sheffield, England. Filed Mar. 5, 1910. Used ten years.

PALMYRA

Particular description of goods.—Tool-Steel.

Ser. No. 48,278. (CLASS 2. RECEPTACLES.) ROCHESTER CAN COMPANY, Rochester, N. Y. Filed Mar. 7, 1910.



No claim being made to the word "Quality."

Particular description of goods.—Stamped and Pressed Sheet-Metal Cans and Baskets.

Ser. No. 48,368. (CLASS 44. DENTAL, MEDICAL, AND SURGICAL APPLIANCES.) WM. B. RIKER & SON COMPANY, New York, N. Y. Filed Mar. 12, 1910.



Particular description of goods.—Absorbent Cotton, Hot Water Bottles, and Fountain-Syringes.

Ser. No. 48,716. (CLASS 37. PAPER AND STATIONERY.) DISTRICT OF COLUMBIA PAPER MANUFACTURING COMPANY, Alexandria, Va., and Washington, D. C. Filed Mar. 29, 1910.

ARTILLERY

Particular description of goods.—Paper, Comprising Blotting and Coated Blotting, Book and Coated Book, Cover and Coated Cover, Bond, Writing, and Ledger Papers.

Ser. No. 48,871. (CLASS 6. CHEMICALS, MEDICINES AND PHARMACEUTICAL PREPARATIONS.) JOHN M. MESCHKE, Chesterfield, Va. Filed Apr. 6, 1910.



Particular description of goods.—A Remedy for All Ailments Caused by Worms in Horses.

Ser. No. 49,342. (CLASS 39. CLOTHING.) STEWART-DAWES SHOE COMPANY, Los Angeles, Cal. Filed Apr. 28, 1910.



Particular description of goods.—Leather Boots and Shoes.

Ser. No. 49,953. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) R. J. KITTREDGE & COMPANY, Chicago, Ill. Filed May 27, 1910.

Polar King



Particular description of goods.—Blended Coffee.

Ser. No. 50,026. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) EDMUND A. TRIDA, San Francisco, Cal. Filed June 1, 1910.

IXL

Particular description of goods.—Gold and Silver Paste Polish.

Ser. No. 50,045. (CLASS 17. TOBACCO PRODUCTS.) CUESTA, REY & CO., Tampa, Fla. Filed June 1, 1910.



Particular description of goods.—Cigars.

Ser. No. 50,361. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) JOS. STRONG & COMPANY, Terre Haute, Ind. Filed June 17, 1910.



Particular description of goods.—Teas.

Ser. No. 50,443. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE GERMICIDE CO., Denver, Colo. Filed June 20, 1910.

SANAFITE

Particular description of goods.—A Remedy for Sore, Burning, Blistering, Aching Feet.

Ser. No. 50,444. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) DAVIS & DAVIS, Houston, Tex. Filed June 20, 1910.

ODI NAU

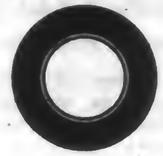
Particular description of goods.—A Medicinal Vaginal Cleanser in Suppository Form.

Ser. No. 50,576. (CLASS 39. CLOTHING.) BELLAS HESS & CO., New York, N. Y. Filed June 25, 1910.

Carnation

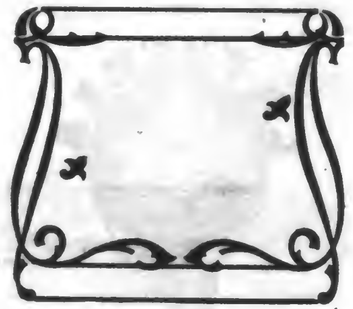
Particular description of goods.—Underskirts.

Ser. No. 50,711. (CLASS 1. RAW OR PARTLY-PREPARED MATERIALS.) UNITED STATES SILICA COMPANY, Chicago, Ill. Filed July 5, 1910.



Particular description of goods.—Sand for Use in the Manufacture of Glass.

Ser. No. 50,754. (CLASS 17. TOBACCO PRODUCTS.) ALBERT EPSTEIN, Pittsburg, Pa. Filed July 8, 1910.



Particular description of goods.—Cigars and Stogies.

Ser. No. 50,873. (CLASS 44. DENTAL, MEDICAL, AND SURGICAL APPLIANCES.) ALFRED HENRY VICTOR LEVY, London, England. Filed July 18, 1910.

VERITAS

Particular description of goods.—Finger-rings for Use as Remedies for Rheumatism.

Ser. No. 50,927. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), Berlin, Germany. Filed July 20, 1910.

Hegonon

Particular description of goods.—Silver Preparations for Medicinal Purposes.

Ser. No. 50,994. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) J. Y. COVINGTON & Co., Monroe, La. Filed July 22, 1910.

CORAL HILL

Particular description of goods.—Straight Whisky.

Ser. No. 51,017. (CLASS 39. CLOTHING.) WARD-TRUITT COMPANY, Atlanta, Ga. Filed July 23, 1910.



Particular description of goods.—Overalls, Trousers, Corsets, Sacks, Gloves, Mitts, and Underwear Made of Textile Material.

Ser. No. 51,177. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) B. F. LEIGHTON & Co., Haverhill, Mass. Filed July 30, 1910.

PENTUCKET

Particular description of goods.—Blended Coffee, Spaghetti, Macaroni, Vermicelli, Corn-Starch, Cornmeal, Mixed Bird-Seed, Mince-Meat, Salad-Dressing, Graham, Rye, and Wheat Flour, and Rye-Meal.

Ser. No. 51,275. (CLASS 39. CLOTHING.) MARY PAULINE OFFUTT, Milton, Mass. Filed Aug. 5, 1910.

Baby Beauty's

Particular description of goods.—Infants' Bonnets, Hats, Coats, Petticoats, Dresses, Sacks, Muffs, and Robes.

Ser. No. 51,281. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) OLNEY & FLOYD, Westernville, N. Y. Filed Aug. 6, 1910.

ELECTRIC Brand

Particular description of goods.—Canned Vegetables.

Ser. No. 51,282. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) OLNEY & FLOYD, Westernville, N. Y. Filed Aug. 6, 1910.

CLOTH OF GOLD

Particular description of goods.—Canned Vegetables.

Ser. No. 51,289. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) NEW ENGLAND CEREAL CO., Norwalk, Conn. Filed Aug. 6, 1910.

TRIX

Particular description of goods.—A Food Composed of Various Cereals.

Ser. No. 51,311. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) HEIT-MILLER-LAU CO., Fort Wayne, Ind. Filed Aug. 8, 1910.

HE-MI-LA

Particular description of goods.—All Kinds of Candies and Nuts.

Ser. No. 51,335. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) LUCIEN ARDIN, New York, N. Y. Filed Aug. 10, 1910.

FOUR HOOPS

Particular description of goods.—Straight Rye Whisky.

Ser. No. 51,362. (CLASS 14. METALS AND METAL CASTINGS AND FORGINGS.) AMERICAN FELT COMPANY, New York, N. Y. Filed Aug. 12, 1910.



Particular description of goods.—Steel Wire.

Ser. No. 51,374. (CLASS 26. MEASURING AND SCIENTIFIC APPLIANCES.) FRED H. PLOUFF, Boston, Mass. Filed Aug. 12, 1910.



No claim being made to the words "Permanent Gage Glasses, Boston Steam Specialty Co. We make a special specialty of specialties."

Particular description of goods.—Gage-Glasses.

Ser. No. 51,420. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) LOUISE C. FINLAY, New York, N. Y. Filed Aug. 16, 1910. Used ten years.



Particular description of goods.—An Ointment and a Remedy for Diseases of the Blood.

Ser. No. 51,448. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) DANIEL L. MERTZ, Watertown, S. D. Filed Aug. 18, 1910.

Rose DeLue

Particular description of goods.—Hair-Tonics.

Ser. No. 51,565. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) WILLIAM A. TOTTLE, Baltimore, Md. Filed Aug. 26, 1910.

Particular description of goods.—Whitewash-Brushes.

Ser. No. 51,577. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WM. ALTEN CO., INC., New York, N. Y. Filed Aug. 26, 1910.



Particular description of goods.—Wheat-Flour.

Ser. No. 51,664. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) FRANK M. FERRIN, Boston, Mass. Filed Sept. 3, 1910. Used ten years.



Which consists of spots of a silvery color applied to the surface of the goods.

Particular description of goods.—Insulated Electric Conductors and Cables.

Ser. No. 51,696. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CLOSSET & DEVERS, Portland, Oreg. Filed Sept. 7, 1910.



The picture being that of the Portland Hotel.

Particular description of goods.—Blended Coffee.

Ser. No. 51,697. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CLOSSET & DEVERS, Portland, Oreg. Filed Sept. 7, 1910.

VULCAN

Particular description of goods.—Coffee.

Ser. No. 51,730. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) HALLIGAN COFFEE CO., Davenport, Iowa. Filed Sept. 9, 1910. Used ten years.

Cucuta

Particular description of goods.—Blended Coffee.

Ser. No. 51,746. (CLASS 17. TOBACCO PRODUCTS.) L. NEWBURGER & BRO., Cincinnati, Ohio. Filed Sept. 9, 1910.



The picture shown being fanciful.

Particular description of goods.—Cigars.

Ser. No. 51,756. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CHARLES L. KELLEY, Chicago, Ill. Filed Sept. 12, 1910.

KEL-I-GUM

Particular description of goods.—Chewing-Gum.

Ser. No. 51,760. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) BINGHAM BROTHERS COMPANY, New York, N. Y. Filed Sept. 12, 1910.



Particular description of goods.—Printers' Rollers.

Ser. No. 51,787. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) BURCH BAILEY & CO., New York, N. Y. Filed Sept. 13, 1910.

LINAIRE

Particular description of goods.—Handkerchiefs and Curtains.

Ser. No. 51,793. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) ISAAC S. PURCELL, Chicago, Ill. Filed Sept. 13, 1910.

I. S. Purcell

Which consists of the facsimile-signature of I. S. Purcell.

Particular description of goods.—Pianos and Organs.

Ser. No. 51,842. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) F. E. ROYSTON & CO., Aurora, Ill. Filed Sept. 15, 1910.

FERCO

Particular description of goods.—Canned Fruits, Canned Vegetables, and Canned Salmon.

Ser. No. 51,852. (CLASS 39. CLOTHING.) SHEAHAN, KOHN & CO., Chicago, Ill. Filed Sept. 16, 1910.



The words "Sheahan, Kohn & Co." being hereby disclaimed.

Particular description of goods.—Men's and Boys' Suits and Overcoats.

Ser. No. 51,886. (CLASS 39. CLOTHING.) HOOD RUBBER CO., East Watertown and Boston, Mass. Filed Sept. 19, 1910.

BULLSEYE

Particular description of goods.—Rubber Boots and Shoes and Rubber Overshoes.

Ser. No. 51,890. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) KING STOVE & RANGE CO., Sheffield, Ala. Filed Sept. 20, 1910.

K
S&R
C

Particular description of goods.—Cooking Stoves, Ranges, and Legs, Lids, Doors, Grates, Shelves, Linings, and Cross-Bars Therefor.

Ser. No. 51,936. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) THE PEROLIN CO. OF AMERICA, Chicago, Ill. Filed Sept. 23, 1910.

GRANOLIN

Particular description of goods.—Sweeping Compounds.

Ser. No. 51,978. (CLASS 3. BAGGAGE, HORSE EQUIPMENTS, PORTFOLIOS, AND POCKET-BOOKS.) JOHN STEMBER AND CO., New York, N. Y. Filed Sept. 27, 1910.

YOUR BEST FRIEND

Particular description of goods.—Leather Goods—Namely, Hand-Bags, Wallets, Purses, and Pocket-Books.

Ser. No. 51,991. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) KING STOVE & RANGE CO., Sheffield, Ala. Filed Sept. 27, 1910.

LUCKY-BOY

Particular description of goods.—Cooking Stoves, Ranges, and Legs, Lids, Doors, Grates, Shelves, Linings, and Cross-Bars Therefor.

Ser. No. 52,004. (CLASS 19. VEHICLES, NOT INCLUDING ENGINES.) EDWARD H. GARCIN, New York, N. Y. Filed Sept. 28, 1910.

Ajax

Particular description of goods.—Brake-Linings.

Ser. No. 52,020. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE DAVIESS COUNTY DISTILLING CO., Owensboro, Ky. Filed Sept. 29, 1910.

ONCE AGAIN

Particular description of goods.—Straight Whisky.

Ser. No. 52,033. (CLASS 39. CLOTHING.) INTERNATIONAL CORSET COMPANY, Aurora, Ill. Filed Sept. 30, 1910.

Ventilo

Particular description of goods.—Corsets.

Ser. No. 52,119. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) BLACKWELL MILLING & ELEVATOR COMPANY, Blackwell, Okla. Filed Oct. 5, 1910.

TITLE

Particular description of goods.—Wheat-Flour.

Ser. No. 52,186. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CHARLES BOLWELL, Chicago, Ill. Filed Oct. 10, 1910.

Victory

Particular description of goods.—Chewing-Gum.

Ser. No. 52,194. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE SMITH & SCHOTT COMPANY, Millersburg, Ohio. Filed Oct. 10, 1910.

ESCO

Particular description of goods.—Roasted Coffee.

Ser. No. 52,213. (CLASS 1. RAW OR PARTLY-PREPARED MATERIALS.) CONTINENTAL RUBBER COMPANY OF NEW YORK, New York, N. Y. Filed Oct. 11, 1910.

OCTAGON

Particular description of goods.—Rubber and Rubber Gums that Have Been Washed and Dried or Otherwise Treated to Eliminate Dirt, Refuse, or other Extraneous Materials.

Ser. No. 52,216. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) S. J. VALK & BRO., New York, N. Y. Filed Oct. 11, 1910.

LE SOLEIL

Particular description of goods.—Olive-Oil.

Ser. No. 52,224. (CLASS 44. DENTAL, MEDICAL, AND SURGICAL APPLIANCES.) KARL HENNING, Klosterneuburg, Austria. Filed Oct. 12, 1910.

ELASTINE.

Particular description of goods.—Molding Material for Dental Purposes.

Ser. No. 52,225. (CLASS 44. DENTAL, MEDICAL, AND SURGICAL APPLIANCES.) KARL HENNING, Klosterneuburg, Austria. Filed Oct. 12, 1910.



Particular description of goods.—Molding Material for Dental Purposes.

Ser. No. 52,239. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) FRED GRETSCH MANUFACTURING COMPANY, Brooklyn and New York, N. Y. Filed Oct. 12, 1910.

Acribella

The word "Acribella."

Particular description of goods.—Musical-Instrument Strings.

Ser. No. 52,262. (CLASS 37. PAPER AND STATIONERY.) EAGLE PENCIL COMPANY, New York, N. Y. Filed Oct. 14, 1910.

TRANSIT

Particular description of goods.—Lead-Pencils.

Ser. No. 52,275. (CLASS 28. JEWELRY AND PRECIOUS-METAL WARE.) SMITH & CROSBY, Attleboro, Mass. Filed Oct. 15, 1910.

S. & C.

Particular description of goods.—Sleeve-Buttons, Fobs, Ear-Drops, Studs, Tie-Clasps, Scarf-Pins, Vest-Guards, Pendants, Brooches, Pins, Pin Sets, and Seals.

Ser. No. 52,342. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) LOVELL-MCCONNELL MANUFACTURING COMPANY, Newark, N. J. Filed Oct. 20, 1910.

KLAXONET

Particular description of goods.—Electrically-Operated Signal Horns and Alarms.

Ser. No. 52,343. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) LOVELL-MCCONNELL MANUFACTURING COMPANY, Newark, N. J. Filed Oct. 20, 1910.

KLAXON

Particular description of goods.—Electrically-Operated Signal Horns and Alarms.

Ser. No. 52,431. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) WEBER ELECTRIC COMPANY, Schenectady, N. Y. Filed Oct. 24, 1910.

UNIVERSAL

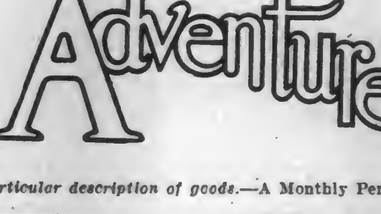
Particular description of goods.—Incandescent Electric-Lamp Sockets.

Ser. No. 52,470. (CLASS 47. WINES.) UNITED WINE & TRADING CO., New York, N. Y. Filed Oct. 27, 1910.

CHANTECLER

Particular description of goods.—Sherry and Port Wine.

Ser. No. 52,520. (CLASS 22. GAMES, TOYS, AND SPORTING GOODS.) BONA FIDE MFG. CO., Plymouth, Mich. Filed Oct. 31, 1910.



Particular description of goods.—Fish-Spears.

Ser. No. 52,537. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) ROLAND A. MORTON, Augusta, Me. Filed Oct. 31, 1910.

MEDAMIN

Particular description of goods.—Remedies for Consumption, Bronchitis, Croup, Influenza, Catarrh, and All Diseases of the Lungs.

Ser. No. 52,546. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) PAUL SUSSMAN, New York, N. Y. Filed Oct. 31, 1910.



Particular description of goods.—Pocket Powder-Puffs.

Ser. No. 52,605. (CLASS 38. PRINTS AND PUBLICATIONS.) THE RIDGWAY COMPANY, New York, N. Y. Filed Nov. 4, 1910.

Adventure

Particular description of goods.—A Monthly Periodical.

TRADE-MARKS

REGISTERED NOVEMBER 29, 1910.

80,259. ALFALFA-MEAL MIXED WITH GRAINS FORMING A HORSE FEED. ALFALFA MILLING COMPANY, Hobart, Okla.
Filed June 28, 1909. Serial No. 43,307. PUBLISHED OCTOBER 19, 1909.

80,260. WHEAT-FLOUR. AMERICAN HOMING COMPANY, Indianapolis, Ind.
Filed October 3, 1908. Serial No. 37,764. PUBLISHED FEBRUARY 15, 1910.

80,261. LEATHER SHOES. THE ANDREWS SHOE COMPANY, Columbus, Ohio.
Filed March 17, 1910. Serial No. 48,506. PUBLISHED APRIL 19, 1910.

80,262. VINEGAR. C. W. ANTRIM & SONS, Richmond, Va.
Filed July 26, 1910. Serial No. 51,089. PUBLISHED SEPTEMBER 27, 1910.

80,263. SOAP. ARMSTRONG PACKING COMPANY, Dallas, Tex.
Filed August 7, 1909. Serial No. 44,017. PUBLISHED MARCH 15, 1910.

80,264. BEER. ASHLAND BREWING CO., Ashland, Wis.
Filed June 24, 1910. Serial No. 50,549. PUBLISHED SEPTEMBER 27, 1910.

80,265. ROUGH GRANITE. BROAD RIVER GRANITE COMPANY, Atlanta, Ga.
Filed April 16, 1910. Serial No. 49,127. PUBLISHED SEPTEMBER 27, 1910.

80,266. CHILDREN'S UNDERCLOTHING. BROWN DURRELL CO., Boston, Mass.
Filed June 7, 1910. Serial No. 50,166. PUBLISHED SEPTEMBER 27, 1910.

80,267. ANTISEPTIC. SAMUEL CABOT, INC., Boston, Mass.
Filed June 6, 1910. Serial No. 50,134. PUBLISHED SEPTEMBER 27, 1910.

80,268. LUBRICATING-GREASE AND YARN-GREASE. CATARACT REFINING AND MANUFACTURING COMPANY, Buffalo, N. Y.
Filed August 20, 1910. Serial No. 51,467. PUBLISHED SEPTEMBER 27, 1910.

80,269. RED METALLIC PAINTS. CHATTANOOGA PAINT CO., Chattanooga, Tenn.
Filed July 15, 1910. Serial No. 50,852. PUBLISHED AUGUST 23, 1910.

80,270. HATS AND CAPS MADE OF STRAW, GRASS, AND SILK. THE CRAVENETTE COMPANY, LIMITED, Bradford, England.
Filed July 21, 1910. Serial No. 50,957. PUBLISHED SEPTEMBER 27, 1910.

80,271. WRITING-PAPER. CROCKER-MCELWAIN COMPANY, Holyoke, Mass.
Filed January 31, 1910. Serial No. 47,478. PUBLISHED APRIL 19, 1910.

80,272. PREPARATION FOR CLEANING THE TEETH AND LIQUID ANTISEPTIC. ELETO COMPANY, New York, N. Y.
Filed December 3, 1908. Serial No. 39,061. PUBLISHED SEPTEMBER 27, 1910.

80,273. STOVES. THE ESTATE STOVE CO., Hamilton, Ohio.
Filed August 13, 1909. Serial No. 44,112. PUBLISHED FEBRUARY 22, 1910.

80,274. ATHLETIC EXERCISERS. EUREKA SPRING COMPANY, New York, N. Y.
Filed November 16, 1909. Serial No. 45,908. PUBLISHED JANUARY 18, 1910.

80,275. PREPARED RUBBER ROOFINGS. FORD MANUFACTURING COMPANY, Chicago, Ill.
Filed August 30, 1910. Serial No. 51,625. PUBLISHED SEPTEMBER 27, 1910.

80,276. CANNED FRUITS AND VEGETABLES. FORT STANWIX CANNING COMPANY, Rome, N. Y.
Filed April 13, 1910. Serial No. 49,064. PUBLISHED SEPTEMBER 27, 1910.

80,277. HAIR-DRESSING AND HAIR-TONIC. GIROUX MANUFACTURING COMPANY, Buffalo, N. Y.
Filed July 15, 1910. Serial No. 50,856. PUBLISHED SEPTEMBER 27, 1910.

80,278. WOODEN TOOL-HANDLES. THE L. C. HASINGER COMPANY, Indiana, Pa.
Filed July 6, 1910. Serial No. 50,720. PUBLISHED SEPTEMBER 27, 1910.

80,279. WHEAT-FLOUR. THE HAVEN MILLING COMPANY, INC., Haven, Kans.
Filed April 9, 1910. Serial No. 48,972. PUBLISHED SEPTEMBER 27, 1910.

80,280. PLASTER-OF-PARIS. J. B. KING & CO., New York, N. Y.
Filed August 12, 1910. Serial No. 51,370. PUBLISHED SEPTEMBER 27, 1910.

80,281. ROTARY PUMPS. KINNEY MFG. CO., Boston, Mass.
Filed August 17, 1910. Serial No. 51,453. PUBLISHED SEPTEMBER 27, 1910.

80,282. LENSES. E. KIRSTEIN SONS COMPANY, Rochester, N. Y.
Filed August 10, 1910. Serial No. 51,339. PUBLISHED SEPTEMBER 27, 1910.

80,283. FURNACES. MARSHALL FURNACE COMPANY, Marshall, Mich.
Filed July 30, 1910. Serial No. 51,185. PUBLISHED SEPTEMBER 27, 1910.

80,284. SMOKING AND CHEWING TOBACCO. MOORE & CALVI, New York, N. Y.
Filed July 18, 1910. Serial No. 50,902. PUBLISHED SEPTEMBER 27, 1910.

80,285. GOLD PENS. VICTORINE C. MORTON, New York, N. Y.
Filed March 8, 1910. Serial No. 48,276. PUBLISHED AUGUST 2, 1910.

80,286. CERTAIN FOODS. A. MUSICA & SON, New York, N. Y.
Filed March 13, 1909. Serial No. 41,180. PUBLISHED OCTOBER 12, 1909.

80,287. GRANULATED CHEMICAL CLEANSING COMPOUND. OAKLEY CHEMICAL CO., New York, N. Y.
Filed March 1, 1909. Serial No. 40,869. PUBLISHED SEPTEMBER 27, 1910.

80,288. MEDICINAL OIL. A. W. O'BRIAN & COMPANY, Hutchinson, Kans.
Filed May 31, 1910. Serial No. 50,010. PUBLISHED SEPTEMBER 27, 1910.

80,289. SOAP. THE MAUDE ODELL COMPANY, New York, N. Y.
Filed April 28, 1910. Serial No. 49,368. PUBLISHED SEPTEMBER 27, 1910.

80,290. BLENDED RYE WHISKIES. O'NEIL & WEILL, Toledo, Ohio.
Filed November 29, 1909. Serial No. 46,179. PUBLISHED SEPTEMBER 27, 1910.

80,291. CHOCOLATE CANDY. W. F. SCHRAFFT & SONS CORPORATION, Boston, Mass.
Filed April 16, 1910. Serial No. 49,151. PUBLISHED SEPTEMBER 27, 1910.

80,292. REMEDY FOR DISEASES OF THE LUNGS. JEREMIAH P. SMITH, Lincolntown, N. C.
Filed August 24, 1910. Serial No. 51,515. PUBLISHED SEPTEMBER 27, 1910.

80,293. CATNIP, CATNIP PREPARATION, AND CATNIP-BALLS. WALTER E. SMITH, Boston, Mass.
Filed August 10, 1910. Serial No. 51,462. PUBLISHED SEPTEMBER 27, 1910.

80,294. SPECIAL ALLOY MANUFACTURED FOR USE IN REPAIRING WAGON-WHEELS. UNIVERSAL TIRE SETTER COMPANY, Baltimore, Md.
Filed June 21, 1910. Serial No. 50,487. PUBLISHED SEPTEMBER 27, 1910.

80,295. SELF-MEASURING PUMPS AND TANKS. WAYNE OIL TANK & PUMP COMPANY, Fort Wayne, Ind.
Filed August 8, 1910. Serial No. 51,304. PUBLISHED SEPTEMBER 27, 1910.

80,296. POCKET-CUTLERY, RAZORS, SCISSORS, HATCHETS, AXES, AND ADZES. WHITFIELD HARDWARE COMPANY, Hawkinsville, Ga.
Filed November 7, 1907. Serial No. 31,071. PUBLISHED SEPTEMBER 27, 1910.

LABELS

REGISTERED NOVEMBER 29, 1910.

15,408.—*Title:* "LITTLE NAES." (For Cigars.) LOUIS NAES, St. Louis, Mo. Filed November 3, 1910.

15,409.—*Title:* "THE TASTE TELLS THE TALE." (For Chocolates.) THE SNYDER-CHAFFEE CO., Columbus, Ohio. Filed November 10, 1910.

15,410.—*Title:* "DARBY'S CANDY BASE BALL GAME." (For Confectionery.) THE DARBY CANDY CO., Baltimore, Md. Filed November 8, 1910.

15,411.—*Title:* "DOMESCO BRAND." (For Laundry Starch.) DOMESTIC FINISH STARCH COMPANY, Kansas City, Mo. Filed November 10, 1910.

15,412.—*Title:* "KEYSTONE ESCUTCHEON PIN[S]" (For Escutcheon-Pins.) L. F. GRAMMES & SO[N] Allentown, Pa. Filed October 26, 1910.

15,413.—*Title:* "UNION SQUARE WAIST." (F[or] Waists.) I. B. SKUDOWITZ, New York, N. Y. Fil[ed] August 22, 1910.

15,414.—*Title:* "THE JEWEL BROOM." (For Broom[s] TULLY BROOM COMPANY, Tully, N. Y. Filed Octob[er] 5, 1910.

PRINTS

REGISTERED NOVEMBER 29, 1910.

2,670.—*Title:* "LUSCIOUS TOKAY GRAPES." (For Tokay Grapes.) CALIFORNIA FRUIT DISTRIBUTORS, Sacramento, Cal. Filed September 28, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE STIMPSON.

Decided November 15, 1910.

1. APPLICATION—DRAWINGS—REFERENCE-NUMERALS.

Where the same part of an apparatus appears in more than one figure of the drawing, it should be represented by the same reference character, notwithstanding that one figure may be a diagram and another a detail view.

2. SAME—CLAIMS—ELEMENTS POSITIVELY INCLUDED.

Elements of an invention to which it is necessary to refer in order to define other elements should be positively included in the claims.

ON PETITION.

RAILWAY SIGNALING.

Mr. Alonzo L. Stimpson pro se.

MOORE, *Commissioner:*

This is a petition from the Examiner's action of August 9, 1910, making final several objections to the showing in this application.

The first objection relates to the undue prolixity of the first pages of the specification down to and including line 20 of page 5. A review of these pages shows that the objection is well taken. This matter should be much condensed, as required by the Examiner.

The second objection is to line 12, page 8, of the specification on the ground that the meaning is obscure. The line referred to is the last part of the following sentence:

> It will be noticed that the signals at the stations are on the incoming circuits, so that if trains are to meet, both signals will be displayed; and, of course, danger, stop short of station.

The incoherency of this sentence is obvious. There appears to be no reason why the meaning should not be made clear, and the Examiner's requirement on this point is sustained.

The third objection is to the use of different reference characters on the drawings to denote the same parts in the different figures. Applicant urges that the parts shown in Figures 1, 2, and 3, which are indicated by different characters from the corresponding parts in Figs. 4 and 5, are not merely "different views" of the same parts within the meaning of Rule 52, section 6, inasmuch as these parts are shown only in diagram in the first three figures, while they are shown in detail in Figs. 4 and 5. This rule, however, should not be construed to apply only when the parts are shown in various elevations, as front view, side view, etc., since the same reasons for indicating them by the same characters apply with equal force in such a case as is he presented. The Examiner's action on this point clearly right.

The fourth requirement of the Examiner is th the index *l* be better illustrated and describe The index referred to appears only in Fig. 2, an is merely an auxiliary or subsidiary signal whic when convenience requires, may be used in conne tion with the system of railway signaling disclos in this application. As stated by the Examine the index is not an essential part of the syste and does not form an element of any claim. T specification in its present form appears to descri it sufficiently, and it is not apparent how the dra ing could be amended to indicate its nature a function any more clearly without giving it und prominence. This objection of the Examiner therefore thought to be not well taken, and the p tition is granted in so far as it relates thereto.

The fifth point of the petition relates to the r quirement of the Examiner that "In a" be chang to "A" at the beginning of claim 25. The effe of this change would be to include positively ce tain elements which are now included only inference. The petitioner objects to this chan on the ground that the claim would then cover t whole structure, whereas it was his intention cover merely that part stated in the last sev lines of the claim. This claim is seventeen lin long, and there is nothing to indicate the intentio to make the introductory clause extend throughou the first ten lines. It is well settled that where it necessary to refer to certain of the elements of invention in order to locate or define other elemen they should be positively included in the clai (*Ex parte Dodge*, 125 O. G., 665.) If the applica does not wish to cover all of the subject-matter s forth in the claim in its present form, it is cle that the claim must be wholly revised. He shou therefore either comply with the Examiner's r quirement or redraft the claim, so that there c be no mistake as to the structure covered and as to avoid the objection of indirectly includi elements of the invention therein.

Applicant has also requested that the Examin be instructed that the first seven claims are proper form for claims to an improvement in t art of train-despatching and that his objection the remaining twenty-eight claims as function should be withdrawn. As pointed out by the E aminer, however, these objections are the ground

in part at least, upon which the claims stand rejected. They clearly relate to the merits of the claims and will not be considered upon petition.

The petition is denied except in so far as it relates to the showing of the "index *l*." As to this it is granted.

EX PARTE BARRETT MANUFACTURING COMPANY.

Decided October 3, 1910.

TRADE-MARKS—SIMILARITY—"CREO-CARBOLIN" AND "CARBOLINEUM."

The word "Creo-Carbolin" *Held* properly refused registration as a trade-mark for coal-tar oil in view of the prior registration of the word "Carbolineum" for goods of the same descriptive properties.

ON APPEAL.

TRADE-MARK FOR COAL-TAR OIL.

Mr. Edo E. Mercells for the applicant.

TENNANT, *Acting Commissioner:*

This is an appeal from the decision of the Examiner of Trade-Marks refusing to register the word "Creo-Carbolin" as a trade-mark for coal-tar oil.

This registration has been refused in view of the registration by Avenarius Brothers of the word "Carbolineum" as a trade-mark for goods of the same descriptive properties. This certificate of registration is numbered 14,048, dated February 8, 1887. The position of the Examiner is that these marks so resemble each other as to be likely to cause confusion in the mind of the purchasing public. He held that prefixing the abbreviation "Creo" to "Carbolin" does not produce a mark which is sufficiently different from the mark "Carbolineum" to be accorded registration.

There can be no successful contention that the word "Carbolin" by itself would not be registrable in view of the prior registration of the word "Carbolineum;" but appellant urges that by reason of the prefix "Creo" the marks are rendered so different that all likelihood of confusion is avoided. He relies principally upon the decision of the Court of Appeals of the District of Columbia in the case of *Hall and Ruckel* v. *Ingram*, (126 O. G., 759; 28 App. D. C., 454,) in which it was held that the word "Zodenta" was registrable notwithstanding the prior registration of the word "Sozodont," and the decision of the Circuit Court of Appeals of the Third Circuit in the case of *Chance* v. *Gulden*, (165 Fed. Rep., 624,) in which it was held that "Don Caezar" did not infringe "Don Carlos."

The words "Sozodont" and "Zodenta" exhibit much greater differences in appearance, significance, and sound than the differences between the words "Creo-Carbolin" and "Carbolineum," which have the identical syllables, "car-bo-lin." In fact, the applicant's mark might well be considered to signify a mixture of carbolin and creosote. The *Chance* v. *Gulden*, *supra*, case was a suit mainly based upon unfair competition in trade. The words "Caezar" and "Carlos" are, however, commonly-known names, and there is no such likelihood of confusion by concurrent use of these names as there would be in such use of the arbitrary marks involved herein. (*The Buchanan-Anderson-Nelson Co.* v. *Breen & Kennedy*, 27 App. D. C., 573; 124 O. G., 322.)

It appears from the declaration in this case that applicant adopted this mark in June, 1909. The mark "Carbolineum" was registered in 1887. In the case of *Avenarius* v. *Cornley* (121 N. W., 336) the court held that Avenarius had established that this mark had been used in Europe since 1876 and in this country since 1886 and that his product—

had become widely and favorably known during said time in all said countries.

The statement of the Court of Appeals of the District of Columbia in *Wayne County Preserving Company* v. *Burt Olney Canning Company* (140 O. G., 1003; 32 App. D. C., 279) that—

the property-right in trade-marks is a valuable one, and is entitled to protection from those who would profit by its imitation, and the courts should resolve the doubt, if any exists, in favor of the prior registrant and user in good faith,

is clearly applicable to this case.

It must be held, therefore, that the action of the Examiner of Trade-Marks in refusing registration was right.

The decision is affirmed.

EX PARTE LITLE, JR.

Decided November 14, 1910.

1. DESIGNS—NO GENERIC AND SPECIFIC CLAIMS.

It is well settled that a design patent can be granted only upon a single shape or configuration, and not upon several, and that there is no such distinction between generic and specific design patents as is recognized in mechanical patents.

2. SAME—INTERFERENCE—NO INTERFERENCE IN FACT.

A decision dissolving an interference on the ground that there is no interference in fact involving two design applications is, in effect, a ruling that each design is patentable notwithstanding the other.

ON PETITION.

DESIGN FOR A GLOBE OR SHADE.

Messrs. Bakewell, Brynes & Parmelee for the applicant.

TENNANT, *Assistant Commissioner:*

This is a petition from the action of the Examiner requiring the applicant to limit the drawing of this design application to the metal holder for the shade.

The record shows that the drawing of the application as originally filed illustrated a corrugated glass globe with fluted edge, attached to a metal neck having a configuration suitable to enable it to be attached to a shade-supporter. An interference was declared between the design originally shown and a design application for a glass globe filed by one Mygatt. Motion was made by Litle to dissolve the interference upon the ground that there was no interference in fact. This motion was granted by the Examiner, his decision being in part as follows:

It appears, however, that the globes shown in the Mygatt and Litle, Jr., applications differ from each other in configuration, and that the globe shown in the Litle, Jr., application is provided with a metal neck of special shape, while the globe shown in the Mygatt application is provided with a glass neck made integral therewith, which neck differs in configuration from the metal neck disclosed in the Litle, Jr., application. It is also noted that the applicant Litle, Jr., states in the motion for dissolution that "• • • the essence of his design consisted in the combination of any glass shade or globe with a metal neck

giving a new appearance. The fact that Litle happened to show the glass portion of his design as a portion of the globe made by the Holophane Company probably under the Mygatt application was purely accidental. It was due to the fact that the Welsbach Company, with which company applicant Litle is connected, was purchasing material from the Holophane Company, and used this material among other material in connection with its metal-necked glass articles."

Litle, Jr., has also presented an amendment canceling the drawing and substituting a new drawing which does not include a fluted globe.

In view of the differences in configuration, it is believed that there is no interference in fact between the designs disclosed in the applications involved in this interference, and the interference is therefore dissolved.

It appears that after the expiration of the limit of appeal from the decision dissolving the interference, no appeal having been taken, the drawing referred to in the above quotation was incorporated in this application and that thereafter the applicant was advised as follows:

The illustration of the design in the substitute drawing in this application is not understood. There seems to be two forms of shade, one shown in dotted lines and one in full lines and, moreover, the invention does not appear to be in the globe or shade but in the metallic holder therefor. The design should be properly illustrated and a new drawing should be filed properly illustrating the design, and the design should be properly entitled, described and claimed, and an exhibit showing the design of the holder should be made of record in this application.

Pursuant to this requirement, which was repeated by the Examiner in subsequent letters, the applicant filed the following description:

This invention relates to an article of manufacture consisting of a glass globe with a metal neck, and involves the contrasting appearance between the material of the globe and that of the neck.

The Examiner objected to this description in so far as it referred to the design as a combination, but insisted that—

the design does not appear to reside in the globe or shade but in the support for the globe or shade. Therefore, only the support should be shown in the drawing and the title, description and claim should be revised accordingly. The shade forms no part of applicant's invention. It may be of any shape without changing the design for the support or holder.

The Examiner, in his answer to this petition, states that in his opinion the illustration should be limited to the metal holder, that the applicant cannot show and claim the globe originally disclosed in view of the decision dissolving the interference, and that he cannot show and claim a shade different from that originally disclosed, for the reason that such showing involves a departure from the original disclosure, which is prohibited by Rule 70.

It is stated by the applicant that the article made in accordance with the design application comprises a shade with a metal neck, thus forming a unitary article of manufacture, the complete article being shipped whole in that form. This fact is supported by the affidavit of Townsend Stites, manager of the Welsbach Company, to which company the application has been assigned, and it is insisted that the applicant is entitled either to illustrate the form shown in his substitute drawing, which comprises a metal ring with two forms of shade attached thereto, one shown in dotted lines, or that he is entitled to return to the form of design originally shown.

It is well settled that a design patent can be granted only upon a single shape or configuration, and not upon several, and that there is no such distinction between generic and specific design patents as is recognized in mechanical patents. (*Hill and Renner*, 82 O. G., 1988; *ex parte Adams*, 83 O. G., 1994; *ex parte Jenks*, 83 O. G., 1513; *ex parte Schraubstadter*, 110 O. G., 2015; *ex parte Burdick*, 97 O. G., 1373; *ex parte Kurz*, 113 O. G., 2215.)

It is therefore obvious that the decision of the Examiner requiring the cancelation of the drawing showing the two different forms of shade is right. It may be mentioned in this connection that the description which practically covers a glass globe of any form amounts to a generic claim and that for the reason stated in the decisions above cited it should not be permitted.

The holding of the Examiner that the applicant is not entitled to show and claim the globe or shade originally claimed, in view of the decision dissolving the interference, is, however, erroneous, since the holding that there was no interference in fact between the applicant's design and that of Mygatt in effect amounted to a ruling that each was patentable notwithstanding the other. The applicant should therefore be permitted to illustrate and describe the specific device shown in his original drawing.

The petition is granted to the extent indicated.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court of Appeals—Third Circuit.

ELLIOTT & CO. *v.* YOUNGSTOWN CAR MFG. CO.

Decided August 30, 1910.

PATENTABILITY — INVENTION — ENLARGEMENT OF USE IN SAME ART.

Photography and blue-printing are simply different phases of the art of light-printing, and the mere transfer of a device used in one to the other does not involve patentable invention.

Mr. T. A. Connolly and *Mr. J. B. Connolly* for the appellants.

Mr. F. W. H. Clay for the appellee.

Before BUFFINGTON and LANNING, Circuit Judges, and ARCHBALD, District Judge.

ARCHBALD, *Dis. J.:*

The patent in suit is for a blue-print machine. As specified in the patent, the device consists in an upright glass cylinder or frame, around which are wrapped the drawing to be copied and the sensitized paper to which it is to be transferred; the two being kept in intimate contact by a canvas envelop or cover drawn down over them. The printing is done by electric light, and this is supplied by an arc-lamp suspended immediately over the open top of the cylinder, on a cord and pulley, by means of which it is let down into the cylinder to do the printing. As the lamp moves down the axis of the cylinder, it is at all times equally distant from the paper to be printed upon, and thus affects all parts of it equally. And being allowed to descend by a controlled and even motion, regulated by a clock-work attachment, and the current being cut off automatically, immediately upon the lamp reaching the bottom, not only is the printing done evenly, as it proceeds, but there is no overprinting, such as results where the light is not cut off as soon as the

operation is completed. The cut-off device, as described in the patent, consists of a self-opening trip-switch inserted in the electric circuit, which is held in closed position during the printing operation, by means of a catch or stop mounted on the frame of the switch, which is disengaged so as to open the switch and break the circuit, when a counterweight to the lamp which is drawn up as the lamp descends comes in contact with certain mechanism by which the catch or stop is drawn away.

If Fullman, the patentee, was the original inventor of a device of this character, there can be no question as to his right to be protected in it, and, so far as the patent was found to be expressive of the invention, it no doubt would be valid. It appears, however, that the principal part of the present apparatus was the work of one Hall, a British inventor, who patented it in England in 1897, and that Fullman got his ideas from this, the only new feature which he introduced being the automatic cut-off, to put out the light when the process was completed, this being done by hand in the Hall apparatus. The novelty of the device is thus made to depend on this added feature. That it is important to have the light cut off at just the right moment must be conceded. Not only is electricity economized and overprinting avoided, but, being automatically regulated, the exact amount of exposure desired is secured, and the operator is able to dismiss it from his attention, once the apparatus is set in motion. But unfortunately for the inventor an automatic cut-off was not new in photographic printing, being shown in the Urie photographic-printing machine (1892), in the Schwarz (1898), as well as in the earlier British patent (1897) to Suter. In the Urie apparatus electric light is used, the same as in the patent in suit; the fact that it is incandescent instead of arc being immaterial; and the current is automatically cut off and turned on by a switch, in the form of a contact-plate, located on the power-shaft by which the machine is operated, and rotated by it, intermittent electrical connection being thus brought about, and the lights turned on and turned off, according to established periods in the cycle of the machine. In order to shorten or lengthen the electrical connection, the plate is made in two sections, which are adjusted on each other circumferentially, and are held together by a suitable clamping-screw. So in the Schwarz machine, where electric lights are also used, provision is made for lighting and extinguishing them automatically, the current being alternately established and broken, coincident with the exposure desired, by means of cams directly connected with and operated by the mechanism and motive power by which the different sections of the sensitized paper are moved forward successively to receive impressions. In the Suter, also, there is an automatic cut-off, of some intricacy, which, although operated by independent motive power, is so coördinated with the other parts of the apparatus that, as each section of the sensitized paper is brought into operative position, an electric light below it is automatically turned on, and is again turned off when the printing is completed. The distinction is attempted with regard to these machines, that they are found in the photographic, and not the blue-printing, art, and the refinement is even indulged that progressive blue-printing is an art by itself. But photographic copying or light-printing is all one; photography and blue-printing being simply different phases of it. Nor is progressive blue-printing anything apart. In each the plate or tracing which carries the picture or figure to be transcribed is exposed to the light which filters through it, transferring it by the effect of light and shade to the sensitized paper prepared to receive it. That blue-prints could be successfully made on the Urie, the Schwarz, or the Suter apparatus is not to be doubted, the same as photographs, so called, on the Hall or Fullman, provided a cylindrical frame would not stand in the way. Once, therefore, that an automatic cut-off was made use of in either of these earlier devices, it was conclusive upon the novelty of the idea upon every one coming after; and the only thing open to later inventors was the particular means that might be adopted for the accomplishment of this purpose. To the extent that this is observed the device of the patent may be good. But not beyond that.

An examination of the patent, however, discloses that, as to a majority of the claims which are relied on,* it is not so confined, these being stated so broadly that any kind of an automatic cut-off comes within their terms. Thus, in the first, second, third, and fifth claims, "means to automatically break the circuit for the purpose of extinguishing the light;" "an [*i. e.*, any] automatic device to cut off the light upon the completion of the printing process;" "means for automatically opening the switch when the lamp has completed its travel;" and "means," etc.—the same as in the first claim—are the expressions employed. Each of these, if taken literally, is realized by any character of automatic cut-off, as applied to a blue-print machine of the Hall type, and that, indeed, is the breadth of construction that is contended for. The fourth claim, which is also relied on, is not open to this objection; the cut-off declared for being "the automatically-operated switch controlling the light-circuit," which is to be referred to the cut-off described in the specifications and saves the claim. But, so far as the others go beyond this and call for "means," unspecified, by which the cut off of the current is to be automatically brought about, they are met by the references which have been cited, and cannot be sustained. The court below seems to have been impressed with the idea that in the Urie, Schwarz, and Suter the motive power which actuated the cut-off was external to the machine itself and not dependent for its action on the movement of the lamp in relation to the frame, but, however this may be and whatever of novelty may reside in the agency of the lamp in effecting the cut off, as a feature of the device in suit, it does not change the fact that the automatic cutting off of the light, when the printing is through, was old in the art, and that no one therefore could monopolize the idea such as is attempted here. Stress is also laid on the fact that, in the interference proceedings which were declared in the Patent Office between Fullman on the one hand, and Herman, under whom the defendants are acting, on the other, invention was asserted, and the right of a patent on the strength of

* The following are the claims of the patent referred to.

(1) In an apparatus for copying or reproducing drawings, etc., the combination of a cylinder, means to support the subject-matter to be copied or reproduced upon the exterior of said cylinder, an arc-lamp adapted to be lowered into the interior of said cylinder, and means to automatically break the circuit for the purpose of extinguishing the light.

(2) A printing-frame and a lamp, movable one in relation to the other, in combination with an automatic device to cut off the light upon the completion of the printing process.

(3) In an apparatus for copying drawings, etc., the cylindrical printing-frame, the suspended electric-arc lamp and means for controlling its descent within the frame, an electric switch controlling the light-circuit, and means for automatically opening the switch when the lamp has completed its travel.

(4) In an apparatus for copying drawings, etc., the cylindrical support for the drawing, a suspended lamp arranged to descend axially within the frame, a governing apparatus for controlling the descent of the lamp, and the automatically-operated switch controlling the light-circuit.

(5) In an apparatus for copying or reproducing drawings, etc., the combination of a cylinder adapted to be rotated, means to support the subject-matter to be copied or reproduced upon the exterior of said cylinder, an arc-lamp adapted to be lowered into said cylinder, and means to automatically break the circuit for the purpose of extinguishing the light.

it contended for, the case being carried in the end to the Court of Appeals of the District of Columbia, and the right of Fullman at every stage sustained. But the scope of the invention was not involved in those proceedings, nor whether, as now, it was patentable if broadly maintained. The only question there was one of priority between the two contestants, and that is all for which the decision stands. It is no doubt persuasive that in those proceedings invention was affirmed by the parties who now deny it; but that cannot be allowed to prevail over other considerations by which it is necessarily controlled. Nor is the ordinary presumption to be indulged in favor of the patent, because of the action of the Patent Office in allowing it; the Urie, Schwarz, and Suter patents, as it appears, not having been referred to, as they have been here. There is enough, moreover, for the presumption to act upon (if it be regarded as important), in the particular device described in the specifications and declared for in other claims which are good; all that is now denied to the invention being the right to any extended breadth of scope. The same also is to be said of the alleged recognition which has been given to the invention by the public, the complainant, as it seems, under the advice of counsel having bought up the patent rather than contested it, and other parties having either taken out licenses, or discontinued infringement upon failure to negotiate for them upon satisfactory terms. These are matters which are no doubt entitled to consideration under ordinary circumstances, but they are of no significance against the showing here. Nor is it necessary to dwell upon the suggestion that applications were made for blue-print machines with an automatic cut-off by four different inventors about the same time, Fullman and Herman among the rest. The fact that so many persons caught the idea goes rather to prove that it was simple and obvious, and not that it required inventive genius to conceive. It is not like the case where the art is waiting for the device, and inventors striving unsuccessfully to produce it, under which circumstances invention may well be held to appear.

The invention not being able therefore to be asserted broadly, the claims in controversy where this is done are invalid and the patent to that extent cannot be sustained. Nor is the complainant bettered if the cut-off described in the specifications is read into the claims in order to save them, assuming that this can be done, the defendants in that case not infringing upon them, their device in this respect not being the same.

It remains to consider the effect to be given to the fourth claim, as to which, as already intimated, no objection can be made. One of the elements which is there declared for, however, is "a governing apparatus for controlling the descent of the lamp;" and this, as described in the specifications, to which resort for it must be had, consists of a clock-escapement, the same as in the Hall machine, from which the appliance is taken bodily. And there being no novelty, by reason of the Hall, in controlling the descent of the lamp, any other means that might be devised for doing so was open to the defendants, the present inventor, as to this feature, also being confined to the particular means shown. But this the defendants do not employ, the control in their machine being effected by means of a hydraulic cylinder and piston, which is not at all the same. This is enough to distinguish the device, but there is also a difference in the cut-off used. This does not consist of a counterweight and tripping mechanism, such as are described in the specifications, the cutting off of the current in the defendants' machine being brought about by a switch-contact, made by a stop attached to the cord on which the lamp is hung, which is drawn into contact as the lamp reaches the bottom of the frame. It is true tha in both the complainant's and the defendants' ma chine the lamp as it descends draws up the particu lar means by which the cut off is produced, and t this extent there is a certain measure of similarit between the two. But that is as far as it goes, th short-circuiting by positive contact, which take place in the one instance, not being at all the sam as the trip-switch cut-off, by which the current i broken in the other. In neither of these two re spects therefore is the fourth claim realized in th defendants' device, and infringement of it is no thus made out. And the same is true, as it will b observed, of the other claims relied on, if narrowe down by reference to the specifications sufficientl to be sustained.

It results, therefore, that, however considered the complainant's case is without merit, and tha the decree must be reversed with directions to dis miss the bill on the ground of non-infringement with costs.

ADJUDICATED PATENTS.

The Caldwell patents, No. 741,010 and No. 760,728 each for improvements in vault-light construction *Held* not infringed. *American Bar Lock Co.* v. *Old* (C. C. A.,) 181 Fed. Rep., 691.

The Beryle patent, No. 887,995, for the art of cas ing wooden moldings, *Held* valid and infringed *Beryle* v. *San Francisco Cornice Co.*, (C. C.,) 18 Fed. Rep., 692.

The Conroy reissue patent, No. 12,789, (origina No. 723,139,) for a machine for chipping the edge of glass articles, *Held* valid and infringed. *Conro* v. *Penn Electrical & Mfg. Co.*, (C. C.,) 181 Fed Rep., 697.

Changes in Classification.

(ORDER No. 1,882.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 12, 1910.

The following correction in the printed classification of patents hereby ordered:

In Division XIV, class 164, Cutting and Punching Sheets an Bars, that part republished in Bulletin 22, page 9, subclass 49, Cuttin Machines, Reciprocating cutter, Work feeding, Roller cutter, shou read:

Cutting—
Machines—
Reciprocating cutter—
Work feeding—
49. Roller feed.

The following changes in class definitions are hereby directed, take effect immediately:

Bulletin 1, page 2595, class 144, Wood Working, subclass 61, Mat making, Box filling, modify the definition by adding the words *of the boxes*.

Bulletin 1, page 2606, modify the definition of subclass 60, An slipping devices, Pole climbers, class 36, Boots, Shoes, and Leggin by canceling the word "Spurred," which is the first word of sa definition, and add the following note:

Search Class—
227—FIRE ESCAPES, subclass 8, Climbers.

Bulletin 2, page 2539, class 93, Paper Manufactures, subclass Wrapping machines, Miscellaneous, cancel that part of the no thereto which relates to class 144, Wood-Working.

Bulletin 2, page 2539, class 93, Paper Manufactures, cancel not to subclasses 3 and 6.

Bulletin 24, page 24, class 245, Wire Fabrics and Structure, modi the definition as follows: Line 6, end of first sentence, change t period to a comma and add the words *or wherein wire is made*

essential element of the invention last line after the word "stapling" insert the words *and wherein wire is not made an essential element of the invention.*

The following change in the classification of inventions is hereby directed, to take effect immediately:

In Division XXXII, class 156, Curtains, Shades, and Screens, abolish subclass—

Awnings—
45. Roller gearing.

EDWARD B. MOORE,
Commissioner.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 16, 1910.

Sharpless Bros., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Consolidated Cotton Duck Co., of Continental Trust Building, Baltimore, Md., for registration of a trade-mark and the trade-mark registrations to Minot, Hooper & Co., of 40 Thomas street, borough of Manhattan, New York, N. Y., registered August 29, 1905, No. 45,761; Lindeke, Warner & Schurmeier, of East Fourth and Sibley streets, St. Paul, Minn., registered April 20, 1897, No. 29,854; Sharpless Bros., of 812–814 Market street, Philadelphia, Pa., registered May 23, 1893, No. 23,072; Denny, Poor & Co., of New York, N. Y., registered December 30, 1890, No. 18,761; John Dunn, of East Orange, N. J., registered June 22, 1886, No. 13,436, and Stark Mills, of Manchester, N. H., registered November 8, 1881, No. 8,822, and March 13, 1906, No. 50,391, and the Office actions sent to Sharpless Bros. at their address of record have been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Sharpless Bros., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 16, 1910.

Steinfeld, Kerngood and Co., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Chas. E. Shedaker & Sons, Eighth and Walnut streets, Philadelphia, Pa., for registration of a trade-mark and trade-mark registration No. 8,568, dated August 16, 1881, to Steinfeld, Kerngood and Co., of Baltimore, Md., and the notice of such declaration sent by registered mail to the said Steinfeld, Kerngood and Co. at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Steinfeld, Kerngood and Co., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 4, 1910.

Samuel A. Richmond, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the applications of the Wehrman Medicine Company, of 1269 Michigan avenue, Columbus, Ohio, and G. H. Mullen, of Guyandotte, W. Va., for registrations of trade-marks and the trade-mark registrations to the Good Samaritan Ointment Company, of 222 Broadway, Camden, N. J., registered August 21, 1906, No. 55,682; Samuel A. Richmond, of Tuscola, Ill., registered May 13, 1890, No. 17,015, and December 16, 1890, No. 18,714, and Charles C. Brooks, of Waverly, N. Y., registered April 4, 1882, No. 9,253, and the notice of such declaration sent by registered mail to the said Samuel A. Richmond at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Samuel A. Richmond, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 4, 1910.

John Dunn, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Consolidated Cotton Duck Company, of Continental Trust Building, Baltimore, Md., for registration of a trade-mark and the trade-mark registrations to Minot, Hooper & Company, of 40 Thomas street, borough of Manhattan, New York, N. Y., registered August 29, 1905, No. 45,761; Lindeke, Warner & Schurmeier, of East Fourth and Sibley streets, St. Paul, Minn., registered April 20, 1897, No. 29,854; Sharpless Brothers, of 812–814 Market street, Philadelphia, Pa., registered May 23, 1893, No. 23,072; Denny, Poor & Company, of New York, N. Y., registered December 30, 1890, No. 18,761; John Dunn, of East Orange, N. J., registered June 22, 1886, No. 13,436, and Stark Mills, of Manchester, N. H., registered November 8, 1881, No. 8,822, and March 13, 1906, No. 50,391, and the notice of such declaration sent by registered mail to the said John Dunn at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said John Dunn, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 27, 1910.

Henry Werner & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Bennett, Hollander & Lewis, of 947 Pennsylvania avenue, Pittsburg, Pa., for registration of a trade-mark and the trade-mark registration to Joseph Bennett & Company, of 718 Pennsylvania avenue, Pittsburg, Pa., registered April 10, 1900, No. 34,453, and Henry Werner & Company, of 366 Gratiot avenue, Detroit, Mich., registered March 26, 1895, No. 26,267, and the notice of such declaration sent by registered mail to the said Henry Werner & Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Henry Werner & Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 20, 1910.

Frederick M. Hall, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Maine Manufacturing Company, of Nashua, N. H., and the application of the Grand Rapids Refrigerator Company, 17 to 27 Ottawa street and 20 to 50 Clyde Park avenue, Grand Rapids, Mich., for registration of trade-marks and trade-mark registrations No. 36,235, dated April 9, 1901, to Christian Schmidt, 157 and 159 Springfield avenue, Newark, N. J., and No. 12,637, dated October 18, 1885, to Frederick M. Hall, 71 Randolph street, Chicago, Ill., and the notice sent by registered mail to the said Frederick M. Hall at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Frederick M. Hall, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

INDEX

TO THE

DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS.

NOVEMBER, 1910.

[Decisions of the Court of Appeals of the District of Columbia are indicated by a star (*) and of the United States Circuit Court of Appeals by the letter d.]

TABLE OF CASES.

	Page.
Barrett Manufacturing Company. *Ex parte*	1272
Curtis *v.* Kleinert	1038
Dunlap *v.* Creveling *v.* Rector	774
dElliott & Co. *v.* Youngstown Car Mfg. Co	1273
Gilbert *v.* Gilbert and Lindley	775
Gugler. *Ex parte*	775
Heaton Manufacturing Company. *Ex parte*	493
Inman. *Ex parte*	1038
Litle, Jr. *Ex parte*	1272
Lorenz. *Ex parte*	1039
Mellin and Reid. *Ex parte*	1037
Mygatt. *Ex parte*	773
Newton. *Ex parte*	1037
P. J. Bowlin Liquor Co. *v.* J. & J. Eager Co	258
Ries *v.* Frick	1040
Standard Adding Machine Company. *In re*	257
Stimpson. *Ex parte*	1271
Summers. *Ex parte*	1039
Topping *v.* Price	774
dUnion Carbide Co. *v.* American Carbide Co	493
White *v.* Powell	776
Whitman *v.* King	256
*Whitman *v.* King	260

SUBJECT-MATTER INDEX.

	Page.
Access to pending applications, certificate of court, *in re* Standard Adding Machine Company	257
Owner of equitable interest, *in re* Standard Adding Machine Company	257
Appeal, matter not before lower tribunals not considered upon, White *v.* Powell	776
Applications, prosecution of, action by applicant not responsive, application abandoned, *ex parte* Lorenz	1039
Action by the Examiner, *ex parte* Inman	1038
Cross-reference to copending application should contain serial number and date of filing, *ex parte* Summers	1039
Responsive action by applicant, *ex parte* Inman	1038
Claims, elements of an invention to which reference is made to define other elements should be included in the claim, *ex parte* Stimpson	1271
Varying from original disclosure, *ex parte* Gugler	775
Construction of Rule 65, *ex parte* Inman	1038
Design patent granted on single configuration only, *ex parte* Litle, Jr	1272
No distinction between generic and specific claims, as in mechanical patents, *ex parte* Litle, Jr	1272
Drawings, extended shading or solid black permitted only to represent thin sheets of sheet metal, *ex parte* Mellin and Reid	1037
Same part in different figures should bear same reference character, *ex parte* Stimpson	1271
Evidence of conception of invention, Whitman *v.* King	259
Interference, (designs,) dissolved because of no interference in fact, in effect a ruling that each design is patentable notwithstanding the other, *ex parte* Litle, Jr.	1272
Rehearings entirely within the discretion of the Examiner of Interferences, Dunlap *v.* Creveling *v.* Rector	774
Interference, taking of testimony, sufficiency of notice of, Ries *v.* Frick	1040
Joint and sole applicants, assignee of one joint applicant entitled to prosecute interference, Gilbert *v.* Gilbert and Lindley	775
Motion to dissolve interference, all counts held unpatentable by Examiner, affirmed by Examiners-in-Chief, appeal from dismissed, Curtis *v.* Kleinert	1038
Rehearing, request based upon *ex parte* affidavits refused, White *v.* Powell	776
Transmission of second motion refused, Topping *v.* Price	774
Oath, omission of the word "sole" not vital defect, *ex parte* Mygatt	773
dPatentability, commercial success compared with laboratory experiments, Union Carbide Co. *v.* American Carbide Co	493
dSame art, different phases of, transfer of device from one to the other not invention, Elliott & Co. *v.* Youngstown Car Mfg. Co	1273
Priority of invention, Whitman *v.* King	256
Reduction to practice, successful performance of process constitutes, Whitman *v.* King	256
*Testimony of inventor, Whitman *v.* King	260
Trade-marks, opposition, sufficiency of notice of, P. J. Bowlin Liquor Co. *v.* J. & J. Eager Co	258
The word "Buyflat," for hooks and eyes, refused registration as a descriptive term, *ex parte* Heaton Manufacturing Company	493
"Creo-Carbolin," for coal-tar oil, refused registration on the word "Carbolineum," *ex parte* Barrett Manufacturing Company	1272
"New Tone," for a liquid preparation for wood or metal, refused registration as a descriptive term, *ex parte* Newton	1037

DIGEST

OF THE

DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS.

NOVEMBER, 1910.

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ABANDONED APPLICATIONS.

(See Prosecution of Applications, 3.)

ACCESS TO PENDING APPLICATIONS.

1. OWNER OF EQUITABLE INTEREST.
Where a party holds an unquestioned equitable interest in an application, he may be given access to the same.
[*In re* Standard Adding Machine Company, 257.

2. SAME.
A contract between H. and petitioner whereby H. agreed to assign "all inventions, patents, and improvements which he may invent or make or take out or acquire" pertaining to a certain class of machines *Held* not to entitle petitioner to access to certain applications in which H. at one time owned a half interest, but which were subsequently assigned to a third party. [Id.

3. CERTIFICATE OF COURT.
A petition for access to a pending application based on the allegation that knowledge of such application will be of assistance to petitioner in a suit brought against him by the assignee of such application will be denied in the absence of a certificate from the judge before whom such suit is pending that the application would be relevant and material. [Id.

ACTION BY THE EXAMINER.

(See Claims, 1; Prosecution of Applications, 2.)

AFFIDAVITS.

(See Motion to Dissolve Interference, 3)

ALLEGATIONS.

(See Access to Pending Applications, 3; Trade-Marks, 1.)

AMENDMENT.

(See Claims, 1; Prosecution of Applications, 3.)

APPEAL.

(See Motion to Dissolve Interference, 4, 5.)

APPEAL FROM THE EXAMINERS-IN-CHIEF.

(See Motion to Dissolve Interference, 5.)

APPLICATIONS.

(See Access to Pending Applications; Claims; Designs; Drawings; Joint and Sole Applicants; Oath; Prosecution of Applications.)

ASSIGNEES.

(See Access to Pending Applications; Joint and Sole Applicants.)

CERTIFICATE OF COURT.

(See Access to Pending Applications, 3.)

CHANGE OF FORM.

(See Patentability, 1.)

CLAIMS.

(See Designs; Prosecution of Applications, 2, 3.)

1. NOT INDEFINITE—ORIGINAL DISCLOSURE.
Where an original claim in an application is not indefinite, but is objected to by the Examiner on the ground that it suggests a variation not disclosed in the original specification and drawings, *Held* that either the objection is unfounded or the claim is sufficient basis for an amendment to the showing to make it correspond with the modification suggested in the claim.
[*Ex parte* Gugler, 775.

2. ELEMENTS POSITIVELY INCLUDED.
Elements of an invention to which it is necessary to refer in order to define other elements should be positively included in the claims. [*Ex parte* Stimpson, 1271.

COMMERCIAL SUCCESS.

(See Patentability, 1.)

CONCEPTION OF INVENTION.

(See Reduction to Practice, 2.)

CONSTRUCTION OF RULES.

(See Prosecution of Applications, 1, 2.)

CONSTRUCTION OF TRADE-MARK STATUTES.

(See Trade-Marks, 1.)

CONTRACTS.

(See Access to Pending Applications, 2.)

COPENDING APPLICATIONS.

(See Prosecution of Applications, 4.)

CROSS-REFERENCES.

(See Prosecution of Applications, 4.)

DELAY IN BRINGING MOTION.

(See Motion to Dissolve Interference, 1.)

DESCRIPTIVE TERMS.

(See Trade-Marks, 2, 3.)

DESIGNS.

(See Interference, 2.)

NO GENERIC AND SPECIFIC CLAIMS.
It is well settled that a design patent can be granted only upon a single shape or configuration, and not upon several, and that there is no such distinction between generic and specific design patents as is recognized in mechanical patents.
[*Ex parte* Litle, Jr., 1272.

DISCLOSURE OF INVENTION.

(See Claims, 1; Prosecution of Applications, 1.)

DISCRETION OF EXAMINER OF INTERFERENCES.

(See Rehearing.)

DRAWINGS.

1. APPLICATION—THIN SHEET-METAL SECTIONS—SOLID BLACK PERMITTED.
Extended shading, either surface or sectional, in solid black should not be permitted, but sections of thin sheet metal may be so represented. [*Ex parte* Mellin and Reid, 1037.

2. SAME—REFERENCE-NUMERALS.
Where the same part of an apparatus appears in more than one figure of the drawing, it should be represented by the same reference character, notwithstanding that one figure may be a diagram and another a detail view. [*Ex parte* Stimpson, 1271.

ELEMENTS.

(See Claims, 2.)

EQUITABLE INTERESTS.

(See Access to Pending Applications, 1.)

EVIDENCE.

(See Reduction to Practice, 2, 3.)

EXAMINER OF INTERFERENCES.

(See Rehearing.)

FINAL HEARING.

(See Rehearing.)

FINAL REJECTION OF CLAIMS.

(See Prosecution of Applications, 3.)

FORMER DECISIONS CITED.

(See Motion to Dissolve Interference, 3, 4; Reduction to Practice, 1.)

FORMER DECISIONS DISTINGUISHED.

(See Oath.)

GENERIC AND SPECIFIC CLAIMS.

(See Designs.)

GOODS OF THE SAME DESCRIPTIVE PROPERTIES.

(See Trade-Marks, 3.)

INTERFERENCE.

(See Joint and Sole Applicants; Motion to Dissolve Interference; Reduction to Practice; Rehearing.)

1. TAKING OF TESTIMONY—SUFFICIENCY OF NOTICE.
Where on Saturday counsel for F. were notified by telegraph that testimony on behalf of R. would be taken on the next Tuesday, but the names and residences of the witnesses were not given, and on Monday counsel were formally notified that the testimony of R. "and perhaps others" would be taken, *Held* that the notice was insufficient, and that the testimony taken in the absence of counsel for F. was properly stricken out. [Ries *v.* Frick, 1040.

2. NO INTERFERENCE IN FACT.
A decision dissolving an interference on the ground that there is no interference in fact involving two design applications is, in effect, a ruling that each design is patentable notwithstanding the other. [*Ex parte* Litle, Jr., 1272.

INVENTION.

(See Claims, 2; Patentability.)

INVENTOR.

(See Reduction to Practice, 3.)

JOINT AND SOLE APPLICANTS.

INTERFERENCE—ASSIGNEE OF ONE OF JOINT APPLICANTS ENTITLED TO PROSECUTE.
G. and L. filed a joint application for patent, and L. assigned his interest therein. Subsequently G. filed a sole application for the same invention, and an interference was declared. *Held* that L.'s assignee is entitled to control the prosecution of the interference on behalf of G. and L.
[Gilbert *v.* Gilbert and Lindley, 775.

MOTION TO DISSOLVE INTERFERENCE.

1. INTERFERENCE—TRANSMISSION—DELAY IN BRINGING.
Where after the denial of a motion to dissolve an interference based on the references of record the moving party brings a second motion based on an additional reference and it does not appear that such reference could not have been found within the time originally set for bringing motions, *Held* that such motion was properly refused transmission. [Topping *v.* Price, 774.

2. SAME—REHEARING.
It being incumbent upon a party to a motion to dissolve to cite such references as are necessary to inform the tribunals of the state of the art, *Held* that he is not in a position to demand a rehearing on the ground that the decision was induced by lack of such information. [White *v.* Powell, 776.

3. SAME—EX PARTE AFFIDAVITS.
Since it is well settled that a motion to dissolve on the ground of non-patentability will not be considered when based upon *ex parte* affidavits, (*Barratt* v. *Swinglehurst*, 144 O. G., 818,) a request for rehearing based upon such showing must also be refused. [Id.

4. SAME—SHOWING MADE FOR FIRST TIME ON APPEAL.
Matter which was not presented to the lower tribunals when the case was pending before them will not be considered on appeal, (*Reppeto* v. *Stephens*, 105 O. G., 1779; *Ocumpaugh* v. *McElroy*, 115 O. G., 1847,) and therefore does not constitute ground for granting a rehearing. [Id.

5. SAME—APPEAL.
On a motion to dissolve brought by C. the Primary Examiner held all the counts unpatentable and on a motion brought by K. held the structure of C., so far as defined by counts 2 and 5, inoperative. His decisions were affirmed by the Examiners-in-Chief. From their decision only C. appealed. *Held* that as the decision holding all the counts unpatentable has become final the interference stands dissolved, and C.'s appeal is dismissed.
[Curtis *v.* Kleinert, 1038.

NOTICE OF TAKING TESTIMONY.

(See Interference, 1.)

NOVELTY.

(See Patentability, 1.)

OATH.

APPLICATION—VALIDITY.
The omission of the word "sole" in the oath accompanying an application for patent *Held* not such a vital defect as to render the oath invalid. (*Riegger* v. *Beierl*, 150 O. G., 826, distinguished.)
[*Ex parte* Myratt, 778.

OBJECTIONS.

(See Claims, 1.)

OPPOSITION TO REGISTRATION.

(See Trade-Marks, 1.)

PATENTABILITY.

(See Interference, 2; Motion to Dissolve Interference, 3, 5.)

1. NOVELTY—CHEMICAL COMPOUND—CHANGE OF FORM.
"Patentable novelty in a case like the present may be founded upon superior efficiency; upon superior durability, including the ability to retain a permanent form when exposed to the atmosphere; upon a lesser tendency to breakage and loss; upon purity, and, in connection with other things, upon comparative cheapness. So, as supplementing other considerations, commercial success may properly be compared with mere laboratory experiments." [4Union Carbide Co. *v.* American Carbide Co., 493.

2. INVENTION—ENLARGEMENT OF USE IN SAME ART.
Photography and blue-printing are simply different phases of the art of light-printing, and the mere transfer of a device used in one to the other does not involve patentable invention.
[4Elliott & Co. *v.* Youngstown Car Mfg. Co., 1273.

PRESUMPTION.

(See Reduction to Practice, 3.)

PRIORITY OF INVENTION.

(See Reduction to Practice.)

PROCESS AND APPARATUS.

(See Reduction to Practice, 1.)

PROSECUTION OF APPLICATIONS.

1. RULE 65.
"It is well settled by the decisions construing Rule 65 that when the pertinency of the references is obvious, as where the disclosure is simple or includes only the invention of the applicant, a detailed application of the references is unnecessary."
[*Ex parte* Inman, 1038.

2. RESPONSIVE ACTION.
Where the pertinency of the references has been pointed out by the Examiner or where their pertinency is obvious, an action which does not point out wherein the claims are supposed to avoid these references is not completely responsive. [Id.

3. SAME.
Where at the end of the year following a final rejection of certain claims applicant filed an amendment to each of such claims accompanied merely by a statement that the amendment is believed to place the case in condition for allowance, *Held* that such action is not responsive and that the application is abandoned. [*Ex parte* Lorenz, 1039.

4. CROSS-REFERENCE.
A cross-reference to a copending application which does not include the serial number and date of filing of such application *Held* insufficient. [*Ex parte* Summers, 1039.

PROSECUTION OF INTERFERENCE BY ASSIGNEE.

(See Joint and Sole Applicants.)

REDUCTION TO PRACTICE.

1. INTERFERENCE—PRIORITY.
The successful performance of a process constitutes a reduction to practice thereof even if the apparatus used was not the best available for producing the result, (citing *Croskey* v. *Atterbury*, 76 O. G., 63; 9 App. D. C., 207.) [Whitman *v.* King, 259.

2. SAME—SAME.
Evidence considered and *Held* insufficient to establish that W. conceived the invention of counts 2 and 3 prior to the date of K.'s reduction to practice thereof. [Id.

3. SAME—TESTIMONY—PRESUMPTION.
Where certain witnesses testify that a device claimed to be a reduction to practice of the invention operated in the manner called for in the issue, but the testimony of the inventor is, unexplained, in contradiction of their testimony, *Held* that the inventor being a party to the interference it was incumbent upon him to testify clearly and explicitly on this point, and, failing to do so, the presumption is against him. [4Whitman *v.* King, 260.

REFERENCE CHARACTERS.

(See Drawings, 2.)

REFERENCES.

(See Motion to Dissolve Interference, 1, 2; Prosecution of Applications, 1, 2.)

REFERENCE TO ANOTHER PENDING APPLICATION

(See Prosecution of Applications, 4.)

REGISTRABILITY.

(See Trade-Marks.)

REHEARING.

(See Motion to Dissolve Interference, 2, 3, 4.)

INTERFERENCE—REQUEST FOR SECOND HEARING.
Where a party requested that a second date for final hearing be set to give him an opportunity to argue his opponent's right to make the claims, *Held* that the extent to which a case pending before the Examiner of Interferences shall be heard or reheard by him is a matter peculiarly within his own discretion, and his decision on such a point will not be disturbed unless in case of clear abuse of such discretion.
[Dunlap *v.* Creveling *v.* Rector, 774.

RESPONSIVE ACTION BY THE APPLICANT.

(See Prosecution of Applications, 2, 3, 4.)

SIMILARITY OF MARKS.

(See Trade-Marks, 4.)

SOLE APPLICANT.

(See Joint and Sole Applicants.)

SPECIFICATIONS.

(See Claims, 1.)

STATE OF THE ART.

(See Motion to Dissolve Interference, 2.)

SUFFICIENCY OF NOTICE OF OPPOSITION.

(See Trade-Marks, 1.)

TESTIMONY.

(See Interference, 1; Reduction to Practice, 3.)

TRADE-MARKS.

1. OPPOSITION—SUFFICIENCY OF NOTICE.
Where applicant applied for registration under the ten-years proviso of section 5 of the Trade-Mark Act and opposer had obtained registration under the same proviso, the citation of this registration in the notice of opposition is a sufficient allegation that the mark in issue is not registrable as a technical trade-mark
[P. J. Bowlin Liquor Co. *v.* J. & J. Eager Co., 258.

2. "BUYFLAT," FOR HOOKS AND EYES—DESCRIPTIVE.
The word "Buyflat" is not registrable as a trade-mark for hooks and eyes, since it is descriptive of the goods upon which it is used.
[*Ex parte* Heaton Manufacturing Company, 493.

3. "NEW-TONE," FOR A FINISHING PREPARATION—DESCRIPTIVE.
The word "New-Tone" as applied to a liquid preparation used to give a new luster to painted or varnished surfaces which have become dull *Held* properly refused registration as being descriptive of the goods to which it is applied. [*Ex parte* Newton, 1037.

4. SIMILARITY—"CREO-CARBOLIN" AND "CARBOLINEUM."
The word "Creo-Carbolin" *Held* properly refused registration as a trade-mark for coal-tar oil in view of the prior registration of the word "Carbolineum" for goods of the same descriptive properties. [*Ex parte* Barrett Manufacturing Company, 1272.

TRANSMISSION OF MOTIONS.

(See Motion to Dissolve Interference, 1.)

VALIDITY OF OATH.

(See Oath.)

WITNESSES.

(See Interference, 1; Reduction to Practice, 3.)

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ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED DURING THE MONTH OF NOVEMBER, 1910.

[Abbreviations: "Sp."=Monthly Volume of Specifications; "Gaz."=Official Gazette.]

A. Karlson Metall & Maskin Aktiebolag. (See Thors, Karl O. S., assignor.)

A. B. Dick Company. (See Dick, Albert B., assignor.)

A. G. Spalding & Bros. (See Jacobus, Charles, assignor.)

Aalborg, Christian, Wilkinsburg, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa. Fluid-pressure-controlled switching device. No. 974,328; Nov. 1; Sp. p. 577; Gaz. vol. 160; p. 84.

Aalborg, Christian, Wilkinsburg, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa. Electric heating device. No. 974,329; Nov. 1; Sp. p. 578; Gaz. vol. 160; p. 85.

Aalborg, Christian, Wilkinsburg, Pa., assignor to Westinghouse Electric and Manufacturing Company. Electrically-heated boiler. No. 974,330; Nov. 1; Sp. p. 580; Gaz. vol. 160; p. 85.

Aasen, John, Hatton, N. D. Wrench. No. 974,331; Nov. 1; Sp. p. 581; Gaz. vol. 160; p. 86.

Abbenseller, Alfred D. (See Poole and Abbenseller.)

Ablett, William F., Pittsburg, Pa. Check-controlled apparatus. No. 976,114; Nov. 15; Sp. p. 4429; Gaz. vol. 160; p. 751.

Abraham, Adolf, Charlottenburg, Germany. Hydraulic ram. No. 974,620; Nov. 1; Sp. p. 1236; Gaz. vol. 160; p. 190.

Abramson, Arthur, *et al.* (See Ostman, Joseph O., assignor.)

Ackerman, Albert J., assignor to C. De Lukacsevics, New York, N. Y. Envelop-machine. No. 974,621; Nov. 1; Sp. p. 1238; Gaz. vol. 160; p. 190.

Ackerman, Albert J., assignor to C. De Lukacsevics, New York, N. Y. Hygienic siphon. No. 976,244; Nov. 22; Sp. p. 4788; Gaz. vol. 160; p. 819.

Ackerman, David V. (See Duff, Edward E., assignor.)

Acme High-Speed Knife and Manufacturing Company. (See Ross, Frederick M., assignor.)

Adair, Charles T., and R. G. Hardgrave, Tucumcari, N. Mex. Stitching-machine. No. 976,330; Nov. 22; Sp. p. 4971; Gaz. vol. 160; p. 847.

Adams & Elting Co. (See Doering, Charles, Jr., assignor.)

Adams, Joseph H., Brooklyn, N. Y. Oil-converting process. No. 976,975; Nov. 29; Sp. p. 6412; Gaz. vol. 160; p. 1095.

Adams, Ralph N., Corvallis, Oreg. Woodworking-tool. No. 975,494; Nov. 15; Sp. p. 3154; Gaz. vol. 160; p. 538.

Adams, Thomas W., Collinwood, assignor of one-third to G. W. Albaugh, Cleveland, Ohio. Switch-signal. No. 975,922; Nov. 15; Sp. p. 4061; Gaz. vol. 160; p. 684.

Adcock, Edward A., assignor to The Pulsometer Engineering Company, Ltd., Reading, England. Type-setting machine. No. 975,194; Nov. 8; Sp. p. 2543; Gaz. vol. 160; p. 410.

Ade, William F., Williamsport, Pa. Spring-bed. No. 977,253; Nov. 29; Sp. p. 7008; Gaz. vol. 160; p. 1192.

Adt, Howard E. (See Leonard, Wilbur A., assignor.)

Adt, Leo F., Albany, N. Y. Spectacles. No. 975,195; Nov. 8; Sp. p. 2545; Gaz. vol. 160; p. 410.

Adt, Leo F., Albany, N. Y. Eyeglasses. No. 977,151; Nov. 29; Sp. p. 6800; Gaz. vol. 160; p. 1155.

Adt, Leo F., Albany, N. Y. Nose-guard for eyeglasses. No. 977,152; Nov. 29; Sp. p. 6802; Gaz. vol. 160; p. 1156.

Affleck, Edward G., assignor to T. S. Wilkinson, Jr., U. S. Navy. Firing timing device. No. 977,254; Nov. 29; Sp. p. 7009; Gaz. vol. 160; p. 1192.

Air Cleaner Company, The. (See Squier, Arthur H., assignor.)

Ajax Electric Tool Company. (See Sedgwick, Harry A., assignor.)

Akerman, John W., Newburyport, Mass. Internal-combustion engine. No. 974,544; Nov. 1; Sp. p. 1085; Gaz. vol. 160; p. 163.

Aktiebolaget Svenska Slipskifvor. (See Wallén, Lars R. L., assignor.)

Aktiebolaget Vapenfabriken Excellent. (See Blomén, Axel L., assignor.)

Albaugh, George W. (See Adams, Thomas W., assignor.)

Alberger Condenser Company. (See Alberger, Louis R., assignor.)

Alberger, Louis R., Greenwich, Conn., assignor to Alberger Condenser Company, New York, N. Y. Condenser system. No. 976,245; Nov. 22; Sp. p. 4790; Gaz. vol. 160; p. 819.

Alberger, Louis R., Greenwich, Conn., assignor to Alberger Condenser Company, New York, N. Y. Cooling-tower. No. 976,246; Nov. 22; Sp. p. 4795; Gaz. vol. 160; p. 819.

Albers, August W. (See Cloud and Albers.)

Albers, Herman. (See Higgins and Albers.)

Albert, Carl A. J., Kvillebäcksvägen, Gottenborg, Sweden. System of lubrication. No. 977,255; Nov. 29; Sp. p. 7012; Gaz. vol. 160; p. 1192.

Albertson, Otto L., Nunda, S. D. Comb-cleaner. No. 976,331; Nov. 22; Sp. p. 4973; Gaz. vol. 160; p. 847.

Albrecht, Frederick W., assignor of one-half to C. F. Shields, Toledo, Ohio. Rotary-saw trimmer. No. 977,256; Nov. 29; Sp. p. 7014; Gaz. vol. 160; p. 1192.

Alderman, Eli M., Hickory township, Mercer county, Pa. Animal-trap. No. 975,741; Nov. 15; Sp. p. 3694; Gaz. vol. 160; p. 622.

Alexander Crossing Company. (See Alexander, Lewis, assignor.)

Alexander, Jesse, Brooklyn, assignor, by mesne assignments, of one-half to E. S. Schorcht, Buffalo, N. Y. Type-writer-carriage-feeding mechanism. No. 974,332; Nov. 1; Sp. p. 582; Gaz. vol. 160; p. 86.

Alexander, Jesse, Brooklyn, assignor, by mesne assignments, of one-half to E. S. Schorcht, Buffalo, N. Y. Type-writer line-spacing mechanism. No. 974,333; Nov. 1; Sp. p. 585; Gaz. vol. 160; p. 87.

Alexander, Jesse, Brooklyn, assignor of one-half to W. A. Schnauffer, New York, N. Y. Type-writer-ribbon operating and feeding mechanism. No. 974,334; Nov. 1; Sp. p. 586; Gaz. vol. 160; p. 87.

Alexander, Jesse, Brooklyn, assignor, by mesne assignments, of one-half to E. S. Schorcht, Buffalo, N. Y. Type-writer key and type-bar mechanism. No. 974,335; Nov. 1; Sp. p. 588; Gaz. vol. 160; p. 87.

Alexander-Katz, Richard, Berlin, Germany. Apparatus for testing flying-machines and learning the art of aviation. No. 975,196; Nov. 8; Sp. p. 2547; Gaz. vol. 160; p. 411.

Alexander, Lewis, assignor to Alexander Crossing Company, Clinton, Ill. Railway-crossing. No. 977,153; Nov. 29; Sp. p. 6804; Gaz. vol. 160; p. 1156.

Alexanderson, Ernst F. W., Schenectady, N. Y., assignor to General Electric Company. Electric braking. No. 974,224; Nov. 1; Sp. p. 266; Gaz. vol. 160; p. 45.

Alford, John H. (See Boyler, Emanuel J., assignor.)

Allabough, Joseph L., Lakewood, assignor to The Shanfelt Manufacturing Company, Canton, Ohio. Traffic-roundabout. No. 975,311; Nov. 8; Sp. p. 2785; Gaz. vol. 160; p. 450.

Allen, John G., Peoria, Ill. Window-tent. No. 977,154; Nov. 29; Sp. p. 6805; Gaz. vol. 160; p. 1156.

Allen, John H., Moore Park, Manitoba, Canada. No. 975,197; Nov. 8; Sp. p. 2548; Gaz. vol. 160; p. 41

Allen, Joseph E., Chicago, Ill. Lamp. No. 977,358; Nov. 29; Sp. p. 7231; Gaz. vol. 160; p. 1227.

Allen, Lilla, Allentown, Ga. Refrigerator. No. 974,734; Nov. 1; Sp. p. 1480; Gaz. vol. 160; p. 228.

Allen, Robert L., assignor to Archbold-Brady Company, Syracuse, N. Y. Bridge for supporting trolley-wires by means of the catenary system. No. 974,225; Nov. 1; Sp. p. 268; Gaz. vol. 160; p. 45.

Allen, Sam, Okmulgee, Okla. Concrete-block-making machinery. No. 975,104; Nov. 8; Sp. p. 2318; Gaz. vol. 160; p. 379.

Allen, William D. (See Wheeler and Allen.)

Allenou, Charles M. V. (See Pichon and Allenou.)

Allen, Henry, Joseph, Idaho. Current-motor. No. 974,736; Nov. 1; Sp. p. 1481; Gaz. vol. 160; p. 228.

Allis-Chalmers Company *et al.* (See Cheney, Herbert W., assignor.)

Allis-Chalmers Company *et al.* (See Powell, William H., assignor.)

Allis-Chalmers Company. (See Williamson, Robert H., assignor.)

Allis-Chalmers Company *et al.* (See Wouters, Alfred H., assignor.)

Allmon, Peter M., Parker, Ind. Internal-combustion engine. No. 976,770; Nov. 22; Sp. p. 5915; Gaz. vol. 160; p. 998.

Allyn, William B., Whitesboro, N. Y. Variable-speed apparatus. No. 975,198; Nov. 8; Sp. p. 2549; Gaz. vol. 160; p. 411.

Alsup, G. M., *et al.* (See Mouzon, Henry D., assignor.)

Alt, Arnold D., St. Louis, Mo. Apparatus for washing photographic prints. No. 974,336; Nov. 1; Sp. p. 590; Gaz. vol. 160; p. 88.

Althen, W. C. (See Horn, Frank, assignor.)

Aither, Henry J., Boston, assignor of one-half to G. W. Gill, Medford, Mass. Electric annunciating apparatus. No. 976,836; Nov. 29; Sp. p. 6053; Gaz. vol. 160; p. 1045.

Altonaer Margarine Werke Mohr & Co. Gesellschaft mit beschränkter Haftung. (See Schröder, Wilhelm G., assignor.)

Ambler, George A., Newark, N. J., assignor to United Shoe Machinery Company, Paterson, N. J., and Boston, Mass. Machine for inserting slugs or fastenings in stock. No. 976,837; Nov. 29; Sp. p. 6058; Gaz. vol. 160; p. 1045.

Ambrette, Conrad. (See Cavasco, Cavagnaro, and Ambrette.)

Ambrose, Davis, Louisville, Ky. Splice attachment. No. 975,199; Nov. 8; Sp. p. 2552; Gaz. vol. 160; p. 412.

Amenda, William, Oklahoma, Okla. Counter for foods and beverages. No. 974,622; Nov. 1; Sp. p. 1246; Gaz. vol. 160; p. 191.

American Aerial Commercial Company. (See Hall, William A., assignor.)

American Bank Note Company. (See Reinhardt, James H., assignor.)

American Blower Company. (See Fraser, Arthur C., assignor.)

American Can Company. (See Egbert, Solomon W., assignor.)

American Can Company. (See Swangren, Edwin V., assignor.)

American Can Company. (See Wassman and Widell, assignors.)

American Concrete Piling Company. (See Welsh, Louis E., assignor.)

American Cystoscope Makers. (See Wappler, Reinhold H., assignor.)

American Dynalite Company, The. (See Briggs, Frank H., assignor.)

American Lacing Hook Co. (See Havener, Arthur R., assignor.)

American Laundry Machinery Company. (See Cooper, Daniel M., assignor.)

American Manufacturing Company. (See Austin, Thomas W., assignor.)

American Marine Lamp Mfg. Co. (See Kleinberger and Stern, assignors.)

American Metal Cap Company. (See Becher, Otto, assignor.)

American Moving Picture Machine Company. (See Uebelmesser, Charles R., assignor.)

American Optical Company. (See Day, George H., assignor.)

American Oxhydric Company, The. (See Lulli, Primo, assignor.)

American Pneumatic Service Company. (See Stoddard, Charles F., assignor.)

American Pneumatic Service Company. (See Waterhouse, Harold D., assignor.)

American Seeding Machine Company, The. (See Packham and Oates, assignors.)

American Seeding Machine Company, The. (See Wheeler, Frank C., assignor.)

American Sheet & Tin Plate Company. (See McArthur, Arthur R., assignor.)

American Steel Foundries. (See Lamont, John A., assignor.)

American Steel Foundries. (See Murray, Charles F., assignor.)

American Steel Package Co., The. (See Kruse, Alfred T., assignor.)

American Steel & Wire Company, The. (See Sturdevant, Charles R., assignor.)

American Textile Company. (See Bélanger, Victor, assignor.)

American Thread Company, The. (See Leitch, Meredith, assignor.)

American Tobacco Company, The. (See Daprato, John J., assignor.)

American Typographic Corporation. (See Richards, Francis H., assignor.)

American Wood Working Machinery Co. (See Walker, Fredrick, assignor.)

Amsler, Charles F. (See Bach, Leon E., assignor.)

Amsler, Walter O., Pittsburg, Pa. Apparatus for making producer-gas. No. 974,945; Nov. 8; Sp. p. 1970; Gaz. vol. 160; p. 324.

Amusement Park Railway Co. (See Reynolds, Afton G., assignor.)

Anderson, Arent S., Elliott, Ill. Friction clutch-pulley. No. 977,257; Nov. 29; Sp. p. 7015; Gaz. vol. 160; p. 1193.

Anderson, Charles H., Seattle, Wash. Passenger-car. No. 977,359; Nov. 29; Sp. p. 7232; Gaz. vol. 160; p. 1228.

Anderson, Charles L. (See Douglas, Stephen A., assignor.)

Anderson, Gustaf A., Waynesboro, Pa. Draft appliance for plows. No. 976,024; Nov. 15; Sp. p. 4242; Gaz. vol. 160; p. 719.

Anderson, Iver R., assignor to R. O. Stutsman Company, Des Moines, Iowa. Peanut-roaster. No. 976,424; Nov. 22; Sp. p. 5185; Gaz. vol. 160; p. 881.

Anderson, N. W. (See Badeker, John, assignor.)

Anderson, Newton J., Coffeyville, Kans. Torch. No. 976,717; Nov. 22; Sp. p. 5787; Gaz. vol. 160; p. 979.

Anderson, Vaino, Knappton, Wash. Coaling device. No. 975,312; Nov. 8; Sp. p. 2786; Gaz. vol. 160; p. 450.

Anderson, William C., San Jose, Cal. Raisin-seeder. No. 976,247; Nov. 22; Sp. p. 4798; Gaz. vol. 160; p. 820.

Andrade, Cipriano, Jr., New York, N. Y. Windlass. No. 974,456; Nov. 1; Sp. p. 879; Gaz. vol. 160; p. 129.

Andrew, James A. (See Hutchison and Andrew.)

Andrews, Fred G., Coraopolis, Pa. Window-lock. No. 975,818; Nov. 15; Sp. p. 3843; Gaz. vol. 160; p. 648.

Angell, Otis R., Dorchester, Mass. Combined valve-grinder and drill. No. 977,258; Nov. 29; Sp. p. 7018; Gaz. vol. 160; p. 1193.

Anhaltzer, Henry, Pittsburg, Pa. Making a cereal breakfast food. No. 976,332; Nov. 22; Sp. p. 4974; Gaz. vol. 160; p. 847.

Anthracite Separator Company. (See Blatch, Francis H., assignor.)

Anthracite Separator Company. (See Pardee, Frank, assignor.)

Appleby, John F., Chicago, Ill. Cotton-picking machine. No. 977,155; Nov. 29; Sp. p. 6808; Gaz. vol. 160; p. 1157.

Appliance and Electric Device Company. (See Shoenberg and Marsh, assignors.)

Arabol Manufacturing Company, The. (See Muller-Jacobs and Bernhardt, assignors.)

Arabol Manufacturing Company, The. (See Supf, Frederick, assignor.)

Aray, Lanxton, Detroit, Mich. Book-mark. No. 975,924; Nov. 15; Sp. p. 4063; Gaz. vol. 160; p. 685.

Archbold-Brady Company. (See Allen, Robert L., assignor.)

Arens, August, and E. L. Teich, assignors to P. & F. Corbin, New Britain, Conn. Door-stop. No. 976,138; Nov. 22; Sp. p. 4505; Gaz. vol. 160; p. 781.

Armbruster, Charles A., *et al.* (See Smith, Christian N., assignor.)

Armstead, Robert L., Sprague, W. Va. Nut-lock. No. 974,107; Nov. 1; Sp. p. 1; Gaz. vol. 160; p. 3.

Armstrong, Ernest, Camden, N. J., assignor, by mesne assignments, to Journal Lubricator Company, New York, N. Y. Axle-lubricating device. (Reissue.) No. 13,167; Nov. 15; Sp. p. 4496; Gaz. vol. 160; p. 758.

Armstrong, Frank S., Jr., assignor of one-half to R. Gottlieb, Greensburg, Pa. Self-lubricating pit-car wheel. No. 977,360; Nov. 29; Sp. p. 7234; Gaz. vol. 160; p. 1228.

Armstrong, John R., assignor to The O. K. Nut Lock Company, Providence, R. I. Nut-lock. No. 975,011; Nov. 8; Sp. p. 2128; Gaz. vol. 160; p. 347.

Armstrong, John R., assignor to The O. K. Nut Lock Company, Providence, R. I. Nut-lock. No. 975,012; Nov. 8; Sp. p. 2130; Gaz. vol. 160; p. 347.

Art Metal Construction Co. (See Sampson and Welham, assignors.)

Arthur, Charles, Eureka, Cal. Combined oil-can and lubricator. No. 976,333; Nov. 22; Sp. p. 4976; Gaz. vol. 160; p. 847.

Artz, Scarff B., Osborn, Ohio. Marker for corn-planters. No. 976,771; Nov. 22; Sp. p. 5918; Gaz. vol. 160; p. 999.

Asay, Edward F. (See Knobel and Asay.)

Ashbaugh, Henry C., Heppner, Oreg. Antislipping sandal. No. 975,379; Nov. 8; Sp. p. 2925; Gaz. vol. 160; p. 472.

Ashland Manufacturing Company, The. (See Willour, Le Roy, assignor.)

Ashton, Pullon, assignor of one-half to Andreas Leibhart, New York, N. Y. Clothes-hanger. No. 976,772; Nov. 22; Sp. p. 5920; Gaz. vol. 160; p. 999.

Asiakson, Baxter M., Salem, Ohio. Valve for gas-engines. No. 974,337; Nov. 1; Sp. p. 592; Gaz. vol. 160; p. 88.

Assmann, Friedrich, Stenglingsen, Germany. Door-lock. No. 975,819; Nov. 15; Sp. p. 3844; Gaz. vol. 160; p. 648.

Athey, Earl, Uvalde, Tex. Clamp. No. 976,334; Nov. 22; Sp. p. 4976; Gaz. vol. 160; p. 848.

Atkins, Albert. (See Girt, Wilson, and Atkins.)

Atwood, George F., Newark, N. J., assignor to Westinghouse Lamp Company. Incandescent lamp. No. 976,248; Nov. 22; Sp. p. 4800; Gaz. vol. 160; p. 820.

Auble, James H., Cincinnati, assignor of two-thirds to J. H. Bromwell, Wyoming, and J. J. McDonald, Cincinnati, Ohio. Wheel for lawn-mowers. No. 974,848; Nov. 8; Sp. p. 1736; Gaz. vol. 160; p. 290.

Auel, Carl B., Wilkinsburg, Pa., and J. R. Spurrier, Manchester, England, assignors to Westinghouse Electric & Manufacturing Company. Circuit-interrupter. No. 974,109; Nov. 1; Sp. p. 3; Gaz. vol. 160; p. 3.

Aufricht, Theodore B. (See Hoagland, John B., assignor.)

Aufrüge- & Räderfabrik Seebach. (See Gut, Gottlieb, assignor.)

Augenbraun, Peter F., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Combined dead lock and latch. No. 975,013; Nov. 8; Sp. p. 2131; Gaz. vol. 160; p. 347.

Augustine, David, South Bend, Ind. Cranking device for automobile-engines. No. 976,536; Nov. 22; Sp. p. 5435; Gaz. vol. 160; p. 918.

Austin, Charles R., Longbeach, Cal. Semi-automatic telephone system. No. 975,105; Nov. 8; Sp. p. 2320; Gaz. vol. 160; p. 379.

Austin, Thomas W., Omaha, Nebr., assignor to American Manufacturing Co., an Association. Legging. No. 974,623; Nov. 1; Sp. p. 1247; Gaz. vol. 160; p. 191.

Austin, William L., Riverside, Cal. Extracting copper from ore. No. 975,106; Nov. 8; Sp. p. 2327; Gaz. vol. 160; p. 380.

Autoforce Ventilating System. (See Powers, Earle C., assignor.)

Automatic Coin Wrapping Machine Company. (See Batdorf, Charles S., assignor.)

Automatic Letter Machine Company. (See Smith, Hasor J., assignor.)

Automatic Printing Press Company. (See Custer, Dwight W., assignor.)

Averbeck, Henry J., and B. W. Ginn, assignors to The Lovell & Buffington Tobacco Company, Covington, Ky. Tobacco-wringer. No. 975,888; Nov. 15; Sp. p. 2953; Gaz. vol. 160; p. 501.

Ayer, James I., Cambridge, and H. B. Gale, Natick, assignors to Simplex Electric Heating Company, Cambridge, Mass. Electric baking-oven. No. 975,107; Nov. 8; Sp. p. 2328; Gaz. vol. 160; p. 380.

Ayers, Willis E., Salem, Ohio. Coin and letter holder for rural-route boxes. No. 976,335; Nov. 22; Sp. p. 4978; Gaz. vol. 160; p. 848.

Ayler, Frank, Winona, Wash. Grain-separator. No. 975,598; Nov. 15; Sp. p. 3381; Gaz. vol. 160; p. 574.

Aylesworth, Jonas W. (See Edison and Aylesworth.)

Azzara, Santo, New York, N. Y. Corset for shoes. No. 975,820; Nov. 15; Sp. p. 3847; Gaz. vol. 160; p. 648.

B. C. Small Mfg. Company, The. (See Small, Byron C., assignor.)

Baadnes, Bertram. (See Meyerson, Meyer, assignor.)

Babcock, Garrison, assignor to Simplex Telephone Equipment Company, Rochester, N. Y. Telephone apparatus. No. 974,110; Nov. 1; Sp. p. 6; Gaz. vol. 160; p. 4.

Bach, Leon E., assignor of one-half to C. F. Amsler, Rochester, N. Y. Disinfecting apparatus. No. 975,925; Nov. 15; Sp. p. 4064; Gaz. vol. 160; p. 685.

Bachand, Albert J., Providence, R. I. Piano-pedal. No. 975,670; Nov. 15; Sp. p. 3563; Gaz. vol. 160; p. 599.

Backstrom, Charles A., Philadelphia, Pa., assignor to International Power Generator Company. Elastic-fluid turbine. No. 974,457; Nov. 1; Sp. p. 882; Gaz. vol. 160; p. 130.

Backstrom, Charles A., Philadelphia, Pa., assignor to International Power Generator Company. Utilizing products of combustion and apparatus therefor. No. 974,458; Nov. 1; Sp. p. 884; Gaz. vol. 160; p. 130.

Backstrom, Charles A., Philadelphia, Pa., assignor to International Power Generator Company. Burner for combustion under high pressure. No. 974,624; Nov. 1; Sp. p. 1248; Gaz. vol. 160; p. 192.

Badeau, Charles C., Swissvale, assignor to Switchboard Equipment Company, Pittsburg, Pa. Circuit-opener. No. 976,838; Nov. 29; Sp. p. 6067; Gaz. vol. 160; p. 1046.

Badeker, John, assignor of one-half to N. W. Anderson, Omaha, Nebr. Metallic rod-packing. No. 975,313; Nov. 8; Sp. p. 2788; Gaz. vol. 160; p. 450.

Badische Anilin & Soda Fabrik. (See Schönherr and Hessberger, assignors.)

Bahr, Caroline C., *et al.* (See Berry, Robert L. F., assignor.)

Bailey, George H. (See Rowswell, William H., assignor.)

Bailey, Walter F., assignor of one-half to M. S. Mickelson and A. P. Jensen, Los Angeles, Cal. Wrench. No. 975,671; Nov. 15; Sp. p. 3564; Gaz. vol. 160; p. 599.

Bair, Thomas. (See Hunter, William F., assignor.)

Baker, Frank D., Denver, Colo. Apparatus for washing, grading, and classifying coal or other material. No. 976,425; Nov. 22; Sp. p. 5188; Gaz. vol. 160; p. 881.

Baker, Harrie E., and W. R. Johnson, Inwood, Iowa. Cement-block machine. No. 975,108; Nov. 8; Sp. p. 2332; Gaz. vol. 160; p. 381.

Baker, Raymond W., New York, N. Y., V. L. King, Woodridge, N. J., and H. C. Parker, assignors to Parker-Clark Electric Company, New York, N. Y. Radiant electric heater. No. 977,361; Nov. 29; Sp. p. 7236; Gaz. vol. 160; p. 1228.

Baker, William F., Antlers, Okla. Engine for grate-shakers. No. 975,314; Nov. 8; Sp. p. 2790; Gaz. vol. 160; p. 451.

Baldwin, John P., Berea, Ohio. Agricultural implement. No. 975,109; Nov. 8; Sp. p. 2334; Gaz. vol. 160; p. 381.

Baldwin Locomotive Works. (See Vanclain, Samuel M., assignor.)

Baldwin, Luther C., Providence, R. I., and Edwin C. Buffington, Manchester, N. H., assignors to U. S. Bobbin & Shuttle Co., Providence, R. I. Bobbin-boring machine. No. 974,545; Nov. 1; Sp. p. 1088; Gaz. vol. 160; p. 164.

Baldwin, William D., New York, N. Y., assignor to Otis Elevator Company, Jersey City, N. J. Elevator-controller. No. 974,849; Nov. 8; Sp. p. 1740; Gaz. vol. 160; p. 291.

Ball, Augustus A., Jr., Lynn, Mass., assignor, by mesne assignments, to General Electric Company. Starting device for burners. No. 974,111; Nov. 1; Sp. p. 9; Gaz. vol. 160; p. 4.

Ball, Bert C., Portland, Oreg. Locomotive. No. 974,459; Nov. 1; Sp. p. 886; Gaz. vol. 160; p. 130.

Ball, Bert C., Portland, Oreg. Steam-engine. No. 974,546; Nov. 1; Sp. p. 1004; Gaz. vol. 160; p. 164.

Ball, Webster C., Cleveland, Ohio. Dial-foot for watches. No. 974,460; Nov. 1; Sp. p. 888; Gaz. vol. 160; p. 131.

Ballamy, John F. (See Springer and Ballamy.)

Ballou, Harry G., Seattle, Wash. Cutter and stamping die. No. 976,139; Nov. 22; Sp. p. 4506; Gaz. vol. 160; p. 781.

Ballou, Lattimer H., Lawrence, Mass. Winding-machine reel. No. 975,821; Nov. 15; Sp. p. 3849; Gaz. vol. 160; p. 649.

Balou, Harry F. (See Hollar, Rees, and Balou.)

Baltezor, Andrew K., Wentzville, Mo. Motor-propelled plow. No. 974,338; Nov. 1; Sp. p. 598; Gaz. vol. 160; p. 89.

Baltezor, Andrew K., Wentzville, Mo. Driving and steering means. No. 974,625; Nov. 1; Sp. p. 1249; Gaz. vol. 160; p. 192.

Bamford, Henry. (See Sonnenthal and Bamford.)

Bankers' Dust Proof Time Lock Company, The. (See Benham, Edgar M., assignor.)

Banning, Thomas A., Jr., assignor to F. Thompson, Chicago, Ill. Multiple-punch press. No. 977,362; Nov. 29; Sp. p. 7237; Gaz. vol. 160; p. 1229.

Barber-Colman Company. (See Colman, Howard D., assignor.)

Barber, Percy D., Amherst, and F. B. McQueen, Brownhelm, Ohio. Sharpening device for lawn-mowers. No. 977,363; Nov. 29; Sp. p. 7245; Gaz. vol. 160; p. 1229.

Barbour, George O., Rockland, assignor to Frank W. Whitcher Co., Boston, Mass. Lasting-pincers. No. 794,626; Nov. 1; Sp. p. 1251; Gaz. vol. 160; p. 192.

Barbour, George O., Rockland, assignor to Frank W. Whitcher Co., Boston, Mass. Lasting-pincers. No. 974,627; Nov. 1; Sp. p. 1254; Gaz. vol. 160; p. 193.

Barbour-Stockwell Company. (See Ellis, Frank H., assignor.)

Barclay, John C., Montclair, N. J. Telegraph-transmitter. No. 976,537; Nov. 22; Sp. p. 5437; Gaz. vol. 160; p. 919.

Bard, James F., Erie, Pa., assignor, by mesne assignments, to Burke Electric Company. Power mechanism. No. 976,115; Nov. 15; Sp. p. 4431; Gaz. vol. 160; p. 751.

Bark, Otto G. (See Pansch and Bark.)

Barker, John F., assignor to Gilbert & Barker Manufacturing Company, Springfield, Mass. Elevator-wheel. No. 977,062; Nov. 29; Sp. p. 6587; Gaz. vol. 160; p. 1124.

Barker, John J., Delta, Colo. Sluice-box. No. 974,339; Nov. 1; Sp. p. 599; Gaz. vol. 160; p. 89.

Barker, Thomas. (See Hoyle and Barker.)

Barker, William S., Dayton, Ohio. Refrigerator or cold-storage apparatus. No. 976,619; Nov. 22; Sp. p. 5602; Gaz. vol. 160; p. 947.

Barlow, William E. (See Nazel and Barlow.)

Barnard, Walter E., Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 975,200; Nov. 8; Sp. p. 2553; Gaz. vol. 160; p. 412.

Barnes, John R., New York, N. Y. Sprinkler. No. 974,628; Nov. 1; Sp. p. 1255; Gaz. vol. 160; p. 193.

Barnett, Horatio, Malvern, Ark. Display-rack and silent salesman. No. 977,063; Nov. 29; Sp. p. 6589; Gaz. vol. 160; p. 1124.

Barnette, George E., New Castle, Pa. Mixer and conveyer. No. 975,315; Nov. 8; Sp. p. 2791; Gaz. vol. 160; p. 451.

Barnum, Cordie, assignor of one-half to F. H. Burr, Buffalo, N. Y. Elevator-controlling device. No. 974,850; Nov. 8; Sp. p. 1743; Gaz. vol. 160; p. 291.

Barnum, Russell S. (See Jones and Barnum.)

Barr, Emmett, assignor of one-half to C. M. Parker, Garrett, Ind. Shock-absorber for plows. No. 977,364; Nov. 29; Sp. p. 7246; Gaz. vol. 160; p. 1229.

Barr, John H., assignor to The Smith Premier Typewriter Company, Syracuse, N. Y. Type-writing machine. No. 975,110; Nov. 8; Sp. p. 2336; Gaz. vol. 160; p. 381.

Barrall, Thomas R. (See Case and Barrall.)

Barrett, Glenn J., assignor of two-thirds to Grand Rapids Brass Company, Grand Rapids, Mich. Calculating-machine. No. 976,336; Nov. 22; Sp. p. 4978; Gaz. vol. 160; p. 848.

Barrett, Harold G., Wilmette, Ill. Game apparatus. No. 975,316; Nov. 8; Sp. p. 2793; Gaz. vol. 160; p. 451.

Barrett, James M., Jersey City, N. J. Railway freight-transfer station. No. 976,140; Nov. 22; Sp. p. 4508; Gaz. vol. 160; p. 781.

Barrett, Timothy R., Bordentown, N. J. Apparatus for producing illusory dramatic effects. No. 976,976; Nov. 29; Sp. p. 6417; Gaz. vol. 160; p. 1096.

Barrow, Thomas, Detroit, Mich. Circulating attachment for boilers. No. 974,736; Nov. 1; Sp. p. 1484; Gaz. vol. 160; p. 229.

Barteis, William A., Erie, Pa., assignor to C. Glover, New Britain, Conn. Coaster-brake. No. 975,389; Nov. 15; Sp. p. 2954; Gaz. vol. 160; p. 501.

Bartholomae, William, assignor of one-half to H. Zimmerman, New York, N. Y. Sounding toy. No. 976,718; Nov. 22; Sp. p. 5789; Gaz. vol. 160; p. 980.

Bartholomew, William O., *et al.* (See Martin, Stephen G., assignor.)

Bartick, John B., Boston, Mass. Furnace. No. 976,249; Nov. 22; Sp. p. 4801; Gaz. vol. 160; p. 820.

Barton, Henry L., Pittsburg, Pa., assignor to The Westinghouse Machine Company. Governing apparatus. No. 976,339; Nov. 29; Sp. p. 6068; Gaz. vol. 160; p. 1046.

Bary, William B., St. Petersburg, Russia. Roller-bearing. No. 975,201; Nov. 8; Sp. p. 2555; Gaz. vol. 160; p. 413.

Bass, Clyde F., Strafford, Mo. Corn-planter. No. 974,851; Nov. 8; Sp. p. 1748; Gaz. vol. 160; p. 292.

Batchelder, Asa F., Schenectady, N. Y., assignor to General Electric Company. Electric truck. No. 977,156; Nov. 29; Sp. p. 6810; Gaz. vol. 160; p. 1157.

Batdorf, Charles S., Brooklyn, assignor to Automatic Coin Wrapping Machine Company, New York, N. Y. Mechanical agitator. No. 975,202; Nov. 8; Sp. p. 2555; Gaz. vol. 160; p. 413.

Bates, George M., Lebanon, Mo. Pan-scraper. No. 975,599; Nov. 15; Sp. p. 3382; Gaz. vol. 160; p. 574.

Baublits, Raymond, *et al.* (See Dorsey, Walter W. and J. C., assignors.)

Bancum, Samuel C., assignor of one-half to J. Grace, McAlester, Okla. Antifriction fifth-wheel. No. 976,620; Nov. 22; Sp. p. 5603; Gaz. vol. 160; p. 947.

Baumann, Carl R., Gavirate, Italy, and G. G. Diesser, Zurich, Switzerland. Obtaining silk fibroin. No. 976,577; Nov. 29; Sp. p. 6419; Gaz. vol. 160; p. 1096.

Bausch, Henry, Rochester, N. Y., assignor, by mesne assignments, to Bausch & Lomb Optical Company, (No. 2.) Adjustment for telescopes. No. 975,672; Nov. 15; Sp. p. 3566; Gaz. vol. 160; p. 600.

Bausch & Lomb Optical Company, (No. 2.) (See Bausch, Henry, assignor.)

Baxter, Albert W. (See Stark and Baxter.)

Baxter, George L., Salt Lake City, Utah. Folding ironing-board. No. 976,621; Nov. 22; Sp. p. 5605; Gaz. vol. 160; p. 948.

Bayer, William F., assignor to The Chase & Baker Company, Buffalo, N. Y. Pneumatic action for musical instruments. No. 977,259; Nov. 29; Sp. p. 7020; Gaz. vol. 160; p. 1194.

Bayley, Charles H., Boston, and B. F. Mayo, Salem, Mass., assignors to United Shoe Machinery Company, Paterson, N. J. Pressure device for leather-skiving machines. No. 975,495; Nov. 15; Sp. p. 3156; Gaz. vol. 160; p. 538.

Baylis, Francis R., Lansing, Mich. Sectional pneumatic tube. No. 976,840; Nov. 29; Sp. p. 6070; Gaz. vol. 160; p. 1046.

Bazeley, Arthur J., assignor to The National Malleable Castings Company, Cleveland, Ohio. Chain-hole cap for car-couplings. No. 975,926; Nov. 15; Sp. p. 4065; Gaz. vol. 160; p. 685.

Bealmear, Herman. (See Norman, Frederick L., assignor.)

Beam, William H., Purcell, Okla. Hoisting apparatus. No. 974,737; Nov. 1; Sp. p. 1485; Gaz. vol. 160; p. 229.

Beam, William H., Purcell, Okla. Portable extension-ladder. No. 974,738; Nov. 1; Sp. p. 1486; Gaz. vol. 160; p. 229.

Beard, George M., Lagrange, Ind. Auto-tire-protector jack. No. 975,600; Nov. 15; Sp. p. 3384; Gaz. vol. 160; p. 575.

Beavo, Joseph M., assignor, by mesne assignments, to Premo Specialty Manufacturing Company, Los Angeles, Cal. Delivery-machine. No. 976,978; Nov. 29; Sp. p. 6420; Gaz. vol. 160; p. 1096.

Beazley, Joseph O., assignor to The Brush Mop Wringer Manufacturing Company, Baltimore, Md. Combined mop and scrubbing-brush. No. 977,064; Nov. 29; Sp. p. 6590; Gaz. vol. 160; p. 1125.

Bebb, John F., Nevada, Iowa. Extension-shelf for writing-tables. No. 974,340; Nov. 1; Sp. p. 600; Gaz. vol. 160; p. 90.

Becher, Otto, Coplague, assignor to American Metal Cap Company, New York, N. Y. Can-closure. No. 975,317; Nov. 8; Sp. p. 2798; Gaz. vol. 160; p. 452.

Bechoff, Ferdinand, Schenectady, N. Y., assignor to General Electric Company. Circuit-controlling mechanism. No. 974,112; Nov. 1; Sp. p. 13; Gaz. vol. 160; p. 5.

Beck, Einar J., and A. Kehlstrom, Racine, Wis. Screen attachment for window-sash. No. 975,496; Nov. 15; Sp. p. 3158; Gaz. vol. 160; p. 539.

Beck, Frédéric, Neuilly, France. Rotary explosion-motor. No. 977,260; Nov. 29; Sp. p. 7022; Gaz. vol. 160; p. 1194.

Becker, Anton, Columbus, Ohio. Drop-bottom car. No. 976,538; Nov. 22; Sp. p. 5440; Gaz. vol. 160; p. 919.

Becker, Anton, assignor to J. B. Ralston, Chicago, Ill. Metallic car construction. No. 974,341; Nov. 1; Sp. p. 602; Gaz. vol. 160; p. 90.

Becker, Anton, assignor to The Ralston Steel Car Company, Columbus, Ohio. Underframe for railway-cars. No. 976,426; Nov. 22; Sp. p. 5191; Gaz. vol. 160; p. 882.

Becker, Anton, assignor to The Ralston Steel Car Company, Columbus, Ohio. Friction draft-gear for railway-cars. No. 976,427; Nov. 22; Sp. p. 5192; Gaz. vol. 160; p. 882.

Becker, Frederick, and J. E. Poggensee, Chicago, Ill. Automatic fish-catching device. No. 975,822; Nov. 15; Sp. p. 3851; Gaz. vol. 160; p. 649.

Becker, John, Canal Dover, Ohio. Driving mechanism. No. 976,622; Nov. 22; Sp. p. 5606; Gaz. vol. 160; p. 948.

Becker, Joseph, Washington, D. C. Photographic-plate holder. No. 975,498; Nov. 15; Sp. p. 3163; Gaz. vol. 160; p. 539.

Becker, Joseph, Washington, D. C., assignor to Eastman Kodak Company, Rochester, N. Y. Camera-shutter-operating mechanism. No. 975,497; Nov. 15; Sp. p. 3160; Gaz. vol. 160; p. 539.

Becker, Joseph, Washington, D. C., assignor to Eastman Kodak Company, New York, N. Y. Camera-shutter-operating mechanism. No. 975,601; Nov. 15; Sp. p. 3386; Gaz. vol. 160; p. 575.

Becker, Joseph, Washington, D. C., assignor to Eastman Kodak Company, Rochester, N. Y. Attachment for operating camera-shutters. No. 975,602; Nov. 15; Sp. p. 3388; Gaz. vol. 160; p. 576.

Becker, Philip A., New York, N. Y. Knockdown case. No. 974,739; Nov. 1; Sp. p. 1488; Gaz. vol. 160; p. 230.

Becket, Frederick M., Niagara Falls, assignor to Electro Metallurgical Company, New York, N. Y. Preparing pigments. No. 976,837; Nov. 22; Sp. p. 5000; Gaz. vol. 160; p. 849.

Beckmann, Franz, Warsaw, Russia. Size-powder. No. 976,116; Nov. 15; Sp. p. 4432; Gaz. vol. 160; p. 751.

Beckmann, Karl, Schwerin, Germany. Manure-drill. No. 975,111; Nov. 8; Sp. p. 2348; Gaz. vol. 160; p. 382.

Beckwith, Charles F., Stafford Springs, Conn. Hand-card. No. 976,141; Nov. 22; Sp. p. 4510; Gaz. vol. 160; p. 782.

Bedker, George L., North Yakima, Wash. Apple-grading machine. No. 977,365; Nov. 29; Sp. p. 7247; Gaz. vol. 160; p. 1230.

Beehler, Charles W., St. Louis, Mo. Box-fastener. No. 976,025; Nov. 15; Sp. p. 4243; Gaz. vol. 160; p. 720.

Beehler, Charles W., St. Louis, Mo. Box-fastener. No. 976,026; Nov. 15; Sp. p. 4244; Gaz. vol. 160; p. 720.

Beehler, Charles W., St. Louis, Mo. Box-fastener. No. 976,027; Nov. 15; Sp. p. 4246; Gaz. vol. 160; p. 720.

Beekman, John V., Plainfield, N. J., assignor to Lidgerwood Manufacturing Company. Friction-drum. No. 976,841; Nov. 29; Sp. p. 6073; Gaz. vol. 160; p. 1047.

Beeman, Edwin R. (See Rieske, Brennan, Phelps, and Beeman.)

Beeman, Edwin R., Minneapolis, Minn., assignor to Monitor Drill Company. Scraper for disk openers. No. 975,499; Nov. 15; Sp. p. 3168; Gaz. vol. 160; p. 540.

Beevers, Frederick. (See Jeans and Beevers.)

Beinert, George D., New York, N. Y. Lighting-fixture. No. 975,823; Nov. 15; Sp. p. 3852; Gaz. vol. 160; p. 650.

Bélanger, Victor, Sea View, Mass., assignor, by mesne assignments, to American Textile Company. Device for spinning and twisting yarn. No. 975,318; Nov. 8; Sp. p. 2801; Gaz. vol. 160; p. 452.

Belknap, Edwin C., and E. H. Jackson, Chicago, Ill. Combined latch and bolt mechanism. No. 976,773; Nov. 22; Sp. p. 5921; Gaz. vol. 160; p. 909.

Belknap, Edwin D., East Orange, N. J. Addressing-machine. No. 976,142; Nov. 22; Sp. p. 4512; Gaz. vol. 160; p. 782.

Bell, Charles W., Bartlesville, Okla. Pump for oil and like wells. No. 974,342; Nov. 1; Sp. p. 605; Gaz. vol. 160; p. 90.

Bell, Frank B. (See Jacoby and Bell.)

Bell, Harmon, *et al.* (See Loftus, Thomas J., assignor.)

Bell, Joseph E., Mesquite, Tex. Self-adjusting umbrella-holder. No. 975,500; Nov. 15; Sp. p. 3160; Gaz. vol. 160; p. 540.

Bell, Thomas, Clydebank, Scotland, assignor to General Electric Company. Turbine-nozzle. No. 974,108; Nov. 1; Sp. p. 2; Gaz. vol. 160; p. 3.

Belles, Francis M., Shickshinny, Pa. Jar-closure. No. 976,623; Nov. 22; Sp. p. 5608; Gaz. vol. 160; p. 949.

Bellows, Benjamin F., Cleveland, Ohio, and C. Luttropp, Woonsocket, R. I., assignors to Electric Compositor Company, New York, N. Y. Justifying mechanism. No. 974,740; Nov. 1; Sp. p. 1491; Gaz. vol. 160; p. 230.

Belz, Louis C., Philadelphia, Pa. Hair-pin. No. 975,390; Nov. 15; Sp. p. 2956; Gaz. vol. 160; p. 501.

Bemis, Thomas, assignor to Taisey Pneumatic Service Company, Indianapolis, Ind. Pneumatic-despatch apparatus. No. 975,501; Nov. 15; Sp. p. 3170; Gaz. vol. 160; p. 540.

Bender, Charles A., Harrisburg, Pa. Rotary engine. No. 976,539; Nov. 22; Sp. p. 5442; Gaz. vol. 160; p. 919.

Bender, Charles J. (See Del Valle, Armando, assignor.)

Benedict, Harry A., Blaisdell, N. D. Stamp-affixing machine. No. 975,742; Nov. 15; Sp. p. 3696; Gaz. vol. 160; p. 623.

Benham, Edgar M., assignor to The Bankers' Dust Proof Time Lock Company, Cincinnati, Ohio. Time-lock-actuating mechanism. No. 976,028; Nov. 15; Sp. p. 4247; Gaz. vol. 160; p. 720.

Benham, Joseph M., *et al.* (See Huntley, Stephen A., assignor.)

Benjamin Electric Manufacturing Company. (See Benjamin, Reuben B., assignor.)

Benjamin, Reuben B., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill. Portable lamp and guard therefor. No. 974,226; Nov. 1; Sp. p. 270; Gaz. vol. 160; p. 46.

Benjamin, Reuben B., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill. Incandescent-lamp socket. No. 974,946; Nov. 8; Sp. p. 1972; Gaz. vol. 160; p. 325.

Benjamin, Reuben B., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill. Electric-lamp socket. No. 974,947; Nov. 8; Sp. p. 1974; Gaz. vol. 160; p. 325.

Benjaminowitsch, Wolff, assignor of one-half to A. Lohmann, Berlin, Germany. Cigarette-mouthpiece machine. No. 976,624; Nov. 22; Sp. p. 5609; Gaz. vol. 160; p. 949.

Bennett, Arthur J., Cambridge, Ohio. Condiment-holder. No. 974,343; Nov. 1; Sp. p. 607; Gaz. vol. 160; p. 91.

Bennett, Hattie E., Star township, Coffey county, Kans. Plug-lifter. No. 975,014; Nov. 8; Sp. p. 2133; Gaz. vol. 160; p. 348.

Bennett, James, San Francisco, Cal. Propeller-wheel. No. 974,344; Nov. 1; Sp. p. 609; Gaz. vol. 160; p. 91.

Bennett, Manfred H. (See Joslin and Bennett.)

Benoit, Hilaire, Brockton, Mass. Curtain-rod. No. 976,625; Nov. 22; Sp. p. 5613; Gaz. vol. 160; p. 949.

Bensing, Jacob, Malinta, Ohio. End-cut brick-machine. No. 975,502; Nov. 15; Sp. p. 3174; Gaz. vol. 160; p. 541.

Benson, Harry F., Lynn, Mass., assignor to General Electric Company. Centrifugal pump and compressor. No. 974,345; Nov. 1; Sp. p. 610; Gaz. vol. 160; p. 91.

Benson, John D. (See Payton, James Y., assignor.)

Benson, Peter, and J. L. Johanson, Minneapolis, Minn.; said Johanson assignor to said Benson. Guitar. No. 976,428; Nov. 22; Sp. p. 5193; Gaz. vol. 160; p. 882.

Bentley, Frederick W., Schenectady, N. Y., assignor to General Electric Company. Turbine-governor. No. 974,113; Nov. 1; Sp. p. 16; Gaz. vol. 160; p. 5.

Berchtold, Otto C., Lakewood, Ohio. Kitchen utensil. No. 976,979; Nov. 29; Sp. p. 6421; Gaz. vol. 160; p. 1096.

Bergdoit, Wilhelm, Leverkusen, near Cologne, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Green azo dye. No. 974,346; Nov. 1; Sp. p. 612; Gaz. vol. 160; p. 92.

Bergener, Charles, assignor to C. T. Ham Manufacturing Company, Rochester, N. Y. Lantern-guard. No. 974,629; Nov. 1; Sp. p. 1258; Gaz. vol. 160; p. 193.

Bergener, Charles, assignor to C. T. Ham Manufacturing Company, Rochester, N. Y. Gas-burner attachment for oil-burning lamps. No. 974,630; Nov. 1; Sp. p. 1260; Gaz. vol. 160; p. 194.

Berger, Ernst, Thal, Switzerland, assignor to The Firm of H. Levy, Rorschach, Switzerland. Bobbin-winder. No. 977,157; Nov. 29; Sp. p. 6812; Gaz. vol. 160; p. 1158.

Bergner, Hugo H. W., Altona, Germany. Device for feeding bottles to corking-machines. No. 976,540; Nov. 22; Sp. p. 5446; Gaz. vol. 160; p. 920.

Berkstresser, Robert H., York, Pa. Incandescent-lamp manipulator. No. 977,158; Nov. 29; Sp. p. 6813; Gaz. vol. 160; p. 1158.

Berndt, Wilhelm, Haven, Wis. Gang-plow. No. 976,338; Nov. 22; Sp. p. 5001; Gaz. vol. 160; p. 849.

Berne, E. John, *et al.* (See Haddock, Worcester, assignor.)

Bernhardi, Reinhard C. F. A. C. (See Muller-Jacobs and Bernhardi.)

Bernstein, Julius F., assignor to W. J. Cunningham, New York, N. Y. Valve-fitting. No. 977,261; Nov. 29; Sp. p. 7024; Gaz. vol. 160; p. 1194.

Berntson, Thomas, Pittsburg, Pa., assignor to J. W. Carnahan, Washington, D. C., and F. C. Park, Pittsburg, Pa. Vacuum churn apparatus. No. 975,380; Nov. 8; Sp. p. 2926; Gaz. vol. 160; p. 472.

Berns, Otto. (See Flitcroft, James E., assignor.)

Berry, Edward R., and E. J. Guay, Lynn, Mass., assignors to General Electric Company. Electrode for arc-lamps. No. 974,227; Nov. 1; Sp. p. 273; Gaz. vol. 160; p. 46.

Berry, Harvey S., Milford, Tex. Cotton-chopper attachment. No. 976,842; Nov. 29; Sp. p. 6074; Gaz. vol. 160; p. 1047.

Berry, Robert L. F., Miller Place, N. Y., assignor of one-third to F. W. Schwer, Glen Ridge, N. J., and one-third to C. C. Bahr, Yonkers, N. Y. Swimming-bag. No. 977,065; Nov. 29; Sp. p. 6593; Gaz. vol. 160; p. 1125.

Berry, Silas L., Redlands, Cal. Perpetual calendar. No. 975,319; Nov. 8; Sp. p. 2803; Gaz. vol. 160; p. 452.

Bersted, Martin C., Chicago, Ill. Wrench. No. 974,772; Nov. 8; Sp. p. 1573; Gaz. vol. 160; p. 265.

Bertram, William E., Brooklyn, assignor to Mergenthaler Linotype Company, New York, N. Y. Matrix-delivery mechanism for monoline composing-machines. No. 975,503; Nov. 15; Sp. p. 3168; Gaz. vol. 160; p. 541.

Bettenhausen, Charles C., Princeton, Nebr. Automobile driving-gear. No. 974,773; Nov. 8; Sp. p. 1575; Gaz. vol. 160; p. 265.

Beucler, Frederick P., assignor of one-half to M. Jones, Apache, Okla. Oil-burner attachment for stoves. No. 976,626; Nov. 22; Sp. p. 5614; Gaz. vol. 160; p. 949.

Bieber, Frederick S., Poughkeepsie, N. Y. Water-drain for buildings. No. 974,631; Nov. 1; Sp. p. 1261; Gaz. vol. 160; p. 194.

Bierman, Albert D., assignor to The Kinnear and Gager Manufacturing Company, Columbus, Ohio. Roofing or siding shingle. No. 974,461; Nov. 1; Sp. p. 889; Gaz. vol. 160; p. 131.

Bigham, Neal J., Detroit, assignor to H. A. Robertson, Grand Rapids, Mich. Insulating-banger. No. 977,262; Nov. 29; Sp. p. 7026; Gaz. vol. 160; p. 1195.

Bilcsik, Josef, Budapest, Austria-Hungary. Shears for cutting profile and bar irons. No. 975,112; Nov. 8; Sp. p. 2349; Gaz. vol. 160; p. 382.

Billburg, Charles, Chicago, Ill. Trunk. No. 976,339; Nov. 22; Sp. p. 5004; Gaz. vol. 160; p. 849.

Billings, Frank, Cleveland, Ohio. Undercutting in mines. No. 974,632; Nov. 1; Sp. p. 1263; Gaz. vol. 160; p. 194.

Bilsland, John C., Azusa, assignor of one-fourth to J. Mooney, Los Angeles, Cal. Hoe. No. 975,320; Nov. 8; Sp. p. 2805; Gaz. vol. 160; p. 453.

Binley, Arthur J., Glens Falls, N. Y. Flower-holder. No. 974,114; Nov. 1; Sp. p. 18; Gaz. vol. 160; p. 6.

Binns, William H. (See Pagendarm, John F., assignor.)

Birdsall, Leo S., Elm Hall, Mich. Detachable umbrella-cover. No. 976,203; Nov. 8; Sp. p. 2557; Gaz. vol. 160; p. 413.

Birnbaum, Henry, Rapid City, S. D. Sheet-metal pipe. No. 976,029; Nov. 15; Sp. p. 4248; Gaz. vol. 160; p. 720.

Biro, Joseph, Hooversville, Pa. Folding box and crate. No. 977,263; Nov. 29; Sp. p. 7027; Gaz. vol. 160; p. 1195.

Bishop, Charles C., St. Louis, Mo. Window provision-box. No. 974,852; Nov. 8; Sp. p. 1752; Gaz. vol. 160; p. 292.

Bishop, Simeon. (See Klint, Anton H., assignor.)

Bishop, William L. (See Mason, Benjamin F., assignor.)

Bispham, Fred R., Bemidji, Minn. Gage-glass. No. 976,030; Nov. 15; Sp. p. 4249; Gaz. vol. 160; p. 721.

Bissell, Carl H., assignor to Crouse-Hinds Company, Syracuse, N. Y. Electrical coupling. No. 974,462; Nov. 1; Sp. p. 890; Gaz. vol. 160; p. 131.

Bitner, Charles W., Oaxaca, Mexico. Car-door-locking device. No. 975,113; Nov. 8; Sp. p. 2350; Gaz. vol. 160; p. 382.

Bixby, John L., Jr. (See Tolman and Bixby.)

Black, Frank G., Fairfield, Ill. Harness attachment. No. 976,719; Nov. 22; Sp. p. 5791; Gaz. vol. 160; p. 980.

Black, George A., *et al.* (See Meyer, Albert T., assignor.)

Black, Gerard G., *et al.* (See Meyer, Albert T., assignor.)

Blackmore, Henry S., Mount Vernon, assignor to R. E. Robinson and D. C. Spruance, trustees, New York, N. Y. Making ammonia, alkyl ammonia, or ammonia bases. No. 974,633; Nov. 1; Sp. p. 1265; Gaz. vol. 160; p. 195.

Blackmore, Henry S., Mount Vernon, assignor to R. E. Robinson and D. C. Spruance, trustees, New York, N. Y. Making ammonia or other nitrogen-hydrogen binary compounds. No. 974,741; Nov. 1; Sp. p. 1498; Gaz. vol. 160; p. 231.

Blackmore, Henry S., Mount Vernon, assignor to R. E. Robinson and D. C. Spruance, trustees, New York, N. Y. Making ammonia, alkyl ammonia, or ammonia bases. No. 974,742; Nov. 1; Sp. p. 1503; Gaz. vol. 160; p. 231.

Blackwell, Henry F., New York, N. Y., assignor to International Electric Protection Company. Water-motor. No. 977,264; Nov. 29; Sp. p. 7028; Gaz. vol. 160; p. 1195.

Blaeker, Joseph, New York, N. Y. Rotary turbine-engine. No. 974,634; Nov. 1; Sp. p. 1271; Gaz. vol. 160; p. 195.

Blagg, Samuel, Erie, Ill. Beehive attachment. No. 976,031; Nov. 15; Sp. p. 4250; Gaz. vol. 160; p. 721.

Blaik, John R., Montreal, Quebec, Canada. Smoke-consumer. No. 975,391; Nov. 15; Sp. p. 2957; Gaz. vol. 160; p. 502.

Blair Atholl Aeroplane Syndicate. (See Dunne, John W., assignor.)

Blair, David W., New York, N. Y. Centrifugal pump. No. 976,340; Nov. 22; Sp. p. 5005; Gaz. vol. 160; p. 849.

Blaisdell, Walter F., *et al.* (See Greene, Howard, assignor.)

Blake, Henry W., Ball Ground, Ga. Car-truck. No. 976,843; Nov. 29; Sp. p. 6076; Gaz. vol. 160; p. 1047.

Blake, Henry W., Ball Ground, Ga. Brake mechanism for car-trucks. No. 976,844; Nov. 29; Sp. p. 6083; Gaz. vol. 160; p. 1048.

Blake, Henry W., Ball Ground, Ga. Equalizing mechanism for cars. No. 976,845; Nov. 29; Sp. p. 6087; Gaz. vol. 160; p. 1048.

Blake, Joseph M., Meadville, Pa. Fastener for railway-rails. No. 974,635; Nov. 1; Sp. p. 1274; Gaz. vol. 160; p. 195.

Blanch, Malcolm. (See Quist and Blanch.)

Blanchard, Kirk S., Philadelphia, Pa. Press. No. 975,204; Nov. 8; Sp. p. 2558; Gaz. vol. 160; p. 414.

Blank, George W., Wilkinsburg, Pa. Flag-holder. No. 975,114; Nov. 8; Sp. p. 2351; Gaz. vol. 160; p. 382.

Blaszczyk, John, New York, N. Y. Lock. No. 974,636; Nov. 1; Sp. p. 1276; Gaz. vol. 160; p. 196.

Blatch, Francis H., Hazleton, Pa., assignor to Anthracite Separator Company. Spiral separator. No. 976,980; Nov. 29; Sp. p. 6422; Gaz. vol. 160; p. 1097.

Blaustein, Joseph. (See Greenwald, Blaustein, Weiss, and Seikovits.)

Blaxter, George H. (See Jones, Joshua J., assignor.)

Blessing, Louis, Jackson, Mich. Spring-wheel. No. 974,347; Nov. 1; Sp. p. 613; Gaz. vol. 160; p. 92.

Blessing, Louis, and A. Johns, Jackson, Mich. Nut-lock. No. 975,115; Nov. 8; Sp. p. 2353; Gaz. vol. 160; p. 383.

Blevins, Harry E., and L. Brazille, Cove, Oreg. Ribbon-cabinet. No. 976,541; Nov. 22; Sp. p. 5447; Gaz. vol. 160; p. 920.

Block Light Company. (See Kaufman, Otto, assignor.)

Blom, Pehr M., Toledo, Ohio. Carbureter. No. 977,066; Nov. 29; Sp. p. 6595; Gaz. vol. 160; p. 1126.

Blomén, Axel L., Sundbyberg, near Stockholm, assignor to Aktiebolaget Vapenfabriken Excellent, Stockholm, Sweden. Pneumatic gun. No. 976,429; Nov. 22; Sp. p. 5194; Gaz. vol. 160; p. 883.

Bloomfield, Russell C., Cincinnati, Ohio. Gear-wheel. No. 975,743; Nov. 15; Sp. p. 3698; Gaz. vol. 160; p. 623.

Blue Flame Distillate Burner Company. (See Duff, Phelps, and Pitts, assignors.)

Bluff, John T., assignor of one-half to F. F. Hayes, Butte, Mont. Drip-cup for umbrellas. No. 976,032; Nov. 15; Sp. p. 4252; Gaz. vol. 160; p. 721.

Blunt, James G., Schenectady, N. Y. Valve-gear. No. 976,542; Nov. 22; Sp. p. 5450; Gaz. vol. 160; p. 921.
Bock, Herman F., Antioch, assignor of one-half to F. W. Severin, Chicago, Ill. Internal-combustion engine. No. 974,853; Nov. 8; Sp. p. 1763; Gaz. vol. 160; p. 292.
Boda, Joseph, assignor to Independent Harvester Company, Plano, Ill. Compressor and trip mechanism for grain-binders. No. 974,348; Nov. 1; Sp. p. 614; Gaz. vol. 160; p. 92.
Bodine, George I., Jr., Philadelphia, Pa. Time-indicator. No. 974,401; Nov. 1; Sp. p. 721; Gaz. vol. 160; p. 109.
Bodman, Walter L., Covington, Ky. Wheel-journal. No. 975,744; Nov. 15; Sp. p. 3600; Gaz. vol. 160; p. 623.
Boe, Adolph A., Irene, S. D. Wire-stretcher. No. 974,228; Nov. 1; Sp. p. 274; Gaz. vol. 160; p. 46.
Boeppie, Johann F., Cannelton, Ind. Hook for catching shell-fish. No. 975,927; Nov. 15; Sp. p. 4066; Gaz. vol. 160; p. 685.
Boggs, Henry H., Detroit, Mich. Engine-cylinder. No. 974,854; Nov. 8; Sp. p. 1755; Gaz. vol. 160; p. 293.
Bohling, Julius C. (See Bohling, William F. and J. C.)
Bohling, William F., Arcadia, and J. C. Bohling, Glidden, Iowa. Walking-rake. No. 976,250; Nov. 22; Sp. p. 4803; Gaz. vol. 160; p. 821.
Bolas, Thomas. (See Kelly and Bolas.)
Bollinger, Alexander M., Leechburg, Pa. Vehicle. No. 974,547; Nov. 1; Sp. p. 1095; Gaz. vol. 160; p. 165.
Bolner, Abram P., Hartford City, Ind., assignor of one-half to S. J. Peck. Hose-carrier. No. 976,774; Nov. 22; Sp. p. 5926; Gaz. vol. 160; p. 1000.
Bond, Israel H. (See Fishburne and Bond.)
Bone, Frank A., Cincinnati, Ohio. Retaining-wall. No. 975,381; Nov. 8; Sp. p. 2929; Gaz. vol. 160; p. 472.
Bonnaffons, Albert P. (See Leibe and Bonnaffons.)
Bonnet, Charles E., Philadelphia, Pa. Pneumatic thermostat. No. 974,743; Nov. 1; Sp. p. 1510; Gaz. vol. 160; p. 231.
Bonnin, Emile, Kremlin-Bicêtre, France. Bucking apparatus. No. 975,116; Nov. 8; Sp. p. 2354; Gaz. vol. 160; p. 383.
Booth, Charles F., Canandaigua, N. Y. Holder for dental floss. No. 975,206; Nov. 8; Sp. p. 2571; Gaz. vol. 160; p. 414.
Booth, Eldredge E. (See Coppers and Booth.)
Booth, Frank W., Royalton, Minn. Corn-planter. No. 975,673; Nov. 15; Sp. p. 3567; Gaz. vol. 160; p. 600.
Borein, Charles A., Oakland, Cal. Water-heater. No. 975,824; Nov. 15; Sp. p. 3854; Gaz. vol. 160; p. 650.
Borgeson, Charles A., San Francisco, Cal. Sprinkler. No. 975,321; Nov. 8; Sp. p. 2806; Gaz. vol. 160; p. 453.
Börjeson, Arvid A. H., and E. A. Fagerlund, Stockholm, Sweden. Cleaning-machine. No. 976,775; Nov. 22; Sp. p. 5928; Gaz. vol. 160; p. 1000.
Borup, Albert, Minneapolis, Minn. Belt-clamp. No. 974,637; Nov. 1; Sp. p. 1279; Gaz. vol. 160; p. 196.
Bostel, Carl, Cleveland, Ohio. Steering mechanism for flying-machines. No. 974,229; Nov. 1; Sp. p. 275; Gaz. vol. 160; p. 47.
Bostick, J. M., *et al.* (See Brown, Edward N., assignor.)
Bostock, James G., New York, N. Y. Stage illusion. No. 976,143; Nov. 22; Sp. p. 4514; Gaz. vol. 160; p. 783.
Bosworth, Robert W. (See Kilgore and Bosworth.)
Bouquet, Francis L., *et al.* (See Woerner, Albert M., assignor.)
Bousiog, W. H. (See Lister, Levi H., assignor.)
Bousquet, Paul L., Akron, Ohio. Fabric. No. 974,855; Nov. 8; Sp. p. 1756; Gaz. vol. 160; p. 293.
Boutell Manufacturing Company. (See Boutell, William H., assignor.)
Boutell, William H., assignor to Boutell Manufacturing Company, Rochester, N. Y. Apple-paring machine. No. 974,230; Nov. 1; Sp. p. 276; Gaz. vol. 160; p. 47.
Bowen, David R., assignor to Farrel Foundry and Machine Company, Ansonia, Conn. Pressure-regulating device for roller-mills. No. 974,349; Nov. 1; Sp. p. 616; Gaz. vol. 160; p. 93.
Bower, Robert A., Chicago, Ill. Head-envelop. No. 975,745; Nov. 15; Sp. p. 3700; Gaz. vol. 160; p. 623.
Bower, Samuel M., Chicago, Ill. Walking traction-wheel. No. 975,117; Nov. 8; Sp. p. 2354; Gaz. vol. 160; p. 383.
Bowerman, William K., Los Angeles, Cal. Wave-motor. No. 974,948; Nov. 8; Sp. p. 1977; Gaz. vol. 160; p. 326.
Bowers, Doctor C., assignor of one-half to I. I. Iliff, Chelsea, Okla. Neck-yoke. No. 974,115; Nov. 1; Sp. p. 19; Gaz. vol. 160; p. 6.
Bowman, J. W. (See Motter, Harry P., assignor.)
Boyce, John A., Springfield, Ill. Apparatus for printing and folding papers. No. 974,231; Nov. 1; Sp. p. 279; Gaz. vol. 160; p. 47
Boyd, Robert L., Alexandria, La. Load-binder. (Reissue.) No. 13,164; Nov. 8; Sp. p. 2944; Gaz. vol. 160; p. 474.
Boyden, Nathaniel N. (See Crowley, John R., assignor.)
Boyer, Jesse I., assignor to Reading Iron Company, Reading, Pa. Hydraulic cap mechanism for sugar-cane mills. No. 976,144; Nov. 22; Sp. p. 4515; Gaz. vol. 160; p. 783.
Boyer, John S. (See Dorton and Boyer.)
Boylan, Sam H., Colorado Springs, Colo. Slime-concentrator. No. 976,430; Nov. 22; Sp. p. 5196; Gaz. vol. 160; p. 883.
Boyler, Emanuel J., assignor of one-half to J. H. Alford, Ottawa, Ontario, Canada. Buttonhole-stitching attachment for sewing-machines. No. 976,431; Nov. 22; Sp. p. 5204; Gaz. vol. 160; p. 884.
Boynton, Eben M., West Newbury, Mass. Railway traction member. No. 976,543; Nov. 22; Sp. p. 5451; Gaz. vol. 160; p. 921.
Boynton, Eben M., West Newbury, Mass. Traction-rail. No. 976,544; Nov. 22; Sp. p. 5453; Gaz. vol. 160; p. 921.
Boynton, Eben M., West Newbury, Mass. Apparatus for treating traction members. No. 976,627; Nov. 22; Sp. p. 5616; Gaz. vol. 160; p. 950.
Boynton, Eben M., West Newbury, Mass. Railway system. No. 976,628; Nov. 22; Sp. p. 5617; Gaz. vol. 160; p. 950.
Boynton Furnace Company. (See Rouse, Richard, Jr., assignor.)
Boyse, Clement W., assignor of one-half to D. B. Carmichael, Chicago, Ill. Lamp. No. 976,117; Nov. 15; Sp. p. 4433; Gaz. vol. 160; p. 751.
Bozile, Charles, assignor of one-half to G. Bozile, Manawa, Wis. Combined vine-thresher and stalk-cutter. No. 975,603; Nov. 15; Sp. p. 3390; Gaz. vol. 160; p. 576.
Bozile, George. (See Bozile, Charles, assignor.)
Bradbury, Clifford C., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone system. No. 975,504; Nov. 15; Sp. p. 3179; Gaz. vol. 160; p. 541.
Bradley, Herbert E., Kalispell, Mont. Running-gear for vehicles. No. 975,302; Nov. 15; Sp. p. 2959; Gaz. vol. 160; p. 502.
Bradley, Leonard S., *et al.* (See Shattuck, Wilmer H., assignor.)
Bradley, William F., Toledo, Ohio. Concrete tie. No. 976,341; Nov. 22; Sp. p. 5007; Gaz. vol. 160; p. 850.
Brady, Wilfred T. M., Brooklyn, N. Y. Pronged spike. No. 975,322; Nov. 8; Sp. p. 2808; Gaz. vol. 160; p. 454.
Braly, Walter M., Blackwell, Okla. Incubator-alarm. No. 974,638; Nov. 1; Sp. p. 1280; Gaz. vol. 160; p. 197.
Brand, George, F. Marcile, and E. P. Sheldon, Brooklyn, N. Y. Labeling-machine. No. 974,856; Nov. 8; Sp. p. 1757; Gaz. vol. 160; p. 293.
Brandenburg, Heinrich, Kempen-on-the-Rhine, Germany. Removing tin from tin-plate waste. No. 974,463; Nov. 1; Sp. p. 805; Gaz. vol. 160; p. 132.
Brandt, Andrew G., Scranton, Pa. Flexible folding cup. No. 977,159; Nov. 29; Sp. p. 6815; Gaz. vol. 160; p. 1158.
Branson, Thomas, assignor to Sibson & Stern, Incorporated, Philadelphia, Pa. Attachment for warp-knitting machines. No. 976,776; Nov. 22; Sp. p. 5929; Gaz. vol. 160; p. 1001.
Brasseur, Charles L. A., New York, N. Y. Polychrome screen and making the same. No. 974,464; Nov. 1; Sp. p. 896; Gaz. vol. 160; p. 132.
Brasseur, Charles L. A., New York, N. Y. Polychrome screen and making same. No. 976,118; Nov. 15; Sp. p. 4435; Gaz. vol. 160; p. 751.
Bratton, Robert J., Georgetown, Ill. Cement-block mold. No. 974,350; Nov. 1; Sp. p. 619; Gaz. vol. 160; p. 93.
Brauer, John, Menasha, Wis. Bailing-horn. No. 974,548; Nov. 1; Sp. p. 1096; Gaz. vol. 160; p. 165.
Braun, William A., assignor of one-half to F. L. Jones, Fort Wayne, Ind. Electrical sad-iron. No. 974,232; Nov. 1; Sp. p. 337; Gaz. vol. 160; p. 48.
Brauns, Eduard, Linden, near Hanover, assignor to Gebr. Körting Aktien-Gesellschaft, Körtingsdorf, near Hanover, Germany. Gas-generator. No. 974,639; Nov. 1; Sp. p. 1281; Gaz. vol. 160; p. 197.
Bray & Kates. (See Bray, Richard, assignor.)
Bray, Richard, assignor to Bray & Kates, Arlington Heights, Ill. Milk-can. No. 974,116; Nov. 1; Sp. p. 20; Gaz. vol. 160; p. 6.
Braseal, Joseph E., assignor to The Quick Unloading Car Chute Co., Birmingham, Ala. Chute. No. 974,351; Nov. 1; Sp. p. 620; Gaz. vol. 160; p. 94.
Brazille, Lafayette. (See Blevins and Brazille.)
Breakey, George B., New York, assignor to Herrmann & Grace Company, Brooklyn, N. Y. Metallic door. No. 977,366; Nov. 29; Sp. p. 7251; Gaz. vol. 160; p. 1230.
Breed, De Witt C. (See Eldridge and Breed.)
Breen, William H. (See Brown, George W., assignor.)
Brennan, Thomas, Jr. (See Rieske, Brennan, Phelps, and Beeman.)
Brennan, Thomas, Jr., assignor to Monitor Drill Company, St. Louis Park, Minn. Disk furrow-opener. No. 977,367; Nov. 29; Sp. p. 7253; Gaz. vol. 160; p. 1231.
Brenner, Frederick A., Milwaukee, Wis. Pneumatic separator. No. 977,160; Nov. 29; Sp. p. 6816; Gaz. vol. 160; p. 1159.
Brethorst, Joergen von, Paxton, Ill. Puzzle. No. 977,265; Nov. 29; Sp. p. 7029; Gaz. vol. 160; p. 1195.
Brett, Bernard and J., Coventry, England. Drop-hammer. No. 975,206; Nov. 8; Sp. p. 2572; Gaz. vol. 160; p. 414.
Brett, John. (See Brett, Bernard and J.)
Brewer, Robert R., St. Louis, Mo. Portable house. No. 974,233; Nov. 1; Sp. p. 338; Gaz. vol. 160; p. 48.
Brewington, Henry S., Baltimore, Md. Candy-pulling machine. No. 977,161; Nov. 29; Sp. p. 6825; Gaz. vol. 160; p. 1159.
Briede, Otto, Benrath, near Dusseldorf, Germany. Manufacturing seamless tubes. No. 974,744; Nov. 1; Sp. p. 1513; Gaz. vol. 160; p. 232.
Briggs, Frank H., Elyria, assignor to The American Dynalite Company, Cleveland, Ohio. Explosive. No. 975,825; Nov. 15; Sp. p. 3855; Gaz. vol. 160; p. 650.
Briggs, George E., *et al.* (See Mayo, William C., assignor.)
Brill, John A. (See Henry, Fred H., assignor.)
Brinell, Johan A., Stockholm, Sweden. Treating steel and iron ingots. No. 976,145; Nov. 22; Sp. p. 4516; Gaz. vol. 160; p. 783.

Brinell, Johan A., Stockholm, Sweden. Treating metal ingots. No. 976,146; Nov. 22; Sp. p. 4518; Gaz. vol. 160; p. 783.
Briscoe, John W., Chattanooga, Okla. Plant-thinning machine. No. 977,162; Nov. 29; Sp. p. 6830; Gaz. vol. 160; p. 1159.
Brister, Edward V., Ruth, Miss. Nut-lock. No. 974,352; Nov. 1; Sp. p. 623; Gaz. vol. 160; p. 94.
British Steel & Wire Company, The. (See Saville, Harry, assignor.)
Brock, Benjamin F., Tucumcari, N. Mex. Trace-chain. No. 974,857; Nov. 8; Sp. p. 1762; Gaz. vol. 160; p. 293.
Brockenbrough, William M. (See Morgan and Brockenbrough.)
Brockton Mowing Machine Cutter Bar Company. (See Poole and Abbenzeller, assignors.)
Brodin, John A., assignor to Brodin Manufacturing Company, Chicago, Ill. Stovepipe-thimble. No. 975,746; Nov. 15; Sp. p. 3702; Gaz. vol. 160; p. 624.
Brodin Manufacturing Company. (See Brodin, John A., assignor.)
Bröking, Ewald, Gevelsberg, Germany. Apparatus for hardening knife-blades. No. 974,465; Nov. 1; Sp. p. 900; Gaz. vol. 160; p. 132.
Bromwell, Jacob H., *et al.* (See Auble, James H., assignor.)
Brooks, Mott B., Rochester, assignor to Field Force Pump Company, Elmira, N. Y. Spraying apparatus. No. 974,640; Nov. 1; Sp. p. 1282; Gaz. vol. 160; p. 197.
Brothers, Sanford W., Denver, Colo. Rock-drill. No. 976,981; Nov. 29; Sp. p. 6425; Gaz. vol. 160; p. 1097.
Brotherton, Delevan A. (See Cates, Harry S., assignor.)
Broughton, Lyman D. (See Rice and Broughton.)
Brousseau, Harry, assignor of one-half to M. Stern, New York, N. Y. Packing. No. 974,949; Nov. 8; Sp. p. 1982; Gaz. vol. 160; p. 326.
Brower, Douglass J., Duluth, Minn. Harvesting-machine. No. 977,266; Nov. 29; Sp. p. 7030; Gaz. vol. 160; p. 1196.
Brown, Alexander T., Syracuse, N. Y. Type-writing machine. No. 974,353; Nov. 1; Sp. p. 624; Gaz. vol. 160; p. 94.
Brown, Alfred G., assignor to Union Fibre Company, Winona, Minn. Apparatus for manufacturing heat-insulating linings or coverings. No. 974,858; Nov. 8; Sp. p. 1763; Gaz. vol. 160; p. 294.
Brown, Arthur T., San Francisco, Cal. Oil-heated melting-furnace. No. 975,826; Nov. 15; Sp. p. 3856; Gaz. vol. 160; p. 651.
Brown-Blanlan Company. (See Spiller, Harry A., assignor.)
Brown, Charles A., Lorain, Ohio. Level-controlling device. No. 976,432; Nov. 22; Sp. p. 5207; Gaz. vol. 160; p. 884.
Brown, Charles J., Newton, Mass. Pedestal extension-table. No. 975,604; Nov. 15; Sp. p. 3392; Gaz. vol. 160; p. 577.
Brown, Cheney C. (See Milliken, Frank W., assignor.)
Brown, David. (See Klein and Brown.)
Brown, Delmont S., Watertown, N. Y. Needling-machine. No. 976,033; Nov. 15; Sp. p. 4253; Gaz. vol. 160; p. 722.
Brown, Edward N., East Cleveland, assignor of one-half to J. F. Peterson and one-half to J. M. Bostick, Canton, Ohio. Gravity sash-lock. No. 976,777; Nov. 22; Sp. p. 5932; Gaz. vol. 160; p. 1001.
Brown, George W., deceased, Somerville; O. C. Scales, administrator, assignor to W. H. Breen, Boston, Mass. Adjustable derrick. No. 975,505; Nov. 15; Sp. p. 3183; Gaz. vol. 160; p. 542.
Brown, Henry C., assignor of two-thirds to H. Stockman, New York, N. Y. Cushion-tread vehicle-wheel. No. 976,840; Nov. 29; Sp. p. 6092; Gaz. vol. 160; p. 1049.
Brown Hoisting Machinery Company, The. (See Cannon, Charles R., assignor.)
Brown, Howard W., trustee. (See Moebus, Henry E., assignor.)
Brown, Jesse B., Belding, Mich. Gas-engine. No. 976,034; Nov. 15; Sp. p. 4258; Gaz. vol. 160; p. 722.
Brown, John M., Jersey City Heights, N. J. Chain-coupling. No. 975,323; Nov. 8; Sp. p. 2809; Gaz. vol. 160; p. 454.
Brown, Julian L. R., Bridgeport, Conn. Cover for crucible-furnaces. No. 975,506; Nov. 15; Sp. p. 3184; Gaz. vol. 160; p. 542.
Brown, Paul F., Hackensack, N. J., assignor of one-half to M. E. Monash, New York, N. Y. Radiation-calculator. No. 974,354; Nov. 1; Sp. p. 637; Gaz. vol. 160; p. 94.
Brown, Robert A., and J. Pittings, Antler, N. D. Drill attachment. No. 977,267; Nov. 29; Sp. p. 7035; Gaz. vol. 160; p. 1196.
Brown & Root Company. (See Coffin, Henry E., assignor.)
Brown, Sidney G., London, England. Apparatus for producing and utilizing electric currents of high periodicity. No. 976,778; Nov. 22; Sp. p. 5933; Gaz. vol. 160; p. 1001.
Brown, Walter F., St. Paul, assignor to W. F. Brown Company, Minneapolis, Minn. Wing-carrier. No. 976,629; Nov. 22; Sp. p. 5621; Gaz. vol. 160; p. 951.
Brown, William. (See O'Donnell, John J., assignor.)
Brown, William B., Jr., Mount Vernon, Ohio. Eyeglass-mounting. No. 977,163; Nov. 29; Sp. p. 6833; Gaz. vol. 160; p. 1160.
Brown, William S., Pardoe, Pa. Envelop. No. 974,117; Nov. 1; Sp. p. 22; Gaz. vol. 160; p. 6.
Browne, Louis A., *et al.* (See Runner, John B., assignor.)
Browning, Walter H. (See O'Brien and Browning.)
Brownson, Percy J. (See Brownson, Ralph and P. J.)
Brownson, Ralph and P. J., St. Paul, Minn. Stuffing-machine. No. 976,982; Nov. 29; Sp. p. 6427; Gaz. vol. 160; p. 1097.
Bruckmann, Ludwig, Pforsheim, Germany. Making chain. No. 975,928; Nov. 15; Sp. p. 4067; Gaz. vol. 160; p. 685.
Bruegger, Robert D. (See Bruegger, Zeno A. and R. D.)
Bruegger, Zeno A. and R. D., Culbertson, Mont. Sprinkler-wheel. No. 977,368; Nov. 29; Sp. p. 7256; Gaz. vol. 160; p. 1231.
Brush, Alanson P., Detroit, Mich. Controlling mechanism for change-speed and reversing gearing. No. 975,393; Nov. 15; Sp. p. 2960; Gaz. vol. 160; p. 502.
Brush Mop Wringer Manufacturing Company, The. (See Beazley, Joseph O., assignor.)
Bryan, Benjamin F. (See Sphaler and Bryan.)
Bryant, Dalton W., Carbondale, Pa. Pocket-knife. No. 975,015; Nov. 8; Sp. p. 2134; Gaz. vol. 160; p. 348.
Bryant Electric Company, The. (See Goodridge, Gilbert W., assignor.)
Bryant, George H., and A. Ziesing, Chicago, Ill. Car-wheel. No. 974,549; Nov. 1; Sp. p. 1098; Gaz. vol. 160; p. 165.
Bryant, Joseph D., Columbus, Ohio. Liquid-wax finish. No. 976,394; Nov. 15; Sp. p. 2962; Gaz. vol. 160; p. 502.
Bryers, William N., Helmer, Mich. Cherry-picker. No. 977,369; Nov. 29; Sp. p. 7258; Gaz. vol. 160; p. 1232.
Buchanan, John J. (See Kops and Buchanan.)
Buchanan, William R., Shetlerville, Ill. Wire-stretcher. No. 975,324; Nov. 8; Sp. p. 2810; Gaz. vol. 160; p. 454.
Bucher & Gibbs Plow Company, The. (See Niesz, Frank B., assignor.) (Reissue.)
Bucsko, Leopold, Monaca, Pa. Shield for hollow articles in sand-blasting. No. 977,268; Nov. 29; Sp. p. 7037; Gaz. vol. 160; p. 1197.
Budd, Horace, Philadelphia, Pa. Fire-extinguishing apparatus. No. 976,251; Nov. 22; Sp. p. 4805; Gaz. vol. 160; p. 821.
Budesheim, William, and J. D. Stinchcomb, Baltimore, Md. Sectional emergency-tire. No. 975,325; Nov. 8; Sp. p. 2811; Gaz. vol. 160; p. 454.
Buell, Leroy A., Kalamazoo, Mich. Combined lamp and mirror. No. 975,674; Nov. 15; Sp. p. 3569; Gaz. vol. 160; p. 600.
Buffalo Co-operative Stove Company. (See Kener, Edward, Jr., assignor.)
Buffalo Steam Roller Company. (See Todd, Marquis A., assignor.)
Buffington, Edwin C. (See Baldwin and Buffington.)
Bullock Electric Manufacturing Company, The, *et al.* (See Cheney, Herbert W., assignor.)
Bullock Electric Manufacturing Company, The, *et al.* (See Powell, William H., assignor.)
Bullock Electric Manufacturing Company, The, *et al.* (See Wouters, Alfred H., assignor.)
Bumiller, Eugene J., Chicago, Ill. Lock-strike. No. 975,675; Nov. 15; Sp. p. 3571; Gaz. vol. 160; p. 601.
Bundy, Cyrus L., Kingsland, N. J., assignor, by mesne assignments, to W. H. Miner, Chicago, Ill. Friction draft-rigging. No. 974,466; Nov. 1; Sp. p. 901; Gaz. vol. 160; p. 132.
Bundy, Cyrus L., Kingsland, N. J., assignor, by mesne assignments, to W. H. Miner, Chicago, Ill. Friction draft-rigging for railway-cars. No. 974,467; Nov. 1; Sp. p. 903; Gaz. vol. 160; p. 133.
Bundy, Henry C., Watertown, N. Y., assignor to M. L. Hart, Akron, Ohio. Door opening and closing device. No. 975,507; Nov. 15; Sp. p. 3186; Gaz. vol. 160; p. 542.
Bürger, Godfried L. H., Boston, Mass. Hammock for douche and similar baths. No. 975,016; Nov. 8; Sp. p. 2135; Gaz. vol. 160; p. 348.
Burgert, Joseph, and R. Franke, Cleveland, Ohio. Nut-lock. No. 974,468; Nov. 1; Sp. p. 904; Gaz. vol. 160; p. 133.
Burke Electric Company. (See Bard, James F., assignor.)
Burke, Joseph H., Portland, Me. Cutter-head. No. 974,234; Nov. 1; Sp. p. 342; Gaz. vol. 160; p. 49.
Burke, Stephen E., Hamilton, Ind. Button-remover. No. 974,118; Nov. 1; Sp. p. 22; Gaz. vol. 160; p. 7.
Burkhart, Jacob, Aberdeen, Pa. Nut-lock. No. 974,641; Nov. 1; Sp. p. 1284; Gaz. vol. 160; p. 197.
Burnett, William H., Hartford, Conn. Lamp-burner. No. 975,929; Nov. 15; Sp. p. 4069; Gaz. vol. 160; p. 686.
Burns, James J., assignor to W. H. Leland & Co., Worcester, Mass. Electrical connector. No. 975,118; Nov. 8; Sp. p. 2356; Gaz. vol. 160; p. 384.
Burpee, Moses, Houlton, Me. Guard-rail clamp. No. 975,395; Nov. 15; Sp. p. 2963; Gaz. vol. 160; p. 503.
Burr, Fred H. (See Barnum, Cordie, assignor.)
Burr, Henry B. (See Lichtenberg, Erich H., assignor.)
Burroughs Adding Machine Company. (See Foster, Clarence B., assignor.)
Burroughs Adding Machine Company. (See Wales, Charles, assignor.)
Burt, James H. (See Fancher, Burt, and Van Winkle.)
Burton, George D., Boston, Mass. Washing clothes. No. 976,035; Nov. 15; Sp. p. 4260; Gaz. vol. 160; p. 723.
Burton, George D., Boston, Mass. Unhairing and tanning hides or skins. No. 976,036; Nov. 15; Sp. p. 4262; Gaz. vol. 160; p. 723.

Burton, George D., Boston, Mass. Treating vegetable matter. No. 976,037; Nov. 15; Sp. p. 4264; Gaz. vol. 160; p. 723.

Burton, George D., Boston, Mass. Apparatus for treating sugar-cane and similar substances. No. 976,779; Nov. 22; Sp. p. 5036; Gaz. vol. 160; p. 1002.

Burton, George D., Boston, Mass. Manufacturing ice-cream, sherbet, &c. No. 976,780; Nov. 22; Sp. p. 5039; Gaz. vol. 160; p. 1002.

Busch, Richard, Hanover, Germany. Apparatus for producing carbureted air. No. 976,781; Nov. 22; Sp. p. 5041; Gaz. vol. 160; p. 1002.

Busch, Samuel, New York, N. Y. Mounting for motor-cycle saddles. No. 975,827; Nov. 15; Sp. p. 3857; Gaz. vol. 160; p. 651.

Buschmann, Theodor E., assignor to Wanderer Werke vorm. Winklhofer & Jaenicke A. G., Schonau, near Chemnitz, Germany. Automatic type-writer-ribbon-reversing mechanism. No. 977,269; Nov. 29; Sp. p. 7038; Gaz. vol. 160; p. 1197.

Bush, Augustus L., Worcester, Mass. Elevator safety device. No. 975,828; Nov. 15; Sp. p. 3859; Gaz. vol. 160; p. 651.

Busser, William T. (See Robison, John G., assignor.)

Bussey, Joseph W., Black Diamond, Wash. Gate for cars. No. 977,270; Nov. 29; Sp. p. 7041; Gaz. vol. 160; p. 1197.

Butler, William, Lockport, N. Y. Lightning-arrester. No. 974,859; Nov. 8; Sp. p. 1766; Gaz. vol. 160; p. 294.

Butler, William E., David City, Nebr. Central-station call system for telephone-lines. No. 977,067; Nov. 29; Sp. p. 6599; Gaz. vol. 160; p. 1126.

Butler, William H. (See Hutton, George B., assignor.)

Butler, William S., Duluth, Minn. Flour-sifter. No. 976,782; Nov. 22; Sp. p. 5043; Gaz. vol. 160; p. 1003.

Butt, John H., Mohall, N. D. Wagon-box brace. No. 974,469; Nov. 1; Sp. p. 907; Gaz. vol. 160; p. 134.

Buttorff, John H., Fort Collins, Colo. Head-gate. No. 976,720; Nov. 22; Sp. p. 5792; Gaz. vol. 160; p. 980.

Buttrill, David B., Mansfield, Tex. Combined scraper and fender. No. 975,930; Nov. 15; Sp. p. 4070; Gaz. vol. 160; p. 686.

Butts, Joel W., Monroe, Ga. Meter-box. No. 976,038; Nov. 15; Sp. p. 4268; Gaz. vol. 160; p. 724.

Bushy, Granville N., Philadelphia, Pa., and W. S. Hukill, Wilmington, Del. Railway-rail anchor. No. 975,747; Nov. 15; Sp. p. 3702; Gaz. vol. 160; p. 624.

Byerly, William A. (See Pruett, William M., assignor.)

Byrd, Walter T., Loganville, Ga. Fender for cultivators. No. 975,326; Nov. 8; Sp. p. 2813; Gaz. vol. 160; p. 455.

Byrne, Alphonso J., *et al.* (See Radigan, John E., assignor.)

C. B. Cottrell & Sons Company. (See Cottrell, Edgar H., assignor.)

C. B. Cottrell & Sons Company. (See Greenway, Richard J., assignor.)

C. P. Goerz American Optical Company. (See Schmid and Dewey, assignors.)

C. T. Ham Manufacturing Company. (See Bergener, Charles, assignor.)

C. T. Patterson Company. (See Coleman, Thomas A., assignor.)

Cahall, William H., Chicago, Ill. Fluid-pressure motor and controlling mechanism therefor. No. 976,983; Nov. 29; Sp. p. 6429; Gaz. vol. 160; p. 1098.

Cahoone, Edwin R., Beechmont, Mass. Heating-grate. No. 976,039; Nov. 15; Sp. p. 4270; Gaz. vol. 160; p. 724.

Cain-Stevenson Company. (See Stevenson, William H., assignor.)

Cairns, John, Willenhall, England. Tire of wheels of vehicles. No. 975,829; Nov. 15; Sp. p. 3861; Gaz. vol. 160; p. 652.

Caldwell, Charles W., Roanoke, Va. Globe or chimney holder for lamp-burners. No. 975,327; Nov. 8; Sp. p. 2814; Gaz. vol. 160; p. 455.

Caldwell Manufacturing Company. (See Hodgkinson, Percy W., assignor.)

Caldwell Manufacturing Company. (See Prevost, Arthur J., assignor.)

Caldwell, Robert J., New Southgate, assignor, by mesne assignments, to Pneumatic (1910) Limited, London, England. Tire for road-vehicle wheels. No. 975,207; Nov. 8; Sp. p. 2573; Gaz. vol. 160; p. 415.

Caldwell, Walter S., Cleveland, Ohio. Window and door screen. No. 975,931; Nov. 15; Sp. p. 4071; Gaz. vol. 160; p. 687.

Callaghan, James W., Newark, N. J. Ladle for pouring molten metal. No. 977,271; Nov. 29; Sp. p. 7042; Gaz. vol. 160; p. 1198.

Callan, John G., Lynn, Mass., assignor to General Electric Company. Shaft-bearing. No. 974,119; Nov. 1; Sp. p. 24; Gaz. vol. 160; p. 7.

Callow, Herschel L. (See Callow, John and H. L.)

Callow, John and H. L., Liverpool, England. Machine for molding dough portions into loaves. No. 975,932; Nov. 15; Sp. p. 4073; Gaz. vol. 160; p. 687.

Caltrider, L. C. (See Fisher, George W., assignor.) (Reissue.)

Cambridge, Charles L., Hindsboro, Ill. Poultry-brooder. No. 976,984; Nov. 29; Sp. p. 6434; Gaz. vol. 160; p. 1098.

Cambridge Novelty Company. (See Lightbody, Frank J., assignor.)

Cambron, William B., Piedmont, Ala. Device for shaping scrapers. No. 976,630; Nov. 22; Sp. p. 5628; Gaz. vol. 160; p. 951.

Camp, Charles D. (See Hodgkinson, Percy W., assignor.)

Campbell, Argyle, assignor to Enterprise Railway Equipment Company, Chicago, Ill. Dump-car. No. 974,470; Nov. 1; Sp. p. 910; Gaz. vol. 160; p. 134.

Campbell, Argyle, assignor to Enterprise Railway Equipment Company, Chicago, Ill. Dump-car. No. 974,471; Nov. 1; Sp. p. 912; Gaz. vol. 160; p. 135.

Campbell, Argyle, assignor to Enterprise Railway Equipment Company, Chicago, Ill. Railway dump-car. No. 974,642; Nov. 1; Sp. p. 1285; Gaz. vol. 160; p. 198.

Campbell, Bartley J., Joliet, Ill. Gate. No. 976,119; Nov. 15; Sp. p. 4436; Gaz. vol. 160; p. 752.

Campbell, Donald, New York, N. Y. Toy or game. No. 975,119; Nov. 8; Sp. p. 2358; Gaz. vol. 160; p. 384.

Campbell, James A., Paterson, N. J. Means for protecting freight-cars and the like from entry. No. 975,508; Nov. 15; Sp. p. 3192; Gaz. vol. 160; p. 543.

Campbell, Malcolm, assignor to Woonsocket Machine and Press Company, Woonsocket, R. I. Slubber or fly-frame. No. 976,545; Nov. 22; Sp. p. 5454; Gaz. vol. 160; p. 921.

Campbell Printing Press and Manufacturing Company. (See Wood, Henry A. W., assignor.)

Campbell, Samuel L., Prairie City, Oreg. Telephone-repeater. No. 975,933; Nov. 15; Sp. p. 4079; Gaz. vol. 160; p. 688.

Canadian Taylor Automatic Fire Alarm and Call Bell Company, The. (See Field, James H., assignor.)

Candler, George V., Detroit, Mich. Radiator. No. 976,147; Nov. 22; Sp. p. 4521; Gaz. vol. 160; p. 784.

Canfield, William O., Chattanooga, Tenn. Floor finishing and polishing machine. No. 976,040; Nov. 15; Sp. p. 4272; Gaz. vol. 160; p. 725.

Cannady, William J., Detroit, Mich. Clamping device. No. 975,934; Nov. 15; Sp. p. 4081; Gaz. vol. 160; p. 688.

Canning, Michael. (See Terril and Canning.)

Cannon, Charles R., assignor to The Brown Hoisting Machinery Company, Cleveland, Ohio. Rust-cleaner. No. 976,342; Nov. 22; Sp. p. 5009; Gaz. vol. 160; p. 950.

Capocefalo, Edward A. (See Hennessy and Capocefalo.)

Capra, Benedetto, Los Angeles, Cal. Combination car-step and gate. No. 975,017; Nov. 8; Sp. p. 2136; Gaz. vol. 160; p. 348.

Caps, John E., Wilmette, Ill. Chemical-feeding device. No. 976,148; Nov. 22; Sp. p. 4522; Gaz. vol. 160; p. 784.

Carbone, Tito L., Charlottenburg, Germany. Arc-lamp. No. 975,935; Nov. 15; Sp. p. 4083; Gaz. vol. 160; p. 688.

Cardarelli, Emilio, assignor of one-third to W. I. Oliver, Boston, Mass. Down-spout. No. 974,550; Nov. 1; Sp. p. 1099; Gaz. vol. 160; p. 165.

Carey, William L., Upland, Ind. Three-horse equalizer. No. 976,149; Nov. 22; Sp. p. 4523; Gaz. vol. 160; p. 784.

Caribonum Company Limited. (See Hardman, George E., assignor.)

Carlson, Benjamin A., and W. D. Hart, Sioux Falls, S. D. Combined digger and scraper. No. 976,631; Nov. 22; Sp. p. 5629; Gaz. vol. 160; p. 951.

Carlson, Charles A., Brooklyn, N. Y., assignor to Carlson Motor & Truck Company, Philadelphia, Pa. Motor-vehicle. No. 974,745; Nov. 1; Sp. p. 1516; Gaz. vol. 160; p. 232.

Carlson, Charles A., Brooklyn, N. Y., assignor to Carlson Motor & Truck Company, Philadelphia, Pa. Motor-vehicle. No. 974,746; Nov. 1; Sp. p. 1518; Gaz. vol. 160; p. 233.

Carlson, Gustaf, De Kalb, Ill. Folding umbrella. No. 974,643; Nov. 1; Sp. p. 1287; Gaz. vol. 160; p. 198.

Carlson Motor & Truck Company. (See Carlson, Charles A., assignor.)

Carlton, Harry, Sapulpa, Okla. Automatic valve. No. 975,120; Nov. 8; Sp. p. 2360; Gaz. vol. 160; p. 385.

Carman Manufacturing Company. (See Taylor, William M., assignor.)

Carmichael, Dwight B. (See Boyse, Clement W., assignor.)

Carnahan, J. Worth, *et al.* (See Berntson, Thomas, assignor.)

Carney, Edward D., assignor to F. Engelhardt & Sons, St. Johnsville, N. Y. Coin-controlled actuating mechanism for autopneumatic pianos. No. 974,355; Nov. 1; Sp. p. 639; Gaz. vol. 160; p. 95.

Carolinas Monazite Company. (See Smith, Walter F., assignor.)

Caron, Napoleon, Nashua, N. H. Hand-threading-shuttle attachment. No. 976,632; Nov. 22; Sp. p. 5630; Gaz. vol. 160; p. 952.

Carpenter, Anna. (See Henderson, William H., assignor.)

Carpenter, Claude G., Findlay, Ohio. Safety device for elevators. No. 975,018; Nov. 8; Sp. p. 2138; Gaz. vol. 160; p. 349.

Carpenter, John W., Salem, W. Va. Gas economizer and purifier. No. 974,551; Nov. 1; Sp. p. 1100; Gaz. vol. 160; p. 166.

Carpenter, William A., Charlotte, N. C. Mail-bag catcher. No. 976,041; Nov. 15; Sp. p. 4275; Gaz. vol. 160; p. 725.

Carr, Edward P., assignor of one-half to The William Cramp & Sons Ship & Engine Building Company, Philadelphia, Pa. Crucible-holding device. No. 976,042; Nov. 15; Sp. p. 4277; Gaz. vol. 160; p. 725.

Carr, Herbert H., Boston, Mass. Folding bed. No. 974,747; Nov. 1; Sp. p. 1520; Gaz. vol. 160; p. 233.

Carr, William A., Springfield, Mass., assignor to C. H. Tenney, Hartford, Conn. Automatic gas-lamp. No. 974,748; Nov. 1; Sp. p. 1521; Gaz. vol. 160; p. 233.

Carr, William C., Buffalo, N. Y. Transportation system. No. 977,370; Nov. 29; Sp. p. 7259; Gaz. vol. 160; p. 1232.

Carrigan, Henry J., Buffalo, N. Y. Level. No. 975,830; Nov. 15; Sp. p. 3862; Gaz. vol. 160; p. 652.

Carroll, Arthur V., Batavia, Ohio. Gearing for lathes. No. 975,748; Nov. 15; Sp. p. 3704; Gaz. vol. 160; p. 625.

Carroll, Bradish J., assignor to Power Specialty Company, New York, N. Y. Hydraulic ram. No. 976,546; Nov. 22; Sp. p. 5455; Gaz. vol. 160; p. 922.

Carroll, Frank B., and J. L. Ricks, Woodland, Miss. Measuring-bin. No. 975,208; Nov. 8; Sp. p. 2575; Gaz. vol. 160; p. 415.

Carroll, Joseph E., Portsmouth, Ohio. Combination coat and trousers hanger. No. 975,509; Nov. 15; Sp. p. 3194; Gaz. vol. 160; p. 544.

Carson, John E. (See Metcalf and Carson.)

Carstens, Charles B., Grafton, assignor of one-half to F. A. Traver, Milwaukee, Wis. Humidor. No. 976,150; Nov. 22; Sp. p. 4524; Gaz. vol. 160; p. 784.

Carter-Crume Co., The. (See Pringle, William A., assignor.)

Carter, Eber C., Carrollton, Ill. Furnace. No. 974,120; Nov. 1; Sp. p. 26; Gaz. vol. 160; p. 7.

Carter, James H., Chicago, Ill. Box. No. 975,121; Nov. 8; Sp. p. 2361; Gaz. vol. 160; p. 385.

Carter, Kenneth, assignor of one-third to R. B. Millard, Monrovia, Cal. Double-ended snap-hook. No. 974,950; Nov. 8; Sp. p. 1985; Gaz. vol. 160; p. 327.

Cartwright, David J., Hull, assignor of one-half to W. S. Wait, Newton, Mass. Gun-mount. No. 974,552; Nov. 1; Sp. p. 1102; Gaz. vol. 160; p. 166.

Caruso, Mario, New Haven, Conn., assignor to Lionel Manufacturing Company. Toy-railway rail. No. 976,633; Nov. 22; Sp. p. 5631; Gaz. vol. 160; p. 952.

Cary, James B., Grand Island, Nebr. Mail-delivery apparatus. No. 976,433; Nov. 22; Sp. p. 5212; Gaz. vol. 160; p. 885.

Casady, Albert L., Fairfield, Iowa. Rail-joint. No. 974,951; Nov. 8; Sp. p. 1985; Gaz. vol. 160; p. 327.

Case, Emanuel H., and T. R. Barrall, Nanticoke, Pa. Rail-fastener. No. 974,356; Nov. 1; Sp. p. 641; Gaz. vol. 160; p. 95.

Case, William W., Knowles, Cal. Wrench. No. 974,121; Nov. 1; Sp. p. 27; Gaz. vol. 160; p. 8.

Cass, Christopher P., St. Louis, Mo., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa. Duplex-pressure straight-air brake. No. 977,164; Nov. 29; Sp. p. 6834; Gaz. vol. 160; p. 1160.

Cassidy, Thomas H., Cranbrook, British Columbia, Canada. Lamp-bracket. No. 976,634; Nov. 22; Sp. p. 5633; Gaz. vol. 160; p. 952.

Castle, James B., assignor of one-half to R. S. Moore, San Francisco, Cal. Cranking mechanism for automobiles. No. 974,235; Nov. 1; Sp. p. 344; Gaz. vol. 160; p. 49.

Catalano, Peter P., Lawton Station, N. Y. Checkrein-holder. No. 974,472; Nov. 1; Sp. p. 913; Gaz. vol. 160; p. 135.

Cates, Harry S., assignor of one-half to D. A. Brotherton, Escanaba, Mich. Finger-moistener. No. 975,676; Nov. 15; Sp. p. 3571; Gaz. vol. 160; p. 601.

Cathy, Joseph B., Godfrey, Ga. Holding device for resetting scrapers. No. 974,644; Nov. 1; Sp. p. 1289; Gaz. vol. 160; p. 199.

Caul, Louis, Cleveland, Ohio. Carbonating-machine. No. 974,774; Nov. 8; Sp. p. 1577; Gaz. vol. 160; p. 265.

Caulfield, Edwin W., St. Petersburg, Fla. Composition of matter for prevention and removal of incrustation in explosive-engines. No. 974,749; Nov. 1; Sp. p. 1524; Gaz. vol. 160; p. 234.

Cavagnaro, Nicholas J. (See Cevasco, Cavagnaro, and Ambrette.)

Cavanaugh, Leander J., and E. T. Young, Boston, Mass. Power-generator. No. 976,547; Nov. 22; Sp. p. 5456; Gaz. vol. 160; p. 922.

Central Brass & Fixture Company, The. (See Turner and Crabill, assignors.)

Ceramic Supply & Construction Company, The. (See Lewis, Douglas, assignor.)

Cevasco, James, N. J. Cavagnaro, Brooklyn, and C. Ambrette, New York, N. Y. Wire twisting and weaving machine. No. 976,548; Nov. 22; Sp. p. 5460; Gaz. vol. 160; p. 923.

Chaddock, Emory L., Fresno, Cal. Impaling-roll. No. 975,831; Nov. 15; Sp. p. 3863; Gaz. vol. 160; p. 652.

Chamberlain, Rufus N., Depew, and M. R. Shedd, Lancaster, N. Y., assignors to Gould Storage Battery Company. Electrical system of distribution. No. 976,151; Nov. 22; Sp. p. 4528; Gaz. vol. 160; p. 785.

Chamberlin, Newton F., Libertyville, Ill., assignor of one-half to J. M. Morrison, Bethesda, Md. Lock-nut. No. 976,847; Nov. 29; Sp. p. 6096; Gaz. vol. 160; p. 1049.

Champion Ignition Company. (See Schmidt, Albert, assignor.)

Chapman, John. (See Lawrence, George F., assignor.)

Chappel, James M., Dallas, Tex. Pliers. No. 975,385; Nov. 8; Sp. p. 2938; Gaz. vol. 160; p. 474.

Charles, Burton R., Portland, Oreg. Combined electric iron and stove. No. 975,936; Nov. 15; Sp. p. 4084; Gaz. vol. 160; p. 689.

Charles Parker Company, The. (See Walker, Eli M., assignor.)

Chase & Baker Company, The. (See Bayer, William F., assignor.)

Chase Machine Company, The. (See Metcalf and Carson, assignors.)

Chase-Shawmut Company. (See Stuart, William G., assignor.)

Chatel, Joseph P., Manchester, N. H. Bobbin for looms. No. 976,120; Nov. 15; Sp. p. 4437; Gaz. vol. 160; p. 752.

Chauncey, James W., Alexandria, Va. Shears. No. 976,121; Nov. 15; Sp. p. 4439; Gaz. vol. 160; p. 752.

Chemische Werke vorm. Dr. Heinrich Byk. (See Grüter and Pohl, assignors.)

Cheney, Herbert W., Norwood, Ohio, assignor to Allis-Chalmers Company and The Bullock Electric Manufacturing Company. Switch. No. 976,549; Nov. 22; Sp. p. 5467; Gaz. vol. 160; p. 923.

Chicago Linotabler Company. (See Stevenson, Ashton G., assignor.)

Chidlow, David, Washington, D. C. Composition for use in bread-making. No. 976,343; Nov. 22; Sp. p. 5011; Gaz. vol. 160; p. 851.

Christensen, Conrad M., Leeds, N. D. Car-door. No. 975,209; Nov. 8; Sp. p. 2577; Gaz. vol. 160; p. 415.

Christensen, Niels, Chicago, Ill. Liquid-shaker. No. 977,165; Nov. 29; Sp. p. 6836; Gaz. vol. 160; p. 1160.

Christian, Oliver. (See Dumont, Joseph, assignor.)

Christofferson, Silas, N. T. Woods, and W. E. Jones, assignors to Christofferson-Woods Carburetor Co., Portland, Oreg. Carbureter. No. 976,344; Nov. 22; Sp. p. 5013; Gaz. vol. 160; p. 851.

Christofferson-Woods Carburetor Co. (See Christofferson, Woods, and Jones, assignors.)

Christy, Henry A., Kenilworth, Ill. Car-door. No. 975,749; Nov. 15; Sp. p. 3706; Gaz. vol. 160; p. 625.

Christy, Henry A., Kenilworth, Ill. Rail-joint. No. 976,985; Nov. 29; Sp. p. 6425; Gaz. vol. 160; p. 1098.

Church, Edmund S., Dayton, Ohio, assignor to The Hayner Distilling Company. Bottle-stopper. No. 974,122; Nov. 1; Sp. p. 30; Gaz. vol. 160; p. 8.

Church, Edmund S., assignor to The National Cash Register Company, Dayton, Ohio. Cash-register. No. 974,952; Nov. 8; Sp. p. 1987; Gaz. vol. 160; p. 327.

Churchill, William, assignor to Corning Glass Works, Corning, N. Y. Signaling-lens. No. 974,123; Nov. 1; Sp. p. 33; Gaz. vol. 160; p. 9.

Cincinnati Shaper Company, The. (See Murray, Aristides R., assignor.)

Claiborne, Harry L., Guineys, Va. Land-roller. No. 974,357; Nov. 1; Sp. p. 643; Gaz. vol. 160; p. 95.

Clancy, John C., New York, N. Y. Treatment of precious metalliferous ores. No. 976,043; Nov. 15; Sp. p. 4278; Gaz. vol. 160; p. 720.

Clancy, John C., New York, N. Y. Treatment of precious metalliferous ores. No. 976,044; Nov. 15; Sp. p. 4280; Gaz. vol. 160; p. 720.

Clancy, John C., New York, N. Y. Treatment of precious metalliferous ores. No. 976,045; Nov. 15; Sp. p. 4281; Gaz. vol. 160; p. 720.

Clark, Albert C., Chicago, Ill. Mechanical boiler-cleaner. No. 975,328; Nov. 8; Sp. p. 2815; Gaz. vol. 160; p. 455.

Clark, Otis O., Liberal, Kans. Attachment for harvesters. No. 974,358; Nov. 1; Sp. p. 644; Gaz. vol. 160; p. 96.

Clark, Russell A., Pittsburg, Pa. Nut-locking tool. No. 975,677; Nov. 15; Sp. p. 3572; Gaz. vol. 160; p. 601.

Clark, Walter G. (See Parker and Clark.)

Clark, William T. (See Kugler and Clark.)

Clarke, Charles B. (See Toops, Emory D., assignor.)

Clarke, Peete B., Liverpool, England. Vessel for carrying bulk cargo. No. 975,750; Nov. 15; Sp. p. 3710; Gaz. vol. 160; p. 626.

Clarke, William E., Detroit, Mich. Eyeglass-frame. No. 974,360; Nov. 8; Sp. p. 1769; Gaz. vol. 160; p. 295.

Clauss, Henrie, Fremont, Ohio. Safety-razor. No. 974,473; Nov. 1; Sp. p. 914; Gaz. vol. 160; p. 135.

Clay, Harry C., assignor to Reeves & Company, Columbus, Ind. Gang-plow. No. 976,721; Nov. 22; Sp. p. 5794; Gaz. vol. 160; p. 981.

Cleary, Cornelius, Ironton, Ohio. Door-opener. No. 974,359; Nov. 1; Sp. p. 646; Gaz. vol. 160; p. 96.

Clement, Charles P., Liege, Belgium. Automatic firearm. No. 976,122; Nov. 15; Sp. p. 4440; Gaz. vol. 160; p. 752.

Clement, Edward E., Washington, D. C., assignor to The North Electric Company, Cleveland, Ohio. Selective ringing means for telephone systems. No. 976,123; Nov. 15; Sp. p. 4444; Gaz. vol. 160; p. 753.

Clerkin, William, Akron, Ohio, assignor to The Taplin, Rice-Clerkin Company. Grate for stoves or furnaces. No. 976,848; Nov. 29; Sp. p. 6097; Gaz. vol. 160; p. 1049.

Clermont, John B., New York, N. Y., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Door. No. 974,750; Nov. 1; Sp. p. 1525; Gaz. vol. 160; p. 234.

Cleveland Hardware Company, The. (See Hickok, Lester E., assignor.)

Cleveland Steel Tool Company, The. (See Silliman, Benjamin F., assignor.)

Cleveland Twist Drill Company, The. (See Cox, Samuel H., assignor.)

Clifford, Frank L. (See Ingalls, Charles F., assignor.)

Clifford, Walter, London, England. Apparatus for punching and delivering tickets. No. 976,046; Nov. 15; Sp. p. 4284; Gaz. vol. 160; p. 720.

Climax Machinery Company. (See Hood, Ernest K., assignor.)

Clishum, John T., Pittsburg, Pa. Sole and heel plate. No. 977,272; Nov. 29; Sp. p. 7043; Gaz. vol. 160; p. 1198.

Cloes, Benjamin J., Highland, Cal. Fruit-clipping and pruning instrument. No. 974,553; Nov. 1; Sp. p. 1103; Gaz. vol. 160; p. 166.

Clore, Withrow, assignor of one-half to F. C. Milligan, Wayeland, Ind. Clamping device. No. 975,832; Nov. 15; Sp. p. 3866; Gaz. vol. 160; p. 653.
Cloud, Otho E., and A. W. Albers, Philadelphia, Pa.; said Albers assignor to said Cloud. Calculating-machine. No. 976,152; Nov. 22; Sp. p. 4532; Gaz. vol. 160; p. 785.
Cloudy, Francis A., Startup, Wash. Cant-dog. No. 976,986; Nov. 29; Sp. p. 6436; Gaz. vol. 160; p. 1099.
Clutter, Alexander, Youngstown, Ohio. Mailing device. No. 976,783; Nov. 22; Sp. p. 5044; Gaz. vol. 160; p. 1003.
Clymer, Frederick, Belmar, and J. Degen, Trenton, N. J., assignors to United Revolving Door Company. Revolving door. No. 975,510; Nov. 15; Sp. p. 3196; Gaz. vol. 160; p. 544.
Cobb, Elmer M., South Portland, assignor to Lang-Cobb Manufacturing Company, Portland, Me. Boring device. No. 976,635; Nov. 22; Sp. p. 5034; Gaz. vol. 160; p. 952.
Cochran, Edwin J., Sterling, Ill. Chimney-cap. No. 976,849; Nov. 29; Sp. p. 6099; Gaz. vol. 160; p. 1049.
Cochran, Frederic B., New York, N. Y. Vacuum cleaning apparatus. No. 975,396; Nov. 15; Sp. p. 2965; Gaz. vol. 160; p. 503.
Cochran, Michael L., Durbin, W. Va. Tool. No. 975,210; Nov. 8; Sp. p. 2579; Gaz. vol. 160; p. 416.
Cockrell, Francis M., Jr., New Orleans, La. Sugar-cane stripper and topper. No. 976,850; Nov. 29; Sp. p. 6100; Gaz. vol. 160; p. 1050.
Coco, Paulin J., Hamburg, La. Boll-weevil exterminator. No. 974,751; Nov. 1; Sp. p. 1526; Gaz. vol. 160; p. 284.
Coddington, Rebecca V., Gallup, N. Mex. Surgical binder. No. 976,550; Nov. 22; Sp. p. 5470; Gaz. vol. 160; p. 924.
Coe Brass Manufacturing Company, The. (See Taylor, Henry E. P., assignor.)
Coenen, John L., Little Chute, Wis. Hydraulic pulp or paper press. No. 976,551; Nov. 22; Sp. p. 5471; Gaz. vol. 160; p. 924.
Coffin, Henry E., Hackensack, N. J., assignor to Brown & Root Company, New York, N. Y. Apparatus for drying eggs. No. 977,371; Nov. 29; Sp. p. 7261; Gaz. vol. 160; p. 1232.
Coffman, Salah W., Keota, Iowa. Trace-carrier. No. 976,636; Nov. 22; Sp. p. 5637; Gaz. vol. 160; p. 953.
Cogger, William B., assignor to T. Kundtz, Cleveland, Ohio. School-seat. No. 975,019; Nov. 8; Sp. p. 2140; Gaz. vol. 160; p. 349.
Cohen, Joshua L., (by judicial change of name now J. L. Cowen.) New York, N. Y., assignor to The Lionel Manufacturing Company. Toy-railway rail. No. 976,722; Nov. 22; Sp. p. 5795; Gaz. vol. 160; p. 981.
Colbert, John, Arlington, S. C. Shoe-heel. No. 975,397; Nov. 15; Sp. p. 2967; Gaz. vol. 160; p. 504.
Cole, Frederick W. (See Mellor and Cole.)
Coleman, Charles E., Fort Gaines, Ga. Tooth-crown. No. 976,153; Nov. 22; Sp. p. 4543; Gaz. vol. 160; p. 786.
Coleman, James M., St. Lambert, Quebec, Canada. Freight-car. No. 975,398; Nov. 15; Sp. p. 2968; Gaz. vol. 160; p. 504.
Coleman, John T. (See Johnson, Carl A., assignor.)
Coleman, Thomas A., Longville, assignor to C. T. Patterson Company, Ltd., New Orleans, La. Chain conveyer. No. 977,273; Nov. 29; Sp. p. 7044; Gaz. vol. 160; p. 1198.
Coleman, William C., Wichita, Kans. Lamp. No. 976,723; Nov. 22; Sp. p. 5706; Gaz. vol. 160; p. 981.
Coleman, William C., Wichita, Kans. Automatic cut-off. No. 976,724; Nov. 22; Sp. p. 5798; Gaz. vol. 160; p. 982.
Colgrove, Albert R., Pasadena, Cal. Folding umbrella. No. 975,211; Nov. 8; Sp. p. 2580; Gaz. vol. 160; p. 416.
Colignon, Eugène. (See Denis, Constant, assignor.)
Collar, Adoniram J., Yreka, Cal. Ditch-gate. No. 976,434; Nov. 22; Sp. p. 5215; Gaz. vol. 160; p. 885.
Collier, Henry B., Prairie Grove, Ark. Conductor-strip. No. 976,154; Nov. 22; Sp. p. 4544; Gaz. vol. 160; p. 786.
Collins, John M. (See Goebel, William, assignor.)
Collins, Michael J., Detroit, Mich. Holder for sharpening gravers' or other tools. No. 975,329; Nov. 8; Sp. p. 2817; Gaz. vol. 160; p. 455.
Colman, Howard D., assignor, by mesne assignments, to Barber-Colman Company, Rockford, Ill. Thread-selecting device. No. 977,160; Nov. 29; Sp. p. 6837; Gaz. vol. 160; p. 1161.
Colorado Iron Works Company. (See Rothwell, John E., assignor.)
Colucci, Giuseppe, Buffalo, N. Y. Bottle-stopper. No. 977,167; Nov. 29; Sp. p. 6840; Gaz. vol. 160; p. 1161.
Columbian Cotton Harvester Company. (See Miles, Don D., assignor.)
Columbus Pharmacal Company, The. (See Odgers, Harry T., assignor.)
Columbus Truck and Supply Mfg. Co. (See Morton, Frank M., assignor.)
Combustion Utilities Company. (See Mangelsdorff, Max F., assignor.)
Comee, Frederick T. (See Wren and Comee.)
Comptograph Company. (See Niemann, Frederick A., assignor.)
Conde, Frederic. (See Shufelt, James A., assignor.)
Condon, Thomas F., East Dorset, Vt. Mop-wringer. No. 974,236; Nov. 1; Sp. p. 245; Gaz. vol. 160; p. 49.
Conklin, Robert. (See Van Winkle, Charles W., assignor.)
Conley, Michael E., assignor to J. E. Florence, trustee, New York, N. Y. Charging melting-furnaces. No. 975,751; Nov. 15; Sp. p. 3711; Gaz. vol. 160; p. 626.
Connecticut Hook and Eye Company, The. (See Courtland, William A., assignor.)
Connell, William H., Pittsburg, Pa. Ingot-mold. No. 975,511; Nov. 15; Sp. p. 3190; Gaz. vol. 160; p. 544.
Conrad, Frank, Swissvale, Pa., assignor to Westinghouse Electric & Manufacturing Company. Starting means for vapor-rectifying devices. No. 975,309; Nov. 15; Sp. p. 2971; Gaz. vol. 160; p. 504.
Consolidated Car Heating Company. (See McElroy, James F., assignor.)
Consolidated Car Heating Company. (See McElroy and Macomber, assignors.)
Constantine, John H., and B. V. Tucker, Rumford, Me. Belt-fastener. No. 977,168; Nov. 29; Sp. p. 6844; Gaz. vol. 160; p. 1162.
Continental Manufacturing Company, The. (See Dun Lany, William P., assignor.)
Coo, Thomas J., Toronto, Ontario, Canada, assignor to The Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine. No. 974,237; Nov. 1; Sp. p. 346; Gaz. vol. 160; p. 50.
Cook, Henry W., Syracuse, N. Y. Heel for boots and shoes. No. 976,552; Nov. 22; Sp. p. 5473; Gaz. vol. 160; p. 924.
Cook, Herbert F. (See Hildreth and Cook.)
Cook, Thomas R., Marion, Ind. Mail-transferring apparatus. No. 975,212; Nov. 8; Sp. p. 2582; Gaz. vol. 160; p. 416.
Cook, William A., New York, N. Y. Air-pump. No. 977,274; Nov. 29; Sp. p. 7045; Gaz. vol. 160; p. 1198.
Cooke, Samuel R. (See Hartman and Cooke.)
Cookerette Company. (See Hallock, Arthur T., assignor.)
Cool, Roy D. (See Prickett, Clinton E., assignor.)
Cooper, Bertram G., Surbiton, England. Propeller for operating on fluids. No. 977,068; Nov. 29; Sp. p. 6608; Gaz. vol. 160; p. 1126.
Cooper, Daniel M., Rochester, N. Y., assignor, by mesne assignments, to American Laundry Machinery Company, Cincinnati, Ohio. Feeding mechanism for mangles. No. 976,553; Nov. 22; Sp. p. 5474; Gaz. vol. 160; p. 924.
Cooper, Eugene A., Britton, S. D. Spark-timing device for explosive-engines. No. 976,345; Nov. 22; Sp. p. 5018; Gaz. vol. 160; p. 852.
Cooper, Robert, Chicago, Ill. Nut-lock. No. 975,605; Nov. 15; Sp. p. 3396; Gaz. vol. 160; p. 577.
Copeland, Lucius D., Alhambra, Cal. Compounding and condensing apparatus for locomotive-engines. No. 976,554; Nov. 22; Sp. p. 5476; Gaz. vol. 160; p. 925.
Coplen, John D., Globe, Ariz. Earth-drill. No. 975,020; Nov. 8; Sp. p. 2142; Gaz. vol. 160; p. 350.
Coppers, John A., and E. E. Booth, Denison, Tex. Lubricator. No. 976,637; Nov. 22; Sp. p. 5638; Gaz. vol. 160; p. 953.
Coppinger, John M., *et al.* (See Hollis, Elbert H., assignor.)
Corbridge, William, Bury, England. Gas-fitting. No. 976,987; Nov. 29; Sp. p. 6437; Gaz. vol. 160; p. 1099.
Corcoran, Cornelius B., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 976,124; Nov. 15; Sp. p. 4449; Gaz. vol. 160; p. 753.
Corey, George D., Providence, R. I. Umbrella attachment. No. 976,638; Nov. 22; Sp. p. 5642; Gaz. vol. 160; p. 954.
Corning Glass Works. (See Churchill, William, assignor.)
Corporation of Chemische Fabrik Griesheim Elektron. (See Schnitzspahn, Karl, assignor.)
Corser, George E. (See Roberts and Corser.)
Corwin Telephone Manufacturing Company. (See Staub, Frank X., assignor.)
Cory & Reynolds Company. (See Dean, Calvin, assignor.)
Cory & Son, Charles. (See Wood, Frank W., assignor.)
Cosper, William P., Chicago, Ill., assignor to Roth Manufacturing Company. Water-heater. (Reissue.) No. 13,166; Nov. 8; Sp. p. 2947; Gaz. vol. 160; p. 475.
Costello, Loretto A., Philadelphia, Pa., assignor, by mesne assignments, to Scott & Williams, Incorporated, Camden, N. J. Hosiery. No. 976,555; Nov. 22; Sp. p. 5477; Gaz. vol. 160; p. 925.
Costello, Patrick F., Vintondale, Pa. Mining-needle. No. 977,275; Nov. 29; Sp. p. 7048; Gaz. vol. 160; p. 1199.
Cots, Higinio, San Jose, Costa Rica. Draftsman's table. No. 976,639; Nov. 22; Sp. p. 5643; Gaz. vol. 160; p. 954.
Cotter, Michael L., Somerville, Mass. Car-door guide and guard. No. 977,069; Nov. 29; Sp. p. 6610; Gaz. vol. 160; p. 1127.
Cotton, Leo A., Hornsby, near Sydney, New South Wales, Australia. Speed-indicator for ships. No. 976,725; Nov. 22; Sp. p. 5800; Gaz. vol. 160; p. 982.
Cottrell, Edgar H., Stonington, Conn., assignor to C. B. Cottrell & Sons Company, New York, N. Y. Cutting and folding machine. No. 974,360; Nov. 1; Sp. p. 647; Gaz. vol. 160; p. 97.
Couch, George B. (See Francart, Debay, Johnston, and Couch.)
Courtland, William A., Brooklyn, N. Y., assignor, by mesne assignments, to The Connecticut Hook and Eye Company, Waterbury, Conn. Hook-and-eye-sewing machine. No. 974,753; Nov. 1; Sp. p. 1528; Gaz. vol. 160; p. 234.

Covert, Edson C., New Kensington, Pa. Metallic car-line. No. 976,435; Nov. 22; Sp. p. 5216; Gaz. vol. 160; p. 885.
Covert, Edson C., New Kensington, Pa. Trussed-beam construction. No. 976,436; Nov. 22; Sp. p. 5217; Gaz. vol. 160; p. 885.
Cowan, Richard J. D., Greenville, Mo., assignor of two-thirds to D. W. Heilig, Pulaski, Ill. Concrete railway-tie. No. 976,726; Nov. 22; Sp. p. 5803; Gaz. vol. 160; p. 983.
Cowen, Joshua L. (See Cohen, Joshua L.)
Cowles, Arthur B., Rochester, N. Y. Sheet-feeding mechanism. No. 976,640; Nov. 22; Sp. p. 5645; Gaz. vol. 160; p. 954.
Cowley, James T., Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Cable-carrier apparatus. No. 977,070; Nov. 29; Sp. p. 6612; Gaz. vol. 160; p. 1127.
Cox, Edward L., Alamosa, Colo. Artificial bait. No. 975,833; Nov. 15; Sp. p. 3866; Gaz. vol. 160; p. 653.
Cox, Samuel H., assignor to The Cleveland Twist Drill Company, Cleveland, Ohio. Centering and driving means for tools. No. 976,346; Nov. 22; Sp. p. 5019; Gaz. vol. 160; p. 852.
Coyle, Andrew M., New York, N. Y., assignor to Otis Elevator Company, Jersey City, N. J. Motor control. No. 974,238; Nov. 1; Sp. p. 348; Gaz. vol. 160; p. 50.
Cozine, Victor E., Gloversville, N. Y. Time-controlled draft-regulator. No. 974,361; Nov. 1; Sp. p. 650; Gaz. vol. 160; p. 97.
Cozzens, James J., East Orange, C. F. Estwick, Jersey City, and G. S. Tiffany, Summit, N. J., assignors to The Kinsman Block System Company. Railway-signal. No. 974,362; Nov. 1; Sp. p. 652; Gaz. vol. 160; p. 97.
Crabill, Pearl P. (See Turner and Crabill.)
Crabtree, Frank S., North Leeds, Me. Door-locking device. No. 975,122; Nov. 8; Sp. p. 2363; Gaz. vol. 160; p. 385.
Craecraft-Leich Electric Company. (See Leich, Oscar M., assignor.)
Craggs, Emma I. B. (See Lilliehöök, Carl J. F. M., assignor.)
Cramer, James H. (See McHill, William R., assignor.)
Cramer, William L., Brooklyn, N. Y. Boat-propelling mechanism. No. 977,160; Nov. 29; Sp. p. 6845; Gaz. vol. 160; p. 1162.
Crandall, William F., assignor of one-half to V. H. Hendricks, Jasper, Mo. Portable fruit-displayer. No. 977,071; Nov. 29; Sp. p. 6613; Gaz. vol. 160; p. 1127.
Crane, Louis L., New York, N. Y. Flying-machine. No. 974,554; Nov. 1; Sp. p. 1104; Gaz. vol. 160; p. 166.
Crane, William E., Corinth, W. Va. Funnel. No. 977,372; Nov. 29; Sp. p. 7262; Gaz. vol. 160; p. 1233.
Crans, Edward L. (See Maiden, Arthur E., assignor.)
Creager, William M., and T. C. Harry, Dallas, Tex. Sluice-gate. No. 975,400; Nov. 15; Sp. p. 2972; Gaz. vol. 160; p. 505.
Cretini, Francis I. (See Mollere, Mederic C., assignor.)
Crigger, Henry C., Johnson City, Tenn., assignor of one-third to D. O. Simpson, Kenova, W. Va. Car-coupling. No. 977,373; Nov. 29; Sp. p. 7264; Gaz. vol. 160; p. 1233.
Crippen, Walter R., assignor to Emerson Piano Company, Boston, Mass. Automatic player. No. 977,072; Nov. 29; Sp. p. 6614; Gaz. vol. 160; p. 1128.
Crist, Mark B., Pittsburg, Pa., assignor to The Westinghouse Machine Company. Ignition means for internal-combustion engines. No. 975,512; Nov. 15; Sp. p. 3200; Gaz. vol. 160; p. 545.
Crocco, Gaetano A., and O. Ricaldoni, Rome, Italy. Car suspension for airships. No. 975,330; Nov. 8; Sp. p. 2818; Gaz. vol. 160; p. 456.
Crompton & Knowles Loom Works. (See Ryon, Epps H., assignor.)
Cronwell, Anthony, Sterling Run, Pa. Mining-measure. No. 975,213; Nov. 8; Sp. p. 2585; Gaz. vol. 160; p. 417.
Crosby, Edward A., Minneapolis, Minn. Pen and pencil holder. No. 976,437; Nov. 22; Sp. p. 5219; Gaz. vol. 160; p. 886.
Cross, Frank L., Detroit, Mich. Regulator for gas generating and supply systems. No. 974,555; Nov. 1; Sp. p. 1105; Gaz. vol. 160; p. 167.
Crouse, Charles W., Thompson, Nebr. Weed-cutter for cultivators. No. 975,214; Nov. 8; Sp. p. 2586; Gaz. vol. 160; p. 417.
Crouse-Hinds Company. (See Bissell, Carl H., assignor.)
Crow, Laura A., *et al.* (See King, William C., assignor.)
Crow, Thomas A., *et al.* (See King, William C., assignor.)
Crowe, Alexander, and J. E. Kinzel, Youngstown, Ohio. Tire for vehicles. No. 974,124; Nov. 1; Sp. p. 35; Gaz. vol. 160; p. 9.
Crowe, Paul L., Jersey City, N. J. Underfeed stoker. No. 976,047; Nov. 15; Sp. p. 4286; Gaz. vol. 160; p. 727.
Crowe, Paul L., Jersey City, N. J. Underfeed stoker. No. 976,048; Nov. 15; Sp. p. 4288; Gaz. vol. 160; p. 727.
Crowe, Paul L., Jersey City, N. J. Underfeed stoker. No. 976,049; Nov. 15; Sp. p. 4290; Gaz. vol. 160; p. 728.
Crowley, John R., assignor of one-half to N. N. Boyden, Atlanta, Ga. Boiler-flue. No. 977,276; Nov. 20; Sp. p. 7049; Gaz. vol. 160; p. 1199.
Crucible Steel Company of America. (See Johnson, Charles M., assignor.)
Cruise, Homer H., Starr, Ohio. Combination rail-joint and nut-lock. No. 975,513; Nov. 15; Sp. p. 3201; Gaz. vol. 160; p. 545.
Crump, Robert B., assignor of one-fourth to J. E. Kemme... one-fourth to F. A. Murphy, Brooklyn, and one-fourth t... J. R. Rehak, Rockland Lake, N. Y. Reversing-gear. No. 976,727; Nov. 22; Sp. p. 5804; Gaz. vol. 160; p. 983.
Crump Roller Washing Attachment Company, The. (See Crump, Samuel, assignor.)
Crump, Samuel, assignor to The Crump Roller Washin... Attachment Company, New York, N. Y. Printing-press... No. 976,155; Nov. 22; Sp. p. 4545; Gaz. vol. 160; p. 78...
Crumpacker, William A. (See Smith and Crumpacker.)
Crutchley, Harry, Jersey City, N. J., assignor to Under... wood Typewriter Company, New York, N. Y. Type... writing machine. No. 975,834; Nov. 15; Sp. p. 3867; Gaz. vol. 160; p. 653.
Cubitt, Archibald S., Schenectady, N. Y., assignor t... General Electric Company. Locking mechanism fo... controller-handles. No. 977,073; Nov. 29; Sp. p. 6618; Gaz. vol. 160; p. 1128.
Culligan, John C., Jordanville, N. Y. Reflector. No. 975,215; Nov. 8; Sp. p. 2587; Gaz. vol. 160; p. 417.
Cummings, Robert A., Beaver, Pa. Reinforced-concret... pile or column. No. 975,514; Nov. 15; Sp. p. 3203; Gaz. vol. 160; p. 545.
Cunningham, David W., Des Moines, Iowa. Locomotive... boiler washing and refilling apparatus. No. 976,438; Nov. 22; Sp. p. 5221; Gaz. vol. 160; p. 886.
Cunningham, Edward R., Des Moines, Iowa. Combine... telegraph and telephone system. No. 976,050; Nov. 15; Sp. p. 4291; Gaz. vol. 160; p. 728.
Cunningham, Joseph T., Cincinnati, Ohio. Rotary harrow. No. 976,439; Nov. 22; Sp. p. 5224; Gaz. vol. 160; p. 886.
Cunningham, William J. (See Bernstein, Julius F., assignor.)
Curlett, William, San Francisco, Cal. Lock. No. 976,784; Nov. 22; Sp. p. 5046; Gaz. vol. 160; p. 1003.
Curtin, Peter A., Buffalo, assignor of one-half to T. F. Gaynor, New York, N. Y. Water-closet. No. 975,678; Nov. 15; Sp. p. 3573; Gaz. vol. 160; p. 601.
Curtis, Clarence T., Washington, Me. Horse-hoe. No. 976,641; Nov. 22; Sp. p. 5642; Gaz. vol. 160; p. 955.
Curtis, Edward, Newark, N. J. Filing-machine. No. 974,474; Nov. 1; Sp. p. 916; Gaz. vol. 160; p. 136.
Curtis, Joel A. (See McKee, Thomas A., assignor.)
Curtis, Martin J., Billings, Mont. Miner's lamp. No. 976,785; Nov. 22; Sp. p. 5948; Gaz. vol. 160; p. 1004.
Cush, William F., Washington, D. C. Removable flange. No. 976,440; Nov. 22; Sp. p. 5225; Gaz vol. 160; p. 887.
Cushion Crown-Arch Key Company. (See Hay, Howard M., assignor.)
Custer, Dwight W., assignor, by mesne assignments, t... Automatic Printing Press Company, New York, N. Y. Printing-press inking device. No. 977,170; Nov. 29; Sp. p. 6846; Gaz. vol. 160; p. 1162.
Cutler, Benjamin, Crawfordsville, Oreg. Wave-motor. No. 976,988; Nov. 29; Sp. p. 6438; Gaz. vol. 160; p. 1099.
Cutter Electrical Manufacturing Company, The. (See Scott, William M., assignor.)
D'Abreu, Armand, Paris, and E. Seeger, Enghien, France. Sling for ball games. No. 975,193; Nov. 8; Sp. p. 2542; Gaz. vol. 160; p. 410.
Dain, Joseph, Ottumwa, Iowa. Hay-rake. No. 974,125; Nov. 1; Sp. p. 37; Gaz. vol. 160; p. 9.
Dalén, Gustaf, Stockholm, Sweden. Device for establish... ing a pulsing motion of fluid in conduits. No. 976,556; Nov. 22; Sp. p. 5479; Gaz. vol. 160; p. 926.
Daley, William T. (See Hines, George E., assignor.)
Dalgleish, Edmund. (See Metcalf and Dalgleish.)
Dalgleish, Edmund, Cleveland, Ohio. Towing-machine. No. 977,277; Nov. 29; Sp. p. 7050; Gaz. vol. 160; p. 1199.
Dalton, Joseph A., assignor of one-half to P. J. Quinn, Pawtucket, R. I. Tapping and drilling chuck. No. 974,239; Nov. 1; Sp. p. 355; Gaz. vol. 160; p. 50.
Daly, Asa, Lebanon, Ohio. Rail-joint. No. 977,171; Nov. 29; Sp. p. 6848; Gaz. vol. 160; p. 1163.
Dalziel, James, Derby, England. Voltage-regulated electric-lighting system for railway and other carriages. No. 977,074; Nov. 29; Sp. p. 6620; Gaz. vol. 160; p. 1129.
Damköhler, Hermann, and H. Schwindt, Bremen, Germany. Electrolytically treating tannic infusions of plants. No. 975,835; Nov. 15; Sp. p. 3869; Gaz. vol. 160; p. 653.
Danaher, John W., assignor of one-half to E. E. Slaght, Toronto, Ontario, Canada. Gas-meter. No. 974,775; Nov. 8; Sp. p. 1581; Gaz. vol. 160; p. 266.
Daniel, Charles A. (See Zeglen, Casimir, assignor.)
Daniell, Frederick H. (See Hebden and Daniell.)
Daniell, Frederick H., deceased; M. B. Daniell, executrix, Franklin, N. H. Cop-tube. No. 974,126; Nov. 1; Sp. p. 41; Gaz. vol. 160; p. 10.
Daniell, Frederick H., deceased, Franklin, N. H., (M. B. Daniell, executrix,) and J. C. Hebden, Providence, R. I. Packing yarn for dyeing. No. 974,127; Nov. 1; Sp. p. 43; Gaz. vol. 160; p. 10.
Daniell, Mary B., executrix. (See Daniell, Frederick H.)
Daniell, Mary B., executrix. (See Daniell and Hebden.)
Daniell, Mary B., executrix. (See Hebden and Daniell.)
Daniels, Samuel, Hardwick, Vt. Maple-sap evaporator. No. 974,475; Nov. 1; Sp. p. 918; Gaz. vol. 160; p. 136.
Daprato, John J., Tuckahoe district, Va., assignor to The American Tobacco Company, Newark, N. J. Cigarette-machine. No. 976,441; Nov. 22; Sp. p. 5227; Gaz. vol. 160; p. 887.

Darlinton, George W., Los Angeles, Cal. Storm window or screen hanger. No. 974,963; Nov. 8; Sp. p. 1991; Gaz. vol. 160; p. 328.

Darr, John M., St. Louis, Mo. Woodworker's press for glued work. No. 974,240; Nov. 1; Sp. p. 357; Gaz. vol. 160; p. 51.

Darst, James C., Roanoke, Va. Receptacle for cigarette-holders. No. 974,128; Nov. 1; Sp. p. 46; Gaz. vol. 160; p. 10.

Daugherty, Sherman B., and S. F. Johnson, Indianapolis, Ind. Magneto-electric machine. No. 975,401; Nov. 15; Sp. p. 2973; Gaz. vol. 160; p. 505.

Daugherty, William H., Jasonville, Ind. Car-wheel. No. 974,363; Nov. 1; Sp. p. 653; Gaz. vol. 160; p. 98.

Dauner, Louis F. (See Dauner, William J. and L. F.)

Dauner, William J. and L. F., Sutton, Nebr. Feeding mechanism for corn-shellers. No. 974,476; Nov. 1; Sp. p. 923; Gaz. vol. 160; p. 137.

Davidson, Charles J. (See Sellers and Davidson.)

Davidson, Gilbert H., Morenci, Ariz. Sand-wheel. No. 975,331; Nov. 8; Sp. p. 2820; Gaz. vol. 160; p. 456.

Davidson, Max, Ogden, Utah. Box-lid holder. No. 977,278; Nov. 29; Sp. p. 7052; Gaz. vol. 160; p. 1200.

Davies Automatic Shear Company. (See Davies, Frederick D., assignor.)

Davies, Frederick D., assignor to Davies Automatic Shear Company, New York, N. Y. Shears. No. 975,515; Nov. 15; Sp. p. 3206; Gaz. vol. 160; p. 546.

Davis, Albert G., Schenectady, N. Y., assignor to General Electric Company. Steam-generating apparatus for automobiles. No. 974,129; Nov. 1; Sp. p. 47; Gaz. vol. 160; p. 11.

Davis, Alfred U., Lutherville, Md. Mining-machine. No. 974,645; Nov. 1; Sp. p. 1292; Gaz. vol. 160; p. 199.

Davis Brake Shoe Company. (See Davis, John H., assignor.)

Davis, Daniel T., Worley, N. C. Calendar. No. 974,754; Nov. 1; Sp. p. 1532; Gaz. vol. 160; p. 235.

Davis, Frank M., Butler, Pa. Milk extract of wild spikenard. No. 976,051; Nov. 15; Sp. p. 4295; Gaz. vol 160; p. 728.

Davis, George W., Blossom, Tex. Cultivator. No. 974,241; Nov. 1; Sp. p. 358; Gaz. vol. 160; p. 51.

Davis, Homer L., East Aurora, assignor of one-third to M. T. Devaney, one-third to F. H. Rehler, and one-third to C. K. Ernst, Buffalo, N. Y. Weather-strip for doors. No. 974,242; Nov. 1; Sp. p. 361; Gaz. vol. 160; p. 52.

Davis, Irvin W., and M. J. Evans, Milwaukee, assignors to Stowell Manufacturing and Foundry Company, South Milwaukee, Wis. Hay-carrier. No. 975,836; Nov. 15; Sp. p. 3871; Gaz. vol. 160; p. 654.

Davis, James F., Coalmont, Ind. Shaft attachment. No. 975,332; Nov. 8; Sp. p. 2822; Gaz. vol. 160; p. 456.

Davis, John H., Brooklyn, assignor to Davis Brake Shoe Company, New York, N. Y. Brake-shoe. No. 974,243; Nov. 1; Sp. p. 363; Gaz. vol. 160; p. 52.

Davis, Joseph C. (See Luther, Charles J., assignor.)

Davison, Frank N., *et al.* (See Kaiser, Charles A., assignor.)

Dawson, Bailey B., Lodge, Va. Tire. No. 974,861; Nov. 8; Sp. p. 1770; Gaz. vol. 160; p. 295.

Dawson, Oliver B., El Paso, Tex. Producing metallic zinc. No. 976,557; Nov. 22; Sp. p. 5481; Gaz. vol. 160; p. 926.

Day, George H., assignor to American Optical Company, Southbridge, Mass. Reel for eyeglasses. No. 974,477; Nov. 1; Sp. p. 924; Gaz. vol. 160; p. 137.

Dayton, James M., assignor to Excelsior Needle Company, Torrington, Conn. Air-controlling mechanism for carbureters. No. 976,558; Nov. 22; Sp. p. 5482; Gaz. vol. 160; p. 926.

De Bay, Lucien, Auvelais, Belgium. Apparatus for transporting and manipulating sheets of plate-glass. No. 977,279; Nov. 29; Sp. p. 7053; Gaz. vol. 160; p. 1200.

De la Hunty, Thomas, assignor to Scullin-Gallagher Iron & Steel Company, St. Louis, Mo. Molding apparatus. No. 976,464; Nov. 22; Sp. p. 5269; Gaz. vol. 160; p. 895.

De la Hunty, Thomas, assignor to Scullin-Gallagher Iron & Steel Company, St. Louis, Mo. Green-sand core. No. 976,465; Nov. 22; Sp. p. 5270; Gaz. vol. 160; p. 895.

De Lano, Charles B., South Boston, Mass. Tobacco-moistener. No. 977,374; Nov. 29; Sp. p. 7266; Gaz. vol. 160; p. 1233.

De Laval Steam Turbine Company, The. (See Salzer, Rudolph, assignor.)

De Lisle, Thomas C., and W. T. Phillips, Los Angeles, Cal. Display device for carpets and the like. No. 976,442; Nov. 22; Sp. p. 5230; Gaz. vol. 160; p. 887.

De Lukacsevics, Charles. (See Ackerman, Albert J., assignor.)

De Lukacsevics, Charles. (See Goldstein, Morris, assignor.)

De Lukacsevics, Charles, assignor to G. W. Morgan, New York, N. Y. Rotary motor. No. 974,803; Nov. 8; Sp. p. 1639; Gaz. vol. 160; p. 275.

De Moulin, Erastus, Greenville, Ill. Trick chair. No. 976,786; Nov. 22; Sp. p. 5950; Gaz. vol. 160; p. 1004.

De Moulin, Erastus, Greenville, Ill. Initiation device. No. 976,851; Nov. 29; Sp. p. 6102; Gaz. vol. 160; p. 1050.

Del Valle, Armando, assignor of one-half to C. J. Bender, New York, N. Y. Trolley for electric cars. No. 976,728; Nov. 22; Sp. p. 5805; Gaz. vol. 160; p. 983.

De Vilbiss Manufacturing Company, The. (See De Vilbiss, Thomas A., assignor.)

De Vilbiss, Thomas A., assignor to The De Vilbiss Manufacturing Company, Toledo, Ohio. Air-brush. No. 977,281; Nov. 29; Sp. p. 7057; Gaz. vol. 160; p. 1200.

De Vilbiss, Thomas A., assignor to The De Vilbiss Manufacturing Company, Toledo, Ohio. Modeling-pencil. No. 977,282; Nov. 29; Sp. p. 7060; Gaz. vol. 160; p. 1201.

De Vito, Louis, Cleveland, Ohio. Brake for railway-cars. No. 975,908; Nov. 15; Sp. p. 4026; Gaz. vol. 160; p. 679.

De Vivo, Aniello, Bayonne, N. J. Sharpening device for razors. No. 977,172; Nov. 29; Sp. p. 6850; Gaz. vol. 160; p. 1163.

De Vries, William, Marion, N. D. Churn attachment. No. 974,244; Nov. 1; Sp. p. 365; Gaz. vol. 160; p. 52.

Dean, Anthony C., Overhill, W. Va. Safety-stop for saw-mill-engines. No. 975,216; Nov. 8; Sp. p. 2588; Gaz. vol. 160; p. 417.

Dean, Calvin, assignor to Cory & Reynolds Company, Providence, R. I. Setting. No. 974,862; Nov. 8; Sp. p. 1771; Gaz. vol. 160; p. 295.

Dean Electric Company, The. (See Manson, Ray H., assignor.)

Dean Electric Company, The. (See St. Onge, Walter J., assignor.)

Dear, William H., Anthony, Kans. Combination egg-cabinet. No. 977,075; Nov. 29; Sp. p. 6628; Gaz. vol. 160; p. 1129.

Debay, George C. (See Francart, Debay, Johnston, and Couch.)

Decker, Harry R., Houston, Tex. Well-screen. No. 975,333; Nov. 8; Sp. p. 2823; Gaz. vol. 160; p. 457.

Decker, Harry R., Houston, Tex., and R. W. Houk, Vinita, Okla. Well-screen. No. 975,334; Nov. 8; Sp. p. 2824; Gaz. vol. 160; p. 457.

Deeds, Charles B., Mount Carroll, Ill. Protector and fastener for horse-collars. No. 974,755; Nov. 1; Sp. p. 1535; Gaz. vol. 160; p. 235.

Degen, Julius. (See Clymer and Degen.)

Degener, Heinrich, Berlin, Germany. Line setting and casting machine. No. 977,280; Nov. 29; Sp. p. 7056; Gaz. vol. 160; p. 1200.

Deimel, Jerome L. (See Hauer, Joseph, assignor.)

Delage, Marcel, Paris, France. System of heating by means of radio-incandescent bodies. No. 975,837; Nov. 15; Sp. p. 3875; Gaz. vol. 160; p. 654.

Delath, Fannie M., Chicago, Ill. Cooking device. No. 976,252; Nov. 22; Sp. p. 4807; Gaz. vol. 160; p. 821.

Delaney, Lawrence F., Watertown, N. Y. Resilient wheel. No. 976,989; Nov. 29; Sp. p. 6439; Gaz. vol. 160; p. 1099.

Delaware, Lackawanna & Western Railroad Company, The. (See Neafie, Andrew J., assignor.)

Delvigne, Maurice, Namur, Belgium. Explosive. No. 977,076; Nov. 29; Sp. p. 6630; Gaz. vol. 160; p. 1130.

Deming Company, The. (See Randolph, Alfred, assignor.)

Dempster, John T. H., Schenectady, N. Y., assignor to General Electric Company. Electrode. No. 976,990; Nov. 29; Sp. p. 6443; Gaz. vol. 160; p. 1100.

Denis, Constant, Fépin, assignor to E. Colignon, Paris, France. Smoke-consumer. No. 975,402; Nov. 15; Sp. p. 2975; Gaz. vol. 160; p. 506.

Denver Rock Drill & Machinery Company, The. (See Leonard, William H., assignor.)

Denver Rock Drill & Machinery Company, The. (See Waugh, Daniel S., assignor.)

Derby, John H., assignor to General Fire Extinguisher Company, New York, N. Y. Reducing-valve. No. 975,838; Nov. 15; Sp. p. 3877; Gaz. vol. 160; p. 654.

Derbyshire, Sidney T., Beloit, Wis. Measuring instrument. No. 974,364; Nov. 1; Sp. p. 655; Gaz. vol. 160; p. 98.

Desgeorge, Raoul. (See Lebrell and Desgeorge.)

Desgras, Adolphe, Hanover, Germany, assignor to Imbert Process Company, New York, N. Y. Treatment of zinc ores by the precipitation process. No. 975,217; Nov. 8; Sp. p. 2590; Gaz. vol. 160; p. 418.

Desmollières, Hubert, Montereau-faut-Yonne, France. Pouring device. No. 975,937; Nov. 15; Sp. p. 4087; Gaz. vol. 160; p. 689.

Detroit Wire Spring Company. (See Rickerd, Fred S., assignor.)

Deutsche Gasglühlicht Aktien Gesellschaft (Auergesellschaft). (See Remané, Gottschalk, and Hurwitz, assignors.)

Devaney, Martin T., *et al.* (See Davis, Homer L., assignor.)

Devecis, Frank. (See Dittrich and Devecis.)

Devey, Alfred J., *et al.* (See Devey, John J., Jr., and W. A., assignors.)

Devey, John, Lehi, J. Devey, Jr., Garland, and W. A. Devey, American Fork, assignors of one-eighth to J. F. Devey, Garland, and one-eighth to A. J. Devey, Alpine, Utah. Beet topper and digger. No. 975,218; Nov. 8; Sp. p. 2591; Gaz. vol. 160; p. 418.

Devey, John, Jr. (See Devey, John J., Jr., and W. A.)

Devey, Joseph F., *et al.* (See Devey, John J., Jr., and W. A., assignors.)

Devey, Walter A. (See Devey, John J., Jr., and W. A.)

Devine, Robert F., Erie, Pa. Mechanically-operated tongs. No. 976,052; Nov. 15; Sp. p. 4296; Gaz. vol. 160; p. 728.

Dewees, William H., Chicago, Ill. Cooker. No. 976,156; Nov. 22; Sp. p. 4548; Gaz. vol. 160; p. 786.

Dewey, Charles F. (See Schmid and Dewey.)

Dexter Folder Company. (See Dexter, Talbot C., assignor.)

Dexter, Talbot C., assignor to Dexter Folder Company, Pearl River, N. Y. Paper-feeding machine. No. 975,123; Nov. 8; Sp. p. 2365; Gaz. vol. 160; p. 385.

Dexter, Talbot C., assignor to Dexter Folder Company, Pearl River, N. Y. Sheet-registering mechanism for paper-feeding machines. No. 975,606; Nov. 15; Sp. p. 3397; Gaz. vol. 160; p. 577.

Dial, Homer K., Tifton, Ga. Bed-cover holder. No. 975,835; Nov. 8; Sp. p. 2825; Gaz. vol. 160; p. 457.

Diamond Decorative Leaf Company. (See Fichtmueller, Julius A. C., assignor.)

Diamond Electric Company. (See Parkhurst and Weeks, assignors.)

Dick, Albert B., Lake Forest, assignor to A. B. Dick Company, Chicago, Ill. Sheet-feeding apparatus. No. 977,283; Nov. 29; Sp. p. 7062; Gaz. vol. 160; p. 1201.

Dick, Frederick J., assignor to K. Tingley, Point Loma, Cal. Altitude time-dial. No. 976,347; Nov. 22; Sp. p. 5022; Gaz. vol. 160; p. 852.

Dick, Joseph, Canton, Ohio. Fodder-cutter. No. 974,776; Nov. 8; Sp. p. 1583; Gaz. vol. 160; p. 266.

Dickerson, Charles L., Clinton, Ill. Water-gage. No. 977,375; Nov. 29; Sp. p. 7267; Gaz. vol. 160; p. 1233.

Diescher, Alfred J., Pittsburg, Pa. Registering mechanism. No. 974,756; Nov. 1; Sp. p. 1536; Gaz. vol. 160; p. 236.

Diesser, Gottlieb G. (See Baumann and Diesser.)

Dietcher, Henry L., Los Angeles, Cal. Lawn-sprinkler. No. 974,954; Nov. 8; Sp. p. 1904; Gaz. vol. 160; p. 328.

Dietz, William, assignor to McCord Manufacturing Company, Detroit, Mich. Automobile-radiator. No. 974,777; Nov. 8; Sp. p. 1587; Gaz. vol. 160; p. 267.

Dietzer-Sale Lithograph Company. (See Reeves, Percy, assignor.)

Dikkers, Gerhard J. O. D., Lonneker, near Hengelo, Netherlands. Pump, injector, or the like. No. 974,366; Nov. 1; Sp. p. 657; Gaz. vol. 160; p. 98.

Dillard, Thomas, Richmond, Va. Addressing-stamp. No. 977,173; Nov. 29; Sp. p. 6852; Gaz. vol. 160; p. 1163.

Dilley, Thomas E., Los Angeles, Cal. Combined ventilator and fly-escape. No. 974,863; Nov. 8; Sp. p. 1772; Gaz. vol. 160; p. 295.

Dillig, George F., Baltimore, Md. Center support or mold for forming tunnels or sewers. No. 974,778; Nov. 8; Sp. p. 1588; Gaz. vol. 160; p. 267.

Dinwiddie, Joshua E., Farmington, Kans. Churn. No. 977,077; Nov. 29; Sp. p. 6631; Gaz. vol. 160; p. 1130.

Dion, Léon, Wilkes-Barre, Pa. Plural drive mechanism for marine propulsion. No. 976,642; Nov. 22; Sp. p. 5649; Gaz. vol. 160; p. 955.

Dippel, Henry C. (See Fleury, Louis A., Jr., assignor.)

Dittrich, Joseph, and F. Devecis, New York, N. Y. Calliper-gage. No. 976,559; Nov. 22; Sp. p. 5485; Gaz. vol. 160; p. 927.

Divekey, John J., Aurora, Ill. Pump-base. No. 975,752; Nov. 15; Sp. p. 3712; Gaz. vol. 160; p. 626.

Dixon, Varien D., Fort St. Michael, Alaska. Puzzle or toy. No. 974,478; Nov. 1; Sp. p. 925; Gaz. vol. 160; p. 138.

Dixon, Wildey R., assignor of one-half to J. Rose, Roanoke, Va. Paper-feed attachment for type-writers. No. 974,556; Nov. 1; Sp. p. 1108; Gaz. vol. 160; p. 167.

Doan, Charles O., Chicago, Ill. Wind-shield for vehicles. No. 977,174; Nov. 29; Sp. p. 6853; Gaz. vol. 160; p. 1164.

Dobbs, Victor E., Köthen, Germany. Machine for milling slicing-knives. No. 975,839; Nov. 15; Sp. p. 3879; Gaz. vol. 160; p. 655.

Dodge, Frederick E., Malden, Mass. Anticorrosive coating. No. 975,124; Nov. 8; Sp. p. 2374; Gaz. vol. 160; p. 386.

Dodge, Otis W., Port Edwards, Wis. Drying-cylinder for paper-making machines. No. 977,376; Nov. 29; Sp. p. 7268; Gaz. vol. 160; p. 1234.

Dodgson, Frank L., Rochester, assignor, by mesne assignments, to General Railway Signal Company, Gates, N. Y. Railway-signal. No. 974,864; Nov. 8; Sp. p. 1774; Gaz. vol. 160; p. 296.

Doering, Charles, Jr., assignor to Adams & Elting Co., Chicago, Ill. Apparatus for coating articles with pulverulent material. No. 976,443; Nov. 22; Sp. p. 5233; Gaz. vol. 160; p. 888.

Doherty, Henry L., New York, N. Y. Apparatus for burning ceramic materials. No. 974,646; Nov. 1; Sp. p. 1296; Gaz. vol. 160; p. 199.

Doherty, Norah M., Vernon Center, Conn. Guard for receptacles for whipping cream. No. 975,336; Nov. 8; Sp. p. 2827; Gaz. vol. 160; p. 457.

Doidge, John J., South Framingham, Mass. Tack-loader. No. 975,840; Nov. 15; Sp. p. 3882; Gaz. vol. 160; p. 655.

Doidge, John J., South Framingham, Mass. Work-support for welt-beaters. No. 975,841; Nov. 15; Sp. p. 3886; Gaz. vol. 160; p. 656.

Domestic Vacuum Cleaner Company. (See Quist and Blanch, assignors.)

Donaldson, James H., assignor to P. Manchester, Chicago, Ill. Means for attaching vestibule-diaphragms. No. 975,219; Nov. 8; Sp. p. 2593; Gaz. vol. 160; p. 418.

Donnelley, William J., San Francisco, Cal. Water-tight coupling. No. 976,787; Nov. 22; Sp. p. 5951; Gaz. vol. 160; p. 1004.

Donnelly, James A., Brooklyn, N. Y. Steam-heating apparatus. No. 974,245; Nov. 1; Sp. p. 366; Gaz. vol. 160; p. 53.

Donnelly, James A., Brooklyn, N. Y. Steam-heating system. No. 974,246; Nov. 1; Sp. p. 369; Gaz. vol. 160; p. 53.

Donnelly, Vincent H., H. B. Koessler, and J. T. Weinsier, New Kensington, Pa. Triple auxiliary air-valve for carbureters. No. 977,377; Nov. 29; Sp. p. 7270; Gaz. vol. 160; p. 1234.

Donner, Percy E. (See Donner, William H., assignor.)

Donner, William H., assignor to P. E. Donner, Pittsburg, Pa. Rolling black plates or sheets. (Reissue.) No. 13,173; Nov. 22; Sp. p. 6045; Gaz. vol. 160; p. 1023.

Donohoe, Michael, Philadelphia, Pa., assignor to Gill & Company. Supporting means for lamp shades and chimneys. No. 975,021; Nov. 8; Sp. p. 2144; Gaz. vol. 160; p. 350.

Dorsey, James C. (See Dorsey, Walter W. and J. C.)

Dorsey, Walter W. and J. C., assignors of one-fourth to R. Baublits and one-fourth to M. F. Loub, Las Animas, Colo. Intercepting-chute. No. 976,852; Nov. 29; Sp. p. 6105; Gaz. vol. 160; p. 1051.

Dorton, William, and J. S. Boyer, Leadwood, Mo. Sprocket. No. 975,753; Nov. 15; Sp. p. 3714; Gaz. vol. 160; p. 626.

Dossey, William J., Cornish, Okla. Heater. No. 975,022; Nov. 8; Sp. p. 2145; Gaz. vol. 160; p. 350.

Doty, Homer V., and M. H. Kirkland, Benton Ridge, Ohio. Gate. No. 975,516; Nov. 15; Sp. p. 3209; Gaz. vol. 160; p. 546.

Douglas, Harry J. (See Rich, Charles C., assignor.)

Douglas, Stephen A., assignor of one-half to C. L. Anderson, Ardmore, Okla. Vehicle-tire. No. 975,220; Nov. 8; Sp. p. 2595; Gaz. vol. 160; p. 419.

Douglass, Archibald A., Jr., and D. F., Ruby, assignors of one-half to G. K., R. K., and R. B. Laney, Chesterfield, S. C. Cotton-chopper. No. 974,247; Nov. 1; Sp. p. 372; Gaz. vol. 160; p. 54.

Douglass, Daniel F. (See Douglass, Archibald A., Jr., and D. F.)

Dow, Herbert H., Midland, Mich. Governing mechanism for fluid-pressure engines. No. 976,853; Nov. 29; Sp. p. 6108; Gaz. vol. 160; p. 1051.

Dow, John L., Melrose Highlands, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Shuttle tension device. No. 974,757; Nov. 1; Sp. p. 1537; Gaz. vol. 160; p. 236.

Dow, Joseph A., assignor to Relindo Cushion Shoe Company, Lynn, Mass. Heel-seat extension for lasts. No. 976,788; Nov. 22; Sp. p. 5952; Gaz. vol. 160; p. 1006.

Dow, Willard E., Braintree, Mass. Magneto-interrupter. No. 975,842; Nov. 15; Sp. p. 3887; Gaz. vol. 160; p. 656.

Dowd, Patrick J. (See Farrell and Dowd.)

Dowdy, Ewell M., Water Valley, Tex. Cultivator. No. 976,854; Nov. 29; Sp. p. 6111; Gaz. vol. 160; p. 1052.

Dowdy, Ewell M., Water Valley, Tex. Draft device. No. 977,284; Nov. 29; Sp. p. 7067; Gaz. vol. 160; p. 1202.

Downey, David H., Tiffin, Ohio. Sprocket-gear. No. 975,938; Nov. 15; Sp. p. 4089; Gaz. vol. 160; p. 690.

Downing, Lettie, Franktown, Colo. Bed-spring. No. 974,758; Nov. 1; Sp. p. 1540; Gaz. vol. 160; p. 236.

Drake, Bert E. (See Morse, Louis C., assignor.)

Draper Company. (See McCaslin, William, assignor.)

Draper Company. (See Truesdale, Samuel R., assignor.)

Draper, Leo E., Santa Cruz, Cal. Spring-fork for bicycles. No. 974,365; Nov. 1; Sp. p. 656; Gaz. vol. 160; p. 98.

Drechsler, Oscar, Pittsburg, Pa. Attachment for gas heating-stoves. No. 976,053; Nov. 15; Sp. p. 4297; Gaz. vol. 160; p. 729.

Dreher, Charles L., South Norwalk, Conn. Sanitary seat-cover. No. 974,865; Nov. 8; Sp. p. 1775; Gaz. vol. 160; p. 296.

Drew, Herbert H., Waterloo, Wis. Elevated carrier. No. 976,157; Nov. 22; Sp. p. 4549; Gaz. vol. 160; p. 787.

Drubko, John, Willow River, Minn. Animal-trap. No. 976,789; Nov. 22; Sp. p. 5954; Gaz. vol. 160; p. 1005.

Driggers, James E. (See Wallace, William A., assignor.)

Dryden, William W., assignor to C. E. Troemner, Philadelphia, Pa. Clutch mechanism. No. 974,248; Nov. 1; Sp. p. 373; Gaz. vol. 160; p. 54.

Du Lany, George W., Omaha, Nebr. Drum. No. 974,647; Nov. 1; Sp. p. 1300; Gaz. vol. 160; p. 200.

Du Pont, Ernest, assignor to The E. I. du Pont de Nemours Powder Company, Wilmington, Del. Incorporating ingredients of explosives. No. 976,211; Nov. 22; Sp. p. 4675; Gaz. vol. 160; p. 805.

Dudley Adding and Billing Machine Company. (See Dudley, George W., assignor.)

Dudley, Charles F. (See Oertly and Dudley.)

Dudley, George W., Staunton, Va., assignor, by mesne assignments, to Dudley Adding and Billing Machine Company. Adding and recording machine. No. 975,023; Nov. 8; Sp. p. 2146; Gaz. vol. 160; p. 351.

Dufault, Arthur, Providence, R. I. Door-securer. No. 976,444; Nov. 22; Sp. p. 5238; Gaz. vol. 160; p. 888.

Duff, Charles J., San Bernardino, C. V. Phelps, Rialto, and B. W. Pitts, San Bernardino; said Duff and Pitts assignors to Blue Flame Distillate Burner Company, Los Angeles, Cal. Distillate-burning apparatus. No. 975,221; Nov. 8; Sp. p. 2597; Gaz. vol. 160; p. 419.

Duff, Edward E., Seattle, assignor of one-half to D. V. Ackerman, Mount Vernon, Wash. Trolley-head. No. 976,445; Nov. 22; Sp. p. 5239; Gaz. vol. 160; p. 889.

Duffy, Francis, Chicago, Ill. Furnace for steam-boilers. No. 977,078; Nov. 29; Sp. p. 6632; Gaz. vol. 160; p. 1130.

Duffy, Matthew T., Chicago, Ill. Cooking utensil. No. 975,843; Nov. 15; Sp. p. 3890; Gaz. vol. 160; p. 656.

Dumelin, Hans. (See Meier and Dumelin.)

Dumont, Joseph, assignor to O. Christian, Gardner, Mass. Weather-strip. No. 975,337; Nov. 8; Sp. p. 2828; Gaz. vol. 160; p. 453.

Dun Lany, William P., assignor to The Continental Manufacturing Company, Cleveland, Ohio. Speedometer. No. 976,054; Nov. 15; Sp. p. 4299; Gaz. vol. 160; p. 729.

Dunbar, Howard R., Canton, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Automatic pressure-controller. No. 977,079; Nov. 29; Sp. p. 6634; Gaz. vol. 160; p. 1130.

Dunbar, William W., Alamo Mining District, Ariz., assignor of one-half to A. P. Maginnis, Los Angeles, Cal. Refrigerator. No. 976,446; Nov. 22; Sp. p. 5240; Gaz. vol. 160; p. 889.

Duncan, Arthur T., assignor of one-half to J. M. Williams, Clinton, Mo. Display-cabinet. No. 977,080; Nov. 29; Sp. p. 6635; Gaz. vol. 160; p. 1131.

Duncan, George W., Audubon, N. J. Poultry-fount. No. 975,607; Nov. 15; Sp. p. 3403; Gaz. vol. 160; p. 578.

Duncan, Thomas R., Richmond, Cal. Rail-switch. No. 976,560; Nov. 22; Sp. p. 5487; Gaz. vol. 160; p. 927.

Dunder, Anna M., Wilber, Nebr. Massaging implement. No. 974,367; Nov. 1; Sp. p. 658; Gaz. vol. 160; p. 99.

Dunkerly, Harry, Houston, Tex. Weighing and filling machine. No. 977,378; Nov. 29; Sp. p. 7271; Gaz. vol. 160; p. 1234.

Dunkley Company. (See Dunkley, Samuel J., assignor.)

Dunkley, Samuel J., Kalamazoo, Mich., assignor to Dunkley Company, Chicago, Ill. Cherry-pitting machine. No. 974,750; Nov. 1; Sp. p. 1541; Gaz. vol. 160; p. 237.

Dunklin, Walter J., and G. R. Marley, Greenville, Ala. Axle. No. 976,855; Nov. 29; Sp. p. 6112; Gaz. vol. 160; p. 1052.

Dunn, William A., Smithville, assignor of one-half to A. M. Miller, Duluth, Minn. Steel structure. No. 974,779; Nov. 8; Sp. p. 1591; Gaz. vol. 160; p. 267.

Dunne, John W., assignor to Blair Atholl Aeroplane Syndicate, Limited, London, England. Aeroplane. No. 975,403; Nov. 15; Sp. p. 2976; Gaz. vol. 160; p. 506.

Dunphy, John. (See Feeman, Edmund L., assignor.)

Dunton, George E., New York, N. Y. Apparatus for backing electrotype-plates. No. 976,856; Nov. 29; Sp. p. 6113; Gaz. vol. 160; p. 1052.

Dupree, James, Chicago, Ill. Hoop. No. 975,679; Nov. 15; Sp. p. 3575; Gaz. vol. 160; p. 602.

Duprey, Charles A., Mount Clemens, Mich. Pitchfork attachment. No. 976,348; Nov. 22; Sp. p. 5024; Gaz. vol. 160; p. 853.

Duram, Arthur E., Chicago, Ill. Valve for steam-traps and the like. No. 976,055; Nov. 15; Sp. p. 4301; Gaz. vol. 160; p. 730.

Durant, William H., Concord, N. H. Brake mechanism for cars. No. 976,991; Nov. 29; Sp. p. 6445; Gaz. vol. 160; p. 1100.

Durbvelle, Lee, San Francisco, Cal. Hair-curler. No. 975,222; Nov. 8; Sp. p. 2599; Gaz. vol. 160; p. 419.

Dustin, John F., assignor of one-half to J. W. Stevenson, Fulton, N. Y. Electromechanical warp stop-motion for looms. No. 974,557; Nov. 1; Sp. p. 1111; Gaz. vol. 160; p. 168.

Dwight Lumber Company. (See Murdoch, James J., assignor.)

Dye, John S. (See O'Neill and Dye.)

Dykes, Sarah F., Hawkinsville, Ga. Mechanical motor for operating churns. No. 976,857; Nov. 29; Sp. p. 6115; Gaz. vol. 160; p. 1053.

Dyson, Alfred H., Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company. Automatic telephone system. No. 974,866; Nov. 8; Sp. p. 1777; Gaz. vol. 160; p. 296.

Dyson, Alfred H., Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company. Automatic telephone system. No. 974,955; Nov. 8; Sp. p. 1995; Gaz. vol. 160; p. 328.

Dyson, Alfred H., Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company. Telephone system. No. 975,338; Nov. 8; Sp. p. 2820; Gaz. vol. 160; p. 453.

Dyson, Alfred H., Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company. Switch for automatic telephone systems. No. 975,608; Nov. 15; Sp. p. 3404; Gaz. vol. 160; p. 578.

Dyson, Herbert K., Finsbury Park, England. Expanded metal bar or member. No. 977,285; Nov. 29; Sp. p. 7069; Gaz. vol. 160; p. 1202.

E. I. du Pont de Nemours Powder Company, The. (See Du Pont, Ernest, assignor.)

E. I. du Pont de Nemours Powder Company. (See Johnson, Willis, assignor.)

Eagle Lock Co. (See Murphy, James J., assignor.)

Earl, Clarence F. (See Speck and Earl.)

Easthope, Ernest, Jr., Vancouver, British Columbia, Canada. Internal-combustion engine. No. 976,858; Nov. 29; Sp. p. 6117; Gaz. vol. 160; p. 1053.

Eastman Kodak Co. (See Fifield, Fred A., assignor.)

Eastman Kodak Co. (See Robertson, John A., assignor.)

Eastman Kodak Company. (See Becker, Joseph, assignor.)

Eastmond, John F., New York, N. Y. Lamp-globe shield. No. 976,447; Nov. 22; Sp. p. 5241; Gaz. vol. 160; p. 889.

Eastwood, Harry, Fresno, Cal. Electric fishing-tool. No. 974,760; Nov. 1; Sp. p. 1544; Gaz. vol. 160; p. 237.

Eaton, Clarence L., Rochester, N. Y., assignor to United Shoe Machinery Company, Paterson, N. J. Eyeleting-tool. No. 974,368; Nov. 1; Sp. p. 659; Gaz. vol. 160; p. 99.

Eaton, George M., Wilkinsburg, Pa., assignor to Westinghouse Electric and Manufacturing Company. Electric locomotive. No. 975,404; Nov. 15; Sp. p. 2977; Gaz. vol. 160; p. 506.

Eaton, Robert, Lake City, Minn. Valve mechanism for steamboat-engines. No. 976,790; Nov. 22; Sp. p. 5956; Gaz. vol. 160; p. 1005.

Ebelhare, William H., Waltham, Mass., assignor to The Keystone Watch Case Company, Philadelphia, Pa. Ratchet mechanism for watch-movements. No. 977,286; Nov. 29; Sp. p. 7071; Gaz. vol. 160; p. 1203.

Eccles, Le Roy. (See Lockwood, Nelson A., assignor.)

Eck, Charles. (See Rothfuchs and Eck.)

Ecker, E. C., *et al.* (See Van Bosch, Peter M., assignor.)

Eckhard, John, Boston, Mass. Sight-feed oiler for automobiles. No. 974,249; Nov. 1; Sp. p. 374; Gaz. vol. 160; p. 54.

Eckroat, Franklin P. and P. F., Shawnee, Okla. Cultivator. No. 976,643; Nov. 22; Sp. p. 5651; Gaz. vol. 160; p. 955.

Eckroat, Franklin P. and P. F., Shawnee, Okla. Cultivator. No. 976,644; Nov. 22; Sp. p. 5654; Gaz. vol. 160; p. 956.

Eckroat, Peter F. (See Eckroat, Franklin P. and P. F.)

Eco Magneto Clock Co., The. (See Fessenden, George B., assignor.)

Eddy, Howard E., Arlington, Md. Paper-testing device. No. 974,867; Nov. 8; Sp. p. 1790; Gaz. vol. 160; p. 297.

Edge Moor Iron Company. (See Sellers and Davidson, assignors.)

Edick, George E., Manasquan, N. J. Spark-plug. No. 976,158; Nov. 22; Sp. p. 4550; Gaz. vol. 160; p. 787.

Edison Storage Battery Company. (See Edison, Thomas A., assignor.)

Edison Storage Battery Company. (See Edison and Ayleworth, assignors.)

Edison, Thomas A., Llewellyn Park, Orange, N. J. Duplicating talking-machine records. No. 975,339; Nov. 8; Sp. p. 2840; Gaz. vol. 160; p. 458.

Edison, Thomas A., Llewellyn Park, Orange, N. J. Phonograph-reproducer. No. 975,340; Nov. 8; Sp. p. 2842; Gaz. vol. 160; p. 459.

Edison, Thomas A., Llewellyn Park, assignor to Edison Storage Battery Company, West Orange, N. J. Storage battery. No. 976,792; Nov. 22; Sp. p. 5960; Gaz. vol. 160; p. 1006.

Edison, Thomas A., Llewellyn Park, Orange, and J. W. Ayleworth, East Orange, assignors to Edison Storage Battery Company, West Orange, N. J. Storage-battery electrode. No. 976,791; Nov. 22; Sp. p. 5958; Gaz. vol. 160; p. 1006.

Edwards, Robert L., Darlington, S. C. Cotton-harvester. No. 975,125; Nov. 8; Sp. p. 2376; Gaz. vol. 160; p. 386.

Edwards, William F., Cedartown, Ga. Railway-switch. No. 975,517; Nov. 15; Sp. p. 3211; Gaz. vol. 160; p. 547.

Edwards, William M., assignor to Hardsocg Mfg. Co., Ottumwa, Iowa. Compartment-canteen. No. 975,939; Nov. 15; Sp. p. 4090; Gaz. vol. 160; p. 600.

Effantin, Clement S. (See Effantin, Pierre C. F. and C. S.)

Effantin, Pierre C. F. and C. S., Paris, France. Disinfecting apparatus. No. 976,992; Nov. 29; Sp. p. 6449; Gaz. vol. 160; p. 1101.

Egbert, Solomon W., Joliet, Ill., assignor to American Can Company, New York, N. Y. Metal-scrap compressor. No. 975,844; Nov. 15; Sp. p. 3891; Gaz. vol. 160; p. 657.

Egge, Frederick, Bridgeport, Conn. Seal. No. 976,349; Nov. 22; Sp. p. 5025; Gaz. vol. 160; p. 853.

Eggins, James, Ottawa, Ontario, Canada. Furnace structure. No. 975,754; Nov. 15; Sp. p. 3715; Gaz. vol. 160; p. 627.

Egly, Georg. (See Viertel and Egly.)

Ehous, William. (See Karsitz, Frank, assignor.)

Ehrsam, William J., *et al.*, trustees. (See Ehrsam, Sieder, and Morscher, assignors.)

Ehrsam, William J., E. H. Sieder, Enterprise, and L. N. Morscher, Lawrence, Kans., assignors to said Ehrsam and Morscher, cotrustees. Throwing-wheel for graders. No. 976,350; Nov. 22; Sp. p. 5026; Gaz. vol. 160; p. 853.

Eide, Mathias, Clinton, Minn. Weaner. No. 975,680; Nov. 15; Sp. p. 3576; Gaz. vol. 160; p. 602.

Eilertsen, Lucien, Paris, France. Antiseptic and perfumed block. No. 975,405; Nov. 15; Sp. p. 2979; Gaz. vol. 160; p. 506.

Eisele, Michael, West Carrollton, Ohio. Trolley-guard. No. 976,859; Nov. 29; Sp. p. 6119; Gaz. vol. 160; p. 1054.

El Campo Machine Company. (See Gray, William T., assignor.)

Eldridge, Francis R., New York, N. Y. Hammock-hook. No. 976,253; Nov. 22; Sp. p. 4808; Gaz. vol. 160; p. 822.

Eldridge, Reuben C., Niagara Falls, Ontario, Canada, and D. C. Breed, Lockport, assignors to Niagara Falls Ice Cream Freezer Company, Niagara Falls, N. Y. Ice-cream freezer. No. 974,761; Nov. 1; Sp. p. 1545; Gaz. vol. 160; p. 238.

Electric Accumulator Company, The. (See Reeves, Frederick W., assignor.)

Electric Compositor Company. (See Bellows and Lutropp, assignors.)

Electric Controller and Manufacturing Company, The. (See Schnabel, James F., assignor.)

Electric Gas Motor Car Company *et al.* (See Mayo, William C., assignor.)

Electric Metals Company. (See Snyder, Frederick T., assignor.)

Electro Ad Company, The. (See Phelps, William J., assignor.)

Electro-Cure Company, The. (See West, Charles W., assignor.)

Electro Metallurgical Company. (See Becket, Frederick M., assignor.)

Elger, Wm. D. (See Fefel, Henry H. and J. E., assignors.)

Elliff, Luther S., Celina, Tex. Cultivator. No. 976,729; Nov. 22; Sp. p. 5808; Gaz. vol. 160; p. 984.

Elliott, David J., and W. W. Reilly, Monte Vista, Colo. Head-gate lock. No. 976,254; Nov. 22; Sp. p. 4810; Gaz. vol. 160; p. 822.

Ellis, Arthur A., Minden, Ontario, Canada. Belt-protector. No. 974,780; Nov. 8; Sp. p. 1593; Gaz. vol. 160; p. 268.

Ellis, Axel E., Quincy, Mass. Massage-vibrator. No. 976,993; Nov. 29; Sp. p. 6450; Gaz. vol. 160; p. 1101.

Ellis, Carleton, Larchmont, N. Y. Fertilizer. No. 976,793; Nov. 22; Sp. p. 5962; Gaz. vol. 160; p. 1007.

Ellis, Frank H., Somerville, Mass., assignor to Barbour-Stockwell Company. Railway-switch structure. No. 976,056; Nov. 15; Sp. p. 4303; Gaz. vol. 160; p. 730.

Ellis, J. William, *et al.* (See Ferguson, Lyman, assignor.)

Ellis, James W., Denver, Colo. Electric street-indicating sign. No. 977,081; Nov. 29; Sp. p. 6637; Gaz. vol. 160; p. 1131.

Elsas, Louis J., Atlanta, Ga. Machine for feeding bags to printing or other machines. No. 976,255; Nov. 22; Sp. p. 4812; Gaz. vol. 160; p. 822.

Embry, Clarence R., Wamego, Kans. Power-hammer. No. 977,082; Nov. 29; Sp. p. 6638; Gaz. vol. 160; p. 1131.

Emden, Paul, and W. Fritz, Berlin, Germany. Turbine. No. 974,956; Nov. 8; Sp. p. 2011; Gaz. vol. 160; p. 329.

Emerson, Carl, and J. Peterson, Minneapolis, Minn. Axle-lubricator. No. 977,287; Nov. 29; Sp. p. 7073; Gaz. vol. 160; p. 1203.

Emerson, Merton L., Braintree, Mass. Carrier for pneumatic-despatch-tube apparatus. No. 977,083; Nov. 29; Sp. p. 6641; Gaz. vol. 160; p. 1132.

Emerson Piano Company. (See Crippen, Walter R., assignor.)

Emmerson, William C. (See Wyman, Charles A., assignor.)

Emmons, Harry D., Woodstock, and W. B. Emmons, Thornton, N. H. Fire-extinguisher system. No. 976,448; Nov. 22; Sp. p. 5248; Gaz. vol. 160; p. 890.

Emmons, Willie B. (See Emmons, Harry D. and W. B.)

Empire Novelty Company, The. (See Ferguson, Harry C., assignor.)

Engelhardt & Sons, F. (See Carney, Edward D., assignor.)

England, James R., Dallas, Tex. Auto-organ. No. 977,084; Nov. 29; Sp. p. 6641; Gaz. vol. 160; p. 1132.

Englander Spring Bed Company, The. (See Kreuzkamp, August J., assignor.)

Enterprise Railway Equipment Company. (See Campbell, Argyle, assignor.)

Eras, Vincent J. M., Dordrecht, Netherlands. Lock. No. 977,085; Nov. 29; Sp. p. 6643; Gaz. vol. 160; p. 1132.

Erickson, Arvid W. (See Weeden, Arthur W., assignor.)

Erickson, Charles, and J. Pearson, Winnipeg, Manitoba, Canada. Gas-engine. No. 975,024; Nov. 8; Sp. p. 2155; Gaz. vol. 160; p. 351.

Ericsson, Henry, Chicago, Ill. Filling-block for fireproof constructions. No. 974,868; Nov. 8; Sp. p. 1793; Gaz. vol. 160; p. 297.

Ernsberger, Andrew M., New York, N. Y. Cachou-holder. No. 975,681; Nov. 15; Sp. p. 3577; Gaz. vol. 160; p. 602.

Ernst, Charles K., *et al.* (See Davis, Homer L., assignor.)

Estelle, Axel T. K., assignor to Nya Ackumulator Aktiebolaget Jungner, Filseryd, Sweden. Electrical element. No. 977,086; Nov. 29; Sp. p. 6644; Gaz. vol. 160; p. 1133.

Estey, Edmund J., Apponaug, R. I. Vehicle-wheel. No. 974,250; Nov. 1; Sp. p. 376; Gaz. vol. 160; p. 55.

Estey, Edmund J., Apponaug, R. I. Demountable rim. No. 974,251; Nov. 1; Sp. p. 378; Gaz. vol. 160; p. 55.

Estwick, Charles F. (See Cozzens, Estwick, and Tiffany.)

Esty Watch Tool Company. (See Esty, William, assignor.)

Esty, William, assignor to Esty Watch Tool Company, Laconia, N. H. Carriage-curtain fastener. No. 976,057; Nov. 15; Sp. p. 4304; Gaz. vol. 160; p. 730.

Etzold, John A. (See Pugh and Etzold.)

Euchenhofer, Alexander, Dayton, Ohio. Grass-cutter. No. 977,288; Nov. 29; Sp. p. 7074; Gaz. vol. 160; p. 1203.

Evans, Lewis J. (See Jones and Evans.)

Evans, Morgan J. (See Davis and Evans.)

Evans, Powell, Philadelphia, Pa. Baggage-carrier for automobiles. No. 976,561; Nov. 22; Sp. p. 5488; Gaz. vol. 160; p. 928.

Everest, Homer A. (See Thibeault, Dello, assignor.)

Evrett, Arch L. (See McQuerry and Evrett.)

Excelsior Needle Company. (See Dayton, James M., assignor.)

Eyles, Anton G., Cedar Rapids, Iowa. Table attachment for chairs. No. 975,755; Nov. 15; Sp. p. 3717; Gaz. vol. 160; p. 627.

Eynon, Harold G., Lancaster, assignor of one-third to T. M. Eynon, Philadelphia, and one-third to E. L. Powl, Lancaster, Pa. Mail delivering and receiving device. No. 975,025; Nov. 8; Sp. p. 2158; Gaz. vol. 160; p. 352.

Eynon, Thomas M., *et al.* (See Eynon, Harold G., assignor.)

F. C. Newell Mutograph Corporation, The. (See Newell, Frank C., assignor.)

Fagerlund, Erik A. (See Börjeson and Fagerlund.)

Fairbanks, John A., assignor to M. B. Fairbanks, Cambridge, Mass. Bridle-bit. No. 976,058; Nov. 15; Sp. p. 4305; Gaz. vol. 160; p. 730.

Fairbanks, Martha B. (See Fairbanks, John A., assignor.)

Fairchild, Allan W., assignor of one-half to J. O'Dell, Neebish, Mich. Wagon-scale. No. 976,351; Nov. 22; Sp. p. 5028; Gaz. vol. 160; p. 854.

Fairchild, Edmund W., Glen Ridge, N. J. Color chart or guide. No. 975,341; Nov. 8; Sp. p. 2843; Gaz. vol. 160; p. 450.

Fairhurst, William S., New York, N. Y. Valve. No. 976,449; Nov. 22; Sp. p. 5245; Gaz. vol. 160; p. 890.

Fake, Irving L., Canandaigua, N. Y. Plow. No. 976,059; Nov. 15; Sp. p. 4306; Gaz. vol. 160; p. 731.

Falk, Arthur, New York, N. Y., assignor to Falk Tobacco Co., Richmond, Va. Device for filling tobacco-pipes. No. 975,026; Nov. 8; Sp. p. 2161; Gaz. vol. 160; p. 352.

Falk Tobacco Co. (See Falk, Arthur, assignor.)

Falker, Henry W., Ashland, F. Schultz and J. F. Wagner, Tamaqua, Pa. Ore and coal washer. No. 977,087; Nov. 29; Sp. p. 6644; Gaz. vol. 160; p. 1133.

Fancher, Charles J., Thompsonville, Conn., J. H. Burt and E. Van Winkle, Brooklyn, N. Y., assignors to The Simplex Manufacturing Company, Thompsonville, Conn. Machine for affixing stamps and labels. No. 977,175; Nov. 29; Sp. p. 6857; Gaz. vol. 160; p. 1164.

Farbenfabriken vorm. Friedr. Bayer & Co. (See Bergdolt, Wilhelm, assignor.)

Farbenfabriken vorm. Friedr. Bayer & Co. (See Rudolph, Georg, assignor.)

Farbenfabriken vorm. Friedr. Bayer & Co. (See Taub, Ludwig, assignor.)

Farbenfabriken vorm. Friedr. Bayer & Co. (See Weiler, Max, assignor.)

Farbwerke vorm. Meister Lucius & Brüning. (See Hepp and Hartmann, assignors.)

Farkas, Karl, assignor of one-half to G. V. Williams, New York, N. Y. Welding metallic filaments to lead wires. No. 975,845; Nov. 15; Sp. p. 3893; Gaz. vol. 160; p. 657.

Farley, Fred E., assignor to Goodell-Pratt Company, Greenfield, Mass. Ratchet-drill. No. 977,176; Nov. 29; Sp. p. 6859; Gaz. vol. 160; p. 1165.

Farmer, Frank H., assignor, by mesne assignments, to L. Sadler, San Francisco, Cal. Wave-motor. No. 974,869; Nov. 8; Sp. p. 1794; Gaz. vol. 160; p. 298.

Farmer, Warren A., Arcade, N. Y. Window. No. 974,870; Nov. 8; Sp. p. 1796; Gaz. vol. 160; p. 298.

Farrel Foundry and Machine Company. (See Bowen, David R., assignor.)

Farrell, Michael J., and P. J. Dowd, Leominster, Mass. Barrette. No. 977,379; Nov. 29; Sp. p. 7275; Gaz. vol. 160; p. 1235.

Farrow, John C. (See Walsh, William J., assignor.)

Faunt Le Roy, Ferdinand, Hoquiam, Wash. Scenic curtain. No. 975,773; Nov. 15; Sp. p. 3758; Gaz. vol. 160; p. 633.

Faust, Casper, Oshkosh, Wis. Safety-gate for bridges. No. 974,558; Nov. 1; Sp. p. 1117; Gaz. vol. 160; p. 168.

Fawell, Joseph, Pittsburg, Pa. Rolling-mill. No. 974,559; Nov. 1; Sp. p. 1119; Gaz. vol. 160; p. 169.

Feeman, Edmund L., assignor to J. Dunphy, New York, N. Y. Counter and stacker. No. 974,648; Nov. 1; Sp. p. 1302; Gaz. vol. 160; p. 201.

Fefel, Henry H. and J. E., assignors to W. D. Elger, New York, N. Y. Blindstitch sewing-machine. No. 976,256; Nov. 22; Sp. p. 4815; Gaz. vol. 160; p. 823.

Fefel, John E. (See Fefel, Henry H. and J. E.)

Fehr, William, and J. Kaufmann, assignors to Steel Heddle Manufacturing Company, Philadelphia, Pa. Making heddles. No. 974,130; Nov. 1; Sp. p. 50; Gaz. vol. 160; p. 11.

Feibel, Jacob, New York, N. Y., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine. No. 975,027; Nov. 8; Sp. p. 2162; Gaz. vol. 160; p. 352.

Feilner & Ziegler. (See Helbig, Albin B., assignor.)

Fellowes, Harry L., Chicago, Ill. Measuring device. No. 977,177; Nov. 29; Sp. p. 6861; Gaz. vol. 160; p. 1165.

Felsing, Eduard F., Munich, Germany, assignor to M. W. Felsing. Gelatin composition. No. 974,131; Nov. 1; Sp. p. 52; Gaz. vol. 160; p. 11.

Felsing, Maria W. (See Felsing, Edward F., assignor.)

Fensky, Friedrich P., Leavenworth, Kans. Water crib or caisson. No. 976,257; Nov. 22; Sp. p. 4823; Gaz. vol. 160; p. 823.

Fensom, Charles J., Toronto, Ontario, Canada. Friction-clutch. No. 975,846; Nov. 15; Sp. p. 3895; Gaz. vol. 160; p. 658.

Ferber, Philip, assignor to The Keuffel & Esser Company, Hoboken, N. J. Surveying instrument. No. 975,682; Nov. 15; Sp. p. 3578; Gaz. vol. 160; p. 602.

Ferguson, Harry C., assignor to The Empire Novelty Company, Canton, Ohio. Metal-clenching machine. No. 977,178; Nov. 29; Sp. p. 6863; Gaz. vol. 160; p. 1165.

Ferguson, John H., *et al.* (See Mouson, Henry D., assignor.)
Ferguson, John H., Dayton, Ohio. Wrench. No. 975,609; Nov. 15; Sp. p. 3410; Gaz. vol. 160; p. 578.
Ferguson, Lyman, Ithaca, assignor of one-half to J. W. Ellis, Buffalo, and one-half to Q. W. Wellington, Corning, N. Y. Metallic ladder. No. 975,223; Nov. 8; Sp. p. 2590; Gaz. vol. 160; p. 420.
Fernandez, Michael M., Los Angeles, Cal. Automatic railway-switch. No. 974,560; Nov. 1; Sp. p. 1122; Gaz. vol. 160; p. 169.
Ferres, Jeffrey T., assignor to The Sefton Manufacturing Company, Anderson, Ind. Packing or shipping box. No. 974,871; Nov. 8; Sp. p. 1798; Gaz. vol. 160; p. 298.
Ferris, Smith, New York, N. Y. Railway-rail joint. No. 976,860; Nov. 29; Sp. p. 6121; Gaz. vol. 160; p. 1064.
Fessenden, George B., assignor to The Eco Magneto Clock Co., Boston, Mass. Electric watchman's clock. No. 974,561; Nov. 1; Sp. p. 1126; Gaz. vol. 160; p. 169.
Fessenden, Reginald A., Washington, D. C. Wireless telegraphy. No. 974,762; Nov. 1; Sp. p. 1548; Gaz. vol. 160; p. 238.
Fett, John. (See Kimmel, Samuel L., assignor.)
Fetter, Walter. (See Gross and Fetter.)
Fetterly, Charles L., assignor to Kilmarnock Textile Manufacturing Co., Philadelphia, Pa. Woven fabric. No. 975,940; Nov. 15; Sp. p. 4092; Gaz. vol. 160; p. 690.
Fichtmueller, Julius A. C., New York, assignor to Diamond Decorative Leaf Company, Brooklyn, N. Y. Decorative leaf and making the same. No. 976,904; Nov. 29; Sp. p. 6453; Gaz. vol. 160; p. 1101.
Field Force Pump Company. (See Brooks, Mott B., assignor.)
Field, James H., Victoria, British Columbia, Canada, assignor to The Canadian Taylor Automatic Fire Alarm and Call Bell Company, Limited. Electric alarm and call-bell system. No. 976,562; Nov. 22; Sp. p. 5489; Gaz. vol. 160; p. 928.
Field, James H., assignor to The Canadian Taylor Automatic Fire Alarm and Call Bell Company, Limited, Victoria, Canada. Electrical fire-alarm system. No. 976,645; Nov. 22; Sp. p. 5655; Gaz. vol. 160; p. 956.
Field, Stephen D., Stockbridge, Mass. Multiplex telegraph apparatus. No. 975,756; Nov. 15; Sp. p. 3719; Gaz. vol. 160; p. 627.
Fieldhouse, George W., Swissvale, Pa. Adjustable double square. No. 974,479; Nov. 1; Sp. p. 927; Gaz. vol. 160; p. 138.
Fifield, Fred A., Toronto, Ontario, Canada, assignor to Eastman Kodak Co., Rochester, N. Y. Photographic plate or film holder. No. 976,354; Nov. 22; Sp. p. 5036; Gaz. vol. 160; p. 855.
Fine Cotton Spinners and Double Association Limited, The. (See Whitehead, Philip B., assignor.)
Finkelstein, Maurice S., assignor of one-half to J. Moskowitz, New York, N. Y. Fire-escape. No. 974,781; Nov. 8; Sp. p. 1594; Gaz. vol. 160; p. 268.
Firestone, Louis H., Chicago, Ill. Fire-escape. No. 976,861; Nov. 29; Sp. p. 6123; Gaz. vol. 160; p. 1055.
Firth, Franklin E., assignor of one-third to H. C. Roemer and one-third to A. Rasor, Toledo, Ohio. Metal barrel. No. 975,342; Nov. 8; Sp. p. 2844; Gaz. vol. 160; p. 459.
Fiset, Michel, Albany, N. Y. Stand for cuspidors and like articles. No. 975,941; Nov. 15; Sp. p. 4093; Gaz. vol. 160; p. 690.
Fish, Philmer C., Kansas City, Mo. Automatic poultry-duster. No. 974,252; Nov. 1; Sp. p. 380; Gaz. vol. 160; p. 55.
Fishburne, Skottowe B., and I. H. Bond, Columbia, S. C. Interconnected clutch and brake operating mechanism. No. 974,649; Nov. 1; Sp. p. 1304; Gaz. vol. 160; p. 201.
Fisher, George W., assignor of one-half to L. C. Caltrider, Upperco, Md. Vehicle-brake. (Reissue.) No. 13,175; Nov. 29; Sp. p. 7394; Gaz. vol. 160; p. 1249.
Fisher, Herbert E., San Francisco, Cal. Street-indicator. No. 974,763; Nov. 1; Sp. p. 1549; Gaz. vol. 160; p. 238.
Fiske, Jonathan P. B., Newton, Mass., assignor to R. C. Penfield, New York, N. Y. Brickmaking apparatus. No. 974,782; Nov. 8; Sp. p. 1597; Gaz. vol. 160; p. 269.
Fix, Grover G. (See Wallace, Robert S., assignor.)
Flaig, John, Broadview, Mont. Tongue-truck for harvesters and binders. (Reissue.) No. 13,169; Nov. 22; Sp. p. 6037; Gaz. vol. 160; p. 1020.
Fleischman, Isidore. (See Fleischman, Jacob, assignor.)
Fleischman, Jacob, assignor of one-half to I. Fleischman, Jersey City, N. J. Automobile-radiator. No. 975,343; Nov. 8; Sp. p. 2845; Gaz. vol. 160; p. 460.
Fleming, George, Chicago, Ill. Filter. No. 976,995; Nov. 29; Sp. p. 6458; Gaz. vol. 160; p. 1102.
Fleury, Louis A., Jr., assignor of one-fourth to H. C. Dippel, Indianapolis, Ind. Conduit-hood. No. 975,757; Nov. 15; Sp. p. 3723; Gaz. vol. 160; p. 628.
Flintoft, Carrie I., Lakewood, Ohio. Mattress. No. 976,352; Nov. 22; Sp. p. 5032; Gaz. vol. 160; p. 854.
Flitcroft, James E., Ocean Grove, assignor to O. Bernz, Newark, N. J. Burner. No. 975,518; Nov. 15; Sp. p. 3213; Gaz. vol. 160; p. 547.
Florence, J. Esdaile, trustee. (See Conley, Michael R., assignor.)
Flotteur Gesellschaft mit beschraenkter Haftung. (See Haxthausen, Frederic C. von, assignor.)
Flowers, John C. (See Lance, Flowers, and Lance.)
Fludder, Albert W. (See Fludder, George C., G. E., and A. W.)
Fludder, George C., G. E., and A. W., Alresford, Colchester, England. Manufacturing refractory material. No. 976,996; Nov. 29; Sp. p. 6460; Gaz. vol. 160; p. 1102.
Fludder, George E. (See Fludder, George C., G. E., and A. W.)
Flynn & Emrich Company. (See Partridge, Lambert W., assignor.)
Flynn, William D., Spray, N. C. Buckle. No. 975,942; Nov. 15; Sp. p. 4094; Gaz. vol. 160; p. 691.
Foell, Otto, and M. Harris, assignors, by mesne assignments, to Nernst Lamp Company, Pittsburg, Pa. Nernst-lamp body. No. 975,126; Nov. 8; Sp. p. 2384; Gaz. vol. 160; p. 386.
Fogler, George L., Baltimore, Md. Explosive-engine. No. 975,406; Nov. 15; Sp. p. 2980; Gaz. vol. 160; p. 507.
Folckemer, George C., Weston, W. Va. Spoon-holder. No. 975,683; Nov. 15; Sp. p. 3580; Gaz. vol. 160; p. 603.
Folger, Harry S., Chicago, Ill. Rubber type-base. No. 975,344; Nov. 8; Sp. p. 2847; Gaz. vol. 160; p. 460.
Follett, Edward P., Chicago, Ill. Shot-cartridge. No. 974,369; Nov. 1; Sp. p. 661; Gaz. vol. 160; p. 99.
Foote, Chester T., assignor to Foote Manufacturing Company, Nunda, N. Y. Mixing-machine. No. 975,847; Nov. 15; Sp. p. 3900; Gaz. vol. 160; p. 658.
Foote Manufacturing Company. (See Foote, Chester T., assignor.)
Foote, Theodore M., Allston, Mass. Indicating and recording mechanism. No. 974,562; Nov. 1; Sp. p. 1129; Gaz. vol. 160; p. 170.
Forbes, Dudley J., assignor to The Hydraulic Gravity Separator Co., Portland, Oreg. Placer-separator. No. 975,684; Nov. 15; Sp. p. 3581; Gaz. vol. 160; p. 603.
Forbes, Oswald V. (See Roberts, William T. B., assignor.)
Forbes, Oswald V. (See Woolston, John T., assignor.)
Ford, Edwin H., Hartford City, Ind. Top for meter-boxes. No. 974,650; Nov. 1; Sp. p. 1305; Gaz. vol. 160; p. 201.
Ford, Edwin H., Hartford City, Ind. Means for setting meters. No. 974,651; Nov. 1; Sp. p. 1307; Gaz. vol. 160; p. 202.
Ford, Otice H. (See Mixon and Ford.)
Forg, Peter, Somerville, Mass. Lamp-fixture. No. 974,253; Nov. 1; Sp. p. 381; Gaz. vol. 160; p. 56.
Forgrove Machinery Company, The. (See Grover, Frederick, assignor.)
Forney, John A., Reading, Pa. Vacuum-cleaner. No. 975,028; Nov. 8; Sp. p. 2167; Gaz. vol. 160; p. 353.
Forstner, Adolphus H., Portland, Oreg. Oil-burner. No. 974,652; Nov. 1; Sp. p. 1309; Gaz. vol. 160; p. 202.
Forsyth, William D., Youngstown, Ohio, assignor, by mesne assignments, to A. M. Neeper, Pittsburg, Pa. Metallic railway-tie. No. 977,179; Nov. 29; Sp. p. 6865; Gaz. vol. 160; p. 1166.
Fortin, Benjamin P., Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y. Typewriting machine. No. 975,610; Nov. 15; Sp. p. 3411; Gaz. vol. 160; p. 579.
Forwood, John B., Forest Hill, Md. Cattle-stanchion. No. 977,289; Nov. 29; Sp. p. 7075; Gaz. vol. 160; p. 1203.
Fosbroke, Gerald E., St. Paul, Minn. Display apparatus. No. 976,160; Nov. 22; Sp. p. 4555; Gaz. vol. 160; p. 788.
Fosler, Ira G., Chicago, Ill. Automatic pressure-controller for water and other pipes. No. 974,563; Nov. 1; Sp. p. 1131; Gaz. vol. 160; p. 170.
Foster, Andrew J., Northbend, Wash. Ironing-table. No. 976,997; Nov. 29; Sp. p. 6461; Gaz. vol. 160; p. 1102.
Foster, Charles B., and W. W. Glidden, Oak Park, Ill. Vacuum dust-remover. No. 977,380; Nov. 29; Sp. p. 7276; Gaz. vol. 160; p. 1235.
Foster, Clarence B., assignor to Burroughs Adding Machine Company, Detroit, Mich. Adding-machine. No. 974,480; Nov. 1; Sp. p. 928; Gaz. vol. 160; p. 138.
Foster, Freling C., Chicago, Ill. Wheel. No. 975,407; Nov. 15; Sp. p. 2981; Gaz. vol. 160; p. 507.
Fountain, John, Jr., Elizabeth, N. J. Universal floor-box for the distribution of electric wires. No. 974,870; Nov. 1; Sp. p. 663; Gaz. vol. 160; p. 99.
Fournia, John, assignor of one-half to F. R. Greene, Albany, N. Y. Fluid-pressure valve. No. 974,872; Nov. 8; Sp. p. 1800; Gaz. vol. 160; p. 299.
Fournia, John, assignor of one-half to F. R. Greene, Albany, N. Y. Device for heating feed-water. No. 976,794; Nov. 22; Sp. p. 5964; Gaz. vol. 160; p. 1007.
Fowden, Robert A., Philadelphia, Pa. Piston-packing. No. 976,563; Nov. 22; Sp. p. 5491; Gaz. vol. 160; p. 928.
Fowler, Alfred B., Boston, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Shoe-sewing machine. No. 976,450; Nov. 22; Sp. p. 5245; Gaz. vol. 160; p. 890.
Fowler, George A., Denver, Colo. Fluid-operated rotary-movement-reversing mechanism. No. 976,998; Nov. 29; Sp. p. 6462; Gaz. vol. 160; p. 1103.
Fowler, Gilbert J., Urmston, near Manchester, England. Obtaining pure shellac from stick-lac or the like. No. 975,224; Nov. 8; Sp. p. 2601; Gaz. vol. 160; p. 420.
Fowler, William, Canterbury, England. Cooking apparatus. No. 976,646; Nov. 22; Sp. p. 5658; Gaz. vol. 160; p. 957.
Fox, Jason S., Honolulu, Hawaii. Medical eye-cup. No. 976,862; Nov. 29; Sp. p. 6124; Gaz. vol. 160; p. 1055.
Fox, Richard M., assignor of one-fourth to R. M. Garrett, Bluefield, W. Va. Coal-loading device. No. 975,225; Nov. 8; Sp. p. 2602; Gaz. vol. 160; p. 420.
Frampton, George M., Pendleton, Ind. Stallion-shield. No. 976,863; Nov. 29; Sp. p. 6125; Gaz. vol. 160; p. 1055.

Francart, Fernand M., Arnold, G. C. Debay, J. W. Johnston, and G. B. Couch, Springdale, Pa. Apparatus for making sheet-glass. No. 976,125; Nov. 15; Sp. p. 4453; Gaz. vol. 160; p. 754.
Frank, Michael E., assignor of one-third to L. Herman, Sheboygan, Wis. Bank-protector. No. 974,564; Nov. 1; Sp. p. 1132; Gaz. vol. 160; p. 170.
Frank W. Whitcher Co. (See Barbour, George O., assignor.)
Franke, Arthur, Manitowoc, Wis. Pocket-case. No 974,371; Nov. 1; Sp. p. 665; Gaz. vol. 160; p. 100.
Franke, Rudolph. (See Burgert and Franke.)
Fraser, Arthur C., New York, assignor, by mesne assignments, to American Blower Company, Green Island, N. Y. Centrifugal fan or pump. No. 976,795; Nov. 22; Sp. p. 5965; Gaz. vol. 160; p. 1007.
Fraser, Spencer L., and A. E. Jacobson, Minneapolis, Minn. Grinding-plate for attrition-mills. No. 975,848; Nov. 15; Sp. p. 3902; Gaz. vol. 160; p. 659.
Fraser, George G., St. Louis, Mo. Lawn and hedge trimmer. No. 974,653; Nov. 1; Sp. p. 1310; Gaz. vol. 160; p. 203.
Frederick, Walter A., Muskegon, Mich. Multiple-feed gear-pump. No. 974,783; Nov. 8; Sp. p. 1601; Gaz. vol. 160; p. 269.
Fredrick, William D., Bridgeton, assignor to Millville Machine Company, Millville, N. J. Glass-blowing machine. No. 975,758; Nov. 15; Sp. p. 3725; Gaz. vol. 160; p. 628.
Fredrick, William D., Bridgeton, assignor to Millville Machine Company, Millville, N. J. Glass-blowing machine. No. 975,759; Nov. 15; Sp. p. 3731; Gaz. vol. 160; p. 629.
Freeland, Gustaf, Salt Lake City, Utah. Miner's candlestick. No. 977,381; Nov. 29; Sp. p. 7278; Gaz. vol. 160; p. 1236.
Freelman, Louis G., Cincinnati, Ohio. Shoe-supporting jack. No. 977,180; Nov. 29; Sp. p. 6868; Gaz. vol. 160; p. 1166.
Freeman, Merrill P. (See Worthen, Burt L., assignor.)
Fremon, Jules A., Leeper, Mo. Lock. No. 977,181; Nov. 29; Sp. p. 6872; Gaz. vol. 160; p. 1167.
French, Alfred W., Buffalo, N. Y. Dumping-bucket. No. 975,345; Nov. 8; Sp. p. 2848; Gaz. vol. 160; p. 460.
French, Harold, London, England. Apparatus for casting concrete structures. No. 975,943; Nov. 15; Sp. p. 4095; Gaz. vol. 160; p. 691.
French, Silas H., Oberlin, Ohio. Flying-machine. No. 976,161; Nov. 22; Sp. p. 4556; Gaz. vol. 160; p. 788.
French, Wallace G., Oakland, Cal. Telephone-directory. No. 974,957; Nov. 8; Sp. p. 2012; Gaz. vol. 160; p. 329.
Frennet, Louis, Ligny, Belgium. Chemical-manure distributer. No. 977,290; Nov. 29; Sp. p. 7076; Gaz. vol. 160; p. 1204.
Frey, Victor, assignor to Schuhfabrik Bonndorf Gebrüder Kriechle, Bonndorf, Germany. Manufacture of boot or shoe caps. No. 976,451; Nov. 22; Sp. p. 5249; Gaz. vol. 160; p. 891.
Freyberg, Otto, Leipzig, Germany. Door-guard. No. 975,760; Nov. 15; Sp. p. 3735; Gaz. vol. 160; p. 629.
Freyman, John E., Schenectady, N. Y. Countersink. No. 975,944; Nov. 15; Sp. p. 4098; Gaz. vol. 160; p. 692.
Fridgen, John A., Leaf Mountain, Minn. Friction-clutch. No. 975,226; Nov. 8; Sp. p. 2604; Gaz. vol. 160; p. 420.
Friederich, Frederick, *et al.* (See Woerner, Albert M., assignor.)
Friedman, Edgar, New York, N. Y. Bung and tap for barrels. No. 976,647; Nov. 22; Sp. p. 5663; Gaz. vol. 160; p. 958.
Fritz, Walter. (See Emden and Fritz.)
Froggatt, John, Camberwell, and C. Stacey, Malvern, Victoria, Australia. Coupling. No. 974,254; Nov. 1; Sp. p. 383; Gaz. vol. 160; p. 56.
Frombart, William H., Golden, Colo. Hinge. No. 976,999; Nov. 29; Sp. p. 6466; Gaz. vol. 160; p. 1103.
Fromhold, Alexander, Rutherford, N. J. Transom-lifter, &c. No. 977,291; Nov. 29; Sp. p. 7078; Gaz. vol. 160; p. 1204.
Frommer, Rudolph, Budapest, Austria-Hungary. Greasing device for the ammunition of firearms. No. 974,784; Nov. 8; Sp. p. 1602; Gaz. vol. 160; p. 269.
Frost, Warren H., and J. J. Nix, Los Angeles, Cal.; said Nix assignor to said Frost. Production of carbon-black together with combustible gas. No. 977,000; Nov. 29; Sp. p. 6468; Gaz. vol. 160; p. 1103.
Frost, William M., Eureka, Mont. Electric insect-destroyer. No. 974,785; Nov. 8; Sp. p. 1603; Gaz. vol. 160; p. 270.
Fry, George W., Morgantown, W. Va. Grinding-chuck. No. 975,408; Nov. 15; Sp. p. 2983; Gaz. vol. 160; p. 507.
Fry, George W., Morgantown, W. Va. Mold for glassware. No. 975,409; Nov. 15; Sp. p. 2984; Gaz. vol. 160; p. 507.
Fryer, George G., and E. Pfeiderer, Syracuse, N. Y. Locomotor for use in conduits. No. 976,162; Nov. 22; Sp. p. 4559; Gaz. vol. 160; p. 788.
Fuchs, Emiel R. (See Kohn, Jacob, assignor.)
Fuchs, Emiel R., New York, N. Y. Door-securer. No. 977,182; Nov. 29; Sp. p. 6878; Gaz. vol. 160; p. 1167.
Fuchs, Emiel R., New York, N. Y. Door-securing device. No. 977,183; Nov. 29; Sp. p. 6880; Gaz. vol. 160; p. 1168.
Fuchs, Emiel R., New York, N. Y. Door-securer. No. 977,184; Nov. 29; Sp. p. 6882; Gaz. vol. 160; p. 1168.
Fuhrmann, Warren, Newark, N. J. Miter-box. No. 976,730; Nov. 22; Sp. p. 5811; Gaz. vol. 160; p. 984.
Fulghum, Thomas E., assignor to The National Orchard Heater Co., Grand Junction, Colo. Orchard-heater. No. 975,611; Nov. 15; Sp. p. 3413; Gaz. vol. 160; p. 579.
Fullenkamp, Frank, Fort Recovery, Ohio. Mold. No. 974,372; Nov. 1; Sp. p. 667; Gaz. vol. 160; p. 100.
Fuller, Frederick R., Worcester, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Clicking-press. No. 974,373; Nov. 1; Sp. p. 668; Gaz. vol. 160; p. 100.
Fuller, Lawson M., assignor to Velie Motor Vehicle Company, Moline, Ill. Sight-feed. No. 975,127; Nov. 8; Sp. p. 2386; Gaz. vol. 160; p. 387.
Fullmer, Benjamin, and A. H. Powell, Alpine City, Utah. Apple cutter and corer. No. 975,410; Nov. 15; Sp. p. 2985; Gaz. vol. 160; p. 508.
Fulton Company, The. (See Fulton, Weston M., assignor.)
Fulton, Robert B., Red Cloud, Nebr. Loader and stacker. No. 975,849; Nov. 15; Sp. p. 3903; Gaz. vol. 160; p. 659.
Fulton, Weston M., assignor to The Fulton Company, Knoxville, Tenn. Collapsible and expansible vessel. No. 975,519; Nov. 15; Sp. p. 3215; Gaz. vol. 160; p. 548.
Fulton, Weston M., assignor to The Fulton Company, Knoxville, Tenn. Flexible corrugated-metal wall for collapsible and expansible vessels. No. 976,060; Nov. 15; Sp. p. 4308; Gaz. vol. 160; p. 731.
Funke, Anton, Westig, Germany, assignor to The Papyrus Artificial Paper Manufacturing Company, Hoboken, N. J. Machine for spinning paper threads. No. 974,132; Nov. 1; Sp. p. 53; Gaz. vol. 160; p. 12.
Furnace Patent Company, The. (See Wedge, Utley, assignor.)
Fyrberg, Andrew, Hopkinton, Mass. Revolver. No. 975,685; Nov. 15; Sp. p. 3583; Gaz. vol. 160; p. 603.
G. & H. Manufacturing Company. (See Gallagher, Richard W., assignor.)
G. M. Thompson Railway Switch Company, The. (See Thompson, Guy M., assignor.)
Gaethje, William, South Rock Island, Ill. Flower-stand. No. 976,061; Nov. 15; Sp. p. 4310; Gaz. vol. 160; p. 731.
Gagge, Thomas, assignor to T. H. Sidney, Chicago, Ill. Reflector for store-windows and the like. No. 974,374; Nov. 1; Sp. p. 671; Gaz. vol. 160; p. 101.
Gail, John F., assignor to The Simmons Manufacturing Company, Kenosha, Wis. Fabric-chain machine. No. 975,850; Nov. 15; Sp. p. 3907; Gaz. vol. 160; p. 659.
Gair, Robert, Brooklyn, N. Y. Display-card. No. 977,292; Nov. 29; Sp. p. 7079; Gaz. vol. 160; p. 1204.
Galambos, John, Lorain, Ohio. Metallic railway tie and rail-clamp. No. 975,520; Nov. 15; Sp. p. 3217; Gaz. vol. 160; p. 548.
Galbraith, David G., assignor to N. L. Galbraith, Mineral Wells, Tex. Condenser. No. 975,612; Nov. 15; Sp. p. 3415; Gaz. vol. 160; p. 579.
Galbraith, Nannie L. (See Galbraith, David G., assignor.)
Gale, Burton L. (See Merritt and Gale.)
Gale, Gertrude I., *et al.* (See Merritt and Gale, assignors.)
Gale, Horace B. (See Ayer and Gale.)
Gallagher, Richard D., Jr., assignor to Standard Coupler Company, New York, N. Y. Buffing mechanism. No. 974,654; Nov. 1; Sp. p. 1312; Gaz. vol. 160; p. 203.
Gallagher, Richard D., Jr., assignor to Standard Coupler Company, New York, N. Y. Buffing mechanism for passenger-cars. No. 975,945; Nov. 15; Sp. p. 4099; Gaz. vol. 160; p. 692.
Gallagher, Richard W., Los Angeles, Cal., assignor to G. & H. Manufacturing Company, Jersey City, N. J. Carbureter. No. 976,258; Nov. 22; Sp. p. 4825; Gaz. vol. 160; p. 824.
Galusha, Albert L., Dorchester, Mass. Power plant. No. 974,255; Nov. 1; Sp. p. 385; Gaz. vol. 160; p. 56.
Galvin, James A., Astoria, N. Y. Artificial limb. No. 975,020; Nov. 8; Sp. p. 2168; Gaz. vol. 160; p. 353.
Gamble, John A., Liverpool, England. Device for recording or registering messages, memoranda, and the like. No. 976,062; Nov. 15; Sp. p. 4311; Gaz. vol. 160; p. 731.
Gamon, Ernest E., Newark, N. J. Water-meter. No. 974,256; Nov. 1; Sp. p. 387; Gaz. vol. 160; p. 57.
Ganey, Jeremiah, Chicago, Ill. Street sprinkling or flushing wagon. No. 974,764; Nov. 1; Sp. p. 1552; Gaz. vol. 160; p. 230.
Ganssien, Hermann, Chicago, Ill., assignor to Niagara Machine & Tool Works, Buffalo, N. Y. Machine for making wired edges. No. 976,353; Nov. 22; Sp. p. 5033; Gaz. vol. 160; p. 854.
Garby, Louis R., Lewiston, Idaho. Hand-stamp. No. 977,293; Nov. 29; Sp. p. 7079; Gaz. vol. 160; p. 1205.
Gardner, Benjamin F., assignor of one-half to S. R. Salinger, Chicago, Ill. Telephone-disinfector. No. 975,346; Nov. 8; Sp. p. 2850; Gaz. vol. 160; p. 460.
Gardner, Frederick, Chicago, assignor to T. Gardner, Oak Park, Ill. Combined package and toy. No. 975,227; Nov. 8; Sp. p. 2605; Gaz. vol. 160; p. 421.
Gardner, Theresa. (See Gardner, Frederick, assignor.)
Garner, James G., Chicago, Ill. Ventilating apparatus. No. 975,851; Nov. 15; Sp. p. 3914; Gaz. vol. 160; p. 660.
Garon, George E., Manchester, N. H. Spring-wheel. No. 974,765; Nov. 1; Sp. p. 1553; Gaz. vol. 160; p. 239.
Garrett, Robert M. (See Fox, Richard M., assignor.)
Garrison, Harry A., Fayette, Iowa. Reverse-gearing. No. 976,731; Nov. 22; Sp. p. 5812; Gaz. vol. 160; p. 984.

Gartenmeister, Rudolf, Elberfeld, Germany. Purifying chlorates. No. 975,613; Nov. 15; Sp. p. 3416; Gaz. vol. 160; p. 580.

Garvin, George K., and E. J. McClellan, New York, N. Y., assignors to The Garvin Machine Company. Chuck. No. 976,452; Nov. 22; Sp. p. 5250; Gaz. vol. 160; p. 801.

Garvin Machine Company, The. (See Garvin and McClellan, assignors.)

Garvy Company, The. (See Hauser, Theodore, assignor.)

Gassel, Jacob, Pittsburg, Pa. Shoe-salesman's stool. No. 975,852; Nov. 15; Sp. p. 3916; Gaz. vol. 160; p. 660.

Gaston, Joseph. (See Matter, Albert J., assignor.)

Gathmann, Emil, New York, N. Y. Ingot-mold. No. 974,133; Nov. 1; Sp. p. 54; Gaz. vol. 160; p. 12.

Gauthier, Joseph, Gorham, N. H. Car-door fastener. No. 975,347; Nov. 8; Sp. p. 2851; Gaz. vol. 160; p. 461.

Gauthier, Joseph, Gorham, N. H. Guide-bracket for sliding doors. No. 975,761; Nov. 15; Sp. p. 3735; Gaz. vol. 160; p. 629.

Gauvin, Emery C. (See St. Pierre and Gauvin.)

Gaynor, Thomas F. (See Curtin, Peter A., assignor.)

Gaynor, Thomas F., New York, N. Y. Self-filling fountain-pen. No. 977,424; Nov. 29; Sp. p. 7389; Gaz. vol. 160; p. 1249.

Gearhart, C. M., *et al.* (See Haslup, William, assignor.)

Gebr. Körting Aktien-Gesellschaft. (See Brauss, Edward, assignor.)

Geddes, William E., Chicago, Ill. Railway-gate. No. 977,001; Nov. 29; Sp. p. 6471; Gaz. vol. 160; p. 1104.

Gedge, Burton H., Anderson, Ind. Stock-watering tank. No. 974,873; Nov. 8; Sp. p. 1802; Gaz. vol. 160; p. 299.

Geier, James, assignor to C. Nielsen and H. S. Giles, Troy, N. Y. Ice-cream spoon. No. 977,382; Nov. 29; Sp. p. 7270; Gaz. vol. 160; p. 1236.

General Chemical Company. (See Neumann, Max, assignor.)

General Electric Company. (See Alexanderson, Ernst F. W., assignor.)

General Electric Company. (See Ball, Augustus A., Jr., assignor.)

General Electric Company. (See Batchelder, Asa F., assignor.)

General Electric Company. (See Bechoff, Ferdinand, assignor.)

General Electric Company. (See Bell, Thomas, assignor.)

General Electric Company. (See Benson, Harry F., assignor.)

General Electric Company. (See Bentley, Frederick W., assignor.)

General Electric Company. (See Berry and Guay, assignors.)

General Electric Company. (See Callan, John G., assignor.)

General Electric Company. (See Cubitt, Archibald S., assignor.)

General Electric Company. (See Davis, Albert G., assignor.)

General Electric Company. (See Dempster, John T. H., assignor.)

General Electric Company. (See Junggren, Oscar, assignor.)

General Electric Company. (See Kudlich, Alfred H., assignor.)

General Electric Company. (See Legel, Willy, assignor.)

General Electric Company. (See Lemp, Hermann, assignor.)

General Electric Company. (See Maxwell, Howard, assignor.)

General Electric Company. (See Mayer, Max, assignor.)

General Electric Company. (See Noeggerath, Jakob E., assignor.)

General Electric Company. (See Persson, Otto F., assignor.)

General Electric Company. (See Pratt, William H., assignor.)

General Electric Company. (See Rice, Richard H., assignor.)

General Electric Company. (See Riddell, John, assignor.)

General Electric Company. (See Robinson, Lewis T., assignor.)

General Electric Company. (See Sawin, George A., assignor.)

General Electric Company. (See Stanley, William, assignor.)

General Electric Company. (See Weaver, Eugene M., assignor.)

General Electric Company. (See Wiler, Carl, assignor.)

General Electric Company. (See Wirt, Herbert C., assignor.)

General Fire Extinguisher Company. (See Derby, John H., assignor.)

General Fire Extinguisher Company. (See Reynolds, George H., assignor.)

General Fireproofing Company, The. (See White and Ham, assignors.)

General Railway Signal Company. (See Dodgson, Frank L., assignor.)

Gennert, Emil F., assignor to Manhattan Brass Company, New York, N. Y. Kerosene-burner. No. 975,411; Nov. 15; Sp. p. 2937; Gaz. vol. 160; p. 508.

George P. Bent Company. (See Weiser, Frank J. W., assignor.)

Gerald, August P., Jersey City, N. J. Flame or baffle bridge for water-tube boilers. No. 975,853; Nov. 15; Sp. p. 3917; Gaz. vol. 160; p. 660.

Gerald, Eugene E., Baltimore, Md. Automatic gas-igniter. No. 974,565; Nov. 1; Sp. p. 1135; Gaz. vol. 160; p. 171.

Gerard, William L., Bellingham, Wash. Receptacle for sputum. No. 975,854; Nov. 15; Sp. p. 3920; Gaz. vol. 160; p. 661.

Gerb, Fritz, Berlin, Germany. Bed-plate for machinery. No. 976,126; Nov. 15; Sp. p. 4457; Gaz. vol. 160; p. 754.

Gerdtzen, Oscar, Valparaiso, Chile. Discharge-head for collapsible tubes. No. 975,348; Nov. 8; Sp. p. 2853; Gaz. vol. 160; p. 461.

Gerrard, Adam, Taunton, Mass. Rivet-drilling machine. No. 976,453; Nov. 22; Sp. p. 5252; Gaz. vol. 160; p. 801.

Géry, Paul H. J.-B. M. C. de, Nantes, France. Cord for surgical ligatures and other purposes. No. 977,383; Nov. 29; Sp. p. 7280; Gaz. vol. 160; p. 1236.

Gessner, David, Worcester, Mass. Cloth-treating apparatus. No. 975,349; Nov. 8; Sp. p. 2854; Gaz. vol. 160; p. 461.

Gfeller, Frederick, Oakland, Cal. Valve for water-nozzles. No. 975,350; Nov. 8; Sp. p. 2863; Gaz. vol. 160; p. 461.

Gherassimoff, Nicolas, St. Petersburg, Russia. Gyroscopic rocket. No. 976,732; Nov. 22; Sp. p. 5813; Gaz. vol. 160; p. 985.

Gibbs, Arthur S., Scranton, Pa. Electrical flasher. No. 977,294; Nov. 29; Sp. p. 7061; Gaz. vol. 160; p. 1205.

Gibbs, Charles, assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 975,228; Nov. 8; Sp. p. 2606; Gaz. vol. 160; p. 421.

Gibbs, Frank I., Birmingham, England. Producing metallic articles by electrodeposition. No. 975,386; Nov. 8; Sp. p. 2930; Gaz. vol. 160; p. 474.

Gibson, James J., Homestead, and C. L. W. Trinks, Pittsburg, Pa.; said Trinks assignor to said Gibson. Positive-displacement rotary blower. No. 974,481; Nov. 1; Sp. p. 930; Gaz. vol. 160; p. 139.

Gibson, James J., Homestead, and C. L. W. Trinks, Pittsburg, Pa.; said Trinks assignor to said Gibson. Sound-deadener for rotary blowers. No. 976,063; Nov. 15; Sp. p. 4313; Gaz. vol. 160; p. 732.

Gieselmann, Edward, assignor of one-fourth to E. H. Meyer and one-fourth to G. Gieselmann, Mount Olive, Ill. Cultivator. No. 976,864; Nov. 29; Sp. p. 6127; Gaz. vol. 160; p. 1056.

Gieselmann, George, *et al.* (See Gieselmann, Edward, assignor.)

Gifford, Lester R., Westmont, Pa. Concrete-metal railway-tie. No. 975,855; Nov. 15; Sp. p. 3922; Gaz. vol. 160; p. 661.

Gilbert & Barker Manufacturing Company. (See Barker, John F., assignor.)

Gilbert, Edward R., Kittanning, Pa. Wrench. No. 976,064; Nov. 15; Sp. p. 4314; Gaz. vol. 160; p. 732.

Giles, Chesley T. J., Greenville, S. C. Latch. No. 974,566; Nov. 1; Sp. p. 1137; Gaz. vol. 160; p. 171.

Giles, Henry S., *et al.* (See Geier, James, assignor.)

Gilges, Dudley H., Baldwin, Kans. Lace-cutting implement. No. 974,766; Nov. 1; Sp. p. 1555; Gaz. vol. 160; p. 240.

Gill & Company. (See Donohoe, Michael, assignor.)

Gill, George W. (See Aither, Henry J., assignor.)

Gill, Seth E., Brooklyn, N. Y. Non-refillable bottle. No. 976,065; Nov. 15; Sp. p. 4315; Gaz. vol. 160; p. 732.

Gillespie, Earl C., Woodhaven, N. Y. Take-up device for guy-wires. No. 976,865; Nov. 29; Sp. p. 6128; Gaz. vol. 160; p. 1056.

Gillette, Charles J., Washington, D. C. Measuring device. No. 976,066; Nov. 15; Sp. p. 4317; Gaz. vol. 160; p. 733.

Gilliam, Thomas J., Houma, La. Shaping-machine. No. 975,946; Nov. 15; Sp. p. 4102; Gaz. vol. 160; p. 692.

Gilligan, Bernard C., assignor to L. A. Gilligan, Toledo, Ohio. Blowpipe. No. 976,796; Nov. 22; Sp. p. 5967; Gaz. vol. 160; p. 1007.

Gilligan, Luvina A. (See Gilligan, Bernard C., assignor.)

Gilliland, Lee O., assignor of one-half to R. Reichardt, Chicago, Ill. Rotary engine. No. 976,355; Nov. 22; Sp. p. 5037; Gaz. vol. 160; p. 855.

Gilliland, Maria A., Brookline, Mass. Skimmer. No. 976,733; Nov. 22; Sp. p. 5814; Gaz. vol. 160; p. 985.

Gilman, George H., assignor to Sullivan Machinery Company, Claremont, N. H. Fluid-pressure-actuated impact-tool. No. 974,375; Nov. 1; Sp. p. 672; Gaz. vol. 160; p. 101.

Gilmore, George J., Chicago, Ill. Fireproof receptacle for films of moving-picture apparatus. No. 976,067; Nov. 15; Sp. p. 4318; Gaz. vol. 160; p. 733.

Gilmore, George J., Chicago, Ill. Film-cabinet. No. 976,068; Nov. 15; Sp. p. 4320; Gaz. vol. 160; p. 733.

Giltner, William H., Paris, Ky. Engine-governor attachment. No. 974,655; Nov. 1; Sp. p. 1315; Gaz. vol. 160; p. 203.

Ginn, Blanch W. (See Averbeck and Ginn.)

Ginn, Blanch W., assignor to Lovell & Buffington Tobacco Company, Covington, Ky. Tobacco-ordering machine. No. 975,412; Nov. 15; Sp. p. 2989; Gaz. vol. 160; p. 508.

Girard, Louis B., assignor to The Girard Manufacturing Company, Los Angeles, Cal. Machine for fastening shades on rollers. No. 976,356; Nov. 22; Sp. p. 5040; Gaz. vol. 160; p. 856.

Girard Manufacturing Company, The. (See Girard, Louis B., assignor.)

Girt, Charles A., J. T. Wilson, and A. Atkins, Rainier, Oreg. Independent car-axle. No. 977,002; Nov. 29; Sp. p. 6475; Gaz. vol. 160; p. 1104.

Girvin, Lincoln A., Toledo, Assignor to The Novelty Iron Company, Canton, Ohio. Adjustable ventilating connection for radiators. No. 977,088; Nov. 29; Sp. p. 6647; Gaz. vol. 160; p. 1133.

Glaeser, Henry, Jersey City, N. J., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 974,988; Nov. 8; Sp. p. 2013; Gaz. vol. 160; p. 329.

Glahn, Charles Von, Watervliet, N. Y. Paper-feeding apparatus. No. 977,146; Nov. 29; Sp. p. 6790; Gaz. vol. 160; p. 1154.

Glaum, Conrad, Audubon, Minn. Nut-lock. No. 974,786; Nov. 8; Sp. p. 1607; Gaz. vol. 160; p. 270.

Glaze, Herbert L., assignor of two-thirds to Young Construction Co., Los Angeles, Cal. Scraper-bucket. No. 976,163; Nov. 22; Sp. p. 4562; Gaz. vol. 160; p. 789.

Gleason, M. B. (See McGann, Thomas W. J., assignor.)

Glidden, Wilmot W. (See Foster and Glidden.)

Glossinger, John, Chicago, Ill. Sample-case. No. 974,874; Nov. 8; Sp. p. 1805; Gaz. vol. 160; p. 299.

Glover, Charles. (See Bartels, William A., assignor.)

Glover, Charles. (See Jones, Horace K., assignor.)

Glynn, Cyrus L., Boston, Mass. Spring grip-holder for wire cord. No. 977,384; Nov. 29; Sp. p. 7283; Gaz. vol. 160; p. 1237.

Goebel, William, assignor of forty-five one-hundredths to J. M. Collins, Chicago, Ill. Soil-stack fitting. No. 974,875; Nov. 8; Sp. p. 1806; Gaz. vol. 160; p. 300.

Goldstein, Albert, New York, N. Y., assignor to International Electric Protection Company. Electrical thermostatic alarm system. No. 977,295; Nov. 29; Sp. p. 7083; Gaz. vol. 160; p. 1205.

Goldstein, Albert, and C. H. Pool, assignors to International Electric Protection Company, New York, N. Y. Central-energy electrical temperature-alarm system. No. 977,296; Nov. 29; Sp. p. 7085; Gaz. vol. 160; p. 1205.

Goldstein, Morris, Brooklyn, assignor to C. De Lukacsevics, New York, N. Y. Blue-printing machinery. No. 976,164; Nov. 22; Sp. p. 4563; Gaz. vol. 160; p. 789.

Golightly, William J., *et al.* (See Sidney, William E., assignor.)

Goodell, Albert D., assignor to Goodell Tool Company, Shelburne Falls, Mass. Bench-stop. No. 974,482; Nov. 1; Sp. p. 942; Gaz. vol. 160; p. 139.

Goodell-Pratt Company. (See Farley, Fred E., assignor.)

Goodell Tool Company. (See Goodell, Albert D., assignor.)

Goodison, John, Sarnia, Ontario, Canada, assignor to The Indiana Manufacturing Company, Indianapolis, Ind. Pneumatic stacker. No. 974,483; Nov. 1; Sp. p. 943; Gaz. vol. 160; p. 139.

Goodridge, Gilbert W., assignor to The Bryant Electric Company, Bridgeport, Conn. Wall-socket. No. 977,207; Nov. 20; Sp. p. 7087; Gaz. vol. 160; p. 1206.

Goodson, Milton A., Childress, Tex. Brace. No. 976,564; Nov. 22; Sp. p. 5402; Gaz. vol. 160; p. 928.

Goodwin, John, New York, N. Y. Race-game apparatus. No. 974,376; Nov. 1; Sp. p. 675; Gaz. vol. 160; p. 102.

Goodwin, Ransom, West Union, Ill. Grain-door. No. 976,357; Nov. 22; Sp. p. 5046; Gaz. vol. 160; p. 856.

Goolsby, Hannah, Wauchula, Fla. Undergarment. No. 974,787; Nov. 8; Sp. p. 1608; Gaz. vol. 160; p. 270.

Gordon, Frederick W., Philadelphia, Pa. Metal-reducing process. No. 974,257; Nov. 1; Sp. p. 389; Gaz. vol. 160; p. 57.

Gordon, John P., Columbus, Ohio. Automobile-hood. No. 975,128; Nov. 8; Sp. p. 2387; Gaz. vol. 160; p. 387.

Gordon, John P., Columbus, Ohio. Automobile-robe. No. 976,866; Nov. 29; Sp. p. 6130; Gaz. vol. 160; p. 1056.

Gore, Roscoe C., Tecumseh, Nebr. Flying-machine. No. 975,229; Nov. 8; Sp. p. 2608; Gaz. vol. 160; p. 421.

Gorham, Frank C., Chicago, Ill. Razor-blade holder. No. 975,762; Nov. 15; Sp. p. 6736; Gaz. vol. 160; p. 629.

Gormau, Horace P., Hazleton, Pa. Liquid-dispensing apparatus. No. 977,298; Nov. 29; Sp. p. 7088; Gaz. vol. 160; p. 1206.

Gormly, Robert W., Troy, N. Y. Casting-off bur for circular-knitting machines. No. 976,867; Nov. 29; Sp. p. 6130; Gaz. vol. 160; p. 1056.

Goss Printing Press Company, The. (See Goss, Samuel G., assignor.)

Goss, Samuel G., assignor to The Goss Printing Press Company, Chicago, Ill. Combined plate shaving, trimming, and tail-cutting machine. No. 975,521; Nov. 15; Sp. p. 3219; Gaz. vol. 160; p. 548.

Göthe, Emil A. O. (See Johansson and Göthe.)

Götte, Georg, Cassel, Germany. Draft-excluder for doors. No. 974,950; Nov. 8; Sp. p. 2014; Gaz. vol. 160; p. 330.

Gottlieb, Robert. (See Armstrong, Frank S., Jr., assignor.)

Gottschalk, Emil. (See Remané, Gottschalk, and Hurwitz.)

Gould Storage Battery Company. (See Chamberlain and Shedd, assignors.)

Gould Storage Battery Company. (See Hubbard, Albert S., assignor.)

Gow, Alexander M. (See Westinghouse and Gow.)

Gow, John, Schenectady, assignor of one-half to A. M. Loudon, Elmira, N. Y. Apparatus for making cores. No. 976,648; Nov. 22; Sp. p. 5667; Gaz. vol. 160; p. 958.

Grace, John. (See Baucum, Samuel C., assignor.)

Grady, Willie T., Orange, Va. Filing apparatus. No. 977,003; Nov. 29; Sp. p. 6478; Gaz. vol. 160; p. 1105.

Graffort, Lory J., and P. L. Hoffman, New Carlisle, Ind. Fruit-jar wrench. No. 976,868; Nov. 29; Sp. p. 6133; Gaz. vol. 160; p. 1057.

Graham, George M., Chicago, Ill., assignor, by mesne assignments, to Suspenaion Steel Concrete Company. Reinforced concrete structure. No. 974,656; Nov. 1; Sp. p. 1316; Gaz. vol. 160; p. 204.

Graham, George M., Chicago, Ill., assignor, by mesne assignments, to Suspension Steel Concrete Company. Reinforcing-frame for concrete structures. No. 974,657; Nov. 1; Sp. p. 1318; Gaz. vol. 160; p. 204.

Graham, George M., Chicago, Ill., assignor, by mesne assignments, to Suspension Steel Concrete Company. Reinforced-concrete floor. No. 974,658; Nov. 1; Sp. p. 1319; Gaz. vol. 160; p. 204.

Graham, George M., Chicago, Ill., assignor, by mesne assignments, to Suspension Steel Concrete Company. Reinforced concrete car structure. No. 974,659; Nov. 1; Sp. p. 1320; Gaz. vol. 160; p. 205.

Graham, George M., Chicago, Ill., assignor, by mesne assignments, to Suspension Steel Concrete Company. Fitting for reinforcing-frames. No. 976,860; Nov. 29; Sp. p. 6134; Gaz. vol. 160; p. 1057.

Grahl, Gustav de, Zehlendorf, near Berlin, Germany. Boiler-furnace. No. 975,763; Nov. 15; Sp. p. 3737; Gaz. vol. 160; p. 630.

Grain Belt Car Specialty Company. (See Posson, Edward, assignor.)

Grand Rapids Brass Company. (See Barrett, Glenn J., assignor.)

Grand Rapids Show Case Company. (See Vanderveld, Anthony, assignor.)

Granger, William S., Providence, R. I. Calender-roll. No. 975,686; Nov. 15; Sp. p. 3585; Gaz. vol. 160; p. 604.

Graves, George A. (See Graves, Herbert and G. A.)

Graves, Herbert and G. A., Springbrook, Oreg. Damper device. No. 974,876; Nov. 8; Sp. p. 1808; Gaz. vol. 160; p. 300.

Graves, John N. (See Tidnam and Graves.)

Graves, John N., Oklahoma, Okla. Receptacle washer and polisher. No. 977,385; Nov. 29; Sp. p. 7283; Gaz. vol. 160; p. 1237.

Gravity Conveyor Company. (See Schwab, Martin C., assignor.)

Gray, Edward W., Jacksonville, Fla. Heel-plate. No. 975,764; Nov. 15; Sp. p. 3739; Gaz. vol. 160; p. 630.

Gray, Emmet P., Detroit, Mich. Strainer. No. 975,687; Nov. 15; Sp. p. 3586; Gaz. vol. 160; p. 604.

Gray, Loftus, Cleveland, Ohio. Explosive. No. 975,030; Nov. 8; Sp. p. 2172; Gaz. vol. 160; p. 353.

Gray Motor Company. (See Kreis, Oscar C., Jr., assignor.)

Gray, Norman D., West Chester, Pa. Puzzle-lock. No. 976,165; Nov. 22; Sp. p. 4566; Gaz. vol. 160; p. 789.

Gray, William A., Newark, N. J. Stationery-box. No. 976,166; Nov. 22; Sp. p. 4567; Gaz. vol. 160; p. 790.

Gray, William T., El Campo, Tex., assignor to El Campo Machine Company. Well-pumping mechanism. No. 976,565; Nov. 22; Sp. p. 5493; Gaz. vol. 160; p. 929.

Green, Amos V., Denver, Colo. Crumb-tray. No. 977,185; Nov. 29; Sp. p. 6884; Gaz. vol. 160; p. 1168.

Green, Antonio, Jet, Okla. Wire-stretcher. No. 974,258; Nov. 1; Sp. p. 394; Gaz. vol. 160; p. 58.

Green, Charles, assignor to Lefever Arms Company, Syracuse, N. Y. Firing mechanism for guns. No. 974,259; Nov. 1; Sp. p. 396; Gaz. vol. 160; p. 58.

Green, Charles H., Chicago, Ill., assignor to The S. Obermayer Company, Cincinnati, Ohio. Snap-band for molds. No. 975,351; Nov. 8; Sp. p. 2865; Gaz. vol. 160; p. 462.

Green, Grant C., Beaumont, Tex. Railway-tie. No. 974,788; Nov. 8; Sp. p. 1610; Gaz. vol. 160; p. 270.

Green, John S., Philadelphia, Pa. Smoke-consumer. No. 975,688; Nov. 15; Sp. p. 3587; Gaz. vol. 160; p. 604.

Green, William M., Evanston, Ill., assignor of one-half to H. Pew, Weehawken, N. J. Hydrocarbon-burner. No. 977,186; Nov. 29; Sp. p. 6886; Gaz. vol. 160; p. 1169.

Greene, Frank C., Cleveland, Ohio. Car-dumping mechanism. No. 976,168; Nov. 22; Sp. p. 4578; Gaz. vol. 160; p. 790.

Greene, Frank C., Cleveland, Ohio. Car-dumping mechanism. No. 976,170; Nov. 22; Sp. p. 4594; Gaz. vol. 160; p. 791.

Greene, Frank C., Cleveland, and C. G. Palmer, East Cleveland, Ohio; said Palmer assignor to said Greene. Continuous car-dumping mechanism. No. 976,167; Nov. 22; Sp. p. 4568; Gaz. vol. 160; p. 790.

Greene, Frank C., Cleveland, and C. G. Palmer, East Cleveland, Ohio; said Palmer assignor to said Greene. Continuous car-dumping mechanism. No. 976,169; Nov. 22; Sp. p. 4590; Gaz. vol. 160; p. 791.

Greene, Frederick R. (See Fournia, John, assignor.)

Greene, Howard, Cranford, N. J., assignor of one-third to W. F. Blaisdell, Brooklyn, and one-third to J. H. Kennard, New York, N. Y. Wagon. No. 974,877; Nov. 8; Sp. p. 1809; Gaz. vol. 160; p. 300.

Greene, John. (See Kingsley, Greene, and Sadleir.)

Greene, William H., Ann Arbor, Mich. Drill-feed. No. 975,031; Nov. 8; Sp. p. 2174; Gaz. vol. 160; p. 354.

Greenfield, Edwin T., Kiamesha, N. Y. Junction-box. No. 975,032; Nov. 8; Sp. p. 2175; Gaz. vol. 160; p. 354.

Greenfield, Richard F. (See Olsson, John W., assignor.)

Greenwald, Isador, J. Blaustein, Pittsburg, M. Z. Weiss and M. Selkovits, McKeesport, Pa. Lamp-extinguisher. No. 975,352; Nov. 8; Sp. p. 2865; Gaz. vol. 160; p. 462.

Greenway, Richard J., Westerly, R. I., assignor to C. B. Cottrell & Sons Company, New York, N. Y. Ink-fountain for printing-presses. No. 975,856; Nov. 15; Sp. p. 3023; Gaz. vol. 160; p. 661.

Greenwood, Williston W., Los Angeles, Cal. Type-scale. No. 975,689; Nov. 15; Sp. p. 3591; Gaz. vol. 160; p. 606.

Gregory, C. V. (See Naylor, Joseph S., assignor.)

Gregson, Emily G. L., Fort Worth, Tex. Crude-oil burner. No. 976,358; Nov. 22; Sp. p. 5048; Gaz. vol. 160; p. 857.

Greim, Otto F., assignor to The Milwaukee Coke and Gas Company, Milwaukee, Wis. Automatic pressure-regulator for gas-collecting mains. No. 974,260; Nov. 1; Sp. p. 405; Gaz. vol. 160; p. 59.

Grewen, John A. and W., Johnstown, N. Y. Skirt. No. 975,947; Nov. 15; Sp. p. 4104; Gaz. vol. 160; p. 693.

Grewen, William. (See Grewen, John A. and W.)

Grey, William G., and W. Griffith, Pittsburg, Pa. Electrolyte for depositing copper. No. 976,454; Nov. 22; Sp. p. 5254; Gaz. vol. 160; p. 892.

Grey, William G., and W. Griffith, Pittsburg, Pa. Uniting metals. No. 976,455; Nov. 22; Sp. p. 5256; Gaz. vol. 160; p. 892.

Grey, William G., and W. Griffith, Pittsburg, Pa. Uniting metals. No. 976,456; Nov. 22; Sp. p. 5257; Gaz. vol. 160; p. 892.

Griffin, Edward. (See Reeves, George H., assignor.)

Griffith, William. (See Grey and Griffith.)

Griffiths, William U., Philadelphia, Pa. Air-compressing apparatus. No. 974,261; Nov. 1; Sp. p. 408; Gaz. vol. 160; p. 60.

Grimm, John J., New York, N. Y. Device for giving horses pills. No. 977,004; Nov. 29; Sp. p. 6479; Gaz. vol. 160; p. 1105.

Grissom, Abraham J., Yeager, Okla. Automatic weighing-cabinet. No. 976,069; Nov. 15; Sp. p. 4323; Gaz. vol. 160; p. 734.

Griswold, Henry S., Phoenix, Ariz. Tire-healing compound. No. 974,134; Nov. 1; Sp. p. 56; Gaz. vol. 160; p. 12.

Grodin, M. (See Jachimovicz, Szymon, assignor.)

Grohs, John P., Los Angeles, Cal. Apparatus for making conduits and tunnels. No. 974,960; Nov. 8; Sp. p. 2015; Gaz. vol. 160; p. 330.

Groom, Amos E., Pittsburg, D. S. McFall, Avalon, and W. J. Noah, Ben Avon, Pa. Sealing-tool. No. 975,857; Nov. 15; Sp. p. 3924; Gaz. vol. 160; p. 662.

Grooms, Elias L., Gulfport, Miss. Valve. No. 976,070; Nov. 15; Sp. p. 4327; Gaz. vol. 160; p. 734.

Gross, August, Corona, assignor to The Manhattan Brass Company, New York, N. Y. Metal roller. No. 976,171; Nov. 22; Sp. p. 4601; Gaz. vol. 160; p. 791.

Gross, Charles G., Omaha, Nebr. Hand-truck. No. 974,135; Nov. 1; Sp. p. 56; Gaz. vol. 160; p. 12.

Gross, Elmer S. (See Gross, George H. and E. S.)

Gross, Elwood and W. E., and W. Felter, West Pittston, Pa. Pneumatic cleaner. No. 976,566; Nov. 22; Sp. p. 5499; Gaz. vol. 160; p. 929.

Gross, George H. and E. S., Harrisburg, Pa. Socket and drifting-key for tang-driven tools. No. 975,522; Nov. 15; Sp. p. 3223; Gaz. vol. 160; p. 549.

Gross, William E. (See Gross and Felter.)

Grover, Frederick, assignor to The Forgrove Machinery Company Limited, Leeds, England. Machine for wrapping and affixing labels around rectangular tablets. No. 976,567; Nov. 22; Sp. p. 5500; Gaz. vol. 160; p. 929.

Gruschow, Frank, Chicago, Ill. Faucet. No. 974,878; Nov. 8; Sp. p. 1811; Gaz. vol. 160; p. 301.

Grüter, Reinhold, and H. Pohl, assignors to Chemische Werke vorm. Dr. Heinrich Byk, Charlottenburg, Germany. Stable mixture for producing hydrogen peroxid. No. 975,129; Nov. 8; Sp. p. 2389; Gaz. vol. 160; p. 387.

Grüter, Reinhold, and H. Pohl, assignors to Chemische Werke vorm. Dr. Heinrich Byk, Charlottenburg, Germany. Stable mixture for producing hydrogen peroxid. No. 975,353; Nov. 8; Sp. p. 2867; Gaz. vol. 160; p. 463.

Grüter, Reinhold, and H. Pohl, assignors to Chemische Werke vorm. Dr. Heinrich Byk, Charlottenburg, Germany. Stable mixture for producing hydrogen peroxid. No. 975,354; Nov. 8; Sp. p. 2868; Gaz. vol. 160; p. 463.

Guay, Emile J. (See Berry and Guay.)

Gulick, Eugene. (See McClellan, James B., assignor.)

Gummo, John H., Waverly, Kans. Dental impression-cup. No. 975,033; Nov. 8; Sp. p. 2176; Gaz. vol. 160; p. 354.

Gunn, Charles H., Marysville, Cal. Shaking-grizzly. No. 975,413; Nov. 15; Sp. p. 2991; Gaz. vol. 160; p. 509.

Gunnell, Orville J., *et al.* (See Walter, Harrison B., assignor.)

Gurtler, Helen, Rochester, N. Y. Fringe-making and embroidering device. No. 975,355; Nov. 8; Sp. p. 2869; Gaz. vol. 160; p. 463.

Gut, Gottlieb, assignor to Aufzüge- & Räderfabrik Seebach, Seebach, near Zurich, Switzerland. Switch-box. No. 977,187; Nov. 29; Sp. p. 6888; Gaz. vol. 160; p. 1169.

Gutermann, Hans W. (See Swanson, Ludvig G., assignor.)

Gutman, Simon, New York, N. Y. Belt. No. 974,262; Nov. 1; Sp. p. 411; Gaz. vol. 160; p. 60.

Gutmann, John A., Wilkes-Barre, Pa. Emergency street-car brake. No. 977,089; Nov. 29; Sp. p. 6649; Gaz. vol. 160; p. 1133.

Guy, Ross C., Chicago, Ill. Knife, fork, and spoon holder. No. 975,858; Nov. 15; Sp. p. 3925; Gaz. vol. 160; p. 662.

Guyton, William, Avalon, assignor of one-half to R. Stinson, Pittsburg, Pa. Flushing apparatus. No. 976,870; Nov. 29; Sp. p. 6135; Gaz. vol. 160; p. 1057.

Gwinn, George E., San Antonio, Tex. Surgical instrument. No. 974,879; Nov. 8; Sp. p. 1813; Gaz. vol. 160; p. 301.

Gyrex Manufacturing Company. (See Webb and Stickels, assignors.)

H. G. Kotten Company. (See Kotten, Herman G., assignor.)

H. L. Judd Company. (See Lathrop, Frank L., assignor.)

H. M. Byllesby & Company. (See Thompson, Warren R., assignor.)

H. O. Wilbur and Sons. (See Wilbur, Lawrence H., assignor.)

Haase, A. C. L., *et al.* (See Scott, William H., assignor.)

Haase, Edward T., *et al.* (See Scott, William H., assignor.)

Haase, Louis H., *et al.* (See Scott, William H., assignor.)

Haase, William H., *et al.* (See Scott, William H., assignor.)

Haben, John A., *et al.* (See Smith, Christian N., assignor.)

Hackmann, William J., Pittsburg, Pa. Burner. No. 975,859; Nov. 15; Sp. p. 3926; Gaz. vol. 160; p. 662.

Haddock, Worcester, assignor of one-fourth to R. J. Berne and one-half to H. Volz, Cincinnati, Ohio. Apparatus for clearing obstructions from drain and other pipes. No. 977,005; Nov. 29; Sp. p. 6480; Gaz. vol. 160; p. 1105.

Hadfield, Robert A., Sheffield, England. Tramway-point. No. 977,006; Nov. 29; Sp. p. 6483; Gaz. vol. 160; p. 1106.

Hadka, Joseph, Chicago, Ill. Wind-shield. No. 975,414; Nov. 15; Sp. p. 2992; Gaz. vol. 160; p. 509.

Hafer, Charlotte M. (See Humma and Hafer.)

Hagen, John, Hopkins, Minn. Pneumatic stacker. No. 975,230; Nov. 8; Sp. p. 2610; Gaz. vol. 160; p. 422.

Hahn, John, Los Angeles, Cal. Deep-well pump. No. 976,071; Nov. 15; Sp. p. 4328; Gaz. vol. 160; p. 735.

Hahn, Martin F., Hamburg, Germany. Making fish sausage. No. 974,660; Nov. 1; Sp. p. 1324; Gaz. vol. 160; p. 205.

Haines, A. M., administrator. (See Woodbury, George E.)

Haines, Lewis A., Columbus, Ohio. Blading for turbines. No. 977,299; Nov. 29; Sp. p. 7092; Gaz. vol. 160; p. 1206.

Haines, Lewis A., Columbus, Ohio. Blading for turbines. No. 977,300; Nov. 29; Sp. p. 7095; Gaz. vol. 160; p. 1207.

Halane, George W., Covell, Ill. Straw-stacker. No. 975,415; Nov. 15; Sp. p. 2994; Gaz. vol. 160; p. 509.

Halin, Ole E., Minneapolis, Minn. Double-swinging-door hinge. No. 975,130; Nov. 8; Sp. p. 2390; Gaz. vol. 160; p. 387.

Hall, Charles L., Bryan, Tex. Plow. No. 975,614; Nov. 15; Sp. p. 3417; Gaz. vol. 160; p. 580.

Hall, Charles R., assignor of one-fourth to R. F. Hall, Monroeton, Pa. Cranking device for internal-combustion engines. No. 974,136; Nov. 1; Sp. p. 58; Gaz. vol. 160; p. 13.

Hall, George F., Newark, N. J., assignor of two-thirds to A. W. Hammett and W. Sweetland. Can-opener. No. 974,484; Nov. 1; Sp. p. 945; Gaz. vol. 160; p. 140.

Hall, John G., St. Louis, Mo. Fence-wire fastening. No. 977,336; Nov. 29; Sp. p. 7285; Gaz. vol. 160; p. 1237.

Hall, Josephine A., Oakland, Cal. Telephone-mouthpiece. No. 976,457; Nov. 22; Sp. p. 5258; Gaz. vol. 160; p. 892.

Hall, Robert F. (See Hall, Charles R., assignor.)

Hall, Robert F., Moseley, Birmingham, England. Sparking plug for internal-combustion engines. No. 976,797; Nov. 22; Sp. p. 5068; Gaz. vol. 160; p. 1008.

Hall, William A., assignor, by mesne assignments, to American Aerial Commercial Company, Los Angeles, Cal. Gearing for propellers. No. 974,961; Nov. 8; Sp. p. 2018; Gaz. vol. 160; p. 330.

Halleland, Karl J. (See Holland and Halleland.)

Hallock, Arthur T., Grand Rapids, assignor to Cookerette Company, Muskegon, Mich. Fireless cooker. No. 975,416; Nov. 15; Sp. p. 2996; Gaz. vol. 160; p. 510.

Halsall, William H. A., Charleston, S. C. Ice-making apparatus. No. 975,523; Nov. 15; Sp. p. 3225; Gaz. vol. 160; p. 549.

Halsey, Norman, Charleston, S. C. Tennis-court marker. No. 975,948; Nov. 15; Sp. p. 4105; Gaz. vol. 160; p. 693.

Ham, William H. (See White and Ham.)

Hamel, Fernand, Paris, France. Manufacturing artificial fruit and other plastic objects. No. 976,359; Nov. 22; Sp. p. 5049; Gaz. vol. 160; p. 857.

Hamilton, Cassius M., assignor to A. C. Thomas, Chicago, Ill. Mail-cabinet. No. 974,263; Nov. 1; Sp. p. 412; Gaz. vol. 160; p. 60.

Hamilton, Frank, Beardstown, and C. R. Twyman, Galesburg, Ill. Variable-exhaust nozzle for engines. No. 977,301; Nov. 29; Sp. p. 7096; Gaz. vol. 160; p. 1207.

Hamilton, James, New York, N. Y. Valve-gear for power-hammers. No. 974,264; Nov. 1; Sp. p. 413; Gaz. vol. 160; p. 61.

Hamilton, James L., Grand Junction, Colo. Orchard-heater. No. 976,072; Nov. 15; Sp. p. 4330; Gaz. vol. 160; p. 735.

Hamilton, Robert J., Wichita, Kans. Machine for molding cement blocks. No. 975,231; Nov. 8; Sp. p. 2610; Gaz. vol. 160; p. 422.

Hamilton, William A., Mill Valley, assignor of one-half to E. C. Walter, San Francisco, Cal. Game apparatus. No. 974,661; Nov. 1; Sp. p. 1325; Gaz. vol. 160; p. 205.

Hamilton, William L., Bangor, Mich. Valve. No. 975,524; Nov. 15; Sp. p. 3227; Gaz. vol. 160; p. 549.

Hammen, Charles, assignor of one-half to J. Mohr, Chicago, Ill. Valve-gear for fluid-pressure motors. No. 976,458; Nov. 22; Sp. p. 5259; Gaz. vol. 160; p. 892.

Hammett, Arlingham W., *et al.* (See Hall, George F., assignor.)

Hammett, Elbert A., assignor to Hammett Manufacturing Company, Kansas City, Mo. Lens-grinding apparatus. No. 974,880; Nov. 8; Sp. p. 1814; Gaz. vol. 160; p. 301.

Hammett Manufacturing Company. (See Hammett, Elbert A., assignor.)

Hammond, Bennett W., Richmond, Cal. Vehicle-wheel. No. 976,360; Nov. 22; Sp. p. 5050; Gaz. vol. 160; p. 857.

Hammond, Hugh, Rochester, N. Y. Fruit-conveyer. No. 976,871; Nov. 29; Sp. p. 6137; Gaz. vol. 160; p. 1058.

Hanes, George E., and J. B. Waller, Kansas City, Mo. Centrifugal pump. No. 975,232; Nov. 8; Sp. p. 2614; Gaz. vol. 160; p. 422.

Hanfig, Harris, Charlestown, Mass. Combination-lock. No. 976,872; Nov. 29; Sp. p. 6138; Gaz. vol. 160; p. 1058.

Hanisch, Paul, Cologne-on-the-Rhine, Germany. Arc-lamp. No. 975,034; Nov. 8; Sp. p. 2177; Gaz. vol. 160; p. 354.

Hanline, Alexander M., *et al.* (See Leder, Paul H. A., assignor.)

Hanly, George A., and G. R. Martin, Chicago, Ill. Gas-distributing system. No. 976,734; Nov. 22; Sp. p. 5815; Gaz. vol. 160; p. 985.

Hann, Samuel H. (See Rider, Charles B., assignor.)

Hanna, Albert H. (See Hanna, John and A. H.)

Hanna, John and A. H., Troy, N. Y. Air-compressor. No. 975,233; Nov. 8; Sp. p. 2616; Gaz. vol. 160; p. 422.

Hanneman, Robert F., Detroit, Mich. Cement-mold. No. 975,615; Nov. 15; Sp. p. 3419; Gaz. vol. 160; p. 580.

Hanscom, Frank Z., Chicago, Ill. Artificial tooth. No. 976,798; Nov. 22; Sp. p. 5970; Gaz. vol. 160; p. 1008.

Hansen, Christian, San Antonio, Tex. Nail. No. 975,235; Nov. 8; Sp. p. 2620; Gaz. vol. 160; p. 423.

Hansen, William A., San Francisco, Cal. Gas-engine-starting device. No. 977,007; Nov. 29; Sp. p. 6485; Gaz. vol. 160; p. 1106.

Hanson, Bengt M. W., assignor to Pratt & Whitney Company, Hartford, Conn. Belt-shifter. No. 975,356; Nov. 8; Sp. p. 2870; Gaz. vol. 160; p. 463.

Hanson, Bengt M. W., assignor to Pratt & Whitney Company, Hartford, Conn. Grinding-machine. No. 975,382; Nov. 8; Sp. p. 2930; Gaz. vol. 160; p. 473.

Hanson, Carl A., Seattle, Wash. Water-power mining-drill. No. 977,302; Nov. 29; Sp. p. 7098; Gaz. vol. 160; p. 1208.

Hanson, Peter N. (See Peterson, Guy J., assignor.)

Hårdén, Johannes, London, England, Electric furnace. No. 977,303; Nov. 29; Sp. p. 7100; Gaz. vol. 160; p. 1208.

Hardgrave, Robert G. (See Adair and Hardgrave.)

Harding, Charles K., Chicago, Ill. Hydrocarbon lighting system. No. 976,127; Nov. 15; Sp. p. 4453; Gaz. vol. 160; p. 754.

Harding, Edwin L. (See Woods and Harding.)

Hardman, George E., East Ham, London, assignor to Caribonum Company Limited, London, England. Paper-feeding device. No. 976,735; Nov. 22; Sp. p. 5816; Gaz. vol. 160; p. 986.

Hardsocg Mfg. Co. (See Edwards, William M., assignor.)

Hargreaves, George E., Oregon City, Oreg. Drum fire-plug. No. 974,265; Nov. 1; Sp. p. 415; Gaz. vol. 160; p. 61.

Haring, Sarah A., Chicago, Ill. Flat-iron heater. No. 974,137; Nov. 1; Sp. p. 60; Gaz. vol. 160; p. 13.

Harlin, George C., Ottumwa, Iowa. Car-coupling. No. 976,361; Nov. 22; Sp. p. 5051; Gaz. vol. 160; p. 857.

Harpain, Johann J., U. S. Navy. Steam-trap. No. 975,357; Nov. 8; Sp. p. 2872; Gaz. vol. 160; p. 463.

Harrell, Rupert L., assignor of one-half to The Red Top Bottling Company, Northwilkesboro, N. C. Vehicle-wheel hub. No. 974,662; Nov. 1; Sp. p. 1326; Gaz. vol. 160; p. 206.

Harrigan, Patrick J., McKeesport, Pa. Door-operating mechanism. No. 975,860; Nov. 15; Sp. p. 3928; Gaz. vol. 160; p. 662.

Harrigan, Patrick J., McKeesport, Pa. Dump car and vehicle. No. 975,861; Nov. 15; Sp. p. 3936; Gaz. vol. 160; p. 663.

Harrigan, Thomas M., Woodstock, Vt. Coupling for the operating-chains of lighting apparatus, &c. No. 974,567; Nov. 1; Sp. p. 1138; Gaz. vol. 160; p. 171.

Harrington, Joseph. (See Poppenhausen and Harrington.) (Reissue.)

Harrington, Norman T., Lansing, Mich. Valve-gear for explosion-engines. No. 975,234; Nov. 8; Sp. p. 2619; Gaz. vol. 160; p. 423.

Harris Automatic Press Company, The. (See Smith, Walter H., assignor.)

Harris, Charles A., Webster City, Iowa. Safety-shield and self-sharpener for razors. No. 976,259; Nov. 22; Sp. p. 4828; Gaz. vol. 160; p. 824.

Harris, Edward K., Canandaigua, N. Y. Trolley-wheel. No. 976,172; Nov. 22; Sp. p. 4602; Gaz. vol. 160; p. 792.

Harris, Ford W., Wilkinsburg, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa. Electric-circuit switch. No. 975,417; Nov. 15; Sp. p. 2997; Gaz. vol. 160; p. 510.

Harris, Ford W., Wilkinsburg, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa. Electric switching device. No. 975,418; Nov. 15; Sp. p. 2998; Gaz. vol. 160; p. 511.

Harris, Ford W., Wilkinsburg, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa. Electric-circuit switch. No. 975,419; Nov. 15; Sp. p. 3001; Gaz. vol. 160; p. 511.

Harris, Ford W., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. System of electric-circuit protection. No. 975,420; Nov. 15; Sp. p. 3002; Gaz. vol. 160; p. 512.

Harris, Ford W., Wilkinsburg, Pa., assignor to Westinghouse Electric and Manufacturing Company. Circuit-breaker. No. 975,421; Nov. 15; Sp. p. 3005; Gaz. vol. 160; p. 512.

Harris, Harley M., assignor, by mesne assignments, of one-half to H. A. Harris, Goodwine, Ill. Jack-block for track-levelings. No. 975,765; Nov. 15; Sp. p. 3740; Gaz. vol. 160; p. 630.

Harris, Harvey A. (See Harris, Harley M., assignor.)

Harris, M. J. (See Merritt, Rex C., assignor.)

Harris, Malcolm L., Chicago, Ill. Rotary engine. No. 974,485; Nov. 1; Sp. p. 948; Gaz. vol. 160; p. 140.

Harris, Max. (See Foell and Harris.)

Harris, Thaddeus S., Modesto, Ill. Airship. No. 976,873; Nov. 29; Sp. p. 6140; Gaz. vol. 160; p. 1058.

Harris, William A., assignor to G. W. Taylor, Greenville, S. C. File-cabinet. No. 974,663; Nov. 1; Sp. p. 1327; Gaz. vol. 160; p. 206.

Harrod, Walter E., Harrod, Ohio. Index-tab. No. 976,073; Nov. 15; Sp. p. 4333; Gaz. vol. 160; p. 735.

Harry, Thomas C. (See Creager and Harry.)

Harshbarger, Parrott G., Hyde Park, Mass. Form for manholes. No. 975,525; Nov. 15; Sp. p. 3228; Gaz. vol. 160; p. 550.

Hart, Milton H. (See Bundy, Henry C., assignor.)

Hart, William D. (See Carlson and Hart.)

Hartley, Floyd. (See Weatherman, Robert W., assignor.)

Hartman, Clyde F., and S. R. Cooke, Fortyfort, Pa. Concrete-block press. No. 976,649; Nov. 22; Sp. p. 5669; Gaz. vol. 160; p. 958.

Hartman, Hugo F., Milwaukee, Wis. Folding scaffold-ladder. No. 976,374; Nov. 15; Sp. p. 4333; Gaz. vol. 160; p. 736.

Hartmann, Christoph. (See Hepp and Hartmann.)

Hartmann, Federico, Buenos Ayres, Argentina. Cartridge for reduced shot. No. 976,459; Nov. 22; Sp. p. 5260; Gaz. vol. 160; p. 893.

Hartmann, Georg, and O. A. Schwerdtner, Gross Schöneau, near Zittau, Germany. Preserving wood. No. 974,962; Nov. 8; Sp. p. 2020; Gaz. vol. 160; p. 331.

Hartmann, Paul, assignor to Hochstein & Weinberg, Berlin, Germany. Device for feeding sheets. No. 974,767; Nov. 1; Sp. p. 1558; Gaz. vol. 160; p. 240.

Harvie, Albert A., Ottumwa, Iowa. Trowel. No. 977,387; Nov. 29; Sp. p. 7286; Gaz. vol. 160; p. 1237.

Harwell, Jerry. (See Troutt, Martin E., assignor.)

Haslup, C. L., *et al.* (See Haslup, William, assignor.)

Haslup, William, assignor of one-fourth to C. L. Haslup, one-fourth to M. Haslup, and one-fourth to C. M. Gearhart, Sidney, Ohio. Lifting-jack. No. 974,708; Nov. 1; Sp. p. 1562; Gaz. vol. 160; p. 241.

Hasman, Bernard, Jr., Lindsay, Nebr. Watering-trough. No. 976,874; Nov. 29; Sp. p. 6143; Gaz. vol. 160; p. 1059.

Hastings, Herbert, Rochester, N. Y. Sawing-machine. No. 976,075; Nov. 15; Sp. p. 4335; Gaz. vol. 160; p. 736.

Hatch, Ernest M. (See Stowby and Hatch.)

Hatlelid, Ole, Lignite, N. D. Plow attachment. No. 974,377; Nov. 1; Sp. p. 679; Gaz. vol. 160; p. 102.

Hatosy, Louis G., Jr., New York, N. Y. Glass-cleaner. No. 975,862; Nov. 15; Sp. p. 3930; Gaz. vol. 160; p. 663.

Hatschek, Ludwig, Vocklabruck, Austria-Hungary. Facilitating and accelerating the hardening of hydraulic cements. No. 974,138; Nov. 1; Sp. p. 62; Gaz. vol. 160; p. 13.

Hatz, George J., Omaha, Nebr. Locomotive. No. 974,486; Nov. 1; Sp. p. 951; Gaz. vol. 160; p. 141.

Hauer, Joseph, assignor to J. L. Deimel, Chicago, Ill. Hinge. No. 975,131; Nov. 8; Sp. p. 2392; Gaz. vol. 160; p. 388.

Hauk, George J., Mount Vernon, Ind. Gambrel. No. 974,881; Nov. 8; Sp. p. 1817; Gaz. vol. 160; p. 302.

Hausdorf, Robert, Bochum, Germany. Apparatus for storage and delivery of inflammable liquids. No. 977,188; Nov. 29; Sp. p. 6889; Gaz. vol. 160; p. 1169.

Hauser, Theodore, assignor to The Garvy Company, Chicago, Ill. Leaf-support. No. 975,766; Nov. 15; Sp. p. 3742; Gaz. vol. 160; p. 630.

Hauss, David J., Aurora, Ind. Electrical piano. No. 974,963; Nov. 8; Sp. p. 2020; Gaz. vol. 160; p. 331.

Havener, Arthur R., Waltham, Mass., assignor to American Lacing Hook Co. Machine for setting lacing-hooks. No. 977,090; Nov. 29; Sp. p. 6650; Gaz. vol. 160; p. 1134.

Haw, Charles K., and J. K. Southee, Kansas City, Kans. Shoe-cleaner. No. 977,091; Nov. 29; Sp. p. 6661; Gaz. vol. 160; p. 1134.

Hawkins, Joseph B., London, England. Buckle. No. 976,799; Nov. 22; Sp. p. 5971; Gaz. vol. 160; p. 1008.

Hawley, De Witt, assignor to W. E. Williams, Rochester, N. Y. Washing-machine. No. 976,362; Nov. 22; Sp. p. 5052; Gaz. vol. 160; p. 857.

Haxthausen, Frederic C. von, St. Petersburg, Russia, assignor to Flotteur Gesellschaft mit beschraenkter Haftung. Lubricator. No. 976,076; Nov. 15; Sp. p. 4336; Gaz. vol. 160; p. 736.

Hay, Howard M., assignor to Cushion Crown-Arch Key Company, Chicago, Ill. Cushion-key for writing-machines. No. 974,487; Nov. 1; Sp. p. 954; Gaz. vol. 160; p. 141.

Hay, Howard M., assignor to Cushion Crown-Arch Key Company, Chicago, Ill. Cushion-cap for finger-keys. No. 974,488; Nov. 1; Sp. p. 955; Gaz. vol. 160; p. 142.

Hayden, Arthur C., Brockton, Mass. Developing apparatus. No. 976,173; Nov. 22; Sp. p. 4603; Gaz. vol. 160; p. 792.

Hayden, Arthur C., Brockton, Mass. Tire-support. No. 976,736; Nov. 22; Sp. p. 5818; Gaz. vol. 160; p. 986.

Hayden, Arthur C., Brockton, Mass. Film-developer. No. 976,800; Nov. 22; Sp. p. 5972; Gaz. vol. 160; p. 1008.

Hayden, Frank, Otsego, Ohio. Grinding and polishing machine. No. 976,875; Nov. 29; Sp. p. 6145; Gaz. vol. 160; p. 1050.

Hayden, James G., New Lexington, Ohio. Boiler. No. 976,650; Nov. 22; Sp. p. 5671; Gaz. vol. 160; p. 958.

Hayes, Charles M. (See Jenkins, Edson W., assignor.)

Hayes, Frank F. (See Bluff, John T., assignor.)

Hayes, George B., Denver, Colo. Apparatus for generating motive-fluid. No. 976,077; Nov. 15; Sp. p. 4337; Gaz. vol. 160; p. 737.

Hayes, Richard, New York, N. Y. Gasolene-tank for automobiles. No. 976,460; Nov. 22; Sp. p. 5262; Gaz. vol. 160; p. 893.

Hayes, Stephen Q., Pittsburg, Pa., assignor to Westinghouse Electric and Manufacturing Company. Disconnecting-switch for high-potential circuits. No. 975,422; Nov. 15; Sp. p. 3006; Gaz. vol. 160; p. 512.

Hayner Distilling Company, The. (See Church, Edmund S., assignor.)

Hayot, Louis A., Beauvais, France. Aeroplane. No. 976,876; Nov. 29; Sp. p. 6147; Gaz. vol. 160; p. 1059.

Hays, Solomon B., Buchanan, Tenn. Fireplace-fender. No. 977,388; Nov. 29; Sp. p. 7289; Gaz. vol. 160; p. 1238.

Hayward, Edwin E., assignor to The Plume & Atwood Manufacturing Company, Waterbury, Conn. Shade-holder. No. 974,568; Nov. 1; Sp. p. 1139; Gaz. vol. 160; p. 171.

Healy, Raymond, Brooklyn, N. Y. Demountable wheel-rim. No. 975,767; Nov. 15; Sp. p. 3943; Gaz. vol. 160; p. 631.

Heard, Eugene N., Oakland, Cal. Advertising-sign. No. 975,035; Nov. 8; Sp. p. 2178; Gaz. vol. 160; p. 354.

Heard, Thomas T. (See Waggoner and Heard.)

Heaton-Peninsular Button Fastener Company. (See Parker, George E., assignor.)

Hebden, John C. (See Daniell and Hebden.)

Hebden, John C., Providence, R. I., and F. H. Daniell, deceased, Franklin, N. H.; M. B. Daniell, executrix. Jack-spool. No. 974,139; Nov. 1; Sp. p. 63; Gaz. vol. 160; p. 14.

Hedberg, Jakob A., Gottenborg, Sweden. Blind-stop. No. 975,423; Nov. 15; Sp. p. 3007; Gaz. vol. 160; p. 513.

Hedges, Ross E., Scio, Ohio. Lawn-mower. No. 977,092; Nov. 29; Sp. p. 6662; Gaz. vol. 160; p. 1135.

Hedworth Barium Company Limited. (See Roilin, Charles, assignor.)

Heeter, Colonel C., Butler, Pa. Casing-spear. No. 976,651; Nov. 22; Sp. p. 5673; Gaz. vol. 160; p. 959.

Hefter, Michel, St. Petersburg, Russia, assignor to L. J. Lewery, New York, N. Y. Electrical heater and manner of manufacturing same in the form of textiles. No. 975,358; Nov. 8; Sp. p. 2873; Gaz. vol. 160; p. 464.

Hefter, Michel, St. Petersburg, Russia, assignor to L. J. Lewery, New York, N. Y. Knitted electric heating-body. No. 975,359; Nov. 8; Sp. p. 2875; Gaz. vol. 160; p. 464.

Heilbron, Julius, St. Paul, Minn., assignor to Herz Manufacturing Company. Self-heating iron. No. 974,665; Nov. 1; Sp. p. 1331; Gaz. vol. 160; p. 207.

Heilig, Daniel W. (See Cowan, Richard J. D., assignor.)

Heine, Paul, Lancaster, Pa. Bung. No. 974,378; Nov. 1; Sp. p. 880; Gaz. vol. 160; p. 102.

Heinss, Christian F., Cincinnati, Ohio. Punching-machine. No. 976,877; Nov. 29; Sp. p. 6149; Gaz. vol. 160; p. 1060.

Helbig, Albin B., assignor to Fellner & Ziegler, Frankfort-on-the-Main, Germany. Method of and means for supporting rotary drums. No. 974,964; Nov. 8; Sp. p. 2023; Gaz. vol. 160; p. 331.

Helbling, Gottfried, Küsnacht, near Zurich, Switzerland. Discharge and overflow fitting. No. 977,304; Nov. 29; Sp. p. 7103; Gaz. vol. 160; p. 1208.

Heldt, Hermann, Gelsenkirchen, Germany. Rose for shower-baths. No. 977,389; Nov. 29; Sp. p. 7290; Gaz. vol. 160; p. 1238.

Hemme, William, Altoona, Kans. Well-packer. No. 976,737; Nov. 22; Sp. p. 5820; Gaz. vol. 160; p. 986.

Henderson, William H., assignor of one-half to A. Carpenter, Los Angeles, Cal. Power-operated handsaw. No. 976,801; Nov. 22; Sp. p. 5974; Gaz. vol. 160; p. 1009.

Hendricks, Virgil H. (See Crandall, William F., assignor.)

Hengerer, Augustus W., and R. J. Klendl, Buffalo, N. Y. Safety device for elevators. No. 974,140; Nov. 1; Sp. p. 65; Gaz. vol. 160; p. 14.

Henneböhle, Frank, Chicago, Ill. Engine-stop. No. 974,266; Nov. 1; Sp. p. 417; Gaz. vol. 160; p. 62.

Hennessy, John J., and E. A. Capocefalo, Syracuse, N. Y. Drilling apparatus. No. 974,267; Nov. 1; Sp. p. 419; Gaz. vol. 160; p. 62.

Henney, David S., Newark, N. J. Ozonizer. No. 974,789; Nov. 8; Sp. p. 1611; Gaz. vol. 160; p. 271.

Hennigar, George, and R. Teneyck, North Lansing, Mich. Square and protractor. No. 975,036; Nov. 8; Sp. p. 2181; Gaz. vol. 160; p. 356.

Henning, Louis A., Toledo, Ohio. Wire-fence-attaching means for posts. No. 977,189; Nov. 29; Sp. p. 6891; Gaz. vol. 160; p. 1170.

Henry, Fred H., assignor to J. A. Brill, Philadelphia, Pa. Car-seat structure. No. 974,664; Nov. 1; Sp. p. 1330; Gaz. vol. 160; p. 206.

Henry, George J., Jr., San Francisco, Cal., assignor of one-half to The Pelton Water Wheel Company. Standardizing device for governors. No. 976,174; Nov. 22; Sp. p. 4604; Gaz. vol. 160; p. 792.

Hensley, Reuben L., Terre Haute, Ind. Device for handling cement blocks. No. 976,652; Nov. 22; Sp. p. 5674; Gaz. vol. 160; p. 959.

Hensley, William T., Wilkinsburg, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa. Brush-holder. No. 975,424; Nov. 15; Sp. p. 3008; Gaz. vol. 160; p. 513.

Hensley, William T., Wilkinsburg, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa. Field-winding coil for dynamo-electric machines. No. 975,425; Nov. 15; Sp. p. 3009; Gaz. vol. 160; p. 513.

Henwood, John W., London, England. Optical projection apparatus. No. 975,949; Nov. 15; Sp. p. 4107; Gaz. vol. 160; p. 693.

Hepp, Eduard, Frankfort-on-the-Main, and C. Hartmann, assignors to Farbwerke vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Anthraquinone derivatives and making same. No. 975,863; Nov. 15; Sp. p. 3939; Gaz. vol. 160; p. 663.

Heppe, Ernest H., Upper Montclair, N. J., assignor to Strauss Brothers & Company, New York, N. Y. Display-box. No. 977,305; Nov. 29; Sp. p. 7104; Gaz. vol. 160; p. 1200.

Hercules Equipment Company. (See Nelkirk, John O., assignor.)

Herman, Louis. (See Frank, Michael E., assignor.)

Herman, Reinhold, Crafton, Pa. Curtain-support for blueprinting apparatus. No. 974,965; Nov. 8; Sp. p. 2025; Gaz. vol. 160; p. 332.

Herreshoff, John B. F., assignor to Nichols Copper Co., New York, N. Y. Ore-roasting furnace. No. 976,175; Nov. 22; Sp. p. 4608; Gaz. vol. 160; p. 793.

Herrmann & Grace Company. (See Breakey, George B., assignor.)

Herrmann, Max E. (See Latta and Herrmann.)

Herz Manufacturing Company. (See Heilbron, Julius, assignor.)

Hess, Alfred S., Milwaukee, Wis. Self-cleaning rake. No. 974,268; Nov. 1; Sp. p. 422; Gaz. vol. 160; p. 63.

Hess, Edward B., New York, N. Y. Subway construction. No. 977,306; Nov. 29; Sp. p. 7104; Gaz. vol. 160; p. 1209.

Hess, Edward B., New York, N. Y., assignor to Royal Typewriter Company, Hoboken, N. J. Type-writing machine. No. 974,882; Nov. 8; Sp. p. 1818; Gaz. vol. 160; p. 302.

Hess, Edward B., assignor to Royal Typewriter Company, New York, N. Y. Type-writing machine. No. 974,883; Nov. 8; Sp. p. 1819; Gaz. vol. 160; p. 302.

Hess, Henry, Wawa, Pa. Ball-bearing. No. 975,616; Nov. 15; Sp. p. 3421; Gaz. vol. 160; p. 581.

Hess, John A., Philadelphia, Pa. File-cutting machine. No. 975,236; Nov. 8; Sp. p. 2621; Gaz. vol. 160; p. 424.

Hessberger, Johannes. (See Schönherr and Hessberger.)

Hettwer, Frederick W., Brooklyn, N. Y. Sliding-door lock. No. 975,037; Nov. 8; Sp. p. 2182; Gaz. vol. 160; p. 356.

Heuser, William L., St. Louis, Mo. Faucet. No. 974,790; Nov. 8; Sp. p. 1612; Gaz. vol. 160; p. 271.

Heusser, Ernest R., Murray, Utah. Game-counter. No. 975,237; Nov. 8; Sp. p. 2628; Gaz. vol. 160; p. 424.

Hewitt, Linwood T., *et al.* (See Levey, Thomas J., assignor.)

Heydebrand, Ferdinand C. von. (See Mielck and Heydebrand.)

Heydenreich, Oscar F., New Orleans, La. Portable tramway. No. 975,238; Nov. 8; Sp. p. 2630; Gaz. vol. 160; p. 424.

Hickey, Charles M., Stockton, Cal. Dredger-bucket. No. 975,239; Nov. 8; Sp. p. 2635; Gaz. vol. 160; p. 425.

Hickok, Lester E., assignor of one-half to The Cleveland Hardware Company, Cleveland, Ohio. Vehicle-gear. No. 974,141; Nov. 1; Sp. p. 70; Gaz. vol. 160; p. 14.

Hickok, Lester E., assignor of one-half to The Cleveland Hardware Company, Cleveland, Ohio. Vehicle-gear. No. 974,142; Nov. 1; Sp. p. 72; Gaz. vol. 160; p. 15.

Hickok, Lester E., assignor of one-half to The Cleveland Hardware Company, Cleveland, Ohio. Vehicle-gear. No. 974,143; Nov. 1; Sp. p. 73; Gaz. vol. 160; p. 15.

Hickok, Lester E., assignor of one-half to The Cleveland Hardware Company, Cleveland, Ohio. Means for detachably supporting vehicle equalizer-bars. No. 974,144; Nov. 1; Sp. p. 75; Gaz. vol. 160; p. 15.

Hicks, Charles E., Mechanicsville, N. Y. Turbine. No. 976,260; Nov. 22; Sp. p. 4829; Gaz. vol. 160; p. 824.

Hicks, Edwin S. (See Linn, George S., assignor.)

Hicks, George C., Jr., assignor to The P. H. & F. M. Roots Company, Connersville, Ind. Valve for blowers. No. 975,240; Nov. 8; Sp. p. 2636; Gaz. vol. 160; p. 425.

Higgins, Robert B., St. Louis, Mo. Adjustable concrete form. No. 975,241; Nov. 8; Sp. p. 2638; Gaz. vol. 160; p. 426.

Higgins, Robert B., and H. Albers, St. Louis, Mo. Adjustable concrete-form. No. 975,242; Nov. 8; Sp. p. 2641; Gaz. vol. 160; p. 426.

Hildreth, Carl C., and H. F. Cook, Lake Mills, Iowa. Bowling apparatus. No. 976,738; Nov. 22; Sp. p. 5822; Gaz. vol. 160; p. 987.

Hildreth, Percy S., New York, N. Y. Testing and marking metal structural work. No. 974,269; Nov. 1; Sp. p. 424; Gaz. vol. 160; p. 63.

Hilgers, Peter, Saarbrücken, Germany. Rotary bar-cutter. No. 976,653; Nov. 22; Sp. p. 5675; Gaz. vol. 160; p. 959.

Hill, Alfred, assignor to The Kendrick and Hill Manufacturing Company, Denver, Colo. Lawn-mower. No. 975,617; Nov. 15; Sp. p. 3422; Gaz. vol. 160; p. 581.

Hill Clutch Company, The. (See Smith, Harry J., assignor.)

Hill, David K., Leechburg, Pa. Wrench. No. 975,950; Nov. 15; Sp. p. 4109; Gaz. vol. 160; p. 694.

Hill, Hermann, Warwood, assignor to Steel Fireproofing Company, Wheeling, W. Va. Partition construction for fireproof buildings. No. 975,426; Nov. 15; Sp. p. 3011; Gaz. vol. 160; p. 514.

Hill, Rosella P., Charles City, Iowa. Tension for warp-reels and hand-looms. No. 975,618; Nov. 15; Sp. p. 3424; Gaz. vol. 160; p. 581.

Hill, Walter W., Seaborn, Tex. Magazine flour-sifter. No. 975,951; Nov. 15; Sp. p. 4111; Gaz. vol. 160; p. 694.

Hilliard, John D., Albany, N. Y. Electrical switch. No. 976,654; Nov. 22; Sp. p. 5677; Gaz. vol. 160; p. 960.

Hines, George E., New York, assignor of one-half to W. T. Daley, Brooklyn, N. Y. Telegraph system. No. 977,008; Nov. 29; Sp. p. 6487; Gaz. vol. 160; p. 1106.

Hinkhouse, Charles H., Omaha, Nebr. Feed-mixer. No. 976,363; Nov. 22; Sp. p. 5053; Gaz. vol. 160; p. 858.

Hinsdale, Winfield E., New York, N. Y. Urinal-stall. No. 974,145; Nov. 1; Sp. p. 76; Gaz. vol. 160; p. 16.

Hinsdale, Winfield E., New York, N. Y. Basin waste and overflow. No. 974,146; Nov. 1; Sp. p. 78; Gaz. vol 160; p. 16.

Hirsch, Hiram H., *et al.* (See Kaiser, Charles A., assignor.)

Hiscock, Emory C., Chicago, Ill. Process of veneering No. 974,147; Nov. 1; Sp. p. 80; Gaz. vol. 160; p. 16.

Hiscock, Emory C., assignor to W. W. Kimball Company, Chicago, Ill. Player-piano. No. 974,884; Nov. 8; Sp. p. 1819; Gaz. vol. 160; p. 303.

Hiscock, Emory C., assignor to W. W. Kimball Company, Chicago, Ill. Player-piano. No. 974,885; Nov. 8; Sp. p. 1823; Gaz. vol. 160; p. 303.

Hitchcock, Harlyn, Atlanta, Ga. Check-valve. No. 975,243; Nov. 8; Sp. p. 2644; Gaz. vol. 160; p. 426.

Hitchcock, Romyn, New York, N. Y. Keyboard apparatus for punching telegraphic transmitting-tapes. No. 975,427; Nov. 15; Sp. p. 3013; Gaz. vol. 160; p. 514.

Hixon, Edward, and P. D. Murrin, Chicago, Ill. Belt-shifting mechanism. No. 976,655; Nov. 22; Sp. p. 5681; Gaz. vol. 160; p. 960.

Hixson, Charles T., and A. L. Tarrant, Ringwood, Okla. Automobile wheel-hub. No. 976,802; Nov. 22; Sp. p. 5975; Gaz. vol. 160; p. 1009.

Hoagland, John B., assignor of one-half to T. B. Aufricht, St. Louis, Mo. Brake-beam. No. 974,270; Nov. 1; Sp. p. 426; Gaz. vol. 160; p. 63.

Hoagland, John B., assignor of one-half to T. B. Aufricht, St. Louis, Mo. Screen. No. 974,880; Nov. 1; Sp. p. 683; Gaz. vol. 160; p. 103.

Hoard, John H., Purmela, Tex. Harrow-tooth holder. No. 975,132; Nov. 8; Sp. p. 2393; Gaz. vol. 160; p. 388.

Hochstein & Weinberg. (See Hartmann, Paul, assignor.)

Hockman, George A., Chester, Pa. Carbureter. No. 975,038; Nov. 8; Sp. p. 2185; Gaz. vol. 160; p. 356.

Hodgdon, Edgar S., *et al.* (See Rollins, Frank O., assignor.)

Hodgkinson, Percy W., assignor to Caldwell Manufacturing Company, Rochester, N. Y. Emergency-exit-door lock. No. 974,886; Nov. 8; Sp. p. 1826; Gaz. vol. 160; p. 304.

Hodgkinson, Percy W., assignor to C. D. Camp, Rochester, N. Y. Reversible propeller for boats. No. 975,039; Nov. 8; Sp. p. 2186; Gaz. vol. 160; p. 356.

Hodgkinson, Percy W., assignor to Caldwell Manufacturing Company, Rochester, N. Y. Locking mechanism for cupboards. No. 976,261; Nov. 22; Sp. p. 4831; Gaz. vol. 160; p. 825.

Hodson, Walter D., Janesville, Wis. Combined hinge and receptacle. No. 975,690; Nov. 15; Sp. p. 3593; Gaz. vol. 160; p. 605.

Hoermann, Rudolph B., Watertown, Wis. Ventilating stop and lock for windows. No. 974,791; Nov. 8; Sp. p. 1613; Gaz. vol. 160; p. 271.

Hoey, John J., Providence, R. I. Tentering-machine. No. 974,271; Nov. 1; Sp. p. 427; Gaz. vol. 160; p. 63.

Hof, Adolf, Witten, and A. Pieper, Schmallenberg, Germany. Producing a molded mass. No. 975,691; Nov. 15; Sp. p. 3594; Gaz. vol. 160; p. 606.

Hoff, Carlton L., York, and M. O. Rehfuss, Philadelphia, assignors to Standard Chain Company, York, Pa. Chain-link-forming machine. No. 976,568; Nov. 22; Sp. p. 5504; Gaz. vol. 160; p. 930.

Hoff, Edward J., Berkeley, Cal. Seat for chairs and the like. No. 974,769; Nov. 1; Sp. p. 1563; Gaz. vol. 160; p. 241.

Hoffman, Frank E., Hamilton, Ohio. Toaster. No. 976,364; Nov. 22; Sp. p. 5055; Gaz. vol. 160; p. 858.

Hoffman Hardware Company. (See Merritt, James M., assignor.)

Hoffman, John J., New Kensington, assignor to P. H. Murphy, Pittsburg, Pa. Brake-beam. No. 970,461; Nov. 22; Sp. p. 5264; Gaz. vol. 160; p. 894.

Hoffman, John J., New Kensington, assignor to P. H. Murphy, Pittsburg, Pa. Hanger for brake-beams. No. 976,462; Nov. 22; Sp. p. 5266; Gaz. vol. 160; p. 894.

Hoffman, Peter L. (See Graffort and Hoffman.)

Hoffmann, Louis, Vienna, Austria-Hungary. Rolling-balls grinding-mill. No. 975,864; Nov. 15; Sp. p. 3940; Gaz. vol. 160; p. 663.

Hofstetter, Jacob, Evanston, Ill. Thill-coupling. No. 974,792; Nov. 8; Sp. p. 1615; Gaz. vol. 160; p. 272.

Hogston, John H., Ladysmith, Wis. Fire-escape. No. 974,881; Nov. 1; Sp. p. 683; Gaz. vol. 160; p. 103.

Hohulin, Samuel, Goodfield, Ill. Fence. No. 975,428; Nov. 15; Sp. p. 3022; Gaz. vol. 160; p. 515.

Hölland, Johannes, and K. J. Halleland, Stavanger, Norway, assignors to Rosenstein Brothers, Inc., New York, N. Y. Seaming can-heads to can-bodies. No. 976,739; Nov. 22; Sp. p. 5826; Gaz. vol. 160; p. 987.

Holcomb, Ernest A., Hartford, Conn. Tire-repairing device. No. 976,262; Nov. 22; Sp. p. 4833; Gaz. vol. 160; p. 825.

Holehouse, Robert L., Milwaukee, Wis. Oil-cup. No. 976,365; Nov. 22; Sp. p. 5056; Gaz. vol. 160; p. 859.

Holeman, Isaac A. (See Stevenson, James W., assignor.)

Holl, Adolph W., Cleveland, Ohio. Clay and sand screen. No. 977,009; Nov. 29; Sp. p. 6489; Gaz. vol. 160; p. 1107.

Hollander, Theron W., Fairfield, Iowa. Corner-shelf. No. 975,619; Nov. 15; Sp. p. 3426; Gaz. vol. 160; p. 581.

Hollar, William H., W. Rees, and H. F. Balou, Philadelphia, Pa.; said Rees and Balou assignors to said Hollar. Vault. No. 977,307; Nov. 29; Sp. p. 7107; Gaz. vol. 160; p. 1209.

Hollerith, Herman, Garrett Park, Md., assignor to The Tabulating Machine Company. Registering apparatus. No. 974,272; Nov. 1; Sp. p. 431; Gaz. vol. 160; p. 64.

Hollingshead, Arthur G. (See Sargent and Hollingshead.)

Hollingsworth, Elwood, Harrison, Idaho. Sled-brake. No. 974,382; Nov. 1; Sp. p. 685; Gaz. vol. 160; p. 103.

Hollingsworth, Merrill W., Santa Barbara, Cal. Golf-club. No. 976,176; Nov. 22; Sp. p. 4610; Gaz. vol. 160; p. 793.

Hollis, Elbert H., assignor of two-thirds to J. M. Coppinger, Kansas City, Mo., and one-third to M. F. Lynch, Excelsior Springs, Mo. Safety-valve mechanism for gas-pipes. No. 976,078; Nov. 15; Sp. p. 4341; Gaz. vol. 160; p. 737.

Holloway, Walter S., Flushing, Ohio. Autoharp and like instrument. No. 975,865; Nov. 15; Sp. p. 3942; Gaz. vol. 160; p. 664.

Holman, Maggie P. (See Rote, Charles V., assignor.)

Holman, Stephen A., Santa Maria, Cal. Wrench. No. 976,740; Nov. 22; Sp. p. 5827; Gaz. vol. 160; p. 987.

Holmes, Ethan J., Farmington, Conn. Combined carriage pole and shafts. No. 977,003; Nov. 29; Sp. p. 6664; Gaz. vol. 160; p. 1135.

Holmes, Franklin L., Smethport, Pa. Burglar-alarm. No. 975,952; Nov. 15; Sp. p. 4112; Gaz. vol. 160; p. 694.

Holmgren, Peter, assignor of one-fourth to E. Pike, Mammoth, Utah. Car-wheel. No. 977,308; Nov. 29; Sp. p. 7109; Gaz. vol. 160; p. 1209.

Holt, Ransom L., Woodbury, Ga. Automatic interlocking crossing system. No. 974,273; Nov. 1; Sp. p. 436; Gaz. vol. 160; p. 64.

Holtorp, Wilhelm, Hamburg, Germany. Means for lubricating bearings. No. 974,966; Nov. 8; Sp. p. 2033; Gaz. vol. 160; p. 332.

Holtzer-Cabot Electric Company. (See Tormin, Egmont M., assignor.)

Holub, Charles J., Newport, Ky., assignor to The Peck, Williamson Heating & Ventilating Company, Cincinnati, Ohio. Furnace-heat-conductor pipe. No. 975,360; Nov. 8; Sp. p. 2876; Gaz. vol. 160; p. 464.

Holwick, Daniel L. (See Keagy, Rudolph H. and M. L., assignors.)

Homer Roberts Telephone Co. (See Roberts, Homer J., assignor.)

Homet, Jewet G., Scranton, Pa. Cravat-holder. No. 974,148; Nov. 1; Sp. p. 82; Gaz. vol. 160; p. 17.

Honold, Gottlob, Stuttgart, Germany. Magneto-electric generator. No. 974,967; Nov. 8; Sp. p. 2034; Gaz. vol. 160; p. 332.

Hood, Alexander J., Muscoda, Wis. Gage and work-dropping device for platen printing-presses. No. 976,366; Nov. 22; Sp. p. 5057; Gaz. vol. 160; p. 859.

Hood, Arthur N., assignor to Hood Rubber Company, Boston, Mass. Removable rim for vehicle-wheels. No. 974,770; Nov. 1; Sp. p. 1566; Gaz. vol. 160; p. 241.

Hood, Ernest K., Indianapolis, Ind. Propeller turbine-pump. No. 975,526; Nov. 15; Sp. p. 3231; Gaz. vol. 160; p. 550.

Hood, Ernest K., assignor to Climax Machinery Company, Indianapolis, Ind. Shaker. No. 974,968; Nov. 8; Sp. p. 2038; Gaz. vol. 160; p. 333.

Hood Rubber Company. (See Hood, Arthur N., assignor.)

Hoover Suction Sweeper Company, The. (See Spangler, James M., assignor.)
Hopfelt, Robert, Cologne-Klettenberg, Germany. Removing oxygen from vessels. No. 975,040; Nov. 8; Sp. p. 2191; Gaz. vol. 160; p. 356.
Hopkins, Frank P., Lakewood, Ohio. Liquid-cooler. No. 976,803; Nov. 22; Sp. p. 5077; Gaz. vol. 160; p. 1009.
Hopkins, Nevil M., Washington, D. C. Card game. No. 977,010; Nov. 29; Sp. p. 6491; Gaz. vol. 160; p. 1107.
Hopkins, William W., assignor to Moon-Hopkins Billing Machine Company, St. Louis, Mo. Full-stroke mechanism for calculating-machines, &c. No. 977,190; Nov. 29; Sp. p. 6892; Gaz. vol. 160; p. 1170.
Horel, Francis R. (See McKee and Horel.)
Horn, Frank, Columbus, Ohio. Coupling-operating attachment for cars. No. 974,793; Nov. 8; Sp. p. 1616; Gaz. vol. 160; p. 272.
Horn, Frank, assignor of one-half to W. C. Althen, Columbus, Ohio. Valve-casing and pipe connection. No. 975,429; Nov. 15; Sp. p. 3024; Gaz. vol. 160; p. 515.
Horner, Albert, Kukaiau, Hawaii. Equalizer for wire-rope transportation. No. 976,463; Nov. 22; Sp. p. 5267; Gaz. vol. 160; p. 894.
Horrocks, Walter E., Lakewood, Ohio. Nut and bolt. No. 976,569; Nov. 22; Sp. p. 5507; Gaz. vol. 160; p. 930.
Hortman, Jacob S., Wilkes-Barre, Pa. Nut-making machine. No. 977,011; Nov. 29; Sp. p. 6492; Gaz. vol. 160; p. 1107.
Horton, Jonathan B., Elkin, N. C. Backboard. No. 977,309; Nov. 29; Sp. p. 7111; Gaz. vol. 160; p. 1210.
Houk, Russell W. (See Decker and Houk.)
Houlehan, John, *et al.* (See Mayo, William C., assignor.)
Hourwich, Iskander, Washington, D. C. Aerial projecting apparatus. No. 975,953; Nov. 15; Sp. p. 4114; Gaz. vol. 160; p. 695.
House, Timothy J., Troy, Vt. Making sliding. No. 977,012; Nov. 29; Sp. p. 6497; Gaz. vol. 160; p. 1108.
Howard, Henry, Boston, Mass. Formic acid. No. 975,866; Nov. 15; Sp. p. 3945; Gaz. vol. 160; p. 664.
Howard, John B., St. John, Kans. Pruning implement. No. 974,149; Nov. 1; Sp. p. 83; Gaz. vol. 160; p. 17.
Howard, Jorgen. (See Tweet, Neis, assignor.)
Howard, Orville, Bay City, Mich. Mail-bag deliverer. No. 974,489; Nov. 1; Sp. p. 957; Gaz. vol. 160; p. 142.
Howard, Perkins E., Wichita, Kans. Door-hinge. No. 974,794; Nov. 8; Sp. p. 1617; Gaz. vol. 160; p. 272.
Howell, Charles W., Newark, N. J. Type-writing machine. No. 974,383; Nov. 1; Sp. p. 685; Gaz. vol. 160; p. 104.
Howell, Florence S. (See Howell, Lewis O., assignor.)
Howell, Lewis O., assignor to F. S. Howell, Philadelphia, Pa. Combined pneumatic cleaner and force-cup. No. 975,527; Nov. 15; Sp. p. 3232; Gaz. vol. 160; p. 551.
Howland, Edward B., Sandwich, Mass. Corset-clasp. No. 977,390; Nov. 29; Sp. p. 7291; Gaz. vol. 160; p. 1238.
Howland, William M., Eckington, D. C. Window cold-air refrigerator. No. 975,954; Nov. 15; Sp. p. 4116; Gaz. vol. 160; p. 695.
Howson, Henry, assignor to The J. G. Brill Company, Philadelphia, Pa. Car-platform door and step guard. No. 977,310; Nov. 29; Sp. p. 7112; Gaz. vol. 160; p. 1210.
Howze, James M., Stephenville, Tex. Oil-burner. No. 975,244; Nov. 8; Sp. p. 2646; Gaz. vol. 160; p. 427.
Hoyle, William H., and T. Barker, Bolton, England. Elongating-machine. No. 977,191; Nov. 29; Sp. p. 6894; Gaz. vol. 160; p. 1170.
Hoyt, Frank A., Gordon, Nebr. Hose-drier. No. 976,656; Nov. 22; Sp. p. 5683; Gaz. vol. 160; p. 961.
Hubbard, Albert S., Belleville, N. J., assignor to Gould Storage Battery Company. Electrical system of distribution. No. 976,878; Nov. 29; Sp. p. 6152; Gaz. vol. 160; p. 1060.
Hubbard, Melvin H., Utica, N. Y. Elimination of coloring-matter from paper-stock. No. 977,013; Nov. 29; Sp. p. 6497; Gaz. vol. 160; p. 1108.
Hubert-Brierre, Alfred M., Paris, France. Apparatus for stretching cloth on billiard-tables. No. 976,570; Nov. 22; Sp. p. 5508; Gaz. vol. 160; p. 931.
Hubert, Louis J. F., Leipzig, Germany. Necktie and collar fastening. No. 976,177; Nov. 22; Sp. p. 4611; Gaz. vol. 160; p. 793.
Hubert, Philip G., Los Angeles, Cal. Oil-burner. No. 976,367; Nov. 22; Sp. p. 5059; Gaz. vol. 160; p. 859.
Hückel, Hugo, Neutitschein, Austria-Hungary. Blade-feathering mechanism for propellers and the like. No. 974,490; Nov. 1; Sp. p. 958; Gaz. vol. 160; p. 142.
Huddle, Herschel J., Jersey City, N. J. Pen and pencil holder. No. 974,887; Nov. 8; Sp. p. 1826; Gaz. vol. 160; p. 304.
Hudson, Lee O., assignor of one-half to C. L. Keesler, Altus, Okla. Crude-oil burner. No. 974,795; Nov. 8; Sp. p. 1618; Gaz. vol. 160; p. 272.
Hudson, Robert F., assignor to The Premium Register Company, Inc., Richmond, Va. Prize-awarding advertising apparatus. No. 976,079; Nov. 15; Sp. p. 4342; Gaz. vol. 160; p. 738.
Huebner, George, Lagrange, Tex. Tent-frame. No. 974,491; Nov. 1; Sp. p. 959; Gaz. vol. 160; p. 142.
Huggins, Fred, West Granby, Conn. Piano-tuning appliance. No. 977,094; Nov. 29; Sp. p. 6666; Gaz. vol. 160; p. 1135.
Hughes, Alexander, Jr., Fort Lee, N. J. Hinge. No. 974,492; Nov. 1; Sp. p. 960; Gaz. vol. 160; p. 143.
Hughes, Charles A., Sycamore, Pa. Hay-press. No. 976,368; Nov. 22; Sp. p. 5061; Gaz. vol. 160; p. 859.
Hughes, George M., Buffalo, N. Y. Hose-reel. No. 975,245; Nov. 8; Sp. p. 2647; Gaz. vol. 160; p. 427.
Hughes, Hardin M., Healing Springs, Ark. Base for poles or posts. No. 976,870; Nov. 29; Sp. p. 6156; Gaz. vol. 160; p. 1061.
Hughes, James R., assignor of one-third to J. M. Hughes, Uhrichsville, Ohio. Powder-can spout. No. 977,095; Nov. 29; Sp. p. 6669; Gaz. vol. 160; p. 1136.
Hughes, Jennie M. (See Hughes, James R., assignor.)
Hughes, Louis S., assignor to Picher Lead Company, Joplin, Mo. Apparatus for manufacturing sublimed white lead. No. 975,768; Nov. 15; Sp. p. 3745; Gaz. vol. 160; p. 631.
Hughes, Louis S., assignor to Picher Lead Company, Joplin, Mo. Manufacturing sublimed white lead. No. 975,867; Nov. 15; Sp. p. 3940; Gaz. vol. 160; p. 665.
Hughes, Louis S., assignor to Picher Lead Company, Joplin, Mo. Freeing litharge from metallic lead mixed with it. No. 975,955; Nov. 15; Sp. p. 4117; Gaz. vol. 160; p. 696.
Huhn, Gustav, Berlin, Germany. Packing for steam-turbines. No. 976,369; Nov. 22; Sp. p. 5064; Gaz. vol. 160; p. 860.
Hukill, William S. (See Busby and Hukill.)
Hulings, James H., assignor of one-half to W. H. Miller, Parsons, W. Va. Valve. No. 976,804; Nov. 22; Sp. p. 5978; Gaz. vol. 160; p. 1010.
Hull, Robert W., Hingham, Mass. Steam pressing and finishing iron. No. 976,571; Nov. 22; Sp. p. 5510; Gaz. vol. 160; p. 931.
Hull, Warren S., Sheldon, Ill. Electric-drop-cord adjuster. No. 977,192; Nov. 29; Sp. p. 6896; Gaz. vol. 160; p. 1171.
Humbrecht, Jules, Gross-Lichterfelde, near Berlin, assignor to Optische Anstalt C. P. Goerz Aktiengesellschaft, Friedenau, near Berlin, Germany. Periscope. No. 976,370; Nov. 22; Sp. p. 5066; Gaz. vol. 160; p. 860.
Humma, Gertrude V., and C. M. Hafer, Reading, Pa. Umbrella-carrier. No. 975,430; Nov. 15; Sp. p. 3025; Gaz. vol. 160; p. 516.
Humphrey, Ernest N., assignor to Traut & Hine Manufacturing Company, New Britain, Conn. Garment-supporter. No. 977,404; Nov. 29; Sp. p. 7350; Gaz. vol. 160; p. 1243.
Humphrey, Hill, Jacksonville, N. C. Folding seat. No. 974,384; Nov. 1; Sp. p. 689; Gaz. vol. 160; p. 104.
Humphrey, Hiram W. (See Lester and Humphrey.)
Hunold, Ernest, Providence, R. I. Razor-strop. No. 977,311; Nov. 29; Sp. p. 7114; Gaz. vol. 160; p. 1210.
Hunsicker, Harry J., Albany, N. Y. Oil break-switch. No. 977,193; Nov. 29; Sp. p. 6898; Gaz. vol. 160; p. 1171.
Hunt, Catherine, Oberon, N. D. Curtain-pole. No. 976,128; Nov. 15; Sp. p. 4461; Gaz. vol. 160; p. 755.
Hunt, Charles W., New York, N. Y. Hoisting apparatus. No. 974,385; Nov. 1; Sp. p. 691; Gaz. vol. 160; p. 104.
Hunt, Helm, Ferris & Company. (See Minshull, Robert, assignor.)
Hunter, Hugh M., assignor to The National Acme Manufacturing Company, Cleveland, Ohio. Left-hand-threading device. No. 976,880; Nov. 29; Sp. p. 6158; Gaz. vol. 160; p. 1061.
Hunter, William F., assignor of one-half to T. Bair, Arcata, Cal. Hydraulic dredge. No. 974,150; Nov. 1; Sp. p. 85; Gaz. vol. 160; p. 17.
Huntley, Stephen A., Kansas City, Mo., assignor of one-third to G. W. Slater, one-third to J. M. Benham, Oakland, Cal., and one-third to W. E. Otis, Jr., Reno, Nev. Vehicle-wheel rim. No. 975,796; Nov. 8; Sp. p. 1619; Gaz. vol. 160; p. 273.
Huntoon, Charles F., assignor to H. D. Laughlin, Chicago, Ill. Brake-beam. No. 974,797; Nov. 8; Sp. p. 1620; Gaz. vol. 160; p. 273.
Huntsman, Harry F. M., Sheffield, England. Apparatus for removing the hardness from certain portions of hardened steel strips. No. 975,041; Nov. 8; Sp. p. 2192; Gaz. vol. 160; p. 356.
Hupp, Albert, Kansas City, Mo., assignor to U. S. Rapid Mail Service Co., Pierre, S. D. Mail-pouch receiving and delivering apparatus. No. 974,274; Nov. 1; Sp. p. 439; Gaz. vol. 160; p. 65.
Hurd, Norman B., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Hotel-corridor lock. No. 974,666; Nov. 1; Sp. p. 1333; Gaz. vol. 160; p. 207.
Hurd, William T., Rochester, N. Y. Brick-kiln. No. 974,969; Nov. 8; Sp. p. 2039; Gaz. vol. 160; p. 333.
Hurwitz, Eugen. (See Remané, Gottschalk, and Hurwitz.)
Hutchinson, Clarence R., French Settlement, La. Automatic weighing apparatus. No. 977,014; Nov. 29; Sp. p. 6499; Gaz. vol. 160; p. 1108.
Hutchinson, Thomas J., Manchester, England. Treating bagasse. No. 975,387; Nov. 8; Sp. p. 2940; Gaz. vol. 160; p. 474.
Hutchison, William N., and J. A. Andrew, Victoria, British Columbia, Canada. Hat-pin guard. No. 975,620; Nov. 15; Sp. p. 3427; Gaz. vol. 160; p. 582.
Hutton, George B., assignor to W. H. Butler, New York, N. Y. Machine for tipping cigarettes. No. 977,015; Nov. 29; Sp. p. 6500; Gaz. vol. 160; p. 1109.
Hutton, Samuel T. (See Shaffner and Hutton.)
Hyatt Roller Bearing Company. (See Lockwood, Charles S., assignor.)
Hydraulic Gravity Separator Co., The. (See Forbes, Dudley J., assignor.)

Hynd, Alexander, Cleveland, Ohio. Hatch-fastener. No. 975,528; Nov. 15; Sp. p. 3233; Gaz. vol. 160; p. 551.
Icre, Baptiste, New York, N. Y. Propeller for maritime and river navigation. No. 976,178; Nov. 22; Sp. p. 4612; Gaz. vol. 160; p. 794.
Iliff, Ira I. (See Bowers, Doctor C., assignor.)
Illinois Concrete Machinery Company. (See Scott, Louis H., assignor.)
Imbert Process Company. (See Desgrax, Adolphe, assignor.)
Imbt, Milton. (See Rotzel and Imbt.)
Immell, Omer F., Blair, Wis. Minnow-bait. No. 974,493; Nov. 1; Sp. p. 961; Gaz. vol. 160; p. 143.
Immermann, Otto, Halle-on-the-Saale, Germany. Fumigator. No. 977,312; Nov. 29; Sp. p. 7116; Gaz. vol. 160; p. 1211.
Immo, Axel, *et al.* (See Ostman, Joseph O., assignor.)
Improved Paper Machinery Company. (See Parker, Howard, assignor.)
Independent Harvester Company. (See Boda, Joseph, assignor.)
Indiana Manufacturing Company, The. (See Goodison, John, assignor.)
Ingalls, Charles F., Laconia, N. H., assignor of one-third to F. L. Clifford, Melrose Highlands, Mass. Garter. No. 974,667; Nov. 1; Sp. p. 1336; Gaz. vol. 160; p. 207.
Ingersoll-Rand Company. (See Prellwitz, William, assignor.)
Ingersoll-Rand Company. (See Taylor, Albert H., assignor.)
Ingle, William H., Tacoma, Wash. Illuminated sign. No. 974,275; Nov. 1; Sp. p. 444; Gaz. vol. 160; p. 65.
Inland Manufacturing Company. (See Wallin, Gustaf E., assignor.)
Inter State Tube Company. (See Skirrow and Needham, assignors.)
International Aerial Power Company. (See Schies, John, assignor.)
International Electric Protection Company. (See Blackwell, Henry F., assignor.)
International Electric Protection Company. (See Goldstein, Albert, assignor.)
International Electric Protection Company. (See Goldstein and Pool, assignors.)
International Electric Protection Company. (See Pool, Clark H., assignor.)
International Power Generator Company. (See Backstrom, Charles A., assignor.)
International Telegraph Construction Company. (See Midgley, Frederick W., assignor.)
International Telegraph Construction Company. (See Shoemaker, Harry, assignor.)
Interstate Pneumatic Tube Company. (See Needham, John T., assignor.)
Iorio, Fortunato E., Mount Vernon, N. Y. Card-playing device. No. 974,970; Nov. 8; Sp. p. 2041; Gaz. vol. 160; p. 333.
Irvin, John J., Bellwood, Pa. Draft-sill. No. 974,569; Nov. 1; Sp. p. 1141; Gaz. vol. 160; p. 172.
Irwin, Charles B. (See Stovall, Joseph R., assignor.)
Irwin, Frank L. (See Tesseyman and Irwin.)
Irwin, Frank L., and J. E. Tesseyman, assignors to The Ralston Steel Car Company, Columbus, Ohio. Railway-car. No. 977,405; Nov. 29; Sp. p. 7352; Gaz. vol. 160; p. 1243.
Irwin, John H., Philadelphia, Pa. Sawing-machine. No. 974,971; Nov. 8; Sp. p. 2042; Gaz. vol. 160; p. 334.
Ishii, Shozaburo, Roslyn, N. Y. Fire-kindler. No. 975,868; Nov. 15; Sp. p. 3947; Gaz. vol. 160; p. 665.
Ivor, Barry, Chicago, Ill. Carbureter. No. 976,881; Nov. 29; Sp. p. 6161; Gaz. vol. 160; p. 1062.
Iwanami, Takao, Washington, D. C. Straight-edge and holder. No. 975,956; Nov. 15; Sp. p. 4120; Gaz. vol. 160; p. 696.
J. B. Colt Company. (See Shaw, Louis E., assignor.)
J. G. Brill Company, The. (See Howson, Henry, assignor.)
Jachimovicz, Szymon, San Francisco, assignor of one-half to M. Grodin, Oakland, Cal. Starting mechanism for explosion-engines. No. 974,972; Nov. 8; Sp. p. 2044; Gaz. vol. 160; p. 334.
Jackson Cushion Spring Co. (See Smith, Watson R., assignor.)
Jackson, Erskine H. (See Belknap and Jackson.)
Jackson, Frederick W., *et al.* (See Sidney, William E., assignor.)
Jackson, George W., Chicago, Ill. Subway-ventilator. No. 974,151; Nov. 1; Sp. p. 87; Gaz. vol. 160; p. 18.
Jackson, John. (See Munson and Jackson.)
Jackson, Ray P., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Electric-circuit interrupter. No. 975,431; Nov. 15; Sp. p. 3026; Gaz. vol. 160; p. 516.
Jacobs, Henry W., Topeka, Kans. Track-car and tool-driving machine. No. 975,042; Nov. 8; Sp. p. 2193; Gaz. vol. 160; p. 357.
Jacobs, Henry W., and H. H. Lanning, Topeka, Kans. Friction-clutch. No. 975,621; Nov. 15; Sp. p. 3428; Gaz. vol. 160; p. 582.
Jacobs, Jehu, Henley, Cal. Penholder. No. 976,805; Nov. 22; Sp. p. 5981; Gaz. vol. 160; p. 1010.
Jacobson, Axel E. (See Fraser and Jacobson.)
Jacobson, Julius, Berlin, Germany. Winding device. No. 975,133; Nov. 8; Sp. p. 2395; Gaz. vol. 160; p. 388.
Jacobus, Charles, Springfield, Mass., assignor to A. G. Spalding & Bros., New York, N. Y. Golf-club. No. 974,888; Nov. 8; Sp. p. 1828; Gaz. vol. 160; p. 304.
Jacoby, William L., and F. B. Bell, Chicago Heights, Ill. Wheel. No. 974,798; Nov. 8; Sp. p. 1622; Gaz. vol. 160; p. 273.
Jacques, John S., Hingham, Mass. Pneumatic-despatch-tube apparatus. No. 974,799; Nov. 8; Sp. p. 1626; Gaz. vol. 160; p. 273.
Jaeger, Maximillian, New London, Conn., assignor of one-half to W. F. Sword, Providence, R. I. Clutch-grip mandrel. No. 975,043; Nov. 8; Sp. p. 2196; Gaz. vol. 160; p. 357.
Jaksick, John, Lakewood, Ohio. Sash-fastening device. No. 974,570; Nov. 1; Sp. p. 1142; Gaz. vol. 160; p. 172.
James, George C., Fairmont, Nebr. Chicken-perch. No. 974,386; Nov. 1; Sp. p. 692; Gaz. vol. 160; p. 105.
James, Henry D., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Electric-motor control. No. 974,152; Nov. 1; Sp. p. 88; Gaz. vol. 160; p. 18.
James, Walter W., Atwell, Tex. Cotton-gin No. 977,194; Nov. 29; Sp. p. 6899; Gaz. vol. 160; p. 1172.
Janclaes, Reiner, and W. Kaulhausen, Aix-la-Chapelle, Germany. Detachable wheel-rim. No. 974,668; Nov. 1; Sp. p. 1336; Gaz. vol. 160; p. 208.
Janney, Eli H., Fairfax county, Va. Car-coupling. No. 974,153; Nov. 1; Sp. p. 91; Gaz. vol. 160; p. 19.
Janney, Eli H., Fairfax county, Va. Car-coupling. No. 974,154; Nov. 1; Sp. p. 94; Gaz. vol. 160; p. 19.
Jansen, Waldemar, New York, N. Y. Bar appliance. No. 976,657; Nov. 22; Sp. p. 5685; Gaz. vol. 160; p. 961.
Jantz, Gustave H. (See Leist, William, assignor.)
Jaqua, Charles A., Portland, Ind. Frictional air-compressor. No. 975,957; Nov. 15; Sp. p. 4122; Gaz. vol. 160; p. 696.
Jaques, Rufus S., Spokane, Wash. Threshing-machine. No. 976,263; Nov. 22; Sp. p. 4834; Gaz. vol. 160; p. 826.
Jaquet, Jules F., Ballston, Va. Thill-coupling. No. 974,387; Nov. 1; Sp. p. 693; Gaz. vol. 160; p. 105.
Jarnagin, Thomas J., Princeton, Tex. Churn. No. 975,044; Nov. 8; Sp. p. 2198; Gaz. vol. 160; p. 357.
Jeans, Walter C., and F. Beevers, Leeds, England. Scientific toy or puzzle. No. 976,371; Nov. 22; Sp. p. 5068; Gaz. vol. 160; p. 861.
Jeffers, Harry I., assignor of one-half to W. F. May, Fort Smith, Ark. Building construction. No. 975,692; Nov. 15; Sp. p. 3595; Gaz. vol. 160; p. 606.
Jeffery, Charles T., *et al.*, executors. (See Jeffery, Thomas B.)
Jeffery, Charles T., *et al.*, executors. (See Purdy, Frederick, assignor.)
Jeffery, Charles T., *et al.*, executors. (See Symmonds, Robert, Jr., assignor.)
Jeffery, Harold W., *et al.*, executors. (See Jeffery, Thomas B.)
Jeffery, Harold W., *et al.*, executors. (See Purdy, Frederick, assignor.)
Jeffery, Harold W., *et al.*, executors. (See Symmonds, Robert, Jr., assignor.)
Jeffery, Kate E., *et al.*, executors. (See Jeffery, Thomas B.)
Jeffery, Kate E., *et al.*, executors. (See Purdy, Frederick, assignor.)
Jeffery Manufacturing Company, The. (See Sessions, Frank L., assignor.)
Jeffery, Thomas B., deceased, Kenosha, Wis.; K. E., C. T., and H. W. Jeffery, executors. Tilting body for automobiles. No. 976,572; Nov. 22; Sp. p. 5512; Gaz. vol. 160; p. 932.
Jeffries, Elijah G., Boise, Idaho. Cable-hanger. No. 974,669; Nov. 1; Sp. p. 1337; Gaz. vol. 160; p. 208.
Jenkins, Charles F., Washington, D. C. Mailing-folder. No. 974,276; Nov. 1; Sp. p. 447; Gaz. vol. 160; p. 66.
Jenkins, Edson W., Alfred Station, assignor of one-half to C. M. Hayes, Hornell, N. Y. Spring-wheel. No. 974,155; Nov. 1; Sp. p. 97; Gaz. vol. 160; p. 19.
Jenkins, James L., Johnstown, W. Va. Attachment for cultivators. No. 974,670; Nov. 1; Sp. p. 1339; Gaz. vol. 160; p. 208.
Jensen, Andrew P., *et al.* (See Bailey, Walter F., assignor.)
Jensen, Chester L., and L. A. Lahey, Spokane, Wash. Crutch. No. 974,494; Nov. 1; Sp. p. 963; Gaz. vol. 160; p. 143.
Jewett, Martha P., Evansville, Ind. Composition of matter to be used for the purpose of fluxing metals. No. 977,406; Nov. 29; Sp. p. 7354; Gaz. vol. 160; p. 1244.
Jocher, Edward, Philadelphia, Pa. Advertising-sign. No. 976,179; Nov. 22; Sp. p. 4614; Gaz. vol. 160; p. 794.
Johanson, Joel L. (See Benson and Johanson.)
Johansson, Frans J., and E. A. O. Göthe, Stockholm, Sweden. Milking-machine. No. 974,277; Nov. 1; Sp. p. 447; Gaz. vol. 160; p. 66.
John L. Whiting-J. J. Adams Company. (See Vogel, Ernest, assignor.)
Johns, Alfred. (See Blessing and Johns.)
Johnson, Alfred, Quincy, Ill. Garment holder or rack. No. 975,246; Nov. 8; Sp. p. 2648; Gaz. vol. 160; p. 427.
Johnson, August I., Concord, N. H. Music-leaf turner. No. 976,806; Nov. 22; Sp. p. 5981; Gaz. vol. 160; p. 1010.

Johnson, Carl A., Bucklin, Mo., assignor of one-fourth to J. T. Coleman, Tolar, N. Mex. Gas-burner. No. 974,671; Nov. 1; Sp. p. 1340; Gaz. vol. 160; p. 208.
Johnson, Charles M., Avalon, Pa., assignor to Crucible Steel Company of America. Treatment of ores. No. 977,096; Nov. 29; Sp. p. 6671; Gaz. vol. 160; p. 1136.
Johnson, Charles W., South Kaukauna, Wis. Receptacle. No. 975,968; Nov. 15; Sp. p. 4124; Gaz. vol. 160; p. 697.
Johnson, Edward M. (See McHardy, James A., assignor.)
Johnson, Frank D., Worcester, Mass. Key-fastener. No. 976,807; Nov. 22; Sp. p. 5983; Gaz. vol. 160; p. 1010.
Johnson, Harry L., assignor of one-half to W. K. Kellogg, Battle Creek, Mich. Conveyer for carton-sealing machines. No. 976,264; Nov. 22; Sp. p. 4835; Gaz. vol. 160; p. 826.
Johnson, John H., Barrie, Ontario, Canada. Sewer-trench excavator. No. 977,016; Nov. 29; Sp. p. 6506; Gaz. vol. 160; p. 1109.
Johnson, Joseph E., J. M. Perry, and B. McMahon, Princeton, Mo.; said Perry and McMahon assignors to said Johnson. Wire-stretcher. No. 975,247; Nov. 8; Sp. p. 2650; Gaz. vol. 160; p. 428.
Johnson, Joseph S., Lodi, Ohio. Latch. No. 975,361; Nov. 8; Sp. p. 2878; Gaz. vol. 160; p. 465.
Johnson, Nels A. (See Thompson, Alfred, assignor.)
Johnson, Nels L. (See Roberts and Johnson.)
Johnson, Solomon F. (See Daugherty and Johnson.)
Johnson, Thomas H., Pittsburg, Pa. Apparatus for ventilating tunnels. No. 975,248; Nov. 8; Sp. p. 2651; Gaz. vol. 160; p. 428.
Johnson, Walter R. (See Baker and Johnson.)
Johnson, William, Montague, assignor of one-half to G. H. Nelson, Whitehall, Mich. Internal-combustion engine. No. 976,180; Nov. 22; Sp. p. 4615; Gaz. vol. 160; p. 794.
Johnson, William A., Chicago, Ill. Shock-absorber. No. 975,249; Nov. 8; Sp. p. 2653; Gaz. vol. 160; p. 428.
Johnson, William C., Fence, Wis. Attachment for wheelbarrows. No. 974,571; Nov. 1; Sp. p. 1144; Gaz. vol. 160; p. 173.
Johnson, Wills, assignor to E. I. du Pont de Nemours Powder Company, Wilmington, Del. Stuffing-box. No. 975,045; Nov. 8; Sp. p. 2199; Gaz. vol. 160; p. 357.
Johnston, James W. (See Francart, Debay, Johnston, and Couch.)
Johnston, Robert M., assignor to The Ohio Brass Company, Mansfield, Ohio. Insulator. No. 974,672; Nov. 1; Sp. p. 1345; Gaz. vol. 160; p. 209.
Johnston, Willis, Schenectady, N. Y. Starting device. No. 975,134; Nov. 8; Sp. p. 2396; Gaz. vol. 160; p. 389.
Joleen, Nels, Chicago, Ill. Advertising device. No. 975,622; Nov. 15; Sp. p. 3433; Gaz. vol. 160; p. 583.
Jonas, Ernest, New York, N. Y. Clothes-line holder. No. 974,388; Nov. 1; Sp. p. 694; Gaz. vol. 160; p. 105.
Jones, Adrian D., Holloway, England. Electrode for electric-arc lights. No. 974,389; Nov. 1; Sp. p. 695; Gaz. vol. 160; p. 105.
Jones, David W., and E. W. Koppe, Los Angeles, Cal. Centrifugal pumping apparatus. No. 975,623; Nov. 15; Sp. p. 3436; Gaz. vol. 160; p. 583.
Jones, Fred A., *et al.* (See Larsson, Thure, assignor.)
Jones, Fred E. R., and R. S. Barnum, Chicago, Ill.; said Barnum assignor to said Jones. Hospital-bed. No. 974,495; Nov. 1; Sp. p. 964; Gaz. vol. 160; p. 143.
Jones, Fremont L. (See Braun, William A., assignor.)
Jones, George M. (See Kelly, John T., assignor.)
Jones, Horace K., Hartford, assignor to C. Glover, New Britain, Conn. Auxiliary coaster-brake attachment. No. 975,432; Nov. 15; Sp. p. 3028; Gaz. vol. 160; p. 516.
Jones, James A., assignor of one-half to W. Quick, Ward, W. Va. Signaling system for railways. No. 974,800; Nov. 8; Sp. p. 1633; Gaz. vol. 160; p. 274.
Jones, James M., Buffalo, N. Y. Safety-guard for stamping-machines. No. 976,181; Nov. 22; Sp. p. 4617; Gaz. vol. 160; p. 795.
Jones, John, Salem, Oregon, assignor of one-half to T. Sexton, San Francisco, Cal. Warehouse-truck-brake attachment. No. 974,572; Nov. 1; Sp. p. 1145; Gaz. vol. 160; p. 173.
Jones, John A., Cincinnati, Ohio. Reinforced-concrete column, girder, and beam. No. 976,182; Nov. 22; Sp. p. 4620; Gaz. vol. 160; p. 795.
Jones, John A., Cincinnati, Ohio. Reinforced-concrete floor-slab. No. 976,183; Nov. 22; Sp. p. 4622; Gaz. vol. 160; p. 796.
Jones, John G., assignor to M. D. Knowlton Company, Rochester, N. Y. Frictional locking device. No. 974,156; Nov. 1; Sp. p. 98; Gaz. vol. 160; p. 20.
Jones, John G., assignor to M. D. Knowlton Company, Rochester, N. Y. Variable-speed power-transmitting mechanism. No. 975,869; Nov. 15; Sp. p. 3949; Gaz. vol. 160; p. 665.
Jones, Joshua J., Pittsburg, assignor of one-half to G. H. Blaxter, Beaver Falls, Pa. Piling. No. 976,573; Nov. 22; Sp. p. 5514; Gaz. vol. 160; p. 932.
Jones, Milton. (See Beucler, Frederick P., assignor.)
Jones, Thomas, and L. J. Evans, Ynlscedwyn, Ystradgynlais, England. Emergency-brake. No. 974,390; Nov. 1; Sp. p. 696; Gaz. vol. 160; p. 106.
Jones, William A., and W. A. Minehan, Sharon, Pa. Locomotive attachment. No. 975,870; Nov. 15; Sp. p. 3950; Gaz. vol. 160; p. 665.
Jones, William E. (See Christofferson, Woods, and Jones.)
Joplin, William A., Lawrence, assignor to Pneumatic Scale Corporation, Limited, Quincy, Mass. Carton-sealing machine. No. 977,097; Nov. 29; Sp. p. 6672; Gaz. vol. 160; p. 1136.
Jörgensen, Julius C. W., San Francisco, Cal. Fluid speed-governing mechanism. No. 974,973; Nov. 8; Sp. p. 2049; Gaz. vol. 160; p. 334.
Josleyn, Hubbard N., assignor to The Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine. No. 976,882; Nov. 29; Sp. p. 6165; Gaz. vol. 160; p. 1062.
Joslin, Jerome C., Keene, N. H. Flask for building cement walls. No. 974,673; Nov. 1; Sp. p. 1349; Gaz. vol. 160; p. 209.
Joslin, William E. (See Joslin and Bennett, assignors.)
Joslin, William H., and M. H. Bennett, assignors to W. E. Joslin, Scituate, R. I. Lace-feeding device. No. 974,674; Nov. 1; Sp. p. 1350; Gaz. vol. 160; p. 209.
Jossart, John L., Minocqua, Wis. Spike. No. 974,391; Nov. 1; Sp. p. 698; Gaz. vol. 160; p. 106.
Journal Lubricator Company. (See Armstrong, Ernest, assignor.) (Reissue.)
Joy, Guy A., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Service-meter system. No. 976,184; Nov. 22; Sp. p. 4622; Gaz. vol. 160; p. 796.
Julien, Herbert J. (See Stone, George W., Jr., assignor.)
Juneau, Wilfred, Markaville, La. Running-gear for motor-vehicles. No. 977,407; Nov. 29; Sp. p. 7354; Gaz. vol. 160; p. 1244.
Junggren, Oscar, Schenectady, N. Y., assignor to General Electric Company. Combined thrust and guide bearing. No. 974,392; Nov. 1; Sp. p. 699; Gaz. vol. 160; p. 106.
Justus, Ocee, Clarksburg, W. Va. Automatic gas-drip. No. 974,880; Nov. 8; Sp. p. 1830; Gaz. vol. 160; p. 305.
Kabitzke, W., *et al.* (See Van Bosch, Peter M., assignor.)
Kaempfer, Jacob C., New York, N. Y. False reed for looms. No. 977,313; Nov. 29; Sp. p. 7117; Gaz. vol. 160; p. 1211.
Kahn, Clara, New York, N. Y. Collar. No. 976,658; Nov. 22; Sp. p. 5686; Gaz. vol. 160; p. 962.
Kaiser, Charles A., assignor of one-third to F. N. Davison, New York, N. Y., and one-third to H. H. Hirsch, Philadelphia, Pa. Pump. No. 974,974; Nov. 8; Sp. p. 2052; Gaz. vol. 160; p. 335.
Kaisling, William, Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company. Switch. No. 975,529; Nov. 15; Sp. p. 3235; Gaz. vol. 160; p. 551.
Kaisling, William, Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company. Switch. No. 975,530; Nov. 15; Sp. p. 3242; Gaz. vol. 160; p. 551.
Kaminsky, Julius M., Indianapolis, Ind. Drinking-fountain. No. 976,372; Nov. 22; Sp. p. 5069; Gaz. vol. 160; p. 861.
Kampfe, Otto, New York, N. Y. Hand-rake. No. 975,871; Nov. 15; Sp. p. 3452; Gaz. vol. 160; p. 666.
Kampfe, Otto, New York, N. Y. Garment-clasp. No. 976,574; Nov. 22; Sp. p. 5515; Gaz. vol. 160; p. 932.
Kampfe, Otto, New York, N. Y. Safety-razor. No. 977,314; Nov. 29; Sp. p. 7118; Gaz. vol. 160; p. 1211.
Kane, Frank, Philadelphia, Pa. Talking-machine horn and bracket therefor. No. 975,362; Nov. 8; Sp. p. 2879; Gaz. vol. 160; p. 465.
Kane, Peter W., Detroit, Mich. Engine. No. 976,808; Nov. 22; Sp. p. 5984; Gaz. vol. 160; p. 1011.
Kangas, John, Gardner, Mass. Driving-train for time-pieces. No. 975,959; Nov. 15; Sp. p. 4125; Gaz. vol. 160; p. 697.
Kantner, Lewis R., Hasbrouck Heights, N. J., assignor of one-third to M. L. Mitchell, Williamsport, Pa. Printing. No. 974,278; Nov. 1; Sp. p. 449; Gaz. vol. 160; p. 66.
Kanzer-Chegodard, Gregory T., Kamenka, Russia. Automatic telegraphy. No. 974,279; Nov. 1; Sp. p. 450; Gaz. vol. 160; p. 66.
Karber, Ezra E., Karbers Ridge, Ill. Sliding bolt. No. 976,265; Nov. 22; Sp. p. 4844; Gaz. vol. 160; p. 827.
Karl, John. (See Mielck and Heydebrand, assignors.)
Karsitz, Frank, assignor of one-half to W. Ehous, Bridgeport, Conn. Window operating and locking mechanism. No. 976,575; Nov. 22; Sp. p. 5516; Gaz. vol. 160; p. 932.
Kasanof, Maurice M., New York, N. Y. Sign. No. 976,576; Nov. 22; Sp. p. 5520; Gaz. vol. 160; p. 933.
Kass, Cyrus, Galesville, Wis. Pipe-grapple. No. 975,250; Nov. 8; Sp. p. 2653; Gaz. vol. 160; p. 429.
Kissmodel, Max F., Leipzig, Germany. Treating cacao-seeds to separate unripe from ripe seeds. No. 974,393; Nov. 1; Sp. p. 704; Gaz. vol. 160; p. 107.
Katzinger, Edward, Chicago, Ill. Furnace. No. 975,531; Nov. 15; Sp. p. 3251; Gaz. vol. 160; p. 552.
Kaufman, Edward J. (See Lingo and Kaufman.)
Kaufman, Ludwig, assignor of one-half to J. Murray, New York, N. Y. Hollow water-heating grate. No. 976,080; Nov. 15; Sp. p. 4347; Gaz. vol. 160; p. 738.
Kaufman, Otto, assignor to Block Light Company, Youngstown, Ohio. Making mantles for incandescent gas-lamps. No. 975,769; Nov. 15; Sp. p. 3746; Gaz. vol. 160; p. 631.
Kaufmann, Jacob. (See Fehr and Kaufmann.)
Kaulhausen, William. (See Janclaes and Kaulhausen.)
Kavle, Oscar C., assignor to H. A. Moyer and E. G. Latta, Syracuse, N. Y. Carriage for type-writing machines. No. 976,466; Nov. 22; Sp. p. 5272; Gaz. vol. 160; p. 895.

Kay, William W., St. Louis, Mo. Conductor's cash-fare register. No. 976,467; Nov. 22; Sp. p. 5276; Gaz. vol. 160; p. 895.
Kayser, John W., Madison, Wis. Truss. No. 977,098; Nov. 29; Sp. p. 6679; Gaz. vol. 160; p. 1137.
Keagy, Martin L. (See Keagy, Rudolph H. and M. L.)
Keagy, Rudolph H. and M. L., assignors of one-half to D. L. Holwick, Canton, Ohio. Combined abdominal supporter and catamenial sack. No. 976,883; Nov. 29; Sp. p. 6170; Gaz. vol. 160; p. 1063.
Keenan, Walter M., Denver, Colo. Tobacco-pipe. No. 975,251; Nov. 8; Sp. p. 2656; Gaz. vol. 160; p. 429.
Keeran, Charles R., Bloomington, Ill. Jar-seal. No. 976,659; Nov. 22; Sp. p. 5687; Gaz. vol. 160; p. 962.
Keeslar, Charles L. (See Hudson, Lee O., assignor.)
Kehlstrom, August. (See Beck and Kehlstrom.)
Keil, August N., Cincinnati, Ohio. Clothes-wringer. No. 975,624; Nov. 15; Sp. p. 3440; Gaz. vol. 160; p. 584.
Keithley, Herbert R., Kansas City, Mo. Manufacturing car-wheel blanks. No. 975,383; Nov. 8; Sp. p. 2932; Gaz. vol. 160; p. 473.
Kelch, John C. (See Reyman, Philip S., assignor.)
Keller, Herbert M., Philadelphia, Pa. Broom-holder. No. 976,809; Nov. 22; Sp. p. 5986; Gaz. vol. 160; p. 1011.
Keller Manufacturing Company. (See Keller, William H., assignor.)
Keller, William H., assignor to Keller Manufacturing Company, Philadelphia, Pa. Motor suction-pump. No. 975,532; Nov. 15; Sp. p. 3252; Gaz. vol. 160; p. 552.
Kellogg Switchboard and Supply Company. (See Bradbury, Clifford C., assignor.)
Kellogg Switchboard & Supply Company. (See Dyson, Alfred H., assignor.)
Kellogg Switchboard and Supply Company. (See Joy, Guy A., assignor.)
Kellogg Switchboard & Supply Company. (See Kaisling, William, assignor.)
Kellogg Switchboard & Supply Company. (See Webster, Harry G., assignor.)
Kellogg Switchboard and Supply Company. (See Weiss, Alfred H., assignor.)
Kellogg Switchboard and Supply Company. (See Winston, Charles S., assignor.)
Kellogg, Will K. (See Johnson, Harry L., assignor.)
Kelly, John T., Brooklyn, N. Y., assignor of one-half to G. M. Jones, Pittsburg, Pa. Pipe-union. No. 974,975; Nov. 8; Sp. p. 2055; Gaz. vol. 160; p. 335.
Kelly, Robert M., Longview, Tex. Plow. No. 974,675; Nov. 1; Sp. p. 1352; Gaz. vol. 160; p. 210.
Kelly, Robert M., Longview, Tex. Plow. No. 974,676; Nov. 1; Sp. p. 1354; Gaz. vol. 160; p. 210.
Kelly, Samuel J., White Plains, N. Y. Coin-operated drop-box. No. 976,884; Nov. 29; Sp. p. 6172; Gaz. vol. 160; p. 1063.
Kelly, William F. C., Kensington, London, and T. Bolas, Chiswick, England. Apparatus for developing photographic films. No. 976,810; Nov. 22; Sp. p. 5987; Gaz. vol. 160; p. 1011.
Kelsey, Mather B., and H. L. Monarch, Richmond, Ind. Post or pole forming device. No. 975,135; Nov. 8; Sp. p. 2398; Gaz. vol. 160; p. 389.
Kemball, Joseph C., Arden, Wash. Fumigator. No. 976,266; Nov. 22; Sp. p. 4845; Gaz. vol. 160; p. 827.
Kemble, Duston, Lakewood, Ohio. Turbine vane and wheel. No. 974,496; Nov. 1; Sp. p. 970; Gaz. vol. 160; p. 144.
Kemble, Duston, Lakewood, Ohio. Electric generator and motor. No. 974,497; Nov. 1; Sp. p. 972; Gaz. vol. 160; p. 144.
Kemmer, James E., *et al.* (See Crump, Robert B., assignor.)
Kemp, Clarence M. (See Van Horn, William H., assignor.)
Kemp, Clarence M., Baltimore, Md. Carbureting apparatus. No. 976,885; Nov. 29; Sp. p. 6174; Gaz. vol. 160; p. 1063.
Kemper, Arthur. (See Kemper, Robert E. and A.)
Kemper, Robert E. and A., Rensselaer, N. Y. Sheet-feeding machine. No. 975,252; Nov. 8; Sp. p. 2658; Gaz. vol. 160; p. 429.
Kendrick, Ada C., Williamsburg, Kans. Desk attachment. No. 974,394; Nov. 1; Sp. p. 706; Gaz. vol. 160; p. 107.
Kendrick and Hill Manufacturing Company, The. (See Hill, Alfred, assignor.)
Kener, Edward, Jr., assignor to Buffalo Co-operative Stove Company, Buffalo, N. Y. Stove. No. 974,280; Nov. 1; Sp. p. 452; Gaz. vol. 160; p. 67.
Kennard, John H., *et al.* (See Greene, Howard, assignor.)
Kennedy, David S., Brooklyn, N. Y., assignor to Mergenthaler Linotype Company, Line-casting machine. No. 975,433; Nov. 15; Sp. p. 3030; Gaz. vol. 160; p. 517.
Kennedy, David S., Brooklyn, N. Y., assignor to Mergenthaler Linotype Company, Line-casting machine. No. 975,434; Nov. 15; Sp. p. 3031; Gaz. vol. 160; p. 517.
Kennedy, William Q., Paterson, N. J. Vehicle-wheel. No. 977,195; Nov. 29; Sp. p. 6901; Gaz. vol. 160; p. 1172.
Kephart, James, Webster City, Iowa. Hot-water heater and circulator. No. 974,890; Nov. 8; Sp. p. 1832; Gaz. vol. 160; p. 305.
Kerbaugh, Arthur L., Allentown, Pa. Globe-valve. No. 974,498; Nov. 1; Sp. p. 974; Gaz. vol. 160; p. 144.
Ketcham, Asa C. (See Overton and Ketcham.)
Kettering, Charles F., assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio. Store-service credit-system apparatus. No. 975,533; Nov. 15; Sp. p. 3254; Gaz. vol. 160; p. 553.
Kettering, Charles F., assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio. Driving device for registering machines. No. 976,577; Nov. 22; Sp. p. 5521; Gaz. vol. 160; p. 933.
Keuffel & Esser Company, The. (See Ferber, Philip, assignor.)
Keuffel & Esser Company, The. (See Suleder, Jacob, assignor.)
Keystone Watch Case Company, The. (See Ebelhare, William H., assignor.)
Keystone Watch Case Company, The. (See Mehl, Walter B., assignor.)
Kidder, George C., Salt Lake City, Utah. Ore concentrator or separator. No. 974,395; Nov. 1; Sp. p. 707; Gaz. vol. 160; p. 107.
Kiely, James J., Chicago, Ill. Air-compressor. No. 975,136; Nov. 8; Sp. p. 2400; Gaz. vol. 160; p. 389.
Kiendl, Robert J. (See Hengerer and Kiendl.)
Kieser, Frederick J., assignor to Kieser-Richter Company, Chicago, Ill. Tobacco-pipe. No. 975,363; Nov. 8; Sp. p. 2880; Gaz. vol. 160; p. 465.
Kieser-Richter Company. (See Kieser, Frederick J., assignor.)
Kieserling, Richard, Sr., Cincinnati, Ohio. Tube-bending machine. No. 977,196; Nov. 29; Sp. p. 6902; Gaz. vol. 160; p. 1172.
Kiester, James L. (See Yoho, O'Neil, and Keister.)
Kilduff, James, *et al.* (See Meyer, Eugene, assignor.)
Killgore, Eugene P., Berkeley, and R. W. Bosworth, Oakland, Cal. Gas-burner. No. 975,253; Nov. 8; Sp. p. 2661; Gaz. vol. 160; p. 430.
Kilmarnock Textile Manufacturing Co. (See Fetterly, Charles L., assignor.)
Kimball, Robert E., assignor of one-third to L. H. Webb and one-third to E. L. Thurston, Cleveland, Ohio. Grain-decorticating machine. No. 977,197; Nov. 29; Sp. p. 6904; Gaz. vol. 160; p. 1173.
Kimmel, Samuel L., assignor of one-half to J. Fett, Bluffton, Ohio. Loss-preventing device. No. 974,499; Nov. 1; Sp. p. 975; Gaz. vol. 160; p. 145.
Kindermans, Gustave, Vilvorde, Belgium. Bicycle-chain-adjusting means. No. 974,573; Nov. 1; Sp. p. 1146; Gaz. vol. 160; p. 173.
Kinealy, John H., Ferguson, Mo. Air-purifying apparatus. No. 976,081; Nov. 15; Sp. p. 4348; Gaz. vol. 160; p. 738.
King, John F., and J. Neary, Kalamazoo, Mich. Suction-roll for paper-making machines. No. 976,185; Nov. 22; Sp. p. 4627; Gaz. vol. 160; p. 796.
King, Phineas F., assignor to The Lannert-King Company, Cleveland, Ohio. Cotton-seed delinter. No. 974,574; Nov. 1; Sp. p. 1147; Gaz. vol. 160; p. 173.
King, Robert O., Buffalo, N. Y. Method and apparatus for wrecking bodies sunk in water. No. 975,534; Nov. 15; Sp. p. 3259; Gaz. vol. 160; p. 553.
King, Roscoe W., Las Animas, Colo. Thermo-electrostat. No. 974,157; Nov. 1; Sp. p. 100; Gaz. vol. 160; p. 20.
King, Victor L. (See Baker, King, and Parker.)
King, William C., Campbell, assignor of one-half to T. A. Crow and one-half to L. A. Crow, San Jose, Cal. Disk harrow. No. 977,099; Nov. 29; Sp. p. 6681; Gaz. vol. 160; p. 1137.
Kingsland, Allan B., Burlington, Vt. Oven-shelf. No. 977,408; Nov. 29; Sp. p. 7356; Gaz. vol. 160; p. 1244.
Kingsley, Earl J., J. Greene, and W. G. Sadleir, Salt Lake City, Utah. Police signal device. No. 976,578; Nov. 22; Sp. p. 5529; Gaz. vol. 160; p. 933.
Kingsley, Earl W., Los Angeles, Cal. Automobile wind-screen. No. 976,373; Nov. 22; Sp. p. 5070; Gaz. vol. 160; p. 861.
Kingston, Bera J., and J. H. Lane, assignors of one-third to L. Northrup, Jackson, Mich. Metallic casing for pneumatic tires. No. 975,693; Nov. 15; Sp. p. 3597; Gaz. vol. 160; p. 606.
Kinne, A. A. (See Walsh, Harry C. H., assignor.)
Kinne, J. Smylie, *et al.* (See Knox, Charles P., assignor.)
Kinnear and Geger Manufacturing Company, The. (See Bierman, Albert D., assignor.)
Kinney, John T., *et al.* (See Young, Lucious W., assignor.)
Kinney, Thomas E., Waverly, Ohio. Automatic warning whistle. No. 977,017; Nov. 29; Sp. p. 6507; Gaz. vol. 160; p. 1110.
Kinney, William J., *et al.* (See Young, Lucious W., assignor.)
Kinsman Block System Company, The. (See Cozzens Estwick, and Tiffany, assignors.)
Kintner, Charles J., New York, N. Y. Spacing device for use with turned-down collars. No. 977,100; Nov. 29; Sp. p. 6683; Gaz. vol. 160; p. 1137.
Kinzel, John E. (See Crowe and Kinzel.)
Kirk, Claud C., Newcastle, Ind. Dolly-bar. No. 974,677; Nov. 1; Sp. p. 1356; Gaz. vol. 160; p. 211.
Kirk, Hezekiah, Yorkville, W. Va. Tool-dropping apparatus for drills. No. 977,409; Nov. 29; Sp. p. 7357; Gaz. vol. 160; p. 1244.
Kirkland, Milton H. (See Doty and Kirkland.)
Kiser, Daniel, Richmond, Ind. Spring-wheel. No. 976,660; Nov. 22; Sp. p. 5689; Gaz. vol. 160; p. 962.
Kisner, Thomas J. (See Quareles, Belle, assignor.)
Kjöller, Anders P., South Hadley, Mass. Seating arrangement for steam and other valves. No. 975,046; Nov. 8; Sp. p. 2201; Gaz. vol. 160; p. 358.
Klauder, Rudolph H., Philadelphia, Pa. Hose-supporter. No. 975,364; Nov. 8; Sp. p. 2884; Gaz. vol. 160; p. 466

Klein, Daniel, and D. Brown, Spokane, Wash. Teat-cup. No. 975,047; Nov. 8; Sp. p. 2202; Gaz. vol. 160; p. 358.
Klein, Hermann, assignor of one-third to W. Reiter, New York, N. Y. Radiator for automobiles. No. 975,872; Nov. 15; Sp. p. 3954; Gaz. vol. 160; p. 666.
Klein, Morris, Oakland, Cal. Horseshoe. No. 976,579; Nov. 22; Sp. p. 5530; Gaz. vol. 160; p. 934.
Klein, Simon H., Meridian, Miss. Display-cover for barrels. No. 977,315; Nov. 29; Sp. p. 7120; Gaz. vol. 160; p. 1211.
Kleinberger, John, Brooklyn, and R. Stern, assignors to American Marine Lamp Mfg. Co., New York, N. Y. Fog-horn. No. 975,960; Nov. 15; Sp. p. 4127; Gaz. vol. 160; p. 697.
Kleinhans, Lindley, New York, N. Y. Change maker and indicator. No. 976,129; Nov. 15; Sp. p. 4462; Gaz. vol. 160; p. 755.
Kline, Samuel H., Earling, Iowa. Wireless check-row planter. No. 975,365; Nov. 8; Sp. p. 2885; Gaz. vol. 160; p. 466.
Klint, Anton H., assignor of one-half to S. Bishop, San Francisco, Cal. Life-preserver. No. 974,158; Nov. 1; Sp. p. 103; Gaz. vol. 160; p. 20.
Kloss, Ernst L., Minisink Ford, N. Y. Field-stone collector. No. 976,811; Nov. 22; Sp. p. 5090; Gaz. vol. 160; p. 1012.
Knapp, William F., Denver, Colo. Mail-pouch-exchanging apparatus. No. 976,374; Nov. 22; Sp. p. 5072; Gaz. vol. 160; p. 862.
Knasinski, Joseph A., assignor of one-half to A. W. Koehn, Oshkosh, Wis. Sash-fastener. No. 975,961; Nov. 15; Sp. p. 4128; Gaz. vol. 160; p. 698.
Knaster, Leon, Hoboken, N. J. Safety-razor. No. 975,535; Nov. 15; Sp. p. 3263; Gaz. vol. 160; p. 554.
Knickerbocker, Burton D., Chicago, Ill. Hose connection for faucets. No. 975,873; Nov. 15; Sp. p. 3955; Gaz. vol. 160; p. 666.
Knight, Arthur F., Schenectady, N. Y. Golf-club. No. 976,267; Nov. 22; Sp. p. 4846; Gaz. vol. 160; p. 827.
Knight, Frank, New Haven, Conn. Automobile-tool. No. 975,694; Nov. 15; Sp. p. 3598; Gaz. vol. 160; p. 606.
Knobel, Fred, and E. F. Asay, Odessa, Nebr. Rail-chair. No. 975,536; Nov. 15; Sp. p. 3264; Gaz. vol. 160; p. 554.
Knodle, Arthur, Leaf River, Ill. Woven-wire-fencing grip. No. 974,150; Nov. 1; Sp. p. 104; Gaz. vol. 160; p. 21.
Knoerl, John, assignor of one-half to E. E. Walker, Covington, Ky. Means for securing glass panes in position. No. 974,575; Nov. 1; Sp. p. 1151; Gaz. vol. 160; p. 174.
Knox, Charles P., Paterson, N. J., assignor of two-thirds to T. Malcolm and J. S. Kinne. Railway-switch lock. No. 976,082; Nov. 15; Sp. p. 4350; Gaz. vol. 160; p. 739.
Knox, Nelson F., Brooklyn, assignor to The Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine. No. 975,770; Nov. 15; Sp. p. 3748; Gaz. vol. 160; p. 632.
Knox, Samuel L. G., Milwaukee, Wis. Turn-table mechanism for railway pile-drivers and the like. No. 975,048; Nov. 8; Sp. p. 2204; Gaz. vol. 160; p. 359.
Knudsen, Edward J. (See Knudsen, Henry C. and E. J.)
Knudsen, Henry C. and E. J., Cleveland, Ohio. Skatejig. No. 976,186; Nov. 22; Sp. p. 4629; Gaz. vol. 160; p. 797.
Knuppen, Peter, Milwaukee, Wis. Spring-cushion. No. 975,695; Nov. 15; Sp. p. 3599; Gaz. vol. 160; p. 607.
Knutter, Charles C., Henryetta, Okla. Store furniture. No. 975,049; Nov. 8; Sp. p. 2205; Gaz. vol. 160; p. 359.
Koehler, John F., West Hammond, Ill. Mouth-speculum. No. 976,812; Nov. 22; Sp. p. 5092; Gaz. vol. 160; p. 1012.
Koehn, August W. (See Knasinski, Joseph A., assignor.)
Koerber, Charles H., Ionia, Mich. Time-recorder. No. 976,375; Nov. 22; Sp. p. 5079; Gaz. vol. 160; p. 862.
Koessler, Harry B. (See Donnelly, Koessler, and Weinzierl.)
Kohler, Alice A., Ashland, Ohio. Combined rake and hoe. No. 975,254; Nov. 8; Sp. p. 2662; Gaz. vol. 160; p. 430.
Kohlweyer, Henry R., Pittsburg, Pa. Cuff-button. No. 974,976; Nov. 8; Sp. p. 2057; Gaz. vol. 160; p. 335.
Kohn, Jacob, assignor to E. R. Fuchs, New York, N. Y. Door-securer. No. 977,316; Nov. 29; Sp. p. 7121; Gaz. vol. 160; p. 1212.
Kohout, Frederick, and R. C. Langley; said Kohout assignor to G. Langley, Dallas, Tex. Headlight. No. 976,468; Nov. 22; Sp. p. 5280; Gaz. vol. 160; p. 896.
Koontz, John H., Culver, Ind. Carbureter. No. 975,696; Nov. 15; Sp. p. 3600; Gaz. vol. 160; p. 607.
Kopietz, Julius, Detroit, Mich. Key-extractor. No. 977,018; Nov. 29; Sp. p. 6508; Gaz. vol. 160; p. 1110.
Kopp, John N., Leavenworth, Kans. Ice-saw. No. 976,661; Nov. 22; Sp. p. 5090; Gaz. vol. 160; p. 962.
Koppe, Earl W. (See Jones and Koppe.)
Kops Bros. (See Kops and Buchanan, assignors.)
Kops, Daniel, New York, N. Y. Apparel-corset. No. 975,771; Nov. 15; Sp. p. 3755; Gaz. vol. 160; p. 632.
Kops, Daniel, New York, N. Y. Apparel-corset. No. 975,772; Nov. 15; Sp. p. 3756; Gaz. vol. 160; p. 633.
Kops, Daniel, New York, N. Y., and J. J. Buchanan, Waterbury, Conn., assignors to Kops Bros., New York, N. Y. Clasp or buckle. No. 974,977; Nov. 8; Sp. p. 2059; Gaz. vol. 160; p. 336.
Korn, Herrmann E., and E. Kuhn, East Orange, N. J. Apparatus for preparing infusions. No. 975,874; Nov. 15; Sp. p. 3957; Gaz. vol. 160; p. 667.
Kotten, Herman G., Englewood, N. J., assignor to H. G. Kotten Company, New York, N. Y. Vacuum cleaning apparatus. No. 975,435; Nov. 15; Sp. p. 3034; Gaz. vol. 160; p. 518.
Koven, Theodore J., Jersey City, N. J. Exhaust-valve for internal-combustion engines. No. 975,255; Nov. 8; Sp. p. 2664; Gaz. vol. 160; p. 430.
Kraus, Charles A., Newton Highlands, Mass. Composition of vitreous matter. No. 974,801; Nov. 8; Sp. p. 1635; Gaz. vol. 160; p. 274.
Krause, Ernst H. H., Hamburg, assignor to Stettiner Chamotte-Fabrik Actien-Gesellschaft vormals Didier, Stettin, Germany. Apparatus for quenching incandescent materials. No. 976,580; Nov. 22; Sp. p. 5531; Gaz. vol. 160; p. 934.
Krebs, Arthur C., assignor to Societe Anonyme des Anciens Etablissements Panhard et Levassor, Paris, France. Device for coupling two transmission-shafts. No. 976,187; Nov. 22; Sp. p. 4631; Gaz. vol. 160; p. 797.
Kreis, Oscar C., Jr., assignor to Gray Motor Company, Detroit, Mich. Carbureter. No. 976,813; Nov. 22; Sp. p. 5093; Gaz. vol. 160; p. 1013.
Kreis, Robert W., Jennings, Mo. Double-acting self-feeding drill. No. 974,978; Nov. 8; Sp. p. 2060; Gaz. vol. 160; p. 336.
Kremer, Philip J., Somerton, Ohio. Folding frame for trucks. No. 974,678; Nov. 1; Sp. p. 1357; Gaz. vol. 160; p. 211.
Kremer, Philip J., Somerton, Ohio. Casket-truck. No. 974,679; Nov. 1; Sp. p. 1359; Gaz. vol. 160; p. 212.
Kress, Edward J., assignor to W. M. Leatherman, Pittsburg, Pa. Lightning-rod. No. 974,396; Nov. 1; Sp. p. 711; Gaz. vol. 160; p. 108.
Kreuskamp, August J., assignor to The Englander Spring Bed Company, New York, N. Y. Side guard for spring-mattresses. No. 976,409; Nov. 22; Sp. p. 5281; Gaz. vol. 160; p. 896.
Krnka, Karl, Hirtenberg, Austria-Hungary. Automatic firearm. No. 975,256; Nov. 8; Sp. p. 2665; Gaz. vol. 160; p. 431.
Kroder, John, New York, N. Y. Curtain-pole carrier. No. 975,257; Nov. 8; Sp. p. 2666; Gaz. vol. 160; p. 431.
Krogh, Ferdinand W., San Francisco, Cal. Centrifugal pump. No. 977,101; Nov. 29; Sp. p. 6685; Gaz. vol. 160; p. 1138.
Kronenberg, Rudolf, Ohligs, Germany. Removable wheel-rim for pneumatic tires. No. 975,137; Nov. 8; Sp. p. 2402; Gaz. vol. 160; p. 390.
Krug, Louis. (See Weis and Krug.)
Krug, Phillip, Russell, Kans. Plow. No. 976,188; Nov. 22; Sp. p. 4631; Gaz. vol. 160; p. 797.
Kruse, Alfred T., deceased; A. M. Kruse and C. M. Willock, executors, assignors to The American Steel Package Co., Defiance, Ohio. Packing-case. No. 975,962; Nov. 15; Sp. p. 4129; Gaz. vol. 160; p. 698.
Kruse, August M., *et al.*, executors. (See Kruse, Alfred T.)
Kuba, Frank, Brooklyn, N. Y. Lock. No. 977,102; Nov. 29; Sp. p. 6687; Gaz. vol. 160; p. 1138.
Kubert, Andrew. (See Lux, William N., assignor.)
Kubes, John, Broadview, Mont. Trap. No. 975,537; Nov. 15; Sp. p. 3266; Gaz. vol. 160; p. 554.
Kudlich, Alfred H., Lynn, Mass., assignor to General Electric Company. Turbine-bucket. No. 974,160; Nov. 1; Sp. p. 105; Gaz. vol. 160; p. 21.
Kugler, Henry M., and W. T. Clark, Buffalo, N. Y. Automobile clutch and brake controlling mechanism. No. 974,281; Nov. 1; Sp. p. 454; Gaz. vol. 160; p. 67.
Kuhle, Richard, Berlin, Germany. Comb-shears. No. 976,581; Nov. 22; Sp. p. 5532; Gaz. vol. 160; p. 934.
Kuhn, Edmond. (See Korn and Kuhn.)
Kuhnert, Walter A., San Francisco, Cal. Support for ironing-boards and similar devices. No. 976,662; Nov. 22; Sp. p. 5091; Gaz. vol. 160; p. 962.
Kundtz, Theodor. (See Cogger, William B., assignor.)
Kundtz, Theodor, Lakewood, and A. Schuster, Cleveland, Ohio; said Schuster assignor to said Kundtz. Sewing-machine table. No. 975,050; Nov. 8; Sp. p. 2208; Gaz. vol. 160; p. 360.
Kunkel, Albert R., Palestine, Tex. Apparatus for burning crude oil. No. 976,268; Nov. 22; Sp. p. 4848; Gaz. vol. 160; p. 827.
Kunkel, Fred R., Edgewood Park, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa. Vibratory massage apparatus. No. 975,436; Nov. 15; Sp. p. 3036; Gaz. vol. 160; p. 518.
Kunkel, Fred R., Edgewood Park, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa. Vibratory massage apparatus. No. 975,437; Nov. 15; Sp. p. 3037; Gaz. vol. 160; p. 519.
Kunz, Charles A. (See Kunz, George and C. A.)
Kunz, George and C. A., Dubuque, Iowa. Brake. No. 976,083; Nov. 15; Sp. p. 4351; Gaz. vol. 160; p. 739.
Kurowski, Alfred G. F., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 977,019; Nov. 29; Sp. p. 6510; Gaz. vol. 160; p. 1110.
Kurtz, William E., Oakland, Cal. Pneumatic-cushion furniture. No. 975,258; Nov. 8; Sp. p. 2668; Gaz. vol. 160; p. 431.
Kusebauch, Anton, Pittsburg, Pa., assignor, by mesne assignments, to Nernst Lamp Company. Cooling-vane for second-class glower-lamps. No. 977,198; Nov. 29; Sp. p. 6908; Gaz. vol. 160; p. 1173.
Kutsch, Louis W., Chicago, Ill. Electric plug and socket. No. 975,875; Nov. 15; Sp. p. 3958; Gaz. vol. 160; p. 667.

Kyler, William, Houston, Tex. Clamping device for shutters. No. 975,538; Nov. 15; Sp. p. 3268; Gaz. vol. 160; p. 555.
L. H. Miller Acetylene Gas Machine Company. (See Miller, Louis H., assignor.)
L'Enfant, Charles, New York, N. Y. Cigar-case. No. 976,190; Nov. 22; Sp. p. 4637; Gaz. vol. 160; p. 798.
La Brum, Theodore, San Diego, Cal. Wave-motor. No. 974,282; Nov. 1; Sp. p. 461; Gaz. vol. 160; p. 67.
La Chance, August, Ste. Genevieve, Mo. Carrot tobacco-mold. No. 976,886; Nov. 29; Sp. p. 6180; Gaz. vol. 160; p. 1064.
La Palme, John, Central Falls, R. I. Loom-shuttle. No. 975,051; Nov. 8; Sp. p. 2216; Gaz. vol. 160; p. 360.
Laas, Edward. (See Whitty and Laas.)
Lachman, Laurence S. (See Lachman, Maurice and L. S.)
Lachman, Laurence S., assignor to Universal Electric Welding Company, New York, N. Y. Fence. (Reissue.) No. 13,176; Nov. 29; Sp. p. 7396; Gaz. vol. 160; p. 1249.
Lachman, Maurice and L. S., New York, N. Y., assignors to Universal Electric Welding Co. Making metallic fabric. No. 974,891; Nov. 8; Sp. p. 1833; Gaz. vol. 160; p. 305.
Lachman, Maurice and L. S., New York, N. Y., assignors to Universal Electric Welding Co. Making metallic fabric. No. 974,892; Nov. 8; Sp. p. 1835; Gaz. vol. 160; p. 306.
Lacy, Howard, Carshalton, England. Floating mine and the like. No. 976,876; Nov. 22; Sp. p. 5081; Gaz. vol. 160; p. 863.
Ladd, Edward T., Denver, Colo. Machine-wrench. No. 977,103; Nov. 29; Sp. p. 6689; Gaz. vol. 160; p. 1139.
Ladd, Sherman W., Beverly, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Gage. No. 976,269; Nov. 22; Sp. p. 4849; Gaz. vol. 160; p. 827.
Ladley, Charles W., Ingram, Pa. Nipple-cover. No. 976,887; Nov. 29; Sp. p. 6181; Gaz. vol. 160; p. 1064.
Lafleur, Eugene, Montclair, N. J. Match-stand and ash-receiver. No. 975,438; Nov. 15; Sp. p. 3039; Gaz. vol. 160; p. 519.
Lagonda Manufacturing Company, The. (See Bobinett and Reid, assignors.)
Lagonda Manufacturing Company, The. (See Weinland, Henry F., assignor.)
Lahey, Lonnie A. (See Jensen and Lahey.)
Lahmers, Charles E., New Philadelphia, Ohio. Automatic cut-off for gas-mains. No. 975,259; Nov. 8; Sp. p. 2670; Gaz. vol. 160; p. 431.
Lakosky, Charles, Cooks Mills, Mich. Rail-joint. No. 977,020; Nov. 29; Sp. p. 6511; Gaz. vol. 160; p. 1110.
Lamb, Willie E., Green Forest, Ark. Beam and trace connection. No. 974,979; Nov. 8; Sp. p. 2062; Gaz. vol. 160; p. 336.
Lamberton, Robert L., Sistersville, W. Va. Hoisting device. No. 975,876; Nov. 15; Sp. p. 3959; Gaz. vol. 160; p. 667.
Lamont, John A., St. Louis, Mo., assignor to American Steel Foundries, Chicago, Ill. Brake-beam. No. 974,283; Nov. 1; Sp. p. 463; Gaz. vol. 160; p. 68.
Lamp, Joseph A., and S. C. Stiner, McKeesport, Pa. Drying-roll. No. 977,410; Nov. 29; Sp. p. 7358; Gaz. vol. 160; p. 1245.
Lamplough, Frederick, London, England. Resilient tire. No. 975,539; Nov. 15; Sp. p. 3269; Gaz. vol. 160; p. 555.
Lamson Consolidated Store Service Company. (See Cowley, James T., assignor.)
Lamson Consolidated Store Service Company. (See Dunbar, Howard R., assignor.)
Lamson Consolidated Store Service Company. (See Maclaren, James G., assignor.)
Lancaster, Louella, Quincy, Ky. Hose-coupling. No. 975,135; Nov. 8; Sp. p. 2404; Gaz. vol. 160; p. 390.
Lance, George. (See Lance, Flowers, and Lance.)
Lance, Joseph, J. C. Flowers, and G. Lance, St. Joseph, Mo. Machine for skinning and splitting cattle and scribing hogs. No. 977,317; Nov. 29; Sp. p. 7123; Gaz. vol. 160; p. 1212.
Land, Martin R., Norfolk, Va. Printing-press. No. 975,963; Nov. 15; Sp. p. 4131; Gaz. vol. 160; p. 698.
Landes, Joseph C., Collegeville, Pa. Automatic gas-controller. No. 974,980; Nov. 8; Sp. p. 2063; Gaz. vol. 160; p. 336.
Landholm, Victor, Westpoint, Nebr. Road-grader. No. 974,397; Nov. 1; Sp. p. 712; Gaz. vol. 160; p. 108.
Landis, Gilbert C., Wadsworth, and J. H. Smith, Rittman, assignors to Ohio Salt Company, Wadsworth, Ohio. Electrolytic cell. No. 974,576; Nov. 1; Sp. p. 1152; Gaz. vol. 160; p. 174.
Landis Machine Company. (See Pedersen, Christian, assignor.)
Lane, George, Poughkeepsie, N. Y., assignor to Lane Motor Vehicle Company. Water-level regulator and indicator. No. 976,741; Nov. 22; Sp. p. 5830; Gaz. vol. 160; p. 987.
Lane, John H. (See Kingston and Lane.)
Lane Motor Vehicle Company. (See Lane, George, assignor.)
Laney, Geo. K., *et al.* (See Douglass, Archibald A., Jr., and D. F., assignors.)
Laney, Roachel B., *et al.* (See Douglass, Archibald A., Jr., and D. F., assignors.)
Laney, Robt. K., *et al.* (See Douglass, Archibald A., Jr., and D. F., assignors.)
Lang-Cobb Manufacturing Company. (See Cobb, Elmer M., assignor.)
Lang, John B. (See Spore and Lang.)
Lange, Richard, Glashütte, Germany. Hair-spring collet for timepieces. No. 975,697; Nov. 15; Sp. p. 3602; Gaz. vol. 160; p. 607.
Langley, George. (See Kohout and Langley, assignors.)
Langley, Robert C. (See Kohout and Langley.)
Lannert-King Company, The. (See King, Phineas F., assignor.)
Lanning, Charles D., Boston, Mass. Warp stop mechanism for looms. No. 976,377; Nov. 22; Sp. p. 5083; Gaz. vol. 160; p. 863.
Lanning, Charles D., Boston, Mass. Stop-motion for looms. No. 976,378; Nov. 22; Sp. p. 5087; Gaz. vol. 160; p. 863.
Lanning, Howard H. (See Jacobs and Lanning.)
Lanning, James K., Dorchester, Mass. Warp stop mechanism. No. 976,379; Nov. 22; Sp. p. 5090; Gaz. vol. 160; p. 864.
Lansing Wheelbarrow Company. (See Verplanck, Holly M., assignor.)
Larkin, William J., assignor to Waterbury Clock Co., Waterbury, Conn. Alarm-clock. No. 977,199; Nov. 29; Sp. p. 6910; Gaz. vol. 160; p. 1174.
Larsen, Axel, Perth Amboy, N. J. Hat-pin. No. 974,577; Nov. 1; Sp. p. 1153; Gaz. vol. 160; p. 174.
Larsen, Gustav G., Stacyville, Iowa. Cable-hanger. No. 976,470; Nov. 22; Sp. p. 5283; Gaz. vol. 160; p. 897.
Larson, Lars A., Weir, Kans. Excavating apparatus. No. 976,663; Nov. 22; Sp. p. 5092; Gaz. vol. 160; p. 963.
Larsson, Thure, Worcester, Mass., assignor to himself, W. E. D. Stokes, New York, N. Y., and F. A. Jones, Worcester, Mass. Plunger-elevator system. No. 975,540; Nov. 15; Sp. p. 3270; Gaz. vol. 160; p. 555.
Lasché, Alfred J. M., Milwaukee, Wis. Mashing process. No. 977,200; Nov. 29; Sp. p. 6911; Gaz. vol. 160; p. 1174.
Lathrop, Frank K., assignor to The Ohio Rake Company, Dayton, Ohio. Side-delivery hay-rake. No. 974,803; Nov. 8; Sp. p. 1837; Gaz. vol. 160; p. 306.
Lathrop, Frank L., assignor to H. L. Judd Company, Wallingford, Conn. Curtain-rod connection. No. 974,398; Nov. 1; Sp. p. 716; Gaz. vol. 160; p. 108.
Latta, Emmit G., *et al.* (See Kavle, Oscar C., assignor.)
Latta, Emmit G., and M. E. Herrmann, assignors to said Latta and H. A. Moyer, Syracuse, N. Y. Type-bar bearing for type-writing machines. No. 977,201; Nov. 29; Sp. p. 6913; Gaz. vol. 160; p. 1174.
Laub, George M. (See Pignone, Emauel, assignor.)
Laubenstein, Albert R., Ashland, Pa. Conveyer-link. No. 976,664; Nov. 22; Sp. p. 5694; Gaz. vol. 160; p. 963.
Laughlin, Henry D. (See Huntoon, Charles F., assignor.)
Laughton, George W., Weehawken, N. J. Mold for baffle-wall construction for boilers. No. 974,894; Nov. 8; Sp. p. 1839; Gaz. vol. 160; p. 306.
Laut, George. (See Miller, George B., assignor.)
Law, James D., Philadelphia, Pa. Clock. No. 975,877; Nov. 15; Sp. p. 3961; Gaz. vol. 160; p. 668.
Lawler, James J., Pelham Heights, N. Y. Radiator. No. 977,202; Nov. 29; Sp. p. 6916; Gaz. vol. 160; p. 1175.
Lawrence, George F., assignor of three-fifths to J. Chapman, London, England. Knife-polishing machine. No. 976,189; Nov. 22; Sp. p. 4633; Gaz. vol. 160; p. 798.
Lawrence, Theodore M., assignor of forty-nine one-hundredths to G. H. McDannel, Seattle, Wash. Artificial limb. No. 975,439; Nov. 15; Sp. p. 3040; Gaz. vol. 160; p. 519.
Lawrie, Alexander, Pumpville, Tex. Felly-joint bridge. No. 974,399; Nov. 1; Sp. p. 717; Gaz. vol. 160; p. 109.
Lawson, William C., Roanoke, Va. Aerial tramway. No. 974,284; Nov. 1; Sp. p. 465; Gaz. vol. 160; p. 68.
Le Manquais, Ernest R., Bellemead, N. J. Universal cut-out and switch-block holder. No. 974,681; Nov. 1; Sp. p. 1364; Gaz. vol. 160; p. 212.
Leader Iron Works. (See Shorb and Rodgers, assignors.)
Leaf, Letitia, Findlay, Ohio. Metallic rail-fastener. No. 975,878; Nov. 15; Sp. p. 3969; Gaz. vol. 160; p. 668.
Leapley, Edward E., *et al.* (See Sloderbeck, Martin C., assignor.)
Leask, Henry N., Egremont, England. Means for charging refuse-destructors. No. 974,680; Nov. 1; Sp. p. 1362; Gaz. vol. 160; p. 212.
Leatherman, Alpha H., Moundridge, Kans. Corn-planter. No. 977,021; Nov. 29; Sp. p. 6512; Gaz. vol. 160; p. 1111.
Leatherman, William M. (See Kress, Edward J., assignor.)
Lebrell, François, Villeurbanne, and R. Desgeorge, Lyon, France. Aeroplane. No. 976,582; Nov. 22; Sp. p. 5533; Gaz. vol. 160; p. 935.
Leckenby, James T., Hamilton, Ontario, Canada. Machine for trimming box-corners. No. 976,471; Nov. 22; Sp. p. 5284; Gaz. vol. 160; p. 897.
Leder, Louis. (See McCanlis, Albert T., assignor.)
Leder, Paul H. A., assignor of one-fourth to A. M. Hanline and one-fourth to E. E. Quandt, Baltimore, Md. Cellulose or pyroxylin compound. No. 974,285; Nov. 1; Sp. p. 467; Gaz. vol. 160; p. 68.
Lederer, John L., Buffalo, N. Y. Supporting device. No. 976,472; Nov. 22; Sp. p. 5289; Gaz. vol. 160; p. 897.
Ledoux, John W., Swarthmore, Pa. Apparatus for impregnating liquids with coagulants. No. 976,665; Nov. 22; Sp. p. 5695; Gaz. vol. 160; p. 963.
Lee, Charles, Butte, Mont. Closure for cans and like receptacles. No. 975,964; Nov. 15; Sp. p. 4133; Gaz. vol. 160; p. 699.

Lee, Eugene, San Francisco, Cal. Bowling-alley. No. 974,400; Nov. 1; Sp. p. 718; Gaz. vol. 160; p. 109.
Lee, Lulu S., Los Angeles, Cal. Combination-garment. No. 974,981; Nov. 8; Sp. p. 2065; Gaz. vol. 160; p. 337.
Lee, William A., Peoria, Ill. System of irrigation. No. 976,473; Nov. 22; Sp. p. 5291; Gaz. vol. 160; p. 898.
Lee, William H., V. T. Spovet, and M. H. Palmer, Wyalusing, Pa. Horseshoe-calking machine. No. 975,366; Nov. 8; Sp. p. 2888; Gaz. vol. 160; p. 467.
Lee, William R., Rochester, N. Y. Arch-support. No. 976,888; Nov. 29; Sp. p. 6182; Gaz. vol. 160; p. 1064.
Leeds, Edward F., New York, N. Y. Phonautographic record and duplicating the same. No. 974,895; Nov. 8; Sp. p. 1841; Gaz. vol. 160; p. 307.
Leefson, Maurits, Philadelphia, Pa. Device for opening and holding the mouths of fish, &c. No. 974,500; Nov. 1; Sp. p. 977; Gaz. vol. 160; p. 145.
Lefever Arms Company. (See Green, Charles, assignor.)
Legel, Willy, Berlin, Germany, assignor to General Electric Company. Electric-arc lamp. No. 977,022; Nov. 29; Sp. p. 6515; Gaz. vol. 160; p. 1111.
Lehman, Harry B., Columbus, Ohio. Device for testing electrical apparatus. No. 975,879; Nov. 15; Sp. p. 3970; Gaz. vol. 160; p. 669.
Lehmann, Ernst P. (See Winzer, Charles B., assignor.)
Leibe, William R., and A. P. Bonnaffons, New Orleans, La. Bin. No. 977,318; Nov. 29; Sp. p. 7124; Gaz. vol. 160; p. 1212.
Leibhart, Andreas. (See Ashton, Pullon, assignor.)
Leich, Oscar M., assignor to Cracraft-Leich Electric Company, Genoa, Ill. Selective signaling system. No. 976,380; Nov. 22; Sp. p. 5092; Gaz. vol. 160; p. 864.
Leighton, Richard B. H., and V. W. Zilen, Chattanooga, Tenn. Car-coupling. No. 976,583; Nov. 22; Sp. p. 5534; Gaz. vol. 160; p. 935.
Leindecker, Charles. (See Matheus and Leindecker.)
Leist, William, Norwood, assignor to G. H. Jantz, Wyoming, Ohio. Mangle. No. 975,260; Nov. 8; Sp. p. 2672; Gaz. vol. 160; p. 432.
Leitch, Meredith, Springfield, Mass., assignor to The American Thread Company. Spool. No. 976,381; Nov. 22; Sp. p. 5097; Gaz. vol. 160; p. 865.
Leitch, Meredith, Springfield, Mass., assignor to The American Thread Company. Spool. No. 976,382; Nov. 22; Sp. p. 5099; Gaz. vol. 160; p. 865.
Leitch, Meredith, Springfield, Mass., assignor to The American Thread Company, New York, N. Y. Winding apparatus. No. 977,104; Nov. 29; Sp. p. 6691; Gaz. vol. 160; p. 1139.
Leland & Co., W. H. (See Burns, James J., assignor.)
Leland, John A., Montague, assignor to Millers Falls Company, Millers Falls, Mass. Chuck. No. 974,896; Nov. 8; Sp. p. 1847; Gaz. vol. 160; p. 307.
Lemétais, Julien A., Paris, France. Valve-cock. No. 975,440; Nov. 15; Sp. p. 3042; Gaz. vol. 160; p. 520.
Lemke, August, Detroit, Mich. Skid. No. 976,889; Nov. 29; Sp. p. 6183; Gaz. vol. 160; p. 1065.
Lemp, Hermann, Lynn, Mass., assignor to General Electric Company. Heating system. No. 974,161; Nov. 1; Sp. p. 107; Gaz. vol. 160; p. 21.
Lennon, William, Manitou, Colo. Connecting-coupling for extensible conveyers and receptacles. No. 977,023; Nov. 29; Sp. p. 6516; Gaz. vol. 160; p. 1112.
Lent, Alvah F., assignor to C. F. Paulus, Newark, N. J. Cap-exploding device. No. 976,814; Nov. 22; Sp. p. 5996; Gaz. vol. 160; p. 1013.
Leonard, Wilbur A., assignor of one-half to H. E. Adt, New Haven, Conn. Die-grinder. No. 976,270; Nov. 22; Sp. p. 4853; Gaz. vol. 160; p. 828.
Leonard, William H., assignor to The Denver Rock Drill & Machinery Company, Denver, Colo. Quick coupling. No. 974,501; Nov. 1; Sp. p. 979; Gaz. vol. 160; p. 145.
Leschen, Henry, St. Louis, Mo. Wire rope. No. 976,541; Nov. 15; Sp. p. 3273; Gaz. vol. 160; p. 556.
Leschinski, Fritz, Philadelphia, Pa. Advertising device. No. 976,271; Nov. 22; Sp. p. 4855; Gaz. vol. 160; p. 828.
Lester, Jerry, Alanson, Mich., and H. W. Humphrey, South Bend, Ind. Hinge. No. 974,682; Nov. 1; Sp. p. 1365; Gaz. vol. 160; p. 213.
Letherbury, William Y., Hagerstown, Md. Coffee and tea pot. No. 975,542; Nov. 15; Sp. p. 3275; Gaz. vol. 160; p. 556.
Levalley, Christopher W., Milwaukee, Wis. Shaft-hanger. No. 974,502; Nov. 1; Sp. p. 980; Gaz. vol. 160; p. 146.
Levalley, Christopher W., Milwaukee, Wis. Chain. No. 975,965; Nov. 15; Sp. p. 4134; Gaz. vol. 160; p. 699.
Leveen, Swan J., and E. A. Martin, Rock Island, Ill., assignors, by mesne assignments, to Trio Manufacturing Company. Safety-fuse. No. 975,261; Nov. 8; Sp. p. 2674; Gaz. vol. 160; p. 432.
Levey, Thomas J., Washington, D. C., assignor of one-fifth to J. B. Shearer, one-fifth to L. T. Hewitt, Baltimore county, one-fifth to J. McVeity, Baltimore, Md., and one-fifth to M. Nilsson, Peekskill, N. Y. Power-transmitting device. No. 974,402; Nov. 1; Sp. p. 721; Gaz. vol. 160; p. 110.
Levi, Harry F., Pittsburg, Pa. Lace-fastener. No. 975,139; Nov. 8; Sp. p. 2405; Gaz. vol. 160; p. 391.
Levin, David R., Chicago, Ill. Means for removing covers. No. 975,698; Nov. 15; Sp. p. 3603; Gaz. vol. 160; p. 607.
Levy, Firm of Henri. (See Berger, Ernst, assignor.)
Lewery, Leonard J. (See Hefter, Michel, assignor.)
Lewis, Benjamin F., assignor of one-third to J. G. Satter, Pittsburg, Pa. Penholder. No. 974,578; Nov. 1; Sp. p. 1154; Gaz. vol. 160; p. 175.
Lewis, Charles, assignor of one-half to H. Wegman, Auburn, N. Y. Tire-inflating pump. No. 975,774; Nov. 15; Sp. p. 3759; Gaz. vol. 160; p. 633.
Lewis, Douglas, Renton, Wash., assignor to The Ceramic Supply & Construction Company, Columbus, Ohio. Screen. No. 975,441; Nov. 15; Sp. p. 3042; Gaz. vol. 160; p. 520.
Lewis, John H., Mount Vernon, Wash. Wire-stretcher. No. 974,403; Nov. 1; Sp. p. 726; Gaz. vol. 160; p. 110.
Lewis, Melville O., Peoria, Ill. Device for handling flue-cleaners. No. 977,411; Nov. 29; Sp. p. 7360; Gaz. vol. 160; p. 1245.
Libert, Arthur. (See Roberts and Libert.)
Lichtenberg, Erich H., Chicago, Ill., assignor of one-half to H. B. Burr, Milwaukee, Wis. Anchor for guy-wires, &c. No. 975,543; Nov. 15; Sp. p. 3276; Gaz. vol. 160; p. 556.
Lichtenstein, Solomon K., trustee. (See Lispenard, George, assignor.)
Lidgerwood Manufacturing Company. (See Beekman, John V., assignor.)
Lightbody, Frank J., Watertown, assignor to Cambridge Novelty Company, Cambridge, Mass. Coin-holder. No. 976,191; Nov. 22; Sp. p. 4630; Gaz. vol. 160; p. 798.
Lilliehöök, Carl J. F. M., Stockholm, Sweden, assignor, by mesne assignments, to E. I. B. Craggs, Middlesbrough, England. Ship or vessel. No. 975,699; Nov. 15; Sp. p. 3604; Gaz. vol. 160; p. 608.
Lilliquist, Andrew, Syracuse, N. Y. Grinding-machine. No. 975,966; Nov. 15; Sp. p. 4137; Gaz. vol. 160; p. 699.
Lima Locomotive and Machine Company. (See Wall and Shepard, assignors.)
Lindahl, Ephrom. (See Oberg, William, assignor.)
Linder, Carwin, Converse, S. C. Combined planter and fertilizer-distributer. No. 976,383; Nov. 22; Sp. p. 5101; Gaz. vol. 160; p. 866.
Linderman, Bert A., Muskegon, Mich. Machine for dovetailing and joining lumber. No. 976,192; Nov. 22; Sp. p. 4640; Gaz. vol. 160; p. 799.
Lindestrom, Hjalmar, Chicago, Ill. Pressing-machine. No. 976,384; Nov. 22; Sp. p. 5103; Gaz. vol. 160; p. 866.
Lindley, Arthur G., assignor of one-half to T. F. MacGregor, Schenectady, N. Y. Vehicle-headlight-steering gear. No. 974,579; Nov. 1; Sp. p. 1156; Gaz. vol. 160; p. 175.
Lindquist, David L., Yonkers, N. Y., assignor to Otis Elevator Company, Jersey City, N. J. Alternating-current controlling apparatus for hydraulic elevators. No. 976,130; Nov. 15; Sp. p. 4479; Gaz. vol. 160; p. 755.
Lindsay, Robert, Dundee, Scotland. Variable-speed gearing. No. 975,442; Nov. 15; Sp. p. 3043; Gaz. vol. 160; p. 520.
Lindsey, William F., Sadler, Tex. Plow. No. 975,544; Nov. 15; Sp. p. 3280; Gaz. vol. 160; p. 556.
Lingo, Frank M., and E. J. Kaufman, Columbus, Ohio. Garment-supporter. No. 975,700; Nov. 15; Sp. p. 3606; Gaz. vol. 160; p. 608.
Link, Vincent, Detroit, Mich. Motor-vehicle. No. 976,103; Nov. 22; Sp. p. 4643; Gaz. vol. 160; p. 799.
Linn, George S., assignor of one-half to E. S. Hicks, Santa Barbara, Cal. Gas-filter. No. 975,262; Nov. 8; Sp. p. 2676; Gaz. vol. 160; p. 432.
Lionel Manufacturing Company. (See Caruso, Mario, assignor.)
Lionel Manufacturing Company, The. (See Cohen, Joshua L., assignor.)
Lipic, Joseph, St. Louis, Mo. Self-filling fountain-pen. No. 976,815; Nov. 22; Sp. p. 5097; Gaz. vol. 160; p. 1013.
Lippold, Henry, assignor to Lippold Valve Company, Erie, Pa. Valve. No. 977,105; Nov. 29; Sp. p. 6694; Gaz. vol. 160; p. 1139.
Lippold Valve Company. (See Lippold, Henry, assignor.)
Lispenard, George, assignor to S. K. Lichtenstein, trustee, New York, N. Y. Cotton-harvester. No. 975,775; Nov. 15; Sp. p. 3761; Gaz. vol. 160; p. 633.
Lispenard, George, Brooklyn, assignor to S. K. Lichtenstein, trustee, New York, N. Y. Cotton-harvester. No. 976,084; Nov. 15; Sp. p. 4354; Gaz. vol. 160; p. 740.
Lissy, Franz. (See Schnapka, Xavera F., assignor.)
Lister, Levi H., Bay St. Louis, assignor of one-half to W. H. Bonslog, Gulfport, Miss. Refrigerating-car. No. 977,412; Nov. 29; Sp. p. 7367; Gaz. vol. 160; p. 1245.
Litchfield, Isaac W., Boston, Mass. Shoe-tree. No. 976,194; Nov. 22; Sp. p. 4645; Gaz. vol. 160; p. 799.
Little, Nathaniel, Des Moines, Iowa. Nut-lock. No. 975,545; Nov. 15; Sp. p. 3281; Gaz. vol. 160; p. 556.
Little, Sara W., St. Louis, Mo. Sanitary skirt-shield. No. 977,203; Nov. 29; Sp. p. 6918; Gaz. vol. 160; p. 1175.
Littler, Robert, Westgrove, Pa. Bottle-filling valve. No. 976,085; Nov. 15; Sp. p. 4359; Gaz. vol. 160; p. 741.
Live Stock Market Company. (See Stevens, Frederick R., assignor.)
Livengood, Winfield S., Kansas City, Mo. Baling-press. No. 976,474; Nov. 22; Sp. p. 5292; Gaz. vol. 160; p. 898.
Livingston, Louis J., Omaha, Nebr. Protecting device for gas-stoves. No. 976,475; Nov. 22; Sp. p. 5290; Gaz. vol. 160; p. 898.
Ljunggren, Carl J., Providence, R. I. Closure-locking means. No. 974,897; Nov. 8; Sp. p. 1849; Gaz. vol. 160; p. 307.
Ljunggren, Carl J., Providence, R. I. Closure-locking means. No. 975,546; Nov. 15; Sp. p. 3283; Gaz. vol. 160; p. 557.

Llewellyn, William H., and A. G. Olney, New York, N. Y. Apparatus for the manufacture of plate-ice. No. 974,162; Nov. 1; Sp. p. 110; Gaz. vol. 160; p. 22.
Lo Celso, Michael, Chicago, Ill. Fender for locomotives and other vehicles. No. 975,443; Nov. 15; Sp. p. 3046; Gaz. vol. 160; p. 520.
Lobee, Bart, Buffalo, N. Y. Dust-separating tank. No. 974,163; Nov. 1; Sp. p. 112; Gaz. vol. 160; p. 22.
Lobee, Bart, Buffalo, N. Y. Horse-cleaning implement. No. 977,106; Nov. 29; Sp. p. 6694; Gaz. vol. 160; p. 1140.
Lockwood, Charles S., Newark, assignor to Hyatt Roller Bearing Company, Harrison, N. J. Renewable journal-bearing sleeve. No. 976,476; Nov. 22; Sp. p. 5300; Gaz. vol. 160; p. 899.
Lockwood, Charles S., Newark, assignor to Hyatt Roller Bearing Company, Harrison, N. J. Ball-bearing with self-adjusting casing. No. 976,477; Nov. 22; Sp. p. 5302; Gaz. vol. 160; p. 899.
Lockwood, Erastus C., Cleveland, Ohio. Book-rest. No. 975,140; Nov. 8; Sp. p. 2406; Gaz. vol. 160; p. 391.
Lockwood, Nelson A., assignor of one-half to L. Eccles, Logan, Utah. Filter-press cock. No. 974,580; Nov. 1; Sp. p. 1159; Gaz. vol. 160; p. 175.
Lockwood, Willard D., Schenectady, N. Y. Safety-sheave. No. 975,052; Nov. 8; Sp. p. 2217; Gaz. vol. 160; p. 360.
Loewenbach, Hugo. (See Schilz, Frank, assignor.)
Loftus, Charles T., *et al.* (See Loftus, Thomas J., assignor.)
Loftus, Thomas J., assignor of one-half to C. T. Loftus, Castella, and one-half to H. Bell, Oakland, Cal. Turbine-motor. No. 977,107; Nov. 29; Sp. p. 6697; Gaz. vol. 160; p. 1140.
Loga, Chester F. (See Richards and Loga.)
Lohmann, Albert. (See Benjaminowitsch, Wolff, assignor.)
Lomax, Roger W., Lynchburg, Va. Folding car-step. No. 976,195; Nov. 22; Sp. p. 4646; Gaz. vol. 160; p. 800.
Londick, John H., Alma, Mich. Valve-gear and ignition mechanism. No. 976,478; Nov. 22; Sp. p. 5304; Gaz. vol. 160; p. 900.
Lorenz, Peter A., Chicago, Ill. Shelving. No. 975,053; Nov. 8; Sp. p. 2218; Gaz. vol. 160; p. 361.
Los Angeles Trolley Catcher Company. (See Ricketts, James R., assignor.)
Loub, Martin F., *et al.* (See Dorsey, Walter W. and J. C., assignors.)
Loudon, Archibald M. (See Gow, John, assignor.)
Loughborough, Leroy R., Rochester, N. Y. Fire-escape door. No. 974,404; Nov. 1; Sp. p. 728; Gaz. vol. 160; p. 111.
Love Brothers. (See Love, Joy, assignor.)
Love, C. D., *et al.* (See Minnis, Henry M., assignor.)
Love, Joy, assignor to Love Brothers, Aurora, Ill. Awning-sash construction. No. 975,547; Nov. 15; Sp. p. 3285; Gaz. vol. 160; p. 557.
Lovejoy, Thomas H., Chicago, Ill. Lifting-jack. No. 975,548; Nov. 15; Sp. p. 3287; Gaz. vol. 160; p. 557.
Lovelace, Charles D., San Angelo, Tex. Trap-gun. No. 975,967; Nov. 15; Sp. p. 4142; Gaz. vol. 160; p. 700.
Lovell & Buffington Tobacco Company, The. (See Averbeck and Ginn, assignors.)
Lovell & Buffington Tobacco Company. (See Ginn, Blanch W., assignor.)
Lovett, David W., assignor of one-half to A. C. Ryan, Ensley, Ala. Nut-lock. No. 976,584; Nov. 22; Sp. p. 5537; Gaz. vol. 160; p. 935.
Lowres, George J., Newark, N. J., assignor to Lowres Optical Company. Eyeglasses. No. 975,367; Nov. 8; Sp. p. 2889; Gaz. vol. 160; p. 467.
Lowres Optical Company. (See Lowres, George J., assignor.)
Lowrie, Harvey C., New York, N. Y. Permutation-lock. No. 975,549; Nov. 15; Sp. p. 3288; Gaz. vol. 160; p. 558.
Lowry, Emily D., Philadelphia, Pa. Hose-supporter. No. 977,024; Nov. 29; Sp. p. 6518; Gaz. vol. 160; p. 1112.
Lowry, William D., St. Louis, Mo. Truck-frame. No. 977,204; Nov. 29; Sp. p. 6919; Gaz. vol. 160; p. 1175.
Lucas, Paul, Südende, near Berlin, Germany. Inverted incandescent gas-lamp. No. 977,108; Nov. 29; Sp. p. 6700; Gaz. vol. 160; p. 1140.
Lucas, William W., Academy, S. D. Wagon-loading device. No. 976,666; Nov. 22; Sp. p. 5097; Gaz. vol. 160; p. 964.
Luce Manufacturing Company. (See Luce, Thomas C., assignor.)
Luce, Thomas C., assignor to Luce Manufacturing Company, Dalton, Mass. Spark-plug. No. 974,802; Nov. 8; Sp. p. 1637; Gaz. vol. 160; p. 274.
Luck, Harry A., Lewistown, Pa. Nut-lock. No. 976,890; Nov. 29; Sp. p. 6186; Gaz. vol. 160; p. 1065.
Ludwig, Thomas I., Jackson, Mich. Corn-husker. No. 975,141; Nov. 8; Sp. p. 2408; Gaz. vol. 160; p. 391.
Ludwig, Thomas I., Jackson, Mich. Corn-husker. No. 975,142; Nov. 8; Sp. p. 2410; Gaz. vol. 160; p. 391.
Ludwig, Thomas I., Jackson, Mich. Corn-husker. No. 975,143; Nov. 8; Sp. p. 2412; Gaz. vol. 160; p. 392.
Ludwig, Thomas I., Jackson, Mich. Corn-husker. No. 977,205; Nov. 29; Sp. p. 6021; Gaz. vol. 160; p. 1175.
Lueckenbach, Anton T., Neenah, Wis. Water-closet bowl. No. 975,550; Nov. 15; Sp. p. 3290; Gaz. vol. 160; p. 558.
Luki, Adolph, and F. Wolf, Jr., Clarkson, Nebr. Side-draft equalizer for sulky-plows. No. 976,385; Nov. 22; Sp. p. 5105; Gaz. vol. 160; p. 867.
Lulli, Primo, Uccle, near Brussels, Belgium, assignor, by mesne assignments, to The American Oxhydric Company. Regulating device for gas-mixers. No. 975,444; Nov. 15; Sp. p. 3040; Gaz. vol. 160; p. 521.
Lund, Thomas, Beverly, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Heel-compressing machine. No. 974,405; Nov. 1; Sp. p. 731; Gaz. vol. 160; p. 111.
Lundeberg, Carl F., Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 974,503; Nov. 1; Sp. p. 983; Gaz. vol. 160; p. 146.
Lundgren, John W., Duluth, Minn. Drilling-machine. No. 974,406; Nov. 1; Sp. p. 733; Gaz. vol. 160; p. 111.
Lunn, Thomas, Decatur, Ill. Pottery-former. No. 975,144; Nov. 8; Sp. p. 2416; Gaz. vol. 160; p. 392.
Lunsford, Samuel H., Linton, Ind. Miner's combined fuse-clipper and splitter. No. 975,968; Nov. 15; Sp. p. 4143; Gaz. vol. 160; p. 700.
Luoma, Matti, South Gardner, Mass. Pump. No. 976,479; Nov. 22; Sp. p. 5308; Gaz. vol. 160; p. 900.
Luppino, Joseph, Ridgewood, N. J., assignor, by mesne assignments, to C. J. Witzel, Brooklyn, N. Y. Side-guard for spring-mattresses. No. 976,486; Nov. 22; Sp. p. 5310; Gaz. vol. 160; p. 900.
Luther, Charles J., Elizabeth, assignor of one-half to J. C. Davis, Maplewood, N. J. Pipe-union. No. 974,504; Nov. 1; Sp. p. 986; Gaz. vol. 160; p. 146.
Luttropp, Conrad. (See Bellows and Luttropp.)
Lux, William N., South Milwaukee, assignor of one-half to A. Kubert, Milwaukee, Wis. Snow-melting machine. No. 977,109; Nov. 29; Sp. p. 6702; Gaz. vol. 160; p. 1141.
Lyda, Arthur W., Canton, Ohio. Swing. No. 977,206; Nov. 29; Sp. p. 6922; Gaz. vol. 160; p. 1176.
Lydin, Charles A., Denver, Colo. Angle-bisector. No. 975,069; Nov. 15; Sp. p. 4145; Gaz. vol. 160; p. 701.
Lynch, M. F., *et al.* (See Hollis, Elbert H., assignor.)
Lyng, John J., East Orange, N. J., assignor to Western Electric Company, Chicago, Ill. Substation-circuit. No. 976,196; Nov. 22; Sp. p. 4649; Gaz. vol. 160; p. 800.
Lyon, Newton W., Brighton, Iowa. Corn-shock carrier. No. 976,481; Nov. 22; Sp. p. 5312; Gaz. vol. 160; p. 901.
M. D. Knowlton Company. (See Jones, John G., assignor.)
MacDermott, Charles A., Columbus, Ohio, assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 974,505; Nov. 1; Sp. p. 987; Gaz. vol. 160; p. 147.
MacGregor, Thomas F. (See Lindley, Arthur G., assignor.)
MacLaughlin, John B., Ottawa, Ontario, Canada. Tobacco-pipe. No. 976,892; Nov. 29; Sp. p. 6190; Gaz. vol. 160; p. 1065.
Machlet, Adolph W., Elizabeth, N. J. Straightening and hardening apparatus. No. 976,891; Nov. 29; Sp. p. 6187; Gaz. vol. 160; p. 1065.
Mack, Clarence G., Durbin, W. Va. Rail-joint. No. 976,272; Nov. 22; Sp. p. 4857; Gaz. vol. 160; p. 828.
Maclaren, James G., Weehawken, N. J., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Pneumatic-despatch-tube apparatus. No. 977,110; Nov. 29; Sp. p. 6705; Gaz. vol. 160; p. 1141.
Macomber, John E. (See McElroy and Macomber.)
Maginnis, A. P. (See Dunbar, William W., assignor.)
Maher, James M., Fremont, Nebr. Riprapping system. No. 976,551; Nov. 15; Sp. p. 3292; Gaz. vol. 160; p. 558.
Maher, Thomas F. A., Pittsburg, Pa. Nut-lock. No. 975,145; Nov. 8; Sp. p. 2417; Gaz. vol. 160; p. 392.
Mahoney, Joseph N., and O. S. McCurdy, Wilkinsburg, assignors to The Westinghouse Air Brake Company, Pittsburg, Pa. Magnetic brake device. No. 977,111; Nov. 29; Sp. p. 6707; Gaz. vol. 160; p. 1142.
Malden, Arthur E., Fort Lee, N. J., assignor of one-half to E. L. Crans, New York, N. Y. Inflated aeroplane. No. 975,263; Nov. 8; Sp. p. 2678; Gaz. vol. 160; p. 433.
Main, Fred F., Chicago, Ill. Computing-machine. No. 976,086; Nov. 15; Sp. p. 4360; Gaz. vol. 160; p. 741.
Main, Fred F., Chicago, Ill. Computing-machine. No. 976,087; Nov. 15; Sp. p. 4364; Gaz. vol. 160; p. 741.
Maine, Milton M., Portland, Oreg. Saw-table and feeding apparatus. No. 975,970; Nov. 15; Sp. p. 4146; Gaz. vol. 160; p. 701.
Makowski, John F., assignor to The Perfection Steel Studding Co., San Francisco, Cal. Clip and studding for fireproof constructions. No. 975,368; Nov. 8; Sp. p. 2892; Gaz. vol. 160; p. 467.
Makowski, John F., assignor to Plaster Block Company, San Francisco, Cal. Mold for hollow partition-blocks. No. 977,025; Nov. 29; Sp. p. 6519; Gaz. vol. 160; p. 1113.
Malchus, Arthur D. J., Silverton, Colo. Ore-classifier. No. 975,971; Nov. 15; Sp. p. 4147; Gaz. vol. 160; p. 701.
Malcolm, Thomas, *et al.* (See Knox, Charles P., assignor.)
Malley, John H., Harrisville, R. I. Gearing. No. 977,207; Nov. 29; Sp. p. 6924; Gaz. vol. 160; p. 1176.
Mallory, Enrique. (See Mörk, Christen, assignor.)
Manchester, Jerome J., Indianapolis, Ind. Pocket match-case. No. 976,386; Nov. 22; Sp. p. 5108; Gaz. vol. 160; p. 867.
Manchester, Percival. (See Donaldson, James H., assignor.)
Mandelberg, Joseph, Omaha, Nebr. Dispensing device for liquids. No. 977,112; Nov. 29; Sp. p. 6709; Gaz. vol. 160; p. 1142.

Manelius, Ludwig, Philadelphia, Pa. Window-screen. No. 975,146; Nov. 8; Sp. p. 2418; Gaz. vol. 160; p. 392.
Mangelsdorff, Max F., assignor to Combustion Utilities Company, New York, N. Y. Fuel-burner for cement-kilns. No. 977,113; Nov. 29; Sp. p. 6711; Gaz. vol. 160; p. 1143.
Manhattan Brass Company. (See Gennert, Emil F., assignor.)
Manhattan Brass Company, The. (See Gross, August, assignor.)
Manhattan Machine Supply Company, The. (See Miller, William V., assignor.)
Mann, Charles B., San Diego, Cal. Snow-melting device. No. 974,898; Nov. 8; Sp. p. 1851; Gaz. vol. 160; p. 308.
Manners, Thomas, Rice, Tex. Axle-box lubricator. No. 974,407; Nov. 1; Sp. p. 737; Gaz. vol. 160; p. 112.
Manning, Celia I. (See Reed, Walter B., assignor.)
Manson, Ray H., assignor to The Dean Electric Company, Elyria, Ohio. Relay. No. 977,114; Nov. 29; Sp. p. 6713; Gaz. vol. 160; p. 1143.
Marcile, Felix. (See Brand, Marcile, and Sheldon.)
Marine Salvage Company. (See Smith, George W., assignor.)
Markham, R. E. (See Prosser, John E., assignor.)
Markley, Frank E., Paola, Kans. Replanter attachment for cultivators. No. 977,115; Nov. 29; Sp. p. 6715; Gaz. vol. 160; p. 1143.
Markovitz, Harry, Braddock, Pa. Lock. No. 975,880; Nov. 15; Sp. p. 3972; Gaz. vol. 160; p. 669.
Marley, Green R. (See Dunklin and Marley.)
Marrs, Elmer C., Detroit, Mich. Cut-off valve. No. 974,899; Nov. 8; Sp. p. 1852; Gaz. vol. 160; p. 308.
Marschuetz, Oscar H., and W. G. Probst, Louisville, Ky., assignors to Standard Sanitary Manufacturing Company, Pittsburg, Pa. Means for attaching feet to tubs, &c. No. 975,881; Nov. 15; Sp. p. 3975; Gaz. vol. 160; p. 670.
Marsh, George T. (See Shoenberg and Marsh.)
Marsh, Vernon A., Endicott, Wash. Spring-tire. No. 976,667; Nov. 22; Sp. p. 5098; Gaz. vol. 160; p. 964.
Marshall, John J., Leeds, England. Dry measurer. No. 975,701; Nov. 15; Sp. p. 3607; Gaz. vol. 160; p. 608.
Marshall, Stephen M., Clinton, Mass. Hose-reel. No. 975,147; Nov. 8; Sp. p. 2420; Gaz. vol. 160; p. 393.
Marshburn, Nicholas B., Lagrange, Ga. Fruit-basket. No. 976,668; Nov. 22; Sp. p. 5700; Gaz. vol. 160; p. 964.
Martin, David H., Jr., Harrisburg, Pa. Means for fastening rails and preventing the spreading thereof. No. 976,816; Nov. 22; Sp. p. 5098; Gaz. vol. 160; p. 1013.
Martin, Edward A. (See Leveen and Martin.)
Martin, Ernest H., Johannesburg, Transvaal. Milling apparatus. No. 976,585; Nov. 22; Sp. p. 5538; Gaz. vol. 160; p. 936.
Martin, George B., Marietta, Ohio. Propeller. No. 975,972; Nov. 15; Sp. p. 4140; Gaz. vol. 160; p. 701.
Martin, George R. (See Hanly and Martin.)
Martin, Henry C., Elkhart, Ind. Locking device for trombones. No. 977,026; Nov. 29; Sp. p. 6521; Gaz. vol. 160; p. 1113.
Martin, James. (See William, Thomas J., assignor.)
Martin, John B., Hahnville, La. Type-writer. No. 974,164; Nov. 1; Sp. p. 114; Gaz. vol. 160; p. 22.
Martin, Stephen G., Chicago, Ill., assignor of one-third to W. O. Bartholomew, St. Louis, and one-third to E. Schaaf, St. Marys, Mo. Extracting iron from its ores. No. 975,625; Nov. 15; Sp. p. 3441; Gaz. vol. 160; p. 584.
Martin, William H., Bisbee, Ariz. Child's seat for bicycles. No. 975,973; Nov. 15; Sp. p. 4150; Gaz. vol. 160; p. 702.
Martini, Rudolph, St. Louis, Mo. Device for receiving and collecting mail. No. 975,552; Nov. 15; Sp. p. 3294; Gaz. vol. 160; p. 559.
Martinson, Oscar J., assignor to Monighan Machine Company, Chicago, Ill. Excavator-bucket. No. 976,088; Nov. 15; Sp. p. 4367; Gaz. vol. 160; p. 742.
Martinson, Oscar J., assignor to Monighan Machine Company, Chicago, Ill. Excavator-bucket. No. 976,742; Nov. 22; Sp. p. 5832; Gaz. vol. 160; p. 988.
Marx, Amelia, *et al.* (See Scott, William H., assignor.)
Mascia, Saverio A., New York, N. Y. Vegetable-washer. No. 974,165; Nov. 1; Sp. p. 116; Gaz. vol. 160; p. 23.
Mason, Benjamin F., assignor of one-fifth to W. L. Bishop, Hot Springs, Ark. Cotton-chopper. No. 976,817; Nov. 22; Sp. p. 6000; Gaz. vol. 160; p. 1014.
Mason, Frederic S., New York, N. Y. Allyl sulfocarbamid bismuth tri-iodid. No. 976,669; Nov. 22; Sp. p. 5702; Gaz. vol. 160; p. 964.
Massey, Harry A., East St. Louis, Ill., assignor of one-half to G. H. Stein, St. Louis, Mo. Rotary engine. No. 977,027; Nov. 29; Sp. p. 6523; Gaz. vol. 160; p. 1113.
Masson, John R., Melbourne, Victoria, Australia. Recovering antimony from ores and the like. No. 975,148; Nov. 8; Sp. p. 2421; Gaz. vol. 160; p. 393.
Masterson, Patrick, Cobalt, Ontario, Canada. Pipe and nut wrench. No. 974,408; Nov. 1; Sp. p. 738; Gaz. vol. 160; p. 112.
Matchette, Frank J., and C. Moukos, Milwaukee, Wis.; said Moukos assignor to said Matchette. Coupling-valve for pneumatic cleaning-tools. No. 974,409; Nov. 1; Sp. p. 739; Gaz. vol. 160; p. 112.
Matchette, Frank J., R. Raddatz, and C. Moukos, Milwaukee, Wis.; said Raddatz and Moukos assignors to said Matchette. Vacuum cleaning apparatus. No. 974,286; Nov. 1; Sp. p. 468; Gaz. vol. 160; p. 69.
Mather, Thomas A., Greensburg, Pa. Milk-can lock. No. 975,882; Nov. 15; Sp. p. 3976; Gaz. vol. 160; p. 670.
Mather, William H., Laramie, Wyo. Combined derrick and traction-engine. No. 974,410; Nov. 1; Sp. p. 741; Gaz. vol. 160; p. 113.
Mathes, Philip, assignor to Peck, Stow & Wilcox Company, Cleveland, Ohio. Latch. No. 976,197; Nov. 22; Sp. p. 4650; Gaz. vol. 160; p. 800.
Matheson, Avery A., New York, N. Y. Window-ventilator. No. 977,413; Nov. 29; Sp. p. 7371; Gaz vol. 160; p. 1246.
Matheus, Louis S., and C. Leindecker, Lawrenceburg, Ind. Compressed-air apparatus for elevating liquids. No. 976,818; Nov. 22; Sp. p. 6001; Gaz. vol. 160; p. 1014.
Mathis, John, Glassport, Pa. Funnel. No. 977,414; Nov. 29; Sp. p. 7372; Gaz. vol. 160; p. 1246.
Matter, Albert J., assignor of one-half to J. Gaston, Portland, Oreg. Fireplace-furnace. No. 976,819; Nov. 22; Sp. p. 6005; Gaz. vol. 160; p. 1015.
Matter, Julius, Laaken, near Barmen, Germany. Concentrating apparatus. No. 976,893; Nov. 29; Sp. p. 6191; Gaz. vol. 160; p. 1066.
Matthews, Edgar M., assignor of one-half to W. E. Rothermel, Chicago, Ill. Window-sash. No. 977,415; Nov. 29; Sp. p. 7374; Gaz. vol. 160; p. 1246.
Maule, John Q., Terrell, Tex. Boiler compound. No. 976,894; Nov. 29; Sp. p. 6192; Gaz. vol. 160; p. 1066.
Maunders, Charles, Minot, N. D. Track-brace. No. 974,411; Nov. 1; Sp. p. 745; Gaz. vol. 160; p. 113.
Max, Roman, Warsaw, Russia. Air-heating chamber for stoves, furnaces, and other heating apparatus. No. 974,581; Nov. 1; Sp. p. 1160; Gaz. vol. 160; p. 176.
Maxim, Hudson, New York, N. Y. Apparatus for producing motive power. No. 974,166; Nov. 1; Sp. p. 117; Gaz. vol. 160; p. 23.
Maxim, Hudson, New York, N. Y. Explosive compound. No. 974,900; Nov. 8; Sp. p. 1853; Gaz. vol. 160; p. 308.
Maxim, Hudson, New York, N. Y. Combustion of oil and gas mixtures. No. 977,208; Nov. 29; Sp. p. 6925; Gaz. vol. 160; p. 1176.
Maxwell, Howard, Schenectady, N. Y., assignor to General Electric Company. End ring for induction-motors. No. 976,670; Nov. 22; Sp. p. 5703; Gaz. vol. 160; p. 964.
Maxwell, Martin L., Goodwater, Mo. Drag-saw. No. 977,028; Nov. 29; Sp. p. 6524; Gaz. vol. 160; p. 1114.
May, Albert M., Lakewood, Ohio. Bed. No. 974,287; Nov. 1; Sp. p. 472; Gaz. vol. 160; p. 69.
May, James J., Mineola, N. Y. Antislipping attachment for horseshoes. No. 975,553; Nov. 15; Sp. p. 3299; Gaz. vol. 160; p. 560.
May, William F. (See Jeffers, Harry I., assignor.)
Mayer, Max, Pankow, Germany, assignor to General Electric Company. Transformer. No. 974,167; Nov. 1; Sp. p. 120; Gaz. vol. 160; p. 23.
Mayo, Benjamin F. (See Bayley and Mayo.)
Mayo, William C., assignor of one-third to Electric Gas Motor Car Company, one-third to G. E. Briggs, Bartow, and one-third to J. Houlehan, El Paso, Tex. Controlling system for motor traction-cars. No. 974,683; Nov. 1; Sp. p. 1366; Gaz. vol. 160; p. 213.
McAlarney, Harry M., Puritan, Pa. Telephone-receiver holder. No. 974,506; Nov. 1; Sp. p. 988; Gaz. vol. 160; p. 147.
McAdie, Alexander G., San Francisco, Cal. Combination thermograph and hydrograph. No. 974,684; Nov. 1; Sp. p. 1374; Gaz. vol. 160; p. 213.
McAneny, Michael, Denver, Colo., assignor, by mesne assignments, to McLaughlin Machine Company, St. Louis, Mo. Vending-machine. No. 976,089; Nov. 15; Sp. p. 4369; Gaz. vol. 160; p. 742.
McArthur, Arthur R., Elwood, Ind., assignor to American Sheet & Tin Plate Company, Pittsburg, Pa. Apparatus for opening packs. No. 976,895; Nov. 29; Sp. p. 6193; Gaz. vol. 160; p. 1066.
McArthur, William, Tenino, Wash. Gas-scrubber. No. 975,054; Nov. 8; Sp. p. 2219; Gaz. vol. 160; p. 361.
McCabe, Philip J., Gary, Ind., assignor of one-half to J. P. Van Syckle, Galena, Ill. Joint for connecting pipe-sections. No. 973,804; Nov. 8; Sp. p. 1643; Gaz. vol. 160; p. 275.
McCall, Earl N., Goldfield, Nev. Trolley-head. No. 977,416; Nov. 29; Sp. p. 7376; Gaz. vol. 160; p. 1247.
McCall, Edwin R. (See Rich, Edwin J., assignor.)
McCallum, William A., Cincinnati, Ohio. Catenary overhead system for electric railways. No. 974,982; Nov. 8; Sp. p. 2066; Gaz. vol. 160; p. 337.
McCanlis, Albert T., Richmond Hill, assignor of one-half to L. Leder, Rockville Center, N. Y. Sink attachment. No. 975,626; Nov. 15; Sp. p. 3443; Gaz. vol. 160; p. 584.
McCarroll, Walker W., Arlington, N. J. Machine for curving electrotypes. No. 974,288; Nov. 1; Sp. p. 475; Gaz. vol. 160; p. 60.
McCarroll, William R., Hedley, Tex. Hog-yoke. No. 974,901; Nov. 8; Sp. p. 1856; Gaz. vol. 160; p. 308.
McCarthy, Eugene J., New York, N. Y. Massaging apparatus. No. 975,702; Nov. 15; Sp. p. 3600; Gaz. vol. 160; p. 608.
McCaslin, Francis C., Zanesville, Ohio. Greenhouse-bench mold. No. 974,685; Nov. 1; Sp. p. 1376; Gaz. vol. 160; p. 214.
McCaslin, William, assignor to Draper Company, Hopedale, Mass. Means for facilitating warp change in looms. No. 976,273; Nov. 22; Sp. p. 4858; Gaz. vol. 160; p. 829.

McClellan, Edward J. (See Garvin and McClellan.)
McClellan, James B., assignor of one-third to E. Gulick, Denison, Iowa. Wheel-scraper. No. 975,974; Nov. 15; Sp. p. 4153; Gaz. vol. 160; p. 702.
McClellan, Stephen, Brooklyn, N. Y. Chain breast ratchet-drill. No. 976,131; Nov. 15; Sp. p. 4482; Gaz. vol. 160; p. 756.
McCloy, William A., Ada, Ohio. Envelop. No. 975,627; Nov. 15; Sp. p. 3444; Gaz. vol. 160; p. 585.
McCord Manufacturing Company. (See Dietz, William, assignor.)
McCormack, Harry S., New Rochelle, assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 975,264; Nov. 8; Sp. p. 2680; Gaz. vol. 160; p. 433.
McCorquodale, Wilmer E., Orange, Tex. Sewer connection. No. 974,752; Nov. 1; Sp. p. 1527; Gaz. vol. 160; p. 234.
McCoy, William W., Cincinnati, Ohio. Brush for power marking-machines. No. 975,883; Nov. 15; Sp. p. 3978; Gaz. vol. 160; p. 670.
McCreery, Clayton I., Muncie, Ind. Corn-turner. No. 975,265; Nov. 8; Sp. p. 2682; Gaz. vol. 160; p. 433.
McCurdy, Oscar S. (See Mahoney and McCurdy.)
McDannel, George H. (See Lawrence, Theodore M., assignor.)
McDonald, James J., *et al.* (See Auble, James H., assignor.)
McDonald, John J., Lynn, Mass. Adjustable flue-receiver. No. 975,703; Nov. 15; Sp. p. 3611; Gaz. vol. 160; p. 609.
McDonald, Nathan W. (See Wagner and McDonald.)
McDonald, Osmon W., Rising Star, Tex. Air-blast apparatus for cotton-gins. No. 976,671; Nov. 22; Sp. p. 5703; Gaz. vol. 160; p. 965.
McDonough, John P., assignor of one-half to L. A. Ragan, St. Louis, Mo. Stove and range construction. No. 977,417; Nov. 29; Sp. p. 7378; Gaz. vol. 160; p. 1247.
McDougall, Moore D., Watsonville, Cal. Automatic watering-trough. No. 975,554; Nov. 15; Sp. p. 3300; Gaz. vol. 160; p. 560.
McEachron, Arthur B., West De Pere, Wis., and E. J. McEachron, Rochester, N. Y. Holder for roll toilet-paper. No. 977,418; Nov. 29; Sp. p. 7380; Gaz. vol. 160; p. 1247.
McEachron, Edgar J. (See McEachron, Arthur B. and E. J.)
McElroy, James F., Albany, N. Y., assignor to Consolidated Car Heating Company. Lighting and battery circuits. No. 976,743; Nov. 22; Sp. p. 5834; Gaz. vol. 160; p. 988.
McElroy, James F., and J. E. Macomber, Albany, N. Y., assignors to Consolidated Car Heating Company. Relay-magnet. No. 976,586; Nov. 22; Sp. p. 5540; Gaz. vol. 160; p. 936.
McElveen, Murray F., Osyka, Miss. Plow-point. No. 975,555; Nov. 15; Sp. p. 3302; Gaz. vol. 160; p. 560.
McFall, David S. (See Groom, McFall, and Noah.)
McFarland, John C., Spokane, Wash. Tenpin-setter. No. 975,445; Nov. 15; Sp. p. 3051; Gaz. vol. 160; p. 521.
McFarland, William W., assignor of one-third to H. L. Weber and one-third to T. Nollenberger, Denver, Colo. Amusement apparatus. No. 976,896; Nov. 29; Sp. p. 6195; Gaz. vol. 160; p. 1066.
McGann, Thomas W. J., Dallas, assignor, by mesne assignments, of one-half to M. B. Gleason, El Paso, Tex. Re-railer. No. 976,137; Nov. 15; Sp. p. 4494; Gaz. vol. 160; p. 758.
McGee, William D., Portland, assignor of one-half to C. L. Phillips, The Dalles, Oreg. Mechanism for converting motion. No. 974,412; Nov. 1; Sp. p. 747; Gaz. vol. 160; p. 113.
McGhan, Addison H., Washington, D. C. Portable scaffold. No. 974,686; Nov. 1; Sp. p. 1378; Gaz. vol. 160; p. 214.
McGill, George W., Riverdale-on-Hudson, N. Y. Metallic fastener. No. 974,805; Nov. 8; Sp. p. 1644; Gaz. vol. 160; p. 275.
McGrath, Francis. (See Michaud and McGrath.)
McGregor, James, Fordsburg, near Johannesburg, Transvaal. Washboiler attachment. No. 975,055; Nov. 8; Sp. p. 2220; Gaz. vol. 160; p. 361.
McHardy, James A., assignor of one-half to E. M. Johnson, Providence, R. I. Cap for renewing the worn ends of engine valve-stems. No. 976,274; Nov. 22; Sp. p. 4860; Gaz. vol. 160; p. 829.
McHenry, Samuel B., Chicago, Ill. Brush. No. 975,776; Nov. 15; Sp. p. 3767; Gaz. vol. 160; p. 634.
McHill, William R., assignor of one-third to J. H. Cramer, Moran, Kans. Liquid-fuel burner. No. 976,820; Nov. 22; Sp. p. 6006; Gaz. vol. 160; p. 1015.
McHugh, Edward T., Holyoke, Mass. Molder's flask. No. 974,983; Nov. 8; Sp. p. 2068; Gaz. vol. 160; p. 337.
McIntosh, Adam, Green Island, N. Y. Wash bowl and basin trap. No. 977,319; Nov. 29; Sp. p. 7126; Gaz. vol. 160; p. 1213.
McIntyre, John J., Hartford, Conn. Air-pump. No. 974,582; Nov. 1; Sp. p. 1162; Gaz. vol. 160; p. 176.
McKee, Arthur G., Cleveland, Ohio. Blast-furnace-stove gas-burner. No. 975,556; Nov. 15; Sp. p. 3303; Gaz. vol. 160; p. 561.
McKee, Frank A., and F. R. Horel, Arcata, Cal. Drag-saw machine. No. 974,168; Nov. 1; Sp. p. 122; Gaz. vol. 160; p. 24.
McKee-Newton Manufacturing Company. (See McKee, William J., assignor.)
McKee, Thomas A., assignor of one-half to J. A. Curti Memphis, Mo. Tug-buckle. No. 976,090; Nov. 15; S p. 4371; Gaz. vol. 160; p. 743.
McKee, William J., assignor to McKee-Newton Manu facturing Company, Detroit, Mich. Pasteurizer. N 977,029; Nov. 29; Sp. p. 6525; Gaz. vol. 160; p. 111
McKeen, Gordon, assignor of one-half to E. A. Woelfe Peabody, Mass. Leather-working machine. No. 975,628 Nov. 15; Sp. p. 3445; Gaz. vol. 160; p. 585.
McKinnis, John R., St. Joseph, Mo. Safety-lock for rai way-switches. No. 977,116; Nov. 29; Sp. p. 6720 Gaz. vol. 160; p. 1144.
McKitrick, John W., St. Charles, Ill. Fastener. N 975,266; Nov. 8; Sp. p. 2684; Gaz. vol. 160; p. 434.
McLaughlin, John C., Jersey City, N. J., assignor to Un derwood Typewriter Company, New York, N. Y. Typ writing machine. No 975,884; Nov. 15; Sp. p. 3979 Gaz. vol. 160; p. 671.
McLaughlin Machine Company. (See McAneny, Michae assignor.)
McLean, Charles W., Arena, N. Y. Stanchion. N 976,672; Nov. 22; Sp. p. 5705; Gaz. vol. 160; p. 965.
McLeod, Norman, Detroit, Mich. Electric-light hange No. 974,687; Nov. 1; Sp. p. 1385; Gaz. vol. 160; p. 215
McMahon, Byrd. (See Johnson, Perry, and McMahon.)
McMurtrie, Adnah, assignor to Thomas & Betts Company New York, N. Y. Attachment for electrical conduit No. 975,777; Nov. 15; Sp. p. 3760; Gaz. vol. 160; p. 63
McNabb, Peter M., Joliet, Ill. Mold. No. 974,507; Nov 1; Sp. p. 990; Gaz. vol. 160; p. 147.
McNabb, Sherman, Prague, Okla. Crude-oil burner. N 976,482; Nov. 22; Sp. p. 5316; Gaz. vol. 160; p. 901.
McNair, William, New York, N. Y. Lamp-stand. N 976,587; Nov. 22; Sp. p. 5540; Gaz. vol. 160; p. 936.
McNeil, Joseph H., East Saugus, Mass. Amalgamator. N 975,704; Nov. 15; Sp. p. 3614; Gaz. vol. 160; p. 609.
McNutt, William H., New York, N. Y. Spark-plug. N 975,056; Nov. 8; Sp. p. 2222; Gaz. vol. 160; p. 361.
McPhee, Hugh, Tarrytown, N. Y. Making master-plate No. 976,897; Nov. 29; Sp. p. 6199; Gaz. vol. 160; p. 1067
McPherson, Frank G., Beaver Falls, Pa. Playing-card No. 977,117; Nov. 29; Sp. p. 6722; Gaz. vol. 160; p. 1144
McQueen, Frederick B. (See Barber and McQueen.)
McQuerry, James C., and A. L. Evrett, North Fortworth Tex. Liquid-fuel burner. No. 976,898; Nov. 29 Sp. p. 6200; Gaz. vol. 160; p. 1067.
McQuinn, James S., Newcastle, Ind. Memorandum-dial No. 974,806; Nov. 8; Sp. p. 1645; Gaz. vol. 160; p. 276
McVeity, John, *et al.* (See Levey, Thomas J., assignor.
McWilliams, Thomas J., Timpson, Tex. Harrow. N 976,387; Nov. 22; Sp. p. 5109; Gaz. vol. 160; p. 867.
Meade, James. (See Sydeman and Meade.)
Meehan, David C., Columbus, Ohio. Wooden core an making the same. No. 974,984; Nov. 8; Sp. p. 2070 Gaz. vol. 160; p. 338.
Meeks, Frederick P., Ardmore, Pa. Pruning-gage. N 975,057; Nov. 8; Sp. p. 2225; Gaz. vol. 160; p. 362.
Meggers, John, Charlotte, Iowa. Concrete-mixer. N 974,688; Nov. 1; Sp. p. 1385; Gaz. vol. 160; p. 215.
Mehl, Walter B., Newton, Mass., assignor to The Keyston Watch Case Company, Philadelphia, Pa. Watch-move ment. No. 977,320; Nov. 29; Sp. p. 7128; Gaz. vo 160; p. 1213.
Mehl, Walter B., Newton, Mass., assignor to The Keyston Watch Case Company, Philadelphia, Pa. Watch-move ment. No. 977,321; Nov. 29; Sp. p. 7129; Gaz. vo 160; p. 1214.
Mehler, Charles C., Ambler, Pa. Cultivator. No. 975,05 Nov. 8; Sp. p. 2226; Gaz. vol. 160; p. 362.
Meier, Albert, and H. Dumelin, West Hoboken, N. J. Ap paratus for packing and unpacking stuffing-boxes. No 974,583; Nov. 1; Sp. p. 1164; Gaz. vol. 160; p. 176.
Meier, Edward D., New York, N. Y. Indicator for in ternal-combustion engines. No. 977,419; Nov. 29; Sp p. 7381; Gaz. vol. 160; p. 1248.
Meissner, Fritz, New York, N. Y. Shears and scissors No. 975,059; Nov. 8; Sp. p. 2227; Gaz. vol. 160; p. 363
Meitzler, Joseph W., *et al.* (See Walter, Harrison B. assignor.)
Melchior, Edward, Chicago, Ill. Hydraulic chair. No 974,289; Nov. 1; Sp. p. 476; Gaz. vol. 160; p. 70.
Melchior, Edward, Chicago, Ill. Hydraulic chair. No 975,705; Nov. 15; Sp. p. 3617; Gaz. vol. 160; p. 610.
Meldau, Charles, New York, N. Y. Hydroplane motor boat. No. 976,588; Nov. 22; Sp. p. 5542; Gaz. vol 160; p. 937.
Mellor, Lewis E., and F. W. Cole, Guilford, Me. Picking mechanism. No. 976,673; Nov. 22; Sp. p. 5706; Gaz vol. 160; p. 965.
Meloen, Ramond E., Kewanee, Ill. Cultivator. No 975,975; Nov. 15; Sp. p. 4154; Gaz. vol. 160; p. 703.
Melvin, Mark G., assignor of three-eighths to J. D. Ste vens and three-eighths to Sterling Sales Company Scranton, Pa. Water-filter. No. 977,200; Nov. 29 Sp. p. 6927; Gaz. vol. 160; p. 1177.
Mendell, Charles, Moran, Kans. Hydrocarbon vaporize and burner. No. 975,557; Nov. 15; Sp. p. 3304; Gaz vol. 160; p. 561.
Mercer, Henry H., assignor to Sullivan Machinery Com pany, Claremont, N. H. Pressure-fluid engine. No 974,413; Nov. 1; Sp. p. 748; Gaz. vol. 160; p. 114.
Mergenthaler Linotype Company. (See Bertram, William E., assignor.)
Mergenthaler Linotype Company. (See Kennedy, David S., assignor.)

Merrill, Joseph J., Chicago, Ill. Furnace-grate. No. 974,902; Nov. 8; Sp. p. 1857; Gaz. vol. 160; p. 309.
Merritt, Alexander W., Lynch Station, Va. Metallic window-sash. No. 976,198; Nov. 22; Sp. p. 4651; Gaz. vol. 160; p. 801.
Merritt, Anna H., *et al.* (See Merritt and Gale, assignors.)
Merritt, James M., assignor to Hoffman Hardware Company, Los Angeles, Cal. Stove. No. 974,290; Nov. 1; Sp. p. 482; Gaz. vol. 160; p. 70.
Merritt, Louis G., Lockport, and B. L. Gale, assignors to G. I. Gale, Buffalo, and A. H. Merritt, Lockport, N. Y. Veneer-drying apparatus. No. 974,903; Nov. 8; Sp. p. 1863; Gaz. vol. 160; p. 309.
Merritt, Rex C., Constantine, Mich., assignor of one-half to M. J. Harris, Pilot Point, Tex. Laundry apparatus. No. 975,706; Nov. 15; Sp. p. 3620; Gaz. vol. 160; p. 610.
Merry, Charles H., St. Louis, Mo., assignor of one-half to N. A. Merry, Anacortes, Wash. Carrier for compressed fibrous materials. No. 974,904; Nov. 8; Sp. p. 1871; Gaz. vol. 160; p. 309.
Merry, Natta A. (See Merry, Charles H., assignor.)
Merwin, Herbert E., Hensonville, N. Y. Color-screen. No. 977,420; Nov. 29; Sp. p. 7382; Gaz. vol. 160; p. 1248.
Messenger, Adelaide, St. Paul, Minn., assignor of one-half to M. C. Smith, Chicago, Ill. Bath-tub cover. No. 976,199; Nov. 22; Sp. p. 4653; Gaz. vol. 160; p. 801.
Metcalf, Frederick, and J. E. Carson, assignors to The Chase Machine Company, Cleveland, Ohio. Winch. No. 975,558; Nov. 15; Sp. p. 3306; Gaz. vol. 160; p. 561.
Metcalf, Frederick, and J. E. Carson, assignors to The Chase Machine Company, Cleveland, Ohio. Winch. No. 975,559; Nov. 15; Sp. p. 3310; Gaz. vol. 160; p. 562.
Metcalf, Frederick, and E. Dalgleish, Cleveland, Ohio. Towing-machine. No. 977,322; Nov. 29; Sp. p. 7131; Gaz. vol. 160; p. 1214.
Metcalfe, William H., Philadelphia, Pa. Carpet-stretcher. No. 977,210; Nov. 29; Sp. p. 6928; Gaz. vol. 160; p. 1177.
Metropolitan Sewing Machine Company. (See Weis and Krug, assignors.)
Metzger, Ferdinand F. (See Richardson and Metzger.)
Metzler, William M., Akron, Ohio. Conveyer-belt. No. 975,560; Nov. 15; Sp. p. 3312; Gaz. vol. 160; p. 562.
Meyer, Albert T., Toledo, Ohio, assignor to G. G. and G. A. Black. Attachment for scoring-machines. No. 976,388; Nov. 22; Sp. p. 5110; Gaz. vol. 160; p. 867.
Meyer, Edward H., *et al.* (See Gieselmann, Edward, assignor.)
Meyer, Eugene, assignor to himself, J. Kilduff, and A. G. Rowan, New York, N. Y. Vibratory apparatus for ear treatment. No. 976,200; Nov. 22; Sp. p. 4654; Gaz. vol. 160; p. 802.
Meyer, Gottfried, Philadelphia, Pa. Manufacturing flexible tubes for fountain-paint-brushes and the like. No. 976,899; Nov. 29; Sp. p. 6201; Gaz. vol. 160; p. 1067.
Meyer, John, Yuton, Ill. Cultivator attachment. No. 975,976; Nov. 15; Sp. p. 4156; Gaz. vol. 160; p. 703.
Meyer, Lee R., and R. J. Young, Alton, Ill. Computing weighing-scale. No. 976,275; Nov. 22; Sp. p. 4862; Gaz. vol. 160; p. 830.
Meyerson, Meyer, Bennetville, assignor of one-half to B. Baadnes, Aitkin, Minn. Motor-sled. No. 977,421; Nov. 29; Sp. p. 7384; Gaz. vol. 160; p. 1248.
Michaels, Frank L., and G. Welling, Covington, Ky. Window-screen. No. 974,689; Nov. 1; Sp. p. 1387; Gaz. vol. 160; p. 215.
Michaud, Joseph E., and F. McGrath, Lawrence, Mass. Oven-shelf. No. 977,422; Nov. 29; Sp. p. 7386; Gaz. vol. 160; p. 1249.
Mickelson, Mitchell S., *et al.* (See Bailey, Walter F., assignor.)
Middleton, John, New Bedford, Mass. Combination-tool. No. 976,674; Nov. 22; Sp. p. 5707; Gaz. vol. 160; p. 966.
Midgley, Frederick W., Jersey City, N. J., assignor to International Telegraph Construction Company. Transmitting apparatus. No. 974,160; Nov. 1; Sp. p. 125; Gaz. vol. 160; p. 24.
Midgley, Frederick W., Jersey City, N. J., assignor to International Telegraph Construction Company. Receiving apparatus. No. 974,935; Nov. 8; Sp. p. 2071; Gaz. vol. 160; p. 338.
Midgley, Frederick W., Jersey City, N. J., assignor to International Telegraph Construction Company. Receiving apparatus. No. 974,936; Nov. 8; Sp. p. 2073; Gaz. vol. 160; p. 338.
Miehle, William S., Chicago, Ill. Adjustable wrench. No. 975,707; Nov. 15; Sp. p. 3621; Gaz. vol. 160; p. 610.
Mieick, Henry, and F. C. von Heydebrand, assignors of one-third to J. Karl Garfield, N. J. Water and air proof composition of matter. No. 977,423; Nov. 29; Sp. p. 7388; Gaz. vol. 160; p. 1249.
Miglio, Dominick, Calumet, Mich. Miner's lamp. No. 974,600; Nov. 1; Sp. p. 1388; Gaz. vol. 160; p. 215.
Miles, Don D., Aurora, assignor, by mesne assignments, to Columbian Cotton Harvester Company, Chicago, Ill. Cotton-harvester. No. 976,132; Nov. 15; Sp. p. 4484; Gaz. vol. 160; p. 756.
Millard, Raymond B. (See Carter, Kenneth, assignor.)
Millay, Frederick W., Haverhill, Mass. Last. No. 975,708; Nov. 15; Sp. p. 3623; Gaz. vol. 160; p. 610.
Milldown, Thomas, Red Lodge, Mont. Runner for automobiles. No. 975,267; Nov. 8; Sp. p. 2686; Gaz. vol. 160; p. 434.
Miller, Athol M. (See Dunn, William A., assignor.)
Miller, Carl E. M., New York, N. Y. Truck. No. 976,201; Nov. 22; Sp. p. 4656; Gaz. vol. 160; p. 802.
Miller, Cornelius, Providence, R. I. Saw filer and set. No. 976,091; Nov. 15; Sp. p. 4372; Gaz. vol. 160; p. 743.
Miller, David W., Chicago, Ill. Excavating-machine. No. 976,589; Nov. 22; Sp. p. 5545; Gaz. vol. 160; p. 937.
Miller, David W., Chicago, Ill. Excavating-machine. No. 976,590; Nov. 22; Sp. p. 5548; Gaz. vol. 160; p. 937.
Miller, Du Brul & Peters Manufacturing Company, The. (See Rosewarne, Richard E., assignor.)
Miller, George A., McKeesport, Pa. Trolley. No. 974,584; Nov. 1; Sp. p. 1167; Gaz. vol. 160; p. 177.
Miller, George B., assignor of one-half to G. Laut, Eau Claire, Wis. Ice-scraper. No. 977,211; Nov. 29; Sp. p. 6930; Gaz. vol. 160; p. 1177.
Miller, Harry G., assignor to The Vocalstyle Music Company, Cincinnati, Ohio. Automatically-adjustable spool for perforated music-sheet rolls for mechanical piano-players. No. 977,030; Nov. 29; Sp. p. 6527; Gaz. vol. 160; p. 1114.
Miller, Isaac L., New York, N. Y. Nut-lock. No. 975,709; Nov. 15; Sp. p. 3624; Gaz. vol. 160; p. 611.
Miller, J. D. (See Tisley, Arthur J., assignor.)
Miller, John W., South Sharon, Pa. Detachable and sectional rim for vehicle-wheels. No. 976,900; Nov. 29; Sp. p. 6202; Gaz. vol. 160; p. 1067.
Miller Lock Co. (See Soley, Frank, assignor.)
Miller, Louis H., Mount Eden, Cal., assignor to L. H. Miller Acetylene Gas Machine Company. Gas-regulator. No. 974,691; Nov. 1; Sp. p. 1390; Gaz. vol. 160; p. 216.
Miller, Wade H. (See Hulings, James H., assignor.)
Miller, Walter H., Orange, assignor to New Jersey Patent Company, West Orange, N. J. Phonograph. No. 976,821; Nov. 22; Sp. p. 6008; Gaz. vol. 160; p. 1015.
Miller, William V., Brooklyn, assignor to The Manhattan Machine Supply Company, New York, N. Y. Stitch-forming mechanism. No. 974,170; Nov. 1; Sp. p. 126; Gaz. vol. 160; p. 24.
Millers Falls Company. (See Leland, John A., assignor.)
Millet, Josiah B., assignor to Millet Signal Company, Boston, Mass. Submarine signaling. No. 976,822; Nov. 22; Sp. p. 6009; Gaz. vol. 160; p. 1016.
Millet Signal Company. (See Millet, Josiah B., assignor.)
Millican, James A., Cambridge, Mass. Apparatus for uniting leather blanks. No. 974,987; Nov. 8; Sp. p. 2075; Gaz. vol. 160; p. 339.
Milligan, Frank C. (See Clore, Withrow, assignor.)
Milliken, Frank W., assignor of one-half to C. C. Brown, Auburn, Me. Automatic sprinkler alarm and indicator. No. 977,391; Nov. 29; Sp. p. 7292; Gaz. vol. 160; p. 1238.
Mills Novelty Company. (See Stambaugh, George W., assignor.)
Millville Machine Company. (See Fredrick, William D., assignor.)
Milwaukee Coke and Gas Company, The. (See Greim, Otto F., assignor.)
Minato, Longhair I., Piano, Idaho. Shoe-polishing machine. No. 974,585; Nov. 1; Sp. p. 1169; Gaz. vol. 160; p. 177.
Mineer, Edward, Wheeling, W. Va. Incandescent gas-lamp. No. 975,561; Nov. 15; Sp. p. 3313; Gaz. vol. 160; p. 562.
Minehan, William A. (See Jones and Minehan.)
Miner, William H. (See Bundy, Cyrus L., assignor.)
Miner, William H. (See O'Connor, John F., assignor.)
Miner, William H. (See Schroder, Herman F., assignor.)
Minnis, Henry M., assignor to S. Potts and C. D. Love, Wylie, Tex. Fire-engine. No. 976,133; Nov. 15; Sp. p. 4486; Gaz. vol. 160; p. 757.
Minshull, Robert, assignor to Hunt, Helm, Ferris & Company, Harvard, Ill. Making slotted tubular tracks. No. 977,118; Nov. 29; Sp. p. 6725; Gaz. vol. 160; p. 1145.
Minyard, Sam J., Brookland, assignor of one-half to T. S. Richardson, Kirbyville, Tex. Plow. No. 975,562; Nov. 15; Sp. p. 3314; Gaz. vol. 160; p. 563.
Miolans, Dominique, Paris, France. Combined clutch and brake. No. 975,629; Nov. 15; Sp. p. 3448; Gaz. vol. 160; p. 585.
Mires Fuel-Oil Equipment Company. (See Scrimgeour William, assignor.)
Mishler, Menno S., Akron, Ohio. Roller or wheeled skate. No. 975,446; Nov. 15; Sp. p. 3055; Gaz. vol. 160; p. 522.
Mitchell, Charles E., Decatur, Ill., assignor of one-fourth to H. L. Nixon and one-fourth to C. T. Payton, St. Louis, Mo. Bolt-feeding machine. No. 976,483; Nov. 22; Sp. p. 5316; Gaz. vol. 160; p. 901.
Mitchell, Max L. (See Kantner, Lewis R., assignor.)
Mitchell, William C., Sydney, Nova Scotia, Canada. Apparatus for handling coke, &c. No. 977,119; Nov. 29; Sp. p. 6727; Gaz. vol. 160; p. 1145.
Mixon, James F., and O. H. Ford, Manatee, Fla. Garden-plow and seed-planter. No. 976,675; Nov. 22; Sp. p. 5709; Gaz. vol. 160; p. 966.
Moebus, Henry E., Boston, assignor to H. W. Brown, trustee, Brookline, Mass. Resilient wheel. No. 976,591; Nov. 22; Sp. p. 5552; Gaz. vol. 160; p. 938.
Moews, Paul, Detroit, Mich. Spectacle-mounting. No. 975,778; Nov. 15; Sp. p. 3770; Gaz. vol. 160; p. 634.
Mohnike, Albert C., Yonkers, N. Y. Safety appliance for elevators. No. 974,414; Nov. 1; Sp. p. 752; Gaz. vol. 160; p. 114.

Mohr, Joseph. (See Hammen, Charles, assignor.)
Mohrbach, William A., St. Louis, Mo. Clay loader and scraper. No. 974,905; Nov. 8; Sp. p. 1873; Gaz. vol. 160; p. 310.
Molkentin, Paul T., Carlton, Victoria, Anstralia. Fastening device for doors, windows, and the like. No. 975,977; Nov. 15; Sp. p. 4156; Gaz. vol. 160; p. 703.
Mollere, Mederic C., assignor of one-half to F. I. Cretini, Cut Off, La. Cane-harvester. No. 976,823; Nov. 22; Sp. p. 6014; Gaz. vol. 160; p. 1016.
Monarch, Henry L. (See Kelsey and Monarch.)
Monarch Typewriter Company, The. (See Coo, Thomas J., assignor.)
Monarch Typewriter Company, The. (See Josleyn, Hubbard N., assignor.)
Monarch Typewriter Company, The. (See Knox, Nelson F., assignor.)
Monarch Typewriter Company, The. (See Steele, Herbert H., assignor.)
Monash, Mark E. (See Brown, Paul F., assignor.)
Monetti, Michael, Bloomfield, N. J. Guard for safety-razors. No. 974,906; Nov. 8; Sp. p. 1875; Gaz. vol. 160; p. 310.
Monighan Machine Company. (See Martinson, Oscar J., assignor.)
Monitor Drill Company. (See Beeman, Edwin R., assignor.)
Monitor Drill Company. (See Brennan, Thomas, Jr., assignor.)
Monitor Drill Company. (See Rieske, Brennan, Phelps, and Beeman, assignors.)
Montague, David W., Shelley, Idaho. Carpenter's square. No. 975,268; Nov. 8; Sp. p. 2687; Gaz. vol. 160; p. 434.
Montague Mailing Machinery Co. (See Owens, Charles, assignor.)
Montgomery, John J., Santa Clara, Cal. Rectifying electric currents. No. 974,171; Nov. 1; Sp. p. 134; Gaz. vol. 160; p. 25.
Montgomery, John J., Santa Clara, Cal. Process for compelling electric motors to keep in step with the waves or impulses of the current driving them, and a motor embodying the process. No. 974,415; Nov. 1; Sp. p. 756; Gaz. vol. 160; p. 115.
Moon-Hopkins Billing Machine Company. (See Hopkins, William W., assignor.)
Moon, Ira D. (See Morrison, John R., assignor.)
Mooney, John. (See Bilsland, John C., assignor.)
Moore, Alfred, Detroit, Mich., Spring-wheel. No. 975,630; Nov. 15; Sp. p. 3449; Gaz. vol. 160; p. 585.
Moore, Benton, Cherryvale, Kans. Liquid-fuel burner. No. 976,592; Nov. 22; Sp. p. 5554; Gaz. vol. 160; p. 938.
Moore, Charles L. (See Moore, Edward and C. L.)
Moore, Charles S., Danvers, Mass. Milking vessel. No. 976,202; Nov. 22; Sp. p. 4657; Gaz. vol. 160; p. 802.
Moore, Daniel M., Newark, N. J., assignor to Moore Electrical Co., New York, N. Y. Automatic gas-feed for vacuum-tubes. No. 975,149; Nov. 8; Sp. p. 2422; Gaz. vol. 160; p. 393.
Moore, David C., Cisco, Tex. Match-box. No. 975,978; Nov. 15; Sp. p. 4158; Gaz. vol. 160; p. 703.
Moore, David F. (See Ruckdeschel, Bernard, assignor.)
Moore, Edward and C. L., Franklinville, N. Y. Milk-pail holder. No. 976,276; Nov. 22; Sp. p. 4865; Gaz. vol. 160; p. 830.
Moore Electrical Co. (See Moore, Daniel M., assignor.)
Moore, Gervias T., Annona, Tex. Closure for cistern-cleaners. No. 974,416; Nov. 1; Sp. p. 760; Gaz. vol. 160; p. 115.
Moore, Jay W., Sheboygan Falls, Wis. Curd-knife. No. 976,676; Nov. 22; Sp. p. 5711; Gaz. vol. 160; p. 966.
Moore, Lewis L., assignor to M. Moore, Canton, Ohio. Shirt-sleeve. No. 974,692; Nov. 1; Sp. p. 1391; Gaz. vol. 160; p. 216.
Moore, Mordecal. (See Moore, Lewis L., assignor.)
Moore, Robert S. (See Castle, James B., assignor.)
Moore, Thomas J., New York, N. Y. Mausoleum. No. 975,779; Nov. 15; Sp. p. 3772; Gaz. vol. 160; p. 635.
Moorehead, F. B. (See Shaw, James N., assignor.)
Moorhouse, John M., Winnipeg, Manitoba, Canada. Car-fender. No. 975,780; Nov. 15; Sp. p. 3775; Gaz. vol. 160; p. 635.
Morgan, Bernard, Newport, R. I. Tire-clamp. No. 977,212; Nov. 29; Sp. p. 6931; Gaz. vol. 160; p. 1178.
Morgan, Edmund C., Chicago, Ill. Bit-changing means for rotary cutters. No. 975,563; Nov. 15; Sp. p. 3315; Gaz. vol. 160; p. 563.
Morgan, Edward M., Westmount, Quebec, Canada. Egg-beater. No. 974,586; Nov. 1; Sp. p. 1170; Gaz. vol. 160; p. 178.
Morgan Engineering Company, The. (See Seymour, Henry A., assignor.)
Morgan Engineering Company, The. (See Taylor, Clarence L., assignor.)
Morgan-Gardner Electric Company. (See Noble, Ralph E., assignor.)
Morgan, George M. (See De Lukacsevics, Charles, assignor.)
Morgan, Henry W., Rochester, N. Y. Corner-trimming machine for boxes and the like. No. 974,807; Nov. 8; Sp. p. 1847; Gaz. vol. 160; p. 276.
Morgan, John B., Rochester, N. Y. Flushing and heating system. No. 976,484; Nov. 22; Sp. p. 5319; Gaz. vol. 160; p. 902.
Morgan, Mary H. (See Morgan, William S., assignor.)
Morgan, Peyton L., and W. M. Brockenbrough, Lynchburg, Va. Machine for sawing circles. No. 974,172; Nov. 1; Sp. p. 138; Gaz. vol. 160; p. 25.
Morgan, Ralph L., Worcester, Mass. Wire-drawing machine. No. 975,979; Nov. 15; Sp. p. 4159; Gaz. vol. 160; p. 703.
Morgan, William H., Alliance, Ohio. Method of and machine for flanging plates. No. 974,173; Nov. 1; Sp. p. 140; Gaz. vol. 160; p. 26.
Morgan, William H., Alliance, Ohio. Method of and apparatus for forming rail-seats in ties. No. 974,174; Nov. 1; Sp. p. 144; Gaz. vol. 160; p. 26.
Morgan, William S., assignor to M. H. Morgan, Antigo, Wis. Mixing and lubricating device. No. 974,175; Nov. 1; Sp. p. 146; Gaz. vol. 160; p. 27.
Morgan, William W., Hollywood, Cal. Surveyor's reel. No. 974,417; Nov. 1; Sp. p. 761; Gaz. vol. 160; p. 115.
Mörk, Christen, assignor of one-half to E. Mallory, Portland, Oreg. Metal corner. No. 976,134; Nov. 15; Sp. p. 4488; Gaz. vol. 160; p. 757.
Moroney, Patrick J., Philadelphia, Pa. Cap-spinning machine. No. 977,323; Nov. 29; Sp. p. 7136; Gaz. vol. 160; p. 1215.
Morral, Samuel E. and W. W., Morral, Ohio. Machine for cutting green corn from the cob. No. 975,631; Nov. 15; Sp. p. 3450; Gaz. vol. 160; p. 585.
Morral, William W. (See Morral, Samuel E. and W. W.)
Morren, Prosper, Brussels, Belgium. Spring suspension for vehicles. No. 977,392; Nov. 29; Sp. p. 7293; Gaz. vol. 160; p. 1239.
Morris, Andrew P., Snyder, Tex. Submerged double-acting pump. No. 975,781; Nov. 15; Sp. p. 3776; Gaz. vol. 160; p. 635.
Morris, Boaz A., Newbern, N. C. Plow attachment. No. 976,077; Nov. 22; Sp. p. 5713; Gaz. vol. 160; p. 967.
Morris, Charles A., Montclair, N. J. Gripping mechanism. No. 975,710; Nov. 15; Sp. p. 3625; Gaz. vol. 160; p. 611.
Morris, James A., Gillett Grove, Iowa. Wrench. No. 974,587; Nov. 1; Sp. p. 1172; Gaz. vol. 160; p. 178.
Morris, John W., Indianapolis, Ind. Hat-fastener. No. 975,060; Nov. 8; Sp. p. 2229; Gaz. vol. 160; p. 363.
Morris, Leopold, Victoria, Tex. Animal trap or dip. No. 976,678; Nov. 22; Sp. p. 5713; Gaz. vol. 160; p. 967.
Morrison, J. May. (See Chamberlin, Newton F., assignor.)
Morrison, John R., Hermosa Beach, assignor of one-half to I. D. Moon, Azusa, Cal. Nail-holding attachment. No. 976,679; Nov. 22; Sp. p. 5714; Gaz. vol. 160; p. 967.
Morrison, Montford P., Atlanta, Ga. Cash-registering, change-making, and recording and accounting machine. No. 977,393; Nov. 29; Sp. p. 7294; Gaz. vol. 160; p. 1239.
Morrison, William, Des Moines, Iowa. Alkaline battery containing chromium and mercury. No. 975,885; Nov. 15; Sp. p. 3982; Gaz. vol. 160; p. 671.
Morrison, William, Des Moines, Iowa. Alkaline battery. No. 976,080; Nov. 15; Sp. p. 4160; Gaz. vol. 160; p. 704.
Morrison, William, Des Moines, Iowa. Electrode for reversible galvanic batteries. No. 975,981; Nov. 15; Sp. p. 4161; Gaz. vol. 160; p. 704.
Morrison, William, Des Moines, Iowa. Reversible galvanic battery. No. 976,092; Nov. 15; Sp. p. 4374; Gaz. vol. 160; p. 743.
Morrison, William, Des Moines, Iowa. Electrolyte for alkaline batteries. No. 976,277; Nov. 22; Sp. p. 4866; Gaz. vol. 160; p. 831.
Morrison, William, Des Moines, Iowa. Manufacturing material for alkaline batteries. No. 976,278; Nov. 22; Sp. p. 4867; Gaz. vol. 160; p. 831.
Morrison, William, Des Moines, Iowa. Making material for alkaline batteries. No. 976,279; Nov. 22; Sp. p. 4868; Gaz. vol. 160; p. 831.
Morrison, William, Des Moines, Iowa. Grid for reversible galvanic batteries. No. 976,824; Nov. 22; Sp. p. 6018; Gaz. vol. 160; p. 1016.
Morrison, William, Des Moines, Iowa. Secondary battery. (Reissue.) No. 13,174; Nov. 22; Sp. p. 6047; Gaz. vol. 160; p. 1023.
Morscher, Lawrence N. (See Ehrsam, Sieder, and Morscher.)
Morscher, Lawrence N., *et al.*, trustees. (See Ehrsam, Sieder, and Morscher, assignors.)
Morse, Louis C., assignor to B. E. Drake, Muskogee, Okla. Liquid-fuel burner. No. 976,680; Nov. 22; Sp. p. 5716; Gaz. vol. 160; p. 967.
Morton, Frank M., Phoenix, Ala., assignor to Columbus Truck and Supply Mfg. Co., Columbus, Ga. Collapsible revolving-beam vacuum dyeing-machine. No. 975,269; Nov. 8; Sp. p. 2689; Gaz. vol. 160; p. 435.
Morton, Frank M., Phoenix, Ala., assignor to Columbus Truck and Supply Mfg. Co., Columbus, Ga. Ribbed revolving vacuum-beam for dyeing-machines. No. 975,270; Nov. 8; Sp. p. 2691; Gaz. vol. 160; p. 435.
Mosher, Ralph E., assignor of one-half to A. D. Rathbone, Grand Rapids, Mich. Sheet-metal radiator. No. 976,203; Nov. 22; Sp. p. 4658; Gaz. vol. 160; p. 803.
Moskowitz, Joseph. (See Finkelstein, Maurice S., assignor.)
Mosteller, Dosier H., assignor to The Mosteller Manufacturing Company, Chicago, Ill. Ice-cream spoon. (Reissue.) No. 13,170; Nov. 22; Sp. p. 6039; Gaz. vol. 160; p. 1021.
Mosteller Manufacturing Company, The. (See Mosteller, Dosier, H., assignor.) (Reissue.)
Mott, Frank B. (See Smith, William H., assignor.)

Mott, William P., Chicago, Ill. Sand-blast apparatus. No. 975,782; Nov. 15; Sp. p. 3778; Gaz. vol. 160; p. 636.
Motter, Harry P., assignor of one-half to J. W. Bowman, Harrisburg, Pa. Yieldable pulley. No. 975,564; Nov. 15; Sp. p. 3319; Gaz. vol. 160; p. 563.
Moukos, Charles. (See Matchette and Moukos.)
Moukos, Charles. (See Matchette, Raddatz, and Moukos.)
Moulthrop, Harrison B. and H. C., Conneautville, Pa. Road-machine. No. 975,783; Nov. 15; Sp. p. 3780; Gaz. vol. 160; p. 636.
Moulthrop, Henry C. (See Moulthrop, Harrison B. and H. C.)
Moun, Peder N., Kloten, N. D. Rotary harrow. No. 974,808; Nov. 8; Sp. p. 1650; Gaz. vol. 160; p. 276.
Mouzon, Henry D., assignor of one-third to J. H. Ferguson and one-third to G. M. Alsup, McKinney, Tex. Photographic-printing cabinet. No. 976,280; Nov. 22; Sp. p. 4869; Gaz. vol. 160; p. 831.
Moyer, Harvey A., *et al.* (See Kavle, Oscar C., assignor.)
Moyer, Harvey A. (See Latta and Herrmann, assignors.)
Muchlmatt, Adolph, Newport, Ky. Tool-sharpener. No. 974,907; Nov. 8; Sp. p. 1878; Gaz. vol. 160; p. 310.
Mudd, Joseph A., Chicago, Ill. Loose-leaf binder. No. 977,120; Nov. 29; Sp. p. 6731; Gaz. vol. 160; p. 1145.
Mueller, George, Salt Lake City, Utah. Bread or other commodity catching device. No. 977,212; Nov. 29; Sp. p. 6932; Gaz. vol. 160; p. 1178.
Muenzenmaier, George A., Lebanon, and F. M. See, Silverton, assignors to The Peters Cartridge Company, Cincinnati, Ohio. Bullet. No. 974,418; Nov. 1; Sp. p. 762; Gaz. vol. 160; p. 115.
Muirhead, James, Pawtucket, R. I. Burner for water-heaters. No. 977,214; Nov. 29; Sp. p. 6934; Gaz. vol. 160; p. 1178.
Müller-Jacobs, Armand, Huntington, and R. C. F. A. C. Bernhardi, assignors to The Arabol Manufacturing Company, New York, N. Y. Emulsifying oils, fats, and the like. No. 975,447; Nov. 15; Sp. p. 3055; Gaz. vol. 160; p. 522.
Müller, Johann C., Dresden, Germany. Apparatus for making mouthpiece-tubes. No. 977,394; Nov. 29; Sp. p. 7325; Gaz. vol. 160; p. 1239.
Mulloy, Patrick J. (See Woods, Robert, assignor.)
Munger, Carlton A., assignor to Wayne Manufacturing Company, St. Louis, Mo. Gearing. No. 974,508; Nov. 1; Sp. p. 992; Gaz. vol. 160; p. 148.
Munson, Clair, and J. Jackson, Clinton, Iowa; said Jackson assignor to said Munson. Chair-seat. No. 975,632; Nov. 15; Sp. p. 3451; Gaz. vol. 160; p. 586.
Munson, Martin C. (See Svenson, Sven, assignor.)
Murdoch, James J., assignor to Dwight Lumber Company, Detroit, Mich. Burnishing-machine. No. 975,886; Nov. 15; Sp. p. 3983; Gaz. vol. 160; p. 675.
Murnane, Daniel J., St. Louis, Mo. Show-window or store-front. No. 975,150; Nov. 8; Sp. p. 2425; Gaz. vol. 160; p. 394.
Murphy, Charles A., Baltimore, Md. Lever. No. 976,901; Nov. 29; Sp. p. 6203; Gaz. vol. 160; p. 1068.
Murphy Did It Company. (See Peterson, Nels, assignor.)
Murphy, Francies A., *et al.* (See Crump, Robert B., assignor.)
Murphy, James J., assignor to Eagle Lock Co., Terryville, Conn. Multiple-key lock. No. 974,693; Nov. 1; Sp. p. 1392; Gaz. vol. 160; p. 216.
Murphy, Peter H. (See Hoffman, John J., assignor.)
Murray, Aristides R., assignor to The Cincinnati Shaper Company, Cincinnati, Ohio. Reversing mechanism. No. 975,982; Nov. 15; Sp. p. 4163; Gaz. vol. 160; p. 704.
Murray, Charles F., Chicago, Ill., assignor to American Steel Foundries, New York, N. Y. Knuckle-pin retainer. No. 974,500; Nov. 1; Sp. p. 998; Gaz. vol. 160; p. 148.
Murray, James. (See Kaufman, Ludwig, assignor.)
Murray, Michael P., Creswon, Pa. Railway-rail. No. 975,271; Nov. 8; Sp. p. 2693; Gaz. vol. 160; p. 435.
Murrin, Philip D. (See Hixon and Murrin.)
Mussell, Jacob, Caldwell, Idaho. Conveyer mechanism. No. 975,565; Nov. 15; Sp. p. 3321; Gaz. vol. 160; p. 564.
Mustad, Hans C. H., Duclair, France. Explosive-engine. No. 974,809; Nov. 8; Sp. p. 1652; Gaz. vol. 160; p. 277.
Muzzy, William H., assignor to The National Cash Register Company, Dayton, Ohio. Cash-register. No. 975,061; Nov. 8; Sp. p. 2230; Gaz. vol. 160; p. 363.
Myer, Clayton P., Houston, Tex. Cylinder-mounting for carriage-feeds. No. 975,784; Nov. 15; Sp. p. 3781; Gaz. vol. 160; p. 637.
Myer, James W., San Francisco, Cal. Pump driving-gear. No. 974,694; Nov. 1; Sp. p. 1398; Gaz. vol. 160; p. 217.
Myer, James W., San Francisco, Cal. Quarts-mill. No. 975,369; Nov. 8; Sp. p. 2804; Gaz. vol. 160; p. 468.
Myers, Clarence A., Camden, N. J. Stamping and punching machine. No. 974,695; Nov. 1; Sp. p. 1399; Gaz. vol. 160; p. 217.
Myers, George M., Toronto, Ohio. Tile-making machine. No. 975,062; Nov. 8; Sp. p. 2233; Gaz. vol. 160; p. 364.
Myratt, Otis A., New York, N. Y. Glassware. No. 976,681; Nov. 22; Sp. p. 5717; Gaz. vol. 160; p. 968.
Narahara, Kichizo, Alameda, Cal. Sash holder and lock. No. 974,696; Nov. 1; Sp. p. 1405; Gaz. vol. 160; p. 217.
Nash, William G., Daytona, Fla. Signaling device for automobiles. No. 977,215; Nov. 29; Sp. p. 6935; Gaz. vol. 160; p. 1179.
Nasmith, John D. (See Turner, Sydney, assignor.)
National Acme Manufacturing Company, The. (See Hunter, Hugh M., assignor.)
National-Acme Manufacturing Company, The. (See Smith, Oscar A., assignor.)
National Air Filter Company. (See Shaffner, Samuel C., assignor.)
National Air Filter Company. (See Shaffner and Hutton, assignors.)
National Cash Register Company, The. (See Church, Edmund S., assignor.)
National Cash Register Company, The. (See Kettering, Charles F., assignor.)
National Cash Register Company, The. (See Muzzy, William H., assignor.)
National Cash Register Company, The. (See Werner, John A., assignor.)
National Liquid Register Company. (See Newman, Julius C., assignor.)
National Malleable Castings Company, The. (See Baseley, Arthur J., assignor.)
National Malleable Castings Company, The. (See Schmidt, Ernest H., assignor.)
National Orchard Heater Co., The. (See Fulghum, Thomas E., assignor.)
National Pneumatic Company. (See Rowntree, Harold, assignor.)
Naulty, James, and J. Scanlin, Philadelphia, Pa. Making copper alloys and the product thereof. No. 974,419; Nov. 1; Sp. p. 764; Gaz. vol. 160; p. 116.
Naylor, Joseph S., assignor of one-half to C. V. Gregory, Ames, Iowa. Seed-corn tester. No. 976,485; Nov. 22; Sp. p. 5323; Gaz. vol. 160; p. 902.
Nazel, John, and W. E. Barlow, Philadelphia, Pa., assignors to Sanitary Paper Bottle Company, Wilmington, Del. Tool for closing receptacles. No. 974,908; Nov. 8; Sp. p. 1877; Gaz. vol. 160; p. 310.
Neafie, Andrew J., Boonton, N. J., assignor to The Delaware, Lackawanna & Western Railroad Company, New York, N. Y. Tie-plate. No. 977,121; Nov. 29; Sp. p. 6734; Gaz. vol. 160; p. 1146.
Neary, James. (See King and Neary.)
Needham, John T. (See Skirrow and Needham.)
Needham, John T., New York, assignor to Interstate Pneumatic Tube Company, Brooklyn, N. Y. Pneumatic-despatch-tube apparatus. No. 976,744; Nov. 22; Sp. p. 5835; Gaz. vol. 160; p. 989.
Neely, William B. (See White, Garrett, assignor.)
Neeper, A. M. (See Forsyth, William D., assignor.)
Negley, Oliver K., Galesburg, Ill. Repair-gland. No. 976,204; Nov. 22; Sp. p. 4660; Gaz. vol. 160; p. 803.
Nehf, Benjamin L., Dinuba, Cal. Cultivator. No. 977,031; Nov. 29; Sp. p. 6528; Gaz. vol. 160; p. 1114.
Neikirk, John O., Morgan Park, assignor to Hercules Equipment Company, Chicago, Ill. Car-axle. No. 976,486; Nov. 22; Sp. p. 5325; Gaz. vol. 160; p. 903.
Neil, Henry R. (See Wheeler and Neil.)
Nelson, Bernard, Chicago, Ill. Clasp. No. 975,063; Nov. 8; Sp. p. 2235; Gaz. vol. 160; p. 364.
Nelson, Bruce G., Devils Lake, N. D. Grain-saving device. No. 976,745; Nov. 22; Sp. p. 5840; Gaz. vol. 160; p. 989.
Nelson, Emil A., assignor to Rotary Valve Motor Company, Detroit, Mich. Crank-shaft and bearing therefor. No. 974,697; Nov. 1; Sp. p. 1406; Gaz. vol. 160; p. 218.
Nelson, George A., Bayonne, N. J. Scuttle. No. 975,983; Nov. 15; Sp. p. 4165; Gaz. vol. 160; p. 705.
Nelson, George H. (See Johnson, William, assignor.)
Nelson, Joseph W. (See Scott, Clyde B., assignor.)
Nelson, Nels H., Willmar, Minn. Power dumping-vehicle. No. 976,389; Nov. 22; Sp. p. 5113; Gaz. vol. 160; p. 868.
Nelson, William O., Baltimore, Md. Combined carbureter-protector and electric cut-out for automobiles. No. 976,487; Nov. 22; Sp. p. 5326; Gaz. vol. 160; p. 903.
Němeček, Adolf, Josefstadt, Austria-Hungary. Container for lubricants. No. 976,825; Nov. 22; Sp. p. 6020; Gaz. vol. 160; p. 1017.
Nemsey, William, Brooklyn, N. Y. Amusement device. No. 975,984; Nov. 15; Sp. p. 4167; Gaz. vol. 160; p. 705.
Nernst Lamp Company. (See Foell and Harris, assignors.)
Nernst Lamp Company. (See Kusebauch, Anton, assignor.)
Nett, Fred H., Rialto, Cal. Nut-lock. No. 975,985; Nov. 15; Sp. p. 4168; Gaz. vol. 160; p. 705.
Neue Berliner Messingwerke Wilhelm Borchert, Jr. (See Seifert, Johann T. J., assignor.)
Neuhaus, David, New York, N. Y. Hat and clothes rack. No. 976,205; Nov. 22; Sp. p. 4662; Gaz. vol. 160; p. 803.
Neumann, Max, Wiesbaden, Germany, assignor to General Chemical Company, New York, N. Y. Formic acid. No. 975,151; Nov. 8; Sp. p. 2429; Gaz. vol. 160; p. 394.
Neumuth, Martin J., New York, N. Y. Attachment for flat-surface grinding-machines. No. 975,785; Nov. 15; Sp. p. 3783; Gaz. vol. 160; p. 637.
New Departure Manufacturing Company, The. (See Rockwell, Albert F., assignor.)
New Haven Clock Co. (See Porter, Wilson E., assignor.)
New Jersey Patent Company. (See Miller, Walter H., assignor.)
New Jersey Patent Company. (See Weber, Peter, assignor.)
Newbold, John P., Cape May, N. J. Target. No. 975,711; Nov. 15; Sp. p. 3633; Gaz. vol. 160; p. 611.
Newcomb, Perl E., Hutchinson, Minn. Wheelbarrow. No. 974,909; Nov. 8; Sp. p. 1878; Gaz. vol. 160; p. 311.

Newell, Frank C., assignor to The F. C. Newell Mutograph Corporation, Cleveland, Ohio. Mutograph. No. 976,093; Nov. 15; Sp. p. 4378; Gaz. vol. 160; p. 743.
Newman, Herman F., Indianapolis, Ind. Rotary distributing-nozzle or sprinkler-head. No. 974,176; Nov. 1; Sp. p. 147; Gaz. vol. 160; p. 27.
Newman, Julius C., Detroit, Mich., assignor to National Liquid Register Company. Cask-faucet gage. No. 977,216; Nov. 29; Sp. p. 6937; Gaz. vol. 160; p. 1179.
Newman, Samuel, Cincinnati, Ohio. Hat. No. 975,448; Nov. 15; Sp. p. 3057; Gaz. vol. 160; p. 522.
Newsome, Edwin, Ottawa, Ontario, Canada. Clean-out attachment for bath wastes and overflows. No. 976,593; Nov. 22; Sp. p. 5556; Gaz. vol. 160; p. 938.
Newton, Charles L., Cincinnati, Ohio. Vending device. No. 975,887; Nov. 15; Sp. p. 3985; Gaz. vol. 160; p. 672.
Newton, Charles W., Houston, Tex. Saw attachment. No. 976,902; Nov. 29; Sp. p. 6205; Gaz. vol. 160; p. 1068.
Newton, William G., assignor to The Peck Bros. & Co., New Haven, Conn. Flush-tank-operating device. No. 977,122; Nov. 29; Sp. p. 6735; Gaz. vol. 160; p. 1146.
Niagara Falls Ice Cream Freezer Company. (See Eldridge and Breed, assignors.)
Niagara Machine & Tool Works. (See Ganssien, Hermann, assignor.)
Nichols Copper Co. (See Herreshoff, John B. F., assignor.)
Nichols, George V., assignor to Tilden-Thurber Company, Providence, R. I. Garment-hanger. No. 976,094; Nov. 15; Sp. p. 4391; Gaz. vol. 160; p. 744.
Nichols, Henry B., Philadelphia, Pa. Grinding-machine. No. 977,324; Nov. 29; Sp. p. 7138; Gaz. vol. 160; p. 1215.
Nichols, Henry B., Philadelphia, Pa. Grinding-wheel. No. 977,325; Nov. 29; Sp. p. 7142; Gaz. vol. 160; p. 1216.
Niedermayr, Georg, Hattersheim-in-the-Taunus, assignor to A. V. Rowley, Frankfort-on-the-Main, Germany. Two-thread overedge sewing-machine. No. 974,910; Nov. 8; Sp. p. 1879; Gaz. vol. 160; p. 311.
Niedersächsische Papierindustrie G. m. b. H. (See Severin, Conrad, assignor.)
Nielsen, Catherine, *et al.* (See Geier, James, assignor.)
Niemann, Frederick A., assignor to Comptograph Company, Chicago, Ill. Motor-driven adding-machine. No. 976,390; Nov. 22; Sp. p. 5116; Gaz. vol. 160; p. 868.
Niemie, Nels A., McKenzie, N. D. Clevis. No. 975,786; Nov. 15; Sp. p. 3784; Gaz. vol. 160; p. 637.
Niesz, Frank B., assignor to The Bucher & Gibbs Plow Company, Canton, Ohio. Disk harrow. (Reissue.) No. 13,163; Nov. 1; Sp. p. 1569; Gaz. vol. 160; p. 242.
Niles-Bement-Pond Company. (See Sears, Willard T., assignor.)
Nilson, Arvid, assignor to Wahl-Henius Institute of Fermentology, Chicago, Ill. Manufacture of a food product from cereal sprouts. No. 976,488; Nov. 22; Sp. p. 5329; Gaz. vol. 160; p. 903.
Nilsson, Martin, *et al.* (See Levey, Thomas J., assignor.)
Nino, Baptiste, New York, N. Y. Baking-oven. No. 975,272; Nov. 8; Sp. p. 2694; Gaz. vol. 160; p. 435.
Nix, Joshua J. (See Frost and Nix.)
Nixon, Harry L., *et al.* (See Mitchell, Charles E., assignor.)
Noah, William J. (See Groom, McFall, and Noah.)
Noble, Ralph E., assignor to Morgan-Gardner Electric Company, Chicago, Ill. Mining-machine bit. No. 976,835; Nov. 22; Sp. p. 6036; Gaz. vol. 160; p. 1019.
Noeggerath, Jakob E., Schenectady, N. Y., assignor to General Electric Company. Insulator for high-tension transmission systems. No. 974,177; Nov. 1; Sp. p. 148; Gaz. vol. 160; p. 27.
Nolan, Johnston, Philadelphia, Pa. Valve. No. 976,489; Nov. 22; Sp. p. 5331; Gaz. vol. 160; p. 904.
Nollenberger, Theodore, *et al.* (See McFarland, William W., assignor.)
Noppe, Henry, Grand Rapids, Mich. Extensible bracket. No. 975,273; Nov. 8; Sp. p. 2697; Gaz. vol. 160; p. 436.
Norris, Richard, assignor of one-half to H. Thompson, Marion, Ohio. Friction driving mechanism. No. 976,281; Nov. 22; Sp. p. 4872; Gaz. vol. 160; p. 832.
Norman, Frederick L., assignor of one-half to H. Bealmear, Baltimore, Md. Cork-extractor. No. 975,384; Nov. 8; Sp. p. 2936; Gaz. vol. 160; p. 473.
North Electric Company, The. (See Clement, Edward E., assignor.)
Northam, Robert J., Los Angeles, Cal. Lifting-jack. No. 974,988; Nov. 8; Sp. p. 2079; Gaz. vol. 160; p. 339.
Northey, John P., Toronto, Ontario, Canada. Sound-producing device. No. 976,682; Nov. 22; Sp. p. 5718; Gaz. vol. 160; p. 968.
Northrop, Herbert N., Somerville, Mass. Collar-supporter. No. 975,986; Nov. 15; Sp. p. 4170; Gaz. vol. 160; p. 706.
Northrup, Blancher D., Washington, Pa. Friction-clutch. No. 975,987; Nov. 15; Sp. p. 4171; Gaz. vol. 160; p. 706.
Northrup, Le Roy. (See Kingston and Lane, assignors.)
Norton, Bernard W., Alameda, Cal. Display device. No. 977,395; Nov. 29; Sp. p. 7329; Gaz. vol. 160; p. 1240.
Norton, Frank, Shirley Mills, Me. Floor-set. No. 975,566; Nov. 15; Sp. p. 3328; Gaz. vol. 160; p. 564.
Nottingham, Otis W. (See Starkweather and Nottingham.)
Nourse, Leland D. (See Pye and Nourse.)
Novelty Iron Company, The. (See Girvin, Lincoln A., assignor.)
Nya Ackumulator Aktiebolaget Jungner. (See Estelle, Axel T. K., assignor.)
Nyberg, And., *et al.* (See Ross, John, assignor.)
Nyberg, Louis, *et al.* (See Ross, John, assignor.)
O. A. Miller Treeing Machine Company. (See Oertly and Dudley, assignors.)
O. K. Nut Lock Company, The. (See Armstrong, John R., assignor.)
O'Brien, Benjamin T., and W. H. Browning, Liverpool, England; said Browning assignor to said O'Brien. Machine for calculating. No. 975,633; Nov. 15; Sp. p. 3453; Gaz. vol. 160; p. 586.
O'Brien, Benjamin T., and W. H. Browning, Liverpool, England; said Browning assignor to said O'Brien. Machine for calculating. No. 975,634; Nov. 15; Sp. p. 3458; Gaz. vol. 160; p. 587.
O'Brien, James H., Ilion, N. Y. Spring for flexible connections. No. 975,274; Nov. 8; Sp. p. 2699; Gaz. vol. 160; p. 436.
O'Brien, Joseph S., Westfield, Mass. Combined mop head and wringer. No. 976,283; Nov. 22; Sp. p. 4873; Gaz. vol. 160; p. 832.
O'Brien, William J., Long Island City, N. Y. Signal. No. 974,810; Nov. 8; Sp. p. 1654; Gaz. vol. 160; p. 277.
O'Byrne, Joseph F., Contact, Nev. Gyroscope and sphere. No. 975,988; Nov. 15; Sp. p. 4173; Gaz. vol. 160; p. 707.
O'Connor, John F., Chicago, Ill., assignor to C. W. Sherman, Buffalo, N. Y. Car-bolster. No. 976,206; Nov. 22; Sp. p. 4663; Gaz. vol. 160; p. 804.
O'Connor, John F., assignor, by mesne assignments, to W. H. Miner, Chicago, Ill. Friction-buffer for railway-cars. No. 976,903; Nov. 29; Sp. p. 6206; Gaz. vol. 160; p. 1068.
O'Dell, John. (See Fairchild, Allan W., assignor.)
O'Donnell, John J., Biwabik, assignor of one-half to W. Brown, Hibbing, Minn. Railway-tie. No. 976,683; Nov. 22; Sp. p. 5719; Gaz. vol. 160; p. 968.
O'Hare, Thomas, New York, N. Y. Wrench. No. 976,301; Nov. 22; Sp. p. 5125; Gaz. vol. 160; p. 869.
O'Neil, Daniel. (See Yoho, O'Neil, and Kiester.)
O'Neill, Joseph C., and J. S. Dye, Trenton, N. J. Automatic safety check-valve. No. 975,153; Nov. 8; Sp. p. 2432; Gaz. vol. 160; p. 395.
Oakman, Henry B. (See Washburne, Charles H., assignor.)
Oates, George P. (See Packham and Oates.)
Obele, Lawrence T., Philadelphia, Pa. Clothes-line reel. No. 976,826; Nov. 22; Sp. p. 6021; Gaz. vol. 160; p. 1017.
Oberg, William, assignor of one-half to E. Lindahl, Oakland, Nebr. Lifting-tool for commodes and cuspidors. No. 976,282; Nov. 22; Sp. p. 4873; Gaz. vol. 160; p. 832.
Ocumpaugh, Charles H., Rochester, N. Y. Device for independent voting. No. 977,396; Nov. 29; Sp. p. 7330; Gaz. vol. 160; p. 1240.
Oddie, Philip F., Wimbledon, near London, England. Direct-acting pump. No. 974,698; Nov. 1; Sp. p. 1407; Gaz. vol. 160; p. 218.
Odgers, Harry T., assignor to The Columbus Pharmacal Company, Columbus, Ohio. Artificial leg. No. 975,888; Nov. 15; Sp. p. 3986; Gaz. vol. 160; p. 672.
Oertly, John, Cincinnati, Ohio, and C. F. Dudley, Bellevue, Ky., assignors to O. A. Miller Treeing Machine Company, Portland, Me. Apparatus for heating tools electrically. No. 974,420; Nov. 1; Sp. p. 765; Gaz. vol. 160; p. 116.
Oeser, Ernst, Berlin, Germany. Providing bronze-powder and dust colors with a coat of varnish. No. 976,594; Nov. 22; Sp. p. 5557; Gaz. vol. 160; p. 939.
Oeste, Julius, Davis, Cal. Traction-wheel. No. 974,510; Nov. 1; Sp. p. 1001; Gaz. vol. 160; p. 149.
Ogden, Fredric D., deceased, Bayonne, N. J.; J. E. Ogden, administrator, assignor, by mesne assignments, to The Patent Appliance Company. Door and means for operating same. No. 974,699; Nov. 1; Sp. p. 1409; Gaz. vol. 160; p. 218.
Ogden, J. Edward, administrator. (See Ogden, Fredric D.)
Ohio Brass Company, The. (See Johnston, Robert M., assignor.)
Ohio Rake Company, The. (See Lathrop, Frank K., assignor.)
Ohio Salt Company. (See Landis and Smith, assignors.)
Ohmer Fare Register Co. (See Ohmer, John F., assignor.)
Ohmer, John F., Dayton, Ohio. Ticket printing and auditing machine. No. 974,511; Nov. 1; Sp. p. 1002; Gaz. vol. 160; p. 149.
Ohmer, John F., assignor to Ohmer Fare Register Co., Dayton, Ohio. Fare-register. No. 974,700; Nov. 1; Sp. p. 1414; Gaz. vol. 160; p. 219.
Ohrynoweech, Martin, New York, N. Y. Dasher for ice-cream freezers. No. 976,684; Nov. 22; Sp. p. 5720; Gaz. vol. 160; p. 968.
Oil and Waste Saving Machine Company, The. (See Patterson, Thomas S., assignor.)
Oldham, William W., Bowie, Tex. Agricultural implement. No. 974,512; Nov. 1; Sp. p. 1011; Gaz. vol. 160; p. 150.
Oleson, Olaf E. (See Sargent, Frederick, assignor.)
Oliver Chilled Plow Works. (See Paul, William L., assignor.)
Oliver, John G., Cleveland, Ohio. Independent stop mechanism for turret-lathes. No. 976,904; Nov. 29; Sp. p. 6209; Gaz. vol. 160; p. 1069.
Oliver, Walter I. (See Cardarelli, Emilio, assignor.)

Oller, Raymond H., Syracuse, N. Y. Panel-board. No. 977,123; Nov. 29; Sp. p. 6736; Gaz. vol. 160; p. 1147.
Olney, Arthur G. (See Llewellyn and Olney.)
Olp, Fred G., Nunda, N. Y. Feeder for concrete-mixers. No. 974,588; Nov. 1; Sp. p. 1173; Gaz. vol. 160; p. 179.
Olsen, John, Watertown, N. Y. Plug-screen. No. 974,513; Nov. 1; Sp. p. 1012; Gaz. vol. 160; p. 150.
Olson, Nels L., Butte, Mont. Adjustable plow-point. No. 974,701; Nov. 1; Sp. p. 1415; Gaz. vol. 160; p. 219.
Olson, Olaf J., Clontarf, Minn. Grain-door for cars. No. 976,284; Nov. 22; Sp. p. 4875; Gaz. vol. 160; p. 832.
Olsson, Albin, Seattle, Wash. Fly-paper holder. No. 975,152; Nov. 8; Sp. p. 2431; Gaz. vol. 160; p. 394.
Olsson, John W., New York, N. Y., assignor of one-fourth to R. F. Greenfield, High Bridge, N. J. Folding umbrella. No. 974,811; Nov. 8; Sp. p. 1055; Gaz. vol. 160; p. 277.
Onderdonk, Lansing, New York, N. Y., assignor to Union Special Machine Company, Chicago, Ill. Presser-foot for blindstitch-machines. No. 976,095; Nov. 15; Sp. p. 4392; Gaz. vol. 160; p. 744.
Optische Anstalt C. P. Goerz Actiengesellschaft. (See Humbrecht, Jules, assignor.)
Osborne, Eugene F., assignor to Osborne Steam Engineering Company, Chicago, Ill. Flanged fitting end. No. 977,032; Nov. 29; Sp. p. 6530; Gaz. vol. 160; p. 1115.
Osborne Steam Engineering Company. (See Osborne, Eugene F., assignor.)
Oslund, Charles H., Worcester, Mass. Apparatus for starting gas-engines. No. 975,567; Nov. 15; Sp. p. 3324; Gaz. vol. 160; p. 564.
Osmer, John E., Chicago, Ill. Journal-box. No. 975,449; Nov. 15; Sp. p. 3059; Gaz. vol. 160; p. 522.
Osmer, John E., Chicago, Ill. Fluid-pressure-actuated vise. No. 976,285; Nov. 22; Sp. p. 4876; Gaz. vol. 160; p. 833.
Ostberg, Anders J., St. Kilda, Victoria, Australia. Manufacturing substitutes for leather-board. No. 976,827; Nov. 22; Sp. p. 6022; Gaz. vol. 160; p. 1017.
Ostman, Joseph O., assignor of one-fourth to A. Immo and one-fourth to A. Abramson, Hancock, Mich. Sewing-machine attachment. No. 975,989; Nov. 15; Sp. p. 4175; Gaz. vol. 160; p. 707.
Otis Elevator Company. (See Baldwin, William D., assignor.)
Otis Elevator Company. (See Coyle, Andrew M., assignor.)
Otis Elevator Company. (See Lindquist, David L., assignor.)
Otis Elevator Company. (See Sundh, August, assignor.)
Otis, W. E., Jr., *et al.* (See Huntley, Stephen A., assignor.)
Ouimet, Séraphin, Montreal, Quebec, Canada. Filtration system. No. 975,450; Nov. 15; Sp. p. 3060; Gaz. vol. 160; p. 523.
Overton, Willis E., and A. C. Ketcham, Solomons, Md. Expanding or adjustable press for fertilizing material, &c. No. 975,990; Nov. 15; Sp. p. 4177; Gaz. vol. 160; p. 707.
Owen, Henry A. (See Robinson and Owen.)
Owen, William B., Price, Utah. Tire-fastening device. No. 974,178; Nov. 1; Sp. p. 150; Gaz. vol. 160; p. 28.
Owens, Charles, Chattanooga, Tenn., assignor to Montague Mailing Machinery Co., New York, N. Y. Embossing-machine. No. 976,905; Nov. 29; Sp. p. 6211; Gaz. vol. 160; p. 1069.
Owens, James T., Washington, D. C. Smoke-bell support. No. 974,702; Nov. 1; Sp. p. 1417; Gaz. vol. 160; p. 219.
Ozonair Limited. (See Rogerson, Frank, assignor.)
P. & F. Corbin. (See Arens and Teich, assignors.)
P. H. & F. M. Roots Company, The. (See Hicks, George C., Jr., assignor.)
Packham, Frank R., and G. P. Oates, assignors to The American Seeding Machine Company, Springfield, Ohio. Drag-bar for furrow-openers. No. 976,490; Nov. 22; Sp. p. 5333; Gaz. vol. 160; p. 904.
Page, David P., Grand Rapids, Mich. Wire-clamp. No. 976,906; Nov. 29; Sp. p. 6215; Gaz. vol. 160; p. 1070.
Page, Eugene, Danvers, and F. Tremblay, Beverly, Mass. Curtain and shade fixture. No. 975,568; Nov. 15; Sp. p. 3327; Gaz. vol. 160; p. 563.
Pagendarm, John F., assignor of one-half to W. H. Binns, San Francisco, Cal. Motion-transmitting device. No. 976,907; Nov. 29; Sp. p. 6216; Gaz. vol. 160; p. 1070.
Pahler, Martin A., Hartford, Conn. Car-brake. No. 976,595; Nov. 22; Sp. p. 5558; Gaz. vol. 160; p. 939.
Palmenberg, Emil T., New York, N. Y. Bending-machine. No. 975,787; Nov. 15; Sp. p. 3786; Gaz. vol. 160; p. 637.
Palmer, Charles G. (See Greene and Palmer.)
Palmer, Lamar W., Riverside, N. J. Vise attachment. No. 975,991; Nov. 15; Sp. p. 4178; Gaz. vol. 160; p. 708.
Palmer, Milton H. (See Lee, Snover, and Palmer.)
Pane, Martin F., Murdocksville, Pa. Salt and pepper shaker. No. 975,451; Nov. 15; Sp. p. 3062; Gaz. vol. 160; p. 523.
Pangborn, Herbert L., Maquoketa, Iowa. Vault. No. 975,788; Nov. 15; Sp. p. 3787; Gaz. vol. 160; p. 638.
Pansch, William, and O. G. Bark, Chicago, Ill. Self-locking bolt. No. 976,006; Nov. 15; Sp. p. 4395; Gaz. vol. 160; p. 745.
Panton, Joseph A., Waterloo, near Liverpool, England. Reinforced brake-shoe. No. 974,589; Nov. 1; Sp. p. 1175; Gaz. vol. 160; p. 179.
Panyard, Thomas A., Milwaukee, Wis. Gearing. No. 975,780; Nov. 15; Sp. p. 3789; Gaz. vol. 160; p. 638.
Papke, William C. F., Cincinnati, Ohio. Printer's rule in corner, straight-strip, curved, or tubular form. No. 977,217; Nov. 29; Sp. p. 6938; Gaz. vol. 160; p. 1179.
Papyrus Artificial Paper Manufacturing Company, The. (See Funke, Anton, assignor.)
Paradise, Samuel R., Valparaiso, Ind. Clamping device. No. 976,828; Nov. 22; Sp. p. 6023; Gaz. vol. 160; p. 1017.
Paradise, Samuel R., Valparaiso, Ind. Clamp. No. 976,829; Nov. 22; Sp. p. 6024; Gaz. vol. 160; p. 1018.
Paradise, William F., Leavenworth, Kans. Gas-liberating header for steam-condensing coils. No. 974,590; Nov. 1; Sp. p. 1176; Gaz. vol. 160; p. 179.
Pardee, Frank, Hazleton, Pa., assignor to Anthracite Separator Company. Plate for spiral separators. No. 977,033; Nov. 29; Sp. p. 6532; Gaz. vol. 160; p. 1115.
Pardee, Frank, Hazleton, Pa., assignor to Anthracite Separator Company. Plate for spiral separators. No. 977,034; Nov. 29; Sp. p. 6534; Gaz. vol. 160; p. 1115.
Pardee, Frank, Hazleton, Pa., assignor to Anthracite Separator Company. Plate for spiral separators. No. 977,035; Nov. 29; Sp. p. 6536; Gaz. vol. 160; p. 1116.
Pardee, Frank, Hazleton, Pa., assignor to Anthracite Separator Company. Retarder for materials in spiral separators. No. 977,036; Nov. 29; Sp. p. 6537; Gaz. vol. 160; p. 1116.
Pardee, Frank, Hazleton, Pa., assignor to Anthracite Separator Company. Spiral separator. No. 977,037; Nov. 29; Sp. p. 6540; Gaz. vol. 160; p. 1116.
Pardee, Frank, Hazleton, Pa., assignor to Anthracite Separator Company. Feed apparatus for spiral separators. No. 977,038; Nov. 29; Sp. p. 6543; Gaz. vol. 160; p. 1117.
Park, F. C., *et al.* (See Berntson, Thomas, assignor.)
Parker-Clark Electric Company. (See Baker, King, and Parker, assignors.)
Parker-Clark Electric Company. (See Parker, Herschel C., assignor.)
Parker-Clark Electric Company. (See Parker and Clark, assignors.)
Parker, Claude M. (See Barr, Emmett, assignor.)
Parker, George E., Brookline, assignor to Heaton-Peninsular Button Fastener Company, Boston, Mass. Feed-tube for buttons and button-fasteners and coupling mechanism. No. 977,124; Nov. 29; Sp. p. 6739; Gaz. vol. 160; p. 1147.
Parker, Herschel C. (See Baker, King, and Parker.)
Parker, Herschel C., assignor to Parker-Clark Electric Company, New York, N. Y. Making incandescent-electric-lamp filaments. No. 974,812; Nov. 8; Sp. p. 1658; Gaz. vol. 160; p. 278.
Parker, Herschel C., and W. G. Clark, assignors to Parker-Clark Electric Company, New York, N. Y. Filament or resister for heating units or lamps. No. 976,207; Nov. 22; Sp. p. 4665; Gaz. vol. 160; p. 804.
Parker, Howard, assignor to Improved Paper Machinery Company, Nashua, N. H. Machine for collecting solids from liquids. No. 974,989; Nov. 8; Sp. p. 2081; Gaz. vol. 160; p. 330.
Parker, John C., Philadelphia, Pa. Means for regulating pressure in steam-boilers. No. 974,911; Nov. 8; Sp. p. 1882; Gaz. vol. 160; p. 311.
Parker, William H., Toronto, Ontario, Canada. Acetylene gas generator. No. 975,154; Nov. 8; Sp. p. 2433; Gaz. vol. 160; p. 395.
Parkhurst, Leon F., and H. G. Weeks, assignors to Diamond Electric Company, Binghamton, N. Y. Electric heater. No. 975,712; Nov. 15; Sp. p. 3634; Gaz. vol. 160; p. 611.
Parmenter, George A., Cambridge, Mass. Life-guard for railway-cars. (Reissue.) No. 13,172; Nov. 22; Sp. p. 6041; Gaz. vol. 160; p. 1021.
Parmeter, Addison J., assignor of one-half to P. H. Warriner, Milnor, N. D. Storm-window attachment. No. 975,902; Nov. 15; Sp. p. 4180; Gaz. vol. 160; p. 708.
Parr, George R., Baltimore, Md. Opera-chair. No. 974,703; Nov. 1; Sp. p. 1420; Gaz. vol. 160; p. 220.
Parrahm, James N., Wichita, Kans. Window-bracket. No. 977,039; Nov. 29; Sp. p. 6545; Gaz. vol. 160; p. 1117.
Parrish, Asa L., Elkhart, Ind. Paper-bag machine. No. 974,704; Nov. 1; Sp. p. 1421; Gaz. vol. 160; p. 220.
Partington, Albert E., Sydney, New South Wales, Australia. Multiple fusible cut-out for electrical circuits. No. 975,560; Nov. 15; Sp. p. 3329; Gaz. vol. 160; p. 565.
Partridge, Lambert W., assignor to Flynn & Emrich Company, Baltimore, Md. Molding and baking machine. No. 974,705; Nov. 1; Sp. p. 1431; Gaz. vol. 160; p. 220.
Pate, Joseph B., Durham, N. C. Spittoon. No. 977,218; Nov. 29; Sp. p. 6939; Gaz. vol. 160; p. 1179.
Patent Appliance Company, The. (See Ogden, Fredric D., assignor.)
Patrick, Henry W., Elyria, Ohio. Sterilizing device. No. 974,514; Nov. 1; Sp. p. 1015; Gaz. vol. 160; p. 150.
Patterson, Charles H., Trinidad, Colo. Colt and calf weaner. No. 974,421; Nov. 1; Sp. p. 769; Gaz. vol. 160; p. 116.
Patterson, Charles M. (See Pond, Edward C., assignor.)
Patterson, James W., New York, N. Y. Vending-machine. No. 974,813; Nov. 8; Sp. p. 1660; Gaz. vol. 160; p. 278.
Patterson, James W., New York, N. Y. Vending-machine. No. 974,814; Nov. 8; Sp. p. 1662; Gaz. vol. 160; p. 279.

Patterson, Thomas S., Rosemont, assignor to The Oil and Waste Saving Machine Company, Philadelphia, Pa. Washing-machine. No. 974,591; Nov. 1; Sp. p. 1178; Gaz. vol. 160; p. 180.
Patton, John B. (See Tucker, Benjamin W., assignor.)
Patton, Samuel, Washington, D. C. Gage-cock. No. 974,515; Nov. 1; Sp. p. 1017; Gaz. vol. 160; p. 151.
Paul, William L., assignor to Oliver Chilled Plow Works, South Bend, Ind. Gang-plow. No. 974,592; Nov. 1; Sp. p. 1180; Gaz. vol. 160; p. 180.
Paulus, Charles F. (See Lent, Alvah F., assignor.)
Payne, Jesse M., Phoenix, and G. G. Wallace, Girard, Ala., assignors of one-sixth to E. W. Swift and one-sixth to J. P. Kyle. Apparatus for dyeing yarn. No. 976,830; Nov. 22; Sp. p. 6026; Gaz. vol. 160; p. 1018.
Payne, Thomas F., Pittsburg, Pa. Valve. No. 976,908; Nov. 29; Sp. p. 6219; Gaz. vol. 160; p. 1070.
Paynter, William D., Grass Valley, Cal. Hinge. No. 976,392; Nov. 22; Sp. p. 5126; Gaz. vol. 160; p. 869.
Payton, C. T., *et al.* (See Mitchell, Charles E., assignor.)
Payton, James Y., assignor of one-half to J. D. Benson, Waldron, Ark. Fish-hook. No. 975,093; Nov. 15; Sp. p. 4181; Gaz. vol. 160; p. 708.
Payzant, Octave, New York, N. Y. Rail-joint. No. 977,040; Nov. 29; Sp. p. 6546; Gaz. vol. 160; p. 1117.
Payzant, Octave, New York, N. Y. Rail-fastening. No. 977,041; Nov. 29; Sp. p. 6547; Gaz. vol. 160; p. 1117.
Pearsall, William, assignor to M. J. Whittall, Worcester, Mass. Jacquard mechanism for looms. No. 976,909; Nov. 29; Sp. p. 6221; Gaz. vol. 160; p. 1071.
Pearson, Charles O., New York, N. Y. Multiple metallic belt for traction-elevators. No. 975,790; Nov. 15; Sp. p. 3791; Gaz. vol. 160; p. 639.
Pearson, John. (See Erickson and Pearson.)
Pease, Charles, Salem, Mass., assignor to United-Xpedite Finishing Company, Berwick, Me. Burnishing-machine. No. 974,422; Nov. 1; Sp. p. 770; Gaz. vol. 160; p. 117.
Pease, John W., Rochester, N. Y. Sorting-machine. No. 975,064; Nov. 8; Sp. p. 2236; Gaz. vol. 160; p. 364.
Peck Bros. & Co., The. (See Newton, William G., assignor.)
Peck, Irving W., Bradentown, Fla. Fruit cleaner and grader. No. 975,452; Nov. 15; Sp. p. 3063; Gaz. vol. 160; p. 524.
Peck, Myles W., Putney, London, England. Spring-wheel. No. 974,815; Nov. 8; Sp. p. 1664; Gaz. vol. 160; p. 279.
Peck, Samuel J. (See Bolner, Abram P., assignor.)
Peck, Stow & Wilcox Company. (See Mathes, Philip, assignor.)
Peck, Walter W., Manchester, England. Coke-oven. No. 974,423; Nov. 1; Sp. p. 770; Gaz. vol. 160; p. 117.
Peck, Williamson Heating & Ventilating Company, The. (See Holub, Charles J., assignor.)
Pedder, Wilmer W., Los Angeles, Cal. Drilling and cementing wells. No. 975,065; Nov. 8; Sp. p. 2238; Gaz. vol. 160; p. 365.
Pedersen, Christian, assignor to Landis Machine Company, St. Louis, Mo. Wax-thread sewing-machine. No. 976,746; Nov. 22; Sp. p. 5841; Gaz. vol. 160; p. 989.
Peet, Wilbur G., Bridgeport, Conn. Shuttle. No. 974,291; Nov. 1; Sp. p. 483; Gaz. vol. 160; p. 70.
Pelton Water Wheel Company, The. (See Henry, George J., Jr., assignor.)
Penfield, Raymond C. (See Fiske, Jonathan P. B., assignor.)
Penfield, Raymond C., New York, N. Y. Dry-pan. No. 974,179; Nov. 1; Sp. p. 152; Gaz. vol. 160; p. 28.
Penfield, Raymond C., New York, N. Y. Dry-pan. No. 974,180; Nov. 1; Sp. p. 155; Gaz. vol. 160; p. 28.
Penfield, Raymond C., New York, N. Y. Machine for handling bricks. No. 974,292; Nov. 1; Sp. p. 485; Gaz. vol. 160; p. 71.
Penfield, Raymond C., New York, N. Y. Dry-pan. No. 974,816; Nov. 8; Sp. p. 1665; Gaz. vol. 160; p. 279.
Penfield, Raymond C., New York, N. Y. Dry-pan. No. 974,817; Nov. 8; Sp. p. 1668; Gaz. vol. 160; p. 280.
Penfield, Raymond C., New York, N. Y. Dry-pan. No. 974,818; Nov. 8; Sp. p. 1663; Gaz. vol. 160; p. 280.
Penfield, Raymond C., New York, N. Y. Machine for handling bricks. No. 975,713; Nov. 15; Sp. p. 3635; Gaz. vol. 160; p. 612.
Penfield, Raymond C., New York, N. Y. Portable brick-handling device. No. 976,393; Nov. 22; Sp. p. 5128; Gaz. vol. 160; p. 870.
Penfield, Raymond C., New York, N. Y. Machine for handling bricks. No. 976,394; Nov. 22; Sp. p. 5132; Gaz. vol. 160; p. 870.
Penman, William, Denison, Tex. Neck-cleaning device for bottle-washers. No. 975,066; Nov. 8; Sp. p. 2240; Gaz. vol. 160; p. 365.
Penney, Frank O., Richwood, Ohio. Brooder. No. 976,685; Nov. 22; Sp. p. 5721; Gaz. vol. 160; p. 969.
Penny, Charles A., Grand Junction, Colo. Weather-strip. No. 974,706; Nov. 1; Sp. p. 1433; Gaz. vol. 160; p. 220.
Pepperling, William, Two Harbors, Minn. Sewing-machine. No. 975,155; Nov. 8; Sp. p. 2435; Gaz. vol. 160; p. 395.
Perfection Steel Studding Co., The. (See Makowski, John F., assignor.)
Perkins, John B., Revere, Mass. Automatic valve. No. 974,424; Nov. 1; Sp. p. 777; Gaz. vol. 160; p. 117.
Perl, Albert H. F., Theobald's Road, London, England. Receptacle. No. 974,503; Nov. 1; Sp. p. 1182; Gaz. vol. 160; p. 180.
Perlewitz, George M., Chihuahua, Mexico. Internal-combustion engine. No. 975,275; Nov. 8; Sp. p. 2700; Gaz. vol. 160; p. 437.
Perring, Ira O., Kalamazoo, Mich. Camera. No. 976,208; Nov. 22; Sp. p. 4666; Gaz. vol. 160; p. 804.
Perring, Harry, Smethwick, England. Wheel for motor and other road vehicles. No. 975,453; Nov. 15; Sp. p. 3066; Gaz. vol. 160; p. 524.
Perry, John M. (See Johnson, Perry, and McMahon.)
Persson, Otto F., Lynn, Mass., assignor, by mesne assignments, to General Electric Company. Regulator for steam-generating apparatus. No. 974,181; Nov. 1; Sp. p. 161; Gaz. vol. 160; p. 29.
Pertuiset, Georges H., Geneva, Switzerland. Speed-regulating pulley for motor-cycles. No. 976,596; Nov. 22; Sp. p. 5559; Gaz. vol. 160; p. 939.
Pestel, Arthur, Bayonne, N. J. Employee's time-recorder. No. 974,912; Nov. 8; Sp. p. 1883; Gaz. vol. 160; p. 311.
Peters, Albert N., Galena, Mo. Apparatus for processing canned goods. No. 976,286; Nov. 22; Sp. p. 4879; Gaz. vol. 160; p. 833.
Peters, Archie R., Ochelata, Okla. Elevator for sucker-rods. No. 976,910; Nov. 29; Sp. p. 6227; Gaz. vol. 160; p. 1071.
Peters Cartridge Company, The. (See Muenzenmaier and See, assignors.)
Peters, William F., Waverly, N. Y. Flue-plug. No. 974,819; Nov. 8; Sp. p. 1676; Gaz. vol. 160; p. 281.
Petersen, Hans P., Sioux City, Iowa. Spring-wheel. No. 976,686; Nov. 22; Sp. p. 5723; Gaz. vol. 160; p. 969.
Petersen, John N., and W. F. Pettit, New Orleans, La. Carbureter. No. 976,911; Nov. 29; Sp. p. 6229; Gaz. vol. 160; p. 1072.
Petersen Oven Company, The. (See Petersen, William F., assignor.)
Petersen, William F., assignor to The Petersen Oven Company, Chicago, Ill. Baker's oven. No. 975,880; Nov. 15; Sp. p. 3988; Gaz. vol. 160; p. 672.
Peterson, Carl G., West Duluth, Minn. Music-holder. No. 977,397; Nov. 29; Sp. p. 7336; Gaz. vol. 160; p. 1240.
Peterson, Fritz, assignor to Star Miter Machine Company, Rockford, Ill. Miter-box. No. 976,097; Nov. 15; Sp. p. 4396; Gaz. vol. 160; p. 745.
Peterson, Guy J., Cyanide, assignor of one-half to P. N. Hanson, Deadwood, S. D. Pulverizer. No. 976,831; Nov. 22; Sp. p. 6027; Gaz. vol. 160; p. 1018.
Peterson, John F., *et al.* (See Brown, Edward N., assignor.)
Peterson, Julius. (See Emerson and Peterson.)
Peterson, Nels, assignor to Murphy Did It Company, Omaha, Nebr. Trolley-retriever. No. 977,398; Nov. 29; Sp. p. 7337; Gaz. vol. 160; p. 1241.
Peterson, Snively S., San Francisco, Cal. Life-saving attachment for submarines. No. 974,516; Nov. 1; Sp. p. 1019; Gaz. vol. 160; p. 151.
Peterson, Victor E., Denver, Colo. Acetylene-gas generator. No. 976,135; Nov. 15; Sp. p. 4488; Gaz. vol. 160; p. 757.
Petitcollin, Gustave, Paris, France. Manufacture of pointed celluloid rods. No. 977,326; Nov. 29; Sp. p. 7143; Gaz. vol. 160; p. 1216.
Petrie, Peter A., Moon Run, Pa. Cuspidor. No. 975,890; Nov. 15; Sp. p. 3990; Gaz. vol. 160; p. 673.
Pettit, William F. (See Petersen and Pettit.)
Pew, Howard. (See Green, William M., assignor.)
Pfautz, Daniel M., assignor to W. H. Tigerman, Philadelphia, Pa. Spring-motor-driven table-fan. No. 975,714; Nov. 15; Sp. p. 3638; Gaz. vol. 160; p. 612.
Pfizer, Gustavus A. (See Vallat, René, assignor.)
Pfleiderer, Emil. (See Fryer and Pfleiderer.)
Pfleumatic (1910) Limited. (See Caldwell, Robert J., assignor.)
Phelps, Croly V. (See Duff, Phelps, and Pitts.)
Phelps, Frank, Little Rock, Ark. Hydraulic press. No. 975,994; Nov. 15; Sp. p. 4182; Gaz. vol. 160; p. 709.
Phelps, Isaac K., New Haven, Conn. Obtaining olefin of saturated acids. No. 974,182; Nov. 1; Sp. p. 164; Gaz. vol. 160; p. 29.
Phelps, J. Wiley, administrator. (See Phelps, William J.)
Phelps, Spencer H. (See Rieske, Brennan, Phelps, and Beeman.)
Phelps, William J., deceased; J. W. Phelps, administrator, assignor to The Electro Ad Company, Detroit, Mich. Automatically-flashing electric lamp. No. 976,287; Nov. 22; Sp. p. 4881; Gaz. vol. 160; p. 834.
Phillips, Charles L. (See McGee, William D., assignor).
Phillips, William T. (See De Lisle and Phillips.)
Plagneri, Umberto, San Francisco, Cal. Cleaning attachment for space-bands of linotype-machines. No. 974,594; Nov. 1; Sp. p. 1183; Gaz. vol. 160; p. 181.
Picher Lead Company. (See Hughes, Louis S., assignor.)
Pichon, Louis A., Paris, and C. M. V. Allenou, Villed'Avray, France. Hinged-flap button. No. 976,288; Nov. 22; Sp. p. 4882; Gaz. vol. 160; p. 834.
Pickard, Richard F., North Tonawanda, N. Y. Combination-fastener. No. 976,209; Nov. 22; Sp. p. 4673; Gaz. vol. 160; p. 805.
Pickwick, Eli, Jr., Newark, N. J. Line-ruling device. No. 976,687; Nov. 22; Sp. p. 5724; Gaz. vol. 160; p. 969.
Pieper, Anton. (See Hof and Pieper.)
Pieper, Nicolas, Liege, Belgium. Semi-automatic small arm. No. 974,425; Nov. 1; Sp. p. 778; Gaz. vol. 160; p. 118.
Piéplu, Henri M., Paris, France. Carbureter. No. 975,156; Nov. 8; Sp. p. 2438; Gaz. vol. 160; p. 396.

Pletzsch, Albert, Triberg, Germany, and E. Steinbuch, Monthey, assignors to Society of Chemical Industry in Basle, Basel, Switzerland. Apparatus for continuous electrolysis of aqueous solutions. No. 977,125; Nov. 29; Sp. p. 6742; Gaz. vol. 160; p. 1147.
Pignone, Emanuel, New York, N. Y., assignor of one-half to G. M. Laub, Newark, N. J. Apparatus for cutting paper, cloth, or similar patterns. No. 974,293; Nov. 1; Sp. p. 487; Gaz. vol. 160; p. 71.
Pike, Edward. (See Holmgren, Peter, assignor.)
Pilain, Francois, Lyon, France. Shaft-driven axle for automobile vehicles. No. 975,276; Nov. 8; Sp. p. 2705; Gaz. vol. 160; p. 437.
Pindstofte, Anders A., Copenhagen, Denmark. Bottling-machine. No. 976,688; Nov. 22; Sp. p. 5725; Gaz. vol. 160; p. 960.
Pine, James K. P., Troy, N. Y., assignor to United Shirt and Collar Company. Machine for bending collars and the like. No. 974,426; Nov. 1; Sp. p. 782; Gaz. vol. 160; p. 118.
Pinkham, Emerson H., New York, N. Y. Saddle-support. No. 975,791; Nov. 15; Sp. p. 3793; Gaz. vol. 160; p. 639.
Pinto, Frank, Fort Worth, Tex. Collapsible box. No. 974,820; Nov. 8; Sp. p. 1676; Gaz. vol. 160; p. 281.
Pipes, Albert L., Pryor, Okla. Switch-stand for railways. No. 976,210; Nov. 22; Sp. p. 4674; Gaz. vol. 160; p. 805.
Pittings, John. (See Brown and Pittings.)
Pittler, Wilhelm von, Wilmersdorf, near Berlin, Germany. Rotary compressor or the like. No. 974,913; Nov. 8; Sp. p. 1889; Gaz. vol. 160; p. 312.
Pittman, Reinhart W., New York, N. Y. Expansion-envelop. No. 975,792; Nov. 15; Sp. p. 3795; Gaz. vol. 160; p. 639.
Pitts, Benjamin W. (See Duff, Phelps, and Pitts.)
Pittsburg Water Heater Company. (See Reinecke, John P., assignor.)
Plant, Oliver W., Providence, R. I. Camera. No. 974,990; Nov. 8; Sp. p. 2083; Gaz. vol. 160; p. 340.
Plaster Block Company. (See Makowski, John F., assignor.)
Player, John, Jr., Oakland, Cal. Anticreeper. No. 974,821; Nov. 8; Sp. p. 1677; Gaz. vol. 160; p. 281.
Plume & Atwood Manufacturing Company, The. (See Hayward, Edwin E., assignor.)
Plume & Atwood Manufacturing Company, The. (See Wirth, Charles E., assignor.)
Pneumatic Scale Corporation Limited. (See Joplin, William A., assignor.)
Pneumatic Scale Corporation Limited. (See Robinson, George A., assignor.)
Poggensee, John E. (See Becker and Poggensee.)
Pogue, Joseph W., Sierra Madre, Cal. Elevator mechanism. No. 974,914; Nov. 8; Sp. p. 1894; Gaz. vol. 160; p. 312.
Pohl, Heinrich. (See Grüter and Pohl.)
Pollard, Edson T., Rutland, Vt. Polishing-head. No. 976,689; Nov. 22; Sp. p. 5726; Gaz. vol. 160; p. 970.
Polski, Roman F., St. Paul, Minn. Ticket-holder. No. 976,383; Nov. 22; Sp. p. 6028; Gaz. vol. 160; p. 1018.
Pond, Edmund M., Rutland, Vt. Surgical bandage. No. 974,294; Nov. 1; Sp. p. 490; Gaz. vol. 160; p. 72.
Pond, Edmund M., Rutland, Vt. Surgical bandage. No. 974,295; Nov. 1; Sp. p. 492; Gaz. vol. 160; p. 72.
Pond, Edward C., Petersburg, Va., assignor of one-half to C. M. Patterson, White Plains, N. Y. Photographic meter-reader. No. 975,277; Nov. 8; Sp. p. 2706; Gaz. vol. 160; p. 438.
Pond, Edward C., Petersburg, Va., assignor of one-half to C. M. Patterson, White Plains, N. Y. Photographic meter-reader. No. 975,278; Nov. 8; Sp. p. 2709; Gaz. vol. 160; p. 438.
Ponstein, Isidore J., New Orleans, La. Music-leaf turner. No. 976,600; Nov. 22; Sp. p. 5728; Gaz. vol. 160; p. 970.
Pool, Clark H. (See Goldstein and Pool.)
Pool, Clark H., New York, N. Y., assignor to International Electric Protection Company. Electrical signaling system. No. 977,219; Nov. 29; Sp. p. 6940; Gaz. vol. 160; p. 1179.
Poole, John H., Brockton, and A. D. Abbenzeller, Randolph, assignors to Brockton Mowing Machine Cutter Bar Company, Brockton, Mass. Cutter-bar. No. 974,595; Nov. 1; Sp. p. 1184; Gaz. vol. 160; p. 181.
Poole, John H., Brockton, and A. D. Abbenzeller, Randolph, assignors to Brockton Mowing Machine Cutter Bar Company, Brockton, Mass. Cutter-bar. No. 974,707; Nov. 1; Sp. p. 1433; Gaz. vol. 160; p. 221.
Pooley Furniture Company. (See Wagner, William F., assignor.)
Poppenhausen, Herman A., Evanston, and J. Harrington, Riverside, Ill. Furnace. (Reissue.) No. 13,168; Nov. 15; Sp. p. 4498; Gaz. vol. 160; p. 759.
Porter, Albert M., Amsterdam, Mo. Lamp-burner. No. 976,289; Nov. 22; Sp. p. 4885; Gaz. vol. 160; p. 834.
Porter, Cyrus H., Mattapoisett, Mass. Fly-killer. No. 975,570; Nov. 15; Sp. p. 3330; Gaz. vol. 160; p. 565.
Porter, Wilson E., assignor to New Haven Clock Co., New Haven, Conn. Regulator for clocks. No. 975,703; Nov. 15; Sp. p. 3796; Gaz. vol. 160; p. 640.
Porter, Wilson E., assignor to New Haven Clock Co., New Haven, Conn. Clock-bank. No. 977,126; Nov. 29; Sp. p. 6744; Gaz. vol. 160; p. 1148.
Posson, Edward, Chicago, Ill., assignor to Grain Belt Car Specialty Company. Grain-door. No. 977,042; Nov. 29; Sp. p. 6548; Gaz. vol. 160; p. 1118.
Potter, Henry N., New Rochelle, N. Y., assignor to G. Westinghouse, Pittsburg, Pa. Electric furnace with magnetically-rotated charge. No. 975,571; Nov. 15; Sp. p. 3332; Gaz. vol. 160; p. 566.
Potter, Henry N., New Rochelle, N. Y., assignor to G. Westinghouse, Pittsburg, Pa. Electric furnace with magnetically-rotated charge. No. 975,794; Nov. 15; Sp. p. 3796; Gaz. vol. 160; p. 640.
Potter, Winfield S., New York, N. Y. Treating manganese steel. No. 974,822; Nov. 8; Sp. p. 1679; Gaz. vol. 160; p. 281.
Potter, Winfield S., New York, N. Y. Preparing manganese-steel ingots for rolling. No. 975,370; Nov. 8; Sp. p. 2895; Gaz. vol. 160; p. 468.
Potter, Winfield S., New York, N. Y. Production, treating, and rolling of ingots of manganese steel. No. 975,371; Nov. 8; Sp. p. 2897; Gaz. vol. 160; p. 468.
Potthast, Walter H., Manning, Iowa. Carbureter. No. 975,635; Nov. 15; Sp. p. 3465; Gaz. vol. 160; p. 587.
Potts, Samuel, *et al.* (See Minnis, Henry M., assignor.)
Powell, Alfred H. (See Fullmer and Powell.)
Powell, Ernest A. (See Wright and Powell.)
Powell, William H., Norwood, Ohio, assignor to Allis-Chalmers Company and The Bullock Electric Manufacturing Company. Dynamo-electric machine. No. 977,220; Nov. 29; Sp. p. 6943; Gaz. vol. 160; p. 1180.
Power, George S., Nutley, N. J. Front head for drill-cylinders. No. 974,823; Nov. 8; Sp. p. 1680; Gaz. vol. 160; p. 282.
Power and Mining Machinery Company. (See Wintzer, Rudolf, assignor.)
Power Specialty Company. (See Carroll, Bradish J., assignor.)
Powers, Daniel L., Evans, Colo. Harrow. No. 974,427; Nov. 1; Sp. p. 788; Gaz. vol. 160; p. 118.
Powers, Earle C., Orange, N. J., assignor to Autoforce Ventilating System, Boston, Mass. Chimney-cowl. No. 975,636; Nov. 15; Sp. p. 3467; Gaz. vol. 160; p. 587.
Powers, Harry M., Baltimore, Md. Body-brace. No. 975,454; Nov. 15; Sp. p. 3068; Gaz. vol. 160; p. 524.
Powers, James M. (See Stephens, William A., assignor.)
Powl, Elmer L., *et al.* (See Eynon, Harold G., assignor.)
Prall, Edgar F., New York, N. Y. Gas-engine. No. 976,691; Nov. 22; Sp. p. 5732; Gaz. vol. 160; p. 971.
Prall, William H., Woodbridge, N. J. Stove attachment. No. 976,491; Nov. 22; Sp. p. 5336; Gaz. vol. 160; p. 904.
Praray, Charles A. M., deceased, Providence, R. I.; C. W. Praray, administrator. Reinforced wooden mill-floor construction. No. 975,023; Nov. 15; Sp. p. 4062; Gaz. vol. 160; p. 684.
Praray, Charles W., administrator. (See Praray, Charles A. M.)
Pratt & Whitney Company. (See Hanson, Bengt M. W., assignor.)
Pratt, William H., Lynn, Mass., assignor to General Electric Company. Recording device. No. 974,183; Nov. 1; Sp. p. 166; Gaz. vol. 160; p. 29.
Prébandier, Salvator, Neuchatel, Switzerland. Boiler. No. 976,912; Nov. 29; Sp. p. 6232; Gaz. vol. 160; p. 1072.
Prellwitz, William, Easton, Pa., assignor to Ingersoll-Rand Company, New York, N. Y. Hammer-drill. No. 975,891; Nov. 15; Sp. p. 3992; Gaz. vol. 160; p. 673.
Premium Register Company, The. (See Hudson, Robert F., assignor.)
Premo Specialty Manufacturing Company. (See Beavo, Joseph M., assignor.)
Presto Electrical Manufacturing Company, The. (See Shoenberg, Milton H., assignor.)
Prevost, Arthur J., assignor to Caldwell Manufacturing Company, Rochester, N. Y. Locking mechanism. No. 975,455; Nov. 15; Sp. p. 3069; Gaz. vol. 160; p. 525.
Prevost, Arthur J., assignor to Caldwell Manufacturing Company, Rochester, N. Y. Locking mechanism for emergency-doors. No. 975,456; Nov. 15; Sp. p. 3071; Gaz. vol. 160; p. 525.
Prevost, Arthur J., assignor to Caldwell Manufacturing Company, Rochester, N. Y. Door-stop. No. 976,597; Nov. 22; Sp. p. 5561; Gaz. vol. 160; p. 940.
Prickett, Clinton E., assignor of one-half to R. D. Cool, Allegheny, Pa. Game apparatus. No. 976,492; Nov. 22; Sp. p. 5337; Gaz. vol. 160; p. 905.
Pridmore, Henry E., Chicago, Ill. Molding-machine. No. 975,715; Nov. 15; Sp. p. 3639; Gaz. vol. 160; p. 613.
Priestly, Frank C., Los Angeles, Cal. Engine-starter. No. 977,043; Nov. 29; Sp. p. 6551; Gaz. vol. 160; p. 1118.
Prigge, John A., Jr., New York, N. Y. Key-ring. No. 977,221; Nov. 29; Sp. p. 6945; Gaz. vol. 160; p. 1180.
Pringle, Robert W. (See Richards and Pringle.)
Pringle, William A., assignor to The Carter-Crume Co., Limited, Niagara Falls, N. Y. Printing apparatus. No. 974,428; Nov. 1; Sp. p. 790; Gaz. vol. 160; p. 119.
Prinz, Faustin, Milwaukee, Wis. Cleaning attachment for grain-separators. No. 975,995; Nov. 15; Sp. p. 4185; Gaz. vol. 160; p. 709.
Probst, William G. (See Marschuetz and Probst.)
Prosser, John E., Bartlesville, assignor of one-half to R. E. Markham, Tulsa, Okla. Swivel-socket. No. 975,067; Nov. 8; Sp. p. 2241; Gaz. vol. 160; p. 365.
Pruett, William M., Greensboro, N. C., assignor of one-half to W. A. Byerly, Bridgewater, Va. Ice-making machine. No. 974,184; Nov. 1; Sp. p. 169; Gaz. vol. 160; p. 30.
Pryor, Joseph H., New York, N. Y. Water-closet hinge connection. No. 976,395; Nov. 22; Sp. p. 5135; Gaz. vol. 160; p. 870.

Puderbaugh, David C., Huntingdon, Pa. Apparatus for measuring liquids. No. 974,915; Nov. 8; Sp. p. 1897; Gaz. vol. 160; p. 313.
Pugh, William H., and J. A. Etzold, Detroit, Mich. Adjustable reamer. No. 976,212; Nov. 22; Sp. p. 4677; Gaz. vol. 160; p. 806.
Pulsometer Engineering Company, The. (See Adcock, Edward A., assignor.)
Purdy, Frederick, Kenosha, Wis., assignor, by mesne assignments, to K. E., C. T., and H. W. Jeffery, executors of Thomas B. Jeffery, deceased. Means for facilitating the starting of internal-combustion engines. No. 976,493; Nov. 22; Sp. p. 5338; Gaz. vol. 160; p. 905.
Pure Food Process Company, The. (See Schmitt, Edward D., assignor.)
Putman, John, Paris, Ill. Rotary engine. No. 976,913; Nov. 29; Sp. p. 6233; Gaz. vol. 160; p. 1072.
Pye, William, Wakefield, and L. D. Nourse, Brookline, Mass., Casket-case. No. 976,213; Nov. 22; Sp. p. 4679; Gaz. vol. 160; p. 806.
Quandt, Ernest E., *et al.* (See Leder, Paul H. A., assignor.)
Quareles, Belle, assignor of one-fourth to T. J. Kisner, San Francisco, Cal. Dish-washer and pot-cleaner. No. 975,716; Nov. 15; Sp. p. 3641; Gaz. vol. 160; p. 613.
Quedens, George, New York, N. Y. Tide-motor. No. 975,157; Nov. 8; Sp. p. 2441; Gaz. vol. 160; p. 397.
Quick Unloading Car Chute Co., The. (See Brazeal, Joseph E., assignor.)
Quick, William. (See Jones, James A., assignor.)
Quickel, Henry F., Harrisburg, Pa. Valve. No. 974,185; Nov. 1; Sp. p. 173; Gaz. vol. 160; p. 30.
Quigley, Wirt S., Jersey City, N. J., assignor to Rockwell Furnace Company. Fuel oil or gas furnace. No. 975,068; Nov. 8; Sp. p. 2242; Gaz. vol. 160; p. 366.
Quill, Leonard M., *et al.* (See Runner, John B., assignor.)
Quinn, James J., *et al.* (See Radigan, John E., assignor.)
Quinn, John R., *et al.* (See Radigan, John E., assignor.)
Quinn, Peter J. (See Dalton, Joseph A., assignor.)
Quist, Frank J., and M. Blanch, assignors to Domestic Vacuum Cleaner Company, Worcester, Mass. Vacuum-sweeper. No. 976,494; Nov. 22; Sp. p. 5340; Gaz. vol. 160; p. 905.
R. Hoe and Co. (See Raabe, Otto L., assignor.)
R. Hoe and Co. (See Read, George F., assignor.)
R. O. Stutsman Company. (See Anderson, Iver R., assignor.)
Raabe, Otto L., Jersey City, N. J., assignor to R. Hoe and Co., New York, N. Y. Printing-machine. No. 974,429; Nov. 1; Sp. p. 795; Gaz. vol. 160; p. 119.
Radcliffe, Carlton R., assignor, by mesne assignments, to The Scientific Research Co., New York, N. Y. Hydraulic power-transmitting apparatus. No. 975,795; Nov. 15; Sp. p. 3798; Gaz. vol. 160; p. 640.
Radcliffe, Carlton R., assignor to The Scientific Research Co., New York, N. Y. Internal-combustion engine. No. 975,796; Nov. 15; Sp. p. 3802; Gaz. vol. 160; p. 641.
Raddatz, Richard. (See Matchette, Raddatz, and Moukos.)
Radigan, John E., assignor of one-fourth to J. R. Quinn, one-fourth to J. J. Quinn, and one-fourth to A. J. Byrne, Cleveland, Ohio. Controlling device. No. 974,991; Nov. 8; Sp. p. 2088; Gaz. vol. 160; p. 340.
Rae, Frank B., Boston, Mass. System of motor control. No. 975,572; Nov. 15; Sp. p. 3334; Gaz. vol. 160; p. 566.
Raez, Niklaus, St. Joseph, Mo. Combination agricultural implement. No. 974,916; Nov. 8; Sp. p. 1898; Gaz. vol. 160; p. 313.
Ragan, L. A. (See McDonough, John P., assignor.)
Ragan, Owen P., Ridgeway, Mo. Signal attachment for clocks. No. 976,214; Nov. 22; Sp. p. 4680; Gaz. vol. 160; p. 806.
Ralston, Joseph S. (See Becker, Anton, assignor.)
Ralston Steel Car Company, The. (See Becker, Anton, assignor.)
Ralston Steel Car Company, The. (See Irwin and Tesseyman, assignors.)
Ralston Steel Car Company, The. (See Tesseyman and Irwin, assignors.)
Randall, Maurice W., Portland, Me. Collapsible box. No. 974,596; Nov. 1; Sp. p. 1186; Gaz. vol. 160; p. 181.
Randle, Joseph R., Columbus, Miss. Garment-support. No. 975,279; Nov. 8; Sp. p. 2712; Gaz. vol. 160; p. 438.
Randolph, Alfred, assignor to The Deming Company, Salem, Ohio. Windmill-pump. No. 975,280; Nov. 8; Sp. p. 2712; Gaz. vol. 160; p. 439.
Randolph, Edmund, Jacksonville, Fla. Seine-needle. No. 976,290; Nov. 22; Sp. p. 4885; Gaz. vol. 160; p. 835.
Rank, Peter, St. Paul, Minn. Box-fastener. No. 974,430; Nov. 1; Sp. p. 799; Gaz. vol. 160; p. 120.
Ransome, Ernest L., New York, N. Y. Apparatus for filling trenches. No. 975,457; Nov. 15; Sp. p. 3073; Gaz. vol. 160; p. 525.
Rasor, Augustus, *et al.* (See Firth, Franklin E., assignor.)
Ratcliffe, James, Winnipeg, Manitoba, Canada. Device for polishing stone. No. 977,327; Nov. 29; Sp. p. 7145; Gaz. vol. 160; p. 1216.
Rathbone, Alfred D. (See Mosher, Ralph E., assignor.)
Rau, John, New York, N. Y. Chandelier-support. No. 976,291; Nov. 22; Sp. p. 4886; Gaz. vol. 160; p. 835.
Rauch, Elmer C., Coeur d'Alene, Idaho. Spark-plug. No. 974,824; Nov. 8; Sp. p. 1681; Gaz. vol. 160; p. 282.
Raymond Concrete Pile Company. (See Withrow, John F. D., assignor.)
Read, George F., London, England, assignor, by mesne assignments, to R. Hoe and Co., New York, N. Y. Printing-machine. No. 974,431; Nov. 1; Sp. p. 801; Gaz. vol. 160; p. 120.
Reading Iron Company. (See Boyer, Jesse L., assignor.)
Rebourg, Benjamin, assignor to Société Francaise de Constructions Mecaniques (Anciens Etablissements Call), Denain, France. Carbureter. No. 977,044; Nov. 29; Sp. p. 6554; Gaz. vol. 160; p. 1119.
Reckard, Henry L., Hartford, Conn. Printing-machine. No. 974,917; Nov. 8; Sp. p. 1901; Gaz. vol. 160; p. 314.
Rectenwald, John J., Mount Oliver, Pa. Life-saving device. No. 975,281; Nov. 8; Sp. p. 2714; Gaz. vol. 160; p. 439.
Red Top Bottling Company, The. (See Harrell, Rupert L., assignor.)
Redford, John G., Milwaukee, Wis. Baking-oven. No. 976,598; Nov. 22; Sp. p. 5562; Gaz. vol. 160; p. 940.
Redmond, James E., Butte, Mont. Antiskidding device for tires. No. 974,825; Nov. 8; Sp. p. 1683; Gaz. vol. 160; p. 282.
Reed, Benjamin E., Goldsboro, Md. Corn-harvester. No. 975,797; Nov. 15; Sp. p. 3808; Gaz. vol. 160; p. 641.
Reed, Walter B., assignor of one-half to C. I. Manning, White Cloud, Mich. Stretcher. No. 976,996; Nov. 15; Sp. p. 4188; Gaz. vol. 160; p. 710.
Rees, Edmund S. G., Wolverhampton, England. Centrifugal pump, condenser, and compressor. No. 975,997; Nov. 15; Sp. p. 4189; Gaz. vol. 160; p. 710.
Rees, Perley E., assignor to J. R. Steele, Kansas City, Mo. Coin assorting and counting machine. No. 975,458; Nov. 15; Sp. p. 3075; Gaz. vol. 160; p. 526.
Rees, Walter. (See Hollar, Rees, and Balou.)
Reese, Clyde B., Reese, N. C. Boot and shoe protector. No. 977,309; Nov. 29; Sp. p. 7340; Gaz. vol. 160; p. 1241.
Reese, Louis C., Southfields, London, England. Manufacture of malted preparations from cereals. No. 974,597; Nov. 1; Sp. p. 1188; Gaz. vol. 160; p. 182.
Reeves, Clifton, Trenton, N. J. Engine-valve. No. 974,432; Nov. 1; Sp. p. 803; Gaz. vol. 160; p. 121.
Reeves & Company. (See Clay, Harry C., assignor.)
Reeves, Frederick W., assignor to The Electric Accumulator Company, Pittsburg, Pa. Brush-holder. No. 977,400; Nov. 29; Sp. p. 7343; Gaz. vol. 160; p. 1242.
Reeves, George H., assignor of one-half to E. Griffin, Flat River, Mo. Sterilizer. No. 975,282; Nov. 8; Sp. p. 2715; Gaz. vol. 160; p. 439.
Reeves, Percy, assignor to Dietzer-Sale Lithograph Company, Buffalo, N. Y. Advertising device. No. 976,495; Nov. 22; Sp. p. 5341; Gaz. vol. 160; p. 906.
Regondi, Giuseppe, New Brighton, N. Y. Music-leaf turner. No. 974,826; Nov. 8; Sp. p. 1685; Gaz. vol. 160; p. 283.
Rehak, John R., *et al.* (See Crump, Robert B., assignor.)
Rehfuss, Martin O. (See Hoff and Rehfuss.)
Rehler, Frank H., *et al.* (See Davis, Homer L., assignor.)
Reichardt, Reinhold. (See Gilliland, Lee O., assignor.)
Reichenbach, Henry M., Chicago, Ill. Carbureter. No. 976,692; Nov. 22; Sp. p. 5735; Gaz. vol. 160; p. 971.
Reichenbach, William F., Rochester, N. Y. Sleeve-protector. No. 976,693; Nov. 22; Sp. p. 5738; Gaz. vol. 160; p. 972.
Reid, Alfred J. H., Henderson, Tenn. Planter. No. 976,292; Nov. 22; Sp. p. 4887; Gaz. vol. 160; p. 835.
Reid, John P. (See Robinett and Reid.)
Reiff, Charles G., Ambia, Ind. Farm-roller. No. 976,293; Nov. 22; Sp. p. 4890; Gaz. vol. 160; p. 835.
Reilly, William W. (See Elliott and Reilly.)
Reimers, Gerhard, Milltown, N. J., assignor of one-half to F. A. Sondheimer, New York, N. Y. Condenser. No. 974,598; Nov. 1; Sp. p. 1189; Gaz. vol. 160; p. 182.
Reinecke, John P., Pittsburg, assignor to Pittsburg Water Heater Company, Allegheny, Pa. Burner. No. 976,294; Nov. 22; Sp. p. 4891; Gaz. vol. 160; p. 836.
Reinehr, Nikolaus, Schöneberg, near Berlin, Germany. Safety-lock. No. 975,717; Nov. 15; Sp. p. 3642; Gaz. vol. 160; p. 613.
Reinhardt, George F., Boston, Mass. Lift compressing and distributing machine. No. 976,215; Nov. 22; Sp. p. 4682; Gaz. vol. 160; p. 807.
Reinhardt, James H., East Orange, N. J., assignor to American Bank Note Company. Numbering-machine. No. 976,295; Nov. 22; Sp. p. 4893; Gaz. vol. 160; p. 836.
Reiser, Louis A., Waterbury, Conn. Paper-cutter. No. 976,496; Nov. 22; Sp. p. 5343; Gaz. vol. 160; p. 906.
Reiter, William. (See Klein, Hermann, assignor.)
Relindo Cushion Shoe Company. (See Dow, Joseph A., assignor.)
Remané, Hermann, Berlin, E. Gottschalk, Charlottenburg, and E. Hurwitz, assignors to Deutsche Gasglühlicht Aktien Gesellschaft, (Auergesellschaft,) Berlin, Germany. Electric glow-lamp. No. 974,296; Nov. 1; Sp. p. 493; Gaz. vol. 160; p. 72.
Remington Typewriter Company. (See Trouslot, Eugene C., assignor.)
Remington Typewriter Company. (See Yaw, Clio B., assignor.)
Renfro, Alva D., assignor to Renfro Speed-O-Meter Company, Detroit, Mich. Speed indicator and recorder. No. 976,694; Nov. 22; Sp. p. 5739; Gaz. vol. 160; p. 972.
Renfro Speed-O-Meter Company. (See Renfro, Alva D., assignor.)

Rengert, Arthur G., and R. S. Schwandt, Detroit, Mich. Banjo. No. 977,127; Nov. 29; Sp. p. 6746; Gaz. vol. 160; p. 1148.
Renik, Andrew, Kenosha, Wis. Rotary engine. No. 975,637; Nov. 15; Sp. p. 3460; Gaz. vol. 160; p. 588.
Rennerfelt, Gustaf, Scranton, Pa. Roller-bearing. No. 977,128; Nov. 29; Sp. p. 6747; Gaz. vol. 160; p. 1148.
Reno, Jesse W., New York, N. Y. Truck-conveyer. No. 974,918; Nov. 8; Sp. p. 1903; Gaz. vol. 160; p. 314.
Renshaw, Clarence, Swissvale, Pa., assignor to Westinghouse Electric & Manufacturing Company. Speed regulation for dynamo-electric machines. No. 974,433; Nov. 1; Sp. p. 805; Gaz. vol. 160; p. 121.
Resinelli, Francesco, Vado Ligure, Italy. Furnace for the production of cast iron and steel. No. 975,998; Nov. 15; Sp. p. 4191; Gaz. vol. 160; p. 710.
Rettig, Wilhelm, Berlin, Germany. Stiffening-skeleton for balloon-coverings. No. 974,434; Nov. 1; Sp. p. 807; Gaz. vol. 160; p. 122.
Reusche, Louis, New York, N. Y. Semisolid-paint package. No. 975,718; Nov. 15; Sp. p. 3642; Gaz. vol. 160; p. 613.
Revalliot, Claude, Nice, France. Pipe-joint. No. 974,517; Nov. 1; Sp. p. 1022; Gaz. vol. 160; p. 152.
Rex, David J., Ingram, Pa. Folding-box construction. No. 976,914; Nov. 29; Sp. p. 6234; Gaz. vol. 160; p. 1073.
Reyman, Philip S., assignor to J. C. Kelch, Mount Carmel, Ill. Stave-jointing mechanism. No. 974,518; Nov. 1; Sp. p. 1023; Gaz. vol. 160; p. 152.
Reynolds, Abby E., administratrix. (See Reynolds, George H.)
Reynolds, Afton G., assignor to Amusement Park Railway Co., St. Louis, Mo. Carousel. No. 974,599; Nov. 1; Sp. p. 1191; Gaz. vol. 160; p. 182.
Reynolds, Bruce, Cincinnati, Ohio. Toilet utensil. No. 977,129; Nov. 29; Sp. p. 6748; Gaz. vol. 160; p. 1149.
Reynolds, George H., Mansfield Depot, Conn.; A. E. Reynolds, administratrix, assignor to General Fire Extinguisher Company. Pipe-bending machine. No. 976,500; Nov. 22; Sp. p. 5565; Gaz. vol. 160; p. 941.
Reynolds, George T., Providence, R. I. Gasolene or oil filter. No. 974,519; Nov. 1; Sp. p. 1026; Gaz. vol. 160; p. 153.
Rhodes, Waddill L., Lonie, Tex. Pump-pipe insertor and remover. No. 976,600; Nov. 22; Sp. p. 5568; Gaz. vol. 160; p. 941.
Ricaldoni, Ottavio. (See Crocco and Ricaldoni.)
Rice, Charles D., and L. D. Broughton, Hartford, Conn., assignors to Underwood Automatic Typewriter Pay Station Company, New York, N. Y. Time-controlling mechanism for type-writing machines, &c. No. 977,130; Nov. 29; Sp. p. 6749; Gaz. vol. 160; p. 1149.
Rice, Charles M., St. Louis, Mo. Fluid-heating device. No. 976,915; Nov. 29; Sp. p. 6236; Gaz. vol. 160; p. 1073.
Rice, Merrill B., Los Angeles, Cal. Manifold for internal-combustion engines. No. 974,992; Nov. 8; Sp. p. 2090; Gaz. vol. 160; p. 340.
Rice, Richard H., Lynn, Mass., assignor to General Electric Company. Step-bearing. No. 974,186; Nov. 1; Sp. p. 175; Gaz. vol. 160; p. 31.
Rich, Charles C., assignor of one-half to H. J. Douglas, Mount Vernon, N. Y. Electric contact-shoe. No. 977,401; Nov. 29; Sp. p. 7344; Gaz. vol. 160; p. 1242.
Rich, Edwin J., assignor of one-half to E. R. McCall, Rochester, N. Y. Musical toy. No. 976,695; Nov. 22; Sp. p. 5742; Gaz. vol. 160; p. 972.
Richards, Albert W., Sheridan, Wyo. Hay-rake. No. 974,827; Nov. 8; Sp. p. 1688; Gaz. vol. 160; p. 283.
Richards, Daniel B., and C. F. Loga, Beaufort, N. C. Pontoon-pipe for marine dredging. No. 975,999; Nov. 15; Sp. p. 4194; Gaz. vol. 160; p. 711.
Richards, Francis H., Hartford, Conn., assignor, by mesne assignments, of one-half to American Typographic Corporation. Mechanical movement. No. 976,916; Nov. 29; Sp. p. 6236; Gaz. vol. 160; p. 1073.
Richards, Francis H., Hartford, Conn., assignor, by mesne assignments, of one-half to American Typographic Corporation. Force-pump. No. 976,917; Nov. 29; Sp. p. 6241; Gaz. vol. 160; p. 1074.
Richards, Francis H., Hartford, Conn., assignor, by mesne assignments, of one-half to American Typographic Corporation. Mechanical movement. No. 976,918; Nov. 29; Sp. p. 6246; Gaz. vol. 160; p. 1074.
Richards, Francis H., Hartford, Conn., assignor, by mesne assignments, to American Typographic Corporation. Typographic form. No. 976,919; Nov. 29; Sp. p. 6254; Gaz. vol. 160; p. 1075.
Richards, Francis H., Hartford, Conn., assignor, by mesne assignments, to American Typographic Corporation. Mechanism for making type and type-bars. No. 976,920; Nov. 29; Sp. p. 6256; Gaz. vol. 160; p. 1075.
Richards, Michael L., New Haven, Conn. Steam-trap. No. 977,131; Nov. 29; Sp. p. 6755; Gaz. vol. 160; p. 1149.
Richards, Richard S., Wraysbury, and R. W. Pringle, Richmond, England. Apparatus for the distillation of coal and the recovery of the products. No. 974,919; Nov. 8; Sp. p. 1905; Gaz. vol. 160; p. 315.
Richardson, Charles H., and F. F. Metzger, Philadelphia, Pa. Folding bracket. No. 975,069; Nov. 8; Sp. p. 2245; Gaz. vol. 160; p. 366.
Richardson, Charles H., and F. F. Metzger, Philadelphia, Pa. Folding bracket. No. 975,070; Nov. 8; Sp. p. 2247; Gaz. vol. 160; p. 366.
Richardson, Ernest, Beaver Falls, Pa. Eyeleted enameled sign. No. 974,297; Nov. 1; Sp. p. 494; Gaz. vol. 160; p. 72.
Richardson, Henry, New York, N. Y. Weighing-machine. No. 975,158; Nov. 8; Sp. p. 2442; Gaz. vol. 160; p. 397.
Richardson, James J., Savanne, Ontario, Canada. Window-sash. No. 975,719; Nov. 15; Sp. p. 3644; Gaz. vol. 160; p. 614.
Richardson, T. S. (See Minyard, Sam J., assignor.)
Richter, Louis, Crimmitschau, Germany. Machine for preparing hides and skins of every description. No. 977,132; Nov. 29; Sp. p. 6756; Gaz. vol. 160; p. 1150.
Richter, Rudolf, Grünau, near Berlin, Germany. Electrical equalising system. No. 977,328; Nov. 29; Sp. p. 7147; Gaz. vol. 160; p. 1216.
Rickel, James, Verndale, Minn. Corn-harvester. No. 976,921; Nov. 29; Sp. p. 6262; Gaz. vol. 160; p. 1075.
Rickerd, Fred S., assignor to Detroit Wire Spring Company, Detroit, Mich. Spring-seat. No. 976,396; Nov. 22; Sp. p. 5136; Gaz. vol. 160; p. 871.
Ricketts, James R., Longbeach, assignor to Los Angeles Trolley Catcher Company, Los Angeles, Cal. Trolley-catcher. No. 974,920; Nov. 8; Sp. p. 1908; Gaz. vol. 160; p. 315.
Ricketts, John A., Ithaca, N. Y. Breech-loading gun. No. 975,071; Nov. 8; Sp. p. 2249; Gaz. vol. 160; p. 367.
Ricks, Joseph L. (See Carroll and Ricks.)
Riddell, John, Schenectady, N. Y., assignor to General Electric Company. Slotting and shaping machine. No. 974,187; Nov. 1; Sp. p. 178; Gaz. vol. 160; p. 31.
Rider, Charles B., Ocean City, assignor of one-half to S. H. Hann, Camden, N. J. Disinfecting apparatus. No. 974,298; Nov. 1; Sp. p. 495; Gaz. vol. 160; p. 73.
Rieske, Otto G., T. Brennan, Jr., St. Louis Park, S. H. Phelps and E. R. Beeman, Minneapolis, Minn., assignors to Monitor Drill Company. Scraper device for disk drills. No. 975,459; Nov. 15; Sp. p. 3080; Gaz. vol. 160; p. 526.
Riesmeyer, Annie, *et al.* (See Scott, William H., assignor.)
Ringrose, Frederick, Hamilton, Scotland. Automatic lubricator. No. 976,922; Nov. 29; Sp. p. 6264; Gaz. vol. 160; p. 1076.
Rioux, Alphonse, Nashua, N. H. Water-meter alarm. No. 975,072; Nov. 8; Sp. p. 2253; Gaz. vol. 160; p. 367.
Risser, Arthur L., assignor to G. S. Webber, Chicago, Ill. Firearm. No. 975,720; Nov. 15; Sp. p. 3645; Gaz. vol. 160; p. 614.
Risso, Luigi, Genoa, Italy. Shoe for walking on water. No. 974,520; Nov. 1; Sp. p. 1027; Gaz. vol. 160; p. 153.
Ritchie, Foster, Acton, England. Electrical relay. No. 976,216; Nov. 22; Sp. p. 4689; Gaz. vol. 160; p. 807.
Ritter, Frank, Rochester, N. Y. Head-rest for chairs. No. 974,188; Nov. 1; Sp. p. 189; Gaz. vol. 160; p. 32.
Ritter, Frank, Rochester, N. Y. Valve mechanism for dental or other similar chairs. No. 974,189; Nov. 1; Sp. p. 193; Gaz. vol. 160; p. 32.
Rittman, Christian A., Sandusky, Ohio. Skirt-marker. No. 974,521; Nov. 1; Sp. p. 1028; Gaz. vol. 160; p. 153.
Ritzler, George A., Kenton, Ohio. Wick-gage. No. 974,522; Nov. 1; Sp. p. 1030; Gaz. vol. 160; p. 153.
Robbins, Alexander, Kalamazoo, Mich. Miter-box. No. 976,296; Nov. 22; Sp. p. 4904; Gaz. vol. 160; p. 836.
Robbins, George W., Laurel, Minn. Rail-joint. No. 977,045; Nov. 29; Sp. p. 6355; Gaz. vol. 160; p. 1119.
Robbins, Willis C. (See Weis and Robbins.)
Robert Stock Manufacturing Co. (See Stock, Robert and A. M., assignors.)
Roberton, John, New York, N. Y. Window construction. No. 976,297; Nov. 22; Sp. p. 4906; Gaz. vol. 160; p. 837.
Roberts, Alexander, and A. Libert, Green Bay, Wis. Grinder for irregular surfaces. No. 974,523; Nov. 1; Sp. p. 1031; Gaz. vol. 160; p. 154.
Roberts, David, Grantham, England. Mechanism for transmitting reciprocating motion. No. 975,283; Nov. 8; Sp. p. 2717; Gaz. vol. 160; p. 440.
Roberts, Ernest A., and N. L. Johnson, Buhl, Minn. Electrical hair-singeing device. No. 975,073; Nov. 8; Sp. p. 2256; Gaz. vol. 160; p. 367.
Roberts, Frederick, St. Louis, Mo. Type-writer clamp. No. 976,397; Nov. 22; Sp. p. 5137; Gaz. vol. 160; p. 871.
Roberts, Henry, Pittsburg, Pa. Veneer-package machine. No. 977,222; Nov. 29; Sp. p. 6946; Gaz. vol. 160; p. 1180.
Roberts, Homer J., Evanston, Ill., assignor, by mesne assignments, to Homer Roberts Telephone Co. Selective party-line telephone system. No. 976,298; Nov. 22; Sp. p. 4907; Gaz. vol. 160; p. 837.
Roberts, John P., Los Angeles, Cal. Liquid-fuel burner. No. 975,460; Nov. 15; Sp. p. 3082; Gaz. vol. 160; p. 527.
Roberts, Wayne C., and G. E. Corser, Holyoke, Mass. Apparatus for removing old paper from walls. No. 975,284; Nov. 8; Sp. p. 2719; Gaz. vol. 160; p. 440.
Roberts, William T. B., Leicester, assignor to O. V. Forbes, London, England. Machine for trimming the heels of boots and shoes. No. 974,708; Nov. 1; Sp. p. 1435; Gaz. vol. 160; p. 221.
Robertson, Harry A. (See Bigham, Neal J., assignor.)
Robertson, John A., assignor to Eastman Kodak Co., Rochester, N. Y. Camera. No. 975,461; Nov. 15; Sp. p. 3084; Gaz. vol. 160; p. 527.

Robertson, Peter L., Hamilton, Ontario, Canada. Screw. No. 975,285; Nov. 8; Sp. p. 2720; Gaz. vol. 160; p. 440.
Robinett, Clinton, and J. P. Reid, Dayton, assignors to The Lagonda Manufacturing Company, Springfield, Ohio. Tube-cleaning apparatus. No. 977,223; Nov. 29; Sp. p. 6949; Gaz. vol. 160; p. 1181.
Robinson, Edward T., assignor to St. Louis Car Company, St. Louis, Mo. Passenger-car. No. 976,601; Nov. 22; Sp. p. 5560; Gaz. vol. 160; p. 941.
Robinson, George A., Boston, assignor to Pneumatic Scale Corporation Limited, Quincy, Mass. Valve-controlled device for drawing liquids. No. 976,398; Nov. 22; Sp. p. 5138; Gaz. vol. 160; p. 871.
Robinson, Georgiana, New York, N. Y. Washboiler. No. 975,573; Nov. 15; Sp. p. 3337; Gaz. vol. 160; p. 566.
Robinson, Jackson, Pittsburg, Pa. Furnace-door. No. 975,892; Nov. 15; Sp. p. 3993; Gaz. vol. 160; p. 673.
Robinson, John J., New York, N. Y. Stretching-frame. No. 974,600; Nov. 1; Sp. p. 1194; Gaz. vol. 160; p. 183.
Robinson, Lewis T., Schenectady, N. Y., assignor to General Electric Company. Curve-drawing instrument. No. 974,190; Nov. 1; Sp. p. 195; Gaz. vol. 160; p. 33.
Robinson, Robert E., *et al.*, trustees. (See Blackmore, Henry S., assignor.)
Robinson, Robert F., and H. A. Owen, Whitinsville, Mass. Trolley-pole. No. 977,224; Nov. 29; Sp. p. 6951; Gaz. vol. 160; p. 1181.
Robinson, Stanley D., Hamilton, Ontario, Canada. Molding-flask sliding hinge. No. 975,159; Nov. 8; Sp. p. 2447; Gaz. vol. 160; p. 397.
Robison, John G., Cleveland, assignor of one-half to W. T. Busser, Piqua, Ohio. Buttoning device. No. 976,098; Nov. 15; Sp. p. 4398; Gaz. vol. 160; p. 745.
Roblin, Leslie G., London, Ontario, Canada. Wedge-bolt lock. No. 976,497; Nov. 22; Sp. p. 5344; Gaz. vol. 160; p. 906.
Robson, George, London, England. Automatic gas lighter and extinguisher. No. 975,160; Nov. 8; Sp. p. 2449; Gaz. vol. 160; p. 398.
Robson, George, London, England. Automatic gas lighter and extinguisher. No. 975,161; Nov. 8; Sp. p. 2457; Gaz. vol. 160; p. 398.
Robson, George, London, England. Plug-cock. No. 975,162; Nov. 8; Sp. p. 2462; Gaz. vol. 160; p. 399.
Robson, John H., Huddersfield, England. Machine for mercerizing, dyeing, or like treatment of loose or woven cotton or other vegetable fiber. No. 975,074; Nov. 8; Sp. p. 2258; Gaz. vol. 160; p. 368.
Roche, Jean J., St. Antoine, France. Stringed musical instrument. No. 976,299; Nov. 22; Sp. p. 4917; Gaz. vol. 160; p. 838.
Roche, William J., New Bethlehem, Pa., assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y. Type-writing machine. No. 975,075; Nov. 8; Sp. p. 2260; Gaz. vol. 160; p. 368.
Rockhill, John D., Conrad, Iowa. Trimmer for phonograph-records. No. 974,435; Nov. 1; Sp. p. 808; Gaz. vol. 160; p. 122.
Rockwell, Albert F., assignor to The New Departure Manufacturing Company, Bristol, Conn. Carbonising. No. 975,076; Nov. 8; Sp. p. 2263; Gaz. vol. 160; p. 369.
Rockwell, Albert F., assignor to The New Departure Manufacturing Company, Bristol, Conn. Carbonising apparatus. No. 975,077; Nov. 8; Sp. p. 2265; Gaz. vol. 160; p. 369.
Rockwell Furnace Company. (See Quigley, Wirt S., assignor.)
Rodgers, Guy R. (See Shorb and Rodgers.)
Rodin, Charles F., San Francisco, Cal. Shock-absorber. No. 974,709; Nov. 1; Sp. p. 1437; Gaz. vol. 160; p. 221.
Roehm, Louis, Chicago, Ill. Hanger. No. 974,524; Nov. 1; Sp. p. 1033; Gaz. vol. 160; p. 154.
Roemer, Henry C., *et al.* (See Firth, Franklin E., assignor.)
Roesner, Siegmund, Chicago, Ill. Shutter-operating device for photographic lenses. No. 976,217; Nov. 22; Sp. p. 4691; Gaz. vol. 160; p. 807.
Rogers, Christopher L., Cleveland, Ohio. Buttonhole-cutter. No. 976,300; Nov. 22; Sp. p. 4919; Gaz. vol. 160; p. 838.
Rogers, Clarence T., New York, N. Y. Door-holder. No. 977,225; Nov. 29; Sp. p. 6953; Gaz. vol. 160; p. 1182.
Rogers, William G., St. Thomas, Ontario, Canada. Earth-auger. No. 975,163; Nov. 8; Sp. p. 2463; Gaz. vol. 160; p. 399.
Rogerson, Frank, Streatham, assignor to Ozonair Limited, London, England. Brewing beer and other liquors. No. 976,602; Nov. 22; Sp. p. 5571; Gaz. vol. 160; p. 942.
Rohmer, Gabriel E., Woodside, N. Y. Lead-packed anchor-bolt. No. 977,402; Nov. 29; Sp. p. 7347; Gaz. vol. 160; p. 1242.
Rollin, Charles, assignor to himself and Hedworth Barium Company Limited, Newcastle-upon-Tyne, England. Making barium oxid. No. 974,921; Nov. 8; Sp. p. 1910; Gaz. vol. 160; p. 316.
Rollin, Charles, assignor to himself and Hedworth Barium Company Limited, Newcastle-upon-Tyne, England. Making anhydrous barium hydroxid. No. 974,993; Nov. 8; Sp. p. 2092; Gaz. vol. 160; p. 341.
Rollins, Frank O., assignor of one-half to E. S. Hodgdon, Lakeport, and one-half to B. J. Smith, Laconia, N. H. Cooking utensil. No. 974,828; Nov. 8; Sp. p. 1689; Gaz. vol. 160; p. 283.
Ronceray, Eugene, assignor to Societe Anonyme des Etablissements Ph. Bonvillian & E. Ronceray, Paris, France. Molding-machine. No. 976,833; Nov. 22; Sp. p. 6030; Gaz. vol. 160; p. 1019.
Roney, Charles, Hallstead, Pa. Stovepipe-lock. No. 976,603; Nov. 22; Sp. p. 5572; Gaz. vol. 160; p. 942.
Roop, William M. (See Willits, Frederick E., assignor.)
Roper, Joseph W., East Orange, N. J. Ash-sifter. No. 976,099; Nov. 15; Sp. p. 4399; Gaz. vol. 160; p. 746.
Rose, Earl W., Cuba, N. Y. Milk-pail holder. No. 976,498; Nov. 22; Sp. p. 5346; Gaz. vol. 160; p. 907.
Rose, James B., Victor, Colo. Brush. No. 974,922; Nov. 8; Sp. p. 1912; Gaz. vol. 160; p. 316.
Rose, John. (See Dixon, Wildey H., assignor.)
Rosenstein Brothers. (See Holland and Halleland, assignors.)
Rosenthal, Arthur. (See Rosenthal, Morris G. and A.)
Rosenthal, Morris G., Mentor, Ohio, and A. Rosenthal, Grand Rapids, Mich. Sewing-machine. No. 976,399; Nov. 22; Sp. p. 5141; Gaz. vol. 160; p. 872.
Rosewarne, Richard E., Covington, Ky., assignor to The Miller, Du Brul & Peters Manufacturing Company, Cincinnati, Ohio. Variable-speed mechanism. No. 977,403; Nov. 29; Sp. p. 7348; Gaz. vol. 160; p. 1243.
Ross, Charles H. A. F. L., Balnagown Castle, Scotland. Trigger mechanism. No. 975,286; Nov. 8; Sp. p. 2721; Gaz. vol. 160; p. 441.
Ross, Charles H. A. F. L., Balnagown Castle, Scotland. Magazine for firearms. No. 975,287; Nov. 8; Sp. p. 2724; Gaz. vol. 160; p. 441.
Ross, Frederick M., Newport, Ky., assignor to Acme High Speed Knife and Manufacturing Company, Oakley, Ohio. Cutting head and bit. No. 976,301; Nov. 22; Sp. p. 4920; Gaz. vol. 160; p. 838.
Ross, John, Terry, assignor of one-sixth to A. Nyberg and one-sixth to L. Nyberg, Lead, S. D. Mine-car-tallying device. No. 976,696; Nov. 22; Sp. p. 5744; Gaz. vol. 160; p. 973.
Rossi, Giacomo, Portici, Italy. Industrial microbiologic vegetal retting process by pectic aerobic microbes in gas-current. No. 977,133; Nov. 29; Sp. p. 6758; Gaz. vol. 160; p. 1150.
Rostron, James, Manchester, England. Stop-motion device for automatic reshuttling-looms. No. 977,329; Nov. 29; Sp. p. 7149; Gaz. vol. 160; p. 1217.
Rotary Valve Motor Company. (See Nelson, Emil A., assignor.)
Rote, Charles V., assignor to M. P. Holman, Lancaster, Pa. Car-brake. No. 975,893; Nov. 15; Sp. p. 3994; Gaz. vol. 160; p. 674.
Roth, Ernst, Niederutzwil, Switzerland. Sliding brush for plan sifters. No. 976,697; Nov. 22; Sp. p. 5745; Gaz. vol. 160; p. 973.
Roth, Henry J., Dover, Minn. Ventilator. No. 974,821; Nov. 8; Sp. p. 1690; Gaz. vol. 160; p. 284.
Roth Manufacturing Company. (See Cosper, William H., assignor.) (Reissue.)
Rothermel, W. E. (See Matthews, Edgar M., assignor.)
Rothfuchs, August, and C. Eck, Hammond, Ind. Shade-roller bracket. No. 974,436; Nov. 1; Sp. p. 810; Gaz. vol. 160; p. 122.
Röthlisberger, Ulrich, Basel, Switzerland. Benzin apparatus for washing, rinsing, draining, and drying textile materials. No. 975,078; Nov. 8; Sp. p. 2266; Gaz. vol. 160; p. 369.
Rothwell, John E., assignor to Colorado Iron Works Company, Denver, Colo. Tank for settling, filtering, and collecting solids from liquids. No. 976,923; Nov. 29; Sp. p. 6265; Gaz. vol. 160; p. 1076.
Rotzel, Albert, and M. Imbt, Stroudsburg, Pa. Combination window-shade holder and swinging curtain-pole. No. 974,710; Nov. 1; Sp. p. 1439; Gaz. vol. 160; p. 222.
Rotzell, Frank W., Kansas City, Mo. Umbrella. No. 974,437; Nov. 1; Sp. p. 811; Gaz. vol. 160; p. 122.
Rounds, Myron, Boston, Mass. Convertible passenger-railway-car. No. 976,218; Nov. 22; Sp. p. 4696; Gaz. vol. 160; p. 808.
Rouse, Richard, Jr., Elizabeth, N. J., assignor to Boynton Furnace Company, New York, N. Y. Steam and hot-water boiler. No. 975,462; Nov. 15; Sp. p. 3087; Gaz. vol. 160; p. 527.
Rouse, Spencer, San Saba, Tex. Draft device. No. 976,302; Nov. 22; Sp. p. 4922; Gaz. vol. 160; p. 838.
Rousseau, Theodore A., Nashville, Tenn. Device for holding and severing tickets, checks, and the like. No. 974,830; Nov. 8; Sp. p. 1692; Gaz. vol. 160; p. 284.
Rowan, Alfred G., *et al.* (See Meyer, Eugene, assignor.)
Rowley, Aaron V. (See Niedermayr, Georg, assignor.)
Rowntree, Harold, Chicago, Ill., assignor, by mesne assignments, to National Pneumatic Company. Door-moving mechanism. No. 976,924; Nov. 29; Sp. p. 6269; Gaz. vol. 160; p. 1076.
Rowntree, Harold, Chicago, Ill., assignor to National Pneumatic Company. Automatic pressure-controlling device for brake mechanisms. No. 976,925; Nov. 29; Sp. p. 6271; Gaz. vol. 160; p. 1077.
Rowntree, Harold, assignor to National Pneumatic Company, Chicago, Ill. Combined door and step operating mechanism. No. 976,926; Nov. 29; Sp. p. 6276; Gaz. vol. 160; p. 1077.
Rowswell, William H., assignor of one-half to G. H. Ballentine, Pittsburg, Pa. Combination testing-gage and pump. No. 975,638; Nov. 15; Sp. p. 3470; Gaz. vol. 160; p. 58

Royal, Forester W., Ballston, Oreg. Carpenter's square. No. 975,079; Nov. 8; Sp. p. 2268; Gaz. vol. 160; p. 370.
Royal Typewriter Company. (See Hess, Edward B., assignor.)
Ruble, Rollo J., Fairmont, Minn. Milk-pail holder. No. 975,288; Nov. 8; Sp. p. 2726; Gaz. vol. 160; p. 441.
Ruckdeschel, Bernard, Philadelphia, Pa., assignor of one-third to D. P. Moore, Washington, D. C. Priming device for explosive-engines. No. 975,639; Nov. 15; Sp. p. 3473; Gaz. vol. 160; p. 589.
Rudolph, Georg, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Dyeing half-woolen goods. No. 976,210; Nov. 22; Sp. p. 4702; Gaz. vol. 160; p. 809.
Rudolphi, Frank, Chicago, Ill. Double-seaming machine. No. 975,574; Nov. 15; Sp. p. 3341; Gaz. vol. 160; p. 567.
Ruedy, Harry U., Toledo, Ohio. Barrel-cover fastener. No. 975,080; Nov. 8; Sp. p. 2271; Gaz. vol. 160; p. 370.
Rügen, Adolph von, Moscow, Russia. Foundation for frames of every description, &c. No. 977,330; Nov. 29; Sp. p. 7150; Gaz. vol. 160; p. 1217.
Rundel Manufacturing Company. (See Rundel, William F., assignor.)
Rundel, William F., Fairport, assignor to Rundel Manufacturing Company, Rochester, N. Y. Razor-sharpening machine. No. 976,927; Nov. 29; Sp. p. 6278; Gaz. vol. 160; p. 1077.
Runner, John B., assignor to L. M. Quill and L. A. Browne, Indianapolis, Ind. Starter for hydrocarbon-engines. No. 974,525; Nov. 1; Sp. p. 1034; Gaz. vol. 160; p. 154.
Russell & Erwin Manufacturing Company. (See Hurd, Norman B., assignor.)
Russell & Erwin Manufacturing Company. (See Voight, Henry G., assignor.)
Russell, James F., Woodstock, assignor to S. E. Russell, Hamilton, Ontario, Canada. Conveyer. No. 975,721; Nov. 15; Sp. p. 3647; Gaz. vol. 160; p. 614.
Russell, Sarah E. (See Russell, James F., assignor.)
Ruth, David C., Halstead, Kans. Rotary plow. No. 974,711; Nov. 1; Sp. p. 1440; Gaz. vol. 160; p. 222.
Ruud, Edwin, Pittsburg, Pa. Condensate-collector for water-heaters. No. 975,894; Nov. 15; Sp. p. 4001; Gaz. vol. 160; p. 674.
Ruud, Edwin, Pittsburg, Pa. Indirect water-heating system. No. 972,895; Nov. 15; Sp. p. 4003; Gaz. vol. 160; p. 674.
Ryan, Allan C. (See Lovett, David W., assignor.)
Ryan, Charles A., Orosi, Cal. Plow-shaft. No. 976,303; Nov. 22; Sp. p. 4924; Gaz. vol. 160; p. 839.
Ryan, Edward, Clinton, Iowa. Sanding-pipe for locomotives. No. 976,304; Nov. 22; Sp. p. 4926; Gaz. vol. 160; p. 839.
Ryder, Enoch W., Dowagiac, Mich. Tension device for check-row planters. No. 977,134; Nov. 29; Sp. p. 6759; Gaz. vol. 160; p. 1150.
Ryon, Eppa H., Worcester, Mass., assignor to Crompton & Knowles Loom Works. Cop-winding machine. No. 976,698; Nov. 22; Sp. p. 5747; Gaz. vol. 160; p. 973.
S. Obermayer Company, The. (See Green, Charles H., assignor.)
S. D. Manufacturing Co. (See Spangler, Jacob R., assignor.)
Sabathé, Louis G., Paris, assignor to the Societe des Moteurs Sabathe, Saint-Etienne, Loire, France. Internal-combustion engine and operating the same. No. 975,640; Nov. 15; Sp. p. 3475; Gaz. vol. 160; p. 589.
Sachs, Solomon, Roanoke, Va. Glove. No. 975,289; Nov. 8; Sp. p. 2727; Gaz. vol. 160; p. 442.
Sadleir, William G. (See Kingsley, Greene, and Sadleir.)
Sadler, Luther. (See Farmer, Frank H., assignor.)
Saeter, Hallvard B., Stavanger, Norway. Machine for treating pulp. No. 975,798; Nov. 15; Sp. p. 3811; Gaz. vol. 160; p. 641.
Salinger, S. R. (See Gardner, Benjamin F., assignor.)
Salisbury, Oscar, Bassano, Alberta, Canada. Nut-lock. No. 976,928; Nov. 29; Sp. p. 6280; Gaz. vol. 160; p. 1078.
Salzer, Rudolph, Trenton, N. J., assignor to The De Laval Steam Turbine Company. Centrifugal pump. No. 976,400; Nov. 22; Sp. p. 5145; Gaz. vol. 160; p. 873.
Sampson, Eric G., and A. L. Welham, assignors to Art Metal Construction Co., Jamestown, N. Y. File-holder. No. 974,601; Nov. 1; Sp. p. 1195; Gaz. vol. 160; p. 183.
Sampson, Samuel, Philadelphia, Pa. Device for piling cloth in the desired lengths. No. 976,604; Nov. 22; Sp. p. 5573; Gaz. vol. 160; p. 942.
Samson Cordage Works. (See Tolman and Bixby, assignors.)
Samson, David, Chambers, Nebr. Safety-stirrup. No. 975,164; Nov. 8; Sp. p. 2464; Gaz. vol. 160; p. 399.
Sanborn, Elmer H., Los Angeles, Cal. Stamp. No. 975,463; Nov. 15; Sp. p. 3089; Gaz. vol. 160; p. 528.
Sanborn, John P., Cleveland, Ohio, assignor to C. B. Tuttle, Detroit, Mich. Electric appliance for horses. No. 977,331; Nov. 29; Sp. p. 7151; Gaz. vol. 160; p. 1217.
Sanitary Paper Bottle Company. (See Nazel and Barlow, assignors.)
Saracco, Pietro, Saluzzo, Italy. Stopping device for silk-doubling machines. No. 976,499; Nov. 22; Sp. p. 5347; Gaz. vol. 160; p. 907.
Sargent, Frederick, Glencoe, assignor of one-half to O. E. Oleson, Chicago, Ill. Pipe-coupling. No. 977,226; Nov. 29; Sp. p. 6954; Gaz. vol. 160; p. 1182.
Sargent, Frederick G., Westford, Mass. Wireless apparatus. No. 974,191; Nov. 1; Sp. p. 197; Gaz. vol. 160; p. 33.
Sargent, Frederick G., Graniteville, Mass. Wireless telegraphy. No. 976,500; Nov. 22; Sp. p. 5348; Gaz. vol. 160; p. 907.
Sargent, George H., and A. G. Hollingshead, Chicago, Ill. Boiler-water-glass shield. No. 974,299; Nov. 1; Sp. p. 497; Gaz. vol. 160; p. 73.
Sassenberg, Joseph C., Chicago, Ill. Garment-rack. No. 975,799; Nov. 15; Sp. p. 3812; Gaz. vol. 160; p. 642.
Satter, Joseph G. (See Lewis, Benjamin F., assignor.)
Saurer, Hippolyt, Arbon, Switzerland. Speed-regulating device for automobiles and the like. No. 976,834; Nov. 22; Sp. p. 6033; Gaz. vol. 160; p. 1019.
Saville, Harry, assignor to The British Steel & Wire Company, Limited, Manchester, England. Continuous-wire-drawing machine. No. 975,641; Nov. 15; Sp. p. 3478; Gaz. vol. 160; p. 589.
Savoie, Joseph, Central Falls, R. I. Bridge connection for lenses for spectacles. No. 977,227; Nov. 29; Sp. p. 6955; Gaz. vol. 160; p. 1182.
Sawin, George A., Lynn, Mass., assignor to General Electric Company. Electric meter. No. 974,192; Nov. 1; Sp. p. 199; Gaz. vol. 160; p. 33.
Scales, Otto C., administrator. (See Brown, George W.)
Scanlin, John. (See Naulty and Scanlin.)
Schaaf, Edward, *et al.* (See Martin, Stephen G., assignor.)
Schaaf, John T., Washington, D. C., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine. No. 974,438; Nov. 1; Sp. p. 812; Gaz. vol. 160; p. 122.
Schaefer Manufacturing Company. (See Stockham, William H., assignor.)
Schaefer, Walter T., Los Angeles, and J. E. Steers, San Francisco, Cal. Fountain toilet-brush. No. 974,994; Nov. 8; Sp. p. 2093; Gaz. vol. 160; p. 341.
Schaffelke, Ernst L. J., Stolp, Germany. Nut-locking device. No. 975,642; Nov. 15; Sp. p. 3480; Gaz. vol. 160; p. 590.
Scharf, John A., Richwood, Ohio. Driving-gear for automobiles. No. 975,290; Nov. 8; Sp. p. 2728; Gaz. vol. 160; p. 442.
Schaupp, Charles F., Wilson, Minn. Earthworking-machine. No. 974,526; Nov. 1; Sp. p. 1037; Gaz. vol. 160; p. 155.
Schenck, Leon H., Schenectady, N. Y. Means for automatically varying, proportionally to the load, the pneumatic application of friction-brakes. No. 976,000; Nov. 15; Sp. p. 4196; Gaz. vol. 160; p. 711.
Scherzinger, Lawrence F., assignor to The Tengwall Company, Chicago, Ill. Loose-leaf binder. No. 974,831; Nov. 8; Sp. p. 1694; Gaz. vol. 160; p. 285.
Schestopol, Benjamin, New York, N. Y. Lock for bicycle or other wheels. No. 977,228; Nov. 29; Sp. p. 6956; Gaz. vol. 160; p. 1182.
Schickerling, Alfred, New York, N. Y. Card-case. No. 976,605; Nov. 22; Sp. p. 5575; Gaz. vol. 160; p. 943.
Schies, John, Anderson, Ind., assignor to International Aerial Power Company, Phoenix, Ariz. Wind-motor. No. 974,995; Nov. 8; Sp. p. 2095; Gaz. vol. 160; p. 341.
Schilling, Rudolf, Dahlem, near Berlin, Germany. Apparatus for removing fat from effluents. No. 975,081; Nov. 8; Sp. p. 2272; Gaz. vol. 160; p. 371.
Schilz, Frank, assignor to H. Loewenbach, Milwaukee, Wis. Paper-feeding device. No. 974,923; Nov. 8; Sp. p. 1913; Gaz. vol. 160; p. 316.
Schleicher, John C., Mount Vernon, N. Y. Tread for pneumatic tires. No. 974,602; Nov. 1; Sp. p. 1196; Gaz. vol. 160; p. 183.
Schmid, Frederick C., and C. F. Dewey, assignors to C. P. Goerz American Optical Company, New York, N. Y. Photographic-camera shutter. No. 975,464; Nov. 15; Sp. p. 3090; Gaz. vol. 160; p. 528.
Schmidmer, Georg E., Nuremberg, Germany. Culinary scraper and scourer. No. 976,606; Nov. 22; Sp. p. 5576; Gaz. vol. 160; p. 943.
Schmidt, Albert, Leipzig, Germany. Spool of pasteboard, cardboard, or similar material. No. 974,603; Nov. 1; Sp. p. 1197; Gaz. vol. 160; p. 183.
Schmidt, Albert, assignor to Champion Ignition Company, Flint, Mich. Terminal-fastening. No. 976,100; Nov. 15; Sp. p. 4401; Gaz. vol. 160; p. 746.
Schmidt, Albert, assignor to Champion Ignition Company, Flint, Mich. Spark-plug. No. 976,101; Nov. 15; Sp. p. 4402; Gaz. vol. 160; p. 746.
Schmidt, Alfred, Lake Hopatcong, N. J. Fuel-mixer. No. 977,229; Nov. 29; Sp. p. 6958; Gaz. vol. 160; p. 1183.
Schmidt, Ernest H., assignor to The National Malleable Castings Company, Cleveland, Ohio. Radial-draft gear. No. 975,896; Nov. 15; Sp. p. 4005; Gaz. vol. 160; p. 675.
Schmidt, Frederick C., Beeville, Tex. Refrigerator. No. 977,332; Nov. 29; Sp. p. 7152; Gaz. vol. 160; p. 1218.
Schmidt, Frederick W., Philadelphia, Pa. Battery temperature-controller. No. 976,747; Nov. 22; Sp. p. 5844; Gaz. vol. 160; p. 990.
Schmidt, Frederick W., Philadelphia, Pa. Control for charging storage batteries. No. 976,748; Nov. 22; Sp. p. 5847; Gaz. vol. 160; p. 990.
Schmidt, Frederick W., Philadelphia, Pa. Thermostat. No. 976,749; Nov. 22; Sp. p. 5848; Gaz. vol. 160; p. 990.
Schmidt, Frederick W., Philadelphia, Pa. Control for charging storage batteries. No. 976,750; Nov. 22; Sp. p. 5850; Gaz. vol. 160; p. 991.
Schmitt, Edward D., assignor to The Pure Food Process Company, Baltimore, Md. Apparatus for sterilizing and tempering glass vessels. No. 976,001; Nov. 15; Sp. p. 4198; Gaz. vol. 160; p. 711.

Schmitt, Otto J., Philadelphia, Pa. Car-fender. No. 974,300; Nov. 1; Sp. p. 499; Gaz. vol. 160; p. 73.
Schnabel, James F., Pittsburg, Pa., assignor to The Electric Controller and Manufacturing Company, Cleveland, Ohio. Pig-handling apparatus. No. 977,046; Nov. 29; Sp. p. 6556; Gaz. vol. 160; p. 1119.
Schnapka, Xavera F., Breslau, assignor to F. Lissy, Kattowitz, Germany. Pen and pencil holder. No. 975,465; Nov. 15; Sp. p. 96; Gaz. vol. 160; p. 529.
Schnauffer, William A. A. (See Alexander, Jesse, assignor.)
Schnebel, Carl, Berlin, Germany. Device for finding harmonic color shades. No. 974,924; Nov. 8; Sp. p. 1919; Gaz. vol. 160; p. 317.
Schneider, Adolph, Chicago, Ill. Machine for bottling liquids. No. 976,751; Nov. 22; Sp. p. 5853; Gaz. vol. 160; p. 991.
Schneider, Gregor, Würzburg, Germany. Animal-shears. No. 974,604; Nov. 1; Sp. p. 1199; Gaz. vol. 160; p. 184.
Schnell, Philip, Philadelphia, Pa. Trolley-pole. No. 976,501; Nov. 22; Sp. p. 5350; Gaz. vol. 160; p. 907.
Schniewind, Frederic W. C., New York, N. Y. Burner for coke-ovens. No. 976,929; Nov. 29; Sp. p. 6281; Gaz. vol. 160; p. 1078.
Schniewind, Frederic W. C., New York, N. Y. Coke-oven and heating arrangement therefor. No. 976,930; Nov. 29; Sp. p. 6284; Gaz. vol. 160; p. 1078.
Schniewind, Frederic W. C., New York, N. Y. Coke-oven and door therefor. No. 976,931; Nov. 29; Sp. p. 6292; Gaz. vol. 160; p. 1079.
Schniewind, Frederic W. C., New York, N. Y. Car construction. No. 976,932; Nov. 29; Sp. p. 6295; Gaz. vol. 160; p. 1079.
Schniewind, Frederic W. C., New York, N. Y. Apparatus for cleaning gas-pipes. No. 976,933; Nov. 29; Sp. p. 6296; Gaz. vol. 160; p. 1080.
Schniewind, Frederic W. C., New York, N. Y. Coke-oven-discharging apparatus. No. 976,934; Nov. 29; Sp. p. 6300; Gaz. vol. 160; p. 1080.
Schniewind, Frederic W. C., New York, N. Y. Coke-oven and door therefor. No. 976,935; Nov. 29; Sp. p. 6306; Gaz. vol. 160; p. 1081.
Schnitzspahn, Karl, Offenbach-on-the-Main, assignor to Corporation of Chemische Fabrik Griesheim Elektron at Frankfort-on-the-Main, Germany. Monoazo dye for lakes. No. 976,401; Nov. 22; Sp. p. 5147; Gaz. vol. 160; p. 873.
Schoen, August C., Philadelphia, Pa. Holder for rugs during finishing, &c. No. 974,527; Nov. 1; Sp. p. 1039; Gaz. vol. 160; p. 155.
Schofield, Otis W., Montpelier, Idaho. Hatband. No. 974,605; Nov. 1; Sp. p. 1201; Gaz. vol. 160; p. 184.
Schönherr, Otto, and J. Hessberger, assignors to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany. Production of long stable electric arcs. No. 976,002; Nov. 15; Sp. p. 4201; Gaz. vol. 160; p. 712.
Schönwetter, Anton F., Cleveland, Ohio. Phonograph sound-box. No. 976,502; Nov. 22; Sp. p. 5351; Gaz. vol. 160; p. 908.
Schooling Calculating Machine Company Limited, The. (See Schooling, William, assignor.)
Schooling, William, Westminster, London, assignor to The Schooling Calculating Machine Company Limited, London, England. Adding and listing machine. No. 974,996; Nov. 8; Sp. p. 2098; Gaz. vol. 160; p. 342.
Schooling, William, Westminster, London, assignor to The Schooling Calculating Machine Company Limited, London, England. Adding and subtracting machine. No. 977,333; Nov. 29; Sp. p. 7154; Gaz. vol. 160; p. 1218.
Schorcht, Emma S. (See Alexander, Jesse, assignor.)
Schowalter, Edward J., Racine, Wis. Window-cleaner. No. 974,193; Nov. 1; Sp. p. 200; Gaz. vol. 160; p. 34.
Schrader, Otto R., San Francisco, Cal. Post-cap and timber-seat. No. 974,606; Nov. 1; Sp. p. 1202; Gaz. vol. 160; p. 184.
Schramm, John, Chicago, Ill. Toy. No. 975,291; Nov. 8; Sp. p. 2732; Gaz. vol. 160; p. 442.
Schramm, John, Chicago, Ill. Self-locking rod-clamp. No. 975,292; Nov. 8; Sp. p. 2733; Gaz. vol. 160; p. 443.
Schroder, Herman F., Berwyn, assignor to W. H. Miner, Chicago, Ill. Journal-bearing mold. No. 974,529; Nov. 1; Sp. p. 1044; Gaz. vol. 160; p. 153.
Schroder, Herman F., Berwyn, assignor to W. H. Miner, Chicago, Ill. Journal-bearing mold. No. 974,530; Nov. 1; Sp. p. 1046; Gaz. vol. 160; p. 156.
Schröder, Wilhelm G., Lübeck, assignor to Altonaer Margarine Werke Mohr & Co. Gesellschaft mit beschränkter Haftung, Altona-Ottensen, Germany. Mechanism for grinding or mixing emulsions. No. 976,699; Nov. 22; Sp. p. 5750; Gaz. vol. 160; p. 973.
Schroeder, Fred H., Jr., Tacoma, Wash. Bar spacer and supporter for reinforced concrete. No. 976,503; Nov. 22; Sp. p. 5353; Gaz. vol. 160; p. 908.
Schroeder, Wilhelm, Berkeley, Cal. Egg-tester. No. 976,700; Nov. 22; Sp. p. 5751; Gaz. vol. 160; p. 974.
Schuch, Anthony, and G. H. Tegmeier, Edwardsville, Ill. Sample-holder. No. 975,293; Nov. 8; Sp. p. 2735; Gaz. vol. 160; p. 443.
Schuhfabrik Bonndorf Gebrüder Kriechle. (See Frey, Victor, assignor.)
Schulte, Henry F., Hopedale, Ill. Tobacco-pipe. No. 976,936; Nov. 29; Sp. p. 6308; Gaz. vol. 160; p. 1081.
Schulte, William H., Trenton, N. J. Valve mechanism. No. 974,025; Nov. 8; Sp. p. 1920; Gaz. vol. 160; p. 317.
Schulte, William H., Trenton, N. J. Controlling device for waste-plugs. No. 974,926; Nov. 8; Sp. p. 1923; Gaz. vol. 160; p. 318.
Schultz, Franklin. (See Falker, Schultz, and Wagner.)
Schulze, Carl, Chicago, Ill. Exercising-machine. No. 974,194; Nov. 1; Sp. p. 202; Gaz. vol. 160; p. 34.
Schumpert, William C., Chattanooga, Okla. Nut-lock. No. 976,701; Nov. 22; Sp. p. 5752; Gaz. vol. 160; p. 974.
Schuster, Albert. (See Kundtz and Schuster.)
Schuster, Frank A., Sharpsburg, Pa. Pipe-drawing machine. No. 977,135; Nov. 29; Sp. p. 6761; Gaz. vol. 160; p. 1151.
Schuster, Guido, Besztercze, Austria-Hungary. Valve. No. 976,702; Nov. 22; Sp. p. 5753; Gaz. vol. 160; p. 974.
Schwab, Charles M., Oak Park, Ill. Device for raising bed-springs. No. 976,937; Nov. 29; Sp. p. 6300; Gaz. vol. 160; p. 1081.
Schwab, Martin C., Chicago, Ill. Elevator. No. 974,439; Nov. 1; Sp. p. 820; Gaz. vol. 160; p. 123.
Schwab, Martin C., Chicago, Ill., assignor to Gravity Conveyor Company. Deflector for gravity-conveyers. No. 975,800; Nov. 15; Sp. p. 3814; Gaz. vol. 160; p. 642.
Schwandt, Richard S. (See Reugert and Schwandt.)
Schwartz, Carl L., St. Louis, Mo. Car-bolster side bearing. No. 974,832; Nov. 8; Sp. p. 1695; Gaz. vol. 160; p. 285.
Schwartz, Carl L., St. Louis, Mo. Car-brake-beam safety-chain holder. No. 976,220; Nov. 22; Sp. p. 4703; Gaz. vol. 160; p. 809.
Schwarz, Friedrich, and H. Tauss, Vienna, Austria-Hungary. Syringe. No. 974,531; Nov. 1; Sp. p. 1049; Gaz. vol. 160; p. 157.
Schweitzer, Edmund O., Chicago, Ill. Brush for dynamo-electric machines and the like. No. 974,833; Nov. 8; Sp. p. 1697; Gaz. vol. 160; p. 285.
Schwer, Frederick W., *et al.* (See Berry, Robert L. F., assignor.)
Schwerdtner, Oskar A. (See Hartmann and Schwerdtner.)
Schwindt, Hugo. (See Damköhler and Schwindt.)
Schwinn, George, San Francisco, Cal. Lock-box. No. 976,102; Nov. 15; Sp. p. 4403; Gaz. vol. 160; p. 746.
Scientific Research Co., The. (See Radcliffe, Carlton R., assignor.)
Scientific Research Co., The. (See Veitch, Thomas, assignor.)
Scott, Clyde B., assignor of one-half to J. W. Nelson, Mercer, Pa. Rail-fastener. No. 974,301; Nov. 1; Sp. p. 501; Gaz. vol. 160; p. 74.
Scott, David J., *et al.*, executors. (See Scott, Walter.)
Scott Electrical Company. (See Scott, Ralph, assignor.)
Scott, Isabella, *et al.*, executors. (See Scott, Walter.)
Scott, Louis H., assignor to Illinois Concrete Machinery Company, Buda, Ill. Post-mold. No. 977,136; Nov. 29; Sp. p. 6767; Gaz. vol. 160; p. 1151.
Scott, Ralph, Newark, N. J., assignor, by mesne assignments, to Scott Electrical Company, New York, N. Y. Flaming-arc lamp. No. 975,165; Nov. 8; Sp. p. 2466; Gaz. vol. 160; p. 399.
Scott, Robert W., Leeds Point, assignor to Scott & Williams, Incorporated, Camden, N. J. Knitted web, hosiery, and making the same. No. 974,302; Nov. 1; Sp. p. 502; Gaz. vol. 160; p. 74.
Scott, Robert W., Leeds Point, assignor to Scott & Williams, Camden, N. J. Knitting-machine needle. No. 975,466; Nov. 15; Sp. p. 3096; Gaz. vol. 160; p. 529.
Scott, Robert W., Leeds Point, assignor to Scott & Williams, Incorporated, Camden, N. J. Knitting-machine. No. 976,607; Nov. 22; Sp. p. 5577; Gaz. vol. 160; p. 943.
Scott, Thomas S., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Fluid-pressure appliance. No. 975,467; Nov. 15; Sp. p. 3097; Gaz. vol. 160; p. 529.
Scott, Walter, deceased, Plainfield, N. J.; I. Scott and D. J. Scott, executors. Multicouple multirevolution printing-machine. No. 975,294; Nov. 8; Sp. p. 2736; Gaz. vol. 160; p. 443.
Scott, William H., Maplewood, assignor to A. C. L., L. H. E. T. and W. H. Haase, A. Biesmeyer, St. Louis, Mo., and A. Marx, Chicago, Ill. Marking-pot. No. 976,504; Nov. 22; Sp. p. 5354; Gaz. vol. 160; p. 908.
Scott, William M., Philadelphia, Pa., assignor to The Cutter Electrical and Manufacturing Company. Electric switch. No. 974,528; Nov. 1; Sp. p. 1041; Gaz. vol. 160; p. 156.
Scott & Williams. (See Costello, Loretto A., assignor.)
Scott & Williams. (See Scott, Robert W., assignor.)
Scrimgeour, William, Portsmouth, assignor to Mirco Fuel Oil Equipment Company, Norfolk, Va. Liquid-fuel burner. No. 976,221; Nov. 22; Sp. p. 4704; Gaz. vol. 160; p. 809.
Scroggie, George, San Diego, Cal. Clothes-drier. No. 975,575; Nov. 15; Sp. p. 3344; Gaz. vol. 160; p. 567.
Scullin-Gallagher Iron & Steel Company. (See De la Hunty, Thomas, assignor.)
Scullin-Gallagher Iron and Steel Company. (See Shallenberger, Charles S., assignor.)
Sears, John E., Jr., Newcastle-upon-Tyne, England. Internal-combustion engine. No. 977,334; Nov. 29; Sp. p. 7162; Gaz. vol. 160; p. 1218.
Sears, Willard T., Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Gapped gear. No. 975,722; Nov. 15; Sp. p. 3648; Gaz. vol. 160; p. 615.

Sears, Willard T., Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Gapped gear. No. 975,723; Nov. 15; Sp. p. 3650; Gaz. vol. 160; p. 615.

Seberg, Aron G. and E. G., Racine, Wis. Drilling-machine. No. 976,703; Nov. 22; Sp. p. 5755; Gaz. vol. 160; p. 975.

Seberg, Edwin G. (See Seberg, Aron G. and E. G.)

Sedgwick, Harry A., Milwaukee, Wis., assignor to Ajax Electric Tool Company, Huron, S. D. Striking mechanism. No. 975,372; Nov. 8; Sp. p. 2903; Gaz. vol. 160; p. 469.

See, Frank M. (See Muenzenmaier and See.)

Seeberger, Charles D., Yonkers, N. Y. Conveyer. No. 977,047; Nov. 29; Sp. p. 6560; Gaz. vol. 160; p. 1120.

Seeger, Erich. (See D'Abreu and Seeger.)

Seeley, Franklyn H., Chicago, Ill. Half-hose supporter. No. 976,505; Nov. 22; Sp. p. 5355; Gaz. vol. 160; p. 908.

Sefton Manufacturing Company, The. (See Ferres, Jeffrey T., assignor.)

Segal, Maurice, and F. C. Walker, Buffalo, N. Y.; said Walker assignor to said Segal. Automatic train-pipe coupling. No. 976,402; Nov. 22; Sp. p. 5148; Gaz. vol. 160; p. 873.

Seifert, Johann T. J., Dresden-Neustadt, assignor to Neue Berliner Messingwerke Wilhelm Borchert, Jr., Berlin, Germany. Hydraulic metal-press. No. 974,195; Nov. 1; Sp. p. 203; Gaz. vol. 160; p. 34.

Seignol, Claudius, Lyon, France. Destruction of hairs and other extraneous matter in floss and waste silk. No. 974,440; Nov. 1; Sp. p. 828; Gaz. vol. 160; p. 123.

Seitz, George B., Hammond, Ind. Rotary engine. No. 975,643; Nov. 15; Sp. p. 3481; Gaz. vol. 160; p. 590.

Selkovits, Max. (See Greenwald, Blaustein, Weiss, and Selkovits.)

Sellers, William F., Wilmington, Del., and C. J. Davidson, Milwaukee, Wis., assignors to Edge Moor Iron Company, Edgemoor, Del. Boiler. No. 975,897; Nov. 15; Sp. p. 4007; Gaz. vol. 160; p. 675.

Sellers, William F., Wilmington, Del., and C. J. Davidson, Milwaukee, Wis., assignors to Edge Moor Iron Company, Edgemoor, Del. Boiler. No. 976,103; Nov. 15; Sp. p. 4409; Gaz. vol. 160; p. 747.

Sellner, Herbert W., Faribault, Minn. Sander or polishing-machine. No. 975,166; Nov. 8; Sp. p. 2468; Gaz. vol. 160; p. 400.

Sessions, Frank L., Columbus, Ohio, assignor, by mesne assignments, to The Jeffery Manufacturing Company. Mining-machine. No. 975,468; Nov. 15; Sp. p. 3099; Gaz. vol. 160; p. 530.

Severin, Conrad, Göttingen, assignor to Niedersächsische Papierindustrie G. m. b. H., Holzminden, Germany. Fly-catcher. No. 976,506; Nov. 22; Sp. p. 5357; Gaz. vol. 160; p. 909.

Severin, Frank W. (See Bock, Herman F., assignor.)

Seward, Percy O., Petersburg, Va. Receptacle. No. 975,898; Nov. 15; Sp. p. 4010; Gaz. vol. 160; p. 676.

Sexton, Charles M., Aurora, Ill. Combined latch and catch for doors. No. 977,137; Nov. 29; Sp. p. 6768; Gaz. vol. 160; p. 1151.

Sexton, Daniel, Kansas City, Mo. Innersole. No. 975,576; Nov. 15; Sp. p. 3345; Gaz. vol. 160; p. 567.

Sexton, Timothy. (See Jones, John, assignor.)

Seymour, Henry A., Washington, D. C., assignor to The Morgan Engineering Company, Alliance, Ohio. Ladle-crane. No. 974,196; Nov. 1; Sp. p. 205; Gaz. vol. 160; p. 34.

Seymour, Richard H., Bristol, Va. Adjustable dipper-tooth. No. 976,507; Nov. 22; Sp. p. 5357; Gaz. vol. 160; p. 909.

Seyranian, Levon H., Monterey, Cal. Armature-testing device. No. 974,712; Nov. 1; Sp. p. 1443; Gaz. vol. 160; p. 222.

Shackelford, James J., Putnam, Tex. Disk plow-scraper. No. 975,577; Nov. 15; Sp. p. 3346; Gaz. vol. 160; p. 568.

Shaeffer, Absalom D., Kittanning, Pa. Rail-joint. No. 975,809; Nov. 15; Sp. p. 4012; Gaz. vol. 160; p. 676.

Shafer, John J., Lenox, Mich. Photographic-printing machine. No. 977,133; Nov. 29; Sp. p. 6769; Gaz. vol. 160; p. 1151.

Shaffner, Samuel C., assignor to National Air Filter Company, Chicago, Ill. Means for filtering air and producing ozone. No. 977,335; Nov. 29; Sp. p. 7164; Gaz. vol. 160; p. 1219.

Shaffner, Samuel C., and S. T. Hutton, assignors to National Air Filter Company, Chicago, Ill. Means for filtering air and producing ozone. No. 977,336; Nov. 29; Sp. p. 7169; Gaz. vol. 160; p. 1219.

Shaiffer, Harry D., Philadelphia, Pa. Skirt-form. No. 975,724; Nov. 15; Sp. p. 3651; Gaz. vol. 160; p. 615.

Shalansky, Morris, Indianapolis, Ind. Cloth measuring and recording device. No. 975,873; Nov. 8; Sp. p. 2908; Gaz. vol. 160; p. 460.

Shalansky, Morris, Indianapolis, Ind. Convertible chair. No. 975,374; Nov. 8; Sp. p. 2913; Gaz. vol. 160; p. 470.

Shallenberger, Charles S., assignor to Scullin-Gallagher Iron and Steel Company, St. Louis, Mo. Draft-rigging for railway-cars. No. 976,508; Nov. 22; Sp. p. 5359; Gaz. vol. 160; p. 909.

Shanafelt Manufacturing Company, The. (See Allabough, Joseph L., assignor.)

Shannon, Harry A., Appleton, Wis. Card-display case. No. 975,644; Nov. 15; Sp. p. 3482; Gaz. vol. 160; p. 591.

Shapiro, Samuel, Philadelphia, Pa. Aerating-cover for milk-cans. No. 975,725; Nov. 15; Sp. p. 3653; Gaz. vol. 160; p. 616.

Shapiro, Samuel, Philadelphia, Pa. Combined pasteurizing and refrigerating apparatus. No. 977,230; Nov. 29; Sp. p. 6960; Gaz. vol. 160; p. 1183.

Sharples, David T., West Chester, Pa. Teat-cup. No. 974,834; Nov. 8; Sp. p. 1698; Gaz. vol. 160; p. 285.

Sharples, David T., West Chester, Pa. Milking mechanism. No. 976,305; Nov. 22; Sp. p. 4927; Gaz. vol. 160; p. 839.

Sharpneck, Ellel L., Winthrop, Mass. Car-axle box and saddle. No. 977,139; Nov. 29; Sp. p. 6775; Gaz. vol. 160; p. 1152.

Sharpneck, Ellel L. and M. C., Boston, Mass. Tide-motor. No. 975,726; Nov. 15; Sp. p. 3654; Gaz. vol. 160; p. 616.

Sharpneck, Matthew C. (See Sharpneck, Ellel L. and M. C.)

Shattuck, Wilmer H., Bridgewater Corners, assignor of one-third to L. S. Bradley, White River Junction, Vt., and one-third to H. E. Vaughan, Brooklyn, N. Y. Razor-stropping device. No. 975,801; Nov. 15; Sp. p. 3815; Gaz. vol. 160; p. 642.

Shaw, James N., assignor of one-half to F. B. Moorehead, Volant, Pa. Wrench. No. 975,375; Nov. 8; Sp. p. 2915; Gaz. vol. 160; p. 470.

Shaw, Louis E., assignor to J. B. Colt Company, New York, N. Y. Combined cock and needle valve. No. 975,469; Nov. 15; Sp. p. 3103; Gaz. vol. 160; p. 530.

Shearer, James B., *et al.* (See Levey, Thomas J., assignor.)

Shedd, Charles B., Chicago, Ill. Stack-cover. No. 975,802; Nov. 15; Sp. p. 3817; Gaz. vol. 160; p. 643.

Shedd, Marcellus R. (See Chamberlain and Shedd.)

Shedlock, Alfred, Cannon Station, Conn. Door-fastener. No. 976,403; Nov. 22; Sp. p. 5150; Gaz. vol. 160; p. 874.

Sheehy, William E., Newfields, N. H. Stoker's hoe. No. 975,082; Nov. 8; Sp. p. 2273; Gaz. vol. 160; p. 371.

Sheets, Elias B., Terre Haute, Ind. Molding-machine. No. 976,752; Nov. 22; Sp. p. 5872; Gaz. vol. 160; p. 992.

Sheldon, Edward P. (See Brand, Marcile, and Sheldon.)

Shepard, Charles H., New York, assignor to Union Typewriter Company, Ilion, N. Y. Type-writing machine. No. 974,441; Nov. 1; Sp. p. 829; Gaz. vol. 160; p. 123.

Shepard, Melzar, Wayne, Mich. Lock. No. 976,509; Nov. 22; Sp. p. 5360; Gaz. vol. 160; p. 909.

Shepard, Stanley L., Parishville, N. Y. Mold. No. 975,083; Nov. 8; Sp. p. 2274; Gaz. vol. 160; p. 371.

Shepard, Victor J. (See Wall and Shepard.)

Sherburne, Charles W., Boston, Mass. Signal-cock. No. 975,645; Nov. 15; Sp. p. 3483; Gaz. vol. 160; p. 591.

Sherman, Clifford W. (See O'Connor, John F., assignor.)

Sherwood, Herbert T., London, England. Corset. No. 976,608; Nov. 22; Sp. p. 5580; Gaz. vol. 160; p. 943.

Shields, Charles H. (See Albrecht, Frederick W., assignor.)

Shilling, Edward C., Columbus, Ohio. Cushion-tire. No. 974,303; Nov. 1; Sp. p. 505; Gaz. vol. 160; p. 75.

Shoemaker, Harry, Jersey City, N. J., assignor to International Telegraph Construction Company. Receiving apparatus. No. 974,927; Nov. 8; Sp. p. 1925; Gaz. vol. 160; p. 318.

Shoenberg, Milton H., San Francisco, Cal., assignor to The Presto Electrical Manufacturing Company. Electric heater. No. 976,405; Nov. 22; Sp. p. 5153; Gaz. vol. 160; p. 875.

Shoenberg, Milton H., and G. T. Marsh, San Francisco, Cal., assignors to Appliance and Electric Device Company. Electrical heater. No. 976,404; Nov. 22; Sp. p. 5152; Gaz. vol. 160; p. 874.

Shorb, William A., and G. R. Rodgers, assignors to Leader Iron Works, Decatur, Ill. Air-regulator. No. 974,997; Nov. 8; Sp. p. 2104; Gaz. vol. 160; p. 342.

Shrady, Charles D., Allentown, Pa. Screen. No. 975,470; Nov. 15; Sp. p. 3106; Gaz. vol. 160; p. 531.

Shufelt, James A., assignor to F. Conde, Oswego, N. Y. Fabric-marking machine. No. 976,609; Nov. 22; Sp. p. 5581; Gaz. vol. 160; p. 944.

Shultz, Albert B., Buffalo, N. Y. Engine-base. No. 975,167; Nov. 8; Sp. p. 2469; Gaz. vol. 160; p. 400.

Shultz, Albert B., Buffalo, N. Y. Exhaust manifold or pipe connection for explosion-engines. No. 976,610; Nov. 22; Sp. p. 5583; Gaz. vol. 160; p. 944.

Shultz, James F., Cody, Tex. Saddle-stirrup. No. 976,406; Nov. 22; Sp. p. 5154; Gaz. vol. 160; p. 875.

Sibole, Percy L., Wilkinsburg, Pa. Electric switch. No. 977,140; Nov. 29; Sp. p. 6776; Gaz. vol. 160; p. 1152.

Sibson & Stern. (See Branson, Thomas, assignor.)

Sickler, Marion M., Los Angeles, Cal. Road-machine. No. 975,295; Nov. 8; Sp. p. 2742; Gaz. vol. 160; p. 444.

Sidney, Thomas H. (See Gagga, Thomas, assignor.)

Sidney, William E., assignor of one-third to W. J. Golightly and one-third to F. W. Jackson, Kokomo, Ind. Automatic-discharge lubricator. No. 975,646; Nov. 15; Sp. p. 3485; Gaz. vol. 160; p. 591.

Sieder, Ernest H. (See Ehrsam, Sieder, and Morscher.)

Siegel, June V., New York, N. Y. Automobile-veil. No. 987,510; Nov. 22; Sp. p. 5361; Gaz. vol. 160; p. 910.

Siemens, Gebrueder & Co. (See Viertel and Egly, assignors.)

Siemens & Halske A. G. (See Simpson, Otto A., assignor.)

Sill, Otte E., Los Angeles, Cal. Air-motor or windmill. No. 976,003; Nov. 15; Sp. p. 4203; Gaz. vol. 160; p. 712.

Silliman, Benjamin F., assignor to The Cleveland Steel Tool Company, Cleveland, Ohio. Valve. No. 976,222; Nov. 22; Sp. p. 4706; Gaz. vol. 160; p. 809.

Simmons Manufacturing Company, The. (See Gail, John F., assignor.)

Simmons, Samuel E., Litchfield, Ill. Carbid-lamp. No. 976,611; Nov. 22; Sp. p. 5585; Gaz. vol. 160; p. 944.

Simons, Frederick, St. Louis, Mo. Workman's time and wage computing and recording apparatus. No. 975,296; Nov. 8; Sp. p. 2747; Gaz. vol. 160; p. 444.

Simplex Electric Heating Company. (See Ayer and Gale, assignors.)

Simplex Manufacturing Company, The. (See Fancher, Burt, and Van Winkle, assignors.)

Simplex Telephone Equipment Company. (See Babcock, Garrison, assignor.)

Simpson, David O. (See Crigger, Henry C., assignor.)

Simpson, Frederick L., Denver, Colo. Car and wagon loader. No. 975,297; Nov. 8; Sp. p. 2760; Gaz. vol. 160; p. 445.

Simpson, Jeremiah C., Iowa Falls, Iowa. Burial-vault. No. 976,407; Nov. 22; Sp. p. 5156; Gaz. vol. 160; p. 875.

Simpson, Otto A., Charlottenburg, assignor to Siemens & Halske A. G., Berlin, Germany. Case-hardening tantalum. No. 974,835; Nov. 8; Sp. p. 1699; Gaz. vol. 160; p. 286.

Simpson, Selden L., assignor to The Simpson Specialty Company, Cleveland, Ohio. Vehicle-wheel tire and rim. No. 974,713; Nov. 1; Sp. p. 1444; Gaz. vol. 160; p. 223.

Simpson, Selden L., assignor to The Simpson Specialty Company, Cleveland, Ohio. Fiber tire for vehicle-wheels. No. 974,714; Nov. 1; Sp. p. 1445; Gaz. vol. 160; p. 223.

Simpson, Seldon L., Washington, D. C., assignor to The Simpson Specialty Company, Cleveland, Ohio. Vehicle-wheel. No. 976,038; Nov. 29; Sp. p. 6313; Gaz. vol. 160; p. 1082.

Simpson Specialty Company, The. (See Simpson, Selden L., assignor.)

Singer Manufacturing Company, The. (See Traub, Emil, assignor.)

Sipler, Gustave, Minneapolis, Minn. Threshing-machine. No. 976,306; Nov. 22; Sp. p. 4929; Gaz. vol. 160; p. 840.

Sirrine, Ernest E., Chicago, Ill. Street-traffic system. No. 976,930; Nov. 29; Sp. p. 6314; Gaz. vol. 160; p. 1082.

Skinner, Clarence S., Payne, Ohio. Disk-support. No. 975,298; Nov. 8; Sp. p. 2761; Gaz. vol. 160; p. 445.

Skipp, Herbert J., Newark, N. J. Apparatus for drilling and counterboring thread-holes and cutting thread-niches in button-blanks. No. 974,532; Nov. 1; Sp. p. 1050; Gaz. vol. 160; p. 157.

Skirrow, John F., East Orange, N. J., and J. T. Needham, New York, N. Y., assignors, by mesne assignments, to Inter State Tube Company. Transfer-tube system. No. 976,753; Nov. 22; Sp. p. 5874; Gaz. vol. 160; p. 993.

Slaght, Elias B. (See Danaher, John W., assignor.)

Slater, George W., *et al.* (See Huntley, Stephen A., assignor.)

Sloderbeck, Martin C., assignor of one-third to E. E. Leapley and one-third to E. F. Walsh, Marion, Ind. Automatic derailer. No. 974,715; Nov. 1; Sp. p. 1447; Gaz. vol. 160; p. 223.

Sluka, Wilhelm J., Vienna, Austria-Hungary. Machine for transforming boiled sugar into a creamy paste. No. 976,511; Nov. 22; Sp. p. 5362; Gaz. vol. 160; p. 910.

Slustrop, Peter, Hebron, N. D. Combined stove-lid and pan lifter. No. 976,512; Nov. 22; Sp. p. 5363; Gaz. vol. 160; p. 910.

Small, Byron C., Morris, assignor to The B. C. Small Manufacturing Company, Coal City, Ill. Corn-husking machinery. No. 976,223; Nov. 22; Sp. p. 4709; Gaz. vol. 160; p. 810.

Smith, Alexander J., Stamford, Conn. assignor to Underwood Typewriter Company, New York, N. Y. Stenciling-machine. No. 975,471; Nov. 15; Sp. p. 3108; Gaz. vol. 160; p. 531.

Smith, Alexander J., Stamford, Conn., assignor to Underwood Typewriter Company, New York, N. Y. Stenciling-machine. No. 976,704; Nov. 22; Sp. p. 5759; Gaz. vol. 160; p. 975.

Smith, Arthur W., New York, assignor to Yost Writing Machine Company, Ilion, N. Y. Type-writing machine. No. 974,836; Nov. 8; Sp. p. 1700; Gaz. vol. 160; p. 286.

Smith, Arthur W., New York, assignor to Yost Writing Machine Company, Ilion, N. Y. Type-writing machine. No. 975,168; Nov. 8; Sp. p. 2471; Gaz. vol. 160; p. 400.

Smith, Arthur W., New York, assignor to Yost Writing Machine Company, Ilion, N. Y. Type-writing machine. No. 975,169; Nov. 8; Sp. p. 2476; Gaz. vol. 160; p. 401.

Smith, Arthur W., New York, assignor to Yost Writing Machine Company, Ilion, N. Y. Type-writing machine. No. 975,170; Nov. 8; Sp. p. 2480; Gaz. vol. 160; p. 401.

Smith, Benjamin J., *et al.* (See Rollins, Frank O., assignor.)

Smith, Carl G., Stockholm, Sweden. Machine for spiking rails to ties. No. 976,513; Nov. 22; Sp. p. 5365; Gaz. vol. 160; p. 910.

Smith, Cassius M., Los Angeles, Cal. Pump. No. 974,837; Nov. 8; Sp. p. 1704; Gaz. vol. 160; p. 287.

Smith, Charles. (See Thomas, Charles W., assignor.)

Smith, Charles E., Oak Lawn, R. I. Machine for packaging metallic leaf in rolls. No. 975,472; Nov. 15; Sp. p. 3110; Gaz. vol. 160; p. 531.

Smith, Christian N., Elgin, Ill., assignor, by mesne assignments, of two-thirds to C. A. Armbruster and J. A. Haben. Rotary web-press. No. 974,607; Nov. 1; Sp. p. 1203; Gaz. vol. 160; p. 185.

Smith, Covert R., Freeport, Ohio. Match-striking cabinet. No. 976,612; Nov. 22; Sp. p. 5586; Gaz. vol. 160; p. 945.

Smith, Edward F., Rochester, N. Y. Vegetable-slicer. No. 976,613; Nov. 22; Sp. p. 5588; Gaz. vol. 160; p. 945.

Smith, Ernest C., and W. A. Crumpacker, Centerview, Mo. Compressed-air water-elevator. No. 976,004; Nov. 15; Sp. p. 4207; Gaz. vol. 160; p. 712.

Smith, George N., Akron, Ohio. Baking-iron. No. 977,141; Nov. 29; Sp. p. 6780; Gaz. vol. 160; p. 1152.

Smith, George W., assignor to Marine Salvage Company, Milwaukee, Wis. Diving apparatus. No. 975,727; Nov. 15; Sp. p. 3657; Gaz. vol. 160; p. 616.

Smith, Greene A., Indianapolis, Ind. Combination gas and oil burner. No. 977,231; Nov. 29; Sp. p. 6962; Gaz. vol. 160; p. 1183.

Smith, Grover C., La Crosse, Kans. Expansion-bolt. No. 977,232; Nov. 29; Sp. p. 6964; Gaz. vol. 160; p. 1184.

Smith, Harry J., Lakewood, Ohio, assignor to The Hill Clutch Company. Friction-clutch. No. 975,578; Nov. 15; Sp. p. 3348; Gaz. vol. 160; p. 568.

Smith, Hazor J., assignor to Automatic Letter Machine Company, Chicago, Ill. Printing-press. No. 975,730; Nov. 15; Sp. p. 3664; Gaz. vol. 160; p. 618.

Smith, Jacob H. (See Landis and Smith.)

Smith, James E., Urbana, Ill. Protractor. No. 977,048; Nov. 29; Sp. p. 6564; Gaz. vol. 160; p. 1120.

Smith, Leo C., Minneapolis, Minn. Combined heating and ventilating system. No. 974,928; Nov. 8; Sp. p. 1930; Gaz. vol. 160; p. 318.

Smith, Mary C. (See Messenger, Adelaide, assignor.)

Smith, Oscar A., assignor to The National-Acme Manufacturing Company, Cleveland, Ohio. Nut-feed for tapping-machines. No. 975,728; Nov. 15; Sp. p. 3658; Gaz. vol. 160; p. 617.

Smith, Oscar A., assignor to The National-Acme Manufacturing Company, Cleveland, Ohio. Multiple-drilling machine. No. 975,729; Nov. 15; Sp. p. 3661; Gaz. vol. 160; p. 617.

Smith Premier Typewriter Company, The. (See Barr, John H., assignor.)

Smith, Reuben, Spray, N. C. Weft-fork spring. No. 975,647; Nov. 15; Sp. p. 3487; Gaz. vol. 160; p. 591.

Smith, Robert B., Easley, S. C. Tire-tightener. No. 976,514; Nov. 22; Sp. p. 5371; Gaz. vol. 160; p. 911.

Smith, Stephen T., Jr., Stamford, Conn., assignor to Underwood Typewriter Company, New York, N. Y. Stenciling-machine. No. 975,299; Nov. 8; Sp. p. 2763; Gaz. vol. 160; p. 446.

Smith, Thomas, San Luis Potosi, Mexico. Rod-packing. No. 974,197; Nov. 1; Sp. p. 207; Gaz. vol. 160; p. 35.

Smith, Thomas M., Baltimore, Md. Hydraulic invalid-lifter. No. 976,307; Nov. 22; Sp. p. 4931; Gaz. vol. 160; p. 840.

Smith, Thomas T., Washington, D. C. Window-fastener. No. 976,005; Nov. 15; Sp. p. 4208; Gaz. vol. 160; p. 713.

Smith, Walter F., Philadelphia, Pa., assignor to Carolinas Monazite Company, Gloucester City, N. J. Attachment for wilfley-tables. No. 975,648; Nov. 15; Sp. p. 3488; Gaz. vol. 160; p. 592.

Smith, Walter H., assignor to The Harris Automatic Press Company, Niles Ohio. Paper-trimming machine. No. 974,198; Nov. 1; Sp. p. 210; Gaz. vol. 160; p. 35.

Smith, Watson R., assignor to Jackson Cushion Spring Co., Jackson, Mich. Spring construction. No. 975,579; Nov. 15; Sp. p. 3350; Gaz. vol. 160; p. 568.

Smith, William, Harlem, Ontario, Canada. Fire-escape. No. 974,929; Nov. 8; Sp. p. 1931; Gaz. vol. 160; p. 319.

Smith, William H., Connellsville, Pa. Track-sander. No. 975,803; Nov. 15; Sp. p. 3818; Gaz. vol. 160; p. 643.

Smith, William H., Arlington, assignor of one-half to F. B. Mott, Galesburg, Ill. Trunk, chest, or the like. No. 977,049; Nov. 29; Sp. p. 6567; Gaz. vol. 160; p. 1120.

Smith, Willis D., assignor of one-half to J. M. Triggs, Huntington, Ind. Sectional metallic window-frame. No. 976,308; Nov. 22; Sp. p. 4932; Gaz. vol. 160; p. 841.

Smyth, William H., Berkeley, Cal. Means for applying fluid metals. No. 975,731; Nov. 15; Sp. p. 3666; Gaz. vol. 160; p. 619.

Smythe, Edwin H., Chicago, Ill. Receiving apparatus for electromagnetic waves. No. 974,838; Nov. 8; Sp. p. 1707; Gaz. vol. 160; p. 287.

Snover, Victor T. (See Lee, Snover, and Palmer.)

Snow, William N., Janesville, Wis. Grate. No. 976,309; Nov. 22; Sp. p. 4933; Gaz. vol. 160; p. 841.

Snuggs, John H., assignor, by mesne assignments, to Ventilated Cushion and Spring Co., Jackson, Mich. Spring construction. No. 976,104; Nov. 15; Sp. p. 4412; Gaz. vol. 160; p. 747.

Snyder, Frederick T., Oak Park, assignor to Electric Metals Company, Chicago, Ill. Smelting ore. No. 974,608; Nov. 1; Sp. p. 1206; Gaz. vol. 160; p. 185.

Snyder, John C., Topeka, Kans. Scaffold-bracket. No. 974,609; Nov. 1; Sp. p. 1208; Gaz. vol. 160; p. 186.

Societe Anonyme des Anciens Etablissements Panhard et Levassor. (See Krebs, Arthur C., assignor.)

Societe Anonyme des Etablissements Ph. Bonvillian & E. Ronceray. (See Ronceray, Eugene, assignor.)

Societe des Moteurs Sabathe, The. (See Sabathé, Louis G., assignor.)

Société Francaise de Constructions Mecaniques (Anciens Etablissements Cail). (See Rebourg, Benjamin, assignor.)

Society of Chemical Industry in Basle. (See Pletzsch and Steinbuch, assignors.)

Sohn, Jerome V., Saybrook, Ill. Nut-lock. No. 975,171; Nov. 8; Sp. p. 2483; Gaz. vol. 160; p. 401.

Soley, Frank, assignor to Miller Lock Co., Philadelphia, Pa. Lock. No. 976,515; Nov. 22; Sp. p. 5371; Gaz. vol. 160; p. 911.

Soley, Frank, assignor to Miller Lock Co., Philadelphia, Pa. Padlock. No. 977,337; Nov. 29; Sp. p. 7175; Gaz vol. 160; p. 1220.

Sonak, Albert A., Sprague, W. Va. Miner's cap. No. 974,442; Nov. 1; Sp. p. 836; Gaz. vol. 160; p. 124.

Sondheimer, Frederick A. (See Reimers, Gerhard, assignor.)

Sonnenthal, George, and H. Bamford, London, England. Machine for shaping metals. No. 976,754; Nov. 22; Sp. p. 5881; Gaz. vol. 160; p. 993.

Sorensen, Christen H., Clinton, Minn. Broom-holder. No. 974,998; Nov. 8; Sp. p. 2108; Gaz. vol. 160; p. 343.

Sosa, Arthur, Bee, Nebr. Well-hook. No. 974,533; Nov. 1; Sp. p. 1060; Gaz. vol. 160; p. 158.

Sourek, Joseph S., Bath township, Summit county, Ohio. Rope and chain clamp. No. 976,940; Nov. 29; Sp. p. 6317; Gaz. vol. 160; p. 1082.

Sourek, Joseph S., Bath township, Summit county, Ohio. Rope, chain, or wire stretcher. No. 976,941; Nov. 29; Sp. p. 6319; Gaz. vol. 160; p. 1083.

Southee, James K. (See Haw and Southee.)

Spangler, Jacob R., New York, assignor to S. D. Manufacturing Co., Brooklyn, N. Y. Motor-cycle friction-clutch. No. 974,839; Nov. 8; Sp. p. 1712; Gaz. vol. 160; p. 287.

Spangler, James M., Canton, assignor to The Hoover Suction Sweeper Company, New Berlin, Ohio. Detachable brush-guard for carpet-sweepers. No. 974,304; Nov. 1; Sp. p. 507; Gaz. vol. 160; p. 75.

Speck, Charles M., and C. F. Earl, Chicago, Ill. Trolley-pole. No. 976,942; Nov. 29; Sp. p. 6321; Gaz. vol. 160; p. 1083.

Speer, Jacob S., Springfield, Mo. Window-screen. No. 975,172; Nov. 8; Sp. p. 2485; Gaz. vol. 160; p. 402.

Spellman, Fred I., Mansfield, Ohio. Portable testing device for mechanically-propelled vehicles. No. 976,705; Nov. 22; Sp. p. 5760; Gaz. vol. 160; p. 975.

Spelts, Richard D., Lincoln, Nebr. Farrowing-pen for swine. No. 975,649; Nov. 15; Sp. p. 3489; Gaz. vol. 160; p. 592.

Spencer, William B., Chicago, Ill. Butter-separator. No. 977,050; Nov. 29; Sp. p. 6569; Gaz. vol. 160; p. 1121.

Spernader, Charles W., Oak Park, Ill. Railway block system. No. 974,716; Nov. 1; Sp. p. 1448; Gaz. vol. 160; p. 223.

Sphaler, Davis B., and B. F. Bryan, Taft, Fla. Turpentine-separator. No. 974,717; Nov. 1; Sp. p. 1450; Gaz. vol. 160; p. 224.

Spiers, George W., Caesar, Miss. Cultivator. No. 974,840; Nov. 8; Sp. p. 1713; Gaz. vol. 160; p. 288.

Spiller, Harry A., assignor to Brown-Binnian Company, Boston, Mass. Merchantable package of jar-sealing caps. No. 976,516; Nov. 22; Sp. p. 5373; Gaz. vol. 160; p. 911.

Spitznagle, Simon P., Greensburg, Pa. Collapsible and folding barrel. No. 975,900; Nov. 15; Sp. p. 4012; Gaz. vol. 160; p. 676.

Spohrer, Gregory J., Franklin, Pa. Air-pump. No. 975,473; Nov. 15; Sp. p. 3112; Gaz. vol. 160; p. 531.

Spore, Charles R., Jr., and J. B. Lang, Moberly, Mo. Tire-securing device. No. 975,901; Nov. 15; Sp. p. 4013; Gaz. vol. 160; p. 676.

Springer, Lafayette, Wilkes-Barre, and J. F. Ballamy, Larksville, Pa. Car-arrester. No. 976,310; Nov. 22; Sp. p. 4935; Gaz. vol. 160; p. 841.

Spruance, Daniel C., *et al.*, trustees. (See Blackmore, Henry S., assignor.)

Spurrier, John K. (See Auel and Spurrier.)

Squier, Arthur H., assignor to The Air Cleaner Company, Philadelphia, Pa. Vacuum-pump. No. 977,338; Nov. 29; Sp. p. 7177; Gaz. vol. 160; p. 1220.

St. Clair Air Brake Company. (See St. Clair, Augustus A., assignor.)

St. Clair, Augustus A., assignor to St. Clair Air Brake Company, Indianapolis, Ind. Air-brake. No. 976,224; Nov. 22; Sp. p. 4712; Gaz. vol. 160; p. 810.

St. John, Victor, Fairmont, Minn. Cutting-off tool. No. 976,755; Nov. 22; Sp. p. 5883; Gaz. vol. 160; p. 993.

St. Louis Car Company. (See Robinson, Edward T., assignor.)

St. Onge, Walter J., assignor to The Dean Electric Company, Elyria, Ohio. Alarm system. No. 975,175; Nov. 8; Sp. p. 2492; Gaz. vol. 160; p. 403.

St. Pierre, Joseph D., and E. C. Gauvin, Lowell, Mass. Ironing-board. No. 974,443; Nov. 1; Sp. p. 837; Gaz. vol. 160; p. 124.

Stacey, Charles. (See Froggatt and Stacey.)

Stadt, William, and W. Veltman, Grand Rapids, Mich. Window-cleaner. No. 975,474; Nov. 15; Sp. p. 3116; Gaz. vol. 160; p. 532.

Stambaugh, George W., assignor to Mills Novelty Company, Chicago, Ill. Coupon-delivery machine. No. 976,517; Nov. 22; Sp. p. 5374; Gaz. vol. 160; p. 912.

Stamey, De Keller, New York, N. Y. Locking device for valises. No. 976,706; Nov. 22; Sp. p. 5762; Gaz. vol. 160; p. 976.

Stammler, Scott, Grandville, Ohio. Metallic tie and rail-fastener. No. 975,902; Nov. 15; Sp. p. 4014; Gaz. vol. 160; p. 677.

Standard Chain Company. (See Hoff and Rehfuss, assignors.)

Standard Coupler Company. (See Gallagher, Richard D., Jr., assignor.)

Standard Sanitary Manufacturing Company. (See Marschuetz and Probst, assignors.)

Stanek, Frank F., Howell, Nebr. Horseshoe. No. 976,408; Nov. 22; Sp. p. 5157; Gaz. vol. 160; p. 875.

Stanhope, Philip R., Denver, Colo. Ore-screen. No. 976,943; Nov. 29; Sp. p. 6323; Gaz. vol. 160; p. 1083.

Stanley, Thomas H., Denver, Colo. Concrete timbering for tunnels. No. 975,084; Nov. 8; Sp. p. 2276; Gaz. vol. 160; p. 372.

Stanley, William, Great Barrington, Mass., assignor to General Electric Company. Electric heating-receptacle. No. 976,944; Nov. 29; Sp. p. 6325; Gaz. vol. 160; p. 1084.

Stanza, John P., Eaton, Ohio. Cultivator-shovel. No. 976,518; Nov. 22; Sp. p. 5377; Gaz. vol. 160; p. 912.

Star Miter Machine Company. (See Peterson, Fritz, assignor.)

Stark, Charles W., Mountain Lake, Minn. Combined grass-grubber and cultivator. No. 975,173; Nov. 8; Sp. p. 2487; Gaz. vol. 160; p. 402.

Stark, George L., and A. W. Baxter, Los Angeles, Cal. Meat-holder. No. 974,199; Nov. 1; Sp. p. 213; Gaz. vol. 160; p. 35.

Stark, George L., and A. W. Baxter, Los Angeles, Cal. Skewer. No. 974,200; Nov. 1; Sp. p. 215; Gaz. vol. 160; p. 36.

Starkweather, James A., and O. W. Nottingham, Kalamazoo, Mich. Temporary binder or loose-sheet holder. No. 974,099; Nov. 8; Sp. p. 2109; Gaz. vol. 160; p. 343.

Starr, Charles M., South Bend, Ind. Carrier for bicycles. No. 975,085; Nov. 8; Sp. p. 2278; Gaz. vol. 160; p. 372.

Staub, Frank X., Fort Wayne, Ind., assignor to Corwin Telephone Manufacturing Company, Chicago, Ill. Telephone system. No. 977,142; Nov. 29; Sp. p. 6782; Gaz. vol. 160; p. 1153.

Stauffiger, Charles J., Buffalo, N. Y. Bottle-stopper. No. 974,444; Nov. 1; Sp. p. 839; Gaz. vol. 160; p. 124.

Stayman, David F., New York, N. Y. Piston-valve. No. 974,534; Nov. 1; Sp. p. 1061; Gaz. vol. 160; p. 158.

Stearns, Jason C., Worcester, Mass. Electric-light attachment for gas-lamps. No. 974,930; Nov. 8; Sp. p. 1933; Gaz. vol. 160; p. 319.

Stebbins, Walter K., Fairmount, N. D. Road-machine. No. 975,580; Nov. 15; Sp. p. 3352; Gaz. vol. 160; p. 569.

Stecker, August, Roseliville, Wis. Saw-jointer. No. 977,233; Nov. 29; Sp. p. 6966; Gaz. vol. 160; p. 1184.

Steel Fireproofing Company. (See Hill, Hermann, assignor.)

Steel Heddle Manufacturing Company. (See Fehr and Kaufmann, assignors.)

Steele, Herbert H., assignor to The Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine. No. 975,732; Nov. 15; Sp. p. 3671; Gaz. vol. 160; p. 619.

Steele, James R. (See Rees, Perley E., assignor.)

Steele, William J., Spearville, Kans. Attachment for listers. No. 976,311; Nov. 22; Sp. p. 4936; Gaz. vol. 160; p. 841.

Steers, Joseph E. (See Schaefer and Steers.)

Steiger, Andrew W., Bridgeport, Conn., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine. No. 974,445; Nov. 1; Sp. p. 841; Gaz. vol. 160; p. 125.

Steiger, Andrew W., Bridgeport, Conn., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine. No. 975,086; Nov. 8; Sp. p. 2279; Gaz. vol. 160; p. 372.

Stein, George H. (See Massey, Harry A., assignor.)

Steinberger, Louis, New York, N. Y. Strain-insulator. No. 974,610; Nov. 1; Sp. p. 1210; Gaz. vol. 160; p. 186.

Steinbuch, Ewald. (See Pietzsch and Steinbuch.)

Steinmitz, Sebastian, Scanton, Pa. Steam-trap. No. 974,201; Nov. 1; Sp. p. 216; Gaz. vol. 160; p. 36.

Steinweg, Albert J., Chicago, Ill. Lateral trolley for electric railways. No. 975,650; Nov. 15; Sp. p. 3490; Gaz. vol. 160; p. 592.

Stempfer, Louis, New York, N. Y. Rotary motor. No. 976,006; Nov. 15; Sp. p. 4209; Gaz. vol. 160; p. 713.

Stephan, William, Fort Wayne, Ind. Locomotive-boiler superheater. No. 977,234; Nov. 29; Sp. p. 6968; Gaz. vol. 160; p. 1185.

Stephens, William A., assignor of one-half to J. M. Powers, Lawton, Okla. Oil-burner. No. 976,105; Nov. 15; Sp. p. 4414; Gaz. vol. 160; p. 748.

Sterling Sales Company *et al.* (See Melvin, Mark G., assignor.)

Stern, Marcus. (See Brousseau, Harry, assignor.)

Stern, Moses A., Savannah, Ga. Supplementary type-case. No. 977,339; Nov. 29; Sp. p. 7179; Gaz. vol. 160; p. 1221.

Stern, Philip K., New York, N. Y. Thermodynamic motor. No. 975,651; Nov. 15; Sp. p. 3493; Gaz. vol. 160; p. 592.

Stern, Rudolph. (See Kleinberger and Stern.)

Sterrett, Frank E., Denver, Colo. Collapsible crate or box. No. 975,000; Nov. 8; Sp. p. 2110; Gaz. vol. 160; p. 343.

Stettiner Chamotte-Fabrik Actien-Gesellschaft vormals Didier. (See Krause, Ernst H. H., assignor.)

Stevens, Arthur, Clifton Springs, N. Y. Jointed square. No. 975,581; Nov. 15; Sp. p. 3353; Gaz. vol. 160; p. 569.

Stevens, Evie, Park, Wash. Truck connection. No. 975,475; Nov. 15; Sp. p. 3117; Gaz. vol. 160; p. 532.

Stevens, Frederick R., assignor to Live Stock Marker Company, Geneva, N. Y. Live-stock marker. No. 976,225; Nov. 22; Sp. p. 4725; Gaz. vol. 160; p. 811.

Stevens, Julius D., *et al.* (See Melvin, Mark G., assignor.)

Stevenson, Ashton G., assignor to Chicago Linotabler Company, Chicago, Ill. Printing-rule and system of applying same to printing-forms. No. 974,718; Nov. 1; Sp. p. 1451; Gaz. vol. 160; p. 224.

Stevenson, Benjamin H., Hamler, Ohio. Hydraulic transmission for automobiles. No. 976,226; Nov. 22; Sp. p. 4728; Gaz. vol. 160; p. 811.

Stevenson, Charles, Coraopolis, Pa. Wire cable, socket, and coupling. No. 974,719; Nov. 1; Sp. p. 1454; Gaz. vol. 160; p. 224.

Stevenson, James W., assignor of one-half to I. A. Holeman, Riverside, Cal. Orange-sizing machine. No. 974,720; Nov. 1; Sp. p. 1455; Gaz. vol. 160; p. 224.

Stevenson, John W. (See Dustin, John F., assignor.)

Stevenson, William H., assignor to Cain-Stevenson Company, Newark, N. J. Garment. No. 975,087; Nov. 8; Sp. p. 2282; Gaz. vol. 160; p. 373.

Stewart, Annie. (See Stewart, James S., assignor.)

Stewart, James S., assignor to A. Stewart, New York, N. Y. Electric-lamp socket. No. 976,519; Nov. 22; Sp. p. 5378; Gaz. vol. 160; p. 912.

Stewart, John S., Houston, Tex. Well-drilling device. No. 974,305; Nov. 1; Sp. p. 509; Gaz. vol. 160; p. 75.

Stewart, William W., Muskogee, Okla. Trolley-harp. No. 974,611; Nov. 1; Sp. p. 1213; Gaz. vol. 160; p. 186.

Stickels, Edward H. (See Webb and Stickels.)

Stickler, Andrew J., Winfield, Iowa. Vaporizer or carbureter. No. 976,409; Nov. 22; Sp. p. 5158; Gaz. vol. 160; p. 876.

Stickney, Allison M., assignor to Wellman Company, Medford, Mass. Machine for cutting irregular forms. No. 975,652; Nov. 15; Sp. p. 3509; Gaz. vol. 160; p. 593.

Stickney, Burnham C., Elizabeth, assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine. No. 974,841; Nov. 8; Sp. p. 1714; Gaz. vol. 160; p. 288.

Stiggins, Edward A., Beverly, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Jack for shoe-machines. No. 974,202; Nov. 1; Sp. p. 218; Gaz. vol. 160; p. 36.

Stinchcomb, Jefferson D. (See Budesheim and Stinchcomb.)

Stiner, Savenious C. (See Lamp and Stiner.)

Stinson, Robert. (See Guyton, William, assignor.)

Stirling, Alison B., Pleasant Mount, Pa. Boiler construction. No. 977,143; Nov. 29; Sp. p. 6783; Gaz. vol. 160; p. 1153.

Stirling, Alison B., Pleasant Mount, Pa. Boiler construction. No. 977,144; Nov. 29; Sp. p. 6786; Gaz. vol. 160; p. 1153.

Stivers, Jake M., Salida, Colo. Game apparatus. No. 974,721; Nov. 1; Sp. p. 1457; Gaz. vol. 160; p. 225.

Stock, Augusta M. (See Stock, Robert and A. M.)

Stock, Robert and A. M., assignors to Robert Stock Manufacturing Co., Buffalo, N. Y. Handle for bungs, &c. No. 975,174; Nov. 8; Sp. p. 2490; Gaz. vol. 160; p. 403.

Stocker, John W., Chicago, Ill. Pasting or gumming machine. No. 974,535; Nov. 1; Sp. p. 1062; Gaz. vol. 160; p. 159.

Stockford, William F., South Bend, Ind. Fishing-reel. No. 975,653; Nov. 15; Sp. p. 3511; Gaz. vol. 160; p. 593.

Stockham, William H., assignor to Schaefer Manufacturing Company, Birmingham, Ala. Split pulley. No. 976,227; Nov. 22; Sp. p. 4732; Gaz. vol. 160; p. 812.

Stockman, Henry. (See Brown, Henry C., assignor.)

Stockmann, Peter J. A., St. Louis, Mo. Weighing-machine. No. 976,228; Nov. 22; Sp. p. 4734; Gaz. vol. 160; p. 812.

Stoddard, Charles F., Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del. Pneumatic-despatch-tube apparatus. No. 975,903; Nov. 15; Sp. p. 4015; Gaz. vol. 160; p. 677.

Stokes, William E. D., *et al.* (See Larsson, Thure, assignor.)

Stoltey, Albert M., Newark, N. J. Expanded wood lamina. No. 974,536; Nov. 1; Sp. p. 1067; Gaz. vol. 160; p. 159.

Stone, George W., Jr., Burlington, assignor of one-half to H. J. Julien, Milwaukee, Wis. Grease-gun. No. 976,945; Nov. 29; Sp. p. 6326; Gaz. vol. 160; p. 1084.

Storer, Norman W., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Armature-winding for dynamo-electric machines. No. 975,476; Nov. 15; Sp. p. 3118; Gaz. vol. 160; p. 533.

Storer, Norman W., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Armature-winding for dynamo-electric machines. No. 975,477; Nov. 15; Sp. p. 3119; Gaz. vol. 160; p. 533.

Storer, Norman W., Pittsburg, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa. Armature-winding for dynamo-electric machines. No. 975,478; Nov. 15; Sp. p. 3121; Gaz. vol. 160; p. 533.

Storey, Andrew W., Manchester, England. Machine for weaving wire-netting. No. 976,946; Nov. 29; Sp. p. 6327; Gaz. vol. 160; p. 1084.

Stout, Walter G., Philadelphia, Pa. Poultry-house. No. 975,733; Nov. 15; Sp. p. 3675; Gaz. vol. 160; p. 619.

Stovall, Benjamin F., Paradise, Tex. Cultivator. No. 977,051; Nov. 29; Sp. p. 6570; Gaz. vol. 160; p. 1121.

Stovall, Joseph R., assignor of one-half to C. B. Irwin, Atwood, Okla. Combined cotton chopper and cultivator. No. 977,340; Nov. 29; Sp. p. 7180; Gaz. vol. 160; p. 1221.

Stowby, Peter N., and E. M. Hatch, assignors of three-fourths to P. N. Stowby and one-fourth to E. M. Hatch, Brooklyn, N. Y. Station-indicator and similar device. No. 974,537; Nov. 1; Sp. p. 1069; Gaz. vol. 160; p. 159.

Stowe, Horace W., Meriden, Conn. Mechanism for covering leaf-pneumatics. No. 974,446; Nov. 1; Sp. p. 849; Gaz. vol. 160; p. 125.

Stowell Manufacturing and Foundry Company. (See Davis and Evans, assignors.)

Stransky, Maurice, New York, N. Y. Cooking or heating utensil. No. 977,052; Nov. 29; Sp. p. 6572; Gaz. vol. 160; p. 1121.

Stratton, William H., Chicago, Ill. Sheet-delivery mechanism for printing-presses. No. 976,410; Nov. 22; Sp. p. 5160; Gaz. vol. 160; p. 876.

Straub, Emil A., Detroit, Mich. Tweezers. No. 977,341; Nov. 29; Sp. p. 7182; Gaz. vol. 160; p. 1221.

Strauss, Armin, Rochester, N. Y. Snow handling and removing means. No. 974,306; Nov. 1; Sp. p. 511; Gaz. vol. 160; p. 76.

Strauss Brothers & Company. (See Heppe, Ernest H., assignor.)

Strauss, Joseph B., Chicago, Ill. Bridge. No. 974,538; Nov. 1; Sp. p. 1074; Gaz. vol. 160; p. 160.

Stroh, John C., Drifton, Pa. Ventilating system. No. 976,229; Nov. 22; Sp. p. 4735; Gaz. vol. 160; p. 813.

Stroh, Sigmund, London, England. Means for attaching seals to packing-cases. No. 977,342; Nov. 29; Sp. p. 7183; Gaz. vol. 160; p. 1221.

Stroud, Thomas F., Omaha, Nebr. Grading and ditching machine. No. 975,176; Nov. 8; Sp. p. 2494; Gaz. vol. 160; p. 403.

Struve, Johannes, Pequot, Minn. Sled-brake. No. 975,904; Nov. 15; Sp. p. 4018; Gaz. vol. 160; p. 678.

Stuart, Harve R., Newark, N. J. Telephone-receiver. No. 976,230; Nov. 22; Sp. p. 4737; Gaz. vol. 160; p. 813.

Stuart, William G., assignor to Chase-Shawmut Company, Newburyport, Mass. Device for preparing rails for the attachment of rail-bonds. No. 974,931; Nov. 8; Sp. p. 1935; Gaz. vol. 160; p. 319.

Stubley, Charles H., assignor of one-half to F. White, Lincoln, England. Dust collecting and separating apparatus. No. 975,300; Nov. 8; Sp. p. 2767; Gaz. vol. 160; p. 446.

Studdert, Hugh S., Seattle, Wash. Piston-packing. No. 976,007; Nov. 15; Sp. p. 4212; Gaz. vol. 160; p. 713.

Sturdevant, Charles R., Worcester, Mass., assignor to The American Steel & Wire Company, Pittsburg, Pa. Rail-bond. No. 976,947; Nov. 29; Sp. p. 6330; Gaz. vol. 160; p. 1085.

Sturtevant Mill Company. (See Sturtevant, Thomas J., assignor.)

Sturtevant, Thomas J., Wellesley, Mass., assignor to Sturtevant Mill Company. Crushing-mill. No. 977,235; Nov. 29; Sp. p. 6970; Gaz. vol. 160; p. 1185.

Suckley, John A., North Woodbury, Conn. Gouge. No. 976,106; Nov. 15; Sp. p. 4416; Gaz. vol. 160; p. 748.

Suleder, Jacob, Brooklyn, N. Y., assignor to The Keuffel & Esser Company, Hoboken, N. J. Calculating-machine. No. 976,654; Nov. 15; Sp. p. 3512; Gaz. vol. 160; p. 593.

Sullivan, John F., New York, N. Y. Theatrical apparatus. No. 974,203; Nov. 1; Sp. p. 223; Gaz. vol. 160; p. 37.

Sullivan Machinery Company. (See Gilman, George H., assignor.)

Sullivan Machinery Company. (See Mercer, Henry H., assignor.)

Sullivan, William, Leicester, Mass. Carding-machine. No. 976,756; Nov. 22; Sp. p. 5884; Gaz. vol. 160; p. 993.

Sullivan, William F., Mount Vernon, Ohio, assignor of one-half to E. L. Weber, Baltimore, Md. Automatic balancing mechanism for flying-machines. No. 976,312; Nov. 22; Sp. p. 4937; Gaz. vol. 160; p. 841.

Summers, Edgar W., Pittsburg, Pa. Dumping-door for railway-cars. No. 975,804; Nov. 15; Sp. p. 3220; Gaz vol. 160; p. 643.

Sundh, August, Yonkers, N. Y., assignor to Otis Elevator Company, Jersey City, N. J. Magnetic traction-wheel drive. No. 974,447; Nov. 1; Sp. p. 852; Gaz. vol. 160; p. 126.

Supf, Frederick, assignor to The Arabol Manufacturing Company, New York, N. Y. Liquefying organic colloids. No. 974,448; Nov. 1; Sp. p. 856; Gaz. vol. 160; p. 126.

Suspension Steel Concrete Company. (See Graham, George M., assignor.)

Suter, Jacob, Jersey City, N. J. Door-check. No. 975,805; Nov. 15; Sp. p. 3823; Gaz. vol. 160; p. 644.

Sutherland, Andrew E., Madrid, Iowa. Adjustable wagon-rack. No. 976,614; Nov. 22; Sp. p. 5593; Gaz. vol. 160; p. 946.

Sutherland, John H., Danville, Ill. Nut-lock. No. 975,177; Nov. 8; Sp. p. 2496; Gaz. vol. 160; p. 404.

Sutton, Albert. (See Thomson, Arthur G., assignor.)

Svenson, Sven, assignor of one-half to M. C. Munson, La Crosse, Wis. Forming bail-ears on sheet-metal vessels. No. 975,479; Nov. 15; Sp. p. 3122; Gaz. vol. 160; p. 533.

Svensson, Claes A., Buffalo, N. Y. Wire-grip. No. 977,236; Nov. 29; Sp. p. 6973; Gaz. vol. 160; p. 1186.

Swangren, Edwin V., Maywood, Ill., assignor to American Can Company, New York, N. Y. Can-body-making machine. No. 975,655; Nov. 15; Sp. p. 3514; Gaz. vol. 160; p. 594.

Swanson, Ludvig G., assignor of one-half to H. W. Gutermann, Springfield, Mass. Guard for birds. No. 974,722; Nov. 1; Sp. p. 1464; Gaz. vol. 160; p. 225

Swash Motor Washer Company, The. (See Yassenoff, Isidor, assignor.)

Swentt, William H., Oklahoma, Okla. Sign-holder. No. 977,343; Nov. 29; Sp. p. 7186; Gaz. vol. 160; p. 1222.

Sweet, Welcome F., St. Louis, Mo. Street-car advertising device. No. 974,307; Nov. 1; Sp. p. 515; Gaz. vol. 160; p. 76.

Sweetland, William, *et al.* (See Hall, George F., assignor.)

Swift, E. W. (See Payne and Wallace, assignors.)

Swift, Robert W., Detroit, Mich. Variable-speed power-transmission mechanism. No. 974,308; Nov. 1; Sp. p. 517; Gaz. vol. 160; p. 77.

Swindell, Charles. (See Swindell, Etta, assignor.)

Swindell, Etta, assignor to C. Swindell, Nashville, Tenn. Stocking-cap. No. 975,582; Nov. 15; Sp. p. 3356; Gaz. vol. 160; p. 569.

Swindler, Albert, Browns Valley, Ind. Writing-machine for the use of the blind. No. 977,237; Nov. 29; Sp. p. 6976; Gaz. vol. 160; p. 1186.

Switchboard Equipment Company. (See Badeau, Charles C., assignor.)

Sword, William F. (See Jaeger, Maximillian, assignor.)

Sydeman, Abraham, Boston, and J. Meade, Stoughton, Mass.; said Meade assignor to said Sydeman. Apparatus for treating coated textile fabric. No. 976,231; Nov. 22; Sp. p. 4740; Gaz. vol. 160; p. 813.

Sylvester, Wilber A., assignor to C. R. Wilson, Detroit, Mich. Machine for beading and flanging sheet metal. No. 974,204; Nov. 1; Sp. p. 231; Gaz. vol. 160; p. 37.

Sylvester, Wilber A., assignor to C. R. Wilson, Detroit, Mich. Machine for shearing sheet-metal blanks. No. 976,757; Nov. 22; Sp. p. 5886; Gaz. vol. 160; p. 904.

Symmonds, Robert, Jr., Kenosha, Wis., assignor, by mesne assignments, to K. E., C. T., and H. W. Jeffery, executors of T. B. Jeffery, deceased. Clutch. No. 975,583; Nov. 15; Sp. p. 3356; Gaz. vol. 160; p. 570.

Tabulating Machine Company, The. (See Hollerith, Herman, assignor.)

Taisey Pneumatic Service Company. (See Bemis, Thomas, assignor.)

Tait, Wilfred E., Beverly, Mass. Pipe attachment. No. 975,584; Nov. 15; Sp. p. 3350; Gaz. vol. 160; p. 570.

Takamine, Jokichi, New York, N. Y. Converting starchy material into sugar. No. 975,656; Nov. 15; Sp. p. 3519; Gaz. vol. 160; p. 594.

Talbot, Ernest, New York, N. Y. Piston. No. 975,301; Nov. 8; Sp. p. 2768; Gaz. vol. 160; p. 447.

Taplin, Rice-Clerkin Company, The. (See Clerkin, William, assignor.)

Tarl, John, East Columbus, Ohio. Trolley. No. 975,302; Nov. 8; Sp. p. 2770; Gaz. vol. 160; p. 447.

Tarrant, Asa L. (See Hixson and Tarrant.)

Tate, Alfred O., Toronto, Ontario, Canada. Primary-battery plate. No. 977,143; Nov. 29; Sp. p. 6789; Gaz. vol. 160; p. 1154.

Taub, Ludwig, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Amid of β-β-diethyl-propionic acid. No. 977,053; Nov. 29; Sp. p. 6573; Gaz. vol. 160; p. 1121.

Tauss, Heinrich. (See Schwars and Tauss.)

Taylor, Albert H., Easton, Pa., assignor to Ingersoll-Rand Company, New York, N. Y. Hammer-drill. No. 975,905; Nov. 15; Sp. p. 4020; Gaz. vol. 160; p. 678.

Taylor, Clarence L., assignor to The Morgan Engineering Company, Alliance, Ohio. Ladle-crane. No. 974,205; Nov. 1; Sp. p. 233; Gaz. vol. 160; p. 38.

Taylor, Clarence L., assignor to The Morgan Engineering Company, Alliance, Ohio. Ladle-crane. No. 974,206; Nov. 1; Sp. p. 235; Gaz. vol. 160; p. 38.

Taylor, Edson S., Coldwater, Mich. Attachment for window-shades. No. 976,707; Nov. 22; Sp. p. 5764; Gaz. vol. 160; p. 976.

Taylor, Edward W., Salt Lake City, Utah. Nut-lock. No. 974,842; Nov. 8; Sp. p. 1719; Gaz. vol. 160; p. 288.

Taylor, George B. (See Voynow and Taylor.)

Taylor, George W. (See Harris, William A., assignor.)

Taylor, Henry E. P., Seymour, Conn., assignor to The Coe Brass Manufacturing Company. Wire-drawing machine. No. 974,723; Nov. 1; Sp. p. 1465; Gaz. vol. 160; p. 225.

Taylor, James, London, England. Attachment for bedsteads and the like. No. 975,906; Nov. 15; Sp. p. 4021; Gaz. vol. 160; p. 678.

Taylor, William M., assignor to Carman Manufacturing Company, Tacoma, Wash. Extension couch or bed. No. 975,480; Nov. 15; Sp. p. 3123; Gaz. vol. 160; p. 534.

Tebeau, Lewis B., Concord, N. H. Hand-shield. No. 975,734; Nov. 15; Sp. p. 3677; Gaz. vol. 160; p. 619.

Tebeau, Lewis B., Concord, N. H. Slipper and the like No. 976,313; Nov. 22; Sp. p. 4940; Gaz. vol. 160; p. 842.

Tegmeier, George H. (See Schuch and Tegmeier.)

Teich, Ernest L. (See Arens and Teich.)

Teneyck, Roy. (See Hennigar and Teneyck.)

Tengwall Company, The. (See Scherzinger, Lawrence F., assignor.)

Tenney, Charles H. (See Carr, William A., assignor.)

Tennison, George E., Cincinnati, Ohio. Self-lubricating car-axle bearing-box. No. 976,314; Nov. 22; Sp. p. 4941; Gaz. vol. 160; p. 842.

Terrill, Amos B., and M. Canning, Denver, Colo. Beef-jack. No. 975,806; Nov. 15; Sp. p. 3824; Gaz. vol. 160; p. 644.

Terwilliger, Fred G., Siegfried, Pa. Whistle and cut-out. No. 976,008; Nov. 15; Sp. p. 4214; Gaz. vol. 160; p. 714.

Tesseyman, John E. (See Irwin and Tesseyman.)

Tesseyman, John E., and F. L. Irwin, assignors to The Ralston Steel Car Company, Columbus, Ohio. Dump-car. No. 976,411; Nov. 22; Sp. p. 5162; Gaz. vol. 160; p. 877.

Teste, Etienne, Paris, France. Automatic trembler particularly applicable to warning apparatus. No. 977,238; Nov. 29; Sp. p. 6982; Gaz. vol. 160; p. 1187.

Thaden, Herman, Atlanta, Ga. Airship. No. 976,709; Nov. 22; Sp. p. 5767; Gaz. vol. 160; p. 977.

Thayer, Joseph E., East Bridgewater, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Shuttle tension device. No. 974,309; Nov. 1; Sp. p. 521; Gaz. vol. 160; p. 77.

Thibeault, Dello, assignor of one-half to H. A. Everest, Campello, Mass. Picker mechanism for looms. No. 976,009; Nov. 15; Sp. p. 4216; Gaz. vol. 160; p. 714.

Thieme, Otto, St. Louis, Mo. Terminal connection. No. 974,449; Nov. 1; Sp. p. 857; Gaz. vol. 160; p. 126.

Thomas, Addison C. (See Hamilton, Cassius M., assignor.)

Thomas & Betts Company. (See McMurtrie, Adnah, assignor.)

Thomas, Charles W., Edgewater, assignor of one-half to C. Smith, Belleville, N. J. Centrifugal pulp-screen. No. 975,178; Nov. 8; Sp. p. 2497; Gaz. vol. 160; p. 404.

Thomas, Samuel, Randall, Minn. Garden implement. No. 974,539; Nov. 1; Sp. p. 1077; Gaz. vol. 160; p. 161.

Thompson, Alfred, Erie, Pa., assignor of one-half to N. A. Johnson, Jamestown, N. Y. Polishing-machine. No. 975,088; Nov. 8; Sp. p. 2283; Gaz. vol. 160; p. 373.

Thompson, Frank. (See Banning, Thomas A., Jr., assignor.)

Thompson, Frank, Chicago, Ill. Riveting-machine. No. 977,344; Nov. 29; Sp. p. 7187; Gaz. vol. 160; p. 1222.

Thompson, Guy M., assignor to The G. M. Thompson Railway Switch Company, Seattle, Wash. Electric-circuit controller for railway-switches. No. 975,585; Nov. 15; Sp. p. 3361; Gaz. vol. 160; p. 570.

Thompson, Hayes. (See Norris, Richard, assignor.)

Thompson, Irvin R., Pittsburg, Pa. Attachment for wheels. No. 976,315; Nov. 22; Sp. p. 4943; Gaz. vol. 160; p. 842.

Thompson, Jefferson D., New York, N. Y. Skylight construction. No. 974,310; Nov. 1; Sp. p. 527; Gaz. vol. 160; p. 77.

Thompson, John C., Belmont, Cal. Valve. No. 976,010; Nov. 15; Sp. p. 4218; Gaz. vol. 160; p. 715.

Thompson, John R., Flomaton, Ala. Hydraulic ram. No. 974,724; Nov. 1; Sp. p. 1467; Gaz. vol. 160; p. 226.

Thompson, Warren R., assignor to H. M. Byllesby & Company, Chicago, Ill. Insulator-support. No. 974,207; Nov. 1; Sp. p. 237; Gaz. vol. 160; p. 38.

Thomson, Archibald, Peoria, Ill. Shackle. No. 976,316; Nov. 22; Sp. p. 4944; Gaz. vol. 160; p. 843.

Thomson, Arthur G., assignor of one-half to A. Sutton, San Francisco, Cal. Tire-protective armor. No. 976,011; Nov. 15; Sp. p. 4219; Gaz. vol. 160; p. 715.

Thomson, Samuel G. (See Thomson, William P. and S. G.)

Thomson-Thomson Company. (See Thomson, William P. and S. G., assignors.)

Thomson, William P. and S. G., assignors to Thomson-Thomson Company, Philadelphia, Pa. Rail-joint. No. 975,376; Nov. 8; Sp. p. 2917; Gaz. vol. 160; p. 470.

Thornton-Pickard Manufacturing Company Limited, The. (See Whitehead, Frank P., assignor.)

Thorpe, Frank M., Lamar, Mo. Broom-hanger. No. 974,612; Nov. 1; Sp. p. 1215; Gaz. vol. 160; p. 187.

Thors, Karl O. S., assignor to A. Karlson Metall & Maskin Aktiebolag, Stockholm, Sweden. Grinding-mill. No. 975,807; Nov. 15; Sp. p. 3827; Gaz. vol. 160; p. 644.

Thurston, E. L., *et al.* (See Kimball, Robert E., assignor.)

Thwaites, John H., Peterborough, England. Producing zinc pigments from liquors obtained from pyrites or pyrites-cinder and the like. No. 975,907; Nov. 15; Sp. p. 4024; Gaz. vol. 160; p. 679.

Tidnam, Frederick H., Oklahoma, Okla. Telegraph-pole or fence-post mold. No. 975,481; Nov. 15; Sp. p. 3124; Gaz. vol. 160; p. 534.

Tidnam, Frederick H., and J. N. Graves, Oklahoma, Okla. Molding apparatus. No. 977,345; Nov. 29; Sp. p. 7189; Gaz. vol. 160; p. 1222.

Tiesenhausen, Felix von, Riga, Russia. Folding stool. No. 976,136; Nov. 15; Sp. p. 4493; Gaz. vol. 160; p. 758.

Tiffany, George S. (See Cozzens, Estwick, and Tiffany.)

Tiffany, William S., Columbus, Ohio. Chemical fire-extinguisher. No. 974,208; Nov. 1; Sp. p. 238; Gaz. vol. 160; p. 39.

Tigerman, William H. (See Pfautz, Daniel M., assignor.)

Tilden-Thurber Company. (See Nichols, George V., assignor.)

Tingley, Katherine. (See Dick, Frederick J., assignor.)

Tisley, Arthur J., assignor of one-half to J. D. Miller, New York, N. Y. Pipe attachment. No. 974,209; Nov. 1; Sp. p. 242; Gaz. vol. 160; p. 39.

Tjossem, John, Paullina, Iowa. Corn-harvester. No. 974,311; Nov. 1; Sp. p. 527; Gaz. vol. 160; p. 78.

Toch, Henry M. (See Toch, Maximilian, assignor.)

Toch, Maximilian, assignor of one-half to H. M. Toch, New York, N. Y. Making waterproof Portland cement and product. No. 976,520; Nov. 22; Sp. p. 5380; Gaz. vol. 160; p. 913.

Todd, Dana. (See Todd, Martha P. and D.)

Todd, Luther N., Canton, Ill. Marking device for seed-planters. No. 974,312; Nov. 1; Sp. p. 531; Gaz. vol. 160; p. 78.

Todd, Marquis J., assignor to Buffalo Steam Roller Company, Buffalo, N. Y. Road-roller. No. 976,012; Nov. 15; Sp. p. 4221; Gaz. vol. 160; p. 715.

Todd, Martha P. and D., Minneapolis, Minn. Hand-loom. No. 975,179; Nov. 8; Sp. p. 2500; Gaz. vol. 160; p. 404.

Toepper, Richard, Berlin, Germany. Type-writer. No. 974,210; Nov. 1; Sp. p. 243; Gaz. vol. 160; p. 40.

Tolman, James P., Newton, and J. L. Bixby, Jr., Arlington, assignors to Samson Cordage Works, Boston, Mass. Rope for the transmission of power. No. 974,843; Nov. 8; Sp. p. 1720; Gaz. vol. 160; p. 289.

Tomer, John L., Export, Pa. Wagon-brake. No. 977,346; Nov. 29; Sp. p. 7191; Gaz. vol. 160; p. 1223.

Tompkins, John D., Vaiatie, N. Y. Apparatus for drying paper. No. 976,948; Nov. 29; Sp. p. 6331; Gaz. vol. 160; p. 1085.

Toops, Emory D., assignor of one-half to C. B. Clarke, Indianapolis, Ind. Vehicle-spring support. No. 974,313; Nov. 1; Sp. p. 534; Gaz. vol. 160; p. 79.

Tormin, Egmont M., Newton, assignor to Holtzer-Cabot Electric Company, Brookline, Mass. Electrically-operated signaling-horn. No. 976,150; Nov. 22; Sp. p. 4552; Gaz. vol. 160; p. 787.

Tothill, William S., Chicago, Ill. Hurdle. No. 974,613; Nov. 1; Sp. p. 1218; Gaz. vol. 160; p. 188.

Toynbee, Joseph C., Glen Osborne, Pa. Folding tray. No. 977,239; Nov. 29; Sp. p. 6985; Gaz. vol. 160; p. 1187.

Trambley, Joseph A., Marbass, N. D. Wrench. No. 974,725; Nov. 1; Sp. p. 1469; Gaz. vol. 160; p. 226.

Trambley, Joseph A., Marbass, N. D. Wrench. No. 974,726; Nov. 1; Sp. p. 1470; Gaz. vol. 160; p. 226.

Traub, Emil, Newark, N. J., assignor to The Singer Manufacturing Company. Finishing-tool. No. 974,932; Nov. 8; Sp. p. 1935; Gaz. vol. 160; p. 320.

Traut & Hine Manufacturing Company. (See Humphrey, Ernest N., assignor.)

Traver, Frank A. (See Carstens, Charles B., assignor.)

Treat, Francis H., Cleveland, Ohio. Gas-producing apparatus. No. 975,657; Nov. 15; Sp. p. 3521; Gaz. vol. 160; p. 594.

Treber, Reuben, Portland, Oreg. Cash-register. No. 975,735; Nov. 15; Sp. p. 3678; Gaz. vol. 160; p. 620.

Treibacher Chemische Werke Gesellschaft m. b. H. (See Weisbach, Carl A. von, assignor.)

Treier, Oscar, New York, N. Y. Vehicle-wheel. No. 976,710; Nov. 22; Sp. p. 5770; Gaz. vol. 160; p. 977.

Tremblay, Frank. (See Page and Tremblay.)

Trethewey, Wilbert L., Boston, Mass. Strap pipe-vise. No. 975,001; Nov. 8; Sp. p. 2113; Gaz. vol. 160; p. 344.

Triebling, Alfred, Neu Sandec, Austria-Hungary. Color-box. No. 976,317; Nov. 22; Sp. p. 4947; Gaz. vol. 160; p. 843.

Trigga, James M. (See Smith, Willis D., assignor.)

Trinks, Charles L. W. (See Gibson and Trinks.)

Trinks, Franz, Brunswick, Germany. Calculating-machine. No. 975,180; Nov. 8; Sp. p. 2502; Gaz. vol. 160; p. 405.

Trio Manufacturing Company. (See Leveen and Martin, assignors.)

Troemner, Charles E. (See Dryden, William W., assignor.)

Trog, Alfred, Elberfeld, Germany. Manufacture of wall-paper. No. 977,054; Nov. 29; Sp. p. 6574; Gaz. vol. 160; p. 1122.

Trouslot, Eugene C., Prairie City, Ill., assignor to Remington Typewriter Company, Ilion, N. Y. Type-writing machine. No. 974,933; Nov. 8; Sp. p. 1938; Gaz. vol. 160; p. 320.

Troutman, Percival H., Canon City, Colo. Orchard-heater. No. 976,013; Nov. 15; Sp. p. 4222; Gaz. vol. 160; p. 716.

Trontt, Martin E., assignor of one-half to J. Harwell, Fort Worth, Tex. Hose-bridge. No. 975,658; Nov. 15; Sp. p. 3525; Gaz. vol. 160; p. 595.

Trontt, Martin E., assignor of one-third to J. Harwell, Fort Worth, Tex. Accident brake appliance. No. 976,107; Nov. 15; Sp. p. 4416; Gaz. vol. 160; p. 748.

Trudeau, Peter, Santa Ana, Cal. Built-up pneumatic tire. No. 974,771; Nov. 1; Sp. p. 1566; Gaz. vol. 160; p. 241.

Trudeau, Samuel, Toledo, Ohio. Spraying apparatus. No. 974,540; Nov. 1; Sp. p. 1078; Gaz. vol. 160; p. 161.

Truesdale, Samuel R., Lonsdale, R. I., assignor to Draper Company, Hopedale, Mass. Traverse-motion for yarn-spinning apparatus. No. 974,614; Nov. 1; Sp. p. 1221; Gaz. vol. 160; p. 188.

Truswell, Richard, Trail, British Columbia, Canada. Machine for casting anode-plates. No. 974,541; Nov. 1; Sp. p. 1079; Gaz. vol. 160; p. 161.

Tschirch, Ernest L., Douglas county, Wash. Railway-tie. No. 975,002; Nov. 8; Sp. p. 2114; Gaz. vol. 160; p. 344.

Tucker, Benjamin W., Newark, N. J., assignor to J. B. Patton, Kent, Ohio. Machine for making window-shades. No. 976,949; Nov. 29; Sp. p. 6335; Gaz. vol. 160; p. 1085.

Tucker, Bonnie V. (See Constantine and Tucker.)

Tucker, Edwin W., San Francisco, Cal. Oil-burner. No. 975,482; Nov. 15; Sp. p. 3125; Gaz. vol. 160; p. 534.

Tucker, Francois M., assignor of one-half to E. Turnbeaugh, Fredericktown, Mo. Machine for shaping drills. No. 974,211; Nov. 1; Sp. p. 245; Gaz. vol. 160; p. 40.

Tudor, John W., Boston, Mass. Starting device for engines. No. 974,844; Nov. 8; Sp. p. 1722; Gaz. vol. 160; p. 289.

Tully, Francis W., Brookline, Mass. Exhibiting apparatus. No. 974,450; Nov. 1; Sp. p. 858; Gaz. vol. 160; p. 126.

Tupper, John A., Montpelier, Idaho. Electric radiator. No. 976,615; Nov. 22; Sp. p. 5595; Gaz. vol. 160; p. 946.

Turek, Ferdinand, Cleveland, Ohio. Filter system. No. 975,483; Nov. 15; Sp. p. 3127; Gaz. vol. 160; p. 535.

Turek, Ferdinand, Cleveland, Ohio. Gage. No. 977,055; Nov. 29; Sp. p. 6574; Gaz. vol. 160; p. 1122.

Turnbeaugh, Eliza. (See Tucker, Francois M., assignor.)

Turnbull, Walter J., New Orleans, La. Conveyer. No. 975,181; Nov. 8; Sp. p. 2508; Gaz. vol. 160; p. 405.

Turner, James, and P. P. Crabill, assignors to The Central Brass & Fixture Company, Springfield, Ohio. Buffer for automobiles. No. 974,212; Nov. 1; Sp. p. 247; Gaz. vol. 160; p. 41.

Turner, Sydney, assignor to J. D. Nasmith, Toronto, Ontario, Canada. Baking-oven. No. 977,347; Nov. 29; Sp. p. 7193; Gaz. vol. 160; p. 1223.

Tuttle, Charles B. (See Sanborn, John P., assignor.)

Tuttle, Willard S., Philadelphia, Pa. Steam-boiler. No. 975,736; Nov. 15; Sp. p. 3680; Gaz. vol. 160; p. 620.

Tweet, Nels, assignor of one-half to J. Howard, Hillsboro, N. D. Button. No. 975,808; Nov. 15; Sp. p. 3828; Gaz. vol. 160; p. 645.

Twyman, Calvin R. (See Hamilton and Twyman.)

Tyers, Samuel H., Lorquon, Victoria, Australia. Stripper-harvester or like machine. No. 975,003; Nov. 8; Sp. p. 2115; Gaz. vol. 160; p. 344.

Tyner, Eva, Canon City, Colo. Folding frame for mosquito-bars. No. 976,950; Nov. 29; Sp. p. 6346; Gaz. vol. 160; p. 1086.

Tyson, Frank, Canton, Ohio. Elastic shaft connection. No. 976,232; Nov. 22; Sp. p. 4742; Gaz. vol. 160; p. 814.

U. S. Bobbin & Shuttle Co. (See Baldwin and Buffington, assignors.)

U. S. Rapid Mail Service Co. (See Hupp, Albert, assignor.)

Uebelmesser, Charles R., New York, N. Y., assignor to American Moving Picture Machine Company. Mechanical movement. No. 975,659; Nov. 15; Sp. p. 3526; Gaz. vol. 160; p. 595.

Uhlig, Richard W., Rutherford, N. J., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 974,314; Nov. 1; Sp. p. 534; Gaz. vol. 160; p. 79.

Underhill, Walter A., Auburn, N. Y. Fifth-wheel for wagons. No. 975,004; Nov. 8; Sp. p. 2117; Gaz. vol. 160; p. 344.

Underhill, Zoe D., Bedford Station, N. Y. Aerial toy. No. 975,182; Nov. 8; Sp. p. 2511; Gaz. vol. 160; p. 406.

Underwood Automatic Typewriter Pay Station Company. (See Rice and Broughton, assignors.)

Underwood Typewriter Company. (See Barnard, Walter E., assignor.)

Underwood Typewriter Company. (See Corcoran, Cornelius B., assignor.)

Underwood Typewriter Company. (See Crutchley, Harry, assignor.)

Underwood Typewriter Company. (See Fortin, Benjamin P., assignor.)

Underwood Typewriter Company. (See Gibbs, Charles, assignor.)

Underwood Typewriter Company. (See Glaeser, Henry, assignor.)

Underwood Typewriter Company. (See Kurowski, Alfred G. F., assignor.)

Underwood Typewriter Company. (See Lundeberg, Carl F., assignor.)

Underwood Typewriter Company. (See MacDermott, Charles A., assignor.)

Underwood Typewriter Company. (See McCormack, Harry S., assignor.)

Underwood Typewriter Company. (See McLaughlin, John C., assignor.)

Underwood Typewriter Company. (See Smith, Alexander J., assignor.)

Underwood Typewriter Company. (See Smith, Stephen T., Jr., assignor.)

Underwood Typewriter Company. (See Uhlig, Richard W., assignor.)

Unger, Joseph, McKeesport, Pa. Stamp-canceling device. No. 974,845; Nov. 8; Sp. p. 1798; Gaz. vol. 160; p. 289.

Union Fibre Company. (See Brown, Alfred G., assignor.)

Union Special Machine Company. (See Onderdonk, Lansing, assignor.)

Union Special Sewing Machine Co. (See Woodward, Russel G., assignor.)

Union Typewriter Company. (See Felbel, Jacob, assignor.)

Union Typewriter Company. (See Schaaf, John T., assignor.)

Union Typewriter Company. (See Shepard, Charles H., assignor.)

Union Typewriter Company. (See Steiger, Andrew W., assignor.)
Union Typewriter Company. (See Stickney, Burnham C., assignor.)
Union Typewriter Company. (See Waldheim, John, assignor.)
Union Typewriter Company. (See Woodward, Oscar, assignor.)
United Revolving Door Company. (See Clymer and Degen, assignors.)
United Shirt & Collar Company. (See Pine, James K. P., assignor.)
United Shoe Machinery Company. (See Ambler, George A., assignor.)
United Shoe Machinery Company. (See Bayley and Mayo, assignors.)
United Shoe Machinery Company. (See Dow, John L., assignor.)
United Shoe Machinery Company. (See Eaton, Clarence L., assignor.)
United Shoe Machinery Company. (See Fowler, Alfred B., assignor.)
United Shoe Machinery Company. (See Fuller, Frederick R., assignor.)
United Shoe Machinery Company. (See Ladd, Sherman W., assignor.)
United Shoe Machinery Company. (See Lund, Thomas, assignor.)
United Shoe Machinery Company. (See Stiggins, Edward A., assignor.)
United Shoe Machinery Company. (See Thayer, Joseph E., assignor.)
United-Xpedite Finishing Company. (See Pease, Charles, assignor.)
Universal Electric Welding Company. (See Lachman, Laurence S., assignor.) (Reissue.)
Universal Electric Welding Co. (See Lachman, Maurice and L. S., assignors.)
Upson, Charles H., Waterbury, Conn. Casting metal. No. 974,934; Nov. 8; Sp. p. 1043; Gaz. vol. 160; p. 320.
Utendörfer, Wilhelm. (See Weber, Karl, assignor.)
Utley, James S., Chicago, Ill. Postal-money-order packet. No. 975,737; Nov. 15; Sp. p. 3084; Gaz. vol. 160; p. 521.
Vallat, René, assignor to G. A. Pfister, Paris, France. Distilling and rectifying apparatus. No. 974,213; Nov. 1; Sp. p. 249; Gaz. vol. 160; p. 41.
Van Bosch, Peter M., assignor of one-third to E. C. Ecker and one-third to W. Kabitzke, Chicago, Ill. Piston-rod connection. No. 974,935; Nov. 8; Sp. p. 1044; Gaz. vol. 160; p. 321.
Van Cott, Frank J., Unadilla, N. Y. Door for silos. No. 976,951; Nov. 29; Sp. p. 6347; Gaz. vol. 160; p. 1086.
Van Dusen, Elizabeth, Los Angeles, Cal. Model-form for garment-fitting. No. 974,936; Nov. 8; Sp. p. 1945; Gaz. vol. 160; p. 321.
Van Horn, William H., assignor to C. M. Kemp, Baltimore, Md. Sad-iron heater. No. 976,952; Nov. 29; Sp. p. 6340; Gaz. vol. 160; p. 1087.
Van Pelt, Stanley F., Indianapolis, Ind. Shoe-creasing machine. No. 974,214; Nov. 1; Sp. p. 251; Gaz. vol. 160; p. 41.
Van Syckle, John P. (See McCabe, Philip J., assignor.)
Van Winkle, Charles W., White Plains, assignor of one-half to E. Conklin, Pleasantville, N. Y. Autoplane. No. 974,846; Nov. 8; Sp. p. 1730; Gaz. vol. 160; p. 290.
Van Winkle, Edward. (See Fancher, Burt, and Van Winkle.)
Vancil, Samuel A., Greenway, Ark. Bridge-dam. No. 974,315; Nov. 1; Sp. p. 541; Gaz. vol. 160; p. 80.
Vanderveld, Anthony, assignor to Grand Rapids Show Case Company, Grand Rapids, Mich. Adjustable hinge. No. 974,451; Nov. 1; Sp. p. 860; Gaz. vol. 160; p. 127.
Vanderveld, Anthony, assignor to Grand Rapids Show Case Company, Grand Rapids, Mich. Support for disappearing doors. No. 974,542; Nov. 1; Sp. p. 1081; Gaz. vol. 160; p. 162.
Vauclain, Samuel M., assignor to Baldwin Locomotive Works, Philadelphia, Pa. Locomotive. No. 975,183; Nov. 8; Sp. p. 2513; Gaz. vol. 160; p. 406.
Vauclain, Samuel M., assignor, by mesne assignments, to Baldwin Locomotive Works, Philadelphia, Pa. Car-truck. No. 975,303; Nov. 8; Sp. p. 2773; Gaz. vol. 160; p. 448.
Vauclain, Samuel M., assignor to Baldwin Locomotive Works, Philadelphia, Pa. Articulated locomotive. No. 976,014; Nov. 15; Sp. p. 4224; Gaz. vol. 160; p. 716.
Vaughan, Henry E., *et al.* (See Shattuck, Wilmer H., assignor.)
Veitch, Thomas, Dumont, N. J., assignor to The Scientific Research Co., New York, N. Y. Internal-combustion engine. No. 975,809; Nov. 15; Sp. p. 3829; Gaz. vol. 160; p. 645.
Velie Motor Vehicle Company. (See Fuller, Lawson M., assignor.)
Veitman, Warren. (See Stadt and Veitman.)
Veno, James, Vancouver, British Columbia, Canada. Handle-extractor for axes, hammers, &c. No. 975,304; Nov. 8; Sp. p. 2774; Gaz. vol. 160; p. 448.
Ventilated Cushion and Spring Co. (See Snuggs, John H., assignor.)
Vernon, Frederick R., Freeport, N. Y. Knockdown box. No. 976,318; Nov. 22; Sp. p. 4948; Gaz. vol. 160; p. 843.
Verplanck, Holly M., assignor to Lansing Wheelbarrow Company, Lansing, Mich. Wheelbarrow. No. 977,056; Nov. 29; Sp. p. 6576; Gaz. vol. 160; p. 1122.
Versen, Bruno, Dortmund, Germany. Furnace-head for gas-furnaces with changing direction of flame. No. 975,738; Nov. 15; Sp. p. 3696; Gaz. vol. 160; p. 621.
Vestergaard, Christian, Chicago, Ill. Horseshoe-spreader. No. 975,810; Nov. 15; Sp. p. 3832; Gaz. vol. 160; p. 645.
Vice, Peter, New York, N. Y. Non-refillable bottle. No. 974,215; Nov. 1; Sp. p. 254; Gaz. vol. 160; p. 42.
Victor, Alexander F., Toledo, Ohio. Mechanical movement. No. 976,953; Nov. 29; Sp. p. 6352; Gaz. vol. 160; p. 1087.
Victor, Alexander F., Toledo, Ohio. Moving-picture machine. No. 976,954; Nov. 29; Sp. p. 6354; Gaz. vol. 160; p. 1088.
Victor, Robert L., Portland, Oreg. Household safety-lamp. No. 974,727; Nov. 1; Sp. p. 1471; Gaz. vol. 160; p. 226.
Viera, Antonio, Ray, Ariz. Miner's candlestick. No. 974,316; Nov. 1; Sp. p. 542; Gaz. vol. 160; p. 80.
Viertel, Hermann, Lichtenberg, and G. Egly, Treptow, assignors to Gebrueder Siemens & Co., Lichtenberg, near Berlin, Germany. Protective coating for carbon bodies. No. 976,310; Nov. 22; Sp. p. 4950; Gaz. vol. 160; p. 844.
Vocalstyle Music Company, The. (See Miller, Harry G., assignor.)
Voegeli, Gustav, Wettingen, Switzerland. Saturated or superheated vapor generator. No. 974,216; Nov. 1; Sp. p. 255; Gaz. vol. 160; p. 42.
Vogel, Ernest, assignor to John L. Whiting-J. J. Adams Company, Boston, Mass. Bristle-redeeming machine. No. 976,955; Nov. 29; Sp. p. 6358; Gaz. vol. 160; p. 1088.
Vogel, Ernest, assignor to John L. Whiting-J. J. Adams Company, Boston, Mass. Redeeming bristles. No. 977,057; Nov. 29; Sp. p. 6577; Gaz. vol. 160; p. 1122.
Voight, Henry G., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Lock system. No. 974,317; Nov. 1; Sp. p. 544; Gaz. vol. 160; p. 80.
Volk, Julius, St. Louis, Mo. Portable folding window-scaffold. No. 976,233; Nov. 22; Sp. p. 4745; Gaz. vol. 160; p. 814.
Volz, Henry, *et al.* (See Haddock, Worcester, assignor.)
Vonderahe, Frederick C., Jr., Oregon City, Oreg. Bag-holder. No. 974,615; Nov. 1; Sp. p. 1224; Gaz. vol. 160; p. 188.
Votteler, William, Louisville, Ky. Proportional powder-divider. No. 976,320; Nov. 22; Sp. p. 4951; Gaz. vol. 160; p. 844.
Voynow, Constantine B., and G. B. Taylor, Philadelphia, Pa. Railway. No. 976,708; Nov. 22; Sp. p. 5766; Gaz. vol. 160; p. 976.
W. F. Brown Company. (See Brown, Walter F., assignor.)
W. W. Kimball Company. (See Hiscock, Emory C., assignor.)
Wade, George T., Rockland, Me. Weighing and bagging machine. No. 975,005; Nov. 8; Sp. p. 2120; Gaz. vol. 160; p. 345.
Wadham, Percy F., Newport, Isle of Wight, England. Fishing-reel. No. 975,587; Nov. 15; Sp. p. 3364; Gaz. vol. 160; p. 571.
Wadhams, Malkom H., Las Animas, Colo. Beet-harvester. No. 975,580; Nov. 15; Sp. p. 3362; Gaz. vol. 160; p. 571.
Wagener, Emil, Dahlhausen-on-the-Ruhr, Germany. Regenerative coke-oven. No. 977,348; Nov. 29; Sp. p. 7195; Gaz. vol. 160; p. 1223.
Waggoner, Samuel T., and T. T. Heard, Buffalo, N. Y. Reel for drying clothes, &c. No. 975,660; Nov. 15; Sp. p. 3529; Gaz. vol. 160; p. 595.
Wagner, Frank, Reaburn post-office, Manitoba, Canada. Bucket. No. 974,217; Nov. 1; Sp. p. 256; Gaz. vol. 160; p. 42.
Wagner, Frank F., and N. W. McDonald, Elizabeth, Pa. Cut-out and shunt switch for electric lamps. No. 975,484; Nov. 15; Sp. p. 3128; Gaz. vol. 160; p. 535.
Wagner, John F. (See Falker, Schultz, and Wagner.)
Wagner, William F., assignor to Pooley Furniture Company, Philadelphia, Pa. Supporting and guiding device for furniture-drawers. No. 977,349; Nov. 29; Sp. p. 7197; Gaz. vol. 160; p. 1224.
Wahl-Henius Institute of Fermentology. (See Nilson, Arvid, assignor.)
Walt, Orlin, San Jose, Cal. Self-propelled plow. No. 975,305; Nov. 8; Sp. p. 2775; Gaz. vol. 160; p. 448.
Walt, Walter S. (See Cartwright, David J., assignor.)
Waite, Richard H., Denver, Colo. Thermostat. No. 975,909; Nov. 15; Sp. p. 4028; Gaz. vol. 160; p. 679.
Wakefield, Charles C., London, England. Treatment of calcium carbid. No. 975,306; Nov. 8; Sp. p. 2777; Gaz. vol. 160; p. 448.
Wakley, William, Indian Lake, N. Y. Saw-tool. No. 976,956; Nov. 29; Sp. p. 6360; Gaz. vol. 160; p. 1088.
Waldheim, John, Newark, N. J., assignor to Union Typewriter Company, Ilion, N. Y. Type-writing machine. No. 974,318; Nov. 1; Sp. p. 549; Gaz. vol. 160; p. 81.
Wales, Charles, assignor to Burroughs Adding Machine Company, Detroit, Mich. Adding-machine. No. 974,937; Nov. 8; Sp. p. 1948; Gaz. vol. 160; p. 321.
Wales, Charles, assignor to Burroughs Adding Machine Company, Detroit, Mich. Accounting-machine. No. 976,234; Nov. 22; Sp. p. 4746; Gaz. vol. 160; p. 814.
Wales, Samuel S., Minneapolis, Minn. Adjustable cap for stovepipe-openings. No. 976,321; Nov. 22; Sp. p. 4952; Gaz. vol. 160; p. 844.
Walker, Charlie E., Daingerfield, Tex. Baling-press. No. 974,319; Nov. 1; Sp. p. 561; Gaz. vol. 160; p. 81.
Walker, Edward B. (See Knoerl, John, assignor.)

Walker, Eli M., assignor to The Charles Parker Company, Meriden, Conn. Swivel-base vise. No. 976,521; Nov. 22; Sp. p. 5381; Gaz. vol. 160; p. 913.
Walker, Enos L., Cape Girardeau, Mo. Crate. No. 975,661; Nov. 15; Sp. p. 3531; Gaz. vol. 160; p. 596.
Walker, Frederick C. (See Segal and Walker.)
Walker, Horace E., Detroit, Mich. Wheel. No. 974,320; Nov. 1; Sp. p. 562; Gaz. vol. 160; p. 81.
Walker, John S. B., Forestburg, Tex. Stove-pipe holder No. 976,015; Nov. 15; Sp. p. 4226; Gaz. vol. 160; p. 716.
Wall, George L., and V. J. Shepard, assignors to Lima Locomotive and Machine Company, Lima, Ohio. Steam-storage locomotive. No. 976,522; Nov. 22; Sp. p. 5383; Gaz. vol. 160; p. 913.
Wallace, Casper D., Bridgeport, Conn., assignor to Yost Writing Machine Company, Ilion, N. Y. Type-writing machine. No. 975,739; Nov. 15; Sp. p. 3687; Gaz. vol. 160; p. 621.
Wallace, George G. (See Payne and Wallace.)
Wallace, Joseph H., New York, N. Y. Pulp machinery. No. 977,147; Nov. 29; Sp. p. 6792; Gaz. vol. 160; p. 1154.
Wallace, Robert S., assignor of one-third to G. G. Fix, Forney, Tex. Pneumatic system for automobiles. No. 975,588; Nov. 15; Sp. p. 3366; Gaz. vol. 160; p. 571.
Wallace, William A., assignor to J. E. Driggers, Altus, Okla. Gas-generator. No. 975,910; Nov. 15; Sp. p. 4030; Gaz. vol. 160; p. 680.
Wallén, Lars R. L., Norrtelje, assignor to Aktiebolaget Svenska Slipskifvor, Karsta, Sweden. Grinding-wheel and the like. No. 975,080; Nov. 8; Sp. p. 2284; Gaz. vol. 160; p. 373.
Waller, Joseph B. (See Hanes and Waller.)
Wallin, Gustaf E., assignor to Inland Manufacturing Company, Kansas City, Mo. Space-band buffer for linotype-machines. No. 976,957; Nov. 29; Sp. p. 6361; Gaz. vol. 160; p. 1088.
Walpole, Benjamin M., Providence, R. I. Electric cut-out. No. 977,058; Nov. 29; Sp. p. 6578; Gaz. vol. 160; p. 1122.
Walsh, Edward F., *et al.* (See Sloderbeck, Martin C., assignor.)
Walsh, Harry C. H., Chicago, Ill., assignor of one-half to A. A. Kinne, Minneapolis, Minn. Elbow-bending machine. No. 975,184; Nov. 8; Sp. p. 2514; Gaz. vol. 160; p. 406.
Walsh, Harry C. H., Chicago, Ill., assignor of one-half to A. A. Kinne, Minneapolis, Minn. Metal-creasing machine. No. 975,185; Nov. 8; Sp. p. 2516; Gaz. vol. 160; p. 407.
Walsh, William J., Princeton, Ind. Skirt-gage. No. 976,523; Nov. 22; Sp. p. 5387; Gaz. vol. 160; p. 914.
Walsh, William J., Jersey City, N. J., assignor of one-half to J. C. Farrow, New York, N. Y. Clothes-line. No. 975,811; Nov. 15; Sp. p. 3833; Gaz. vol. 160; p. 646.
Walston, Walter O., Asheville, N. C. Clothes-line. No. 976,412; Nov. 22; Sp. p. 5164; Gaz. vol. 160; p. 877.
Walter, Edyth C. (See Hamilton, William A., assignor.)
Walter, Harrison B., assignor of one-third to O. J. Gunnell and one-third to J. W. Meltzler, Danville, Ill. Collapsible crate. No. 976,958; Nov. 29; Sp. p. 6363; Gaz. vol. 160; p. 1089.
Walters, Julius W., Glens Falls, N. Y. Carbureter. No. 976,322; Nov. 22; Sp. p. 4953; Gaz. vol. 160; p. 844.
Waltman, John A., Los Angeles, Cal. Rotary multiple-cylinder internal-combustion engine. No. 975,485; Nov. 15; Sp. p. 3129; Gaz. vol. 160; p. 535.
Waltman, John A., Los Angeles, Cal. Rotary multiple cylinder steam-engine. No. 975,486; Nov. 15; Sp. p. 3134; Gaz. vol. 160; p. 535.
Wanderer Werke vorm. Winklhofer & Jaenicke A. G. (See Buschmann, Theodor E., assignor.)
Wappler, Reinhold H., assignor to American Cystoscope Makers, New York, N. Y. Electrical coupling and switch. No. 975,090; Nov. 8; Sp. p. 2285; Gaz. vol. 160; p. 373.
Ward, Henry C., Newark, N. J. Stud. No. 976,016; Nov. 15; Sp. p. 4227; Gaz. vol. 160; p. 717.
Ward, William S., Kennewick, Wash. Rat-trap. No. 977,240; Nov. 29; Sp. p. 6986; Gaz. vol. 160; p. 1187.
Wardwell, Olin N. (See White and Wardwell.)
Warner, Charles A., New York, N. Y. Sofa-bedstead. No. 977,350; Nov. 29; Sp. p. 7201; Gaz. vol. 160; p. 1224.
Warner, Charles E., Batavia, N. Y. Feed-regulator. No. 977,148; Nov. 29; Sp. p. 6793; Gaz. vol. 160; p. 1154.
Warner, John A. and W. A., Bronson, Mich. Fence-post. No. 976,323; Nov. 22; Sp. p. 4956; Gaz. vol. 160; p. 845.
Warner, William A. (See Warner, John A. and W. A.)
Warren, Charles V., Cambridge, Mass. Lubricator for elevator-guides. No. 974,616; Nov. 1; Sp. p. 1226; Gaz. vol. 160; p. 189.
Warren, Peter R., Lowell, Mass. Box. No. 975,911; Nov. 15; Sp. p. 4031; Gaz. vol. 160; p. 680.
Warriner, Percy H. (See Parmeter, Addison J., assignor.)
Warwick, George T., Springfield, Mass. Screw-head shaping and slotting device. No. 976,758; Nov. 22; Sp. p. 5887; Gaz. vol. 160; p. 994.
Washburne, Charles H., Rochester, assignor of one-half to H. B. Oakman, New York, N. Y. Vehicle. No. 976,413; Nov. 22; Sp. p. 5165; Gaz. vol. 160; p. 877.
Wassman, Fred C., Chicago, and M. E. Widell, Maywood, Ill., assignors to American Can Company, New York, N. Y. Soldering-machine. No. 975,912; Nov. 15; Sp. p. 4033; Gaz. vol. 160; p. 681.
Wassman, Fred C., Chicago, and M. E. Widell, Maywood, Ill., assignors to American Can Company, New York, N. Y. Soldering. No. 975,913; Nov. 15; Sp. p. 4041; Gaz. vol. 160; p. 681.
Waterbury Clock Co. (See Larkin, William J., assignor.)
Waterhouse, Harold D., Wollaston, Mass. Power tire-pump. No. 977,351; Nov. 29; Sp. p. 7203; Gaz. vol. 160; p. 1225.
Waterhouse, Harold D., Quincy, assignor, by mesne assignments, to American Pneumatic Service Company, Boston, Mass. Receiving apparatus for pneumatic-despatch systems. No. 974,617; Nov. 1; Sp. p. 1227; Gaz. vol. 160; p. 189.
Waterhouse, Harold D., Quincy, assignor, by mesne assignments, to American Pneumatic Service Company, Boston, Mass. Sending mechanism for pneumatic-despatch apparatus. No. 974,618; Nov. 1; Sp. p. 1231; Gaz. vol. 160; p. 189.
Waterman, Fred W., Elyria, Ohio. Speed-limiting apparatus. No. 976,017; Nov. 15; Sp. p. 4228; Gaz. vol. 160; p. 717.
Watkins, George T., Kannapolis, N. C. Cam. No. 975,589; Nov. 15; Sp. p. 3367; Gaz. vol. 160; p. 571.
Watrous, Earl G., Chicago, Ill. Basin-cock. No. 974,938; Nov. 8; Sp. p. 1950; Gaz. vol. 160; p. 321.
Watrous, Earl G., Chicago, Ill. Water-closet valve. No. 974,939; Nov. 8; Sp. p. 1954; Gaz. vol. 160; p. 322.
Watrous, Earl G., Chicago, Ill. Refilling-valve. No. 975,091; Nov. 8; Sp. p. 2288; Gaz. vol. 160; p. 374.
Watrous, Earl G., Chicago, Ill. Fixture for bath-tubs and lavatories. No. 975,662; Nov. 15; Sp. p. 3533; Gaz. vol. 160; p. 596.
Watrous, Earl G., Chicago, Ill. Lavatory-fixture. No. 975,663; Nov. 15; Sp. p. 3541; Gaz. vol. 160; p. 597.
Watrous, Earl G., Chicago, Ill. Water-closet valve. No. 975,664; Nov. 15; Sp. p. 3545; Gaz. vol. 160; p. 597.
Watrous, Earl G., Chicago, Ill. Operating connection for water-closet valves. No. 975,812; Nov. 15; Sp. p. 3835; Gaz. vol. 160; p. 646.
Waugh, Daniel S., assignor to The Denver Rock Drill & Machinery Company, Denver, Colo. Fluid-pressure motor. No. 974,543; Nov. 1; Sp. p. 1082; Gaz. vol. 160; p. 162.
Waybright, Charles S., Crabbottom, Va. Hame-fastener. No. 976,414; Nov. 22; Sp. p. 5166; Gaz. vol. 160; p. 877.
Wayne Manufacturing Company. (See Munger, Carlton A., assignor.)
Weatherly, John R., Savannah, Ga. Stalk-cutter. No. 976,950; Nov. 29; Sp. p. 6364; Gaz. vol. 160; p. 1089.
Weatherman, Robert W., assignor of one-half to F. Hartley, Belmore, Mo. Punch and bolt cutter. No. 975,000; Nov. 8; Sp. p. 2121; Gaz. vol. 160; p. 345.
Weathers, Joseph S., Windsor, Mo. Calf-weaner. No. 977,352; Nov. 29; Sp. p. 7205; Gaz. vol. 160; p. 1225.
Weaver, Eugene M., Jamaica, N. Y., assignor to General Electric Company. Rail-bond. No. 976,617; Nov. 22; Sp. p. 5598; Gaz. vol. 160; p. 947.
Weaver, Henry M., Mansfield, Ohio. Cash and package carrier. No. 977,059; Nov. 29; Sp. p. 6581; Gaz. vol. 160; p. 1123.
Webb, Edward O., Jr., San Jose, Cal. Stamp holding and delivering cabinet. No. 976,018; Nov. 15; Sp. p. 4231; Gaz. vol. 160; p. 717.
Webb, Hartwell W., Cresskill, and E. H. Stickels, Edgewater, N. J., assignors to Gyrex Manufacturing Company, New York, N. Y. Mixer for gaseous fluids. No. 976,416; Nov. 22; Sp. p. 5168; Gaz. vol. 160; p. 878.
Webb, L. H., *et al.* (See Kimball, Robert E., assignor.)
Weber, Edwin L. (See Sullivan, William F., assignor.)
Weber, George S. (See Risser, Arthur L., assignor.)
Weber, Harry L., *et al.* (See McFarland, William W., assignor.)
Weber, John F., West Allis, Wis. Cabinet-finishing tool. No. 975,590; Nov. 15; Sp. p. 3368; Gaz. vol. 160; p. 572.
Weber, Karl, assignor to W. Utendörfer, Cologne, Germany. Aiming device with search-light. No. 976,416; Nov. 22; Sp. p. 5171; Gaz. vol. 160; p. 878.
Weber, Peter, Orange, N. J. Apparatus for erecting concrete structures. No. 976,960; Nov. 29; Sp. p. 6365; Gaz. vol. 160; p. 1089.
Weber, Peter, Orange, assignor to New Jersey Patent Company, West Orange, N. J. Diaphragm for phonographs. No. 975,377; Nov. 8; Sp. p. 2920; Gaz. vol. 160; p. 471.
Webster, Harry G., Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company. Automatic telephone system. No. 976,524; Nov. 22; Sp. p. 5388; Gaz. vol. 160; p. 914.
Webster, Harry G., Chicago, Ill., assignor, by mesne assignments, to Kellogg Switchboard & Supply Company. Combined telephone and service system. No. 976,961; Nov. 29; Sp. p. 6370; Gaz. vol. 160; p. 1090.
Webster, John E., Pittsburg, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa. Resilient connection. (Reissue.) No. 13,165; Nov. 8; Sp. p. 2945; Gaz. vol. 160; p. 475.
Wedge, Utley, Ardmore, assignor to The Furnace Patent Company, Philadelphia, Pa. Treating sulfids or sulfates. No. 976,525; Nov. 22; Sp. p. 5410; Gaz. vol. 160; p. 915.
Weeden, Arthur W., Somerville, assignor of one-half to A. W. Erickson, Cambridge, Mass. Base-ball-game apparatus. No. 977,149; Nov. 29; Sp. p. 6795; Gaz. vol. 160; p. 1155.

Weeks, Harry G. (See Parkhurst and Weeks.)
Wegman, Henry. (See Lewis, Charles, assignor.)
Weidman, John H., Marcellus, N. Y. Metallic support for wood ties. No. 974,321; Nov. 1; Sp. p. 564; Gaz. vol. 160; p. 82.
Weil, George W., Akron, Ohio. Metallic fence-post. No. 976,235; Nov. 22; Sp. p. 4756; Gaz. vol. 160; p. 815.
Weiler, Max, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Dye. No. 976,417; Nov. 22; Sp. p. 5173; Gaz. vol. 160; p. 879.
Weiler, William, Dayton, Ohio. Floor-drain trap. No. 976,108; Nov. 15; Sp. p. 4418; Gaz. vol. 160; p. 749.
Weilman, Melville S., Cincinnati, Ohio. Advertising device. No. 976,618; Nov. 22; Sp. p. 5599; Gaz. vol. 160; p. 947.
Weingaertner, Ignaz, St. Louis, Mo. Table. No. 976,759; Nov. 22; Sp. p. 5889; Gaz. vol. 160; p. 994.
Weinland, Henry F., assignor to The Lagonda Manufacturing Company, Springfield, Ohio. Tube-cleaning apparatus. No. 977,241; Nov. 29; Sp. p. 6987; Gaz. vol. 160; p. 1188.
Weinzierl, Joseph T. (See Donnelly, Koessler, and Weinzierl.)
Weis, John P., and L. Krug, assignors to Metropolitan Sewing Machine Company, Nyack, N. Y. Collaret-machine. No. 976,963; Nov. 29; Sp. p. 6378; Gaz. vol. 160; p. 1091.
Weis, John P., and W. C. Robbins, assignors to Metropolitan Sewing Machine Company, Nyack, N. Y. Binding mechanism for sewing-machines. No. 976,964; Nov. 29; Sp. p. 6387; Gaz. vol. 160; p. 1091.
Weisel, Joseph M., Rockwood, Pa. Railway-tie. No. 974,728; Nov. 1; Sp. p. 1473; Gaz. vol. 160; p. 227.
Weiser, Frank J. W., assignor to George P. Bent Company, Chicago, Ill. Retard device. No. 976,965; Nov. 29; Sp. p. 6393; Gaz. vol. 160; p. 1092.
Weiss, Alfred H., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Wall set. No. 976,962; Nov. 29; Sp. p. 6375; Gaz. vol. 160; p. 1090.
Weiss, Carl W., New York, N. Y. Motor. No. 976,236; Nov. 22; Sp. p. 4757; Gaz. vol. 160; p. 815.
Weiss, Morris Z. (See Greenwald, Blaustein, Weiss, and Seikovits.)
Weissbrod, Luther B., Greenfield, Mass. Purse or bill-folder. No. 975,813; Nov. 15; Sp. p. 3836; Gaz. vol. 160; p. 646.
Weissenthanner, Alfred L., New York, N. Y. Holder for toilet-sticks. No. 975,002; Nov. 8; Sp. p. 2290; Gaz. vol. 160; p. 374.
Welham, Alfred L. (See Sampson and Welham.)
Welker, Fredrick, Williamsport, Pa., assignor to American Wood Working Machinery Co., Rochester, N. Y. Grinding-machine. No. 977,060; Nov. 29; Sp. p. 6583; Gaz. vol. 160; p. 1123.
Welling, George. (See Michaels and Welling.)
Wellington, Quincy W., *et al.* (See Ferguson, Lyman, assignor.)
Wellman, Calvin W., South Boardman, Mich., assignor to H. M. Wellman, Oshkosh, Wis. Turbine. No. 976,109; Nov. 15; Sp. p. 4419; Gaz. vol. 160; p. 749.
Wellman Company. (See Stickney, Allison M., assignor.)
Wellman, Hattie M. (See Wellman, Calvin W., assignor.)
Wells, George E., Dayton, Ohio. Smoke-consuming furnace. No. 974,322; Nov. 1; Sp. p. 565; Gaz. vol. 160; p. 82.
Wells, Jewell W., Washington, D. C. Attachment for drawing-boards. No. 976,019; Nov. 15; Sp. p. 4233; Gaz. vol. 160; p. 717.
Wells, Thomas H., Toronto, Ontario, Canada. Adjustable chaplet. No. 974,218; Nov. 1; Sp. p. 257; Gaz. vol. 160; p. 43.
Welsbach, Carl A. von, Vienna, Austria-Hungary, assignor to Welsbach Light Company, Gloucester City, N. J. Manufacture of electric filaments. No. 976,526; Nov. 22; Sp. p. 5414; Gaz. vol. 160; p. 915.
Welsbach, Carl A. von, Vienna, Austria-Hungary, assignor to Welsbach Light Company, Gloucester City, N. J. Manufacture of electric filaments. No. 976,527; Nov. 22; Sp. p. 5418; Gaz. vol. 160; p. 915.
Welsbach, Carl A. von, Vienna, Austria-Hungary, assignor to Welsbach Light Company, Gloucester City, N. J. Manufacture of electric filaments. No. 976,528; Nov. 22; Sp. p. 5420; Gaz. vol. 160; p. 915.
Welsbach, Carl A. von, Vienna, Austria-Hungary, assignor to Welsbach Light Company, Gloucester City, N. J. Manufacture of electric filaments. No. 976,616; Nov. 22; Sp. p. 5596; Gaz. vol. 160; p. 946.
Welsbach, Carl A. von, Vienna, assignor to Treibacher Chemische Werke Gesellschaft m. b. H., Treibach, Austria-Hungary. Pyrophoric mass. No. 976,760; Nov. 22; Sp. p. 5890; Gaz. vol. 160; p. 995.
Welsbach Light Company. (See Welsbach, Carl A. von, assignor.)
Welsh, Louis E., assignor to American Concrete Piling Company, Philadelphia, Pa. Pile and means for driving the same. No. 975,487; Nov. 15; Sp. p. 3187; Gaz. vol. 160; p. 536.
Welsh, Louis E., assignor to American Concrete Piling Company, Philadelphia, Pa. Pile. No. 975,488; Nov. 15; Sp. p. 3140; Gaz. vol. 160; p. 536.
Welsh, Louis E., assignor to American Concrete Piling Company, Philadelphia, Pa. Pile. No. 976,324; Nov. 22; Sp. p. 4957; Gaz. vol. 160; p. 845.
Wemlinger, Julius R., New York, N. Y. Shoring. No. 975,665; Nov. 15; Sp. p. 3554; Gaz. vol. 160; p. 598.
Werner, Christian H., New York, N. Y. Sheet-metal cap. No. 975,914; Nov. 15; Sp. p. 4048; Gaz. vol. 160; p. 682.
Werner, Fridolin, Sr., Cibolo, Tex. Stalk-cutter. No. 974,219; Nov. 1; Sp. p. 258; Gaz. vol. 160; p. 43.
Werner, Harvey N., York, Pa. Folding woven-wire spring. No. 975,007; Nov. 8; Sp. p. 2123; Gaz. vol. 160; p. 346.
Werner, John A., assignor to The National Cash Register Company, Dayton, Ohio. Cash and autographic register. No. 975,489; Nov. 15; Sp. p. 3142; Gaz. vol. 160; p. 537.
Wesley, Joseph J., Hackensack, N. J. Visual indicator for key-operated switches. No. 975,490; Nov. 15; Sp. p. 3144; Gaz. vol. 160; p. 537.
West, Charles W., assignor to The Electro-Curo Company, Denver, Colo. Electric insole. No. 974,220; Nov. 1; Sp. p. 260; Gaz. vol. 160; p. 43.
Westerman, William, Ansonia, Conn. Means of producing seamless hollow bodies. No. 976,529; Nov. 22; Sp. p. 5422; Gaz. vol. 160; p. 916.
Western Electric Company. (See Lyng, John J., assignor.)
Westinghouse Air Brake Company, The. (See Cass, Christopher P., assignor.)
Westinghouse Air Brake Company, The. (See Mahoney and McCurdy, assignors.)
Westinghouse Air Brake Company, The. (See Westinghouse, Henry H., assignor.)
Westinghouse Electric & Manufacturing Company. (See Aalborg, Christian, assignor.)
Westinghouse Electric & Manufacturing Company. (See Auel and Spurrier, assignors.)
Westinghouse Electric & Manufacturing Company. (See Conrad, Frank, assignor.)
Westinghouse Electric and Manufacturing Company. (See Eaton, George M., assignor.)
Westinghouse Electric & Manufacturing Company. (See Harris, Ford W., assignor.)
Westinghouse Electric and Manufacturing Company. (See Hayes, Stephen Q., assignor.)
Westinghouse Electric & Manufacturing Company. (See Hemley, William T., assignor.)
Westinghouse Electric & Manufacturing Company. (See Jackson, Ray P., assignor.)
Westinghouse Electric & Manufacturing Company. (See James, Henry D., assignor.)
Westinghouse Electric & Manufacturing Company. (See Kunkel, Fred R., assignor.)
Westinghouse Electric & Manufacturing Company. (See Renshaw, Clarence, assignor.)
Westinghouse Electric & Manufacturing Company. (See Scott, Thomas S., assignor.)
Westinghouse Electric & Manufacturing Company. (See Storer, Norman W., assignor.)
Westinghouse Electric & Manufacturing Company. (See Webster, John E., assignor.) (Reissue.)
Westinghouse Electric & Manufacturing Company. (See Wurts, Alexander J., assignor.)
Westinghouse, Geo. (See Potter, Henry N., assignor.)
Westinghouse, George, Pittsburg, Pa. Turbine-blade. No. 976,418; Nov. 22; Sp. p. 5174; Gaz. vol. 160; p. 879.
Westinghouse, George, Pittsburg, and A. M. Gow, Edgewood Park, Pa., assignors to said Westinghouse. Heating air. No. 976,966; Nov. 29; Sp. p. 6395; Gaz. vol. 160; p. 1092.
Westinghouse, George, Pittsburg, and A. M. Gow, Edgewood Park, Pa.; said Gow assignor to said Westinghouse. Apparatus for heating air. No. 976,967; Nov. 29; Sp. p. 6397; Gaz. vol. 160; p. 1092.
Westinghouse, Henry H., New York, N. Y., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa. Cock for air-brakes. No. 977,242; Nov. 29; Sp. p. 6990; Gaz. vol. 160; p. 1188.
Westinghouse Lamp Company. (See Atwood, George F., assignor.)
Westinghouse Machine Company, The. (See Barton, Henry L., assignor.)
Westinghouse Machine Company, The. (See Crist, Mark B., assignor.)
Westlake, Albert, New York, N. Y. Mouth-tablet. No. 975,814; Nov. 15; Sp. p. 3837; Gaz. vol. 160; p. 647.
Westmacott, Alfred, St. Helens, Isle of Wight, England. Carbureter and vaporizer for internal-combustion engines. No. 975,237; Nov. 22; Sp. p. 4761; Gaz. vol. 160; p. 816.
Weston, Arthur H., Baltimore county, Maryland. Side frame. No. 975,093; Nov. 8; Sp. p. 2201; Gaz. vol. 160; p. 375.
Whaley, William, Knoxville, Tenn. Loading-machine. No. 976,711; Nov. 22; Sp. p. 5772; Gaz. vol. 160; p. 977.
Wheeler, Enoch S., Centralia, Wash. Door-latch. No. 974,323; Nov. 1; Sp. p. 568; Gaz. vol. 160; p. 83.
Wheeler, Frank C., assignor to The American Seeding Machine Company, Springfield, Ohio. Machine for making sheet-metal tubes. No. 977,150; Nov. 29; Sp. p. 6790; Gaz. vol. 160; p. 1155.
Wheeler, Holman K., Malden, Mass. Ventilating-blind. No. 975,491; Nov. 15; Sp. p. 3146; Gaz. vol. 160; p. 537.
Wheeler, John H., and W. D. Allen, New Haven, Conn. Shell-extractor. No. 976,325; Nov. 22; Sp. p. 4959; Gaz. vol. 160; p. 845.
Wheeler, Morris, Chicago, Ill. Burglar-alarm sash-lock. No. 975,186; Nov. 8; Sp. p. 2518; Gaz. vol. 160; p. 407.
Wheeler, Rufus J., and H. R. Nell, Bakersfield, Cal. Oil-burner. No. 974,324; Nov. 1; Sp. p. 570; Gaz. vol. 160; p. 83.

Wherry, William B., Overton, Tex. Mail-cart. No. 974,729; Nov. 1; Sp. p. 1774; Gaz. vol. 160; p. 227.
White, Charles, Baltimore, Md. Method of operating gas-engines and apparatus therefor. No. 975,008; Nov. 8; Sp. p. 2124; Gaz. vol. 160; p. 346.
White Company, The. (See White, Rollin H., assignor.)
White, Franklin. (See Stubley, Charles H., assignor.)
White, Garrett, assignor of one-half to W. B. Neely, Chapel Hill, Tenn. Invalid-lifting apparatus. No. 977,243; Nov. 29; Sp. p. 6991; Gaz. vol. 160; p. 1188.
White, Herbert E., Youngstown, Ohio, and W. H. Ham, assignors to The General Fireproofing Company, New York, N. Y. Reinforced concrete structure. No. 975,307; Nov. 8; Sp. p. 2778; Gaz. vol. 160; p. 449.
White, Hubert C., Fultonville, N. Y., and O. N. Wardwell, Clayville, R. I., assignors to White Mop Wringer Company, Fultonville, N. Y. Mop-wringer. No. 976,238; Nov. 22; Sp. p. 4766; Gaz. vol. 160; p. 816.
White, John F., Pittsburg, Pa. Electrical mechanical player for musical instruments. No. 975,187; Nov. 8; Sp. p. 2519; Gaz. vol. 160; p. 407.
White Mop Wringer Company. (See White and Wardwell, assignors.)
White, Rachel E., Pittsburg, Pa. Overshoe-fastener. No. 975,815; Nov. 15; Sp. p. 3839; Gaz. vol. 160; p. 647.
White, Rollin H., assignor to The White Company, Cleveland, Ohio. Producing and burning combustible hydrocarbon mixtures. No. 974,730; Nov. 1; Sp. p. 1475; Gaz. vol. 160; p. 227.
White, William, Chicago, Ill. Center-bearing. No. 976,326; Nov. 22; Sp. p. 4960; Gaz. vol. 160; p. 846.
White, William B., Cleveland, Ohio. Vault-head. No. 976,327; Nov. 22; Sp. p. 4965; Gaz. vol. 160; p. 846.
Whitehall, Samuel, South Bend, Ind. Seal for boxes. No. 974,940; Nov. 8; Sp. p. 1960; Gaz. vol. 160; p. 323.
Whitehead, Frank P., Balham, London, assignor to The Thornton-Pickard Manufacturing Company Limited, Altrincham, England. Photographic shutter. No. 976,712; Nov. 22; Sp. p. 5776; Gaz. vol. 160; p. 978.
Whitehead, Philip B., Stockport, assignor of one-half to The Fine Cotton Spinners and Doublers Association Limited, Manchester, England. Doubling-frame. No. 976,761; Nov. 22; Sp. p. 5892; Gaz. vol. 160; p. 995.
Whitney, Robert F., Winchester, Mass. Leather-wringing machine. No. 976,968; Nov. 29; Sp. p. 6398; Gaz. vol. 160; p. 1093.
Whitney, William A., Rockford, Ill. Mechanical movement. No. 975,591; Nov. 15; Sp. p. 3370; Gaz. vol. 160; p. 572.
Whittall, Matthew J. (See Pearsall, William, assignor.)
Whitty, Robert, Horicon, Wis., and E. Laas, Chicago, Ill. Railway weed-cutter. No. 974,452; Nov. 1; Sp. p. 861; Gaz. vol. 160; p. 127.
Wible, James A., Oakdale, Pa. Spring-wheel. No. 976,762; Nov. 22; Sp. p. 5893; Gaz. vol. 160; p. 995.
Widell, Magnus E. (See Wassman and Widell.)
Wiebe Engineering Company. (See Wiebe, Sigurd, assignor.)
Wiebe, Sigurd, Brooklyn, N. Y., assignor to Wiebe Engineering Company, New York, N. Y. Drying apparatus. No. 977,244; Nov. 29; Sp. p. 6994; Gaz. vol. 160; p. 1189.
Wiest, Peter C., York, Pa. Valve-remover. No. 977,245; Nov. 29; Sp. p. 6995; Gaz. vol. 160; p. 1189.
Wilber, Louisa M., Buffalo, N. Y. Water-motor. No. 974,221; Nov. 1; Sp. p. 261; Gaz. vol. 160; p. 44.
Wilbur, Lawrence H., assignor to H. O. Wilbur and Sons, Inc., Philadelphia, Pa. Wrapping-machine. No. 974,453; Nov. 1; Sp. p. 864; Gaz. vol. 160; p. 127.
Wilburn, William S., Simmons, Mo. Cultivator. No. 976,020; Nov. 15; Sp. p. 4235; Gaz. vol. 160; p. 718.
Wiler, Carl, Chicago, Ill., assignor, by mesne assignments, to General Electric Company. Means for measuring current in three-phase systems. No. 977,061; Nov. 29; Sp. p. 6585; Gaz. vol. 160; p. 1124.
Wilkerson, Thurston A., Bonham, Tex. Roof-climber. No. 974,941; Nov. 8; Sp. p. 1961; Gaz. vol. 160; p. 323.
Wilkins, Charles L., Columbus, Ohio. Motor. No. 976,763; Nov. 22; Sp. p. 5894; Gaz. vol. 160; p. 996.
Wilkins, Thomas M., East Randolph, N. Y., assignor to Ziermore Regulator Company, Johnsonburg, Pa. Valve-regulator. No. 975,915; Nov. 15; Sp. p. 4049; Gaz. vol. 160; p. 682.
Wilkins, Thomas M., East Randolph, N. Y., assignor to Ziermore Regulator Company, Johnsonburg, Pa. Valve-regulator. No. 976,713; Nov. 22; Sp. p. 5780; Gaz. vol. 160; p. 978.
Wilkinson, Theodore S., Jr. (See Affleck, Edward G., assignor.)
William Cramp & Sons Ship & Engine Building Company, The. (See Carr, Edward P., assignor.)
William, Thomas J., assignor of one-half to J. Martin, Washington, D. C. Chain or chain-link. No. 977,355; Nov. 29; Sp. p. 7209; Gaz. vol. 160; p. 1226.
Williams, Austin D., Roseville, Cal. Lubricator. No. 974,222; Nov. 1; Sp. p. 262; Gaz. vol. 160; p. 44.
Williams, Cyrus W., Turney, Mo. Plow-fender adjuster. No. 974,325; Nov. 1; Sp. p. 571; Gaz. vol. 160; p. 83.
Williams, David C., Arlington, Mass., assignor, by mesne assignments, to Woodenware Specialty Mfg. Co. Wall-rack. No. 976,110; Nov. 15; Sp. p. 4421; Gaz. vol. 160; p. 749.
Williams, Dennis F., Fruitvale, Tenn. Land-roller. No. 976,764; Nov. 22; Sp. p. 5899; Gaz. vol. 160; p. 996.
Williams, Edward R. (See Williams, Joseph, W. H., and E. R.)
Williams Foundry and Machine Company, The. (See Williams, John K., assignor.)
Williams, Frank W., Chicago, Ill. Picture-frame. No. 975,094; Nov. 8; Sp. p. 2292; Gaz. vol. 160; p. 375.
Williams, George H., Chicago, Ill. Ore-jig. No. 976,410; Nov. 22; Sp. p. 5176; Gaz. vol. 160; p. 879.
Williams, Guy V. (See Farkas, Karl, assignor.)
Williams, James A., Cincinnati, Ohio. Molding-machine. No. 976,530; Nov. 22; Sp. p. 5423; Gaz. vol. 160; p. 916.
Williams, John K., Akron, Ohio, assignor of one-half to The Williams Foundry and Machine Company. Quick-opening door for vulcanizers. No. 976,969; Nov. 29; Sp. p. 6400; Gaz. vol. 160; p. 1093.
Williams, John M. (See Duncan, Arthur T., assignor.)
Williams, Joseph, W. H., and E. R., Sharpsburg, Pa. Disinfector and deodorizer. No. 977,353; Nov. 29; Sp. p. 7205; Gaz. vol. 160; p. 1226.
Williams, Margaret B., Chicago, Ill. Chair. No. 975,188; Nov. 8; Sp. p. 2528; Gaz. vol. 160; p. 409.
Williams, Paul F., Chicago, Ill. Wire-connector. No. 976,111; Nov. 15; Sp. p. 4423; Gaz. vol. 160; p. 750.
Williams, Robert P., San Francisco, Cal. Electric railway. No. 977,354; Nov. 29; Sp. p. 7208; Gaz. vol. 160; p. 1226.
Williams, William E. (See Hawley, De Witt, assignor.)
Williams, William H. (See Williams, Joseph, W. H., and E. R.)
Williams, William J., St. Joseph, Mo. Pasting and trimming machine. No. 975,666; Nov. 15; Sp. p. 3556; Gaz. vol. 160; p. 598.
Williams, William J., Birmingham, Ala. Temporary fence. No. 976,714; Nov. 22; Sp. p. 5781; Gaz. vol. 160; p. 978.
Williams, William W., Indianapolis, Ind. Canopy for folding go-carts. No. 974,942; Nov. 8; Sp. p. 1962; Gaz. vol. 160; p. 323.
Williamson, Robert B., Milwaukee, Wis., assignor to Allis-Chalmers Company. Dynamo-electric machine. No. 976,420; Nov. 22; Sp. p. 5178; Gaz. vol. 160; p. 880.
Willits, Frederick E., assignor of one-fourth to W. M. Roop, Kansas City, Mo. Wire-fabric machine. No. 975,492; Nov. 15; Sp. p. 3147; Gaz. vol. 160; p. 537.
Willner, Sigmund, Chicago, Ill. Apparatus for impregnating timber. No. 976,715; Nov. 22; Sp. p. 5782; Gaz. vol. 160; p. 979.
Willock, Curtis M., *et al.*, executors. (See Kruse, Alfred T.)
Willour, Le Roy, assignor to The Ashland Manufacturing Company, Ashland, Ohio. Jack. No. 976,239; Nov. 22; Sp. p. 4768; Gaz. vol. 160; p. 817.
Wilson, Adoniram J., Westfield, N. J. Vehicle-tire. No. 975,816; Nov. 15; Sp. p. 3840; Gaz. vol. 160; p. 647.
Wilson, Charles R. (See Sylvester, Wilber A., assignor.)
Wilson, Charles W., Chicago, Ill. Portable force-drill. No. 974,454; Nov. 1; Sp. p. 874; Gaz. vol. 160; p. 128.
Wilson, James D., Webster Groves, Mo. Fountain-cuspidor. No. 975,308; Nov. 8; Sp. p. 2781; Gaz. vol. 160; p. 449.
Wilson, John H., Middlesex township, Cumberland county, Pa. Flying-machine. No. 976,765; Nov. 22; Sp. p. 5903; Gaz. vol. 160; p. 997.
Wilson, John T. (See Girt, Wilson, and Atkins.)
Wilson, Louis P., Cleveland, Ohio. Garment-hanger. No. 976,531; Nov. 22; Sp. p. 5427; Gaz. vol. 160; p. 917.
Wilson, Stephen G., Philadelphia, Pa. Broom-brace. No. 975,916; Nov. 15; Sp. p. 4050; Gaz. vol. 160; p. 682.
Wilson, Wilbur O., Chicago, Ill. Electric-cable joint. No. 975,502; Nov. 15; Sp. p. 3371; Gaz. vol. 160; p. 572.
Wilson, William H., New York, N. Y. Supporter for collars, &c. No. 975,493; Nov. 15; Sp. p. 3154; Gaz. vol. 160; p. 538.
Winans, Daniel M. (See Winans, Thomas J. and D. M.)
Winans Machine Company, The. (See Winans, Thomas J. and D. M., assignors.)
Winans, Thomas J. and D. M., assignors to The Winans Machine Company, Binghamton, N. Y. Cleaning apparatus. No. 975,095; Nov. 8; Sp. p. 2293; Gaz. vol. 160; p. 375.
Winkelman, Frederick B., Churdan, Iowa. Ditching-machine. No. 975,593; Nov. 15; Sp. p. 3372; Gaz. vol. 160; p. 573.
Winkler, John L., Dayton, Ohio. Life-saving apparatus. No. 976,240; Nov. 22; Sp. p. 4770; Gaz. vol. 160; p. 817.
Winne, Ernest, New York, N. Y. Door-knob. No. 976,328; Nov. 22; Sp. p. 4968; Gaz. vol. 160; p. 846.
Winston, Charles S., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone trunking system. No. 976,241; Nov. 22; Sp. p. 4772; Gaz. vol. 160; p. 817.
Wintzer, Rudolf, Milwaukee, Wis., assignor to Power and Mining Machinery Company, New York, N. Y. Engine-valve. No. 976,766; Nov. 22; Sp. p. 5906; Gaz. vol. 160; p. 997.
Winzer, Charles B., Tooting, London, England, assignor to E. P. Lehmann, Brandenburg-on-the-Havel, Germany. Spinning-top. No. 974,731; Nov. 1; Sp. p. 1477; Gaz. vol. 160; p. 228.
Wirt, Herbert C., Schenectady, N. Y., assignor to General Electric Company. Electric connecting device. No. 976,532; Nov. 22; Sp. p. 5428; Gaz. vol. 160; p. 917.
Wirth, Charles E., assignor to The Plume & Atwood Manufacturing Company, Waterbury, Conn. Match-box holder. No. 976,533; Nov. 22; Sp. p. 5430; Gaz. vol. 160; p. 917.

Wismer, Joseph B., Franconia, Pa. Axle-nut. No. 975,189; Nov. 8; Sp. p. 2529; Gaz. vol. 160; p. 409.
Wismer, Joseph B., Franconia, Pa. Axle-nut. No. 977,246; Nov. 29; Sp. p. 6996; Gaz. vol. 160; p. 1189.
Withrow, John F. D., Toronto, Ontario, Canada, assignor to Raymond Concrete Pile Company, New York, N. Y. Method of and sectional core for making concrete piling. No. 977,356; Nov. 29; Sp. p. 7210; Gaz. vol. 160; p. 1227.
Witten, Charles F., Norman, Okla. Stalk-cutter. No. 976,320; Nov. 22; Sp. p. 4969; Gaz. vol. 160; p. 847.
Witzel, Charles J. (See Luppino, Joseph, assignor.)
Woelfel, Ernest A. (See McKeen, Gordon, assignor.)
Woerner, Albert M., New York, assignor of one-half to F. Friederich, Brooklyn, N. Y., and one-half to Francis L. Bouquet, Edgewater, N. J. Sash-cord fastener. No. 977,247; Nov. 29; Sp. p. 6997; Gaz. vol. 160; p. 1190.
Wohlfahrt, John F., St. Louis, Mo. Aquarium. No. 976,242; Nov. 22; Sp. p. 4777; Gaz. vol. 160; p. 818.
Wolary, Wilbur W., Washington, Iowa. Ditching-tool. No. 976,970; Nov. 29; Sp. p. 6403; Gaz. vol. 160; p. 1094.
Wolf, Frank, Jr. (See Luki and Wolf.)
Wolfe, John G., New York, N. Y. Nut-lock and tightening device. No. 975,594; Nov. 15; Sp. p. 3374; Gaz. vol. 160; p. 573.
Wolfe, Leonard F., Weymouth, Mass. Hat-protector. No. 975,667; Nov. 15; Sp. p. 3558; Gaz. vol. 160; p. 598.
Wolff, August, New York, N. Y. Window. No. 976,534; Nov. 22; Sp. p. 5431; Gaz. vol. 160; p. 917.
Wolff, Friedrich, Pittsburg, Pa. Temporary binder. No. 976,421; Nov. 22; Sp. p. 5181; Gaz. vol. 160; p. 880.
Wolff, Raphael H., New York, N. Y. Jar or receptacle. No. 976,021; Nov. 15; Sp. p. 4236; Gaz. vol. 160; p. 718.
Wood, Frank W., Newport News, Va., assignor to C. Cory & Son, New York, N. Y. Illuminated announcement and display signal. No. 974,943; Nov. 8; Sp. p. 1964; Gaz. vol. 160; p. 324.
Wood, Henry A. W., assignor to Campbell Printing Press and Manufacturing Company, New York, N. Y. Offset-preventing device. No. 976,022; Nov. 15; Sp. p. 4237; Gaz. vol. 160; p. 718.
Wood, Henry A. W., assignor to Campbell Printing Press & Manufacturing Company, New York, N. Y. Stereotype-printing-plate-casting mechanism. No. 977,248; Nov. 29; Sp. p. 6998; Gaz. vol. 160; p. 1190.
Woodbury, George E., deceased, San Francisco, Cal.; A. M. Haines, administrator. Vehicle-wheel. No. 975,378; Nov. 8; Sp. p. 2922; Gaz. vol. 160; p. 471.
Woodcock, John C., Litchfield, Ill. Feed-mill. No. 976,535; Nov. 22; Sp. p. 5434; Gaz. vol. 160; p. 918.
Woodenware Specialty Mfg. Co. (See Williams, David C., assignor.)
Woodland, Frank O., Worcester, Mass. Feed-controlling means for labeling-machines. No. 974,326; Nov. 1; Sp. p. 573; Gaz. vol. 160; p. 84.
Woods, John E., and E. L. Harding, Sibley, Iowa. Loading apparatus. No. 975,917; Nov. 15; Sp. p. 4052; Gaz. vol. 160; p. 682.
Woods, Nelson T. (See Christofferson, Woods, and Jones.)
Woods, Robert, assignor of one-fourth to P. J. Mulloy, Grand Forks, N. D. Door. No. 974,327; Nov. 1; Sp. p. 575; Gaz. vol. 160; p. 84.
Woodward, Oscar, Montclair, assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine. No. 975,190; Nov. 8; Sp. p. 2530; Gaz. vol. 160; p. 409.
Woodward, Russel G., Waukegan, assignor to Union Special Sewing Machine Co., Chicago, Ill. Trimming mechanism for sewing-machines. No. 976,023; Nov. 15; Sp. p. 4239; Gaz. vol. 160; p. 719.
Wooll, John H., San Francisco, Cal. Electric switch. No. 976,422; Nov. 22; Sp. p. 5182; Gaz. vol. 160; p. 880.
Woolston, John T., Towcester, assignor to O. V. Forbes, London, England. Boot and shoe construction. No. 974,732; Nov. 1; Sp. p. 1477; Gaz. vol. 160; p. 228.
Woonsocket Machine and Press Company. (See Campbell, Malcolm, assignor.)
Worrall, Ulysses G., Philadelphia, Pa. Glass and cup washing apparatus. No. 974,944; Nov. 8; Sp. p. 1967; Gaz. vol. 160; p. 324.
Worthen, Burt L., assignor of one-half to M. P. Freeman, Tucson, Ariz. Furnace. No. 977,240; Nov. 29; Sp. p. 7002; Gaz. vol. 160; p. 1190.
Wouters, Alfred H., Norwood, Ohio, assignor to Allis-Chalmers Company and The Bullock Electric Manufacturing Company. Inclosed dynamo-electric machine. No. 977,250; Nov. 29; Sp. p. 7004; Gaz. vol. 160; p. 1191.
Wren, Patrick J., and F. T. Comee, Woonsocket, R. I. Apparatus for vulcanizing rubber boots and shoes. No. 975,309; Nov. 8; Sp. p. 2782; Gaz. vol. 160; p. 450.
Wrenn, Manleff J., High Point, N. C. Folding display stand or case. No. 975,096; Nov. 8; Sp. p. 2297; Gaz. vol. 160; p. 376.
Wright, Francis H., Los Angeles, Cal. Floor-surfacing machine. No. 976,716; Nov. 22; Sp. p. 5784; Gaz. vol. 160; p. 979.
Wright, Frederick K., Syracuse, N. Y. Bail for lanterns, &c. No. 975,817; Nov. 15; Sp. p. 3842; Gaz. vol. 160; p. 647.
Wright, James, Hamilton, Ontario, Canada. Railway-lantern. No. 977,251; Nov. 29; Sp. p. 7006; Gaz. vol. 160; p. 1191.
Wright, Joseph, Frodsham, England. Hinge. No. 975,097; Nov. 8; Sp. p. 2299; Gaz. vol. 160; p. 376.
Wright, Maurice E., San Diego, Cal. Toy parachute. No. 974,733; Nov. 1; Sp. p. 1479; Gaz. vol. 160; p. 228.
Wright, William H., and E. A. Powell, Findlay, Ohio. Game-board. No. 975,009; Nov. 8; Sp. p. 2126; Gaz. vol. 160; p. 346.
Wright, William J., Franklin, Pa. Explosive-engine. No. 974,455; Nov. 1; Sp. p. 875; Gaz. vol. 160; p. 128.
Wuelser, Gottlieb, New Kensington, Pa. Lock for switches. No. 975,918; Nov. 15; Sp. p. 4054; Gaz. vol. 160; p. 683.
Wulff, Herman A., St. Paul, Minn. Penholder. No. 975,191; Nov. 8; Sp. p. 2540; Gaz. vol. 160; p. 409.
Wurts, Alexander J., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Lightning-arrester. No. 974,223; Nov. 1; Sp. p. 265; Gaz. vol. 160; p. 44.
Wyckoff, Seamans & Benedict. (See Roche, William J., assignor.)
Wyman, Charles A., assignor of one-half to W. C. Emmerson, Gaston, Oreg. Animal-trap. No. 975,098; Nov. 8; Sp. p. 2301; Gaz. vol. 160; p. 377.
Yale, George C., Boynton, Okla. Crude-oil burner. No. 975,740; Nov. 15; Sp. p. 3691; Gaz. vol. 160; p. 622.
Yale & Towne Manufacturing Company, The. (See Augenbraun, Peter F., assignor.)
Yale & Towne Manufacturing Company, The. (See Clermont, John B., assignor.)
Yarborough, Charles M., Savannah, Ga. Fireplace fender and screen. No. 976,767; Nov. 22; Sp. p. 5908; Gaz. vol. 160; p. 997.
Yassenoff, Isidor, assignor to The Swash Motor Washer Company, Columbus, Ohio. Motor-mounting for washing-machines. No. 975,919; Nov. 15; Sp. p. 4057; Gaz. vol. 160; p. 683.
Yaw, Clio B., Arlington, N. J., assignor to Remington Typewriter Company, Ilion, N. Y. Type-writing machine. No. 975,099; Nov. 8; Sp. p. 2303; Gaz. vol. 160; p. 377.
Yaw, Clio B., Arlington, N. J., assignor to Remington Typewriter Company, Ilion, N. Y. Type-writing machine. No. 975,100; Nov. 8; Sp. p. 2307; Gaz. vol. 160; p. 377.
Yaw, Clio B., Arlington, N. J., assignor to Remington Typewriter Company, Ilion, N. Y. Type-writing machine. No. 975,101; Nov. 8; Sp. p. 2311; Gaz. vol. 160; p. 378.
Ybarrondo, Vincent C. de, Los Angeles, Cal. Removable nail. No. 975,310; Nov. 8; Sp. p. 2784; Gaz. vol. 160; p. 450.
Yoch, Frank, Claytonia, Pa. Rail bending and straightening device. No. 975,192; Nov. 8; Sp. p. 2541; Gaz. vol. 160; p. 409.
Yoder, John L., Bellefontaine, Ohio. Automatic traction-switch. No. 974,619; Nov. 1; Sp. p. 1234; Gaz. vol. 160; p. 190.
Yoder, William B., Pittsburg, Pa. Antiskidding tire. No. 976,971; Nov. 29; Sp. p. 6404; Gaz. vol. 160; p. 1094.
Yoho, James F., D. O'Neil, Sharon, and J. L. Kiester, Kiester, Pa. Railway-switch. No. 975,595; Nov. 15; Sp. p. 3376; Gaz. vol. 160; p. 573.
Yost Gearless Motor Company, The. (See Yost, Henry W., assignor.)
Yost, Henry W., assignor to The Yost Gearless Motor Company, Springfield, Ohio. Water-motor. No. 976,972; Nov. 29; Sp. p. 6406; Gaz. vol. 160; p. 1094.
Yost Writing Machine Company. (See Smith, Arthur W., assignor.)
Yost Writing Machine Company. (See Wallace, Casper D., assignor.)
Young, Amps P., Cave City, Ky. Soil-sterilizing furnace. No. 976,768; Nov. 22; Sp. p. 5909; Gaz. vol. 160; p. 908.
Young Construction Co. (See Glaze, Herbert L., assignor.)
Young, Courtland, Evansford, Lexton, Victoria, Australia. Collar for draft-animals. No. 975,920; Nov. 15; Sp. p. 4058; Gaz. vol. 160; p. 683.
Young, Edward T. (See Cavanaugh and Young.)
Young, Horace G., Joppa, Ky. Egg-stamp. No. 975,010; Nov. 8; Sp. p. 2127; Gaz. vol. 160; p. 346.
Young, John W., Zanesville, Ohio. Apparatus for decorating tiles, &c. No. 975,921; Nov. 15; Sp. p. 4059; Gaz. vol. 160; p. 684.
Young, Leonard A., Detroit, Mich. Spring-attaching clip. No. 976,973; Nov. 29; Sp. p. 6408; Gaz. vol. 160; p. 1095.
Young, Lucious W., Tonawanda, assignor of one-fourth to J. T. Kinney and one-fourth to W. J. Kinney, Buffalo, N. Y. Hatch-fastener. No. 976,974; Nov. 29; Sp. p. 6409; Gaz. vol. 160; p. 1095.
Young, Robert, Fitchburg, Mass. Shoe-polishing footrest. No. 974,847; Nov. 8; Sp. p. 1736; Gaz. vol. 160; p. 290.
Young, Robert J. (See Meyer and Young.)
Young, William W., Springfield, Mass. Acoustic diaphragm. No. 975,596; Nov. 15; Sp. p. 3377; Gaz. vol. 160; p. 574.
Young, William W., Springfield, Mass. Making diaphragms for talking-machines. No. 975,668; Nov. 15; Sp. p. 3559; Gaz. vol. 160; p. 598.
Zagelmeyer, Frank, Bay City, Mich. Brick-ejecting mechanism. No. 976,243; Nov. 22; Sp. p. 4780; Gaz. vol. 160; p. 818.
Zarembowitz, Abraham and C., New York, N. Y. Jeweler's and dentist's burner. No. 976,112; Nov. 15; Sp. p. 4425; Gaz. vol. 160; p. 750.
Zarembowitz, Charles. (See Zarembowitz, Abraham and C.)

Zeglen, Casimir, Chicago, Ill., assignor to C. A. Daniel, Philadelphia, Pa. Tire-reinforcing fabric and making same. No. 977,357; Nov. 29; Sp. p. 7227; Gaz. vol. 160; p. 1227.
Zehner, Ernest R., Toledo, Ohio. Belly-rolling machine. No. 976,113; Nov. 15; Sp. p. 4428; Gaz. vol. 160; p. 750.
Zellweger, John, St. Louis, Mo. Annular ore-roasting kiln. No. 976,769; Nov. 22; Sp. p. 5911; Gaz. vol. 160; p. 998.
Zeugschmidt, Sophia, Pittsburg, Pa. Clasp. No. 975,102; Nov. 8; Sp. p. 2314; Gaz. vol. 160; p. 378.
Ziegler, Edward E., Philadelphia, Pa. Massage-machine. No. 976,423; Nov. 22; Sp. p. 5184; Gaz. vol. 160; p. 880.
Zierath, Augustus C., Los Angeles, Cal. Extension-crank. No. 977,252; Nov. 29; Sp. p. 7007; Gaz. vol. 160; p. 1191.
Ziermore Regulator Company. (See Wilkins, Thomas M., assignor.)
Ziesing, August. (See Bryant and Ziesing.)
Zikmund, Adolph, Ord, Nebr. Portable elevator. No. 975,597; Nov. 15; Sp. p. 3379; Gaz. vol. 160; p. 574.
Zilen, Victor W. (See Leighton and Zilen.)
Zimmerman, Harry. (See Bartholomae, William, assignor.)
Ziron, Paul, New York, N. Y. Railway system. No. 975,103; Nov. 8; Sp. p. 2315; Gaz. vol. 160; p. 378.
Zirwas, Henry, Yonkers, N. Y. Lamp-reflector. No. 975,669; Nov. 15; Sp. p. 3562; Gaz. vol. 160; p. 599.

ALPHABETICAL LIST OF PATENTEES OF DESIGNS.

A. H. Heisey & Co. (See Sanford, Andrew J., assignor.)
Abram Cox Stove Company. (See Van Buren, Jafew S., assignor.)
Barrett, Charles F. (See Baxter and Barrett.)
Baxter, Irving K., Utica, N. Y., and C. F. Barrett, Springfield, Mass., assignors to The Standard Vacuum Cleaner Company, Bridgeport, Conn. Casing for portable suction cleaning apparatus. No. 41,007; Nov. 29; Gaz. vol. 160; p. 1253.
Berry, George H., Shelton, assignor to International Silver Company, Meriden, Conn. Back for mirrors, brushes, or similar toilet articles. Nos. 40,960–1; Nov. 1; Gaz. vol. 160; p. 243.
Bessiere, Louis. (See Gredelue, Adrien, assignor.)
Bigney, Harold O., assignor to S. O. Bigney, Attleboro, Mass. Brush-back and mirror. No. 40,989; Nov. 15; Gaz. vol. 160; p. 760.
Bigney, Sidney O. (See Bigney, Harold O., assignor.)
Bigney, Sidney O., Attleboro, Mass. Safety-fob and vinaigrette. No. 40,987; Nov. 15; Gaz. vol. 160; p. 760.
Birkin, Charles W., Nottingham, England. Levers lace. Nos. 41,016–19; Nov. 29; Gaz. vol. 160; pp. 1255–6.
Blankenmeister, Arthur A., St. Louis, Mo. Plate or similar article. No. 40,963; Nov. 1; Gaz. vol. 160; p. 244.
Blount, Nelson, assignor to United Lamp and Burner Company, New York, N. Y. Lamp. No. 41,004; Nov. 29; Gaz. vol. 160; p. 1252.
Boydell Bros. White Lead & Color Co., The. (See Furste, Henry, assignor.)
Buchmiller, Dulon F., and E. Schwarz, Lancaster, Pa., assignors to The Safe Padlock and Hardware Company. Hat and coat hanger. No. 41,006; Nov. 29; Gaz. vol. 160; p. 1253.
Catlin, Charles P., Duluth, Minn. Handle for alarm-clocks. No. 40,972; Nov. 8; Gaz. vol. 160; p. 477.
Cleff, Robert C. vom, Hoboken, N. J. Handle for pocket-knives. No. 40,998; Nov. 29; Gaz. vol. 160; p. 1251.
D. H. Burrell & Company. (See Hoyt, Matthew L., assignor.)
Davids, Joseph, assignor to Phillips & Clark Stove Co., Geneva, N. Y. Stove. No. 40,964; Nov. 1; Gaz. vol. 160; p. 244.
Elliot, William A., Yonkers, N. Y. Carpet. No. 41,014; Nov. 29; Gaz. vol. 160; p. 1255.
English, John C., Camden, N. J., assignor to Victor Talking Machine Company. Talking-machine cabinet. No. 41,008; Nov. 29; Gaz. vol. 160; p. 1253.
Ernst & Co., Carl. (See Evans, Evan A., assignor.)
Evans, Evan A., Chicago, Ill., assignor to C. Ernst & Co., New York, N. Y. Picture-mount. Nos. 40,974–7; Nov. 8; Gaz. vol. 160; p. 478.
Everest, David C., Wausau, Wis., assignor to Marathon Paper Mills Company. Wrapping-paper. No. 40,992; Nov. 15; Gaz. vol. 160; p. 761.
Fishel, Henry W., assignor to Fishel, Nessler & Company, New York, N. Y. Jewelry ornament. No. 40,988; Nov. 15; Gaz. vol. 160; p. 760.
Fishel, Nessler & Company. (See Fishel, Henry W., assignor.)
Foster, John R., Arlington, Mass. Frame for pictures, mirrors, or similar articles. No. 40,994; Nov. 22; Gaz. vol. 160; p. 1024.
Foster, John R., Arlington, Mass. Frame for mirrors, pictures, or similar articles. No. 41,003; Nov. 29; Gaz. vol. 160; p. 1252.
Frank Wood Manufacturing Company. (See Hinchliffe, William, assignor.)
Furste, Henry, Cincinnati, Ohio, assignor to The Boydell Bros. White Lead & Color Co., Detroit, Mich. Label-blank. No. 40,959; Nov. 1; Gaz. vol. 160; p. 243.
Gair, Robert, New York, N. Y. Dolly. Nos. 41,020–1; Nov. 29; Gaz. vol. 160; p. 1256.
Gardiner, William H., New York, N. Y. Lamp-casing. No. 40,995; Nov. 22; Gaz. vol. 160; p. 1024.
Germin, Joseph, Chicago, Ill. Electric table decoration. No. 41,010; Nov. 29; Gaz. vol. 160; p. 1254.
Gredelue, Adrien, New York, N. Y., assignor to L. Bessiere, Paris, France. Drinking vessel. No. 40,999; Nov. 29; Gaz. vol. 160; p. 1251.
Hails, Daniel T., Montgomery, Ala. Doll. No. 41,022; Nov. 29; Gaz. vol. 160; p. 1256.
Harper, Thomas, Union Hill, N. J. License-panel bracket-arm for automobiles. No. 40,984; Nov. 8; Gaz. vol 160; p. 480.
Hawkes, Thomas G., Corning, N. Y. Glass vessel or similar article. No. 41,000; Nov. 29; Gaz. vol. 160; p. 1251.
Henderson, Alexander, assignor to Manhattan Rubber Manufacturing Company, Passaic, N. J. Mat. No. 41,013; Nov. 29; Gaz. vol. 160; p. 1255.
Hick, Ernest, Pittsfield, Mass. Unitary chair and table. No. 41,011; Nov. 29; Gaz. vol. 160; p. 1254.
Hill, Eugene H., assignor to Robert Carson & Sons, Philadelphia, Pa. Rug. No. 40,993; Nov. 15; Gaz. vol. 160; p. 761.
Hinchliffe, William, Valley Falls, R. I., assignor to Frank Wood Manufacturing Company. Trimming. No. 40,966; Nov. 1; Gaz. vol. 160; p. 244.
Hoyt, Matthew L., assignor to D. H. Burrell & Company, Little Falls, N. Y. Frame for centrifugal machines. No. 41,009; Nov. 29; Gaz. vol. 160; p. 1254.
International Silver Co. (See Strohhaker, Gustav, assignor.)
International Silver Company. (See Berry, George H., assignor.)
Jefferson Glass Company. (See Schnelbach, Harry A., assignor.)
Jenks, Barton P., assignor to Wm. B. Durgin Co., Concord, N. H. Handle for spoons, forks, or similar articles. No. 40,971; Nov. 8; Gaz. vol. 160; p. 477.
Killian, Lorenz, Brooklyn, assignor to Palmer & Embury Mfg. Co., New York, N. Y. Chair. No. 41,012; Nov. 29; Gaz. vol. 160; p. 1454.
Lane, John W., Newark, assignor to Supreme Court of the Foresters of America, Jersey City, N. J. Emblem. No. 40,996; Nov. 29; Gaz. vol. 160; p. 1251.
Lowe, Thaddeus. (See Minier and Lowe.)
Manhattan Rubber Manufacturing Company. (See Henderson, Alexander, assignor.)
Marathon Paper Mills Company. (See Everest, David C., assignor.)
Miller, John J., Newark, N. J. Plate or similar article. No. 40,973; Nov. 8; Gaz. vol. 160; p. 477.
Milligan, George, Davenport, Iowa. Pincushion. No. 40,965; Nov. 1; Gaz. vol. 160; p. 244.
Minier, George H., and T. Lowe, South Pasadena, Cal. Heater-casing. Nos. 40,979–81; Nov. 8; Gaz. vol. 160; p. 479.
Mulligan, Jennie S. (See Mulligan, Mary A. and J. S.)
Mulligan, Mary A. and J. S., St. Paul, Minn. Apron. No. 40,967; Nov. 1; Gaz. vol. 160; p. 244.
Palmer & Embury Mfg. Co. (See Killian, Lorenz, assignor.)
Phillips & Clark Stove Co. (See Davids, Joseph, assignor.)
Pilon, Paul, Chicago, Ill. Post for furniture or similar articles. No. 40,983; Nov. 8; Gaz. vol. 160; p. 480.
Ripley & Company. (See Ripley and Schmunk, assignors.)
Ripley, Daniel C., and C. E. Schmunk, assignors to Ripley & Company, Pittsburg, Pa. Jar. Nos. 41,001–2; Nov. 29; Gaz. vol. 160; p. 1252.
Robert Carson & Sons. (See Hill, Eugene H., assignor.)
Safe Padlock and Hardware Company, The. (See Buchmiller and Schwartz, assignors.)
Samstag, Henry F., New York, N. Y. Doll. No. 40,986; Nov. 8; Gaz. vol. 160; p. 480.
Sanford, Andrew J., assignor to A. H. Heisey & Co., Inc., Newark, Ohio. Light-shade. No. 40,978; Nov. 8; Gaz. vol. 160; p. 479.
Schickerling, Alfred, New York, N. Y. Badge. No. 40,968; Nov. 8; Gaz. vol. 160; p. 477.
Schmunk, Charles E. (See Ripley and Schmunk.)
Schnelbach, Harry A., Crafton, Pa., assignor to Jefferson Glass Company, Follansbee, W. Va. Lamp-shade. No. 41,005; Nov. 29; Gaz. vol. 160; p. 1253.
Schwarz, Ernest. (See Buchmiller and Schwarz.)
Shepard, Harry W., New York, N. Y. Medal or similar article. No. 40,969; Nov. 8; Gaz. vol. 160; p. 477.
Spring, William A., New York, N. Y. Carpet. No. 41,015; Nov. 29; Gaz. vol. 160; p. 1255.
Standard Vacuum Cleaner Company, The. (See Baxter and Barrett, assignors.)
Stecker, Alfred J., assignor to F. Wardell, Detroit, Mich. Casing for pneumatic cleaning-machines. No. 40,982; Nov. 8; Gaz. vol. 160; p. 479.
Steimer, Theodore C., Pittsburg, Pa. Glass dish. No. 40,990; Nov. 15; Gaz. vol. 160; p. 760.
Strohhaker, Gustav, Wallingford, assignor to International Silver Co., Meriden, Conn. Spoon, fork, or similar article. No. 40,997; Nov. 29; Gaz. vol. 160; p. 1251.
Supreme Court of the Foresters of America. (See Lane, John W., assignor.)
Travis, John M., St. Louis, Mo. Dispensing-font. No. 40,985; Nov. 8; Gaz. vol. 160; p. 480.
Turner, George L., Taunton, Mass. Back of hair-brushes or similar articles. No. 40,970; Nov. 8; Gaz. vol. 160; p. 477.
United Lamp and Burner Company. (See Blount, Nelson, assignor.)
Van Buren, Jafew S., Albany, N. Y., assignor to Abram Cox Stove Company, Philadelphia, Pa. Heating-stove. No. 40,962; Nov. 1; Gaz. vol. 160; p. 243.
Victor Talking Machine Company. (See English, John C., assignor.)
Wardell, Fred. (See Stecker, Alfred J., assignor.)
Welles, Richard H., Kenosha, Wis. Headlight. No. 40,991; Nov. 15; Gaz. vol. 160; p. 760.
Wm. B. Durgin Co. (See Jenks, Barton P., assignor.)

ALPHABETICAL LIST OF REGISTRANTS OF TRADE-MARKS.

A. G. Spalding & Bros., Jersey City, N. J., and New York, N. Y. Golf-balls. No. 80,244; Nov. 22; Gaz. vol. 160; p. 1034.

Acker, Merrall & Condit Company, New York, N. Y. Certain foods. No. 80,165; Nov. 16; Gaz. vol. 160; p. 769.

Adams, Byron S., Washington, D. C. Certain printed matter. No. 80,015; Nov. 1; Gaz. vol. 160; p. 253.

Adams & Elting Company, Chicago, Ill. Polishes. No. 80,203; Nov. 22; Gaz. vol. 160; p. 1033.

Akin-Erskine Milling Company, Evansville, Ind. Self-rising flour. No. 80,100; Nov. 8; Gaz. vol. 160; p. 489.

Albert Mackie Grocer Company, Ltd., New Orleans, La. Certain foods. No. 80,232; Nov. 22; Gaz. vol. 160; p. 1033.

Alfalfa Milling Company, Hobart, Okla. Horse feed. No. 80,259; Nov. 29; Gaz. vol. 160; p. 1267.

Alliance Clay Product Company, The, Alliance, Ohio. Paving-blocks. No. 80,016; Nov. 1; Gaz. vol. 160; p. 253.

American Bank Note Company, New York, N. Y. Playing-cards. No. 80,204; Nov. 22; Gaz. vol. 160; p. 1033.

American Coffee Co. of New Orleans Ltd., New Orleans, La. Teas. No. 80,017; Nov. 1; Gaz. vol. 160; p. 253.

American Hominy Company, Indianapolis, Ind. Wheat-flour. No. 80,260; Nov. 29; Gaz. vol. 160; p. 1267.

Andrews Shoe Company, The, Columbus, Ohio. Leather shoes. No. 80,261; Nov. 29; Gaz. vol. 160; p. 1267.

Antrim & Sons, C. W., Richmond, Va. Vinegar. No. 80,262; Nov. 29; Gaz. vol. 160; p. 1267.

Armstrong Packing Company, Dallas, Tex. Soap. No. 80,263; Nov. 29; Gaz. vol. 160; p. 1267.

Asch, Frederick, San Francisco, Cal. Remedy for certain diseases. No. 80,018; Nov. 1; Gaz. vol. 160; p. 253.

Ashland Brewing Co., Ashland, Wis. Beer. No. 80,264; Nov. 29; Gaz. vol. 160; p. 1267.

Atlantic Export Company, New York, N. Y. Dried brewers' grain. No. 80,166; Nov. 15; Gaz. vol. 160; p. 769.

Atlantic Refining Company, Philadelphia, Pa. Refined petroleum. Nos. 80,019–20; Nov. 1; Gaz. vol. 160; p. 253.

Avey Humane Feed Bag Company, San Francisco, Cal. Feed-bags. No. 80,021; Nov. 1; Gaz. vol. 160; p. 253.

Barclay & Barclay, New York, N. Y. Soap. No. 80,022; Nov. 1; Gaz. vol. 160; p. 253.

Barth, John M., East St. Louis, Ill. Furniture-polish. No. 80,205; Nov. 22; Gaz. vol. 160; p. 1033.

Beals & Torrey Shoe Co., Milwaukee, Wis. Leather, rubber, and canvas boots and shoes. No. 80,101; Nov. 8; Gaz. vol. 160; p. 489.

Bentel, William C., New York, N. Y. Beer. No. 80,167; Nov. 15; Gaz. vol. 160; p. 769.

Bercovich, Bert, Oakland, Cal. Cigars. No. 80,023; Nov. 1; Gaz. vol. 160; p. 253.

Bishop, Robert, trustee, Boston, Mass. Cotton lamp-wicking. No. 80,206; Nov. 22; Gaz. vol. 160; p. 1033.

Black, Ross W., Pittsburg, Pa. Perfume and toilet water. No. 80,103; Nov. 8; Gaz. vol. 160; p. 489.

Black Silk Stove Polish Works, Sterling, Ill. Iron-enamel. No. 80,104; Nov. 8; Gaz. vol. 160; p. 489.

Blackwell-Wielandy Book & Stationery Co., St. Louis, Mo. Lead-pencils. No. 80,027; Nov. 1; Gaz. vol. 160; p. 253.

Blanckenhagen, Otto G. von, Hinsenberg, Russia. Kümmel. No. 80,029; Nov. 1; Gaz. vol. 160; p. 253.

Bleecker & Simons, New York, N. Y. Teas, blended coffee, and spices. No. 80,168; Nov. 15; Gaz. vol. 160; p. 769.

Bowers Rubber Works, San Francisco, Cal. Rubber belts and hose. No. 80,106; Nov. 8; Gaz. vol. 160; p. 489.

Bradley, Francis W., assignor to F. W. Bradley Co., Inc., San Diego, Cal. Blended whisky. No. 80,028; Nov. 1; Gaz. vol. 160; p. 253.

Brandon-Magnus Co., New York, N. Y. Handkerchiefs. Nos. 80,030–1; Nov. 1; Gaz. vol. 160; p. 253.

Breitung, Albert, Chicago, Ill. Cigars. No. 80,169; Nov. 15; Gaz. vol. 160; p. 769.

Broad River Granite Company, Atlanta, Ga. Rough granite. No. 80,265; Nov. 29; Gaz. vol. 160; p. 1267.

Brown Durrell Co., Boston, Mass. Children's underclothing. No. 80,266; Nov. 29; Gaz. vol. 160; p. 1267.

Buckeye Incubator Company, Springfield, Ohio. Incubators, brooders, and portable poultry-houses. No. 80,170; Nov. 15; Gaz. vol. 160; p. 769.

Building Brick Association of America, New York, N. Y. Printed books, pamphlets, cards, &c. No. 80,171; Nov. 15; Gaz. vol. 160; p. 769.

Burchell, Norval L., Washington, D. C. Tea. No. 80,208; Nov. 22; Gaz. vol. 160; p. 1033.

Burnham Hanna Munger D G Co., Kansas City, Mo. Ladies' waists and skirts. No. 80,172; Nov. 15; Gaz. vol. 160; p. 769.

Caddell Polish Company, Ilion, N. Y. Piano and furniture polish. No. 80,032; Nov. 1; Gaz. vol. 160; p. 253.

California Fruit Canners Association, San Francisco, Cal. Canned fruits. No. 80,173; Nov. 15; Gaz. vol. 160; p. 769.

California Fruit Canners Association, San Francisco, Cal. Canned fruits and raisins. No. 80,209; Nov. 22; Gaz. vol. 160; p. 1033.

Camp, Samuel H., Jackson, Mich. Certain clothing. No. 80,033; Nov. 1; Gaz. vol. 160; p. 253.

Cataract Refining and Manufacturing Company, Buffalo, N. Y. Lubricating and yarn grease. No. 80,268; Nov. 29; Gaz. vol. 160; p. 1267.

Cavagnaro & Co., F. L., New York, N. Y. Machine-belt dressing. No. 80,034; Nov. 1; Gaz. vol. 160; p. 253.

Charles H. Besly & Company, Chicago, Ill. Abrasive disks. No. 80,026; Nov. 1; Gaz. vol. 160; p. 253.

Charles H. Besly & Company, Chicago, Ill. Grease-cups, disk wheels, and taps. No. 80,102; Nov. 8; Gaz. vol. 160; p. 489.

Charles H. Thuner Furniture & Carpet Co., St. Louis, Mo. Certain furniture. No. 80,250; Nov. 22; Gaz. vol. 160; p. 1034.

Chattanooga Paint Co., Chattanooga, Tenn. Red metallic paints. No. 80,269; Nov. 29; Gaz. vol. 160; p. 1267.

Chicago Sporting Goods Mfg. Co., Chicago, Ill. Base-ball gloves. No. 80,107; Nov. 8; Gaz. vol. 160; p. 489.

Cincinnati Sheet Metal & Roofing Company, The, Cincinnati, Ohio. Composition roofing. No. 80,210; Nov. 22; Gaz. vol. 160; p. 1033.

Clemens, Daniel, Fort Wayne, Ind. Whisky. Nos. 80,211–14; Nov. 22; Gaz. vol. 160; p. 1033.

Clinton Wire Cloth Company, Clinton, Mass. Wire-cloth. No. 80,215; Nov. 22; Gaz. vol. 160; p. 1033.

Clinton Wire Cloth Company, Clinton, Mass. Wire-netting. No. 80,216; Nov. 22; Gaz. vol. 160; p. 1033.

Clinton Wire Cloth Company, Clinton, Mass. Wire-cloth. No. 80,217; Nov. 22; Gaz. vol. 160; p. 1033.

Coast Products Company, The, St. Louis, Mo. Canned, preserved, and dried fruits and canned vegetables. No. 80,035; Nov. 1; Gaz. vol. 160; p. 253.

Cobb, John P., Chicago, Ill. Chocolate-covered biscuits. No. 80,174; Nov. 15; Gaz. vol. 160; p. 769.

Coe-Stapley Manufacturing Company, The, Bridgeport, Conn. Compound hand-pumps. No. 80,036; Nov. 1; Gaz. vol. 160; p. 253.

Colloseus Cement Company, New York, N. Y. Hydraulic cement. No. 80,218; Nov. 22; Gaz. vol. 160; p. 1033.

Compañia General de Tabacos de Filipinas, Barcelona, Spain. Cigars. Nos. 80,037–40; Nov. 1; Gaz. vol. 160; p. 253.

Connolly & Slaven, Galesburg, Ill. Vermin-exterminating preparations. No. 80,219; Nov. 22; Gaz. vol. 160; p. 1033.

Continental Fruit Packing Co., London, England. Canned fruits and vegetables. Nos. 80,108–9; Nov. 8; Gaz. vol. 160; p. 489.

Cortés, Rafael, Lampazos, Mexico. Liniment. No. 80,175; Nov. 15; Gaz. vol. 160; p. 769.

Cravenette Company, Limited, Bradford, England. Hats and caps. No. 80,270; Nov. 29; Gaz. vol. 160; p. 1267.

Crocker-McElwain Company, Holyoke, Mass. Writing-paper. No. 80,271; Nov. 29; Gaz. vol. 160; p. 1267.

Crown-Columbia Pulp and Paper Co., San Francisco, Cal. Wrapping-paper. No. 80,110; Nov. 8; Gaz. vol. 160; p. 489.

Deerlick Oil Stone Company, The, Chagrin Falls, Ohio. Certain kinds of stones and razor-hones. No. 80,220; Nov. 22; Gaz. vol. 160; p. 1033.

Déon, Camille, Sens, France. Hare and rabbit skins. No. 80,041; Nov. 1; Gaz. vol. 160; p. 253.

Dermato Salve Co., The, Columbus, Ohio. Salves. No. 80,111; Nov. 8; Gaz. vol. 160; p. 489.

Diehlenn Manufacturing Co., The, Massillon, Ohio. Petticoats and underskirts. No. 80,176; Nov. 15; Gaz. vol. 160; p. 769.

Dimitroff, Streso, Steelton, Pa. Bread. No. 80,042; Nov. 1; Gaz. vol. 160; p. 253.

Dormant Sod Company, Chicago, Ill. Mixture of grass seed and manure. No. 80,112; Nov. 8; Gaz. vol. 160; p. 489.

Dr. J. F. True & Co., Inc., Auburn, Me. Vermifuge and remedies for certain diseases. No. 80,092; Nov. 1; Gaz. vol. 160; p. 253.

Duff & Sons, P., Pittsburg, Pa. Canned sardines. No. 80,043; Nov. 1; Gaz. vol. 160; p. 253.

E. Kirstein's Sons Company, Rochester, N. Y. Lenses. No. 80,282; Nov. 29; Gaz. vol. 160; p. 1267.

E. I. du Pont de Nemours Powder Company, Hoboken, N. J., and Wilmington, Del. Smokeless powder. No. 80,044; Nov. 1; Gaz. vol. 160; p. 253.

Eleto Company, New York, N. Y. Dentifrice and antiseptic. No. 80,272; Nov. 29; Gaz. vol. 160; p. 1267.
Engelhard, Amelia M., Waterloo, Iowa. Advertising-signs. No. 80,113; Nov. 8; Gaz. vol. 160; p. 489.
Enterprise Jewelry Co., Attleboro, Mass. Hat, stick, and beauty pins and cuff-links. No. 80,045; Nov. 1; Gaz. vol. 160; p. 253.
Estate Stove Co., The, Hamilton, Ohio. Stoves. No. 80,273; Nov. 29; Gaz. vol. 160; p. 1267.
Eureka Spring Company, New York, N. Y. Athletic exercisers. No. 80,274; Nov. 29; Gaz. vol. 160; p. 1267.
Evans Sons Lescher & Webb Limited, Liverpool, England. Lime-fruit juice. No. 80,046; Nov. 1; Gaz. vol. 160; p. 253.
Excelsior Quilting Company, New York, N. Y. Bed-mattress protectors. No. 80,221; Nov. 22; Gaz. vol. 160; p. 1033.
F. Berg & Co., Orange Valley, N. J., and New York, N. Y. Soft and stiff felt hats for men. No. 80,024; Nov. 1; Gaz. vol. 160; p. 253.
F. W. Bradley Co. (See Bradley, Francis W., assignor.)
Fairchild Bros. & Foster, New York, N. Y. Glycolytic extract of pancreas. No. 80,114; Nov. 8; Gaz. vol. 160; p. 489.
Farbwerke vorm. Meister Lucius & Brüning, Höchst-on-the-Main, Germany. Remedy for certain diseases. No. 80,115; Nov. 8; Gaz. vol. 160; p. 489.
Feroud, Jules, New York, N. Y. Hair-tonic and scalp or skin remedy. No. 80,116; Nov. 8; Gaz. vol. 160; p. 489.
Fillmore Citrus Fruit Association, Fillmore, Cal. Oranges and lemons. No. 80,178; Nov. 15; Gaz. vol. 160; p. 769.
Fisher Governor Company, The, Marshalltown, Iowa. Certain machinery and parts thereof. No. 80,117; Nov. 8; Gaz. vol. 160; p. 489.
Ford Manufacturing Company, Chicago, Ill. Prepared rubber roofings. No. 80,275; Nov. 29; Gaz. vol. 160; p. 1267.
Fort Stanwix Canning Company, Rome, N. Y. Canned fruits and vegetables. No. 80,276; Nov. 29; Gaz. vol. 160; p. 1267.
Foster, Caldarera & Co., Fort Smith, Ark. Coffee. No. 80,179; Nov. 15; Gaz. vol. 160; p. 769.
Francis H. Leggett & Co., New York, N. Y. Parlor-matches. No. 80,067; Nov. 1; Gaz. vol. 160; p. 254.
Francis H. Leggett & Co., New York, N. Y. Borax. No. 80,068; Nov. 1; Gaz. vol. 160; p. 254.
Francis H. Leggett & Co., New York, N. Y. Biscuit. No. 80,132; Nov. 8; Gaz. vol. 160; p. 490.
Francis H. Leggett & Co., New York, N. Y. Crackers and biscuit. No. 80,133; Nov. 8; Gaz. vol. 160; p. 490.
Francis H. Leggett & Co., New York, N. Y. Condensed milk and honey and white rolled oats. No. 80,134; Nov. 8; Gaz. vol. 160; p. 490.
Francis H. Leggett & Co., New York, N. Y. Cassava-cakes, plum-pudding, and clam-chowder. No. 80,135; Nov. 8; Gaz. vol. 160; p. 490.
Fred L. Kimball Company, Waterloo, Iowa. Periodical publication. No. 80,128; Nov. 8; Gaz. vol. 160; p. 489.
Fries & Bro., Alex., Cincinnati, Ohio. Artificial flavors and essences. No. 80,045; Nov. 1; Gaz. vol. 160; p. 254.
Fritzsche Brothers, New York, N. Y. Certain chemicals. No. 80,222; Nov. 22; Gaz. vol. 160; p. 1033.
Garnier, Caroline H., Enghien-les-Bains, France. Cordials. No. 80,049; Nov. 1; Gaz. vol. 160; p. 254.
Gebrke Knitting Mills, Reading, Pa. Hosiery. No. 80,180; Nov. 15; Gaz. vol. 160; p. 769.
General Fire Extinguisher Company, New York, N. Y., and Providence, R. I. Fire-extinguishing apparatus. No. 80,118; Nov. 8; Gaz. vol. 160; p. 489.
Geo. Tileston Milling Company, The, St. Cloud, Minn. Wheat-flour. No. 80,091; Nov. 1; Gaz. vol. 160; p. 255.
Geo. Tileston Milling Company, The, St. Cloud, Minn. Wheat-flour. No. 80,200; Nov. 15; Gaz. vol. 160; p. 770.
George P. Pilling & Son Co., Philadelphia, Pa. Surgical, dental, and veterinary instruments. No. 80,148; Nov. 8; Gaz. vol. 160; p. 490.
Gerhart, Robert L., Lancaster, Pa. Blended tea. No. 80,050; Nov. 1; Gaz. vol. 160; p. 254.
German-American Conservatory of Music, Chicago, Ill. Pianos, organs, and music-chart frames. No. 80,051; Nov. 1; Gaz. vol. 160; p. 254.
Getsinger, Edward C., Worcester, Mass. Medicinal preparations for the tobacco habit. No. 80,052; Nov. 1; Gaz. vol. 160; p. 254.
Giroux Manufacturing Company, Buffalo, N. Y. Hair dressing and tonic. No. 80,277; Nov. 29; Gaz. vol. 160; p. 1267.
Golden and Company, Washington, D. C. Eggs. No. 80,119; Nov. 8; Gaz. vol. 160; p. 489.
Goodman, Moritz, San Francisco, Cal. Medicine for certain diseases. No. 80,223; Nov. 22; Gaz. vol. 160; p. 1033.
Great Western Cereal Company, The, Chicago, Ill. Prepared stock feed. No. 80,053; Nov. 1; Gaz. vol. 160; p. 254.
Greenfield's Son & Co., E., New York, N. Y. Chocolates and candies. No. 80,120; Nov. 8; Gaz. vol. 160; p. 489.
Gutman, Simon, New York, N. Y. Belts for personal wear. No. 80,181; Nov. 15; Gaz. vol. 160; p. 769.
Haby, François, Berlin, Germany. Shaving-cream. No. 80,121; Nov. 8; Gaz. vol. 160; p. 489.
Haeberlein, Heinrich, Nuremberg, Germany. Gingerbread, chocolate, honey-cake, cakes, &c. No. 80,182; Nov. 15; Gaz. vol. 160; p. 769.
Harding Tilton & Company, Boston, Mass. Mercerized, &c., cotton yarns. No. 80,054; Nov. 1; Gaz. vol. 160; p. 254.
Hasinger Company, L. C., The, Indiana, Pa. Wooden tool-handles. No. 80,278; Nov. 29; Gaz. vol. 160; p. 1267.
Haven Milling Company, Inc., The, Haven, Kans. Wheat-flour. No. 80,279; Nov. 29; Gaz. vol. 160; p. 1267.
Hayes & Macfarland, Mount Vernon, N. Y. Alloys of precious metals and castings and forgings thereof. No. 80,183; Nov. 15; Gaz. vol. 160; p. 769.
Hayman, Leopold, New York, N. Y. Polishing-cloth. No. 80,122; Nov. 8; Gaz. vol. 160; p. 489.
High Point Overall Company, High Point, N. C. Overalls and overall-coats. No. 80,055; Nov. 1; Gaz. vol. 160; p. 254.
Hollingsworth & Whitney Co., Boston, Mass. Writing and wrapping papers. No. 80,056; Nov. 1; Gaz. vol. 160; p. 254.
Hollingsworth & Whitney Co., Boston, Mass. Writing and wrapping papers. No. 80,123; Nov. 8; Gaz. vol. 160; p. 489.
Horn & Bro., W. O., New York, N. Y. Dress-ties. No. 80,057; Nov. 1; Gaz. vol. 160; p. 254.
Hubbard, Harry L., Hayden Lake, Idaho. Soldering-fluid compounds. No. 80,124; Nov. 8; Gaz. vol. 160; p. 489.
Hull, Harry L., Chicago, Ill. Remedy to reduce fat. No. 80,185; Nov. 15; Gaz. vol. 160; p. 769.
Impervious Products Company, New York, N. Y. Waterproofing composition. No. 80,224; Nov. 22; Gaz. vol. 160; p. 1033.
J. Allen Smith & Company, Knoxville, Tenn. Wheat-flour. No. 80,157; Nov. 8; Gaz. vol. 160; p. 490.
J. B. King & Co., New York, N. Y. Plaster-of-paris. No. 80,280; Nov. 29; Gaz. vol. 160; p. 1267.
J. C. Blair Company, Huntingdon, Pa. Paper, envelops, tablets, and blank books. No. 80,207; Nov. 22; Gaz. vol. 160; p. 1033.
J. H. Williams & Co., New York, N. Y. Metal forgings. No. 80,202; Nov. 15; Gaz. vol. 160; p. 770.
Joseph Sankey & Sons, Ltd., Bilston, England. Iron and steel blooms, billets, bars, and sheets. No. 80,086; Nov. 1; Gaz. vol. 160; p. 255.
Kabo Corset Company, Chicago, Ill. Maternity-corsets. No. 80,139; Nov. 8; Gaz. vol. 160; p. 490.
Katcher & Bro., A. D., New York, N. Y. Infants' and children's caps. No. 80,225; Nov. 22; Gaz. vol. 160; p. 1033.
Kelley-Clarke Co., Seattle, Wash. Canned salmon. Nos. 80,125–6; Nov. 8; Gaz. vol. 160; p. 489.
Kelley-Clarke Co., Seattle, Wash. Canned salmon. No. 80,186; Nov. 15; Gaz. vol. 160; p. 769.
Kella Company, The, Newburgh, N. Y. Shaving-soaps. No. 80,127; Nov. 8; Gaz. vol. 160; p. 489.
Kerner Manufacturing Company, Pittsburg, Pa. Bath-tubs, sinks, washbowls, &c. No. 80,059; Nov. 1; Gaz. vol. 160; p. 254.
Kinney Mfg. Co., Boston, Mass. Rotary pumps. No. 80,281; Nov. 29; Gaz. vol. 160; p. 1267.
Klein, John V., Battle Creek, Nebr. Hair-tonics. No. 80,129; Nov. 8; Gaz. vol. 160; p. 489.
Klusewitz Bros., Reading, Pa. Hosiery. No. 80,226; Nov. 22; Gaz. vol. 160; p. 1033.
Knickerbocker Ice Company, Chicago, Ill. Ice. No. 80,060; Nov. 1; Gaz. vol. 160; p. 254.
Kreuger, Fredrik E., London, England. Matches. Nos. 80,130–1; Nov. 8; Gaz. vol. 160; p. 490.
Kroger Grocery & Baking Company, The, Cincinnati, Ohio. Canned corn. No. 80,187; Nov. 15; Gaz. vol. 160; p. 769.
Kuenzle & Streiff, New York, N. Y., and Manila, Philippine Islands. Cigars and cigarettes. No. 80,061; Nov. 1; Gaz. vol. 160; p. 254.
La Francesa Co., Louisville, Ky. Face-powder, rouge, and nail-polish. No. 80,227; Nov. 22; Gaz. vol. 160; p. 1033.
Lee Broom & Duster Company, Lincoln, Nebr. Brooms. Nos. 80,062–6; Nov. 1; Gaz. vol. 160; p. 254.
Leurent, Edouard, Tourcoing, France. Linen and wool piece goods. Nos. 80,228–30; Nov. 22; Gaz. vol. 160; p. 1033.
Levy Fils, A. Bernheim & Cie., Paris, France. Shedding for weaving-looms and jacquard machinery. No. 80,025; Nov. 1; Gaz. vol. 160; p. 253.
Linen Thread Co., The, New York, N. Y. Twine and cord. No. 80,069; Nov. 1; Gaz. vol. 160; p. 254.
Loefund & Co., Ed., Grunbach, Germany. Malt extract. No. 80,070; Nov. 1; Gaz. vol. 160; p. 254.
Ludlow-Saylor Wire Company, St. Louis, Mo. Wire-cloth and certain named hardware. No. 80,231; Nov. 22; Gaz. vol. 160; p. 1033.
Magid, Samuel M., Boston, Mass. Certain precious-metal articles. No. 80,071; Nov. 1; Gaz. vol. 160; p. 254.
Maison Boulestin, Cognac, France. Brandy. No. 80,105; Nov. 8; Gaz. vol. 160; p. 489.
Marino, Dominick A., Jersey City, N. J. Remedy for certain diseases. No. 80,189; Nov. 15; Gaz. vol. 160; p. 769.
Marjenhoff Company, The, Charleston, S. C. Biscuits. No. 80,137; Nov. 8; Gaz. vol. 160; p. 490.
Markt & Co., Ltd., New York, N. Y. Bit-braces. No. 80,233; Nov. 22; Gaz. vol. 160; p. 1034.

Marlowe Manufacturing Company, New York, N. Y. Hair-nets. No. 80,072; Nov. 1; Gaz. vol. 160; p. 254.
Marshall Field & Company, Chicago, Ill. Hand embroidery. No. 80,177; Nov. 15; Gaz. vol. 160; p. 769.
Marshall Furnace Company, Marshall, Mich. Furnaces. No. 80,283; Nov. 29; Gaz. vol. 160; p. 1267.
Martin, Hiram F., York, Pa. Cigars, cigarettes, tobacco. No. 80,136; Nov. 8; Gaz. vol. 160; p. 490.
Maude Odell Company, The, New York, N. Y. Soap. No. 80,289; Nov. 29; Gaz. vol. 160; p. 1267.
McCaskey Register Company, The, Alliance, Ohio. Manifolding-books. No. 80,138; Nov. 8; Gaz. vol. 160; p. 490.
McDonald & Kiley Company, The, Cincinnati, Ohio. Leather shoes. No. 80,140; Nov. 8; Gaz. vol. 160; p. 490.
McKeown, Charles H., Cleveland, Ohio. Ointments. No. 80,141; Nov. 8; Gaz. vol. 160; p. 490.
McPherson, Frank G., Beaver Falls, Pa. Playing-cards. No. 80,073; Nov. 1; Gaz. vol. 160; p. 254.
Meinl, Julius, Vienna, Austria-Hungary. Compounds of cocoa and malt and chocolate and malt. No. 80,074; Nov. 1; Gaz. vol. 160; p. 254.
Merrell-Soule Co., Syracuse, N. Y. Butter. No. 80,142; Nov. 8; Gaz. vol. 160; p. 490.
Mezcal Tequila Distillery Company, Inc., San Francisco, Cal. Medicinal tonic. No. 80,190; Nov. 15; Gaz. vol. 160; p. 769.
Middle Creek Coal Company, Prestonsburg, Ky. Coal. No. 80,191; Nov. 15; Gaz. vol. 160; p. 769.
Mignola, John, Jr., Alameda, Cal. Butchers' saws. No. 80,075; Nov. 1; Gaz. vol. 160; p. 254.
Misa, Buenaventura P., Jerez de la Frontera, Spain. Sherry-wine. No. 80,076; Nov. 1; Gaz. vol. 160; p. 254.
Moore & Calvi, New York, N. Y. Smoking and chewing tobacco. No. 80,284; Nov. 29; Gaz. vol. 160; p. 1267.
Morris, Mann & Reilly, Chicago, Ill. Goods made of human hair. No. 80,192; Nov. 15; Gaz. vol. 160; p. 769.
Morton, Victorine C., New York, N. Y. Certain precious-metal articles. No. 80,234; Nov. 22; Gaz. vol. 160; p. 1034.
Morton, Victorine C., New York, N. Y. Gold pens. No. 80,285; Nov. 29; Gaz. vol. 160; p. 1267.
Musica & Son, A., New York, N. Y. Certain foods. No. 80,286; Nov. 29; Gaz. vol. 160; p. 1267.
National Fire Proofing Company, Pittsburg, Pa. Structural blocks and tiles of terra-cotta and clay. No. 80,236; Nov. 22; Gaz. vol. 160; p. 1034.
National Manufacturers Company, New York, N. Y. Monthly magazine. No. 80,193; Nov. 15; Gaz. vol. 160; p. 769.
New England Confectionery Co., Portland, Me., and Boston, Mass. Candies. No. 80,077; Nov. 1; Gaz. vol. 160; p. 254.
New York Evening Post Company, New York, N. Y. Weekly magazine. No. 80,144; Nov. 8; Gaz. vol. 160; p. 490.
New York Wire Cloth Company, New York, N. Y., and York, Pa. Wire screen-cloth. No. 80,145; Nov. 8; Gaz. vol. 160; p. 490.
Newhall Chain Forge & Iron Co., New York, N. Y. Cross-chains and hooks for antiskidding devices. No. 80,143; Nov. 8; Gaz. vol. 160; p. 490.
Norris, Isabel, New York, N. Y. Toilet creams, lotions, and pastes. No. 80,146; Nov. 8; Gaz. vol. 160; p. 490.
O'Brian & Company, A. W., Hutchinson, Kans. Medicinal oil. No. 80,288; Nov. 29; Gaz. vol. 160; p. 1267.
O'Neil & Weill, Toledo, Ohio. Whiskies. No. 80,290; Nov. 29; Gaz. vol. 160; p. 1268.
Oakley Chemical Co., New York, N. Y. Chemical cleansing compound. No. 80,287; Nov. 29; Gaz. vol. 160; p. 1267.
Ohio Truss Co., Cincinnati, Ohio. Abdominal supporters, bandages, and suspensories. No. 80,237; Nov. 22; Gaz. vol. 160; p. 1034.
Orme Rice Packing Company, New Orleans, La. Rice. No. 80,194; Nov. 15; Gaz. vol. 160; p. 769.
Pearl Clay Products Company, Bradford, Pa. Bricks. No. 80,079; Nov. 1; Gaz. vol. 160; p. 254.
Peterson, John E., Titusville, Pa. Shoe-polish. No. 80,147; Nov. 8; Gaz. vol. 160; p. 490.
Pettingell-Andrews Company, Boston, Mass. Electrical apparatus, machines, and supplies. No. 80,080; Nov. 1; Gaz. vol. 160; p. 254.
Pilo Ointment Co., Baltimore, Md. Pile-ointment. No. 80,149; Nov 8; Gaz. vol. 160; p. 490.
Pollock Medicine Co., East St. Louis, Ill. Headache-powders. No. 80,081; Nov. 1; Gaz. vol. 160; p. 255.
Porcelain Enameling Ass'n. of America, Sheboygan, Wis. Enamel metal ware. No. 80,150; Nov. 8; Gaz. vol. 160; p. 490.
Powell Co., E. E., Philadelphia, Pa. Certain toilet preparations. No. 80,082; Nov. 1; Gaz. vol. 160; p. 255.
Pratt & Lambert, Inc., Buffalo, N. Y. Varnish. No. 80,196; Nov. 15; Gaz. vol. 160; p. 769.
Proudfit Ormsby Commission Company, Denver, Colo. Eggs. No. 80,083; Nov. 1; Gaz. vol. 160; p. 255.
Rapid Knife & Fork Cleaner Co., The, Long Island City, N. Y. Cleaning and scouring tools. No. 80,151; Nov. 8; Gaz. vol. 160; p. 490.
Raschig, F., Ludwigshafen-on-the-Rhine, Germany. Carbolic acid, cresol, and disinfectants. No. 80,238; Nov. 22; Gaz. vol. 160; p. 1034.
Rea-Patterson Milling Company, The, Coffeyville, Kans. Wheat-flour. No. 80,239; Nov. 22; Gaz. vol. 160; p. 1034.
Red "C" Oil M'f'g Co. of Baltimore City, Baltimore, Md. Axle and lubricating grease. No. 80,152; Nov. 8; Gaz. vol. 160; p. 490.
Reeder & Son, Oliver, Baltimore, Md. Marine paint. No. 80,153; Nov. 8; Gaz. vol. 160; p. 490.
Republic Metalware Company, Buffalo, N. Y. Enameled metal ware. No. 80,235; Nov. 22; Gaz. vol. 160; p. 1034.
Richard Hudnut, New York, N. Y. Perfumes. No. 80,184; Nov. 15; Gaz. vol. 160; p. 769.
Roberts, Johnson & Rand Shoe Company, St. Louis, Mo. Shoes, hats, outer and under waists, and hosiery. No. 80,197; Nov. 15; Gaz. vol. 160; p. 770.
Rockwell Manufacturing Company, West Chester, Pa. Gasolene-engines. No. 80,084; Nov. 1; Gaz. vol. 160; p. 255.
Rogers Company, The, Tacoma, Wash. Coffee, tea, spices, and flavoring extracts. No. 80,085; Nov. 1; Gaz. vol. 160; p. 255.
Roren, Albert, Providence, R. I. Combination-wrench. No. 80,240; Nov. 22; Gaz. vol. 160; p. 1034.
Rosenblatt Co., The, San Francisco, Cal. Brandy. No. 80,241; Nov. 22; Gaz. vol. 160; p. 1034.
Rudolph Wurlitzer Company, The, Cincinnati, Ohio. Musical strings. No. 80,256; Nov. 22; Gaz. vol. 160; p. 1034.
S. B. Foot & Co., Red Wing, Minn. Shoes. No. 80,047; Nov. 1; Gaz. vol. 160; p. 254.
Samson Cordage Works, Boston, Mass. Cotton cords. No. 80,198; Nov. 15; Gaz. vol. 160; p. 770.
Samuel Cabot, Inc., Boston, Mass. Antiseptic. No. 80,267; Nov. 29; Gaz. vol. 160; p. 1267.
Saugerties Manufacturing Company, Saugerties, N. Y. Loose-leaf books, binders, and bond-paper. No. 80,154; Nov. 8; Gaz. vol. 160; p. 490.
Scott Paper Company, Philadelphia, Pa. Toilet-paper. No. 80,087; Nov. 1; Gaz. vol. 160; p. 255.
Sedlmayr, Brauerei zum Spaten, Gabriel, Munich, Germany. Beer. No. 80,242; Nov. 22; Gaz. vol. 160; p. 1034.
Simon, Kassel, New York, N. Y. Cotton piece goods. No. 80,155; Nov. 8; Gaz. vol. 160; p. 490.
Simons Brick Company, Los Angeles, Cal. Certain building materials. No. 80,156; Nov. 8; Gaz. vol. 160; p. 490.
Smith, Jeremiah P., Lincolntown, N. C. Remedy for lung diseases. No. 80,292; Nov. 29; Gaz. vol. 160; p. 1268.
Smith, Kline & French Co., Philadelphia, Pa. Antiseptic powder. No. 80,158; Nov. 8; Gaz. vol. 160; p. 490.
Smith, Walter E., Boston, Mass. Catnip, catnip preparation, &c. No. 80,293; Nov. 29; Gaz. vol. 160; p. 1268.
Smith's Original Remedy Company, Brooklyn, N. Y. Remedies for the diseases of horses. No. 80,159; Nov. 8; Gaz. vol. 160; p. 490.
Société Distilleries Francaises De La Vallée Des Roses, Paris, France. Perfumes. No. 80,088; Nov. 1; Gaz. vol. 160; p. 255.
Soloman, David L., St. Louis, Mo. Chemical solvents. No. 80,160; Nov. 8; Gaz. vol. 160; p. 490.
Sour Krout Candy Co., Chicago, Ill. Candy. No. 80,243; Nov. 22; Gaz. vol. 160; p. 1034.
South Texas Grain Company, Houston, Tex. Grain and mixed food for stock. No. 80,089; Nov. 1; Gaz. vol. 160; p. 255.
Standard Oil Co. of New York, New York, N. Y. Lubricating-oils. Nos. 80,245–8; Nov. 22; Gaz. vol. 160; p. 1034.
Standard Typewriter Co., Groton, N. Y. Type-writing machines and parts thereof. No. 80,090; Nov. 1; Gaz. vol. 160; p. 255.
Stanz-und Emaillirwerke, vormals Carl Thiel & Söhne, Actien-Gesellschaft, Lübeck, Germany. Enameled metal ware and household and cooking utensils. No. 80,249; Nov. 22; Gaz. vol. 160; p. 1034.
Swanson-Ericson Manufacturing Company, Chicago, Ill. Washing-machines. No. 80,161; Nov. 8; Gaz. vol. 160; p. 490.
Theo. Noel Company, Chicago, Ill. Medicines for suppositories. No. 80,078; Nov. 1; Gaz. vol. 160; p. 254.
Thomas G. Plant Co., Montclair, N. J., and Boston, Mass. Certain clothing. No. 80,195; Nov. 15; Gaz. vol. 160; p. 769.
Tobacco World Corporation, Audubon, N. J., and Philadelphia, Pa. Weekly periodical. Nos. 80,251–2; Nov. 22; Gaz. vol. 160; p. 1034.
Trowbridge, William S., Meadville, Pa. Chocolate chips. No. 80,162; Nov. 8; Gaz. vol. 160; p. 490.
Tyrrell's Hygienic Institute, New York, N. Y. Syringes. No. 80,254; Nov. 22; Gaz. vol. 160; p. 1034.
Union Bag and Paper Company, The, Jersey City, N. J., and New York, N. Y. Paper bags. No. 80,253; Nov. 22; Gaz. vol. 160; p. 1034.
Universal Tire Setter Company, Baltimore, Md. Alloy for repairing wagon-wheels. No. 80,294; Nov. 29; Gaz. vol. 160; p. 1268.
Victor Talking Machine Company, Camden, N. J. Talking-machines and parts and records. No. 80,201; Nov. 15; Gaz. vol. 160; p. 770.
Virginia-Carolina Chemical Co., Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Fertilizers. No. 80,093; Nov. 1; Gaz. vol. 160; p. 255.

W. F. Schrafft & Sons Corporation, Boston, Mass. Chocolate candies. No. 80,199; Nov. 15; Gaz. vol. 160; p. 770.
W. F. Schrafft & Sons Corporation, Boston, Mass. Chocolate candy. No. 80,291; Nov. 29; Gaz. vol. 160; p. 1268.
W. K Kenly Company, Chicago, Ill. Metal switch and signal carrier-bases. No. 80,058; Nov. 1; Gaz. vol. 160; p. 254.
Wadsworth-Howland Company, Chicago, Ill. Metal-preservative paint. No. 80,094; Nov. 1; Gaz. vol. 160; p. 255.
Waldes & Co., Prague-Wrschowitz, Austria-Hungary. Snap-buttons. No. 80,095; Nov. 1; Gaz. vol. 160; p. 255.
Wayne Oil Tank & Pump Company, Fort Wayne, Ind. Self-measuring pumps and tanks. No. 80,295; Nov. 29; Gaz. vol. 160; p. 1268.
Wendell and Co., Chicago, Ill., and New York, N. Y. Artificial rubies and sapphires. No. 80,163; Nov. 8; Gaz. vol. 160; p. 490.
Wesendonck, Walter, New York, N. Y. Hosiery. No. 80,096; Nov. 1; Gaz. vol. 160; p. 255.
Wetter Numbering Machine Company, New York, N. Y. Numbering-machines. No. 80,097; Nov. 1; Gaz. vol. 160; p. 255.
White & Co., W. W., Norfolk, Va. Fruit-flavored ciders. No. 80,255; Nov. 22; Gaz. vol. 160; p. 1034.
White, Wilson, Drew Company, Memphis, Tenn. Cooking-soda, baking-powder, and laundry starch. No. 80,164; Nov. 8; Gaz. vol. 160; p. 490.
Whitehouse Chemical Co., Lynchburg, Va. Antiseptic powder. No. 80,098; Nov. 1; Gaz. vol. 160; p. 255.
Whitfield Hardware Company, Hawkinsville, Ga. Pocket-cutlery, razors, scissors, hatchets, axes, and adzes. No. 80,296; Nov. 29; Gaz. vol. 160; p. 1268.
Willhite, Noah, Bucklin, Kans. Remedy for irregularity of the menses. No. 80,099; Nov. 1; Gaz. vol. 160; p. 255.
Zeiss, Firm of Carl, Jena, Germany. Telescopes. Nos. 80,257–8; Nov. 22; Gaz. vol. 160; p. 1034.

ALPHABETICAL LIST OF REGISTRANTS OF LABELS.

Adams & Elting Company, Chicago, Ill. "Ad-El-Ite." (For Paint Specialties.) No. 15,402; Nov. 22; Gaz. vol. 160; p. 1035.
American Games Manufacturing Company, New York, N. Y. "League Base Ball Game Real Base Ball At Home." (For a Game of Base-Ball.) No. 15,403; Nov. 22; Gaz. vol. 160; p. 1035.
American Type Founders Company, Jersey City, N. J. "The American Sprayer." (For Sprayers and Boiler-Sprays.) No. 15,401; Nov. 22; Gaz. vol. 160; p. 1035.
Bennett, Burton B., Plymouth, Mich. "Base Ball Shooting Gallery." (For Toy Shooting-Galleries.) No. 15,389; Nov. 8; Gaz. vol. 160; p. 491.
C. H. Masland & Sons, Philadelphia, Pa. "Highspire." (For Carpets and Floor-Coverings.) No. 15,404; Nov. 22; Gaz. vol. 160; p. 1035.
Clark, Thomas H., Dubuque, Iowa. "Wild Cherry Ade." (For Syrup for Making Beverages.) No. 15,398; Nov. 22; Gaz. vol. 160; p. 1035.
Consumers Company of Rochester, N. Y., The, Rochester, N. Y. "Grape Creme." (For a Beverage Made from Grape-Juice.) No. 15,382; Nov. 8; Gaz. vol. 160; p. 491.
Darby Candy Co., The, Baltimore, Md. "Darby's Candy Base Ball Game." (For Confectionery.) No. 15,410; Nov. 29; Gaz. vol. 160; p. 1269.
De Bevoise, Walter W., Brooklyn, N. Y. "Uncle Sam." (For Candy.) No. 15,383; Nov. 8; Gaz. vol. 160; p. 491.
Domestic Finish Starch Company, Kansas City, Mo. "Domesco Brand." (For Laundry Starch.) No. 15411; Nov. 29; Gaz. vol. 160; p. 1269.
Epstein, Jacob, Baltimore, Md. "Standard Mills." (For Cotton Piece Goods.) No. 15,405; Nov. 22; Gaz. vol. 160; p. 1035.
Eugster, Albert J., New York, N. Y. "Roachleine." (For Roach-Powder.) No. 15,395; Nov. 15; Gaz. vol. 160; p. 771.
Hamburger Distillery Ltd., Pittsburg, Pa. "Old Bridgeport Monongahela Pure Rye Whiskey." (For Straight Rye Whisky.) No. 15,397; Nov. 22; Gaz. vol. 160; p. 1035.
Hornung, Jacob, Philadelphia, Pa. "Jacob Hornung's White Bock Beer." (For Bottled Beer.) No. 15,391; Nov. 15; Gaz. vol. 160; p. 771.
J. K. Orr Shoe Company, Atlanta, Ga. "Once A Year." (For Shoes.) No. 15,406; Nov. 22; Gaz. vol. 160; p. 1035.
J. K. Orr Shoe Company, Atlanta, Ga. "Work In Comfort With Economy." (For Shoes.) No. 15,407; Nov. 22; Gaz. vol. 160; p. 1035.
Kammerer Davis Mfg. Co., New York, N. Y. "World's Metal Polish." (For Metal-Polish.) No. 15,396; Nov. 15; Gaz. vol. 160; p. 771.
L. F. Grammes & Sons, Allentown, Pa. "Keystone Escutcheon Pins." (For Escutcheon-Pins.) No. 15,412; Nov. 29; Gaz. vol. 160; p. 1269.
Lithos Chemical Company, The, New York, N. Y. "Bryant's Benzine." (For Fireproof Benzin.) No. 15,400; Nov. 22; Gaz. vol. 160; p. 1035.
Naes, Louis, St. Louis, Mo. "Little Naes." (For Cigars.) No. 15,408; Nov. 29; Gaz. vol. 160; p. 1269.
Neptune Packing Co., Booth Bay Harbor, Me. "Golden Fin Brand Native Smoked Sardines." (For Canned Smoked Sardines.) No. 15,379; Nov. 1; Gaz. vol. 160; p. 256.
O. E. Olsen Litho Co., San Francisco, Cal. "Poppy Apple Label." (For Apples.) No. 15,384; Nov. 8; Gaz. vol. 160; p. 491.
O. E. Olsen Litho Co., San Francisco, Cal. "Blossom Apple Label." (For Apples.) No. 15,385; Nov. 8; Gaz. vol. 160; p. 491.
O'Connell, J. V., St. Louis, Mo. "Jose Ribera." (For Cigars.) No. 15,390; Nov. 15; Gaz. vol. 160; p. 771.
Ormiston, Guy A., Arkansas City, Kans. "Step-Into Shoe." (For Shoes.) No. 15,381; Nov. 1; Gaz. vol. 160; p. 256.
Osborn Paper Company, Marion, Ind. "Royal Spelling Book." (For Books or Tablets for Use in Writing Out Spelling Exercises.) No. 15,388; Nov. 8; Gaz. vol. 160; p. 491.
Sanborn, George W., Astoria, Oreg. "Lucky Dog." (For Canned Salmon.) No. 15,380; Nov. 1; Gaz. vol. 160; p. 256.
Schmidt & Co., New York, N. Y. "Cuban Inn." (For Cigars.) No. 15,376; Nov. 1; Gaz. vol. 160; p. 256.
Schmidt & Co., New York, N. Y. "Daily Report." (For Cigars.) No. 15,377; Nov. 1; Gaz. vol. 160; p. 256.
Skudowitz, I. B., New York, N. Y. "Union Square Waist." (For Waists.) No. 15,413; Nov. 29; Gaz. vol. 160; p. 1269.
Snyder-Chaffee Co., The, Columbus, Ohio. "The Taste Tells The Tale." (For Chocolates.) No. 15,409; Nov. 29; Gaz. vol. 160; p. 1269.
Surgical Oil Manufacturing Company, Los Angeles, Cal. "Antipyogen." (For Surgical Dressings.) No. 15,394; Nov. 15; Gaz. vol. 160; p. 771.
Tully Broom Company, Tully, N. Y. "The Jewel Broom." (For Brooms.) No. 15,414; Nov. 29; Gaz. vol. 160; p. 1269.
Union Co-operative Association, Newark, N. J. "E-Z-Laks." (For Medicated Chocolates of a Laxative Nature.) No. 15,387; Nov. 8; Gaz. vol. 160; p. 491.
Union Co-operative Association, Newark, N. J. "Auto-Laks." (For Medicated Chocolates of a Laxative Nature.) No. 15,399; Nov. 22; Gaz. vol. 160; p. 1035.
Vafiadis & Co., Theodoro, Boston, Mass., and Cairo, Egypt. "Manufactory Of Choice Egyptian Cigarettes." (For Cigarettes.) No. 15,378; Nov. 1; Gaz. vol. 160; p. 256.
W. T. Wellsch & Co., Inc., San Francisco, Cal. "Virgin." (For Head-Rice.) No. 15,386; Nov. 8; Gaz. vol. 160; p. 491.
Wallerstein Produce Co., Richmond, Va. "Sun Brand." (For Dried Apples.) No. 15,392; Nov. 15; Gaz. vol. 160; p. 771.
Wilkes, William M., Indianapolis, Ind. "Ooze." (For Soap.) No. 15,393; Nov. 15; Gaz. vol. 160; p. 771.

PRINTS.

Ambrookian & Co., H. O., New York, N. Y. "Rug." (For Rugs.) No. 2,660; Nov. 1; Gaz. vol. 160; p. 256.
California Fruit Distributors, Sacramento, Cal. "Luscious Tokay Grapes." (For Tokay Grapes.) No. 2,670; Nov. 29; Gaz. vol. 160; p. 1269.
Cluett, Peabody & Company, Troy, N. Y. "New Arrow Notch Collars." (For Collars.) No. 2,664; Nov. 8; Gaz. vol. 160; p. 491.
Cluett, Peabody & Company, Troy, N. Y. "The Donchester Is A Cluett Dress Shirt." (For Shirts.) No. 2,665; Nov. 8; Gaz. vol. 160; p. 491.
Cluett, Peabody & Company, Troy, N. Y. "Arrow Collars and Cluett Shirts." (For Collars and Shirts.) No. 2,666; Nov. 8; Gaz. vol. 160; p. 491.
Cream of Wheat Co., Minneapolis, Minn. "Country Life In America." (For Wheat Breakfast Food.) No. 2,656; Nov. 1; Gaz. vol. 160; p. 256.
Cream of Wheat Co., Minneapolis, Minn. "A Sweetly Solemn Thought." (For Wheat Breakfast Food.) No. 2,661; Nov. 8; Gaz. vol. 160; p. 491.
Cutler-Hammer Mfg. Co., The, Milwaukee, Wis. "Aunt Dinah On Ironing Day." (For Electric Heating Devices.) No. 2,657; Nov. 1; Gaz. vol. 160; p. 256.
Florence Manufacturing Company, Northampton, Mass. "Pro-Phy-Lac-Tic Tooth Brush." (For Tooth-Brushes.) No. 2,669; Nov. 22; Gaz. vol. 160; p. 1035.
Frey, Jos. M., Aurora, Ill. "Order Your Beer By Number." (For Lager-Beer.) No. 2,655; Nov. 1; Gaz. vol. 160; p. 256.
Glass & Company, Henry, New York, N. Y. "Mercerized XX Poplin." (For Mercerized Poplin.) No. 2,658; Nov. 1; Gaz. vol. 160; p. 256.
Hammondsport Vintage Co., Penn Yan, N. Y. "Gilt Edge Champagne." (For Champagne.) No. 2,654; Nov. 1; Gaz. vol. 160; p. 256.
Noiseless Typewriter Company, The, Middletown, Conn. "The Noiseless Typewriter." (For Type-Writers.) No. 2,663; Nov. 8; Gaz. vol. 160; p. 491.
Richardson & Robbins Co., Dover, Del. "Better Than I Can Make." (For Plum-Pudding.) No. 2,667; Nov. 15; Gaz. vol. 160; p. 771.
Schulte, Henry H., East Orange, N. J. "Ronda Potato." (For Potatoes.) No. 2,662; Nov. 8; Gaz. vol. 160; p. 491.
Simpson Spring Co., Easton, Mass. "The Simpson Girl." (For Beverages.) No. 2,668; Nov. 22; Gaz. vol. 160; p. 1035.
W. F. Powers Company, The, New York, N. Y. "The Life Saver." (For Rubber Boots.) No. 2,659; Nov. 1; Gaz. vol. 160; p. 256.

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED DURING THE MONTH OF NOVEMBER, 1910.

[Abbreviations: "Sp."—Monthly Volume of Specifications; "Gaz."—Official Gazette.]

Abdominal supporter and catamenial sack, Combined. R. H. and M. L. Keagy. No. 976,883; Nov. 29; Sp. p. 6170; Gaz. vol. 160; p. 1063.
Accounting-machine. C. Wales. No. 976,234; Nov. 22; Sp. p. 4746; Gaz. vol. 160; p. 814.
Acid, Amid of β-β-diethyipropionic. L. Taub. No. 977,053; Nov. 29; Sp. p. 6578; Gaz. vol. 160; p. 1121.
Acid, Formic. M. Neumann. No. 975,151; Nov. 8; Sp. p. 2429; Gaz. vol. 160; p. 394.
Acid, Formic. H. Howard. No. 975,866; Nov. 15; Sp. p. 3945; Gaz. vol. 160; p. 664.
Acoustic diaphragm. W. W. Young. No. 975,596; Nov. 15; Sp. p. 3377; Gaz. vol. 160; p. 574.
Adding and listing machine. W. Schooling. No. 974,996; Nov. 8; Sp. p. 2098; Gaz. vol. 160; p. 342.
Adding and recording machine. G. W. Dudley. No. 975,023; Nov. 8; Sp. p. 2146; Gaz. vol. 160; p. 351.
Adding and subtracting machine. W. Schooling. No. 977,333; Nov. 29; Sp. p. 7154; Gaz. vol. 160; p. 1218.
Adding-machine. C. B. Foster. No. 974,480; Nov. 1; Sp. p. 928; Gaz. vol. 160; p. 138.
Adding-machine. C. Wales. No. 974,937; Nov. 8; Sp. p. 1948; Gaz. vol. 160; p. 321.
Adding-machine, Motor-driven. F. A. Niemann. No. 976,390; Nov. 22; Sp. p. 5116; Gaz. vol. 160; p. 868.
Addressing-machine. E. D. Belknap. No. 976,142; Nov. 22; Sp. p. 4512; Gaz. vol. 160; p. 782.
Adjustable wrench. W. S. Miehle. No. 975,707; Nov. 15; Sp. p. 3621; Gaz. vol. 160; p. 610.
Advertising apparatus, Prize-awarding. R. F. Hudson. No. 976,079; Nov. 15; Sp. p. 4342; Gaz. vol. 160; p. 738.
Advertising device. N. Joleen. No. 975,622; Nov. 15; Sp. p. 3433; Gaz. vol. 160; p. 583.
Advertising device. F. Leschinski. No. 976,271; Nov. 22; Sp. p. 4855; Gaz. vol. 160; p. 828.
Advertising device. P. Reeves. No. 976,495; Nov. 22; Sp. p. 5341; Gaz. vol. 160; p. 906.
Advertising device. M. S. Wellman. No. 976,618; Nov. 22; Sp. p. 5599; Gaz. vol. 160; p. 947.
Advertising device, Street-car. W. F. Sweet. No. 974,307; Nov. 1; Sp. p. 515; Gaz. vol. 160; p. 76.
Aerial projecting apparatus. I. Hourwich. No. 975,953; Nov. 15; Sp. p. 4114; Gaz. vol. 160; p. 695.
Aeroplane. J. W. Dunne. No. 975,403; Nov. 15; Sp. p. 2976; Gaz. vol. 160; p. 506.
Aeroplane. F. Lebreil and R. Desgeorge. No. 976,582; Nov. 22; Sp. p. 5533; Gaz. vol. 160; p. 935.
Aeroplane. L. A. Hayot. No. 976,876; Nov. 29; Sp. p. 6147; Gaz. vol. 160; p. 1059.
Aeroplane, Inflated. A. E. Maiden. No. 975,263; Nov. 8; Sp. p. 2678; Gaz. vol. 160; p. 433.
Agricultural implement. W. W. Oldham. No. 974,512; Nov. 1; Sp. p. 1011; Gaz. vol. 160; p. 150.
Agricultural implement. J. P. Baldwin. No. 975,109; Nov. 8; Sp. p. 2334; Gaz. vol. 160; p. 381.
Agricultural implement, Combination. N. Raez. No. 974,916; Nov. 8; Sp. p. 1898; Gaz. vol. 160; p. 313.
Aiming device, Search-light. K. Weber. No. 976,416; Nov. 22; Sp. p. 5171; Gaz. vol. 160; p. 878.
Air and producing ozone, Means for filtering. S. C. Shaffner. No. 977,335; Nov. 29; Sp. p. 7164; Gaz. vol. 160; p. 1219.
Air and producing ozone, Means for filtering. S. C. Shaffner and S. T. Hutton. No. 977,336; Nov. 29; Sp. p. 7169; Gaz. vol. 160; p. 1219.
Air, Apparatus for producing carbureted. R. Busch. No. 976,781; Nov. 22; Sp. p. 5941; Gaz. vol. 160; p. 1002.
Air-brake. A. A. St. Clair. No. 976,224; Nov. 22; Sp. p. 4712; Gaz. vol. 160; p. 810.
Air brake, Duplex-pressure straight-. C. P. Cass. No. 977,164; Nov. 29; Sp. p. 6834; Gaz. vol. 160; p. 1160.
Air-compressing apparatus. W. U. Griffiths. No. 974,261; Nov. 1; Sp. p. 408; Gaz. vol. 160; p. 60.
Air-compressor. J. J. Kiely. No. 975,136; Nov. 8; Sp. p. 2400; Gaz. vol. 160; p. 389.
Air-compressor. J. and A. H. Hanna. No. 975,233; Nov. 8; Sp. p. 2616; Gaz. vol. 160; p. 422.
Air-compressor, Frictional. C. A. Jaqua. No. 975,957; Nov. 15; Sp. p. 4122; Gaz. vol. 160; p. 696.
Air-heating. G. Westinghouse and A. M. Gow. No. 976,966; Nov. 29; Sp. p. 6395; Gaz. vol. 160; p. 1092.
Air-heating apparatus. G. Westinghouse and A. M. Gow. No. 976,967; Nov. 29; Sp. p. 6397; Gaz. vol. 160; p. 1092.
Air-motor or windmill. O. E. Sill. No. 976,003; Nov. 15; Sp. p. 4203; Gaz. vol. 160; p. 712.
Air-purifying apparatus. J. H. Kinealy. No. 976,081; Nov. 15; Sp. p. 4348; Gaz. vol. 160; p. 738.
Air-regulator. W. A. Shorb and G. R. Rodgers. No. 974,997; Nov. 8; Sp. p. 2104; Gaz. vol. 160; p. 342.
Airship. H. Thaden. No. 976,709; Nov. 22; Sp. p. 5767; Gaz. vol. 160; p. 977.
Airship. T. S. Harris. No. 976,873; Nov. 29; Sp. p. 6140; Gaz. vol. 160; p. 1058.
Airships, Car suspension for. G. A. Crocco and O. Ricaldoni. No. 975,330; Nov. 8; Sp. p. 2818; Gaz. vol. 160; p. 456.
Alarm: *See* Burglar-alarm: Electric alarm; Incubator-alarm; Sprinkler-alarm; Water-meter alarm.
Alarm system. W. J. St. Onge. No. 975,175; Nov. 8; Sp. p. 2492; Gaz. vol. 160; p. 403.
Alarm system, Central-energy electrical temperature-. A. Goldstein and C. H. Pool. No. 977,296; Nov. 29; Sp. p. 7085; Gaz. vol. 160; p. 1205.
Alarm system, Electrical thermostatic. A. Goldstein. No. 977,295; Nov. 29; Sp. p. 7083; Gaz. vol. 160; p. 1205.
Alkaline battery. W. Morrison. No. 975,980; Nov. 15; Sp. p. 4160; Gaz. vol. 160; p. 704.
Alkaline battery containing chromium and mercury. W. Morrison. No. 975,885; Nov. 15; Sp. p. 3982; Gaz. vol. 160; p. 671.
Alloys and the product thereof, Making copper. J. Naulty and J. Scanlin. No. 974,419; Nov. 1; Sp. p. 764; Gaz. vol. 160; p. 116.
Allyl sulfocarbamid bismuth tri-iodid. F. S. Mason. No. 976,669; Nov. 22; Sp. p. 5702; Gaz. vol. 160; p. 964.
Amalgamator. J. H. McNeil. No. 975,704; Nov. 15; Sp. p. 3614; Gaz. vol. 160; p. 609.
Ammonia, alkyl ammonia, or ammonia bases, Making. H. S. Blackmore. No. 974,633; Nov. 1; Sp. p. 1265; Gaz. vol. 160; p. 195.
Ammonia, alkyl ammonia, or ammonia bases, Making. H. S. Blackmore. No. 974,742; Nov. 1; Sp. p. 1503; Gaz. vol. 160; p. 231.
Ammonia or other nitrogen-hydrogen binary compounds, Making. H. S. Blackmore. No. 974,741; Nov. 1; Sp. p. 1498; Gaz. vol. 160; p. 231.
Amusement apparatus. W. W. McFarland. No. 976,896; Nov. 29; Sp. p. 6195; Gaz. vol. 160; p. 1066.
Amusement device. W. Nemsey. No. 975,984; Nov. 15; Sp. p. 4167; Gaz. vol. 160; p. 705.
Anchor-bolt, Lead-packed. G. E. Rohmer. No. 977,402; Nov. 29; Sp. p. 7347; Gaz. vol. 160; p. 1242.
Anchor for guy-wires, &c. E. H. Lichtenberg. No. 975,543; Nov. 15; Sp. p. 3276; Gaz. vol. 160; p. 556.
Angle-bisector. C. A. Lydin. No. 975,969; Nov. 15; Sp. p. 4145; Gaz. vol. 160; p. 701.
Animal-shears. G. Schneider. No. 974,604; Nov. 1; Sp. p. 1199; Gaz. vol. 160; p. 184.
Animal-trap. C. A. Wyman. No. 975,098; Nov. 8; Sp. p. 2301; Gaz. vol. 160; p. 377.
Animal-trap. E. M. Alderman. No. 975,741; Nov. 15; Sp. p. 3694; Gaz. vol. 160; p. 622.
Animal-trap. J. Drubko. No. 976,789; Nov. 22; Sp. p. 5954; Gaz. vol. 160; p. 1005.
Animal trap or dip. L. Morris. No. 976,078; Nov. 22; Sp. p. 5713; Gaz. vol. 160; p. 967.
Annunciating apparatus, Electric. H. J. Alther. No. 976,836; Nov. 29; Sp. p. 6053; Gaz. vol. 160; p. 1045.
Anthraquinone derivatives and making same. E. Hepp and C. Hartmann. No. 975,863; Nov. 15; Sp. p. 3939; Gaz. vol. 160; p. 663.
Anticreeper. J. Player, Jr. No. 974,821; Nov. 8; Sp. p. 1677; Gaz. vol. 160; p. 281.
Antimony from ores and the like, Recovering. J. R. Masson. No. 975,148; Nov. 8; Sp. p. 2421; Gaz. vol. 160; p. 393.
Antiseptic and perfumed block. L. Ellertsen. No. 975,405; Nov. 15; Sp. p. 2979; Gaz. vol. 160; p. 506.
Antiskidding device for tires. J. E. Redmond. No. 974,825; Nov. 8; Sp. p. 1683; Gaz. vol. 160; p. 282.
Apple cutter and corer. B. Fullmer and A. B. Powell. No. 975,410; Nov. 15; Sp. p. 2985; Gaz. vol. 160; p. 508.

Apple-grading machine. G. L. Bedker. No. 977,365; Nov. 29; Sp. p. 7247; Gaz. vol. 160; p. 1230.
Aquarium. J. F. Wohlfahrt. No. 976,242; Nov. 22; Sp. p. 4777; Gaz. vol. 160; p. 818.
Arch-support. W. R. Lee. No. 976,888; Nov. 29; Sp. p. 6182; Gaz. vol. 160; p. 1064.
Armature-testing device. L. H. Seyranian. No. 974,712; Nov. 1; Sp. p. 1443; Gaz. vol. 160; p. 222.
Auger, Earth-. W. G. Rogers. No. 975,163; Nov. 8; Sp. p. 2463; Gaz. vol. 160; p. 399.
Auto-organ. J. R. England. No. 977,084; Nov. 29; Sp. p. 6641; Gaz. vol. 160; p. 1132.
Autoharp and like instrument. W. S. Holloway. No. 975,865; Nov. 15; Sp. p. 5942; Gaz. vol. 160; p. 664.
Automatic-discharge lubricator. W. E. Sidney. No. 975,646; Nov. 15; Sp. p. 3485; Gaz. vol. 160; p. 591.
Automatic lubricator. F. Ringrose. No. 976,922; Nov. 29; Sp. p. 6264; Gaz. vol. 160; p. 1076.
Automobile baggage-carrier. P. Evans. No. 976,561; Nov. 22; Sp. p. 5488; Gaz. vol. 160; p. 928.
Automobile-buffer. J. Turner and P. P. Crabill. No. 974,212; Nov. 1; Sp. p. 247; Gaz. vol. 160; p. 41.
Automobile clutch and brake controlling mechanism. H. M. Kugler and W. T. Clark. No. 974,281; Nov. 1; Sp. p. 454; Gaz. vol. 160; p. 67.
Automobile cranking mechanism. J. B. Castle. No. 974,235; Nov. 1; Sp. p. 344; Gaz. vol. 160; p. 49.
Automobile driving-gear. C. C. Bettenhausen. No. 974,773; Nov. 8; Sp. p. 1575; Gaz. vol. 160; p. 265.
Automobile driving-gear. J. A. Scharf. No. 975,290; Nov. 8; Sp. p. 2728; Gaz. vol. 160; p. 442.
Automobile gasolene-tank. R. Hayes. No. 976,460; Nov. 22; Sp. p. 5262; Gaz. vol. 160; p. 893.
Automobile-hood. J. P. Gordon. No. 975,128; Nov. 8; Sp. p. 2387; Gaz. vol. 160; p. 387.
Automobile pneumatic system. R. S. Wallace. No. 975,588; Nov. 15; Sp. p. 3366; Gaz. vol. 160; p. 571.
Automobile-radiator. W. Dietz. No. 974,777; Nov. 8; Sp. p. 1587; Gaz. vol. 160; p. 267.
Automobile-radiator. J. Fleischman. No. 975,343; Nov. 8; Sp. p. 2845; Gaz. vol. 160; p. 460.
Automobile-radiator. H. Klein and W. Reiter. No. 975,872; Nov. 15; Sp. p. 3954; Gaz. vol. 160; p. 666.
Automobile-runner. T. Milldown. No. 975,267; Nov. 8; Sp. p. 2686; Gaz. vol. 160; p. 434.
Automobile signaling device. W. G. Nash. No. 977,215; Nov. 29; Sp. p. 6035; Gaz. vol. 160; p. 1179.
Automobile steam-generating apparatus. A. G. Davis. No. 974,129; Nov. 1; Sp. p. 47; Gaz. vol. 160; p. 11.
Automobile tilting body. T. B. Jeffery. No. 976,572; Nov. 22; Sp. p. 5512; Gaz. vol. 160; p. 932.
Automobile-tool. F. Knight. No. 975,694; Nov. 15; Sp. p. 3598; Gaz. vol. 160; p. 606.
Automobile wind-screen. E. W. Kingsley. No. 976,373; Nov. 22; Sp. p. 5070; Gaz. vol. 160; p. 861.
Automobiles, Combined carbureter-protector and electric cut-out for. W. O. Nelson. No. 976,487; Nov. 22; Sp. p. 5326; Gaz. vol. 160; p. 903.
Automobiles, Hydraulic transmission for. B. H. Stevenson. No. 976,226; Nov. 22; Sp. p. 4728; Gaz. vol. 160; p. 811.
Autoplane. C. W. Van Winkle. No. 974,846; Nov. 8; Sp. p. 1730; Gaz. vol. 160; p. 290.
Awning-sash construction. J. Love. No. 975,547; Nov. 15; Sp. p. 3285; Gaz. vol. 160; p. 557.
Axes, hammers, &c., Handle-extractor for. J. Veno. No. 975,304; Nov. 8; Sp. p. 2774; Gaz. vol. 160; p. 448.
Axle. W. J. Dunklin and G. R. Marley. No. 976,855; Nov. 29; Sp. p. 6112; Gaz. vol. 160; p. 1052.
Axle bearing-box, Self-lubricating car-. G. E. Tennison. No. 976,314; Nov. 22; Sp. p. 4941; Gaz. vol. 160; p. 842.
Axle box and saddle, Car-. E. L. Sharpneck. No. 977,139; Nov. 29; Sp. p. 6775; Gaz. vol. 160; p. 1152.
Axle-box lubricator. T. Manners. No. 974,407; Nov. 1; Sp. p. 737; Gaz. vol. 160; p. 112.
Axle, Car-. J. O. Neikirk. No. 976,486; Nov. 22; Sp. p. 5325; Gaz. vol. 160; p. 903.
Axle for automobile vehicles, Shaft-driven. F. Pilain. No. 975,276; Nov. 8; Sp. p. 2705; Gaz. vol. 160; p. 437.
Axle, Independent car-. C. A. Girt, J. T. Wilson, and A. Atkins. No. 977,002; Nov. 29; Sp. p. 6475; Gaz. vol. 160; p. 1104.
Axle-lubricating device. E. Armstrong. (Reissue.) No. 13,167; Nov. 15; Sp. p. 4496; Gaz. vol. 160; p. 758.
Axle-lubricator. C. Emerson and J. Peterson. No. 977,287; Nov. 29; Sp. p. 7073; Gaz. vol. 160; p. 1203.
Backboard. J. B. Horton. No. 977,309; Nov. 29; Sp. p. 7111; Gaz. vol. 160; p. 1210.
Bag: *See* Swimming-bag.
Bag-holder. F. C. Vonderahe, Jr. No. 974,615; Nov. 1; Sp. p. 1224; Gaz. vol. 160; p. 188.
Bagasse, Treating. T. J. Hutchinson. No. 975,387; Nov. 8; Sp. p. 2940; Gaz. vol. 160; p. 474.
Bail-ears on sheet-metal vessels, Forming. S. Svenson. No. 975,479; Nov. 15; Sp. p. 3122; Gaz. vol. 160; p. 533.
Bail for lanterns, &c. F. K. Wright. No. 975,817; Nov. 15; Sp. p. 3842; Gaz. vol. 160; p. 647.
Bailing-horn. J. Brauer. No. 974,548; Nov. 1; Sp. p. 1096; Gaz. vol. 160; p. 165.
Bait, Artificial. E. L. Cox. No. 975,833; Nov. 15; Sp. p. 3866; Gaz. vol. 160; p. 653.
Bait, Minnow-. O. F. Immell. No. 974,493; Nov. 1; Sp. p. 961; Gaz. vol. 160; p. 143.
Baking-iron. G. N. Smith. No. 977,141; Nov. 29; Sp. p. 6780; Gaz. vol. 160; p. 1152.
Baling-press. C. E. Walker. No. 974,319; Nov. 1; Sp. p. 561; Gaz. vol. 160; p. 81.
Baling-press. W. S. Livengood. No. 976,474; Nov. 22; Sp. p. 5292; Gaz. vol. 160; p. 898.
Balloon-coverings, Stiffening-skeleton for. W. Rettig. No. 974,434; Nov. 1; Sp. p. 807; Gaz. vol. 160; p. 122.
Banjo. A. G. Rengert and R. S. Schwandt. No. 977,127; Nov. 29; Sp. p. 6746; Gaz. vol. 160; p. 1148.
Bank, Clock-. W. E. Porter. No. 977,126; Nov. 29; Sp. p. 6744; Gaz. vol. 160; p. 1148.
Bank-protector. M. E. Frank. No. 974,564; Nov. 1; Sp. p. 1132; Gaz. vol. 160; p. 170.
Bar: *See* Cutter-bar; Dolly-bar; Furrow-opener drag-bar; Metal bar.
Bar appliance. W. Jansen. No. 976,657; Nov. 22; Sp. p. 5685; Gaz. vol. 160; p. 961.
Bar-cutter, Rotary. P. Hilgers. No. 976,653; Nov. 22; Sp. p. 5675; Gaz. vol. 160; p. 959.
Barium hydroxid, Making anhydrous. C. Rollin. No. 974,993; Nov. 8; Sp. p. 2092; Gaz. vol. 160; p. 341.
Barium oxid, Making. C. Rollin. No. 974,921; Nov. 8; Sp. p. 1910; Gaz. vol. 160; p. 316.
Barrel, Collapsible and folding. S. P. Spitsnagle. No. 975,900; Nov. 15; Sp. p. 4012; Gaz. vol. 160; p. 676.
Barrel-cover fastener. H. U. Ruedy. No. 975,080; Nov. 8; Sp. p. 2271; Gaz. vol. 160; p. 370.
Barrel, Metal. F. E. Firth. No. 975,342; Nov. 8; Sp. p. 2844; Gaz. vol. 160; p. 459.
Barrette. M. J. Farrell and P. J. Dowd. No. 977,379; Nov. 29; Sp. p. 7275; Gaz. vol. 160; p. 1235.
Basket, Fruit-. N. E. Marshburn. No. 976,668; Nov. 22; Sp. p. 5700; Gaz. vol. 160; p. 964.
Bath-tub and lavatory fixture. E. G. Watrous. No. 975,662; Nov. 15; Sp. p. 3533; Gaz. vol. 160; p. 596.
Bath-tub cover. A. Messenger. No. 976,199; Nov. 22; Sp. p. 4653; Gaz. vol. 160; p. 801.
Bath wastes and overflows, Clean-out attachment for. E. Newsome. No. 976,593; Nov. 22; Sp. p. 5556; Gaz. vol. 160; p. 938.
Baths, Hammock for douche and similar. G. L. H. Bürger. No. 975,016; Nov. 8; Sp. p. 2135; Gaz. vol. 160; p. 348.
Baths, Rose for shower-. H. Heidt. No. 977,389; Nov. 29; Sp. p. 7290; Gaz. vol. 160; p. 1238.
Batteries, Control for charging storage. F. W. Schmidt. No. 976,748; Nov. 22; Sp. p. 5847; Gaz. vol. 160; p. 990.
Batteries, Control for charging storage. F. W. Schmidt. No. 976,750; Nov. 22; Sp. p. 5850; Gaz. vol. 160; p. 991.
Batteries, Electrolyte for alkaline. W. Morrison. No. 976,277; Nov. 22; Sp. p. 4866; Gaz. vol. 160; p. 831.
Batteries, Grid for reversible galvanic. W. Morrison. No. 976,824; Nov. 22; Sp. p. 6018; Gaz. vol. 160; p. 1016.
Batteries, Making material for alkaline. W. Morrison. No. 976,279; Nov. 22; Sp. p. 4868; Gaz. vol. 160; p. 831.
Batteries, Manufacturing material for alkaline. W. Morrison. No. 976,278; Nov. 22; Sp. p. 4867; Gaz. vol. 160; p. 831.
Battery: *See* Alkaline battery; Galvanic battery; Secondary battery; Storage battery.
Battery plate, Primary-. A. O. Tate. No. 977,145; Nov. 29; Sp. p. 6789; Gaz. vol. 160; p. 1154.
Battery temperature-controller. F. W. Schmidt. No. 976,747; Nov. 22; Sp. p. 5844; Gaz. vol. 160; p. 990.
Beam and trace connection. W. E. Lamb. No. 974,979; Nov. 8; Sp. p. 2062; Gaz. vol. 160; p. 336.
Beam construction, Trussed-. E. C. Covert. No. 976,436; Nov. 22; Sp. p. 5217; Gaz. vol. 160; p. 885.
Bearing, Ball-. H. Hess. No. 975,616; Nov. 15; Sp. p. 3421; Gaz. vol. 160; p. 581.
Bearing, Center-. W. White. No. 976,326; Nov. 22; Sp. p. 4980; Gaz. vol. 160; p. 846.
Bearing, Combined thrust and guide. O. Junggren. No. 974,392; Nov. 1; Sp. p. 699; Gaz. vol. 160; p. 106.
Bearing, Roller-. W. B. Bary. No. 975,201; Nov. 8; Sp. p. 2555; Gaz. vol. 160; p. 413.
Bearing, Roller-. G. Rennerfelt. No. 977,128; Nov. 29; Sp. p. 6747; Gaz. vol. 160; p. 1148.
Bearing, Shaft-. J. G. Callan. No. 974,119; Nov. 1; Sp. p. 24; Gaz. vol. 160; p. 7.
Bearing, Step-. R. H. Rice. No. 974,186; Nov. 1; Sp. p. 175; Gaz. vol. 160; p. 31.
Bearing with self-adjusting casing, Ball-. C. S. Lockwood. No. 976,477; Nov. 22; Sp. p. 5302; Gaz. vol. 160; p. 899.
Bed. A. M. May. No. 974,287; Nov. 1; Sp. p. 472; Gaz. vol. 160; p. 69.
Bed-cover holder. H. K. Dial. No. 975,335; Nov. 8; Sp. p. 2825; Gaz. vol. 160; p. 457.
Bed, Folding. H. H. Carr. No. 974,747; Nov. 1; Sp. p. 1520; Gaz. vol. 160; p. 233.
Bed, Hospital-. F. E. R. Jones and R. S. Barnum. No. 974,495; Nov. 1; Sp. p. 964; Gaz. vol. 160; p. 143.
Bed-spring. L. Downing. No. 974,758; Nov. 1; Sp. p. 1540; Gaz. vol. 160; p. 236.
Bed, Spring-. W. F. Ade. No. 977,253; Nov. 29; Sp. p. 7008; Gaz. vol. 160; p. 1192.
Bed-spring-raising device. C. M. Schwab. No. 976,937; Nov. 29; Sp. p. 6300; Gaz. vol. 160; p. 1081.
Bedstead, Sofa-. C. A. Warner. No. 977,350; Nov. 29; Sp. p. 7201; Gaz. vol. 160; p. 1224.
Bedsteads and the like, Attachment for. J. Taylor. No. 975,906; Nov. 15; Sp. p. 4021; Gaz. vol. 160; p. 678.
Beef-jack. A. B. Terril and M. Canning. No. 975,806; Nov. 15; Sp. p. 3824; Gaz. vol. 160; p. 644.

Beehive attachment. S. Blagg. No. 976,031; Nov. 15; Sp. p. 4250; Gaz. vol. 160; p. 721.
Beet topper and digger. J. J., Jr., and W. A. Devey. No. 975,218; Nov. 8; Sp. p. 2591; Gaz. vol. 160; p. 418.
Belly-rolling machine. E. R. Zehner. No. 976,113; Nov. 15; Sp. p. 4428; Gaz. vol. 160; p. 750.
Belt. S. Gutman. No. 974,262; Nov. 1; Sp. p. 411; Gaz. vol. 160; p. 60.
Belt-clamp. A. Borup. No. 974,637; Nov. 1; Sp. p. 1279; Gaz. vol. 160; p. 196.
Belt, Conveyer-. W. M. Metzler. No. 975,560; Nov. 15; Sp. p. 3312; Gaz. vol. 160; p. 562.
Belt-fastener. J. H. Constantine and B. V. Tucker. No. 977,168; Nov. 29; Sp. p. 6844; Gaz. vol. 160; p. 1162.
Belt for traction-elevators, Multiple metallic. C. O. Pearson. No. 975,790; Nov. 15; Sp. p. 3791; Gaz. vol. 160; p. 639.
Belt-protector. A. A. Ellis. No. 974,780; Nov. 8; Sp. p. 1593; Gaz. vol. 160; p. 268.
Belt-shifter. B. M. W. Hanson. No. 975,356; Nov. 8; Sp. p. 2870; Gaz. vol. 160; p. 463.
Belt-shifting mechanism. E. Hixon and P. D. Murrin. No. 976,655; Nov. 22; Sp. p. 5681; Gaz. vol. 160; p. 960.
Bench mold, Greenhouse-. F. C. McCaslin. No. 974,685; Nov. 1; Sp. p. 1376; Gaz. vol. 160; p. 214.
Bench-stop. A. D. Goodell. No. 974,482; Nov. 1; Sp. p. 942; Gaz. vol. 160; p. 139.
Bending-machine. E. T. Palmenberg. No. 975,787; Nov. 15; Sp. p. 3786; Gaz. vol. 160; p. 637.
Bicycle-carrier. C. M. Starr. No. 975,085; Nov. 8; Sp. p. 2278; Gaz. vol. 160; p. 372.
Bicycle-chain-adjusting means. G. Kindermans. No. 974,573; Nov. 1; Sp. p. 1146; Gaz. vol. 160; p. 173.
Bicycle-seat, Child's. W. H. Martin. No. 975,973; Nov. 15; Sp. p. 4150; Gaz. vol. 160; p. 702.
Bicycle spring-fork. L. E. Draper. No. 974,365; Nov. 1; Sp. p. 656; Gaz. vol. 160; p. 98.
Billiard-tables, Apparatus for stretching cloth on. A. M. Hubert-Brierre. No. 976,570; Nov. 22; Sp. p. 5508; Gaz. vol. 160; p. 931.
Bin: *See* Measuring-bin.
Bin. W. R. Leibe and A. P. Bonnaffons. No. 977,318; Nov. 29; Sp. p. 7124; Gaz. vol. 160; p. 1212.
Binder, Loose-leaf. L. F. Scherzinger. No. 974,831; Nov. 8; Sp. p. 1694; Gaz. vol. 160; p. 285.
Binder, Loose-leaf. J. A. Mudd. No. 977,120; Nov. 29; Sp. p. 6731; Gaz. vol. 160; p. 1145.
Binder or loose-sheet holder, Temporary. J. A. Starkweather and O. W. Nottingham. No. 974,999; Nov. 8; Sp. p. 2109; Gaz. vol. 160; p. 343.
Binder, Temporary. F. Wolff. No. 976,421; Nov. 22; Sp. p. 5181; Gaz. vol. 160; p. 880.
Bird-guard. L. G. Swanson. No. 974,722; Nov. 1; Sp. p. 1464; Gaz. vol. 160; p. 225.
Bit: *See* Bridle-bit; Mining-machine bit.
Blind-stop. J. A. Hedberg. No. 975,423; Nov. 15; Sp. p. 3007; Gaz. vol. 160; p. 513.
Blind, Ventilating-. H. K. Wheeler. No. 975,491; Nov. 15; Sp. p. 3146; Gaz. vol. 160; p. 537.
Blindstitch-machines, Presser-foot for. L. Onderdonk. No. 976,095; Nov. 15; Sp. p. 4392; Gaz. vol. 160; p. 744.
Block: *See* Track-leveling jack-block.
Block mold, Hollow-partition-. J. F. Makowski. No. 977,025; Nov. 29; Sp. p. 6519; Gaz. vol. 160; p. 1113.
Blower, Positive-displacement rotary. J. J. Gibson and C. L. W. Trinks. No. 974,481; Nov. 1; Sp. p. 939; Gaz. vol. 160; p. 139.
Blowpipe. B. C. Gilligan. No. 976,796; Nov. 22; Sp. p. 5067; Gaz. vol. 160; p. 1007.
Board: *See* Game-board; Ironing-board; Panel-board.
Boat, Hydroplane motor-. C. Meldau. No. 976,588; Nov. 22; Sp. p. 5542; Gaz. vol. 160; p. 937.
Bobbin-boring machine. L. C. Baldwin and E. C. Buffington. No. 974,545; Nov. 1; Sp. p. 1088; Gaz. vol. 160; p. 164.
Bobbin-winder. E. Berger. No. 977,157; Nov. 29; Sp. p. 6812; Gaz. vol. 160; p. 1158.
Body-brace. H. M. Powers. No. 975,454; Nov. 15; Sp. p. 3068; Gaz. vol. 160; p. 524.
Boiler: *See* Electrically-heated boiler; Steam-boiler; Steam and hot-water boiler; Washboiler.
Boiler. W. F. Sellers and C. J. Davidson. No. 975,897; Nov. 15; Sp. p. 4007; Gaz. vol. 160; p. 675.
Boiler. W. F. Sellers and C. J. Davidson. No. 976,103; Nov. 15; Sp. p. 4409; Gaz. vol. 160; p. 747.
Boiler. J. G. Hayden. No. 976,650; Nov. 22; Sp. p. 5671; Gaz. vol. 160; p. 958.
Boiler. S. Prebandier. No. 976,912; Nov. 29; Sp. p. 6232; Gaz. vol. 160; p. 1072.
Boiler circulating attachment. T. Barrow. No. 974,736; Nov. 1; Sp. p. 1464; Gaz. vol. 160; p. 229.
Boiler-cleaner, Mechanical. A. C. Clark. No. 975,328; Nov. 8; Sp. p. 2815; Gaz. vol. 160; p. 455.
Boiler compound. J. Q. Maule. No. 976,894; Nov. 29; Sp. p. 6192; Gaz. vol. 160; p. 1066.
Boiler construction. A. B. Stirling. No. 977,143; Nov. 29; Sp. p. 6783; Gaz. vol. 160; p. 1153.
Boiler construction. A. B. Stirling. No. 977,144; Nov. 29; Sp. p. 6786; Gaz. vol. 160; p. 1153.
Boiler-flue. J. R. Crowley. No. 977,276; Nov. 29; Sp. p. 7049; Gaz. vol. 160; p. 1199.
Boiler-furnace. G. de Grahl. No. 975,763; Nov. 15; Sp. p. 3737; Gaz. vol. 160; p. 630.
Boiler furnace, Steam-. F. Duffy. No. 977,078; Nov. 29; Sp. p. 6632; Gaz. vol. 160; p. 1130.
Boiler-water-glass shield. G. H. Sargent and A. G. Hollingshead. No. 974,299; Nov. 1; Sp. p. 497; Gaz. vol. 160; p. 73.
Boilers, Flame or baffle bridge for water-tube. A. P. Gerald. No. 975,853; Nov. 15; Sp. p. 3917; Gaz. vol. 160; p. 660.
Boilers, Means for regulating pressure in steam-. J. C. Parker. No. 974,911; Nov. 8; Sp. p. 1882; Gaz. vol. 160; p. 311.
Boilers, Mold for baffle-wall construction for. G. W. Laughton. No. 974,894; Nov. 8; Sp. p. 1839; Gaz. vol. 160; p. 306.
Bolt: *See* Anchor-bolt; Expansion-bolt; Self-locking bolt; Sliding bolt.
Bolt-feeding machine. C. E. Mitchell. No. 976,483; Nov. 22; Sp. p. 5316; Gaz. vol. 160; p. 901.
Bolt lock, Wedge-. L. G. Roblin. No. 976,497; Nov. 22; Sp. p. 5344; Gaz. vol. 160; p. 906.
Book-mark. L. Aray. No. 975,924; Nov. 15; Sp. p. 4063; Gaz. vol. 160; p. 685.
Book-rest. E. C. Lockwood. No. 975,140; Nov. 8; Sp. p. 2406; Gaz. vol. 160; p. 391.
Boot and shoe construction. J. T. Woolston. No. 974,732; Nov. 1; Sp. p. 1477; Gaz. vol. 160; p. 228.
Boot and shoe protector. C. B. Reese. No. 977,399; Nov. 29; Sp. p. 7340; Gaz. vol. 160; p. 1241.
Boot or shoe caps, Manufacture of. V. Frey. No. 976,451; Nov. 22; Sp. p. 5249; Gaz. vol. 160; p. 891.
Boring device. E. M. Cobb. No. 976,635; Nov. 22; Sp. p. 5634; Gaz. vol. 160; p. 952.
Bottle, Non-refillable. P. Vice. No. 974,215; Nov. 1; Sp. p. 254; Gaz. vol. 160; p. 42.
Bottle, Non-refillable. S. E. Gill. No. 976,065; Nov. 15; Sp. p. 4315; Gaz. vol. 160; p. 782.
Bottle-stopper. E. S. Church. No. 974,122; Nov. 1; Sp. p. 30; Gaz. vol. 160; p. 8.
Bottle-stopper. C. J. Stauffiger. No. 974,444; Nov. 1; Sp. p. 839; Gaz. vol. 160; p. 124.
Bottle-stopper. G. Colucci. No. 977,167; Nov. 29; Sp. p. 6840; Gaz. vol. 160; p. 1161.
Bottle-washer neck-cleaning device. W. Penman. No. 975,066; Nov. 8; Sp. p. 2240; Gaz. vol. 160; p. 365.
Bottling-machine. A. A. Pindstofte. No. 976,688; Nov. 22; Sp. p. 5725; Gaz. vol. 160; p. 969.
Bottling machine, Liquid-. A. Schneider. No. 976,751; Nov. 22; Sp. p. 5853; Gaz. vol. 160; p. 991.
Bowling-alley. E. Lee. No. 974,400; Nov. 1; Sp. p. 718; Gaz. vol. 160; p. 109.
Bowling apparatus. C. C. Hildreth and H. F. Cook. No. 976,738; Nov. 22; Sp. p. 5822; Gaz. vol. 160; p. 987.
Box: *See* Axle bearing-box; Collapsible box; Color-box; Display-box; Drop-box; Folding box; Junction-box; Knockdown box; Lock-box; Match-box; Meter-box; Miter-box; Phonograph sound-box; Sluice-box; Stationery-box; Stuffing-box; Switch-box; Window provision-box.
Box. J. H. Carter. No. 975,121; Nov. 8; Sp. p. 2361; Gaz. vol. 160; p. 385.
Box. P. R. Warren. No. 975,911; Nov. 15; Sp. p. 4031; Gaz. vol. 160; p. 680.
Box construction, Folding-. D. J. Rex. No. 976,914; Nov. 29; Sp. p. 6234; Gaz. vol. 160; p. 1073.
Box-corner-trimming machine. J. T. Leckenby. No. 976,471; Nov. 22; Sp. p. 5284; Gaz. vol. 160; p. 897.
Box-fastener. P. Rank. No. 974,430; Nov. 1; Sp. p. 799; Gaz. vol. 160; p. 120.
Box-fastener. C. W. Beehler. No. 976,025; Nov. 15; Sp. p. 4243; Gaz. vol. 160; p. 720.
Box-fastener. C. W. Beehler. No. 976,026; Nov. 15; Sp. p. 4244; Gaz. vol. 160; p. 720.
Box-fastener. C. W. Beehler. No. 976,027; Nov. 15; Sp. p. 4246; Gaz. vol. 160; p. 720.
Box-lid holder. M. Davidson. No. 977,278; Nov. 29; Sp. p. 7052; Gaz. vol. 160; p. 1200.
Boxes and the like, Corner-trimming machine for. H. W. Morgan. No. 974,807; Nov. 8; Sp. p. 1647; Gaz. vol. 160; p. 276.
Brace: *See* Body-brace; Broom-brace; Track-brace; Wagon-box brace.
Brace. M. A. Goodson. No. 976,564; Nov. 22; Sp. p. 5492; Gaz. vol. 160; p. 928.
Bracket: *See* Door guide-bracket; Extensible bracket; Folding bracket; Lamp-bracket; Scaffold-bracket; Shade-roller bracket; Window-bracket.
Brake: *See* Air-brake; Automobile air-brake; Car-brake; Coaster-brake; Emergency-brake; Sled-brake; Vehicle-brake; Wagon-brake.
Brake. G. and C. A. Kunz. No. 976,083; Nov. 15; Sp. p. 4351; Gaz. vol. 160; p. 739.
Brake appliance, Accident. M. E. Troutt. No. 976,107; Nov. 15; Sp. p. 4416; Gaz. vol. 160; p. 748.
Brake attachment, Auxiliary coaster-. H. K. Jones. No. 975,432; Nov. 15; Sp. p. 3028; Gaz. vol. 160; p. 516.
Brake-beam. J. B. Hoagland. No. 974,270; Nov. 1; Sp. p. 426; Gaz. vol. 160; p. 63.
Brake-beam. J. A. Lamont. No. 974,283; Nov. 1; Sp. p. 463; Gaz. vol. 160; p. 68.
Brake-beam. C. F. Huntoon. No. 974,797; Nov. 8; Sp. p. 1620; Gaz. vol. 160; p. 273.
Brake-beam. J. J. Hoffman. No. 976,461; Nov. 22; Sp. p. 5264; Gaz. vol. 160; p. 894.

Brake-beam hanger. J. J. Hoffman. No. 976,462; Nov. 22; Sp. p. 5266; Gaz. vol. 160; p. 894.
Brake device, Magnetic. J. N. Mahoney and O. S. McCurdy. No. 977,111; Nov. 29; Sp. p. 6707; Gaz. vol. 160; p. 1142.
Brake mechanism, Car-. W. H. Durant. No. 976,991; Nov. 29; Sp. p. 6443; Gaz. vol. 160; p. 1100.
Brake mechanism for car-trucks. H. W. Blake. No. 976,844; Nov. 29; Sp. p. 6083; Gaz. vol. 160; p. 1048.
Brake mechanisms, Automatic pressure-controlling device for. H. Rowntree. No. 976,925; Nov. 29; Sp. p. 6271; Gaz. vol. 160; p. 1077.
Brake-shoe. J. H. Davis. No. 974,243; Nov. 1; Sp. p. 363; Gaz. vol. 160; p. 52.
Brake-shoe, Reinforced. J. A. Panton. No. 974,589; Nov. 1; Sp. p. 1175; Gaz. vol. 160; p. 179.
Brakes, Means for automatically varying, proportionally to the load, the pneumatic application of friction. L. H. Schenck. No. 976,000; Nov. 15; Sp. p. 4196; Gaz. vol. 160; p. 711.
Braking, Electric. E. F. W. Alexanderson. No. 974,224; Nov. 1; Sp. p. 266; Gaz. vol. 160; p. 45.
Bread-making composition. D. Chidlow. No. 976,343; Nov. 22; Sp. p. 5011; Gaz. vol. 160; p. 851.
Bread or other commodity catching device. G. Mueller. No. 977,213; Nov. 29; Sp. p. 6932; Gaz. vol. 160; p. 1178.
Brewing beer, &c. F. Rogerson. No. 976,002; Nov. 22; Sp. p. 5571; Gaz. vol. 160; p. 942.
Brick-ejecting mechanism. F. Zagelmeyer. No. 976,243; Nov. 22; Sp. p. 4780; Gaz. vol. 160; p. 818.
Brick-handling device, Portable. R. C. Penfield. No. 976,393; Nov. 22; Sp. p. 5128; Gaz. vol. 160; p. 870.
Brick-handling machine. R. C. Penfield. No. 974,292; Nov. 1; Sp. p. 485; Gaz. vol. 160; p. 71.
Brick-handling machine. R. C. Penfield. No. 975,713; Nov. 15; Sp. p. 3636; Gaz. vol. 160; p. 612.
Brick-handling machine. R. C. Penfield. No. 976,394; Nov. 22; Sp. p. 5132; Gaz. vol. 160; p. 870.
Brick-kiln. W. T. Hurd. No. 974,960; Nov. 8; Sp. p. 2039; Gaz. vol. 160; p. 333.
Brick-machine, End-cut. J. Bensing. No. 975,502; Nov. 15; Sp. p. 3174; Gaz. vol. 160; p. 541.
Brickmaking apparatus. J. P. B. Fiske. No. 974,782; Nov. 8; Sp. p. 1597; Gaz. vol. 160; p. 269.
Bridge. J. B. Strauss. No. 974,538; Nov. 1; Sp. p. 1074; Gaz. vol. 160; p. 160.
Bridge safety-gate. C. Faust. No. 974,558; Nov. 1; Sp. p. 1117; Gaz. vol. 160; p. 188.
Bridle-bit. J. A. Fairbanks. No. 976,058; Nov. 15; Sp. p. 4305; Gaz. vol. 160; p. 730.
Bristle-redeeming machine. E. Vogel. No. 976,955; Nov. 29; Sp. p. 6358; Gaz. vol. 160; p. 1088.
Bristles, Redeeming. E. Vogel. No. 977,057; Nov. 29; Sp. p. 6577; Gaz. vol. 160; p. 1122.
Brooder. F. O. Penney. No. 976,685; Nov. 22; Sp. p. 5721; Gaz. vol. 160; p. 969.
Brooder, Poultry-. C. L. Cambridge. No. 976,984; Nov. 29; Sp. p. 6434; Gaz. vol. 160; p. 1098.
Broom-brace. S. G. Wilson. No. 975,916; Nov. 15; Sp. p. 4050; Gaz. vol. 160; p. 682.
Broom-hanger. F. M. Thorpe. No. 974,612; Nov. 1; Sp. p. 1215; Gaz. vol. 160; p. 187.
Broom-holder. C. H. Sorensen. No. 974,998; Nov. 8; Sp. p. 2108; Gaz. vol. 160; p. 343.
Broom-holder. H. M. Keller. No. 976,800; Nov. 22; Sp. p. 5986; Gaz. vol. 160; p. 1011.
Brush. J. B. Rose. No. 974,922; Nov. 8; Sp. p. 1912; Gaz. vol. 160; p. 316.
Brush. S. B. McHenry. No. 975,776; Nov. 15; Sp. p. 3767; Gaz. vol. 160; p. 634.
Brush, Air-. T. A. De Vilbiss. No. 977,281; Nov. 29; Sp. p. 7057; Gaz. vol. 160; p. 1200.
Brush for plan sifters, Sliding. E. Roth. No. 976,697; Nov. 22; Sp. p. 5745; Gaz. vol. 160; p. 973.
Brush for power marking-machines. W. W. McCoy. No. 975,883; Nov. 15; Sp. p. 3978; Gaz. vol. 160; p. 670.
Brush, Fountain toilet-. W. T. Schaefer and J. E. Steere. No. 974,904; Nov. 8; Sp. p. 2003; Gaz. vol. 160; p. 341.
Brush-holder. W. T. Hensley. No. 975,424; Nov. 15; Sp. p. 3008; Gaz. vol. 160; p. 513.
Brush-holder. F. W. Reeves. No. 977,400; Nov. 29; Sp. p. 7343; Gaz. vol. 160; p. 1242.
Brushes and the like, Manufacture of flexible tubes for fountain paint-. G. Meyer. No. 976,899; Nov. 29; Sp. p. 6201; Gaz. vol. 160; p. 1067.
Bucket. F. Wagner. No. 974,217; Nov. 1; Sp. p. 256; Gaz. vol. 160; p. 42.
Bucket, Dumping-. A. W. French. No. 975,345; Nov. 8; Sp. p. 2848; Gaz. vol. 160; p. 460.
Bucking apparatus. E. Bonnin. No. 975,116; Nov. 8; Sp. p. 2354; Gaz. vol. 160; p. 383.
Buckle. W. D. Flynn. No. 975,942; Nov. 15; Sp. p. 4094; Gaz. vol. 160; p. 691.
Buckle. J. B. Hawkins. No. 976,799; Nov. 22; Sp. p. 5971; Gaz. vol. 160; p. 1008.
Buckle, Tug-. T. A. McKee. No. 976,090; Nov. 15; Sp. p. 4371; Gaz. vol. 160; p. 743.
Buffing mechanism. R. D. Gallagher, Jr. No. 974,654; Nov. 1; Sp. p. 1312; Gaz. vol. 160; p. 203.
Building construction. H. I. Jeffers. No. 975,692; Nov. 15; Sp. p. 3595; Gaz. vol. 160; p. 606.
Bullet. G. A. Muenzenmaier and F. M. See. No. 974,418; Nov. 1; Sp. p. 762; Gaz. vol. 160; p. 115.
Bung. P. Heine. No. 974,378; Nov. 1; Sp. p. 680; Gaz. vol. 160; p. 102.
Bung and tap, Barrel. E. Friedman. No. 976,647; Nov. 22; Sp. p. 5661; Gaz. vol. 160; p. 958.
Bungs, &c., Handle for. R. and A. M. Stock. No. 975,174; Nov. 8; Sp. p. 2490; Gaz. vol. 160; p. 403.
Burglar-alarm. F. L. Holmes. No. 975,952; Nov. 15; Sp. p. 4112; Gaz. vol. 160; p. 694.
Burner: *See* Coke-oven burner; Gas-burner; Gas and oil burner; Hydrocarbon-burner; Kerosene-burner; Lamp-burner; Liquid-fuel burner; Oil-burner; Water-heater burner.
Burner. J. E. Flitcroft. No. 975,518; Nov. 15; Sp. p. 3213; Gaz. vol. 160; p. 547.
Burner. W. J. Hackmann. No. 975,859; Nov. 15; Sp. p. 3926; Gaz. vol. 160; p. 662.
Burner. J. P. Reinecke. No. 976,294; Nov. 22; Sp. p. 4891; Gaz. vol. 160; p. 856.
Burner for combustion under high pressure. C. A. Backstrom. No. 974,624; Nov. 1; Sp. p. 1248; Gaz. vol. 160; p. 192.
Burner starting device. A. A. Ball, Jr. No. 974,111; Nov. 1; Sp. p. 9; Gaz. vol. 160; p. 4.
Burnishing-machine. C. Pease. No. 974,422; Nov. 1; Sp. p. 770; Gaz. vol. 160; p. 117.
Burnishing-machine. J. J. Murdoch. No. 975,886; Nov. 15; Sp. p. 3983; Gaz. vol. 160; p. 671.
Butter-separator. W. B. Spencer. No. 977,050; Nov. 29; Sp. p. 6569; Gaz. vol. 160; p. 1121.
Button. N. Tweet. No. 975,808; Nov. 15; Sp. p. 3828; Gaz. vol. 160; p. 645.
Button-blanks, Apparatus for drilling and counterboring thread-holes and cutting thread-niches in. H. J. Skipp. No. 974,532; Nov. 1; Sp. p. 1050; Gaz. vol. 160; p. 157.
Button, Cuff-. H. R. Kohlweyer. No. 974,976; Nov. 8; Sp. p. 2067; Gaz. vol. 160; p. 335.
Button, Hinged-flap. L. A. Pichon and C. M. V. Allenou. No. 976,288; Nov. 22; Sp. p. 4882; Gaz. vol. 160; p. 834.
Button-remover. S. E. Burke. No. 974,118; Nov. 1; Sp. p. 22; Gaz. vol. 160; p. 7.
Buttons and button-fasteners and coupling mechanism, Feed-tube for. G. E. Parker. No. 977,124; Nov. 29; Sp. p. 6739; Gaz. vol. 160; p. 1147.
Buttonhole-cutter. C. L. Rogers. No. 976,300; Nov. 22; Sp. p. 4919; Gaz. vol. 160; p. 838.
Buttoning device. J. G. Robison. No. 976,098; Nov. 15; Sp. p. 4308; Gaz. vol. 160; p. 745.
Cabinet, Automatic weighing-. A. J. Grissom. No. 976,069; Nov. 15; Sp. p. 4323; Gaz. vol. 160; p. 734.
Cabinet, Combination egg-. W. H. Dear. No. 977,075; Nov. 29; Sp. p. 6629; Gaz. vol. 160; p. 1129.
Cabinet, Film-. G. J. Gilmore. No. 976,068; Nov. 15; Sp. p. 4320; Gaz. vol. 160; p. 733.
Cabinet-finishing tool. J. F. Weber. No. 975,590; Nov. 15; Sp. p. 3368; Gaz. vol. 160; p. 572.
Cabinet, Ribbon-. H. E. Blevins and L. Brazille. No. 976,541; Nov. 22; Sp. p. 5447; Gaz. vol. 160; p. 920.
Cabinet, Stamp holding and delivering. E. O. Webb, Jr. No. 976,018; Nov. 15; Sp. p. 4231; Gaz. vol. 160; p. 717.
Cable-carrier apparatus. J. T. Cowley. No. 977,070; Nov. 29; Sp. p. 6612; Gaz. vol. 160; p. 1127.
Cable-hanger. E. G. Jeffries. No. 974,669; Nov. 1; Sp. p. 1337; Gaz. vol. 160; p. 208.
Cable-hanger. G. G. Larsen. No. 976,470; Nov. 22; Sp. p. 5283; Gaz. vol. 160; p. 897.
Cachou-holder. A. M. Ernsberger. No. 975,681; Nov. 15; Sp. p. 3577; Gaz. vol. 160; p. 602.
Calcium carbid, Treatment of. C. C. Wakefield. No. 975,306; Nov. 8; Sp. p. 2777; Gaz. vol. 160; p. 448.
Calculating-machine. F. Trinks. No. 975,180; Nov. 8; Sp. p. 2502; Gaz. vol. 160; p. 405.
Calculating-machine. B. T. O'Brien and W. H. Browning. No. 975,633; Nov. 15; Sp. p. 3453; Gaz. vol. 160; p. 586.
Calculating-machine. B. T. O'Brien and W. H. Browning. No. 975,634; Nov. 15; Sp. p. 3458; Gaz. vol. 160; p. 587.
Calculating-machine. J. Suleder. No. 975,654; Nov. 15; Sp. p. 3512; Gaz. vol. 160; p. 593.
Calculating-machine. O. E. Cloud and A. W. Albers. No. 976,152; Nov. 22; Sp. p. 4532; Gaz. vol. 160; p. 785.
Calculating-machine. G. J. Barrett. No. 976,336; Nov. 22; Sp. p. 4978; Gaz. vol. 160; p. 848.
Calculating-machines, &c., Full-stroke mechanism for. W. W. Hopkins. No. 977,190; Nov. 29; Sp. p. 6892; Gaz. vol. 160; p. 1170.
Calendar. D. T. Davis. No. 974,754; Nov. 1; Sp. p. 1532; Gaz. vol. 160; p. 235.
Calendar, Perpetual. S. L. Berry. No. 975,319; Nov. 8; Sp. p. 2803; Gaz. vol. 160; p. 452.
Calendar-roll. W. S. Granger. No. 975,686; Nov. 15; Sp. p. 3585; Gaz. vol. 160; p. 604.
Caliper-gage. J. Dittrich and F. Devecis. No. 976,359; Nov. 22; Sp. p. 5485; Gaz. vol. 160; p. 927.
Cam. G. T. Watkins. No. 975,589; Nov. 15; Sp. p. 3367; Gaz. vol. 160; p. 571.
Camera. O. W. Plant. No. 974,990; Nov. 8; Sp. p. 2083; Gaz. vol. 160; p. 340.
Camera. J. A. Robertson. No. 975,461; Nov. 15; Sp. p. 3084; Gaz. vol. 160; p. 527.
Camera. I. O. Perring. No. 976,208; Nov. 22; Sp. p. 4666; Gaz. vol. 160; p. 804.
Camera-shutter-operating attachment. J. Becker. No. 975,602; Nov. 15; Sp. p. 3388; Gaz. vol. 160; p. 576.
Camera-shutter-operating mechanism. J. Becker. No. 975,497; Nov. 15; Sp. p. 3160; Gaz. vol. 160; p. 529.
Camera-shutter-operating mechanism. J. Becker. No. 975,601; Nov. 15; Sp. p. 3386; Gaz. vol. 160; p. 575.

Camera shutter, Photographic-. F. C. Schmid and C. F. Dewey. No. 975,464; Nov. 15; Sp. p. 3090; Gaz. vol. 160; p. 528.
Can: *See* Milk-can; Oil-can.
Can-body-making machine. E. V. Swangren. No. 975,655; Nov. 15; Sp. p. 3514; Gaz. vol. 160; p. 594.
Can-closure. O. Becher. No. 975,317; Nov. 8; Sp. p. 2798; Gaz. vol. 160; p. 452.
Can lock, Milk-. T. A. Mather. No. 975,882; Nov. 15; Sp. p. 3976; Gaz. vol. 160; p. 670.
Can-opener. G. F. Hall. No. 974,484; Nov. 1; Sp. p. 945; Gaz. vol. 160; p. 140.
Can spout, Powder-. J. R. Hughes. No. 977,095; Nov. 29; Sp. p. 6669; Gaz. vol. 160; p. 1136.
Cans, Aerating-cover for milk-. S. Shapiro. No. 975,725; Nov. 15; Sp. p. 3653; Gaz. vol. 160; p. 616.
Cans and like receptacles, Closure for. C. Lee. No. 975,964; Nov. 15; Sp. p. 4133; Gaz. vol. 160; p. 699.
Canned goods, Apparatus for processing. A. N. Peters. No. 976,286; Nov. 22; Sp. p. 4879; Gaz. vol. 160; p. 833.
Candlestick, Miner's. A. Viera. No. 974,316; Nov. 1; Sp. p. 542; Gaz. vol. 160; p. 80.
Candlestick, Miner's. G. Freeland. No. 977,381; Nov. 29; Sp. p. 7278; Gaz. vol. 160; p. 1236.
Candy-pulling machine. H. S. Brewington. No. 977,161; Nov. 29; Sp. p. 6825; Gaz. vol. 160; p. 1159.
Cane and similar substances, Apparatus for treating sugar-. G. D. Burton. No. 976,779; Nov. 22; Sp. p. 5936; Gaz. vol. 160; p. 1002.
Cane mills, Hydraulic cap mechanism for sugar-. J. I. Boyer. No. 976,144; Nov. 22; Sp. p. 4515; Gaz. vol. 160; p. 783.
Cane stripper and topper, Sugar-. F. M. Cockrell, Jr. No. 976,850; Nov. 29; Sp. p. 6100; Gaz. vol. 160; p. 1050.
Cant-dog. F. A. Cloudy. No. 976,986; Nov. 29; Sp. p. 6436; Gaz. vol. 160; p. 1099.
Canteen, Compartment-. W. M. Edwards. No. 975,939; Nov. 15; Sp. p. 4090; Gaz. vol. 160; p. 690.
Cap-exploding device. A. F. Lent. No. 976,814; Nov. 22; Sp. p. 5996; Gaz. vol. 160; p. 1013.
Cap, Miner's. A. A. Sonak. No. 974,442; Nov. 1; Sp. p. 836; Gaz. vol. 160; p. 124.
Car and tool-driving machine, Track-. H. W. Jacobs. No. 975,042; Nov. 8; Sp. p. 2193; Gaz. vol. 160; p. 357.
Car and vehicle, Dump-. P. J. Harrigan. No. 975,861; Nov. 15; Sp. p. 3936; Gaz. vol. 160; p. 663.
Car and wagon loader. F. L. Simpson. No. 975,297; Nov. 8; Sp. p. 2760; Gaz. vol. 160; p. 445.
Car-arrester. L. Springer and J. F. Ballamy. No. 976,310; Nov. 22; Sp. p. 4935; Gaz. vol. 160; p. 841.
Car-bolster. J. F. O'Connor. No. 976,206; Nov. 22; Sp. p. 4663; Gaz. vol. 160; p. 804.
Car-bolster side bearing. C. L. Schwartz. No. 974,832; Nov. 8; Sp. p. 1695; Gaz. vol. 160; p. 285.
Car-brake. C. V. Rote. No. 975,893; Nov. 15; Sp. p. 3994; Gaz. vol. 160; p. 674.
Car-brake. M. A. Pahler. No. 976,595; Nov. 22; Sp. p. 5558; Gaz. vol. 160; p. 939.
Car-brake-beam safety-chain holder. C. L. Schwartz. No. 976,220; Nov. 22; Sp. p. 4703; Gaz. vol. 160; p. 809.
Car brake, Emergency street-. J. A. Gutmann. No. 977,089; Nov. 29; Sp. p. 6649; Gaz. vol. 160; p. 1133.
Car brake, Railway-. L. de Vito. No. 975,908; Nov. 15; Sp. p. 4026; Gaz. vol. 160; p. 679.
Car buffing mechanism, Passenger-. R. D. Gallagher, Jr. No. 975,945; Nov. 15; Sp. p. 4099; Gaz. vol. 160; p. 692.
Car construction. F. W. C. Schniewind. No. 976,932; Nov. 29; Sp. p. 6295; Gaz. vol. 160; p. 1079.
Car construction, Metallic. A. Becker. No. 974,341; Nov. 1; Sp. p. 602; Gaz. vol. 160; p. 90.
Car controlling system, Motor-traction-. W. C. Mayo. No. 974,683; Nov. 1; Sp. p. 1366; Gaz. vol. 160; p. 213.
Car, Convertible passenger railway-. M. Rounds. No. 976,218; Nov. 22; Sp. p. 4696; Gaz. vol. 160; p. 808.
Car-coupling. E. H. Janney. No. 974,153; Nov. 1; Sp. p. 91; Gaz. vol. 160; p. 19.
Car-coupling. E. H. Janney. No. 974,154; Nov. 1; Sp. p. 94; Gaz. vol. 160; p. 19.
Car-coupling. G. C. Harlin. No. 976,361; Nov. 22; Sp. p. 5051; Gaz. vol. 160; p. 857.
Car-coupling. R. B. H. Leighton and V. W. Zilen. No. 976,583; Nov. 22; Sp. p. 5534; Gaz. vol. 160; p. 935.
Car-coupling. H. C. Crigger. No. 977,373; Nov. 29; Sp. p. 7264; Gaz. vol. 160; p. 1233.
Car-coupling-operating attachment. F. Horn. No. 974,793; Nov. 8; Sp. p. 1616; Gaz. vol. 160; p. 272.
Car-couplings, Chain-hole cap for. A. J. Baseley. No. 975,926; Nov. 15; Sp. p. 4065; Gaz. vol. 160; p. 685.
Car-door. C. M. Christensen. No. 975,209; Nov. 8; Sp. p. 2577; Gaz. vol. 160; p. 415.
Car-door. H. A. Christy. No. 975,749; Nov. 15; Sp. p. 3706; Gaz. vol. 160; p. 625.
Car-door fastener. J. Gauthier. No. 975,847; Nov. 8; Sp. p. 2851; Gaz. vol. 160; p. 461.
Car-door guide and guard. M. L. Cotter. No. 977,069; Nov. 29; Sp. p. 6610; Gaz. vol. 160; p. 1127.
Car-door-locking device. C. W. Bitner. No. 975,118; Nov. 8; Sp. p. 2350; Gaz. vol. 160; p. 382.
Car draft-rigging, Railway. C. S. Shallenberger. No. 976,508; Nov. 22; Sp. p. 5359; Gaz. vol. 160; p. 909.
Car, Drop-bottom. A. Becker. No. 976,538; Nov. 22; Sp. p. 5440; Gaz. vol. 160; p. 919.
Car, Dump-. A. Campbell. No. 974,470; Nov. 1; Sp. p. 910; Gaz. vol. 160; p. 134.
Car, Dump-. A. Campbell. No. 974,471; Nov. 1; Sp. p. 912; Gaz. vol. 160; p. 135.
Car, Dump-. J. E. Tesseyman and F. L. Irwin. No. 976,411; Nov. 22; Sp. p. 5162; Gaz. vol. 160; p. 877.
Car, dumping-door, Railway-. E. W. Summers. No. 975,804; Nov. 15; Sp. p. 3820; Gaz. vol. 160; p. 643.
Car-dumping mechanism. F. C. Greene. No. 976,168; Nov. 22; Sp. p. 4578; Gaz. vol. 160; p. 790.
Car-dumping mechanism. F. C. Greene. No. 976,170; Nov. 22; Sp. p. 4594; Gaz. vol. 160; p. 791.
Car-dumping mechanism, Continuous. F. C. Greene and C. G. Palmer. No. 976,167; Nov. 22; Sp. p. 4568; Gaz. vol. 160; p. 790.
Car-dumping mechanism, Continuous. F. C. Greene and C. G. Palmer. No. 976,169; Nov. 22; Sp. p. 4590; Gaz. vol. 160; p. 791.
Car equalizing mechanism. H. W. Blake. No. 976,845; Nov. 29; Sp. p. 6087; Gaz. vol. 160; p. 1048.
Car-fender. O. J. Schmitt. No. 974,300; Nov. 1; Sp. p. 499; Gaz. vol. 160; p. 73.
Car-fender. J. M. Moorhouse. No. 975,780; Nov. 15; Sp. p. 3775; Gaz. vol. 160; p. 635.
Car, Freight-. J. M. Coleman. No. 975,398; Nov. 15; Sp. p. 2968; Gaz. vol. 160; p. 504.
Car friction draft-rigging, Railway-. C. L. Bundy. No. 974,467; Nov. 1; Sp. p. 903; Gaz. vol. 160; p. 133.
Car-gate. J. W. Bussey. No. 977,270; Nov. 29; Sp. p. 7041; Gaz. vol. 160; p. 1197.
Car grain-door. O. J. Olson. No. 976,284; Nov. 22; Sp. p. 4875; Gaz. vol. 160; p. 832.
Car life-guard, Railway-. G. A. Parmenter. (Reissue.) No. 13,172; Nov. 22; Sp. p. 6041; Gaz. vol. 160; p. 1021.
Car, Passenger-. E. T. Robinson. No. 976,601; Nov. 22; Sp. p. 5569; Gaz. vol. 160; p. 941.
Car, Passenger-. C. H. Anderson. No. 977,359; Nov. 29; Sp. p. 7233; Gaz. vol. 160; p. 1228.
Car-platform door and step guard. H. Howson. No. 977,310; Nov. 29; Sp. p. 7112; Gaz. vol. 160; p. 1210.
Car, Railway-. F. L. Erwin and J. E. Tesseyman. No. 977,405; Nov. 29; Sp. p. 7352; Gaz. vol. 160; p. 1243.
Car, Railway dump-. A. Campbell. No. 974,642; Nov. 1; Sp. p. 1285; Gaz. vol. 160; p. 198.
Car-seat structure. F. H. Henry. No. 974,664; Nov. 1; Sp. p. 1330; Gaz. vol. 160; p. 206.
Car-step and gate, Combination. B. Capra. No. 975,017; Nov. 8; Sp. p. 2136; Gaz. vol. 160; p. 348.
Car-step, Folding-. R. W. Lomax. No. 976,195; Nov. 22; Sp. p. 4646; Gaz. vol. 160; p. 800.
Car-tallying device, Mine-. J. Ross. No. 976,696; Nov. 22; Sp. p. 5744; Gaz. vol. 160; p. 973.
Car underframe, Railway-. A. Becker. No. 976,426; Nov. 22; Sp. p. 5191; Gaz. vol. 160; p. 882.
Car-wheel. W. H. Daugherty. No. 974,863; Nov. 1; Sp. p. 653; Gaz. vol. 160; p. 98.
Car-wheel. G. H. Bryant and A. Ziesing. No. 974,549; Nov. 1; Sp. p. 1098; Gaz. vol. 160; p. 165.
Car-wheel. P. Holmgren. No. 977,308; Nov. 29; Sp. p. 7109; Gaz. vol. 160; p. 1209.
Car-wheel blanks, Manufacturing. H. R. Keithley. No. 975,383; Nov. 8; Sp. p. 2932; Gaz. vol. 160; p. 473.
Car wheel, Self-lubricating pit. F. S. Armstrong, Jr. No. 977,360; Nov. 29; Sp. p. 7284; Gaz. vol. 160; p. 1228.
Cars, Friction-buffer for railway-. J. F. O'Connor. No. 976,903; Nov. 29; Sp. p. 6206; Gaz. vol. 160; p. 1068.
Cars, Friction draft-gear for railway-. A. Becker. No. 976,427; Nov. 22; Sp. p. 5192; Gaz. vol. 160; p. 882.
Cars, &c., from entry, Means for protecting freight-. J. A. Campbell. No. 975,508; Nov. 15; Sp. p. 3192; Gaz. vol. 160; p. 543.
Carbon-black together with combustible gas, Production of. W. H. Frost and J. J. Nix. No. 977,000; Nov. 29; Sp. p. 6468; Gaz. vol. 160; p. 1103.
Carbonating-machine. L. Caul. No. 974,774; Nov. 8; Sp. p. 1577; Gaz. vol. 160; p. 265.
Carbonizing. A. F. Rockwell. No. 975,076; Nov. 8; Sp. p. 2263; Gaz. vol. 160; p. 369.
Carbonizing apparatus. A. F. Rockwell. No. 975,077; Nov. 8; Sp. p. 2265; Gaz. vol. 160; p. 369.
Carburetер. G. A. Hockman. No. 975,033; Nov. 8; Sp. p. 2185; Gaz. vol. 160; p. 356.
Carbureter. H. M. Pieplu. No. 975,156; Nov. 8; Sp. p. 2438; Gaz. vol. 160; p. 396.
Carbureter. W. H. Potthast. No. 975,635; Nov. 15; Sp. p. 3465; Gaz. vol. 160; p. 587.
Carbureter. J. H. Koontz. No. 975,696; Nov. 15; Sp. p. 3600; Gaz. vol. 160; p. 607.
Carbureter. R. W. Gallagher. No. 976,258; Nov. 22; Sp. p. 4825; Gaz. vol. 160; p. 824.
Carbureter. J. W. Walters. No. 976,322; Nov. 22; Sp. p. 4953; Gaz. vol. 160; p. 844.
Carbureter. S. Christofferson, N. T. Woods, and W. P. Jones. No. 976,344; Nov. 22; Sp. p. 5013; Gaz. vol. 160; p. 851.
Carbureter. H. M. Reichenbach. No. 976,692; Nov. 22; Sp. p. 5735; Gaz. vol. 160; p. 971.
Carbureter. O. C. Kreis, Jr. No. 976,818; Nov. 22; Sp. p. 5993; Gaz. vol. 160; p. 1013.
Carbureter. B. Ivor. No. 976,881; Nov. 29; Sp. p. 6161; Gaz. vol. 160; p. 1062.
Carbureter. J. N. Petersen and W. F. Pettit. No. 976,911; Nov. 29; Sp. p. 6229; Gaz. vol. 160; p. 1072.
Carbureter. B. Rebourg. No. 977,044; Nov. 29; Sp. p. 6554; Gaz. vol. 160; p. 1119.
Carbureter. P. M. Blom. No. 977,066; Nov. 29; Sp. p. 6595; Gaz. vol. 160; p. 1126.

Carbureter and vaporizer for internal-combustion engines. A. Westmacott. No. 976,237; Nov. 22; Sp. p. 4761; Gaz. vol. 160; p. 816.
Carbureters, Air-controlling mechanism for. J. M. Dayton. No. 976,558; Nov. 22; Sp. p. 5482; Gaz. vol. 160; p. 926.
Carbureters, Triple auxiliary air-valve for. V. H. Donnelly, H. B. Koessler, and J. T. Weinzierl. No. 977,377; Nov. 29; Sp. p. 7270; Gaz. vol. 160; p. 1234.
Carbureting apparatus. C. M. Kemp. No. 976,885; Nov. 29; Sp. p. 6174; Gaz. vol. 160; p. 1063.
Card-case. A. Schickerling. No. 976,605; Nov. 22; Sp. p. 5575; Gaz. vol. 160; p. 943.
Card, Hand-. C. F. Beckwith. No. 976,141; Nov. 22; Sp. p. 4510; Gaz. vol. 160; p. 782.
Card-playing device. F. E. Iorio. No. 974,970; Nov. 8; Sp. p. 2041; Gaz. vol. 160; p. 333.
Cards, Playing-. F. G. McPherson. No. 977,117; Nov. 29; Sp. p. 6722; Gaz. vol. 160; p. 1144.
Carding-machine. W. Sullivan. No. 976,756; Nov. 22; Sp. p. 5884; Gaz. vol. 160; p. 993.
Carline, Metallic. E. C. Covert. No. 976,435; Nov. 22; Sp. p. 5216; Gaz. vol. 160; p. 885.
Carousel. A. G. Reynolds. No. 974,509; Nov. 1; Sp. p. 1191; Gaz. vol. 160; p. 182.
Carpet-stretcher. W. H. Metcalfe. No. 977,210; Nov. 29; Sp. p. 6928; Gaz. vol. 160; p. 1177.
Carpet-sweepers, Detachable brush-guard for. J. M. Spangler. No. 974,304; Nov. 1; Sp. p. 507; Gaz. vol. 160; p. 75.
Carriage-curtain fastener. W. Esty. No. 976,057; Nov. 15; Sp. p. 4304; Gaz. vol. 160; p. 730.
Carriage-feed cylinder-mounting. C. P. Myer. No. 975,784; Nov. 15; Sp. p. 3781; Gaz. vol. 160; p. 637.
Carrier: *See* Automobile baggage-carrier; Bicycle-carrier; Cash and package carrier; Corn-shock carrier; Curtain-pole carrier; Elevated carrier; Hay-carrier; Hose-carrier; Pneumatic-despatch-tube-apparatus carrier; Trace-carrier; Umbrella-carrier; Wing-carrier.
Carrier for compressed fibrous materials. C. H. Merry. No. 974,904; Nov. 8; Sp. p. 1871; Gaz. vol. 160; p. 309.
Cartridge for reduced shot. F. Hartmann. No. 976,459; Nov. 22; Sp. p. 5260; Gaz. vol. 160; p. 893.
Cartridge, Shot-. E. P. Follett. No. 974,369; Nov. 1; Sp. p. 661; Gaz. vol. 160; p. 99.
Case: *See* Card-case; Casket-case; Cigar-case; Display-case; Knockdown case; Match-case; Packing-case; Pocket-case; Sample-case; Type-case.
Cash and autographic register. J. A. Werner. No. 975,489; Nov. 15; Sp. p. 3142; Gaz. vol. 160; p. 537.
Cash and package carrier. H. M. Weaver. No. 977,059; Nov. 29; Sp. p. 6581; Gaz. vol. 160; p. 1123.
Cash-register. E. S. Church. No. 974,952; Nov. 8; Sp. p. 1987; Gaz. vol. 160; p. 327.
Cash-register. W. H. Muzzy. No. 975,061; Nov. 8; Sp. p. 2230; Gaz. vol. 160; p. 363.
Cash-register. R. Treber. No. 975,735; Nov. 15; Sp. p. 3678; Gaz. vol. 160; p. 620.
Cash-registering, change-making, and recording and accounting machine. M. P. Morrison. No. 977,393; Nov. 29; Sp. p. 7294; Gaz. vol. 160; p. 1239.
Casting anode plates, Machine for. R. Truswell. No. 974,541; Nov. 1; Sp. p. 1079; Gaz. vol. 160; p. 161.
Casting metal. C. H. Upson. No. 974,934; Nov. 8; Sp. p. 1943; Gaz. vol. 160; p. 320.
Casing-spear. C. C. Hecter. No. 976,651; Nov. 22; Sp. p. 5673; Gaz. vol. 160; p. 959.
Casket-case. W. Pye and L. D. Nourse. No. 976,213; Nov. 22; Sp. p. 4670; Gaz. vol. 160; p. 806.
Celluloid rods, Manufacture of pointed. G. Petitcollin. No. 977,326; Nov. 29; Sp. p. 7143; Gaz. vol. 160; p. 1216.
Cellulose or pyroxylin compound. P. H. A. Leder. No. 974,285; Nov. 1; Sp. p. 467; Gaz. vol. 160; p. 68.
Cement and product, Making waterproof Portland. M. Toch. No. 976,520; Nov. 22; Sp. p. 5380; Gaz. vol. 160; p. 913.
Cement-block-handling device. R. L. Hensley. No. 976,652; Nov. 22; Sp. p. 5674; Gaz. vol. 160; p. 959.
Cement-block machine. H. E. Baker and W. R. Johnson. No. 975,108; Nov. 8; Sp. p. 2332; Gaz. vol. 160; p. 381.
Cement-block mold. R. J. Bratton. No. 974,350; Nov. 1; Sp. p. 619; Gaz. vol. 160; p. 93.
Cement-block-molding machine. R. J. Hamilton. No. 975,231; Nov. 8; Sp. p. 2610; Gaz. vol. 160; p. 422.
Cement-mold. R. F. Hanneman. No. 975,615; Nov. 15; Sp. p. 3419; Gaz. vol. 160; p. 580.
Cement walls, Flask for building. J. C. Joslin. No. 974,673; Nov. 1; Sp. p. 1349; Gaz. vol. 160; p. 209.
Cements, Facilitating and accelerating the hardening of hydraulic. L. Hatschek. No. 974,138; Nov. 1; Sp. p. 62; Gaz. vol. 160; p. 13.
Ceramic materials, Apparatus for burning. H. L. Doherty. No. 974,646; Nov. 1; Sp. p. 1296; Gaz. vol. 160; p. 199.
Chain. C. W. Levalley. No. 975,965; Nov. 15; Sp. p. 4134; Gaz. vol. 160; p. 699.
Chain-coupling. J. M. Brown. No. 975,323; Nov. 8; Sp. p. 2809; Gaz. vol. 160; p. 454.
Chain-link-forming machine. C. L. Hoff and M. O. Rehfuss. No. 976,568; Nov. 22; Sp. p. 5504; Gaz. vol. 160; p. 930.
Chain, Making. L. Bruckmann. No. 975,928; Nov. 15; Sp. p. 4067; Gaz. vol. 160; p. 686.
Chain or chain-link. T. J. Williams. No. 977,355; Nov. 29; Sp. p. 7209; Gaz. vol. 160; p. 1226.
Chair: *See* Convertible chair; Hydraulic chair; Operating-chair; Rail-chair; Trick-chair.
Chair. M. B. Williams. No. 975,188; Nov. 8; Sp. p. 2528; Gaz. vol. 160; p. 409.
Chair and the like seat. E. J. Hoff. No. 974,769; Nov. 1; Sp. p. 1563; Gaz. vol. 160; p. 241.
Chair head-rest. F. Ritter. No. 974,188; Nov. 1; Sp. p. 189; Gaz. vol. 160; p. 32.
Chair-seat. C. Munson and J. Jackson. No. 975,632; Nov. 15; Sp. p. 3461; Gaz. vol. 160; p. 586.
Chair table attachment. A. G. Eyles. No. 975,755; Nov. 15; Sp. p. 3717; Gaz. vol. 160; p. 627.
Chairs, Valve mechanism for dental or other similar. F. Ritter. No. 974,189; Nov. 1; Sp. p. 198; Gaz. vol. 160; p. 32.
Chandelier-support. J. Rau. No. 976,291; Nov. 22; Sp. p. 4886; Gaz. vol. 160; p. 835.
Change maker and indicator. L. Kleinhans. No. 976,129; Nov. 15; Sp. p. 4462; Gaz. vol. 160; p. 755.
Chaplet, Adjustable. T. H. Wells. No. 974,218; Nov. 1; Sp. p. 257; Gaz. vol. 160; p. 43.
Chart or guide, Color. E. W. Fairchild. No. 975,341; Nov. 8; Sp. p. 2843; Gaz. vol. 160; p. 459.
Check-controlled apparatus. W. F. Ablett. No. 976,114; Nov. 15; Sp. p. 4429; Gaz. vol. 160; p. 751.
Checkrein-holder. P. P. Catalano. No. 974,472; Nov. 1; Sp. p. 913; Gaz. vol. 160; p. 135.
Chemical-feeding device. J. E. Caps. No. 976,148; Nov. 22; Sp. p. 4522; Gaz. vol. 160; p. 784.
Cherry-picker. W. N. Bryers. No. 977,369; Nov. 29; Sp. p. 7258; Gaz. vol. 160; p. 1232.
Cherry-pitting machine. S. J. Dunkley. No. 974,759; Nov. 1; Sp. p. 1541; Gaz. vol. 160; p. 237.
Chimney-cap. E. J. Cochran. No. 976,849; Nov. 29; Sp. p. 6099; Gaz. vol. 160; p. 1049.
Chimney-cowl. E. C. Powers. No. 975,636; Nov. 15; Sp. p. 3467; Gaz. vol. 160; p. 587.
Chlorates, Purifying. R. Gartenmeister. No. 975,613; Nov. 15; Sp. p. 3416; Gaz. vol. 160; p. 580.
Chopper: *See* Cotton-chopper.
Chuck. J. A. Leland. No. 974,896; Nov. 8; Sp. p. 1847; Gaz. vol. 160; p. 307.
Chuck. G. K. Garvin and E. J. McClellan. No. 976,452; Nov. 22; Sp. p. 5250; Gaz. vol. 160; p. 891.
Chuck, Grinding-. G. W. Fry. No. 975,408; Nov. 15; Sp. p. 2983; Gaz. vol. 160; p. 507.
Chuck, Tapping and drilling. J. A. Dalton. No. 974,239; Nov. 1; Sp. p. 355; Gaz. vol. 160; p. 50.
Churn. T. J. Jarnagin. No. 975,044; Nov. 8; Sp. p. 2198; Gaz. vol. 160; p. 357.
Churn. J. E. Dinwiddie. No. 977,077; Nov. 29; Sp. p. 6631; Gaz. vol. 160; p. 1130.
Churn apparatus, Vacuum. T. Berntson. No. 975,380; Nov. 8; Sp. p. 2926; Gaz. vol. 160; p. 472.
Churn attachment. W. De Vries. No. 974,244; Nov. 1; Sp. p. 365; Gaz. vol. 160; p. 52.
Churn-operating motor, Mechanical. S. F. Dykes. No. 976,857; Nov. 29; Sp. p. 6115; Gaz. vol. 160; p. 1053.
Chute. J. E. Brazeal. No. 974,351; Nov. 1; Sp. p. 620; Gaz. vol. 160; p. 94.
Chute, Intercepting-. W. W. and J. C. Dorsey. No. 976,852; Nov. 29; Sp. p. 6105; Gaz. vol. 160; p. 1051.
Cigar-case. C. L'Enfant. No. 976,190; Nov. 22; Sp. p. 4637; Gaz. vol. 160; p. 798.
Cigarette-holder receptacle. J. C. Darst. No. 974,128; Nov. 1; Sp. p. 46; Gaz. vol. 160; p. 10.
Cigarette-machine. J. J. Daprato. No. 976,441; Nov. 22; Sp. p. 5227; Gaz. vol. 160; p. 887.
Cigarette-mouthpiece machine. W. Benjaminowitsch. No. 976,624; Nov. 22; Sp. p. 5609; Gaz. vol. 160; p. 949.
Cigarette-tipping machine. G. B. Hutton. No. 977,015; Nov. 29; Sp. p. 6500; Gaz. vol. 160; p. 1109.
Circuit-breaker. F. W. Harris. No. 975,421; Nov. 15; Sp. p. 3005; Gaz. vol. 160; p. 512.
Circuit-controlling mechanism. F. Bechoff. No. 974,112; Nov. 1; Sp. p. 13; Gaz. vol. 160; p. 5.
Circuit-disconnecting switch, High-potential. S. Q. Hayes. No. 975,422; Nov. 15; Sp. p. 3006; Gaz. vol. 160; p. 512.
Circuit-interrupter. C. B. Auel and J. R. Spurrier. No. 974,109; Nov. 1; Sp. p. 3; Gaz. vol. 160; p. 3.
Circuit-opener. C. C. Badeau. No. 976,838; Nov. 29; Sp. p. 6067; Gaz. vol. 160; p. 1046.
Circuit, Substation-. J. J. Lyng. No. 976,196; Nov. 22; Sp. p. 4649; Gaz. vol. 160; p. 800.
Cistern-cleaner closure. G. T. Moore. No. 974,416; Nov. 1; Sp. p. 760; Gaz. vol. 160; p. 115.
Clamp: *See* Belt-clamp; Rail-clamp; Rod-clamp; Rope and chain clamp; Tire-clamp; Type-writer clamp; Wire-clamp.
Clamp. E. Athey. No. 976,334; Nov. 22; Sp. p. 4976; Gaz. vol. 160; p. 848.
Clamp. S. R. Paradise. No. 976,829; Nov. 22; Sp. p. 6024; Gaz. vol. 160; p. 1018.
Clamping device. W. Clore. No. 975,832; Nov. 15; Sp. p. 3866; Gaz. vol. 160; p. 653.
Clamping device. W. J. Cannady. No. 975,934; Nov. 15; Sp. p. 4081; Gaz. vol. 160; p. 688.
Clamping device. S. R. Paradise. No. 976,828; Nov. 22; Sp. p. 6023; Gaz. vol. 160; p. 1017.
Clasp: *See* Corset-clasp; Garment-clasp.
Clasp. B. Nelson. No. 975,063; Nov. 8; Sp. p. 2235; Gaz. vol. 160; p. 364.
Clasp. S. Zeugschmidt. No. 975,102; Nov. 8; Sp. p. 2314; Gaz. vol. 160; p. 378.

Clasp or buckle. D. Kops and J. J. Buchanan. No. 974,977; Nov. 8; Sp. p. 2059; Gaz. vol. 160; p. 336.
Clay and sand screen. A. W. Holl. No. 977,009; Nov. 29; Sp. p. 6489; Gaz. vol. 160; p. 1107.
Clay loader and scraper. W. A. Mohrbach. No. 974,905; Nov. 8; Sp. p. 1873; Gaz. vol. 160; p. 310.
Cleaner: *See* Boiler-cleaner; Comb-cleaner; Fruit-cleaner; Glass-cleaner; Pneumatic cleaner; Rust-cleaner; Shoe-cleaner; Vacuum-cleaner; Window-cleaner.
Cleaning apparatus. T. J. and D. M. Winans. No. 975,095; Nov. 8; Sp. p. 2293; Gaz. vol. 160; p. 375.
Cleaning-machine. A. A. H. Börjeson and E. A. Fagerlund. No. 976,775; Nov. 22; Sp. p. 5928; Gaz. vol. 160; p. 1000.
Clevis. N. A. Niemie. No. 975,786; Nov. 15; Sp. p. 3784; Gaz. vol. 160; p. 637.
Clicking-press. F. R. Fuller. No. 974,373; Nov. 1; Sp. p. 668; Gaz. vol. 160; p. 100.
Clipping and pruning instrument, Fruit. B. J. Cloes. No. 974,553; Nov. 1; Sp. p. 1103; Gaz. vol. 160; p. 166.
Clock. J. D. Law. No. 975,877; Nov. 15; Sp. p. 3961; Gaz. vol. 160; p. 668.
Clock, Alarm-. W. J. Larkin. No. 977,199; Nov. 29; Sp. p. 6910; Gaz. vol. 160; p. 1173.
Clock, Electric watchman's. G. B. Feessenden. No. 974,561; Nov. 1; Sp. p. 1126; Gaz. vol. 160; p. 169.
Clock-regulator. W. E. Porter. No. 975,793; Nov. 15; Sp. p. 3796; Gaz. vol. 160; p. 640.
Clock-signal attachment. O. P. Ragan. No. 976,214; Nov. 22; Sp. p. 4680; Gaz. vol. 160; p. 806.
Closet: *See* Water-closet.
Closure-locking means. C. J. Ljunggren. No. 974,897; Nov. 8; Sp. p. 1840; Gaz. vol. 160; p. 307.
Cloth in the desired lengths, Device for piling. S. Sampson. No. 976,604; Nov. 22; Sp. p. 5573; Gaz. vol. 160; p. 942.
Cloth-treating apparatus. D. Gessner. No. 975,349; Nov. 8; Sp. p. 2854; Gaz. vol. 160; p. 461.
Clothes-drier. G. Scroggie. No. 975,575; Nov. 15; Sp. p. 3344; Gaz. vol. 160; p. 567.
Clothes-hanger. P. Ashton. No. 976,772; Nov. 22; Sp. p. 5920; Gaz. vol. 160; p. 999.
Clothes-line. W. J. Walsh. No. 975,811; Nov. 15; Sp. p. 3833; Gaz. vol. 160; p. 646.
Clothes-line. W. O. Walston. No. 976,412; Nov. 22; Sp. p. 5164; Gaz. vol. 160; p. 877.
Clothes-line holder. E. Jonas. No. 974,888; Nov. 1; Sp. p. 694; Gaz. vol. 160; p. 105.
Clothes-line reel. L. T. Obele. No. 976,826; Nov. 22; Sp. p. 6021; Gaz. vol. 160; p. 1017.
Clothes-wringer. A. N. Kell. No. 975,624; Nov. 15; Sp. p. 3440; Gaz. vol. 160; p. 584.
Clutch. E. Symmonds, Jr. No. 975,583; Nov. 15; Sp. p. 3356; Gaz. vol. 160; p. 570.
Clutch and brake, Combined. D. Miolans. No. 975,629; Nov. 15; Sp. p. 3448; Gaz. vol. 160; p. 585.
Clutch and brake operating mechanism, Interconnected. S. B. Fishburne and I. H. Bond. No. 974,649; Nov. 1; Sp. p. 1304; Gaz. vol. 160; p. 201.
Clutch, Friction-. J. A. Fridgen. No. 975,226; Nov. 8; Sp. p. 2604; Gaz. vol. 160; p. 420.
Clutch, Friction-. H. J. Smith. No. 975,578; Nov. 15; Sp. p. 3348; Gaz. vol. 160; p. 568.
Clutch, Friction-. H. W. Jacobs and H. H. Lanning. No. 975,621; Nov. 15; Sp. p. 3428; Gaz. vol. 160; p. 582.
Clutch, Friction-. C. J. Fensom. No. 975,846; Nov. 15; Sp. p. 3895; Gaz. vol. 160; p. 658.
Clutch, Friction-. B. D. Northrup. No. 975,987; Nov. 15; Sp. p. 4171; Gaz. vol. 160; p. 706.
Clutch mechanism. W. W. Dryden. No. 974,248; Nov. 1; Sp. p. 373; Gaz. vol. 160; p. 54.
Clutch, Motor-cycle friction-. J. R. Spangler. No. 974,830; Nov. 8; Sp. p. 1712; Gaz. vol. 160; p. 287.
Coal, &c., Apparatus for washing, grading, and classifying. F. D. Baker. No. 976,425; Nov. 22; Sp. p. 5188; Gaz. vol. 160; p. 881.
Coal-loading device. R. M. Fox. No. 974,225; Nov. 8; Sp. p. 2602; Gaz. vol. 160; p. 420.
Coaling device. V. Anderson. No. 975,312; Nov. 8; Sp. p. 2786; Gaz. vol. 160; p. 450.
Coaster-brake. W. A. Bartels. No. 975,389; Nov. 15; Sp. p. 2954; Gaz. vol. 160; p. 501.
Coat and trousers hanger, Combination. J. E. Carroll. No. 975,509; Nov. 15; Sp. p. 3194; Gaz. vol. 160; p. 544.
Coating, Anticorrosive. F. E. Dodge. No. 975,124; Nov. 8; Sp. p. 2374; Gaz. vol. 160; p. 386.
Coating articles with pulverulent material, Apparatus for. C. Doering, Jr. No. 976,443; Nov. 22; Sp. p. 5233; Gaz. vol. 160; p. 888.
Coating for carbon bodies, Protective. H. Viertel and G. Egly. No. 976,319; Nov. 22; Sp. p. 4950; Gaz. vol. 160; p. 844.
Cock and needle valve, Combined. L. E. Shaw. No. 975,469; Nov. 15; Sp. p. 3103; Gaz. vol. 160; p. 530.
Cock, Basin-. E. G. Watrous. No. 974,938; Nov. 8; Sp. p. 1950; Gaz. vol. 160; p. 321.
Cock, Filter-press. N. A. Lockwood. No. 974,580; Nov. 1; Sp. p. 1159; Gaz. vol. 160; p. 175.
Cock for air-brakes. H. H. Westinghouse. No. 977,242; Nov. 29; Sp. p. 6990; Gaz. vol. 160; p. 1188.
Cock, Gage-. S. Patton. No. 974,515; Nov. 1; Sp. p. 1017; Gaz. vol. 160; p. 151.
Cock, Plug-. G. Robson. No. 975,162; Nov. 8; Sp. p. 2462; Gaz. vol. 160; p. 399.
Cock, Signal-. C. W. Sherburne. No. 975,645; Nov. 15; Sp. p. 3483; Gaz. vol. 160; p. 591.
Cock, Valve-. J. A. Lemétais. No. 975,440; Nov. 15; Sp. p. 3042; Gaz. vol. 160; p. 520.
Coffee and tea pot. W. V. Letherbury. No. 975,542; Nov. 15; Sp. p. 3275; Gaz. vol. 160; p. 556.
Coin assorting and counting machine. P. E. Rees. No. 975,458; Nov. 15; Sp. p. 3075; Gaz. vol. 160; p. 526.
Coin-holder. F. J. Lightbody. No. 976,191; Nov. 22; Sp. p. 4639; Gaz. vol. 160; p. 798.
Coke, &c., Apparatus for handling. W. C. Mitchell. No. 977,119; Nov. 29; Sp. p. 6727; Gaz. vol. 160; p. 1145.
Coke-oven. W. W. Peck. No. 974,423; Nov. 1; Sp. p. 776; Gaz. vol. 160; p. 117.
Coke-oven and door therefor. F. W. C. Schniewind. No. 976,931; Nov. 29; Sp. p. 6292; Gaz. vol. 160; p. 1079.
Coke-oven and door therefor. F. W. C. Schniewind. No. 976,935; Nov. 29; Sp. p. 6306; Gaz. vol. 160; p. 1081.
Coke-oven and heating arrangement therefor. F. W. C. Schniewind. No. 976,930; Nov. 29; Sp. p. 6284; Gaz. vol. 160; p. 1078.
Coke-oven burner. F. W. C. Schniewind. No. 976,929; Nov. 29; Sp. p. 6281; Gaz. vol. 160; p. 1078.
Coke-oven-discharging apparatus. F. W. C. Schniewind. No. 976,934; Nov. 29; Sp. p. 6300; Gaz. vol. 160; p. 1080.
Coke-oven, Regenerative. E. Wagener. No. 977,348; Nov. 29; Sp. p. 7195; Gaz. vol. 160; p. 1223.
Collapsible box. M. W. Randall. No. 974,596; Nov. 1; Sp. p. 1186; Gaz. vol. 160; p. 181.
Collapsible box. F. Pinto. No. 974,820; Nov. 8; Sp. p. 1676; Gaz. vol. 160; p. 281.
Collar. C. Kahn. No. 976,658; Nov. 22; Sp. p. 5686; Gaz. vol. 160; p. 962.
Collar for draft-animals. C. Young. No. 975,920; Nov. 15; Sp. p. 4058; Gaz. vol. 160; p. 683.
Collar protector and fastener, Horse-. C. B. Deeds. No. 974,755; Nov. 1; Sp. p. 1535; Gaz. vol. 160; p. 235.
Collar, &c., supporter. W. H. Wilson. No. 975,493; Nov. 15; Sp. p. 3154; Gaz. vol. 160; p. 538.
Collar-supporter. H. N. Northrop. No. 975,986; Nov. 15; Sp. p. 4170; Gaz. vol. 160; p. 706.
Collars, &c., Machine for bending. J. K. P. Pine. No. 974,426; Nov. 1; Sp. p. 782; Gaz. vol. 160; p. 118.
Collars, Spacing device for use with turned-down. C. J. Kintner. No. 977,100; Nov. 29; Sp. p. 6683; Gaz. vol. 160; p. 1137.
Collaret-machine. J. P. Weis and L. Krug. No. 976,963; Nov. 29; Sp. p. 6378; Gaz. vol. 160; p. 1091.
Colloids, Liquefying organic. F. Supf. No. 974,448; Nov. 1; Sp. p. 856; Gaz. vol. 160; p. 126.
Color-box. A. Triebling. No. 976,317; Nov. 22; Sp. p. 4947; Gaz. vol. 160; p. 843.
Color-screen. H. E. Merwin. No. 977,420; Nov. 29; Sp. p. 7382; Gaz. vol. 160; p. 1248.
Color shades, Device for finding harmonic. C. Schnebel. No. 974,024; Nov. 8; Sp. p. 1919; Gaz. vol. 160; p. 317.
Comb-cleaner. O. L. Albertson. No. 976,331; Nov. 22; Sp. p. 4973; Gaz. vol. 160; p. 847.
Comb-shears. R. Kuhle. No. 976,581; Nov. 22; Sp. p. 5532; Gaz. vol. 160; p. 934.
Combination-lock. H. Hanflig. No. 976,872; Nov. 29; Sp. p. 6138; Gaz. vol. 160; p. 1058.
Combustion, Method of and apparatus for utilizing products of. C. A. Backstrom. No. 974,458; Nov. 1; Sp. p. 884; Gaz. vol. 160; p. 130.
Commodes and cuspidors, Lifting-tool for. W. Oberg. No. 976,282; Nov. 22; Sp. p. 4873; Gaz. vol. 160; p. 832.
Composing-machines, Matrix-delivery mechanism for monoline. W. E. Bertram. No. 975,503; Nov. 15; Sp. p. 3176; Gaz. vol. 160; p. 541.
Compressor or the like, Rotary. W. von Pittler. No. 974,913; Nov. 8; Sp. p. 1889; Gaz. vol. 160; p. 312.
Computing-machine. F. F. Main. No. 976,083; Nov. 15; Sp. p. 4360; Gaz. vol. 160; p. 741.
Computing-machine. F. F. Main. No. 976,087; Nov. 15; Sp. p. 4364; Gaz. vol. 160; p. 741.
Concentrating apparatus. J. Matter. No. 976,893; Nov. 29; Sp. p. 6191; Gaz. vol. 160; p. 1066.
Concrete, Bar spacer and supporter for reinforced. F. H. Schroeder, Jr. No. 976,503; Nov. 22; Sp. p. 5353; Gaz. vol. 160; p. 908.
Concrete-block-making machinery. S. Allen. No. 975,104; Nov. 8; Sp. p. 2318; Gaz. vol. 160; p. 379.
Concrete-block press. C. F. Hartman and S. R. Cooke. No. 976,649; Nov. 22; Sp. p. 5660; Gaz. vol. 160; p. 958.
Concrete car structure, Reinforced. G. M. Graham. No. 974,659; Nov. 1; Sp. p. 1320; Gaz. vol. 160; p. 205.
Concrete column, girder, and beam, Reinforced-. J. A. Jones. No. 976,182; Nov. 22; Sp. p. 4620; Gaz. vol. 160; p. 795.
Concrete floor, Reinforced-. G. M. Graham. No. 974,658; Nov. 1; Sp. p. 1319; Gaz. vol. 160; p. 204.
Concrete floor-slab, Reinforced-. J. A. Jones. No. 976,183; Nov. 22; Sp. p. 4622; Gaz. vol. 160; p. 796.
Concrete-form, Adjustable. R. B. Higgins. No. 975,241; Nov. 8; Sp. p. 2638; Gaz. vol. 160; p. 426.
Concrete-form, Adjustable. R. B. Higgins and H. Albers. No. 975,242; Nov. 8; Sp. p. 2641; Gaz. vol. 160; p. 426.
Concrete-mixer. J. Meggers. No. 974,688; Nov. 1; Sp. p. 1385; Gaz. vol. 160; p. 215.
Concrete-mixer feeder. F. G. Olp. No. 974,588; Nov. 1; Sp. p. 1173; Gaz. vol. 160; p. 179.

Concrete pile or column, Reinforced-. R. A. Cummings. No. 975,514; Nov. 15; Sp. p. 3203; Gaz. vol. 160; p. 545.
Concrete piling, Method of and sectional core for making. J. F. D. Withrow. No. 977,356; Nov. 29; Sp. p. 7210; Gaz. vol. 160; p. 1227.
Concrete structure, Reinforced. G. M. Graham. No. 974,656; Nov. 1; Sp. p. 1316; Gaz. vol. 160; p. 204.
Concrete structure, Reinforced. H. E. White and W. H. Ham. No. 975,307; Nov. 8; Sp. p. 2778; Gaz. vol. 160; p. 449.
Concrete structures, Apparatus for casting. H. French. No. 975,948; Nov. 15; Sp. p. 4095; Gaz. vol. 160; p. 691.
Concrete structures, Apparatus for erecting. P. Weber. No. 976,960; Nov. 29; Sp. p. 6365; Gaz. vol. 160; p. 1089.
Concrete structures, Reinforcing-frame for. G. M. Graham. No. 974,657; Nov. 1; Sp. p. 1318; Gaz. vol. 160; p. 204.
Concrete tie. W. F. Bradley. No. 976,341; Nov. 22; Sp. p. 5007; Gaz. vol. 160; p. 850.
Condenser. G. Reimers. No. 974,598; Nov. 1; Sp. p. 1189; Gaz. vol. 160; p. 182.
Condenser. D. G. Galbraith. No. 975,612; Nov. 15; Sp. p. 3415; Gaz. vol. 160; p. 579.
Condenser system. L. R. Alberger. No. 976,245; Nov. 22; Sp. p. 4790; Gaz. vol. 160; p. 819.
Condiment-holder. A. J. Bennett. No. 974,343; Nov. 1; Sp. p. 607; Gaz. vol. 160; p. 91.
Conductor-strip. H. B. Collier. No. 976,154; Nov. 22; Sp. p. 4544; Gaz. vol. 160; p. 786.
Conduit-hood. L. A. Fleury, Jr. No. 975,757; Nov. 15; Sp. p. 3723; Gaz. vol. 160; p. 628.
Conduits and tunnels, Apparatus for making. J. P. Grohs. No. 974,960; Nov. 8; Sp. p. 2015; Gaz. vol. 160; p. 330.
Controller-handles, Locking mechanism for. A. S. Cubitt. No. 977,073; Nov. 29; Sp. p. 6618; Gaz. vol. 160; p. 1128.
Controlling device. J. E. Radigan. No. 974,991; Nov. 8; Sp. p. 2088; Gaz. vol. 160; p. 340.
Convertible chair. M. Shalansky. No. 975,374; Nov. 8; Sp. p. 2913; Gaz. vol. 160; p. 470.
Conveyer. W. J. Turnbull. No. 975,181; Nov. 8; Sp. p. 2508; Gaz. vol. 160; p. 405.
Conveyer. J. F. Russell. No. 975,721; Nov. 15; Sp. p. 3647; Gaz. vol. 160; p. 614.
Conveyer. C. D. Seeberger. No. 977,047; Nov. 29; Sp. p. 6560; Gaz. vol. 160; p. 1120.
Conveyer, Chain. T. A. Coleman. No. 977,273; Nov. 29; Sp. p. 7044; Gaz. vol. 160; p. 1198.
Conveyer-link. A. R. Laubenstein. No. 976,664; Nov. 22; Sp. p. 5694; Gaz. vol. 160; p. 963.
Conveyer mechanism. J. Mussell. No. 975,565; Nov. 15; Sp. p. 3321; Gaz. vol. 160; p. 564.
Conveyer, Truck-. J. W. Reno. No. 974,918; Nov. 8; Sp. p. 1903; Gaz. vol. 160; p. 314.
Conveyers and receptacles, Connecting-coupling for extensible. W. Lennon. No. 977,023; Nov. 29; Sp. p. 6516; Gaz. vol. 160; p. 1112.
Conveyers, Deflector for gravity-. M. C. Schwab. No. 975,800; Nov. 15; Sp. p. 3814; Gaz. vol. 160; p. 642.
Cooker. W. H. Dewees. No. 976,156; Nov. 22; Sp. p. 4548; Gaz. vol. 160; p. 786.
Cooker, Fireless. A. T. Hallock. No. 975,416; Nov. 15; Sp. p. 2996; Gaz. vol. 160; p. 510.
Cooking apparatus. W. Fowler. No. 976,646; Nov. 22; Sp. p. 5658; Gaz. vol. 160; p. 957.
Cooking device. F. M. Delath. No. 976,252; Nov. 22; Sp. p. 4807; Gaz. vol. 160; p. 821.
Cooking or heating utensil. M. Stransky. No. 977,052; Nov. 29; Sp. p. 6572; Gaz. vol. 160; p. 1121.
Cooking utensil. F. O. Rollins. No. 974,828; Nov. 8; Sp. p. 1689; Gaz. vol. 160; p. 283.
Cooking utensil. M. T. Duffy. No. 975,843; Nov. 15; Sp. p. 3800; Gaz. vol. 160; p. 656.
Cooler: *See* Liquid-cooler.
Cooling-tower. L. R. Alberger. No. 976,246; Nov. 22; Sp. p. 4795; Gaz. vol. 160; p. 819.
Cop-tube. F. H. Daniell. No. 974,126; Nov. 1; Sp. p. 41; Gaz. vol. 160; p. 10.
Copper, Electrolyte for depositing. W. G. Grey and W. Griffith. No. 976,454; Nov. 22; Sp. p. 5254; Gaz. vol. 160; p. 892.
Copper from ore, Extracting. W. L. Austin. No. 975,106; Nov. 8; Sp. p. 2327; Gaz. vol. 160; p. 380.
Core, Green-sand. T. De la Hunty. No. 976,465; Nov. 22; Sp. p. 5270; Gaz. vol. 160; p. 895.
Core-making apparatus. J. Gow. No. 976,648; Nov. 22; Sp. p. 5667; Gaz. vol. 160; p. 958.
Cork-extractor. F. L. Norman. No. 975,384; Nov. 8; Sp. p. 2936; Gaz. vol. 160; p. 473.
Corking-machines, Device for feeding bottles to. H. H. W. Bergner. No. 976,540; Nov. 22; Sp. p. 5445; Gaz. vol. 160; p. 920.
Corn from the cob, Machine for cutting green. S. E. and W. W. Morral. No. 975,631; Nov. 15; Sp. p. 3450; Gaz. vol. 160; p. 585.
Corn-husker. T. I. Ludwig. No. 975,141; Nov. 8; Sp. p. 2408; Gaz. vol. 160; p. 391.
Corn-husker. T. I. Ludwig. No. 975,142; Nov. 8; Sp. p. 2410; Gaz. vol. 160; p. 391.
Corn-husker. T. I. Ludwig. No. 975,143; Nov. 8; Sp. p. 2412; Gaz. vol. 160; p. 392.
Corn-husker. T. I. Ludwig. No. 977,205; Nov. 29; Sp. p. 6921; Gaz. vol. 160; p. 1175.
Corn-husking machinery. B. C. Small. No. 976,223; Nov. 22; Sp. p. 4709; Gaz. vol. 160; p. 810.
Corn-sheller feeding mechanism. W. J. and L. F. Dauner. No. 974,476; Nov. 1; Sp. p. 923; Gaz. vol. 160; p. 137.
Corn-shock carrier. N. W. Lyon. No. 976,481; Nov. 22; Sp. p. 5312; Gaz. vol. 160; p. 901.
Corn tester, Seed-. J. S. Naylor. No. 976,485; Nov. 22; Sp. p. 5323; Gaz. vol. 160; p. 902.
Corn-turner. C. I. McCreery. No. 975,265; Nov. 8; Sp. p. 2682; Gaz. vol. 160; p. 433.
Corset. H. T. Sherwood. No. 976,608; Nov. 22; Sp. p. 5580; Gaz. vol. 160; p. 943.
Corset, Apparel-. D. Kops. No. 975,771; Nov. 15; Sp. p. 3755; Gaz. vol. 160; p. 632.
Corset, Apparel-. D. Kops. No. 975,772; Nov. 15; Sp. p. 3756; Gaz. vol. 160; p. 633.
Corset-clasp. E. B. Howland. No. 977,390; Nov. 29; Sp. p. 7291; Gaz. vol. 160; p. 1238.
Cotton-chopper. A. A., Jr., and D. F. Douglass. No. 974,247; Nov. 1; Sp. p. 372; Gaz. vol. 160; p. 54.
Cotton-chopper. B. F. Mason. No. 976,817; Nov. 22; Sp. p. 6000; Gaz. vol. 160; p. 1014.
Cotton chopper and cultivator, Combined. J. R. Stovall. No. 977,340; Nov. 29; Sp. p. 7180; Gaz. vol. 160; p. 1221.
Cotton-chopper attachment. H. S. Berry. No. 976,842; Nov. 29; Sp. p. 6074; Gaz. vol. 160; p. 1047.
Cotton-gin. W. W. James. No. 977,194; Nov. 29; Sp. p. 6899; Gaz. vol. 160; p. 1172.
Cotton-gins, Air-blast apparatus for. O. W. McDonald. No. 976,671; Nov. 22; Sp. p. 5703; Gaz. vol. 160; p. 965.
Cotton-picking machine. J. F. Appleby. No. 977,155; Nov. 29; Sp. p. 6808; Gaz. vol. 160; p. 1157.
Couch or bed, Extension. W. M. Taylor. No. 975,480; Nov. 15; Sp. p. 3123; Gaz. vol. 160; p. 534.
Counter and stacker. E. L. Feeman. No. 974,648; Nov. 1; Sp. p. 1302; Gaz. vol. 160; p. 201.
Counter for food and beverages. W. Amenda. No. 974,622; Nov. 1; Sp. p. 1246; Gaz. vol. 160; p. 191.
Countersink. J. E. Freyman. No. 975,044; Nov. 15; Sp. p. 4098; Gaz. vol. 160; p. 692.
Coupling: *See* Car-coupling; Chain-coupling; Electrical coupling; Hose-coupling; Pipe-coupling; Quick coupling; Thill-coupling; Water-tight coupling.
Coupling. J. Froggatt and C. Stacey. No. 974,254; Nov. 1; Sp. p. 383; Gaz. vol. 160; p. 56.
Coupon-delivery machine. G. W. Stambaugh. No. 976,517; Nov. 22; Sp. p. 5374; Gaz. vol. 160; p. 912.
Covers, Means for removing. D. R. Levin. No. 975,698; Nov. 15; Sp. p. 3603; Gaz. vol. 160; p. 607.
Crane, Ladle-. H. A. Seymour. No. 974,196; Nov. 1; Sp. p. 205; Gaz. vol. 160; p. 34.
Crane, Ladle-. C. L. Taylor. No. 974,205; Nov. 1; Sp. p. 233; Gaz. vol. 160; p. 38.
Crane, Ladle-. C. L. Taylor. No. 974,206; Nov. 1; Sp. p. 235; Gaz. vol. 160; p. 38.
Crank, Extension-. A. C. Zierath. No. 977,252; Nov. 29; Sp. p. 7007; Gaz. vol. 160; p. 1191.
Crank-shaft and bearing therefor. E. A. Nelson. No. 974,697; Nov. 1; Sp. p. 1406; Gaz. vol. 160; p. 218.
Crate. E. L. Walker. No. 975,661; Nov. 15; Sp. p. 3531; Gaz. vol. 160; p. 596.
Crate, Collapsible. H. B. Walter. No. 976,958; Nov. 29; Sp. p. 6363; Gaz. vol. 160; p. 1089.
Crate or box, Collapsible. F. E. Sterrett. No. 975,000; Nov. 8; Sp. p. 2110; Gaz. vol. 160; p. 343.
Cravat-holder. J. G. Homet. No. 974,148; Nov. 1; Sp. p. 82; Gaz. vol. 160; p. 17.
Cream, Guard for receptacles for whipping. N. M. Doherty. No. 975,336; Nov. 8; Sp. p. 2827; Gaz. vol. 160; p. 457.
Crossing system, Automatic interlocking. R. L. Holt. No. 974,273; Nov. 1; Sp. p. 436; Gaz. vol. 160; p. 64.
Crucible-holding device. E. P. Carr. No. 976,042; Nov. 15; Sp. p. 4277; Gaz. vol. 160; p. 725.
Crushing-mill. T. J. Sturtevant. No. 977,235; Nov. 29; Sp. p. 6970; Gaz. vol. 160; p. 1185.
Crutch. C. L. Jensen and L. A. Lahey. No. 974,404; Nov. 1; Sp. p. 963; Gaz. vol. 160; p. 143.
Culinary scraper and scourer. G. E. Schmidmer. No. 976,606; Nov. 22; Sp. p. 5576; Gaz. vol. 160; p. 943.
Cultivator. G. W. Davis. No. 974,241; Nov. 1; Sp. p. 358; Gaz. vol. 160; p. 51.
Cultivator. G. W. Spiers. No. 974,840; Nov. 8; Sp. p. 1713; Gaz. vol. 160; p. 288.
Cultivator. C. C. Mehler. No. 975,058; Nov. 8; Sp. p. 2226; Gaz. vol. 160; p. 362.
Cultivator. R. E. Meloen. No. 975,975; Nov. 15; Sp. p. 4154; Gaz. vol. 160; p. 703.
Cultivator. W. S. Wilburn. No. 976,020; Nov. 15; Sp. p. 4235; Gaz. vol. 160; p. 718.
Cultivator. F. P. and P. F. Eckroat. No. 976,643; Nov. 22; Sp. p. 5651; Gaz. vol. 160; p. 955.
Cultivator. F. P. and P. F. Eckroat. No. 976,644; Nov. 22; Sp. p. 5654; Gaz. vol. 160; p. 956.
Cultivator. L. S. Eliett. No. 976,729; Nov. 22; Sp. p. 5808; Gaz. vol. 160; p. 984.
Cultivator. E. M. Dowdy. No. 976,854; Nov. 29; Sp. p. 6111; Gaz. vol. 160; p. 1052.
Cultivator. E. Gieselmann. No. 976,864; Nov. 29; Sp. p. 6127; Gaz. vol. 160; p. 1056.
Cultivator. B. L. Nehl. No. 977,031; Nov. 29; Sp. p. 6528; Gaz. vol. 160; p. 1114.

Cultivator. B. F. Stovall. No. 977,051; Nov. 29; Sp. p. 6570; Gaz. vol. 160; p. 1121.
Cultivator attachment. J. L. Jenkins. No. 974,670; Nov. 1; Sp. p. 1339; Gaz. vol. 160; p. 208.
Cultivator attachment. J. Meyer. No. 975,976; Nov. 15; Sp. p. 4156; Gaz. vol. 160; p. 703.
Cultivator-fender. W. T. Byrd. No. 975,826; Nov. 8; Sp. p. 2813; Gaz. vol. 160; p. 455.
Cultivator replanter attachment. F. E. Markley. No. 977,115; Nov. 29; Sp. p. 6715; Gaz. vol. 160; p. 1143.
Cultivator-shovel. J. P. Stanza. No. 976,518; Nov. 22; Sp. p. 5377; Gaz. vol. 160; p. 912.
Cultivators, Weed-cutter for. C. W. Crouse. No. 975,214; Nov. 8; Sp. p. 2586; Gaz. vol. 160; p. 417.
Cup: *See* Dental impression-cup; Folding cup; Medical eye-cup; Oil-cup; Teat-cup; Umbrella drip-cup.
Curd-knife. J. W. Moore. No. 976,676; Nov. 22; Sp. p. 5711; Gaz. vol. 160; p. 966.
Current-motor. H. Allez. No. 974,735; Nov. 1; Sp. p. 1481; Gaz. vol. 160; p. 228.
Curtain and shade fixture. E. Page and F. Tremblay. No. 975,568; Nov. 15; Sp. p. 3327; Gaz. vol. 160; p. 565.
Curtain-pole. C. Hunt. No. 976,128; Nov. 15; Sp. p. 4461; Gaz. vol. 160; p. 755.
Curtain-pole carrier. J. Kroder. No. 975,257; Nov. 8; Sp. p. 2666; Gaz. vol. 160; p. 431.
Curtain-rod. H. Benoit. No. 976,625; Nov. 22; Sp. p. 5613; Gaz. vol. 160; p. 949.
Curtain-rod connection. F. L. Lathrop. No. 974,398; Nov. 1; Sp. p. 716; Gaz. vol. 160; p. 108.
Cushion: *See* Spring-cushion.
Cushion-cap for finger-keys. H. M. Hay. No. 974,488; Nov. 1; Sp. p. 955; Gaz. vol. 160; p. 142.
Cuspidor. P. A. Petrie. No. 975,890; Nov. 15; Sp. p. 3990; Gaz. vol. 160; p. 673.
Cuspidor, Fountain-. J. D. Wilson. No. 975,308; Nov. 8; Sp. p. 2781; Gaz. vol. 160; p. 449.
Cuspidors and like articles, Stand for. M. Fiset. No. 975,941; Nov. 15; Sp. p. 4093; Gaz. vol. 160; p. 690.
Cut-off, Automatic. W. C. Coleman. No. 976,724; Nov. 22; Sp. p. 5798; Gaz. vol. 160; p. 982.
Cut-out and switch-block holder, Universal. E. R. Le Manquais. No. 974,681; Nov. 1; Sp. p. 1364; Gaz. vol. 160; p. 212.
Cutter: *See* Apple-cutter; Bar-cutter; Buttonhole-cutter; Fodder-cutter; Grass-cutter; Paper-cutter; Railway weed-cutter; Stalk-cutter.
Cutter and stamping die. H. G. Ballou. No. 976,139; Nov. 22; Sp. p. 4506; Gaz. vol. 160; p. 781.
Cutter-bar. J. H. Poole and A. D. Abbenzeller. No. 974,595; Nov. 1; Sp. p. 1184; Gaz. vol. 160; p. 181.
Cutter-bar. J. H. Poole and A. D. Abbenzeller. No. 974,707; Nov. 1; Sp. p. 1433; Gaz. vol. 160; p. 221.
Cutter bit-changing means, Rotary-. E. C. Morgan. No. 975,563; Nov. 15; Sp. p. 3315; Gaz. vol. 160; p. 563.
Cutter-head. J. H. Burke. No. 974,234; Nov. 1; Sp. p. 342; Gaz. vol. 160; p. 49.
Cutting and folding machine. E. H. Cottrell. No. 974,360; Nov. 1; Sp. p. 647; Gaz. vol. 160; p. 97.
Cutting head and bit. F. M. Ross. No. 976,301; Nov. 22; Sp. p. 4920; Gaz. vol. 160; p. 838.
Cutting irregular forms, Machine for. A. M. Stickney. No. 975,652; Nov. 15; Sp. p. 3509; Gaz. vol. 160; p. 593.
Cutting-off tool. V. St. John. No. 976,755; Nov. 22; Sp. p. 5883; Gaz. vol. 160; p. 993.
Cycle saddles, Mounting for motor-. S. Busch. No. 975,827; Nov. 15; Sp. p. 3857; Gaz. vol. 160; p. 651.
Cycles, Speed-regulating pulley for motor-. G. H. Pertuiset. No. 976,596; Nov. 22; Sp. p. 5559; Gaz. vol. 160; p. 939.
Dam, Bridge-. S. A. Vancil. No. 974,315; Nov. 1; Sp. p. 541; Gaz. vol. 160; p. 80.
Damper device. H. and G. A. Graves. No. 974,876; Nov. 8; Sp. p. 1808; Gaz. vol. 160; p. 300.
Dead lock and latch, Combined. P. F. Augenbraun. No. 975,013; Nov. 8; Sp. p. 2131; Gaz. vol. 160; p. 347.
Decorative leaf and making the same. J. A. C. Fichtmueller. No. 976,694; Nov. 29; Sp. p. 6453; Gaz. vol. 160; p. 1101.
Delivery-machine. J. M. Beavo. No. 976,978; Nov. 29; Sp. p. 6420; Gaz. vol. 160; p. 1096.
Dental floss-holder. C. F. Booth. No. 975,205; Nov. 8; Sp. p. 2571; Gaz. vol. 160; p. 414.
Dental impression-cup. J. H. Gummo. No. 975,033; Nov. 8; Sp. p. 2176; Gaz. vol. 160; p. 354.
Derailer, Automatic. M. C. Sloderbeck. No. 974,715; Nov. 1; Sp. p. 1447; Gaz. vol. 160; p. 223.
Derrick, Adjustable. G. W. Brown. No. 975,505; Nov. 15; Sp. p. 3183; Gaz. vol. 160; p. 542.
Derrick and traction-engine, Combined. W. H. Mather. No. 974,410; Nov. 1; Sp. p. 741; Gaz. vol. 160; p. 113.
Desk attachment. A. C. Kendrick. No. 974,384; Nov. 1; Sp. p. 706; Gaz. vol. 160; p. 107.
Developing apparatus. A. C. Hayden. No. 976,173; Nov. 22; Sp. p. 4603; Gaz. vol. 160; p. 792.
Dial, Altitude time-. F. J. Dick. No. 976,347; Nov. 22; Sp. p. 5022; Gaz. vol. 160; p. 852.
Dial, Memorandum-. J. S. McQuinn. No. 974,806; Nov. 8; Sp. p. 1645; Gaz. vol. 160; p. 276.
Digger and scraper, Combined. B. A. Carlson and W. D. Hart. No. 976,631; Nov. 22; Sp. p. 5629; Gaz. vol. 160; p. 951.
Dipper-tooth, Adjustable. R. H. Seymour. No. 976,507; Nov. 22; Sp. p. 5357; Gaz. vol. 160; p. 909.
Directory, Telephone-. W. G. French. No. 974,957; Nov. 8; Sp. p. 2012; Gaz. vol. 160; p. 329.
Discharge and overflow fitting. G. Heibling. No. 977,304; Nov. 29; Sp. p. 7103; Gaz. vol. 160; p. 1208.
Dish-washer and pot-cleaner. B. Quareles. No. 975,716; Nov. 15; Sp. p. 3641; Gaz. vol. 160; p. 613.
Disinfecting apparatus. C. B. Rider. No. 974,298; Nov. 1; Sp. p. 495; Gaz. vol. 160; p. 73.
Disinfecting apparatus. L. E. Bach. No. 975,925; Nov. 15; Sp. p. 4064; Gaz. vol. 160; p. 685.
Disinfecting apparatus. P. C. F. and C. S. Effantin. No. 976,992; Nov. 29; Sp. p. 6449; Gaz. vol. 160; p. 1101.
Disinfector and deodorizer. J., W. H., and E. R. Williams. No. 977,353; Nov. 29; Sp. p. 7205; Gaz. vol. 160; p. 1226.
Disk-support. C. S. Skinner. No. 975,298; Nov. 8; Sp. p. 2761; Gaz. vol. 160; p. 445.
Display apparatus. G. E. Fosbroke. No. 976,160; Nov. 22; Sp. p. 4555; Gaz. vol. 160; p. 788.
Display-box. E. H. Heppe. No. 977,305; Nov. 29; Sp. p. 7104; Gaz. vol. 160; p. 1209.
Display-cabinet. A. T. Duncan. No. 977,080; Nov. 29; Sp. p. 6635; Gaz. vol. 160; p. 1131.
Display-card. R. Gair. No. 977,292; Nov. 29; Sp. p. 7079; Gaz. vol. 160; p. 1204.
Display case, Card-. H. A. Shannon. No. 975,644; Nov. 15; Sp. p. 3482; Gaz. vol. 160; p. 591.
Display-cover for barrels. S. H. Klein. No. 977,315; Nov. 29; Sp. p. 7120; Gaz. vol. 160; p. 1211.
Display device. B. W. Norton. No. 977,395; Nov. 29; Sp. p. 7329; Gaz. vol. 160; p. 1240.
Display device for carpets, &c. T. C. De Lisle and W. T. Phillips. No. 976,442; Nov. 22; Sp. p. 5230; Gaz. vol. 160; p. 887.
Display-rack and silent salesman. H. Barnett. No. 977,063; Nov. 29; Sp. p. 6589; Gaz. vol. 160; p. 1124.
Display stand or case, Folding. M. J. Wrenn. No. 975,096; Nov. 8; Sp. p. 2297; Gaz. vol. 160; p. 376.
Displayer, Portable fruit-. W. F. Crandall. No. 977,071; Nov. 29; Sp. p. 6613; Gaz. vol. 160; p. 1127.
Distillate-burning apparatus. C. J. Duff, C. V. Phelps, and B. W. Pitts. No. 975,221; Nov. 8; Sp. p. 2597; Gaz. vol. 160; p. 419.
Distillation of coal and the recovery of the products, Apparatus for the. R. S. Richards and R. W. Pringle. No. 974,919; Nov. 8; Sp. p. 1905; Gaz. vol. 160; p. 315.
Distilling and rectifying apparatus. R. Vallat. No. 974,213; Nov. 1; Sp. p. 249; Gaz. vol. 160; p. 41.
Ditch-gate. A. J. Collar. No. 976,434; Nov. 22; Sp. p. 5215; Gaz. vol. 160; p. 885.
Ditching-machine. F. B. Winkelman. No. 975,593; Nov. 15; Sp. p. 3372; Gaz. vol. 160; p. 573.
Ditching-tool. W. W. Wolary. No. 976,970; Nov. 29; Sp. p. 6403; Gaz. vol. 160; p. 1094.
Diving apparatus. G. W. Smith. No. 975,727; Nov. 15; Sp. p. 3657; Gaz. vol. 160; p. 616.
Dolly-bar. C. C. Kirk. No. 974,677; Nov. 1; Sp. p. 1356; Gaz. vol. 160; p. 211.
Door. R. Woods. No. 974,327; Nov. 1; Sp. p. 575; Gaz. vol. 160; p. 84.
Door. J. B. Clermont. No. 974,750; Nov. 1; Sp. p. 1525; Gaz. vol. 160; p. 234.
Door and means for operating same. F. D. Ogden. No. 974,699; Nov. 1; Sp. p. 1409; Gaz. vol. 160; p. 218.
Door and step operating mechanism, Combined. H. Rowntree. No. 976,926; Nov. 29; Sp. p. 6276; Gaz. vol. 160; p. 1077.
Door-check. J. Suter. No. 975,805; Nov. 15; Sp. p. 3823; Gaz. vol. 160; p. 644.
Door-fastener. A. Shedlock. No. 976,403; Nov. 22; Sp. p. 5150; Gaz. vol. 160; p. 874.
Door for silos. F. J. Van Cott. No. 976,951; Nov. 29; Sp. p. 6347; Gaz. vol. 160; p. 1086.
Door, Grain-. R. Goodwin. No. 976,357; Nov. 22; Sp. p. 5046; Gaz. vol. 160; p. 856.
Door, Grain-. E. Posson. No. 977,042; Nov. 29; Sp. p. 6548; Gaz. vol. 160; p. 1118.
Door-guard. O. Freyberg. No. 975,760; Nov. 15; Sp. p. 3735; Gaz. vol. 160; p. 629.
Door guide-bracket, Sliding-. J. Gauthier. No. 975,761; Nov. 15; Sp. p. 3735; Gaz. vol. 160; p. 629.
Door-holder. C. T. Rogers. No. 977,225; Nov. 29; Sp. p. 6953; Gaz. vol. 160; p. 1182.
Door-lock. F. Assmann. No. 975,819; Nov. 15; Sp. p. 3844; Gaz. vol. 160; p. 648.
Door lock, Emergency-exit-. P. W. Hodgkinson. No. 974,886; Nov. 8; Sp. p. 1826; Gaz. vol. 160; p. 304.
Door lock, Sliding-. F. W. Hettwer. No. 975,037; Nov. 8; Sp. p. 2182; Gaz. vol. 160; p. 355.
Door-locking device. F. S. Crabtree. No. 975,122; Nov. 8; Sp. p. 2363; Gaz. vol. 160; p. 385.
Door locking mechanism, Emergency-. A. J. Prevost. No. 975,456; Nov. 15; Sp. p. 3071; Gaz. vol. 160; p. 525.
Door, Metallic-. G. B. Breakey. No. 977,366; Nov. 29; Sp. p. 7251; Gaz. vol. 160; p. 1230.
Door-moving mechanism. H. Rowntree. No. 976,924; Nov. 29; Sp. p. 6269; Gaz. vol. 160; p. 1076.
Door-opener. C. Cleary. No. 974,859; Nov. 1; Sp. p. 646; Gaz. vol. 160; p. 96.
Door opening and closing device. H. C. Bundy. No. 975,507; Nov. 15; Sp. p. 3186; Gaz. vol. 160; p. 548.
Door-operating mechanism. P. J. Harrigan. No. 975,866; Nov. 15; Sp. p. 3928; Gaz. vol. 160; p. 662.

Door, Revolving. F. Clymer and J. Degen. No. 975,510; Nov. 15; Sp. p. 3196; Gaz. vol. 160; p. 544.
Door-securer. A. Dufault. No. 976,444; Nov. 22; Sp. p. 5238; Gaz. vol. 160; p. 888.
Door-securer. E. R. Fuchs. No. 977,182; Nov. 29; Sp. p. 6878; Gaz. vol. 160; p. 1167.
Door-securer. E. R. Fuchs. No. 977,184; Nov. 29; Sp. p. 6882; Gaz. vol. 160; p. 1168.
Door-securer. J. Kohn. No. 977,316; Nov. 29; Sp. p. 7121; Gaz. vol. 160; p. 1212.
Door-securing device. E. R. Fuchs. No. 977,183; Nov. 29; Sp. p. 6880; Gaz. vol. 160; p. 1168.
Door-stop. A. Arens and E. L. Teich. No. 976,138; Nov. 22; Sp. p. 4505; Gaz. vol. 160; p. 781.
Door-stop. A. J. Prevost. No. 976,597; Nov. 22; Sp. p. 5561; Gaz. vol. 160; p. 940.
Door support, Disappearing-. A. Vanderveld. No. 974,542; Nov. 1; Sp. p. 1031; Gaz. vol. 160; p. 162.
Doors, Draft-excluder for. G. Götte. No. 974,959; Nov. 8; Sp. p. 2014; Gaz. vol. 160; p. 330.
Doors, windows, &c., Fastening device for. P. T. Molkentin. No. 975,977; Nov. 15; Sp. p. 4156; Gaz. vol. 160; p. 703.
Double-acting self-feeding drill. R. W. Kreis. No. 974,978; Nov. 8; Sp. p. 2060; Gaz. vol. 160; p. 336.
Doubling-frame. P. B. Whitehead. No. 976,761; Nov. 22; Sp. p. 5892; Gaz. vol. 160; p. 995.
Doubling machines, Stopping device for silk-. P. Saracco. No. 976,499; Nov. 22; Sp. p. 5347; Gaz. vol. 160; p. 907.
Dough portions into loaves, Machine for molding. J. and H. L. Callow. No. 975,932; Nov. 15; Sp. p. 4073; Gaz. vol. 160; p. 687.
Down-spout. E. Cardarelli. No. 974,550; Nov. 1; Sp. p. 1099; Gaz. vol. 160; p. 165.
Draft device. S. Rouse. No. 976,302; Nov. 22; Sp. p. 4922; Gaz. vol. 160; p. 838.
Draft device. E. M. Dowdy. No. 977,284; Nov. 29; Sp. p. 7067; Gaz. vol. 160; p. 1202.
Draft gear, Radial-. E. H. Schmidt. No. 975,896; Nov. 15; Sp. p. 4005; Gaz. vol. 160; p. 675.
Draft-regulator, Time-controlled. V. E. Coxine. No. 974,361; Nov. 1; Sp. p. 650; Gaz. vol. 160; p. 97.
Draft-rigging, Friction. C. L. Bundy. No. 974,466; Nov. 1; Sp. p. 901; Gaz. vol. 160; p. 132.
Draft-sill. J. J. Irvin. No. 974,569; Nov. 1; Sp. p. 1141; Gaz. vol. 160; p. 172.
Draftsman's table. H. Cots. No. 976,639; Nov. 22; Sp. p. 5643; Gaz. vol. 160; p. 964.
Drain for buildings, Water-. F. S. Bieber. No. 974,631; Nov. 1; Sp. p. 1261; Gaz vol. 160; p. 194.
Drain trap, Floor-. W. Weller. No. 976,108; Nov. 15; Sp. p. 4418; Gaz. vol. 160; p. 749.
Drawers, Supporting and guiding device for furniture-. W. F. Wagner. No. 977,349; Nov. 29; Sp. p. 7197; Gaz. vol. 160; p. 1224.
Drawing-board attachment. J. W. Wells. No. 976,019; Nov. 15; Sp. p. 4233; Gaz. vol. 160; p. 717.
Drawing instrument, Curve-. L. F. Robinson. No. 974,190; Nov. 1; Sp. p. 195; Gaz. vol. 160; p. 33.
Dredge, Hydraulic. W. F. Hunter. No. 974,150; Nov. 1; Sp. p. 85; Gaz. vol. 160; p. 17.
Dredger-bucket. C. M. Hickey. No. 975,239; Nov. 8; Sp. p. 2635; Gaz. vol. 160; p. 425.
Dredging, Pontoon-pipe for marine. D. B. Richards and C. F. Loga. No. 975,999; Nov. 15; Sp. p. 4194; Gaz. vol. 160; p. 711.
Drier: *See* Clothes-drier; Hose-drier.
Drying-reel for clothes, &c. S. T. Waggoner and T. T. Heard. No. 975,660; Nov. 15; Sp. p. 3529; Gaz. vol. 160; p. 595.
Drill: *See* Double-acting self-folding drill; Earth-drill; Force-drill; Hammer-drill; Manure-drill; Mining-drill; Ratchet-drill; Rock-drill.
Drill attachment. R. A. Brown and J. Pittings. No. 977,267; Nov. 29; Sp. p. 7035; Gaz. vol. 160; p. 1196.
Drill-cylinders, Front head for. G. S. Power. No. 974,823; Nov. 8; Sp. p. 1680; Gaz. vol. 160; p. 282.
Drill-feed. W. H. Greene. No. 975,031; Nov. 8; Sp. p. 2174; Gaz. vol. 160; p. 354.
Drill-shaping machine. F. M. Tucker. No. 974,711; Nov. 1; Sp. p. 245; Gaz. vol. 160; p. 40.
Drills, Scraper device for disk. O. G. Rieske, T. Brennan, Jr., S. H. Phelps, and E. R. Beeman. No. 975,459; Nov. 15; Sp. p. 3080; Gaz. vol. 160; p. 526.
Drills, Tool-dropping apparatus for. H. Kirk. No. 977,409; Nov. 29; Sp. p. 7357; Gaz. vol. 160; p. 1244.
Drilling apparatus. J. J. Hennessy and E. A. Capocefalo. No. 974,267; Nov. 1; Sp. p. 419; Gaz. vol. 160; p. 62.
Drilling-machine. J. W. Lundgren. No. 974,406; Nov. 1; Sp. p. 733; Gaz. vol. 160; p. 111.
Drilling-machine. A. G. and E. G. Seberg. No. 976,703; Nov. 22; Sp. p. 5755; Gaz. vol. 160; p. 975.
Drilling machine, Multiple-. O. A. Smith. No. 975,729; Nov. 15; Sp. p. 3661; Gaz. vol. 160; p. 617.
Drinking-fountain. J. M. Kaminsky. No. 976,372; Nov. 22; Sp. p. 5069; Gaz. vol. 160; p. 861.
Driving and steering means. A. K. Baltesor. No. 974,625; Nov. 1; Sp. p. 1249; Gaz. vol. 160; p. 192.
Driving mechanism. J. Becker. No. 976,622; Nov. 22; Sp. p. 5606; Gaz. vol. 160; p. 948.
Driving mechanism, Friction. R. Norris. No. 976,281; Nov. 22; Sp. p. 4872; Gaz. vol. 160; p. 832.
Drop-box, Coin-operated. S. J. Kelly. No. 976,884; Nov. 29; Sp. p. 6172; Gaz. vol. 160; p. 1063.
Drum. G. W. Du Lany. No. 974,647; Nov. 1; Sp. p. 1300; Gaz. vol. 160; p. 200.
Drum, Friction-. J. V. Beekman. No. 976,841; Nov. 29; Sp. p. 6073; Gaz. vol. 160; p. 1047.
Druma, Method of and means for supporting rotary. A. B. Helbig. No. 974,964; Nov. 8; Sp. p. 2023; Gaz. vol. 160; p. 331.
Dry-pan. R. C. Penfield. No. 974,179; Nov. 1; Sp. p. 152; Gaz. vol. 160; p. 28.
Dry-pan. R. C. Penfield. No. 974,180; Nov. 1; Sp. p. 155; Gaz. vol. 160; p. 28.
Dry-pan. R. C. Penfield. No. 974,816; Nov. 8; Sp. p. 1665; Gaz. vol. 160; p. 279.
Dry-pan. R. C. Penfield. No. 974,817; Nov. 8; Sp. p. 1668; Gaz. vol. 160; p. 280.
Dry-pan. R. C. Penfield. No. 974,818; Nov. 8; Sp. p. 1673; Gaz. vol. 160; p. 280.
Drying apparatus. S. Wiebe. No. 977,244; Nov. 29; Sp. p. 6994; Gaz. vol. 160; p. 1189.
Drying-roll. J. A. Lamp and S. C. Stiner. No. 977,410; Nov. 29; Sp. p. 7358; Gaz. vol. 160; p. 1245.
Dust collecting and separating apparatus. C. H. Stubley. No. 975,300; Nov. 8; Sp. p. 2767; Gaz. vol. 160; p. 446.
Dust-separating tank. B. Lobec. No. 974,163; Nov. 1; Sp. p. 112; Gaz. vol. 160; p. 22.
Dye. M. Weller. No. 976,417; Nov. 22; Sp. p. 5173; Gaz. vol. 160; p. 879.
Dye for lakes, Monoazo. K. Schnitzpahn. No. 976,401; Nov. 22; Sp. p. 5147; Gaz. vol. 160; p. 873.
Dye, Green azo. W. Bergdolt. No. 974,346; Nov. 1; Sp. p. 612; Gaz. vol. 160; p. 92.
Dyeing apparatus, Yarn-. J. M. Payne and G. G. Wallace. No. 976,830; Nov. 22; Sp. p. 6026; Gaz. vol. 160; p. 1018.
Dyeing half-woolen goods. G. Rudolph. No. 976,219; Nov. 22; Sp. p. 4702; Gaz. vol. 160; p. 809.
Dyeing-machine, Collapsible revolving-beam vacuum. F. M. Morton. No. 975,269; Nov. 8; Sp. p. 2689; Gaz. vol. 160; p. 435.
Dyeing-machines, Ribbed revolving vacuum-beam for. F. M. Morton. No. 975,270; Nov. 8; Sp. p. 2691; Gaz. vol. 160; p. 435.
Dyeing, Packaging yarn for. F. H. Daniell and J. C. Hebden. No. 974,127; Nov. 1; Sp. p. 43; Gaz. vol. 160; p. 10.
Earth-drill. J. D. Coplen. No. 975,020; Nov. 8; Sp. p. 2142; Gaz. vol. 160; p. 350.
Earthworking-machine. C. F. Schaupp. No. 974,526; Nov. 1; Sp. p. 1037; Gaz. vol. 160; p. 155.
Egg-beater. E. M. Morgan. No. 974,686; Nov. 1; Sp. p. 1170; Gaz. vol. 160; p. 178.
Egg-drying apparatus. H. E. Comn. No. 977,371; Nov. 29; Sp. p. 7261; Gaz. vol. 160; p. 1232.
Egg-stamp. H. G. Young. No. 975,010; Nov. 8; Sp. p. 2127; Gaz. vol. 160; p. 346.
Egg-tester. W. Schroeder. No. 976,700; Nov. 22; Sp. p. 5751; Gaz. vol. 160; p. 974.
Elbow-bending machine. H. C. H. Walsh. No. 975,184; Nov. 8; Sp. p. 2514; Gaz. vol. 160; p. 406.
Electric alarm and call-bell system. J. H. Field. No. 976,562; Nov. 22; Sp. p. 5489; Gaz. vol. 160; p. 928.
Electric arcs, Production of long stable. O. Schönherr and J. Hessberger. No. 976,002; Nov. 15; Sp. p. 4201; Gaz. vol. 160; p. 712.
Electric-cable joint. W. O. Wilson. No. 975,592; Nov. 15; Sp. p. 3371; Gaz. vol. 160; p. 572.
Electric-circuit interrupter. R. P. Jackson. No. 975,431; Nov. 15; Sp. p. 3026; Gaz. vol. 160; p. 516.
Electric-circuit-protection system. F. W. Harris. No. 975,420; Nov. 15; Sp. p. 3002; Gaz. vol. 160; p. 512.
Electric-circuit switch. F. W. Harris. No. 975,417; Nov. 15; Sp. p. 2997; Gaz. vol. 160; p. 510.
Electric-circuit switch. F. W. Harris. No. 975,419; Nov. 15; Sp. p. 3001; Gaz. vol. 160; p. 511.
Electric connecting device. H. C. Wirt. No. 976,532; Nov. 22; Sp. p. 5428; Gaz. vol. 160; p. 917.
Electric contact-shoe. C. C. Rich. No. 977,401; Nov. 29; Sp. p. 7344; Gaz. vol. 160; p. 1242.
Electric currents of high periodicity, Apparatus for producing. S. G. Brown. No. 976,778; Nov. 22; Sp. p. 5933; Gaz. vol. 160; p. 1001.
Electric currents, Rectifying. J. J. Montgomery. No. 974,171; Nov. 1; Sp. p. 134; Gaz. vol. 160; p. 25.
Electric cut-out. B. M. Walpole. No. 977,058; Nov. 29; Sp. p. 6578; Gaz. vol. 160; p. 1122.
Electric drop-cord adjuster. W. S. Hull. No. 976,192; Nov. 29; Sp. p. 6896; Gaz. vol. 160; p. 1171.
Electric furnace. J. Hårdén. No. 977,303; Nov. 29; Sp. p. 7100; Gaz. vol. 160; p. 1208.
Electric furnace with magnetically-rotated charge. H. N. Potter. No. 975,571; Nov. 15; Sp. p. 3332; Gaz. vol. 160; p. 566.
Electric furnace with magnetically-rotated charge. H. N. Potter. No. 975,794; Nov. 15; Sp. p. 3796; Gaz. vol. 160; p. 640.
Electric generator and motor. D. Kemble. No. 974,497; Nov. 1; Sp. p. 972; Gaz. vol. 160; p. 144.
Electric heater. L. F. Parkhurst and H. G. Weeks. No. 975,712; Nov. 15; Sp. p. 3634; Gaz. vol. 160; p. 611.
Electric heater. M. H. Shoenberg. No. 976,405; Nov. 22; Sp. p. 5153; Gaz. vol. 160; p. 875.
Electric heater, Radiant. R. W. Baker, V. L. King, and H. C. Parker. No. 977,361; Nov. 29; Sp. p. 7236; Gaz. vol. 160; p. 1228.

Electric iron and stove, Combined. B. R. Charles. No. 975,936; Nov. 15; Sp. p. 4084; Gaz. vol. 160; p. 689.
Electric-light hanger. N. McLeod. No. 974,687; Nov. 1; Sp. p. 1385; Gaz. vol. 160; p. 215.
Electric-lighting system for railway and other carriages, Voltage-regulated. J. Dalziel. No. 977,074; Nov. 29; Sp. p. 6620; Gaz. vol. 160; p. 1129.
Electric machine, Dynamo-. R. B. Williamson. No. 976,420; Nov. 22; Sp. p. 5178; Gaz. vol. 160; p. 880.
Electric machine, Dynamo-. W. H. Powell. No. 977,220; Nov. 29; Sp. p. 6948; Gaz. vol. 160; p. 1180.
Electric machine, Inclosed dynamo-. A. H. Wouters. No. 977,250; Nov. 29; Sp. p. 7004; Gaz. vol. 160; p. 1191.
Electric machine, Magneto-. S. B. Daugherty and S. F. Johnson. No. 975,401; Nov. 15; Sp. p. 2973; Gaz. vol. 160; p. 505.
Electric-machine speed regulation, Dynamo-. C. Renshaw. No. 974,433; Nov. 1; Sp. p. 805; Gaz. vol. 160; p. 121.
Electric machines and the like, Brush for dynamo-. E. O. Schweitzer. No. 974,883; Nov. 8; Sp. p. 1697; Gaz. vol. 160; p. 285.
Electric machines, Armature-winding for dynamo-. N. W. Storer. No. 975,476; Nov. 15; Sp. p. 3118; Gaz. vol. 160; p. 533.
Electric machines, Armature-winding for dynamo-. N. W. Storer. No. 975,477; Nov. 15; Sp. p. 3119; Gaz. vol. 160; p. 533.
Electric machines, Armature-winding for dynamo-. N. W. Storer. No. 975,478; Nov. 15; Sp. p. 3121; Gaz. vol. 160; p. 533.
Electric machines, Field-winding coil for dynamo-. W. T. Hensley. No. 975,425; Nov. 15; Sp. p. 3009; Gaz. vol. 160; p. 518.
Electric meter. G. A. Sawin. No. 974,192; Nov. 1; Sp. p. 199; Gaz. vol. 160; p. 33.
Electric plug and socket. L. W. Kutsch. No. 975,875; Nov. 15; Sp. p. 3958; Gaz. vol. 160; p. 667.
Electric switch. W. M. Scott. No. 974,528; Nov. 1; Sp. p. 1041; Gaz. vol. 160; p. 156.
Electric switch. J. H. Wooll. No. 976,422; Nov. 22; Sp. p. 5182; Gaz. vol. 160; p. 880.
Electric switch. P. L. Sibole. No. 977,140; Nov. 29; Sp. p. 6776; Gaz. vol. 160; p. 1152.
Electric wires, Universal floor-box for the distribution of. J. Fountain, Jr. No. 974,370; Nov. 1; Sp. p. 663; Gaz. vol. 160; p. 99.
Electrical apparatus, Device for testing. H. B. Lehman. No. 975,879; Nov. 15; Sp. p. 3970; Gaz. vol. 160; p. 669.
Electrical circuits, Multiple fusible cut-out for. A. E. Partington. No. 975,569; Nov. 15; Sp. p. 3329; Gaz. vol. 160; p. 565.
Electrical-conduit attachment. A. McMurtrie. No. 975,777; Nov. 15; Sp. p. 3769; Gaz. vol. 160; p. 634.
Electrical connector. J. J. Burns. No. 975,118; Nov. 8; Sp. p. 2356; Gaz. vol. 160; p. 384.
Electrical coupling. C. H. Bissell. No. 974,462; Nov. 1; Sp. p. 890; Gaz. vol. 160; p. 131.
Electrical coupling and switch. R. H. Wappler. No. 975,090; Nov. 8; Sp. p. 2285; Gaz. vol. 160; p. 373.
Electrical-distribution system. R. N. Chamberlain and M. R. Shedd. No. 976,151; Nov. 22; Sp. p. 4528; Gaz. vol. 160; p. 785.
Electrical distribution system. A. S. Hubbard. No. 976,878; Nov. 29; Sp. p. 6152; Gaz. vol. 160; p. 1060.
Electrical element. A. T. K. Estelle. No. 977,086; Nov. 29; Sp. p. 6644; Gaz. vol. 160; p. 1133.
Electrical equalizing system. R. Richter. No. 977,328; Nov. 29; Sp. p. 7147; Gaz. vol. 160; p. 1216.
Electrical flasher. A. S. Gibbs. No. 977,294; Nov. 29; Sp. p. 7081; Gaz. vol. 160; p. 1205.
Electrical heater. M. H. Shoenberg and G. T. Marsh. No. 976,404; Nov. 22; Sp. p. 5152; Gaz. vol. 160; p. 874.
Electrical heater and manufacturing same in the form of textiles. M. Hefter. No. 975,358; Nov. 8; Sp. p. 2873; Gaz. vol. 160; p. 464.
Electrical switch. J. D. Hilliard. No. 976,654; Nov. 22; Sp. p. 5677; Gaz. vol. 160; p. 960.
Electrically-heated boiler. C. Aalborg. No. 974,330; Nov. 1; Sp. p. 580; Gaz. vol. 160; p. 86.
Electrode. J. T. H. Dempster. No. 976,990; Nov. 29; Sp. p. 6443; Gaz. vol. 160; p. 1100.
Electrode for arc-lamps. E. R. Berry and E. J. Guay. No. 974,227; Nov. 1; Sp. p. 273; Gaz. vol. 160; p. 46.
Electrode for electric-arc lights. A. D. Jones. No. 974,389; Nov. 1; Sp. p. 695; Gaz. vol. 160; p. 105.
Electrode for reversible galvanic batteries. W. Morrison. No. 975,981; Nov. 15; Sp. p. 4161; Gaz. vol. 160; p. 704.
Electrode, Storage-battery. T. A. Edison and J. W. Aylesworth. No. 976,791; Nov. 22; Sp. p. 5958; Gaz. vol. 160; p. 1006.
Electrodeposition, Producing metallic articles by. F. I. Gibbs. No. 975,386; Nov. 8; Sp. p. 2939; Gaz. vol. 160; p. 474.
Electrolysis of aqueous solutions, Apparatus for continuous. A. Pietzsch and E. Steinbuch. No. 977,125; Nov. 29; Sp. p. 6742; Gaz. vol. 160; p. 1147.
Electrolytic cell. G. C. Landis and J. H. Smith. No. 974,576; Nov. 1; Sp. p. 1152; Gaz. vol. 160; p. 174.
Electromagnetic waves, Receiving apparatus for. E. H. Smythe. No. 974,838; Nov. 8; Sp. p. 1707; Gaz. vol. 160; p. 287.
Electrotype-curving machine. W. W. McCarroll. No. 974,288; Nov. 1; Sp. p. 475; Gaz. vol. 160; p. 69.
Electrotype-plates, Apparatus for backing. G. E. Dunton. No. 976,856; Nov. 29; Sp. p. 6113; Gaz. vol. 160; p. 1052.
Elevated carrier. H. H. Drew. No. 976,157; Nov. 22; Sp. p. 4549; Gaz. vol. 160; p. 787.
Elevator: *See* Portable elevator; Sucker-rod elevator; Water-elevator.
Elevator. M. C. Schwab. No. 974,439; Nov. 1; Sp. p. 820; Gaz. vol. 160; p. 128.
Elevator-controller. W. D. Baldwin. No. 974,849; Nov. 8; Sp. p. 1740; Gaz. vol. 160; p. 291.
Elevator-controlling device. C. Barnum. No. 974,850; Nov. 8; Sp. p. 1743; Gaz. vol. 160; p. 291.
Elevator-guide lubricator. C. V. Warren. No. 974,616; Nov. 1; Sp. p. 1226; Gaz. vol. 160; p. 189.
Elevator mechanism. J. W. Pogue. No. 974,914; Nov. 8; Sp. p. 1894; Gaz. vol. 160; p. 312.
Elevator safety appliance. A. C. Mohnike. No. 974,414; Nov. 1; Sp. p. 762; Gaz. vol. 160; p. 114.
Elevator safety device. A. W. Hengerer and R. J. Kiendl. No. 974,140; Nov. 1; Sp. p. 65; Gaz. vol. 160; p. 14.
Elevator safety device. C. G. Carpenter. No. 975,018; Nov. 8; Sp. p. 2138; Gaz. vol. 160; p. 349.
Elevator safety device. A. L. Bush. No. 975,828; Nov. 15; Sp. p. 3859; Gaz. vol. 160; p. 651.
Elevator-wheel. J. F. Barker. No. 977,062; Nov. 29; Sp. p. 6587; Gaz. vol. 160; p. 1124.
Elevators, Alternating-current controlling apparatus for hydraulic. D. L. Lindquist. No. 976,130; Nov. 15; Sp. p. 4479; Gaz. vol. 160; p. 755.
Elongating-machine. W. H. Hoyle and T. Barker. No. 976,191; Nov. 22; Sp. p. 6894; Gaz. vol. 160; p. 1170.
Embossing-machine. C. Owens. No. 976,905; Nov. 29; Sp. p. 6211; Gaz. vol. 160; p. 1069.
Emergency-brake. T. Jones and L. J. Evans. No. 974,300; Nov. 1; Sp. p. 606; Gaz. vol. 160; p. 105.
Emulsions, Mechanism for grinding or mixing. W. G. Schröder. No. 976,699; Nov. 22; Sp. p. 5750; Gaz. vol. 160; p. 973.
Engine: *See* Explosive-engine; Fire-engine; Gas-engine; Grate-shaker engine; Internal-combustion engine; Rotary engine; Rotary turbine-engine; Steam-engine.
Engine. P. W. Kane. No. 976,808; Nov. 22; Sp. p. 5984; Gaz. vol. 160; p. 1011.
Engine-base. A. B. Shultz. No. 975,167; Nov. 8; Sp. p. 2469; Gaz. vol. 160; p. 400.
Engine cranking device, Automobile-. D. Augustine. No. 976,536; Nov. 22; Sp. p. 5435; Gaz. vol. 160; p. 918.
Engine-cylinder. H. H. Boggs. No. 974,854; Nov. 8; Sp. p. 1755; Gaz. vol. 160; p. 293.
Engine indicator, Internal-combustion-. E. D. Meier. No. 977,419; Nov. 29; Sp. p. 7381; Gaz. vol. 160; p. 1248.
Engine priming device, Explosive-. B. Ruckdeschel. No. 975,639; Nov. 15; Sp. p. 3473; Gaz. vol. 160; p. 589.
Engine safety-stop, Sawmill-. A. C. Dean. No. 976,216; Nov. 8; Sp. p. 2588; Gaz. vol. 160; p. 417.
Engine sparking plug, Internal-combustion-. R. F. Hall. No. 976,797; Nov. 22; Sp. p. 5968; Gaz. vol. 160; p. 1008.
Engine-starter. F. C. Priestly. No. 977,043; Nov. 29; Sp. p. 6551; Gaz. vol. 160; p. 1118.
Engine starter, Hydrocarbon-. J. B. Runner. No. 974,525; Nov. 1; Sp. p. 1034; Gaz. vol. 160; p. 154.
Engine-starting apparatus, Gas-. C. H. Oslund. No. 975,567; Nov. 15; Sp. p. 3324; Gaz. vol. 160; p. 564.
Engine starting device. J. W. Tudor. No. 974,844; Nov. 8; Sp. p. 1722; Gaz. vol. 160; p. 289.
Engine-starting device, Gas-. W. A. Hensen. No. 977,007; Nov. 29; Sp. p. 6485; Gaz. vol. 160; p. 1100.
Engine starting mechanism, Explosion-. S. Jachimovicz. No. 974,972; Nov. 8; Sp. p. 2044; Gaz. vol. 160; p. 33.
Engine-stop. F. Henneböhle. No. 974,266; Nov. 1; Sp. p. 417; Gaz. vol. 160; p. 62.
Engines, Composition of matter for prevention and removal of incrustation in explosive-. E. W. Caulfield. No. 974,749; Nov. 1; Sp. p. 1524; Gaz. vol. 160; p. 28.
Engines, Compounding and condensing apparatus for locomotive-. L. D. Copeland. No. 976,554; Nov. 22; Sp. p. 5476; Gaz. vol. 160; p. 925.
Engines, Cranking device for internal-combustion. C. Hall. No. 974,136; Nov. 1; Sp. p. 58; Gaz. vol. 160; p. 13.
Engines, Exhaust-manifold or pipe connection for explosion-. A. B. Shultz. No. 976,610; Nov. 22; Sp. p. 5583; Gaz. vol. 160; p. 944.
Engines, Ignition means for internal-combustion. M. Crist. No. 975,512; Nov. 15; Sp. p. 3200; Gaz. vol. 160; p. 545.
Engines, Manifold for internal-combustion. M. B. Rich. No. 974,992; Nov. 8; Sp. p. 2090; Gaz. vol. 160; p. 34.
Engines, Means for facilitating the starting of internal-combustion. F. Purdy. No. 976,493; Nov. 22; Sp. p. 5338; Gaz. vol. 160; p. 905.
Engines, Method of and apparatus for operating gas. C. White. No. 975,008; Nov. 8; Sp. p. 2124; Gaz. vol. 160; p. 346.
Engines, Spark-timing device for explosive-. E. A. Cooper. No. 976,345; Nov. 22; Sp. p. 5018; Gaz. vol. 160; p. 852.
Engines, Variable-exhaust nozzle for. F. Hamilton and C. R. Twyman. No. 977,301; Nov. 29; Sp. p. 7090; Gaz. vol. 160; p. 1207.
Envelop. W. S. Brown. No. 974,117; Nov. 1; Sp. p. 22; Gaz. vol. 160; p. 6.
Envelop. W. A. McCloy. No. 975,627; Nov. 15; Sp. p. 3444; Gaz. vol. 160; p. 585.
Envelop, Expansion-. R. W. Pittman. No. 975,792; Nov. 15; Sp. p. 3795; Gaz. vol. 160; p. 639.

Envelop-machine. A. J. Ackerman. No. 974,621; Nov. 1; Sp. p. 1238; Gaz. vol. 160; p. 190.
Equalizer, Three-horse. W. L. Carey. No. 976,149; Nov. 22; Sp. p. 4523; Gaz. vol. 160; p. 784.
Evaporator, Maple-sap. S. Daniels. No. 974,475; Nov. 1; Sp. p. 918; Gaz. vol. 160; p. 136.
Excavating apparatus. L. A. Larson. No. 976,663; Nov. 22; Sp. p. 5692; Gaz. vol. 160; p. 963.
Excavating-machine. D. W. Miller. No. 976,589; Nov. 22; Sp. p. 5545; Gaz. vol. 160; p. 937.
Excavating-machine. D. W. Miller. No. 976,590; Nov. 22; Sp. p. 5548; Gaz. vol. 160; p. 937.
Excavator-bucket. O. J. Martinson. No. 976,088; Nov. 15; Sp. p. 4367; Gaz. vol. 160; p. 742.
Excavator-bucket. O. J. Martinson. No. 976,742; Nov. 22; Sp. p. 5832; Gaz. vol. 160; p. 988.
Excavator, Sewer-trench. J. H. Johnson. No. 977,016; Nov. 29; Sp. p. 6506; Gaz. vol. 160; p. 1109.
Exercising-machine. C. Schulze. No. 974,194; Nov. 1; Sp. p. 202; Gaz. vol. 160; p. 34.
Exhibiting apparatus. F. W. Tully. No. 974,450; Nov. 1; Sp. p. 858; Gaz. vol. 160; p. 126.
Expanding or adjustable press for fertilizing material, &c. W. E. Overton and A. C. Ketcham. No. 975,900; Nov. 15; Sp. p. 4177; Gaz. vol. 160; p. 707.
Expansion-bolt. G. C. Smith. No. 977,232; Nov. 29; Sp. p. 6904; Gaz. vol. 160; p. 1184.
Explosion-motor, Rotary. F. Beck. No. 977,260; Nov. 29; Sp. p. 7022; Gaz. vol. 160; p. 1194.
Explosive. L. Gray. No. 975,030; Nov. 8; Sp. p. 2172; Gaz. vol. 160; p. 353.
Explosive. F. H. Briggs. No. 975,825; Nov. 15; Sp. p. 3855; Gaz. vol. 160; p. 650.
Explosive. M. Delvigne. No. 977,076; Nov. 29; Sp. p. 6630; Gaz. vol. 160; p. 1130.
Explosive compound. H. Maxim. No. 974,900; Nov. 8; Sp. p. 1853; Gaz. vol. 160; p. 308.
Explosive-engine. W. J. Wright. No. 974,455; Nov. 1; Sp. p. 875; Gaz. vol. 160; p. 128.
Explosive-engine. H. C. H. Mustad. No. 974,809; Nov. 8; Sp. p. 1652; Gaz. vol. 160; p. 277.
Explosive-engine. G. L. Fogler. No. 975,406; Nov. 15; Sp. p. 2980; Gaz. vol. 160; p. 507.
Explosives, Incorporating ingredients of. E. du Pont. No. 976,211; Nov. 22; Sp. p. 4675; Gaz. vol. 160; p. 805.
Extensible bracket. H. Noppe. No. 975,273; Nov. 8; Sp. p. 2697; Gaz. vol. 160; p. 436.
Extension-table, Pedestal. C. J. Brown. No. 975,604; Nov. 15; Sp. p. 3392; Gaz. vol. 160; p. 577.
Extractor: *See* Key-extractor; Shell-extractor.
Eyeglass-frame. W. E. Clarke. No. 974,860; Nov. 8; Sp. p. 1769; Gaz. vol. 160; p. 295.
Eyeglass-mounting. W. B. Brown, Jr. No. 977,163; Nov. 29; Sp. p. 6833; Gaz. vol. 160; p. 1160.
Eyeglass nose-guard. L. F. Adt. No. 977,152; Nov. 29; Sp. p. 6802; Gaz. vol. 160; p. 1156.
Eyeglass-reel. G. H. Day. No. 974,477; Nov. 1; Sp. p. 924; Gaz. vol. 160; p. 137.
Eyeglasses. G. J. Lowres. No. 975,367; Nov. 8; Sp. p. 2889; Gaz. vol. 160; p. 467.
Eyeglasses. L. F. Adt. No. 977,151; Nov. 29; Sp. p. 6800; Gaz. vol. 160; p. 1155.
Eyeleting-tool. C. L. Eaton. No. 974,363; Nov. 1; Sp. p. 659; Gaz. vol. 160; p. 99.
Fabric: *See* Tire-reinforcing fabric; Woven fabric.
Fabric. P. L. Bousquet. No. 974,855; Nov. 8; Sp. p. 1756; Gaz. vol. 160; p. 293.
Fabric, Apparatus for treating cotton textile. A. Sydeman and J. Meade. No. 976,231; Nov. 22; Sp. p. 4740; Gaz. vol. 160; p. 813.
Fabric-chain machine. J. F. Gall. No. 975,850; Nov. 15; Sp. p. 3907; Gaz. vol. 160; p. 659.
Fan or pump, Centrifugal. A. C. Fraser. No. 976,795; Nov. 22; Sp. p. 5965; Gaz. vol. 160; p. 1007.
Fan, Spring-motor-driven table-. D. M. Pfautz. No. 975,714; Nov. 15; Sp. p. 3638; Gaz. vol. 160; p. 612.
Fare-register. J. F. Ohmer. No. 974,700; Nov. 1; Sp. p. 1414; Gaz. vol. 160; p. 219.
Fare register, Conductor's cash-. W. W. Kay. No. 976,467; Nov. 22; Sp. p. 5276; Gaz. vol. 160; p. 895.
Farm-roller. C. G. Reiff. No. 976,293; Nov. 22; Sp. p. 4890; Gaz. vol. 160; p. 835.
Fastener. J. W. McKitrick. No. 975,266; Nov. 8; Sp. p. 2684; Gaz. vol. 160; p. 434.
Fastener, Combination-. R. F. Pickard. No. 976,209; Nov. 22; Sp. p. 4673; Gaz. vol. 160; p. 805.
Fastener, Metallic. G. W. McGill. No. 974,805; Nov. 8; Sp. p. 1644; Gaz. vol. 160; p. 275.
Fat from effluents, Apparatus for removing. R. Schilling. No. 975,081; Nov. 8; Sp. p. 2272; Gaz. vol. 160; p. 371.
Faucet. W. L. Heuser. No. 974,790; Nov. 8; Sp. p. 1612; Gaz. vol. 160; p. 271.
Faucet. F. Gruschow. No. 974,878; Nov. 8; Sp. p. 1811; Gaz. vol. 160; p. 301.
Faucet gage, Cask-. J. C. Newman. No. 977,216; Nov. 29; Sp. p. 6937; Gaz. vol. 160; p. 1179.
Faucets, Hose connection for. E. D. Knickerbocker. No. 975,873; Nov. 15; Sp. p. 3955; Gaz. vol. 160; p. 666.
Feed-mill. J. C. Woodcock. No. 976,535; Nov. 22; Sp. p. 5434; Gaz. vol. 160; p. 918.
Feed-mixer. C. H. Hinkhouse. No. 976,363; Nov. 22; Sp. p. 5053; Gaz. vol. 160; p. 868.
Feed-regulator. C. E. Warner. No. 977,148; Nov. 29; Sp. p. 6793; Gaz. vol. 160; p. 1154.
Feed-water-heating device. J. Fournia. No. 976,794; Nov. 22; Sp. p. 5964; Gaz. vol. 160; p. 1007.
Felly-joint bridge. A. Lawrie. No. 974,899; Nov. 1; Sp. p. 717; Gaz. vol. 160; p. 109.
Fence. S. Hohulin. No. 975,428; Nov. 15; Sp. p. 3022; Gaz. vol. 160; p. 515.
Fence. L. S. Lachman. (Reissue.) No. 13,176; Nov. 20; Sp. p. 7396; Gaz. vol. 160; p. 1250.
Fence-attaching means for posts, Wire-. L. A. Henning. No. 977,189; Nov. 29; Sp. p. 6891; Gaz. vol. 160; p. 1170.
Fence-post. J. A. and W. A. Warner. No. 976,823; Nov. 22; Sp. p. 4956; Gaz. vol. 160; p. 845.
Fence-post, Metallic. G. W. Well. No. 976,235; Nov. 22; Sp. p. 4756; Gaz. vol. 160; p. 815.
Fence, Temporary. W. J. Williams. No. 976,714; Nov. 22; Sp. p. 5781; Gaz. vol. 160; p. 978.
Fence-wire fastening. J. G. Hall. No. 977,386; Nov. 29; Sp. p. 7285; Gaz. vol. 160; p. 1237.
Fencing grip, Woven-wire-. A. Knodle. No. 974,159; Nov. 1; Sp. p. 104; Gaz. vol. 160; p. 21.
Fender: *See* Car-fender; Cultivator-fender; Fireplace-fender; Locomotive and other vehicle fender.
Fertilizer. C. Ellis. No. 976,793; Nov. 22; Sp. p. 5962; Gaz. vol. 160; p. 1007.
Fifth-wheel, Antifriction. S. C. Baucum. No. 976,620; Nov. 22; Sp. p. 5603; Gaz. vol. 160; p. 947.
Fifth-wheel, Wagon. W. A. Underhill. No. 975,004; Nov. 8; Sp. p. 2117; Gaz. vol. 160; p. 344.
Filament or resistor for heating units or lamps. H. C. Parker and W. G. Clark. No. 976,207; Nov. 22; Sp. p. 4665; Gaz. vol. 160; p. 804.
Filaments, Making incandescent-electric-lamp. H. C. Parker. No. 974,812; Nov. 8; Sp. p. 1658; Gaz. vol. 160; p. 278.
Filaments, Manufacture of electric. C. A. von Welsbach. No. 976,526; Nov. 22; Sp. p. 5414; Gaz. vol. 160; p. 915.
Filaments, Manufacture of electric. C. A. von Welsbach. No. 976,527; Nov. 22; Sp. p. 5418; Gaz. vol. 160; p. 915.
Filaments, Manufacture of electric. C. A. von Welsbach. No. 976,528; Nov. 22; Sp. p. 5420; Gaz. vol. 160; p. 915.
Filaments, Manufacture of electric. C. A. von Welsbach. No. 976,616; Nov. 22; Sp. p. 5596; Gaz. vol. 160; p. 946.
File-cabinet. W. A. Harris. No. 974,663; Nov. 1; Sp. p. 1327; Gaz. vol. 160; p. 206.
File-cutting machine. J. A. Hess. No. 975,236; Nov. 8; Sp. p. 2621; Gaz. vol. 160; p. 424.
File-holder. E. G. Sampson and A. L. Welham. No. 974,601; Nov. 1; Sp. p. 1195; Gaz. vol. 160; p. 183.
Filing apparatus. W. T. Grady. No. 977,003; Nov. 29; Sp. p. 6478; Gaz. vol. 160; p. 1105.
Filing-machine. E. Curtis. No. 974,474; Nov. 1; Sp. p. 916; Gaz. vol. 160; p. 136.
Film-developer. A. C. Hayden. No. 976,800; Nov. 22; Sp. p. 5972; Gaz. vol. 160; p. 1008.
Filter. G. Fleming. No. 976,995; Nov. 29; Sp. p. 6458; Gaz. vol. 160; p. 1102.
Filter, Gasolene or oil. G. T. Reynolds. No. 974,519; Nov. 1; Sp. p. 1026; Gaz. vol. 160; p. 153.
Filter system. F. Turek. No. 975,483; Nov. 15; Sp. p. 3127; Gaz. vol. 160; p. 535.
Filter, Water-. M. G. Melvin. No. 977,209; Nov. 29; Sp. p. 6927; Gaz. vol. 160; p. 1177.
Filtration system. S. Ouimet. No. 975,450; Nov. 15; Sp. p. 3060; Gaz. vol. 160; p. 523.
Finishing-tool. R. Traub. No. 974,932; Nov. 8; Sp. p. 1937; Gaz. vol. 160; p. 320.
Fire-alarm system, Electrical. J. H. Field. No. 976,645; Nov. 22; Sp. p. 5655; Gaz. vol. 160; p. 956.
Fire-engine. H. M. Minnis. No. 976,133; Nov. 15; Sp. p. 4486; Gaz. vol. 160; p. 757.
Fire-escape. J. H. Hogston. No. 974,381; Nov. 1; Sp. p. 683; Gaz. vol. 160; p. 103.
Fire-escape. M. S. Finkelstein. No. 974,781; Nov. 8; Sp. p. 1594; Gaz. vol. 160; p. 268.
Fire-escape. W. Smith. No. 974,929; Nov. 8; Sp. p. 1931; Gaz. vol. 160; p. 319.
Fire-escape. L. H. Firestone. No. 976,861; Nov. 29; Sp. p. 6123; Gaz. vol. 160; p. 1055.
Fire-escape door. L. R. Loughborough. No. 974,404; Nov. 1; Sp. p. 728; Gaz. vol. 160; p. 111.
Fire-extinguisher, Chemical. W. S. Tiffany. No. 974,208; Nov. 1; Sp. p. 238; Gaz. vol. 160; p. 39.
Fire-extinguisher system. H. D. and W. B. Emmons. No. 976,448; Nov. 22; Sp. p. 5243; Gaz. vol. 160; p. 890.
Fire-extinguishing apparatus. H. Budd. No. 976,251; Nov. 22; Sp. p. 4805; Gaz. vol. 160; p. 821.
Fire-kindler. S. Ishii. No. 975,868; Nov. 15; Sp. p. 3947; Gaz. vol. 160; p. 665.
Fire-plug, Drum. G. E. Hargreaves. No. 974,265; Nov. 1; Sp. p. 415; Gaz. vol. 160; p. 61.
Firearm. A. I. Risser. No. 975,720; Nov. 15; Sp. p. 3645; Gaz. vol. 160; p. 614.
Firearm, Automatic. K. Krnka. No. 975,256; Nov. 8; Sp. p. 2665; Gaz. vol. 160; p. 431.
Firearm, Automatic. C. P. Clement. No. 976,122; Nov. 15; Sp. p. 4440; Gaz. vol. 160; p. 752.
Firearm-magazine. C. H. A. F. L. Ross. No. 975,287; Nov. 8; Sp. p. 2724; Gaz. vol. 160; p. 441.
Firearms, Greasing device for the ammunition of. R. Frommer. No. 974,784; Nov. 8; Sp. p. 1602; Gaz. vol. 160; p. 269.
Fireplace-fender. S. B. Haya. No. 977,388; Nov. 29; Sp. p. 3789; Gaz. vol. 160; p. 1238.

Fireplace fender and screen. C. M. Yarborough. No. 976,767; Nov. 22; Sp. p. 5908; Gaz. vol. 160; p. 997.
Fireplace-furnace. A. J. Matter. No. 976,819; Nov. 22; Sp. p. 6006; Gaz. vol. 160; p. 1015.
Fireproof buildings, Partition construction for. H. Hill. No. 975,426; Nov. 15; Sp. p. 3011; Gaz. vol. 160; p. 514.
Fireproof constructions, Clip and studding for. J. F. Makowski. No. 975,868; Nov. 8; Sp. p. 2892; Gaz. vol. 160; p. 467.
Fireproof constructions, Filling-block for. H. Ericsson. No. 974,868; Nov. 8; Sp. p. 1793; Gaz. vol. 160; p. 297.
Firing-timing device. E. G. Affeck. No. 977,254; Nov. 29; Sp. p. 7009; Gaz. vol. 160; p. 1192.
Fish-catching device, Automatic. F. Becker and J. E. Poggensee. No. 975,822; Nov. 15; Sp. p. 3851; Gaz. vol. 160; p. 649.
Fish, &c., Device for opening and holding the mouths of. M. Leefson. No. 974,500; Nov. 1; Sp. p. 977; Gaz. vol. 160; p. 145.
Fish-hook. J. Y. Payton. No. 975,993; Nov. 15; Sp. p. 4181; Gaz. vol. 160; p. 708.
Fish hook, Shell-. J. F. Boepple. No. 975,927; Nov. 15; Sp. p. 4066; Gaz. vol. 160; p. 685.
Fishing-reel. P. F. Wadham. No. 975,587; Nov. 15; Sp. p. 3364; Gaz. vol. 160; p. 571.
Fishing-reel. W. F. Stockford. No. 975,653; Nov. 15; Sp. p. 3511; Gaz. vol. 160; p. 593.
Fishing-tool, Electric. H. Eastwood. No. 974,760; Nov. 1; Sp. p. 1544; Gaz. vol. 160; p. 237.
Flag-holder. G. W. Blank. No. 975,114; Nov. 8; Sp. p. 2351; Gaz. vol. 160; p. 382.
Flange, Removable. W. F. Cush. No. 976,440; Nov. 22; Sp. p. 5225; Gaz. vol. 160; p. 887.
Flanged fitting end. E. F. Osborne. No. 977,032; Nov. 29; Sp. p. 6530; Gaz. vol. 160; p. 1115.
Flanging plates, Method of and machine for. W. H. Morgan. No. 974,173; Nov. 1; Sp. p. 140; Gaz. vol. 160; p. 26.
Flask: *See* Molder's flask.
Flat-iron heater. S. A. Haring. No. 974,137; Nov. 1; Sp. p. 60; Gaz. vol. 160; p. 13.
Floor finishing and polishing machine. W. O. Canfield. No. 976,040; Nov. 15; Sp. p. 4272; Gaz. vol. 160; p. 725.
Floor-set. F. Norton. No. 975,566; Nov. 15; Sp. p. 3323; Gaz. vol. 160; p. 564.
Floor-surfacing machine. F. H. Wright. No. 976,716; Nov. 22; Sp. p. 5784; Gaz. vol. 160; p. 979.
Floss and waste silk, Destruction of hairs, &c., in. C. Seignol. No. 974,440; Nov. 1; Sp. p. 828; Gaz. vol. 160; p. 123.
Flower-holder. A. J. Binley. No. 974,114; Nov. 1; Sp. p. 18; Gaz. vol. 160; p. 6.
Flower-stand. W. Gaethje. No. 976,061; Nov. 15; Sp. p. 4310; Gaz. vol. 160; p. 731.
Flue-cleaners, Device for handling. M. O. Lewis. No. 977,411; Nov. 29; Sp. p. 7360; Gaz. vol. 160; p. 1245.
Flue-plug. W. F. Peters. No. 974,819; Nov. 8; Sp. p. 1676; Gaz. vol. 160; p. 281.
Flue-receiver, Adjustable. J. J. McDonald. No. 975,703; Nov. 15; Sp. p. 3611; Gaz. vol. 160; p. 609.
Fluid-heating device. C. M. Rice. No. 976,015; Nov. 29; Sp. p. 6236; Gaz. vol. 160; p. 1073.
Fluid in conduits, Device for establishing a pulsing motion of. G. Dalén. No. 976,556; Nov. 22; Sp. p. 5479; Gaz. vol. 160; p. 926.
Fluid-pressure appliance. T. S. Scott. No. 975,467; Nov. 15; Sp. p. 3097; Gaz. vol. 160; p. 529.
Fluid-pressure motor. D. S. Waugh. No. 974,543; Nov. 1; Sp. p. 1082; Gaz. vol. 160; p. 162.
Fluid-pressure motor and controlling mechanism therefor. W. H. Cahall. No. 976,983; Nov. 29; Sp. p. 6429; Gaz. vol. 160; p. 1098.
Flushing and heating system. J. B. Morgan. No. 976,484; Nov. 22; Sp. p. 5319; Gaz. vol. 160; p. 902.
Flushing apparatus. W. Guyton. No. 976,870; Nov. 29; Sp. p. 6135; Gaz. vol. 160; p. 1057.
Fly-catcher. C. Severin. No. 976,506; Nov. 22; Sp. p. 5357; Gaz. vol. 160; p. 909.
Fly-killer. C. H. Porter. No. 975,570; Nov. 15; Sp. p. 3330; Gaz. vol. 160; p. 565.
Fly-paper holder. A. Olsson. No. 975,152; Nov. 8; Sp. p. 2431; Gaz. vol. 160; p. 394.
Flying-machine. L. L. Crane. No. 974,554; Nov. 1; Sp. p. 1104; Gaz. vol. 160; p. 166.
Flying-machine. R. C. Gore. No. 975,229; Nov. 8; Sp. p. 2608; Gaz. vol. 160; p. 421.
Flying-machine. S. H. French. No. 976,161; Nov. 22; Sp. p. 4556; Gaz. vol. 160; p. 788.
Flying-machine. J. H. Wilson. No. 976,765; Nov. 22; Sp. p. 5903; Gaz. vol. 160; p. 997.
Flying-machine steering mechanism. C. Bostel. No. 974,229; Nov. 1; Sp. p. 275; Gaz. vol. 160; p. 47.
Flying-machines and learning the art of aviation, Apparatus for testing. R. Alexander-Katz. No. 975,196; Nov. 8; Sp. p. 2547; Gaz. vol. 160; p. 411.
Flying-machines, Automatic balancing mechanism for. W. F. Sullivan. No. 976,312; Nov. 22; Sp. p. 4937; Gaz. vol. 160; p. 841.
Fodder-cutter. J. Dick. No. 974,776; Nov. 8; Sp. p. 1583; Gaz. vol. 160; p. 266.
Fog-horn. J. Kleinberger and R. Stern. No. 975,960; Nov. 15; Sp. p. 4127; Gaz. vol. 160; p. 697.
Folding box and crate. J. Biro. No. 977,263; Nov. 29; Sp. p. 7027; Gaz. vol. 160; p. 1195.
Folding bracket. C. H. Richardson and F. F. Metzge No. 975,069; Nov. 8; Sp. p. 2245; Gaz. vol. 160; p. 86
Folding bracket. C. H. Richardson and F. F. Metzge No. 975,070; Nov. 8; Sp. p. 2247; Gaz. vol. 160; p. 86
Folding cup, Flexible. A. G. Brandt. No. 977,159; No 29; Sp. p. 6815; Gaz. vol. 160; p. 1158.
Folding seat. H. Humphrey. No. 974,384; Nov. 1; S p. 689; Gaz. vol. 160; p. 104.
Food, Making a cereal breakfast. H. Anhaltzer. N 976,332; Nov. 22; Sp. p. 4974; Gaz. vol. 160; p. 847.
Food product from cereal sprouts, Manufacture of a. Nilson. No. 976,488; Nov. 22; Sp. p. 5329; Gaz. vo 160; p. 903.
Force-drill, Portable. C. W. Wilson. No. 974,454; No 1; Sp. p. 874; Gaz. vol. 160; p. 128.
Fork: *See* Bicycle spring-fork.
Form for garment-fitting, Model-. E. Van Dusen. N 974,936; Nov. 8; Sp. p. 1945; Gaz. vol. 160; p. 321.
Form, Skirt-. H. D. Shaffer. No. 975,724; Nov. 15; S p. 3651; Gaz. vol. 160; p. 615.
Fountain: *See* Drinking-fountain; Printing-press inkin fountain.
Frame: *See* Doubling-frame; Eyeglass-frame; Mosquit bar frame; Picture-frame; Side frame; Stretchin frame; Tent-frame; Truck-frame; Window-frame.
Frames of every description, &c., Foundation for. A. vo Rügen. No. 977,330; Nov. 29; Sp. p. 7150; Gaz. vo 160; p. 1217.
Fringe-making and embroidering device. H. Gurtler. N 975,355; Nov. 8; Sp. p. 2869; Gaz. vol. 160; p. 463.
Fruit and other plastic objects, Manufacturing artificia F. Hamel. No. 976,359; Nov. 22; Sp. p. 5049; Ga vol. 160; p. 857.
Fruit cleaner and grader. I. W. Peck. No. 975,452; No 15; Sp. p. 3063; Gaz. vol. 160; p. 524.
Fruit-conveyer. H. Hammond. No. 976,871; Nov. 29 Sp. p. 6137; Gaz. vol. 160; p. 1058.
Fuel-mixer. A. Schmidt. No. 977,229; Nov. 29; Sp. 6958; Gaz. vol. 160; p. 1183.
Fumigator. J. C. Kemball. No. 976,266; Nov. 22; S p. 4845; Gaz. vol. 160; p. 827.
Fumigator. O. Immermann. No. 977,312; Nov. 29; S p. 7116; Gaz. vol. 160; p. 1211.
Funnel. W. E. Crane. No. 977,372; Nov. 29; Sp. 7262; Gaz. vol. 160; p. 1233.
Funnel. J. Mathis. No. 977,414; Nov. 29; Sp. p. 7372 Gaz. vol. 160; p. 1246.
Furnace: *See* Boiler-furnace; Electric furnace; Fireplac furnace; Melting-furnace; Oil or gas furnace; Or roasting furnace; Smoke-consuming furnace; Soil-ste ilizing furnace.
Furnace. E. C. Carter. No. 974,120; Nov. 1; Sp. 26; Gaz. vol. 160; p. 7.
Furnace. E. Katzinger. No. 975,531; Nov. 15; Sp. 3251; Gaz. vol. 160; p. 552.
Furnace. H. A. Poppenhausen and J. Harrington. (R issue.) No. 13,168; Nov. 15; Sp. p. 4498; Gaz. vo 160; p. 759.
Furnace. J. B. Bartick. No. 976,249; Nov. 22; Sp. 4801; Gaz. vol. 160; p. 820.
Furnace. B. L. Worthen. No. 977,249; Nov. 29; Sp. 7002; Gaz. vol. 160; p. 1190.
Furnace cover, Crucible-. J. L. R. Brown. No. 975,506 Nov. 15; Sp. p. 3184; Gaz. vol. 160; p. 542.
Furnace-door. J. Robinson. No. 975,892; Nov. 15; Sp. 3993; Gaz. vol. 160; p. 673.
Furnace for the production of cast iron and steel. Resinelli. No. 975,998; Nov. 15; Sp. p. 4191; Gaz. vo 160; p. 710.
Furnace-grate. J. J. Merrill. No. 974,902; Nov. 8; S p. 1857; Gaz. vol. 160; p. 309.
Furnace-head for gas-furnaces with changing direction flames. B. Versen. No. 975,738; Nov. 15; Sp. p. 3686 Gaz. vol. 160; p. 621.
Furnace-heat-conductor pipe. C. J. Holub. No. 975,360 Nov. 8; Sp. p. 2876; Gaz. vol. 160; p. 464.
Furnace structure. J. Eggins. No. 975,754; Nov. 15 Sp. p. 3715; Gaz. vol. 160; p. 627.
Furniture, Pneumatic-cushion. W. E. Kurtz. No. 975,258 Nov. 8; Sp. p. 2663; Gaz. vol. 160; p. 431.
Furniture, Store. C. C. Knutter. No. 975,049; Nov. 8 Sp. p. 2205; Gaz. vol. 160; p. 359.
Furrow-opener, Disk. T. Brennan, Jr. No. 977,367 Nov. 29; Sp. p. 7253; Gaz. vol. 160; p. 1231.
Furrow-opener drag-bar. F. R. Packham and G. P. Oate No. 976,490; Nov. 22; Sp. p. 5333; Gaz. vol. 160; p. 90
Fuse clipper and splitter, Miner's combined. S. H. Lun ford. No. 975,968; Nov. 15; Sp. p. 4143; Gaz. vo 160; p. 700.
Fuse, Safety-. S. J. Leveen and E. A. Martin. No 975,261; Nov. 8; Sp. p. 2674; Gaz. vol. 160; p. 432.
Gage: *See* Caliper-gage; Faucet-gage; Pruning-gage Skirt-gage; Testing-gage; Water-gage; Wick-gage.
Gage. S. W. Ladd. No. 976,269; Nov. 22; Sp. p. 4849 Gaz. vol. 160; p. 828.
Gage. F. Turek. No. 977,055; Nov. 29; Sp. p. 6574 Gaz. vol. 160; p. 1122.
Gage-glass. F. R. Bispham. No. 976,030; Nov. 15; S p. 4249; Gaz. vol. 160; p. 721.
Galvanic battery, Reversible. W. Morrison. No. 976,09 Nov. 15; Sp. p. 4374; Gaz. vol. 160; p. 743.
Gambrel. G. J. Hauk. No. 974,881; Nov. 8; Sp. p. 1817 Gaz. vol. 160; p. 302.

Game apparatus. W. A. Hamilton. No. 974,661; Nov. 1; Sp. p. 1325; Gaz. vol. 160; p. 205.
Game apparatus. J. M. Stivers. No. 974,721; Nov. 1; Sp. p. 1457; Gaz. vol. 160; p. 225.
Game apparatus. H. G. Barrett. No. 975,316; Nov. 8; Sp. p. 2793; Gaz. vol. 160; p. 451.
Game apparatus. C. E. Prickett. No. 976,492; Nov. 22; Sp. p. 5337; Gaz. vol. 160; p. 905.
Game apparatus, Base-ball-. A. W. Weeden. No. 977,149; Nov. 29; Sp. p. 6795; Gaz. vol. 160; p. 1155.
Game apparatus, Race-. J. Goodwin. No. 974,376; Nov. 1; Sp. p. 675; Gaz. vol. 160; p. 102.
Game-board. W. H. Wright and E. A. Powell. No. 975,009; Nov. 8; Sp. p. 2126; Gaz. vol. 160; p. 346.
Game, Card. N. M. Hopkins. No. 977,010; Nov. 29; Sp. p. 6491; Gaz. vol. 160; p. 1107.
Game-counter. E. R. Heusser. No. 975,237; Nov. 8; Sp. p. 2628; Gaz. vol. 160; p. 424.
Games, Sling for ball. A. D'Abreu and E. Seeger. No. 975,193; Nov. 8; Sp. p. 2542; Gaz. vol. 160; p. 410.
Garden implement. S. Thomas. No. 974,539; Nov. 1; Sp. p. 1077; Gaz. vol. 160; p. 161.
Garment. W. H. Stevenson. No. 975,087; Nov. 8; Sp. p. 2282; Gaz. vol. 160; p. 373.
Garment-clasp. O. Kampfe. No. 976,574; Nov. 22; Sp. p. 5515; Gaz. vol. 160; p. 932.
Garment, Combination-. L. S. Lee. No. 974,981; Nov. 8; Sp. p. 2065; Gaz. vol. 160; p. 337.
Garment-hanger. G. V. Nichols. No. 976,094; Nov. 15; Sp. p. 4391; Gaz. vol. 160; p. 744.
Garment-hanger. L. P. Wilson. No. 976,531; Nov. 22; Sp. p. 5427; Gaz. vol. 160; p. 917.
Garment holder or rack. A. Johnson. No. 975,246; Nov. 8; Sp. p. 2648; Gaz. vol. 160; p. 427.
Garment-rack. J. C. Sassenberg. No. 975,799; Nov. 15; Sp. p. 3812; Gaz. vol. 160; p. 642.
Garment-support. J. R. Randle. No. 975,279; Nov. 8; Sp. p. 2712; Gaz. vol. 160; p. 438.
Garment-supporter. F. M. Lingo and E. J. Kaufman. No. 975,700; Nov. 15; Sp. p. 3606; Gaz. vol. 160; p. 608.
Garment-supporter. E. N. Humphrey. No. 977,404; Nov. 29; Sp. p. 7350; Gaz. vol. 160; p. 1243.
Garter. C. F. Ingalls. No. 974,667; Nov. 1; Sp. p. 1336; Gaz. vol. 160; p. 207.
Gas and oil burner, Combination. G. A. Smith. No. 977,231; Nov. 29; Sp. p. 6962; Gaz. vol. 160; p. 1183.
Gas-burner. C. A. Johnson. No. 974,671; Nov. 1; Sp. p. 1340; Gaz. vol. 160; p. 208.
Gas-burner. E. P. Kilgore and R. W. Bosworth. No. 975,253; Nov. 8; Sp. p. 2661; Gaz. vol. 160; p. 430.
Gas-burner, Blast-furnace-stove. A. G. McKee. No. 975,556; Nov. 15; Sp. p. 3303; Gaz. vol. 160; p. 561.
Gas-collecting mains, Automatic pressure-regulator for. O. F. Greim. No. 974,260; Nov. 1; Sp. p. 405; Gaz. vol. 160; p. 59.
Gas-controller, Automatic. J. C. Landes. No. 974,980; Nov. 8; Sp. p. 2063; Gaz. vol. 160; p. 336.
Gas-distributing system. G. A. Hanly and G. R. Martin. No. 976,734; Nov. 22; Sp. p. 5815; Gaz. vol. 160; p. 985.
Gas-drip, Automatic. O. Justus. No. 974,889; Nov. 8; Sp. p. 1830; Gaz. vol. 160; p. 305.
Gas economizer and purifier. J. W. Carpenter. No. 974,551; Nov. 1; Sp. p. 1100; Gaz. vol. 160; p. 166.
Gas-engine. C. Erickson and J. Pearson. No. 975,024; Nov. 8; Sp. p. 2155; Gaz. vol. 160; p. 351.
Gas-engine. J. B. Brown. No. 976,034; Nov. 15; Sp. p. 4258; Gaz. vol. 160; p. 722.
Gas-engine. E. F. Frall. No. 976,691; Nov. 22; Sp. p. 5732; Gaz. vol. 160; p. 971.
Gas-feed for vacuum-tubes, Automatic. D. M. Moore. No. 975,149; Nov. 8; Sp. p. 2422; Gaz. vol. 160; p. 393.
Gas-filter. G. S. Linn. No. 975,262; Nov. 8; Sp. p. 2676; Gaz. vol. 160; p. 432.
Gas-fitting. W. Corbridge. No. 976,987; Nov. 29; Sp. p. 6437; Gaz. vol. 160; p. 1099.
Gas generating and supply systems, Regulator for. F. L. Cross. No. 974,555; Nov. 1; Sp. p. 1105; Gaz. vol. 160; p. 167.
Gas-generator. E. Brauss. No. 974,639; Nov. 1; Sp. p. 1281; Gaz. vol. 160; p. 197.
Gas-generator. W. A. Wallace. No. 975,910; Nov. 15; Sp. p. 4030; Gaz. vol. 160; p. 680.
Gas generator, Acetylene-. W. H. Parker. No. 975,154; Nov. 8; Sp. p. 2433; Gaz. vol. 160; p. 395.
Gas generator, Acetylene-. V. E. Peterson. No. 976,135; Nov. 15; Sp. p. 4488; Gaz. vol. 160; p. 757.
Gas-igniter, Automatic. E. E. Gerald. No. 974,565; Nov. 1; Sp. p. 1135; Gaz. vol. 160; p. 171.
Gas lighter and extinguisher, Automatic. G. Robson. No. 975,160; Nov. 8; Sp. p. 2449; Gaz. vol. 160; p. 398.
Gas lighter and extinguisher, Automatic. G. Robson. No. 975,161; Nov. 8; Sp. p. 2457; Gaz. vol. 160; p. 398.
Gas-mains, Automatic cut-off for. C. E. Lahmers. No. 975,259; Nov. 8; Sp. p. 2670; Gaz. vol. 160; p. 431.
Gas-making apparatus, Producer-. W. O. Amsler. No. 974,945; Nov. 8; Sp. p. 1970; Gaz. vol. 160; p. 324.
Gas-meter. J. W. Danaher. No. 974,775; Nov. 8; Sp. p. 1581; Gaz. vol. 160; p. 266.
Gas-mixer regulating device. P. Lulli. No. 975,444; Nov. 15; Sp. p. 3049; Gaz. vol. 160; p. 521.
Gas-producing apparatus. F. H. Treat. No. 975,657; Nov. 15; Sp. p. 3521; Gaz. vol. 160; p. 594.
Gas-regulator. L. H. Miller. No. 974,691; Nov. 1; Sp. p. 1390; Gaz. vol. 160; p. 216.
Gas-scrubber. W. McArthur. No. 975,054; Nov. 8; Sp. p. 2219; Gaz. vol. 160; p. 361.
Gaseous-fluid mixer. H. W. Webb and E. H. Stickels. No. 976,415; Nov. 22; Sp. p. 5168; Gaz. vol. 160; p. 878.
Gate: *See* Bridge safety-gate; Car-gate; Ditch-gate; Head-gate; Railway-gate; Sluice-gate.
Gate. H. V. Doty and M. H. Kirkland. No. 975,516; Nov. 15; Sp. p. 3209; Gaz. vol. 160; p. 546.
Gate. B. J. Campbell. No. 976,119; Nov. 15; Sp. p. 4436; Gaz. vol. 160; p. 752.
Gear, Gapped. W. T. Sears. No. 975,722; Nov. 15; Sp. p. 3648; Gaz. vol. 160; p. 615.
Gear, Gapped. W. T. Sears. No. 975,723; Nov. 15; Sp. p. 3650; Gaz. vol. 160; p. 615.
Gear, Reversing-. R. B. Crump. No. 976,727; Nov. 22; Sp. p. 5804; Gaz. vol. 160; p. 983.
Gear-wheel. R. C. Bloomfield. No. 975,743; Nov. 15; Sp. p. 3698; Gaz. vol. 160; p. 623.
Gearing. C. A. Munger. No. 974,508; Nov. 1; Sp. p. 992; Gaz. vol. 160; p. 148.
Gearing. T. A. Panyard. No. 975,789; Nov. 15; Sp. p. 3789; Gaz. vol. 160; p. 638.
Gearing. J. H. Malley. No. 977,207; Nov. 29; Sp. p. 6924; Gaz. vol. 160; p. 1176.
Gearing, Controlling mechanism for change-speed and reversing. A. P. Brush. No. 975,393; Nov. 15; Sp. p. 2960; Gaz. vol. 160; p. 502.
Gearing, Reverse-. H. A. Garrison. No. 976,731; Nov. 22; Sp. p. 5812; Gaz. vol. 160; p. 984.
Gearing, Variable-speed. R. Lindsay. No. 975,442; Nov. 15; Sp. p. 3043; Gaz. vol. 160; p. 520.
Gelatin composition. E. F. Felsing. No. 974,131; Nov. 1; Sp. p. 52; Gaz. vol. 160; p. 11.
Generator: *See* Acetylene-generator; Electric generator; Gas-generator; Magneto-electric generator; Power-generator; Vapor-generator.
Glass: *See* Gage-glass.
Glass and cup washing apparatus. U. G. Worrall. No. 974,944; Nov. 8; Sp. p. 1967; Gaz. vol. 160; p. 324.
Glass, Apparatus for transporting and manipulating sheets of plate-. L. De Bay. No. 977,279; Nov. 29; Sp. p. 7053; Gaz. vol. 160; p. 1200.
Glass-blowing machine. W. D. Fredrick. No. 975,758; Nov. 15; Sp. p. 3725; Gaz. vol. 160; p. 628.
Glass-blowing machine. W. D. Fredrick. No. 975,759; Nov 15; Sp. p. 3731; Gaz. vol. 160; p. 629.
Glass-cleaner. L. G. Hatosy, Jr. No. 975,862; Nov. 15; Sp. p. 3939; Gaz. vol. 160; p. 663.
Glass-making apparatus, Sheet-. F. M. Francart, G. C. Debay, J. W. Johnston, and G. B. Couch. No. 976,125; Nov. 15; Sp. p. 4453; Gaz. vol. 160; p. 754.
Glass panes in position, Means for securing. J. Knoerl. No. 974,575; Nov. 1; Sp. p. 1151; Gaz. vol. 160; p. 174.
Glassware. O. A. Mygatt. No. 976,681; Nov. 22; Sp. p. 5717; Gaz. vol. 160; p. 968.
Glassware-mold. G. W. Fry. No. 975,409; Nov. 15; Sp. p. 2984; Gaz. vol. 160; p. 507.
Glove. S. Sachs. No. 975,280; Nov. 8; Sp. p. 2727; Gaz. vol. 160; p. 442.
Go-carts, Canopy for folding. W. W. Williams. No. 974,942; Nov. 8; Sp. p. 1962; Gaz. vol. 160; p. 323.
Golf-club. C. Jacobus. No. 974,888; Nov. 8; Sp. p. 1828; Gaz. vol. 160; p. 304.
Golf-club. M. W. Hollingsworth. No. 976,176; Nov. 22; Sp. p. 4610; Gaz. vol. 160; p. 793.
Golf-club. A. F. Knight. No. 976,267; Nov. 22; Sp. p. 4846; Gaz. vol. 160; p. 827.
Gouge. J. A. Suckley. No. 976,106; Nov. 15; Sp. p. 4416; Gaz. vol. 160; p. 748.
Governing apparatus. H. L. Barton. No. 976,839; Nov. 29; Sp. p. 6068; Gaz. vol. 160; p. 1046.
Governing mechanism for fluid-pressure engines. H. H. Dow. No. 976,853; Nov. 29; Sp. p. 6108; Gaz. vol. 160; p. 1051.
Governor attachment, Engine-. W. H. Giltner. No. 974,655; Nov. 1; Sp. p. 1315; Gaz. vol. 160; p. 203.
Governors, Standardizing device for. G. J. Henry, Jr. No. 976,174; Nov. 22; Sp. p. 4604; Gaz. vol. 160; p. 792.
Grader, Road-. V. Landholm. No. 974,397; Nov. 1; Sp. p. 712; Gaz. vol. 160; p. 108.
Graders, Throwing-wheel for. W. H. Ehrsam, E. H. Sieder, and L. N. Morscher. No. 976,350; Nov. 22; Sp. p. 5026; Gaz. vol. 160; p. 853.
Grading and ditching machine. T. F. Stroud. No. 975,176; Nov. 8; Sp. p. 2494; Gaz. vol. 160; p. 403.
Grain-binders, Compressor and trip mechanism for. J. Boda. No. 974,348; Nov. 1; Sp. p. 614; Gaz. vol. 160; p. 92.
Grain-decorticating machine. R. E. Kimball. No. 977,197; Nov. 29; Sp. p. 6904; Gaz. vol. 160; p. 1173.
Grain-saving device. B. G. Nelson. No. 976,745; Nov. 22; Sp. p. 5840; Gaz. vol. 160; p. 989.
Grain-separator. F. Ayler. No. 975,598; Nov. 15; Sp. p. 3381; Gaz. vol. 160; p. 574.
Grain-separator cleaning attachment. F. Prinz. No. 975,995; Nov. 15; Sp. p. 4135; Gaz. vol. 160; p. 709.
Grass-cutter. A. Euchenhofer. No. 977,288; Nov. 29; Sp. p. 7074; Gaz. vol. 160; p. 1203.
Grate. W. N. Snow. No. 976,309; Nov. 22; Sp. p. 4933; Gaz. vol. 160; p. 841.
Grate, Heating-. E. R. Cahoone. No. 976,039; Nov. 15; Sp. p. 4270; Gaz. vol. 160; p. 724.
Grate, Hollow water-heating. L. Kaufman. No. 976,080; Nov. 15; Sp. p. 4347; Gaz. vol. 160; p. 738.

Grate-shaker engine. W. F. Baker. No. 975,314; Nov. 8; Sp. p. 2790; Gaz. vol. 160; p. 451.
Grease-gun. G. W. Stone, Jr. No. 976,945; Nov. 29; Sp. p. 6326; Gaz. vol. 160; p. 1084.
Grinder, Die-. W. A. Leonard. No. 976,270; Nov. 22; Sp. p. 4853; Gaz. vol. 160; p. 828.
Grinder for irregular surfaces. A. Roberts and A. Libert. No. 974,523; Nov. 1; Sp. p. 1031; Gaz. vol. 160; p. 154.
Grinding and polishing machine. F. Hayden. No. 976,875; Nov. 29; Sp. p. 6145; Gaz. vol. 160; p. 1059.
Grinding-machine. B. M. W. Hanson. No. 975,382; Nov. 8; Sp. p. 2930; Gaz. vol. 160; p. 473.
Grinding-machine. A. Lilljquist. No. 975,966; Nov. 15; Sp. p. 4137; Gaz. vol. 160; p. 699.
Grinding-machine. F. Welker. No. 977,060; Nov. 29; Sp. p. 6583; Gaz. vol. 160; p. 1123.
Grinding-machine. H. B. Nichols. No. 977,324; Nov. 29; Sp. p. 7138; Gaz. vol. 160; p. 1215.
Grinding-machine attachment, Flat-surface. M. J. Neumuth. No. 975,785; Nov. 15; Sp. p. 3783; Gaz. vol. 160; p. 637.
Grinding-mill. K. O. S. Thors. No. 975,807; Nov. 15; Sp. p. 3827; Gaz. vol. 160; p. 644.
Grinding-mill, Rolling-balls. L. Hoffmann. No. 975,864; Nov. 15; Sp. p. 3940; Gaz. vol. 160; p. 663.
Grinding-wheel. H. B. Nichols. No. 977,325; Nov. 29; Sp. p. 7142; Gaz. vol. 160; p. 1216.
Grinding-wheel, &c. L. R. L. Wallén. No. 975,089; Nov. 8; Sp. p. 2284; Gaz. vol. 160; p. 373.
Gripping mechanism. C. A. Morris. No. 975,710; Nov. 15; Sp. p. 3625; Gaz. vol. 160; p. 611.
Grubber and cultivator, Combined grass-. C. W. Stark. No. 975,173; Nov. 8; Sp. p. 2487; Gaz. vol. 160; p. 402.
Guitar. P. Benson and J. L. Johanson. No. 976,428; Nov. 22; Sp. p. 5193; Gaz. vol. 160; p. 882.
Gun, Breech-loading. J. A. Ricketts. No. 975,071; Nov. 8; Sp. p. 2249; Gaz. vol. 160; p. 367.
Gun firing mechanism. C. Green. No. 974,259; Nov. 1; Sp. p. 896; Gaz. vol. 160; p. 58.
Gun-mount. D. J. Cartwright. No. 974,552; Nov. 1; Sp. p. 1102; Gaz. vol. 160; p. 166.
Gun, Pneumatic. A. L. Blomén. No. 976,429; Nov. 22; Sp. p. 5194; Gaz. vol. 160; p. 883.
Gun, Trap-. C. D. Lovelace. No. 975,967; Nov. 15; Sp. p. 4142; Gaz. vol. 160; p. 700.
Guy-wires, Take-up device for. E. C. Gillespie. No. 976,865; Nov. 29; Sp. p. 6128; Gaz. vol. 160; p. 1056.
Gyroscope and sphere. J. F. O'Byrne. No. 975,988; Nov. 15; Sp. p. 4173; Gaz. vol. 160; p. 707.
Hair-curler. L. Durbyelle. No. 975,222; Nov. 8; Sp. p. 2599; Gaz. vol. 160; p. 419.
Hair-pin. L. C. Belz. No. 975,390; Nov. 15; Sp. p. 2956; Gaz. vol. 160; p. 501.
Hair-singeing device, Electrical. E. A. Roberts and N. L. Johnson. No. 975,073; Nov. 8; Sp. p. 2256; Gaz. vol. 160; p. 367.
Hame-fastener. C. S. Waybright. No. 976,414; Nov. 22; Sp. p. 5166; Gaz. vol. 160; p. 877.
Hammer-drill. W. Prellwitz. No. 975,891; Nov. 15; Sp. p. 3992; Gaz. vol. 160; p. 673.
Hammer-drill. A. H. Taylor. No. 975,905; Nov. 15; Sp. p. 4020; Gaz. vol. 160; p. 678.
Hammer, Drop-. B. and J. Brett. No. 975,206; Nov. 8; Sp. p. 2572; Gaz. vol. 160; p. 414.
Hammer, Power-. C. R. Embry. No. 977,082; Nov. 29; Sp. p. 6638; Gaz. vol. 160; p. 1131.
Hammers, Valve-gear for power-. J. Hamilton. No. 974,264; Nov. 1; Sp. p. 413; Gaz. vol. 160; p. 61.
Hammock-hook. F. R. Eldridge. No. 976,253; Nov. 22; Sp. p. 4808; Gaz. vol. 160; p. 822.
Hand-rake. O. Kampfe. No. 975,871; Nov. 15; Sp. p. 3052; Gaz. vol. 160; p. 666.
Hand-shield. L. B. Tebeau. No. 975,734; Nov. 15; Sp. p. 3677; Gaz. vol. 160; p. 619.
Handsaw, Power-operated. W. H. Henderson. No. 976,801; Nov. 22; Sp. p. 5974; Gaz. vol. 160; p. 1009.
Hanger: *See* Brake-beam hanger; Broom-hanger; Cable-hanger; Clothes-hanger; Coat and trousers hanger; Electric-light hanger; Garment-hanger; Insulating-hanger; Shaft-hanger; Window or screen hanger.
Hanger. L. Roehm. No. 974,524; Nov. 1; Sp. p. 1033; Gaz. vol. 160; p. 154.
Harness attachment. F. G. Black. No. 976,719; Nov. 22; Sp. p. 5791; Gaz. vol. 160; p. 980.
Harrow. D. L. Powers. No. 974,427; Nov. 1; Sp. p. 788; Gaz. vol. 160; p. 118.
Harrow. T. J. McWilliams. No. 976,387; Nov. 22; Sp. p. 5109; Gaz. vol. 160; p. 867.
Harrow, Disk. F. B. Nieas. (Reissue.) No. 13,163; Nov. 1; Sp. p. 1569; Gaz. vol. 160; p. 242.
Harrow, Disk. W. C. King. No. 977,099; Nov. 29; Sp. p. 6681; Gaz. vol. 160; p. 1137.
Harrow, Rotary. P. N. Moun. No. 974,808; Nov. 8; Sp. p. 1650; Gaz. vol. 160; p. 276.
Harrow, Rotary. J. T. Cunningham. No. 976,439; Nov. 22; Sp. p. 5224; Gaz. vol. 160; p. 886.
Harrow-tooth holder. J. H. Hoard. No. 975,132; Nov. 8; Sp. p. 2303; Gaz. vol. 160; p. 388.
Harvester attachment. O. O. Clark. No. 974,358; Nov. 1; Sp. p. 644; Gaz. vol. 160; p. 96.
Harvester, Beet-. M. H. Wadhams. No. 975,586; Nov. 15; Sp. p. 3362; Gaz. vol. 160; p. 571.
Harvester, Cane-. M. C. Mollere. No. 976,823; Nov. 22; Sp. p. 6014; Gaz. vol. 160; p. 1016.
Harvester, Corn-. J. Tjossem. No. 974,311; Nov. 1; Sp. p. 527; Gaz. vol. 160; p. 78.
Harvester, Corn-. B. E. Reed. No. 975,797; Nov. 15; Sp. p. 3808; Gaz. vol. 160; p. 641.
Harvester, Corn-. J. Rickel. No. 976,921; Nov. 29; Sp. p. 6262; Gaz. vol. 160; p. 1075.
Harvester, Cotton-. R. L. Edwards. No. 975,125; Nov. 8; Sp. p. 2376; Gaz. vol. 160; p. 386.
Harvester, Cotton-. G. Lispenard. No. 975,775; Nov. 15; Sp. p. 3761; Gaz. vol. 160; p. 633.
Harvester, Cotton-. G. Lispenard. No. 976,084; Nov. 15; Sp. p. 4354; Gaz. vol. 160; p. 740.
Harvester, Cotton-. D. D. Miles. No. 976,132; Nov. 15; Sp. p. 4484; Gaz. vol. 160; p. 756.
Harvester or like machine, Stripper-. S. H. Tyers. No. 975,003; Nov. 8; Sp. p. 2115; Gaz. vol. 160; p. 344.
Harvesting-machine. D. J. Brower. No. 977,266; Nov. 29; Sp. p. 7030; Gaz. vol. 160; p. 1196.
Hat. S. Newman. No. 975,448; Nov. 15; Sp. p. 3057; Gaz. vol. 160; p. 522.
Hat and clothes rack. D. Neuhaus. No. 976,205; Nov. 22; Sp. p. 4662; Gaz. vol. 160; p. 803.
Hat-fastener. J. W. Morris. No. 975,060; Nov. 8; Sp. p. 2229; Gaz. vol. 160; p. 363.
Hat-pin. A. Larsen. No. 974,577; Nov. 1; Sp. p. 1153; Gaz. vol. 160; p. 174.
Hat-pin guard. W. N. Hutchison and J. A. Andrew. No. 975,620; Nov. 15; Sp. p. 3427; Gaz. vol. 160; p. 582.
Hat-protector. L. F. Wolfe. No. 975,667; Nov. 15; Sp. p. 3558; Gaz. vol. 160; p. 598.
Hatband. O. W. Schofield. No. 974,605; Nov. 1; Sp. p. 1201; Gaz. vol. 160; p. 184.
Hatch-fastener. A. Hynd. No. 975,528; Nov. 15; Sp. p. 3233; Gaz. vol. 160; p. 551.
Hatch-fastener. L. W. Young. No. 976,974; Nov. 29; Sp. p. 6409; Gaz. vol. 160; p. 1095.
Hay-carrier. I. W. Davis and M. J. Evans. No. 975,836; Nov. 15; Sp. p. 3871; Gaz. vol. 160; p. 654.
Hay-press. C. A. Hughes. No. 976,368; Nov. 22; Sp. p. 5001; Gaz. vol. 160; p. 859.
Hay-rake. J. Dain. No. 974,125; Nov. 1; Sp. p. 37; Gaz. vol. 160; p. 9.
Hay-rake. A. W. Richards. No. 974,827; Nov. 8; Sp. p. 1688; Gaz. vol. 160; p. 283.
Hay-rake, Side-delivery. F. K. Lathrop. No. 974,893; Nov. 8; Sp. p. 1837; Gaz. vol. 160; p. 306.
Head-envelop. R. A. Bower. No. 975,745; Nov. 15; Sp. p. 3700; Gaz. vol. 160; p. 623.
Head-gate. J. H. Buttorff. No. 976,720; Nov. 22; Sp. p. 5702; Gaz. vol. 160; p. 980.
Head-gate lock. D. J. Elliott and W. W. Reilly. No. 976,254; Nov. 22; Sp. p. 4810; Gaz. vol. 160; p. 822.
Headlight. F. Kohout and R. C. Langley. No. 976,468; Nov. 22; Sp. p. 5280; Gaz. vol. 160; p. 896.
Headlight steering gear, Vehicle-. A. G. Lindley. No. 974,579; Nov. 1; Sp. p. 1156; Gaz. vol. 160; p. 175.
Heat-insulating linings or coverings, Apparatus for manufacturing. A. G. Brown. No. 974,858; Nov. 8; Sp. p. 1763; Gaz. vol. 160; p. 294.
Heater: *See* Electric heater; Electrical heater; Flat-iron heater; Hot-water heater; Orchard-heater; Sad-iron heater; Water-heater.
Heater. W. J. Dossey. No. 975,022; Nov. 8; Sp. p. 2145; Gaz. vol. 160; p. 350.
Heaters, Condensate-collector for water-. E. Ruud. No. 975,884; Nov. 15; Sp. p. 4001; Gaz. vol. 160; p. 674.
Heating and ventilating system, Combined. L. C. Smith. No. 974,928; Nov. 8; Sp. p. 1930; Gaz. vol. 160; p. 318.
Heating apparatus, Steam-. J. A. Donnelly. No. 974,245; Nov. 1; Sp. p. 366; Gaz. vol. 160; p. 53.
Heating-body, Knitted electric. M. Hefter. No. 975,359; Nov. 8; Sp. p. 2875; Gaz. vol. 160; p. 464.
Heating by means of radio-incandescent bodies, System of. M. Delage. No. 975,837; Nov. 15; Sp. p. 3875; Gaz. vol. 160; p. 654.
Heating device, Electric. C. Aalborg. No. 974,329; Nov. 1; Sp. p. 578; Gaz. vol. 160; p. 85.
Heating-receptacle, Electric. W. Stanley. No. 976,944; Nov. 29; Sp. p. 6325; Gaz. vol. 160; p. 1084.
Heating system. H. Lemp. No. 974,161; Nov. 1; Sp. p. 107; Gaz. vol. 160; p. 21.
Heating system, Indirect water-. E. Ruud. No. 975,895; Nov. 15; Sp. p. 4003; Gaz. vol. 160; p. 674.
Heating system, Steam-. J. A. Donnelly. No. 974,246; Nov. 1; Sp. p. 369; Gaz. vol. 160; p. 53.
Heating tools electrically, Apparatus for. J. Oertly and C. F. Dudley. No. 974,420; Nov. 1; Sp. p. 765; Gaz. vol. 160; p. 116.
Heddles, Making. W. Fehr and J. Kaufmann. No. 974,130; Nov. 1; Sp. p. 50; Gaz. vol. 160; p. 11.
Heel, Boot and shoe. H. W. Cook. No. 976,552; Nov. 22; Sp. p. 5473; Gaz. vol. 160; p. 924.
Heel-compressing machine. T. Lund. No. 974,405; Nov. 1; Sp. p. 731; Gaz. vol. 160; p. 111.
Heel-plate. E. W. Gray. No. 975,764; Nov. 15; Sp. p. 3730; Gaz. vol. 160; p. 630.
Heel, Shoe-. J. Colbert. No. 975,897; Nov. 15; Sp. p. 2967; Gaz. vol. 160; p. 504.
Heel trimming machine, Boot and shoe. W. T. B. Roberts. No. 974,708; Nov. 1; Sp. p. 1435; Gaz. vol. 160; p. 221.
Hides and skins, Machine for preparing. L. Richter. No. 977,132; Nov. 29; Sp. p. 6756; Gaz. vol. 160; p. 1150.
Hides or skins, Unhairing and tanning. G. D. Burton. No. 976,036; Nov. 15; Sp. p. 4262; Gaz. vol. 160; p. 723.

Hinge. A. Hughes, Jr. No. 974,492; Nov. 1; Sp. p. 960; Gaz. vol. 160; p. 143.
Hinge. J. Lester and H. W. Humphrey. No. 974,682; Nov. 1; Sp. p. 1365; Gaz. vol. 160; p. 213.
Hinge. J. Wright. No. 975,097; Nov. 8; Sp. p. 2290; Gaz. vol. 160; p. 376.
Hinge. J. Hauer. No. 975,181; Nov. 8; Sp. p. 2392; Gaz. vol. 160; p. 388.
Hinge. W. D. Paynter. No. 976,392; Nov. 22; Sp. p. 5126; Gaz. vol. 160; p. 869.
Hinge. W. H. Frombart. No. 976,999; Nov. 29; Sp. p. 6466; Gaz. vol. 160; p. 1103.
Hinge, Adjustable. A. Vanderveld. No. 974,451; Nov. 1; Sp. p. 880; Gaz. vol. 160; p. 127.
Hinge and receptacle, Combined. W. D. Hodson. No. 975,690; Nov. 15; Sp. p. 3593; Gaz. vol. 160; p. 605.
Hinge, Door-. P. E. Howard. No. 974,794; Nov. 8; Sp. p. 1617; Gaz. vol. 160; p. 272.
Hinge, Double-swinging-door. O. E. Halin. No. 975,130; Nov. 8; Sp. p. 2390; Gaz. vol. 160; p. 387.
Hinge, Molding-flask sliding. S. D. Robinson. No. 975,159; Nov. 8; Sp. p. 2447; Gaz. vol. 160; p. 397.
Hoe. J. C. Blisland. No. 975,320; Nov. 8; Sp. p. 2805; Gaz. vol. 160; p. 453.
Hoe, Horse-. C. R. Curtis. No. 976,641; Nov. 22; Sp. p. 5648; Gaz. vol. 160; p. 955.
Hoisting apparatus. C. W. Hunt. No. 974,385; Nov. 1; Sp. p. 691; Gaz. vol. 160; p. 104.
Hoisting apparatus. W. H. Beam. No. 974,737; Nov. 1; Sp. p. 1455; Gaz. vol. 160; p. 229.
Hoisting device. R. L. Lamberton. No. 975,876; Nov. 15; Sp. p. 3959; Gaz. vol. 160; p. 667.
Hollow bodies, Means of producing seamless. W. Westerman. No. 976,529; Nov. 22; Sp. p. 5422; Gaz. vol. 160; p. 916.
Hook; *See* Fish-hook; Hammock-hook; Snap-hook; Well-hook.
Hoop. J. Dupree. No. 975,679; Nov. 15; Sp. p. 3575; Gaz. vol. 160; p. 602.
Horse-cleaning implement. B. Lobee. No. 977,106; Nov. 29; Sp. p. 6694; Gaz. vol. 160; p. 1140.
Horses, Electric appliance for. J. P. Sanborn. No. 977,331; Nov. 29; Sp. p. 7151; Gaz. vol. 160; p. 1217.
Horses pills, Device for giving. J. J. Grimm. No. 977,004; Nov. 29; Sp. p. 6479; Gaz. vol. 160; p. 1105.
Horseshoe. F. F. Stanek. No. 976,408; Nov. 22; Sp. p. 5157; Gaz. vol. 160; p. 875.
Horseshoe. M. Klein. No. 976,579; Nov. 22; Sp. p. 5530; Gaz. vol. 160; p. 934.
Horseshoe anti-slipping attachment. J. J. May. No. 975,553; Nov. 15; Sp. p. 3209; Gaz. vol. 160; p. 560.
Horseshoe-calking machine. W. H. Lee, V. T. Snover, and M. H. Palmer. No. 975,306; Nov. 8; Sp. p. 2888; Gaz. vol. 160; p. 467.
Horseshoe-spreader. C. Vestergaard. No. 975,810; Nov. 15; Sp. p. 3832; Gaz. vol. 160; p. 645.
Hose-bridge. M. E. Troutt. No. 975,658; Nov. 15; Sp. p. 3525; Gaz. vol. 160; p. 595.
Hose-carrier. A. P. Bolner. No. 976,774; Nov. 22; Sp. p. 5926; Gaz. vol. 160; p. 1000.
Hose-coupling. L. Lancaster. No. 975,138; Nov. 8; Sp. p. 2404; Gaz. vol. 160; p. 390.
Hose-drier. F. A. Hoyt. No. 976,656; Nov. 22; Sp. p. 5683; Gaz. vol. 160; p. 961.
Hose-reel. S. M. Marshall. No. 975,147; Nov. 8; Sp. p. 2420; Gaz. vol. 160; p. 393.
Hose-reel. G. M. Hughes. No. 975,245; Nov. 8; Sp. p. 2647; Gaz. vol. 160; p. 427.
Hose-supporter. R. H. Klauder. No. 975,364; Nov. 8; Sp. p. 2884; Gaz. vol. 160; p. 466.
Hose-supporter. E. D. Lowry. No. 977,024; Nov. 29; Sp. p. 6518; Gaz. vol. 160; p. 1112.
Hose supporter, Half-. F. H. Seeley. No. 976,505; Nov. 22; Sp. p. 5355; Gaz. vol. 160; p. 908.
Hosiery. L. A. Costello. No. 976,555; Nov. 22; Sp. p. 5477; Gaz. vol. 160; p. 925.
Hot-water heater and circulator. J. Kephart. No. 974,890; Nov. 8; Sp. p. 1832; Gaz. vol. 160; p. 305.
Hotel-corridor lock. N. B. Hurd. No. 974,666; Nov. 1; Sp. p. 1333; Gaz. vol. 160; p. 207.
House; *See* Portable house; Poultry-house.
Hub, Automobile wheel-. C. T. Hixson and A. L. Tarrant. No. 976,802; Nov. 22; Sp. p. 6075; Gaz. vol. 160; p. 1009.
Hub, Vehicle-wheel. R. L. Harrell. No. 974,662; Nov. 1; Sp. p. 1326; Gaz. vol. 160; p. 206.
Humidor. C. B. Carstens. No. 976,150; Nov. 22; Sp. p. 4524; Gaz. vol. 160; p. 784.
Hurdle. W. S. Tothill. No. 974,613; Nov. 1; Sp. p. 1218; Gaz. vol. 160; p. 188.
Hydraulic chair. E. Melchior. No. 974,289; Nov. 1; Sp. p. 476; Gaz. vol. 160; p. 70.
Hydraulic chair. E. Melchior. No. 975,705; Nov. 15; Sp. p. 3617; Gaz. vol. 160; p. 610.
Hydraulic press. F. Phelps. No. 975,994; Nov. 15; Sp. p. 4182; Gaz. vol. 160; p. 709.
Hydrocarbon-burner. W. M. Green. No. 977,186; Nov. 29; Sp. p. 6886; Gaz. vol. 160; p. 1169.
Hydrocarbon mixtures, Producing and burning combustible. R. H. White. No. 974,730; Nov. 1; Sp. p. 1475; Gaz. vol. 160; p. 227.
Hydrocarbon vaporizer and burner. C. Mendell. No. 975,557; Nov. 15; Sp. p. 3304; Gaz. vol. 160; p. 561.
Hydrogen peroxid, Stable mixture for producing. R. Grüter and H. Pohl. No. 975,129; Nov. 8; Sp. p. 2389; Gaz. vol. 160; p. 387.
Hydrogen peroxid, Stable mixture for producing. R. Grüter and H. Pohl. No. 975,853; Nov. 8; Sp. p. 2867; Gaz. vol. 160; p. 463.
Hydrogen peroxid, Stable mixture for producing. R. Grüter and H. Pohl. No. 975,354; Nov. 8; Sp. p. 2868; Gaz. vol. 160; p. 463.
Ice, Apparatus for the manufacture of plate-. W. H. Llewellyn and A. G. Olney. No. 974,162; Nov. 1; Sp. p. 110; Gaz. vol. 160; p. 22.
Ice-cream freezer. R. C. Eldridge and D. C. Breed. No. 974,761; Nov. 1; Sp. p. 1545; Gaz. vol. 160; p. 238.
Ice-cream-freezer dasher. M. Obrynoweech. No. 976,684; Nov. 22; Sp. p. 5720; Gaz. vol. 160; p. 968.
Ice-cream, sherbet, &c., Manufacturing. G. D. Burton. No. 976,780; Nov. 22; Sp. p. 5939; Gaz. vol. 160; p. 1002.
Ice-cream spoon. D. H. Mosteller. (Reissue.) No. 13,170; Nov. 22; Sp. p. 6039; Gaz. vol. 160; p. 1021.
Ice-cream spoon. J. Geier. No. 977,382; Nov. 29; Sp. p. 7279; Gaz. vol. 160; p. 1236.
Ice-making apparatus. W. H. A. Halsall. No. 975,528; Nov. 15; Sp. p. 3225; Gaz. vol. 160; p. 549.
Ice-making machine. W. M. Pruett. No. 974,184; Nov. 1; Sp. p. 169; Gaz. vol. 160; p. 30.
Ice-saw. J. N. Kopp. No. 976,661; Nov. 22; Sp. p. 5690; Gaz. vol. 160; p. 962.
Ice-scraper. G. B. Miller. No. 977,211; Nov. 29; Sp. p. 6930; Gaz. vol. 160; p. 1177.
Illuminated announcement and display signal. F. W. Wood. No. 974,943; Nov. 8; Sp. p. 1964; Gaz. vol. 160; p. 324.
Illusion, Stage. J. G. Bostock. No. 976,143; Nov. 22; Sp. p. 4514; Gaz. vol. 160; p. 783.
Illusory dramatic effects, Apparatus for producing. T. R. Barrett. No. 976,976; Nov. 29; Sp. p. 6417; Gaz. vol. 160; p. 1096.
Impaling-roll. E. L. Chaddock. No. 975,831; Nov. 15; Sp. p. 3863; Gaz. vol. 160; p. 652.
Incandescent materials, Apparatus for quenching. E. H. H. Krause. No. 976,580; Nov. 22; Sp. p. 5531; Gaz. vol. 160; p. 934.
Incubator-alarm. W. M. Braly. No. 974,638; Nov. 1; Sp. p. 1280; Gaz. vol. 160; p. 197.
Index-tab. W. E. Harrod. No. 976,073; Nov. 15; Sp. p. 4333; Gaz. vol. 160; p. 735.
Indicating and recording mechanism. T. M. Foote. No. 974,562; Nov. 1; Sp. p. 1129; Gaz. vol. 160; p. 170.
Indicator; *See* Engine-indicator; Speed-indicator; Station-indicator; Street-indicator; Time-indicator.
Infusions, Apparatus for preparing. H. E. Korn and E. Kuhn. No. 975,874; Nov. 15; Sp. p. 3957; Gaz. vol. 160; p. 667.
Ingot-mold. E. Gathmann. No. 974,133; Nov. 1; Sp. p. 54; Gaz. vol. 160; p. 12.
Ingot-mold. W. H. Connell. No. 975,511; Nov. 15; Sp. p. 3199; Gaz. vol. 160; p. 544.
Ingots, Treating metal. J. A. Brinell. No. 976,146; Nov. 22; Sp. p. 4518; Gaz. vol. 160; p. 783.
Initiation device. E. De Moulin. No. 976,851; Nov. 29; Sp. p. 6102; Gaz. vol. 160; p. 1050.
Inner sole. D. Sexton. No. 975,576; Nov. 15; Sp. p. 3345; Gaz. vol. 160; p. 567.
Insect-destroyer, Electric. W. M. Frost. No. 974,785; Nov. 8; Sp. p. 1603; Gaz. vol. 160; p. 270.
Insole, Electric. C. W. West. No. 974,220; Nov. 1; Sp. p. 260; Gaz. vol. 160; p. 43.
Insulating-hanger. N. J. Bigham. No. 977,262; Nov. 29; Sp. p. 7026; Gaz. vol. 160; p. 1195.
Insulator. R. M. Johnston. No. 974,672; Nov. 1; Sp. p. 1345; Gaz. vol. 160; p. 209.
Insulator for high-tension transmission systems. J. E. Noegerath. No. 974,177; Nov. 1; Sp. p. 148; Gaz. vol. 160; p. 27.
Insulator, Strain-. L. Steinberger. No. 974,610; Nov. 1; Sp. p. 1210; Gaz. vol. 160; p. 186.
Insulator-support. W. R. Thompson. No. 974,207; Nov. 1; Sp. p. 237; Gaz. vol. 160; p. 38.
Internal-combustion engine. J. W. Akerman. No. 974,544; Nov. 1; Sp. p. 1085; Gaz. vol. 160; p. 163.
Internal-combustion engine. H. F. Bock. No. 974,853; Nov. 8; Sp. p. 1753; Gaz. vol. 160; p. 292.
Internal-combustion engine. G. M. Periewitz. No. 975,275; Nov. 8; Sp. p. 2700; Gaz. vol. 160; p. 437.
Internal-combustion engine. C. R. Radcliffe. No. 975,796; Nov. 15; Sp. p. 3802; Gaz. vol. 160; p. 641.
Internal-combustion engine. T. Veitch. No. 975,809; Nov. 15; Sp. p. 3829; Gaz. vol. 160; p. 645.
Internal-combustion engine. W. Johnson. No. 976,180; Nov. 22; Sp. p. 4615; Gaz. vol. 160; p. 794.
Internal-combustion engine. P. M. Allmon. No. 976,770; Nov. 22; Sp. p. 5915; Gaz. vol. 160; p. 998.
Internal-combustion engine. E. Easthope, Jr. No. 976,858; Nov. 29; Sp. p. 6117; Gaz. vol. 160; p. 1053.
Internal-combustion engine. J. E. Sears, Jr. No. 977,334; Nov. 29; Sp. p. 7162; Gaz. vol. 160; p. 1218.
Internal-combustion engine and operating the same. L. G. Sabathé. No. 975,640; Nov. 15; Sp. p. 3475; Gaz. vol. 160; p. 589.
Internal-combustion engine, Rotary multiple-cylinder. J. A. Waltman. No. 975,485; Nov. 15; Sp. p. 3129; Gaz. vol. 160; p. 535.
Invalid-lifter. Hydraulic. T. M. Smith. No. 976,807; Nov. 22; Sp. p. 4931; Gaz. vol. 160; p. 840.
Invalid-lifting apparatus. G. White. No. 977,243; Nov. 29; Sp. p. 6991; Gaz. vol. 160; p. 1183.

Iron; *See* Baking-iron; Electric iron; Sad-iron; Self-heating iron.
Iron from its ores, Extracting. S. G. Martin. No. 975,625; Nov. 15; Sp. p. 3441; Gaz. vol. 160; p. 584.
Ironing-board. J. D. St. Pierre and E. C. Gauvin. No. 974,443; Nov. 1; Sp. p. 837; Gaz. vol. 160; p. 124.
Ironing-board, Folding. G. L. Baxter. No. 976,621; Nov. 22; Sp. p. 5605; Gaz. vol. 160; p. 948.
Ironing-boards, &c., Support for. W. A. Kuhnert. No. 976,662; Nov. 22; Sp. p. 5691; Gaz. vol. 160; p. 962.
Ironing-table. A. J. Foster. No. 976,997; Nov. 29; Sp. p. 6461; Gaz. vol. 160; p. 1102.
Irrigation system. W. A. Lee. No. 976,478; Nov. 22; Sp. p. 5291; Gaz. vol. 160; p. 896.
Jack; *See* Beef-jack; Lifting-jack; Shoe-machine jack; Shoe-supporting jack; Tire-protector jack.
Jack. L. Willour. No. 976,239; Nov. 22; Sp. p. 4768; Gaz. vol. 160; p. 817.
Jar-closure. F. M. Belles. No. 976,623; Nov. 22; Sp. p. 5608; Gaz. vol. 160; p. 949.
Jar or receptacle. R. H. Wolff. No. 976,021; Nov. 15; Sp. p. 4236; Gaz. vol. 160; p. 718.
Jar wrench, Fruit-. L. J. Graffort and P. L. Hoffman. No. 976,868; Nov. 29; Sp. p. 6133; Gaz. vol. 160; p. 1057.
Jeweler's and dentist's burner. A. and C. Zarembowitz. No. 976,112; Nov. 15; Sp. p. 4425; Gaz. vol. 160; p. 750.
Joint; *See* Electric-cable joint; Pipe-joint; Rail-joint; Railway-rail joint.
Journal-bearing mold. H. F. Schroder. No. 974,529; Nov. 1; Sp. p. 1044; Gaz. vol. 160; p. 156.
Journal-bearing mold. H. F. Schroder. No. 974,530; Nov. 1; Sp. p. 1046; Gaz. vol. 160; p. 156.
Journal-bearing sleeve, Renewable. C. S. Lockwood. No. 976,476; Nov. 22; Sp. p. 5300; Gaz. vol. 160; p. 899.
Journal-box. J. E. Osmer. No. 975,449; Nov. 15; Sp. p. 3059; Gaz. vol. 160; p. 522.
Journal, Wheel-. W. L. Bodman. No. 975,744; Nov. 15; Sp. p. 3699; Gaz. vol. 160; p. 623.
Junction-box. E. T. Greenfield. No. 975,032; Nov. 8; Sp. p. 2175; Gaz. vol. 160; p. 354.
Justifying mechanism. B. F. Bellows and C. Luttropp. No. 974,740; Nov. 1; Sp. p. 1491; Gaz. vol. 160; p. 230.
Kerosene-burner. E. F. Gennert. No. 975,411; Nov. 15; Sp. p. 2987; Gaz. vol. 160; p. 508.
Key-extractor. J. Kopietz. No. 977,018; Nov. 29; Sp. p. 6508; Gaz. vol. 160; p. 1110.
Key-fastener. F. D. Johnson. No. 976,807; Nov. 22; Sp. p. 5983; Gaz. vol. 160; p. 1010.
Key-ring. J. A. Prigge, Jr. No. 977,221; Nov. 29; Sp. p. 6945; Gaz. vol. 160; p. 1180.
Kiln; *See* Brick-kiln; Ore-roasting kiln.
Kilns, Fuel-burner for cement-. M. F. Mangelsdorff. No. 977,113; Nov. 29; Sp. p. 6711; Gaz. vol. 160; p. 1143.
Kitchen utensil. O. C. Berchtold. No. 976,979; Nov. 29; Sp. p. 6421; Gaz. vol. 160; p. 1096.
Knife; *See* Curd-knife; Pocket-knife.
Knife-blade-hardening apparatus. E. Bröking. No. 974,465; Nov. 1; Sp. p. 900; Gaz. vol. 160; p. 132.
Knife, fork, and spoon holder. R. C. Guy. No. 975,858; Nov. 15; Sp. p. 3925; Gaz. vol. 160; p. 662.
Knife-polishing machine. G. F. Lawrence. No. 976,189; Nov. 22; Sp. p. 4633; Gaz. vol. 160; p. 798.
Knives, Machine for milling slicing-. V. E. Dobbs. No. 975,839; Nov. 15; Sp. p. 3879; Gaz. vol. 160; p. 655.
Knitted web, hosiery, and making the same. R. W. Scott. No. 974,302; Nov. 1; Sp. p. 502; Gaz. vol. 160; p. 74.
Knitting-machine. R. W. Scott. No. 976,607; Nov. 22; Sp. p. 5577; Gaz. vol. 160; p. 943.
Knitting-machine attachment, Warp-. T. Branson. No. 976,776; Nov. 22; Sp. p. 5929; Gaz. vol. 160; p. 1001.
Knitting-machine needle. R. W. Scott. No. 976,466; Nov. 15; Sp. p. 3096; Gaz. vol. 160; p. 529.
Knitting machines, Casting-off bar for circular-. R. W. Gormly. No. 976,867; Nov. 29; Sp. p. 6130; Gaz. vol. 160; p. 1056.
Knob, Door-. E. Winne. No. 976,328; Nov. 22; Sp. p. 4968; Gaz. vol. 160; p. 846.
Knockdown box. F. R. Vernon. No. 976,318; Nov. 22; Sp. p. 1948; Gaz. vol. 160; p. 843.
Knockdown case. P. A. Becker. No. 974,739; Nov. 1; Sp. p. 1488; Gaz. vol. 160; p. 230.
Knuckle-pin retainer. C. F. Murray. No. 974,509; Nov. 1; Sp. p. 998; Gaz. vol. 160; p. 148.
Labeling-machine. G. Brand, F. Marcile, and E. P. Sheldon. No. 974,856; Nov. 8; Sp. p. 1757; Gaz. vol. 160; p. 293.
Labeling-machines, Feed-controlling means for. F. O. Woodland. No. 974,326; Nov. 1; Sp. p. 573; Gaz. vol. 160; p. 84.
Labels around rectangular tablets, Machine for wrapping and affixing. F. Grover. No. 976,567; Nov. 22; Sp. p. 5500; Gaz. vol. 160; p. 929.
Lace-cutting implement. D. H. Gilges. No. 974,766; Nov. 1; Sp. p. 1555; Gaz. vol. 160; p. 240.
Lace-fastener. H. F. Levi. No. 975,139; Nov. 8; Sp. p. 2405; Gaz. vol. 160; p. 391.
Lace-feeding device. W. H. Joslin and M. H. Bennett. No. 974,674; Nov. 1; Sp. p. 1350; Gaz. vol. 160; p. 209.
Lacing-hook-setting machine. A. R. Havener. No. 977,090; Nov. 29; Sp. p. 6650; Gaz. vol. 160; p. 1134.
Ladder, Folding scaffold-. H. F. Hartman. No. 976,074; Nov. 15; Sp. p. 4333; Gaz. vol. 160; p. 736.
Ladder, Metallic. L. Ferguson. No. 975,228; Nov. 8; Sp. p. 2599; Gaz. vol. 160; p. 420.
Ladder, Portable extension-. W. H. Beam. No. 974,738; Nov. 1; Sp. p. 1486; Gaz. vol. 160; p. 229.
Ladle for pouring molten metal. J. W. Callaghan. No. 977,271; Nov. 29; Sp. p. 7042; Gaz. vol. 160; p. 1198.
Lamp. C. W. Boyse. No. 976,117; Nov. 15; Sp. p. 4433; Gaz. vol. 160; p. 751.
Lamp. W. C. Coleman. No. 976,723; Nov. 22; Sp. p. 5796; Gaz. vol. 160; p. 981.
Lamp. J. E. Allen. No. 977,358; Nov. 29; Sp. p. 7231; Gaz. vol. 160; p. 1227.
Lamp and guard therefor, Portable. R. B. Benjamin. No. 974,226; Nov. 1; Sp. p. 270; Gaz. vol. 160; p. 46.
Lamp and mirror, Combined. L. A. Buell. No. 975,674; Nov. 15; Sp. p. 3569; Gaz. vol. 160; p. 600.
Lamp, Arc-. P. Hanisch. No. 975,034; Nov. 8; Sp. p. 2177; Gaz. vol. 160; p. 354.
Lamp, Arc-. T. L. Carbone. No. 975,935; Nov. 15; Sp. p. 4083; Gaz. vol. 160; p. 688.
Lamp, Automatic gas-. W. A. Carr. No. 974,748; Nov. 1; Sp. p. 1521; Gaz. vol. 160; p. 233.
Lamp, Automatically-flashing electric. W. J. Phelps. No. 976,287; Nov. 22; Sp. p. 4881; Gaz. vol. 160; p. 834.
Lamp body, Nernst-. O. Foell and M. Harris. No. 976,126; Nov. 8; Sp. p. 2384; Gaz. vol. 160; p. 386.
Lamp-bracket. T. H. Cassidy. No. 976,634; Nov. 22; Sp. p. 5638; Gaz. vol. 160; p. 952.
Lamp-burner. W. H. Burnett. No. 975,929; Nov. 15; Sp. p. 4069; Gaz. vol. 160; p. 686.
Lamp-burner. A. M. Porter. No. 976,289; Nov. 22; Sp. p. 4885; Gaz. vol. 160; p. 834.
Lamp-burners, Globe or chimney holder for. C. W. Caldwell. No. 975,827; Nov. 8; Sp. p. 2814; Gaz. vol. 160; p. 455.
Lamp, Carbid-. S. Simmons. No. 976,611; Nov. 22; Sp. p. 5585; Gaz. vol. 160; p. 944.
Lamp cut-out and shunt switch, Electric-. F. F. Wagner and M. W. McDonald. No. 975,484; Nov. 15; Sp. p. 3128; Gaz. vol. 160; p. 535.
Lamp, Electric-arc. W. Legel. No. 977,022; Nov. 29; Sp. p. 6515; Gaz. vol. 160; p. 1111.
Lamp, Electric glow-. H. Remané, E. Gottschalk, and E. Hurwits. No. 974,296; Nov. 1; Sp. p. 493; Gaz. vol. 160; p. 72.
Lamp-extinguisher. I. Greenwald, J. Blaustein, M. Z. Weiss, and M. Selkovits. No. 975,352; Nov. 8; Sp. p. 2865; Gaz. vol. 160; p. 462.
Lamp-fixture. P. Forg. No. 974,253; Nov. 1; Sp. p. 381; Gaz. vol. 160; p. 56.
Lamp, Flaming-arc. R. Scott. No. 975,165; Nov. 8; Sp. p. 2466; Gaz. vol. 160; p. 399.
Lamp-globe shield. J. E. Eastmond. No. 976,447; Nov. 22; Sp. p. 5241; Gaz. vol. 160; p. 889.
Lamp, Household safety-. R. L. Victor. No. 974,727; Nov. 1; Sp. p. 1471; Gaz. vol. 160; p. 226.
Lamp, Incandescent. G. F. Atwood. No. 976,248; Nov. 22; Sp. p. 4800; Gaz. vol. 160; p. 820.
Lamp, Incandescent gas-. E. Mineer. No. 975,561; Nov. 15; Sp. p. 3313; Gaz. vol. 160; p. 562.
Lamp, Inverted incandescent gas-. P. Lucas. No. 977,108; Nov. 29; Sp. p. 6700; Gaz. vol. 160; p. 1140.
Lamp manipulator, Incandescent-. R. H. Berkstresser. No. 977,158; Nov. 29; Sp. p. 6813; Gaz. vol. 160; p. 1158.
Lamp, Miner's. D. Miglio. No. 974,690; Nov. 1; Sp. p. 1388; Gaz. vol. 160; p. 215.
Lamp, Miner's. M. J. Curtis. No. 976,785; Nov. 22; Sp. p. 5948; Gaz. vol. 160; p. 1004.
Lamp shades and chimneys, Supporting means for. M. Donohoe. No. 975,021; Nov. 8; Sp. p. 2144; Gaz. vol. 160; p. 350.
Lamp socket, Electric-. R. B. Benjamin. No. 974,947; Nov. 8; Sp. p. 1974; Gaz. vol. 160; p. 325.
Lamp socket, Electric-. J. S. Stewart. No. 976,519; Nov. 22; Sp. p. 5378; Gaz. vol. 160; p. 912.
Lamp socket, Incandescent-. R. B. Benjamin. No. 974,946; Nov. 8; Sp. p. 1972; Gaz. vol. 160; p. 325.
Lamp-stand. W. McNair. No. 976,587; Nov. 22; Sp. p. 5540; Gaz. vol. 160; p. 936.
Lamps, Cooling-vane for second-class glower-. A. Kusbanch. No. 977,198; Nov. 29; Sp. p. 6908; Gaz. vol. 160; p. 1173.
Lamps, Electric-light attachment for gas-. J. C. Stearns. No. 974,930; Nov. 8; Sp. p. 1933; Gaz. vol. 160; p. 319.
Lamps, Gas-burner attachment for oil-burning. C. Bergener. No. 974,630; Nov. 1; Sp. p. 1260; Gaz. vol. 160; p. 194.
Lamps, Making mantles for incandescent gas-. O. Kaufman. No. 975,769; Nov. 15; Sp. p. 3746; Gaz. vol. 160; p. 631.
Land-roller. H. L. Claiborne. No. 974,857; Nov. 1; Sp. p. 643; Gaz. vol. 160; p. 95.
Land-roller. D. F. Williams. No. 976,764; Nov. 22; Sp. p. 5899; Gaz. vol. 160; p. 996.
Lantern-guard. C. Bergener. No. 974,629; Nov. 1; Sp. p. 1258; Gaz. vol. 160; p. 193.
Lantern, Railway-. J. Wright. No. 977,251; Nov. 29; Sp. p. 7006; Gaz. vol. 160; p. 1191.
Last. F. W. Millay. No. 975,708; Nov. 15; Sp. p. 3623; Gaz. vol. 160; p. 610.
Lasts, Heel-seat extension for. J. A. Dow. No. 976,788; Nov. 22; Sp. p. 5952; Gaz. vol. 160; p. 1005.
Latch. C. T. J. Giles. No. 974,566; Nov. 1; Sp. p. 1137; Gaz. vol. 160; p. 171.

Latch. J. S. Johnson. No. 975,361; Nov. 8; Sp. p. 2878; Gaz. vol. 160; p. 465.
Latch. P. Mathes. No. 976,197; Nov. 22; Sp. p. 4650; Gaz. vol. 160; p. 800.
Latch and bolt mechanism, Combined. E. C. Belknap and E. H. Jackson. No. 976,773; Nov. 22; Sp. p. 5921; Gaz. vol. 160; p. 999.
Latch and catch for doors, Combined. C. M. Sexton. No. 977,137; Nov. 29; Sp. p. 6768; Gaz. vol. 160; p. 1151.
Latch, Door-. E. S. Wheeler. No. 974,323; Nov. 1; Sp. p. 568; Gaz. vol. 160; p. 83.
Lathe-gearing. A. V. Carroll. No. 975,748; Nov. 15; Sp. p. 3704; Gaz. vol. 160; p. 625.
Lathes, Independent stop mechanism for turret-. J. G. Oliver. No. 976,904; Nov. 29; Sp. p. 6209; Gaz. vol. 160; p. 1060.
Laundry apparatus. R. C. Merritt. No. 975,706; Nov. 15; Sp. p. 3620; Gaz. vol. 160; p. 610.
Lavatory-fixture. E. G. Watrous. No. 975,663; Nov. 15; Sp. p. 3541; Gaz. vol. 160; p. 597.
Lawn and hedge trimmer. O. G. Fraser. No. 974,653; Nov. 1; Sp. p. 1310; Gaz. vol. 160; p. 203.
Lawn-sprinkler. H. L. Dietcher. No. 974,954; Nov. 8; Sp. p. 1904; Gaz. vol. 160; p. 328.
Lead, Apparatus for manufacturing sublimed white. L. S. Hughes. No. 975,768; Nov. 15; Sp. p. 3745; Gaz. vol. 160; p. 631.
Lead, Manufacturing sublimed white. L. S. Hughes. No. 975,867; Nov. 15; Sp. p. 3946; Gaz. vol. 160; p. 665.
Leaf-support. T. Hauser. No. 975,766; Nov. 15; Sp. p. 3742; Gaz. vol. 160; p. 630.
Leather blanks, Apparatus for uniting. J. A. Millican. No. 974,987; Nov. 8; Sp. p. 2075; Gaz. vol. 160; p. 339.
Leather-board, Manufacturing substitutes for. A. J. Ostberg. No. 976,827; Nov. 22; Sp. p. 6022; Gaz. vol. 160; p. 1017.
Leather-skiving-machine pressure device. C. H. Bayley and B. F. Mayo. No. 975,495; Nov. 15; Sp. p. 3156; Gaz. vol. 160; p. 538.
Leather-working machine. G. McKeen. No. 975,628; Nov. 15; Sp. p. 3445; Gaz. vol. 160; p. 585.
Leather-wringing machine. R. F. Whitney. No. 976,968; Nov. 29; Sp. p. 6398; Gaz. vol. 160; p. 1093.
Leg, Artificial. H. T. Odgers. No. 975,888; Nov. 15; Sp. p. 3986; Gaz. vol. 160; p. 672.
Legging. T. W. Austin. No. 974,623; Nov. 1; Sp. p. 1247; Gaz. vol. 160; p. 191.
Lens-grinding apparatus. E. A. Hammett. No. 974,880; Nov. 8; Sp. p. 1814; Gaz. vol. 160; p. 301.
Level. H. J. Carrigan. No. 975,830; Nov. 15; Sp. p. 3862; Gaz. vol. 160; p. 652.
Level-controlling device. C. A. Brown. No. 976,432; Nov. 22; Sp. p. 5207; Gaz. vol. 160; p. 884.
Lever. C. A. Murphy. No. 976,901; Nov. 29; Sp. p. 6203; Gaz. vol. 160; p. 1068.
Life-preserver. A. H. Klint. No. 974,158; Nov. 1; Sp. p. 103; Gaz. vol. 160; p. 20.
Life-saving apparatus. J. L. Winkler. No. 976,240; Nov. 22; Sp. p. 4770; Gaz. vol. 160; p. 817.
Life-saving attachment for submarines. S. S. Peterson. No. 974,516; Nov. 1; Sp. p. 1019; Gaz. vol. 160; p. 151.
Life-saving device. J. J. Rectenwald. No. 975,281; Nov. 8; Sp. p. 2714; Gaz. vol. 160; p. 439.
Lift compressing and distributing machine. G. F. Reinhardt. No. 976,215; Nov. 22; Sp. p. 4682; Gaz. vol. 160; p. 807.
Lifter; *See* Invalid-lifter; Plug-lifter; Stove-lid and pan lifter; Transom-lifter.
Lifting-jack. W. Haslup. No. 974,768; Nov. 1; Sp. p. 1562; Gaz. vol. 160; p. 241.
Lifting-jack. R. J. Northam. No. 974,988; Nov. 8; Sp. p. 2079; Gaz. vol. 160; p. 339.
Lifting-jack. T. H. Lovejoy. No. 975,548; Nov. 15; Sp. p. 3287; Gaz. vol. 160; p. 557.
Lighting and battery circuits. J. F. McElroy. No. 976,743; Nov. 22; Sp. p. 5334; Gaz. vol. 160; p. 988.
Lighting apparatus, &c., Coupling for the operating-chains of. T. M. Harrigan. No. 974,567; Nov. 1; Sp. p. 1138; Gaz. vol. 160; p. 171.
Lighting-fixture. G. D. Beinert. No. 975,823; Nov. 15; Sp. p. 3852; Gaz. vol. 160; p. 650.
Lighting system, Hydrocarbon. C. K. Harding. No. 976,127; Nov. 15; Sp. p. 4458; Gaz. vol. 160; p. 754.
Lightning-arrester. A. J. Wurts. No. 974,223; Nov. 1; Sp. p. 265; Gaz. vol. 160; p. 44.
Lightning-arrester. W. Butler. No. 974,859; Nov. 8; Sp. p. 1766; Gaz. vol. 160; p. 294.
Lightning-rod. E. J. Kress. No. 974,396; Nov. 1; Sp. p. 711; Gaz. vol. 160; p. 108.
Limb, Artificial. J. A. Galvin. No. 975,029; Nov. 8; Sp. p. 2168; Gaz. vol. 160; p. 353.
Limb, Artificial. T. M. Lawrence. No. 975,439; Nov. 15; Sp. p. 3040; Gaz. vol. 160; p. 519.
Line-casting machine. D. S. Kennedy. No. 975,433; Nov. 15; Sp. p. 3030; Gaz. vol. 160; p. 517.
Line-casting machine. D. S. Kennedy. No. 975,434; Nov. 15; Sp. p. 3031; Gaz. vol. 160; p. 517.
Line setting and casting machine. H. Degener. No. 977,280; Nov. 29; Sp. p. 7056; Gaz. vol. 160; p. 1200.
Linotype-machines, Cleaning attachment for space-bands of. U. Piagneri. No. 974,594; Nov. 1; Sp. p. 1183; Gaz. vol. 160; p. 181.
Linotype-machines, Space-band buffer for. G. E. Wallin. No. 976,957; Nov. 29; Sp. p. 6361; Gaz. vol. 160; p. 1088.
Liquid-cooler. F. P. Hopkins. No. 976,803; Nov. 22; Sp. p. 5977; Gaz. vol. 160; p. 1009.
Liquid-dispensing apparatus. H. P. Gorman. No. 977,208; Nov. 29; Sp. p. 7088; Gaz. vol. 160; p. 1206.
Liquid-dispensing device. J. Mandelberg. No. 977,112; Nov. 29; Sp. p. 6709; Gaz. vol. 160; p. 1142.
Liquid-fuel burner. J. P. Roberts. No. 975,460; Nov. 15; Sp. p. 3082; Gaz. vol. 160; p. 527.
Liquid-fuel burner. W. Scrimgeour. No. 976,221; Nov. 22; Sp. p. 4704; Gaz. vol. 160; p. 809.
Liquid-fuel burner. B. Moore. No. 976,502; Nov. 22; Sp. p. 5554; Gaz. vol. 160; p. 938.
Liquid-fuel burner. L. C. Morse. No. 976,680; Nov. 22; Sp. p. 5716; Gaz. vol. 160; p. 967.
Liquid-fuel burner. W. R. McIlill. No. 976,820; Nov. 22; Sp. p. 6006; Gaz. vol. 160; p. 1015.
Liquid-fuel burner. J. C. McQuerry and A. L. Evrett. No. 976,898; Nov. 29; Sp. p. 6200; Gaz. vol. 160; p. 1067.
Liquid-shaker. N. Christensen. No. 977,165; Nov. 29; Sp. p. 6836; Gaz. vol. 160; p. 1160.
Liquids, Apparatus for storage and delivery of inflammable. R. Hausdorf. No. 977,188; Nov. 29; Sp. p. 6889; Gaz. vol. 160; p. 1169.
Liquids, Compressed-air apparatus for elevating. L. S. Matheus and C. Leindecker. No. 976,818; Nov. 22; Sp. p. 6001; Gaz. vol. 160; p. 1014.
Liquids, Tank for settling, filtering, and collecting solids from. J. E. Rothwell. No. 976,923; Nov. 29; Sp. p. 6265; Gaz. vol. 160; p. 1076.
Liquids with coagulants, Apparatus for impregnating. J. W. Ledoux. No. 976,665; Nov. 22; Sp. p. 5695; Gaz. vol. 160; p. 963.
Lister attachment. W. J. Steele. No. 976,311; Nov. 22; Sp. p. 4936; Gaz. vol. 160; p. 841.
Litharge from metallic lead mixed with it, Freeing. L. S. Hughes. No. 975,955; Nov. 15; Sp. p. 4117; Gaz. vol. 160; p. 696.
Load-binder. R. L. Boyd. (Reissue.) No. 13,164; Nov. 8; Sp. p. 2044; Gaz. vol. 160; p. 474.
Loader and stacker. R. B. Fulton. No. 975,849; Nov. 15; Sp. p. 3903; Gaz. vol. 160; p. 650.
Loading apparatus. J. E. Woods and E. L. Harding. No. 975,917; Nov. 15; Sp. p. 4052; Gaz. vol. 160; p. 682.
Loading-machine. W. Whaley. No. 976,711; Nov. 22; Sp. p. 5772; Gaz. vol. 160; p. 977.
Lock; *See* Bolt-lock; Can-lock; Combination-lock; Door-lock; Head-gate lock; Hotel-corridor lock; Multiple-key lock; Nut-lock; Permutation-lock; Puzzle-lock; Railway safety-lock; Railway-switch lock; Safety-lock; Sash-lock; Stovepipe-lock; Switch-lock; Wheel-lock; Window-lock.
Lock. J. Blaszczyk. No. 974,636; Nov. 1; Sp. p. 1276; Gaz. vol. 160; p. 196.
Lock. H. Markovits. No. 975,880; Nov. 15; Sp. p. 3972; Gaz. vol. 160; p. 669.
Lock. M. Shepard. No. 976,509; Nov. 22; Sp. p. 5360; Gaz. vol. 160; p. 909.
Lock. F. Soley. No. 976,515; Nov. 22; Sp. p. 5371; Gaz. vol. 160; p. 911.
Lock. W. Curlett. No. 976,784; Nov. 22; Sp. p. 5946; Gaz. vol. 160; p. 1003.
Lock. V. J. M. Eras. No. 977,085; Nov. 29; Sp. p. 6643; Gaz. vol. 160; p. 1132.
Lock. F. Kuba. No. 977,102; Nov. 29; Sp. p. 6687; Gaz. vol. 160; p. 1138.
Lock. J. A. Fremon. No. 977,181; Nov. 29; Sp. p. 6872; Gaz. vol. 160; p. 1167.
Lock-actuating mechanism, Time-. E. M. Benham. No. 976,028; Nov. 15; Sp. p. 4247; Gaz. vol. 160; p. 720.
Lock-box. G. Schwinn. No. 976,102; Nov. 15; Sp. p. 4403; Gaz. vol. 160; p. 746.
Lock-strike. E. J. Bumiller. No. 975,675; Nov. 15; Sp. p. 3571; Gaz. vol. 160; p. 601.
Lock system. H. G. Voight. No. 974,317; Nov. 1; Sp. p. 544; Gaz. vol. 160; p. 80.
Locking device, Frictional. J. G. Jones. No. 974,156; Nov. 1; Sp. p. 98; Gaz. vol. 160; p. 20.
Locking means, Closure-. C. J. Ljunggren. No. 975,546; Nov. 15; Sp. p. 3283; Gaz. vol. 160; p. 557.
Locking mechanism. A. J. Prevost. No. 975,455; Nov. 15; Sp. p. 3069; Gaz. vol. 160; p. 525.
Locking mechanism for cupboards. P. W. Hodgkinson. No. 976,261; Nov. 22; Sp. p. 4831; Gaz. vol. 160; p. 825.
Locomotive. B. C. Ball. No. 974,459; Nov. 1; Sp. p. 886; Gaz. vol. 160; p. 130.
Locomotive. G. J. Hats. No. 974,486; Nov. 1; Sp. p. 951; Gaz. vol. 160; p. 141.
Locomotive. S. M. Vauclain. No. 975,183; Nov. 8; Sp. p. 2513; Gaz. vol. 160; p. 406.
Locomotive and other vehicle fender. M. Lo Celso. No. 975,443; Nov. 15; Sp. p. 3046; Gaz. vol. 160; p. 520.
Locomotive, Articulated. S. M. Vauclain. No. 976,014; Nov. 15; Sp. p. 4224; Gaz. vol. 160; p. 716.
Locomotive attachment. W. A. Jones and W. A. Minehan. No. 975,870; Nov. 15; Sp. p. 3950; Gaz. vol. 160; p. 665.
Locomotive-boiler superheater. W. Stephan. No. 977,234; Nov. 29; Sp. p. 6968; Gaz. vol. 160; p. 1185.
Locomotive-boiler washing and refilling apparatus. D. W. Cunningham. No. 976,438; Nov. 22; Sp. p. 5221; Gaz. vol. 160; p. 886.
Locomotive, Electric. G. M. Eaton. No. 975,404; Nov. 15; Sp. p. 2977; Gaz. vol. 160; p. 506.
Locomotive, Steam-storage. G. L. Wall and V. J. Shepard. No. 976,522; Nov. 22; Sp. p. 5383; Gaz. vol. 160; p. 913.

Locomotives, Sanding-pipe for. E. Ryan. No. 976,304; Nov. 22; Sp. p. 4926; Gaz. vol. 160; p. 839.
Locomotor for use in conduits. G. G. Fryer and E. Pfelderer. No. 976,162; Nov. 22; Sp. p. 4559; Gaz. vol. 160; p. 788.
Loom-bobbin. J. P. Chatel. No. 976,120; Nov. 15; Sp. p. 4437; Gaz. vol. 160; p. 752.
Loom, Hand-. M. P. and D. Todd. No. 975,179; Nov. 8; Sp. p. 2500; Gaz. vol. 160; p. 404.
Loom jacquard mechanism. W. Pearsall. No. 976,909; Nov. 29; Sp. p. 6221; Gaz. vol. 160; p. 1071.
Loom picker mechanism. D. Thibeault. No. 976,009; Nov. 15; Sp. p. 4216; Gaz. vol. 160; p. 714.
Loom-shuttle. J. La Palme. No. 975,051; Nov. 8; Sp. p. 2216; Gaz. vol. 160; p. 360.
Loom stop-motion. C. D. Lanning. No. 976,378; Nov. 22; Sp. p. 5087; Gaz. vol. 160; p. 863.
Loom warp stop mechanism. C. D. Lanning. No. 976,377; Nov. 22; Sp. p. 5083; Gaz. vol. 160; p. 863.
Looms, Electromechanical warp stop-motion for. J. F. Dustin. No. 974,557; Nov. 1; Sp. p. 1111; Gaz. vol. 160; p. 168.
Looms, False reed for. J. C. Kaemfer. No. 977,313; Nov. 29; Sp. p. 7117; Gaz. vol. 160; p. 1211.
Looms, Means for facilitating warp change in. W. McCaslin. No. 976,273; Nov. 22; Sp. p. 4858; Gaz. vol. 160; p. 829.
Looms, Stop-motion device for automatic reshuttling-. J. Rostron. No. 977,329; Nov. 29; Sp. p. 7149; Gaz. vol. 160; p. 1217.
Loss-preventing device. S. L. Kimmel. No. 974,499; Nov. 1; Sp. p. 975; Gaz. vol. 160; p. 145.
Lubricant-container. A. Němeček. No. 976,825; Nov. 22; Sp. p. 6020; Gaz. vol. 160; p. 1017.
Lubricating bearings, Means for. W. Holtorp. No. 974,966; Nov. 8; Sp. p. 2033; Gaz. vol. 160; p. 332.
Lubrication system. C. A. J. Albert. No. 977,255; Nov. 29; Sp. p. 7012; Gaz. vol. 160; p. 1192.
Lubricator; *See* Automatic lubricator; Automatic-discharge lubricator; Axle-lubricator; Axle-box lubricator; Elevator-guide lubricator.
Lubricator. A. D. Williams. No. 974,222; Nov. 1; Sp. p. 262; Gaz. vol. 160; p. 44.
Lubricator. F. C. von Haxthausen. No. 976,076; Nov. 15; Sp. p. 4336; Gaz. vol. 160; p. 736.
Lubricator. J. A. Coppers and E. E. Booth. No. 976,637; Nov. 22; Sp. p. 5638; Gaz. vol. 160; p. 953.
Lumber, Machine for dovetailing and joining. B. A. Linderman. No. 976,192; Nov. 22; Sp. p. 4640; Gaz. vol. 160; p. 790.
Machine-wrench. E. T. Ladd. No. 977,103; Nov. 29; Sp. p. 6689; Gaz. vol. 160; p. 1139.
Machinery, Bed-plate for. F. Gerb. No. 976,126; Nov. 15; Sp. p. 4457; Gaz. vol. 160; p. 754.
Magnet, Relay-. J. F. McElroy and J. E. Macomber. No. 976,586; Nov. 22; Sp. p. 5540; Gaz. vol. 160; p. 936.
Magneto-electric generator. G. Honold. No. 974,967; Nov. 8; Sp. p. 2034; Gaz. vol. 160; p. 332.
Magneto-interrupter. W. E. Dow. No. 975,842; Nov. 15; Sp. p. 3887; Gaz. vol. 160; p. 656.
Mail-bag catcher. W. A. Carpenter. No. 976,041; Nov. 15; Sp. p. 4275; Gaz. vol. 160; p. 725.
Mail-bag deliverer. O. Howard. No. 974,489; Nov. 1; Sp. p. 957; Gaz. vol. 160; p. 142.
Mail-cabinet. C. M. Hamilton. No. 974,263; Nov. 1; Sp. p. 412; Gaz. vol. 160; p. 60.
Mail-cart. W. B. Wherry. No. 974,729; Nov. 1; Sp. p. 1474; Gaz. vol. 160; p. 227.
Mail delivering and receiving device. H. G. Eynon. No. 975,025; Nov. 8; Sp. p. 2158; Gaz. vol. 160; p. 352.
Mail-delivery apparatus. J. B. Cary. No. 976,433; Nov. 22; Sp. p. 5212; Gaz. vol. 160; p. 885.
Mail-pouch-exchanging apparatus. W. F. Knapp. No. 976,374; Nov. 22; Sp. p. 5072; Gaz. vol. 160; p. 862.
Mail-pouch receiving and delivering apparatus. A. Hupp. No. 974,274; Nov. 1; Sp. p. 439; Gaz. vol. 160; p. 65.
Mail receiving and collecting device. R. Martini. No. 975,552; Nov. 15; Sp. p. 3294; Gaz. vol. 160; p. 559.
Mail-transferring apparatus. T. R. Cook. No. 975,212; Nov. 8; Sp. p. 2582; Gaz. vol. 160; p. 416.
Mailing device. A. Clutter. No. 976,783; Nov. 22; Sp. p. 5944; Gaz. vol. 160; p. 1003.
Mailing-folder. C. F. Jenkins. No. 974,276; Nov. 1; Sp. p. 447; Gaz. vol. 160; p. 66.
Malted preparations from cereals, Manufacture of. L. C. Reese. No. 974,597; Nov. 1; Sp. p. 1188; Gaz. vol. 160; p. 182.
Mandrel, Clutch-grip. M. Jaeger. No. 975,043; Nov. 8; Sp. p. 2196; Gaz. vol. 160; p. 357.
Mangle. W. Leist. No. 975,260; Nov. 8; Sp. p. 2672; Gaz. vol. 160; p. 432.
Mangle feeding mechanism. D. M. Cooper. No. 976,553; Nov. 22; Sp. p. 5474; Gaz. vol. 160; p. 924.
Manhole-form. P. G. Harshbarger. No. 975,525; Nov. 15; Sp. p. 3228; Gaz. vol. 160; p. 550.
Manure distributer, Chemical-. L. Frennet. No. 977,290; Nov. 29; Sp. p. 7076; Gaz. vol. 160; p. 1204.
Manure-drill. K. Beckmann. No. 975,111; Nov. 8; Sp. p. 2348; Gaz. vol. 160; p. 382.
Marking machine, Fabric-. J. A. Shufelt. No. 976,609; Nov. 22; Sp. p. 5581; Gaz. vol. 160; p. 944.
Marking-pot. W. H. Scott. No. 976,504; Nov. 22; Sp. p. 5354; Gaz. vol. 160; p. 908.
Mashing process. A. J. M. Lasché. No. 977,200; Nov. 29; Sp. p. 6911; Gaz. vol. 160; p. 1174.
Massage apparatus, Vibratory. F. R. Kunkel. No. 975,436; Nov. 15; Sp. p. 3036; Gaz. vol. 160; p. 518.
Massage apparatus, Vibratory. F. R. Kunkel. No. 975,437; Nov. 15; Sp. p. 3037; Gaz. vol. 160; p. 519.
Massage-machine. E. E. Ziegler. No. 976,423; Nov. 22; Sp. p. 5184; Gaz. vol. 160; p. 880.
Massage-vibrator. A. E. Ellis. No. 976,993; Nov. 29; Sp. p. 6450; Gaz. vol. 160; p. 1101.
Massaging apparatus. E. J. McCarthy. No. 975,702; Nov. 15; Sp. p. 3609; Gaz. vol. 160; p. 608.
Massaging implement. A. M. Dunder. No. 974,367; Nov. 1; Sp. p. 658; Gaz. vol. 160; p. 99.
Master-plates, Making. H. McPhee. No. 976,897; Nov. 29; Sp. p. 6199; Gaz. vol. 160; p. 1067.
Match-box. D. C. Moore. No. 975,978; Nov. 15; Sp. p. 4158; Gaz. vol. 160; p. 703.
Match-box holder. C. E. Wirth. No. 976,533; Nov. 22; Sp. p. 5430; Gaz. vol. 160; p. 917.
Match-case, Pocket. J. J. Manchester. No. 976,886; Nov. 22; Sp. p. 5108; Gaz. vol. 160; p. 867.
Match-stand and ash-receiver. E. Lafleur. No. 975,438; Nov. 15; Sp. p. 3039; Gaz. vol. 160; p. 519.
Match-striking cabinet. C. R. Smith. No. 976,612; Nov. 22; Sp. p. 5586; Gaz. vol. 160; p. 945.
Mattress. C. I. Flintoft. No. 976,352; Nov. 22; Sp. p. 5032; Gaz. vol. 160; p. 554.
Mattress side guard, Spring-. A. J. Kreuskamp. No. 976,469; Nov. 22; Sp. p. 5281; Gaz. vol. 160; p. 896.
Mattress side guard, Spring-. J. Luppino. No. 976,480; Nov. 22; Sp. p. 5310; Gaz. vol. 160; p. 900.
Mausoleum. T. J. Moore. No. 975,779; Nov. 15; Sp. p. 3772; Gaz. vol. 160; p. 635.
Measurer, Dry. J. J. Marshall. No. 975,701; Nov. 15; Sp. p. 3607; Gaz. vol. 160; p. 608.
Measuring and recording device, Cloth. M. Shalansky. No. 975,373; Nov. 8; Sp. p. 2908; Gaz. vol. 160; p. 469.
Measuring apparatus, Liquid-. D. C. Puderbaugh. No. 974,915; Nov. 8; Sp. p. 1897; Gaz. vol. 160; p. 313.
Measuring-bin. F. B. Carroll and J. L. Ricks. No. 975,208; Nov. 8; Sp. p. 2575; Gaz. vol. 160; p. 415.
Measuring current in three-phase systems, Means for. C. Wiler. No. 977,061; Nov. 29; Sp. p. 6585; Gaz. vol. 160; p. 1124.
Measuring device. C. J. Gillette. No. 976,066; Nov. 15; Sp. p. 4317; Gaz. vol. 160; p. 733.
Measuring device. H. L. Fellowes. No. 977,177; Nov. 29; Sp. p. 6861; Gaz. vol. 160; p. 1165.
Measuring instrument. S. T. Derbyshire. No. 974,364; Nov. 1; Sp. p. 655; Gaz. vol. 160; p. 98.
Meat-holder. G. L. Stark and A. W. Baxter. No. 974,199; Nov. 1; Sp. p. 213; Gaz. vol. 160; p. 35.
Mechanical agitator. C. S. Batdorf. No. 975,202; Nov. 8; Sp. p. 2555; Gaz. vol. 160; p. 413.
Mechanical movement. W. A. Whitney. No. 975,591; Nov. 15; Sp. p. 3370; Gaz. vol. 160; p. 572.
Mechanical movement. C. R. Uebelmesser. No. 975,659; Nov. 15; Sp. p. 3526; Gaz. vol. 160; p. 595.
Mechanical movement. F. H. Richards. No. 976,916; Nov. 29; Sp. p. 6236; Gaz. vol. 160; p. 1073.
Mechanical movement. F. H. Richards. No. 976,918; Nov. 29; Sp. p. 6246; Gaz. vol. 160; p. 1074.
Mechanical movement. A. F. Victor. No. 976,953; Nov. 29; Sp. p. 6352; Gaz. vol. 160; p. 1087.
Medical eye-cup. J. S. Fox. No. 976,862; Nov. 29; Sp. p. 6124; Gaz. vol. 160; p. 1055.
Melting-furnace, Oil-heated. A. T. Brown. No. 975,826; Nov. 15; Sp. p. 3856; Gaz. vol. 160; p. 651.
Melting-furnaces, Charging. M. R. Conley. No. 975,751; Nov. 15; Sp. p. 3711; Gaz. vol. 160; p. 626.
Mercerizing, dyeing, or like treatment of loose or woven cotton or other vegetable fiber, Machine for. J. H. Robson. No. 975,074; Nov. 8; Sp. p. 2258; Gaz. vol. 160; p. 368.
Metal bar or member, Expanded. H. K. Dyson. No. 977,285; Nov. 29; Sp. p. 7069; Gaz. vol. 160; p. 1202.
Metal-clenching machine. H. C. Ferguson. No. 977,178; Nov. 29; Sp. p. 6862; Gaz. vol. 160; p. 1165.
Metal corner. C. Mörk. No. 976,134; Nov. 15; Sp. p. 4488; Gaz. vol. 160; p. 757.
Metal-creasing machine. H. C. H. Walsh. No. 975,185; Nov. 8; Sp. p. 2516; Gaz. vol. 160; p. 407.
Metal-press, Hydraulic. J. T. J. Seifert. No. 974,195; Nov. 1; Sp. p. 203; Gaz. vol. 160; p. 34.
Metal-reducing process. F. W. Gordon. No. 974,257; Nov. 1; Sp. p. 389; Gaz. vol. 160; p. 57.
Metal roller. A. Gross. No. 976,171; Nov. 22; Sp. p. 4601; Gaz. vol. 160; p. 791.
Metal-scrap compressor. S. W. Egbert. No. 975,844; Nov. 15; Sp. p. 3891; Gaz. vol. 160; p. 657.
Metal-shaping machine. G. Sonnenthal and H. Bamford. No. 976,754; Nov. 22; Sp. p. 5881; Gaz. vol. 160; p. 993.
Metal structural work, Testing and marking. P. S. Hildreth. No. 974,269; Nov. 1; Sp. p. 424; Gaz. vol. 160; p. 63.
Metals, Composition of matter to be used for the purpose of fluxing. M. P. Jewett. No. 977,406; Nov. 29; Sp. p. 7354; Gaz. vol. 160; p. 1244.
Metals, Means for applying fluid. W. H. Smyth. No. 975,731; Nov. 15; Sp. p. 3666; Gaz. vol. 160; p. 619.
Metals, Uniting. W. G. Grey and W. Grimth. No. 976,455; Nov. 22; Sp. p. 5256; Gaz. vol. 160; p. 892.
Metals, Uniting. W. G. Grey and W. Grimth. No. 976,456; Nov. 22; Sp. p. 5257; Gaz. vol. 160; p. 892.
Metallic fabric, Making. M. and L. S. Lachman. No. 974,891; Nov. 8; Sp. p. 1833; Gaz. vol. 160; p. 305.

Metallic fabric, Making. M. and L. S. Lachman. No. 974,892; Nov. 8; Sp. p. 1335; Gaz. vol. 160; p. 206.
Metallic leaf in rolls, Machine for packaging. C. E. Smith. No. 975,472; Nov. 15; Sp. p. 3110; Gaz. vol. 160; p. 531.
Metallic tie and rail-fastener. S. Stammler. No. 975,902; Nov. 15; Sp. p. 4014; Gaz. vol. 160; p. 677.
Meter: *See* Electric meter; Gas-meter; Water-meter.
Meter-box. J. W. Butts. No. 976,038; Nov. 15; Sp. p. 4268; Gaz. vol. 160; p. 724.
Meter-box top. E. H. Ford. No. 974,650; Nov. 1; Sp. p. 1305; Gaz. vol. 160; p. 201.
Meter-setting means. E. H. Ford. No. 974,651; Nov. 1; Sp. p. 1307; Gaz. vol. 160; p. 202.
Milk-can. R. Bray. No. 974,116; Nov. 1; Sp. p. 20; Gaz. vol. 160; p. 6.
Milking-machine. F. J. Johansson and E. A. O. Göthe. No. 974,277; Nov. 1; Sp. p. 447; Gaz. vol. 160; p. 66.
Milking mechanism. D. T. Sharples. No. 976,305; Nov. 22; Sp. p. 4027; Gaz. vol. 160; p. 839.
Milking vessel. C. S. Moore. No. 976,202; Nov. 22; Sp. p. 4657; Gaz. vol. 160; p. 802.
Mill: *See* Crushing-mill; Feed-mill; Grinding-mill; Quartz-mill; Rolling-mill.
Mill-floor construction, Reinforced wooden. C. A. M. Praray. No. 975,923; Nov. 15; Sp. p. 4062; Gaz. vol. 160; p. 684.
Mills, Grinding-plate for attrition-. S. L. Fraser and A. E. Jacobson. No. 975,848; Nov. 15; Sp. p. 3902; Gaz. vol. 160; p. 650.
Milling apparatus. E. H. Martin. No. 976,585; Nov. 22; Sp. p. 5538; Gaz. vol. 160; p. 936.
Mine and the like, Floating. H. Lacy. No. 976,376; Nov. 22; Sp. p. 5081; Gaz. vol. 160; p. 863.
Mines, Undercutting in. F. Billings. No. 974,632; Nov. 1; Sp. p. 1263; Gaz. vol. 160; p. 194.
Mining-drill, Water-power. C. A. Hanson. No. 977,302; Nov. 29; Sp. p. 7098; Gaz. vol. 160; p. 1208.
Mining-machine. A. U. Davis. No. 974,645; Nov. 1; Sp. p. 1292; Gaz. vol. 160; p. 199.
Mining-machine. F. L. Sessions. No. 975,468; Nov. 15; Sp. p. 3099; Gaz. vol. 160; p. 530.
Mining-machine bit. R. E. Noble. No. 976,835; Nov. 22; Sp. p. 6036; Gaz. vol. 160; p. 1019.
Mining-measure. A. Cronwell. No. 975,213; Nov. 8; Sp. p. 2585; Gaz. vol. 160; p. 417.
Mining-needle. P. F. Costello. No. 977,275; Nov. 29; Sp. p. 7048; Gaz. vol. 160; p. 1199.
Miter-box. F. Peterson. No. 976,097; Nov. 15; Sp. p. 4396; Gaz. vol. 160; p. 745.
Miter-box. A. Robbins. No. 976,296; Nov. 22; Sp. p. 4904; Gaz. vol. 160; p. 830.
Miter-box. W. Fuhrmann. No. 976,730; Nov. 22; Sp. p. 5811; Gaz. vol. 160; p. 984.
Mixer: *See* Concrete-mixer; Feed-mixer; Fuel-mixer; Gaseous-fluid mixer.
Mixer and conveyer. G. E. Barnette. No. 975,315; Nov. 8; Sp. p. 2791; Gaz. vol. 160; p. 451.
Mixing and lubricating device. W. S. Morgan. No. 974,175; Nov. 1; Sp. p. 146; Gaz. vol. 160; p. 27.
Mixing-machine. C. T. Foote. No. 975,847; Nov. 15; Sp. p. 3900; Gaz. vol. 160; p. 658.
Moistener, Finger-. H. S. Cates. No. 975,676; Nov. 15; Sp. p. 3571; Gaz. vol. 160; p. 601.
Mold: *See* Bench-mold; Block-mold; Cement-mold; Cement-block mold; Glassware-mold; Ingot-mold; Journal-bearing mold; Post-mold; Telegraph-pole or fence-post mold; Tobacco-mold.
Mold. F. Fullenkamp. No. 974,372; Nov. 1; Sp. p. 667; Gaz. vol. 160; p. 100.
Mold. P. M. McNabb. No. 974,507; Nov. 1; Sp. p. 990; Gaz. vol. 160; p. 147.
Mold. S. L. Shepard. No. 975,083; Nov. 8; Sp. p. 2274; Gaz. vol. 160; p. 371.
Molded mass, Producing a. A. Hof and A. Pieper. No. 975,691; Nov. 15; Sp. p. 3504; Gaz. vol. 160; p. 606.
Molder's flask. E. T. McHugh. No. 974,983; Nov. 8; Sp. p. 2068; Gaz. vol. 160; p. 337.
Molding and baking machine. L. W. Partridge. No. 974,705; Nov. 1; Sp. p. 1431; Gaz. vol. 160; p. 220.
Molding apparatus. T. De la Hunty. No. 976,464; Nov. 22; Sp. p. 5269; Gaz. vol. 160; p. 895.
Molding apparatus. F. H. Tidnam and J. H. Graves. No. 977,345; Nov. 29; Sp. p. 7189; Gaz. vol. 160; p. 1222.
Molding-machine. H. E. Pridmore. No. 975,715; Nov. 15; Sp. p. 3639; Gaz. vol. 160; p. 613.
Molding-machine. J. A. Williams. No. 976,530; Nov. 22; Sp. p. 5423; Gaz. vol. 160; p. 916.
Molding-machine. E. B. Sheets. No. 976,752; Nov. 22; Sp. p. 5872; Gaz. vol. 160; p. 992.
Molding-machine. E. Ronceray. No. 976,833; Nov. 22; Sp. p. 6030; Gaz. vol. 160; p. 1019.
Mop and scrubbing-brush, Combined. J. O. Beazley. No. 977,064; Nov. 29; Sp. p. 6500; Gaz. vol. 160; p. 1125.
Mop head and wringer, Combined. J. S. O'Brien. No. 976,283; Nov. 22; Sp. p. 4873; Gaz. vol. 160; p. 832.
Mop-wringer. T. F. Condon. No. 974,236; Nov. 1; Sp. p. 345; Gaz. vol. 160; p. 40.
Mop-wringer. H. C. White and O. N. Wardwell. No. 976,238; Nov. 22; Sp. p. 4766; Gaz. vol. 160; p. 816.
Mosquito-bar frame, Folding. E. Tyner. No. 976,950; Nov. 29; Sp. p. 6346; Gaz. vol. 160; p. 1086.
Motion-converting mechanism. W. D. McGee. No. 974,412; Nov. 1; Sp. p. 747; Gaz. vol. 160; p. 113.
Motion-transmitting device. J. F. Pagendarm. No. 976,907; Nov. 29; Sp. p. 6216; Gaz. vol. 160; p. 1070.
Motion-transmitting mechanism, Reciprocating-. D. Roberts. No. 975,283; Nov. 8; Sp. p. 2717; Gaz. vol. 160; p. 440.
Motive fluid, Apparatus for generating. G. B. Hayes. No. 976,077; Nov. 15; Sp. p. 4337; Gaz. vol. 160; p. 737.
Motive-power-producing apparatus. H. Maxim. No. 974,166; Nov. 1; Sp. p. 117; Gaz. vol. 160; p. 23.
Motor: *See* Air-motor; Churn-operating motor; Current-motor; Explosion-motor; Fluid-pressure motor; Rotary motor; Thermodynamic motor; Tide-motor; Turbine-motor; Water-motor; Wave-motor; Wind-motor.
Motor. C. W. Weiss. No. 976,236; Nov. 22; Sp. p. 4757; Gaz. vol. 160; p. 815.
Motor. C. L. Wilkins. No. 976,763; Nov. 22; Sp. p. 5894; Gaz. vol. 160; p. 996.
Motor control. A. M. Coyle. No. 974,238; Nov. 1; Sp. p. 348; Gaz. vol. 160; p. 50.
Motor control, Electric-. H. D. James. No. 974,152; Nov. 1; Sp. p. 88; Gaz. vol. 160; p. 18.
Motor-control system. F. B. Rae. No. 975,572; Nov. 15; Sp. p. 3334; Gaz. vol. 160; p. 566.
Motors, End ring for induction-. H. Maxwell. No. 976,070; Nov. 22; Sp. p. 5703; Gaz. vol. 160; p. 964.
Motors to keep in step with the waves or impulses of the current driving them and a motor embodying the process, Compelling electric. J. J. Montgomery. No. 974,415; Nov. 1; Sp. p. 756; Gaz. vol. 160; p. 115.
Mouthpiece-tubes, Apparatus for making. J. C. Müller. No. 977,394; Nov. 29; Sp. p. 7325; Gaz. vol. 160; p. 1239.
Mower, Lawn-. A. Hill. No. 975,617; Nov. 15; Sp. p. 3422; Gaz. vol. 160; p. 581.
Mower, Lawn-. R. E. Hedges. No. 977,092; Nov. 29; Sp. p. 6662; Gaz. vol. 160; p. 1135.
Mower wheel, Lawn-. J. H. Auble. No. 974,848; Nov. 8; Sp. p. 1736; Gaz. vol. 160; p. 290.
Multiple-key lock. J. J. Murphy. No. 974,698; Nov. 1; Sp. p. 1392; Gaz. vol. 160; p. 216.
Music-holder. C. G. Peterson. No. 977,397; Nov. 29; Sp. p. 7336; Gaz. vol. 160; p. 1240.
Music-leaf turner. G. Regondi. No. 974,826; Nov. 8; Sp. p. 1685; Gaz. vol. 160; p. 283.
Music-leaf turner. I. J. Ponstein. No. 976,690; Nov. 22; Sp. p. 5728; Gaz. vol. 160; p. 970.
Music-leaf turner. A. I. Johnson. No. 976,806; Nov. 22; Sp. p. 5981; Gaz. vol. 160; p. 1010.
Music-sheet rolls for mechanical piano-players, Automatically-adjustable spool for perforated. H. G. Miller. No. 977,030; Nov. 29; Sp. p. 6527; Gaz. vol. 160; p. 1114.
Musical instrument, Stringed. J. J. Roche. No. 976,299; Nov. 22; Sp. p. 4917; Gaz. vol. 160; p. 838.
Musical instruments, Electrical mechanical player for. J. F. White. No. 975,187; Nov. 8; Sp. p. 2519; Gaz. vol. 160; p. 407.
Musical instruments, Pneumatic action for. W. F. Bayer. No. 977,250; Nov. 29; Sp. p. 7020; Gaz. vol. 160; p. 1194.
Mutograph. F. C. Newell. No. 976,093; Nov. 15; Sp. p. 4378; Gaz. vol. 160; p. 743.
Nail: *See* Removable nail.
Nail. C. Hansen. No. 975,235; Nov. 8; Sp. p. 2620; Gaz. vol. 160; p. 423.
Nail-holding attachment. J. R. Morrison. No. 976,679; Nov. 22; Sp. p. 5714; Gaz. vol. 160; p. 967.
Necktie and collar fastening. L. J. F. Hubert. No. 976,177; Nov. 22; Sp. p. 4611; Gaz. vol. 160; p. 793.
Needle, Seine-. E. Randolph. No. 976,290; Nov. 22; Sp. p. 4885; Gaz. vol. 160; p. 835.
Needling-machine. D. S. Brown. No. 976,033; Nov. 15; Sp. p. 4253; Gaz. vol. 160; p. 722.
Nipple-cover. C. W. Ladley. No. 976,887; Nov. 29; Sp. p. 6181; Gaz. vol. 160; p. 1064.
Nozzle or sprinkler-head, Rotary distributing-. H. F. Newman. No. 974,176; Nov. 1; Sp. p. 147; Gaz. vol. 160; p. 27.
Numbering-machine. J. H. Reinhardt. No. 976,295; Nov. 22; Sp. p. 4893; Gaz. vol. 160; p. 836.
Nut and bolt. W. E. Horrocks. No. 976,569; Nov. 22; Sp. p. 5507; Gaz. vol. 160; p. 930.
Nut, Axle-. J. B. Wismer. No. 975,189; Nov. 8; Sp. p. 2529; Gaz. vol. 160; p. 409.
Nut, Axle-. J. B. Wismer. No. 977,246; Nov. 29; Sp. p. 6096; Gaz. vol. 160; p. 1189.
Nut-lock. R. L. Armstead. No. 974,107; Nov. 1; Sp. p. 1; Gaz. vol. 160; p. 3.
Nut-lock. E. V. Brister. No. 974,352; Nov. 1; Sp. p. 623; Gaz. vol. 160; p. 94.
Nut-lock. J. Burgert and R. Franke. No. 974,468; Nov. 1; Sp. p. 904; Gaz. vol. 160; p. 133.
Nut-lock. J. Burkhart. No. 974,641; Nov. 1; Sp. p. 1284; Gaz. vol. 160; p. 197.
Nut-lock. C. Glaum. No. 974,786; Nov. 8; Sp. p. 1607; Gaz. vol. 160; p. 270.
Nut-lock. E. W. Taylor. No. 974,842; Nov. 8; Sp. p. 1719; Gaz. vol. 160; p. 288.
Nut-lock. J. R. Armstrong. No. 975,011; Nov. 8; Sp. p. 2128; Gaz. vol. 160; p. 347.
Nut-lock. J. R. Armstrong. No. 975,012; Nov. 8; Sp. p. 2130; Gaz. vol. 160; p. 347.
Nut-lock. L. Blessing and A. Johns. No. 975,115; Nov. 8; Sp. p. 2353; Gaz. vol. 160; p. 383.
Nut-lock. T. F. A. Maher. No. 975,145; Nov. 8; Sp. p. 2417; Gaz. vol. 160; p. 392.
Nut-lock. J. V. Sohn. No. 975,171; Nov. 8; Sp. p. 2483; Gaz. vol. 160; p. 401.

Nut-lock. J. H. Sutherland. No. 975,177; Nov. 8; Sp. p. 2496; Gaz. vol. 160; p. 404.
Nut-lock. N. Little. No. 975,545; Nov. 15; Sp. p. 3281; Gaz. vol. 160; p. 556.
Nut-lock. R. Cooper. No. 975,605; Nov. 15; Sp. p. 3396; Gaz. vol. 160; p. 577.
Nut-lock. I. L. Miller. No. 975,709; Nov. 15; Sp. p. 3624; Gaz. vol. 160; p. 611.
Nut-lock. F. H. Nett. No. 975,985; Nov. 15; Sp. p. 4168; Gaz. vol. 160; p. 705.
Nut-lock. D. W. Lovett. No. 976,584; Nov. 22; Sp. p. 5537; Gaz. vol. 160; p. 935.
Nut-lock. W. C. Schumpert. No. 976,701; Nov. 22; Sp. p. 5752; Gaz. vol. 160; p. 974.
Nut-lock. H. A. Luck. No. 976,890; Nov. 29; Sp. p. 6186; Gaz. vol. 160; p. 1065.
Nut-lock. O. Salisbury. No. 976,928; Nov. 29; Sp. p. 6280; Gaz. vol. 160; p. 1078.
Nut, Lock-. N. F. Chamberlin. No. 976,847; Nov. 29; Sp. p. 6096; Gaz. vol. 160; p. 1049.
Nut-lock and tightening device. J. G. Wolfe. No. 975,504; Nov. 15; Sp. p. 3374; Gaz. vol. 160; p. 573.
Nut-locking device. E. L. J. Schaffelke. No. 975,642; Nov. 15; Sp. p. 3480; Gaz. vol. 160; p. 590.
Nut-locking tool. R. A. Clark. No. 975,677; Nov. 15; Sp. p. 3572; Gaz. vol. 160; p. 601.
Nut-making machine. J. S. Hortman. No. 977,011; Nov. 29; Sp. p. 6492; Gaz. vol. 160; p. 1107.
Offset-preventing device. H. A. W. Wood. No. 976,022; Nov. 15; Sp. p. 4257; Gaz. vol. 160; p. 718.
Oil and gas mixtures, Combustion of. H. Maxim. No. 977,208; Nov. 29; Sp. p. 6926; Gaz. vol. 160; p. 1176.
Oil break-switch. H. J. Hunsicker. No. 977,193; Nov. 29; Sp. p. 6898; Gaz. vol. 160; p. 1171.
Oil-burner. R. J. Wheeler and H. R. Neil. No. 974,824; Nov. 1; Sp. p. 570; Gaz. vol. 160; p. 83.
Oil-burner. A. H. Forstner. No. 974,652; Nov. 1; Sp. p. 1300; Gaz. vol. 160; p. 202.
Oil-burner. J. M. Howze. No. 975,244; Nov. 8; Sp. p. 2646; Gaz. vol. 160; p. 427.
Oil-burner. E. W. Tucker. No. 975,482; Nov. 15; Sp. p. 3125; Gaz. vol. 160; p. 534.
Oil-burner. W. A. Stephens. No. 976,105; Nov. 15; Sp. p. 4414; Gaz. vol. 160; p. 748.
Oil-burner. P. G. Hubert. No. 976,367; Nov. 22; Sp. p. 5059; Gaz. vol. 160; p. 859.
Oil burner, Crude-. L. O. Hudson. No. 974,795; Nov. 8; Sp. p. 1618; Gaz. vol. 160; p. 272.
Oil burner, Crude-. G. C. Yale. No. 975,740; Nov. 15; Sp. p. 3691; Gaz. vol. 160; p. 622.
Oil burner, Crude-. E. G. L. Gregson. No. 976,358; Nov. 22; Sp. p. 5048; Gaz. vol. 160; p. 857.
Oil burner, Crude-. S. McNabb. No. 976,482; Nov. 22; Sp. p. 5316; Gaz. vol. 160; p. 901.
Oil-burning apparatus, Crude-. A. R. Kunkel. No. 976,268; Nov. 22; Sp. p. 4848; Gaz. vol. 160; p. 827.
Oil-can and lubricator, Combined. C. Arthur. No. 976,333; Nov. 22; Sp. p. 4976; Gaz. vol. 160; p. 847.
Oil-converting process. J. H. Adams. No. 976,975; Nov. 29; Sp. p. 6412; Gaz. vol. 160; p. 1095.
Oil-cup. R. L. Holehouse. No. 976,365; Nov. 22; Sp. p. 5058; Gaz. vol. 160; p. 859.
Oil or gas furnace, Fuel. W. S. Quigley. No. 975,068; Nov. 8; Sp. p. 2242; Gaz. vol. 160; p. 366.
Oils, fats, &c., Emulsifying. A. Muller-Jacobs, and R. C. F. A. C. Bernhardi. No. 975,447; Nov. 15; Sp. p. 3055; Gaz. vol. 160; p. 522.
Oiler for automobiles, Sight-feed. J. Eckhard. No. 974,249; Nov. 1; Sp. p. 374; Gaz. vol. 160; p. 54.
Olefin or saturated acids, Obtaining. I. K. Phelps. No. 974,182; Nov. 1; Sp. p. 164; Gaz. vol. 160; p. 29.
Opera-chair. G. R. Parr. No. 974,703; Nov. 1; Sp. p. 1420; Gaz. vol. 160; p. 220.
Optical projection apparatus. J. W. Henwood. No. 975,946; Nov. 15; Sp. p. 4107; Gaz. vol. 160; p. 698.
Orange-zising machine. J. W. Stevenson. No. 974,720; Nov. 1; Sp. p. 1455; Gaz. vol. 160; p. 224.
Orchard-heater. T. E. Fulghum. No. 975,611; Nov. 15; Sp. p. 3413; Gaz. vol. 160; p. 579.
Orchard-heater. P. H. Troutman. No. 976,013; Nov. 15; Sp. p. 4222; Gaz. vol. 160; p. 716.
Orchard-heater. J. L. Hamilton. No. 976,072; Nov. 15; Sp. p. 4330; Gaz. vol. 160; p. 735.
Ore and coal washer. H. W. Falker, F. Schultz, and J. F. Wagner. No. 977,087; Nov. 29; Sp. p. 6644; Gaz. vol. 160; p. 1133.
Ore-classifier. A. D. J. Maichus. No. 975,971; Nov. 15; Sp. p. 4147; Gaz. vol. 160; p. 701.
Ore concentrator or separator. G. C. Kidder. No. 974,395; Nov. 1; Sp. p. 707; Gaz. vol. 160; p. 107.
Ore-jig. G. H. Williams. No. 976,419; Nov. 22; Sp. p. 5176; Gaz. vol. 160; p. 879.
Ore-roasting furnace. J. B. F. Herreshoff. No. 976,175; Nov. 22; Sp. p. 4608; Gaz. vol. 160; p. 793.
Ore-roasting kiln, Annular. J. Zellweger. No. 976,769; Nov. 22; Sp. p. 5911; Gaz. vol. 160; p. 998.
Ore-screen. P. R. Stanhope. No. 976,943; Nov. 29; Sp. p. 6323; Gaz. vol. 160; p. 1083.
Ores, Treatment of. C. M. Johnson. No. 977,096; Nov. 29; Sp. p. 6671; Gaz. vol. 160; p. 1136.
Oven, Baker's. W. F. Petersen. No. 975,889; Nov. 15; Sp. p. 3988; Gaz. vol. 160; p. 672.
Oven, Baking-. B. Nine. No. 975,272; Nov. 8; Sp. p. 2694; Gaz. vol. 160; p. 435.
Oven, Baking-. J. G. Redford. No. 976,598; Nov. 22; Sp. p. 5562; Gaz. vol. 160; p. 940.
Oven, Baking-. S. Turner. No. 977,347; Nov. 29; Sp. p. 7193; Gaz. vol. 160; p. 1223.
Oven, Electric baking-. J. I. Ayer and H. B. Gale. No. 975,107; Nov. 8; Sp. p. 2328; Gaz. vol. 160; p. 380.
Oven-shelf. A. B. Kingsland. No. 977,408; Nov. 29; Sp. p. 7356; Gaz. vol. 160; p. 1244.
Oven-shelf. J. E. Michaud and F. McGrath. No. 977,422; Nov. 29; Sp. p. 7386; Gaz. vol. 160; p. 1249.
Overshoe-fastener. R. E. White. No. 975,815; Nov. 15; Sp. p. 3839; Gaz. vol. 160; p. 647.
Oxygen from vessels, Removing. R. Hopfelt. No. 975,040; Nov. 8; Sp. p. 2191; Gaz. vol. 160; p. 356.
Ozonizer. D. S. Henney. No. 974,789; Nov. 8; Sp. p. 1611; Gaz. vol. 160; p. 271.
Pack-opening apparatus. A. R. McArthur. No. 976,895; Nov. 29; Sp. p. 6193; Gaz. vol. 160; p. 1066.
Package and toy, Combined. F. Gardner. No. 975,227; Nov. 8; Sp. p. 2605; Gaz. vol. 160; p. 421.
Packing. H. Brousseau. No. 974,949; Nov. 8; Sp. p. 1982; Gaz. vol. 160; p. 326.
Packing-case. A. T. Kruse. No. 975,962; Nov. 15; Sp. p. 4129; Gaz. vol. 160; p. 698.
Packing for steam-turbines. G. Huhn. No. 976,369; Nov. 22; Sp. p. 5064; Gaz. vol. 160; p. 860.
Packing, Metallic rod-. J. Badeker. No. 975,813; Nov. 8; Sp. p. 2788; Gaz. vol. 160; p. 450.
Packing or shipping box. J. T. Ferres. No. 974,871; Nov. 8; Sp. p. 1798; Gaz. vol. 160; p. 298.
Packing, Piston-. H. S. Studdert. No. 976,007; Nov. 15; Sp. p. 4212; Gaz. vol. 160; p. 713.
Packing, Piston-. R. A. Fowden. No. 976,563; Nov. 22; Sp. p. 5491; Gaz. vol. 160; p. 928.
Packing, Rod-. T. Smith. No. 974,197; Nov. 1; Sp. p. 207; Gaz. vol. 160; p. 35.
Padlock. F. Soley. No. 977,337; Nov. 29; Sp. p. 7175; Gaz. vol. 160; p. 1220.
Pail holder, Milk-. R. J. Ruble. No. 975,288; Nov. 8; Sp. p. 2726; Gaz. vol. 160; p. 441.
Pail holder, Milk-. E. and C. L. Moore. No. 976,276; Nov. 22; Sp. p. 4865; Gaz. vol. 160; p. 830.
Pail holder, Milk-. E. W. Rose. No. 976,498; Nov. 22; Sp. p. 5346; Gaz. vol. 160; p. 907.
Paint package, Semisolid. L. Reusche. No. 975,718; Nov. 15; Sp. p. 3642; Gaz. vol. 160; p. 613.
Pan: *See* Dry-pan.
Pan-scraper. G. M. Bates. No. 975,599; Nov. 15; Sp. p. 3382; Gaz. vol. 160; p. 574.
Panel-board. R. H. Olley. No. 977,123; Nov. 29; Sp. p. 6736; Gaz. vol. 160; p. 1147.
Paper-bag machine. A. L. Parrish. No. 974,704; Nov. 1; Sp. p. 1421; Gaz. vol. 160; p. 220.
Paper-cutter. L. A. Reiser. No. 976,496; Nov. 22; Sp. p. 5343; Gaz. vol. 160; p. 906.
Paper-drying apparatus. J. D. Tompkins. No. 976,948; Nov. 29; Sp. p. 6331; Gaz. vol. 160; p. 1085.
Paper-feeding apparatus. C. von Glahn. No. 977,146; Nov. 29; Sp. p. 6790; Gaz. vol. 160; p. 1154.
Paper-feeding device. F. Schilz. No. 974,923; Nov. 8; Sp. p. 1913; Gaz. vol. 160; p. 316.
Paper-feeding device. G. E. Hardman. No. 976,735; Nov. 22; Sp. p. 5816; Gaz. vol. 160; p. 986.
Paper-feeding machine. T. C. Dexter. No. 975,123; Nov. 8; Sp. p. 2365; Gaz. vol. 160; p. 385.
Paper-feeding-machine sheet-regulating mechanism. T. C. Dexter. No. 975,606; Nov. 15; Sp. p. 3397; Gaz. vol. 160; p. 577.
Paper from walls, Apparatus for removing old. W. C. Roberts and G. E. Corser. No. 975,284; Nov. 8; Sp. p. 2719; Gaz. vol. 160; p. 440.
Paper holder, Roll-toilet-. A. B. and E. J. McEachron. No. 977,418; Nov. 29; Sp. p. 7380; Gaz. vol. 160; p. 1247.
Paper-making-machine drying-cylinder. O. W. Dodge. No. 977,376; Nov. 29; Sp. p. 7268; Gaz. vol. 160; p. 1234.
Paper-making machines, Suction-roll for. J. F. King and J. Neary. No. 976,185; Nov. 22; Sp. p. 4627; Gaz. vol. 160; p. 796.
Paper, Manufacture of wall-. A. Trog. No. 977,054; Nov. 29; Sp. p. 6574; Gaz. vol. 160; p. 1122.
Paper-stock, Elimination of coloring-matter from. M. H. Hubbard. No. 977,013; Nov. 29; Sp. p. 6497; Gaz. vol. 160; p. 1108.
Paper-testing device. H. E. Eddy. No. 974,867; Nov. 8; Sp. p. 1790; Gaz. vol. 160; p. 297.
Paper-trimming machine. W. H. Smith. No. 974,198; Nov. 1; Sp. p. 210; Gaz. vol. 160; p. 35.
Paring machine, Apple-. W. H. Boutell. No. 974,230; Nov. 1; Sp. p. 276; Gaz. vol. 160; p. 47.
Pasteurizer. W. J. McKee. No. 977,029; Nov. 29; Sp. p. 6525; Gaz. vol. 160; p. 1114.
Pasteurizing and refrigerating apparatus, Combined. S. Shapiro. No. 977,230; Nov. 29; Sp. p. 6960; Gaz. vol. 160; p. 1183.
Pasting and trimming machine. W. J. Williams. No. 975,666; Nov. 15; Sp. p. 3556; Gaz. vol. 160; p. 598.
Pasting or gumming machine. J. W. Stocker. No. 974,535; Nov. 1; Sp. p. 1062; Gaz. vol. 160; p. 159.
Patterns, Apparatus for cutting paper, cloth, or similar. E. Pignone. No. 974,293; Nov. 1; Sp. p. 487; Gaz. vol. 160; p. 71.
Peanut-roaster. I. R. Anderson. No. 976,424; Nov. 22; Sp. p. 5135; Gaz. vol. 160; p. 881.
Pen and pencil holder. H. J. Huddle. No. 974,887; Nov. 8; Sp. p. 1826; Gaz. vol. 160; p. 304.

Pen and pencil holder. X. F. Schnapka. No. 975,465; Nov. 15; Sp. p. 3096; Gaz. vol. 160; p. 529.
Pen and pencil holder. E. A. Crosby. No. 976,437; Nov. 22; Sp. p. 5219; Gaz. vol. 160; p. 886.
Pen for swine, Farrowing-. R. D. Spelts. No. 975,649; Nov. 15; Sp. p. 3480; Gaz. vol. 160; p. 592.
Pen, Self-filling fountain-. J. Lipic. No. 976,815; Nov. 22; Sp. p. 5097; Gaz. vol. 160; p. 1013.
Pen, Self-filling fountain-. T. F. Gaynor. No. 977,424; Nov. 29; Sp. p. 7380; Gaz. vol. 160; p. 1249.
Penholder. B. F. Lewis. No. 974,578; Nov. 1; Sp. p. 1154; Gaz. vol. 160; p. 175.
Penholder. H. A. Wulff. No. 975,191; Nov. 8; Sp. p. 2540; Gaz. vol. 160; p. 409.
Penholder. J. Jacobs. No. 976,805; Nov. 22; Sp. p. 5981; Gaz. vol. 160; p. 1010.
Pencil, Modeling-. T. A. De Vilbiss. No. 977,282; Nov. 29; Sp. p. 7060; Gaz. vol. 160; p. 1201.
Perch, Chicken-. G. C. James. No. 974,386; Nov. 1; Sp. p. 692; Gaz. vol. 160; p. 105.
Periscope. J. Humbrecht. No. 976,370; Nov. 22; Sp. p. 5066; Gaz. vol. 160; p. 860.
Permutation-lock. H. C. Lowrie. No. 975,549; Nov. 15; Sp. p. 3288; Gaz. vol. 160; p. 558.
Phonautographic record and duplicating the same. E. F. Leeds. No. 974,895; Nov. 8; Sp. p. 1841; Gaz. vol. 160; p. 307.
Phonograph. W. H. Miller. No. 976,821; Nov. 22; Sp. p. 6008; Gaz. vol. 160; p. 1015.
Phonograph-diaphragm. F. Weber. No. 975,377; Nov. 8; Sp. p. 2020; Gaz. vol. 160; p. 471.
Phonograph-record trimmer. J. D. Rockhill. No. 974,435; Nov. 1; Sp. p. 808; Gaz. vol. 160; p. 122.
Phonograph-reproducer. T. A. Edison. No. 975,340; Nov. 8; Sp. p. 2842; Gaz. vol. 160; p. 450.
Phonograph sound-box. A. F. Schönwetter. No. 976,502; Nov. 22; Sp. p. 5351; Gaz. vol. 160; p. 908.
Photographic-film-developing apparatus. W. F. C. Kelly and T. Bolas. No. 976,810; Nov. 22; Sp. p. 5987; Gaz. vol. 160; p. 1011.
Photographic lenses, Shutter-operating device for. S. Roesner. No. 976,217; Nov. 22; Sp. p. 4691; Gaz. vol. 160; p. 807.
Photographic meter-reader. E. C. Pond. No. 975,277; Nov. 8; Sp. p. 2706; Gaz. vol. 160; p. 438.
Photographic meter-reader. E. C. Pond. No. 975,278; Nov. 8; Sp. p. 2709; Gaz. vol. 160; p. 438.
Photographic-plate holder. J. Becker. No. 975,498; Nov. 15; Sp. p. 3163; Gaz. vol. 160; p. 530.
Photographic plate or film holder. F. A. Fifield. No. 976,354; Nov. 22; Sp. p. 5036; Gaz. vol. 160; p. 855.
Photographic-printing cabinet. H. D. Mouson. No. 976,280; Nov. 22; Sp. p. 4869; Gaz. vol. 160; p. 831.
Photographic-printing machine. J. J. Shafer. No. 977,138; Nov. 29; Sp. p. 6769; Gaz. vol. 160; p. 1151.
Photographic prints, Apparatus for washing. A. D. Alt. No. 974,336; Nov. 1; Sp. p. 590; Gaz. vol. 160; p. 88.
Photographic shutter. F. P. Whitehead. No. 976,712; Nov. 22; Sp. p. 5776; Gaz. vol. 160; p. 978.
Piano, Electrical. D. J. Hauss. No. 974,963; Nov. 8; Sp. p. 2020; Gaz. vol. 160; p. 331.
Piano-pedal. A. J. Bachand. No. 975,670; Nov. 15; Sp. p. 3563; Gaz. vol. 160; p. 590.
Piano, Player-. E. C. Hiscock. No. 974,884; Nov. 8; Sp. p. 1819; Gaz. vol. 160; p. 303.
Piano, Player-. E. C. Hiscock. No. 974,885; Nov. 8; Sp. p. 1823; Gaz. vol. 160; p. 303.
Piano-tuning appliance. F. Huggins. No. 977,004; Nov. 29; Sp. p. 6666; Gaz. vol. 160; p. 1135.
Pianos, Coin-controlled actuating mechanism for automatic. E. D. Carney. No. 974,355; Nov. 1; Sp. p. 639; Gaz. vol. 160; p. 95.
Picker: *See* Cherry-picker.
Picking mechanism. L. E. Mellor and F. W. Cole. No. 976,673; Nov. 22; Sp. p. 5706; Gaz. vol. 160; p. 965.
Picture apparatus, Fireproof receptacle for films of moving-. G. J. Gilmore. No. 976,067; Nov. 15; Sp. p. 4318; Gaz. vol. 160; p. 733.
Picture-frame. F. W. Williams. No. 975,094; Nov. 8; Sp. p. 2292; Gaz. vol. 160; p. 375.
Picture machine, Moving-. A. F. Victor. No. 976,954; Nov. 29; Sp. p. 6354; Gaz. vol. 160; p. 1088.
Pig-handling apparatus. J. F. Schnabel. No. 977,046; Nov. 29; Sp. p. 6550; Gaz. vol. 160; p. 1119.
Pigments, Preparing. F. M. Becket. No. 976,337; Nov. 22; Sp. p. 5000; Gaz. vol. 160; p. 849.
Pile. L. E. Welsh. No. 975,438; Nov. 15; Sp. p. 3140; Gaz. vol. 160; p. 536.
Pile. L. E. Welsh. No. 976,324; Nov. 22; Sp. p. 4957; Gaz. vol. 160; p. 845.
Pile and means for driving the same. L. E. Welsh. No. 975,437; Nov. 15; Sp. p. 3137; Gaz. vol. 160; p. 536.
Piling. J. J. Jones. No. 976,573; Nov. 22; Sp. p. 5514; Gaz. vol. 160; p. 932.
Pin: *See* Hair-pin; Hat-pin.
Pincers, Lasting-. G. O. Barbour. No. 974,626; Nov. 1; Sp. p. 1251; Gaz. vol. 160; p. 192.
Pincers, Lasting-. G. O. Barbour. No. 974,627; Nov. 1; Sp. p. 1254; Gaz. vol. 160; p. 193.
Pipe: *See* Furnace-heat-conductor pipe; Sheet-metal pipe; Tobacco-pipe.
Pipe and nut wrench. P. Masterson. No. 974,408; Nov. 1; Sp. p. 688; Gaz. vol. 160; p. 112.
Pipe attachment. A. J. Tisley. No. 974,209; Nov. 1; Sp. p. 242; Gaz. vol. 160; p. 30.
Pipe attachment. W. E. Tait. No. 975,584; Nov. 15; Sp. p. 3359; Gaz. vol. 160; p. 570.
Pipe-bending machine. G. H. Reynolds. No. 976,599; Nov. 22; Sp. p. 5565; Gaz. vol. 160; p. 941.
Pipe-cleaning apparatus, Gas-. F. W. C. Schniewind. No. 976,933; Nov. 29; Sp. p. 6296; Gaz. vol. 160; p. 1080.
Pipe-coupling. F. Sargent. No. 977,226; Nov. 29; Sp. p. 6954; Gaz. vol. 160; p. 1182.
Pipe coupling, Automatic train-. M. Segal and F. C. Walker. No. 976,402; Nov. 22; Sp. p. 5148; Gaz. vol. 160; p. 873.
Pipe-drawing machine. F. A. Schuster. No. 977,135; Nov. 29; Sp. p. 6761; Gaz. vol. 160; p. 1151.
Pipe-filling device, Tobacco-. A. Falk. No. 975,026; Nov. 8; Sp. p. 2161; Gaz. vol. 160; p. 352.
Pipe-grapple. C. Kass. No. 975,250; Nov. 8; Sp. p. 2655; Gaz. vol. 160; p. 429.
Pipe-joint. C. Revalliot. No. 974,517; Nov. 1; Sp. p. 1022; Gaz. vol. 160; p. 152.
Pipe-sections, Joint for connecting. P. J. McCabe. No. 974,804; Nov. 8; Sp. p. 1642; Gaz. vol. 160; p. 275.
Pipe-union. C. J. Luther. No. 974,504; Nov. 1; Sp. p. 986; Gaz. vol. 160; p. 146.
Pipe-union. J. T. Kelly. No. 974,975; Nov. 8; Sp. p. 2055; Gaz. vol. 160; p. 335.
Pipes, Apparatus for clearing obstructions from drain and other. W. Haddock. No. 977,005; Nov. 29; Sp. p. 6480; Gaz. vol. 160; p. 1105.
Pipes, Automatic pressure-controller for water and other. I. G. Fosler. No. 974,563; Nov. 1; Sp. p. 1131; Gaz. vol. 160; p. 170.
Piston. E. Talbot. No. 975,301; Nov. 8; Sp. p. 2768; Gaz. vol. 160; p. 447.
Piston-rod connection. P. M. Van Bosch. No. 974,935; Nov. 8; Sp. p. 1944; Gaz. vol. 160; p. 321.
Pitchfork attachment. C. A. Duprey. No. 976,848; Nov. 22; Sp. p. 5024; Gaz. vol. 160; p. 853.
Placer-separator. D. J. Forbes. No. 976,684; Nov. 15; Sp. p. 3581; Gaz. vol. 160; p. 603.
Plant-thinning machine. J. W. Briscoe. No. 977,162; Nov. 29; Sp. p. 6830; Gaz. vol. 160; p. 1159.
Planter. A. J. H. Reid. No. 976,292; Nov. 22; Sp. p. 4887; Gaz. vol. 160; p. 835.
Planter and fertilizer-distributer, Combined. C. Linder. No. 976,383; Nov. 22; Sp. p. 5101; Gaz. vol. 160; p. 866.
Planter, Corn-. C. F. Bass. No. 974,851; Nov. 8; Sp. p. 1748; Gaz. vol. 160; p. 292.
Planter, Corn-. F. W. Booth. No. 975,673; Nov. 15; Sp. p. 3567; Gaz. vol. 160; p. 600.
Planter, Corn-. A. H. Leatherman. No. 977,021; Nov. 29; Sp. p. 6512; Gaz. vol. 160; p. 1111.
Planter marker, Corn-. S. B. Artz. No. 976,771; Nov. 22; Sp. p. 5918; Gaz. vol. 160; p. 999.
Planter marking device, Seed-. L. N. Todd. No. 974,312; Nov. 1; Sp. p. 531; Gaz. vol. 160; p. 78.
Planter tension device, Check-row-. E. W. Ryder. No. 977,134; Nov. 29; Sp. p. 6759; Gaz. vol. 160; p. 1150.
Planter, Wireless check-row. S. H. Kline. No. 975,365; Nov. 8; Sp. p. 2885; Gaz. vol. 160; p. 466.
Plate shaving, trimming, and tail-cutting machine, Combined. S. G. Goss. No. 975,521; Nov. 15; Sp. p. 3219; Gaz. vol. 160; p. 548.
Player, Automatic. W. R. Crippen. No. 977,072; Nov. 29; Sp. p. 6614; Gaz. vol. 160; p. 1128.
Pliers. J. M. Chappel. No. 975,385; Nov. 8; Sp. p. 2938; Gaz. vol. 160; p. 474.
Plow. R. M. Kelly. No. 974,675; Nov. 1; Sp. p. 1352; Gaz. vol. 160; p. 210.
Plow. R. M. Kelly. No. 974,676; Nov. 1; Sp. p. 1354; Gaz. vol. 160; p. 210.
Plow. W. F. Lindsey. No. 975,544; Nov. 15; Sp. p. 3280; Gaz. vol. 160; p. 556.
Plow. S. J. Minyard. No. 975,562; Nov. 15; Sp. p. 3314; Gaz. vol. 160; p. 563.
Plow. C. L. Hall. No. 975,614; Nov. 15; Sp. p. 3417; Gaz. vol. 160; p. 580.
Plow. I. L. Fake. No. 976,059; Nov. 15; Sp. p. 4306; Gaz. vol. 160; p. 731.
Plow. P. Krug. No. 976,188; Nov. 22; Sp. p. 4631; Gaz. vol. 160; p. 797.
Plow and seed-planter, Garden-. J. F. Mixon and O. H. Ford. No. 976,675; Nov. 22; Sp. p. 5700; Gaz. vol. 160; p. 966.
Plow attachment. O. Hatlelid. No. 974,377; Nov. 1; Sp. p. 679; Gaz. vol. 160; p. 102.
Plow attachment. B. A. Morris. No. 976,677; Nov. 22; Sp. p. 5713; Gaz. vol. 160; p. 967.
Plow-fender adjuster. C. W. Williams. No. 974,325; Nov. 1; Sp. p. 571; Gaz. vol. 160; p. 83.
Plow, Gang-. W. L. Paul. No. 974,592; Nov. 1; Sp. p. 1180; Gaz. vol. 160; p. 180.
Plow, Gang-. W. Berndt. No. 976,338; Nov. 22; Sp. p. 5001; Gaz. vol. 160; p. 849.
Plow, Gang-. H. C. Clay. No. 976,721; Nov. 22; Sp. p. 5794; Gaz. vol. 160; p. 981.
Plow, Motor-propelled. A. K. Baltezor. No. 974,338; Nov. 1; Sp. p. 598; Gaz. vol. 160; p. 89.
Plow-point. M. F. McElveen. No. 975,555; Nov. 15; Sp. p. 3302; Gaz. vol. 160; p. 560.
Plow-point, Adjustable. N. L. Olson. No. 974,701; Nov. 1; Sp. p. 1415; Gaz. vol. 160; p. 219.
Plow, Rotary. D. C. Ruth. No. 974,711; Nov. 1; Sp. p. 1440; Gaz. vol. 160; p. 222.
Plow-scraper, Disk. J. J. Shackelford. No. 975,578; Nov. 15; Sp. p. 3346; Gaz. vol. 160; p. 568.
Plow, Self-propelled. O. Walt. No. 975,305; Nov. 8; Sp. p. 2775; Gaz. vol. 160; p. 448.
Plow-shaft. C. A. Ryan. No. 976,303; Nov. 22; Sp. p. 4924; Gaz. vol. 160; p. 839.
Plow shock-absorber. E. Barr. No. 977,364; Nov. 29; Sp. p. 7246; Gaz. vol. 160; p. 1229.
Plows, Draft appliance for. G. A. Anderson. No. 976,024; Nov. 15; Sp. p. 4242; Gaz. vol. 160; p. 719.
Plows, Side-draft equalizer for sulky-. A. Luki and F. Wolf, Jr. No. 976,385; Nov. 22; Sp. p. 5105; Gaz. vol. 160; p. 867.
Plug-lifter. H. E. Bennett. No. 975,014; Nov. 8; Sp. p. 2133; Gaz. vol. 160; p. 348.
Plunger-elevator system. T. Larsson. No. 975,540; Nov. 15; Sp. p. 3270; Gaz. vol. 160; p. 555.
Pneumatic cleaner. E. and W. E. Gross and W. Felter. No. 976,566; Nov. 22; Sp. p. 5499; Gaz. vol. 160; p. 929.
Pneumatic cleaner and force-cup, Combined. L. O. Howell. No. 975,527; Nov. 15; Sp. p. 3232; Gaz. vol. 160; p. 551.
Pneumatic-despatch apparatus. T. Bemis. No. 975,501; Nov. 15; Sp. p. 3170; Gaz. vol. 160; p. 540.
Pneumatic-despatch apparatus, Sending mechanism for. H. D. Waterhouse. No. 974,618; Nov. 1; Sp. p. 1231; Gaz. vol. 160; p. 189.
Pneumatic-despatch systems, Receiving apparatus for. H. D. Waterhouse. No. 974,617; Nov. 1; Sp. p. 1227; Gaz. vol. 160; p. 189.
Pneumatic-despatch-tube apparatus. J. S. Jacques. No. 974,799; Nov. 8; Sp. p. 1629; Gaz. vol. 160; p. 273.
Pneumatic-despatch-tube apparatus. C. F. Stoddard. No. 975,903; Nov. 15; Sp. p. 4015; Gaz. vol. 160; p. 677.
Pneumatic-despatch-tube apparatus. J. T. Needham. No. 976,744; Nov. 22; Sp. p. 5835; Gaz. vol. 160; p. 989.
Pneumatic-despatch-tube apparatus. J. G. Maclaren. No. 977,110; Nov. 29; Sp. p. 6705; Gaz. vol. 160; p. 1141.
Pneumatic-despatch-tube-apparatus carrier. M. L. Emerson. No. 977,083; Nov. 29; Sp. p. 6641; Gaz. vol. 160; p. 1132.
Pneumatic separator. F. A. Brenner. No. 977,160; Nov. 29; Sp. p. 6816; Gaz. vol. 160; p. 1159.
Pneumatic tube, Sectional. F. R. Baylis. No. 976,840; Nov. 29; Sp. p. 6070; Gaz. vol. 160; p. 1046.
Pneumatics, Mechanism for covering leaf-. H. W. Stowe. No. 974,446; Nov. 1; Sp. p. 849; Gaz. vol. 160; p. 125.
Pocket-case. A. Franke. No. 974,371; Nov. 1; Sp. p. 665; Gaz. vol. 160; p. 100.
Pocket-knife. D. W. Bryant. No. 975,015; Nov. 8; Sp. p. 2134; Gaz. vol. 160; p. 348.
Pole and shafts, Combined carriage. E. J. Holmes. No. 977,093; Nov. 29; Sp. p. 6664; Gaz. vol. 160; p. 1135.
Poles or posts, Base for. H. M. Hughes. No. 976,879; Nov. 29; Sp. p. 6156; Gaz. vol. 160; p. 1061.
Polishing-head. E. T. Pollard. No. 976,689; Nov. 22; Sp. p. 5726; Gaz. vol. 160; p. 970.
Polishing-machine. A. Thompson. No. 975,088; Nov. 8; Sp. p. 2283; Gaz. vol. 160; p. 373.
Polychrome screen and making same. C. L. A. Brasseur. No. 976,118; Nov. 15; Sp. p. 4435; Gaz. vol. 160; p. 751.
Polychrome screen and making the same. C. L. A. Brasseur. No. 974,464; Nov. 1; Sp. p. 896; Gaz. vol. 160; p. 132.
Portable elevator. A. Zikmund. No. 975,597; Nov. 15; Sp. p. 3379; Gaz. vol. 160; p. 574.
Portable house. R. R. Brewer. No. 974,233; Nov. 1; Sp. p. 338; Gaz. vol. 160; p. 48.
Post: *See* Fence-post.
Post-cap and timber-seat. O. R. Schrader. No. 974,606; Nov. 1; Sp. p. 1202; Gaz. vol. 160; p. 184.
Post-mold. L. H. Scott. No. 977,136; Nov. 29; Sp. p. 6767; Gaz. vol. 160; p. 1151.
Post or pole forming device. M. B. Kelsey and H. L. Monarch. No. 975,135; Nov. 8; Sp. p. 2398; Gaz. vol. 160; p. 380.
Postal-money-order packet. J. S. Utley. No. 975,737; Nov. 15; Sp. p. 3684; Gaz. vol. 160; p. 621.
Pot: *See* Coffee and tea pot; Marking-pot.
Pottery-former. T. Lunn. No. 975,144; Nov. 8; Sp. p. 2416; Gaz. vol. 160; p. 392.
Poultry-duster, Automatic. P. C. Fish. No. 974,252; Nov. 1; Sp. p. 880; Gaz. vol. 160; p. 55.
Poultry-fount. G. W. Duncan. No. 975,607; Nov. 15; Sp. p. 3403; Gaz. vol. 160; p. 578.
Poultry-house. W. G. Stout. No. 975,733; Nov. 15; Sp. p. 3675; Gaz. vol. 160; p. 619.
Pouring device. H. Desmollères. No. 975,937; Nov. 15; Sp. p. 4087; Gaz. vol. 160; p. 689.
Powder-divider, Proportional. W. Votteler. No. 976,320; Nov. 22; Sp. p. 4951; Gaz. vol. 160; p. 844.
Powder, Size-. F. Beckmann. No. 976,116; Nov. 15; Sp. p. 4432; Gaz. vol. 160; p. 751.
Power-generator. L. J. Cavanaugh and E. T. Young. No. 976,547; Nov. 22; Sp. p. 5456; Gaz. vol. 160; p. 922.
Power mechanism. J. F. Bard. No. 976,115; Nov. 15; Sp. p. 4431; Gaz. vol. 160; p. 751.
Power plant. A. L. Galusha. No. 974,255; Nov. 1; Sp. p. 385; Gaz. vol. 160; p. 56.
Power-transmission mechanism, Variable-speed. R. W. Swift. No. 974,308; Nov. 1; Sp. p. 517; Gaz. vol. 160; p. 77.
Power-transmission rope. J. P. Tolman and J. L. Bixby, Jr. No. 974,843; Nov. 8; Sp. p. 1720; Gaz. vol. 160; p. 289.
Power-transmitting apparatus, Hydraulic. C. B. Radcliffe. No. 975,795; Nov. 15; Sp. p. 3798; Gaz. vol. 160; p. 640.
Power-transmitting device. T. J. Levey. No. 974,402; Nov. 1; Sp. p. 724; Gaz. vol. 160; p. 110.
Power-transmitting mechanism, Variable-speed. J. G. Jones. No. 975,869; Nov. 15; Sp. p. 3949; Gaz. vol. 160; p. 665.
Precious metalliferous ores, Treatment of. J. C. Clancy. No. 976,043; Nov. 15; Sp. p. 4278; Gaz. vol. 160; p. 726.
Precious metalliferous ores, Treatment of. J. C. Clancy. No. 976,044; Nov. 15; Sp. p. 4280; Gaz. vol. 160; p. 726.
Precious metalliferous ores, Treatment of. J. C. Clancy. No. 976,045; Nov. 15; Sp. p. 4281; Gaz. vol. 160; p. 726.
Press: *See* Baling-press; Clicking-press; Concrete-block press; Hay-press; Hydraulic press; Metal-press; Printing-press; Pulp or paper press; Punch-press; Web-press.
Press, K. S. Blanchard. No. 975,204; Nov. 8; Sp. p. 2558; Gaz. vol. 160; p. 414.
Pressing and finishing iron, Steam. R. W. Hull. No. 976,571; Nov. 22; Sp. p. 5510; Gaz. vol. 160; p. 931.
Pressing-machine. H. Lindestrom. No. 976,384; Nov. 22; Sp. p. 5103; Gaz. vol. 160; p. 866.
Pressure-controller, Automatic. H. R. Dunbar. No. 977,079; Nov. 29; Sp. p. 6634; Gaz. vol. 160; p. 1130.
Pressure-fluid engine. H. H. Mercer. No. 974,413; Nov. 1; Sp. p. 748; Gaz. vol. 160; p. 114.
Printer's rule in corner, straight-strip, curved, or tubular form. W. C. F. Papke. No. 977,217; Nov. 29; Sp. p. 6938; Gaz. vol. 160; p. 1179.
Printing. L. R. Kantner. No. 974,278; Nov. 1; Sp. p. 449; Gaz. vol. 160; p. 66.
Printing and auditing machine, Ticket. J. F. Ohmer. No. 974,511; Nov. 1; Sp. p. 1002; Gaz. vol. 160; p. 149.
Printing and folding papers, Apparatus for. J. A. Boyce. No. 974,231; Nov. 1; Sp. p. 279; Gaz. vol. 160; p. 47.
Printing apparatus. W. A. Pringle. No. 974,428; Nov. 1; Sp. p. 790; Gaz. vol. 160; p. 119.
Printing apparatus, Curtain-support for blue-. R. Herman. No. 974,965; Nov. 8; Sp. p. 2025; Gaz. vol. 160; p. 332.
Printing-machine. O. L. Raabe. No. 974,429; Nov. 1; Sp. p. 795; Gaz. vol. 160; p. 119.
Printing-machine. G. F. Read. No. 974,431; Nov. 1; Sp. p. 801; Gaz. vol. 160; p. 120.
Printing-machine. H. L. Reckard. No. 974,917; Nov. 8; Sp. p. 1901; Gaz. vol. 160; p. 314.
Printing-machine, Multicouple multirevolution. W. Scott. No. 975,204; Nov. 8; Sp. p. 2736; Gaz. vol. 160; p. 443.
Printing machinery, Blue-. M. Goldstein. No. 976,164; Nov. 22; Sp. p. 4563; Gaz. vol. 160; p. 789.
Printing or other machines, Machine for feeding bags to. L. J. Elsas. No. 976,255; Nov. 22; Sp. p. 4812; Gaz. vol. 160; p. 822.
Printing-plate-casting mechanism, Stereotype-. H. A. W. Wood. No. 977,248; Nov. 29; Sp. p. 6998; Gaz. vol. 160; p. 1190.
Printing-press. H. J. Smith. No. 975,730; Nov. 15; Sp. p. 3664; Gaz. vol. 160; p. 618.
Printing-press. M. R. Land. No. 975,963; Nov. 15; Sp. p. 4131; Gaz. vol. 160; p. 698.
Printing-press. S. Crump. No. 976,155; Nov. 22; Sp. p. 4545; Gaz. vol. 160; p. 786.
Printing-press ink-fountain. R. J. Greenway. No. 975,856; Nov. 15; Sp. p. 3923; Gaz. vol. 160; p. 661.
Printing-press inking device. D. W. Custer. No. 977,170; Nov. 29; Sp. p. 6846; Gaz. vol. 160; p. 1162.
Printing-press sheet-delivering mechanism. W. H. Stratton. No. 976,410; Nov. 22; Sp. p. 5160; Gaz. vol. 160; p. 876.
Printing-presses, Gage and work-dropping device for platen. A. J. Hood. No. 976,366; Nov. 22; Sp. p. 5057; Gaz. vol. 160; p. 859.
Printing-rule and system of applying same to printing-forms. A. G. Stevenson. No. 974,718; Nov. 1; Sp. p. 1451; Gaz. vol. 160; p. 224.
Propeller. G. B. Martin. No. 975,972; Nov. 15; Sp. p. 4149; Gaz. vol. 160; p. 701.
Propeller for boats, Reversible. P. W. Hodgkinson. No. 975,039; Nov. 8; Sp. p. 2186; Gaz. vol. 160; p. 356.
Propeller for maritime and river navigation. B. Icre. No. 976,178; Nov. 22; Sp. p. 4612; Gaz. vol. 160; p. 794.
Propeller for operating on fluids. B. G. Cooper. No. 977,068; Nov. 29; Sp. p. 6608; Gaz. vol. 160; p. 1126.
Propeller-wheel. J. Bennett. No. 974,844; Nov. 1; Sp. p. 609; Gaz. vol. 160; p. 91.
Propellers, &c., Blade-feathering mechanism for. H. Hückel. No. 974,490; Nov. 1; Sp. p. 958; Gaz. vol. 160; p. 142.
Propellers, Gearing for. W. A. Hall. No. 974,961; Nov. 8; Sp. p. 2018; Gaz. vol. 160; p. 330.
Propelling mechanism, Boat-. W. L. Cramer. No. 977,169; Nov. 29; Sp. p. 6845; Gaz. vol. 160; p. 1162.
Propulsion, Plural drive mechanism for marine. L. Dion. No. 976,642; Nov. 22; Sp. p. 5649; Gaz. vol. 160; p. 955.
Protractor. J. E. Smith. No. 977,048; Nov. 29; Sp. p. 6564; Gaz. vol. 160; p. 1120.
Pruning-gage. F. P. Meeks. No. 975,057; Nov. 8; Sp. p. 2225; Gaz. vol. 160; p. 362.
Pruning implement. J. B. Howard. No. 974,149; Nov. 1; Sp. p. 83; Gaz. vol. 160; p. 17.
Pulley, Friction clutch-. A. S. Anderson. No. 977,257; Nov. 29; Sp. p. 7015; Gaz. vol. 160; p. 1193.
Pulley, Split. W. H. Stockham. No. 976,227; Nov. 22; Sp. p. 4732; Gaz. vol. 160; p. 812.
Pulley, Yieldable. H. P. Motter. No. 975,564; Nov. 15; Sp. p. 3319; Gaz. vol. 160; p. 563.

Pulp machinery. J. H. Wallace. No. 977,147; Nov. 29; Sp. p. 6792; Gaz. vol. 160; p. 1154.
Pulp or paper press, Hydraulic. J. L. Coenen. No. 976,551; Nov. 22; Sp. p. 5471; Gaz. vol. 160; p. 924.
Pulp-screen. J. Olsen. No. 974,513; Nov. 1; Sp. p. 1012; Gaz. vol. 160; p. 150.
Pulp-screen, Centrifugal. C. W. Thomas. No. 975,178; Nov. 8; Sp. p. 2497; Gaz. vol. 160; p. 404.
Pulp-treating machine. H. B. Baeter. No. 975,798; Nov. 15; Sp. p. 3811; Gaz. vol. 160; p. 641.
Pulverizer. G. J. Peterson. No. 976,831; Nov. 22; Sp. p. 6027; Gaz. vol. 160; p. 1018.
Pump. C. M. Smith. No. 974,837; Nov. 8; Sp. p. 1704; Gaz. vol. 160; p. 287.
Pump. C. A. Kaiser. No. 974,974; Nov 8; Sp. p. 2052; Gaz. vol. 160; p. 335.
Pump. M. Luoma. No. 976,479; Nov. 22; Sp. p. 5308; Gaz. vol. 160; p. 900.
Pump, Air-. J. J. McIntyre. No. 974,582; Nov. 1; Sp. p. 1162; Gaz. vol. 160; p. 176.
Pump, Air-. G. J. Spohrer. No. 975,478; Nov. 15; Sp. p. 3112; Gaz. vol. 160; p. 531.
Pump, Air-. W. A. Cook. No. 977,274; Nov. 29; Sp. p. 7045; Gaz. vol. 160; p. 1198.
Pump and compressor, Centrifugal. H. F. Benson. No. 974,345; Nov. 1; Sp. p. 610; Gaz. vol. 160; p. 91.
Pump-base. J. J. Divekey. No. 975,752; Nov. 15; Sp. p. 3712; Gaz. vol. 160; p. 626.
Pump, Centrifugal. G. E. Hanes and J. B. Waller. No. 975,232; Nov. 8; Sp. p. 2614; Gaz. vol. 160; p. 422.
Pump, Centrifugal. D. W. Blair. No. 976,340; Nov. 22; Sp. p. 5005; Gaz. vol. 160; p. 849.
Pump, Centrifugal. R. Salzer. No. 976,400; Nov. 22; Sp. p. 5145; Gaz. vol. 160; p. 873.
Pump, Centrifugal. F. W. Krogh. No. 977,101; Nov. 29; Sp. p. 6685; Gaz. vol. 160; p. 1138.
Pump, condenser, and compressor, Centrifugal. E. S. G. Rees. No. 975,997; Nov. 15; Sp. p. 4189; Gaz. vol. 160; p. 710.
Pump, Deep-well. J. Hahn. No. 976,071; Nov. 15; Sp. p. 4328; Gaz. vol. 160; p. 735.
Pump, Direct-acting. P. F. Oddie. No. 974,698; Nov. 1; Sp. p. 1407; Gaz. vol. 160; p. 218.
Pump driving-gear. J. W. Myer. No. 974,694; Nov. 1; Sp. p. 1398; Gaz. vol. 160; p. 217.
Pump for oil and like wells. C. W. Bell. No. 974,342; Nov. 1; Sp. p. 605; Gaz. vol. 160; p. 90.
Pump, Force-. F. H. Richards. No. 976,917; Nov. 29; Sp. p. 6241; Gaz. vol. 160; p. 1074.
Pump, Injector, or the like. G. J. O. D. Dikkers. No. 974,366; Nov. 1; Sp. p. 657; Gaz. vol. 160; p. 98.
Pump, Motor suction-. W. H. Keller. No. 975,532; Nov. 15; Sp. p. 3252; Gaz. vol. 160; p. 552.
Pump, Multiple-feed gear-. W. A. Frederick. No. 974,783; Nov. 8; Sp. p. 1601; Gaz. vol. 160; p. 269.
Pump-pipe insertor and -remover. W. L. Rhodes. No. 976,800; Nov. 22; Sp. p. 5563; Gaz. vol. 160; p. 941.
Pump, Power tire-. H. D. Waterhouse. No. 977,351; Nov. 29; Sp. p. 7203; Gaz. vol. 160; p. 1225.
Pump, Propeller turbine-. E. K. Hood. No. 975,526; Nov. 15; Sp. p. 3231; Gaz. vol. 160; p. 550.
Pump, Submerged double-acting. A. P. Morris. No. 975,781; Nov. 15; Sp. p. 3776; Gaz. vol. 160; p. 635.
Pump, Vacuum-. A. H. Squier. No. 977,338; Nov. 29; Sp. p. 7177; Gaz. vol. 160; p. 1220.
Pump, Windmill-. A. Randolph. No. 975,280; Nov. 8; Sp. p. 2712; Gaz. vol. 160; p. 439.
Pumping apparatus, Centrifugal. D. W. Jones and R. W. Koppe. No. 975,623; Nov. 15; Sp. p. 3436; Gaz. vol. 160; p. 583.
Pumping mechanism, Well-. W. T. Gray. No. 976,565; Nov. 22; Sp. p. 5493; Gaz. vol. 160; p. 929.
Punch and bolt-cutter. R. W. Weatherman. No. 975,006; Nov. 8; Sp. p. 2121; Gaz. vol. 160; p. 345.
Punch press, Multiple-. T. A. Banning, Jr. No. 977,362; Nov. 29; Sp. p. 7237; Gaz. vol. 160; p. 1229.
Punching and delivering tickets, Apparatus for. W. Clifford. No. 976,046; Nov. 15; Sp. p. 4284; Gaz. vol. 160; p. 726.
Punching-machine. C. F. Helmus. No. 976,877; Nov. 29; Sp. p. 6149; Gaz. vol. 160; p. 1060.
Purse or bill-folder. L. B. Weissbrod. No. 975,813; Nov. 15; Sp. p. 3836; Gaz. vol. 160; p. 646.
Puzzle. J. von Brethorst. No. 977,265; Nov. 29; Sp. p. 7029; Gaz. vol. 160; p. 1195.
Puzzle-lock. N. D. Gray. No. 976,165; Nov. 22; Sp. p. 4566; Gaz. vol. 160; p. 780.
Puzzle or toy. V. D. Dixon. No. 974,478; Nov. 1; Sp. p. 925; Gaz. vol. 160; p. 138.
Pyrophoric mass. C. A. von Welsbach. No. 976,760; Nov. 22; Sp. p. 5890; Gaz. vol. 160; p. 995.
Quartz-mill. J. W. Myer. No. 975,369; Nov. 8; Sp. p. 2894; Gaz. vol. 160; p. 468.
Quick coupling. W. H. Leonard. No. 974,501; Nov. 1; Sp. p. 979; Gaz. vol. 160; p. 145.
Rack: *See* Display-rack; Garment-rack; Hat and clothes rack; Wagon-rack; Wall-rack.
Radiation-calculator. P. F. Brown. No. 974,354; Nov. 1; Sp. p. 637; Gaz. vol. 160; p. 94.
Radiator. G. V. Candler. No. 976,147; Nov. 22; Sp. p. 4521; Gaz. vol. 160; p. 784.
Radiator. J. J. Lawler. No. 977,202; Nov. 29; Sp. p. 6916; Gaz. vol. 160; p. 1175.
Radiator, Electric. J. A. Tupper. No. 976,615; Nov. 22; Sp. p. 5595; Gaz. vol. 160; p. 946.
Radiator, Sheet-metal. R. E. Mosher. No. 976,203; Nov. 22; Sp. p. 4658; Gaz. vol. 160; p. 803.
Radiators, Adjustable ventilating connection for. L. A. Girvin. No. 977,088; Nov. 29; Sp. p. 6647; Gaz. vol. 160; p. 1133.
Rail bending and straightening device. F. Yoch. No. 975,192; Nov. 8; Sp. p. 2541; Gaz. vol. 160; p. 409.
Rail-bond. E. M. Weaver. No. 976,617; Nov. 22; Sp. p. 5598; Gaz. vol. 160; p. 947.
Rail-bond. C. R. Sturdevant. No. 976,947; Nov. 29; Sp. p. 6330; Gaz. vol. 160; p. 1085.
Rail-chair. F. Knobel and E. F. Asay. No. 975,536; Nov. 15; Sp. p. 3264; Gaz. vol. 160; p. 554.
Rail clamp, Guard-. M. Burpee. No. 975,395; Nov. 15; Sp. p. 2963; Gaz. vol. 160; p. 503.
Rail-fastener. C. B. Scott. No. 974,801; Nov. 1; Sp. p. 501; Gaz. vol. 160; p. 74.
Rail-fastener. E. H. Case and T. R. Barrall. No. 974,356; Nov. 1; Sp. p. 641; Gaz. vol. 160; p. 95.
Rail-fastener, Metallic. L. Leaf. No. 975,878; Nov. 15; Sp. p. 3969; Gaz. vol. 160; p. 668.
Rail-fastening. O. Payzant. No. 977,041; Nov. 29; Sp. p. 6547; Gaz. vol. 160; p. 1117.
Rail-joint. A. L. Casady. No. 974,951; Nov. 8; Sp. p. 1985; Gaz. vol. 160; p. 327.
Rail-joint. W. P. and S. G. Thomson. No. 975,376; Nov. 8; Sp. p. 2917; Gaz. vol. 160; p. 470.
Rail-joint. A. D. Shaeffer. No. 975,899; Nov. 15; Sp. p. 4012; Gaz. vol. 160; p. 676.
Rail-joint. C. G. Mack. No. 976,272; Nov. 22; Sp. p. 4857; Gaz. vol. 160; p. 828.
Rail-joint. H. A. Christy. No. 976,985; Nov. 29; Sp. p. 6435; Gaz. vol. 160; p. 1098.
Rail-joint. C. Lakosky. No. 977,020; Nov. 29; Sp. p. 6511; Gaz. vol. 160; p. 1110.
Rail-joint. O. Payzant. No. 977,040; Nov. 29; Sp. p. 6546; Gaz. vol. 160; p. 1117.
Rail-joint. G. W. Robbins. No. 977,045; Nov. 29; Sp. p. 6555; Gaz. vol. 160; p. 1119.
Rail-joint. A. Daly. No. 977,171; Nov. 29; Sp. p. 6848; Gaz. vol. 160; p. 1163.
Rail-joint and nut-lock, Combination. H. H. Cruise. No. 975,513; Nov. 15; Sp. p. 3201; Gaz. vol. 160; p. 545.
Rail-switch. T. R. Duncan. No. 976,560; Nov. 22; Sp. p. 5487; Gaz. vol. 160; p. 927.
Rail, Traction-. E. M. Boynton. No. 976,544; Nov. 22; Sp. p. 5453; Gaz. vol. 160; p. 921.
Rails and preventing the spreading thereof, Means for fastening. D. H. Martin, Jr. No. 976,816; Nov. 22; Sp. p. 5998; Gaz. vol. 160; p. 1013.
Rails for the attachment of rail-bonds, Device for preparing. W. G. Stuart. No. 974,931; Nov. 8; Sp. p. 1935; Gaz. vol. 160; p. 319.
Rails to ties, Machine for spiking. C. G. Smith. No. 976,513; Nov. 22; Sp. p. 5365; Gaz. vol. 160; p. 910.
Railway. C. B. Voynow and G. B. Taylor. No. 976,708; Nov. 22; Sp. p. 5766; Gaz. vol. 160; p. 976.
Railway block system. C. W. Spernader. No. 974,716; Nov. 1; Sp. p. 1448; Gaz. vol. 160; p. 223.
Railway-crossing. L. Alexander. No. 977,153; Nov. 29; Sp. p. 6804; Gaz. vol. 160; p. 1156.
Railway, Electric. R. P. Williams. No. 977,354; Nov. 29; Sp. p. 7208; Gaz. vol. 160; p. 1226.
Railway freight-transfer station. J. M. Barrett. No. 976,140; Nov. 22; Sp. p. 4508; Gaz. vol. 160; p. 781.
Railway-gate. W. E. Geddes. No. 977,001; Nov. 29; Sp. p. 6471; Gaz. vol. 160; p. 1104.
Railway pile-drivers, &c., Turn-table mechanism for. S. L. G. Knox. No. 975,048; Nov. 8; Sp. p. 2204; Gaz. vol. 160; p. 359.
Railway-rail. M. P. Murray. No. 975,271; Nov. 8; Sp. p. 2693; Gaz. vol. 160; p. 435.
Railway-rail anchor. G. N. Busby and W. S. Hukill. No. 975,747; Nov. 15; Sp. p. 3702; Gaz. vol. 160; p. 624.
Railway-rail fastener. J. M. Blake. No. 974,635; Nov. 1; Sp. p. 1274; Gaz. vol. 160; p. 195.
Railway-rail joint. S. Ferris. No. 976,860; Nov. 29; Sp. p. 6121; Gaz. vol. 160; p. 1054.
Railway-signal. J. J. Cozzens, C. F. Estwick, and G. S. Tiffany. No. 974,362; Nov. 1; Sp. p. 652; Gaz. vol. 160; p. 97.
Railway-signal. F. L. Dodgson. No. 974,864; Nov. 8; Sp. p. 1774; Gaz. vol. 160; p. 296.
Railway signaling system. J. A. Jones. No. 974,800; Nov. 8; Sp. p. 1633; Gaz. vol. 160; p. 274.
Railway-switch. W. F. Edwards. No. 975,517; Nov. 15; Sp. p. 3211; Gaz. vol. 160; p. 547.
Railway-switch. J. F. Yoho, D. O'Neil, and J. L. Kiester. No. 975,595; Nov. 15; Sp. p. 3376; Gaz. vol. 160; p. 573.
Railway-switch, Automatic. M. M. Fernandes. No. 974,560; Nov. 1; Sp. p. 1122; Gaz. vol. 160; p. 169.
Railway-switch electric-circuit controller. G. M. Thompson. No. 975,585; Nov. 15; Sp. p. 3361; Gaz. vol. 160; p. 570.
Railway-switch lock. C. P. Knox. No. 976,082; Nov. 15; Sp. p. 4350; Gaz. vol. 160; p. 739.
Railway-switch safety-lock. J. R. McKinnis. No. 977,116; Nov. 29; Sp. p. 6720; Gaz. vol. 160; p. 1144.
Railway switch-stand. A. L. Pipes. No. 976,210; Nov. 22; Sp. p. 4674; Gaz. vol. 160; p. 805.
Railway-switch structure. F. H. Ellis. No. 976,056; Nov. 15; Sp. p. 4303; Gaz. vol. 160; p. 730.

Railway system. P. Ziron. No. 975,103; Nov. 8; Sp. p. 2315; Gaz. vol. 160; p. 378.
Railway system. E. M. Boynton. No. 976,628; Nov. 22; Sp. p. 5617; Gaz. vol. 160; p. 950.
Railway-tie. J. M. Weisel. No. 974,728; Nov. 1; Sp. p. 1473; Gaz. vol. 160; p. 227.
Railway-tie. G. C. Green. No. 974,788; Nov. 8; Sp. p. 1610; Gaz. vol. 160; p. 270.
Railway-tie. E. L. Tschirch. No. 975,002; Nov. 8; Sp. p. 2114; Gaz. vol. 160; p. 344.
Railway-tie. J. J. O'Donnell. No. 976,683; Nov. 22; Sp. p. 5719; Gaz. vol. 160; p. 968.
Railway-tie and rail-clamp, Metallic. J. Galambos. No. 975,520; Nov. 15; Sp. p. 3217; Gaz. vol. 160; p. 548.
Railway-tie, Concrete. R. J. D. Cowan. No. 976,726; Nov. 22; Sp. p. 5803; Gaz. vol. 160; p. 983.
Railway-tie, Concrete-metal. L. R. Gifford. No. 975,855; Nov. 15; Sp. p. 3922; Gaz. vol. 160; p. 661.
Railway-tie, Metallic. W. D. Forsyth. No. 977,179; Nov. 29; Sp. p. 6865; Gaz. vol. 160; p. 1166.
Railway traction member. E. M. Boynton. No. 976,543; Nov. 22; Sp. p. 5451; Gaz. vol. 160; p. 921.
Railway weed-cutter. R. Whitty and E. Laas. No. 974,452; Nov. 1; Sp. p. 861; Gaz. vol. 160; p. 127.
Railways, Catenary overhead system for electric. W. A. McCallum. No. 974,982; Nov. 8; Sp. p. 2066; Gaz. vol. 160; p. 337.
Raisin-seeder. W. C. Anderson. No. 976,247; Nov. 22; Sp. p. 4798; Gaz. vol. 160; p. 820.
Rake: *See* Hand-rake; Hay-rake; Self-cleaning rake; Walking-rake.
Rake and hoe, Combined. A. A. Kohler. No. 975,254; Nov. 8; Sp. p. 2662; Gaz. vol. 160; p. 430.
Ram, Hydraulic. A. Abraham. No. 974,620; Nov. 1; Sp. p. 1236; Gaz. vol. 160; p. 190.
Ram, Hydraulic. J. R. Thompson. No. 974,724; Nov. 1; Sp. p. 1467; Gaz. vol. 160; p. 226.
Ram, Hydraulic. B. J. Carroll. No. 976,546; Nov. 22; Sp. p. 5455; Gaz. vol. 160; p. 922.
Rat-trap. W. S. Ward. No. 977,240; Nov. 29; Sp. p. 6986; Gaz. vol. 160; p. 1187.
Ratchet-drill. F. E. Farley. No. 977,176; Nov. 29; Sp. p. 6859; Gaz. vol. 160; p. 1165.
Ratchet-drill, Chain breast. S. McClellan. No. 976,181; Nov. 15; Sp. p. 4482; Gaz. vol. 160; p. 756.
Razor-blade holder. F. C. Gorham. No. 975,762; Nov. 15; Sp. p. 3736; Gaz. vol. 160; p. 629.
Razor guard, Safety-. M. Monetti. No. 974,906; Nov. 8; Sp. p. 1875; Gaz. vol. 160; p. 310.
Razor, Safety-. H. Clauss. No. 974,473; Nov. 1; Sp. p. 914; Gaz. vol. 160; p. 135.
Razor, Safety-. L. Knaster. No. 975,535; Nov. 15; Sp. p. 3263; Gaz. vol. 160; p. 554.
Razor, Safety-. O. Kampfe. No. 977,314; Nov. 29; Sp. p. 7118; Gaz. vol. 160; p. 1211.
Razor-strop. E. Hunold. No. 977,311; Nov. 29; Sp. p. 7114; Gaz. vol. 160; p. 1210.
Razor-stropping device. W. H. Shattuck. No. 975,801; Nov. 15; Sp. p. 3815; Gaz. vol. 160; p. 642.
Razors, Safety-shield and self-sharpener for. C. A. Harris. No. 976,259; Nov. 22; Sp. p. 4828; Gaz. vol. 160; p. 824.
Reamer, Adjustable. W. H. Pugh and J. A. Etsold. No. 976,212; Nov. 22; Sp. p. 4677; Gaz. vol. 160; p. 806.
Receiving apparatus. H. Shoemaker. No. 974,927; Nov. 8; Sp. p. 1925; Gaz. vol. 160; p. 318.
Receiving apparatus. F. W. Midgley. No. 974,985; Nov. 8; Sp. p. 2071; Gaz. vol. 160; p. 338.
Receiving apparatus. F. W. Midgley. No. 974,986; Nov. 8; Sp. p. 2073; Gaz. vol. 160; p. 338.
Receptacle. A. H. F. Perl. No. 974,593; Nov. 1; Sp. p. 1182; Gaz. vol. 160; p. 180.
Receptacle. P. G. Seward. No. 975,898; Nov. 15; Sp. p. 4010; Gaz. vol. 160; p. 676.
Receptacle. C. W. Johnson. No. 975,958; Nov. 15; Sp. p. 4124; Gaz. vol. 160; p. 697.
Receptacle washer and polisher. J. N. Graves. No. 977,385; Nov. 29; Sp. p. 7283; Gaz. vol. 160; p. 1237.
Recorder: *See* Time-recorder.
Recording device. W. H. Pratt. No. 974,183; Nov. 1; Sp. p. 166; Gaz. vol. 160; p. 29.
Recording or registering messages, memoranda, &c., Device for. J. A. Gamble. No. 976,062; Nov. 15; Sp. p. 4311; Gaz. vol. 160; p. 731.
Reel: *See* Clothes-line reel; Drying-reel; Eyeglass-reel; Fishing-reel; Hose-reel; Surveyor's reel; Winding-machine reel.
Reflector. J. C. Culligan. No. 975,215; Nov. 8; Sp. p. 2587; Gaz. vol. 160; p. 417.
Reflector for store-windows and the like. T. Gaggs. No. 974,374; Nov. 1; Sp. p. 671; Gaz. vol. 160; p. 101.
Reflector, Lamp-. H. Zirwas. No. 975,669; Nov. 15; Sp. p. 3562; Gaz. vol. 160; p. 599.
Refractory material, Manufacturing. G. C., G. E., and A. W. Fludder. No. 976,996; Nov. 29; Sp. p. 6460; Gaz. vol. 160; p. 1102.
Refrigerating-car. L. H. Lister. No. 977,412; Nov. 29; Sp. p. 7367; Gaz. vol. 160; p. 1245.
Refrigerator. L. Allen. No. 974,734; Nov. 1; Sp. p. 1480; Gaz. vol. 160; p. 228.
Refrigerator. W. W. Dunbar. No. 976,446; Nov. 22; Sp. p. 5240; Gaz. vol. 160; p. 889.
Refrigerator. F. C. Schmidt. No. 977,332; Nov. 29; Sp. p. 7152; Gaz. vol. 160; p. 1218.
Refrigerator or cold-storage apparatus. W. S. Barker. No. 976,619; Nov. 22; Sp. p. 5602; Gaz. vol. 160; p. 947.
Refrigerator, Window cold-air. W. M. Howland. No. 975,954; Nov. 15; Sp. p. 4116; Gaz. vol. 160; p. 695.
Refuse-destructors, Means for charging. H. N. Least. No. 974,680; Nov. 1; Sp. p. 1362; Gaz. vol. 160; p. 212.
Register: *See* Cash-register; Cash and autographic register; Fare-register.
Registering apparatus. H. Hollerith. No. 974,272; Nov. 1; Sp. p. 431; Gaz. vol. 160; p. 64.
Registering-machine driving device. C. F. Kettering. No. 976,577; Nov. 22; Sp. p. 5521; Gaz. vol. 160; p. 933.
Registering mechanism. A. J. Diescher. No. 974,756; Nov. 1; Sp. p. 1536; Gaz. vol. 160; p. 236.
Regulator: *See* Air-regulator; Clock-regulator; Feed-regulator; Gas-regulator; Valve-regulator; Water-level regulator.
Reinforcing-frames, Fitting for. G. M. Graham. No. 976,869; Nov. 29; Sp. p. 6134; Gaz. vol. 160; p. 1057.
Relay. R. H. Manson. No. 977,114; Nov. 29; Sp. p. 6713; Gaz. vol. 160; p. 1143.
Relay, Electrical. F. Ritchie. No. 976,216; Nov. 22; Sp. p. 4689; Gaz. vol. 160; p. 807.
Removable nail. V. C. de Ybarrondo. No. 975,310; Nov. 8; Sp. p. 2784; Gaz. vol. 160; p. 450.
Repair-gland. O. K. Negley. No. 976,204; Nov. 22; Sp. p. 4660; Gaz. vol. 160; p. 803.
Reraller. T. W. J. McGann. No. 976,137; Nov. 15; Sp. p. 4494; Gaz. vol. 160; p. 758.
Resilient connection. J. E. Webster. (Reissue.) No. 13,165; Nov. 8; Sp. p. 2945; Gaz. vol. 160; p. 475.
Resilient wheel. H. E. Moebus. No. 976,591; Nov. 22; Sp. p. 5552; Gaz. vol. 160; p. 938.
Resilient wheel. L. F. Delaney. No. 976,989; Nov. 29; Sp. p. 6439; Gaz. vol. 160; p. 1099.
Retard device. F. J. W. Weiser. No. 976,965; Nov. 29; Sp. p. 6393; Gaz. vol. 160; p. 1092.
Retting process by pectic aerobic microbes in a gas-current, Industrial microbiological vegetal. G. Rossi. No. 977,133; Nov. 29; Sp. p. 6758; Gaz. vol. 160; p. 1150.
Reversing mechanism. A. R. Murray. No. 975,982; Nov. 15; Sp. p. 4163; Gaz. vol. 160; p. 704.
Reversing mechanism, Fluid-operated rotary-movement-. G. A. Fowler; No. 976,998; Nov. 29; Sp. p. 6462; Gaz. vol. 160; p. 1103.
Revolver. A. Fyrberg. No. 975,685; Nov. 15; Sp. p. 3583; Gaz. vol. 160; p. 603.
Rim, Demountable. E. J. Estey. No. 974,251; Nov. 1; Sp. p. 378; Gaz. vol. 160; p. 55.
Ring: *See* Key-ring.
Riprapping system. J. M. Maher. No. 975,551; Nov. 15; Sp. p. 3292; Gaz. vol. 160; p. 558.
Rivet-drilling machine. A. Gerrard. No. 976,453; Nov. 22; Sp. p. 5252; Gaz. vol. 160; p. 891.
Riveting-machine. F. Thompson. No. 977,344; Nov. 29; Sp. p. 7187; Gaz. vol. 160; p. 1222.
Road-machine. M. M. Sickler. No. 975,295; Nov. 8; Sp. p. 2742; Gaz. vol. 160; p. 444.
Road-machine. W. K. Stebbins. No. 975,580; Nov. 15; Sp. p. 3352; Gaz. vol. 160; p. 569.
Road-machine. H. B. and H. C. Moulthrop. No. 975,783; Nov. 15; Sp. p. 3780; Gaz. vol. 160; p. 636.
Road-roller. M. J. Todd. No. 976,012; Nov. 15; Sp. p. 4221; Gaz. vol. 160; p. 715.
Roaster: *See* Peanut-roaster.
Robe, Automobile-. J. P. Gordon. No. 976,866; Nov. 29; Sp. p. 6130; Gaz. vol. 160; p. 1056.
Rock-drill. S. W. Brothers. No. 976,981; Nov. 29; Sp. p. 6425; Gaz. vol. 160; p. 1097.
Rocket, Gyroscopic. N. Gherassimoff. No. 976,782; Nov. 22; Sp. p. 5813; Gaz. vol. 160; p. 985.
Rod: *See* Curtain-rod; Lightning-rod.
Rod-clamp, Self-locking. J. Schramm. No. 975,292; Nov. 8; Sp. p. 2733; Gaz. vol. 160; p. 443.
Roller: *See* Farm-roller; Land-roller; Metal roller.
Roller-mills, Pressure-regulating device for. D. F. Bowen. No. 974,349; Nov. 1; Sp. p. 616; Gaz. vol. 160; p. 93.
Rolling black plates or sheets. W. H. Donner. (Reissue.) No. 13,173; Nov. 22; Sp. p. 6045; Gaz. vol. 160; p. 1021.
Rolling-mill. J. Fawell. No. 974,559; Nov. 1; Sp. p. 1119; Gaz. vol. 160; p. 169.
Roof-climber. T. A. Wilkerson. No. 974,941; Nov. 8; Sp. p. 1961; Gaz. vol. 160; p. 323.
Rope and chain clamp. J. S. Sourek. No. 976,940; Nov. 29; Sp. p. 6317; Gaz. vol. 160; p. 1082.
Rope, chain, or wire stretcher. J. S. Sourek. No. 976,941; Nov. 29; Sp. p. 6319; Gaz. vol. 160; p. 1083.
Rotary engine. M. L. Harris. No. 974,485; Nov. 1; Sp. p. 948; Gaz. vol. 160; p. 140.
Rotary engine. A. Renik. No. 975,637; Nov. 15; Sp. p. 3469; Gaz. vol. 160; p. 588.
Rotary engine. G. B. Seitz. No. 975,643; Nov. 15; Sp. p. 3481; Gaz. vol. 160; p. 590.
Rotary engine. L. O. Gilliland. No. 976,355; Nov. 22; Sp. p. 5037; Gaz. vol. 160; p. 855.
Rotary engine. C. A. Bender. No. 976,539; Nov. 22; Sp. p. 5442; Gaz. vol. 160; p. 919.
Rotary engine. J. Putman. No. 976,913; Nov. 29; Sp. p. 6233; Gaz. vol. 160; p. 1072.
Rotary engine. H. A. Massey. No. 977,027; Nov. 29; Sp. p. 6523; Gaz. vol. 160; p. 1113.
Rotary motor. C. De Lukacsevics. No. 974,803; Nov. 8; Sp. p. 1639; Gaz. vol. 160; p. 275.
Rotary motor. L. Stempfer. No. 976,006; Nov. 15; Sp. p. 4209; Gaz. vol. 160; p. 713.

Rotary turbine-engine. J. Blaeker. No. 974,634; Nov. 1; Sp. p. 1271; Gaz. vol. 160; p. 195.
Rubber boot and shoe vulcanizing apparatus. P. J. Wren and F. T. Comee. No. 975,309; Nov. 8; Sp. p. 2782; Gaz. vol. 160; p. 450.
Rugs during finishing, &c., Holder for. A. C. Schoen. No. 974,527; Nov. 1; Sp. p. 1039; Gaz. vol. 160; p. 155.
Ruling device, Line-. E. Pickwick, Jr. No. 976,687; Nov. 22; Sp. p. 5724; Gaz. vol. 160; p. 969.
Rural-route boxes, Coin and letter holder for. W. E. Ayers. No. 976,335; Nov. 22; Sp. p. 4978; Gaz. vol. 160; p. 848.
Rust-cleaner. C. R. Cannon. No. 976,342; Nov. 22; Sp. p. 5009; Gaz. vol. 160; p. 850.
Sad-iron, Electrical. W. A. Braun. No. 974,232; Nov. 1; Sp. p. 337; Gaz. vol. 160; p. 48.
Sad-iron heater. W. H. Van Horn. No. 976,952; Nov. 29; Sp. p. 6349; Gaz. vol. 160; p. 1087.
Saddle-support. E. H. Pinkham. No. 975,791; Nov. 15; Sp. p. 3793; Gaz. vol. 160; p. 639.
Safety-lock. N. Reinehr. No. 975,717; Nov. 15; Sp. p. 3642; Gaz. vol. 160; p. 613.
Salt and pepper shaker. M. F. Pane. No. 975,451; Nov. 15; Sp. p. 3062; Gaz. vol. 160; p. 523.
Sample-case. J. Glossinger. No. 974,374; Nov. 8; Sp. p. 1805; Gaz. vol. 160; p. 299.
Sample-holder. A. Schuch and G. H. Tegmeier. No. 975,293; Nov. 8; Sp. p. 2735; Gaz. vol. 160; p. 443.
Sand-blast apparatus. W. P. Mott. No. 975,782; Nov. 15; Sp. p. 3778; Gaz. vol. 160; p. 636.
Sand-blasting, Shield for hollow articles in. L. Bucsko. No. 977,268; Nov. 29; Sp. p. 7037; Gaz. vol. 160; p. 1197.
Sand-wheel. G. H. Davidson. No. 975,331; Nov. 8; Sp. p. 2820; Gaz. vol. 160; p. 456.
Sander or polishing machine. H. W. Seliner. No. 976,166; Nov. 8; Sp. p. 2468; Gaz. vol. 160; p. 400.
Sandal, Antislipping. H. C. Ashbaugh. No. 975,370; Nov. 8; Sp. p. 2925; Gaz. vol. 160; p. 472.
Sash-cord fastener. A. M. Woerner. No. 977,247; Nov. 29; Sp. p. 6997; Gaz. vol. 160; p. 1190.
Sash-fastener. J. A. Knasinski. No. 975,961; Nov. 15; Sp. p. 4123; Gaz. vol. 160; p. 698.
Sash-fastening device. J. Jaksick. No. 974,570; Nov. 1; Sp. p. 1142; Gaz. vol. 160; p. 172.
Sash holder and lock. K. Narahara. No. 974,696; Nov. 1; Sp. p. 1405; Gaz. vol. 160; p. 217.
Sash-lock, Burglar-alarm. M. Wheeler. No. 975,186; Nov. 8; Sp. p. 2518; Gaz. vol. 160; p. 407.
Sash-lock, Gravity. E. N. Brown. No. 976,777; Nov. 22; Sp. p. 5932; Gaz. vol. 160; p. 1001.
Sash, Metallic window-. A. W. Merritt. No. 976,198; Nov. 22; Sp. p. 4651; Gaz. vol. 160; p. 801.
Sash screen attachment, Window-. E. J. Beck and A. Kehlstrom. No. 975,496; Nov. 15; Sp. p. 3158; Gaz. vol. 160; p. 539.
Sash, Window-. J. J. Richardson. No. 975,719; Nov. 15; Sp. p. 3644; Gaz. vol. 160; p. 614.
Sash, Window-. E. M. Matthews. No. 977,415; Nov. 29; Sp. p. 7374; Gaz. vol. 160; p. 1246.
Sausage, Making fish. M. F. Hahn. No. 974,660; Nov. 1; Sp. p. 1324; Gaz. vol. 160; p. 205.
Saw attachment. C. W. Newton. No. 976,902; Nov. 29; Sp. p. 6205; Gaz. vol. 160; p. 1068.
Saw, Drag-. M. L. Maxwell. No. 977,028; Nov. 29; Sp. p. 6524; Gaz. vol. 160; p. 1114.
Saw filer and set. C. Miller. No. 976,001; Nov. 15; Sp. p. 4372; Gaz. vol. 160; p. 743.
Saw-jointer. A. Stecker. No. 977,233; Nov. 29; Sp. p. 6966; Gaz. vol. 160; p. 1184.
Saw machine, Drag-. F. A. McKee and F. R. Horel. No. 974,168; Nov. 1; Sp. p. 122; Gaz. vol. 160; p. 24.
Saw-table and feeding apparatus. M. M. Maine. No. 975,970; Nov. 15; Sp. p. 4146; Gaz. vol. 160; p. 701.
Saw-tool. W. Wakley. No. 976,950; Nov. 29; Sp. p. 6360; Gaz. vol. 160; p. 1088.
Saw trimmer, Rotary-. F. W. Albrecht. No. 977,256; Nov. 29; Sp. p. 7014; Gaz. vol. 160; p. 1192.
Sawing circles, Machine for. P. L. Morgan and W. M. Brockenbrough. No. 974,172; Nov. 1; Sp. p. 138; Gaz. vol. 160; p. 25.
Sawing-machine. J. H. Irwin. No. 974,971; Nov. 8; Sp. p. 2042; Gaz. vol. 160; p. 334.
Sawing-machine. H. Hastings. No. 976,075; Nov. 15; Sp. p. 4335; Gaz. vol. 160; p. 736.
Scaffold-bracket. J. C. Snyder. No. 974,609; Nov. 1; Sp. p. 1208; Gaz. vol. 160; p. 186.
Scaffold, Portable. A. H. McGhan. No. 974,686; Nov. 1; Sp. p. 1378; Gaz. vol. 160; p. 214.
Scaffold, Portable folding window-. J. Volk. No. 976,233; Nov. 22; Sp. p. 4745; Gaz. vol. 160; p. 814.
Scale, Computing weighing-. L. R. Meyer and R. J. Young. No. 976,275; Nov. 22; Sp. p. 4862; Gaz. vol. 160; p. 830.
Scale, Wagon-. A. W. Fairchild. No. 976,351; Nov. 22; Sp. p. 5028; Gaz. vol. 160; p. 854.
Scenic curtain. F. Faunt Le Roy. No. 975,773; Nov. 15; Sp. p. 3758; Gaz. vol. 160; p. 633.
School-seat. W. B. Cogger. No. 975,019; Nov. 8; Sp. p. 2140; Gaz. vol. 160; p. 349.
Scoring-machine attachment. A. T. Meyer. No. 976,388; Nov. 22; Sp. p. 5110; Gaz. vol. 160; p. 867.
Scrapers and fender, Combined. D. B. Buttrill. No. 975,930; Nov. 15; Sp. p. 4070; Gaz. vol. 160; p. 686.
Scraper-bucket. H. L. Glase. No. 976,163; Nov. 22; Sp. p. 4562; Gaz. vol. 160; p. 789.
Scraper for disk openers. E. R. Beeman. No. 975,490; Nov. 15; Sp. p. 3168; Gaz. vol. 160; p. 540.
Scraper-shaping device. W. B. Cambron. No. 976,630; Nov. 22; Sp. p. 5628; Gaz. vol. 160; p. 951.
Scraper, Wheel-. J. B. McClellan. No. 975,974; Nov. 15; Sp. p. 4153; Gaz. vol. 160; p. 702.
Scrapers, Holding device for resetting. J. B. Cathy. No. 974,644; Nov. 1; Sp. p. 1289; Gaz. vol. 160; p. 199.
Screen: *See* Automobile-screen; Clay and sand screen; Color-screen; Ore-screen; Polychome screen; Pulp-screen; Well-screen; Window-screen; Window and door screen.
Screen. J. B. Hoagland. No. 974,380; Nov. 1; Sp. p. 683; Gaz. vol. 160; p. 103.
Screen. D. Lewis. No. 975,441; Nov. 15; Sp. p. 3042; Gaz. vol. 160; p. 520.
Screen. C. D. Shrady. No. 975,470; Nov. 15; Sp. p. 3106; Gaz. vol. 160; p. 531.
Screw. P. L. Robertson. No. 975,285; Nov. 8; Sp. p. 2720; Gaz. vol. 160; p. 440.
Screw-head shaping and slotting device. G. T. Warwick. No. 976,758; Nov. 22; Sp. p. 5887; Gaz. vol. 160; p. 994.
Scuttle. G. A. Nelson. No. 975,983; Nov. 15; Sp. p. 4165; Gaz. vol. 160; p. 705.
Seal. F. Egge. No. 976,349; Nov. 22; Sp. p. 5025; Gaz. vol. 160; p. 853.
Seal for boxes. S. Whitehall. No. 974,940; Nov. 8; Sp. p. 1960; Gaz. vol. 160; p. 323.
Seal, Jar-. C. R. Keeran. No. 976,659; Nov. 22; Sp. p. 5687; Gaz. vol. 160; p. 962.
Seals to packing-cases, Means for attaching. S. Stroh. No. 977,342; Nov. 29; Sp. p. 7183; Gaz. vol. 160; p. 1221.
Sealing caps, Merchantable package of jar-. H. A. Spiller. No. 976,516; Nov. 22; Sp. p. 5373; Gaz. vol. 160; p. 911.
Sealing machine, Carton-. W. A. Joplin. No. 977,007; Nov. 29; Sp. p. 6672; Gaz. vol. 160; p. 1136.
Sealing machines, Conveyer for carton-. H. L. Johnson. No. 976,264; Nov. 22; Sp. p. 4835; Gaz. vol. 160; p. 826.
Sealing-tool. A. E. Groom, D. S. McFall, and W. J. Noah. No. 975,857; Nov. 15; Sp. p. 3924; Gaz. vol. 160; p. 662.
Seaming can-heads to can-bodies. J. Holland and K. J. Halleland. No. 976,739; Nov. 22; Sp. p. 5826; Gaz. vol. 160; p. 987.
Seaming machine, Double-. F. Rudolphi. No. 975,574; Nov. 15; Sp. p. 3341; Gaz. vol. 160; p. 567.
Seat: *See* Bicycle-seat; Chair-seat; Chair and the like seat; Folding seat; School-seat; Spring-seat.
Seat-cover, Sanitary. C. L. Dreher. No. 974,865; Nov. 8; Sp. p. 1775; Gaz. vol. 160; p. 296.
Secondary battery. W. Morrison. (Reissue.) No. 13,174; Nov. 22; Sp. p. 6047; Gaz. vol. 160; p. 1023.
Seed delinter, Cotton-. P. F. King. No. 974,574; Nov. 1; Sp. p. 1147; Gaz. vol. 160; p. 173.
Seeds to separate unripe from ripe seeds, Treating cacao-. M. F. Klissmodel. No. 974,303; Nov. 1; Sp. p. 704; Gaz. vol. 160; p. 107.
Self-cleaning rake. A. S. Hess. No. 974,268; Nov. 1; Sp. p. 422; Gaz. vol. 160; p. 63.
Self-heating iron. J. Heilbron. No. 974,665; Nov. 1; Sp. p. 1331; Gaz. vol. 160; p. 207.
Self-locking bolt. W. Pansch and O. G. Bark. No. 976,096; Nov. 15; Sp. p. 4395; Gaz. vol. 160; p. 745.
Separator: *See* Butter-separator; Grain-separator; Placer-separator; Pneumatic separator; Spiral separator; Turpentine-separator.
Separator feed apparatus, Spiral-. F. Pardee. No. 977,038; Nov. 29; Sp. p. 6543; Gaz. vol. 160; p. 1117.
Separator plate, Spiral-. F. Pardee. No. 977,033; Nov. 29; Sp. p. 6532; Gaz. vol. 160; p. 1115.
Separator plate, Spiral-. F. Pardee. No. 977,034; Nov. 29; Sp. p. 6534; Gaz. vol. 160; p. 1115.
Separator plate, Spiral-. F. Pardee. No. 977,035; Nov. 29; Sp. p. 6536; Gaz. vol. 160; p. 1116.
Separators, Retarder for materials in spiral. F. Pardee. No. 977,036; Nov. 29; Sp. p. 6537; Gaz. vol. 160; p. 1116.
Service-meter system. G. A. Joy. No. 976,184; Nov. 22; Sp. p. 4622; Gaz. vol. 160; p. 796.
Setting. C. Dean. No. 974,862; Nov. 8; Sp. p. 1771; Gaz. vol. 160; p. 295.
Sewer connection. W. E. McCorquodale. No. 974,752; Nov. 1; Sp. p. 1527; Gaz. vol. 160; p. 234.
Sewing-machine. W. Pepperling. No. 975,155; Nov. 8; Sp. p. 2435; Gaz. vol. 160; p. 395.
Sewing-machine. M. G. and A. Rosenthal. No. 976,309; Nov. 22; Sp. p. 5141; Gaz. vol. 160; p. 872.
Sewing-machine attachment. J. O. Ostman. No. 975,989; Nov. 15; Sp. p. 4175; Gaz. vol. 160; p. 707.
Sewing-machine binding mechanism. J. P. Weis and W. C. Robbins. No. 976,964; Nov. 29; Sp. p. 6387; Gaz. vol. 160; p. 1091.
Sewing-machine, Blindstitch. H. H. and J. E. Fefel. No. 976,256; Nov. 22; Sp. p. 4815; Gaz. vol. 160; p. 823.
Sewing-machine buttonhole-stitching attachment. E. J. Boyler. No. 976,481; Nov. 22; Sp. p. 5204; Gaz. vol. 160; p. 884.
Sewing machine, Hook-and-eye-. W. A. Courtland. No. 974,753; Nov. 1; Sp. p. 1528; Gaz. vol. 160; p. 234.
Sewing machine, Shoe-. A. B. Fowler. No. 976,450; Nov. 22; Sp. p. 5245; Gaz. vol. 160; p. 890.
Sewing-machine table. T. Kundtz and A. Schuster. No. 975,050; Nov. 8; Sp. p. 2208; Gaz. vol. 160; p. 360.

Sewing-machine trimming mechanism. E. G. Woodward. No. 976,023; Nov. 15; Sp. p. 4239; Gaz. vol. 160; p. 719.
Sewing-machine, Two-thread overedge. G. Niedermayr. No. 974,910; Nov. 8; Sp. p. 1870; Gaz. vol. 160; p. 311.
Sewing-machine, Wax-thread. C. Pedersen. No. 976,746; Nov. 22; Sp. p. 5841; Gaz. vol. 160; p. 989.
Shackle. A. Thomson. No. 976,316; Nov. 22; Sp. p. 4944; Gaz. vol. 160; p. 843.
Shade attachment, Window-. E. S. Taylor. No. 976,707; Nov. 22; Sp. p. 5764; Gaz. vol. 160; p. 976.
Shade-holder. E. E. Hayward. No. 974,568; Nov. 1; Sp. p. 1139; Gaz. vol. 160; p. 171.
Shade holder and swinging curtain-pole, Combination window-. A. Rotzel and M. Imbt. No. 974,710; Nov. 1; Sp. p. 1439; Gaz. vol. 160; p. 222.
Shade-making machine, Window-. B. W. Tucker. No. 976,949; Nov. 29; Sp. p. 6335; Gaz. vol. 160; p. 1085.
Shade-roller bracket. A. Rothfuchs and C. Eck. No. 974,436; Nov. 1; Sp. p. 810; Gaz. vol. 160; p. 122.
Shades on rollers, Machine for fastening. L. B. Girard. No. 976,356; Nov. 22; Sp. p. 5040; Gaz. vol. 160; p. 856.
Shaft attachment. J. F. Davis. No. 975,332; Nov. 8; Sp. p. 2822; Gaz. vol. 160; p. 456.
Shaft connection, Elastic. F. Tyson. No. 976,232; Nov. 22; Sp. p. 4742; Gaz. vol. 160; p. 814.
Shaft-hanger. C. W. Levalley. No. 974,502; Nov. 1; Sp. p. 980; Gaz. vol. 160; p. 146.
Shafts, Device for coupling two transmission-. A. C. Krebs. No. 976,187; Nov. 22; Sp. p. 4631; Gaz. vol. 160; p. 797.
Shaker. E. K. Hood. No. 974,968; Nov. 8; Sp. p. 2038; Gaz. vol. 160; p. 333.
Shaking-grizzly. C. H. Gunn. No. 975,418; Nov. 15; Sp. p. 2991; Gaz. vol. 160; p. 509.
Shaping-machine. T. J. Gilliam. No. 975,946; Nov. 15; Sp. p. 4102; Gaz. vol. 160; p. 692.
Sharpener, Tool-. A. Muehlmatt. No. 974,007; Nov. 8; Sp. p. 1876; Gaz. vol. 160; p. 310.
Sharpening device for lawn-mowers. P. D. Barber and F. B. McQueen. No. 977,363; Nov. 29; Sp. p. 7245; Gaz. vol. 160; p. 1220.
Sharpening device, Razor-. A. De Vivo. No. 977,172; Nov. 29; Sp. p. 6850; Gaz. vol. 160; p. 1163.
Sharpening gravers or other tools, Holder for. M. J. Collins. No. 975,329; Nov. 8; Sp. p. 2817; Gaz. vol. 160; p. 456.
Sharpening machine, Razor-. W. F. Rundel. No. 976,927; Nov. 29; Sp. p. 6278; Gaz. vol. 160; p. 1077.
Shears: *See* Animal-shears; Comb-shears.
Shears. F. D. Davies. No. 975,515; Nov. 15; Sp. p. 3206; Gaz. vol. 160; p. 546.
Shears. J. W. Chauncey. No. 976,121; Nov. 15; Sp. p. 4439; Gaz. vol. 160; p. 752.
Shears and scissors. F. Meissner. No. 975,059; Nov. 8; Sp. p. 2227; Gaz. vol. 160; p. 363.
Shears for cutting iron. J. Bilcsik. No. 975,112; Nov. 8; Sp. p. 2349; Gaz. vol. 160; p. 382.
Sheave, Safety-. W. D. Lockwood. No. 975,052; Nov. 8; Sp. p. 2217; Gaz. vol. 160; p. 360.
Sheet-feeding apparatus. A. B. Dick. No. 977,283; Nov. 29; Sp. p. 7062; Gaz. vol. 160; p. 1201.
Sheet-feeding device. P. Hartmann. No. 974,767; Nov. 1; Sp. p. 1558; Gaz. vol. 160; p. 240.
Sheet-feeding machine. R. E. and A. Kemper. No. 976,252; Nov. 8; Sp. p. 2658; Gaz. vol. 160; p. 420.
Sheet-feeding mechanism. A. B. Cowles. No. 976,640; Nov. 22; Sp. p. 5645; Gaz. vol. 160; p. 954.
Sheet-metal beading and flanging machine. W. A. Sylvester. No. 974,204; Nov. 1; Sp. p. 231; Gaz. vol. 160; p. 37.
Sheet-metal blanks, Machine for shearing. W. A. Sylvester. No. 976,767; Nov. 22; Sp. p. 5886; Gaz. vol. 160; p. 994.
Sheet-metal cap. C. H. Werner. No. 975,914; Nov. 15; Sp. p. 4048; Gaz. vol. 160; p. 682.
Sheet-metal pipe. H. Birnbaum. No. 976,029; Nov. 15; Sp. p. 4248; Gaz. vol. 160; p. 720.
Sheet-metal tubes, Machine for making. F. C. Wheeler. No. 977,150; Nov. 29; Sp. p. 6799; Gaz. vol. 160; p. 1155.
Shelf, Corner-. T. W. Hollander. No. 975,619; Nov. 15; Sp. p. 3426; Gaz. vol. 160; p. 581.
Shell-extractor. J. H. Wheeler and W. D. Allen. No. 976,325; Nov. 22; Sp. p. 4959; Gaz. vol. 160; p. 845.
Shellac from stick-lac or the like, Obtaining pure. G. J. Fowler. No. 975,224; Nov. 8; Sp. p. 2601; Gaz. vol. 160; p. 420.
Shelving. P. A. Lorenz. No. 975,053; Nov. 8; Sp. p. 2213; Gaz. vol. 160; p. 361.
Shingle, Roofing or siding. A. D. Bierman. No. 974,461; Nov. 1; Sp. p. 889; Gaz. vol. 160; p. 131.
Ship or vessel. C. J. F. M. Lilliehöök. No. 975,699; Nov. 15; Sp. p. 3604; Gaz. vol. 160; p. 608.
Shirt-sleeve. L. L. Moore. No. 974,692; Nov. 1; Sp. p. 1391; Gaz. vol. 160; p. 216.
Shock-absorber. C. F. Rodin. No. 974,709; Nov. 1; Sp. p. 1437; Gaz. vol. 160; p. 221.
Shock-absorber. W. A. Johnson. No. 975,249; Nov. 8; Sp. p. 2653; Gaz. vol. 160; p. 428.
Shoe-cleaner. C. K. Haw and J. K. Southee. No. 977,091; Nov. 29; Sp. p. 6661; Gaz. vol. 160; p. 1134.
Shoe-creasing machine. S. F. Van Pelt. No. 974,214; Nov. 1; Sp. p. 251; Gaz. vol. 160; p. 41.
Shoe for walking on water. L. Risso. No. 974,520; Nov. 1; Sp. p. 1027; Gaz. vol. 160; p. 153.
Shoe-machine jack. E. A. Stiggins. No. 974,202; Nov. 1; Sp. p. 218; Gaz. vol. 160; p. 36.
Shoe-polishing foot-rest. R. Young. No. 974,847; Nov. 8; Sp. p. 1736; Gaz. vol. 160; p. 290.
Shoe-polishing machine. L. I. Minato. No. 974,585; Nov. 1; Sp. p. 1169; Gaz. vol. 160; p. 177.
Shoe-supporting jack. L. G. Freeman. No. 977,180; Nov. 20; Sp. p. 6868; Gaz. vol. 160; p. 1166.
Shoe-tree. I. W. Litchfield. No. 976,194; Nov. 22; Sp. p. 4645; Gaz. vol. 160; p. 799.
Shoes, Corset for. S. Azzara. No. 975,820; Nov. 15; Sp. p. 3847; Gaz. vol. 160; p. 648.
Shoring. J. R. Wemlinger. No. 975,665; Nov. 15; Sp. p. 3554; Gaz. vol. 160; p. 598.
Shovel: *See* Cultivator-shovel.
Show-window or store-front. D. J. Murnane. No. 975,150; Nov. 8; Sp. p. 2425; Gaz. vol. 160; p. 394.
Shutter clamping device. W. Kyler. No. 975,538; Nov. 15; Sp. p. 3268; Gaz. vol. 160; p. 555.
Shuttle. W. G. Peet. No. 974,291; Nov. 1; Sp. p. 483; Gaz. vol. 160; p. 70.
Shuttle attachment, Hand-threading-. N. Caron. No. 976,632; Nov. 22; Sp. p. 5630; Gaz. vol. 160; p. 952.
Shuttle tension device. J. E. Thayer. No. 974,309; Nov. 1; Sp. p. 521; Gaz. vol. 160; p. 77.
Shuttle tension device. J. L. Dow. No. 974,757; Nov. 1; Sp. p. 1537; Gaz. vol. 160; p. 236.
Side frame. A. H. Weston. No. 975,093; Nov. 8; Sp. p. 2291; Gaz. vol. 160; p. 375.
Siding, Making. T. J. House. No. 977,012; Nov. 29; Sp. p. 6497; Gaz. vol. 160; p. 1108.
Sifter, Ash-. J. W. Roper. No. 976,099; Nov. 15; Sp. p. 4399; Gaz. vol. 160; p. 746.
Sifter, Flour-. W. S. Butler. No. 976,782; Nov. 22; Sp. p. 5943; Gaz. vol. 160; p. 1003.
Sifter, Magazine flour-. W. W. Hill. No. 975,951; Nov. 15; Sp. p. 4111; Gaz. vol. 160; p. 694.
Sight-feed. L. M. Fuller. No. 975,127; Nov. 8; Sp. p. 2386; Gaz. vol. 160; p. 387.
Sign. M. M. Kasanof. No. 976,576; Nov. 22; Sp. p. 5520; Gaz. vol. 160; p. 933.
Sign, Advertising-. E. N. Heard. No. 975,035; Nov. 8; Sp. p. 2178; Gaz. vol. 160; p. 354.
Sign, Advertising-. E. Jocher. No. 976,179; Nov. 22; Sp. p. 4614; Gaz. vol. 160; p. 794.
Sign, Electric street-indicating. J. W. Ellis. No. 977,081; Nov. 29; Sp. p. 6637; Gaz. vol. 160; p. 1131.
Sign, Eyeleted enameled. E. Richardson. No. 974,297; Nov. 1; Sp. p. 494; Gaz. vol. 160; p. 72.
Sign-holder. W. H. Sweatt. No. 977,343; Nov. 29; Sp. p. 7186; Gaz. vol. 160; p. 1222.
Sign, Illuminated. W. H. Ingle. No. 974,275; Nov. 1; Sp. p. 444; Gaz. vol. 160; p. 65.
Signal: *See* Railway-signal; Switch-signal.
Signal. W. J. O'Brien. No. 974,810; Nov. 8; Sp. p. 1654; Gaz. vol. 160; p. 277.
Signal device, Police. E. J. Kingsley, J. Greene, and W. G. Sadleir. No. 976,578; Nov. 22; Sp. p. 5529; Gaz. vol. 160; p. 933.
Signaling-horn, Electrically-operated. E. M. Tormin. No. 976,159; Nov. 22; Sp. p. 4552; Gaz. vol. 160; p. 787.
Signaling-lens. W. Churchill. No. 974,123; Nov. 1; Sp. p. 33; Gaz. vol. 160; p. 9.
Signaling, Submarine. J. B. Millet. No. 976,822; Nov. 22; Sp. p. 6009; Gaz. vol. 160; p. 1016.
Signaling system, Electrical. C. H. Pool. No. 977,219; Nov. 29; Sp. p. 6940; Gaz. vol. 160; p. 1179.
Signaling system, Selective. O. M. Leich. No. 976,380; Nov. 22; Sp. p. 5092; Gaz. vol. 160; p. 864.
Silk fibroin, Obtaining. C. R. Baumann and G. G. Diesser. No. 976,977; Nov. 29; Sp. p. 6419; Gaz. vol. 160; p. 1096.
Sink attachment. A. T. McCanlis. No. 975,626; Nov. 15; Sp. p. 3443; Gaz. vol. 160; p. 584.
Siphon, Hygienic. A. J. Ackerman. No. 976,244; Nov. 22; Sp. p. 4788; Gaz. vol. 160; p. 819.
Skate-jig. H. C. and E. J. Knudsen. No. 976,186; Nov. 22; Sp. p. 4629; Gaz. vol. 160; p. 797.
Skate, Roller or wheeled. M. B. Mishler. No. 975,446; Nov. 15; Sp. p. 3055; Gaz. vol. 160; p. 522.
Skewer. G. L. Stark and A. W. Baxter. No. 974,200; Nov. 1; Sp. p. 215; Gaz. vol. 160; p. 36.
Skid. A. Lemke. No. 976,889; Nov. 29; Sp. p. 6183; Gaz. vol. 160; p. 1065.
Skimmer. M. A. Gilliland. No. 976,733; Nov. 22; Sp. p. 5814; Gaz. vol. 160; p. 985.
Skinning and splitting cattle and scribing hogs, Machine for. J. Lance, J. C. Flowers, and G. Lance. No. 977,317; Nov. 29; Sp. p. 7123; Gaz. vol. 160; p. 1212.
Skirt. J. A. and W. Grewen. No. 975,947; Nov. 15; Sp. p. 4104; Gaz. vol. 160; p. 693.
Skirt-gage. W. J. Walsh. No. 976,523; Nov. 22; Sp. p. 5387; Gaz. vol. 160; p. 914.
Skirt-marker. C. A. Rittman. No. 974,521; Nov. 1; Sp. p. 1028; Gaz. vol. 160; p. 153.
Skirt-shield, Sanitary. S. W. Little. No. 977,203; Nov. 29; Sp. p. 6918; Gaz. vol. 160; p. 1175.
Skylight construction. J. D. Thompson. No. 974,810; Nov. 1; Sp. p. 523; Gaz. vol. 160; p. 77.
Sled-brake. E. Hollingsworth. No. 974,382; Nov. 1; Sp. p. 685; Gaz. vol. 160; p. 103.

Sled-brake. J. Struve. No. 975,904; Nov. 15; Sp. p. 4018; Gaz. vol. 160; p. 678.
Sled, Motor-. M. Meyerson. No. 977,421; Nov. 29; Sp. p. 7384; Gaz. vol. 160; p. 1248.
Sleeve-protector. W. F. Reichenbach. No. 976,693; Nov. 22; Sp. p. 5738; Gaz. vol. 160; p. 972.
Slicer, Vegetable-. E. F. Smith. No. 976,613; Nov. 22; Sp. p. 5588; Gaz. vol. 160; p. 945.
Sliding bolt. E. E. Karber. No. 976,265; Nov. 22; Sp. p. 4844; Gaz. vol. 160; p. 827.
Slime-concentrator. S. H. Boylan. No. 976,430; Nov. 22; Sp. p. 5196; Gaz. vol. 160; p. 883.
Slipper and the like. L. B. Tebeau. No. 976,313; Nov. 22; Sp. p. 4940; Gaz. vol. 160; p. 842.
Slotting and shaping machine. J. Riddell. No. 974,187; Nov. 1; Sp. p. 178; Gaz. vol. 160; p. 31.
Slubber or fly-frame. M. Campbell. No. 976,545; Nov. 22; Sp. p. 5454; Gaz. vol. 160; p. 921.
Slugs or fastenings in stock, Machine for inserting. G. A. Ambler. No. 976,837; Nov. 29; Sp. p. 6058; Gaz. vol. 160; p. 1045.
Sluice-box. J. J. Barker. No. 974,339; Nov. 1; Sp. p. 599; Gaz. vol. 160; p. 89.
Sluice-gate. W. M. Creager and T. C. Harry. No. 975,400; Nov. 15; Sp. p. 2972; Gaz. vol. 160; p. 505.
Small-arm, Semi-automatic. N. Pieper. No. 974,425; Nov. 1; Sp. p. 778; Gaz. vol. 160; p. 118.
Smelting ore. F. T. Snyder. No. 974,608; Nov. 1; Sp. p. 1206; Gaz. vol. 160; p. 185.
Smoke-bell support. J. T. Owens. No. 974,702; Nov. 1; Sp. p. 1417; Gaz. vol. 160; p. 219.
Smoke-consumer. J. R. Blaik. No. 975,391; Nov. 15; Sp. p. 2957; Gaz. vol. 160; p. 502.
Smoke-consumer. C. Denis. No. 975,402; Nov. 15; Sp. p. 2975; Gaz. vol. 160; p. 506.
Smoke-consumer. J. S. Green. No. 975,688; Nov. 15; Sp. p. 3587; Gaz. vol. 160; p. 604.
Smoke-consuming furnace. G. E. Wells. No. 974,322; Nov. 1; Sp. p. 565; Gaz. vol. 160; p. 82.
Snap-band for molds. C. H. Green. No. 975,351; Nov. 8; Sp. p. 2865; Gaz. vol. 160; p. 462.
Snap-hook, Double-ended. K. Carter. No. 974,950; Nov. 8; Sp. p. 1935; Gaz. vol. 160; p. 327.
Snow handling and removing means. A. Strauss. No. 974,306; Nov. 1; Sp. p. 511; Gaz. vol. 160; p. 76.
Snow-melting device. C. B. Mann. No. 974,898; Nov. 8; Sp. p. 1851; Gaz. vol. 160; p. 308.
Snow-melting machine. W. N. Lux. No. 977,109; Nov. 29; Sp. p. 6702; Gaz. vol. 160; p. 1141.
Soil-stack fitting. W. Goebel. No. 974,875; Nov. 8; Sp. p. 1806; Gaz. vol. 160; p. 300.
Soil-sterilizing furnace. A. P. Young. No. 976,768; Nov. 22; Sp. p. 5909; Gaz. vol. 160; p. 998.
Soldering. F. C. Wasseman and M. E. Widell. No. 975,913; Nov. 15; Sp. p. 4041; Gaz. vol. 160; p. 681.
Soldering-machine. F. C. Wassman and M. E. Widell. No. 975,912; Nov. 15; Sp. p. 4033; Gaz. vol. 160; p. 681.
Sole and heel plate. J. T. Clisham. No. 977,272; Nov. 29; Sp. p. 7043; Gaz. vol. 160; p. 1196.
Solids from liquids, Machine for collecting. H. Parker. No. 974,989; Nov. 8; Sp. p. 2081; Gaz. vol. 160; p. 339.
Sorting-machine. J. W. Pease. No. 975,064; Nov. 8; Sp. p. 2236; Gaz. vol. 160; p. 364.
Sound-deadener for rotary blowers. J. J. Gibson and C. L. W. Trinks. No. 976,063; Nov. 15; Sp. p. 4313; Gaz. vol. 160; p. 732.
Sound-producing device. J. P. Northey. No. 976,682; Nov. 22; Sp. p. 5718; Gaz. vol. 160; p. 968.
Spark-plug. T. C. Luce. No. 974,802; Nov. 8; Sp. p. 1637; Gaz. vol. 160; p. 274.
Spark-plug. E. C. Rauch. No. 974,824; Nov. 8; Sp. p. 1651; Gaz. vol. 160; p. 282.
Spark-plug. W. H. McNutt. No. 975,056; Nov. 8; Sp. p. 2222; Gaz. vol. 160; p. 361.
Spark-plug. A. Schmidt. No. 976,101; Nov. 15; Sp. p. 4402; Gaz. vol. 160; p. 746.
Spark-plug. G. E. Edick. No. 976,158; Nov. 22; Sp. p. 4550; Gaz. vol. 160; p. 787.
Spectacle-mounting. P. Moews. No. 975,778; Nov. 15; Sp. p. 3770; Gaz. vol. 160; p. 634.
Spectacles. L. F. Adt. No. 975,195; Nov. 8; Sp. p. 2545; Gaz. vol. 160; p. 410.
Spectacles, Bridge connection for lenses for. J. Savoie. No. 977,227; Nov. 29; Sp. p. 6955; Gaz. vol. 160; p. 1182.
Speculum, Mouth-. J. F. Koehler. No. 976,812; Nov. 22; Sp. p. 5992; Gaz. vol. 160; p. 1012.
Speed apparatus, Variable-. W. B. Allyn. No. 975,198; Nov. 8; Sp. p. 2549; Gaz. vol. 160; p. 411.
Speed-governing mechanism, Fluid. J. C. W. Jörgensen. No. 974,973; Nov. 8; Sp. p. 2049; Gaz. vol. 160; p. 334.
Speed indicator and recorder. A. D. Renfro. No. 976,604; Nov. 22; Sp. p. 5730; Gaz. vol. 160; p. 972.
Speed-indicator, Ship's. L. A. Cotton. No. 976,725; Nov. 22; Sp. p. 5800; Gaz. vol. 160; p. 982.
Speed-limiting apparatus. F. W. Waterman. No. 976,017; Nov. 15; Sp. p. 4228; Gaz. vol. 160; p. 717.
Speed-mechanism, Variable-. R. E. Rosewarne. No. 977,403; Nov. 29; Sp. p. 7348; Gaz. vol. 160; p. 1243.
Speed-regulating device for automobiles and the like. H. Saurer. No. 976,834; Nov. 22; Sp. p. 6033; Gaz. vol. 160; p. 1019.
Speedometer. W. P. Dun Lany. No. 976,054; Nov. 15; Sp. p. 4299; Gaz. vol. 160; p. 729.
Spike. J. L. Joesart. No. 974,391; Nov. 1; Sp. p. 698; Gaz. vol. 160; p. 106.
Spike, Pronged. W. T. M. Brady. No. 975,322; Nov. 8; Sp. p. 2808; Gaz. vol. 160; p. 454.
Spikenard, Milk extract of wild. F. M. Davis. No. 976,051; Nov. 15; Sp. p. 4295; Gaz. vol. 160; p. 728.
Spinning and twisting device, Yarn. V. Belanger. No. 975,318; Nov. 8; Sp. p. 2801; Gaz. vol. 160; p. 452.
Spinning apparatus, Traverse-motion for yarn-. S. R. Truesdale. No. 974,614; Nov. 1; Sp. p. 1221; Gaz. vol. 160; p. 188.
Spinning machine, Cap-. P. J. Moroney. No. 977,323; Nov. 29; Sp. p. 7136; Gaz. vol. 160; p. 1215.
Spinning paper threads, Machine for. A. Funke. No. 974,132; Nov. 1; Sp. p. 53; Gaz. vol. 160; p. 12.
Spiral separator. F. H. Blatch. No. 976,980; Nov. 29; Sp. p. 6422; Gaz. vol. 160; p. 1097.
Spiral separator. F. Pardee. No. 977,037; Nov. 29; Sp. p. 6540; Gaz. vol. 160; p. 1116.
Spittoon. J. B. Pate. No. 977,218; Nov. 29; Sp. p. 6939; Gaz. vol. 160; p. 1179.
Splice attachment. D. Ambrose. No. 975,199; Nov. 8; Sp. p. 2552; Gaz. vol. 160; p. 412.
Spool. M. Leitch. No. 976,381; Nov. 22; Sp. p. 5097; Gaz. vol. 160; p. 865.
Spool. M. Leitch. No. 976,382; Nov. 22; Sp. p. 5099; Gaz. vol. 160; p. 865.
Spool, Jack-. J. C. Hebden and F. H. Daniell. No. 974,139; Nov. 1; Sp. p. 63; Gaz. vol. 160; p. 14.
Spool of pasteboard, cardboard, or similar material. A. Schmidt. No. 974,603; Nov. 1; Sp. p. 1197; Gaz. vol. 160; p. 183.
Spoon-holder. G. C. Folckemer. No. 975,683; Nov. 15; Sp. p. 3580; Gaz. vol. 160; p. 603.
Spraying apparatus. S. Trudeau. No. 974,540; Nov. 1; Sp. p. 1078; Gaz. vol. 160; p. 161.
Spraying apparatus. M. B. Brooks. No. 974,640; Nov. 1; Sp. p. 1282; Gaz. vol. 160; p. 197.
Spring: *See* Bed-spring; Weft-fork spring; Wire spring.
Spring-attaching clip. L. A. Young. No. 976,973; Nov. 29; Sp. p. 6408; Gaz. vol. 160; p. 1095.
Spring construction. W. R. Smith. No. 975,579; Nov. 15; Sp. p. 3350; Gaz. vol. 160; p. 568.
Spring construction. J. H. Snuggs. No. 976,104; Nov. 15; Sp. p. 4412; Gaz. vol. 160; p. 747.
Spring-cushion. P. Knuppen. No. 975,696; Nov. 15; Sp. p. 3599; Gaz. vol. 160; p. 607.
Spring for flexible connections. J. H. O'Brien. No. 975,274; Nov. 8; Sp. p. 2699; Gaz. vol. 160; p. 436.
Spring-seat. F. S. Rickerd. No. 976,396; Nov. 22; Sp. p. 5136; Gaz. vol. 160; p. 871.
Spring-wheel. E. W. Jenkins. No. 974,155; Nov. 1; Sp. p. 97; Gaz. vol. 160; p. 19.
Spring-wheel. L. Blessing. No. 974,347; Nov. 1; Sp. p. 613; Gaz. vol. 160; p. 92.
Spring-wheel. G. E. Garon. No. 974,765; Nov. 1; Sp. p. 1553; Gaz. vol. 160; p. 239.
Spring-wheel. M. W. Peck. No. 974,815; Nov. 8; Sp. p. 1664; Gaz. vol. 160; p. 279.
Spring-wheel. A. Moore. No. 975,630; Nov. 15; Sp. p. 3449; Gaz. vol. 160; p. 585.
Spring-wheel. D. Kiser. No. 976,660; Nov. 22; Sp. p. 5680; Gaz. vol. 160; p. 962.
Spring-wheel. H. P. Petersen. No. 976,686; Nov. 22; Sp. p. 5723; Gaz. vol. 160; p. 969.
Spring-wheel. J. A. Wible. No. 976,762; Nov. 22; Sp. p. 5893; Gaz. vol. 160; p. 995.
Spring-wheel. Z. A. and R. D. Bruegger. No. 977,368; Nov. 29; Sp. p. 7256; Gaz. vol. 160; p. 1231.
Sprinkler: *See* Lawn-sprinkler.
Sprinkler. J. R. Barnes. No. 974,628; Nov. 1; Sp. p. 1255; Gaz. vol. 160; p. 193.
Sprinkler. C. A. Borgeson. No. 975,321; Nov. 8; Sp. p. 2806; Gaz. vol. 160; p. 453.
Sprinkler alarm and indicator, Automatic. F. W. Milliken. No. 977,391; Nov. 29; Sp. p. 7202; Gaz. vol. 160; p. 1238.
Sprocket. W. Dorton and J. S. Boyer. No. 975,753; Nov. 15; Sp. p. 3714; Gaz. vol. 160; p. 626.
Sprocket-gear. D. H. Downey. No. 975,938; Nov. 15; Sp. p. 4089; Gaz. vol. 160; p. 690.
Sputum-receptacle. W. L. Gerard. No. 975,854; Nov. 15; Sp. p. 3920; Gaz. vol. 160; p. 661.
Square, Adjustable double. G. W. Fieldhouse. No. 974,479; Nov. 1; Sp. p. 927; Gaz. vol. 160; p. 138.
Square and protractor. G. Hennigar and R. Teneyck. No. 975,036; Nov. 8; Sp. p. 2181; Gaz. vol. 160; p. 355.
Square, Carpenter's. F. W. Royal. No. 975,079; Nov. 8; Sp. p. 2268; Gaz. vol. 160; p. 370.
Square, Carpenter's. D. W. Montague. No. 975,268; Nov. 8; Sp. p. 2687; Gaz. vol. 160; p. 434.
Square, Jointed. A. Stevens. No. 975,581; Nov. 15; Sp. p. 3353; Gaz. vol. 160; p. 569.
Stack-cover. C. B. Shedd. No. 975,802; Nov. 15; Sp. p. 3817; Gaz. vol. 160; p. 643.
Stacker, Pneumatic. J. Goodison. No. 974,483; Nov. 1; Sp. p. 943; Gaz. vol. 160; p. 139.
Stacker, Pneumatic. J. Hagen. No. 975,230; Nov. 8; Sp. p. 2610; Gaz. vol. 160; p. 422.
Stacker, Straw-. G. W. Halsne. No. 975,415; Nov. 15; Sp. p. 2994; Gaz. vol. 160; p. 509.
Stalk-cutter. F. Werner, Sr. No. 974,219; Nov. 1; Sp. p. 258; Gaz. vol. 160; p. 43.

Stalk-cutter. C. F. Witten. No. 976,829; Nov. 22; Sp. p. 4969; Gaz. vol. 160; p. 847.
Stalk-cutter. J. R. Weatherly. No. 976,959; Nov. 29; Sp. p. 6364; Gaz. vol. 160; p. 1089.
Stallion-shield. G. M. Frampton. No. 976,863; Nov. 29; Sp. p. 6125; Gaz. vol. 160; p. 1055.
Stamp. E. H. Sanborn. No. 975,463; Nov. 15; Sp. p. 3089; Gaz. vol. 160; p. 528.
Stamp, Addressing-. T. Dillard. No. 977,173; Nov. 29; Sp. p. 6852; Gaz. vol. 160; p. 1163.
Stamp-affixing machine. H. A. Benedict. No. 975,742; Nov. 15; Sp. p. 3696; Gaz. vol. 160; p. 623.
Stamp-canceling device. J. Unger. No. 974,845; Nov. 8; Sp. p. 1729; Gaz. vol. 160; p. 289.
Stamp, Hand-. L. E. Garby. No. 977,298; Nov. 29; Sp. p. 7079; Gaz. vol. 160; p. 1205.
Stamps and labels, Machine for affixing. C. J. Fancher, J. H. Burt, and E. Van Winkle. No. 977,175; Nov. 29; Sp. p. 6857; Gaz. vol. 160; p. 1164.
Stamping and punching machine. C. A. Myers. No. 974,695; Nov. 1; Sp. p. 1399; Gaz. vol. 160; p. 217.
Stamping-machine safety-guard. J. M. Jones. No. 976,181; Nov. 22; Sp. p. 4617; Gaz. vol. 160; p. 795.
Stanchion. C. W. McLean. No. 976,672; Nov. 22; Sp. p. 5705; Gaz. vol. 160; p. 965.
Stanchion, Cattle-. J. B. Forwood. No. 977,289; Nov. 29; Sp. p. 7075; Gaz. vol. 160; p. 1203.
Stand: *See* Display-stand; Flower-stand; Lamp-stand; Match-stand; Railway-switch stand.
Starting device. W. Johnston. No. 975,134; Nov. 8; Sp. p. 2396; Gaz. vol. 160; p. 389.
Station-indicator and similar device. P. N. Stowby and E. M. Hatch. No. 974,537; Nov. 1; Sp. p. 1069; Gaz. vol. 160; p. 159.
Stationery-box. W. A. Gray. No. 976,166; Nov. 22; Sp. p. 4567; Gaz. vol. 160; p. 790.
Stave-jointing mechanism. P. S. Reyman. No. 974,518; Nov. 1; Sp. p. 1023; Gaz. vol. 160; p. 152.
Steam and hot-water boiler. R. Rouse, Jr. No. 975,462; Nov. 15; Sp. p. 3087; Gaz. vol. 160; p. 527.
Steam-boiler. W. S. Tuttle. No. 975,736; Nov. 15; Sp. p. 3680; Gaz. vol. 160; p. 620.
Steam-condensing coils, Gas-liberating header for. W. M. Paradise. No. 974,590; Nov. 1; Sp. p. 1176; Gaz. vol. 160; p. 179.
Steam-engine. B. C. Ball. No. 974,546; Nov. 1; Sp. p. 1094; Gaz. vol. 160; p. 164.
Steam-engine, Rotary multiple-cylinder. J. A. Waltman. No. 975,486; Nov. 15; Sp. p. 3134; Gaz. vol. 160; p. 535.
Steam-generating-apparatus regulator. O. F. Persson. No. 974,181; Nov. 1; Sp. p. 161; Gaz. vol. 160; p. 29.
Steam-trap. S. Steinmitz. No. 974,201; Nov. 1; Sp. p. 216; Gaz. vol. 160; p. 36.
Steam-trap. J. J. Harpain. No. 975,857; Nov. 8; Sp. p. 2872; Gaz. vol. 160; p. 463.
Steam-trap. M. L. Richards. No. 977,131; Nov. 29; Sp. p. 6755; Gaz. vol. 160; p. 1149.
Steel and iron ingots, Treating. J. A. Brinell. No. 976,145; Nov. 22; Sp. p. 4516; Gaz. vol. 160; p. 783.
Steel ingots for rolling, Preparing manganese-. W. S. Potter. No. 975,870; Nov. 8; Sp. p. 2895; Gaz. vol. 160; p. 468.
Steel, Production, treating, and rolling of ingots of manganese. W. S. Potter. No. 975,871; Nov. 8; Sp. p. 2897; Gaz. vol. 160; p. 468.
Steel strips, Apparatus for removing the hardness from certain portions of hardened. H. F. M. Huntsman. No. 975,041; Nov. 8; Sp. p. 2192; Gaz. vol. 160; p. 356.
Steel structure. W. A. Dunn. No. 974,779; Nov. 8; Sp. p. 1591; Gaz. vol. 160; p. 267.
Steel, Treating manganese. W. S. Potter. No. 974,822; Nov. 8; Sp. p. 1679; Gaz. vol. 160; p. 281.
Stenciling-machine. S. T. Smith, Jr. No. 975,299; Nov. 8; Sp. p. 2763; Gaz. vol. 160; p. 446.
Stenciling-machine. A. J. Smith. No. 975,471; Nov. 15; Sp. p. 3108; Gaz. vol. 160; p. 531.
Stenciling-machine. A. J. Smith. No. 976,704; Nov. 22; Sp. p. 5759; Gaz. vol. 160; p. 975.
Sterilizer. G. H. Reeves. No. 975,282; Nov. 8; Sp. p. 2715; Gaz. vol. 160; p. 439.
Sterilizing and tempering glass vessels, Apparatus for. E. D. Schmitt. No. 976,001; Nov. 15; Sp. p. 4198; Gaz. vol. 160; p. 711.
Sterilizing device. H. W. Patrick. No. 974,514; Nov. 1; Sp. p. 1015; Gaz. vol. 160; p. 150.
Stirrup, Saddle-. J. F. Shultz. No. 976,406; Nov. 22; Sp. p. 5154; Gaz. vol. 160; p. 875.
Stirrup, Safety-. D. Samson. No. 975,164; Nov. 8; Sp. p. 2464; Gaz. vol. 160; p. 399.
Stitch-forming mechanism. W. V. Miller. No. 974,170; Nov. 1; Sp. p. 126; Gaz. vol. 160; p. 24.
Stitching-machine. C. T. Adair and R. G. Hardgrave. No. 976,330; Nov. 22; Sp. p. 4971; Gaz. vol. 160; p. 847.
Stock marker, Live-. F. R. Stevens. No. 976,225; Nov. 22; Sp. p. 4725; Gaz. vol. 160; p. 811.
Stocking-cap. E. Swindell. No. 975,582; Nov. 15; Sp. p. 3355; Gaz. vol. 160; p. 569.
Stoker, Underfeed. P. L. Crowe. No. 976,047; Nov. 15; Sp. p. 4286; Gaz. vol. 160; p. 727.
Stoker, Underfeed. P. L. Crowe. No. 976,048; Nov. 15; Sp. p. 4288; Gaz. vol. 160; p. 727.
Stoker, Underfeed. P. L. Crowe. No. 976,049; Nov. 15; Sp. p. 4290; Gaz. vol. 160; p. 728.
Stoker's hoe. W. E. Sheehy. No. 975,082; Nov. 8; Sp. p. 2273; Gaz. vol. 160; p. 371.
Stone collector, Field-. E. L. Kloss. No. 976,811; Nov. 22; Sp. p. 5990; Gaz. vol. 160; p. 1012.
Stone-polishing device. J. Ratcliffe. No. 977,327; Nov. 29; Sp. p. 7145; Gaz. vol. 160; p. 1216.
Stool, Folding. F. von Tiesenhausen. No. 976,136; Nov. 15; Sp. p. 4493; Gaz. vol. 160; p. 758.
Stool, Shoe-salesman's. J. Gassel. No. 975,852; Nov. 15; Sp. p. 3916; Gaz. vol. 160; p. 660.
Stopper: *See* Bottle-stopper.
Storage battery. T. A. Edison. No. 976,792; Nov. 22; Sp. p. 5960; Gaz. vol. 160; p. 1006.
Store-service credit-system apparatus. C. F. Kettering. No. 975,533; Nov. 15; Sp. p. 3254; Gaz. vol. 160; p. 553.
Stove. E. Kener, Jr. No. 974,280; Nov. 1; Sp. p. 452; Gaz. vol. 160; p. 67.
Stove. J. M. Merritt. No. 974,290; Nov. 1; Sp. p. 482; Gaz. vol. 160; p. 70.
Stove and range construction. J. P. McDonough. No. 977,417; Nov. 29; Sp. p. 7378; Gaz. vol. 160; p. 1247.
Stove attachment. W. H. Prall. No. 976,491; Nov. 22; Sp. p. 5836; Gaz. vol. 160; p. 904.
Stove attachment, Gas-heating-. O. Drechsler. No. 976,053; Nov. 15; Sp. p. 4297; Gaz. vol. 160; p. 729.
Stove-lid and pan lifter, Combined. P. Slustrop. No. 976,512; Nov. 22; Sp. p. 5363; Gaz. vol. 160; p. 910.
Stove oil-burner attachment. F. P. Beucler. No. 976,626; Nov. 22; Sp. p. 5614; Gaz. vol. 160; p. 949.
Stove or furnace grate. W. Clerkin. No. 976,848; Nov. 29; Sp. p. 6097; Gaz. vol. 160; p. 1049.
Stove protecting device, Gas-. L. J. Livingston. No. 976,475; Nov. 22; Sp. p. 5299; Gaz. vol. 160; p. 898.
Stoves, furnaces, and other heating apparatus, Air-heating chamber for. R. Max. No. 974,581; Nov. 1; Sp. p. 1160; Gaz. vol. 160; p. 176.
Stovepipe-holder. J. S. B. Walker. No. 976,015; Nov. 15; Sp. p. 4226; Gaz. vol. 160; p. 716.
Stovepipe-lock. C. Roney. No. 976,603; Nov. 22; Sp. p. 5572; Gaz. vol. 160; p. 942.
Stovepipe-openings, Adjustable cap for. S. S. Wales. No. 976,321; Nov. 22; Sp. p. 4952; Gaz. vol. 160; p. 844.
Stovepipe-thimble. J. A. Brodin. No. 975,746; Nov. 15; Sp. p. 3702; Gaz. vol. 160; p. 624.
Straight-edge and holder. T. Iwanami. No. 975,956; Nov. 15; Sp. p. 4120; Gaz. vol. 160; p. 696.
Straightening and hardening apparatus. A. W. Machlet. No. 976,891; Nov. 29; Sp. p. 6187; Gaz. vol. 160; p. 1065.
Strainer. E. P. Gray. No. 975,687; Nov. 15; Sp. p. 3586; Gaz. vol. 160; p. 604.
Street-indicator. H. E. Fisher. No. 974,763; Nov. 1; Sp. p. 1549; Gaz. vol. 160; p. 238.
Street sprinkling or flushing wagon. J. Ganey. No. 974,764; Nov. 1; Sp. p. 1552; Gaz. vol. 160; p. 239.
Stretcher. W. B. Reed. No. 975,996; Nov. 15; Sp. p. 4188; Gaz. vol. 160; p. 710.
Stretching-frame. J. J. Robinson. No. 974,600; Nov. 1; Sp. p. 1194; Gaz. vol. 160; p. 183.
Striking mechanism. H. A. Sedgwick. No. 975,872; Nov. 8; Sp. p. 2903; Gaz. vol. 160; p. 469.
Stud. H. C. Ward. No. 976,016; Nov. 15; Sp. p. 4227; Gaz. vol. 160; p. 717.
Stuffing-box. W. Johnson. No. 975,045; Nov. 8; Sp. p. 2199; Gaz. vol. 160; p. 357.
Stuffing-boxes, Apparatus for packing and unpacking. A. Meier and H. Dumelin. No. 974,583; Nov. 1; Sp. p. 1164; Gaz. vol. 160; p. 176.
Stuffing-machine. R. and P. J. Brownson. No. 976,982; Nov. 29; Sp. p. 6427; Gaz. vol. 160; p. 1097.
Subway construction. E. B. Hess. No. 977,306; Nov. 29; Sp. p. 7104; Gaz. vol. 160; p. 1209.
Subway-ventilator. G. W. Jackson. No. 974,151; Nov. 1; Sp. p. 87; Gaz. vol. 160; p. 18.
Sucker-rod elevator. A. R. Peters. No. 976,910; Nov. 29; Sp. p. 6227; Gaz. vol. 160; p. 1071.
Sugar, Converting starchy material into. J. Takamine. No. 975,656; Nov. 15; Sp. p. 3519; Gaz. vol. 160; p. 594.
Sugar into a creamy paste, Machine for transforming boiled. W. J. Sluka. No. 976,511; Nov. 22; Sp. p. 5362; Gaz. vol. 160; p. 910.
Sulfids or sulfates, Treating. U. Wedge. No. 976,525; Nov. 22; Sp. p. 5410; Gaz. vol. 160; p. 915.
Supporting device. J. L. Lederer. No. 976,472; Nov. 22; Sp. p. 5280; Gaz. vol. 160; p. 897.
Surgical bandage. E. M. Pond. No. 974,294; Nov. 1; Sp. p. 490; Gaz. vol. 160; p. 72.
Surgical bandage. E. M. Pond. No. 974,295; Nov. 1; Sp. p. 492; Gaz. vol. 160; p. 72.
Surgical binder. R. V. Coddington. No. 976,550; Nov. 22; Sp. p. 5470; Gaz. vol. 160; p. 924.
Surgical instrument. G. E. Gwinn. No. 974,879; Nov. 8; Sp. p. 1813; Gaz. vol. 160; p. 301.
Surgical ligatures and other purposes, Cord for. P. H. J. M. C. de Géry. No. 977,383; Nov. 29; Sp. p. 7280; Gaz. vol. 160; p. 1236.
Surveying instrument. P. Ferber. No. 975,682; Nov. 15; Sp. p. 3578; Gaz. vol. 160; p. 602.
Surveyor's reel. W. W. Morgan. No. 974,417; Nov. 1; Sp. p. 761; Gaz. vol. 160; p. 115.
Swimming-bag. R. L. F. Berry. No. 977,065; Nov. 29; Sp. p. 6593; Gaz. vol. 160; p. 1125.
Swing. A. W. Lyda. No. 977,206; Nov. 29; Sp. p. 6922; Gaz. vol. 160; p. 1176.

Switch: *See* Circuit-disconnecting switch; Electric switch; Electric-circuit switch; Electrical switch; Oil-brake switch; Rail-switch; Railway-switch; Traction-switch.
Switch. W. Kaisling. No. 975,529; Nov. 15; Sp. p. 3235; Gaz. vol. 160; p. 551.
Switch. W. Kaisling. No. 975,530; Nov. 15; Sp. p. 3242; Gaz. vol. 160; p. 551.
Switch. H. W. Cheney. No. 976,549; Nov. 22; Sp. p. 5467; Gaz. vol. 160; p. 923.
Switch-box. G. Gut. No. 977,187; Nov. 29; Sp. p. 6888; Gaz. vol. 160; p. 1169.
Switch-lock. G. Wuelser. No. 975,918; Nov. 15; Sp. p. 4054; Gaz. vol. 160; p. 683.
Switch-signal. T. W. Adams. No. 975,922; Nov. 15; Sp. p. 4061; Gaz. vol. 160; p. 684.
Switches, Visual indicator for key-operated. J. J. Wesley. No. 975,490; Nov. 15; Sp. p. 3144; Gaz. vol. 160; p. 537.
Switching device, Electric. F. W. Harris. No. 975,418; Nov. 15; Sp. p. 2998; Gaz. vol. 160; p. 511.
Switching device, Fluid-pressure-controlled. C. Aalborg. No. 974,328; Nov. 1; Sp. p. 577; Gaz. vol. 160; p. 84.
Swivel-socket. J. E. Prosser. No. 975,067; Nov. 8; Sp. p. 2241; Gaz. vol. 160; p. 365.
Syringe. F. Schwars and H. Tausz. No. 974,531; Nov. 1; Sp. p. 1049; Gaz. vol. 160; p. 157.
Table: *See* Draftsman's table; Extension-table; Ironing-table; Saw-table; Sewing-machine table.
Table. I. Weingaertner. No. 976,759; Nov. 22; Sp. p. 5889; Gaz. vol. 160; p. 994.
Table attachment, Wilfley-. W. F. Smith. No. 975,648; Nov. 15; Sp. p. 3488; Gaz. vol. 160; p. 592.
Tables, Extension-shelf for writing-. J. F. Bebb. No. 974,340; Nov. 1; Sp. p. 600; Gaz. vol. 160; p. 90.
Tablet, Mouth-. A. Westlake. No. 975,814; Nov. 15; Sp. p. 3837; Gaz. vol. 160; p. 647.
Tack-loader. J. J. Doidge. No. 975,840; Nov. 15; Sp. p. 3882; Gaz. vol. 160; p. 655.
Talking-machine diaphragms, Making. W. W. Young. No. 975,668; Nov. 15; Sp. p. 3559; Gaz. vol. 160; p. 598.
Talking-machine horn and bracket therefor. F. Kane. No. 975,362; Nov. 8; Sp. p. 2879; Gaz. vol. 160; p. 465.
Talking-machine records, Duplicating. T. A. Edison. No. 975,339; Nov. 8; Sp. p. 2840; Gaz. vol. 160; p. 458.
Tank: *See* Dust-separating tank.
Tank-operating device, Flush-. W. G. Newton. No. 977,122; Nov. 29; Sp. p. 6735; Gaz. vol. 160; p. 1146.
Tannic infusions of plants, Electrolytically treating. H. Damköhler and H. Schwindt. No. 975,835; Nov. 15; Sp. p. 3869; Gaz. vol. 160; p. 653.
Tantalum, Case-hardening. O. A. Simpson. No. 974,835; Nov. 8; Sp. p. 1699; Gaz. vol. 160; p. 286.
Tapping-machine nut-feed. O. A. Smith. No. 975,728; Nov. 15; Sp. p. 3658; Gaz. vol. 160; p. 617.
Target. J. P. Newbold. No. 975,711; Nov. 15; Sp. p. 3633; Gaz. vol. 160; p. 611.
Teat-cup. D. T. Sharples. No. 974,834; Nov. 8; Sp. p. 1698; Gaz. vol. 160; p. 285.
Teat-cup. D. Klein and D. Brown. No. 975,047; Nov. 8; Sp. p. 2202; Gaz. vol. 160; p. 358.
Telegraph and telephone system, Combined. E. R. Cunningham. No. 976,050; Nov. 15; Sp. p. 4291; Gaz. vol. 160; p. 728.
Telegraph apparatus, Multiplex. S. D. Field. No. 975,756; Nov. 15; Sp. p. 3719; Gaz. vol. 160; p. 627.
Telegraph-pole or fence-post mold. F. H. Tidnam. No. 975,481; Nov. 15; Sp. p. 3124; Gaz. vol. 160; p. 534.
Telegraph system. G. E. Hines. No. 977,008; Nov. 29; Sp. p. 6487; Gaz. vol. 160; p. 1106.
Telegraph-transmitter. J. C. Barclay. No. 976,537; Nov. 22; Sp. p. 5437; Gaz. vol. 160; p. 919.
Telegraphic transmitting-tapes, Keyboard apparatus for punching. R. Hitchcock. No. 975,427; Nov. 15; Sp. p. 3013; Gaz. vol. 160; p. 514.
Telegraphy, Automatic. G. T. Kanzer-Chegodard. No. 974,279; Nov. 1; Sp. p. 450; Gaz. vol. 160; p. 66.
Telegraphy, Wireless. R. A. Fessenden. No. 974,762; Nov. 1; Sp. p. 1548; Gaz. vol. 160; p. 238.
Telegraphy, Wireless. F. G. Sargent. No. 976,500; Nov. 22; Sp. p. 5348; Gaz. vol. 160; p. 907.
Telephone and service system, Combined. H. G. Webster. No. 976,961; Nov. 29; Sp. p. 6370; Gaz. vol. 160; p. 1090.
Telephone apparatus. G. Babcock. No. 974,110; Nov. 1; Sp. p. 6; Gaz. vol. 160; p. 4.
Telephone-disinfector. B. F. Gardner. No. 975,346; Nov. 8; Sp. p. 2850; Gaz. vol. 160; p. 460.
Telephone-lines, Central-station call system for. W. M. Butler. No. 977,067; Nov. 29; Sp. p. 6599; Gaz. vol. 160; p. 1126.
Telephone-mouthpiece. J. A. Hall. No. 976,457; Nov. 22; Sp. p. 5258; Gaz. vol. 160; p. 892.
Telephone-receiver. H. R. Stuart. No. 976,230; Nov. 22; Sp. p. 4737; Gaz. vol. 160; p. 813.
Telephone-receiver holder. H. M. McAlarney. No. 974,506; Nov. 1; Sp. p. 988; Gaz. vol. 160; p. 147.
Telephone-repeater. S. L. Campbell. No. 976,983; Nov. 15; Sp. p. 4079; Gaz. vol. 160; p. 688.
Telephone system. A. H. Dyson. No. 975,338; Nov. 8; Sp. p. 2829; Gaz. vol. 160; p. 458.
Telephone system. C. C. Bradbury. No. 975,504; Nov. 15; Sp. p. 3179; Gaz. vol. 160; p. 541.
Telephone system. F. X. Staub. No. 977,142; Nov. 29; Sp. p. 6782; Gaz. vol. 160; p. 1153.
Telephone system, Automatic. A. H. Dyson. No. 974,866; Nov. 8; Sp. p. 1777; Gaz. vol. 160; p. 296.
Telephone system, Automatic. A. H. Dyson. No. 974,955; Nov. 8; Sp. p. 1995; Gaz. vol. 160; p. 328.
Telephone system, Automatic. H. G. Webster. No. 976,524; Nov. 22; Sp. p. 5388; Gaz. vol. 160; p. 914.
Telephone system, Selective party-line. H. J. Roberts. No. 976,298; Nov. 22; Sp. p. 4907; Gaz. vol. 160; p. 857.
Telephone system, Semi-automatic. C. R. Austin. No. 975,105; Nov. 8; Sp. p. 2320; Gaz. vol. 160; p. 379.
Telephone systems, Selective ringing means for. E. E. Clement. No. 976,123; Nov. 15; Sp. p. 4444; Gaz. vol. 160; p. 753.
Telephone systems, Switch for automatic. A. H. Dyson. No. 975,608; Nov. 15; Sp. p. 3404; Gaz. vol. 160; p. 578.
Telephone trunking system. C. S. Winston. No. 976,241; Nov. 22; Sp. p. 4772; Gaz. vol. 160; p. 817.
Telescope adjustment. H. Bausch. No. 975,672; Nov. 15; Sp. p. 3566; Gaz. vol. 160; p. 600.
Tennis-court marker. N. Halsey. No. 975,948; Nov. 15; Sp. p. 4105; Gaz. vol. 160; p. 693.
Tenpin-setter. J. C. McFarland. No. 975,445; Nov. 15; Sp. p. 3051; Gaz. vol. 160; p. 521.
Tent-frame. G. Huebner. No. 974,491; Nov. 1; Sp. p. 959; Gaz. vol. 160; p. 142.
Tentering-machine. J. J. Hoey. No. 974,271; Nov. 1; Sp. p. 427; Gaz. vol. 160; p. 63.
Terminal connection. O. Thieme. No. 974,449; Nov. 1; Sp. p. 857; Gaz. vol. 160; p. 126.
Terminal-fastening. A. Schmidt. No. 976,100; Nov. 15; Sp. p. 4401; Gaz. vol. 160; p. 746.
Testing-gage and pump, Combination. W. H. Rowswell. No. 975,638; Nov. 15; Sp. p. 3470; Gaz. vol. 160; p. 588.
Theatrical apparatus. J. F. Sullivan. No. 974,203; Nov. 1; Sp. p. 223; Gaz. vol. 160; p. 37.
Thermo-electrostat. R. W. King. No. 974,157; Nov. 1; Sp. p. 100; Gaz. vol. 160; p. 20.
Thermodynamic motor. P. K. Stern. No. 975,651; Nov. 15; Sp. p. 3493; Gaz. vol. 160; p. 592.
Thermograph and hygrograph, Combination. A. G. McAdie. No. 974,684; Nov. 1; Sp. p. 1374; Gaz. vol. 160; p. 213.
Thermostat. R. H. Waite. No. 975,909; Nov. 15; Sp. p. 4028; Gaz. vol. 160; p. 679.
Thermostat. F. W. Schmidt. No. 976,749; Nov. 22; Sp. p. 5848; Gaz. vol. 160; p. 990.
Thermostat, Pneumatic. C. E. Bonnet. No. 974,743; Nov. 1; Sp. p. 1510; Gaz. vol. 160; p. 231.
Thill-coupling. J. F. Jaquet. No. 974,887; Nov. 1; Sp. p. 693; Gaz. vol. 160; p. 105.
Thill-coupling. J. Hofstetter. No. 974,792; Nov. 8; Sp. p. 1615; Gaz. vol. 160; p. 272.
Thread-selecting device. H. B. Colman. No. 977,166; Nov. 29; Sp. p. 6837; Gaz. vol. 160; p. 1161.
Threading device, Left-hand-. H. M. Hunter. No. 976,880; Nov. 29; Sp. p. 6158; Gaz. vol. 160; p. 1061.
Thresher and stalk-cutter, Combined vine-. C. Bozile. No. 975,608; Nov. 15; Sp. p. 3390; Gaz. vol. 160; p. 576.
Threshing-machine. R. S. Jaques. No. 976,263; Nov. 22; Sp. p. 4834; Gaz. vol. 160; p. 826.
Threshing-machine. G. Sipler. No. 976,306; Nov. 22; Sp. p. 4929; Gaz. vol. 160; p. 840.
Ticket-holder. R. F. Polski. No. 976,832; Nov. 22; Sp. p. 6028; Gaz. vol. 160; p. 1018.
Tickets, checks, and the like, Device for holding and severing. T. A. Rousseau. No. 974,830; Nov. 8; Sp. p. 1692; Gaz. vol. 160; p. 284.
Tide-motor. G. Quedens. No. 975,157; Nov. 8; Sp. p. 2441; Gaz. vol. 160; p. 397.
Tide-motor. E. L. and M. C. Sharpneck. No. 975,726; Nov. 15; Sp. p. 3654; Gaz. vol. 160; p. 616.
Tie: *See* Concrete tie; Metallic tie; Railway-tie.
Tie-plate. A. J. Neane. No. 977,121; Nov. 29; Sp. p. 6734; Gaz. vol. 160; p. 1146.
Ties, Metallic support for wood. J. H. Weidman. No. 974,321; Nov. 1; Sp. p. 564; Gaz. vol. 160; p. 82.
Ties, Method of and apparatus for forming rail-seats in. W. H. Morgan. No. 974,174; Nov. 1; Sp. p. 144; Gaz. vol. 160; p. 26.
Tile-making machine. G. M. Myers. No. 975,062; Nov. 8; Sp. p. 2233; Gaz. vol. 160; p. 364.
Tiles, &c., Apparatus for decorating. J. W. Young. No. 975,921; Nov. 15; Sp. p. 4059; Gaz. vol. 160; p. 684.
Timber-impregnating apparatus. S. Willner. No. 976,715; Nov. 22; Sp. p. 5782; Gaz. vol. 160; p. 979.
Time and wage computing and recording apparatus, Workman's. F. Simons. No. 975,296; Nov. 8; Sp. p. 2747; Gaz. vol. 160; p. 444.
Time-indicator. G. I. Bodine, Jr. No. 974,401; Nov. 1; Sp. p. 721; Gaz. vol. 160; p. 109.
Time-recorder. C. H. Koerber. No. 976,375; Nov. 22; Sp. p. 5079; Gaz. vol. 160; p. 862.
Time-recorder, Employee's. A. Pestel. No. 974,912; Nov. 8; Sp. p. 1883; Gaz. vol. 160; p. 311.
Timepiece hair-spring collet. E. Lange. No. 975,697; Nov. 15; Sp. p. 3602; Gaz. vol. 160; p. 607.
Timepieces, Driving-train for. J. Kangas. No. 975,959; Nov. 15; Sp. p. 4125; Gaz. vol. 160; p. 697.
Tin from tin-plate waste, Removing. H. Brandenburg. No. 974,463; Nov. 1; Sp. p. 895; Gaz. vol. 160; p. 132.
Tire. B. B. Dawson. No. 974,861; Nov. 8; Sp. p. 1770; Gaz. vol. 160; p. 295.
Tire and rim, Vehicle-wheel. S. L. Simpson. No. 974,713; Nov. 1; Sp. p. 1444; Gaz. vol. 160; p. 223.

Tire, Antiskidding. W. B. Yoder. No. 976,971; Nov. 29; Sp. p. 6404; Gaz. vol. 160; p. 1094.
Tire, Built-up pneumatic. P. Trudeau. No. 974,771; Nov. 1; Sp. p. 1566; Gaz. vol. 160; p. 241.
Tire-clamp. B. Morgan. No. 977,212; Nov. 29; Sp. p. 6931; Gaz. vol. 160; p. 1178.
Tire, Cushion-. E. C. Shilling. No. 974,808; Nov. 1; Sp. p. 505; Gaz. vol. 160; p. 75.
Tire-fastening device. W. B. Owen. No. 974,178; Nov. 1; Sp. p. 150; Gaz. vol. 160; p. 28.
Tire for road-vehicle wheels. R. J. Caldwell. No. 975,207; Nov. 8; Sp. p. 2573; Gaz. vol. 160; p. 415.
Tire for vehicle-wheels, Fiber. S. L. Simpson. No. 974,714; Nov. 1; Sp. p. 1445; Gaz. vol. 160; p. 223.
Tire-healing compound. H. S. Griswold. No. 974,134; Nov. 1; Sp. p. 56; Gaz. vol. 160; p. 12.
Tire-inflating pump. C. Lewis. No. 975,774; Nov. 15; Sp. p. 3750; Gaz. vol. 160; p. 633.
Tire-protective armor. A. G. Thomson. No. 976,011; Nov. 15; Sp. p. 4219; Gaz. vol. 160; p. 715.
Tire-protector jack, Auto-. G. M. Beard. No. 975,600; Nov. 15; Sp. p. 3384; Gaz. vol. 160; p. 575.
Tire-reinforcing fabric and making same. C. Zeglen. No. 977,357; Nov. 29; Sp. p. 7227; Gaz. vol. 160; p. 1227.
Tire-repairing device. E. A. Holcomb. No. 976,262; Nov. 22; Sp. p. 4833; Gaz. vol. 160; p. 825.
Tire, Resilient. F. Lamplough. No. 975,539; Nov. 15; Sp. p. 3260; Gaz. vol. 160; p. 555.
Tire, Sectional emergency-. W. Budesheim and J. D. Stinchcomb. No. 975,325; Nov. 8; Sp. p. 2811; Gaz. vol. 160; p. 454.
Tire-securing device. C. R. Spore, Jr., and J. B. Lang. No. 975,901; Nov. 15; Sp. p. 4013; Gaz. vol. 160; p. 676.
Tire, Spring-. V. A. Marsh. No. 976,667; Nov. 22; Sp. p. 5698; Gaz. vol. 160; p. 964.
Tire-support. A. C. Hayden. No. 976,736; Nov. 22; Sp. p. 5818; Gaz. vol. 160; p. 986.
Tire-tightener. R. B. Smith. No. 976,514; Nov. 22; Sp. p. 5371; Gaz. vol. 160; p. 911.
Tire, Vehicle-. A. Crowe and J. E. Kinzel. No. 974,124; Nov. 1; Sp. p. 35; Gaz. vol. 160; p. 9.
Tire, Vehicle-. S. A. Douglas. No. 975,220; Nov. 8; Sp. p. 2595; Gaz. vol. 160; p. 419.
Tire, Vehicle-. A. J. Wilson. No. 975,816; Nov. 15; Sp. p. 3840; Gaz. vol. 160; p. 647.
Tire, Vehicle-wheel. J. Cairns. No. 975,829; Nov. 15; Sp. p. 3861; Gaz. vol. 160; p. 652.
Tires, Metallic casing for pneumatic. B. J. Kingston and J. H. Lane. No. 975,603; Nov. 15; Sp. p. 3597; Gaz. vol. 160; p. 606.
Tires, Removable wheel-rim for pneumatic. R. Kronenberg. No. 975,137; Nov. 8; Sp. p. 2402; Gaz. vol. 160; p. 390.
Tires, Tread for pneumatic. J. C. Schleicher. No. 974,602; Nov. 1; Sp. p. 1196; Gaz. vol. 160; p. 183.
Toaster. F. E. Hoffman. No. 976,864; Nov. 22; Sp. p. 5055; Gaz. vol. 160; p. 858.
Tobacco-moistener. C. B. De Lano. No. 977,374; Nov. 29; Sp. p. 7266; Gaz. vol. 160; p. 1233.
Tobacco-mold, Carrot. A. La Chance. No. 976,886; Nov. 29; Sp. p. 6180; Gaz. vol. 160; p. 1064.
Tobacco-ordering machine. B. W. Ginn. No. 975,412; Nov. 15; Sp. p. 2989; Gaz. vol. 160; p. 508.
Tobacco-pipe. W. M. Keenan. No. 975,251; Nov. 8; Sp. p. 2656; Gaz. vol. 160; p. 429.
Tobacco-pipe. F. J. Kieser. No. 975,363; Nov. 8; Sp. p. 2880; Gaz. vol. 160; p. 465.
Tobacco-pipe. J. B. MacLaughlin. No. 976,892; Nov. 29; Sp. p. 6190; Gaz. vol. 160; p. 1065.
Tobacco-pipe. H. F. Schulte. No. 976,936; Nov. 29; Sp. p. 6308; Gaz. vol. 160; p. 1081.
Tobacco-wringer. H. J. Averbeck and B. W. Ginn. No. 975,388; Nov. 15; Sp. p. 2953; Gaz. vol. 160; p. 501.
Toilet-stick holder. A. L. Weissenthanner. No. 975,092; Nov. 8; Sp. p. 2290; Gaz. vol. 160; p. 374.
Toilet utensil. B. Reynolds. No. 977,129; Nov. 29; Sp. p. 6748; Gaz. vol. 160; p. 1149.
Tongs, Mechanically-operated. R. F. Devine. No. 976,052; Nov. 15; Sp. p. 4296; Gaz. vol. 160; p. 728.
Tool. M. L. Cochran. No. 975,210; Nov. 8; Sp. p. 2579; Gaz. vol. 160; p. 416.
Tool, Combination-. J. Middleton. No. 976,674; Nov. 22; Sp. p. 5707; Gaz. vol. 160; p. 966.
Tool, Fluid-pressure-actuated impact-. G. H. Gilman. No. 974,375; Nov. 1; Sp. p. 672; Gaz. vol. 160; p. 101.
Tool for closing receptacles. J. Nasel and W. E. Barlow. No. 974,908; Nov. 8; Sp. p. 1877; Gaz. vol. 160; p. 310.
Tool socket and drifting-key, Tang-driven-. G. H. and E. S. Gross. No. 975,522; Nov. 15; Sp. p. 3223; Gaz. vol. 160; p. 549.
Tools, Centering and driving means for. S. H. Cox. No. 976,346; Nov. 22; Sp. p. 5019; Gaz. vol. 160; p. 852.
Tooth, Artificial. F. Z. Hanscom. No. 976,798; Nov. 22; Sp. p. 5070; Gaz. vol. 160; p. 1008.
Tooth-crown. C. E. Coleman. No. 976,153; Nov. 22; Sp. p. 4543; Gaz. vol. 160; p. 786.
Top, Spinning-. C. B. Winzer. No. 974,731; Nov. 1; Sp. p. 1477; Gaz. vol. 160; p. 228.
Torch. N. J. Anderson. No. 976,717; Nov. 22; Sp. p. 5787; Gaz. vol. 160; p. 979.
Towing-machine. E. Dalgleish. No. 977,277; Nov. 29; Sp. p. 7050; Gaz. vol. 160; p. 1199.
Towing-machine. F. Metcalf and E. Dalgleish. No. 977,322; Nov. 29; Sp. p. 7131; Gaz. vol. 160; p. 1214.
Toy. J. H. Allen. No. 975,197; Nov. 8; Sp. p. 2548; Gaz. vol. 160; p. 411.
Toy. J. Schramm. No. 975,291; Nov. 8; Sp. p. 2732; Gaz. vol. 160; p. 442.
Toy, Aerial. Z. D. Underhill. No. 975,182; Nov. 8; Sp. p. 2511; Gaz. vol. 160; p. 406.
Toy, Musical. E. J. Rich. No. 976,695; Nov. 22; Sp. p. 5742; Gaz. vol. 160; p. 972.
Toy or game. D. Campbell. No. 975,119; Nov. 8; Sp. p. 2358; Gaz. vol. 160; p. 384.
Toy or puzzle, Scientific. W. C. Jeans and F. Beevers. No. 976,871; Nov. 22; Sp. p. 5068; Gaz. vol. 160; p. 861.
Toy parachute. M. E. Wright. No. 974,733; Nov. 1; Sp. p. 1479; Gaz. vol. 160; p. 228.
Toy-railway rail. M. Caruso. No. 976,633; Nov. 22; Sp. p. 5631; Gaz. vol. 160; p. 952.
Toy-railway rail. J. L. Cohen. (now J. L. Cowen.) No. 976,722; Nov. 22; Sp. p. 5795; Gaz. vol. 160; p. 981.
Toy roundabout. J. L. Allabough. No. 975,311; Nov. 8; Sp. p. 2785; Gaz. vol. 160; p. 450.
Toy, Sounding. W. Bartholomae. No. 976,718; Nov. 22; Sp. p. 5780; Gaz. vol. 160; p. 980.
Trace-carrier. S. W. Coffman. No. 976,636; Nov. 22; Sp. p. 5637; Gaz. vol. 160; p. 953.
Trace-chain. B. F. Brock. No. 974,857; Nov. 8; Sp. p. 1782; Gaz. vol. 160; p. 293.
Track-brace. C. Maunders. No. 974,411; Nov. 1; Sp. p. 745; Gaz. vol. 160; p. 113.
Track-leveling jack-block. H. M. Harris. No. 975,765; Nov. 15; Sp. p. 3740; Gaz. vol. 160; p. 630.
Track-sander. W. H. Smith. No. 975,803; Nov. 15; Sp. p. 3818; Gaz. vol. 160; p. 643.
Tracks, Making slotted tubular. E. Minshull. No. 977,118; Nov. 29; Sp. p. 6725; Gaz. vol. 160; p. 1145.
Traction members, Apparatus for treating. E. M. Boynton. No. 976,627; Nov. 22; Sp. p. 5616; Gaz. vol. 160; p. 950.
Traction-switch, Automatic. J. L. Yoder. No. 974,619; Nov. 1; Sp. p. 1234; Gaz. vol. 160; p. 190.
Traction-wheel. J. Oeste. No. 974,510; Nov. 1; Sp. p. 1001; Gaz. vol. 160; p. 149.
Traction-wheel drive, Magnetic. A. Sundh. No. 974,447; Nov. 1; Sp. p. 852; Gaz. vol. 160; p. 126.
Traction-wheel, Walking. S. M. Bower. No. 975,117; Nov. 8; Sp. p. 2354; Gaz. vol. 160; p. 383.
Traffic system, Street-. E. E. Sirrine. No. 976,939; Nov. 29; Sp. p. 6314; Gaz. vol. 160; p. 1082.
Tramway, Aerial. W. C. Lawson. No. 974,284; Nov. 1; Sp. p. 465; Gaz. vol. 160; p. 68.
Tramway-point. R. A. Hadfield. No. 977,006; Nov. 29; Sp. p. 6483; Gaz. vol. 160; p. 1106.
Tramway, Portable. O. F. Heydenreich. No. 975,238; Nov. 8; Sp. p. 2630; Gaz. vol. 160; p. 424.
Transfer-tube system. J. F. Skirrow and J. T. Needham. No. 976,753; Nov. 22; Sp. p. 5874; Gaz. vol. 160; p. 993.
Transformer. M. Mayer. No. 974,167; Nov. 1; Sp. p. 120; Gaz. vol. 160; p. 23.
Transmitting apparatus. F. W. Midgley. No. 974,169; Nov. 1; Sp. p. 125; Gaz. vol. 160; p. 24.
Transom-lifter, &c. A. Frombold. No. 977,291; Nov. 29; Sp. p. 7078; Gaz. vol. 160; p. 1204.
Transportation, Equalizer for wire-rope. A. Horner. No. 976,463; Nov. 22; Sp. p. 5267; Gaz. vol. 160; p. 894.
Transportation system. W. C. Carr. No. 977,370; Nov. 29; Sp. p. 7259; Gaz. vol. 160; p. 1232.
Trap: *See* Animal-trap; Drain-trap; Rat-trap; Steam-trap; Wash bowl and basin trap.
Trap. J. Kubes. No. 975,537; Nov. 15; Sp. p. 3266; Gaz. vol. 160; p. 554.
Tray, Crumb-. A. V. Green. No. 977,185; Nov. 29; Sp. p. 6884; Gaz. vol. 160; p. 1168.
Tray, Folding. J. C. Toynbee. No. 977,239; Nov. 29; Sp. p. 6985; Gaz. vol. 160; p. 1187.
Tree: *See* Shoe-tree.
Trench-filling apparatus. E. L. Ransome. No. 975,457; Nov. 15; Sp. p. 3073; Gaz. vol. 160; p. 525.
Trick chair. E. De Moulin. No. 976,786; Nov. 22; Sp. p. 5950; Gaz. vol. 160; p. 1004.
Trigger mechanism. C. H. A. F. L. Ross. No. 975,286; Nov. 8; Sp. p. 2721; Gaz. vol. 160; p. 441.
Trimmer: *See* Lawn and hedge trimmer; Saw-trimmer.
Trolley. G. A. Miller. No. 974,584; Nov. 1; Sp. p. 1167; Gaz. vol. 160; p. 177.
Trolley. J. Tarl. No. 975,302; Nov. 8; Sp. p. 2770; Gaz. vol. 160; p. 447.
Trolley-catcher. J. R. Ricketts. No. 974,920; Nov. 8; Sp. p. 1908; Gaz. vol. 160; p. 315.
Trolley for electric cars. A. Del Valle. No. 976,728; Nov. 22; Sp. p. 5805; Gaz. vol. 160; p. 983.
Trolley for electric railways, Lateral. A. J. Steinweg. No. 975,650; Nov. 15; Sp. p. 3490; Gaz. vol. 160; p. 592.
Trolley-harp. W. W. Stewart. No. 974,611; Nov. 1; Sp. p. 1213; Gaz. vol. 160; p. 186.
Trolley-head. E. E. Duff. No. 976,445; Nov. 22; Sp. p. 5239; Gaz. vol. 160; p. 889.
Trolley-head. E. N. McCall. No. 977,416; Nov. 29; Sp. p. 7376; Gaz. vol. 160; p. 1247.
Trolley-guard. M. Eisele. No. 976,859; Nov. 29; Sp. p. 6119; Gaz. vol. 160; p. 1054.
Trolley-pole. P. Schnell. No. 976,501; Nov. 22; Sp. p. 5350; Gaz. vol. 160; p. 907.
Trolley-pole. C. M. Speck and C. F. Earl. No. 976,942; Nov. 29; Sp. p. 6321; Gaz. vol. 160; p. 1083.
Trolley-pole. H. F. Robinson and H. A. Owen. No. 977,224; Nov. 29; Sp. p. 6951; Gaz. vol. 160; p. 1181.

Trolley-retriever. N. Peterson. No. 977,398; Nov. 29; Sp. p. 7337; Gaz. vol. 160; p. 1241.
Trolley-wheel. E. K. Harris. No. 976,172; Nov. 22; Sp. p. 4602; Gaz. vol. 160; p. 792.
Trolley-wires by means of the catenary system, Bridge for supporting. R. L. Allen. No. 974,225; Nov. 1; Sp. p. 268; Gaz. vol. 160; p. 45.
Trombone locking device. H. C. Martin. No. 977,026; Nov. 29; Sp. p. 6521; Gaz. vol. 160; p. 1113.
Trough: *See* Watering-trough.
Trowel. A. A. Harvie. No. 977,387; Nov. 29; Sp. p. 7286; Gaz. vol. 160; p. 1237.
Truck. C. E. M. Miller. No. 976,201; Nov. 22; Sp. p. 4636; Gaz. vol. 160; p. 802.
Truck-brake attachment, Warehouse-. J. Jones. No. 974,572; Nov. 1; Sp. p. 1145; Gaz. vol. 160; p. 173.
Truck, Car-. S. M. Vauclain. No. 975,303; Nov. 8; Sp. p. 2773; Gaz. vol. 160; p. 448.
Truck, Car-. H. W. Blake. No. 976,843; Nov. 29; Sp. p. 6076; Gaz. vol. 160; p. 1047.
Truck, Casket-. P. J. Kremer. No. 974,679; Nov. 1; Sp. p. 1359; Gaz. vol. 160; p. 212.
Truck connection. E. Stevens. No. 975,475; Nov. 15; Sp. p. 3117; Gaz. vol. 160; p. 532.
Truck, Electric. A. F. Batchelder. No. 977,156; Nov. 29; Sp. p. 6810; Gaz. vol. 160; p. 1157.
Truck for harvesters and binders, Tongue-. J. Flaig. (Reissue.) No. 13,169; Nov. 22; Sp. p. 6037; Gaz. vol. 160; p. 1020.
Truck-frame. W. D. Lowry. No. 977,204; Nov. 29; Sp. p. 6919; Gaz. vol. 160; p. 1175.
Truck-frame, Folding. P. J. Kremer. No. 974,678; Nov. 1; Sp. p. 1357; Gaz. vol. 160; p. 211.
Truck, Hand-. C. G. Gross. No. 974,135; Nov. 1; Sp. p. 56; Gaz. vol. 160; p. 12.
Trunk. C. Billburg. No. 976,339; Nov. 22; Sp. p. 5004; Gaz. vol. 160; p. 849.
Trunk, chest, or the like. W. E. Smith. No. 977,049; Nov. 29; Sp. p. 6567; Gaz. vol. 160; p. 1120.
Truss. J. W. Kayser. No. 977,098; Nov. 29; Sp. p. 6679; Gaz. vol. 160; p. 1137.
Tube: *See* Cop-tube; Pneumatic tube.
Tube-bending machine. R. Kieserling, Sr. No. 977,196; Nov. 29; Sp. p. 6902; Gaz. vol. 160; p. 1172.
Tube-cleaning apparatus. C. Robinett and J. P. Reid. No. 977,223; Nov. 29; Sp. p. 6949; Gaz. vol. 160; p. 1181.
Tube-cleaning apparatus. H. E. Weinland. No. 977,241; Nov. 29; Sp. p. 6987; Gaz. vol. 160; p. 1188.
Tubes, Discharge-head for collapsible. O. Gerdtsen. No. 975,348; Nov. 8; Sp. p. 2853; Gaz. vol. 160; p. 461.
Tubes, Manufacturing seamless. O. Briede. No. 974,744; Nov. 1; Sp. p. 1513; Gaz. vol. 160; p. 232.
Tubs, &c., Means for attaching feet to. O. H. Marschuetz and W. G. Probst. No. 975,881; Nov. 15; Sp. p. 3975; Gaz. vol. 160; p. 670.
Tunnel concrete timbering. T. H. Stanley. No. 975,064; Nov. 8; Sp. p. 2276; Gaz. vol. 160; p. 372.
Tunnel-ventilating apparatus. T. H. Johnson. No. 975,248; Nov. 8; Sp. p. 2651; Gaz. vol. 160; p. 428.
Tunnels or sewers, Center support or mold for forming. G. F. Dillig. No. 974,778; Nov. 8; Sp. p. 1588; Gaz. vol. 160; p. 267.
Turbine. P. Emden and W. Fritz. No. 974,956; Nov. 8; Sp. p. 2011; Gaz. vol. 160; p. 329.
Turbine. C. W. Wellman. No. 976,109; Nov 15; Sp. p. 4419; Gaz. vol. 160; p. 749.
Turbine. C. E. Hicks. No. 976,260; Nov. 22; Sp. p. 4820; Gaz. vol. 160; p. 824.
Turbine-blade. G. Westinghouse. No. 976,418; Nov. 22; Sp. p. 5174; Gaz. vol. 160; p. 879.
Turbine-blading. L. A. Haines. No. 977,299; Nov. 29; Sp. p. 7092; Gaz. vol. 160; p. 1206.
Turbine-blading. L. A. Haines. No. 977,300; Nov. 29; Sp. p. 7095; Gaz. vol. 160; p. 1207.
Turbine-bucket. A. H. Kudlich. No. 974,160; Nov. 1; Sp. p. 105; Gaz. vol. 160; p. 21.
Turbine, Elastic-fluid. C. A. Backstrom. No. 974,457; Nov. 1; Sp. p. 882; Gaz. vol. 160; p. 130.
Turbine-governor. F. W. Bentley. No. 974,113; Nov. 1; Sp. p. 16; Gaz. vol. 160; p. 5.
Turbine-motor. T. J. Loftus. No. 977,107; Nov. 29; Sp. p. 6697; Gaz. vol. 160; p. 1140.
Turbine-nozzle. T. Bell. No. 974,108; Nov. 1; Sp. p. 2; Gaz. vol. 160; p. 3.
Turbine vane and wheel. D. Kemble. No. 974,496; Nov. 1; Sp. p. 970; Gaz. vol. 160; p. 144.
Turpentine-separator. D. B. Sphaler and B. F. Bryan. No. 974,717; Nov. 1; Sp. p. 1450; Gaz. vol. 160; p. 224.
Tweezers. E. A. Straub. No. 977,341; Nov. 29; Sp. p. 7182; Gaz. vol. 160; p. 1221.
Type and type-bars, Mechanism for making. F. H. Richards. No. 976,920; Nov. 29; Sp. p. 6256; Gaz. vol. 160; p. 1075.
Type-base, Rubber. H. S. Folger. No. 975,344; Nov. 8; Sp. p. 2847; Gaz. vol. 160; p. 460.
Type-case, Supplementary. M. A. Stern. No. 977,339; Nov. 29; Sp. p. 7179; Gaz. vol. 160; p. 1221.
Type-scale. W. W. Greenwood. No. 975,689; Nov. 15; Sp. p. 3591; Gaz. vol. 160; p. 605.
Type-setting machine. E. A. Adcock. No. 975,194; Nov. 8; Sp. p. 2543; Gaz. vol. 160; p. 410.
Type-writer. J. B. Martin. No. 974,164; Nov. 1; Sp. p. 114; Gaz. vol. 160; p. 22.
Type-writer. R. Toepper. No. 974,210; Nov. 1; Sp. p. 243; Gaz. vol. 160; p. 40.
Type-writer-carriage-feeding mechanism. J. Alexander. No. 974,332; Nov. 1; Sp. p. 582; Gaz. vol. 160; p. 86.
Type-writer clamp. F. Roberts. No. 976,597; Nov. 22; Sp. p. 5137; Gaz. vol. 160; p. 871.
Type-writer key and type-bar mechanism. J. Alexander. No. 974,335; Nov. 1; Sp. p. 588; Gaz. vol. 160; p. 87.
Type-writer line-spacing mechanism. J. Alexander. No. 974,333; Nov. 1; Sp. p. 585; Gaz. vol. 160; p. 87.
Type-writer paper-feed attachment. W. R. Dixon. No. 974,556; Nov. 1; Sp. p. 1108; Gaz. vol. 160; p. 167.
Type-writer ribbon operating and feeding mechanism. J. Alexander. No. 974,334; Nov. 1; Sp. p. 586; Gaz. vol. 160; p. 87.
Type-writer-ribbon-reversing mechanism, Automatic-. T. E. Buschmann. No. 977,269; Nov. 29; Sp. p. 7038; Gaz. vol. 160; p. 1197.
Type-writing machine. T. J. Coo. No. 974,237; Nov. 1; Sp. p. 346; Gaz. vol. 160; p. 50.
Type-writing machine. R. W. Uhlig. No. 974,314; Nov. 1; Sp. p. 534; Gaz. vol. 160; p. 79.
Type-writing machine. J. Waldheim. No. 974,318; Nov. 1; Sp. p. 549; Gaz. vol. 160; p. 81.
Type-writing machine. A. T. Brown. No. 974,353; Nov. 1; Sp. p. 624; Gaz. vol. 160; p. 94.
Type-writing machine. C. W. Howell. No. 974,383; Nov. 1; Sp. p. 685; Gaz. vol. 160; p. 104.
Type-writing machine. J. T. Schaaff. No. 974,438; Nov. 1; Sp. p. 812; Gaz. vol. 160; p. 122.
Type-writing machine. C. H. Shepard. No. 974,441; Nov. 1; Sp. p. 829; Gaz. vol. 160; p. 123.
Type-writing machine. A. W. Steiger. No. 974,445; Nov. 1; Sp. p. 841; Gaz. vol. 160; p. 125.
Type-writing machine. C. F. Lundeberg. No. 974,503; Nov. 1; Sp. p. 983; Gaz. vol. 160; p. 146.
Type-writing machine. C. A. MacDermott. No. 974,505; Nov. 1; Sp. p. 987; Gaz. vol. 160; p. 147.
Type-writing machine. A. W. Smith. No. 974,836; Nov. 8; Sp. p. 1700; Gaz. vol. 160; p. 286.
Type-writing machine. B. C. Stickney. No. 974,841; Nov. 8; Sp. p. 1714; Gaz. vol. 160; p. 288.
Type-writing machine. E. B. Hess. No. 974,882; Nov. 8; Sp. p. 1818; Gaz. vol. 160; p. 302.
Type-writing machine. E. B. Hess. No. 974,883; Nov. 8; Sp. p. 1819; Gaz. vol. 160; p. 302.
Type-writing machine. E. C. Trouslot. No. 974,933; Nov. 8; Sp. p. 1938; Gaz. vol. 160; p. 320.
Type-writing machine. H. Glaeser. No. 974,958; Nov. 8; Sp. p. 2013; Gaz. vol. 160; p. 329.
Type-writing machine. J. Feibel. No. 975,027; Nov. 8; Sp. p. 2162; Gaz. vol. 160; p. 352.
Type-writing machine. W. J. Roche. No. 975,075; Nov. 8; Sp. p. 2260; Gaz. vol. 160; p. 368.
Type-writing machine. A. W. Steiger. No. 975,086; Nov. 8; Sp. p. 2279; Gaz. vol. 160; p. 372.
Type-writing machine. C. B. Yaw. No. 975,099; Nov. 8; Sp. p. 2303; Gaz. vol. 160; p. 377.
Type-writing machine. C. B. Yaw. No. 975,100; Nov. 8; Sp. p. 2307; Gaz. vol. 160; p. 377.
Type-writing machine. C. B. Yaw. No. 975,101; Nov. 8; Sp. p. 2311; Gaz. vol. 160; p. 378.
Type-writing machine. J. H. Barr. No. 975,110; Nov. 8; Sp. p. 2336; Gaz. vol. 160; p. 381.
Type-writing machine. A. W. Smith. No. 975,168; Nov. 8; Sp. p. 2471; Gaz. vol. 160; p. 400.
Type-writing machine. A. W. Smith. No. 975,169; Nov. 8; Sp. p. 2476; Gaz. vol. 160; p. 401.
Type-writing machine. A. W. Smith. No. 975,170; Nov. 8; Sp. p. 2480; Gaz. vol. 160; p. 401.
Type-writing machine. O. Woodward. No. 975,190; Nov. 8; Sp. p. 2530; Gaz. vol. 160; p. 409.
Type-writing machine. W. R. Barnard. No. 975,200; Nov. 8; Sp. p. 2553; Gaz. vol. 160; p. 412.
Type-writing machine. C. Gibbe. No. 975,228; Nov. 8; Sp. p. 2600; Gaz. vol. 160; p. 421.
Type-writing machine. H. S. McCormack. No. 975,264; Nov. 8; Sp. p. 2680; Gaz. vol. 160; p. 433.
Type-writing machine. B. P. Fortin. No. 975,610; Nov. 15; Sp. p. 3411; Gaz. vol. 160; p. 579.
Type-writing machine. H. H. Steele. No. 975,732; Nov. 15; Sp. p. 3671; Gaz. vol. 160; p. 619.
Type-writing machine. C. D. Wallace. No. 975,739; Nov. 15; Sp. p. 3687; Gaz. vol. 160; p. 621.
Type-writing machine. N. F. Knox. No. 975,770; Nov. 15; Sp. p. 3748; Gaz. vol. 160; p. 632.
Type-writing machine. H. Crutchley. No. 975,834; Nov. 15; Sp. p. 3867; Gaz. vol. 160; p. 653.
Type-writing machine. J. C. McLaughlin. No. 975,884; Nov. 15; Sp. p. 3979; Gaz. vol. 160; p. 671.
Type-writing machine. C. B. Corcoran. No. 976,124; Nov. 15; Sp. p. 4449; Gaz. vol. 160; p. 753.
Type-writing machine. H. N. Josleyn. No. 976,882; Nov. 29; Sp. p. 6165; Gaz. vol. 160; p. 1062.
Type-writing machine. A. G. F. Kurowski. No. 977,019; Nov. 29; Sp. p. 6510; Gaz. vol. 160; p. 1110.
Type-writing-machine carriage. O. C. Kavle. No. 976,466; Nov. 22; Sp. p. 5272; Gaz. vol. 160; p. 895.
Type-writing machines, &c., Time-controlling mechanism for. C. D. Rice and L. D. Broughton. No. 977,130; Nov. 29; Sp. p. 6749; Gaz. vol. 160; p. 1149.
Type-writing machines, Type-bar bearing for. E. G. Latta and M. E. Herrmann. No. 977,201; Nov. 29; Sp. p. 6913; Gaz. vol. 160; p. 1174.
Typographic form. F. H. Richards. No. 976,919; Nov. 29; Sp. p. 6254; Gaz. vol. 160; p. 1075.

Umbrella. F. W. Rotzell. No. 974,437; Nov. 1; Sp. p. 811; Gaz. vol. 160; p. 122.
Umbrella attachment. G. D. Corey. No. 976,638; Nov. 22; Sp. p. 5642; Gaz. vol. 160; p. 954.
Umbrella-carrier. G. V. Humma and C. M. Hafer. No. 975,430; Nov. 15; Sp. p. 3025; Gaz. vol. 160; p. 516.
Umbrella-cover, Detachable. L. S. Birdsall. No. 975,203; Nov. 8; Sp. p. 2557; Gaz. vol. 160; p. 413.
Umbrella drip-cup. J. T. Bluff. No. 976,032; Nov. 15; Sp. p. 4252; Gaz. vol. 160; p. 721.
Umbrella, Folding. G. Carlson. No. 974,648; Nov. 1; Sp. p. 1287; Gaz. vol. 160; p. 198.
Umbrella, Folding. J. W. Olsson. No. 974,811; Nov. 8; Sp. p. 1655; Gaz. vol. 160; p. 277.
Umbrella, Folding. A. R. Colgrove. No. 975,211; Nov. 8; Sp. p. 2580; Gaz. vol. 160; p. 416.
Umbrella-holder, Self-adjusting. J. E. Bell. No. 975,500; Nov. 15; Sp. p. 3169; Gaz. vol. 160; p. 540.
Undergarment. H. Goolsby. No. 974,787; Nov. 8; Sp. p. 1608; Gaz. vol. 160; p. 270.
Urinal-stall. W. E. Hinsdale. No. 974,145; Nov. 1; Sp. p. 76; Gaz. vol. 160; p. 15.
Vacuum-cleaner. J. A. Forney. No. 975,028; Nov. 8; Sp. p. 2167; Gaz. vol. 160; p. 353.
Vacuum cleaning apparatus. F. J. Matchette, R. Raddatz, and C. Moukos. No. 974,286; Nov. 1; Sp. p. 468; Gaz. vol. 160; p. 69.
Vacuum cleaning apparatus. F. B. Cochran. No. 975,396; Nov. 15; Sp. p. 2965; Gaz. vol. 160; p. 503.
Vacuum cleaning apparatus. H. G. Kotten. No. 975,435; Nov. 15; Sp. p. 3034; Gaz. vol. 160; p. 518.
Vacuum dust-remover. C. B. Foster and W. W. Glidden. No. 977,380; Nov. 29; Sp. p. 7276; Gaz. vol. 160; p. 1235.
Vacuum-sweeper. F. J. Quist and M. Blanch. No. 976,494; Nov. 22; Sp. p. 5340; Gaz. vol. 160; p. 905.
Valise-locking device. D. Stamey. No. 976,706; Nov. 22; Sp. p. 5762; Gaz. vol. 160; p. 976.
Valve. H. F. Quickel. No. 974,185; Nov. 1; Sp. p. 178; Gaz. vol. 160; p. 30.
Valve. W. L. Hamilton. No. 975,524; Nov. 15; Sp. p. 3227; Gaz. vol. 160; p. 549.
Valve. J. C. Thompson. No. 976,010; Nov. 15; Sp. p. 4218; Gaz. vol. 160; p. 715.
Valve. E. L. Grooms. No. 976,070; Nov. 15; Sp. p. 4327; Gaz. vol. 160; p. 734.
Valve. B. F. Stillman. No. 976,222; Nov. 22; Sp. p. 4706; Gaz. vol. 160; p. 809.
Valve. W. S. Fairhurst. No. 976,449; Nov. 22; Sp. p. 5245; Gaz. vol. 160; p. 890.
Valve. J. Nolan. No. 976,489; Nov. 22; Sp. p. 5331; Gaz. vol. 160; p. 904.
Valve. G. Schuster. No. 976,702; Nov. 22; Sp. p. 5753; Gaz. vol. 160; p. 974.
Valve. J. H. Hulings. No. 976,804; Nov. 22; Sp. p. 5978; Gaz. vol. 160; p. 1010.
Valve. T. F. Payne. No. 976,908; Nov. 29; Sp. p. 6219; Gaz. vol. 160; p. 1070.
Valve. H. Lippold. No. 977,105; Nov. 29; Sp. p. 6694; Gaz. vol. 160; p. 1130.
Valve, Automatic. J. B. Perkins. No. 974,424; Nov. 1; Sp. p. 777; Gaz. vol. 160; p. 117.
Valve, Automatic. H. Carlton. No. 975,120; Nov 8; Sp. p. 2360; Gaz. vol. 160; p. 385.
Valve, Automatic safety check-. J. C. O'Neill and J. S. Dye. No. 975,153; Nov. 8; Sp. p. 2432; Gaz. vol. 160; p. 395.
Valve, Bottle-filling. R. Littler. No. 976,085; Nov. 15; Sp. p. 4359; Gaz. vol. 160; p. 741.
Valve-casing and pipe connection. F. Horn. No. 975,429; Nov. 15; Sp. p. 3024; Gaz. vol. 160; p. 515.
Valve, Check-. H. Hitchcock. No. 975,243; Nov. 8; Sp. p. 2644; Gaz. vol. 160; p. 426.
Valve-controlled device for drawing liquids. G. A. Robinson. No. 976,398; Nov. 22; Sp. p. 5138; Gaz. vol. 160; p. 871.
Valve, Cut-off. E. C. Marrs. No. 974,899; Nov. 8; Sp. p. 1852; Gaz. vol. 160; p. 308.
Valve, Engine-. C. Reeves. No. 974,432; Nov. 1; Sp. p. 803; Gaz. vol. 160; p. 121.
Valve, Engine-. R. Wintzer. No. 976,766; Nov. 22; Sp. p. 5906; Gaz. vol. 160; p. 997.
Valve-fitting. J. F. Bernstein. No. 977,261; Nov. 29; Sp. p. 7024; Gaz. vol. 160; p. 1194.
Valve, Fluid-pressure. J. Fournia. No. 974,872; Nov. 8; Sp. p. 1800; Gaz. vol. 160; p. 299.
Valve for blowers. G. C. Hicks, Jr. No. 975,240; Nov. 8; Sp. p. 2630; Gaz. vol. 160; p. 425.
Valve for internal-combustion engines, Exhaust-. T. J. Koven. No. 975,255; Nov. 8; Sp. p. 2664; Gaz. vol. 160; p. 430.
Valve for pneumatic cleaning-tools, Coupling-. F. J. Matchette and C. Moukos. No. 974,409; Nov. 1; Sp. p. 739; Gaz. vol. 160; p. 112.
Valve for steam-traps and the like. A. E. Duram. No. 976,055; Nov. 15; Sp. p. 4301; Gaz. vol. 160; p. 730.
Valve for water-nozzles. F. Gfeller. No. 975,350; Nov. 8; Sp. p. 2863; Gaz. vol. 160; p. 461.
Valve, Gas-engine. B. M. Aslakson. No. 974,337; Nov. 1; Sp. p. 592; Gaz. vol. 160; p. 88.
Valve-gear. J. G. Blunt. No. 976,542; Nov. 22; Sp. p. 5450; Gaz. vol. 160; p. 921.
Valve-gear and ignition mechanism. J. H. Londick. No. 976,478; Nov. 22; Sp. p. 5304; Gaz. vol. 160; p. 900.
Valve-gear for explosion-engines. N. T. Harrington. No. 975,234; Nov. 8; Sp. p. 2619; Gaz. vol. 160; p. 423.
Valve-gear for fluid-pressure motors. C. Hammen. No. 976,458; Nov. 22; Sp. p. 5259; Gaz. vol. 160; p. 892.
Valve, Globe-. A. L. Kerbaugh. No. 974,498; Nov. 1; Sp. p. 974; Gaz. vol. 160; p. 144.
Valve grinder and drill, Combined. O. R. Angell. No. 977,258; Nov. 29; Sp. p. 7018; Gaz. vol. 160; p. 1193.
Valve mechanism. W. H. Schulte. No. 974,925; Nov. 8; Sp. p. 1920; Gaz. vol. 160; p. 317.
Valve mechanism for gas-pipes, Safety-. E. H. Hollis. No. 976,078; Nov. 15; Sp. p. 4341; Gaz. vol. 160; p. 737.
Valve mechanism for steamboat-engines. R. Eaton. No. 976,790; Nov. 22; Sp. p. 5956; Gaz. vol. 160; p. 1005.
Valve, Piston-. D. F. Stayman. No. 974,534; Nov. 1; Sp. p. 1061; Gaz. vol. 160; p. 158.
Valve, Reducing-. J. H. Derby. No. 975,838; Nov. 15; Sp. p. 3877; Gaz. vol. 160; p. 654.
Valve, Refilling-. E. G. Watrous. No. 975,091; Nov. 8; Sp. p. 2288; Gaz. vol. 160; p. 374.
Valve-regulator. T. M. Wilkins. No. 975,915; Nov. 15; Sp. p. 4049; Gaz. vol. 160; p. 682.
Valve-regulator. T. M. Wilkins. No. 976,713; Nov. 22; Sp. p. 5780; Gaz. vol. 160; p. 978.
Valve-remover. P. C. Wiest. No. 977,245; Nov. 29; Sp. p. 6995; Gaz. vol. 160; p. 1189.
Valve seating arrangement, Steam and other. A. P. Kibler. No. 975,046; Nov. 8; Sp. p. 2201; Gaz. vol. 160; p. 358.
Valve stems, Cap for renewing the worn ends of engine-. J. A. McHardy. No. 976,274; Nov. 22; Sp. p. 4860; Gaz. vol. 160; p. 829.
Vapor generator, Saturated or superheated. G. Voegeli. No. 974,216; Nov. 1; Sp. p. 255; Gaz. vol. 160; p. 42.
Vapor-rectifying devices, Starting means for. F. Conrad. No. 975,399; Nov. 15; Sp. p. 2971; Gaz. vol. 160; p. 504.
Vaporizer or carbureter. A. J. Stickler. No. 976,409; Nov. 22; Sp. p. 5158; Gaz. vol. 160; p. 876.
Varnish, Providing bronze-powder and dust colors with a coat of. E. Geser. No. 976,594; Nov. 22; Sp. p. 5557; Gaz. vol. 160; p. 939.
Vault. H. L. Pangborn. No. 975,788; Nov. 15; Sp. p. 3787; Gaz. vol. 160; p. 638.
Vault. W. H. Hollar, W. Rees, and H. F. Balou. No. 977,307; Nov. 29; Sp. p. 7107; Gaz. vol. 160; p. 1209.
Vault, Burial-. J. C. Simpson. No. 976,407; Nov. 22; Sp. p. 5156; Gaz. vol. 160; p. 875.
Vault-head. W. B. White. No. 976,327; Nov. 22; Sp. p. 4965; Gaz. vol. 160; p. 846.
Vegetable matter, Treating. G. D. Burton. No. 976,037; Nov. 15; Sp. p. 4264; Gaz. vol. 160; p. 723.
Vegetable-washer. S. A. Mascia. No. 974,165; Nov. 1; Sp. p. 116; Gaz. vol. 160; p. 23.
Vehicle. A. M. Bollinger. No. 974,547; Nov. 1; Sp. p. 1095; Gaz. vol. 160; p. 165.
Vehicle. C. H. Washburne. No. 976,413; Nov. 22; Sp. p. 5165; Gaz. vol. 160; p. 877.
Vehicle-brake. G. W. Fisher. (Reissue.) No. 13,175; Nov. 29; Sp. p. 7394; Gaz. vol. 160; p. 1249.
Vehicle equalizer-bars, Means for detachably supporting. L. E. Hickok. No. 974,144; Nov. 1; Sp. p. 75; Gaz. vol. 160; p. 15.
Vehicle-gear. L. E. Hickok. No. 974,141; Nov. 1; Sp. p. 70; Gaz. vol. 160; p. 14.
Vehicle-gear. L. E. Hickok. No. 974,142; Nov. 1; Sp. p. 72; Gaz. vol. 160; p. 15.
Vehicle-gear. L. E. Hickok. No. 974,143; Nov. 1; Sp. p. 73; Gaz. vol. 160; p. 15.
Vehicle, Motor-. C. A. Carlson. No. 974,745; Nov. 1; Sp. p. 1516; Gaz. vol. 160; p. 232.
Vehicle, Motor-. C. A. Carlson. No. 974,746; Nov. 1; Sp. p. 1518; Gaz. vol. 160; p. 233.
Vehicle, Motor-. V. Link. No. 976,193; Nov. 22; Sp. p. 4643; Gaz. vol. 160; p. 799.
Vehicle, Power dumping-. N. H. Nelson. No. 976,389; Nov. 22; Sp. p. 5113; Gaz. vol. 160; p. 868.
Vehicle running-gear. H. E. Bradley. No. 975,892; Nov. 15; Sp. p. 2959; Gaz. vol. 160; p. 502.
Vehicle running-gear, Motor-. W. Juneau. No. 977,407; Nov. 29; Sp. p. 7354; Gaz. vol. 160; p. 1244.
Vehicle-spring support. E. D. Toops. No. 974,313; Nov. 1; Sp. p. 534; Gaz. vol. 160; p. 79.
Vehicle spring suspension. P. Morren. No. 977,302; Nov. 29; Sp. p. 7203; Gaz. vol. 160; p. 1239.
Vehicle-wheel. E. J. Estey. No. 974,250; Nov. 1; Sp. p. 376; Gaz. vol. 160; p. 55.
Vehicle-wheel. G. E. Woodbury. No. 975,378; Nov. 8; Sp. p. 2922; Gaz. vol. 160; p. 471.
Vehicle-wheel. B. W. Hammond. No. 976,360; Nov. 22; Sp. p. 5050; Gaz. vol. 160; p. 857.
Vehicle-wheel. O. Treier. No. 976,710; Nov. 22; Sp. p. 5770; Gaz. vol. 160; p. 977.
Vehicle-wheel. S. L. Simpson. No. 976,938; Nov. 29; Sp. p. 6313; Gaz. vol. 160; p. 1082.
Vehicle-wheel. W. Q. Kennedy. No. 977,195; Nov. 29; Sp. p. 6901; Gaz. vol. 160; p. 1172.
Vehicle-wheel, Cushion-tread. H. C. Brown. No. 976,846; Nov. 29; Sp. p. 6092; Gaz. vol. 160; p. 1049.
Vehicle wind-shield. C. O. Doan. No. 977,174; Nov. 29; Sp. p. 6853; Gaz. vol. 160; p. 1164.
Vehicles, Portable testing device for mechanically-propelled. F. I. Spellman. No. 976,705; Nov. 22; Sp. p. 5760; Gaz. vol. 160; p. 975.
Veil, Automobile-. J. V. Siegel. No. 976,510; Nov. 22; Sp. p. 5361; Gaz. vol. 160; p. 910.

Vending device. C. L. Newton. No. 975,887; Nov. 15; Sp. p. 3985; Gaz. vol. 160; p. 672.
Vending-machine. J. W. Patterson. No. 974,813; Nov. 8; Sp. p. 1660; Gaz. vol. 160; p. 278.
Vending-machine. J. W. Patterson. No. 974,814; Nov. 8; Sp. p. 1662; Gaz. vol. 160; p. 279.
Vending-machine. M. McAneny. No. 976,089; Nov. 15; Sp. p. 4369; Gaz. vol. 160; p. 742.
Veneer-drying apparatus. L. G. Merritt and B. L. Gale. No. 974,903; Nov. 8; Sp. p. 1863; Gaz. vol. 160; p. 309.
Veneer-package machine. H. Roberts. No. 977,222; Nov. 29; Sp. p. 6946; Gaz. vol. 160; p. 1180.
Veneering. H. C. Hiscock. No. 974,147; Nov. 1; Sp. p. 80; Gaz. vol. 160; p. 15.
Ventilating apparatus. J. G. Garner. No. 975,851; Nov. 15; Sp. p. 3914; Gaz. vol. 160; p. 660.
Ventilating system. J. C. Stroh. No. 976,229; Nov. 22; Sp. p. 4735; Gaz. vol. 160; p. 813.
Ventilator: *See* Subway-ventilator; Window-ventilator.
Ventilator. H. J. Roth. No. 974,829; Nov. 8; Sp. p. 1690; Gaz. vol. 160; p. 284.
Ventilator and fly-escape, Combined. T. E. Dilley. No. 974,863; Nov. 8; Sp. p. 1772; Gaz. vol. 160; p. 295.
Vessel, Collapsible and expansible. W. M. Fulton. No. 975,519; Nov. 15; Sp. p. 3215; Gaz. vol. 160; p. 548.
Vessel for carrying bulk cargo. P. B. Clarke. No. 975,750; Nov. 15; Sp. p. 3710; Gaz. vol. 160; p. 626.
Vessels, Flexible corrugated-metal wall for collapsible and expansible. W. M. Fulton. No. 976,060; Nov. 15; Sp. p. 4308; Gaz. vol. 160; p. 731.
Vestibule-diaphragms, Means for attaching. J. H. Donaldson. No. 975,219; Nov. 8; Sp. p. 2593; Gaz. vol. 160; p. 418.
Vibratory apparatus for ear treatment. E. Meyer. No. 976,200; Nov. 22; Sp. p. 4654; Gaz. vol. 160; p. 802.
Vise attachment. L. W. Palmer. No. 975,991; Nov. 15; Sp. p. 4178; Gaz. vol. 160; p. 708.
Vise, Fluid-pressure-actuated. J. E. Osmer. No. 976,285; Nov. 22; Sp. p. 4876; Gaz. vol. 160; p. 833.
Vise, Strap pipe-. W. I. Trethewey. No. 975,001; Nov. 8; Sp. p. 2113; Gaz. vol. 160; p. 344.
Vise, Swivel-base. E. M. Walker. No. 976,521; Nov. 22; Sp. p. 5381; Gaz. vol. 160; p. 913.
Vitreous matter, Composition of. C. A. Kraus. No. 974,801; Nov. 8; Sp. p. 1635; Gaz. vol. 160; p. 274.
Voting, Device for independent. C. H. Ocumpaugh. No. 977,396; Nov. 29; Sp. p. 7330; Gaz. vol. 160; p. 1240.
Vulcanizers, Quick-opening door for. J. K. Williams. No. 976,969; Nov. 29; Sp. p. 6400; Gaz. vol. 160; p. 1093.
Wagon. H. Greene. No. 974,877; Nov. 8; Sp. p. 1809; Gaz. vol. 160; p. 300.
Wagon-box brace. J. H. Butt. No. 974,469; Nov. 1; Sp. p. 907; Gaz. vol. 160; p. 134.
Wagon-brake. J. L. Tomer. No. 977,346; Nov. 29; Sp. p. 7191; Gaz. vol. 160; p. 1223.
Wagon-loading device. W. W. Lucas. No. 976,666; Nov. 22; Sp. p. 5697; Gaz. vol. 160; p. 964.
Wagon-rack, Adjustable. A. E. Sutherland. No. 976,614; Nov. 22; Sp. p. 5593; Gaz. vol. 160; p. 946.
Walking-rake. W. F. and J. C. Bohling. No. 976,250; Nov. 22; Sp. p. 4803; Gaz. vol. 160; p. 821.
Wall-rack. D. C. Williams. No. 976,110; Nov. 15; Sp. p. 4421; Gaz. vol. 160; p. 749.
Wall, Retaining-. F. A. Bone. No. 975,881; Nov. 8; Sp. p. 2929; Gaz. vol. 160; p. 472.
Wall set. A. H. Weiss. No. 976,962; Nov. 29; Sp. p. 6375; Gaz. vol. 160; p. 1090.
Wall-socket. G. W. Goodridge. No. 977,207; Nov. 29; Sp. p. 7087; Gaz. vol. 160; p. 1206.
Warning apparatus, Automatic trembler particularly applicable to. E. Teste. No. 977,238; Nov. 29; Sp. p. 8082; Gaz. vol. 160; p. 1187.
Warp-reel and hand-loom tension. R. F. Hill. No. 975,618; Nov. 15; Sp. p. 3424; Gaz. vol. 160; p. 581.
Warp stop mechanism. J. K. Lanning. No. 976,379; Nov. 22; Sp. p. 5090; Gaz. vol. 160; p. 864.
Wash bowl and basin trap. A. McIntosh. No. 977,319; Nov. 29; Sp. p. 7126; Gaz. vol. 160; p. 1213.
Washboiler. G. Robinson. No. 975,573; Nov. 15; Sp. p. 3337; Gaz. vol. 160; p. 566.
Washboiler attachment. J. McGregor. No. 975,055; Nov. 8; Sp. p. 2220; Gaz. vol. 160; p. 361.
Washer: *See* Dish-washer; Ore and coal washer; Receptacle-washer; Vegetable-washer.
Washing clothes. G. D. Burton. No. 976,035; Nov. 15; Sp. p. 4260; Gaz. vol. 160; p. 723.
Washing-machine. T. S. Patterson. No. 974,591; Nov. 1; Sp. p. 1178; Gaz. vol. 160; p. 180.
Washing-machine. D. Hawley. No. 976,362; Nov. 22; Sp. p. 5052; Gaz. vol. 160; p. 857.
Washing-machines, Motor-mounting for. I. Yassenoff. No. 975,919; Nov. 15; Sp. p. 4057; Gaz. vol. 160; p. 683.
Washing, rinsing, draining, and drying textile materials, Bensin apparatus for. U. Röthlisberger. No. 975,078; Nov. 8; Sp. p. 2266; Gaz. vol. 160; p. 369.
Waste and overflow, Basin. W. E. Hinsdale. No. 974,146; Nov. 1; Sp. p. 78; Gaz. vol. 160; p. 15.
Waste-plug controlling device. W. H. Schulte. No. 974,926; Nov. 8; Sp. p. 1923; Gaz. vol. 160; p. 318.
Watch dial-foot. W. C. Ball. No. 974,460; Nov. 1; Sp. p. 888; Gaz. vol. 160; p. 131.
Watch-movement. W. B. Mehl. No. 977,320; Nov. 29; Sp. p. 7128; Gaz. vol. 160; p. 1213.
Watch-movement. W. B. Mehl. No. 977,321; Nov. 29; Sp. p. 7129; Gaz. vol. 160; p. 1214.
Watch-movement ratchet mechanism. W. H. Ebelhare. No. 977,286; Nov. 29; Sp. p. 7071; Gaz. vol. 160; p. 1203.
Water and air proof composition of matter. H. Mielck and F. C. von Heydebrand. No. 977,423; Nov. 29; Sp. p. 7388; Gaz. vol. 160; p. 1249.
Water-closet. P. A. Curtin. No. 975,678; Nov. 15; Sp. p. 3573; Gaz. vol. 160; p. 601.
Water-closet bowl. A. T. Lueckenbach. No. 975,550; Nov. 15; Sp. p. 3290; Gaz. vol. 160; p. 558.
Water-closet hinge connection. J. H. Pryor. No. 976,395; Nov. 22; Sp. p. 5135; Gaz. vol. 160; p. 870.
Water-closet valve. E. G. Watrous. No. 974,939; Nov. 8; Sp. p. 1954; Gaz. vol. 160; p. 822.
Water-closet valve. E. G. Watrous. No. 975,664; Nov. 15; Sp. p. 3545; Gaz. vol. 160; p. 597.
Water-closet-valve operating connection. E. G. Watrous. No. 975,812; Nov. 15; Sp. p. 3835; Gaz. vol. 160; p. 646.
Water crib or caisson. F. P. Fensky. No. 976,257; Nov. 22; Sp. p. 4823; Gaz. vol. 160; p. 823.
Water-elevator, Compressed-air. E. C. Smith and W. A. Crumpacker. No. 976,004; Nov. 15; Sp. p. 4207; Gaz. vol. 160; p. 712.
Water-gage. C. L. Dickerson. No. 977,375; Nov. 29; Sp. p. 7267; Gaz. vol. 160; p. 1233.
Water-heater. W. P. Cosper. (Reissue.) No. 13,166; Nov. 8; Sp. p. 2947; Gaz. vol. 160; p. 475.
Water-heater. C. A. Borein. No. 975,824; Nov. 15; Sp. p. 3854; Gaz. vol. 160; p. 650.
Water-heater burner. J. Muirhead. No. 977,214; Nov. 29; Sp. p. 6934; Gaz. vol. 160; p. 1178.
Water-level regulator and indicator. G. Lane. No. 976,741; Nov. 22; Sp. p. 5830; Gaz. vol. 160; p. 987.
Water-meter. E. E. Gamon. No. 974,256; Nov. 1; Sp. p. 387; Gaz. vol. 160; p. 57.
Water-meter alarm. A. Rioux. No. 975,072; Nov. 8; Sp. p. 2253; Gaz. vol. 160; p. 367.
Water-motor. L. M. Wilber. No. 974,221; Nov. 1; Sp. p. 261; Gaz. vol. 160; p. 44.
Water-motor. H. W. Yost. No. 976,972; Nov. 29; Sp. p. 6406; Gaz. vol. 160; p. 1004.
Water-motor. H. F. Blackwell. No. 977,264; Nov. 29; Sp. p. 7028; Gaz. vol. 160; p. 1195.
Water-tight coupling. W. J. Donnelley. No. 976,787; Nov. 22; Sp. p. 5951; Gaz. vol. 160; p. 1004.
Watering tank, Stock-. B. H. Gedge. No. 974,873; Nov. 8; Sp. p. 1802; Gaz. vol. 160; p. 299.
Watering-trough. B. Hasman, Jr. No. 976,874; Nov. 29; Sp. p. 6143; Gaz. vol. 160; p. 1059.
Watering-trough, Automatic. M. D. McDougall. No. 975,554; Nov. 15; Sp. p. 3300; Gaz. vol. 160; p. 560.
Wave-motor. T. La Brum. No. 974,282; Nov. 1; Sp. p. 461; Gaz. vol. 160; p. 67.
Wave-motor. F. H. Farmer. No. 974,869; Nov. 8; Sp. p. 1794; Gaz. vol. 160; p. 298.
Wave-motor. W. K. Bowerman. No. 974,948; Nov. 8; Sp. p. 1977; Gaz. vol. 160; p. 326.
Wave-motor. B. Cutler. No. 976,988; Nov. 29; Sp. p. 6438; Gaz. vol. 160; p. 1099.
Wax finish, Liquid. J. D. Bryant. No. 975,394; Nov. 15; Sp. p. 2962; Gaz. vol. 160; p. 503.
Weaner. M. Eide. No. 975,680; Nov. 15; Sp. p. 3576; Gaz. vol. 160; p. 602.
Weaner, Calf-. J. S. Weathers. No. 977,352; Nov. 29; Sp. p. 7205; Gaz. vol. 160; p. 1225.
Weaner, Colt and calf. C. H. Patterson. No. 974,421; Nov. 1; Sp. p. 769; Gaz. vol. 160; p. 116.
Weather-strip. C. A. Penny. No. 974,706; Nov. 1; Sp. p. 1433; Gaz. vol. 160; p. 220.
Weather-strip. J. Dumont. No. 975,337; Nov. 8; Sp. p. 2828; Gaz. vol. 160; p. 458.
Weather-strip for doors. H. L. Davis. No. 974,242; Nov. 1; Sp. p. 361; Gaz. vol. 160; p. 52.
Web-press, Rotary. C. N. Smith. No. 974,607; Nov. 1; Sp. p. 1203; Gaz. vol. 160; p. 185.
Weevil exterminator, Boll-. P. J. Coco. No. 974,751; Nov. 1; Sp. p. 1526; Gaz. vol. 160; p. 234.
Weft-fork spring. R. Smith. No. 975,647; Nov. 15; Sp. p. 3487; Gaz. vol. 160; p. 591.
Weighing and bagging machine. G. T. Wade. No. 975,005; Nov. 8; Sp. p. 2120; Gaz. vol. 160; p. 345.
Weighing and filling machine. H. Dunkerly. No. 977,378; Nov. 29; Sp. p. 7271; Gaz. vol. 160; p. 1234.
Weighing apparatus, Automatic. C. R. Hutchinson. No. 977,014; Nov. 29; Sp. p. 6499; Gaz. vol. 160; p. 1108.
Weighing-machine. H. Richardson. No. 975,158; Nov. 8; Sp. p. 2442; Gaz. vol. 160; p. 397.
Weighing-machine. P. J. A. Stockmann. No. 976,228; Nov. 22; Sp. p. 4734; Gaz. vol. 160; p. 812.
Welding metallic filaments to lead-wires. K. Farkas. No. 975,845; Nov. 15; Sp. p. 3893; Gaz. vol. 160; p. 657.
Well-drilling device. J. S. Stewart. No. 974,305; Nov. 1; Sp. p. 509; Gaz. vol. 160; p. 75.
Well-hook. A. Soss. No. 974,533; Nov. 1; Sp. p. 1060; Gaz. vol. 160; p. 158.
Well-packer. W. Hemme. No. 976,737; Nov. 22; Sp. p. 5820; Gaz. vol. 160; p. 986.
Well-screen. H. R. Decker. No. 975,333; Nov. 8; Sp. p. 2823; Gaz. vol. 160; p. 457.
Well-screen. H. R. Decker and R. W. Houk. No. 975,334; Nov. 8; Sp. p. 2824; Gaz. vol. 160; p. 457.
Wells, Drilling and cementing. W. W. Pedder. No. 975,065; Nov. 8; Sp. p. 2238; Gaz. vol. 160; p. 365.

Welt-beaters, Work-support for. J. J. Doidge. No. 975,841; Nov. 15; Sp. p. 3886; Gaz. vol. 160; p. 656.
Wheel: *See* Car-wheel; Elevator-wheel; Fifth-wheel; Gear-wheel; Grinding-wheel; Mower-wheel; Propeller-wheel; Resilient wheel; Sand-wheel; Spring-wheel; Traction-wheel; Trolley-wheel; Vehicle-wheel.
Wheel. H. E. Walker. No. 974,320; Nov. 1; Sp. p. 562; Gaz. vol. 160; p. 81.
Wheel. W. L. Jacoby and F. B. Bell. No. 974,798; Nov. 8; Sp. p. 1622; Gaz. vol. 160; p. 273.
Wheel. F. C. Foster. No. 975,407; Nov. 15; Sp. p. 2981; Gaz. vol. 160; p. 507.
Wheel attachment. I. R. Thompson. No. 976,315; Nov. 22; Sp. p. 4943; Gaz. vol. 160; p. 842.
Wheel for motor and other road vehicles. H. Perrins. No. 975,453; Nov. 15; Sp. p. 3066; Gaz. vol. 160; p. 524.
Wheel lock, Bicycle or other. B. Schestopol. No. 977,228; Nov. 29; Sp. p. 6958; Gaz. vol. 160; p. 1182.
Wheel removable rim, Vehicle-. A. N. Hood. No. 974,770; Nov. 1; Sp. p. 1566; Gaz. vol. 160; p. 241.
Wheel-rim, Demountable. R. Healy. No. 975,767; Nov. 15; Sp. p. 3743; Gaz. vol. 160; p. 631.
Wheel-rim, Detachable. R. Janciacs and W. Kaulhausen. No. 974,668; Nov. 1; Sp. p. 1336; Gaz. vol. 160; p. 208.
Wheel rim, Vehicle-. S. A. Huntley. No. 974,796; Nov. 8; Sp. p. 1619; Gaz. vol. 160; p. 273.
Wheels, Detachable and sectional rim for vehicle-. J. W. Miller. No. 976,900; Nov. 29; Sp. p. 6202; Gaz. vol. 160; p. 1067.
Wheelbarrow. P. E. Newcomb. No. 974,909; Nov. 8; Sp. p. 1878; Gaz. vol. 160; p. 311.
Wheelbarrow. H. M. Verplanck. No. 977,056; Nov. 29; Sp. p. 6576; Gaz. vol. 160; p. 1122.
Wheelbarrow attachment. W. C. Johnson. No. 974,571; Nov. 1; Sp. p. 1144; Gaz. vol. 160; p. 173.
Whistle and cut-out. F. G. Terwilliger. No. 976,008; Nov. 15; Sp. p. 4214; Gaz. vol. 160; p. 714.
Whistle, Automatic warning-. T. E. Kinney. No. 977,017; Nov. 29; Sp. p. 6507; Gaz. vol. 160; p. 1110.
Wick-gage. G. A. Ritzler. No. 974,522; Nov. 1; Sp. p. 1030; Gaz. vol. 160; p. 153.
Winch. F. Metcalf and J. E. Carson. No. 975,558; Nov. 15; Sp. p. 3306; Gaz. vol. 160; p. 561.
Winch. F. Metcalf and J. E. Carson. No. 975,559; Nov. 15; Sp. p. 3310; Gaz. vol. 160; p. 562.
Wind-motor. J. Schies. No. 974,995; Nov. 8; Sp. p. 2095; Gaz. vol. 160; p. 341.
Wind-shield. J. Hadka. No. 975,414; Nov. 15; Sp. p. 2992; Gaz. vol. 160; p. 509.
Winding apparatus. M. Leitch. No. 977,104; Nov. 29; Sp. p. 6691; Gaz. vol. 160; p. 1139.
Winding device. J. Jacobson. No. 975,133; Nov. 8; Sp. p. 2395; Gaz. vol. 160; p. 388.
Winding machine, Cop-. E. H. Ryon. No. 976,698; Nov. 22; Sp. p. 5747; Gaz. vol. 160; p. 973.
Winding-machine reel. L. H. Ballou. No. 975,821; Nov 15; Sp. p. 3849; Gaz. vol. 160; p. 649.
Windlass. C. Andrade, Jr. No. 974,456; Nov. 1; Sp. p. 879; Gaz. vol. 160; p. 129.
Window. W. A. Farmer. No. 974,870; Nov. 8; Sp. p. 1796; Gaz. vol. 160; p. 298.
Window. A. Wolff. No. 976,534; Nov. 22; Sp. p. 5431; Gaz. vol. 160; p. 917.
Window and door screen. W. S. Caldwell. No. 975,931; Nov. 15; Sp. p. 4071; Gaz. vol. 160; p. 687.
Window attachment, Storm-. A. J. Parmeter. No. 975,992; Nov. 15; Sp. p. 4180; Gaz. vol. 160; p. 708.
Window-bracket. J. N. Parrahm. No. 977,030; Nov. 29; Sp. p. 6545; Gaz. vol. 160; p. 1117.
Window-cleaner. E. J. Schowalter. No. 974,193; Nov. 1; Sp. p. 200; Gaz. vol. 160; p. 34.
Window-cleaner. W. Stadt and W. Veltman. No. 975,474; Nov. 15; Sp. p. 3116; Gaz. vol. 160; p. 532.
Window construction. J. Roberton. No. 976,297; Nov. 22; Sp. p. 4906; Gaz. vol. 160; p. 837.
Window-fastener. T. T. Smith. No. 976,005; Nov. 15; Sp. p. 4208; Gaz. vol. 160; p. 713.
Window-frame, Sectional metallic. W. D. Smith. No. 976,308; Nov. 22; Sp. p. 4932; Gaz. vol. 160; p. 841.
Window-lock. F. G. Andrews. No. 975,818; Nov. 15; Sp. p. 3843; Gaz. vol. 160; p. 648.
Window operating and locking mechanism. F. Karsits. No. 976,575; Nov. 22; Sp. p. 5516; Gaz. vol. 160; p. 932.
Window or screen hanger, Storm. G. W. Darlinton. No. 974,953; Nov. 8; Sp. p. 1991; Gaz. vol. 160; p. 328.
Window provision-box. C. C. Bishop. No. 974,852; Nov. 8; Sp. p. 1752; Gaz. vol. 160; p. 292.
Window-screen. F. L. Michaels and G. Welling. No. 974,689; Nov. 1; Sp. p. 1387; Gaz. vol. 160; p. 215.
Window-screen. L. Manelius. No. 975,146; Nov. 8; Sp. p. 2418; Gaz. vol. 160; p. 392.
Window-screen. J. S. Speer. No. 975,172; Nov. 8; Sp. p. 2485; Gaz. vol. 160; p. 402.
Window-tent. J. G. Allen. No. 977,154; Nov. 29; Sp. p. 6805; Gaz. vol. 160; p. 1156.
Window-ventilator. A. A. Matheson. No. 977,413; Nov. 29; Sp. p. 7371; Gaz. vol. 160; p. 1246.
Windows, Ventilating stop and lock for. R. B. Hoermann. No. 974,791; Nov. 8; Sp. p. 1613; Gaz. vol. 160; p. 271.
Wing-carrier. W. F. Brown. No. 976,629; Nov. 22; Sp. p. 5621; Gaz. vol. 160; p. 951.
Wire cable, socket, and coupling. C. Stevenson. No. 974,719; Nov. 1; Sp. p. 1454; Gaz. vol. 160; p. 224.
Wire-clamp. D. P. Page. No. 976,906; Nov. 29; Sp. p. 6215; Gaz. vol. 160; p. 1070.
Wire-connector. P. F. Williams. No. 976,111; Nov. 15; Sp. p. 4423; Gaz. vol. 160; p. 760.
Wire cord, Spring grip-holder for. C. L. Glynn. No. 977,384; Nov. 29; Sp. p. 7283; Gaz. vol. 160; 1237.
Wire-drawing machine. H. E. P. Taylor. No. 974,723; Nov. 1; Sp. p. 1465; Gaz. vol. 160; p. 225.
Wire-drawing machine. R. L. Morgan. No. 975,979; Nov. 15; Sp. p. 4159; Gaz. vol. 160; p. 703.
Wire-drawing machine, Continuous-. H. Saville. No. 975,641; Nov. 15; Sp. p. 3478; Gaz. vol. 160; p. 589.
Wire-fabric machine. F. E. Willits. No. 975,402; Nov. 15; Sp. p. 3147; Gaz. vol. 160; p. 537.
Wire-grip. C. A. Svensson. No. 977,236; Nov. 29; Sp. p. 6073; Gaz. vol. 160; p. 1186.
Wire-netting. Machine for weaving. A. W. Storey. No. 976,946; Nov. 29; Sp. p. 6327; Gaz. vol. 160; p. 1084.
Wire rope. H. Leschen. No. 975,541; Nov. 15; Sp. p. 3273; Gaz. vol. 160; p. 556.
Wire spring, Folding woven-. H. N. Werner. No. 975,007; Nov. 8; Sp. p. 2123; Gaz. vol. 160; p. 346.
Wire-stretcher. A. A. Boe. No. 974,228; Nov. 1; Sp. p. 274; Gaz. vol. 160; p. 46.
Wire-stretcher. A. Green. No. 974,258; Nov. 1; Sp. p. 304; Gaz. vol. 160; p. 58.
Wire-stretcher. J. H. Lewis. No. 974,403; Nov. 1; Sp. p. 726; Gaz. vol. 160; p. 110.
Wire-stretcher. J. E. Johnson, J. M. Perry, and B. McMahon. No. 975,247; Nov. 8; Sp. p. 2650; Gaz. vol. 160; p. 428.
Wire-stretcher. W. R. Buchanan. No. 975,324; Nov. 8; Sp. p. 2810; Gaz. vol. 160; p. 454.
Wire twisting and weaving machine. J. Cevasco, N. J. Cavagnaro, and C. Ambrette. No. 976,548; Nov. 22; Sp. p. 5460; Gaz. vol. 160; p. 923.
Wired edges, Machine for making. H. Ganssien. No. 976,353; Nov. 22; Sp. p. 5033; Gaz. vol. 160; p. 854.
Wireless apparatus. F. G. Sargent. No. 974,191; Nov. 1; Sp. p. 197; Gaz. vol. 160; p. 33.
Wood lamina, Expanded-. A. M. Stoltey. No. 974,536; Nov. 1; Sp. p. 1067; Gaz. vol. 160; p. 159.
Wood, Preserving. G. Hartmann and O. A. Schwerdtner. No. 974,962; Nov. 8; Sp. p. 2020; Gaz. vol. 160; p. 331.
Wooden core and making the same. D. C. Meehan. No. 974,984; Nov. 8; Sp. p. 2070; Gaz. vol. 160; p. 338.
Woodworker's press for glued work. J. M. Darr. No. 974,240; Nov. 1; Sp. p. 357; Gaz. vol. 160; p. 51.
Woodworking-tool. R. N. Adams. No. 975,494; Nov. 15; Sp. p. 3154; Gaz. vol. 160; p. 538.
Woven fabric. C. L. Fetterly. No. 975,940; Nov. 15; Sp. p. 4092; Gaz. vol. 160; p. 690.
Wrapping-machine. L. H. Wilbur. No. 974,453; Nov. 1; Sp. p. 864; Gaz. vol. 160; p. 127.
Wrecking bodies sunk in water, Method and apparatus for R. O. King. No. 975,534; Nov. 15; Sp. p. 3259; Gaz. vol. 160; p. 553.
Wrench: *See* Adjustable wrench; Jar-wrench; Pipe and nut wrench.
Wrench. W. W. Case. No. 974,121; Nov. 1; Sp. p. 27; Gaz. vol. 160; p. 8.
Wrench. J. Aasen. No. 974,331; Nov. 1; Sp. p. 581; Gaz. vol. 160; p. 86.
Wrench. J. A. Morris. No. 974,587; Nov. 1; Sp. p. 1172; Gaz. vol. 160; p. 178.
Wrench. J. A. Trambley. No. 974,725; Nov. 1; Sp. p. 1469; Gaz. vol. 160; p. 226.
Wrench. J. A. Trambley. No. 974,726; Nov. 1; Sp. p. 1470; Gaz. vol. 160; p. 226.
Wrench. M. C. Bersted. No. 974,772; Nov. 8; Sp. p. 1573; Gaz. vol. 160; p. 265.
Wrench. J. N. Shaw. No. 975,875; Nov. 8; Sp. p. 2915; Gaz. vol. 160; p. 470.
Wrench. J. H. Ferguson. No. 975,609; Nov. 15; Sp. p. 3410; Gaz. vol. 160; p. 578.
Wrench. W. F. Bailey. No. 975,671; Nov. 15; Sp. p. 3564; Gaz. vol. 160; p. 599.
Wrench. D. K. Hill. No. 975,950; Nov. 15; Sp. p. 4109; Gaz. vol. 160; p. 694.
Wrench. E. R. Gilbert. No. 976,064; Nov. 15; Sp. p. 4314; Gaz. vol. 160; p. 732.
Wrench. T. O'Hare. No. 976,391; Nov. 22; Sp. p. 5125; Gaz. vol. 160; p. 869.
Wrench. S. A. Holman. No. 976,740; Nov. 22; Sp. p. 5827; Gaz. vol. 160; p. 987.
Wringer: *See* Clothes-wringer; Mop-wringer; Tobacco-wringer.
Writing-machine cushion-key. H. M. Hay. No. 974,487; Nov. 1; Sp. p. 954; Gaz. vol. 160; p. 141.
Writing-machine for the use of the blind. A. Swindler. No. 977,237; Nov. 29; Sp. p. 6976; Gaz. vol. 160; p. 1186.
Yoke, Hog-. W. R. McCarroll. No. 974,901; Nov. 8; Sp. p. 1856; Gaz. vol. 160; p. 308.
Yoke, Neck-. D. C. Bowers. No. 974,115; Nov. 1; Sp. p. 19; Gaz. vol. 160; p. 6.
Zinc ores by the precipitation process, Treatment of. A. Desgraz. No. 975,217; Nov. 8; Sp. p. 2590; Gaz. vol. 160; p. 418.
Zinc pigments from liquors obtained from pyrites or pyrites-cinder and the like, Producing. J. H. Thwaites. No. 975,907; Nov. 15; Sp. p. 4024; Gaz. vol. 160; p. 678.
Zinc, Producing metallic. O. B. Dawson. No. 976,557; Nov. 22; Sp. p. 5481; Gaz. vol. 160; p. 926.

ALPHABETICAL LIST OF DESIGNS.

Apron. M. A. and J. S. Mulligan. No. 40,967; Nov. 1; Gaz. vol. 160; p. 244.
Automobiles, License-panel bracket-arm for. T. Harper. No. 40,984; Nov. 8; Gaz. vol. 160; p. 480.
Badge. A. Schickerling. No. 40,968; Nov. 8; Gaz. vol. 160; p. 477.
Brush-back and mirror. H. O. Bigney. No. 40,989; Nov. 15; Gaz. vol. 160; p. 760.
Brushes or similar articles, Back of. G. L. Turner. No. 40,970; Nov. 8; Gaz. vol. 160; p. 477.
Carpet. W. A. Elliot. No. 41,014; Nov. 29; Gaz. vol. 160; p. 1255.
Carpet. W. A. Spring. No. 41,015; Nov. 29; Gaz. vol. 160; p. 1255.
Centrifugal-machine frame. M. L. Hoyt. No. 41,009; Nov. 29; Gaz. vol. 160; p. 1254.
Chair. L. Killian. No. 41,012; Nov. 29; Gaz. vol. 160; p. 1254.
Cleaning apparatus, Casing for portable suction. I. K. Baxter and C. F. Barrett. No. 41,007; Nov. 29; Gaz. vol. 160; p. 1253.
Clocks, Handle for alarm-. C. P. Catlin. No. 40,972; Nov. 8; Gaz. vol. 160; p. 477.
Dolly. R. Gair. Nos. 41,020–1; Nov. 29; Gaz. vol. 160; p. 1256.
Doll. H. F. Samstag. No. 40,986; Nov. 8; Gaz. vol. 160; p. 480.
Doll. D. T. Hails. No. 41,022; Nov. 29; Gaz. vol. 160; p. 1256.
Drinking vessel. A. Gredelus. No. 40,999; Nov. 29; Gaz. vol. 160; p. 1251.
Emblem. J. W. Lane. No. 40,996; Nov. 29; Gaz. vol. 160; p. 1251.
Fob and vinaigrette. S. O. Bigney. No. 40,987; Nov. 15; Gaz. vol. 160; p. 760.
Font, Dispensing-. J. M. Travis. No. 40,985; Nov. 8; Gaz. vol. 160; p. 480.
Glass dish. T. C. Steimer. No. 40,990; Nov. 15; Gaz. vol. 160; p. 760.
Glass vessel or similar article. T. G. Hawkes. No. 41,000; Nov. 29; Gaz. vol. 160; p. 1251.
Hat and coat hanger. D. F. Buchmiller and E. Schwarz. No. 41,006; Nov. 29; Gaz. vol. 160; p. 1253.
Headlight. R. H. Welles. No. 40,991; Nov. 15; Gaz. vol. 160; p. 760.
Heater-casing. G. H. Minier and T. Lowe. Nos. 40,979–81; Nov. 8; Gaz. vol. 160; p. 479.
Jar. D. C. Ripley and C. E. Schmunk. Nos. 41,001–2; Nov. 29; Gaz. vol. 160; p. 1252.
Jewelry ornament. H. W. Fishel. No. 40,988; Nov. 15; Gaz. vol. 160; p. 760.
Knife handle, Pocket-. R. C. vom Cleff. No. 40,998; Nov. 29; Gaz. vol. 160; p. 1251.
Label-blank. H. Furste. No. 40,959; Nov. 1; Gaz. vol. 160; p. 243.
Lace, Levers. C. W. Birkin. Nos. 41,016–19; Nov. 29; Gaz. vol. 160; pp. 1255–6.
Lamp. N. Blount. No. 41,004; Nov. 29; Gaz. vol. 160; p. 1252.
Lamp-casing. W. H. Gardiner. No. 40,995; Nov. 22; Gaz. vol. 160; p. 1014.
Lamp-shade. H. A. Schnelbach. No. 41,005; Nov. 29; Gaz. vol. 160; p. 1253.
Light-shade. A. J. Sanford. No. 40,978; Nov. 8; Gaz. vol. 160; p. 479.
Mat. A. Henderson. No. 41,013; Nov. 29; Gaz. vol. 160; p. 1255.
Medal or similar article. H. W. Shepard. No. 40,969; Nov. 8; Gaz. vol. 160; p. 477.
Mirrors, brushes, or similar toilet articles, Back for. G. H. Berry. Nos. 40,960–1; Nov. 1; Gaz. vol. 160; p. 243.
Mirrors, pictures, or similar articles, Frame for. J. R. Foster. No. 41,003; Nov. 29; Gaz. vol. 160; p. 1252.
Paper, Wrapping-. D. C. Everest. No. 40,992; Nov. 15; Gaz. vol. 160; p. 761.
Picture-mount. E. A. Evans. Nos. 40,974–7; Nov. 8; Gaz. vol. 160; p. 478.
Pictures, mirrors, or similar articles, Frame for. J. R. Foster. No. 40,994; Nov. 22; Gaz. vol. 160; p. 1014.
Pincushion. G. Milligan. No. 40,965; Nov. 1; Gaz. vol. 160; p. 244.
Plate or similar article. A. A. Blankenmeister. No. 40,963; Nov. 1; Gaz. vol. 160; p. 244.
Plate or similar article. J. J. Miller. No. 40,973; Nov 8; Gaz. vol. 160; p. 477.
Pneumatic-cleaning-machine casing. A. J. Stecker. No. 40,982; Nov. 8; Gaz. vol. 160; p. 479.
Post for furniture or similar articles. P. Pilon. No. 40,983; Nov. 8; Gaz. vol. 160; p. 480.
Rug. E. H. Hill. No. 40,993; Nov. 15; Gaz. vol. 160; p. 761.
Spoon, fork, or similar article. G. Strobhaker. No. 40,997; Nov. 29; Gaz. vol. 160; p. 1251.
Spoons, forks, or similar articles, Handle for. B. P. Jenks. No. 40,971; Nov. 8; Gaz. vol. 160; p. 477.
Stove. J. Davids. No. 40,964; Nov. 1; Gaz. vol. 160; p. 244.
Stove, Heating-. J. S. Van Buren. No. 40,962; Nov. 1; Gaz. vol. 160; p. 243.
Table decoration, Electric. J. Germin. No. 41,010; Nov. 29; Gaz. vol. 160; p. 1254.
Talking-machine cabinet. J. C. English. No. 41,008; Nov. 29; Gaz. vol. 160; p. 1253.
Trimming. W. Hinchliffe. No. 40,966; Nov. 1; Gaz. vol. 160; p. 244.
Unitary chair and table. E. Hick. No. 41,011; Nov. 29; Gaz. vol. 160; p. 1254.

ALPHABETICAL LIST OF TRADE-MARKS.

Abdominal supporters, bandages, and suspensories. The Ohio Truss Co. No. 80,237; Nov. 22; Gaz. vol. 160; p. 1034.

Advertising-signs. A. M. Engelhard. No. 80,113; Nov. 8; Gaz. vol. 160; p. 489.

Alloy for repairing wagon-wheels. Universal Tire Setter Company. No. 80,294; Nov. 29; Gaz. vol. 160; p. 1268.

Alloys of precious metals and castings and forgings thereof. Hayes & Macfarland. No. 80,183; Nov. 15; Gaz. vol. 160; p. 769.

Antiseptic. Samuel Cabot, Inc. No. 80,267; Nov. 29; Gaz. vol. 160; p. 1267.

Antiskidding devices, Cross-chains and hooks for. Newhall Chain Forge & Iron Co. No. 80,143; Nov. 8; Gaz. vol. 160; p. 490.

Bags, Feed-. Avey Humane Feed Bag Company. No. 80,021; Nov. 1; Gaz. vol. 160; p. 253.

Bath-tubs, sinks, washbowls, &c. Kerner Manufacturing Company. No. 80,059; Nov. 1; Gaz. vol. 160; p. 254.

Bed-mattress protectors. Excelsior Quilting Company. No. 80,221; Nov. 22; Gaz. vol. 160; p. 1033.

Beer. G. Sedlmayr, Brauerei zum Spaten. No. 80,242; Nov. 22; Gaz. vol. 160; p. 1034.

Beer. Ashland Brewing Co. No. 80,264; Nov. 29; Gaz. vol. 160; p. 1267.

Beers, Imported. W. C. Beutel. No. 80,167; Nov. 15; Gaz. vol. 160; p. 769.

Belts for personal wear. S. Gutman. No. 80,181; Nov. 15; Gaz. vol. 160; p. 769.

Biscuit. Francis H. Leggett & Co. No. 80,132; Nov. 8; Gaz. vol. 160; p. 490.

Biscuit, Chocolate-covered. J. P. Cobb. No. 80,174; Nov. 15; Gaz. vol. 160; p. 769.

Biscuits. The Marjenhoff Company. No. 80,137; Nov. 8; Gaz. vol. 160; p. 490.

Bit-braces. Markt & Co. No. 80,233; Nov. 22; Gaz. vol. 160; p. 1034.

Books, binders, and bond-paper, Loose-leaf. Saugerties Manufacturing Company. No. 80,154; Nov. 8; Gaz. vol. 160; p. 490.

Books, Manifolding-. The McCaskey Register Company. No. 80,138; Nov. 8; Gaz. vol. 160; p. 490.

Books, pamphlets, cards, and leaflets. The Building Brick Association of America. No. 80,171; Nov. 15; Gaz. vol. 160; p. 769.

Boots and shoes. Beals & Torrey Shoe Co. No. 80,101; Nov. 8; Gaz. vol. 160; p. 489.

Borax. Francis H. Leggett & Co. No. 80,068; Nov. 1; Gaz. vol. 160; p. 254.

Brandy. Maison Boulestin. No. 80,105; Nov. 8; Gaz. vol. 160; p. 489.

Brandy. Rosenblatt Co. No. 80,241; Nov. 22; Gaz. vol. 160; p. 1034.

Bread. S. Dimitroff. No. 80,042; Nov. 1; Gaz. vol. 160; p. 253.

Bricks. Pearl Clay Products Company. No. 80,079; Nov. 1; Gaz. vol. 160; p. 254.

Brooms. Lee Broom & Duster Company. Nos. 80,062–6; Nov. 1; Gaz. vol. 160; p. 254.

Building materials, Certain. Simons Brick Company. No. 80,156; Nov. 8; Gaz. vol. 160; p. 490.

Butter. Merrell-Soule Co. No. 80,142; Nov. 8; Gaz. vol. 160; p. 490.

Buttons, Snap-. Waldes & Co. No. 80,095; Nov. 1; Gaz. vol. 160; p. 255.

Cakes, plum-pudding, and clam-chowder, Cassava-. Francis H. Leggett & Co. No. 80,135; Nov. 8; Gaz. vol. 160; p. 490.

Candies. New England Confectionery Co. No. 80,077; Nov. 1; Gaz. vol. 160; p. 254.

Candies, Chocolate. W. F. Schrafft & Sons Corporation. No. 80,199; Nov. 15; Gaz. vol. 160; p. 770.

Candy. Sour Krout Candy Co. No. 80,243; Nov. 22; Gaz. vol. 160; p. 1034.

Candy, Chocolate. W. F. Schrafft & Sons Corporation. No. 80,291; Nov. 29; Gaz. vol. 160; p. 1268.

Canned corn. The Kroger Grocery & Baking Company. No. 80,187; Nov. 15; Gaz. vol. 160; p. 769.

Canned fruits. California Fruit Canners Association. No. 80,173; Nov. 15; Gaz. vol. 160; p. 769.

Canned fruits and raisins. California Fruit Canners Association. No. 80,209; Nov. 22; Gaz. vol. 160; p. 1033.

Canned fruits and vegetables. The Continental Fruit Packing Co. Nos. 80,108–9; Nov. 8; Gaz. vol. 160; p. 489.

Canned fruits and vegetables. Fort Stanwix Canning Company. No. 80,276; Nov. 29; Gaz. vol. 160; p. 1267.

Canned, preserved, and dried fruits and canned vegetables. Coast Products Company. No. 80,035; Nov. 1; Gaz. vol. 160; p. 253.

Canned salmon. Kelley-Clarke Co. Nos. 80,125–6; Nov. 8; Gaz. vol. 160; p. 489.

Canned salmon. Kelley-Clarke Co. No. 80,186; Nov. 15; Gaz. vol. 160; p. 769.

Canned sardines. P. Duff & Sons. No. 80,048; Nov. 1; Gaz. vol. 160; p. 253.

Caps, Infants' and children's. A. D. Katcher & Bro. No. 80,225; Nov. 22; Gaz. vol. 160; p. 1033.

Carbolic acid, cresol, and disinfectants. F. Raschig. No. 80,238; Nov. 22; Gaz. vol. 160; p. 1034.

Cards, Playing-. F. G. McPherson. No. 80,073; Nov. 1; Gaz. vol. 160; p. 254.

Cards, Playing-. American Bank Note Company. No. 80,204; Nov. 22; Gaz. vol. 160; p. 1033.

Catnip, catnip preparation, and catnip-balls. W. E. Smith. No. 80,293; Nov. 29; Gaz. vol. 160; p. 1268.

Cement, Hydraulic. Colloseus Cement Company. No. 80,218; Nov. 22; Gaz. vol. 160; p. 1033.

Chemical solvents. D. L. Soloman. No. 80,160; Nov. 8; Gaz. vol. 160; p. 490.

Chemicals, Certain. Fritzsche Brothers. No. 80,222; Nov. 22; Gaz. vol. 160; p. 1033.

Chocolate chips. W. S. Trowbridge. No. 80,162; Nov. 8; Gaz. vol. 160; p. 490.

Chocolates and candies. E. Greenfield's Son & Co. No. 80,120; Nov. 8; Gaz. vol. 160; p. 489.

Ciders, Fruit-flavored. W. W. White & Co. No. 80,255; Nov. 22; Gaz. vol. 160; p. 1034.

Cigars. B. Bercovich. No. 80,023; Nov. 1; Gaz. vol. 160; p. 253.

Cigars. Compañía General de Tabacos de Filipinas. Nos. 80,037–40; Nov. 1; Gaz. vol. 160; p. 253.

Cigars. A. Breitung. No. 80,169; Nov. 15; Gaz. vol. 160; p. 769.

Cigars and cigarettes. Kuenzle & Streiff. No. 80,061; Nov. 1; Gaz. vol. 160; p. 254.

Cigars, cigarettes, and tobacco. H. F. Martin. No. 80,136; Nov. 8; Gaz. vol. 160; p. 490.

Cleaning and scouring tools. The Rapid Knife & Fork Cleaner Co. No. 80,151; Nov. 8; Gaz. vol. 160; p. 490.

Cleansing compound, Chemical. Oakley Chemical Co. No. 80,287; Nov. 29; Gaz. vol. 160; p. 1267.

Clothing, Certain. S. H. Camp. No. 80,033; Nov. 1; Gaz. vol. 160; p. 253.

Clothing, Certain. Thomas G. Plant Co. No. 80,195; Nov. 15; Gaz. vol. 160; p. 769.

Coal. The Middle Creek Coal Company. No. 80,191; Nov. 15; Gaz. vol. 160; p. 769.

Cocoa and malt and chocolate and malt, Compounds of. J. Meinl. No. 80,074; Nov. 1; Gaz. vol. 160; p. 254.

Coffee. Foster, Caldarera & Co. No. 80,179; Nov. 15; Gaz. vol. 160; p. 769.

Coffee, tea, spices, and flavoring extracts. Rogers Company. No. 80,085; Nov. 1; Gaz. vol. 160; p. 255.

Cord, Cotton. Samson Cordage Works. No. 80,198; Nov. 15; Gaz. vol. 160; p. 770.

Cordials. C. H. Garnier. No. 80,049; Nov. 1; Gaz. vol. 160; p. 254.

Corsets, Maternity-. Kabo Corset Company. No. 80,139; Nov. 8; Gaz. vol. 160; p. 490.

Cotton piece goods. K. Simon. No. 80,155; Nov. 8; Gaz. vol. 160; p. 490.

Crackers and biscuit. Francis H. Leggett & Co. No. 80,133; Nov. 8; Gaz. vol. 160; p. 490.

Creams, lotions, and pastes, Toilet. I. Norris. No. 80,146; Nov. 8; Gaz. vol. 160; p. 490.

Cutlery, razors, scissors, hatchets, axes, and adzes, Pocket. Whitfield Hardware Company. No. 80,296; Nov. 29; Gaz. vol. 160; p. 1268.

Dentifrice and antiseptic. Eleto Company. No. 80,272; Nov. 29; Gaz. vol. 160; p. 1267.

Disks, Abrasive. Charles H. Besly & Company. No. 80,026; Nov. 1; Gaz. vol. 160; p. 253.

Dressing, Machine-belt. F. L. Cavagnaro & Co. No. 80,034; Nov. 1; Gaz. vol. 160; p. 253.

Eggs. Proudfit-Ormsby Commission Company. No. 80,083; Nov. 1; Gaz. vol. 160; p. 255.

Eggs. Golden and Company. No. 80,119; Nov. 8; Gaz. vol. 160; p. 489.

Electrical apparatus, machines, and supplies. Pettingell-Andrews Company. No. 80,080; Nov. 1; Gaz. vol. 160; p. 254.

Embroidery, Hand. Marshall Field & Company. No. 80,177; Nov. 15; Gaz. vol. 160; p. 769.

Enamel metal ware. Porcelain Enameling Ass'n. America. No. 80,150; Nov. 8; Gaz. vol. 160; p. 490.

Enameled metal ware. The Republic Metalware Company. No. 80,235; Nov. 22; Gaz. vol. 160; p. 1034.
Enameled metal ware and household and cooking utensils. Stans-und Emaillirwerke, vormals Carl Thiel & Söhne, Actien-Gesellschaft. No. 80,240; Nov. 22; Gaz. vol. 160; p. 1034.
Exercisers, Athletic. Eureka Spring Company. No. 80,274; Nov. 29; Gaz. vol. 160; p. 1267.
Feed, Horse. Alfalfa Milling Company. No. 80,259; Nov. 29; Gaz. vol. 160; p. 1267.
Feed, Prepared stock. Great Western Cereal Company. No. 80,053; Nov. 1; Gaz. vol. 160; p. 254.
Fertilizers. Virginia-Carolina Chemical Co. No. 80,093; Nov. 1; Gaz. vol. 160; p. 255.
Fire-extinguishing apparatus. General Fire Extinguisher Company. No. 80,118; Nov. 8; Gaz. vol. 160; p. 489.
Flavors and essences, Artificial. Alex. Fries & Bro. No. 80,048; Nov. 1; Gaz. vol. 160; p. 254.
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Flour, Wheat-. The Geo. Tileston Milling Company. No. 80,200; Nov. 15; Gaz. vol. 160; p. 770.
Flour, Wheat-. The Rea-Patterson Milling Company. No. 80,239; Nov. 22; Gaz. vol. 160; p. 1034.
Flour, Wheat-. American Hominy Company. No. 80,260; Nov. 29; Gaz. vol. 160; p. 1267.
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Fruit juice, Lime-. Evans Sons Lescher & Webb. No. 80,046; Nov. 1; Gaz. vol. 160; p. 253.
Furnaces. Marshall Furnace Company. No. 80,283; Nov. 29; Gaz. vol. 160; p. 1267.
Furniture, Certain. Charles H. Thuner Furniture & Carpet Co. No. 80,250; Nov. 22; Gaz. vol. 160; p. 1034.
Furniture-polish. J. M. Barth. No. 80,205; Nov. 22; Gaz. vol. 160; p. 1033.
Gasolene-engines. Rockwell Manufacturing Company. No. 80,084; Nov. 1; Gaz. vol. 160; p. 255.
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Lamp-wicking, Cotton. R. Bishop. No. 80,206; Nov. 22; Gaz. vol. 160; p. 1033.
Lenses. E. Kirstein Sons Company. No. 80,282; Nov. 29; Gaz. vol. 160; p. 1267.
Linen and wool piece goods. E. Laurent. Nos. 80,228–30; Nov. 22; Gaz. vol. 160; p. 1033.
Liniment. R. Cortés. No. 80,175; Nov. 15; Gaz. vol. 160; p. 769.
Machinery and parts thereof, Certain. The Fisher Governor Company. No. 80,117; Nov. 8; Gaz. vol. 160; p. 489.
Magazine, Monthly. National Manufacturers Company. No. 80,193; Nov. 15; Gaz. vol. 160; p. 769.
Magazine, Weekly. New York Evening Post Company. No. 80,144; Nov. 8; Gaz. vol. 160; p. 490.
Malt extract. Ed. Loeflund & Co. No. 80,070; Nov. 1; Gaz. vol. 160; p. 254.
Matches. F. E. Kreuger. Nos. 80,130–1; Nov. 8; Gaz. vol. 160; p. 490.
Matches, Parlor-. Francis H. Leggett & Co. No. 80,067; Nov. 1; Gaz. vol. 160; p. 254.
Medicinal oil. A. W. O'Brian & Company. No. 80,288; Nov. 29; Gaz. vol. 160; p. 1267.
Medicinal preparations for the tobacco habit. E. C. Getsinger. No. 80,052; Nov. 1; Gaz. vol. 160; p. 254.
Medicinal tonic. Mezcal Tequila Distillery Company. No. 80,190; Nov. 15; Gaz. vol. 160; p. 769.
Medicine for certain diseases. M. Goodman. No. 80,223; Nov. 22; Gaz. vol. 160; p. 1033.
Medicines for suppositories. Theo. Noel Company. No. 80,078; Nov. 1; Gaz. vol. 160; p. 254.
Metal articles, Certain precious-. S. M. Magid. No. 80,071; Nov. 1; Gaz. vol. 160; p. 254.
Metal forgings. J. H. Williams & Co. No. 80,202; Nov. 15; Gaz. vol. 160; p. 770.
Metal switch and signal carrier-bases. W. K. Kenly Company. No. 80,058; Nov. 1; Gaz. vol. 160; p. 254.
Milk and honey and white rolled oats, Condensed. Francis H. Leggett & Co. No. 80,134; Nov. 8; Gaz. vol. 160; p. 490.
Musical strings. The Rudolph Wurlitzer Co. No. 80,256; Nov. 22; Gaz. vol. 160; p. 1034.
Numbering-machines. Wetter Numbering Machine Company. No. 80,097; Nov. 1; Gaz. vol. 160; p. 255.
Oils, Lubricating-. Standard Oil Co. of New York. Nos. 80,245–8; Nov. 22; Gaz. vol. 160; p. 1034.
Ointment, Pile. Pilo Ointment Co. No. 80,140; Nov. 8; Gaz. vol. 160; p. 490.
Ointments. C. H. McKeown. No. 80,141; Nov. 8; Gaz. vol. 160; p. 490.
Oranges and lemons. Fillmore Citrus Fruit Association. No. 80,178; Nov. 15; Gaz. vol. 160; p. 769.
Overalls and overall-coats. High Point Overall Company. No. 80,055; Nov. 1; Gaz. vol. 160; p. 254.
Paint, Marine. O. Reeder & Son. No. 80,153; Nov. 8; Gaz. vol. 160; p. 490.
Paint, Metal-preservative. Wadsworth-Howland Company. No. 80,094; Nov. 1; Gaz. vol. 160; p. 255.
Paints, Red metallic. Chattanooga Paint Co. No. 80,269; Nov. 29; Gaz. vol. 160; p. 1267.
Pancreas, Glycolytic extract of. Fairchild Bros. & Foster. No. 80,114; Nov. 8; Gaz. vol. 160; p. 489.
Paper bags. The Union Bag and Paper Company. No. 80,253; Nov. 22; Gaz. vol. 160; p. 1034.
Paper, envelope, tablets, and blank books. J. C. Blair Company. No. 80,207; Nov. 22; Gaz. vol. 160; p. 1033.
Paper, Toilet-. Scott Paper Company. No. 80,087; Nov. 1; Gaz. vol. 160; p. 255.
Paper, Wrapping-. Crown-Columbia Pulp and Paper Co. No. 80,110; Nov. 8; Gaz. vol. 160; p. 489.
Paper, Writing-. Crocker-McElwain Company. No. 80,271; Nov. 29; Gaz. vol. 160; p. 1267.
Paper, Writing and wrapping. Hollingsworth & Whitney Co. No. 80,056; Nov. 1; Gaz. vol. 160; p. 254.
Papers, Writing and wrapping. Hollingsworth & Whitney Co. No. 80,123; Nov. 8; Gaz. vol. 160; p. 489.
Paving-blocks. The Alliance Clay Product Company. No. 80,016; Nov. 1; Gaz. vol. 160; p. 253.
Pencils, Lead-. Blackwell-Wielandy Book & Stationery Co. No. 80,027; Nov. 1; Gaz. vol. 160; p. 253.
Pens, Gold. V. C. Morton. No. 80,285; Nov. 29; Gaz. vol. 160; p. 1267.
Perfume and toilet water. R. W. Black. No. 80,103; Nov. 8; Gaz. vol. 160; p. 489.
Perfumes. Société Distilleries Francaises De La Vallée Des Roses. No. 80,088; Nov. 1; Gaz. vol. 160; p. 255.
Perfumes. Richard Hudnut. No. 80,184; Nov. 15; Gaz. vol. 160; p. 769.
Periodical, Weekly. Tobacco World Corporation. Nos. 80,251–2; Nov. 22; Gaz. vol. 160; p. 1034.
Petroleum, Refined. Atlantic Refining Company. Nos. 80,019–20; Nov. 1; Gaz. vol. 160; p. 253.
Petticoats and underskirts. The Diehlenn Manufacturing Company. No. 80,176; Nov. 15; Gaz. vol. 160; p. 769.
Pianos, organs, and music-chart frames. German-American Conservatory of Music. No. 80,061; Nov. 1; Gaz. vol. 160; p. 254.
Pins and cuff-links, Hat, stick, and beauty. Enterprise Jewelry Co. No. 80,045; Nov. 1; Gaz. vol. 160; p. 253.
Plaster-of-paris. J. B. King & Co. No. 80,280; Nov. 29; Gaz. vol. 160; p. 1267.
Polish, Piano and furniture. Caddell Polish Company. No. 80,032; Nov. 1; Gaz. vol. 160; p. 253.
Polishes. Adams & Elting Company. No. 80,203; Nov. 22; Gaz. vol. 160; p. 1033.

Polishing-cloth. L. Hayman. No. 80,122; Nov. 8; Gaz. vol. 160; p. 489.
Powder, Antiseptic. Smith, Kline & French Co. No. 80,158; Nov. 8; Gaz. vol. 160; p. 490.
Powder, Antiseptic. Whitehouse Chemical Co. No. 80,098; Nov. 1; Gaz. vol. 160; p. 255.
Powder, rouge, and nail-polish, Face-. La Francesa Co. No. 80,227; Nov. 22; Gaz. vol. 160; p. 1033.
Powder, Smokeless. E. I. du Pont de Nemours Powder Company. No. 80,044; Nov. 1; Gaz. vol. 160; p. 253.
Powders, Headache-. Pollock Medicine Co. No. 80,081; Nov. 1; Gaz. vol. 160; p. 255.
Precious-metal articles, Certain. V. C. Morton. No. 80,234; Nov. 22; Gaz. vol. 160; p. 1034.
Printed matter, Certain. B. S. Adams. No. 80,015; Nov. 1; Gaz. vol. 160; p. 253.
Publication, Periodical. Fred L. Kimball Company. No. 80,128; Nov. 8; Gaz. vol. 160; p. 489.
Pump, Compound hand-. The Coe-Stapley Manufacturing Company. No. 80,036; Nov. 1; Gaz. vol. 160; p. 253.
Pumps and tanks, Self-measuring. Wayne Oil Tank & Pump Company. No. 80,295; Nov. 29; Gaz. vol. 160; p. 1268.
Pumps, Rotary. Kinney Mfg. Co. No. 80,281; Nov. 29; Gaz. vol. 160; p. 1267.
Remedies for the diseases of horses. Smith's Original Remedy Company. No. 80,159; Nov. 8; Gaz. vol. 160; p. 490.
Remedy for certain diseases. F. Asch. No. 80,018; Nov. 1; Gaz. vol. 160; p. 253.
Remedy for certain diseases. Farbwerke vorm. Meister Lucius & Brüning. No. 80,115; Nov. 8; Gaz. vol. 160; p. 489.
Remedy for certain diseases. D. A. Marino. No. 80,189; Nov. 15; Gaz. vol. 160; p. 769.
Remedy for irregularity of the menses. N. Willhite. No. 80,099; Nov. 1; Gaz. vol. 160; p. 255.
Remedy for lung diseases. J. P. Smith. No. 80,292; Nov. 29; Gaz. vol. 160; p. 1268.
Remedy to reduce fat. H. L. Hull. No. 80,185; Nov. 15; Gaz. vol. 160; p. 769.
Rice. Orme Rice Packing Company. No. 80,194; Nov. 15; Gaz. vol. 160; p. 769.
Roofing, Composition. The Cincinnati Sheet Metal & Roofing Company. No. 80,210; Nov. 22; Gaz. vol. 160; p. 1033.
Roofings, Rubber. Ford Manufacturing Company. No. 80,275; Nov. 29; Gaz. vol. 160; p. 1267.
Rubber belts and rubber hose. Bowers Rubber Works. No. 80,106; Nov. 8; Gaz. vol. 160; p. 489.
Rubies and sapphires, Artificial. Wendell and Co. No. 80,163; Nov. 8; Gaz. vol. 160; p. 490.
Salves. The Dermato Salve Co. No. 80,111; Nov. 8; Gaz. vol. 160; p. 489.
Saws, Butchers'. J. Mignola, Jr. No. 80,075; Nov. 1; Gaz. vol. 160; p. 254.
Shoe-polish. J. E. Peterson. No. 80,147; Nov. 8; Gaz. vol. 160; p. 490.
Shoes. S. B. Foot & Co. No. 80,047; Nov. 1; Gaz. vol. 160; p. 254.
Shoes, hats, outer and under waists, and hosiery. Roberts, Johnson & Rand Shoe Company. No. 80,197; Nov. 15; Gaz. vol. 160; p. 770.
Shoes, Leather. The McDonald & Kiley Company. No. 80,140; Nov. 8; Gaz. vol. 160; p. 490.
Shoes, Leather. The Andrews Shoe Company. No. 80,261; Nov. 29; Gaz. vol. 160; p. 1267.
Skins, Hare and rabbit. C. Déon. No. 80,041; Nov. 1; Gaz. vol. 160; p. 253.
Soap. Barclay & Barclay. No. 80,022; Nov. 1; Gaz. vol. 160; p. 253.
Soap. Armstrong Packing Company. No. 80,263; Nov. 29; Gaz. vol. 160; p. 1267.
Soap. The Maude Odell Company. No. 80,289; Nov. 29; Gaz. vol. 160; p. 1267.
Soaps, Shaving-. The Kells Company. No. 80,127; Nov. 8; Gaz. vol. 160; p. 489.
Soda, baking-powder, and laundry starch, Cooking-. White, Wilson, Drew Company. No. 80,164; Nov. 8; Gaz. vol. 160; p. 490.
Soldering-fluid compounds. H. L. Hubbard. No. 80,124; Nov. 8; Gaz. vol. 160; p. 489.
Stones and razor-hones, Certain kinds of. The Deerlick Oil Stone Company. No. 80,220; Nov. 22; Gaz. vol. 160; p. 1033.
Stoves. The Estate Stove Co. No. 80,273; Nov. 29; Gaz. vol. 160; p. 1267.
Surgical, dental, and veterinary instruments. George P. Pilling & Son Co. No. 80,148; Nov. 8; Gaz. vol. 160; p. 490.
Syringes. Tyrrell's Hygienic Institute. No. 80,254; Nov. 22; Gaz. vol. 160; p. 1034.
Talking-machines and parts and records thereof. Victor Talking Machine Company. No. 80,201; Nov. 15; Gaz. vol. 160; p. 770.
Tea. American Coffee Co. No. 80,017; Nov. 1; Gaz. vol. 160; p. 253.
Tea. N. L. Burchell. No. 80,208; Nov. 22; Gaz. vol. 160; p. 1033.
Tea, Blended. R. L. Gerhart. No. 80,050; Nov. 1; Gaz. vol. 160; p. 254.
Teas, blended coffee, and spices. Bleecker & Simons. No. 80,168; Nov. 15; Gaz. vol. 160; p. 769.
Telescopes. C. Zeiss. Nos. 80,257–8; Nov. 22; Gaz. vol. 160; p. 1034.
Terra-cotta and clay blocks and tiles. National Fire Proofing Company. No. 80,236; Nov. 22; Gaz. vol. 160; p. 1034.
Ties, Dress-. W. O. Horn & Bro. No. 80,057; Nov. 1; Gaz. vol. 160; p. 254.
Tobacco, Smoking and chewing. Moore & Calvi. No. 80,284; Nov. 29; Gaz. vol. 160; p. 1267.
Toilet preparations, Certain. E. E. Powell Co. No. 80,082; Nov. 1; Gaz. vol. 160; p. 255.
Tool-handles, Wooden. The L. C. Hasinger Company. No. 80,278; Nov. 29; Gaz. vol. 160; p. 1267.
Twine and cord. Linen Thread Co. No. 80,069; Nov. 1; Gaz. vol. 160; p. 254.
Type-writing machines and parts thereof. Standard Typewriter Co. No. 80,090; Nov. 1; Gaz. vol. 160; p. 255.
Underclothing, Children's. Brown Durrell Co. No. 80,266; Nov. 29; Gaz. vol. 160; p. 1267.
Varnish. Pratt & Lambert. No. 80,196; Nov. 15; Gaz. vol. 160; p. 769.
Vermifuge and remedies for certain diseases. Dr. J. F. True & Co. No. 80,092; Nov. 1; Gaz. vol. 160; p. 255.
Vermin-exterminating preparations. Connolly & Slaven. No. 80,219; Nov. 22; Gaz. vol. 160; p. 1033.
Vinegar. C. W. Ahrim & Sons. No. 80,262; Nov. 29; Gaz. vol. 160; p. 1267.
Waists and skirts, Ladies'. Burnham Hanna Munger D G Co. No. 80,172; Nov. 15; Gaz. vol. 160; p. 769.
Washing-machines. Swanson-Ericson Manufacturing Company. No. 80,161; Nov. 8; Gaz. vol. 160; p. 490.
Waterproof composition. Impervious Products Company. No. 80,224; Nov. 22; Gaz. vol. 160; p. 1033.
Weaving-looms and jacquard machinery, Shedding for. Levy Fils, A. Bernheim & Cie. No. 80,025; Nov. 1; Gaz. vol. 160; p. 253.
Whiskies. O'Neil & Weill. No. 80,290; Nov. 29; Gaz. vol. 160; p. 1268.
Whisky. D. Clemens. Nos. 80,211–14; Nov. 22; Gaz. vol. 160; p. 1033.
Whisky, Blended. F. W. Bradley. No. 80,028; Nov. 1; Gaz. vol. 160; p. 253.
Wine, Sherry-. B. P. Misa. No. 80,076; Nov. 1; Gaz. vol. 160; p. 254.
Wire-cloth. Clinton Wire Cloth Company. No. 80,215; Nov. 22; Gaz. vol. 160; p. 1033.
Wire-cloth. Clinton Wire Cloth Company. No. 80,217; Nov. 22; Gaz. vol. 160; p. 1033.
Wire-cloth and certain named hardware. Ludlow-Saylor Wire Company. No. 80,231; Nov. 22; Gaz. vol. 160; p. 1033.
Wire-netting. Clinton Wire Cloth Company. No. 80,216; Nov. 22; Gaz. vol. 160; p. 1033.
Wire screen-cloth. New York Wire Cloth Company. No. 80,145; Nov. 8; Gaz. vol. 160; p. 490.
Wrench, Combination-. A. Roren. No. 80,240; Nov. 22; Gaz. vol. 160; p. 1034.
Yarns, Mercerized, &c., cotton. Harding Tilton & Company. No. 80,054; Nov. 1; Gaz. vol. 160; p. 254.

Enameled metal ware. The Republic Metalware Company. No. 80,235; Nov. 22; Gaz. vol. 160; p. 1034.

Enameled metal ware and household and cooking utensils. Stanz-und Emaillirwerke, vormals Carl Thiel & Söhne, Actien-Gesellschaft. No. 80,249; Nov. 22; Gaz. vol. 160; p. 1034.

Exercisers, Athletic. Eureka Spring Company. No. 80,274; Nov. 29; Gaz. vol. 160; p. 1267.

Feed, Horse. Alfalfa Milling Company. No. 80,259; Nov. 29; Gaz. vol. 160; p. 1267.

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Lamp-wicking, Cotton. R. Bishop. No. 80,206; Nov. 22; Gaz. vol. 160; p. 1033.

Lenses. E. Kirstein Sons Company. No. 80,282; Nov. 29; Gaz. vol. 160; p. 1267.

Linen and wool piece goods. E. Leurent. Nos. 80,228–30; Nov. 22; Gaz. vol. 160; p. 1033.

Liniment. R. Cortés. No. 80,175; Nov. 15; Gaz. vol. 160; p. 769.

Machinery and parts thereof, Certain. The Fisher Governor Company. No. 80,117; Nov. 8; Gaz. vol. 160; p. 489.

Magazine, Monthly. National Manufacturers Company. No. 80,193; Nov. 15; Gaz. vol. 160; p. 769.

Magazine, Weekly. New York Evening Post Company. No. 80,144; Nov. 8; Gaz. vol. 160; p. 490.

Malt extract. Ed. Loeflund & Co. No. 80,070; Nov. 1; Gaz. vol. 160; p. 254.

Matches. F. E. Kreuger. Nos. 80,130–1; Nov. 8; Gaz. vol. 160; p. 490.

Matches, Parlor-. Francis H. Leggett & Co. No. 80,067; Nov. 1; Gaz. vol. 160; p. 254.

Medicinal oil. A. W. O'Brian & Company. No. 80,288; Nov. 29; Gaz. vol. 160; p. 1267.

Medicinal preparations for the tobacco habit. E. C. Getsinger. No. 80,052; Nov. 1; Gaz. vol. 160; p. 254.

Medicinal tonic. Mezcal Tequila Distillery Company. No. 80,100; Nov. 15; Gaz. vol. 160; p. 769.

Medicine for certain diseases. M. Goodman. No. 80,223; Nov. 22; Gaz. vol. 160; p. 1033.

Medicines for suppositories. Theo. Noel Company. No. 80,078; Nov. 1; Gaz. vol. 160; p. 254.

Metal articles, Certain precious-. S. M. Magid. No. 80,071; Nov. 1; Gaz. vol. 160; p. 254.

Metal forgings. J. H. Williams & Co. No. 80,202; Nov. 15; Gaz. vol. 160; p. 770.

Metal switch and signal carrier-bases. W. K. Kenly Company. No. 80,058; Nov. 1; Gaz. vol. 160; p. 254.

Milk and honey and white rolled oats, Condensed. Francis H. Leggett & Co. No. 80,134; Nov. 8; Gaz. vol. 160; p. 490.

Musical strings. The Rudolph Wurlitzer Co. No. 80,256; Nov. 22; Gaz. vol. 160; p. 1034.

Numbering-machines. Wetter Numbering Machine Company. No. 80,097; Nov. 1; Gaz. vol. 160; p. 255.

Oils, Lubricating-. Standard Oil Co. of New York. Nos. 80,245–8; Nov. 22; Gaz. vol. 160; p. 1034.

Ointment, Pile. Pilo Ointment Co. No. 80,149; Nov. 8; Gaz. vol. 160; p. 490.

Ointments. C. H. McKeown. No. 80,141; Nov. 8; Gaz. vol. 160; p. 490.

Oranges and lemons. Fillmore Citrus Fruit Association. No. 80,178; Nov. 15; Gaz. vol. 160; p. 769.

Overalls and overall-coats. High Point Overall Company. No. 80,055; Nov. 1; Gaz. vol. 160; p. 254.

Paint, Marine. O. Reeder & Son. No. 80,153; Nov. 8; Gaz. vol. 160; p. 490.

Paint, Metal-preservative. Wadsworth-Howland Company. No. 80,094; Nov. 1; Gaz. vol. 160; p. 255.

Paints, Red metallic. Chattanooga Paint Co. No. 80,269; Nov. 29; Gaz. vol. 160; p. 1267.

Pancreas, Glycolytic extract of. Fairchild Bros. & Foster. No. 80,114; Nov. 8; Gaz. vol. 160; p. 489.

Paper bags. The Union Bag and Paper Company. No. 80,253; Nov. 22; Gaz. vol. 160; p. 1034.

Paper, envelops, tablets, and blank books. J. C. Blair Company. No. 80,207; Nov. 22; Gaz. vol. 160; p. 1033.

Paper, Toilet-. Scott Paper Company. No. 80,087; Nov. 1; Gaz. vol. 160; p. 255.

Paper, Wrapping-. Crown-Columbia Pulp and Paper Co. No. 80,110; Nov. 8; Gaz. vol. 160; p. 489.

Paper, Writing-. Crocker-McElwain Company. No. 80,271; Nov. 29; Gaz. vol. 160; p. 1267.

Paper, Writing and wrapping. Hollingsworth & Whitney Co. No. 80,056; Nov. 1; Gaz. vol. 160; p. 254.

Papers, Writing and wrapping. Hollingsworth & Whitney Co. No. 80,123; Nov. 8; Gaz. vol. 160; p. 489.

Paving-blocks. The Alliance Clay Product Company. No. 80,016; Nov. 1; Gaz. vol. 160; p. 253.

Pencils, Lead-. Blackwell-Wielandy Book & Stationery Co. No. 80,027; Nov. 1; Gaz. vol. 160; p. 253.

Pens, Gold. V. C. Morton. No. 80,285; Nov. 29; Gaz. vol. 160; p. 1267.

Perfume and toilet water. R. W. Black. No. 80,103; Nov. 8; Gaz. vol. 160; p. 489.

Perfumes. Société Distilleries Francaises De La Vallée Des Roses. No. 80,088; Nov. 1; Gaz. vol. 160; p. 255.

Perfumes. Richard Hudnut. No. 80,184; Nov. 15; Gaz. vol. 160; p. 769.

Periodical, Weekly. Tobacco World Corporation. Nos. 80,251–2; Nov. 22; Gaz. vol. 160; p. 1034.

Petroleum, Refined. Atlantic Refining Company. Nos. 80,019–20; Nov. 1; Gaz. vol. 160; p. 253.

Petticoats and underskirts. The Diehlenn Manufacturing Company. No. 80,176; Nov. 15; Gaz. vol. 160; p. 769.

Pianos, organs, and music-chart frames. German-American Conservatory of Music. No. 80,051; Nov. 1; Gaz. vol. 160; p. 254.

Pins and cuff-links, Hat, stick, and beauty. Enterprise Jewelry Co. No. 80,045; Nov. 1; Gaz. vol. 160; p. 253.

Plaster-of-paris. J. B. King & Co. No. 80,280; Nov. 29; Gaz. vol. 160; p. 1267.

Polish, Piano and furniture. Caddell Polish Company. No. 80,032; Nov. 1; Gaz. vol. 160; p. 253.

Polishes. Adams & Elting Company. No. 80,203; Nov. 22; Gaz. vol. 160; p. 1033.

Polishing-cloth. L. Hayman. No. 80,122; Nov. 8; Gaz. vol. 160; p. 489.

Powder, Antiseptic. Smith, Kline & French Co. No. 80,158; Nov. 8; Gaz. vol. 160; p. 490.

Powder, Antiseptic. Whitehouse Chemical Co. No. 80,098; Nov. 1; Gaz. vol. 160; p. 255.

Powder, rouge, and nail-polish, Face-. La Francesa Co. No. 80,227; Nov. 22; Gaz. vol. 160; p. 1033.

Powder, Smokeless. E. I. du Pont de Nemours Powder Company. No. 80,044; Nov. 1; Gaz. vol. 160; p. 253.

Powders, Headache-. Pollock Medicine Co. No. 80,081; Nov. 1; Gaz. vol. 160; p. 255.

Precious-metal articles, Certain. V. C. Morton. No. 80,234; Nov. 22; Gaz. vol. 160; p. 1034.

Printed matter, Certain. B. S. Adams. No. 80,015; Nov. 1; Gaz. vol. 160; p. 253.

Publication, Periodical. Fred L. Kimball Company. No. 80,128; Nov. 8; Gaz. vol. 160; p. 489.

Pump, Compound hand-. The Coe-Stapley Manufacturing Company. No. 80,036; Nov. 1; Gaz. vol. 160; p. 253.

Pumps and tanks, Self-measuring. Wayne Oil Tank & Pump Company. No. 80,295; Nov. 29; Gaz. vol. 160; p. 1268.

Pumps, Rotary. Kinney Mfg. Co. No. 80,281; Nov. 29; Gaz. vol. 160; p. 1267.

Remedies for the diseases of horses. Smith's Original Remedy Company. No. 80,159; Nov. 8; Gaz. vol. 160; p. 490.

Remedy for certain diseases. F. Asch. No. 80,018; Nov. 1; Gaz. vol. 160; p. 253.

Remedy for certain diseases. Farbwerke vorm. Meister Lucius & Brüning. No. 80,115; Nov. 8; Gaz. vol. 160; p. 489.

Remedy for certain diseases. D. A. Marino. No. 80,189; Nov. 15; Gaz. vol. 160; p. 769.

Remedy for irregularity of the menses. N. Willbite. No. 80,099; Nov. 1; Gaz. vol. 160; p. 255.

Remedy for lung diseases. J. P. Smith. No. 80,202; Nov. 29; Gaz. vol. 160; p. 1268.

Remedy to reduce fat. H. L. Hull. No. 80,185; Nov. 15; Gaz. vol. 160; p. 769.

Rice. Orme Rice Packing Company. No. 80,194; Nov. 15; Gaz. vol. 160; p. 769.

Roofing, Composition. The Cincinnati Sheet Metal & Roofing Company. No. 80,210; Nov. 22; Gaz. vol. 160; p. 1033.

Roofings, Rubber. Ford Manufacturing Company. No. 80,275; Nov. 29; Gaz. vol. 160; p. 1267.

Rubber belts and rubber hose. Bowers Rubber Works. No. 80,106; Nov. 8; Gaz. vol. 160; p. 489.

Rubies and sapphires, Artificial. Wendell and Co. No. 80,163; Nov. 8; Gaz. vol. 160; p. 490.

Salves. The Dermato Salve Co. No. 80,111; Nov. 8; Gaz. vol. 160; p. 489.

Saws, Butchers'. J. Mignola, Jr. No. 80,075; Nov. 1; Gaz. vol. 160; p. 254.

Shoe-polish. J. E. Peterson. No. 80,147; Nov. 8; Gaz. vol. 160; p. 490.

Shoes. S. B. Foot & Co. No. 80,047; Nov. 1; Gaz. vol. 160; p. 254.

Shoes, hats, outer and under waists, and hosiery. Roberts, Johnson & Rand Shoe Company. No. 80,197; Nov. 15; Gaz. vol. 160; p. 770.

Shoes, Leather. The McDonald & Kiley Company. No. 80,140; Nov. 8; Gaz. vol. 160; p. 490.

Shoes, Leather. The Andrews Shoe Company. No. 80,261; Nov. 29; Gaz. vol. 160; p. 1267.

Skins, Hare and rabbit. C. Déon. No. 80,041; Nov. 1; Gaz. vol. 160; p. 253.

Soap. Barclay & Barclay. No. 80,022; Nov. 1; Gaz. vol. 160; p. 253.

Soap. Armstrong Packing Company. No. 80,263; Nov. 29; Gaz. vol. 160; p. 1267.

Soap. The Maude Odell Company. No. 80,289; Nov. 29; Gaz. vol. 160; p. 1267.

Soaps, Shaving-. The Kells Company. No. 80,127; Nov. 8; Gaz. vol. 160; p. 489.

Soda, baking-powder, and laundry starch, Cooking-. White, Wilson, Drew Company. No. 80,164; Nov. 8; Gaz. vol. 160; p. 490.

Soldering-fluid compounds. H. L. Hubbard. No. 80,124; Nov. 8; Gaz. vol. 160; p. 489.

Stones and razor-hones, Certain kinds of. The Deerlick Oil Stone Company. No. 80,220; Nov. 22; Gaz. vol. 160; p. 1033.

Stoves. The Estate Stove Co. No. 80,273; Nov. 29; Gaz. vol. 160; p. 1267.

Surgical, dental, and veterinary instruments. George P. Pilling & Son Co. No. 80,148; Nov. 8; Gaz. vol. 160; p. 490.

Syringes. Tyrrell's Hygienic Institute. No. 80,254; Nov. 22; Gaz. vol. 160; p. 1034.

Talking-machines and parts and records thereof. Victor Talking Machine Company. No. 80,201; Nov. 15; Gaz. vol. 160; p. 770.

Tea. American Coffee Co. No. 80,017; Nov. 1; Gaz. vol. 160; p. 253.

Tea. N. L. Burchell. No. 80,208; Nov. 22; Gaz. vol. 160; p. 1033.

Tea, Blended. R. L. Gerhart. No. 80,050; Nov. 1; Gaz. vol. 160; p. 254.

Teas, blended coffee, and spices. Bleecker & Simons. No. 80,168; Nov. 15; Gaz. vol. 160; p. 769.

Telescopes. C. Zeiss. Nos. 80,257–8; Nov. 22; Gaz. vol. 160; p. 1034.

Terra-cotta and clay blocks and tiles. National Fire Proofing Company. No. 80,236; Nov. 22; Gaz. vol. 160; p. 1034.

Ties, Dress-. W. O. Horn & Bro. No. 80,057; Nov. 1; Gaz. vol. 160; p. 254.

Tobacco, Smoking and chewing. Moore & Calvi. No. 80,284; Nov. 29; Gaz. vol. 160; p. 1267.

Toilet preparations, Certain. E. E. Powell Co. No. 80,082; Nov. 1; Gaz. vol. 160; p. 255.

Tool-handles, Wooden. The L. C. Hasinger Company. No. 80,278; Nov. 29; Gaz. vol. 160; p. 1267.

Twine and cord. Linen Thread Co. No. 80,069; Nov. 1; Gaz. vol. 160; p. 254.

Type-writing machines and parts thereof. Standard Typewriter Co. No. 80,090; Nov. 1; Gaz. vol. 160; p. 255.

Underclothing, Children's. Brown Durrell Co. No. 80,266; Nov. 29; Gaz. vol. 160; p. 1267.

Varnish. Pratt & Lambert. No. 80,196; Nov. 15; Gaz. vol. 160; p. 769.

Vermifuge and remedies for certain diseases. Dr. J. F. True & Co. No. 80,092; Nov. 1; Gaz. vol. 160; p. 255.

Vermin-exterminating preparations. Connolly & Slaven. No. 80,219; Nov. 22; Gaz. vol. 160; p. 1033.

Vinegar. C. W. Ahrtim & Sons. No. 80,262; Nov. 29; Gaz. vol. 160; p. 1267.

Waists and skirts, Ladies'. Burnham Hanna Munger D G Co. No. 80,172; Nov. 15; Gaz. vol. 160; p. 769.

Washing-machines. Swanson-Ericson Manufacturing Company. No. 80,161; Nov. 8; Gaz. vol. 160; p. 490.

Waterproof composition. Impervious Producta Company. No. 80,224; Nov. 22; Gaz. vol. 160; p. 1033.

Weaving-looms and jacquard machinery, Shedding for. Levy Fils, A. Bernheim & Cie. No. 80,025; Nov. 1; Gaz. vol. 160; p. 253.

Whiskies. O'Neil & Weill. No. 80,290; Nov. 29; Gaz. vol. 160; p. 1268.

Whisky. D. Clemens. Nos. 80,211–14; Nov. 22; Gaz. vol. 160; p. 1033.

Whisky, Blended. F. W. Bradley. No. 80,028; Nov. 1; Gaz. vol. 160; p. 253.

Wine, Sherry-. B. P. Misa. No. 80,076; Nov. 1; Gaz. vol. 160; p. 254.

Wire-cloth. Clinton Wire Cloth Company. No. 80,215; Nov. 22; Gaz. vol. 160; p. 1033.

Wire-cloth. Clinton Wire Cloth Company. No. 80,217; Nov. 22; Gaz. vol. 160; p. 1033.

Wire-cloth and certain named hardware. Ludlow-Saylor Wire Company. No. 80,231; Nov. 22; Gaz. vol. 160; p. 1033.

Wire-netting. Clinton Wire Cloth Company. No. 80,216; Nov. 22; Gaz. vol. 160; p. 1033.

Wire screen-cloth. New York Wire Cloth Company. No. 80,145; Nov. 8; Gaz. vol. 160; p. 490.

Wrench, Combination-. A. Roren. No. 80,240; Nov. 22; Gaz. vol. 160; p. 1034.

Yarns, Mercerized, &c., cotton. Harding Tilton & Company. No. 80,054; Nov. 1; Gaz. vol. 160; p. 254.

ALPHABETICAL LIST OF LABELS.

"Ad-El-Ite." (For Paint Specialties.) Adams & Elting Company. No. 15,402; Nov. 22; Gaz. vol. 160; p. 1035.
"Antipyogen." (For Surgical Dressings.) Surgical Oil Manufacturing Company. No. 15,394; Nov. 15; Gaz. vol. 160; p. 771.
"Auto-Laks." (For Medicated Chocolates of a Laxative Nature.) Union Co-operative Association. No. 15,399; Nov. 22; Gaz. vol. 160; p. 1035.
"Base Ball Shooting Gallery." (For Toy Shooting-Galleries.) B. B. Bennett. No. 15,389; Nov. 8; Gaz. vol. 160; p. 491.
"Blossom Apple Label." (For Apples.) O. E. Olsen Litho Co. No. 15,385; Nov. 8; Gaz. vol. 160; p. 491.
"Bryant's Bensine." (For Fireproof Bensin.) The Lithos Chemical Company. No. 15,400; Nov. 22; Gaz. vol. 160; p. 1035.
"Cuban Inn." (For Cigars.) Schmidt & Co. No. 15,376; Nov. 1; Gaz. vol. 160; p. 256.
"Daily Report." (For Cigars.) Schmidt & Co. No. 15,377; Nov. 1; Gaz. vol. 160; p. 256.
"Darby's Candy Base Ball Game." (For Confectionery.) Darby Candy Co. No. 15,410; Nov. 29; Gaz. vol. 160; p. 1269.
"Domesco Brand." (For Laundry Starch.) Domestic Finish Starch Company. No. 15,411; Nov. 29; Gaz. vol. 160; p. 1269.
"E-Z-Laks." (For Medicated Chocolates of a Laxative Nature.) Union Co-operative Association. No. 15,387; Nov. 8; Gaz. vol. 160; p. 491.
"Golden Fin Brand Native Smoked Sardines." (For Canned Smoked Sardines.) Neptune Packing Co. No. 15,379; Nov. 1; Gaz. vol. 160; p. 256.
"Grape Creme." (For a Beverage Made from Grape-Juice.) The Consumers Company of Rochester, N. Y. No. 15,382; Nov. 8; Gaz. vol. 160; p. 491.
"Highspire." (For Carpets and Floor-Coverings.) C. H. Masland & Sons. No. 15,404; Nov. 22; Gaz. vol. 160; p. 1035.
"Jacob Hornung's White Bock Beer." (For Bottled Beer.) J. Hornung. No. 15,391; Nov. 15; Gaz. vol. 160; p. 771.
"Jewel Broom." (For Brooms.) Tully Broom Company. No. 15,414; Nov. 29; Gaz. vol. 160; p. 1269.
"Jose Ribera." (For Cigars.) J. V. O'Connell. No. 15,390; Nov. 15; Gaz. vol. 160; p. 771.
"Keystone Escutcheon Pins." (For Escutcheon-Pins.) L. F. Grammes & Sons. No. 15,412; Nov. 29; Gaz. vol. 160; p. 1269.
"League Base Ball Game Real Base Ball At Home." (For a Game of Base-Ball.) American Games Manufacturing Company. No. 15,403; Nov. 22; Gaz. vol. 160; p. 1035.
"Little Naes." (For Cigars.) L. Naes. No. 15,408; Nov. 29; Gaz. vol. 160; p. 1269.
"Lucky Dog." (For Canned Salmon.) G. W. Sanborn. No. 15,380; Nov. 1; Gaz. vol. 160; p. 256.
"Manufactory Of Choice Egyptian Cigarettes." (For Cigarettes.) T. Vafiadis & Co. No. 15,378; Nov. 1; Gaz. vol. 160; p. 256.
"Old Bridgeport Monongahela Pure Rye Whiskey." (For Straight Rye Whisky.) Hamburger Distillery. No. 15,397; Nov. 22; Gaz. vol. 160; p. 1035.
"Once A Year." (For Shoes.) J. K. Orr Shoe Company. No. 15,406; Nov. 22; Gaz. vol. 160; p. 1035.
"Oose." (For Soap.) W. M. Wilkes. No. 15,393; Nov. 15; Gaz. vol. 160; p. 771.
"Poppy Apple Label." (For Apples.) O. E. Olsen Litho Co. No. 15,384; Nov. 8; Gaz. vol. 160; p. 491.
"Roachleine." (For Roach-Powder.) A. J. Bugster. No. 15,395; Nov. 15; Gaz. vol. 160; p. 771.
"Royal Spelling Book." (For Books or Tablets for Use in Writing Out Spelling Exercises.) Osborn Paper Company. No. 15,388; Nov. 8; Gaz. vol. 160; p. 491.
"Standard Mills." (For Cotton Piece Goods.) J. Epstein. No. 15,405; Nov. 22; Gaz. vol. 160; p. 1035.
"Step-Into Shoe." (For Shoes.) G. A. Ormiston. No. 15,381; Nov. 1; Gaz. vol. 160; p. 256.
"Sun Brand." (For Dried Apples.) Wallerstein Produce Co. No. 15,392; Nov. 15; Gaz. vol. 160; p. 771.
"Taste Tells The Tale." (For Chocolates.) Snyder-Chaffee Co. No. 15,409; Nov. 29; Gaz. vol. 160; p. 1269.
"The American Sprayer." (For Sprayers and Roller-Sprays.) American Type Founders Company. No. 15,401; Nov. 22; Gaz. vol. 160; p. 1035.
"Uncle Sam." (For Candy.) W. W. De Bevoise. No. 15,383; Nov. 8; Gaz. vol. 160; p. 491.
"Union Square Waist." (For Waists.) I. B. Skudowitz. No. 15,413; Nov. 29; Gaz. vol. 160; p. 1269.
"Virgin." (For Head-Rice.) W. T. Wellsch & Co. No. 15,386; Nov. 8; Gaz. vol. 160; p. 491.
"Wild Cherry Ade." (For Syrup for Making Beverages.) T. H. Clark. No. 15,398; Nov. 22; Gaz. vol. 160; p. 1035.
"Work In Comfort With Economy." (For Shoes.) J. K. Orr Shoe Company. No. 15,407; Nov. 22; Gaz. vol. 160; p. 1035.
"World's Metal Polish." (For Metal-Polish.) Kammerer Davis Mfg. Co. No. 15,396; Nov. 15; Gaz. vol. 160; p. 771.

PRINTS.

"A Sweetly Solemn Thought." (For Wheat Breakfast Food.) Cream of Wheat Co. No. 2,661; Nov. 8; Gaz. vol. 160; p. 491.
"Arrow Collars And Cluett Shirts." (For Collars and Shirts.) Cluett, Peabody & Company. No. 2,666; Nov. 8; Gaz. vol. 160; p. 491.
"Aunt Dinah On Ironing Day." (For Electric Heating Devices.) The Cutler-Hammer Mfg. Co. No. 2,657; Nov. 1; Gaz. vol. 160; p. 256.
"Better Than I Can Make." (For Plum-Pudding.) Richardson & Robbins Co. No. 2,667; Nov. 15; Gaz. vol. 160; p. 771.
"Country Life In America." (For Wheat Breakfast Food.) Cream of Wheat Co. No. 2,656; Nov. 1; Gaz. vol. 160; p. 256.
"Gilt Edge Champagne." (For Champagne.) Hammondsport Vintage Co. No. 2,654; Nov. 1; Gaz. vol. 160; p. 256.
"Luscious Tokay Grapes." (For Tokay Grapes.) California Fruit Distributors. No. 2,670; Nov. 29; Gaz. vol. 160; p. 1269.
"Mercerized XX Poplin." (For Mercerized Poplin.) H. Glass & Company. No. 2,658; Nov. 1; Gaz. vol. 160; p. 256.
"New Arrow Notch Collars." (For Collars.) Cluett, Peabody & Company. No. 2,664; Nov. 8; Gaz. vol. 160; p. 491.
"Order Your Beer by Number." (For Lager-Beer.) J. M. Frey. No. 2,655; Nov. 1; Gaz. vol. 160; p. 256.
"Pro-Phy-Lac-Tic Tooth Brush." (For Tooth-Brushes.) Florence Manufacturing Company. No. 2,669; Nov. 22; Gaz. vol. 160; p. 1035.
"Rug." (For Rugs.) H. O. Ambrooklan & Co. No. 2,660; Nov. 1; Gaz. vol. 160; p. 256.
"The Donchester Is A Cluett Dress Shirt." (For Shirts.) Cluett, Peabody & Company. No. 2,665; Nov. 8; Gaz. vol. 160; p. 491.
"The Life Saver." (For Rubber Boots.) The W. F. Powers Company. No. 2,659; Nov. 1; Gaz. vol. 160; p. 256.
"The Noiseless Typewriter." (For Type-Writers.) The Noiseless Typewriter Company. No. 2,663; Nov. 8; Gaz. vol. 160; p. 491.
"The Simpson Girl." (For Beverages.) Simpson Spring Co. No. 2,668; Nov. 22; Gaz. vol. 160; p. 1035.

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ERRATA.

979,117, page 641, first claim, line 3, for the word "internal" read *integral.*

979,496, page 792, in heading, name of patentee, for "Howard Robert Hughes" read *Howard Robard Hughes.*

Vol. 161.

CONTENTS.

	Page.
PATENTS AND DESIGNS GRANTED, December 6, 13, 20, 27	3, 275, 537, 761
TRADE-MARKS PUBLISHED AND REGISTERED, December 6, 13, 20, 27	255, 515, 739, 1031
LABELS AND PRINTS REGISTERED, December 6, 13, 20, 27	265, 527, 751, 1041
DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS, December 6, 13, 20, 27	267, 529, 753, 1043
INDEX TO THE DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS	1049
ALPHABETICAL LIST OF PATENTEES AND INVENTIONS	1

ANNOUNCEMENTS.

	Page.
APPLICATIONS—	
Condition of pending	2, 274, 536, 760
ATTORNEYS—	
Revocation of order relative to appearance	273, 535
CHANGES IN CLASSIFICATION—	
Order 1892	534
DISCLAIMERS—	
Crane, Henry M	533
INTERFERENCE NOTICES—	
Born, Jacob	1048
Dunn, John	272, 534, 758
Ferdon & Berry	533, 757, 1048
Henry Werner & Company	272, 534
Richmond, Samuel A	272, 533, 758
Sharpless Bros	272, 533, 758, 1048
Steinfeld, Kerngood and Co	272, 534, 758, 1048
Whitney, Marian L	533, 757, 1048
MAIL-MATTER—	
Regulations relative thereto	1, 759
OFFICIAL GAZETTE—	
Trade-mark portion, price of	2, 274, 536
PATENTS—	
List of adjudicated	271, 533, 757, 1048
RENEWAL OF FORFEITED CASES	1, 759

Patents No. 977,425 to 978,127.

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CONTENTS.

	Page.
ISSUE OF DECEMBER 6, 1910	1
REGULATIONS IN RELATION TO MAIL-MATTER	1
RENEWAL OF FORFEITED CASES	1
APPLICATIONS UNDER EXAMINATION	2
TRADE-MARKS	2
PATENTS GRANTED	3
REISSUES	245
DESIGNS	252
TRADE-MARKS—REGISTRATION APPLIED FOR	255
TRADE-MARKS—REGISTERED	263
LABELS AND PRINTS	265
COMMISSIONER'S DECISIONS—	
Blood v. Ross	267
Ex parte Nicolaus	268
Ex parte Hardy, Jr.	268
Ex parte Potter & Roziene	269
DECISIONS OF THE U. S. COURTS—	
Jackson Cushion Spring Co. v. D'Arcy	269
ADJUDICATED PATENTS	271
INTERFERENCE NOTICES	272

ISSUE OF DECEMBER 6, 1910.

Patents	703	No. 977,425 to No. 978,127, inclusive.
Designs	10	No. 41,023 to No. 41,032, inclusive.
Trade-Marks	39	No. 90,297 to No. 90,335, inclusive.
Labels	4	No. 15,415 to No. 15,418, inclusive.
Prints	2	No. 2,671 to No. 2,672, inclusive.
Reissues	6	No. 13,177 to No. 13,182, inclusive.
Total	764	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	2	.....	Ohio	72	3
Arkansas	2	.....	Oklahoma	7	.....
California	30	3	Oregon	2	.....
Colorado	15	.....	Pennsylvania	67	1
Connecticut	17	.....	Rhode Island	6	.....
Delaware	1	.....	South Carolina	1	1
Florida	2	.....	South Dakota	1	.....
Georgia	5	1	Tennessee	6	1
Idaho	1	1	Texas	13	1
Illinois	51	4	Utah	2	.....
Indiana	12	5	Vermont	.....	.....
Iowa	11	1	Virginia	6	.....
Kansas	10	.....	Washington	17	1
Kentucky	6	.....	West Virginia	6	.....
Louisiana	2	.....	Wisconsin	16	.....
Maine	5	.....	Wyoming	2	.....
Maryland	4	.....			
Massachusetts	44	3	Alaska, District of	.....	.....
Michigan	25	1	Arizona Territory	2	.....
Minnesota	12	2	District of Columbia	5	.....
Mississippi	2	.....	Hawaii Territory	.....	.....
Missouri	12	3	New Mexico Ter't'y	1	.....
Montana	2	.....	Panama	.....	.....
Nebraska	7	.....	Philippine Islands	.....	.....
Nevada	.....	.....	U. S. Army	.....	.....
New Hampshire	3	1	U. S. Navy	.....	.....
New Jersey	30	1			
New York	85	6	Total to citizens of the United States	576	41
North Carolina	3	1			
North Dakota	3	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina	1	.....	Netherlands	1	.....
Austria-Hungary	2	.....	Newfoundland	.....	.....
Belgium	.....	.....	New South Wales	1	.....
Brazil	.....	.....	New Zealand	2	.....
British West Indies	.....	.....	Norway	.....	2
Canada	16	.....	Persia	.....	.....
Cape Colony	1	.....	Queensland	.....	.....
Chile	.....	.....	Russia	1	.....
China	.....	.....	Scotland	2	.....
Costa Rica	.....	.....	South Australia	.....	.....
Cuba	.....	.....	Spain	1	.....
Denmark	.....	.....	Sweden	2	.....
Ecuador	.....	.....	Switzerland	3	.....
England	13	.....	Tasmania	.....	.....
France	5	.....	Transvaal, South Africa	.....	.....
Germany	22	1	Victoria	1	.....
Haiti	.....	.....	Western Australia	.....	.....
Ireland	.....	.....			
Italy	1	.....	Total to citizens of foreign countries	76	3
Japan	1	.....			
Mexico	.....	.....			

Regulations in Relation to Mail-Matter.

In order to insure the ready identification of the division from which mail-matter emanating from this Office was sent, and the prepayment of any foreign postage thereon, as well as to prevent the retention for general delivery in the post-office of the city of any wrongly-addressed letter when this Office could supply a fuller or more accurate address, it is directed that the following regulations be observed with reference to all mail-matter forwarded from this Office:

Each envelop forwarded from any division will be stamped or marked in the upper left-hand corner with the division number or letter, as the case may be.

Each envelop addressed to a foreign country must be forwarded to the mail-room and the proper stamps affixed thereto before mailing.

Such mail as is to be delivered in this city shall be directed "Washington, D. C." If a letter addressed to a person in this city and not marked for general delivery be returned to this Office, it will be promptly remailed with an accurate and full local address supplied, if possible. In remailing, the envelop should be marked or stamped "Hold in General Delivery," but no envelop should be thus marked until the address thereon is as full and accurate as the Office can supply. A letter to a person in this city will not be filed "Undelivered" until it is returned to this Office in an envelop thus addressed and marked.

Renewal of Forfeited Cases.

A petition for the renewal of a forfeited application need not be signed by the inventor or assignee, but may be signed by the attorney.

A power of attorney in the original application authorizing an attorney to transact all business in the Patent Office in connection with the application construed to be of sufficient scope to include the signing of a petition for renewal and the subsequent prosecution of the application. (*Ex parte Ayee*, 101, O. G., 1609.)

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business November 29, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Oct. 22	Oct. 25	381
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Oct. 31	Nov. 1	200
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Oct. 31	Nov. 16	220
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Oct. 10	Oct. 21	453
167	5. Bookbinding; Harvesters; Jewelry; Music.	Sept. 20	Sept. 23	459
318	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	Sept. 28	Oct. 29	335
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	Oct. 11	Oct. 24	486
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Oct. 15	Oct. 21	339
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	Oct. 11	Sept. 22	272
235	10. Carriages and Wagons	Oct. 5	Oct. 10	669
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	Oct. 3	Oct. 3	367
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	Oct. 10	Oct. 11	551
320	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	Aug. 29	Oct. 18	505
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire-Working.	Nov. 1	Oct. 29	328
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	Oct. 14	Oct. 14	582
100	16. Telegraphy; Telephony	Oct. 3	Oct. 6	256
308	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Oct. 29	Nov. 2	186
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	Oct. 20	Oct. 25	196
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	Oct. 31	Oct. 31	349
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Sales; Undertaking.	Oct. 18	Oct. 20	200
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	Sept. 19	Sept. 30	458
249	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	Sept. 13	Sept. 1	611
379	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	Sept. 27	Oct. 15	337

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
144	24. Apparel; Apparel Apparatus; Sewing-Machines.	Sept. 2	Sept. 19	441
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Nov. 7	Nov. 12	130
106	26. Electricity, Generation; Motive Power.	Oct. 11	Sept. 21	326
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Oct. 31	Oct. 31	258
65	28. Internal-Combustion Engines.	Sept. 30	Oct. 3	370
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Wood-working; Woodworking-Tools.	Sept. 9	Oct. 31	350
182	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	Oct. 3	Oct. 12	206
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Oct. 31	Oct. 31	250
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	Oct. 3	Nov. 1	347
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	Oct. 29	Oct. 29	285
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	Oct. 12	Sept. 22	345
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Nov. 1	Oct. 31	481
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	Oct. 7	Oct. 5	641
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	Sept. 15	Sept. 22	
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	Sept. 28	Oct. 14	442
321	39. Water Distribution	Sept. 28	Sept. 28	420
280	40. Baggage; Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Oct. 29	Oct. 29	430
125	41. Railway Draft Appliances; Resilient Tires and Wheels.	Aug. 22	Sept. 12	591
279	42. Electric Railways; Electric Signaling; Electricity, Medical and Surgical; Railway Signaling; Signals; Surgery.	Sept. 16	Sept. 19	583
282	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	Sept. 7	Sept. 19	571

Oldest new case, Aug. 22; oldest amended, Sept. 1.
Total number of applications awaiting action..... 16,932

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	Nov. 1	Nov. 8	974
	Designs	Nov. 2	Nov. 14	109
	Labels and Prints	Nov. 21	Nov. 19	37

Trade-Marks.

Extra copies of the trade-mark portion of the GAZETTE, which will be sold separately, may be obtained single or in quantities for five cents each. Coupons will be taken in payment thereof.

PATENTS

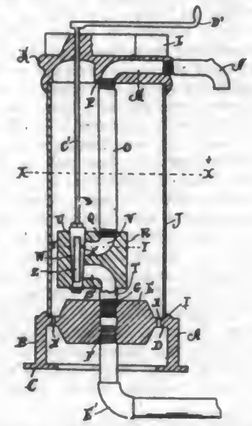
GRANTED DECEMBER 6, 1910.

977,425. BARREL-COVER. JAMES R. ANDREWS and JOSEPH W. WALDRUM, Sherman, Tex.; said Waldrum assignor to Clyde Lucas, Sherman, Tex. Filed Mar. 19, 1910. Serial No. 550,544.



As a new article of manufacture, a barrel cover comprising a rim having a hinged lid mounted thereon, spaced hinges secured to the under side of said rim adjacent its edge, depending strips secured to the free leaves of said hinges, a split band pivotally connected to the lower ends of said strips, said band being provided with out-turned angled apertured ends, a coiled spring having its ends secured in the apertures of said ends connecting the free ends of said band, and spaced inwardly projecting prongs formed on the inner face of said band for engaging the barrel on which the cover is arranged.

977,426. HYDRANT. PETER E. APGAR, Camden, N. J., and JOHN J. SILK, Philadelphia, Pa. Filed Oct. 1, 1909. Serial No. 520,521.



1. In combination with a hydrant of the character described, a valve casing having a vertical valve opening therein also provided with oppositely disposed inlet and outlet leading to and from said valve opening and also having an opening leading from the valve opening at right angles to the outlet, and a valve having a slot therein adapted to communicate with the inlet and outlet and provided with an opening at right angles thereto which communicates with the outlet when the slot is turned away from the inlet and outlet.

2. In combination, a stand, a hydrant casing, a top provided with a pasage-way, a spout mounted in said passage-way, a valve casing having a vertical valve opening therein, also provided with oppositely disposed inlet and outlet leading to and from said valve opening and also having an opening leading from the valve opening at right angles to the outlet, a valve having a slot therein adapted to communicate with the inlet and outlet and provided with an opening at right angles thereto which communicates with the outlet when the slot is turned away from the inlet and outlet, an extension formed with the valve casing threaded into the stand, a supply pipe also threaded into said stand, a stand pipe threaded into the passage-way in the top and the outlet in the valve casing, and a key attached to the valve and passing through the top.

3. In combination, a stand formed to produce side walls, flanges and a top, the central portion of which is thickened and which is provided with communicating right hand threaded openings, the narrowest part of said top provided with a plurality of holes, a ridge formed with the upper surface of said top, a hydrant casing mounted inside of said ridge, a top having a nut formed therewith and provided with a passage-way, a spout mounted in one end of said passage-way, a valve casing having a vertical valve opening therein, also provided with oppositely disposed inlet and outlet leading to and from said valve opening and also having an opening leading from the valve opening at right angles to the outlet, a valve having a slot therein adapted to communicate with the inlet and outlet and provided with an opening at right angles thereto which communicates with the outlet when the slot is turned away from the inlet and outlet, an extension formed with the valve casing communicating with the inlet, said extension threaded into the upper opening in the top of the stand, a stand pipe having left hand threads on both ends threaded into the outlet in the valve casing and into the passage-way in the top, a key attached to the valve passing through the top, a lever attached thereto, and a supply pipe threaded in the lower opening of the top of the stand.

4. In combination with a water system, a hydrant, a valve casing provided with oppositely disposed vertical inlet and outlet, acting as the axial center of the casing, and a valve mounted in said casing to one side of the center whereby said casing may be revolved by the key which is attached to the valve.

5. In combination with a hydrant, a water system running through the center of said hydrant, a valve casing having a vertical valve opening and oppositely disposed vertical inlet and outlet leading to and from said valve opening, said inlet and outlet being connected with the water system, a valve provided with an opening for simultaneously forming a communication between the inlet and outlet, and a key for rotating the valve or revolving the casing about its axial center.

977,427. PRESSURE-REDUCER. CHARLES G. ARMSTRONG, Orange, N. J. Filed Sept. 7, 1907. Serial No. 391,804.

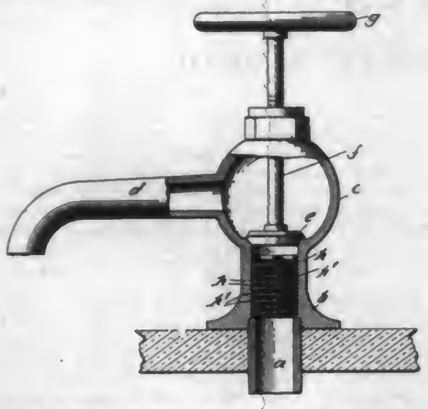
1. A pressure-reducer consisting of a number of compressible baffles acting one upon another by fluid pressure and adapted to effect a uniformity in the fluid flow.

2. A pressure-reducer consisting of a number of resilient disks, provided with corrugations, and adapted to effect a uniformity in the fluid flow by the compression of one disk upon another by excessive fluid pressure.

3. A pressure-reducer consisting of a number of baffles, provided with corrugations and adapted to close one upon another by fluid pressure, thereby effecting a uniformity in fluid flow.

4. A pressure-reducer consisting of a number of undulated or corrugated baffles, having small openings therein

and so arranged that the openings of one baffle do not register with the openings of the adjoining baffles, whereby in passing through the baffles the fluid is obstructed by the faces of the respective baffles and the pressure thereby reduced.



5. A pressure-reducer consisting of a number of nonnesting baffles arranged with opposing faces compressible by fluid pressure and adapted to maintain uniform flow of fluid.

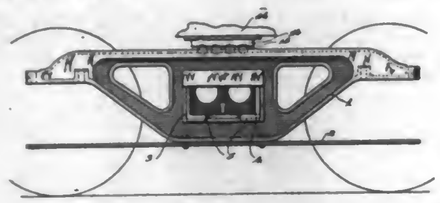
[Claims 6 to 14 not printed in the Gazette.]

977,428. LANTERN-CARRIER. ANDREW J. AUNE, Milton, N. D. Filed Mar. 26, 1909. Serial No. 486,061.



The herein described lantern carrier comprising a casing consisting of an inverted U-shaped section and a U-shaped piece removably and snugly secured to the U-shaped section and forming a bottom wall and end walls therefor, having openings in its sides, said casing being further provided with an opening in its lower side, a depending tube at said opening, a hollow drum in said casing having central openings coincident with those in the sides of the casing and drum and provided near its ends at points on the outer sides of the casing with vertical non-circular portions, a spring within the drum having one end attached thereto and the other end attached to said shaft, a chain extending through the bottom opening of the casing and attached to the drum and partly wound thereon by the action of said spring, said chain having a lantern attaching device at its pendent end and also provided with a screw adjustable collar stop to engage the terminal of the tube on the lower side of the casing, a horizontally disposed plate detachably secured on one side of the casing and having a locking notch for engagement with one of the reduced portions of said shaft, a pair of hanger bars secured to the sides of the casing, said hanger bars being inwardly bent at the non-circular portions of the casing and having portions disposed in substantially vertical planes and terminating above the casing, and wheels journaled between the terminals of the hanger bars and adapted to ride on a supporting cable.

977,429. CAR-TRUCK. JOHN C. BARBER, Chicago, Ill., assignor to Standard Car Truck Company, Chicago, Ill., a Corporation of New Jersey. Filed Jan. 7, 1910. Serial No. 536,799.



1. In a car truck, the combination with side frames and a transom connecting the same, of a body bolster intermediately pivoted to said transom, and roller bearing devices and coöperating springs supporting the said body bolster with freedom for oscillatory movements, the said springs being mounted in seats formed in said transom.

2. In a car truck, the combination with side frames and a transom connecting the same, of a body bolster intermediately pivoted to said transom, and roller bearing devices and coöperating springs supporting the said body bolster with freedom for oscillatory movements, the said springs being mounted in seats formed in said transom and located entirely inside of the truck side frames.

3. In a car truck, the combination with side frames and a transom connecting the same, said transom having open support spring pockets formed therein and located inside of the said side frames, springs in said pockets, a lower roller bearing plate supported by said springs and guided for vertical movements by the said pockets, a body bolster intermediately connected to said transom with freedom for oscillatory movements and for vertical movements corresponding to the spring movements, and roller bearing devices interposed between said lower bearing plate and the said body bolster, substantially as described.

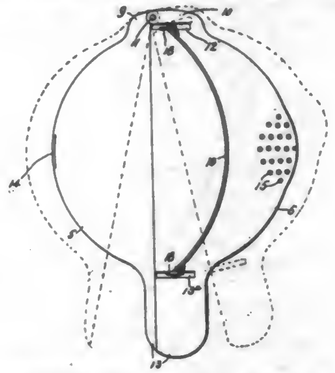
4. In a car truck, the combination with side frames and a transom connecting the same and provided with open topped pockets located inside of the said side frames, springs in said pockets, a body bolster intermediately pivoted to said transom with freedom for movements transversely of the truck, upper, lower and intermedate roller bearing plates, said upper bearing plate being connected to said body bolster and said lower roller bearing plate being supported by said springs, and two sets of rollers, one extended longitudinally and the other transversely of said transom, the lower of said rollers being interposed between said lower and intermediate bearing plates and said upper rollers being interposed between said intermediate and upper bearing plates, substantially as described.

5. In a car truck, the combination with side frames and a transom connecting the same, of a body bolster intermediately pivoted to said transom with freedom for vertical movements in respect thereto, and springs and spring supported roller bearing devices interposed between said transom and body bolster and taking the weight of the load, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

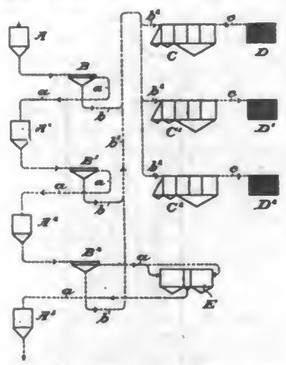
977,430. COMBINED LID AND LIFTING DEVICE. MATTHIEW B. BLAKE, Little Falls, Minn. Filed May 10, 1910. Serial No. 560,506.

A combined lid and lifting device comprising hinged sections forming a substantially circular plate when closed, and the sections having their meeting edges off to one side of the center, an ear projecting from one of the sections, a finger projecting from the other section and spaced therefrom, whereby a slot is formed to receive one of the bail ears of a vessel, a pivotal connection between the ear and the finger to form the hinge joint between the



sections, depending marginal flanges on the sections, and handles on the sections, one of said handles having a slot in its inner edge which is diametrically opposite the aforesaid finger, and receives the other bail ear.

977,431. FLOUR-MILLING. ROBERT BUCHANAN, Liverpool, England. Filed Dec. 10, 1909. Serial No. 532,397.

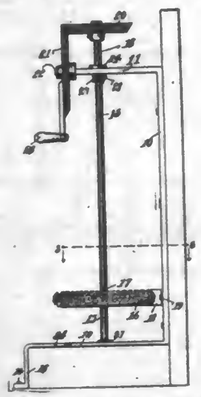


1. In a system of flour milling, the combination of a plurality of scalping sieve systems, a single chute or conveyer in communication with such plurality of scalping sieve systems to receive their "throughs," and apparatus to which the said single chute or conveyer delivers the said "throughs" for grading by or with the aid of air currents, as herein set forth.

2. In a system of flour milling, the combination of a plurality of sets of break rolls, separate scalping sieve systems for each such set, chutes or conveyers for leading the overtails of such scalping sieve systems to their next following sets of break rolls, a single chute or conveyer in communication with a plurality of the said separate scalping sieve systems to receive the "throughs" of such plurality of separate scalping sieve systems, and purifiers to which the said single chute or conveyer delivers the said mixed "throughs" for grading by or with the aid of air currents, as hereinbefore set forth.

3. In a system of flour milling, the combination of a plurality of sets of break rolls, separate scalping sieve systems for each such set, chutes or conveyers for leading the overtails of such scalping sieve systems to their next following sets of break rolls, a single chute or conveyer in communication with a plurality of the said separate scalping sieve systems to receive the "throughs" of such plurality of separate scalping sieve systems, purifiers to which the said single chute or conveyer delivers the said mixed "throughs" for grading by or with the aid of air currents, and dust collectors to which the air and dust from said purifiers is delivered, as hereinbefore set forth.

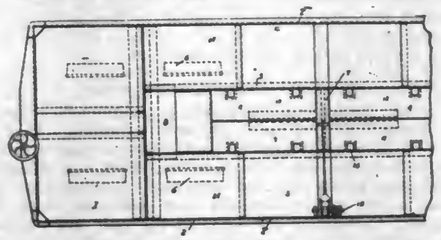
977,432. SHOE-BROOM. JOHN L. BURNEY, Carlisle, Ark. Filed Aug. 19, 1910. Serial No. 578,011.



1. A shoe cleaning device having a support formed from a single length of material having a straight portion for securing the device and having outwardly bent arms one of which is adapted to be secured to a floor or similar support, a bevel gear carried by the other of said arms, an upright driving shaft journaled in said arms and having a bevel gear meshing with the first named bevel gear, and a horizontally disposed brush removably mounted upon said driving shaft.

2. A shoe cleaning device having a support formed from a single length of material having a straight upright securing portion, and having laterally bent arms, one of which is equipped with a downturned foot for securing the device, and further is equipped with a journal box, and the other of said arms having a journal box, a shaft rotatably mounted in said journal boxes, means for actuating the shaft, a collar on the shaft bearing against the lower face of said arm and movable longitudinally on said shaft, to permit of the shaft being raised vertically free from its lower journal box, and a disk brush removably secured to the shaft.

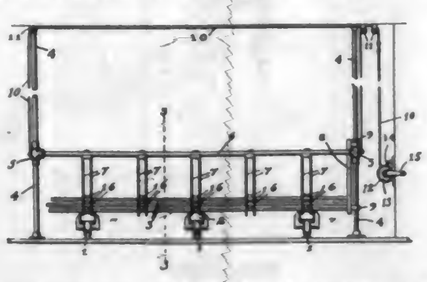
977,433. DUMP-CAR. ARGYLE CAMPBELL, Chicago, Ill., assignor to Enterprise Railway Equipment Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 27, 1909. Serial No. 474,395.



1. The combination of a car body, a series of tandem arranged longitudinally hinged doors, transverse transoms extending between the ends of the adjacent doors, a short longitudinal operating shaft under one of said transoms less in length than one door arranged to operate a plurality of doors, substantially as specified.

2. The combination of a car body with tandem arranged longitudinally hinged doors, transverse transoms extending between the ends of the adjacent doors, a short longitudinal shaft under one of said transoms with a drum thereon and connections to doors arranged to close a plurality of openings, said operating shaft being less in length than a single opening, substantially as specified.

977,434. LUMBER-PILER. PERRY H. CAZIER, Nashville, Mich. Filed Mar. 14, 1910. Serial No. 549,295.



1. A lumber piler, comprising parallel, horizontally disposed bars spaced apart, and guide members arranged in pairs and extending downward therefrom.

2. A lumber piler, comprising parallel, horizontally disposed bars spaced apart, guide members arranged in pairs and extending downward from the bars, and means for vertically adjusting the bars.

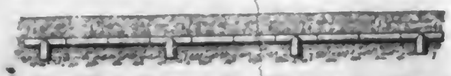
3. A lumber piler, comprising parallel horizontally disposed bars spaced apart, posts supporting the bars, means for vertically adjusting the bars, and guide members carried by the bars and extending downward therefrom.

4. A lumber piler, comprising parallel horizontally disposed bars spaced apart, guide members depending rigidly from the bars, and an end stop extending transversely between the bars.

5. A lumber piler, comprising vertical posts, tees slidable on the posts, bars carried by the tees, a stop extending transversely between the bars and adjustably supported by the posts, guide members rigidly depending from the bars, and means for vertically adjusting the bars and stop.

[Claims 6 to 10 not printed in the Gazette.]

977,435. IRRIGATION-TILE. JAMES E. CONNOR, Gillespie, Ill. Filed May 6, 1909. Serial No. 494,283.

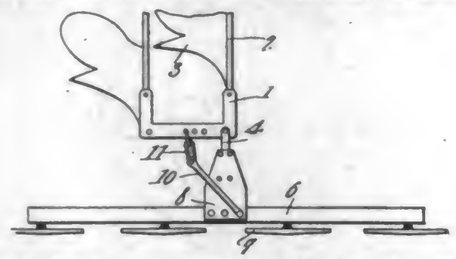


A fitting for use in irrigation conduits, consisting of a section of porous pipe of T form, open at its alined terminals for connection with contiguous pipe sections, and closed at the end of the lateral branch to provide a trap for the fluid passing through the conduit.

977,436. PLOW DRAFT DEVICE. JOHN CUNNINGHAM, Easton, Ill. Filed Mar. 25, 1910. Serial No. 551,474.

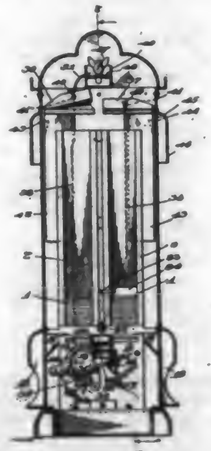
1. A plow draft appliance comprising a yoke adapted to be connected with a series of beams, an arm pivotally connected at its rear end with one end portion of the yoke, a clip slidably mounted upon said arm, means for limiting the sliding movement of the arm with relation to the clip, a draft beam attached to the clip, a link pivoted at its forward end to the beam, a spring attached to the beam and connected with said link and under tension with a tendency to hold the rear end of the link toward the beam and a series of links connecting the rear end of the first said link with the intermediate portion of said yoke.

2. A plow draft device comprising a yoke having rearwardly disposed end portions adapted to be connected with a series of plow beams, and an arm pivotally connected at its rear end to a corner portion of the yoke and having a laterally disposed shoulder formed at its forward end, a clip slidably mounted upon said arm and provided with means for limiting the sliding movement



upon the arm, a draft beam attached to the forward end of the clip, a link pivotally connected at its forward end with the draft beam, a traction spring attached at one end to the beam and connected at its other end with the link and under tension with a tendency to hold the rear end of the link toward the said beam, and links pivotally connecting the rear end of said link with the intermediate portion of the said yoke.

977,437. AUTOMATIC VENDING-MACHINE. BETHUEL M. DAVIS, Chicago, Ill. Filed Apr. 7, 1905. Serial No. 254,277.



1. In an automatic vending machine the combination of a merchandise holder, a weight adapted to be supported by the merchandise therein, a coin actuated mechanism comprising a coin chute, a coin return chute, a pivoted valve guarding said coin chute and adapted when in one position to deflect the coin into said return chute, and a finger on said valve arranged to be engaged by said weight.

2. In an automatic vending machine, the combination of a motor mechanism, a delivery slide operatively connected therewith, a cam connected to the motor mechanism, a pivoted lever, a connection between the lever and the cam whereby the cam will actuate the lever to release the check after the motor has started, said connection permitting an initial movement of the lever independently of and with respect to the cam by the check engaging the lever, and a motor stop connected to the lever and adapted to be shifted by the said initial movement of the lever to release the motor.

3. In an automatic vending machine, the combination of a motor mechanism, a delivery slide operatively connected therewith, a cam connected to the motor mechanism, a pivoted lever, a connection between the lever and the cam whereby the cam will actuate the lever to release the check after the motor has started, said connection permitting an initial movement of the lever independently of and with respect to the cam by the check engaging the lever, said cam also serving to limit the initial movement of the lever, and a motor stop connected to the lever and adapted to be shifted by the said initial movement of the lever to release the motor.

4. In an automatic vending machine, the combination of a motor mechanism, a delivery slide operatively connected therewith, a cam connected to the motor mechanism, a pivoted lever, there being a projection on the lever adapted to be engaged by the cam for positively operating the lever to release a check after the motor is started, said lever being adapted to be initially moved by a check to cause the projection to move into engagement with another portion of the cam to arrest the initial movement of the lever, and a motor stop connected to the lever and movable thereby when the lever is initially moved to release the motor, said cam being provided with an offset portion adapted to receive the said projection to permit the cam to act positively upon the projection.

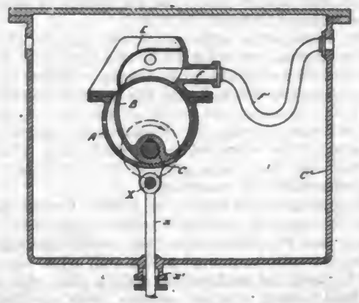
977,438. AUTOMOBILE TORPEDO. GREGORY CALDWELL DAVISON, Quincy, Mass. Filed Aug. 3, 1909. Serial No. 511,015.



1. An automobile torpedo comprising a shell containing a chamber or flask for the storage of air or gas to develop the motive power, and machinery for driving the torpedo, and an explosive charge within the shell at the very stern thereof, whereby the gases resulting from the detonation are enabled to expand in the direction of the object attacked; substantially as described.

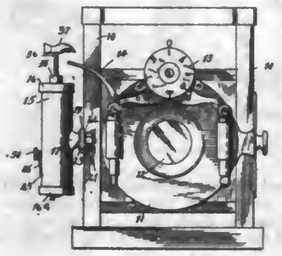
2. An automobile torpedo comprising an elongated shell, containing a chamber or flask for the storage of air or gas to develop the motive power, and machinery for driving the torpedo, and an explosive charge within the casing back of the said chamber or flask, whereby the gases resulting from the detonation are enabled to expand in the direction of the object attacked; substantially as described.

977,439. ROTARY PUMP FOR GENERATING PRESSURE. CHARLES DICKIE, Kimberley, Cape Colony. Filed Apr. 24, 1909. Serial No. 491,946.



A rotary pump for generating and maintaining pressure, comprising a tank, a cylindrical casing A open at both ends and located within the tank, means for guiding the casing in its movement within the tank, a rotatable cam-disk B provided with flanges B', said cam-disk eccentrically mounted within said casing, and said cam-disk so formed as to leave a pocket-like space D between the cam face and the inner wall of the casing, said casing being cut away on one side for the inlet and outlet of the fluid, and a swinging plate E disposed adjacent to the cut away part of the casing and bearing on the cam-disk, said plate E constituting a partition between the inlet and the outlet, as described.

977,440. TIMING ATTACHMENT FOR CAMERAS. JESSE H. DOLBY, Elgin, Ill. Filed Dec. 17, 1909. Serial No. 533,536.



1. In a shutter release tripping device, the combination of a receptacle comprising two communicating chambers, a loosely fitting member arranged to reciprocate in one of said chambers and adapted to engage the shutter release, and a material in the receptacle adapted to gravitate between the said member and the walls of the chamber and through the communication between the chambers.

2. In a shutter release tripping device, the combination of a receptacle adapted to be attached to a support, a partition dividing the receptacle into two chambers, a passage connecting the chambers, a perforated piston arranged in one of said chambers and adapted to engage the shutter release lever, and a material in the receptacle adapted to flow by gravity through the perforations in the piston and the said passage.

3. In a shutter release tripping device, the combination of a pivoted receptacle adapted to be attached to a camera, a partition dividing the receptacle into two chambers, a passage connecting the chambers, a valve controlling said passage, a piston arranged in one of said chambers and adapted to operate the shutter release, and a material in the receptacle adapted to flow by gravity through the said passage.

4. In a camera, a shutter release tripping device consisting of a pivoted receptacle having two communicating chambers, a valve controlling the passage between said chambers, an indicator for the valve, a piston arranged in one of said chambers and adapted to operate the shutter release, means for operating the piston, and means for retarding the piston movement in one direction.

5. In a camera, a shutter release tripping device, consisting of a cylinder pivotally mounted and having two communicating chambers, a piston arranged in one of said chambers, and adapted to operate the shutter release, means for operating the piston, and means for retarding the piston movement in one direction.

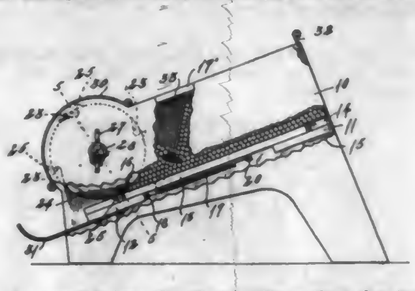
[Claims 6 to 10 not printed in the Gazette.]

977,441. MATCH-BOX. HENRY C. FLEMING and WILLIAM F. ROYSTER, Denison, Tex. Filed Mar. 2, 1910. Serial No. 546,865.

1. In a match box, a casing, a delivery cylinder mounted for rotation therein, teeth projecting from one end of said cylinder, means to rotate said delivery cylinder, a sliding floor in said casing, a pin projecting from said sliding floor, said pin lying in the path of said teeth, and a spring having one end fixed to the casing and the other to the sliding floor, whereby as the cylinder is rotated the floor is moved in one direction by the action of a tooth against said pin and in the opposite direction by the action of said spring when the tooth releases from the pin.

2. In a match box, a casing, a delivery cylinder mounted for rotation therein, teeth projecting from one end of said cylinder, means to rotate said delivery cylinder, a

sliding floor in said casing, a pin projecting from said sliding floor, said pin lying in the path of said teeth, a spring having one end fixed to the casing and the other to the sliding floor, whereby as the cylinder is rotated the



floor is moved in one direction by the action of a tooth against said pin and in the opposite direction by the action of said spring when the tooth releases from the pin, and a pocket for the inner end of the sliding floor.

977,442. COMPOSITION OF MATTER FOR AND METHOD OF GENERATING HYDROGEN. HANS FOERSTERLING and HERBERT PHILIPP, Perth Amboy, N. J., assignors to The Roessler & Hasslacher Chemical Co., New York, N. Y., a Corporation of New York. Filed Apr. 4, 1910. Serial No. 553,263.

1. A composition of matter for generating hydrogen containing an alkali metal and a silicid.

2. A composition of matter for generating hydrogen containing metallic sodium and a silicid.

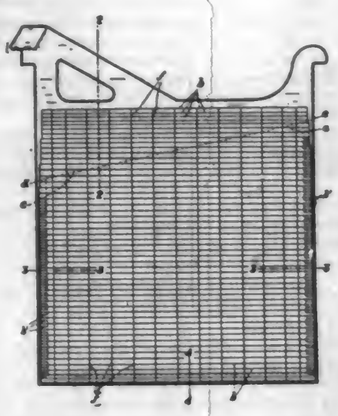
3. A composition of matter for generating hydrogen containing sodium and aluminium silicid.

4. A composition of matter for generating hydrogen comprising a mixture of an alkali metal and a silicid.

5. A composition of matter for generating hydrogen comprising a mixture of metallic sodium and a silicid.

[Claims 6 to 15 not printed in the Gazette.]

977,443. STORAGE-BATTERY PLATE. BRUCE FORD, Philadelphia, Pa. Filed Apr. 14, 1910. Serial No. 555,404.

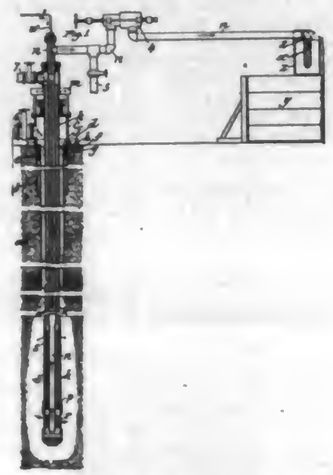


1. A storage battery plate consisting of groups of leaves united by ribs and having a marginal web, the ribs adjacent to web being spaced nearer together than the rest of the ribs whereby the length of the span of the leaves which are attached to the web is decreased and the leaves are supported at closer intervals by the ribs to prevent their detachment from the web, substantially as described.

2. A storage battery plate having a lug and consisting of groups of leaves and ribs by which they are united and having a web adjacent the lug and terminating on an angle to the top of the plate.

3. A storage battery plate consisting of a plurality of leaves, a portion of the plate being open from face to face and a portion of the plate being supplied with a web, ribs tying the leaves together at intervals, said ribs being spaced more closely at the web portion than at the opening portion, substantially as described.

977,444. APPARATUS FOR MINING SULFUR. HERMAN FRASCH, New York, N. Y., assignor to The Frasch Sulphur Process Company, a Corporation of Maine. Filed Oct. 30, 1903. Serial No. 179,233.



1. Apparatus for mining by fusion, having three mine pipes, namely, a mine pipe for raising the melted material provided with a discharge above ground, a mine pipe for the fusing fluid having a discharge near the bottom of the mine cavity, and a mine pipe in telescoping sections embedded in part in the ground and inclosing the other mine pipes, substantially as described.

2. The combination with piping for introducing fusing fluid into an underground deposit, of a mine pipe for raising the melted material provided with a discharge nozzle which is closed at the end and has a lateral discharge, and a casing which incloses said nozzle at the level of said discharge and is open below for the escape of the melted material, substantially as described.

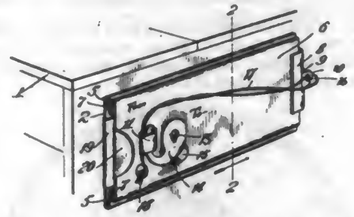
3. The combination with piping for introducing fusing fluid into an underground deposit, of a mine pipe for raising the melted material provided with a discharge nozzle which is closed at the end and has a lateral discharge, a casing which incloses said nozzle at the level of said discharge and is open below for the escape of the melted material, and a pipe delivering compressed air or other aeriform fluid into the lower part of the before mentioned pipe, substantially as described.

4. In apparatus for mining by fusion, a mine pipe for raising the melted material, which pipe has valved branches, one for discharging the melted material, the other for the introduction of fusing fluid when the former branch is closed, in combination with a mine pipe for the fusing fluid having a return passage below the discharge, substantially as described.

5. Apparatus for mining by fusion, in which a mine pipe for the introduction of fusing fluid has its discharge located in the deposit of fusible material being mined and is provided below said discharge with a return passage through which the fusing fluid is delivered into said deposit, substantially as described.

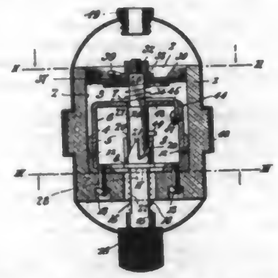
[Claims 6 to 31 not printed in the Gazette.]

977,445. COMBINED SHIPPING-TAG AND INVOICE-HOLDER. JEFFERSON D. FOGATE, Morrill, Nebr. Filed Mar. 16, 1910. Serial No. 549,623.



The herein described shipping tag and invoice holder comprising a base plate having its edges bent to form guide-ways, a sliding tag plate and cover having guides at its edges to connect the same with the base plate, said tag plate and cover having an opening therein, and said base plate having a latch keeper adapted to project through said opening, a latch pivoted to said tag plate to engage said latch keeper, said base plate having a lip at one end, said lip having a central slot therein, said tag plate and cover having a perforated lug extending through said slot, and a wire seal connected to said lug and extending through said latch keeper, said wire seal being provided with a compressible element to prevent withdrawal of the wire seal from said latch keeper.

977,446. PENDANT-SWITCH. CHARLES D. GERVIN, New York, N. Y. Filed Mar. 26, 1908. Serial No. 423,811.



1. An electrical switch comprising a cup-shaped housing, a spindle having a non-circular portion angularly movable therein, a switch element carried by said spindle, a frame within said housing for supporting the switch element, a tubular plunger depressible through said housing and frame and having cam faces for rotating said spindle through successive angular movements in the same direction, and a spring engaging the non-circular portion of said spindle for supplementing the action of said cam faces.

2. An electrical switch, comprising a rotatable spindle, a switch element mounted to turn with the said spindle and to slide thereon in the direction of the length of the spindle, a spring pressing the said switch element, fixed contact plates having cams for engagement by the said switch element to direct the latter into firm contact with the said contact plates, and mechanical means connected with the said spindle for intermittently rotating the spindle on alternately pushing and releasing the said means.

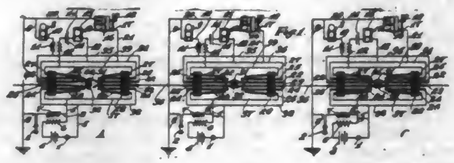
3. An electrical switch comprising a rotatable spindle having a switch element, a frame in which said spindle is rotatable, a plunger telescoping over the spindle and guided by said frame to have a limited longitudinal but no angular movement, and means acting, when said plunger is released, for abruptly rotating the spindle.

4. An electrical switch, comprising a rotatable spindle, a switch element mounted on the said spindle to turn with the same and to yield in the direction of the length of the spindle, fixed contact plates having cams for engagement by the said switch element to direct the latter into firm contact with the said contact plates, a pin on the said spindle, and a spring-pressed plunger mounted to slide and having a cam provided with a plurality of cam faces for engagement with the said pin to intermittently rotate the said spindle on successively depressing and releasing the said plunger.

5. An electrical switch, comprising a rotatable spindle, a switch element mounted on the said spindle to turn with the same and to yield in the direction of the length of the spindle, fixed contact plates having cams for engagement by the said switch element to direct the latter into firm contact with the said contact plates, a pin on the said spindle, a spring-pressed plunger mounted to slide and having a cam provided with a plurality of cam faces for engagement with the said pin to intermittently rotate the said spindle on successively pressing and releasing the said plunger, and a spring engaging the said spindle for turning the spindle to final position of rest on releasing the plunger.

[Claims 6 and 7 not printed in the Gazette.]

977,447. CUT-OUT TELEPHONE SYSTEM. EDWARD GOULD, Spring Valley, Minn., assignor of one-fourth to Samuel C. Pattridge, one-fourth to William D. Ingalls, and one-fourth to Fay Viall, Spring Valley, Minn. Filed Oct. 14, 1908. Serial No. 457,621.



1. In a telephone system having magneto circuits and having bells that are normally grounded at the several stations, a selecting switch mechanism operating normally to establish the line circuit through the several stations and to normally break the magneto circuits on both sides thereof, and movable to connect the operated magneto with bell circuits on either side of the line and to establish speaking and listening communication with telephones on either side of the line.

2. In a telephone system having a magneto circuit, selecting switches at different stations, normally establishing the line circuit therethrough and breaking the magneto circuits on the opposite sides thereof, but movable to connect the magneto circuits with bell circuits on either side of the line, and operating under another movement to establish speaking and listening communication with telephones on either side of the line.

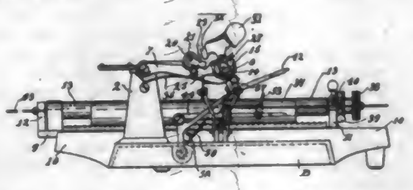
3. In a telephone system having magnetos at different stations, arranged to close the magneto circuits, by a crank movement, of selecting switches at different stations, normally establishing the line circuit therethrough, movable in one direction to connect the respective magnetos with bell circuits on either side of the line, and movable in another direction to establish speaking and listening communication with telephones on the same side of the line.

4. In a telephone system having a magneto circuit, selecting switches at different stations comprising two sets of contacts, and a switch lever, certain of which contacts normally holds said lever in an intermediate position and establishes the line circuit, the said lever being movable in one direction to connect the respective magnetos with bell circuits on either side of the line and movable in another direction to establish speaking and listening communication with telephones on the same side of the line.

5. In a telephone system, a buzzer, or secondary signal devices connected at different stations, and selecting switches at such stations normally establishing the line

current therethrough, and arranged by movement in either one of two directions to establish speaking and listening communication with telephones on one side of the line, and to render said busser operative to send a current to the other side of the line, indicating in telephones at the cut-out side of the line, that the other side of the line is in use.

977,448. ORIENTAL TYPE-WRITER. SAMUEL A. HARRISON, Brooklyn, N. Y. Filed Dec. 15, 1909. Serial No. 533,132.



1. In a typewriter, the combination of a frame, a carriage slidable on the frame, a rack bar on one of said two members, a double pawl member on the other of said two members, an operating lever for the carriage connected with the pawl, the double pawl member being shiftable whereby in one position the operation of the lever will advance the carriage in one direction, and when the double pawl member is shifted in another position the same operation of the operating lever will advance the carriage in the opposite direction.

2. In a typewriter, the combination with a frame, a carriage slidable on the frame, a rack member on the carriage, a double pawl member arranged to engage the rack and advance the carriage, an operating member connected with the pawl for actuating it to advance the carriage, the pawl member being shiftable whereby in one position the operation of said member will cause the pawl to advance the carriage in one direction, and when the pawl member is shifted to another position the same operation of the operating member will cause the pawl to advance the carriage in the opposite direction.

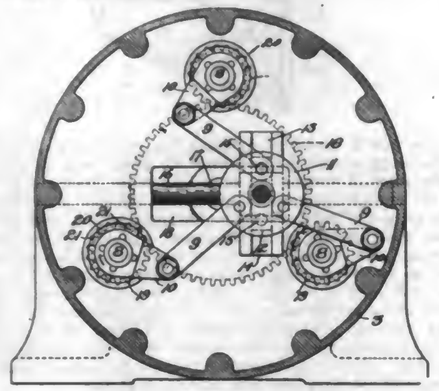
3. In a typewriter, the combination with a frame, of a carriage slidable thereon, an operating lever for the carriage, an arm pivoted to the operating lever, a double pawl member on the arm, a rack member on the carriage engaged by the double pawl member to advance the carriage upon swinging of the operating lever, the double pawl member being shiftable whereby in one position the operation of the lever will advance the carriage in one direction, and when the double pawl member is shifted to another position the same operation of the operating lever will advance the carriage in the opposite direction.

4. In a typewriter, the combination with a frame, of a carriage slidable thereon, an operating lever for the carriage, an arm pivoted to the operating lever, a double pawl member on the arm, a rack member on the carriage engaged by the double pawl member to advance the carriage upon swinging of the operating lever, the double pawl member being shiftable whereby in one position the operation of the lever will advance the carriage in one direction, and when the double pawl member is shifted to another position the same operation of the operating lever will advance the carriage in the opposite direction, a swinging lever connected with the double pawl member and arranged to shift it to said positions of operation whereby the direction of movement of the carriage can be reversed.

5. In a typewriter, the combination with a frame, of a carriage slidable thereon, an operating lever for the carriage, an arm pivoted to the operating lever, a double pawl member on the arm, a rack member on the carriage engaged by the double pawl member to advance the carriage upon swinging of the operating lever, the double pawl member being shiftable whereby in one position the operation of the lever will advance the carriage in one direction, and when the double pawl member is shifted to another position the same operation of the operating lever will advance the carriage in the opposite direction, and a spring connected with the operating lever and arm to return them to normal positions after being swung.

[Claims 6 and 7 not printed in the Gazette.]

977,449. VARIABLE-SPEED MECHANISM. GEORGE D. HAYDEN, New Bedford, Mass., assignor of one-half to Charles R. Hunt, New Bedford, Mass. Filed July 8, 1909. Serial No. 506,455.



1. A variable speed mechanism having, in combination, a rotary driving member, a driven member, a series of oscillatory driving members arranged around the axis of the rotary driving member and connected to drive the driven member in one direction, and means for transmitting motion from the rotary to the oscillatory driving members comprising a driving crank, a plate mounted upon one end of the driving crank, a slide for guiding the movement of the plate, and connections between the plate and the oscillatory driving members, substantially as described.

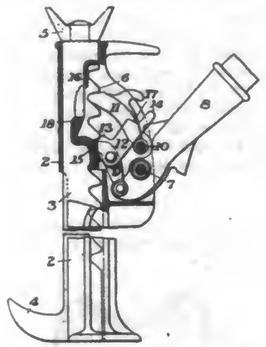
2. A variable speed mechanism having, in combination, a rotary driving member, a driven member, a series of oscillatory driving members arranged around the axis of the rotary driving member and connected to drive the driven member in one direction, means for transmitting motion from the rotary to the oscillatory driving members comprising a driving crank, a plate mounted upon one end of the driving crank, a slide for guiding the movement of the plate, connections between the plate and the oscillatory driving members, and means for adjusting the position of the driving crank to vary the speed of the driven member, substantially as described.

3. A variable speed mechanism having, in combination, a driving crank, a series of oscillatory driving members arranged in a circular series about the axis of the crank, connections between the crank and each oscillatory driving member, a driven member, connections between the oscillatory driving members and the driven member for transmitting motion to the driven member in one direction, and means for adjusting the driving crank comprising a screw rod, a crank-carrying slide mounted thereon and means for rotating the screw rod during the operation of the machine whereby the speed of the driven member may be varied, substantially as described.

4. A variable speed mechanism, having, in combination, a driving crank, a series of oscillatory driving members, arranged around the axis of the crank, a plate on the crank, means for connecting the plate and each of the oscillatory members and means for preventing the rotation of the plate, substantially as described.

977,450. LIFTING-JACK. CHARLES E. HYLANDER, Pittsburg, Pa., assignor to The Duff Manufacturing Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Sept. 22, 1909. Serial No. 519,047.

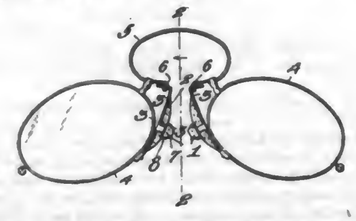
1. A lifting jack having a frame, a lifting bar mounted for longitudinal movement in the frame, a rack on the lifting bar, a pair of pawls coacting with the rack to operate said bar, a trip pivoted to one of said pawls, the frame having means normally coöperating with the trip to hold it in inoperative position and other means on the frame for retaining the trip in a position in which it holds the pawls in inoperative position; substantially as described.



2. A lifting jack having a frame, a lifting bar mounted for longitudinal movement in the frame, a rack on the lifting bar, a pair of pawls coacting with the rack to operate said bar, a trip pivoted to one of said pawls, a projection on the frame normally coöperating with the trip to hold it in inoperative position, and a second projection on the frame arranged to be engaged by the trip to hold both pawls in inoperative position simultaneously; substantially as described.

3. A lifting jack having a frame, a lifting bar mounted for longitudinal movement in the frame, a rack on the lifting bar, a pair of pawls co-acting with the rack to operate said bar, a trip pivoted to one of said pawls, a projection on the frame normally coöperating with the trip to hold it in inoperative position during a portion of the movement of the pawl, a cam face on the frame arranged to be engaged by a cam on the trip during the other portion of the movement of said pawl, and a second projection on the frame arranged to be engaged by the trip to hold both pawls in inoperative position simultaneously; substantially as described.

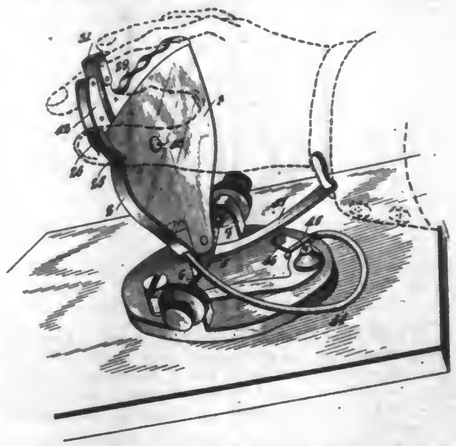
977,451. NOSE-PIECE FOR EYEGLASSES. WILLIAM R. JOHNSON, Little Rock, Ark. Filed May 21, 1910. Serial No. 562,637.



1. An attachment for application to an upright nose-piece comprising a member, a backing plate having said member attached thereto and having its ends slit to form tongues, the latter being bent into parallel relation to provide spaced lugs which are adapted to straddle an upright nose-piece to dispose said member transversely with respect thereto, and a fastening connecting the lugs to retain the member on the nose-piece.

2. Eye-glasses comprising a pair of lenses, a bridge piece connecting said lenses, and having inwardly extending ends, springs having their lower ends attached to said lenses and their upper ends attached to said inwardly extending ends of said bridge piece, an upright cushioning member attached to each of said springs, a transverse packing member also attached to each spring and disposed substantially at right angles thereto, and a transverse cushioning bar carried by said packing, extending across said upright cushioning member and projecting forwardly and also rearwardly therefrom.

977,452. TELEGRAPH SENDING-MACHINE. JOSEPH RUSSELL JONES, Port Arthur, Ontario, Canada. Filed Feb. 9, 1910. Serial No. 542,953.



1. The combination with the pivotal supporting screws of an ordinary telegraph key, of a casing adapted to be held by said screws, and means within said casing for sending dots and dashes by a movement of the casing.

2. The combination with the pivotal supporting screws of an ordinary telegraph key, of a casing adapted to be held by said screws and means within said casing for sending dots and dashes by lateral movement of the casing.

3. The combination with pivotal supporting screws of an ordinary telegraph key, of a frame adapted to be held rigidly by said screws, a casing surrounding said frame and pivotally secured thereto and means within said casing for sending dots by a single movement of the casing in one direction and for sending a dash by a single movement in the other direction.

4. In an automatic telegraph sender, a casing adapted to constitute a hand-rest and having conical supporting members adapted to enter the conical bearings of an ordinary telegraph lever, means for sending dots by a movement of the casing in one direction and for sending dashes by a movement of the casing in the opposite direction.

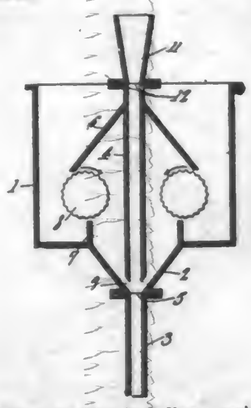
5. In an automatic telegraph sender, a casing adapted to constitute a hand-rest and having conical supporting members adapted to enter the conical bearings of an ordinary telegraph lever, a stationary contact a pendulum within said casing, a spring contact secured thereto, means adapted to be moved in one direction for causing the vibration of the pendulum and consequent engagement and disengagement of the spring contact with the stationary contact for sending dots, and a pivoted lever arranged to be actuated by a movement by said means in the opposite direction to be brought into engagement with said stationary contact for sending dashes.

[Claim 6 not printed in the Gazette.]

977,453. SAND-BLAST DEVICE. ALBERT JOAN, Jr., Waukegan, Ill. Filed Aug. 17, 1910. Serial No. 577,670.

1. A sand blast machine including a casing having a nozzle, an air passage way alining with and spaced from the nozzle to form a sand outlet opening into the nozzle from the casing, and revoluble means for directing sand from the casing to the sand outlet.

2. A sand blast machine including a casing, an air passage way constructed therein, a nozzle alining with the air passage way and spaced therefrom to form a sand outlet within the casing, revoluble means for supplying sand to said sand outlet, and means for directing sand to said revoluble means.

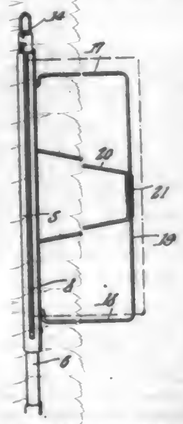


3. A sand blast machine including a casing, a nozzle extending therefrom, an air passage way alining with the nozzle and spaced from the bottom of the casing, revoluble means for directing sand from the casing and into the nozzle, and deflecting means for directing sand against said revoluble means.

4. A sand blast machine including a casing having an outlet, an air passage way in alinement with the outlet for directing air under pressure into and through the outlet, sand feed rollers mounted for rotation within the casing and outside of the passageway to direct sand into the outlet, and deflecting means adjacent the rollers.

5. A sand blast machine including a casing having the bottom portion provided with an outlet, an air passage way within the casing and arranged to direct air into the outlet, downwardly diverging deflectors at opposite sides of the air passage way and within the casing, upstanding deflectors upon the bottom of the casing, said deflectors being located below but spaced from the downwardly diverging deflectors, and revoluble grooved feed rollers interposed between the deflectors at each side of the air passage way for directing sand to the outlet.

977,454. NEWSPAPER-HOLDER. CHARLES FRED. KOECKE, Newark, Ohio. Filed May 5, 1910. Serial No. 559,476.



In a device of the class described, a staff, the said staff having a reduced cylindrical portion at its upper end, a frame supported by the staff, the said staff being formed with a groove extending lengthwise thereof, a resilient rod pivoted at its lower end in the lower end of the groove, and adapted to be swung to lie within the groove and be held therein, the said rod being bowed whereby to adapt its intermediate portion to bear against the wall of the groove, a cylindrical cap fitted rotatably upon the reduced portion of the staff, a securing element fastened through the upper end of the cap and into the upper end of the staff and holding the cap for rotation upon the said portion of the staff, the cap constituting a means for retaining the rod in the groove and being formed with a notch adapted to register with the groove to permit of swinging of the rod, and a ball carried by the cap, the said ball constituting a means whereby the cap may be rotated and a means whereby the device may be suspended.

977,455. BUST AND ABDOMINAL SUPPORTER. BESSIE LAZELL, New York, N. Y. Filed Feb. 18, 1909. Serial No. 478,582.



1. As an article of manufacture, a body garment consisting of a piece of material having a waist portion provided with shoulder straps and stays, constituting a bust support and extension pieces adapted to be passed around the sides and back of the wearer and to be secured together in front; and an apron, adapted for the attachment of hose supporters, depending from the front of said waist portion constituting an abdominal support.

2. As an article of manufacture, a reversible body garment of rubber cloth comprising a waist portion formed with arm holes and provided with stays, to constitute a bust support, and tapering extension pieces adapted to pass from the shoulders and waist portion around the sides and cross at the back of the wearer and to be secured together in front over said stays, and an apron, adapted for the attachment of hose supporters depending from the front of said waist portion to constitute an abdominal support.

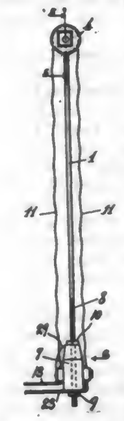
977,456. RESISTANCE DEVICE. HARRY WARD LEONARD, Bronxville, N. Y. Filed Mar. 29, 1909. Serial No. 486,297.

1. The combination with a removable resistance unit comprising a flexible resistive ribbon, metallic terminal contact pieces connected to the two ends of said ribbon respectively, a supporting block of insulating material secured to said terminal contact pieces, of a support for said unit, said contact pieces being adapted to be removably attached to said support and when so attached to support the unit as a whole, said ribbon being freely exposed to the air throughout the greater part of its length.

2. The combination with a removable resistance unit comprising a flexible resistive ribbon freely exposed to the air, and metallic terminal contact pieces connected to the two ends of the ribbon respectively, of a common support which said contact pieces are adapted to be attached to or removed from, said terminal contact pieces being adapted when attached to said support to support the unit as a whole and to permit the removal of said unit as a whole.

3. A removable resistance unit having greater length than breadth so that it is long and narrow, said unit comprising two terminal contact pieces at the same end of the unit and comprising a ribbon-like resistance connecting said terminal contact pieces, said contact pieces adapted to

be attached to a common support and to support the unit as a whole relative to said common support.

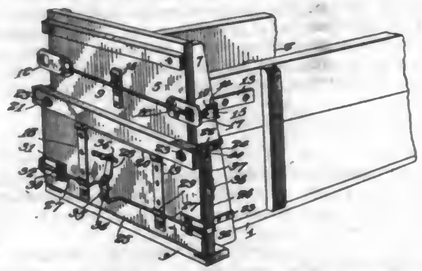


4. A rheostat or heater comprising a plurality of removable resistance units, each of said units comprising a flexible resistive conductor, a support therefor and a plurality of terminal contact pieces adapted to support the unit as a whole and permit the ready removal of the unit as a whole.

5. A removable resistance unit comprising a metallic support extending along the greatest dimension of said unit, insulating pieces carried by said support at a distance from each other, terminal contact pieces adapted to jointly support said unit as a whole, and a metallic resistance ribbon having its ends connected to said terminal contact pieces respectively.

[Claims 6 to 22 not printed in the Gazette.]

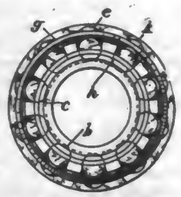
977,457. END-GATE. ROBERT C. LICHTWALD, Decatur, Nebr. Filed Aug. 28, 1909. Serial No. 515,052.



1. A wagon end gate comprising a body portion, side bars secured thereto and having projecting lower ends, keepers upon the latter, a reinforcing bar arranged across the bottom of the body portion of the gate, a hinge strap having its central portion secured to the bottom edge of said reinforcing bar and its ends downwardly offset and formed with pintles, a grain door, a pair of vertically disposed hinge straps secured on the outer face of the grain door and having their upper ends bent to form hinge eyes to engage said pintles, the lower portions of the last mentioned hinge straps being bent to form guide loops, bolts slidably arranged in said guide loops and adapted to engage said keepers, and means for projecting and retracting said bolts.

2. A wagon end gate comprising a body portion, side bars secured thereto and having projecting lower ends, a reinforcing bar arranged across the bottom of the body portion of the gate, a grain door hinged to said reinforcing bar to swing upwardly and outwardly, plates secured to the end portions of said reinforcing bar and having projecting extremities formed with vertical openings and the holding brace rods 37 pivoted to the ends of the grain door to extend upwardly through the openings in said plates and formed with notches to engage said plates, whereby the grain door will be retained in its elevated or open position.

977,458. ROLLER-BEARING HAVING GROOVED ROLLS AND TENSION-BAND. CHARLES S. LOCKWOOD, Newark, N. J., assignor to Hyatt Roller Bearing Company, Harrison, N. J., a Corporation of New Jersey. Filed June 2, 1910. Serial No. 564,540.



1. In a roller bearing, the combination, with a conical hub having an inwardly facing shoulder near its smaller end, of a series of tapering rolls fitted to such hub with their smaller ends against such shoulder and having each a shallow groove about the middle of its length, and an undivided annular flexible tension band fitted to such groove and arranged and operated to hold the rolls against the said shoulder and to elastically resist certain expansive movements of the rolls upon the hub, and positively prevent the expansion of the rolls beyond a certain limit.

2. In a roller bearing, the combination, with a conical hub having an inwardly-facing shoulder near its smaller end, of a series of tapering rolls fitted to such hub and having each a groove at the middle of its length, an annular flexible tension band of gerater breadth than thickness fitted to such grooves, and a cage having a conical shell with apertures to admit the rolls, and a flange upon the cage engaging such hub, to guide the cage and rolls in their movement.

977,459. SWINGLETREE. ELMER LUST, Reasnor, Iowa. Filed Mar. 16, 1910. Serial No. 549,694.



1. A swingletree provided with a steel wire truss having loops at its ends which engage the shanks of the swingletree hooks, and a pivoted straining device connected to the whiffletree and provided with a series of notches to be engaged by the truss rod.

2. A swingletree provided with a steel wire truss rod, said truss rod having loops formed in the ends thereof for engaging the shanks of the trace hooks and a straining device pivotally connected to the center of the swingletree, said straining device having a curved member provided with a series of notches to be engaged by the truss rod for stiffening the swingletree.

977,460. CONTACT-FINGER FOR ELECTRICAL CONTROLLERS AND SWITCHES. ROBERT CRAWFORD LYNESS, Sunderland, England. Filed June 27, 1910. Serial No. 569,157.



1. In combination, a contact finger comprising a metal strip having one of its ends bent back to form a loop and a contact tip having a recess adapted to embrace said loop.

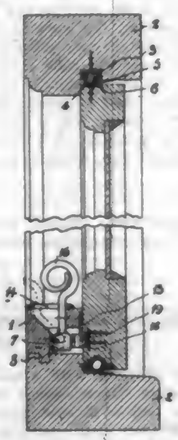
2. In combination, a contact finger comprising a resilient metal strip having one of its ends bent back to form a loop and a contact tip having a recess adapted to embrace said loop, whereby it is retained in position by the resiliency of the metal forming the loop.

3. In combination, a contact finger comprising a metal strip having one of its ends bent back to form a loop and a contact tip having a recess adapted to embrace said loop, said recess being of the same configuration as said loop but being of smaller dimensions, whereby when said tip is in position upon said finger the portions of the strip forming the loop will be pressed inward from their normal position.

4. In combination, a contact finger comprising a metal strip having one of its ends bent back to form a loop, said loop being provided with an outwardly extending projection and a contact tip having a recess adapted to embrace said loop, the wall of said recess being provided with a depression adapted to be engaged by said projection.

5. In combination, a contact finger comprising a resilient metal strip having one of its ends bent back to form a loop and a contact tip having a recess adapted to embrace said loop, whereby said tip will be retained in position by the resiliency of the metal forming the loop, the other end of said contact finger being bent back to form a resilient loop for attaching the finger to a support.

977,461. WINDOW, DOOR, AND THE LIKE. HERBERT JAMES MARTIN, Abbotsford, Eastbourne, England. Filed Feb. 5, 1910. Serial No. 542,225.



1. In a window the combination of a frame, a plurality of sashes, each sash having one stile hinged to the adjacent stile of the next succeeding sash and the opposite stile provided with a pivot at one end running in a corresponding groove in said frame, a second groove in a face of said frame at right angles with the face of said pivot groove, a member hinged to said opposite stile adapted to travel in said second groove, means for holding all of said members in any desired positions within the limits of their movements, and a catch provided on the sashes, adapted when these are in the closed position in a single plane, to be actuated by said holding means to engage a part of the frame.

2. In a window, the combination of a frame, a plurality of sashes, each sash having one stile hinged to the adjacent stile of the next succeeding sash and the stile opposite to the first-named stile being provided with a pivot at one end running in a corresponding groove in said frame, a member hinged to said opposite stile of each sash, a guide common to all of said members, a recess cut in a face of the frame parallel to the face of the window and means located in said recess for securing all of said members in any desired positions within the limits of their movements, and a catch provided on the sashes, adapted when these are in the closed position in a single plane to be actuated by said holding means to engage said guide.

3. In a window the combination of a frame, a plurality of sashes, each sash having one stile hinged to the adjacent stile of the next succeeding sash and the opposite stile provided with a pivot at one end running in a corresponding groove in said frame, a second groove in a face of said frame at right angles with the face of said first groove, a member hinged to said opposite stile adapted to travel in said second groove, a bar eccentrically mounted in said second groove, means for turning said bar to secure all of said members in any desired positions within the limits of their movements, and a catch provided on the sashes, adapted, when the window is closed, to be actuated by said eccentrically mounted bar, and engage a part of the frame.

4. In a window, the combination of a frame a plurality of sashes, each sash having one stile hinged to the adjacent stile of the next succeeding sash, and the opposite stile provided with a pivot at one end, a slide into which the pivot passes, a groove in the frame, a channel shaped guide arranged therein, in which the said slide runs, a member hinged to said opposite stile of each sash, a guide common to all of said members, a recess cut in a face of the frame parallel to the face of the widow, brackets fitted in said recess, a bar mounted eccentrically on trunnions in said brackets, one of said trunnions being extended, a lug on said extended trunnion, a corresponding slot in one of the brackets and means for rotating said bar to secure all of said members in any desired position within the limits of their movements.

5. In a window, the combination of a frame, a plurality of sashes, each sash having one stile hinged to the adjacent stile of the next succeeding sash, and the opposite stile provided with a pivot at one end, a slide into which the pivot passes, a groove in the frame, a channel shaped guide arranged therein, in which the said slide runs, a member hinged to said opposite stile of each sash, a tail piece on said member, a guide common to all of said members, a recess cut in a face of the frame parallel to the face of the window, brackets fitted in said recess, a bar mounted eccentrically on trunnions in said brackets, one of said trunnions being extended, a lug on said extended trunnion, a corresponding slot in one of the brackets, and means for rotating said bar to secure all of said members in any desired positions within the limits of their movements.

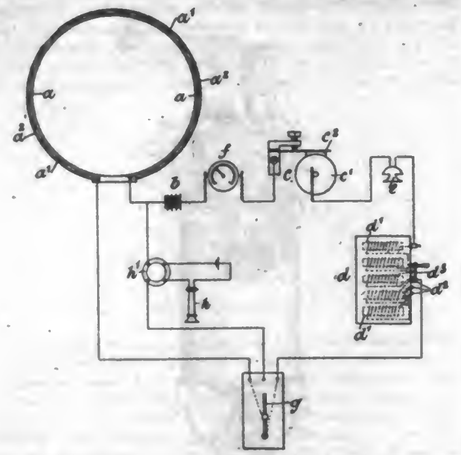
[Claim 6 not printed in the Gazette.]

977,462. MEANS FOR EFFECTING TELEPHONIC COMMUNICATION WITHOUT CONNECTING-WIRES. HARRY GRINDELL MATTHEWS, Gloucester, England. Filed June 18, 1910. Serial No. 567,637.

1. For emitting and receiving electrically produced vibrations conveyable therefrom or thereto in a wireless manner, a frame, comprising a plurality of bundles of wires of magnetizable material secured around the periphery of the frame with the lengths of the wires placed in a direction at right angles to the central plane of the frame, a wire wound around said frame and means for transmitting electric impulses of a signaling character through the said wire.

2. For emitting and receiving electrically produced vibrations conveyable therefrom or thereto in a wireless manner, a frame, comprising a plurality of bundles of magnetized steel wires secured around the periphery of the frame with the lengths of the wires placed in a direction at right angles to the central plane of the frame, a wire wound around said frame and means for transmitting electric impulses of a signaling character through the said wire.

3. An emitter of wirelessly conveyable vibrations comprising a frame having secured around the periphery thereof a plurality of bundles of wires and having a conducting wire wound around said frame, a source of electric energy, a telephone transmitter and a high frequency interrupter in circuit with the said frame-wound wire.

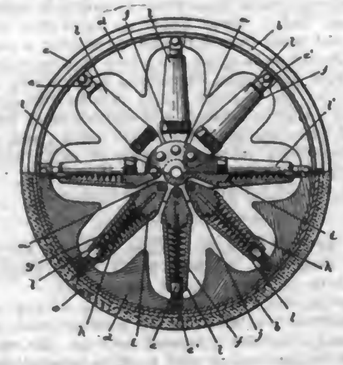


4. An emitter of wirelessly conveyable vibrations comprising a frame having secured around the periphery thereof a plurality of bundles of magnetized steel wires and having a conducting wire wound around said frame, a source of electric energy, a telephone transmitter and a high frequency interrupter in circuit with the said frame-wound wire.

5. An emitter of wirelessly conveyable vibrations comprising a frame having secured around the periphery thereof a plurality of bundles of magnetized steel wires and having a conducting wire wound around said frame, a source of electric energy, a telephone transmitter and a high frequency non-periodic interrupter in circuit with the said frame-wound wire, said interrupter comprising a pair of surfaces in moving contact, the nature of which is such as to interpose a resistance to the cross-flow of electricity, which resistance breaks down by the relative movement of the surfaces and is renewed by the passage of electricity.

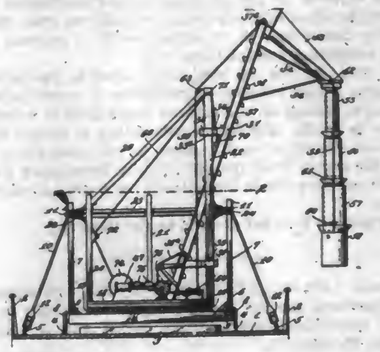
[Claims 6 to 8 not printed in the Gazette.]

977,463. VEHICLE-WHEEL. THOMAS LESLIE MAY, Toronto, Ontario, Canada, assignor of one-half to Edward George Gooderham, Toronto, Canada. Filed May 2, 1910. Serial No. 558,980.



In a vehicle wheel having the hub resiliently suspended centrally within the rim, a set of spokes with outwardly converging bores, one of the spokes being rigidly connected at its inner end to the hub, and the remaining spokes being pivotally connected at their inner ends to the hub, plungers pivotally connected at their outer ends to the rim and having their inner ends movable within the spokes, and tapering springs within the spokes bearing against the plungers to yieldingly and resiliently maintain the hub centrally within the rim.

977,464. APPARATUS FOR COALING VESSELS AT SEA. PETER MCDOWALL, West Concord, N. H., assignor of one-half to Chester L. Piper, West Concord, N. H. Filed Nov. 22, 1909. Serial No. 529,426.



1. In an apparatus for coaling vessels at sea, a track, a carriage mounted on said track, diagonal braces connected to said carriage, grooved wheels journaled to said braces, tracks on which said wheels are mounted to run, a turn-table mounted to rotate on said carriage, mechanism for rotating said turn-table, a conveyer adjustably mounted on said turn-table, and mechanism for adjusting said conveyer.

2. In an apparatus of the character described, a carriage mounted upon a track and provided with a series of uprights, side and end bars secured to said uprights, a circular track secured to said bars, a turn-table provided with uprights, a circular brace member connected to said uprights and rollers mounted on said circular brace to engage the circular track, said turntable mounted to rotate on said carriage.

3. In an apparatus of the character described, a carriage provided with wheels and mounted to move on rails, said carriage provided with uprights, a turntable mounted to rotate on said carriage, said turntable provided with uprights, grooved rollers mounted on the uprights of the turntable, a circular track mounted on the uprights of the carriage, and diagonal braces provided with grooved rollers at their lower ends bearing upon tracks at the sides of the carriage.

977,465. PROCESS OF TREATING CASSAVA AND PRODUCING ALCOHOL THEREFROM. CHARLES C. MOORE, Jr., Lexington, Ky., assignor to The Tropical Products Company, Washington, D. C., a Corporation of West Virginia. Filed Dec. 21, 1906. Serial No. 348,996.

1. The process of preparing valuable products from cassava which consists in disintegrating fresh cassava, treating to arrest enzymic activity, preparing a starch milk containing the soluble sugars of the cassava in the presence of enzym-retarding bodies, separating the starch fermenting the sugars remaining in the residual liquid after separation of starch to produce alcohol and recovering alcohol therefrom.

2. The process of preparing valuable products from cassava which consists in disintegrating fresh cassava, treating to arrest enzymic activity, preparing a starch milk containing the soluble sugars of the cassava by means of a portion of previously settled starch milk, separating the starch from such milk, returning a portion of

the separated liquid to serve anew in making starch milk, fermenting the sugars contained in the residual liquid to produce alcohol and recovering alcohol therefrom.

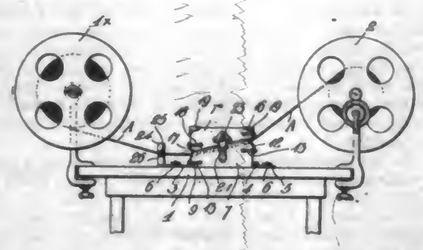
3. The process of preparing valuable products from cassava which consists in disintegrating fresh cassava, rapidly drying to arrest enzymic activity, preparing a starch milk containing enzym-arresting substances from the desiccated cassava, separating the starch from the milk, finally fermenting the residual liquid to produce alcohol and recovering alcohol therefrom.

4. The process of preparing valuable products from cassava which consists in preparing a starch milk from such cassava in the presence of and containing enzym-arresting chemicals, separating the starch from the milk, finally fermenting the residual liquid to produce alcohol and recovering alcohol therefrom.

5. The process of preparing valuable products from cassava which consists in preparing a starch milk from cassava, enough of said cassava being used in a desiccated state to render said starch milk richer in sugars than the normal cell sap of such cassava in the fresh state, removing the starch from the milk, finally fermenting the residual liquid to produce alcohol and recovering alcohol therefrom.

[Claims 6 to 9 not printed in the Gazette.]

977,466. FILM-CLEANING DEVICE. FREDERICK E. MORTIMER, Boston, Mass., assignor of one-half to Jennie E. Hutchings, Boston, Mass. Filed Apr. 6, 1910. Serial No. 553,815.



1. A film cleaner comprising a pair of pads between which the film is passed during the rewinding operation and a pair of brushes located at one end of the cleaner.

2. A film cleaner comprising pad holders having inclined surfaces, said pad holders being hinged together and provided with a lock, the ends of said pad holders being rounded off to permit the film to pass through the cleaner between the pads.

3. A film cleaner comprising a hinged base, a pad holder connected to the base and provided with a guideway extending longitudinally thereof, means for securing a pad to said holder, an upper pad holder hinged to the first mentioned pad holder, a lock for connecting the two pad holders in position for use, said pad holders having inclined meeting faces and rounded ends.

4. A film cleaner comprising a pair of pads having oppositely inclined faces, said pads being hinged together and provided with a lock, pivoted clamps for removably holding the pads to said holders, a pair of brushes disposed at one end of the cleaner, and means for passing the film between said pads and brushes.

977,467. CARBONATING APPARATUS. JOHN C. MURPHY, Chelsea, Mass., assignor to The Carbonating Company of America, New York, N. Y., a Corporation of New York. Filed July 24, 1901. Serial No. 69,494.

1. In a carbonating apparatus, a receptacle; a mixing-chamber therein comprising a series of U-shaped, perforated diaphragms arranged one upon the other and almost filling said receptacle; a liquid-inlet leading to said receptacle above said mixing-chamber; a gas-inlet leading to said receptacle below said mixing-chamber; a valve common to and controlling both of said inlets; an outlet for the charged liquid below said mixing-chamber; and a valve separate and distinct from the first-mentioned valve for controlling said outlet.



2. In a carbonating apparatus, a mixing-chamber; a liquid-inlet leading to said chamber; a gas-inlet leading to said chamber; a valve common to and controlling both of said inlets; an outlet for the charged liquid leading from said chamber; a valve separate and distinct from the first-mentioned valve for controlling said outlet; and an operative mechanism common to both of said valves for successively moving the same.

3. In a carbonating apparatus, a receptacle; a mixing-chamber in said receptacle; a liquid-inlet leading to said receptacle above said chamber; a gas-inlet leading to said receptacle below the chamber; a pressure-relief port leading from said receptacle; a valve common to and controlling said inlets and port; an outlet for the charged liquid leading from said receptacle; and a valve separate and distinct from the first-mentioned valve for controlling said outlet.

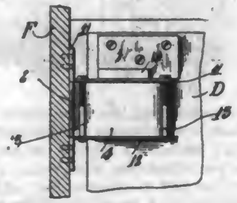
4. In a carbonating apparatus, a mixing-chamber; a liquid-inlet leading to said chamber; a gas-inlet leading to said chamber; a pressure-relief port leading from said chamber; a valve common to and controlling said inlets and port; an outlet for the charged liquid leading from said chamber; a valve separate and distinct from the first-mentioned valve for controlling said outlet; and an operative mechanism common to both of said valves for successively moving the same.

5. In a carbonating apparatus, a receptacle having an upper head and a lower head; a liquid-inlet passing through said upper head into said receptacle; a gas-inlet passing through said upper head into said receptacle; a valve in said upper head controlling both of said inlets; an outlet for the charged liquid passing through said lower head; a valve separate and distinct from the first-mentioned valve for controlling said outlet; and an operative mechanism common to both of said valves for successively moving the same.

[Claims 6 to 25 not printed in the Gazette.]

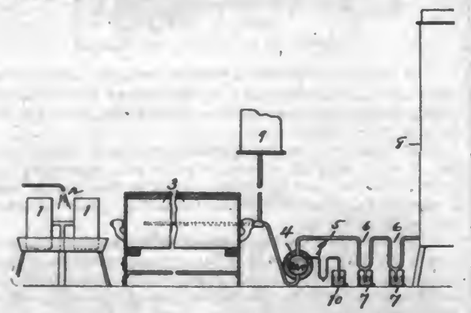
977,468. SPRING-HINGE. ALLEN S. NERO, Bottineau, N. D. Filed Feb. 3, 1909, Serial No. 475,857. Renewed June 11, 1910. Serial No. 566,407.

1. A spring hinge comprising a casing having an upright cylindrical wall and top and bottom plates, a concentric pivot rotatably arranged between the top and bottom plates and formed with a single integral radially projecting arm having in its outer end a semi-circular notch, a continuous ring, a bracket for supporting the ring formed from a metal strap having its central portion bent around the ring and secured thereto and its end portions bent in opposite directions and secured to the wall of the casing, said semi-circular notch in the arm of the pivot being adapted to swing over the central portion of said bracket, a coil spring surrounding said ring, washers slidably arranged on the ring at the ends of said spring and adapted to engage the opposite sides of the bracket and to be actuated by the arm on the pivot, and attaching brackets connected to the pivot and to the casing.



2. A spring hinge comprising a cylindrical casing having a circular side wall and top and bottom plates, a rotatably mounted spring actuated pivot arranged in the casing and having its upper end projecting through the top plate of the casing, a right angular attaching bracket fixed to said projecting end of the pivot and to the door and an attaching bracket for the casing formed from a single piece of sheet metal and having a flat body portion to engage a flat surface and formed at its top and bottom with apertured attaching flanges, the opposite sides of said flat body being formed with outwardly bent flanges shaped to engage the circular side wall of the casing and secured thereto.

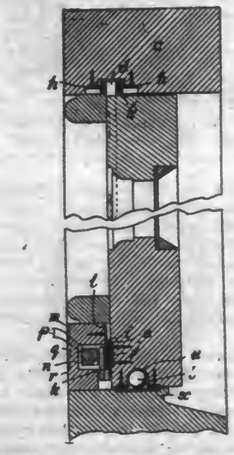
977,469. PEAT-GAS-PRODUCING PROCESS. JEAN DELPHICE OLIGNY, Montreal, Quebec, Canada, assignor to Peat Gas and Coal Company, Montreal, Canada, a Corporation of Maine. Filed Feb. 4, 1909. Serial No. 476,115.



The herein described peat gas producing process, consisting in first taking the peat in its natural moist state and crushing, and sprinkling it during said crushing with petroleum oil thus destroying the capillary nature of said peat and producing a pulpy petroleum charged substance, then subjecting said substance to intense heat, then injecting air by forced draft to mingle with the gas from said peat during the step of coking and thus lading the gas with air, then passing the air laden gas through liquid tar for carbureting purposes, then withdrawing the by-products by condensation and finally passing the gas into a suitable holder.

977,470. CASEMENT, SASH, DOOR, AND THE LIKE. ERNEST PELLETT, Eastbourne, England, assignor of one-half to Herbert James Martin, Eastbourne, England. Filed Mar. 12, 1909. Serial No. 482,951.

1. In a window, the combination of a frame, a plurality of sashes, each sash having one stile hinged to the adjacent stile of the next succeeding sash and the opposite stile provided with a pivot at one end running in a corresponding groove in said frame, a second groove in a face of said frame at right angles with the face of said pivot groove, a member hinged to said opposite stile adapted to travel in said second groove and means for holding all of said members in any desired positions within the limit of their movements.



2. In a window, the combination of a frame, a plurality of sashes, each having one stile hinged to the adjacent stile of the next succeeding sash and the stile opposite to the first-named stile pivotally reciprocating in said frame and means for securing said opposite stile of each sash to said frame at a face parallel to the face of the window in any desired positions within the limits of their movements.

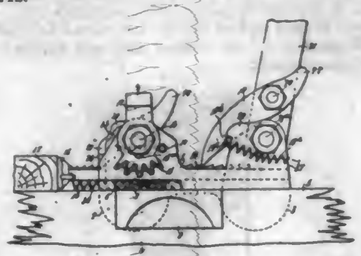
3. In a window, the combination of a frame, a plurality of sashes, each sash having one stile hinged to the adjacent stile of the next succeeding sash and the stile opposite to the first-named stile being provided with a pivot at one end running in a corresponding groove in said frame, a member hinged to said opposite stile of each sash, a guide common to all of said members, a recess cut in a face of the frame parallel to the face of the window and means located in said recess for securing all of said members in any desired positions within the limits of their movements.

4. In a window, the combination of a frame, a plurality of sashes, each sash having one stile hinged to the adjacent stile of the next succeeding sash and the stile opposite to the first-named stile being provided with a pivot at one end running in a corresponding groove in said frame, a member hinged to said opposite stile of each sash, a guide common to all of said members, a recess cut in a face of the frame parallel to the face of the window, a bar eccentrically mounted in said recess and means for turning said bar to secure all of said members in any desired positions within the limits of their movements.

5. In a window, the combination of a frame, a plurality of sashes, each sash having one stile hinged to the adjacent stile of the next succeeding sash, and the opposite stile provided with a pivot at one end and running in a corresponding groove in said frame, a second groove in a face of said frame parallel to the face of the window, a member hinged to said opposite stile of each sash and provided with teeth, a guide plate common to all of said members secured to said frame and adapted to act as a weather guard for said second groove, a bar eccentrically mounted in said second groove and provided throughout its length with teeth adapted to mesh with the teeth in said members, a handle to said bar projecting through a slot in said frame and means for locking the handle when turned to a position in which the teeth in said bar mesh with the teeth on said members.

[Claims 6 and 7 not printed in the Gazette.]

977,471. FLOORING-CRAMP. PERCY PICKERING, Wellington, New Zealand. Filed Apr. 12, 1909. Serial No. 489,442.



1. In apparatus for the purpose indicated, means for clamping the apparatus upon a joist comprising in combination a curved cam having serrations upon its edge and a vertically projecting spindle, a toothed quadrant upon said spindle and a pivoted lever having teeth adapted to engage with the teeth of said quadrant, cheeks downwardly projecting from the frame, and teeth upon the face of said cheeks, substantially as specified herein and illustrated.

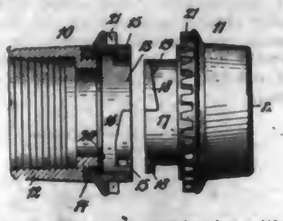
2. In an apparatus for the purpose described, the combination of a frame adapted to rest upon a joist and having means depending therefrom to engage a side face of the joist, a clamping segment arranged below a section of said frame that projects beyond the opposite face of the joist and having an upwardly extending spindle extending through a bearing on the frame, a gear connected with said spindle and extending over a portion of the frame, a lever fulcrumed on the frame and engaging said gear, a plunger mounted in the frame and movable therein longitudinally of the joist, and a second lever fulcrumed on the frame and adapted to actuate the plunger.

3. In an apparatus for the purpose described, the combination of a frame adapted to rest upon a joist and having at one edge a depending cheek to engage a side face of the joist and having a horizontal projection extending beyond the opposite face of the joist, a vertical spindle extending through a bearing on said horizontal projection, a segment connected with the lower end of the spindle and movable thereby to and from engagement with the joist, a gear connected with the spindle and extending between the said bearing and the body of the frame, a lever fulcrumed on the frame to turn about a horizontal axis and having its lower end engaging said gear, the upper arm of said lever being bent laterally away from the frame, a plunger mounted in the frame and movable beyond an end thereof in the direction of the length of the joist, and a lever fulcrumed on the frame and adapted to actuate the plunger.

4. In an apparatus for the purpose indicated, the combination of a frame adapted to rest upon a joist and engage a vertical face thereof, a clamping segment mounted on a vertical spindle carried by the frame and adapted to engage the other vertical face of the joist, a lever fulcrumed on a horizontal axis on the frame and having its lower end engaging said segment and its upper end bent laterally in position to be readily moved by an operator's foot, a plunger mounted in the frame, and a hand lever adapted to move the plunger outwardly.

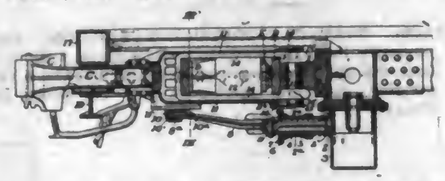
977,472. HOSE-COUPLING. HERBERT M. PILKINGTON, Ridgewood, N. J. Filed July 10, 1909. Serial No. 506,915.

1. In a hose coupling, the combination with a member having a cylindrical extension provided with a plurality of angularly faced abutments around the exterior thereof, of another member comprising a hub and a relatively rotatable sleeve arranged to receive the said cylindrical extension of the first said member, and provided with a plurality of interiorly disposed angularly faced abutments complementary to the said abutments of the first said member, the said sleeve and first said member being each provided exteriorly with a continuous circular toothed rack, the teeth of which are contiguously disposed to adapt them for simultaneous co-action with a wrench.



2. In a hose coupling, the combination with a member having a cylindrical extension provided with a plurality of angularly faced abutments around the exterior thereof, of another member comprising a hub and a relatively rotatable sleeve arranged to receive the said cylindrical extension of the first said member, and provided with a plurality of interiorly disposed angularly faced abutments complementary to the said abutments of the first said member, the said sleeve and the first said member being each provided exteriorly with an endless toothed rack, the teeth of which are contiguously disposed, and a wrench provided with a toothed pinion for simultaneous engagement with the teeth of both the said racks.

977,473. RADIAL-DRAFT GEAR. HENRY F. POPE, Cleveland, Ohio, assignor to The National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Filed Mar. 9, 1909. Serial No. 482,224.



1. A draft gear having a radially swinging draft member, a pivot pin connecting it to the car and insertible vertically from below, and a support below the pivot pin for holding it in place.

2. A draft gear having a radially swinging draft member, a draft rigging, a yoke, a pivot pin connecting the yoke to the car and insertible vertically from below, and a support on the draft member extending under the lower end of the pin.

3. A draft gear having a frame, a draft rigging having a yoke pivotally connected to the car and contained within the frame, said yoke having substantially flush outer surfaces and inwardly projecting reinforcing portions and a pivot pin extending through the reinforcing portions.

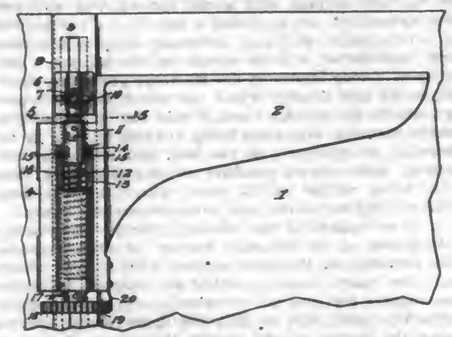
4. A draft gear having a coupler frame, a draft rigging, and a pivoted yoke within the same, said frame having top and bottom walls extending to a point back of the pivot in substantially straight lines.

5. A draft gear having a coupler frame, a draft rigging, a pivoted yoke within the same and a pivot pin for the yoke insertible vertically from below, said frame having top and bottom walls, the top wall extending to a point back of the pivot pin and over the top of the pivot pin and confining the yoke.

[Claims 6 to 8 not printed in the Gazette.]

977,474. MOVABLE WORK-GAGE FOR STEREOTYPE-TRIMMING MACHINES, &c. GEORGE F. READ and FREDERICK GRAFTON LOUCKS, London, England, assignors, by mesne assignments, to R. Hoe and Co., New York, N. Y., a Corporation of New York. Filed Jan. 16, 1909. Serial No. 472,587.

1. The combination with a movable work gage, of an adjustable stop which is disconnected from the gage, a positioning device between the gage and the stop which operates to finally determine the position of the gage, and means for adjusting the positioning device.



2. The combination with a movable work gage, of an adjustable stop which is disconnected from the gage, a positioning device between the gage and the stop and carried by the gage, and means for adjusting the positioning device.

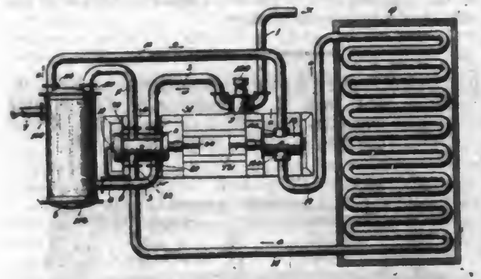
3. The combination with a movable work gage, of an adjustable stop which is disconnected from the gage, a positioning head arranged to contact with the stop and determine the position of the gage, and means for adjusting the positioning head.

4. The combination with a movable work gage, of an adjustable stop which is disconnected from the gage, a positioning head, a shaft on which the head is mounted, and means whereby the rotation of the shaft adjusts the position of the head.

5. The combination with a movable work gage, of an adjustable stop which is disconnected from the gage, a positioning head, a shaft on which the head is mounted, said head and shaft being carried by the gage, and means also carried by the gage, whereby the rotation of the shaft determines the position of the head.

[Claims 6 and 7 not printed in the Gazette.]

977,475. ICE-MAKING MACHINE. GEORGE H. REYNOLDS, Mansfield Depot, Conn., assignor to The Reynolds Ice Machine Company, New York, N. Y., a Corporation of New York. Filed Oct. 31, 1906. Serial No. 341,391.



1. A refrigerating apparatus having in combination a supporting frame; a driving-shaft extending transversely of said frame in the middle thereof; a motor carried by the frame directly above the driving-shaft and centrally of said frame; driving connections between the motor and the driving-shaft extending down beside said frame; an expansion cylinder at one end of the frame arranged longitudinally thereof; a compression cylinder and a cooling cylinder at the other end of the frame arranged one above the other and at a right angle to each other; a piston working in the expansion cylinder; a piston working in the compression cylinder; and direct connections between said pistons and the driving-shaft.

2. A refrigerating apparatus having in combination a main frame; a driving-shaft mounted thereon; an electric motor mounted on the frame above the shaft; actuating connections between the motor and the shaft; a compression cylinder; an expansion cylinder; a primer-pump arranged alongside of the compression cylinder; a water circulating pump, all mounted on the said frame; a sliding-frame; individual connections between the sliding-frame and the said cylinders and pumps; means for actuating said frame from the driving-shaft; and connections between the several mechanisms for continuously circulating gas therethrough.

977,476. TROLLEY-CATCHER. FRANCIS J. ROCHE, Somerville, Mass. Filed Nov. 18, 1909. Serial No. 528,644.



1. In a trolley catcher, the combination with a spring-actuated drum to receive the trolley rope, of a fixed plate having a groove, a freely-movable locking member which is confined in the groove but projects beyond the latter, means associated with the drum to cause the locking member to move a greater or less distance longitudinally of the groove as the drum turns, that depending on the speed of rotation of the drum and a shoulder carried by the drum and adapted to pass over a portion of the groove as the drum turns.

2. In a trolley catcher, the combination with a spring-actuated drum to receive the trolley rope, of a fixed plate having a groove, a freely-movable locking member which is confined in the groove but projects beyond the latter, a cam associated with the drum to cause the locking member to move outwardly in the groove as the drum turns, and a shoulder carried by the drum and adapted to pass over the outer portion of the groove as the drum turns.

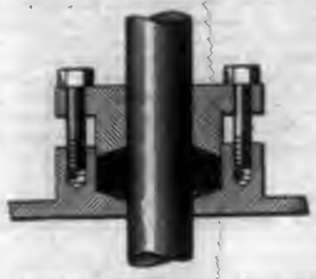
3. In a trolley catcher, the combination with a spring-actuated drum to receive the trolley rope, of a fixed plate having a vertically-arranged groove, a freely-movable locking member which is confined in the groove but projects beyond the latter, and a cam rotating with the drum and adapted to move the locking member upwardly in the groove, said drum having a shoulder which passes over the upper portion of the groove as the drum turns.

4. In a trolley catcher, the combination with a spring-actuated drum to receive a trolley rope, of a fixed plate having a vertically-arranged groove which terminates at its upper end in an offset, a ball freely movable in said groove but projecting beyond the latter, and a cam secured to the drum and adapted to throw the ball upwardly in the groove when the drum rotates rapidly, said drum having a shoulder which passes over the offset portion of the groove as the drum turns whereby when the ball is thrown to the outer end of the groove the shoulder will engage said ball and thereby lock the drum from further rotation.

5. In a trolley catcher, the combination with a spring-actuated drum to receive a trolley rope, of a fixed plate having a vertically-arranged groove which terminates at its upper end in an offset, a ball freely movable in said groove but projecting beyond the latter, and a cam adjustably secured to the drum and adapted to throw the ball upwardly in the groove when the drum rotates rapidly, said drum having a shoulder which passes over the offset portion of the groove as the drum turns whereby when the ball is thrown to the outer end of the groove the shoulder will engage said ball and thereby lock the drum from further rotation.

[Claims 6 to 10 not printed in the Gazette.]

977,477. PACKING FOR PISTON-RODS. GEORGE F. ROYER and LEWIS F. ZWIMBEL, Wilkes-Barre, Pa. Filed July 10, 1907. Serial No. 383,093.

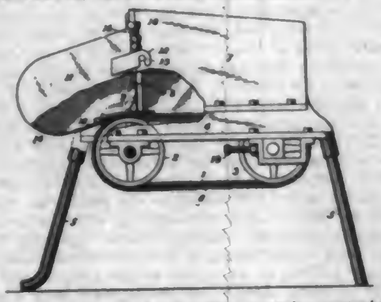


1. The herein described packing, for preventing the escape of fluid under pressure around piston rods, valve stems or moving parts of machinery, consisting of a loose fibrous mass of asbestos fiber and soft metal flakes, which can be readily packed into any stuffing box or joint.

2. The herein described packing, for preventing the escape of fluid under pressure around piston rods, valve stems or moving parts of machinery, consisting of a non-molded mass of asbestos fiber, soft metal flakes and graphite.

3. The herein described packing, for preventing the escape of fluid under pressure around piston rods, valve stems or moving parts of machinery, consisting of flake metal, asbestos fiber and graphite mixed in such proportion that the fiber constitutes about 6% of the total mass, which is loose, non-plastic and adapted to be packed into any stuffing box or joint.

977,478. APPARATUS FOR TREATING GRANULAR MATERIAL. GEORGE F. ROYER, Wilkes-Barre, Pa. Filed June 18, 1908. Serial No. 439,177.



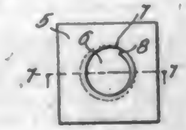
1. In an apparatus for treating granular material, the combination of a hopper, an endless carrier belt having a section extending through the hopper and provided in its outer surface with means for receiving and supporting particles not exceeding a certain size and adapted to automatically discharge outwardly from said surface such particles at a point outside of the hopper, means, adapted to yield in the direction of movement of the carrier, acting to obstruct the passage of coarser particles from the hopper, and means for removing from the belt such coarser particles as may be carried thereby from the hopper.

2. In an apparatus for treating granular material, the combination of a hopper, an endless carrier belt forming the bottom of the hopper and provided on its outer surface with a body of fine pins, drums supporting said belt, whereby the spaces separating the pins are increased after passing from the hopper to automatically discharge particles contained therein, means, adapted to yield in the direction of movement of the belt, obstructing the passage from the hopper of particles too large to be received in the spaces separating the pins on the belt, and a deflector beneath which the belt passes between said yielding means and the drum which supports the belt adjacent the discharge point.

3. In an apparatus for treating granular material, the combination of a hopper, an endless carrier belt having a section extending through the hopper and provided on its outer surface with means for receiving and supporting particles not exceeding a certain size and adapted to automatically discharge outwardly from said surface such particles at a point outside of the hopper, a plurality of spring blades or flexible stops projecting partly across the slot through which the belt leaves the hopper to obstruct the passage through said slot of undesirably coarse particles, said stops being adapted to yield in the direction of movement of the belt, and means for preventing such coarser particles as may pass said stops from being carried to the point where the belt automatically discharges the finer particles carried thereby.

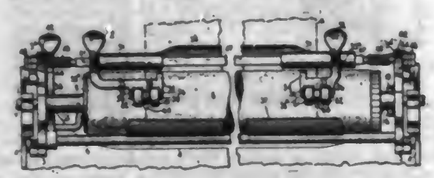
4. In an apparatus for treating granular material the combination of an elongated hopper, an endless carrier belt provided on its outer surface with a body of fine pins, the spaces between which are adapted to receive and support particles not exceeding a certain size, drums supporting said belt, so that the upper section thereof forms the bottom of and travels throughout the length of the hopper, and causing the particles contained in the spaces between said pins to be automatically discharged outwardly from said surface outside of the hopper, means acting to obstruct the passage from the hopper of particles too large to be received in the spaces separating the pins on the belt, and means acting to remove from the belt particles carried thereby from the hopper and not contained in said spaces.

977,479. NUT-LOCK. JOHN A. SCHMUTZ, Cumberland, Md. Filed Apr. 18, 1910. Serial No. 556,257.



A nut lock comprising a bolt having a plane surface extending longitudinal of the threaded portion thereof, said surface having a shoulder at one side thereof, a nut having a plane unthreaded surface extending across the threaded hole to form a cam face, said surface having a shoulder at one side thereof disposed in opposition to the shoulder on the plane surface of the bolt, and a malleable metal key for engaging the unthreaded portions of the bolt and nut to prevent accidental release of the nut when turned upon the bolt.

977,480. TYPE-WRITING MACHINE. ARTHUR W. SMITH, New York, N. Y., assignor to Yost Writing Machine Company, Ilion, N. Y., a Corporation of New York. Filed Dec. 4, 1905. Serial No. 290,169.



1. In a typewriting machine, the combination of a platen, a feed roller that presses the paper against the platen, a friction roll that bears directly upon the surface of the platen, and a flexible connection through which said friction roll drives said feed roller.

2. In a typewriting machine, the combination of a platen, an axle, a feed roller thereon, a second axle, a friction roll thereon, and a pivotal connection between said axles, said friction roll contacting directly with the surface of the platen and operating through said pivotal connection to drive said feed roller.

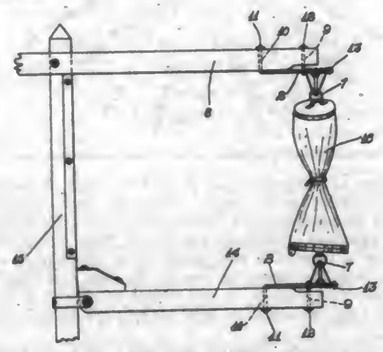
3. In a typewriting machine, the combination of a platen, hanger arms, a feed roller supported thereby, a friction roll, a hanger arm therefor, key controlled connections between the friction roll hanger arm and the feed roller hanger arms, and a spring connected with said friction roll hanger arm.

4. In a typewriting machine, the combination of a platen, hanger arms, a feed roller supported thereby, a friction roll, a hanger arm therefor, key controlled connections between the friction roll hanger arm and the feed roller hanger arms, a flexible connection between said feed roller and said friction roll, and a spring connected with said friction roll hanger arm and acting through said flexible connection on said feed roller.

5. In a typewriting machine, the combination of a platen, a feed roller, a shaft therefor, hanger arms supporting said shaft, friction rolls one at each end of said shaft, hanger arms for said friction rolls, flexible connections between said friction rolls and said shaft, key controlled connections between the feed roll hanger arms and the friction roll hanger arms, and springs connected with said friction roll hanger arms and acting on said feed roller through said flexible connections.

[Claims 6 to 29 not printed in the Gazette.]

977,481. CARRIER FOR MAIL-POUCHES. CLAUDE C. SNOW, Hinsdale, Ill. Filed May 14, 1909. Serial No. 495,889.



1. In a supporting carrier, the combination of two separate but coöperating members, said members exerting lateral pressure in opposite directions, and adapted to retain between them a third member capable of removal from said carrier by suitable pressure exerted in a plane corresponding with that of the main axis of the carrier.

2. In combination, a supporting member, and a carrier held by said supporting member, said carrier consisting of a central member and a coöperating inclosing member, said coöperating members exerting lateral pressure in opposite directions and having their distal portions suitably bent to retain a fourth member, said fourth member capable of removal from said carrier by suitable pressure exerted in a plane corresponding with that of the main axis of the carrier and in a direction away from said support.

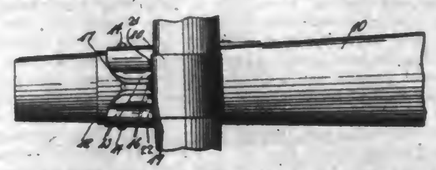
3. In a carrier for mail pouches, the combination with a supporting member, of a tongue member rotatably attached to said supporting member, an inclosing spring member also rotatably attached to said supporting member to cooperate with said tongue member and adapted to exert lateral pressure when a ring is inserted between the tongue member and the inclosing member, said ring adapted to be removed from said carrier on the application of sufficient pressure on said ring in a direction away from said supporting member, by first rotating the carrier until its axis lies substantially in the plane of the direction of said pressure and then pulling the ring from its engaged position.

4. In a carrier for mail pouches, the combination of a supporting member, a tongue member rotatably attached to said supporting member, and an inclosing spring member rotatably attached to said supporting member and bearing on said tongue member, lateral pressure being exerted between said members when the ring of the mail pouch is inserted between them, thereby retaining said ring in position.

5. In a carrier for mail pouches, the combination of a supporting member, a tongue member rotatably attached to said supporting member, and an inclosing spring member rotatably attached to said supporting member and bearing on said tongue member, the free ends of said cooperating members being suitably bent to readily retain the ring of the mail pouch between them, lateral pressure being exerted between said members when said ring is in position between said members.

[Claims 6 and 7 not printed in the Gazette.]

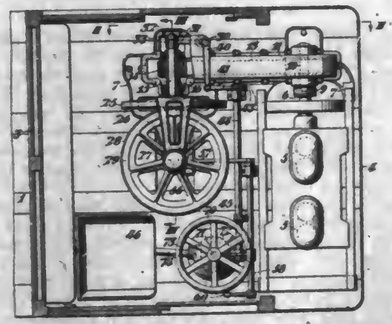
977,482. NECK-YOKE. THORWALD SORENSEN, Ringsted, Iowa. Filed July 28, 1910. Serial No. 574,282.



1. In a neck-yoke center, the combination with a pole having a projection on its under side; of a split band pivotally connected to and surrounding said pole and adapted for limited rotation, a U-shaped arm secured to said band embracing said projection, a link connecting the free ends of said band with the free end of said arm, a plate pivoted between the free ends of the band and having a cam face for coöperation with the pole when said plate is rotated in a forwardly direction to draw the arm and band inwardly toward the under side of the pole, and a neck-yoke clip pivotally connected to said plate.

2. In a neck-yoke center, the combination with a pole having a projection on its under side; of a split band pivotally connected to and surrounding said pole and adapted for limited rotation, a U-shaped arm secured to said band embracing said projection, a link connecting the free ends of said band with the free end of said arm, a plate pivoted between the free ends of the band and having a cam face for coöperating with the pole when said plate is rotated in a forwardly direction to draw the arm and band inwardly toward the under side of the pole, a split yoke clip having its free ends pivotally connected to opposite sides of said plate respectively at their intermediate portions, and means for drawing the terminals of the free end of said clip toward each other.

977,483. FRICTION-GEARING. JOHN SPRINGER, Trenton Junction, N. J. Filed Apr. 13, 1908. Serial No. 426,665.



1. The combination with a frame, of a motor comprising a main rotary shaft having bearings in said frame, a

aprocket wheel operatively connected with said main shaft, a horizontal counter-shaft having slide bearings in said frame, a sprocket wheel on said counter-shaft of less diameter than said other sprocket wheel, a chain operatively connecting said sprocket wheels, a friction disk on said counter-shaft, a collar on said counter-shaft, a rock shaft extending transversely with respect to said counter-shaft, an arm on said rock shaft pivotally engaging said collar, a vertical shaft having bearings in said frame, a friction wheel arrange dto slide on said vertical shaft and having a peripheral face presented to said friction disk, a spline connecting said friction wheel and said vertical shaft, and means arranged to raise and lower said friction wheel on said shaft, whereby said friction wheel may be presented at different radial distances from the center of said disk, and said disk may be pressed against or withdrawn from said friction wheel, substantially as set forth.

2. The combination with a frame, of a horizontal shaft having slide bearings in said frame, a friction disk on said shaft at one end thereof, a collar on said shaft at the other end thereof, a rock shaft extending transversely with respect to said disk shaft, an arm on said rock shaft pivotally engaging said collar, a vertical shaft having bearings in said frame, a friction wheel arranged to slide on said vertical shaft and having a peripheral face presented to said friction disk, a spline connecting said friction wheel and said vertical shaft, and means arranged to raise and lower said friction wheel on said shaft, whereby said friction wheel may be presented at different radial distances from the center of said disk, and said disk may be pressed against or withdrawn from said friction wheel, substantially as set forth.

977,484. QUICK-DETACHING WHIFFLETREE. CHARLES G. TAYLOR, Hartford, Conn., assignor, by direct and mesne assignments, to Ammon P. Richardson, Andover, Mass. Filed Aug. 27, 1909. Serial No. 514,881.



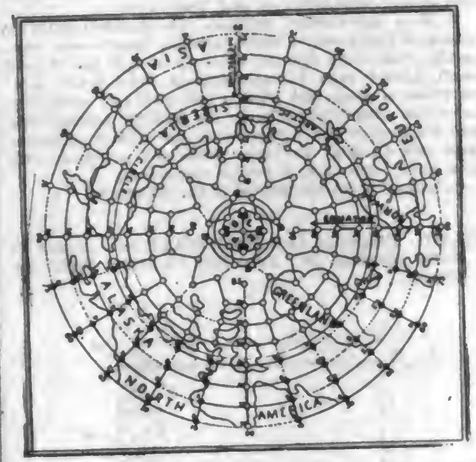
A whiffletree having fixed longitudinally projecting studs at its ends adapted to engage trace eyes, a fixed ear being located adjacent each stud and projecting beyond the end approximately parallel with said studs, each ear being provided with a slot, a pivot bolt in each ear, a member pivotally mounted on each bolt and provided with a chamber to receive the adjacent ear, said members each having a slot leading from said chamber, and also having trace removing arms coöperating with said studs, a spring encircling each bolt and having one end engaging the bottom of the slot in the adjacent ear the other end of said spring engaging the slot in the corresponding pivoted member, the chamber in the latter coöperating with the slot in the ear to form a housing for said spring, and means for moving said pivoted members against the tension of said spring.

977,485. GAME APPARATUS. JOHN R. TRACY, Kanopolis, Kans. Filed Feb. 9, 1910. Serial No. 542,892.

1. Game apparatus having delineated upon the surface thereof a map of the upper portion of a hemisphere of the earth centering about the pole and having concentric circles intersected by radial lines, portions of said circles and said radial lines being dotted to indicate water-ways and sledge-ways respectively, and movable counters to be moved over the lines and circles.

2. Game apparatus having delineated upon its surface a map representing the arctic region centering about the pole and having concentric circles indicating the parallels of latitude and radial lines indicating the meridians of longitude, portions of said circles and of said radial lines being dotted to represent water-ways and sledge-ways respectively, said radial lines terminating at a distance from the center or pole and being connected with a circle near the pole by diagonal dotted lines indicating sledgeways.

3. Game apparatus having delineated upon its surface a map representing the arctic region centering about the pole and having concentric circles indicating the parallels of latitude and radial lines indicating the meridians of longitude, portions of said circles and of said radial lines being dotted to represent water-ways and sledge-ways respectively, said radial lines terminating at a distance from the center or pole and being connected with a circle near the pole by diagonal dotted lines indicating sledgeways, and movable counters adapted to be moved along said lines and circles, said counters bearing different indications to represent explorers, Eskimos, dogs, sledges, and boats.



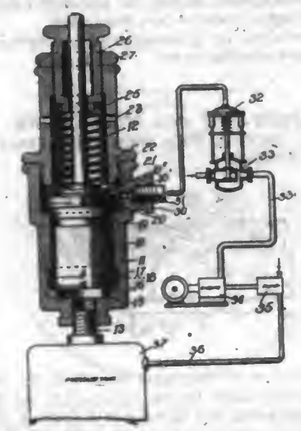
4. Game apparatus having delineated upon its surface a map representing the arctic region and portions of the Northern Hemisphere, and having concentric circles representing parallels of latitude and radial lines representing meridians of longitude, said radial lines terminating at a distance from the center or pole of the map and diagonal lines connecting certain of said radial lines with a circle near the pole and other of said radial lines being unconnected.

5. Game apparatus having delineated upon its surface a map representing the portions of the hemisphere centering about the North Pole, and having concentric circles representing parallels of latitude and radial lines representing meridians of longitude, said radial lines terminating at a distance from the pole, said circles and said lines having dotted portions to indicate water-ways and sledge-ways respectively, diagonal dotted lines indicating sledge-ways connecting certain of said radial lines with a circle nearer the pole, and counters adapted to move over said lines and circles, said counters having character indications representing respectively explorers, Eskimos, dogs, boats, and sledges.

977,486. PRESSURE-RESPONSIVE DEVICE. HUGH PERRONET THOMPSON, Chicago, Ill. Filed Feb. 28, 1910. Serial No. 546,460.

1. In a pressure-responsive device, a casing, a movable element therein, exposed to a variable controlling pressure for movement thereby in one direction and to a determinate force acting in the opposite direction for movement thereby in said direction, said element being arranged to expose to the controlling pressure when in its transit from one extreme position to the other an area greater than that which it exposes when in one limit of movement and less than that which it exposes when at its other limit.

2. In a pressure-responsive device, a casing a movable element therein exposed to a variable pressure for movement in one direction and to a determinate force acting in the opposite direction for movement thereby in said direction, said element being arranged to expose to the variable pressure when at one extreme of movement an effective area less than that which it exposes in the course of its transit toward the other extreme of movement, and conversely to expose to the pressure when at its second extreme of movement an effective area greater than that which it exposes to said pressure in the course of its transit back toward said extreme of movement.



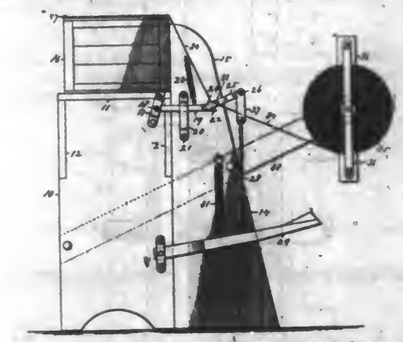
3. In a pressure-responsive device, a casing, a reciprocating plunger therein and a power device tending to move the plunger in one direction, there being an opening for communication with a source of controlling pressure to oppose the power device at one end of the casing, said casing providing seats for the plunger at opposite extremes of its range of movement, and the plunger and casing being arranged so that the area exposed by the plunger to the controlling pressure in its transit from one extreme of movement to the other is less than the area exposed to said pressure when at one extreme of movement and greater than the area exposed to said pressure when the plunger is at its other extreme of movement.

4. In a pressure-responsive device, the combination of a casing providing a main chamber and a head chamber, a plunger having a cylinder portion in the main chamber and a head portion in the head chamber, said casing providing reduced seat for the plunger at its lower extreme of movement and a seat for the head at its upper extreme of movement, an adjustable spring for operation in conjunction with said plunger tending to force it to its lower extreme of movement, there being a controlling pressure inlet at the end of the casing opposing the spring and passages for communication from said controlling pressure inlet to the head chamber when the plunger is at its upper extreme of movement, whereby the plunger exposes a minimum area to pressure when in its lowest position, a maximum area to the pressure when in its upper position, and an intermediate area to the pressure when in transit between the two extremes.

5. In a device of the character described, the combination of a casing providing a body having a lower area of one diameter, an intermediate area of a second diameter, and a head chamber of largest diameter, and a detachable upper bonnet providing a guide, a plunger in the casing structure providing a stem guided by said bonnet, a spring between the bonnet and the plunger providing a head within the head chamber, and said casing providing upper and lower seats for the plunger, such that the area of the plunger exposed to the lowest chamber is less than that exposed to the intermediate chamber when the plunger is in transit, and that the head area exposed to the head chamber when the plunger is at its upper limit of movement is greater than the area which is exposed when the plunger is in transit, there being in the casing and plunger structure passages for communicating pressure from the lower chamber to the head chamber when the plunger is in its uppermost position, whereby in the transit of the plunger from lowest to highest position the exposed area of the plunger may increase, and with reverse movement of the plunger the exposed area thereof may decrease.

[Claim 6 not printed in the Gazette.]

977,487. SHIPPING-CASE-STRAPPING MACHINE. WILLIAM F. THOMPSON, Melrose, Mass., assignor to Walter E. Piper, Melrose, Mass. Filed Aug. 29, 1910. Serial No. 579,584.



1. In a shipping-case strapping-machine, a frame adapted to support a case in position for being strapped, a jointed lever supported at one of its outer ends by the frame and having its inner ends near the joint correspondingly beveled, a treadle pivotally connected at one end to the frame, a rod or link connecting the outer end of the treadle with the outer end of the jointed lever opposite that end which is connected with the frame, and mechanism for holding said treadle and jointed lever normally in raised position.

2. In a shipping-case strapping-machine, a frame adapted to support a case in position for being strapped, a jointed lever supported at one of its outer ends by the frame and having its inner ends near the joint adapted when the lever is straightened to grip and hold firmly the strap, a treadle pivotally connected at one end to the frame, a rod or link connecting the outer end of the treadle with the outer end of the jointed lever opposite that end which is connected with the frame, and mechanism for holding said treadle and jointed lever normally in raised position, whereby after the strap has been secured at any point to the case downward pressure upon the treadle will grip said strap and stretch that portion which is between the jointed lever and the case.

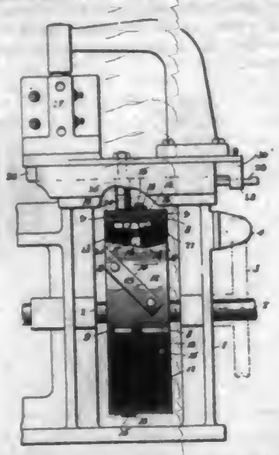
977,488. CAM MECHANISM. EMIL TRAUB, Newark, N. J., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Dec. 3, 1907. Serial No. 404,887.

1. A cam-wheel comprising a holding drum provided with a rim having flaring annular peripheral seats, a segmental cam-section fitted to said seats and provided upon its outer face with a cam portion, and means applied to the inner face of said cam-section and including a cross member adapted to engage the inner face of said rim for maintaining said cam-section firmly but adjustably seated upon the rim of said drum.

2. A cam-wheel comprising a holding drum provided with a rim having flaring annular peripheral seats, and an intermediate annular slot, a segmental cam-section fitted to said flaring seats and provided upon its outer face with a cam portion, and fastening means connected with the inner side of the cam section passing through said annular slot and engaging the inner face of the rim at opposite sides of said slot whereby said cam-section is maintained adjustably seated upon the rim of the drum.

3. A cam-wheel comprising a holding drum provided with a cylindrical rim having flaring annular seats upon its outer periphery and an intermediate annular slot, e

segmental cam-section having its edges fitted to said flared annular seats and provided upon its outer face with a cam portion, and upon its inner surface with a tongue entering the annular slot in the rim of said drum, and means applied to said tongue for maintaining said cam-section firmly but adjustably seated upon the rim of said drum.



4. A cam-member comprising a holding drum provided with a cylindrical rim having peripheral seats and an intermediate annular slot, a segmental cam-section fitted to said seats and provided with a cam-portion on its outer face and with a tongue formed with a transverse aperture and entering the annular slot in the rim of said drum, and a gib inserted in said aperture in the tongue and adapted to bear at one end upon the inner surface of the rim and provided at its opposite end with a clamping screw engaging said rim.

5. A cam-member comprising a holding drum formed with a rim having an annular slot, a segmental cam-section provided upon its outer face with a cam-portion and upon its inner face with a radial tongue having transverse apertures, and gibs applied to said apertures and engaging the inner surface of the rim of said drum for securing said cam-section adjustably upon said holding drum.

977,489. SPECULUM. VICTOR VON UNRUH, New York, N. Y. Filed Aug. 3, 1909. Serial No. 511,063.



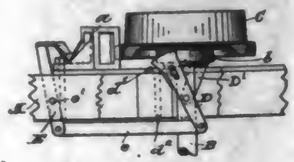
1. In a speculum, an elliptical frame comprising telescopic members carrying jaws, provided with pivotedly mounted handles whereby, when operated, the jaws are extended relatively and the size of the frame varied simultaneously.

2. In a speculum, in combination a fenestrated top jaw, two lateral jaws, and one lower jaw, all mounted on interengaging telescopic members provided with handles when operated for simultaneously moving the jaws in opposite directions, and increasing the length of the telescopic members.

3. In a speculum, the combination with two jaws provided with curved tubular portions pivotedly mounted to a fenestrated jaw, two handles provided with members adapted to telescopically engage the aforesaid tubular portions and pivotedly mounted to a fourth jaw.

4. In a speculum, an elliptical frame, comprising telescopic members carrying jaws.

977,490. SAFETY-STOP FOR WIRE-BLOCKS. CALVIN W. VAUGHN, Cuyahoga Falls, Ohio. Filed Jan. 17, 1910. Serial No. 538,433.



1. In a device of the character described, the combination of a rotatable drum for the reception of the wire being drawn, mechanism for rotating said drum, a pivotally mounted member adapted to move the drum out of engagement with said mechanism, means in line with the wire being drawn for throwing said member into contact with said drum, and said drum being adapted, upon such contact, to frictionally engage and further operate said member and thereby move the drum.

2. In a device of the character described, the combination of a drum for the reception of the wire being drawn, said drum being rotatable about a vertical axis and axially movable, and being provided with a lug on its under side, mechanism for rotating said drum, said mechanism including a member provided with a recess adapted to receive said lug, two oppositely disposed members below said drum and pivoted on horizontal axes, the length of said members above their axes being greater than the distance from such axes to the top of said recess, added to the height of said lug, said members being normally positioned at one side of their vertical positions, and a lever in line with the wire being drawn and adapted to raise said members to such vertical positions.

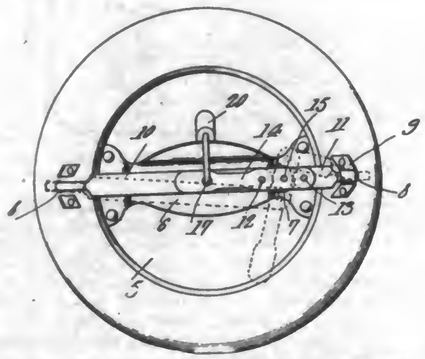
3. In a device of the character described, the combination of a rotatable drum for the reception of the wire being drawn, mechanism for rotating said drum, two oppositely disposed pivotally mounted members adapted to move the drum out of engagement with said mechanism, a yoke pivoted on an axis transverse to the axes of said members and slidably connected at its ends with said members, respectively, and means in line with the wire being drawn for actuating one of said members.

4. In a device of the character described, the combination of a rotatable drum for the reception of the wire being drawn, mechanism for rotating said drum, two oppositely disposed pivotally mounted members adapted to move the drum out of engagement with said mechanism, a yoke pivoted on an axis transverse to the axes of said members and slidably connected at its ends with said members, respectively, a lever in line with the wire being drawn, and a link connecting the lever with one of said members.

5. In a device of the character described, the combination of a drum for the reception of the wire being drawn, said drum being rotatable about a vertical axis and axially movable, mechanism disposed below said drum for rotating the same, two oppositely disposed members below said drum and pivoted on horizontal axes, the length of said members above their axes being sufficient to raise the drum out of engagement with said mechanism, said members being normally positioned to one side of their vertical positions, a yoke pivoted on a vertical axis and slidably

connected at its ends with said members, respectively, a lever in line with the wire being drawn and pivoted on a horizontal axis, and a link connecting said lever with one of said members.

977,491. LOCKING CAN-COVER. BENJAMIN VIODAL, Armstrong, Iowa. Filed Sept. 22, 1910. Serial No. 583,239.



A container cover comprising a body, a handle upon the body, bolts slidable upon the handle, the bolts at their outer ends being arranged to coöperate with the neck of a container upon which the cover is fitted, and an operating handle pivoted to the inner ends of the bolts and to the handle at a point between the first mentioned pivots, the handle, when the bolts are extended, being arranged to overlie one of the bolts, the said handle, the said bolt which it overlies, and the handle upon the cover being formed with openings adapted to register when the bolts are extended.

977,492. TIRE. JOSEPH A. VITELLO, Abbeville, La. Filed July 12, 1910. Serial No. 571,639.



1. The combination with a tire, of anchoring devices embedded within and having angular portions projecting beyond the tire, armor plates having angular openings for the reception of said angular projecting portions, and means engaging the anchoring devices for holding the plates upon said anchoring devices, said means constituting anti-skidding devices.

2. A tire including arcuate armor plates having lapping edge portions, anchoring devices embedded at their inner ends within the tire and having angular projecting portions engaged by the plates, and anti-skidding devices engaging the projecting portions to hold the plates thereon.

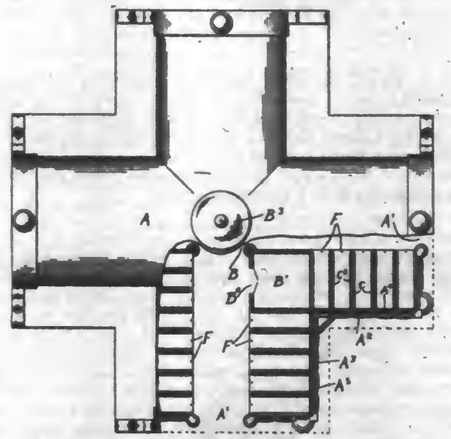
3. The combination with a tire, of anchoring devices embedded therein and having angular portions projecting beyond the tire, armor plates engaging and held against rotation by said angular projecting portions, and means for securing the plates to said portions.

4. The combination with a tire, of anchoring devices embedded at one end within the tire and having angular portions projecting beyond said tire, armor plates arranged in annular series, each plate having beveled edges lapped by adjoining plates, and means for securing each plate upon the angular projecting portion of an anchoring device.

5. The combination with a tire including a fabric structure embedded therein, of anchoring devices extending through said structure and embedded at one end within the tire, each of said devices including a shank, a head lapped and retained by the fabric, and an angular portion projecting beyond the tire, and armor plates detachably secured to said projecting portions.

[Claims 6 and 7 not printed in the Gazette.]

977,493. MAUSOLEUM STRUCTURE. FREDERICK J. WALTER, Decatur, Ill. Filed Mar. 12, 1909. Serial No. 482,939.



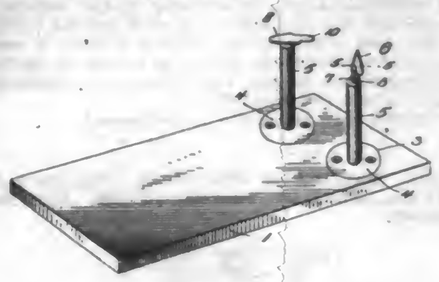
1. A mausoleum of the character described, including a hollow-tile wall in the form of a cross, a cement wall adjacent to said hollow-tile wall and surrounded thereby, a central chamber surmounted by a dome having entrances for light and air, a plurality of passages leading from said central chamber, crypts lining both sides of said passages and including independent side- and top-sections separated from the adjacent crypt sections by a cement filling, and tubes leading from the crypts to openings in the aforementioned hollow-tile wall.

2. A mausoleum of the character described, including a central chamber surmounted by a dome having entrances for light and air, a plurality of passages at right angles to one another leading from said chamber, crypts lining both sides of said passages and including independent side- and top-sections separated from the adjacent crypt sections by a cement filling, the aforesaid central chamber and passages being formed by a hollow-tile wall, a cement wall adjacent to said hollow-tile wall and surrounded thereby, and tubes leading from the crypts to openings in the afore-mentioned hollow-tile wall.

977,494. BILL AND LETTER FILE. HENRY C. WATTS, Fayetteville, Tenn. Filed Apr. 8, 1910. Serial No. 554,248.

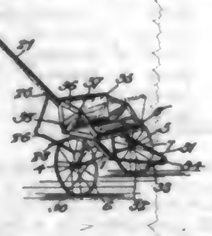
1. A bill or letter file comprising a base having annular recesses adjacent one end thereof, vertically arranged posts projecting upwardly from the base and provided with annular disks or plates received in said annular recesses, screws penetrating the annular disks or plates to hold the posts in their fixed positions, said posts being cylindrical in form and having their upper portions provided with vertically arranged recesses, projections arranged vertically in said recesses, members fulcrumed to the upper ends of said projections adapted to be held in horizontal or vertical positions and provided with restricted portions to be received by said recesses

when the members are in vertical positions, said restricted portions having their outer faces convexed to conform approximately with the cylindrical contours of the posts, as and for the purpose specified.



2. A file of the class described, comprising vertically disposed posts, a recess formed in the upper end of said posts, locking members carried by said posts and having means for holding the same in a horizontal or vertical position, said locking members having a reduced portion adapted to be received into said recesses, when the locking members are in a vertical position.

977,495. CHILD'S SULKY. JOEL N. WHEELER, Geneva, Ill. Filed Oct. 28, 1909. Serial No. 525,144.



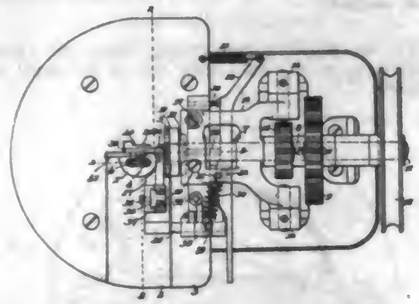
1. In a child's sulky, the combination with the axle, of a seat support consisting of a strip of metal having its opposite ends provided with openings to receive the spindle ends of the axle, the said axle being provided with indents into which the walls of said openings may be pressed to lock the support to the axle, the middle portion of said seat support extending parallel with the axle, a seat made fast to said extended middle portion and a tongue connecting the seat and axle.

2. In a child's sulky, the combination with the axle and a seat support in the longitudinal plane of the axle, of a seat secured to the middle portion of the support, a tongue connecting the axle and seat, a forwardly extending and downwardly projecting brace for preventing the sulky from tipping too far forward, a rearwardly and downwardly projecting brace for preventing the sulky from tipping too far rearward and foot rests adjustably connected to said braces.

3. In a child's sulky provided with means for preventing it from tilting too far forward when the tongue is released, a rearwardly and downwardly projecting brace for preventing the sulky from tilting too far rearwardly when the tongue is released, the said rearwardly projecting brace being provided with a series of holes, a foot rest and fastening means arranged to coact with the foot rest and holes in the brace to lock the foot rest in different positions.

4. In a child's sulky in which the seat is supported on an axle and provided with a reversible back, forwardly and rearwardly projecting braces for preventing the seat from tilting too far forwardly and backwardly when released by the operator, a foot-rest and means for adjusting it on a brace to suit different lengths of legs whichever way the child sitting on the seat faces.

977,496. WELT GROOVING AND BEVELING MACHINE. ERASTUS E. WINKLEY, Lynn, Mass. Filed Jan. 29, 1902. Serial No. 91,781.



1. A welt grooving and beveling machine, having, in combination, a grooving knife, a beveling knife arranged to act on the inner edge of a U-shaped welt, mechanism for feeding a U-shaped welt, an internal guide arranged to engage the inner edge of the welt and coöperate with the feeding mechanism to turn the welt, and a movable guide arranged to yieldingly engage the outer edge of the welt and force the welt into contact with the internal guide, substantially as described.

2. A welt grooving and beveling machine, having, in combination, a grooving knife, a beveling knife arranged to act on the inner edge of a U-shaped welt, mechanism for feeding a U-shaped welt, an internal guide arranged to engage the inner edge of the welt and coöperate with the feeding mechanism to turn the welt, and a yielding presser foot arranged to press upon the welt in proximity to the knives, said grooving knife being mounted to move with the presser foot, substantially as described.

3. A welt grooving and beveling machine, having, in combination, a grooving knife, a beveling knife arranged to act on the inner edge of a U-shaped welt, mechanism for feeding a U-shaped welt, an internal guide arranged to engage the inner edge of the welt and coöperate with the feeding mechanism to turn the welt, and a yielding presser foot arranged to press upon the welt in proximity to the knives, said grooving knife being adjustable thereon toward and from the surface of the welt, substantially as described.

4. A welt grooving and beveling machine, having, in combination, a grooving knife, a beveling knife arranged to act on the inner edge of a U-shaped welt, mechanism for feeding a U-shaped welt, an internal guide arranged to engage the inner edge of the welt and coöperate with the feeding mechanism to turn the welt, and means for adjusting said guide transversely to the direction of feed, substantially as described.

5. A welt grooving and beveling machine, having, in combination, a grooving knife, a beveling knife arranged to act on the inner edge of a U-shaped welt, mechanism for feeding a U-shaped welt, an internal guide arranged to engage the inner edge of the welt and coöperate with the feeding mechanism to turn the welt, and means for adjusting said guide and beveling knife transversely to the direction of feed, substantially as described.

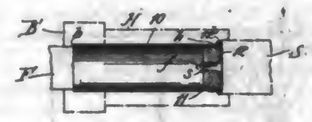
[Claims 6 to 10 not printed in the Gazette.]

977,497. METHOD OF MANUFACTURING CARTRIDGE-SHELLS. CHARLES A. BAILEY, Cromwell, Conn. Filed Aug. 3, 1910. Serial No. 575,300.

1. The method of applying the metal cap or head to the shell which comprises, first; the insertion of the base-wad into the shell for a distance substantially equal to the length of the cap, and then crimping the end of the shell projecting beyond the wad.

2. The method of applying metal caps to shells which comprises the insertion of the base-wad into the open end of the shell for a distance substantially equal to the length of the cap, inserting a mandrel into the open head-

end of the shell to gage the reduction of the shell at that point, and then reducing the cap-receiving end of the shell so as to adapt the latter to receive the cap.



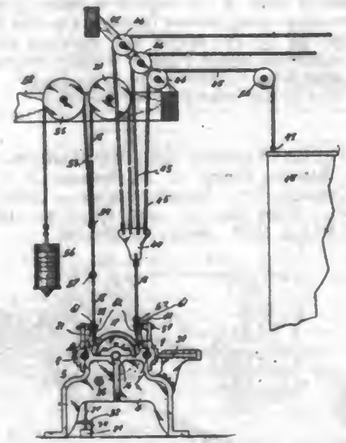
3. The improved method of capping the shells of cartridges which comprises the insertion of the base-wad into the shell for a depth substantially equal to the length of the cap, then reducing the cap-receiving end of the shell, then placing the cap on said reduced end, and then forcing said wad into said capped end.

4. The improved method of capping the ends of cartridge-shells which comprises the reduction of the shell-end, then placing the cap thereon, then forcing the base-wad into place within the capped portion of the shell and simultaneously therewith piercing the wad for the reception of the primer.

5. The improved method of capping the ends of cartridge-shells which comprises the reduction of the shell-end, then placing the cap thereon, then forcing the base-wad into place within the capped portion of the shell and simultaneously therewith piercing the base-wad for the reception of the primer, and also compressing said wad so as to form annular lips to engage shoulders formed on the reduced end of the shell body.

[Claim 6 not printed in the Gazette.]

977,498. MECHANISM FOR HANDLING HANGING SCENERY. SETH G. BAILEY, Denver, Colo., assignor of one-fourth to Martin Beck, New York, N. Y., and one-fourth to Andrew C. Carson, Denver, Colo. Filed Dec. 7, 1908. Serial No. 466,307.



1. An apparatus of the class described, the combination with an article to be handled, of an operating drum provided with a gear, operating shafts mounted on opposite sides of the drum, a gear mounted upon each shaft and adjustable thereon to engage the gear of the drum, a suitable connection between the two gears whereby they may be simultaneously shifted on their respective shafts in opposite directions, the two shafts being so rotated that their gears will cause the drum to move in opposite directions, a main cable mounted on the drum, a number of auxiliary cables, a suitable connection between one extremity of the main cable and the auxiliary cables at one end, the other end of the latter leading to the article to be operated, and a counter-balance weight connected with the main cable, substantially as described.

2. In apparatus of the class described, the combination with the article to be handled, of an operating drum provided with a gear, shafts mounted upon opposite sides of the drum, gears splined upon the shafts and adapted to mesh with the drum gear, a lever fulcrumed intermediate the two shafts and having its extremities connected with the gears upon the said shafts, means for operating the lever to shift said gears in opposite directions whereby the one or the other may be made to mesh with the gear of the drum, and a cable mounted on the drum and connected with the article to be handled, substantially as described.

3. The combination with a load to be manipulated, of a drum mounted to rotate and provided with a gear, operating shafts mounted on opposite sides of the drum and turning in opposite directions, gears splined upon the respective shafts and adapted to mesh with the gear of the drum, a cable mounted on the drum, means for connecting one extremity of the cable with the load to be manipulated, a counterbalance weight, means for connecting the cable with the said weight, and suitable means connected to be automatically operated by the cable for shifting the gears upon the operating shafts, whereby the meshing gear is disengaged from the gear of the drum, and a suitable connection between the two gears whereby when one is moved in one direction upon its shaft the other is moved in the opposite direction, substantially as described.

4. In an apparatus of the class described, the combination with the article to be shifted, of a drum mounted to rotate and provided with a gear, operating shafts mounted on opposite sides of the drum and rotating in opposite directions, gears mounted upon the respective shafts and connected to be simultaneously shifted on the respective shafts in opposite directions, the said gears of the operating shafts being both mounted to mesh with the gear of the drum when properly adjusted, bell crank levers suitably mounted and connected with the respective gears of the operating shafts, to shift the said gears upon the shafts when the levers are operated, a cable mounted upon the drum, means for connecting one extremity of the cable with the article to be manipulated, a counterbalance weight, means for connecting the weight with the cable, stops mounted upon both runs of the cable above the drum and arranged to act upon the said bell crank levers to operate the latter to shift the gears upon the operating shafts, substantially as described.

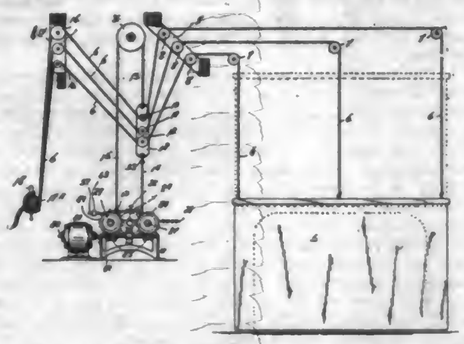
5. The combination with a frame, and an article to be manipulated, of a shaft, a drum mounted to rotate on the shaft and provided with a gear, operating shafts mounted on opposite sides of the drum and rotating in opposite directions, gears splined upon the respective shafts and adapted to be adjusted to engage the drum gear, the gears of the operating shafts being both mounted to mesh with the drum gear when properly adjusted, a connection between the two gears of the operating shafts whereby when one gear is moved in one direction the other gear is simultaneously shifted in the opposite direction, a cable mounted upon the drum, means for connecting one extremity of the cable with the article to be handled, counterbalance means, a connection between said means and the cable, and means mounted upon the frame and automatically actuated by the cable for shifting the meshing gear upon either operating shaft out of engagement with the drum gear when the cable has reached its proper limit of movement in either direction, substantially as described.

[Claims 6 to 13 not printed in the Gazette.]

977,499. APPARATUS FOR RAISING AND LOWERING HANGING SCENERY AND OTHER LOADS. SETH G. BAILEY, Denver, Colo., assignor of one-fourth to Martin Beck, New York, N. Y., and one-fourth to Andrew C. Carson, Denver, Colo. Filed July 6, 1909. Serial No. 506,204.

1. The combination with a member, of an operating drum, a cable connected in operative relation with the drum and the member, means for operating the drum, means for automatically disconnecting the operating means from the drum, when the member has reached its

limit of travel in either direction, a brake for locking the drum against movement when the operating means is disconnected therefrom, and means for manually releasing the brake to allow the drum to rotate and the member to fall upon the stage after reaching its limit of movement in either direction, said means including a rod slidably mounted and provided with a pin, and a lever actuated by the pin.



2. The combination with a number of members, of operating drums, corresponding in number therewith, cables connected in operative relation with the respective drums and the members, adjustable means for operating the drums, and means for automatically disconnecting the operating means from any drum independently of the other drums, when the member has reached its limit of movement in either direction, a separate brake for each drum, and means for simultaneously releasing the brakes of all the drums, to allow all of the members to fall.

3. The combination with a member, of an operating drum, a cable connected in operative relation with the drum and with the member, an adjustable gear for operating the drum, means for manually shifting the gear, whereby the latter is thrown into operative relation with the drum, means for automatically disconnecting the gear from the drum, a brake connected with the drum, and means for releasing the brake to allow the member to fall when it has reached its limit of movement in either direction, said means including a rod slidably mounted and provided with a pin, and a lever actuated by the pin.

4. The combination with a movable member, of a drum, a cable connected in operative relation with the drum and with the member, a brake for controlling the movement of the drum, and means for manually releasing the brake to allow the drum to rotate and the member to fall, said means including a rod slidably mounted and provided with a pin, and a lever actuated by the pin.

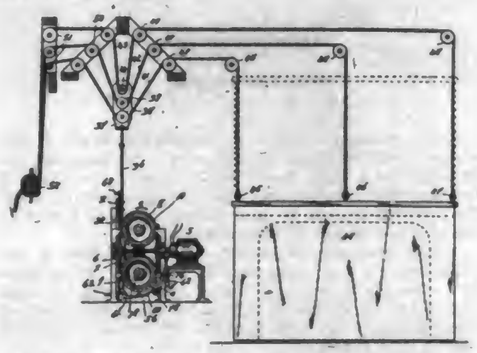
5. The combination with a movable member, of an operating drum, a cable connected in operative relation with the drum and with the member, a brake for controlling the movement of the drum, a tension device connected with the brake, and means acting on the tension device to release the brake to allow the drum to rotate and the member to fall, said means including a rod slidably mounted and provided with a pin, and a lever actuated by the pin.

[Claims 6 to 24 not printed in the Gazette.]

977,500. APPARATUS FOR HANDLING HANGING SCENERY. SETH G. BAILEY, Denver, Colo., assignor of one-fourth to Martin Beck, New York, N. Y., and one-fourth to Andrew C. Carson, Denver, Colo. Filed May 21,1910. Serial No. 562,791.

1. The combination with a load, of two shafts, means for rotating the shafts in reverse directions, drums normally loose on the respective shafts, a cable connecting the load with one drum, another cable connecting the two drums, and means for connecting either drum to rotate with its shaft while the other drum is loose on its shaft.

2. The combination with a load, of two coöperating shafts, drums normally loose on the respective shafts, a cable connecting one drum with the load, a second cable connecting the two drums, means for connecting either drum to rotate with its shaft while the other drum is loose on the other shaft.



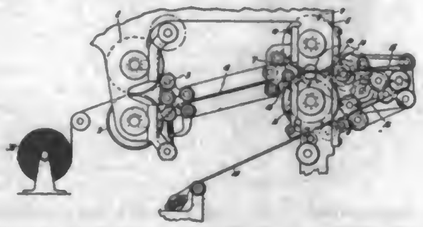
3. The combination with a load, of two shafts, means for rotating the shafts in reverse directions, drums normally loose on the shafts, a cable connecting one drum with the load, a second cable connecting the two drums, means for manually connecting either drum to rotate with its shaft while the other drum is loose on the other shaft, and means for automatically disconnecting the said drum from the shaft.

4. The combination with a load, of two coöperating shafts, means for rotating the shafts in reverse directions, drums normally loose on the respective shafts, a flexible device connecting one drum with the load, a second flexible device connecting the two drums, and a lever for connecting either drum to rotate with its shaft while the other drum is loose on the other shaft.

5. The combination with a load, of two coöperating shafts, means for rotating the shafts in reverse directions, drums normally loose on the respective shafts, a flexible device connecting one drum with the load, a second flexible device connecting the two drums, and manually operated means for connecting either drum to rotate with its shaft while the other drum is loose on the other shaft.

[Claims 6 to 22 not printed in the Gazette.]

977,501. PAPER-TRANSMITTING MECHANISM. WILLIAM T. BAILEY, Elmira, N. Y., assignor to Carter-Crume Company, Ltd., Toronto, Canada, a Corporation of Canada. Filed Jan. 14, 1904, Serial No. 188,942. Renewed May 4, 1905. Serial No. 258,803.



1. In mechanism of the class described, in combination, a cylinder provided with web creasing means, and means adapted to feed a web thereto at a rate greater than that of the peripheral speed of said cylinder.

2. In mechanism of the class described, in combination, a pair of cylinders, a creasing blade mounted upon one of said cylinders and co-acting creasing means mounted upon the other thereof, and means adapted to feed a web to said cylinders at a rate of speed greater than that of the peripheral speed of one of said cylinders.

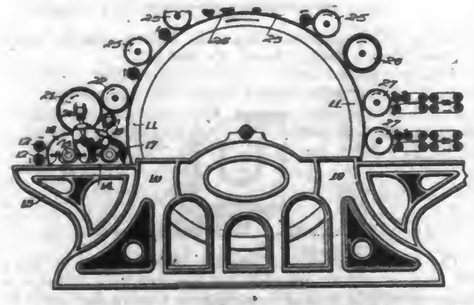
3. In mechanism of the class described, in combination, a pair of cylinders provided with web cutting and web creasing means, means adapted to feed a web to said cylinders at a rate greater than that of the peripheral speed of one of the same, and means adapted to draw said web taut simultaneously with the action of said creasing means.

4. In mechanism of the class described, in combination, a pair of cylinders one of which is provided with alternately disposed cutting and creasing blades and the other of which is provided with co-acting cutting and creasing means, means adapted to feed a web to said cylinders at a rate greater than the peripheral speed of the cylinder upon which said blades are mounted, and intermittently operative means adapted to draw said web taut substantially simultaneously with the action of said creasing means.

5. In mechanism of the class described, in combination, a pair of cylinders one of which is provided with alternately disposed creasing and cutting blades and the other of which is provided with co-acting creasing and cutting means, means adapted to feed the web to said cylinders at a rate greater than the peripheral speed of the cylinder upon which said blades are mounted, and intermittently operative means adapted to strike and deflect said web and take up excessive slack thereon substantially simultaneously with the action of said creasing means.

[Claims 6 to 20 not printed in the Gazette.]

977,502. FEEDING DEVICE FOR CARDING-MACHINES. EDDO V. BATES, Lowell, Mass. Filed July 1, 1909. Serial No. 505,364.



1. In a card, the combination with the main cylinder, the feeding-in rolls, and a licker-in running in contact with the feeding-in rolls, of means for transferring the stock upwardly from the licker-in to the main cylinder, and means separate from said first mentioned means for transferring stock from the licker-in to the main cylinder, and for raising the stock on the licker-in located below the first named means, and between and in contact with the licker-in and main cylinder.

2. In a card, the combination with the main cylinder, the feeding-in rolls, and a licker-in, of a fancy for raising the stock on the licker-in running in contact with the main cylinder, and means for transferring the stock from the licker-in to the main cylinder located in position to collect all flying lint set free by the fancy except that which falls back on the fancy.

3. In a finisher wool-card, the combination with the main cylinder and the feeding-in rolls, of a licker-in of relatively large diameter for taking the stock from the feeding-in rolls, a stripper engaging the main cylinder, means for taking stock from the licker-in and transferring it to the stripper, said means comprising a roll having teeth meeting the teeth of the stripper point to point and a fancy engaging the main cylinder and licker-in and located below the stripper.

4. In a finisher card, the combination with the main cylinder and feeding-in rolls, of a licker-in located in position to receive material from the feeding-in rolls, a fancy for raising the stock on the licker-in, extending therefrom to the main cylinder, a doffer located above the licker-in and fancy and having its surface moving in the same direction at its point of contact with the licker-in, and a stripper for delivering stock from the doffer to the main cylinder, the teeth of the stripper and doffer being arranged to meet point to point.

5. In a finisher card, the combination with the main cylinder and feeding-in rolls, of a licker-in located in position to receive material from the feeding-in rolls, and rotating so that its surface next to the feeding-in rolls moves downwardly with its teeth projecting forwardly with respect to its direction of rotation, a fancy located between the main cylinder and the licker-in and in contact with both the licker-in and main cylinder for raising the stock on the licker-in, a doffer located above the licker-in and fancy and having its surface moving in the same direction at its point of contact with the licker-in, and a stripper for delivering stock from the doffer to the main cylinder, the teeth of the stripper and doffer being arranged to meet point to point.

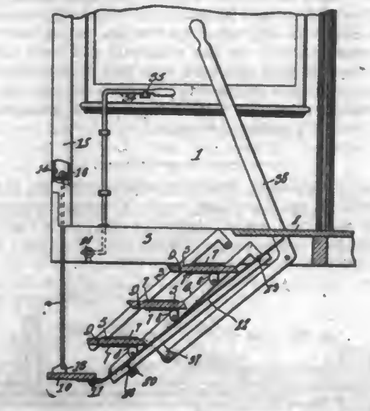
[Claim 6 not printed in the Gazette.]

977,503. SOUND-LOCATER. ROBERT N. BAYLIS, Montclair, N. J. Filed Oct. 19, 1910. Serial No. 587,846.



In an apparatus of the character described for locating sounds in engines, a finder head including a case, a diaphragm inclosed and held therein, the wall of said case outside of said diaphragm being made of relatively thin material, and a coupling inclosed in the space between the diaphragm and the inner wall of the lower or outer section of said case and coupling said parts for the transmission of sound waves impinging against the external wall of the thin part of said case, the walls of said thin part converging toward the outer end of the coupling.

977,504. CAR STEP AND PLATFORM. STEPHEN W. BISHOP, Williston, Fla. Filed Aug. 26, 1910. Serial No. 579,007.



1. An adjustable car step having its lowermost step arranged to be secured to the car door whereby to prevent accidental lowering of the steps should the locking mechanism be improperly unlocked.

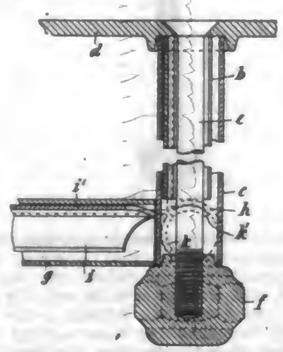
2. An adjustable car step embodying raising and lowering means, a series of steps, means for holding the steps

in raised position, and means to secure the lowermost step to the car door.

3. An adjustable car step comprising a series of pivotally connected steps, a lower step pivotally supported independently of the other steps, means for raising the series of steps, means for moving the lowermost step to a position at right angles to the other steps to cause it to contact with the car door, means for securing the said step and door together, and automatically operating means for locking the series of steps in raised position.

4. An adjustable car step comprising a series of pivotally connected steps, means for raising and lowering the same, a lower step pivoted independently of the other steps, means for causing the lower step to assume a position at right angles to the other steps when in raised position, means for securing the lower step to the car door, a spring actuated bolt to hold the steps raised, and means for locking the bolt against accidental release.

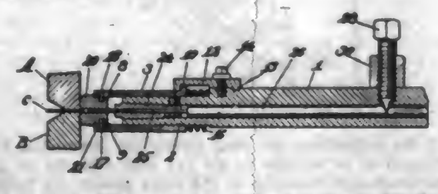
977,505. STOVE, RANGE, AND THE LIKE. ERIK AUGUST BOLINDER, Stockholm, Sweden. Filed June 10, 1908. Serial No. 437,666.



1. In a stove, the combination of a top-plate, bottom and side walls having at the edges outwardly extending flanges, slotted tubes gripping about the said flanges, and interlocking rods inserted through the tubes forming the vertical edges of the stove, said rods having means for supporting the ends of the tubes at the lower edges of the stove, substantially as and for the purpose set forth.

2. In a stove, the combination of a top-plate, walls having at the edges outwardly extending flanges, slotted tubes gripping about the said flanges, rods inserted through the tubes forming the vertical edges of the stove, said rods having heads bearing on the top-plate, and nuts screwed on the lower ends of the said rods and forming feet for the stove, said feet supporting the ends of the clamping tubes forming the lower edges of the stove, substantially as and for the purpose set forth.

977,506. APPARATUS FOR HEADING NAILS OR TACKS. MATTHIAS BROCK, Boston, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Mar. 4, 1908. Serial No. 419,158.



1. In a heading apparatus, a die, a carrier and a sleeve to hold said die and arranged to slide upon the carrier, said sleeve having separately adjustable portions, whereby one portion may be adjusted to fit the carrier and another portion adjusted to hold the die.

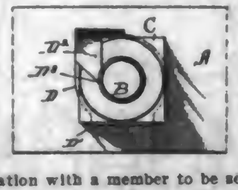
2. In a heading apparatus, a die, a carrier, a sleeve arranged to hold the die and to slide upon the carrier, said sleeve having separately adjustable end portions whereby one end portion may be adjusted to slide on said carrier and the other end portion may be adjusted to hold the die.

3. In a heading apparatus, a die, a carrier, a sleeve to hold the die and arranged to slide upon the carrier, said sleeve having longitudinal and transverse splits therein, shim pieces in said transverse splits, and means to adjust the sleeve to compensate for the wear of said carrier and of said sleeve upon each other.

4. In a heading apparatus, a carrier having a longitudinal bore, a sleeve arranged to slide upon the carrier, a die removably attached to the forward end portion of the sleeve, a heading pin extending into the die, a chuck to hold the heading pin, said chuck being fitted into the bore of the carrier, means to adjust the heading pin longitudinally in the chuck, a spring arranged to hold said sleeve and die normally in forward position and means to adjust the sleeve to compensate for the wear of both the carrier and the sleeve upon each other.

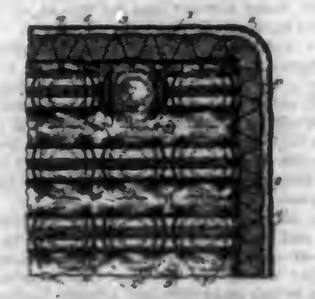
5. In a heading apparatus, a die, a carrier, and a sleeve to hold the die and arranged to slide upon the carrier, said sleeve having a longitudinal split in the portion constructed to slide upon the carrier and bearing and tightening screws uniting said split portion whereby the sleeve may be adjusted to fit the carrier and to compensate for the wear of both sleeve and carrier upon each other.

977,507. NUT-LOCK. JOHN B. BROWN, Akron, Ohio. Filed Nov. 1, 1907. Serial No. 400,243.



The combination with a member to be secured having a flat face, of a bolt and nut for securing said member, a washer provided with an opening to receive said bolt arranged between said member and nut, said washer comprising a flat plate provided with a right-angled flange upon one edge extending up alongside of said nut, said plate being provided with an upwardly projecting tongue upon its upper edge and at one corner of the plate, said tongue having an inwardly projecting portion adapted to to rest in the threads of said bolt, the end of said tongue being cut off obliquely to form a biting portion adapted to travel in and engage the threads of said bolt.

977,508. MATTRESS AND THE LIKE. OLIVER M. BURTON, Chicago, Ill. Filed Sept. 3, 1910. Serial No. 580,386.



1. In mattresses and the like, the combination with an upholstered top comprising inner and outer flexible coverings and an intermediate pliable filling, of a series of spiral supporting springs having their end coils extending through said inner covering, and flexible cross strips woven through said end coils to secure the same to said inner covering.

2. In mattresses and the like, the combination with an upholstered top comprising inner and outer flexible coverings and an intermediate pliable filling, of a series of spiral supporting springs having their end coils extending through said inner covering, and flexible strips extending over the outer face of said inner covering and woven through said end coils.

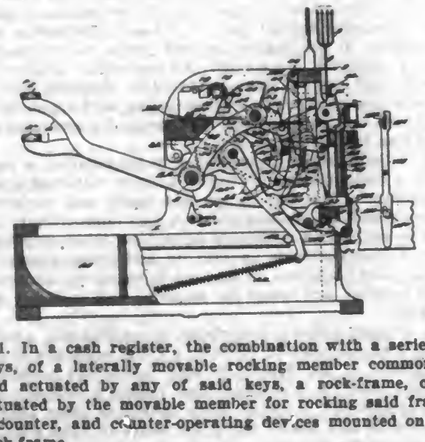
3. In mattresses and the like, the combination with an upholstered top comprising inner and outer flexible coverings and an intermediate pliable filling, of a series of spiral supporting springs having their end coils extending through said inner covering, and flexible cross strips woven through said end coils, the ends of said cross strips and the edges of said inner covering being secured together and to said outer covering.

4. In a spring construction for mattresses and the like, a series of spiral springs, a flexible covering extending over said springs and having slits through which the end coils of said springs extend, and flexible cross strips woven through said end coils, substantially as described.

5. In a spring construction for mattresses and the like, a series of spiral springs, a flexible covering extending over said springs and having slits through which opposite portions of each of the end coils of said springs extend, and flexible strips extending over the outer face of said covering and woven through said end coils.

[Claims 6 to 10 not printed in the Gazette.]

977,509. CASH-REGISTER. THOMAS CARROLL, Dayton, Ohio, assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio, a Corporation of Ohio, (incorporated in 1906.) Filed Mar. 23, 1901, Serial No. 52,479. Renewed Sept. 15, 1906. Serial No. 334,777.



1. In a cash register, the combination with a series of keys, of a laterally movable rocking member common to and actuated by any of said keys, a rock-frame, cams actuated by the movable member for rocking said frame, a counter, and counter-operating devices mounted on the rock-frame.

2. In a cash register, the combination with a series of keys, of a laterally movable rocking member common to and actuated by said keys, a rock-frame, cams carried by the common member for rocking said frame, a counter, and counter-operating devices mounted on the rock-frame.

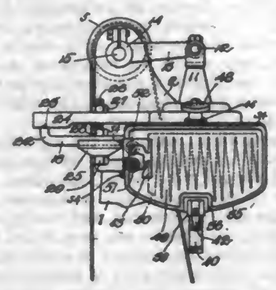
3. In a cash register, the combination with a series of keys, of a movable member common to and actuated by the keys, a rock-frame, cam disks carried by the common member and which support the rock-frame in normal position, a counter, counter-operating devices normally out of engagement with the counter and mounted on said rock-frame; said disks or cams being arranged to hold the counter operating devices normally disengaged, but to bring them into engagement with the counter during a part of the registering operation and to finally permit movement of the counter operating devices back to normal disengaged position after the end of the registering movement.

4. In a cash register, the combination with a series of keys, of a counter, transfer devices for said counter, a member common to and moved by the keys in one direction, means for shifting said member in another direction, and operating devices mounted on the common member and coöperating with the transfer devices when moving in one direction only.

5. In a cash register, the combination with a series of keys having an initial and a final movement, of a counter, transfer devices, for said counter, a member common to and moved by the keys in one direction, operating devices for the transfer devices mounted on said common member, and means arranged to shift the common member so that the operating devices will actuate the transfer devices during one movement only of the keys.

[Claims 6 to 57 not printed in the Gazette.]

977,510. EDGE SETTER AND FINISHER. EDWIN N. CHANDLER, Brockton, Mass., assignor to Simplex Electric Heating Company, Boston, Mass., a Corporation of Massachusetts. Filed Mar. 16, 1910. Serial No. 549,811.



1. An edge-setting machine, comprising an edge-setting tool, a unitary holder and heater therefor mounted for vibration, said holder consisting of a relatively heavy mass of metal having a plate and tool-embracing walls all contacting with and arranged to freely conduct heat to the tool, and means for supplying electric heating energy to said plate.

2. An edge-setting machine, comprising an edge-setting tool, a unitary holder and heater therefor mounted for vibration, said holder consisting of a relatively heavy mass of metal having a plate, tool-embracing walls, and a front flange, all contacting with and arranged to freely conduct heat to the tool, and an electric resistance device mounted on said plate and confined by said flange.

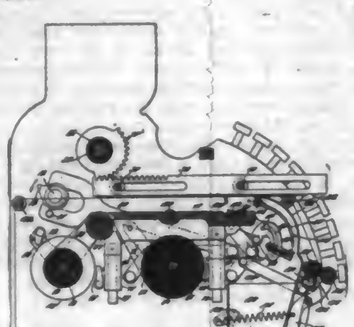
3. In an edge-setting machine, a combined holder and heater mounted for vibration, the same consisting of a flat plate, parallel walls projecting from the rear thereof to receive the tool, and an electric resistance device mounted at the front of said holder.

4. In an edge-setting machine, a combined holder and heater mounted for vibration, the same consisting of a relatively heavy mass of metal in the form of a transverse plate provided with parallel rearwardly extending walls and a socket to receive a tool, a flange forwardly extending from said plate, and an electric resistance device held by said plate and flange.

977,511. CASH-REGISTER. JOSEPH P. CLEAL, Toronto, Ontario, Canada, assignor to The National Cash Register Company, Dayton, Ohio, a Corporation of Ohio, (incorporated in 1906.) Filed Feb. 23, 1907. Serial No. 359,027.

1. In an accounting mechanism, the combination with a printing mechanism including type bars having a plurality of sets of type successively arranged thereon, of means for positioning said bars, an operating mechanism,

a table moved thereby and platens on said table adapted when said table is moved to take impressions from said sets of type.



2. In an accounting machine the combination with a plurality of printing devices, of a plurality of impression means therefor, a common frame carrying said impression means, means for feeding a strip over a portion of said frame and over one of the impression means, means permitting the insertion of a slip over another impression means, and means for reciprocating the whole frame to take impressions on said strip and slip.

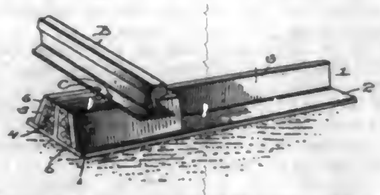
3. In an accounting machine, the combination with type bars, having a plurality of sets of type on each bar, a plurality of platens for taking impressions on a slip from the type of the several sets, means for separating the slip between said impressions, and means operated as said platens move, for feeding one part of the slip.

4. In an accounting mechanism, the combination with type bars having each a plurality of sets of type thereon, of a plurality of counters for printing consecutive numbers, a common means for operating the counters and platens for taking impressions from said counters and type.

5. In an accounting machine, the combination with a type bar having a plurality of sets of type thereon, of means for taking impressions simultaneously from one type of each set, and actuating means for same comprising, a plurality of toggles, a link connecting said toggles for parallel motion, an actuating rod connected to said link, and means for reciprocating said rod to straighten said toggles.

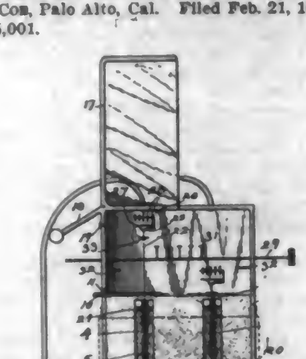
[Claims 6 to 8 not printed in the Gazette.]

977,512. RAILWAY-TIE. DANIEL CLINE, Patoka, Ind. Filed Aug. 4, 1910. Serial No. 575,597.



A railway tie of the class described comprising a main section consisting of a base portion and a central longitudinal vertically disposed web portion, said base portion provided at opposite ends with pairs of lug receiving apertures, filler blocks arranged at opposite ends of the main section to provide a support for the track rails and a fastening means for the rail spikes, side plates mounted upon opposite ends of the base portion of the main section against the filler blocks and having downwardly extending lugs at their bottom edges to pass through the apertures of the main section and fastening means passing through the side plates, the filler blocks and the web of the main section for securing the several parts of the tie together as a unit.

977,513. MINER'S AND ASSAYER'S SCALE. HARRISON S. COE, Palo Alto, Cal. Filed Feb. 21, 1910. Serial No. 545,001.



1. A liquid balance, comprising, in combination, a receptacle, a housing and lid therefor, a liquid contained in said receptacle, a rod floated in said liquid and projecting through said lid, a scale-pan and removable weights carried by said rod, means for fixedly clamping said rod, and means for removing and replacing said weights, said clamping means comprising a revoluble plate mounted concentrically of said rod and a resilient clamping member pivotally mounted thereon, whereby said rod may be clamped from any circumferential position.

2. A liquid balance, comprising, in combination, a receptacle, a housing and lid therefor, a liquid contained in said receptacle, a rod floated in said liquid and projecting through said lid, a scale-pan and removable weights carried by said rod, a clamp on said lid for clamping said rod in fixed position, means for positioning said clamp to engage said rod from any side and means for removing and replacing said weights.

3. A liquid balance, comprising, in combination, a receptacle, a housing and lid therefor, a liquid contained in said receptacle, a rod floated in said liquid and projecting through said lid, a scale-pan and removable weights carried by said rod, a projection on said rod below said scale-pan, a clamp slidable on said lid and being adapted to engage said projection on said rod to clamp the latter in a fixed position, and means for removing and replacing said weights.

4. A liquid balance, comprising, in combination, a receptacle, a housing and lid therefor, a liquid contained in said receptacle, a rod floated in said liquid and projecting through said lid, a scale-pan and removable weights carried by said rod, a spring clamp having an offset adapted to encircle said rod to clamp the latter in fixed position, and means for removing and replacing said weights.

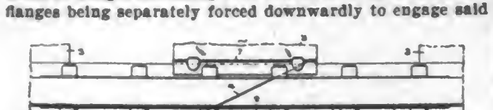
5. A liquid balance, comprising, in combination, a receptacle, a housing therefor, a liquid in said receptacle, a vertically buoyed balance floated in said liquid, and means to manipulate said balance, said balance comprising a vertical rod, a counterpoise at the lower end thereof, a buoy at its middle, a scale-pan base and rider support at its upper end, and scale-pan and riders carried thereby.

[Claims 6 to 9 not printed in the Gazette.]

977,514. RAIL-JOINT. CLAY C. COLLINS, Whiting, Ind. Filed Feb. 18, 1910. Serial No. 544,708.

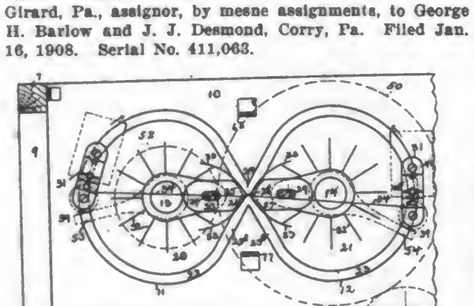
The combination with rails having their ends cut obliquely; of fish plates engaging the sides of said rails, a sleeve bridging the bottom of said rails below the meeting

ends thereof, said sleeve being provided with upwardly inclined flanges extending over the bases of the rails, said flanges being separately forced downwardly to engage said



bases, said flanges also having elongated notches, and spikes adapted to extend through said notches and engage the outer edges of said bases.

977,515. WIRE-BENDING MACHINE. JOHN R. DEAN, Girard, Pa., assignor, by mesne assignments, to George H. Barlow and J. J. Desmond, Corry, Pa. Filed Jan. 16, 1908. Serial No. 411,063.



1. In a wire bending machine, the combination of devices for forming coils with their axes lengthwise of the fabric; a guide way into which the fabric is forced from the devices, said guide way engaging the side of the fabric and confining the same; and mechanism engaging and bending the coils in the guide way to flatten the fabric.

2. In a wire bending machine, the combination of devices for forming coils with their axes lengthwise of the fabric; a guide way into which the fabric is forced from the devices, said guide way engaging the sides of the fabric and confining the same; and mechanism acting intermittently upon the fabric for bending the coils and flattening the fabric.

3. In a wire bending machine, the combination of devices for forming continuous coils with the axes of the coils lengthwise of the fabric, each succeeding coil forcing the preceding coil from the device; a guide way into which the coil is forced, said guide way engaging the sides of the fabric, and confining the same; and a flattening device acting upon the coils in the guide way.

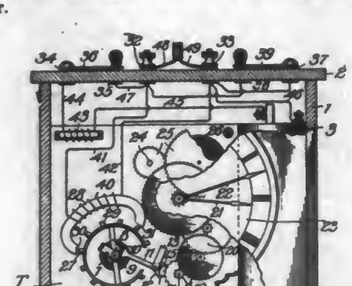
4. In a wire bending machine, the combination of devices for forming continuous coils with their axes lengthwise of the fabric; a guide way into which the coil is forced from the devices; means for contracting the guide way; and means for flattening the coil as the guide way is contracted.

5. In a wire bending machine, the combination of devices for forming continuous coils with their axes lengthwise of the fabric; a guide way into which the coil is forced from the devices; and means for contracting the guide way and intermittently engaging the coil.

[Claims 6 to 74 not printed in the Gazette.]

977,516. MEASURING MECHANISM. FREDERIC A. DE LAY, Ann Arbor, Mich. Filed Jan. 11, 1909. Serial No. 471,592.

1. In combination, a revolution counter, a time indicating device, electromagnetic means controlling the operation of said time indicating device, electric circuits connecting between said time indicating device and the counter, and contacts automatically actuated to control the circuits to start the time indicating device when the counter is applied to a member to measure its speed, and to control said circuits to cause stopping of the time indicating device when said counter is withdrawn from said member.



2. In combination, a time indicating device, a revolution counter, and electric means adapted to automatically start and stop the time indicating device upon application or withdrawal respectively of the counter from a member whose speed is to be measured.

3. In combination, a movement measuring device adapted to be connected with and to be driven by a member whose movement is to be measured, a time element indicating device, electromagnetic means for controlling the operation of said time element indicating device, electric circuits connecting said electromagnetic means with the movement measuring device, and contact mechanism, said contact mechanism being actuated when the movement measuring device is connected with the member to be measured to control the circuits to cause starting of the time element indicating device, and said contact mechanism being adapted upon withdrawal of the movement measuring device from said member to control the circuits to stop the time element indicating device, said devices being thereby simultaneously started and stopped.

4. In combination, a time indicating device comprising clock-work controlled by a balance wheel, an armature carried by said balance wheel, a core adjacent the path of said armature, and means for magnetically energizing and deënergizing said core to cause stopping and to allow starting of the time indicating mechanism.

5. In combination, time indicating members driven by clock work, a balance wheel for said clockwork, an armature carried by said balance wheel, an electromagnet through whose field the armature travels, and electric circuits for controlling the energization of said electromagnet, energization of said electromagnet causing said armature to be held, whereby said balance wheel and clockwork are stopped.

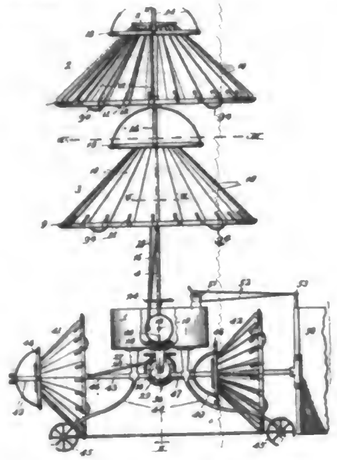
[Claims 6 to 15 not printed in the Gazette.]

977,517. FLYING-MACHINE. REUBEN B. EUBANK, Jr. and JUDSON C. EUBANK, Kansas City, Mo.; said Reuben B. Eubank, Jr., assignor to Mary E. Eubank, Kansas City, Mo. Filed Oct. 15, 1908. Serial No. 457,856.

1. A flying machine, comprising, in combination, inter geared horizontal and vertical shafts, alternately operated propellers carried by each of said horizontal and vertical shafts and means for driving said propellers, each of said propellers consisting of a sleeve slidable on one of said shafts, an annular member carried on the lower end of said sleeve, a flanged disk carried by the upper end of said sleeve, and valves adapted to rotate between said disk and said annular member.

2. A flying machine, comprising, in combination, inter geared horizontal and vertical shafts, alternately operated propellers carried by each of said horizontal and vertical shafts and means for driving said propellers, each of said propellers consisting of a sleeve slidable on a shaft,

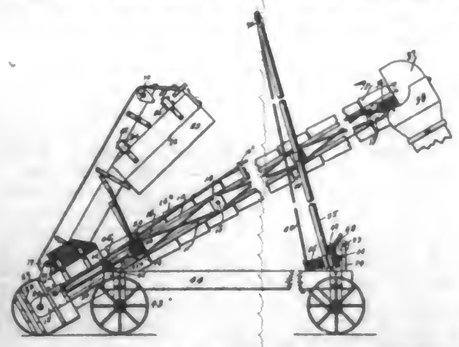
small upper annular member, a large lower annular member concentric with said upper member, substantially rectangular valves pivoted to rotate between said annular members, and concentrically disposed buffers mounted above each propeller to be struck by the valves when the latter are opened.



3. A flying machine, comprising, in combination, with a car, a vertical shaft, alternately operating propellers slidable on said shaft, valves carried by said propellers adapted to open outwardly on the downward stroke of said propellers, and annular buffers disposed to return said valves to their normal positions, said buffers having depending resilient mountings to hold said buffers in concentric relation to said propellers.

4. A flying machine, comprising, in combination, intergeared horizontal and vertical shafts, alternately operated propellers carried by each of said horizontal and vertical shafts and means for driving said propellers, each of said propellers comprising a sleeve, upper and lower annular members mounted upon and spaced by said sleeves, intermediate valves pivoted between said annular members to form a cone-like structure, and adapted to be opened upwardly, and buffing devices comprising annular resiliently mounted rings depended to telescope the upper ends of said cone-like structures and be in the paths of said valves.

977,518. ELEVATOR. FERDINAND J. FELDT, Peoria, Ill., assignor to J. A. Engel & Co., Peoria, Ill., a Corporation of Illinois. Filed Mar. 13, 1908. Serial No. 420,876.



1. In a device of the class described, the combination with an elevator and a supporting truck, of means for supporting and moving the elevator along the truck comprising a pair of brackets upon the truck, one bearing on each side of the elevator, a roller journaled upon each bracket for supporting the elevator, a threaded collar pivoted in connection with one of the brackets, a screw bearing lengthwise of the elevator and suitably connected therewith and bearing in the threaded opening of the collar, and means for turning the screw.

2. In a device of the class described, the combination with an elevator and a supporting truck, of means for supporting and moving the elevator along the truck comprising a pair of brackets upon the truck, one bearing on each side of the elevator, a roller journaled upon each bracket for supporting the elevator, a threaded collar pivoted in connection with one of the brackets, a screw bearing lengthwise of the elevator and suitably connected therewith and bearing in the threaded opening of the collar, a bevel gear wheel upon said screw and a gear wheel supported in connection with the elevator provided with attached means for turning the screw.

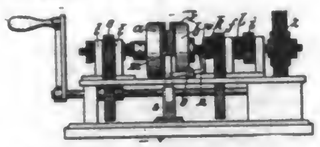
3. In an apparatus of the class described, the combination of a portable support provided with a pair of rollers upon the side frame parts thereof, an elevating body supported upon the rollers on the portable support containing a carrier, a threaded screw extending longitudinally of said body and suitably supported to be turned, a furcated bracket provided with slots therein, a nut supported on said screw and provided with trunnions for bearing within the slotted portions of said bracket, and means for turning the screw for the purpose of moving the elevator body lengthwise.

4. In an apparatus of the class described, the combination of an elevator body and a support therefor of rollers upon the supporting body to support the lower end of the elevator in a manner to be raised or lowered upon said rollers acting as a fulcrum and to facilitate its being moved lengthwise, of means for moving the elevator lengthwise comprising a screw upon the elevator body extending a short distance along the same, a nut upon the screw provided with trunnions, a furcated slotted bracket secured to the supporting body adapted to receive the trunnions of the nut, means for turning the screw to move the elevator body lengthwise, a support for the outer end of the elevator and means for raising and lowering the outer end thereof.

5. In a device of the class described, the combination with an elevator and with a portable support therefor, of rollers upon the portable support for supporting and fulcruming the lower end of the elevator body and to facilitate easy longitudinal movement thereof, a screw journaled upon the elevator body and extending a short distance along the same, a nut upon the screw provided with laterally extending trunnions, a furcated slotted bracket attached to the portable support and adapted to receive the trunnions of the nut, means for turning the screw to move the elevator longitudinally upon its support, a support for the outer end of the elevator and means for raising and lowering the outer end, substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

977,519. KNIFE AND FORK CLEANING MACHINE. ADOLF FISCHER, Stuttgart, Germany. Filed Feb. 12, 1910. Serial No. 543,597.



1. A knife-cleaning machine having a pair of rotary cleaning disks mounted displaceably on separate shafts, the centers of whose axes lie in one and the same straight line, means provided on one of the shafts for automatically approaching one disk to the other on the insertion of a knife, in combination with a pivotally mounted knife-holder connected with an auxiliary shaft for automatically causing the recession of the disk on the withdrawal of the knife.

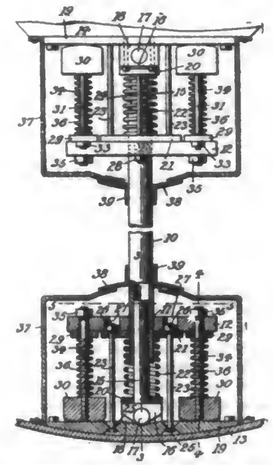
2. In a knife-cleaning machine, a pair of rotary cleaning-disks, a screw-threaded shaft on which one of the disks is axially displaceable, in combination with a member loosely mounted on said shaft and provided with a pin engaging in said screw-thread, whereby the disk on being braked is moved forward.

3. In a knife-cleaning mechanism, an axially displaceable cleaning disk shaft, an axially displaceable gear and a fixed gear mounted on said shaft, in combination with an intermediate, axially displaceable shaft carrying gears meshing with the gears on the disk shaft, and means for displacing the intermediate shaft, the gears on the disk shaft being so proportioned that the fixed gear moves faster than the displaceable one, whereby the cleaning disk is moved backward.

4. In a knife-cleaning mechanism, a cleaning disk drive-gear, a pair of cleaning disks, the centers of whose axes of rotation lie in the same straight line, a gear mounted on an intermediate shaft and normally meshing with the cleaning disk drive gear, in combination with mechanism actuated by the knife for disconnecting the intermediate gears when the mechanism is in operation, and automatically connecting the same gears when the knife is removed.

5. In a knife-cleaning mechanism, a pair of cleaning disks displaceable longitudinally upon axes whose centers lie in the same straight line, one of said disks being universally mounted and controlled in its displacement by a spring, in combination with means for causing the second disk to automatically approach the first on the insertion of the knife and to automatically recede when the knife is withdrawn.

977,520. RESILIENT VEHICLE-WHEEL. JOSEPH GAYNOR, New York, N. Y. Filed July 18, 1910. Serial No. 572,436.



1. A resilient vehicle wheel comprising a rim, a relatively movable hub, a sectional expansible spoke, means for pivoting one spoke member to the rim, a cross head carried by the other spoke member, and a plurality of springs interposed between said cross head and rim.

2. A resilient vehicle wheel comprising a rim, a relatively movable hub, a tripart expansible spoke, the outer members of which are pivoted to the rim and hub respectively, cross heads carried by the inner member, and a plurality of springs interposed between said cross heads and the rim and hub.

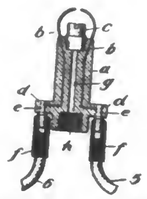
3. A resilient vehicle wheel comprising a rim, a relatively movable hub, a sleeve, a pair of cross heads secured to the sleeve, plungers telescoped by the sleeve and fulcrumed to the rim and hub, and springs interposed between the cross heads and the rim and hub respectively.

4. In a resilient vehicle wheel, a lining plate, a footed plunger fulcrumed thereto, a sleeve telescoping the plunger, a cross head secured to the sleeve, a first spring encircling the plunger and interposed between the plunger-foot and cross head, and a pair of second springs flanking the first spring and engaging the cross head.

5. In a resilient vehicle wheel, a lining plate, a footed plunger fulcrumed thereto, a sleeve telescoping the plunger, a cross head secured to the sleeve, a first plate facing the plunger-foot and connected to the cross-head, a second plate facing the cross head and connected to the lining plate, and a spring interposed between said first and second plates.

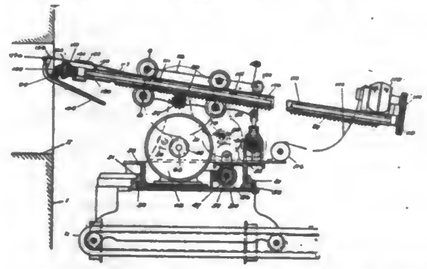
[Claims 6 to 10 not printed in the Gazette.]

977,521. ELECTRICALLY-IGNITED BURNER. EDWARD J. GOLDBLATT, Chicago, Ill. Filed Feb. 21, 1910. Serial No. 545,179.



As an article of manufacture, a housing of non-conducting material provided with a passage for the gas and a pair of electrodes embedded in the material of said housing and terminating at the sparking-ends in proximity to the burner-tip and having at the opposite ends circuit connecting plugs.

977,522. COKE-DRAWING MACHINE. HOWARD GREER, Jr., Chicago, Ill. Filed Sept. 7, 1904. Serial No. 223,585.



1. In a machine for the purpose described the combination of a hoe handle and a hoe pivoted thereto on a vertical axis, means for supporting the handle horizontally and means for oscillating the hoe on the said axis.

2. In a machine for the purpose described the combination of a hoe pivoted on a vertical axis contiguous thereto, means for moving the hoe horizontally and means for oscillating the hoe on said axis.

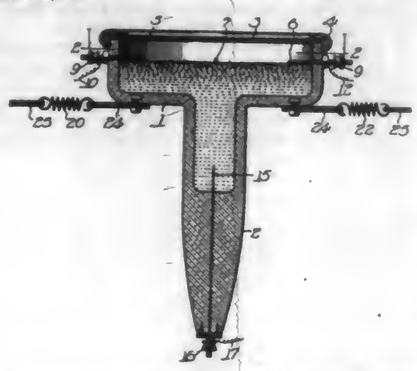
3. In a machine for the purpose described the combination of a hoe rotatable on a vertical axis and a handle therefor rotatable about a different vertical axis, means for supporting the handle and means for oscillating the hoe about the first said axis.

4. In a machine for the purpose described the combination of a hoe rotatable on a vertical axis, a movable handle therefor rotatable about a different vertical axis, means for supporting the handle and means mounted upon and movable with the handle for oscillating the hoe about the first said axis.

5. In a machine for the purpose described the combination of a hoe, a handle therefor, a bifurcated arm secured to the hoe and pivoted to said handle, a cam journaled on the handle and arranged between the branches of said arm and means for rotating said cam and thereby oscillating the hoe.

[Claims 6 to 36 not printed in the Gazette.]

977,523. AUTOMATIC BALANCING DEVICE. VICTOR G. GUSTAFSON, Joliet, Ill. Filed July 28, 1909. Serial No. 510,061.



1. In a device of the class described, the combination of a vessel of insulating material adapted to contain mercury up to a certain level, a terminal adapted to contact the mercury far below its surface, a plurality of terminals mounted upon said vessel at the same height and at about the level of the mercury, and a removable transparent cover for preventing the escape of the contents of the vessel.

2. In a device of the class described the combination of a vessel adapted to contain a fluid conductor, a terminal adapted to remain in contact with said fluid conductor, a plurality of terminals mounted upon said vessel at substantially the same level whereby they are immersed or uncovered depending upon the tilt of the vessel, and means for yieldingly supporting said vessel.

3. In a device of the class described the combination of a vessel adapted to contain a fluid conductor, a terminal adapted to remain in contact with said fluid conductor, a plurality of terminals mounted upon said vessel at substantially the same level whereby they are immersed or uncovered depending upon the tilt of the vessel, means for yieldingly holding said vessel level and means for tilting said vessel against the force of said yieldingly holding means.

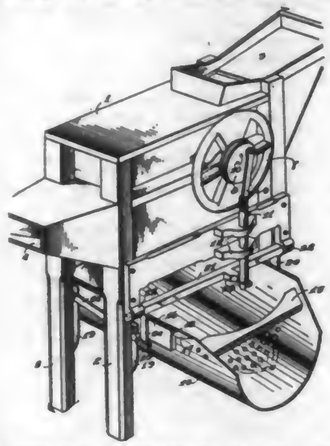
4. In a device of the class described, the combination of a vessel adapted to contain a fluid conductor, a terminal adapted to remain in contact with said fluid conductor, a plurality of terminals mounted upon said vessel at substantially the same level whereby they are immersed or uncovered depending upon the tilt of the vessel, at least four springs equally distributed around said vessel for yieldingly supporting the same, and means for tilting said vessel in opposition to said springs.

5. In a device of the class described, the combination of a vessel adapted to contain a fluid conductor, a terminal adapted to remain in contact with said fluid conductor, a plurality of terminals mounted upon said vessel at substantially the same level whereby they are immersed or uncovered depending upon the tilt of the vessel, means for yieldingly holding said vessel level and a handle on said vessel for manually tilting it.

[Claims 6 and 7 not printed in the Gazette.]

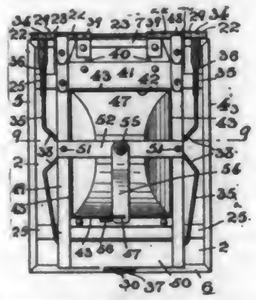
977,524. SEED-CORN GRADER OR SEPARATOR. JOHN A. HAFSAAS, Gross, Nebr. Filed May 19, 1910. Serial No. 562,241.

In an apparatus of the character described, a casing, a corn shelling mechanism in said casing, a manually operated rotary shaft extending through said casing and connected with said corn shelling mechanism, a fly wheel mounted on one end of said shaft, a rock shaft having depending arms and mounted on said frame and having a lever arm, a reciprocating rod pivotally connected to said lever arm, a pitman connecting said fly wheel with said reciprocating rod, a reciprocating frame located beneath said casing, vertical arms pivoted at one end to the frame of the casing and at their other end to said reciprocating



frame, levers pivotally connecting said reciprocating frame with the depending arms of the rock shaft, and a chute mounted on said reciprocating frame.

977,525. PHOTOGRAPHIC-PRINTING FRAME. LEO VAN HIRTUM, Newark, N. J. Filed Dec. 9, 1909. Serial No. 532,188.



1. In a photographic printing frame, a frame-like main body provided with an exposing opening and said main body being provided in the back with a negative-receiving space, a negative-holding device in said space, a spring-like clamping means adapted to be brought into engagement with said negative-holding device, for clamping the negative in place, a card-receiver and holder movably connected with the back of said frame-like body and adapted to be moved against a negative in said negative holding device, said receiver and holder being adapted to receive a card having a sensitized face, and a clamping means also connected with the back of said frame-like body for forcing said card-receiver and holder, and the sensitized surface of the card against the back of the negative, substantially as and for the purposes set forth.

2. In a photographic printing frame, a frame-like main body provided with an exposing opening and said main body being provided in the back with a negative-receiving space, a negative-holding device in said space, a spring-like clamping means adapted to be brought into engagement with said negative-holding device, for clamping the negative in place, a card-receiver and holder movably connected with the back of said frame-like body and adapted to be moved against a negative in said negative holding device, said receiver and holder having an open top and open bottom and being adapted to receive a stack of cards, each card having a sensitized face, and means on

three sides of the open bottom of said receiver and holder for retaining the cards in position, and the fourth side of the open bottom being made with a slip-out space for sliding the uppermost card from the said receiver and holder, substantially as and for the purposes set forth.

3. In a photographic printing frame, a frame-like main body provided with an exposing opening and said main body being provided in the back with a negative-receiving space, a negative-holding device in said space, a spring-like clamping means adapted to be brought into engagement with said negative-holding device, for clamping the negative in place, a card-receiver and holder movably connected with the back of said frame-like body and adapted to be moved against a negative in said negative holding device, said receiver and holder, having an open top and open bottom and being adapted to receive a stack of cards, each card having a sensitised face, means on the three sides of the open bottom of said receiver and holder for retaining the cards in position, and the fourth side of the open bottom being made with a slip-out space for sliding the uppermost card from the said receiver and holder, and a clamping means also connected with the back of said frame-like body for forcing said card-receiver and holder, and the sensitized surface of the uppermost card therein against the back of the negative, substantially as and for the purposes set forth.

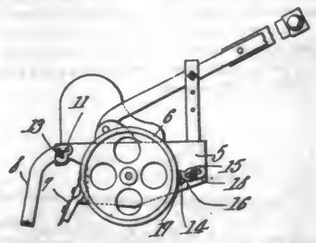
4. In a photographic printing frame, a frame-like main body provided with an exposing opening and said main body being provided in the back with a negative-receiving space, a negative-holding device in said space, a spring-like clamping means adapted to be brought into engagement with said negative-holding device, for clamping the negative in place, a card-receiver and holder movably connected with the back of said frame-like body and adapted to be moved against a negative in said negative holding device, said receiver and holder having an open top and open bottom and being adapted to receive a stack of cards, each card having a sensitized face, said card-receiver and holder being surrounded on three sides of its open bottom with inwardly projecting shoulders for retaining the cards within said receiver and holder, and formed at the fourth side of said open bottom with a slipping-out space for slipping the uppermost card from the side of the said receiver and holder, substantially as and for the purposes set forth.

5. In a photographic printing frame, a frame-like main body provided with an exposing opening and said main body being provided in the back with a negative-receiving space, a negative holding device in said space, a spring-like clamping means adapted to be brought into engagement with said negative-holding device, for clamping the negative in place, a card-receiver and holder movably connected with the back of said frame-like body and adapted to be moved against a negative in said negative holding device, said receiver and holder having an open top and open bottom and being adapted to receive a stack of cards, each card having a sensitized face, said card-receiver and holder being surrounded on three sides of its open bottom with inwardly projecting shoulders for retaining the cards within said receiver and holder, and formed at the fourth side of said open bottom with a slipping-out space for slipping the uppermost card from the side of the said receiver and holder, and a clamping means also connected with the back of said frame-like body for forcing said card-receiver and holder, and the sensitized surface of the uppermost card therein against the back of the negative, substantially as and for the purposes set forth.

[Claims 6 to 28 not printed in the Gazette.]

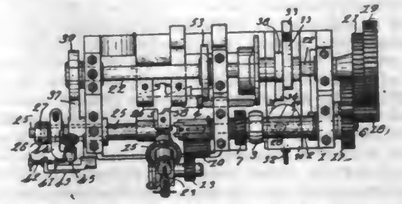
977,526. FLOOR-SCRAPER. GEORGE J. KEPPLINGER, Dwight, Ill. Filed July 9, 1910. Serial No. 571,204.

In a device of the class described, the combination with the body of a floor scraping machine, and a scraper blade thereon, of a depth gage mounted upon the body and comprising a U-shaped member pivoted at the extremities of its arms to opposite sides of the body at the front thereof with its connecting portion extending transversely in advance of the blade, the said arms of the member



being formed with slots, and set bolts secured through the slots and holding the member in adjustment.

977,527. MACHINE FOR CUTTING THREADS ON WOOD-SCREWS. OTTO KIASCHKE, Nuremberg, Germany, assignor to The Firm of J. G. Kayser, Nuremberg, Germany. Filed Apr. 1, 1909. Serial No. 487,246.



1. A machine for making wood screws comprising in combination, means for holding and rotating the work, a tool holder, a cam shaft, a longitudinally reciprocating rod carrying said holder, a slide angularly disposed with respect to said rod and reciprocated by said cam shaft, and an adjustable disk on said slide provided with a groove, said rod having a roller engaging said groove.

2. A machine for making wood screws comprising in combination, means for holding and rotating the work, a tool holder, a sleeve on which said holder is mounted, a longitudinally reciprocable rod supporting said sleeve, means for reciprocating said rod, and means connecting said sleeve with said rod to permit oscillation of the sleeve and prevent longitudinal movement of the sleeve with respect to said rod.

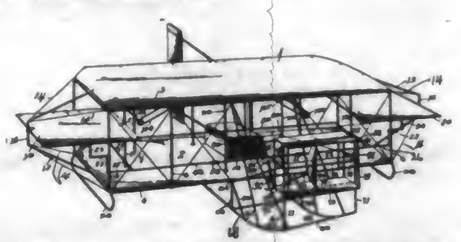
3. A machine for making wood screws comprising in combination, means for holding and rotating the work, a tool holder, a sleeve on which said holder is mounted, a rod for reciprocating said sleeve, means for reciprocating said rod, said sleeve having an arm provided with an adjustable screw 45, a rocking lever provided with an adjustable inclined rail engaging said screw for moving the tool holder toward and away from said work.

4. In combination with a machine for making wood screws, of means for operating said machine, a plurality of pivotally mounted plates beneath the work operated on by the machine and normally swung apart from each other, and a device operated by said means on completion of the work for swinging said plates together to form a slide, substantially as and for the purpose set forth.

977,528. AEROPLANE. AUGUSTUS F. W. MACMANUS, San Antonio, Tex. Filed Oct. 19, 1909. Serial No. 523,406.

1. In a flying machine, a gliding structure, swinging planes to coöperate therewith, swinging levers, means connecting corresponding ends of said levers, a controlling device, means connecting said controlling device with said swinging levers, bell crank levers, connecting means between said bell crank levers and said swinging levers, and connecting means between said bell crank levers and swinging planes.

2. In a flying machine, a gliding structure, swinging planes arranged near the ends thereof, swinging levers arranged near said planes, means connecting corresponding ends of said levers, a controlling device, a flexible member to connect said controlling device and swinging levers, bell crank levers pivotally connected with said swinging planes, and links to connect said swinging levers with said bell crank levers.



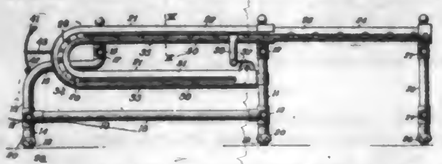
3. In a flying machine, a gliding structure, planes to prevent said gliding structure from being tilted laterally with relation to its course of flight, an approximately horizontally disposed plane to raise and lower the machine, swinging levers to coöperate with said planes, connecting means between corresponding ends of said swinging levers, a controlling device, mounted to oscillate fore and aft with relation to said gliding structure, said controlling device comprising a rotatable member, connecting means between said rotatable member and said swinging levers, bell crank levers, links to connect said bell crank levers with said swinging levers, connecting means between said bell crank levers and swinging planes, and connecting means between said controlling device and said approximately horizontally disposed planes.

4. In a flying machine of the character described, superposed main planes arranged transversely to the line of flight, movable planes arranged at the ends of said superposed planes, bell-crank levers arranged near and connected to said movable planes, a rotatable device provided with a gripping portion and adapted to be permanently held by the operator during the flight, a pulley arranged upon said rotatable device, a section of elastic material arranged upon said pulley, a section of flexible material connecting said bell-crank levers and wound around said pulley in engagement with said elastic section, and coil springs connected to said flexible member.

5. In a flying machine, a gliding structure, swinging planes to coöperate therewith, swinging levers to cooperate with said planes, means connecting said swinging levers to cause the same to move together when either is moved, connecting means between said swinging levers and planes to move said planes in opposite directions, and a device to effect the movement of said swinging levers.

[Claims 6 and 7 not printed in the Gazette.]

977,529. FOLDING BED-COUCH. EDGAR B. MILLERT, New York, N. Y. Filed Nov. 14, 1908. Serial No. 462,623. Renewed Apr. 28, 1910. Serial No. 558,287.



1. An article of the character described, comprising a normally stationary member having a plurality of rear and a plurality of front supporting legs properly braced, a substantially U-shaped member held adjacent to each end of said member, said U-shaped part or member being open at one end, and an extension member having a part thereof adapted to fit and slide in a part of the U-shaped member.

2. An article of the character described, comprising a normally stationary member having rear and front supporting legs properly braced, a substantially U-shaped member held adjacent to each end of said member, said U-shaped part or member being open at one end, and an extension member having a part thereof adapted to fit and slide inward along the lower leg or stem of said U-shaped members, substantially as and for the purpose described.

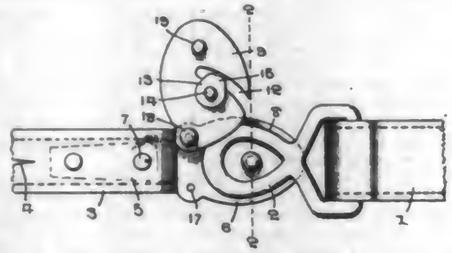
3. An article of the character described, comprising a normally stationary member having a plurality of front and a plurality of rear supporting legs, a device held adjacent to each end of said member, said device being open at one end, and an extension member having a part thereof adapted to fit and slide in a part of said device.

4. An article of the character described, comprising a normally stationary member having a plurality of rear and a plurality of front supporting legs properly braced, a substantially U-shaped device held adjacent to the ends of said member, and an extension member having a sliding connection with said device.

5. An article of the character described, comprising a normally stationary member having substantially U-shaped devices supported in a horizontal position adjacent to the ends of said member, said U-shaped devices being slotted on the inner side thereof, a chain adapted to move within the U-shaped part, means carried by the chain for supporting a mattress, and an extension member slidingly held to the other member and connected to the chain.

[Claims 6 to 16 not printed in the Gazette.]

977,530. TUG ATTACHMENT. BRUTUS I. H. MITCHELL, Onawa, Iowa. Filed Apr. 6, 1910. Serial No. 553,887.



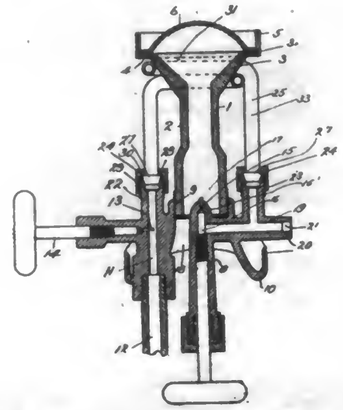
1. The combination with a tug having a cockeye at one end thereof, of a tug section, a keeper attached to said tug section, said keeper having a channel therein to receive parts of the cockeye, a stud on said keeper, said stud having a head, a latch pivoted to said keeper adapted to be moved over the cockeye, said latch having a slot to receive said stud and means carried by the latch adapted to engage the head of the stud to prevent casual swinging movement of the latch.

2. The combination with a trace having a cockeye attached to one end thereof, of a tug section, a keeper attached to said tug section, said keeper having a channel to receive parts of the cockeye, the depth of said channel being coincident to the thickness of the cockeye, a stud carried by the keeper having a head at its free end, a latch pivoted to said keeper and adapted to be moved over one face thereof, said latch having a slot adapted to receive said stud and a washer carried by the latch adapted to engage the head of the stud and hold the latch against casual swinging movement.

3. The combination with a trace having a cockeye attached thereto, of a tug section having an eye therein, a keeper having a shank, means to attach the shank to the tug section, said keeper having a channel in one face adapted to receive parts of the cockeye, a stud extending from the face of the keeper having the channel therein, said stud having a head at its free end, a latch pivoted to said keeper and adapted to be swung over the face thereof having the channel, said latch having a slot

therein to receive the stud, and a washer fixed to the latch and having an extension thereon adapted to engage the head of the stud to prevent casual swinging movement of the latch, said extension having a curved lower face.

977,531. PILOT-BURNER. SAMUEL WILSON MORROW, Jr., Baltimore, Md. Filed Jan. 24, 1910. Serial No. 539,652.



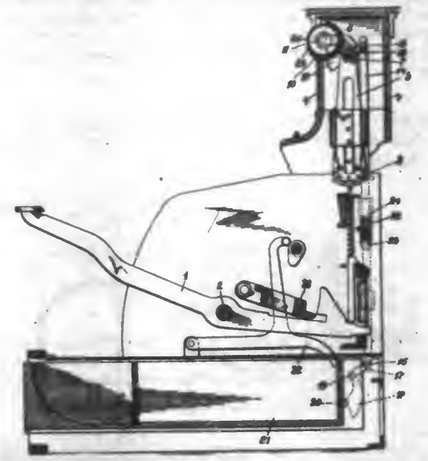
1. A pilot burner for liquid fuel comprising three integral members—a head, a base and a vaporizing tube the head consisting of a combustion nozzle and a tubular stem, the base being apertured centrally to receive the lower end of the stem, an injector nozzle forming part of the base and placed in the aperture thereof to provide an air inlet about the nozzle from below, the base also being apertured to form passages—one for carrying liquid fuel and another for gas, the latter leading to the nozzle, the vaporizing tube being coiled about the combustion nozzle and joined at one extremity to the liquid fuel passage in the base and at the other to the gas passage.

2. A pilot burner comprising three integral members—a head, a base and a voporizing tube, the head consisting of a combustion nozzle and a tubular stem the base forming an annular flush cup and being apertured centrally such opening extending through the base to receive the lower end of the stem, an upright injector nozzle forming part of the base and placed in the aperture thereof so that there is an air inlet about the nozzle from below, the base also being apertured to form passages—one for carrying liquid fuel, another for gas leading to the injector nozzle, a needle valve for the injector nozzle, the vaporising tube being coiled near the combustion nozzle and out of range of the main flame therefrom, the tube being joined at one end to the liquid fuel passage at the base and at the other to the gas passage, the head being provided with supplementary openings disposed toward the coil to direct relatively small flames against the vaporizing tube.

977,532. CASH-REGISTER. WILLIAM H. MUZZY, Dayton, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a Corporation of Ohio, (incorporated in 1906.) Filed Nov. 11, 1907. Serial No. 401,658.

1. In a machine of the class described, the combination with indicating devices, of a lamp for illuminating said indicating devices, a flash or guard movable to prevent or permit such illumination, and a cash drawer with connections whereby actuation of said cash drawer actuates said flash.

2. In a machine of the class described, the combination with indicating devices movable into and out of exhibiting position, of a lamp for illuminating said indicating devices, a flash or guard movable to prevent or permit such illumination, a manually operable key, and devices controlled thereby for actuating said flash.



3. In a machine of the class described, the combination with an indicating device movable into and out of exhibiting position, of means for illuminating said indicating device, a flash or guard movable to prevent or permit such illumination, and a hand operated device for causing movement of said indicating device to exhibiting position, with connections controlled by said hand operated device for actuating said flash.

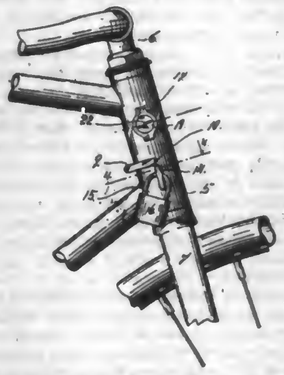
4. The combination with a cash register having indicators and a cash drawer, of a lamp for illuminating the indicators, a flash, and means for connecting the flash and cash drawer whereby the light is thrown on and off the indicators according to the movements of the drawer.

5. The combination with a cash register having indicators, of a series of keys for setting the indicators, a lamp, a flash for throwing the light of the lamp on the indicators, and operating devices for the flash controlled by the keys.

[Claims 6 and 7 not printed in the Gazette.]

977,533. BICYCLE-LOCK. CLARENCE H. MYERS, Denver, Colo. Filed Nov. 17, 1908. Serial No. 463,104.

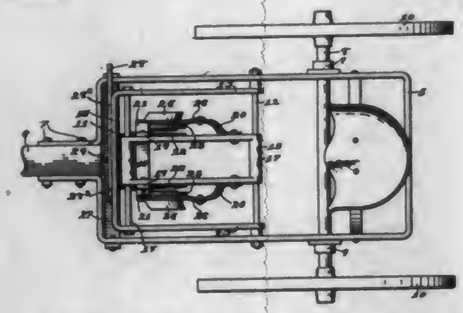
In a bicycle lock, the combination of a head or sleeve



and a steering post or shaft normally movable in the head or sleeve for steering purposes, the said post and sleeve having openings therethrough which register when the said

parts are in a predetermined position, and means for locking the post within the head or sleeve to prevent independent rotary movement of the post, said means comprising a key adapted to pass through the openings in both members, and protruding on opposite sides, one extremity of the key having a stop to prevent it from passing through on one side; while the other extremity is provided with an eye, and a padlock whose hasp is passed through said eye.

977,534. COTTON-CULTIVATOR. MANNING L. NIX, Oklahoma, Okla. Filed Apr. 20, 1910. Serial No. 556,540.



1. A machine of the class described including a wheeled frame having spaced sides and provided with a transverse supporting bar, a supporting frame pivotally mounted within the wheeled frame and extending forwardly from its pivot and having its front portion loosely arranged upon the transverse supporting bar, soil-engaging devices carried by the pivoted frame and arranged to engage the soil and through their engagement with the same to maintain themselves in working position and hold the pivoted frame against upward movement, and a lever pivoted at an intermediate point to the supporting frame and arranged to bear against and be supported by the said transverse bar for maintaining the supporting frame in an elevated position, said lever being also adapted to fold down against the transverse bar to lower the supporting frame.

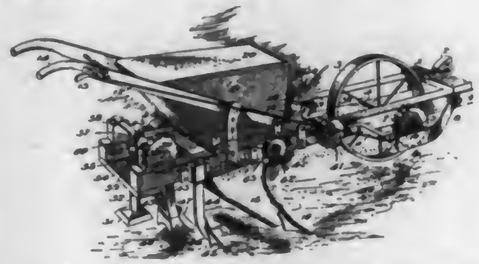
2. A machine of the class described including a support, a forked standard depending from the support, a disk mounted within the fork of the standard, a plow located at the side of the disk and having a curved standard connected to the inner side of one of the arms of the forked standard, an inclined brace extending from the outer side of the forked standard to the support, and another inclined brace connected with the first-mentioned inclined brace at an intermediate point of its length, and with the curved standard of the plow below the connection of the first-mentioned brace to the standard.

3. A machine of the class described including a support, a forked standard depending from the support, a disk mounted within the forked standard, a plow arranged at one side of the disk and having a curved standard connected at its upper end to the inner face of the adjacent side of the forked portion of the standard, an upwardly and rearwardly inclined brace secured at its lower end to the outer face of the side of the forked portion of the standard and extending therefrom to the support, and another inclined brace secured at its lower end to the curved standard and connected at its upper end to the first-mentioned inclined brace at a point intermediate of the ends thereof.

4. A machine of the class described including a wheeled frame having spaced sides, an adjustable frame of approximately rectangular form arranged within the wheeled frame and provided at its rear end with a transverse pivot rod connected at its terminals to the sides of the wheeled frame, a front rod extending across the adjustable frame and terminating short of the wheeled frame, a longitudinal support composed of spaced sides and front and rear tubular connecting portions mounted on the said rods, means carried by the wheeled frame for loosely supporting the front end of the adjustable frame, and soil-engaging devices mounted on the adjustable frame in advance of the pivot thereof and arranged through their engagement with the soil to hold the adjustable frame against upward movement.

5. A machine of the class described including a wheeled frame, an adjustable frame pivoted within the wheeled frame and provided with a longitudinal support extending in advance of the pivot and having spaced sides, forked standards depending from the sides of the support, a transverse shaft connecting the standards of the forked portions thereof, spaced disks mounted on the shaft and arranged in the forked portions of the standards, plows located at the sides of the disks and having curved standards connected to the forked standards and arrranged through their engagement with the soil to maintain the disks in the ground and to hold the adjustable frame against upward movement, and braces connected with the said standards and with the adjustable frame for holding the former in rigid relation with the latter.

977,535. CORN PLANTER AND HILLER. CHARLES H. NOELL, Montvale, Va., assignor of one-half to G. M. Arrington, Montvale, Va. Filed July 30, 1910. Serial No. 574,716.



1. In a planter and hiller, the combination with a drill and a feeder, of hillers, a coverer and fender, and a periodically acting tamper.

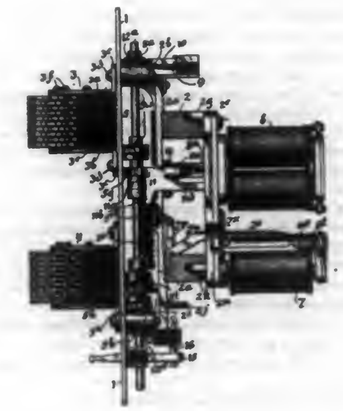
2. In a planter and hiller, the combination with a drill, of fertilizer and seed dropping means adapted to simultaneously drop the seed and fertilizer in the furrow, hillers arranged to travel on opposite sides of the furrow to hill the same, a combined coverer and fender arranged to act after the hillers, and a periodically acting tamper arranged to tamp the places where the seed and fertilizer have been dropped.

3. In a planter and hiller, the combination of a drill, a feeder, hillers, a movable tamper, a traction wheel, means for operating the feeder and tamper from the traction wheel, and means for controlling the operation of said feeder and tamper.

4. In a planter and hiller, the combination with a frame, of a traction wheel, a driving wheel having a clutch connection with the traction wheel, a hand-operated device for controlling said clutch connection, a feeder, a wheel for driving said feeder, a drill, a tamper, a wheel for operating the tamper, and an operative connection between the wheels aforesaid, whereby the feeder and tamper are driven, said clutch controlling device enabling the feeder and tamper to be thrown out of operation.

977,536. AUTOMATIC SWITCH FOR TELEPHONE SYSTEMS. CHARLES HOWARD NORTH, Cleveland, Ohio, assignor to The North Electric Company, Cleveland, Ohio, a Corporation of Ohio. Filed Dec. 8, 1908. Serial No. 466,572.

1. An automatic switch comprising relatively fixed contacts, a relatively movable selective contact, and a plurality of electromagnets having mechanical connection with and control of said movable contact, all of said electromagnet structures being identical and interchangeable units.



2. In an electrical switch, a contact bank, a coöperating wiper, and a plurality of electromagnets controlling the wiper, each of said magnets comprising a pair of spools, a frame, an armature and armature lever, and means at the end of the lever for attaching a pawl, and all of said magnets being made as identical and interchangeable self-contained units.

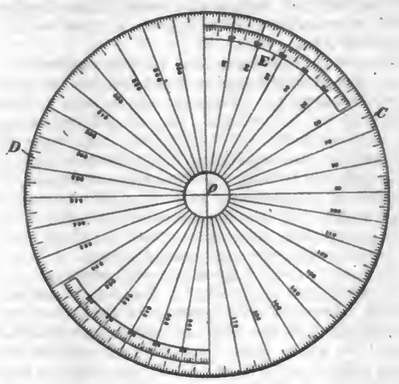
3. In an electrical switch, relatively fixed contacts, a relatively movable coöperating contact, and a plurality of electromagnets to control said movable contact, all of said magnets being identical and interchangeable self-contained units, and each comprising a frame, a pair of cores carrying spools thereon, a knife-edge on the frame adjacent to the ends of the cores, an armature fulcrumed on the knife-edge and extending across and in juxtaposition to the cores, and an armature lever extending forwardly parallel to the cores and beyond the frame with retracting springs secured to the frame.

4. In an electrical switch bank contacts and a coöperating movable wiper contact, with a plurality of controlling magnets therefor all formed as self-contained identical and interchangeable units, and each comprising a frame or return bar with an end plate for attachment to the switch frame, a pair of cores and magnet spools mounted on the end plate with a suitable connecting yoke, the cores extending parallel to the frame, a knife-edge on the frame adjacent to the free ends of the cores, an armature fulcrumed upon said knife-edge, a lever extending from the upper end of the armature along the return bar and having its end fitted with actuating or controlling means for the movable contact, and spring means extending between the armature and frame serving to keep the lever down against the frame bar, and at the same time to keep the armature seated on its fulcrum.

5. An electric switch comprising fixed and movable contacts, a spindle for the latter, ratchet devices for the spindle, and a plurality of identical and interchangeable self-contained actuating and controlling elements for said ratchets, each comprising the following instrumentalities: a separate frame, a pair of magnet cores and spools thereon, an adjustable knife-edge, an armature fulcrumed on the knife-edge, an armature lever extending from above the knife-edge to beyond the end of the frame, means for attaching an actuating pawl to said lever and retracting springs for the armature serving also to hold the same in position upon its fulcrum.

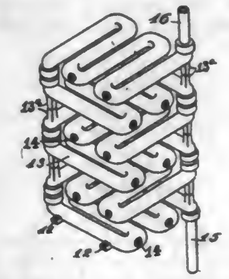
[Claims 6 and 7 not printed in the Gazette.]

977,537. FIXED VERNIER. MANUEL GARCIA NUÑEZ, Madrid, Spain. Filed July 28, 1908. Serial No. 445,839.



A measuring instrument comprising a suitable scale and a fixed auxiliary vernier co-acting with said scale, thereby dispensing with the usual sliding auxiliary vernier.

977,538. WATER-HEATER. HARRY C. ODENKIRK, Cleveland, Ohio. Filed June 13, 1908. Serial No. 438,294.



1. In a water heater, the combination with an inlet pipe, of an outlet pipe, a plurality of coils connecting said pipes, said coils being connected in series one after the other, whereby the water flows from the inlet pipe through each of said coils in series and out through the outlet pipe, each of said coils being formed with a plurality of parallel portions, the parallel portions of each coil extending in a direction at right angles to the parallel portions of the coils adjacent thereto and lugs formed upon said coils in position such that a lug on one coil engages a lug on the adjacent coil when the coils are assembled, whereby the coils are spaced apart.

2. In a water heater, the combination with an inlet pipe, of an outlet pipe, a series of coils arranged one above the other, the end coils in the series being connected with the inlet and outlet pipes respectively, and each of said coils being connected with the adjacent coil whereby a continuous passage for water is provided from the inlet pipe through said coils in series to the outlet pipe, and lugs upon said coils, the said lugs being so arranged that, when the coils are assembled, a lug upon one coil engages with a lug upon the adjacent coil, whereby the coils are spaced apart.

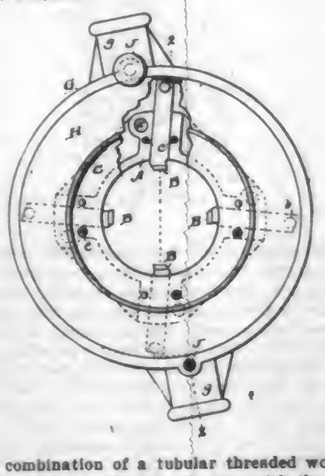
3. In a water heating device, the combination with an inlet pipe, of an outlet pipe, a series of coils arranged one above the other, each of said coils having an orifice at each of its ends, one orifice in one coil registering with a similar orifice in the coil immediately above it, and the other orifice in the said coil registering with a similar orifice in the coil immediately below it, a lug formed upon each coil opposite an orifice therein, the lug on one coil engaging with the corresponding lug upon the coil adja

cent the same, whereby the coils are spaced apart, a pedestal, and a casing surrounding the said coils and resting upon the pedestal, said casing being freely held by the pedestal whereby the casing may be removed to allow access to the coils.

4. In a water heating device, the combination of a base portion, a series of coils arranged one above the other, lugs formed upon the lowermost coil, means for securing said lugs to the base portion, each of said coils being provided with an orifice at its opposite ends, the orifice at one end of one coil registering with a similar orifice in the coil immediately below it, and the other orifice, in the first mentioned coil, registering with an orifice in the coil immediately above it, and lugs formed upon the coils, said lugs engaging with each other when the coils are assembled, whereby the coils are spaced apart.

5. In a water heater, the combination with an inlet pipe, of an outlet pipe, a plurality of separately formed coils, said coils being connected together in series, the end coils being connected to the inlet and outlet pipes, respectively, whereby the water flows from the inlet pipe through all the said coils in series to the outlet pipe, each of said coils being formed of a plurality of parallel portions joined by curved portions at their adjacent ends and said curved portions being each provided with an aperture, and a plug for and closing each of said apertures, as and for the purpose specified.

977,539. DIE-STOCK FOR CUTTING TAPERED THREADS. HERMAN W. OSTER, Cleveland, Ohio, assignor to The Oster Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Feb. 12, 1908. Serial No. 415,480.



1. The combination of a tubular threaded work-holder, a die head which has threads engaging with those on said work holder, radially movable dies carried by said head, a cam plate having longitudinally tapered cam surfaces which said dies engage, which plate is capable of being turned relative to said head to adjust the position of said dies, means connecting said head and plate to compel them to rotate in unison, and means preventing the longitudinal movement of said plate.

2. The combination of a tubular threaded work holder, a die head which has threads engaging with those on said work holder, a cam plate capable of being turned relative to said head and having cam grooves, the outer walls of which are tapered, radially movable dies carried by said head having projections which enter said grooves,—the outer ends of said dies being in contact with said tapered surfaces, means compelling the cam plate to turn with said head, and means preventing longitudinal movement of said cam plate.

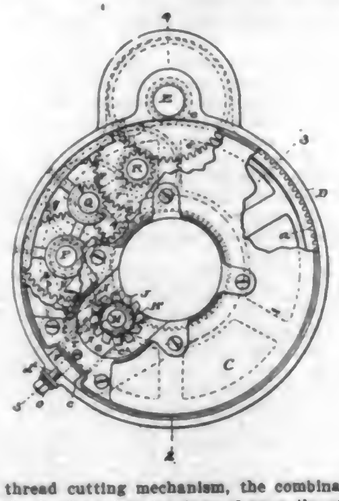
3. The combination of a tubular threaded work holder, a die head which has threads engaging with those on said work holder, radially movable dies carried by said head, an operating ring rotatably mounted on said work holder, means preventing endwise movement of said ring, a plate having tapered surfaces with which the outer ends of said dies engage, means for fastening said plate to said operating ring, and means transmitting rotary motion from said operating ring to said head.

4. The combination of a tubular threaded work holder, a die head which has threads engaging with those on said work holder, and has longitudinal holes, radially movable dies carried by said head, an operating ring rotatably mounted on said work holder, means preventing endwise movement of said ring, longitudinally extended pins secured to the ring and loosely fitted to said holes, a plate having tapered cam surfaces with which the outer ends of said dies engage, means for fastening said plate to said operating ring, and means transmitting rotary motion from said operating ring to said head.

5. The combination of a tubular threaded work holder, a die head which has threads engaging with those on said work holder, and has longitudinal holes, radially movable dies carried by said head, an operating ring rotatably mounted on said work holder, means preventing endwise movement of said ring, a plate having tapered cam surfaces with which the outer ends of said dies engage, means for fastening said plate to said operating ring, and pins secured to said ring and loosely entering the holes in the die head.

[Claim 6 not printed in the Gazette.]

977,540. THREAD-CUTTING MECHANISM. HERMAN W. OSTER, Cleveland, Ohio, assignor to The Oster Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Apr. 18, 1908. Serial No. 427,819.



1. In thread cutting mechanism, the combination of a tubular chuck adapted to be clamped upon the stock to be threaded, a concentric tube rotatable relatively to said chuck and having a lead screw connection therewith and having also a substantially radial guide-way, a bearing block supported by said tube in said guide-way and movable therein toward and from its axis, means controlling the outward movement of said block, a cutter shaft rotatable in said block, and means for turning said tube slowly and the cutter shaft rapidly.

2. In thread cutting mechanism, the combination of a tubular chuck adapted to be clamped upon the stock to be threaded, a concentric tube rotatable relatively to said chuck and having a lead screw connection therewith, a cutter rotatably supported upon said tube, a drum rotatable about the chuck but incapable of endwise movement relative thereto, a train of gears mounted upon said drum and adapted to transmit motion to said cutter, and means compelling the tube and drum to rotate in unison.

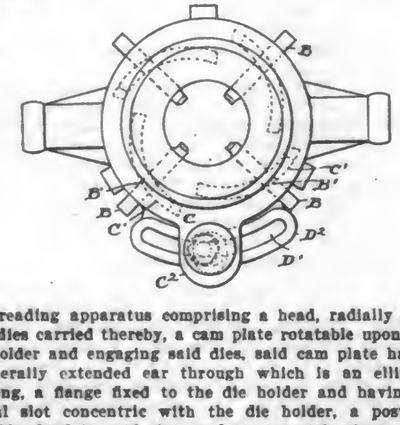
3. In thread cutting mechanism, the combination of a tubular chuck adapted to be clamped upon the stock to be threaded, a concentric tube rotatable relatively to said chuck and having a lead screw connection therewith and a substantially radial guide-way, a bearing block supported by said tube in said guide-way and movable therein toward and from its axis, a cutter shaft rotatably supported in said block, means controlling the outward movement of said block, a drum rotatable about the chuck but incapable of endwise movement relative thereto, a train of gears mounted upon said drum a toggle whose links are respectively pivoted upon an axis coincident with the axis of the last gear of said train and with the axis of the cutter shaft, an idler gear mounted on the pivot of said toggle in mesh with the last gear of said train, and a gear in mesh with said idler gear having a tongue and groove connection with the cutter shaft.

4. In thread cutting mechanism, the combination of a tubular chuck adapted to be clamped upon the stock to be threaded, a concentric tube rotatable relatively to said chuck and having a lead screw connection therewith, a bearing block supported by said tube and movable toward and from its axis, a cutter shaft rotatable in said block, a drum rotatable upon said chuck but incapable of endwise movement relative thereto, means compelling said drum and tube to rotate in unison, and an inclined surface carried by said drum with which the outer end of said bearing block engages, and mechanism for rotating said cutter shaft rapidly and said drum slowly.

5. In thread cutting mechanism, the combination of a tubular chuck adapted to be clamped upon the stock to be threaded, a concentric tube rotatable relatively to said chuck and having a lead screw connection therewith, a head plate fixed to said tube having a longitudinal groove in its periphery, a bearing block mounted in guideways on said head plate, a drum rotatable upon said chuck but incapable of movement relative thereto, a block fixed to said drum and projecting into the slot of the head plate and engaging on its inner face with the outer end of said bearing block, a cutter shaft rotatable in said bearing block, and means for turning the drum and cutter shaft.

[Claims 6 to 8 not printed in the Gazette.]

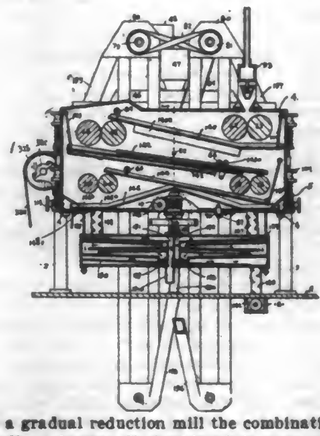
977,541. DIE-STOCK. HERMAN W. OSTER, Cleveland, Ohio, assignor to The Oster Manufacturing Company, a Corporation of Ohio. Filed Sept. 14, 1908. Serial No. 452,816.



Threading apparatus comprising a head, radially movable dies carried thereby, a cam plate rotatable upon said die holder and engaging said dies, said cam plate having a laterally extended ear through which is an ellipsoid opening, a flange fixed to the die holder and having an arcual slot concentric with the die holder, a post adjustably fixed in said slot, and an eccentric sleeve rotatable upon said post and lying in said ellipsoid opening.

977,542. GRADUAL-REDUCTION MILL. WILLIAM M. PAGE, Montpelier, Ind., assignor to Montpelier Cup and Metal Works, Montpelier, Ind., a Corporation. Filed June 19, 1908. Serial No. 439,404.

1. In a gradual reduction mill, the combination of a first set of rolls, a hopper discharging into same, a second set of rolls, a third set disposed underneath the first set of rolls, and a fourth set disposed underneath the second set of rolls, a sieve disposed underneath the first set of rolls and at an angle to discharge the cracked stock into the second set of rolls, a bottom carried by said sieve and provided with a central longitudinal opening, a sieve underneath the second set of rolls disposed at an angle to discharge the cracked stock into the third set of rolls, a sieve disposed underneath the third set of rolls and disposed so as to discharge its cracked stock into the fourth set of rolls, a carrier supported by the second sieve to take the shifted stock from the open bottom of the top sieve and to discharge the same beyond the third set of rolls, a shoe disposed underneath the said rolls and sieves to receive and carry off the stock delivered from the sieves and rolls and from the carrier that discharges beyond the rolls, means to actuate the rolls and sieves, substantially as described.



2. In a gradual reduction mill the combination of a first set of rolls, a hopper discharging into same, a second set of rolls, a third set disposed underneath the first set of rolls, and a fourth set disposed underneath the second set of rolls, a sieve disposed underneath the first set of rolls and at an angle to discharge the cracked stock into the second set of rolls, a bottom carried by said sieve and provided with a central longitudinal opening, a sieve underneath the second set of rolls disposed at an angle to discharge the cracked stock into the third set of rolls, a bottom carried by the said sieve and having longitudinal side openings therein, and which bottom is of suitable length to discharge its sifted stock short of the third set of rolls, a sieve disposed underneath the third set of rolls and disposed so as to discharge its cracked stock into the fourth set of rolls, a carrier supported by the second sieve to take the sifted stock from the open bottom of the top sieve and to discharge the same beyond the third set of rolls, a shoe centrally disposed underneath the said rolls and sieves, having openings at its opposite ends, and having its surface inclined so as to deliver toward its opposite ends the stock received from said sieves and rolls, carrier plates arranged adjacent the ends of said shoe to convey the sifted stock that is discharged beyond the rolls onto the ends of the said shoe, means to actuate the rolls, sieves, and shoes substantially as described.

3. In a gradual reduction mill of the kind described, a first set of rolls, a second set of rolls, a third set disposed underneath the first set of rolls, and a fourth set disposed underneath the second set of rolls, a frame, a housing supported by said frame, sieves and a shoe loosely supported in said housing and arranged in combination with the said rolls as and for the purposes substantially as described, a driving shaft, a secondary shaft, connections between the driving shaft and the secondary shaft whereby the latter is reciprocated, a member carried by

the secondary shaft, power transmitting connections between the said member and the sieves, and between the said member and the shoe.

4. In a gradual reduction mill, the combination of a first set of rolls, a hopper discharging into same, a second set of rolls, a third set disposed underneath the first set of rolls, a fourth set disposed underneath the second set of rolls, a sieve disposed underneath the first set of rolls and inclined upwardly and which will discharge its cracked stock into the second set of rolls, a bottom carried by the said sieve and provided with a central longitudinal opening, a sieve underneath the second set of rolls and inclined downwardly and which will discharge its cracked stock into the third set of rolls, a bottom carried by the said sieve and provided with longitudinal side openings and which bottom is of suitable length to discharge its sifted stock short of the third set of rolls, a sieve disposed underneath the third set of rolls and inclined upwardly and which will discharge its cracked stock into the fourth set of rolls, a carrier supported by the second sieve to take the sifted stock from the open bottom of the top sieve and to discharge it beyond the third set of rolls, a shoe disposed underneath the said rolls and sieves, to receive and carry off the stock delivered from the sieves and rolls and from the carrier that discharges beyond the rolls, a frame, a housing supported by said frame and in which housing the said sieves and shoe are loosely supported, a driving shaft underneath the shoe, a secondary shaft underneath the top sieve, said shafts being journaled on the said frame, a face-wheel carried by the secondary shaft, connections between the face-wheel and each of the sieves and with the shoe, a crank carried by the driving shaft, an arm carried by the secondary shaft, a connecting rod between the said crank and the said arm and capable of being adjusted to varied positions on the latter, substantially as described.

5. In a gradual reduction mill, a set of rolls, pillow blocks to carry the journal of each end of the movable roll, the base of each of said pillow blocks having a transverse bore, a pin disposed in each of said bores and its ends supported in the sides of the frame member, the ends of said pin being eccentric to the body portion, means to secure the pin at different adjusted positions, a threaded upright secured at a point adjacent to each of said pillow blocks, an arm from each pillow block to loosely engage the said threaded uprights said arm being capable of division, a spring carried by each upright to press the arms upwardly, a hand wheel on each of said uprights to bear against the tops of said arms.

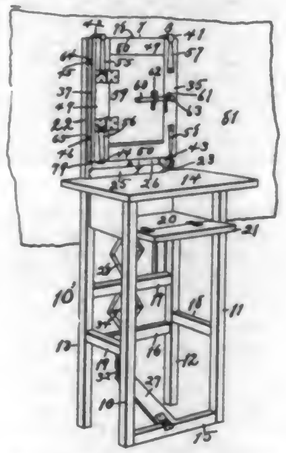
[Claims 6 to 8 not printed in the Gazette.]

977,543. PHOTOGRAPHIC-PRINTING MACHINE. FRED O. PARSONS, Spirit Lake, Iowa. Filed Feb. 17, 1910. Serial No. 544,942.

1. In a photographic printing machine, a stand, a printing frame mounted on said stand, a screen covering said printing frame, a treadle hinged on the lower portion of said stand, lazy-tongs connected at one end to the stand and at the other end to the lower portion of said screen, flexible connections between said treadle and lazy-tongs, said screen spring-held in elevated position and adapted to be lowered by foot pressure applied to said treadle.

2. In a photographic printing machine, a stand and a printing frame, said stand comprising legs, braces between said legs, a top, standards rising above said top, a screen mounted for vertical reciprocation between said standards, lazy-tongs fixed to and depending from the lower end portion of said screen and fixed at the lower end to said stand, a treadle hinged to the lower portion of said stand, a strap fixed to and depending from said lazy-tongs, said strap fixed at its lower end to said treadle, springs holding said lazy-tongs in extended vertical position, and means for holding said printing frame on said standards before said screen.

3. A photographic printing machine, comprising a stand and a printing frame, said stand formed with legs and a top, grooved standards fixed to and rising from said top, a box under said top, a screen mounted for vertical sliding movement in the grooves of said standards, a cross piece on the lower portions and connecting the front legs of said stand, a treadle hinged to said cross piece, lazy-tongs fixed to and depending from the lower end portion of said screen and fixed at the lower end of said stand, a strap adjustably fixed to said lazy-tongs and depending therefrom, said strap adapted to limit vertical expansion of said lazy-tongs, springs on said lazy-tongs adapted to limit lateral expansion thereof, said strap fixed at its lower end to the upper end portion of said treadle, a cross bar fixed to and rigidly connecting the upper end portions of said standards, an apertured spring clip on and extending forwardly from said cross bar, hooks on the front surfaces of said standards above the top of said stand, said hooks adapted to engage the lower portion of and support said printing frame, and a pin on the upper end portion of said printing frame adapted to be engaged by the aperture in said spring clip.



4. In a photographic printing machine, a printing frame formed with front and back portions, said back portion being rigid, said front portion formed of a rail adapted to be clamped at its ends to the back portion, a three-sided frame hinged to said rail and adapted to be clamped independently of the rail to the back portion, and a door hinged to said rail and adapted to be latched in closed position.

5. In a photographic printing machine, a printing frame formed with front and back portions, said back portion comprising a rigid frame and a glass within said frame, said front portion comprising a rail, a three sided frame hinged to said rail and a door hinged to said rail and closably within said three-sided frame, clamp hooks fixed to and rising from said back portion, and independent spring clamps fixed to said rail and three sided frame and adapted to engage said clamp hooks.

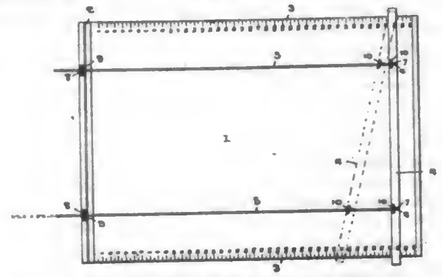
[Claim 6 not printed in the Gazette.]

977,544. CUTTING-BOARD AND CLAMP. ORVIN G. PAYNE, Fairbury, Ill. Filed Mar. 4, 1910. Serial No. 547,336.

1. A device of the class described, comprising the combination with a table; of a straight edge disposed over said table, rods pivotally secured to said straight edge, means to positively lock said rods in a position at right angles to said straight edge, means to frictionally lock said rods in any other position, and means to adjustably secure said rods to the table.

2. In a device of the class described, the combination with a table having graduations along its edges and a shoulder adjacent one end; of a straight edge disposed over said table, rods adjustably secured to said straight edge, means to positively lock said rods in a position at

right angles to said straight edge, means to frictionally lock said rods in any other position, and means to adjustably secure said rods to the table.



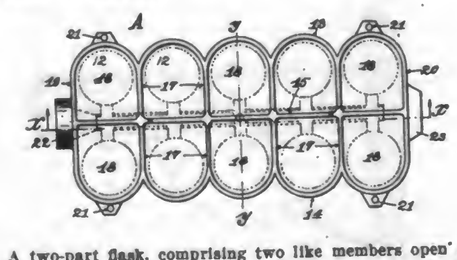
3. In a device of the class described, the combination with a table having graduations along its edges and a shoulder adjacent one end; of a straight edge disposed over said table, rods pivotally secured to said straight edge, blocks having notches therein to receive said rods, means whereby said rods may be clamped into said notches, thereby locking said rods at right angles to the straight edge, sockets on said table through which said rods extend, and binding screws adapted to hold said rods in their adjusted positions.

977,545. EXPLOSIVE. GERSHOM MOORE PETERS, Cincinnati, and MILTON FLETCHER LINDSLEY, Kings Mills, Ohio, assignors to The King Powder Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Dec. 6, 1907. Serial No. 405,362. Renewed Oct. 20, 1910. Serial No. 588,183.

1. An explosive compound consisting of a mixture of nitrate of soda, nitrate of ammonia, carbonate of calcium, brimstone, and charcoal.

2. An explosive compound containing nitrate of soda, about 48%, nitrate of ammonia, about 24%, carbonate of calcium, about 4%, brimstone, about 12%, charcoal, about 12%.

977,546. ART OF CASTING NON-FERRIC METALS. FRANK J. PHILLIPS, Chicago, Ill. Filed Sept. 1, 1910. Serial No. 580,052.



A two-part flask, comprising two like members open at top and bottom, there being in said members a longitudinal partition and a series of transverse partitions affording separate compartments each of which is adapted to receive one or more patterns, the inner edges of said transverse partitions being in contact with each other except at their intersection with said central partition, when said flask is in closed condition, a pouring-spout member on each flask-member and formed integral therewith, and means on said flask-members adapted to properly locate one flask-member upon the other.

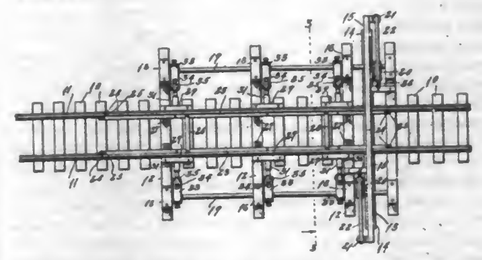
977,547. HALTER-HOPPLE. JOSEPH O. READ, Ogden, Utah. Filed July 19, 1910. Serial No. 572,744.

1. A hopple fashioned from a single strip of flexible material having its ends overlapped upon its intermediate portion, to form two connected loops; and a device for securing the ends and the intermediate portion of the strip together.



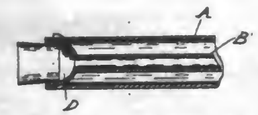
2. A device of the class described including a retaining member, consisting of a base plate having oppositely disposed primary openings and oppositely disposed secondary openings placed at an angle to the primary openings, and a stud rising from the base plate; and a flexible member having one end extended through a primary opening and engaged by the stud, the free end of the flexible member being thence carried through the secondary openings to form a leg encircling loop, and thence carried through the other primary opening and engaged by the stud to form a body encircling loop.

977,548. RAILWAY-CROSSING GATE. MILES REASONER, Bomar, Okla. Filed Apr. 18, 1910. Serial No. 556,194.



The combination with a railroad track, a resilient presser bar supported beside one of the rails of said track, and a normally closed gate mounted to move transversely of said track; of bearings arranged in alinement parallel to and adjacent said track, a shaft supported in said bearings and having one end adjacent said gate, a rock arm carried by said shaft at the end adjacent the gate, a series of brackets spaced along the track opposite the presser bar, a second series of brackets depending from the presser bar, the brackets of said second series being opposite the brackets of the first series, levers each pivoted to one of the first series of brackets and having their respective ends connected to the brackets of the second series, the opposite ends of said levers being provided with curved upper faces forming cams, a series of rock arms fixed in spaced relation along said shaft and each provided with a forked free end, a roller carried in each forked end and resting on a respective cam, and means to return said gate to closed position after being opened through the depression of the presser bar by a train.

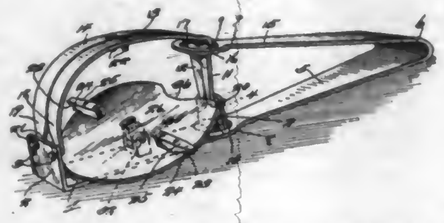
977,549. COMBINED AIR-RIFLE, RUBBER-BALL, AN POP-GUN. ERNEST S. ROE, Plymouth, Mich., assigno to Markham Air Rifle Company, Plymouth, Mich., Corporation of Michigan. Filed Dec. 22, 1908. Seria No. 468,751.



In an air gun, the combination with the false barrel, a true barrel concentrically arranged therein, and a cup shaped member of greater cross sectional area than th true barrel arranged at the muzzle end of the false barre

and centrally apertured to engage the outer end of the true barrel, thereby forming a support for the latter, said cup-shaped member being of a contour to engage a ball and having sides extending for a comparatively large portion thereof parallel to and in contact with the sides of the false barrel forming a seat for a cork.

977,550. ANIMAL-TRAP. BEDO P. ROKLEDGE, Au Gres, Mich. Filed Sept. 3, 1910. Serial No. 580,430.

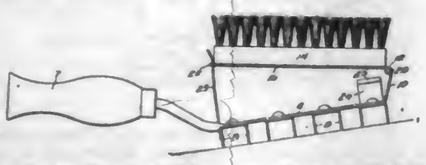


1. In an animal trap, a base plate having an ear at each end thereof, said ears having apertures, semi-annular jaws pivoted in said apertures, a leaf spring bent upon itself having annular members at each end to receive one of the ears and two of the arms of the jaws, and an oscillatory plate having lugs for holding the jaws down and spread apart against the action of the springs, said jaws having extensions to engage the said lugs of the oscillatory plate, said oscillatory plate being adapted to be depressed upon either side of its fulcrum to release the jaws.

2. In an animal trap, an elongated base plate having an upstanding ear at each end, opposing pivoted jaws fulcrumed in said ears and provided with extensions, a spring bent upon itself and having its free end provided with annular rings to receive one of the ears and the adjacent arm of the jaws, and an oscillatory plate fulcrumed to the base plate and provided with lugs to engage said extensions to hold the jaws down and spread apart against the action of the spring, said plate being adapted to receive pressure upon each side of its fulcrum to release the jaws.

3. In an animal trap, an elongated base plate having an upstanding ear at each end thereof, said ears having apertures, jaws opposing one another and fulcrumed in said apertures, a leaf spring bent upon itself having apertured annular rings in registration with one another to receive one of the ears, and two of the adjacent arms of the jaws, said base plate having a bifurcated lug, an oscillatory plate having a lug fulcrumed in said bifurcated lug and provided with laterally extending lugs, said jaws having lateral extensions, said laterally extending lugs having slightly curved under surfaces to engage said lateral extensions to hold the jaws down and spread apart against the action of the leaf spring, said oscillatory plate adapted to receive pressure upon either side of its fulcrum to release the jaws, said adjacent arms of the jaws having shoulders to limit the upward movement of the upper portion of said leaf spring when bringing the jaws together, said oscillatory plate having a cutaway portion to allow free movement of the upper portion of said leaf spring.

977,551. COMBINED CURRYCOMB AND BRUSH. SIDNEY M. ROWE, Telford, Tenn., assignor of one-third to J. W. Bishop and one-third to J. W. Birdwell, Johnson, Tenn. Filed Jan. 14, 1910. Serial No. 538,089.



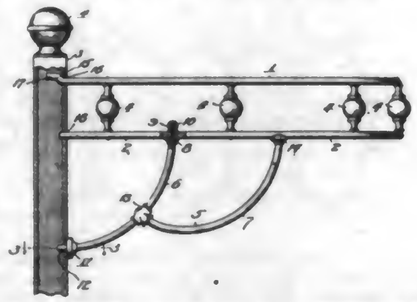
1. The combination with a curry comb provided at one end with a handle and a brush hinged to the opposite end of the comb; of a spring keeper arranged perpendicular to the curry comb and located at the end thereof adjacent to the handle, the free end portion of said keeper being curved and provided with an opening, and a tooth extending beyond the free end of the brush to be received by the opening of the keeper when the brush is folded upon the comb, substantially as described.

2. In combination, a curry comb having a pair of spaced strap members on the back thereof, said straps extending to one end of the comb and terminating in forwardly inclined extensions, a brush having on the back thereof a strip the opposite ends of which extend beyond one end of the brush and are pivotally connected to the forward extensions of the straps, and the medial portion of which is provided with a tooth, and a resilient keeper fixed to the free end of the comb having an opening to receive the tooth when the brush is folded upon the comb, substantially as described.

3. In combination, a curry comb having a pair of spaced strap members on the back thereof, said straps extending to one end of the comb and terminating in forwardly inclined extensions, a brush having on the back thereof a strip the opposite ends of which extend beyond one end of the brush and are pivotally connected to the forward extensions of the straps, and the medial portion of which is provided with a tooth, and a resilient keeper fixed to the free end of the comb having an opening to receive the tooth when the brush is folded upon the comb, and means for securing the brush in alinement with the comb when the parts are in unfolded position, substantially as described.

4. The combination with a curry comb having a pair of spaced strap members on the back thereof, said strap members extending to one end of the comb and terminating in forwardly inclined extensions, a brush having a strip on the back thereof, the opposite ends of which extend beyond one end of the brush and are pivoted to the forward extensions of the straps, the extremities of the projecting portions of said strip being inturned and recessed to receive the sides of said straps when the brush is moved to a position in alinement with the comb, substantially as described.

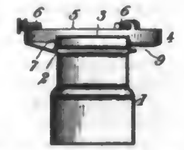
977,552. METAL-BEDSTEAD CANOPY-FRAME. OTTO RUDD, Kenosha, Wis., assignor to The Simmons Manufacturing Company, Kenosha, Wis., a Corporation of Wisconsin. Filed Jan. 5, 1910. Serial No. 536,456.



1. In combination, tubular posts of a bedstead, a canopy frame for supporting netting, drapery or the like, said frame comprising horizontal tubular members whose inner ends are offset a distance vertically to form locking shoulders, said bedstead posts having openings of substantially the same contour and area as the cross sectional area of said tube members, whereby the offset ends of said tube members may, upon slight upward tilt of the tubular members, be inserted through said openings to bring the shoulders into locking engagement with the inner edges of said openings when said tubular members are again brought to horizontal position, bracket members extending from said tubular members, and collars on the inner ends of said bracket members for abutting against said bedstead posts when said tubular members are in horizontal position.

2. In combination, tubular posts of a bedstead, a canopy frame for supporting netting, drapery, or the like, upper and lower horizontal tubular U-shaped frames for said canopy frame detachably connected together at intervals, the ends of the upper horizontal frame being offset vertically to form locking shoulders, said posts having side openings through which the offset ends may enter upon slight vertical tilt of the U-frames whereby said shoulders interlock with the walls of the openings when the U-frames are brought to horizontal position, said posts having side openings for receiving the inner ends of the lower U-frame, supporting brackets having detachable connection with the lower U-frame, said posts having side openings for receiving the inner ends of the brackets, and collars on said brackets for abutting against said posts.

977,553. SOCKET-SHELL AND GLOBE-HOLDER FOR ELECTRIC LIGHTS. EDWARD S. SANDERSON, Waterbury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a Corporation of Connecticut. Filed Mar. 22, 1910. Serial No. 551,017.



1. A socket shell and globe-holder for electric lights, comprising a shell, and a globe-holder having an internal flange, the shell adapted to be inserted within said flange with its thus inserted end extending beyond the inner edge of said internal flange and the edge of the extended portion of the shell turned over and thus interlocked with the flange's edge.

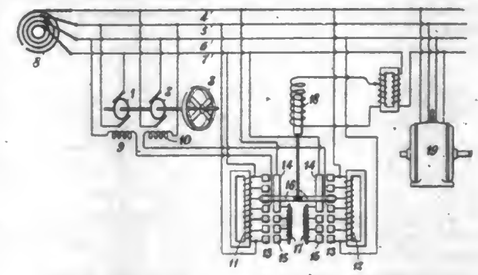
2. A socket-shell and globe-holder for electric lights, comprising a shell, and a globe-holder having an internal flange provided with edge notches, the shell adapted to be inserted within said flange and project beyond its inner edge and its edge turned over and interlocked with said notches, whereby relative rotary movement of the shell and holder is prevented.

3. A socket shell and globe-holder for electric lights, the shell having a beaded end to limit its inward movement with relation to the globe-holder, and the globe-holder having an internal flange provided with a notched edge, the beaded end of the shell adapted to be placed within the internal flange so that its inner end projects beyond the edge of the flange and the edge of said projecting end turned over and engaged with the notched edge of said internal flange, whereby relative rotary movement of the shell and holder is prevented.

4. A socket shell and globe-holder for electric lights, comprising a shell having one end provided with a stop, and a globe-holder having an internal flange with a notched edge, the stop end of the shell inserted within the internal flange and its said inserted end extending beyond the edge of the flange and the shell's edge turned over and thereby engaged with the notched edge of said flange, whereby relative rotary movement of the shell and holder is prevented.

977,554. ELECTRICAL EQUALIZER SYSTEM. OTTO S. SCHAIBER, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Sept. 3, 1907, Serial No. 391,211. Renewed May 20, 1910. Serial No. 562,524.

1. The combination with an alternating current distributing circuit, and a dynamo-electric machine adapted to operate either as a motor or as a generator and having its armature connected to said circuit, of means for applying to the circuit of the field magnet winding of the machine an electromotive force of a different phase from that applied to the armature, means for impressing upon the field circuit an auxiliary electromotive force derived from the circuit to which the armature is connected, and means responsive in operation to variations in the amount of current traversing the distributing circuit for adjusting the value of said auxiliary electromotive force and reversing its phase when changing from motor to generator operation, and vice versa.



2. The combination with an alternating current distributing circuit, and a dynamo-electric machine adapted to operate either as a motor or as a generator and having its armature connected to said circuit, of means for applying to the circuit of the field magnet winding of the machine an electromotive force of a different phase from that applied to the armature, a transformer winding for impressing upon the field circuit an auxiliary electromotive force derived from the circuit to which the armature is connected, and means for adjusting the connections to the transformer winding to vary the value of the said auxiliary electromotive force and to reverse its phase when changing from motor to generator operation, and vice versa.

3. The combination with an alternating current distributing circuit, and a dynamo-electric machine adapted to operate either as a motor or as a generator and having its armature connected to said circuit, of means for applying to the circuit of the field magnet winding of the machine an electromotive force of a different phase from that applied to the armature, and means for impressing upon the field circuit an auxiliary electromotive force derived from the circuit to which the armature is connected of opposite phase for motor and for generator operation.

4. The combination with an alternating current distributing circuit, and mechanically coupled dynamo-electric machines adapted to operate either as motors or as generators each of which has its field magnet and armature windings supplied from different phases of said circuit, of means for impressing upon the circuits of the field magnet windings auxiliary electromotive forces that are out of phase with the main electromotive forces applied thereto, and means for adjusting the values of the auxiliary electromotive forces and for reversing the phases thereof when changing from motor to generator operation, and vice versa.

5. The combination with an alternating current distributing circuit, and mechanically coupled dynamo-electric machines adapted to operate either as motors or as generators each of which has its field magnet and armature windings supplied from different phases of said circuit, of means for impressing upon the circuits of the field magnet windings auxiliary electromotive forces that are out of phase with the main electromotive forces applied thereto, and means responsive in operation to variations in the amount of current traversing the distributing circuit for adjusting the values of the auxiliary electromotive forces and reversing the phases thereof.

[Claim 6 not printed in the Gazette.]

977,555. OCEAN-AIRSHIP. REINHOLD SCHMIECHEN, Ledyard, Iowa. Filed Aug. 12, 1909. Serial No. 512,556.

1. An ocean-airship comprising a body adapted to hold gas in gas-tight cells, said body being of substantially semi-circular transverse section and having an independent, pointed, head, said head being hinged to said body at

the forward end; means for raising and lowering said head; a series of means for propelling said body, said means being adapted to operate independently of one another, and aeroplanes projecting from the lower side of said body, said aeroplanes being hollow bodies adapted to hold gas, the walls of said aeroplanes forward of the ship being double walls to afford water-spaces, as described.



2. An ocean-airship comprising a body adapted to hold gas in gas-tight compartments therein, said body being substantially semi-circular in transverse section; a series of approximately hemispherical shells in said body, said shells having spirally corrugated walls, one member of said spirals being approximately horizontal and the other substantially vertical; a fixed cylinder in said shell; a series of spiral fans surrounding said cylinder; a series of fixed, spirally arranged baffle-plates in said cylinder; means for rotating said spiral fans, and a series of inclined slats below the spiral baffle-plates said slats inclining in opposite directions, as specified.

3. An ocean-airship comprising, in combination, a body adapted to hold gas in gas-tight compartments therein, a series of vertically-lifting propellers, and automatic means for maintaining the air-ship upon an approximately even keel, said means including a series of friction-devices; a pendulum; means connecting said pendulum with said friction-devices whereby the movement of said pendulum is communicated to, and adapted to govern the rotative speed of, said friction-devices, said friction-devices being adapted to govern the rotative speed of said vertically-lifting propellers, and means for independently rotating said friction-devices.

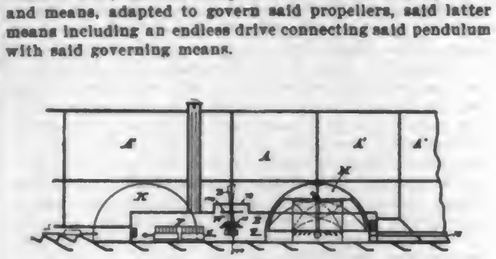
4. An ocean-airship comprising, in combination, a body adapted to hold gas in gas-tight compartments therein, a series of vertically-lifting propellers, and automatic means for maintaining the air-ship upon an approximately even keel, said means including a series of friction-devices, a pendulum; means connecting said pendulum with said friction-devices whereby the movement of said pendulum is communicated to, and adapted to govern the rotative speed of, said friction-devices, said friction-devices being adapted to govern the rotative speed of said vertically-lifting propellers; means for independently rotating said friction-devices, and means on said pendulum for shifting the center of gravity of said pendulum.

5. An ocean-airship comprising, in combination, a body adapted to hold gas in gas-tight compartments therein, a series of vertically-lifting propellers, and automatic means for maintaining the air-ship upon an approximately even keel, said means including a series of friction-devices, a pendulum; means connecting said pendulum with said friction-devices whereby the movement of said pendulum is communicated to, and adapted to govern the rotative speed of, said friction-devices, said friction-devices being adapted to govern the rotative speed of said vertically-lifting propellers, and means for independently rotating said friction-devices, said friction-devices including a cam-disk, a lever, a friction-disk and a clutch member, said clutch-member being connected with said cam-disk and operated by the rotation of said cam-disk.

[Claims 6 to 9 not printed in the Gazette.]

977,556. MEANS FOR MAINTAINING THE EQUILIBRIUM OF AIRSHIPS AND OTHER FLYING-MACHINES. REINHOLD SCHMIECHEN, Ledyard, Iowa. Filed Sept. 13, 1909. Serial No. 517,459.

1. In an airship, means for maintaining the equilibrium thereof while afloat, said means including, in combination, a pendulum; propellers, adapted to move said airship when afloat; motors, adapted to rotate said propellers, and means, adapted to govern said propellers, said latter means including an endless drive connecting said pendulum with said governing means.



2. In an airship, means for maintaining the equilibrium thereof while afloat, said means including, in combination, a pendulum; vertically-lifting propellers, adapted to move said airship when afloat; motors, adapted to rotate said vertically-lifting propellers, and means, adapted to govern said vertically-lifting propellers, said latter means including an endless drive connecting said pendulum with said governing means.

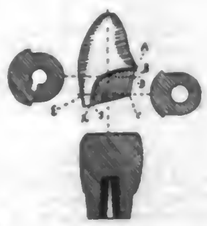
3. In an airship, means for maintaining the equilibrium thereof while afloat, said means including, in combination, a pendulum; propellers, adapted to move said airship when afloat; motors, adapted to rotate said propellers; means, adapted to govern the speed of said propellers, said means including an endless drive, connecting said pendulum with said means that govern the speed of said propellers.

4. In an airship, means for maintaining the equilibrium thereof while afloat, said means including, in combination, a pendulum; vertically-lifting propellers, adapted to move said airship when afloat; motors, adapted to rotate said vertically-lifting propellers; means, adapted to govern the speed of said vertically-lifting propellers, and means, including an endless drive, connecting said pendulum with said means that govern the speed of said vertically-lifting propellers.

5. In an airship, means for maintaining the equilibrium thereof while afloat, said means including, in combination, a pendulum; propellers adapted to move said airship when afloat; motors, adapted to rotate said propellers, and friction devices, adapted to govern said propellers, said latter devices including an endless drive connecting said pendulum with said friction-devices.

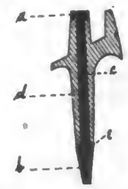
[Claims 6 to 24 not printed in the Gazette.]

977,557. PORCELAIN CROWN FOR ARTIFICIAL TEETH. HEINRICH SCHWEITZER, New York, N. Y. Filed Dec. 30, 1909. Serial No. 535,603.



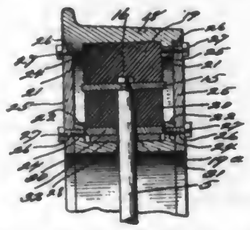
In a porcelain crown the combination of a conical central opening tapering toward the interior of the crown with the encircling beveled surface around the lateral and tongue surfaces of the neck of the crown, commencing near the middle upon one side and extending at the base to a point near the opposite side up to a step extending along and finishing off the beveled surface substantially as described and shown and for the purpose set forth.

977,558. PROCESS OF MAKING DENTAL TOOTH-POSTS. HEINRICH SCHWEITZER, New York, N. Y. Filed Dec. 30, 1909. Serial No. 535,604.



The method of making a tooth post by surrounding a metal shank with its enlarged ends with wax, taking impressions with it of the openings in the crown, and in the natural root, and then using the same as a pattern in casting the complete tooth post.

977,559. WHEEL. MICHAEL C. SHEA, Mishawaka, Ind. Filed May 5, 1910. Serial No. 559,639.



1. In a wheel, the combination of an inner and outer rim, of a resiliently mounted intermediate rim, an annular band surrounding the inner rim, said annular band and inner rim having registered elongated apertures, designed to receive the spokes, said spokes being secured to the resiliently mounted intermediate rim and plates movable with the spokes and arranged between the annular band and the inner rim.

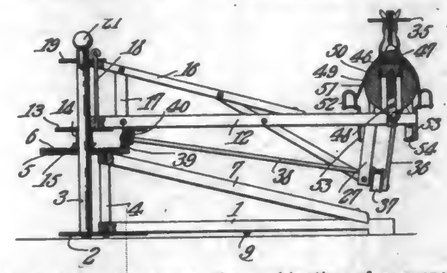
2. In a wheel, the combination of inner and outer rims having annular flanges provided with apertures, of annular rings having apertures in registration with the first named apertures, screws penetrating the registering apertures, said inner rim having elongated openings, an annular band surrounding the inner rim between its flanges and provided with elongated openings in registration with the first named opening, an annular rim arranged intermediate the outer rim and the annular band, resilient means located on each face of the intermediate rim to coöperate between it and the outer rim and the annular band, in combination with spokes penetrating the said elongated openings and having restricted threaded ends penetrating the intermediate rim, nuts threaded to the restricted ends of the spokes, and plates arranged between the inner rim and the annular band to cover the registering elongated openings, and through which the spokes are vertically movable, said plates being movable with the spokes when the spokes are not moving vertically through them.

977,560. MERRY-GO-ROUND. JAMES A. SHERRY, Fall River, Mass. Filed Aug. 6, 1909. Serial No. 511,606.

1. The combination of a base plate, pivots rising from the base plate at unequal distances apart, and supporting arms having their inner ends mounted on the said pivots.

2. A supporting structure for merry-go-rounds comprising a central post, a base plate at the lower end of the said post, a master wheel secured on the said post, a plurality of supporting arms pivotally attached to the base plate and the said master wheel, and a detachable flexible connection between the said supporting arms.

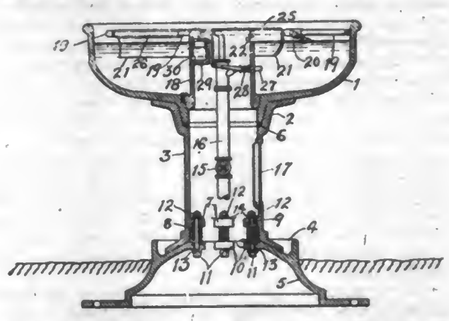
3. In a merry-go-round, the combination of a support having a master wheel rigid therewith, a passenger-carrying arm rotatably mounted on the support above the master wheel, a seat at the outer end of the said arm, a shaft mounted on the under side of the said arm and having a pinion at its inner end meshing with the master wheel, a ratchet on the outer end of the said shaft, crank plates on the shaft at opposite sides of the ratchet a pawl mounted between said plates and engaging the said ratchet, a link connected to said plates, and means in front of the seat for reciprocating the said link.



4. In a merry-go-round, the combination of a support, a passenger-carrying arm rotatably mounted on the support, gearing between the support and the passenger-carrying arm comprising a shaft on the said arm, a link having a crank connection with the said shaft, a seat at the outer end of the passenger-carrying arm means extending in front of the seat for operating the said link, and a foot rest pivotally supported upon the passenger-carrying arm adjacent to the seat.

5. The combination of a base plate, pivots rising from the base plate and arranged approximately upon the circumference of a circle and at unequal distances apart around this circumference; and supporting arms having their inner ends mounted on the said pivots.

977,561. WATERING-TROUGH. ARTHUR G. SIMMONS, Boston, Mass., assignor to Simmons Manufacturing Company, Boston, Mass., a Corporation of Massachusetts. Filed July 19, 1910. Serial No. 572,948.



1. In a watering trough the combination with a centra drainage pipe of a curved run-way partly encircling th pipe and against which run-way the flow of scum is d rected and passed to an opening in the pipe.

2. In a watering trough the combination with a drai age pipe having an opening in its side of a curved guid way extending from a point near the inner rim of t trough and partly around the pipe so that a passage f the water is formed between the pipe and the inner co caved side of the guide-way and its extreme end secur to the pipe thus causing water swashed down the passa to pass through the opening in the pipe.

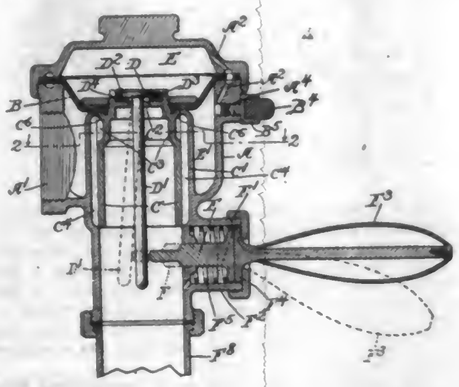
3. A watering trough provided with an inwardly e tending guide-way having its inner end shaped in t form of a hook.

4. A watering trough provided with an inwardly e tending guide-way and a cover-plate for the inner po tion of the guide-way.

5. A watering trough provided with an inwardly extending hook run-way in combination with a piping having its nozzle in close proximity to the inner side of the trough and near the run-way so that water passing from the piping is swashed the entire length of the run-way.

[Claims 6 to 10 not printed in the Gazette.]

977,562. VALVE. WILLIAM E. SLOAN, Chicago, Ill., assignor to Sloan Valve Company, Chicago, Ill., a Corporation of Illinois. Filed June 13, 1906. Serial No. 321,458.



1. A valve device comprising two valves, one the main valve which controls the flow of water, the other an auxiliary valve for controlling said main valve, the auxiliary valve adapted to be tilted to open it, a stem associated with said auxiliary valve, and an actuating part for moving said stem so as to tilt the valve and means for carrying the auxiliary valve beyond the control of said actuating part.

2. A valve device comprising a piston, a cylinder in which said piston works, a groove on the face of said piston, a casing containing said piston and cylinder, a diaphragm dividing said casing into two chambers, a communication between the chamber on one side of the diaphragm and said piston, a valve controlling said communication, a stem connected with said valve, an actuating device for moving the stem to one side so as to tilt the valve to open it and means for carrying the auxiliary valve beyond the control of said actuating device.

3. A valve device comprising a main valve which controls the flow of water, an auxiliary valve for controlling the main valve, said auxiliary valve provided with a stem, an actuating device for moving said stem to one side so as to tilt the auxiliary valve to open it and means for carrying the auxiliary valve beyond the control of said actuating device.

4. A valve device comprising a casing, a dipahragm therein dividing the casing into two chambers, a piston connected with said diaphragm, a cylinder in which said piston works, an opening through said diaphragm, a valve controlling said opening, a stem connected with said valve and projecting through said opening into said piston, a movable part below the piston adapted to be moved so as to engage said stem and move it laterally to tilt the valve and means for carrying said auxiliary valve beyond the control of said movable part.

5. A valve device comprising a casing, a diaphragm therein dividing the casing into two chambers, a piston connected with said diaphragm, a cylinder in which said piston works, an opening through said diaphragm, a valve controlling said opening, a stem connected with said valve and projecting through said opening into said piston, a movable part below the piston adapted to be moved so as to engage said stem and move it laterally to tilt the valve, a groove on the exterior of said piston having a gradually inclined face at its upper end so that the flow of water is gradually shut off to make the re-fill and means for carrying said auxiliary valve beyond the control of said movable part.

[Claims 6 to 15 not printed in the Gazette.]

977,563. GLOBE-HOLDER. CHARLES S. SMITH and HERMAN H. PALMER, New York, N. Y. Filed Mar. 28, 1910. Serial No. 552,078.



In a globe holder of the character described, a clamping band having overlapping end portions, the outer one of which has formed therein a slot, a lip formed on the end of said overlapping portion of the band, a locking member arranged on the underlapping portion of the band, said member comprising a hook pivotally mounted in said under-lapping portion of the band, an off-set looped portion formed on the outer end of said hook and adapted to be engaged with the slot in the overlapping portion of the band whereby when the locking member is turned in one direction the ends of the band will be drawn together in locked engagement and when turned in the opposite direction, said ends will be permitted to spring apart and a series of globe attaching devices arranged on said band.

977,564. STOCKING-SUPPORTER GRIP. JOSEPH RICHARD SMITH, Waterbury, Conn., assignor to Waterbury Button Company, Waterbury, Conn., a Corporation of Connecticut. Filed Mar. 16, 1910. Serial No. 549,689.



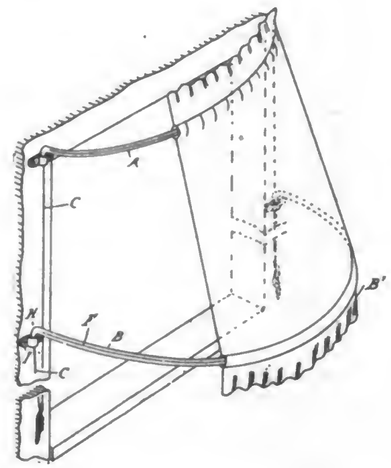
1. In a garment supporting grip, a loop member having one surface channeled at opposite sides and around the lower end of said loop, a fabric covering for the surface opposite the channeled portion, the edges of said fabric extending into said channel and a keeper plate to hold said edges in said channel, said loop having a contracted portion at one end and a separately formed plate secured to the contracted portion and having a wedge-shaped slot in its upper edge and opening into the space within the loop member.

2. In a garment supporting grip, a loop member having one surface channeled at opposite sides, a fabric covering for the surface opposite the channeled portion, the edges of said fabric extending into said channel, a keeper plate adapted to said channel and holding said fabric therein, and a grip plate carried at the lower end of said loop member, said grip plate having a wedge-shaped slot therein, the broader end of said slot opening into the space within the loop.

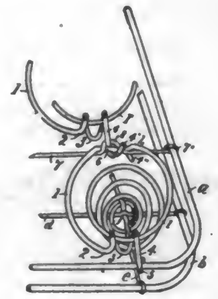
977,565. WINDOW-AWNING. LUCIEN A. SMITH, Detroit, Mich. Filed Feb. 10, 1909. Serial No. 477,137.

1. An awning comprising upper and lower hollow slotted bowed frames, the upper frame being bowed to a lesser extent than the lower, a shade secured to said frames, and flexible connections extending through said hollow frames and connected to said shade through the slots in the frames.

2. An awning, comprising a lower bowed frame, an upper frame bowed to a lesser extent, said frames being in fixed position, a shade secured to and laterally movable upon said frames, and means extending substantially parallel with said frames for adjusting the shade.

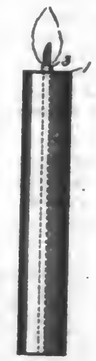


977,566. BED-SPRING. ARTHUR M. SOREY, Oklahoma, Okla. Filed Oct. 11, 1909. Serial No. 522,077.



The combination with upper and lower frame-wires, and with intersecting spring-supporting wires connected to said lower frame-wires, said spring-supporting wires having, at their intersections, coöperating, interlocking, curved bends and, near their intersections, upward and downward curved bends, forming seats, of helical springs, each having a foot portion, comprising a convolution riding at its intersection with the spring-supporting wires, in said seats, whereby it is locked against accidental displacement, said convolution, near its free end or terminal, having an upward curved bend riding in one of said seats, and a downward bend, forming a lock against unwinding, said terminal being turned upward, the upper portion of said helical spring having a clamp-loop lockingly engaging a convolution of said spring, said loop-clamp having an extension forming a terminal-tying-stem.

977,567. CANDLE-PROTECTOR. MARK HOWARD STERLING, Bisbee, Ariz. Filed Nov. 22, 1909. Serial No. 529,503.



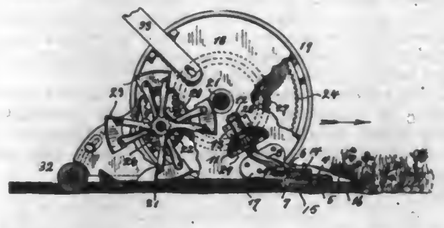
A candle protector comprising a cap provided with an inclosed air chamber formed therein, said cap having a central perforation for the passage of the wick.

977,568. WAGON-TONGUE. WATSON B. STITES, Hiawatha, Kans. Filed Mar. 8, 1910. Serial No. 548,034.



A device of the character described comprising adjustable tongue hounds, a tongue socket projecting from the forward portion thereof, upper and lower clamping straps extending across said socket, means for connecting said straps for adjustably holding the same in engagement with said socket, a doubletree bolt extending through said straps, and bracing means connecting said doubletree with said hounds.

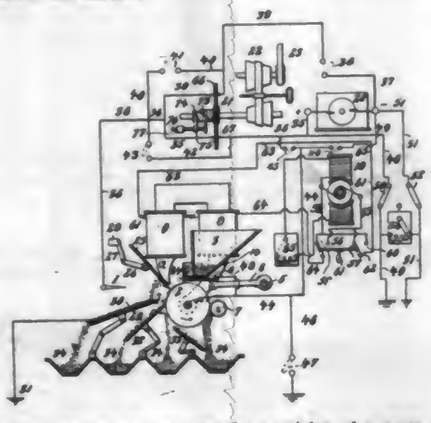
977,569. GRASS-CUTTER. JOHN C. STREIBICH, Little Rock, Ark., assignor of one-half to Charles G. Engholdt, Little Rock, Ark. Filed June 28, 1910. Serial No. 569,308.



In a grass-cutter, the combination of an axle, hollow-traction-wheels loosely mounted thereon and provided with internal gear-teeth inside of their rim, circular frame-plates rigidly connected to the axle and fitted to close the inner, open side of the hollow traction-wheels, shaft-bearings provided opposite each other on these plates, a shaft supported in these bearings and extending into the hollow-traction-wheels, a cutter mounted on this shaft a pinion on each end of this shaft and in mesh with the internal gearing of the traction-wheels, gear-wheels also mounted

on this shaft, combined spur and bevel-gears loosely mounted on the axle and rotated by the gear-wheels on the shaft, bevel-wheels in mesh with the bevel-gears on the axle, stud-bearings on the frame-plates for these bevel-gears last mentioned, brackets on these frame-plates, frame-bars supported between these brackets, reciprocating knife-bars supported on these frame-bars and connecting-rods connecting them at their rear edges, one to the bevel-gear on one of the frame-plates, and the other to the bevel-gear on the other frame-plate.

977,570. PROCESS OF ELECTROSTATIC MAGNETIC SEPARATION. HENRY M. SUTTON, WALTER L. STEELE, and EDWIN G. STEELE, Dallas, Tex. Filed Dec. 27, 1906. Serial No. 349,698.



1. The process of treating the particles of a mass for separation which consists in subjecting the same to the action of an electrostatic charge convectively delivered upon said particles and regulated to produce and maintain a polarity upon dielectric particles opposite to that of one electrode while in a magnetic field, and separately collecting the separated particles.

2. The process of treating particles of a mass for separation which consists in producing and maintaining by a convectively delivered electrostatic charge a difference of potential between the particles of material and an electrode while in a magnetic field, and separately collecting the separated particles.

3. The process of separating the particles of a mass which consists in producing and maintaining a difference of potential between the particles of the material and an electrode while in a magnetic field, subsequently depolarizing said particles to release them from said electrode, and separately collecting the separated particles.

4. The process of separating particles of a mass which consists in subjecting the same to an interrupted static charge of one polarity while in a magnetic field, and separately collecting the separated particles.

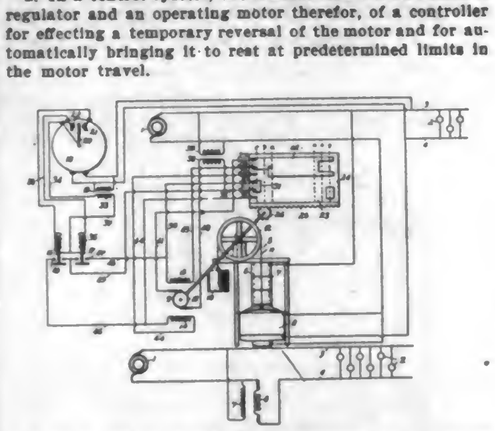
5. The process of separating particles of a mass which consists in subjecting the particles to an interrupted charge of one polarity and in modifying the strength of said charge while the particles are in a magnetic field, and separately collecting the separated particles.

[Claims 6 to 19 not printed in the Gazette.]

977,571. SYSTEM OF ELECTRIC-MOTOR CONTROL. WILBUR H. THOMPSON, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Jan. 5, 1907. Serial No. 350,953.

1. In a control system, the combination with an electric motor, of a single controlling means which is operated by the motor and acts to automatically interrupt its circuit at a predetermined limit in each direction and to supply energy to the motor in a reverse direction and finally to open its circuit.

2. In a control system, the combination with an electric regulator and an operating motor therefor, of a controller for effecting a temporary reversal of the motor and for automatically bringing it to rest at predetermined limits in the motor travel.



3. In a control system, the combination with a driven mechanism that is confined in its motion to predetermined limits, of a driving motor, and a single controlling means which serves to interrupt the supply of energy to the motor and to temporarily reverse the motor when either of said limits is reached.

4. In a regulating system, the combination with a driven mechanism the motion of which is restricted to definite limits, of a driving mechanism therefor, an automatic reversing governor for said driving mechanism, and means independent of the automatic governor for interrupting the supply of energy to the driving mechanism and for temporarily reversing the same at points in its travel which correspond to the limits of the driven mechanism.

5. The combination with an electric regulator comprising stationary and movable coils, a driving motor for said movable coils, and an automatic reversing governor for the motor, of means independent of the automatic governor for interrupting the supply of energy to the motor and for temporarily reversing the motor at predetermined limits in its travel.

[Claims 6 and 7 not printed in the Gazette.]

977,572. TOY. ZOE D. UNDERHILL, Bedford Hills, N. Y. Filed May 31, 1910. Serial No. 564,060.



1. A toy comprising an air-containing box, a receiver sustained within the box but not contiguous to any of the bounding faces thereof, and one or more articles of relatively low specific gravity adapted to sink slowly in the air and confined within the box but free to occupy different positions therein.

2. A toy comprising a box composed of rigid bars united by material through which air may circulate and through

which the interior of the box may be observed from the outside, a receiver sustained within the box, and a plurality of articles of relatively low specific gravity adapted to sink slowly in the air and loosely confined within the box.

3. A toy comprising a cubical-shaped box composed of faces or sides of material through which the contents of the box may be observed and bars at the junction of adjacent faces, a receiver located approximately at the center of the box, means to support the receiver in position, a handle by which the box may be manipulated, and a plurality of articles of relatively low specific gravity loosely confined within the box.

4. A toy apparatus comprising a cubical-shaped box composed of bars at the junction of adjacent faces and netting connecting said bars and forming said faces, cross-bars uniting the bars bounding the bottom face of the box, a handle outside of said box and an upright support within the box, both supported from the cross-bars, and a trough-shaped receiver mounted on said support.

977,573. LATCH FOR MOVABLE GARMENT-SUPPORTS. ANTHONY VANDERVELD, Grand Rapids, Mich., assignor to Grand Rapids Show Case Company, Grand Rapids, Mich, a Corporation of Michigan. Filed Mar. 17, 1910. Serial No. 550,062.



1. In combination with a garment support having a fixed member and a longitudinally movable member, a handle on the movable member provided with a groove, a guide lug on the handle, a rod slidable in the groove and lug and having an outwardly extending end projecting from the groove to engage the hook, a push button on the end of the rod to manually release the end of the rod from the hook and a spring on the rod between the lug and the push button to yieldingly force the same apart.

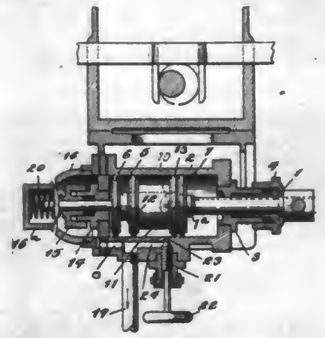
2. In combination with a garment support having a fixed member and a longitudinally movable member therein, a handle on the movable member provided with a vertical groove, a lug on the handle, a rod vertically movable in the lug and groove and having an outwardly bent end projecting from the groove, a hook on the fixed member engaged by the bent end of the rod, a push button on the lower end of the rod, and a pin extending transversely of the groove to guide and limit the rod.

977,574. FLUID-ACTUATED MOTOR. JOHN S. WARD, Chicago, Ill. Filed Nov. 22, 1909. Serial No. 529,465.

1. A motor comprising a cylinder, a piston therein, a piston valve slidable on said piston, and having a space between its ends open to the pressure of the operating fluid, a bypass leading from said cylinder at a point between the ends of said piston valve, and means for regulating the opening through said bypass.

2. A motor comprising a cylinder, a hollow piston movable therein, an exhaust tube communicating with the inside of said piston, a piston valve slidably mounted on said piston and having a space between its ends in communication with the source of operating fluid, an exhaust pipe, two ducts leading to said exhaust pipe, one duct leading from the exhaust tube, and the other duct leading from the inside of the cylinder from a point between the ends of the piston valve, and means for controlling the amount of opening through said last mentioned duct.

3. In a fluid actuated motor, the combination of a cylinder, a bonnet secured to one end thereof, a piston sliding in said cylinder, a piston valve sliding upon said piston, said piston being hollow and having admission and exhaust ports controlled by said valve, an exhaust tube communicating with the inside of said piston and extending through the end of said cylinder into said bonnet, a stuffing box nut surrounding said tube at the end of the cylinder within the bonnet and a coiled spring interposed between said nut and bonnet for preventing the nut from becoming unscrewed.

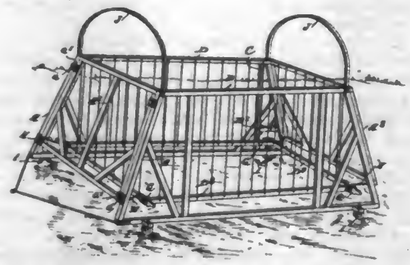


4. In a fluid actuated motor the combination of a cylinder, a hollow piston working therein, a piston valve slidable on said piston, an exhaust tube communicating with the inside of said piston and extending through one end of the cylinder, a stuffing box and nut on the end of the cylinder around said tube, a coiled spring adapted to abut against said nut for preventing the unscrewing thereof and a bonnet adapted to screw onto the end of the cylinder and inclose said tube and nut and also to form an abutment for the outer end of said spring.

5. The combination, with the motor cylinder, hollow piston therein, piston valve, and exhaust tube extending from the piston through the end of the cylinder, of a stuffing nut at the end of the cylinder through which said tube passes, a bonnet screwing onto the end of the cylinder, and a coiled spring fastened to and carried by said bonnet and adapted to abut said stuffing nut for holding it.

[Claims 6 and 7 not printed in the Gazette.]

977,575. STACKING DEVICE. CHESTER FREMONT WAY, Elm Creek, Nebr. Filed Dec. 16, 1909. Serial No. 533,369.



1. A stacking device consisting of a supporting framework, of greater area at its bottom than at its top, and a shaper basket open at its top and bottom suspended within said framework, the lower end of said shaper basket being expansible.

2. A stacking device comprising a framework of greater area at its bottom than at its top, a rectangular shaper basket open at its top and bottom and suspended within said frame, the lower end of said basket being expansible.

3. A stacking device comprising a framework diverging at its bottom, a gate hinged to the rear of said frame and forming its rear end, a shaper-basket open at its top and

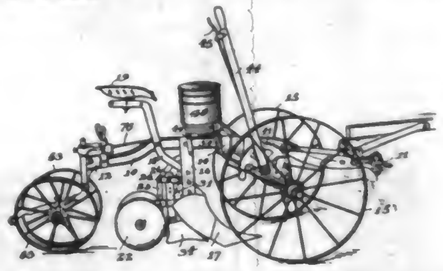
bottom suspended within said frame, and means for detachably securing the corners of the lower end of said basket.

4. A stacking device comprising a framework diverging at its lower end, a shaper-basket open at its top and bottom and suspended within said frame, and arches at the front and rear of said framework.

5. A stacking device comprising a tapering framework, wider at its bottom than at its top, and a rectangular expansible basket open at its top and bottom and suspended within said frame, the lower end of the basket hanging above the lower end of the framework.

[Claims 6 to 8 not printed in the Gazette.]

977,576. LISTER. IRA A. WEAVER, Springfield, Ill., assignor to Racine-Sattley Company, Springfield, Ill., a Corporation of Illinois. Filed Jan. 16, 1908. Serial No. 411,119.



1. In a lister, the combination of a bent axle, carrying wheels on said axle, a rigid beam mounted on said axle, one or more wheels supporting the rear end of said beam, a plow rigidly fastened to said beam, means to swing said axle to elevate or lower said plow, a seed-dropping mechanism, covering means mounted on said beam, and means to elevate and lower said covering means an amount approximately equal to that of the plow and simultaneously with the adjustment of the plow, substantially as described.

2. In a lister, the combination of a bent axle, carrying wheels on said axle, a rigid beam mounted on said axle, one or more wheels supporting the rear end of said beam, a plow rigidly fastened to said beam, means to swing said axle to elevate or lower said plow, a seed-dropping mechanism, a subsoiler or furrow-opener connected to said beam, covering means mounted on said beam, and means to elevate or lower said subsoiler or furrow-opener and said covering means an amount approximately equal to that of the plow and simultaneously with the adjustment of the plow, substantially as described.

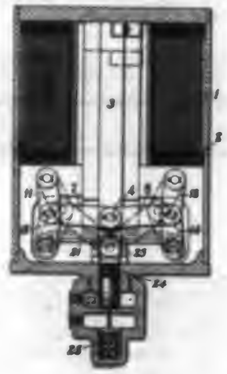
3. In a lister, the combination of a bent axle, carrying wheels on said axle, one or more rear wheels, a rigid beam supported by said carrying and rear wheels and extended from the front of the machine to said rear wheel or wheels, a standard rigidly fastened to said beam, a plow rigidly fastened to said standard, means to swing or shift said axle to elevate or lower said plow, an arm hinged on said standard, a coverer supported by said arm, and means connecting said arm to said axle whereby said coverer will be raised and lowered simultaneously with the similar movement of the plow, substantially as described.

4. In a lister, the combination of a bent axle, carrying wheels on said axle, one or more rear wheels, a rigid beam supported by said carrying and rear wheels and extending from the front of the machine to said rear wheel or wheels, a bearing on said beam accommodating the cranked or off-set portion of said axle, an arm fixed to said axle and extending above said bearing, a standard rigidly fastened to said beam, a plow rigidly secured to said standard, means to swing or shift said axle to elevate or lower said plow, a lever fulcrumed on said standard, a coverer supported by said lever, and means connecting said lever with the arm of said axle whereby to raise and lower said coverer simultaneously with the similar movement of the plow, substantially as described.

5. In a lister, the combination of a bent axle, carrying wheels on said axle, one or more rear wheels, a rigid beam supported by said carrying and rear wheels and extending from the front of the machine to said rear wheel or wheels, a bearing on said beam accommodating the cranked or off-set portion of said axle, an arm rigid with said axle and extending above said bearing, a standard rigidly fastened to said beam, a plow rigidly secured to said standard, means to swing or shift said axle to elevate or lower said plow, a lever fulcrumed on said standard, a subsoiler or furrow-opener supported by said lever, a link connecting said lever with the arm of said bent axle whereby said subsoiler or furrow-opener is raised or lowered simultaneously with a similar movement of the plow, and a seed-dropping mechanism substantially as described.

[Claims 6 to 11 not printed in the Gazette.]

977,577. ELECTROMAGNET. RAGNAR WIKANDER, Edgewood Park, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Aug. 2, 1905. Serial No. 272,402.



1. The combination with a movable armature and an actuating winding therefor, of an operated member, two sets of toggle members, one end of one member of each set being provided with a stationary pivot, a resilient connecting piece between the free ends of the other members and the operated member, and links having pivotal connections to the armature and to the joints of the toggle members.

2. The combination with a movable armature and an actuating winding therefor, of an operated member, sets of toggle members, one end of one member of each set being provided with a stationary pivot, a resilient connecting piece between the free ends of the other toggle members and the operated member, and links having pivotal connection to the armature and to the toggle members.

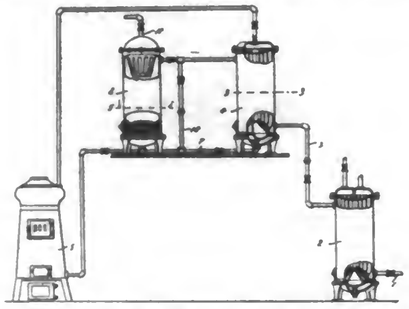
3. The combination with a magnetizable armature and a winding therefor, of a resilient piece, toggle levers and links interposed between the ends of said resilient piece and the armature, and a member that is operated by said resilient piece.

4. The combination with a magnetising winding, and an armature therefor, of a pair of toggle levers, a resilient member which connects together the free ends of said levers, connections between the armature and the joints of the toggle levers, and a load member operated by the resilient member.

5. The combination with a magnetising coil, a movable core or armature therefor, and a load member, of a pair of toggle levers, a pair of links interposed between said core or armature and said toggle levers, and a spring interposed between the toggle levers and the load member.

[Claim 6 not printed in the Gazette.]

977,578. SYSTEM OF PURIFYING FEED-WATER. GEORGE WILKINSON, Philadelphia, Pa., assignor to Wilkinson Water Purifying Company, a Corporation of Delaware. Filed Jan. 4, 1910. Serial No. 536,254.



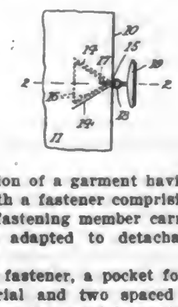
1. In a system of feed-water treatment, an exhaust heater, a precipitator and a separator elevated above said exhaust heater, a boiler on a level with said precipitator, steam circulating devices connecting the precipitator and the boiler to convey live steam from the boiler to the precipitator and back to the boiler, a connection between said exhaust heater and said precipitator, and means whereby water may be conducted either from said precipitator or separator to the return live steam pipe.

2. In a system of feed water treatment, the combination with a boiler, of a precipitator, pipes connecting said precipitator to said boiler, said pipes adapted to conduct live steam to said precipitator and return the condensed steam to the boiler, an exhaust heater, a connection between said exhaust heater and the precipitator, and a separator connected with said return pipe and said precipitator.

3. In a system of feed water treatment, a boiler, a precipitator, steam circulating pipes connecting the precipitator and boiler to convey live steam from the boiler to the precipitator and back to the boiler, feed water supply means for supplying feed water to the precipitator, and means for conducting said water from the precipitator to the return live steam pipe through which said water is conveyed to the boiler.

4. In a system of feed water treatment, a boiler and precipitator, a plurality of pipes connecting said precipitator to said boiler, adapted to conduct live steam to said precipitator and return water of condensation to said boiler, an exhaust heater connected with said precipitator, a separator connected with said precipitator and said return pipe, and a by-pass extending from the connection between said separator and said precipitator to said return pipe.

977,579. GARMENT-FASTENER. MAX F. WOLFF, Baltimore, Md. Filed July 13, 1910. Serial No. 571,684.

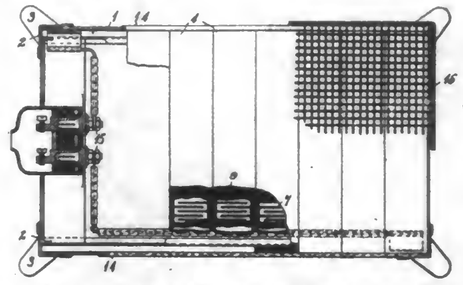


1. The combination of a garment having a pocket with diverging sides, with a fastener comprising a base having diverging sides, a fastening member carried by said base, said pocket being adapted to detachably receive said fastener.

2. In a garment fastener, a pocket formed of a double thickness of material and two spaced diverging seams which extend across said material combined with a flaring base inclosed within said pocket, and a fastening member carried by said base.

3. In a garment fastener, a pocket formed of a double thickness of material and two seams diverging at an acute angle, combined with a triangular base, the sides of which are adapted to engage the diverging seams, and a fastening member carried by the apex of said base.

977,580. ELECTRIC HEATING OR COOKING APPARATUS. THEODORE ABTMEYER, Wilkinsburg, Pa., assignor to Westinghouse Electric and Manufacturing Company, a Corporation of Pennsylvania. Filed May 13, 1909, Serial No. 495,810. Renewed Mar. 21, 1910. Serial No. 550,790.



1. An electric heating device comprising a plurality of resistance units each having a stamped or punched metal envelop and a frame to which said units are secured edge to edge.

2. An electric heating device comprising a frame, a plurality of resistance units secured thereto edge to edge and a box or base into which the frame and the assembled units are fitted.

3. An electric toaster comprising a box or base having supporting feet, a frame having stamped or punched sheet metal side strips, and a plurality of resistance units arranged side by side and each unit secured at its ends to the punched side strips, said frame being fitted into said box or base.

4. An electric toaster comprising a box or base having supporting feet, a frame composed of stamped metal side and end strips, said side strips having a series of longitudinal slots, and a plurality of heater units arranged edge to edge, each of said units comprising a resistance ribbon insulating strips and a punched or stamped sheet metal envelop the ends of which are bent down and folded over the side strips of the frame.

5. An electric toaster comprising a box or base having supporting feet, a frame composed of stamped metal side and end strips, said side strips having a series of longitudinal slots, and a plurality of heater units arranged edge to edge, each of said units comprising a resistance ribbon insulating strips and a punched or stamped sheet metal envelop the ends of which are bent down and folded over the side strips of the frame, said resistance units being adapted to fit into said box or base.

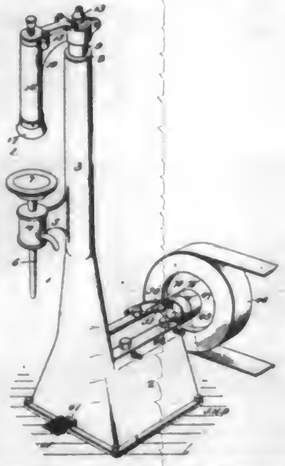
[Claims 6 to 10 not printed in the Gazette.]

977,581. BOTTLE-CAPPING MACHINE. JOHN H. BALTZLEY, Jr., Baltimore, Md., assignor to The King Cork & Seal Company, a Corporation of the District of Columbia. Filed Dec. 22, 1909. Serial No. 534,515.

1. In a bottle capping machine the combination of power operating means, a head operated thereby, bottle capping mechanism mounted in the head, and including a plunger, and a coupling element for coupling and uncoupling the head and the power operating means, said coupling element being in the path of movement of the plunger and adapted to be struck thereby after a cap has been applied to the bottle to effect the uncoupling operation.

2. In a bottle capping machine, the combination of a reciprocating element, a head operated thereby, a coupling device between the head and the reciprocating element

bottle capping mechanism and a plunger mounted in the head, said plunger contacting with the coupling element during the operation of applying a cap to retard its movement with the head and to release the coupling and disconnect the head from the reciprocating element after the cap has been applied.



3. In a bottle capping machine, the combination of a reciprocating power element formed with a notch, a head operated by the reciprocating power element, a coupling element engaging in the notch and provided with a beveled surface, capping mechanism and a plunger mounted in the head, said plunger having a beveled surface in alinement with the beveled surface on the coupling element, and adapted to coöperate therewith to retard the movement of the plunger when moved with the head during the capping operation, and to release the coupling to disconnect the head from the reciprocating power element after the capping operation has been completed.

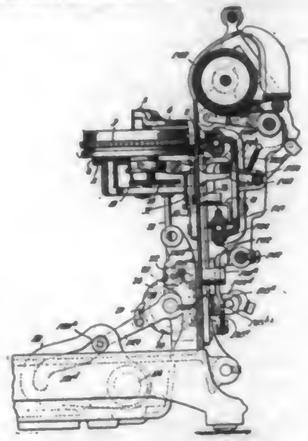
4. In a bottle capping machine, the combination of a head a throat piece mounted in the head, said throat piece having a cylindrical bore with a beveled mouth to crimp the edges of a bottle cap on a bottle and arch the top thereof, and a hammer head operating in the cylindrical bore of the throat piece to flatten the previously arched top of the cap, means for operating the hammer head subsequent to the crimping of the edges of the cap, and mechanism for coöperating with the latter means for stopping the movement of the head toward the bottle after the capping operation is completed.

5. In a bottle capping machine, the combination of power operating mechanism including a reciprocating rod formed with a notch, a head operated by the power operating mechanism, a coupling element engaging the notch and provided with a countersunk opening, capping mechanism mounted in the head and including means for crimping the edges of the cap and means for subsequently flattening the top of the cap, a plunger connected with the means for subsequently flattening the top, said plunger engaging the countersunk opening in the coupling element to withdraw the same from the notch to disconnect the head from the power-operating mechanism after the capping mechanism has completed its operation.

[Claims 6 to 19 not printed in the Gazette.]

977,582. ADDING-MACHINE. EDWARD R. BARRETT, Detroit, Mich., assignor to Burroughs Adding Machine Company, Detroit, Mich., a Corporation of Michigan. Filed Mar. 8, 1907, Serial No. 361,292. Renewed May 31, 1910. Serial No. 564,138.

1. In a machine of the character described, the combination of a laterally shiftable paper carriage, a spring connected therewith for shifting it with provisions in the connections for reversing the direction in which the spring tends to move the carriage, and means for controlling the connections by the carriage to automatically reverse the latter's movement.



2. In a machine of the character described, the combination of a laterally shiftable paper carriage, a motor spring therefor, reversing gear connecting the spring and carriage, and means for controlling the gear by the carriage to automatically reverse the latter's movement.

3. In a machine of the character described, the combination of a laterally shiftable paper carriage having a rack, a gear in mesh with the latter, a motor spring for said gear, reversing gear between the first-named gear and the spring, and means for controlling the reversing gear by the carriage to automatically reverse the latter's movement.

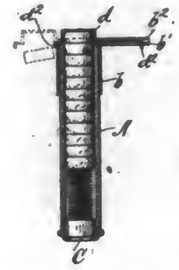
4. In a machine of the character described, the combination of a laterally shiftable paper carriage having a rack, a compound gear wheel one section of which is in mesh with said rack, a transmission gear in mesh with the other section of said compound gear, an intermediate gear in mesh with the transmission gear, a shift gear to alternately mesh with the transmission gear and the intermediate gear, a drum having a hub to which said shift gear is splined, a motor spring engaged at one end with said drum and suitably anchored at the other end, and means for shifting the last-mentioned gear to reverse the movement of the carriage.

5. In a machine of the character described, the combination of a laterally shiftable paper carriage having a rack, a compound gear wheel one section of which is in mesh with said rack, a transmission gear in mesh with the other section of said compound gear, an intermediate gear in mesh with the transmission gear, a shift gear to alternately mesh with the transmission gear and the intermediate gear, a drum having a hub to which said shift gear is splined, a motor spring engaged at one end with said drum and suitably anchored at the other end, and means for automatically shifting the last-mentioned gear to reverse the movement of the carriage.

[Claims 6 to 55 not printed in the Gazette.]

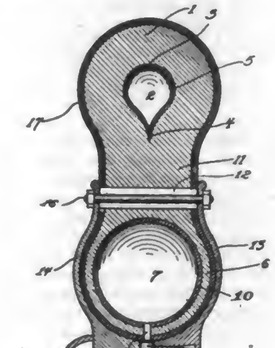
977,583. PHYSICIAN'S TABLET-HOLDER. HARBER C. BEARDSLEY, Lakewood, Ohio. Filed Aug. 4, 1909. Serial No. 511,175.

1. In a physician's tablet holder, the combination of a tube, a stopper for closing one end thereof, a spring resting upon said stopper, a band embracing the delivery end of the tube, an integral lateral plate on said band and extending away from it at one side, bent overhanging flanges forming guide grooves on the lateral edges of said plate, a longitudinal slot in the extension of said plate, with a slide plate mounted in said guide grooves and closing the delivery end of the tube, stops formed at each end of said slide to limit its reciprocation, the rear one of which lies in the said slot of the lateral plate, an outwardly pressed pocket in said slide plate opening inwardly to the tube and adapted to be held in alinement therewith by the front stop or moved laterally therefrom to a plane beyond the tube such movement being limited by the rear stop in said slot.



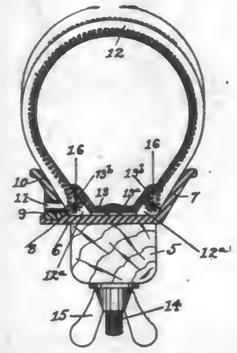
2. In a physician's tablet holder, the combination of a glass tube, a stopper for closing one end thereof and immovably sealed in place, as described, after the tube is charged with tablets, a spring resting upon said stopper, a band embracing the delivery end of the tube and rigidly secured thereon, a lateral plate rigidly secured on said band and extending away from it at one side, overhanging flanges forming guide grooves on the lateral edges of said plate, with a slide plate mounted in said guide grooves and closing the delivery end of the tube, stops formed at each end of said slide to limit its reciprocation, an outwardly pressed pocket in said slide plate opening inwardly to the tube and adapted to be held in alinement therewith by the front one of said stops or moved laterally therefrom to a plane beyond the tube being limited in such movement by the rear one of said stops.

977,584. TIRE. JOSEPH M. BENHAM and GEORGE W. SLATER, Oakland, Cal. Filed June 19, 1909. Serial No. 503,157.



A tire formed in one piece and comprising a pair of opposed substantially circular shaped portions, one portion constituting the tread and having a non-inflatable passageway extending centrally and longitudinally therethrough, the other portion adapted to be engaged by the rim and having an inflatable passageway extending medially in the direction of its length, said passageways being separated by a long neck portion and being equidistant from the peripheries of said circular portions, a lining extending entirely around, and lying contiguous, said circular portions and neck, a pair of clamping jaws surrounding the rim engaging portion and projecting to the lower extremity of said neck, said neck and lining having a transversely disposed slot, and a bolt connected to the terminals of the jaws and projecting through said slot.

977,585. VEHICLE-TIRE. PERCY B. BOSWORTH, Akron, Ohio, assignor to Firestone Tire & Rubber Company, Akron, Ohio, a Corporation of West Virginia. Filed June 9, 1906. Serial No. 320,984.



1. The combination with a rim having a removable side flange and provided in its base with an annular groove lying outside of said removable flange, of an elastic retaining ring transversely severed at one point adapted to be sprung into said groove in the base and to abut against the outer side of said removable flange, and fastening pins passed through said retaining ring and side flange near the meeting ends of the former, substantially as described.

2. The combination with a rim having a removable side flange and provided in its base with an annular groove lying outside of said removable flange, of a hollow tire body seated in said rim, an elastic retaining ring transversely severed at one point adapted to be sprung into said groove in the base and to abut against the outer side of said removable flange, fastening pins passed through said retaining ring and side-flange near the meeting ends of the former, a clamp-ring disposed internally of the tire-body and engaging the side walls of the latter, and means for drawing said clamp-ring toward the rim base substantially as described.

3. The combination of a vehicle wheel rim having a depressed groove near its detaching edge, an inextensible rim flange sliding over the groove onto the rim, a contractible locking ring sprung into the groove, and engaging pin and aperture means connecting the rim flange and locking ring, substantially as described.

4. The combination of a vehicle wheel rim having a depressed groove near its detaching edge, an inextensible rim flange sliding over the groove onto the rim, a split locking ring sprung into the groove, and engaging pins and apertures connecting the locking ring and the rim flange, to hold the locking ring in the groove, substantially as described.

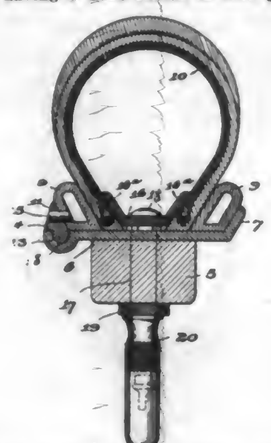
5. The combination of a vehicle wheel rim having a depressed groove near its detaching edge, a rim flange slidable over the groove onto the rim, a split locking ring sprung into the groove, and engaging pins and apertures connecting the locking ring and the rim flange, to hold the locking ring in the groove, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

977,586. FASTENING MEANS FOR VEHICLE-TIRE. PERCY B. BOSWORTH, Akron, Ohio, assignor to Firestone Tire & Rubber Company, Akron, Ohio, a Corporation of West Virginia. Filed Nov. 5, 1906. Serial No. 342,11

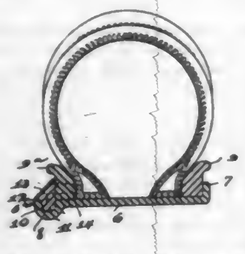
The combination with a rim having an annular groove in one edge portion thereof, and a filler-ring mounted on said rim, of a circumferentially expansible and contract

ble locking-ring engaging the outer side of said filler-ring throughout substantially the full width of the latter, said locking-ring having a bead seated in said groove and a



square annular shoulder resting against the portion of said rim outside of said groove, and pins connecting said locking-ring and filler-ring, substantially as described.

977,587. DETACHABLE FASTENING FOR PNEUMATIC TIRES. PERCY B. BOSWORTH, Akron, Ohio, assignor to Firestone Tire & Rubber Company, Akron, Ohio, a Corporation of West Virginia. Filed Jan. 17, 1907. Serial No. 352,752.

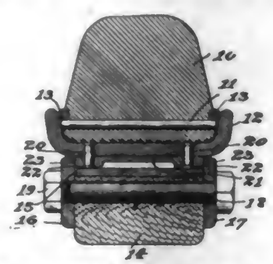


1. The combination with a metallic rim for a vehicle wheel having a retaining means at one of its edges, of an annular holding ring adapted to afford an outer abutment for the base of the tire, and bearing upon said retaining means, a second holding ring, and a locking ring adapted to confine said second holding ring upon the rim, said locking ring being split and having its ends secured to said second holding ring by taper pins, substantially as described.

2. In a construction of the character described, the combination of a vehicle wheel rim having a groove near one edge, a rim flange adapted to be applied to said rim by sliding over said groove, a contractible locking ring adapted to be sprung into the groove and having a laterally-projecting shoulder bearing on the rim outwardly of said groove, and means connecting the rim flange and locking ring adapted to hold the latter in the groove, said means comprising tapered pins and coöperating apertures adapted to receive said pins, substantially as described.

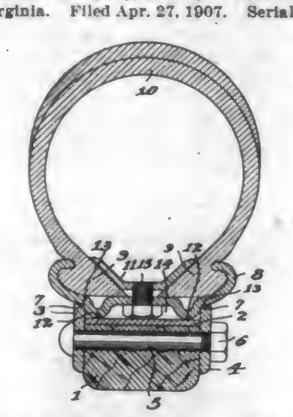
977,588. FASTENING DEVICE FOR VEHICLE-TIRES. PERCY B. BOSWORTH, Akron, Ohio, assignor to Firestone Tire & Rubber Company, Akron, Ohio, a Corporation of West Virginia. Filed Apr. 18, 1907. Serial No. 368,971.

In a device of the character described, the combination of a tire-seating rim, and a wheel-rim having a cylindrical external surface, of a ring secured to the inner periphery of said tire-seating rim, said ring being hollow on the central part of its inner side and having a pair of inwardly-directed transversely-convex ribs with line contacts on said wheel rim, said ring having outer edges substantially flush with the side faces of said wheel-rim,



side flanges projecting radially beyond the sides of said wheel-rim and engaging said opposite edges of said ring, and through-bolts detachably securing at least one of said side flanges to said wheel-rim, substantially as described.

977,589. FASTENING DEVICE FOR VEHICLE-TIRES. PERCY B. BOSWORTH, Akron, Ohio, assignor to Firestone Tire & Rubber Company, Akron, Ohio, a Corporation of West Virginia. Filed Apr. 27, 1907. Serial No. 370,625.

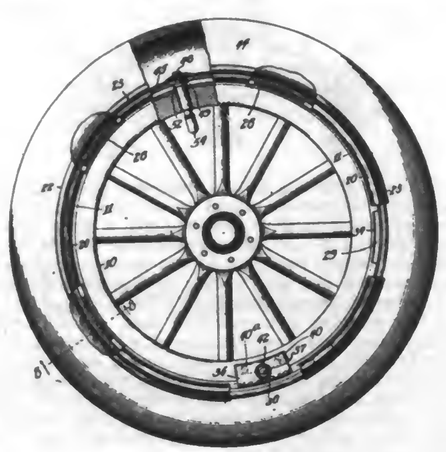


In a vehicle wheel, the combination of a wheel felly, a wheel rim thereon, a demountable tire-seating rim having a pair of internal hollow ribs constituting the bearing portion of said tire rim on the wheel rim, each of said ribs having its bearing face transversely convexed to secure substantial line contacts between the rims, and side flanges, at least one of which is removably secured to the felly, and both of said flanges projecting radially beyond said wheel rim and engaging the adjacent ribs to demountably confine said tire rim on the wheel against lateral displacement, substantially as described.

977,590. VEHICLE-WHEEL RIM. PERCY B. BOSWORTH, Akron, Ohio, assignor to Firestone Tire & Rubber Company, Akron, Ohio, a Corporation of West Virginia. Filed Dec. 24, 1909. Serial No. 534,873.

1. In a device of the character described, the combination of a wheel having a felly with an aperture extended therethrough, a tire rim, means demountably fastening said rim on said felly, a tire clamping member adapted to fit in a tire on said rim, and means in said aperture and projecting inwardly of the wheel beyond the felly adapted to actuate said member, said actuating means being accessible inwardly of the felly for operation when the rim is on the wheel, said actuating means being removable from the felly without manipulation when the tire rim is being demounted from the wheel, substantially as described.

2. In a device of the character described, the combination of a wheel having a felly with an aperture extended therethrough, a tire rim, means for detachably securing a tire to said rim, means demountably fastening said rim on said felly, a tire spreader adapted to fit in a tire on said rim, and means in said aperture and projecting inwardly of the wheel beyond the felly adapted to actuate said spreader, said actuating means being accessible inwardly of the felly for operation when the rim is on the wheel, said actuating means being removable from the felly without manipulation when the tire rim is being demounted from the wheel, substantially as described.



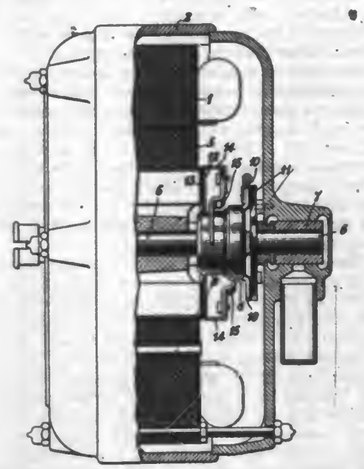
3. In a device of the character described, the combination of a wheel having a felly with an aperture extended therethrough, a tire rim, means demountably fastening said rim on said felly, a tire spreader adapted to fit in a tire on said rim, a threaded stem secured to said spreader and adapted to fit in said aperture, means coöperating with said threaded stem and projecting inwardly of the wheel beyond the felly and adapted to actuate said spreader, said actuating means being accessible inwardly of the felly for operation when the rim is on the wheel, said actuating means being removable from the felly without manipulation when the tire rim is being demounted from the wheel, substantially as described.

4. In a device of the character described, the combination of a wheel having a felly with an aperture extended therethrough, a tire rim, means adapted to detachably secure a tire to said rim, means demountably fastening said rim on said felly, a tire spreader adapted to fit in a tire on said rim, a threaded valve stem secured to said spreader and adapted to fit in the aperture of said felly, means to actuate said spreader including a threaded valve cap projecting inwardly of the wheel beyond the felly and accessible inwardly of the felly for operation when the rim is on the wheel, said valve stem and spreader actuating means being removable from the felly without manipulation when the tire rim is being demounted from the wheel, substantially as described.

5. In a device of the character described, the combination of a wheel having a felly with an aperture extended therethrough, a tire rim, means demountably fastening said rim on said felly, a tire-clamping member adapted to fit in a tire on said rim and having a threaded stem adapted to fit in said aperture, a sleeve on said stem bearing at one end against said tire rim, and a threaded nut on said stem coöperating with said sleeve and projecting inwardly of the wheel beyond the felly, such nut being accessible inwardly of the felly for operation when the rim is on the wheel, said stem, sleeve and nut being removable from the felly without manipulation when the tire rim is being demounted from the wheel, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

977,591. CENTRIFUGAL SWITCH. WALTER J. BRANSON, Wilkinsburg, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Sept. 8, 1908. Serial No. 452,091.



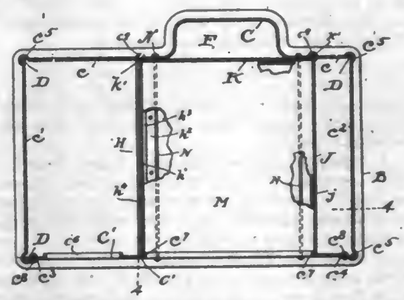
1. A centrifugal switch comprising stationary concen tric terminal cylinders of different lengths, and electri cally connected rotatable brushes that are maintained i engagement with the respective cylinders except when r tated at greater than a predetermined speed.

2. A centrifugal switch comprising stationary concen tric terminal cylinders of different lengths, and electri cally connected rotatable and radially movable brushe that are normally and resiliently maintained in engag ment with the respective cylinders.

3. A centrifugal switch comprising stationary concen tric terminal cylinders, the inner one of which extends b yond the outer, and electrically connected rotatab brushes that are maintained in engagement with the r spective cylinders except when rotated at greater than predetermined speed.

4. In an induction motor, the combination with rel tively rotatable primary and secondary members, main a auxiliary windings for the primary member, stationa concentric rings of different lengths surrounding the sha of the rotatable member and interposed in the circuit the auxiliary winding, and electrically connected brush carried by the rotatable member and maintained respe tively in engagement with the rings except when the mot attains a predetermined speed.

977,592. STEEL STOVE. ADELBERT E. BAONSON, Cleveland, Ohio. Filed Jan. 27, 1908. Serial No. 412,719.



1. The combination of a bottom member having a groo in its top, a body member whose lower edge is seated

said groove and which has at its corners integral outwardly bent tubular columns, a top member having an open center provided with a down turned marginal flange which fits into the top of said body member and which has outside of said flange an outwardly and upwardly curved portion which rests upon the top of said body part, and vertical bolts passing through the outwardly and upwardly curved part of the top member down through said tubular columns and through the bottom member.

2. The combination of a bottom member provided with upward projections, a body member made of two pieces, to wit, (1) one piece forming the back, two sides, two front flanges and integral outwardly bent tubular corner columns, and (2) a front piece bolted to said flanges, said body member resting upon the bottom plate in engagement with said projections, and a top member having an open center bounded by a downwardly turned marginal flange which fits into the top of said body member, and means binding said parts together.

3. The combination of a bottom member provided with upward projections, a body member made of two pieces, to wit, (1) one piece forming the back, two sides, two front flanges and integral outwardly bent tubular corner columns, and (2) a front piece bolted to said flanges, said body member resting upon the bottom plate in engagement with said projections, and a top member having an open center bounded by a downwardly turned marginal flange which fits into the top of said body member, and a vertical bolt passing through said top member and bottom member and through each of said tubular corner columns.

4. A sheet metal stove comprising a top member, a bottom member, and a body member secured between said top and bottom members, said body member comprising a front, back and two ends and having in its back a rearwardly pressed flue pocket and on opposite sides of said flue pocket rearwardly pressed vertical beads, combined with a back oven plate having near its ends rearwardly pressed beads which are fitted into the beads in the back, and end oven plates whose rear edges are fitted into the beads of the back plate, and whose front edges engage with the front member of the body, and top and bottom oven plates, and bolts extending horizontally through the front and back members of the body, and the two upper bolts passing through the oven in engagement with the under side of the top plate thereof.

5. A sheet metal stove comprising a top member, a bottom member, and a body member secured between said top and bottom members, said body member comprising a front, back and two ends and having in its back a rearwardly pressed flue pocket and having in its front an oven opening provided with rearwardly bent marginal flanges, combined with an oven within said stove comprising a back plate which lies against the back plate of the body member spanning said flue pocket, a top oven plate, a bottom oven plate and two end oven plates which four last mentioned oven plates engage with the back oven plate at their rear ends and with the flange around the oven opening at their front ends,—the left oven plate being supported by the bottom member of the stove, and bolts extending through the front and back members of the stove to draw them together, the two upper bolts passing through the oven in engagement with the under side of the top oven plate, whereby they assist in supporting said oven.

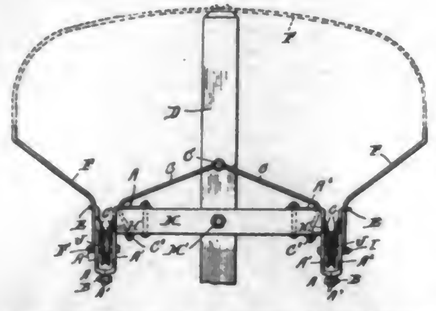
[Claim 6 not printed in the Gazette.]

977,593. CABLE-SUPPORTING PULLEY-BRACKET. WILLIAM T. BUCK, Vliets, Kans. Filed Feb. 23, 1910. Serial No. 545,398.

1. A pulley bracket comprising a frame formed of two sections having a pulley interposed between the same, a cross arm for supporting said bracket and diverging members extending upwardly from the respective sections of said frame, forming a guide for the cable.

2. A pulley bracket comprising a frame formed of two sections each section being provided with outwardly extending lips, a pulley mounted in said frame, under said lips and diverging members extending upwardly from the respective sections of said frame.

3. A pulley bracket comprising a frame carrying a pulley cross arm for supporting said bracket, diverging guide members connected to said frame, and oppositely disposed depending diverging lips, carried by the side bars of said frame, extending over said pulley

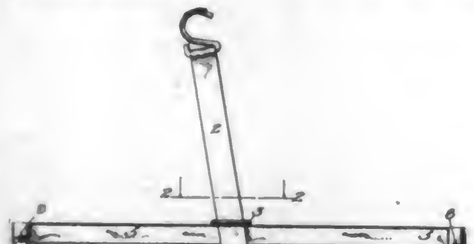


4. The combination with a supporting post carrying a cross arm, of brackets carried by the ends of said cross arm, pulleys mounted in said brackets, a guide member connected to said post and to said bracket, a guide rod extending upwardly from each of said pulley brackets, said guide members diverging forming inclined guide members.

5. A pulley bracket comprising a frame formed of two sections provided with apertured lugs, a bolt passing through said lugs, the side bars of said sections being provided with thickened portions, having outwardly projecting depending and diverging lips, a pulley mounted in said frame under said lips and thickened portions, an inclined guide member connected to the inner section of said frame, and an inclined guide rod connected to the outer section of said frame.

[Claim 6 not printed in the Gazette.]

977,594. TROUSERS-HANGER. MARION H. CAZIER and ALBYN P. DIKE, Chicago, Ill. Filed Dec. 20, 1906. Serial No. 350,009.



1. In a trousers hanger having metallic jaws; the combination therewith of a fabric lining, means for stiffening the said lining and giving it substantially the contour of the jaws, and means for securing said lining and stiffening means to the jaws.

2. In a trousers hanger having arched jaws; the combination therewith of a fabric lining therefor, means independent thereof to conform the fabric to the jaws, and means for securing the same thereto.

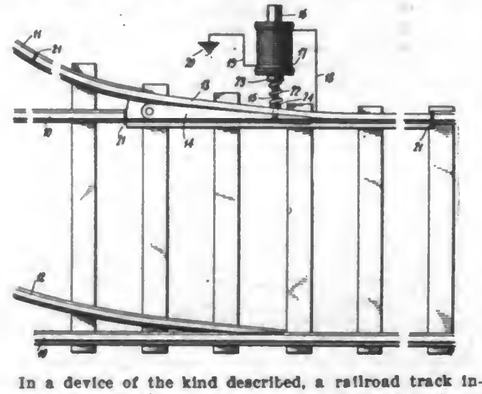
3. In a trousers hanger having metallic jaws; the combination therewith of a fabric lining, a metallic stiffening strip for the lining, and means for securing the said strip and lining to the jaws.

4. In a trousers hanger having metallic jaws; the combination therewith of a fabric covering for the inside thereof, a stiffening strip for said covering, and means for securing the strip to the hanger jaws.

5. In a trousers hanger having arched jaws; the combination of a covering for the inside thereof, a stiffened core within the said covering, and means for securing the core and covering to the hanger jaws.

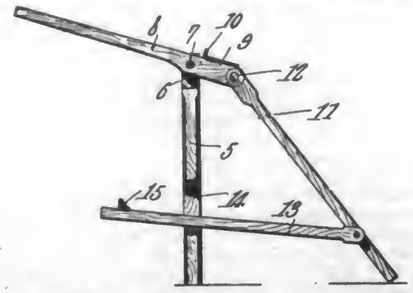
[Claims 6 to 8 not printed in the Gazette.]

977,595. ELECTRICALLY-OPERATED SWITCH. FRANK CHAMNESS and JOHN P. KRIEGBAUM, Huntington, Ind. Filed Oct. 12, 1909. Serial No. 522,281.



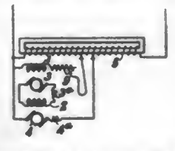
In a device of the kind described, a railroad track including a section containing a switch provided with a pivot tongue, said switch being further provided with a lateral boss having an opening therethrough terminating adjacent the point of the tongue, insulation between said section and the remainder of the track, a solenoid adjacent the track and having an opening therethrough, said solenoid being alined with said boss, a core movable in said solenoid, a link passing through the opening in the boss and having one end pivotally connected to said core and the other end pivotally connected to the switch tongue adjacent its point, a collar on the end of the solenoid core adjacent the link connection, a coil spring surrounding said link and having one end bearing against the boss and the other end bearing against said collar, a wire connecting one end of the solenoid winding with the insulated section, a second wire connecting the other end of the solenoid winding with the ground, and rolling stock supported means adapted for completion of a circuit through the insulated section and solenoid.

977,596. JACK. EDWARD I. CHATWELL, Weatherford, Tex. Filed Mar. 12, 1910. Serial No. 548,837.



A device of the class described comprising a standard, an operating weight supporting lever mounted for rocking movement upon the standard and arranged at one end to support weights to be lifted, a leg pivoted at its upper end to the weight supporting end of the lever and normally extending forwardly and downwardly therebeyond, the leg being of such length as to rest at its lower end upon the surface upon which the standard is disposed, the said standard being formed with a slot, and a foot bar pivoted to the leg near the lower end thereof and extending through said slot, the lower end of the slot constituting a fulcrum for the foot bar, the rear end of the foot bar being depressible.

977,597. SYSTEM OF OPERATION FOR ALTERNATING-CURRENT MOTORS AND GENERATORS. WILLIAM COOPER, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Sept. 3, 1907. Serial No. 391,225.



1. The combination with an alternating current distributing circuit, and a generator connected thereto, of an exciter that supplies the field magnet winding of the generator having its field magnet winding connected to the distributing circuit, and means interposed between the connections to the distributing circuit for adjusting the phase of the current supplied to the circuit with respect to the electromotive force of the circuit.

2. The combination with an alternating current distributing circuit, and a generator connected thereto, of an exciter that supplies the field magnet winding of the generator having its field magnet winding connected to the distributing circuit, and means interposed between the connections to the distributing circuit for causing the current supplied to the circuit to agree approximately in phase with the electromotive force of the circuit.

3. The combination with an alternating current distributing circuit, and a generator connected thereto, of an exciter that supplies the field magnet winding of the generator having its field magnet winding connected to the distributing circuit, and a variable resistance interposed in circuit with one of said field magnet windings for adjusting the phase of the current supplied to the distributing circuit with respect to the electromotive force of the circuit.

4. The combination with an alternating current distributing circuit, and a generator connected thereto, of an exciter that supplies the field magnet winding of the generator having its field magnet winding connected to the distributing circuit, and a resistance interposed in circuit with one of said field magnet windings for causing the current supplied to the distributing circuit to agree approximately in phase with the electromotive force of the circuit.

5. The combination with an alternating current distributing circuit, and a generator that supplies current thereto, an exciter that supplies the field magnet winding of the generator having its field magnet winding connected to the distributing circuit, and means disposed in the circuit of the field magnet winding of the exciter for adjusting the phase of the current supplied to the circuit with respect to the electromotive force of the circuit.

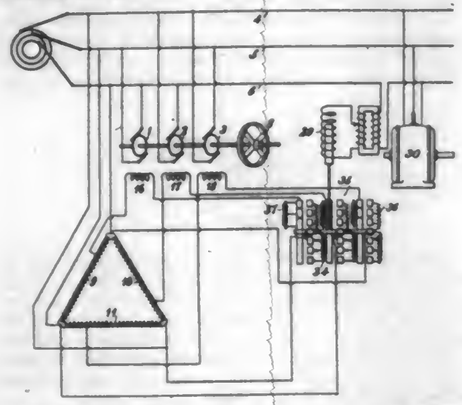
[Claims 6 and 7 not printed in the Gazette.]

977,598. ELECTRICAL EQUALIZER SYSTEM. WILLIAM COOPER, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Sept. 3, 1907, Serial No. 391,224. Renewed May 20, 1910. Serial No. 562,526.

1. The combination with an alternating current distributing circuit, and a dynamo-electric machine adapted to operate either as a motor or as a generator and having its armature connected to said circuit, of means for applying an electromotive force to the field magnet winding, and means for adjusting the phase of said electromotive force in accordance with the variations in the amount of current required from the distributing circuit.

2. The combination with an alternating current distributing circuit, and a dynamo-electric machine adapted t

operate either as a motor or as a generator and having its armature connected to said circuit, of means for applying an electromotive force to the field magnet winding of the machine, and means for adjusting both the phase and value of the said electromotive force in accordance with the variations in the amount of current required from the distributing circuit.



3. The combination with an alternating current distributing circuit, and a dynamo-electric machine adapted to operate either as a motor or as a generator and having its armature connected to said circuit, of means for adjusting both the phase and value of the electromotive force applied to the field magnet winding of the machine in accordance with the variations in the amount of current required from the distributing circuit to cause the current in the armature circuit to agree approximately in phase with the electromotive force of the distributing circuit, whether the machine operates as a motor or as a generator and under substantially all conditions of current load.

4. The combination with an alternating current distributing circuit, and a dynamo-electric machine connected thereto, of means for adjusting the field strength of the machine to cause it to operate as a motor when the current required from the distributing circuit is less than a predetermined amount, and to operate as a generator when the said current is greater than the predetermined amount, and means for adjusting the phase of the electromotive force applied to the field magnet winding.

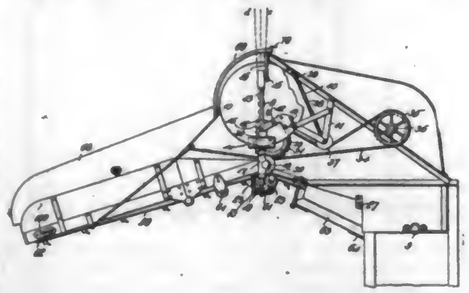
5. The combination with an alternating current distributing circuit, and a dynamo-electric machine connected thereto, of means for causing the machine to operate as a motor when the current required from the distributing circuit is less than a predetermined amount and to operate as a generator when the said current exceeds the predetermined amount, and means for adjusting the phase of the electromotive force applied to the field magnet winding.

[Claims 6 to 22 not printed in the Gazette.]

977,599. SELF-FEEDER AND BAND-CUTTER FOR THRESHING-MACHINES. ROLLIE CRAIN and BENJAMIN CRAIN, Marion, Ill. Filed Feb. 8, 1910. Serial No. 542,676.

1. A speed controlling device for threshing machines comprising a cylindrical frame having heads at its opposite ends, bearing trunnions formed on said heads, a series of tie rods to connect said heads together, a series of guide bars loosely mounted at their opposite ends in said heads, said bars having formed therein a series of guide passages, a series of guide tubes connected with said rods in line with said passages, a rock shaft arranged between said heads, said rock shaft having cranked outer ends pivotally engaged with said heads, a series of retarding fingers revolubly mounted on said shaft and slidably engaged with the guide apertures and sleeves on said guide bars, and an adjusting lever connected with one end of said rock shaft whereby the latter is held in its adjusted position.

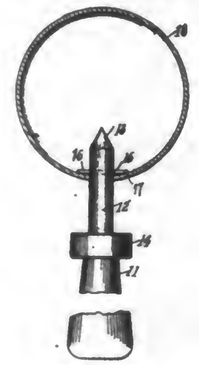
2. In a threshing machine, a revolubly mounted threshing cylinder, a power transmitting shaft operatively connected with said cylinder, a friction drive disk fixedly mounted on said shaft, a pivotally mounted power transmitting shaft, a friction drive gear slidably keyed to said pivoted shaft and adapted to frictionally engage said disk whereby said gear and pivoted shaft are driven, a grain conveyer, a speed regulating mechanism, a driving element to connect said conveyer and speed regulating mechanism with said pivoted shaft whereby said parts are driven, a spring projected tightening device engaged with said driving element, a shaft adjusting mechanism operated by said tightening device whereby when the movement of said speed regulating mechanism is checked by the improper feeding of the grain said shaft will be swung to a position wherein said friction drive gear engages said friction disk at an angle.



3. In a threshing machine, a revolubly mounted threshing cylinder, a power transmitting shaft operatively engaged with said cylinder, an adjustable operating mechanism connected with and driven by said power transmitting shaft and a grain conveyer and a speed controlling device driven by said operating mechanism, said speed controlling device comprising a revolubly mounted cylindrical frame, a series of guide bars loosely mounted in said frame, a rock shaft adjustably mounted in said frame, a series of retarding fingers revolubly mounted on said shaft and slidably engaged with said guide bars whereby when said cylinder is revolved by said operating mechanism said fingers will be successively projected into engagement with the grain being fed by said conveyer whereby the movement of said cylinder is retarded and by said grain when improperly fed by the conveyer, and means actuated by the movement of said cylinder to regulate the operating mechanism driven by said power transmitting shaft, thus controlling the speed of the conveyer.

4. In a threshing machine, a revolubly mounted threshing cylinder, a power transmitting shaft operatively engaged with said cylinder, an adjustable operating mechanism connected and driven by said power transmitting shaft and a grain conveyer and a speed controlling device driven by said operating mechanism, said speed controlling device comprising a cylindrical frame consisting of a pair of heads having formed thereon bearing trunnions revolubly mounted in the frame of the machine, a series of tie rods to connect said heads together, a series of guide bars loosely mounted at their opposite ends in said heads, said bars having formed therein a series of guide passages, a series of guide tubes connected with said rods in line with said passages, a rock shaft arranged between said heads, said rock shaft having cranked outer ends pivotally engaged with said heads, a series of retarding fingers revolubly mounted on sid shaft and slidably engaged with the guide apertures and sleeves on said guide bars, and adjusting lever connected with one end of said rock shaft whereby the latter is held in its adjusted position, a gear fixedly mounted on the trunnion of one of said cylinder heads and engaged by the operating mechanism driven by said power transmitting shaft, and means actuated by said speed regulating device to adjust said operating mechanism whereby the speed of the conveyer is automatically controlled.

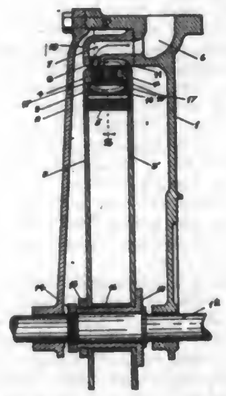
977,600. BALL-PUZZLE. LESTER A. CROZIER, Lynn, Mass. Filed Mar. 22, 1910. Serial No. 550,882.



1. A puzzle comprising a hollow body having an aperture in one side and with oppositely arranged slots communicating with the aperture, a connecting member including a portion adapted to pass through said aperture, and a rod slidable and rotatable in said connecting member with the outer portions bent at right angles to and in opposite directions from the same.

2. A puzzle comprising a hollow body having an aperture in one side and with oppositely arranged slots communicating with the aperture, a connecting member including a portion adapted to pass through said aperture, a stop collar carried by the connecting member and spaced from its free end, and a rod slidable and rotatable in said connecting member with the outer portions bent at right angles to and in opposite directions from the same.

977,601. ELASTIC-FLUID TURBINE. CHARLES W. DAKE, Grand Rapids, Mich. Filed Oct. 6, 1909. Serial No. 521,301.



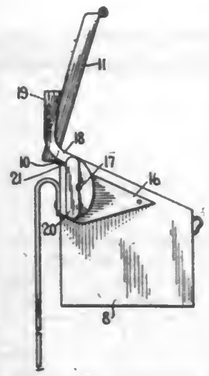
1. In an elastic fluid turbine and in combination with the casing thereof, a double rotor disk, each disk having upon its inner face and near the periphery thereof a series of buckets, means for primarily supplying the elastic fluid radially and tangentially from the exterior to one of such series of buckets and means for conducting such fluid from the interior of the first series of buckets and delivering the same radially and tangentially to the interior of the other series of buckets.

2. In an elastic fluid turbine and in combination with the casing thereof, a rotor carrying internally and near its periphery, two rows of buckets, means for delivering the elastic fluid radially and tangentially to one of such rows of buckets upon one face of such buckets and means for conducting such fluid from the other face of such first row of buckets and delivering the same radially and tangentially to one face of the other row of buckets.

3. In an elastic fluid turbine and in combination with a casing therefor a rotor having an annular opening in the periphery thereof, and a double series of buckets extending axially into such opening, means for supplying the elastic fluid with velocity radially and tangentially to one of such series of buckets and secondary nozzles conveying such steam from one series of buckets and delivering the same radially and tangentially to the other series of buckets.

4. In an elastic fluid turbine and in combination with the casing therefor, a rotor having an annular opening in the periphery thereof, two series of buckets extending axially into such openings, nozzles delivering the elastic fluid to one series of such buckets, secondary nozzles receiving such fluid from the first series of buckets and delivering the same radially and tangentially to the second series of buckets and further secondary nozzles receiving the fluid from such secondary series of buckets and delivering the same in a similar manner to such first series of buckets.

977,602. MAIL-BOX SIGNAL. HARRY P. DAVIS, New Middletown, Ohio. Filed Feb. 23, 1909. Serial No. 479,437.



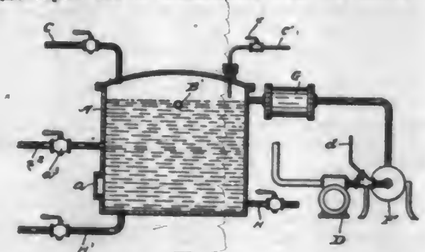
In combination with a mail receptacle having a hinged cover, a signal arm pivoted intermediate its ends to one end of the receptacle and having formed thereon a counterweight which extends longitudinally of said arm on either side of said pivot, a signal blade attached to said arm and extending into the path of movement of the cover, said signal arm being bent so that the signal blade and the counterweight lie upon the same side of the pivot, the disposition of the parts being such that the signal will be automatically raised upon slight raising of the cover of the box, the weight of the signal and the counterweight coöperating to hold the signal in position when either raised or lowered.

977,603. PROCESS OF BREWING BEER OF LOW ALCOHOLIC CONTENTS. HENRY E. DECKEBACH, Cincinnati, Ohio. Filed Apr. 25, 1908. Serial No. 429,136.

1. The process of brewing beer of low alcoholic contents consisting in placing it in a closed tub with its yeast, admitting cooled oxygen under pressure upon its surface, permitting it to ferment, withdrawing the gases from the surface while admitting the oxygen thereto, then after a partial fermentation admitting oxygen at a higher temperature and under pressure to the surface, while carrying the vapors due to fermentation, from the surface.

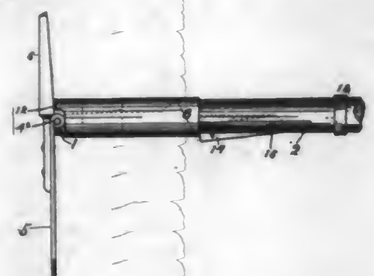
2. The process of brewing beer of low alcoholic contents consisting in placing it in a closed tub with its yeast, admitting cooled oxygen under pressure upon its surface, permitting it to ferment, withdrawing the gases from the surface while admitting the oxygen thereto, then after a

partial fermentation admitting oxygen at a higher temperature and under pressure to the surface, while carrying off the vapors due to fermentation from the surface, and



then after another partial fermentation admitting oxygen of a degree lower than the first and permitting the fermentation to proceed to a full fermentation.

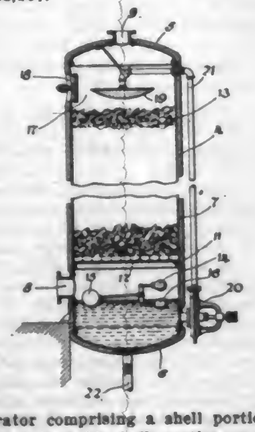
977,604. GARDEN-TOOL. CHARLES WILLIAM DEUSSEN, New York, N. Y. Filed July 17, 1900. Serial No. 508,218.



1. The combination of a garden tool having a tooth disposed perpendicular to the axis of the handle, a rake attachment having a centrally disposed hole which engages the tooth, and means for holding the rake in engagement with the tooth, all substantially as specified.

2. The combination of a garden tool having a tooth secured to the ferrule, a rake head having a centrally disposed hole fitted to the tooth, a sleeve having a slidable engagement with the handle for engaging a lip on the rake head, and means for retaining the sleeve in its normal position, all substantially as shown and specified.

977,605. REGENERATOR. HERBERT H. DOW, Midland, Mich., assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed June 23, 1906. Serial No. 323,107.



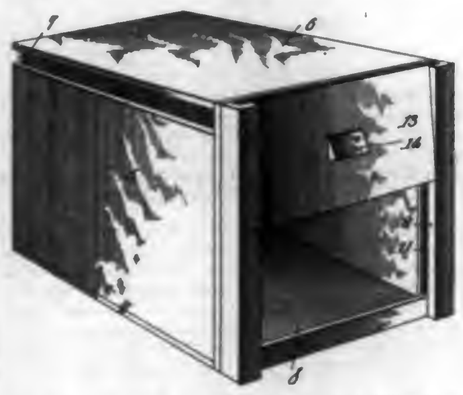
1. A regenerator comprising a shell portion, a porous filling maintained in said shell portion, a steam space located at each end of said filling, a steam admission port communicating with one steam space, and a steam discharge port communicating with the other steam space.

2. A regenerator comprising a shell portion, a coke filling maintained therein, a steam space above said filling, a water reservoir, and means for maintaining a flow of water from said reservoir through said filling.

3. A regenerator comprising a steam space, a porous filling, and means for maintaining a flow of water over said porous filling.

4. A regenerator comprising a steam space, a porous filling for holding segregated portions of water, and means for supplying water to said filling.

977,606. TRAP-NEST. PHILIP HENRY EDWARDS, Colorado Springs, Colo. Filed Nov. 20, 1908. Serial No. 463,654.



1. In a trap nest, a casing including a bottom, a rear, a top, and side walls, and a front wall, said front wall extending from the plane of the top wall to about the middle of the front of the casing, the lower portion of the front of the casing being open, stiles one at each side of the said front, said stiles being formed each with a guide groove gradually widened from the upper end to a point approximately coincident with the lower edge of the front wall whereby to afford a shoulder between the upper and lower ends of the groove, and a door freely slidable at its edges in the groove and adapted to be supported in an inclined position in advance of the front wall with its lower edge resting upon the shoulder in the grooves whereby to expose the open portion of the front of the casing and being further adapted to be engaged by a fowl entering through the open portion of the front and to have its lower edge moved from engagement with the shoulder to allow it to drop to position to close the said open portion of the front.

2. In a trap nest, a casing including a bottom, a rear, a top, and side walls, and a front wall, said front wall extending from the plane of the top wall to about the middle of the front of the casing, the lower portion of the front of the casing being open, stiles one at each side of the said front, said stiles being formed each with a guide groove gradually widened from the upper end to a point approximately coincident with the lower edge of the front wall whereby to afford a shoulder between the upper and lower ends of the groove, and a door freely slidable at its edges in the groove and adapted to be supported in an inclined position in advance of the front wall with its lower edge resting upon the shoulder in the grooves whereby to expose the open portion of the front of the casing and being further adapted to be engaged by a fowl entering through the open portion of the front and to have its lower edge moved from engagement with the shoulder to allow it to drop to position to close the said open portion of the front, the said stiles being formed through their forward faces with openings in a plane with the shoulders.

977,607. ARC-LAMP ELECTRODE. GEORG EGLY, Berlin, Germany, assignor to Gebrüder Siemens & Co., Lichtenberg, near Berlin, Germany. Filed Sept. 9, 1909. Serial No. 516,825.



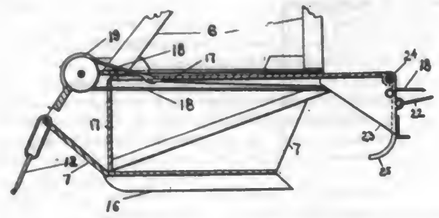
1. An electrode for inclosed flame arc lamps consisting of a plurality of cores containing an illuminating admixture, each of said cores being embedded in a thin carbon shell having a wall of substantially uniform thickness the total cross-sectional area of said shell being uniformly distributed over the whole cross-sectional area of the electrode.

2. An electrode for inclosed flame arc lamps consisting of a plurality of cores containing an illuminating admixture, each of said cores being embedded in a thin carbon shell having a wall of substantially uniform thickness, the shells being arranged and formed symmetrically in the cross-sectional area of the electrode.

3. An electrode for inclosed flame arc lamps consisting of a plurality of cores containing an illuminating admixture, each of said cores being embedded in a thin carbon shell having a wall of substantially uniform thickness, the shells being arranged and formed symmetrically, and forming together a wheel-like cross-sectional area.

4. An electrode for inclosed flame arc lamps consisting of a plurality of cores containing an illuminating admixture, each of said cores being embedded in a thin carbon shell having a wall of substantially uniform thickness, said shells forming together a body of wheel-like cross-sectional area, said shells being interrupted at symmetrical places.

977,608. TELESCOPIC BUCKET. CHARLES A. FRAYER, Toledo, Ohio, assignor to The Vulcan Steam Shovel Company, Toledo, Ohio, a Corporation of Ohio. Filed Jan. 20, 1910. Serial No. 539,048.



1. A bucket comprising a body section, a material expelling section movable through said body section, a guide carried by one of the sections, and a drag line about said guide and connected to the other section to assemble said sections in material retaining position.

2. A bucket comprising relatively movable sections, a guide carried by one of the sections, and a drag line about said guide and connected to a second section to assemble said sections in material retaining position.

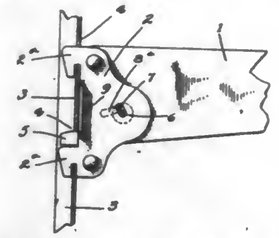
3. A bucket comprising a body section, a material expelling section movable relatively to said body section, a guide carried by one of the sections, and a drag line about said guide and connected to the other section to separate and assemble the sections.

4. A bucket comprising a body section and a material expelling section movable relatively to said body section, in combination with independently operable drums, flexible means from the sections to the drums, said means independently operable by said drums to effect relative travel of the sections, and a guide carried by one of the sections and about which the flexible means to the other section extends.

5. A bucket comprising a body section, a material expelling section, a guide carried by one of the sections, and independently operable flexible means effective to cause relative travel of the sections, said means having a portion extending about said guide.

[Claims 6 to 10 not printed in the Gazette.]

977,609. ADJUSTABLE DETACHABLE BRACKET. WILLIAM F. FREEMAN, Grand Rapids, Mich., assignor to Grand Rapids Show Case Company, Grand Rapids, Mich., a Corporation of Michigan. Filed May 16, 1910. Serial No. 561,591.



1. A bracket comprising a bar having openings, plates having hooks adapted to be inserted in said openings, a bracket arm pivoted between said plates, and a lug 5 on the arm to enter one of said openings and lock the hook therein.

2. A bracket, comprising a bar having openings, plates having hooks to enter said openings, laterally extended flanges on the plates to engage the bar, a bracket arm pivoted between the plates, and a lug on the arm adapted to enter one of said openings and lock the hooks in the openings.

3. A bracket, comprising a bar having openings, plates having hooks to enter said openings, a bracket arm pivoted near its upper angle between the plates, a lug on the arm near the lower angle thereof and projected into one of said openings to lock a hook therein, and means for locking the bracket arm to the plates.

4. A bracket, comprising a bar having openings at intervals therein, plates having hooks to enter said openings, a bracket arm pivoted between the plates near its upper angle, a lug on the arm near its upper angle adapted to enter one of said openings and lock the hook therein, radial slots in the arm and plates, and a slot in the arm extending laterally from the radial slot in the same and a pin slidable in said slots and extending through the plates and arm.

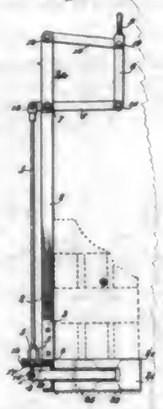
5. A bracket, comprising a bar having a series of openings spaced apart, plates having hooks to enter said openings, laterally projecting flanges on the plates, a bracket arm pivoted between the plates, a lug on the arm to enter one of said openings and lock the hook therein, opposing radial slots in the arm and plates, a lateral slot in the arm communicating with the radial slot in the same, a pin slidable in said slots, and heads on the respective ends of the pin slidably engaging the outer surfaces of said plates.

977,610. DEVICE FOR HANDLING BRICKS. EDWARD J. FRITSCH, Willoughby, Ohio, assignor to The American Clay Machinery Company, Bucyrus, Ohio, a Corporation of Ohio. Filed Oct. 15, 1908. Serial No. 457,840.

1. In a machine for handling bricks, the combination of a vertical frame, a series of lifting bars at the base thereof, clamping plates arranged in connection with said bars, levers pivoted to said plates and to the bars, and means connecting the ends of the levers for simultaneously operating them.

2. In a machine for handling bricks, the combination of a frame having lifting bars adapted to be inserted in the spaces between the individual bricks of a layer, the series of movable clamps operating in conjunction with the lifting fingers, levers pivoted to said clamps, a lever pivoted to the upper end of the frame, means for

operating said lever, and means whereby the motion of the top lever is transmitted to actuate the aforesaid levers which operate the clamps.

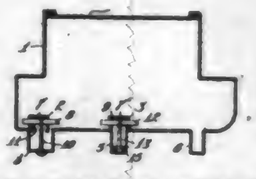


3. In a machine for handling bricks, the combination of a frame having a series of horisontal lifting bars, a series of clamping plates alongside said bars, levers pivoted at one point to said clamping plates and also pivoted to the lifting bars, longitudinal rods connected to the ends of said levers, and means for thrusting said longitudinal bars endwise to actuate the levers.

4. In a machine for handling bricks, the combination of a vertically disposed frame having a series of lifting bars, clamping plates alongside of said bars, levers pivoted to the clamping plates and to the bars, longitudinal rods passing through the ends of the levers, yielding connections between the levers and fixed points on said bars, bell crank levers for actuating said bars endwise, and means whereby said bell cranks are oscillated by the initial lifting movement of the entire machine.

5. In a machine for handling bricks, the combination of a vertically disposed frame having a series of lifting bars, the top lever pivoted to the upper end of the frame, thrust bars connected thereto, bell-cranks to which said thrust bars are pivoted, longitudinal rods pivoted to said bell-cranks, and clamping devices actuated by the movement of the longitudinal rods.

977,611. SHEET-METAL WINDOW. ALEXANDER FROMHOLD, Rutherford, N. J. Filed Apr. 14, 1909. Serial No. 489,794.



1. In a window, a casing frame provided with a stop groove, a stop engaging said groove, and means for adjusting and locking said stop in any position of adjustment comprising an anchor plate slidably mounted in slots formed in the sides of said groove, and a locking bolt extending through said stop into said plate.

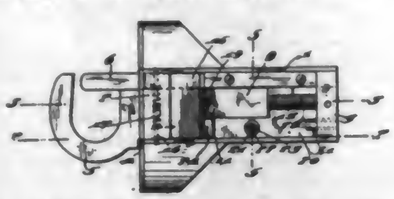
2. In a window, a casing frame provided with a stop groove, a stop engaging said groove, a plurality of anchor plates slidably mounted in slots formed in the sides of the groove, and locking bolts extending through said stop into the respective anchor plates.

3. The combination with a casing frame, provided with a stop groove, of a stop engaging said groove, and means for adjusting and locking said stop in any position of adjustment comprising a laterally movable anchor plate seated in said groove, a locking bolt extending through said stop and engaging said plate.

4. In a window, a casing frame provided with a stop groove, the latter forming an integral rib, a stop engaging said groove and means for locking said stop to the casing comprising an anchor plate movably mounted in said rib and a screw extending through the stop and into said plate.

5. In a window, the combination of a casing frame provided with a stop groove, a stop engaging said groove and having a right angled extension extending into the groove, an anchor plate movably mounted in slots formed in the sides of said groove, and a locking bolt extending through said stop and engaging said plate.

977,612. LOCK FOR UMBRELLAS, CANES, AND THE LIKE. PERRY R. GILBERT, Chambersburg, Pa., assignor of one-half to Stanley R. Gilbert, Washington, D. C. Filed Aug. 19, 1910. Serial No. 578,065.



1. In a lock of the character described, the combination with a casing, of a sliding lock bar projecting therein, means for moving the bar to unlocked position, a block secured on said bar, a hinged catch plate adapted to engage said block and lock the bar in locking position, and a sliding bar mounted on the lock bar and constructed to engage said plate and move it from its locking position, substantially as described.

2. In a lock, the combination with a casing, a locking bar projecting into said casing, and means for moving the bar to unlocked position, of a block fixed to the bar within the casing and having an inclined forward end and a notch in said inclined end, a hinged catch plate adapted to engage in said notch and hold the parts in locking position, and a slide mounted on the locking bar and constructed to move said catch plate out of the notch and release the locking bar, substantially as described.

3. In a lock, the combination with a casing, a locking bar projecting into said casing, and means for moving the bar to unlocked position, of a block fixed to the bar within the casing and having an inclined forward end and a notch in said inclined end, a spring pressing against the rear end of said block and tending to move the locking bar to unlocked position, a spring pressed hinged catch plate adapted to engage the inclined face of the block and move into the notch to hold the block and the locking bar in locked position, and a slide bar mounted on the locking bar and adapted to move said plate out of the notch, substantially as described.

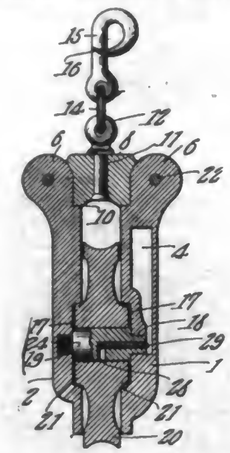
4. In a lock, the combination with a casing and a locking bar projecting into said casing, of a block fixed to the bar within the casing and having an inclined forward end and a notch in said inclined end, a spring pressing against the rear end of said block and tending to move the locking bar to unlocked position, a spring pressed hinged catch plate adapted to engage the inclined face of the block and move into the notch to hold the block and the locking bar in locked position, a slide bar mounted to slide on the locking bar and having an upwardly and rearwardly inclined tongue at its forward end positioned under the catch plate, and a key constructed to move said slide whereby said tongue will elevate the catch plate out of the notch, substantially as described.

5. In a lock, the combination with a casing and a locking bar projecting into said casing, of a block fixed to the bar within the casing and having an inclined forward end and a notch in said inclined end, a spring pressing against the rear end of said block and tending to move the locking bar to unlocked position, a spring pressed hinged

catch plate adapted to engage the inclined face of the block and move into the notch to hold the block and the locking bar in locked position, a slide bar mounted to slide on the locking bar, and having an upwardly and rearwardly inclined tongue at its forward end positioned under the catch plate, and a key constructed to move said slide whereby said tongue will elevate the catch plate out of the notch, said slide bar having a recessed end; and said key having a tongue to enter said recessed end, substantially as described.

[Claim 6 not printed in the Gazette.]

977,613. PULLEY-BLOCK. JOHN E. GILCHRIST, South Bend, Wash. Filed Mar. 23, 1910. Serial No. 551,180.



1. A pulley block consisting of sides, one of which is provided with an interior oil chamber having an inlet adjacent the top of the block; a bearing pin terminally mounted in the sides and having an axial opening communicating with the chamber and extended through the side wall of the pin; and a sheave journaled for rotation upon the pin between the sides.

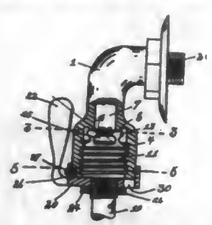
2. A pulley block consisting of separable sides; a top pivoted into one of said sides; a bearing pin terminally threaded to engage the sides; a sheave journaled for rotation upon the pin; and means for connecting the top with the other of said sides.

3. A pulley block consisting of separable sides; a bearing pin terminally threaded to engage the sides; a sheave journaled for rotation upon the pin; the pin being provided with shoulders adapted to prevent the sides from binding against the sheave; a top terminally provided with elements adapted to interlock with the sides; and means for connecting the top with the sides.

4. A pulley block consisting of parallel sides having annular recesses in their adjacent faces, one of the sides being provided with an interior oil chamber having an inlet adjacent the top of the block; a bearing pin terminally threaded to engage the sides in the recessed portions thereof, the pin having an axial opening communicating with the chamber and extended through the side wall of the pin; a sheave journaled for rotation upon the pin and having oppositely disposed bosses adapted to fit closely but anti-frictionally in the recesses, the pin having shoulders to engage the sides to prevent the same from binding upon the sheaves; and a top removably connecting the sides above the sheave.

5. A pulley block consisting of parallel sides, one of which is provided with an interior oil chamber having an inlet adjacent the top of the block; there being a threaded opening in the wall of said side communicating with the chamber adjacent the bottom thereof, and an oppositely disposed threaded opening in the other of said sides; a bearing pin terminally threaded to engage the threaded openings, the pin having an axial opening communicating with the chamber and extended through the side wall of the pin; a sheave journaled for rotation upon the pin; the sides having lateral projections at their upper ends; a top having spaced lugs between which the projections of the sides are adapted to fit; and removable means for uniting the projections with the lugs.

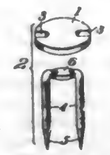
977,614. VALVE. WILLIAM H. GLENN, Hempstead, N. Y. Filed Dec. 20, 1909. Serial No. 534,009.



1. In a device of the character described, the combination of a valve casing having a recess therein and having a headed portion with threads adapted to mount a valve stem, a valve stem having a head with a washer, a lever screw mounted on said valve stem and locked thereon, a handle to turn said lever, a screw mounted in said lever adapted to engage the end walls of said recess in said valve-casing whereby to limit the rotation of said lever, and a duct in said valve-stem whereby to drain the leakage between said valve-casing and said valve-stem, substantially as described.

2. In a device of the character described, the combination of a valve-casing having a recess therein and having a headed portion adapted to form a seat, said headed portion being internally screw threaded and adapted to mount a valve-stem, a valve stem having a duct to drain the leakage between said valve-casing and said valve-stem, a lever screw mounted on said valve-stem, a screw mounted in said lever adapted to engage said recess in said valve-casing, whereby to limit the rotation of said lever, a nut adapted to lock said lever on said valve stem and handle to rotate said lever within the limits allowed by said screw, substantially as described.

977,615. STAPLE FOR ATTACHING BAR-BUTTONS. JOHN H. GOSS, Waterbury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a Corporation of Connecticut. Filed Sept. 3, 1908. Serial No. 451,481.



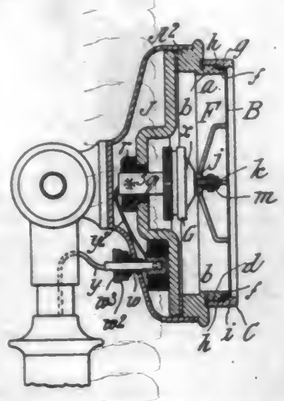
1. A staple for attaching bar buttons and for other purposes, consisting of a disk of metal having a pair of apertures, and a staple proper having prongs and a prong-connecting cross-bar, said prongs passed through the apertures in said disk and its cross-bar embedded in said disk between its apertures by swaging.

2. A staple for attaching bar buttons and for other purposes, comprising a U-shaped staple proper having prongs and a prong-connecting cross-bar, and a metallic disk having a pair of apertures through which the prongs of the staple are passed, said disk being swaged about the prongs and the prong-connecting cross-bar and forming therewith and thereon a symmetrical head in which the cross-bar is flattened and embedded.

3. A button fastener, comprising a flat prongless head formed with a groove in one face and holes extending

through the head within the groove, and a U shaped wire sharpened at its ends and forming parallel legs projecting through the holes in the head and a portion connecting the leg portions flattened and expanded and frictionally held within the groove in the head to fill said groove and form a smooth surface at that side of the head, combined with a button having a hollow shank and a cross bar extending across within said shank and about which the legs of said staple are adapted to be bent in opposite directions.

977,616. TELEPHONE-TRANSMITTER. FELIX GOTTSCHALK, New York, N. Y. Filed Jan. 29, 1910. Serial No. 540,747.



1. In a telephone transmitter, the combination with the casing, having an apertured front, and a resistance cup comprising a front electrode, of a diaphragm, mounted in a stretched condition between and connected with the portion of the casing marginally of its aperture, and provided at its rear side with a member, connected therewith between its vibratory center portion and its casing-engaging marginal portion, and which has a rearwardly converging formation and being by its rear attenuated portion in contact with the front electrode.

2. In a telephone transmitter, in combination, a casing, having a resistance cup therewithin including a front electrode, and said casing having a rib marginally of its aperture, of a diaphragm spanning and completely closing the aperture and extending across the edge of said rib, a ring having a screw-engagement with said annular rib and operative to confine the diaphragm in a taut condition at the front of the casing, and a member connected with and supported by the rear of the diaphragm between its center and supported marginal portion and rearwardly extending therefrom to contact with the front electrode.

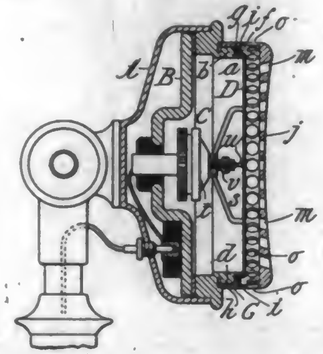
3. In a telephone transmitter, in combination, a casing having a resistance cup therewithin including a front electrode and said casing having a forwardly extending annular rib marginally of its aperture, of a diaphragm spanning the aperture and extending across the front edge of said rib, having a portion rearwardly turned to overlie the periphery of the rib, and having an outturned marginal portion, and a ring having a screw engagement with said annular rib and having a portion to engage the outturned portion of the diaphragm, and a member connected with and supported by the rear of the diaphragm, and in contact with the front electrode.

4. In a telephone transmitter, in combination, a casing, having a circular aperture through its front and provided marginally of said aperture with a forwardly extending annular rib provided circumferentially in the rear portion thereof with screw threads and having a rabbeted forward portion, a diaphragm spanning and closing the aperture in the casing extending across the front edge of said rib having the rearwardly turned portion embracing the rabbeted portion of the rib and having an outturned marginal portion, a confining and tensioning ring internally screw-threaded in its rearward portion and having an intermediate annular shoulder engaging the outturned marginal portion of the diaphragm, and a resistance cup, mounted in the casing, including the front electrode with which the diaphragm has a vibratory coaction.

5. In a telephone transmitter, the combination with a casing having a rib margined aperture through its front and having therewithin a resistance cup including the front electrode, of a diaphragm spanning and completely closing the casing aperture and means for tautening the diaphragm in its engagement with the aperture-margining-rib of the casing, and said diaphragm having a conical shell supported by and connected to its rear side which rearwardly extends to contact with the front electrode, and means for holding said member to such contact.

[Claims 6 to 9 not printed in the Gazette.]

977,617. TELEPHONE-TRANSMITTER. FELIX GOTTSCHALK, New York, N. Y. Filed Feb. 24, 1910. Serial No. 545,670.



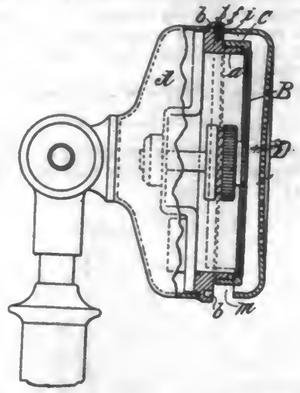
1. A telephone transmitter having in the casing thereof a front opening with a forwardly extending surrounding flange, and having the diaphragm adjacent said opening, and a ring, having at a rear portion thereof a screw engagement with said forwardly extending flange and carrying a foraminous guard wall the location of which is forward of, and across, said opening, and said ring being provided with apertures between its screw engaging portion and said guard wall.

2. A telephone transmitter having in the casing thereof a front opening with a forwardly extending surrounding flange, and having the diaphragm adjacent said opening, and a ring, screw-engaging said forwardly extending flange and carrying a wall, the location of which is forward of, and across, said opening, which has perforations therethrough the lengths of which are in lines convergent toward the axis of the diaphagm.

3. A telephone transmitter having in the casing thereof a front opening with a forwardly extending surrounding flange, and having a diaphragm in front of and marginally extending across the edge of the latter, extended rearwardly about the periphery of the flange, and having an out-turned edge portion, and a ring, having a rearwardly located threaded portion screw engaging the flange and having forward of its threaded portion an internal flange which engages the out-turned edge portion of the diaphragm, and said ring carrying a foraminous wall, having its location forward of and across the diaphragm.

4. A telephone transmitter having in the casing thereof a front opening with a forwardly extending surrounding flange, and having a diaphragm across and adjacent said opening, a ring, screw engaging the flange and having an inwardly extending annular shoulder, and a circular foraminous member marginally overlapping the circular edge of the flange, and confined by said annular shoulder between the latter and the flange edge.

977,618. TELEPHONE-TRANSMITTER. FELIX GOTTSCHALK, New York, N. Y. Original application filed Aug. 11, 1910, Serial No. 576,744. Divided and this application filed Oct. 1, 1910. Serial No. 584,803.



1. In a telephone transmitter, a casing, having in the front thereof an annular groove, and provided with a plurality of pins which cross the groove between the bottom and mouth thereof, and a guard located forward of the diaphragm and provided with an annular flange like rim having recesses extending from its edge, and angularly continued circumferentially of the flange like rim,—the edge portion of the rim of the guard being seated and concealed in said groove and by the angular recessed portions thereof detachably engaging said pins.

2. In a telephone transmitter, a casing having in the front thereof an annular groove and provided with a plurality of pins which cross the groove between the bottom and mouth thereof, and having a screw hole extending from its periphery and transversely entering said groove, a guard located forward of the diaphragm and provided with an annular flange like rim having angular recesses at, and opening to its edge, said rim portion of the guard being seated in said groove and by the angular recessed portions thereof detachably engaging said pins, and said rim portion of the guard having a hole for registry with the screw hole in the casing, and a screw engaged in the said registering holes in the casing and guard.

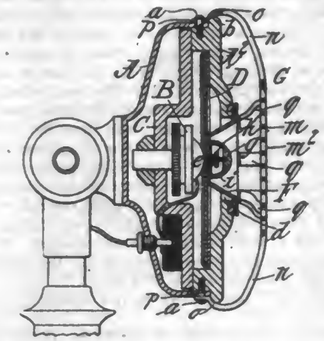
3. In a telephone transmitter, a casing having in the front thereof an annular groove and provided with a plurality of pins which cross the groove between the bottom and mouth thereof, and a guard located forward of the diaphragm provided with an annular flange like rim having angular recesses at and opening to its edge, and provided with an opening at its lower portion, said rim portion of the guard being seated in said groove and by the annular recessed portions thereof detachably engaging said pins.

977,619. TELEPHONE-TRANSMITTER. FELIX GOTTSCHALK, New York, N. Y. Filed Feb. 12, 1910. Serial No. 543,503.

1. The combination with a telephone transmitter casing of a guard consisting of a centralized foraminous member, and radially and rearwardly extending supporting arms, for said member, having eye-formed extremities which are arranged to embrace the casing, and screws engaging through the eyes, and with the casing for the confinement of the guard on the instrument.

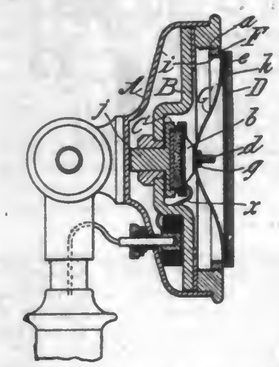
2. A telephone transmitter having an aperture in the front of its casing, with a diaphragm adjacent the aperture, and a guard comprising a centralized foraminous member having its location forward of said aperture, an outwardly and rearwardly extending arm by means of which said member is supported on the casing, and arms extending from the rear portion of the guard in a surrounding relation and in proximity to the apertured front of the casing.

3. A telephone transmitter having an aperture in the front of its casing and a diaphragm adjacent the aperture, and a guard comprising a centralized foraminous member having its location forward of said aperture, means for supporting it externally on the casing, and an annular wall extending rearwardly from the front of the guard to proximity to the apertured front wall.



4. The combination with a telephone transmitter casing having an apertured front, and a diaphragm adjacent the aperture, of a guard supported on the front of the instrument and a plurality of arms terminating in proximity to the margin of the aperture for preventing tampering with the diaphragm and exposed appurtenances thereof.

977,620. TELEPHONE-TRANSMITTER. FELIX GOTTSCHALK, New York, N. Y. Filed Jan. 28, 1910. Serial No. 540,526.



1. In a telephone transmitter, a casing having an apertured front, and a resistance cup, comprising the electrodes, within the casing, a diaphragm located at, and closing, the apertured front of the casing forward of the front electrode, and a shell provided with a flat marginal portion interposed between the diaphragm and front electrode for the transmission therethrough of vibrations from the former to the latter.

2. In a telephone transmitter, a casing having an apertured front, and a resistance cup, comprising the electrodes, within the casing, a diaphragm located at, and closing, the apertured front of the casing forward of the front electrode, and a forwardly opening cup shaped member in contact at its forward portion with the margin of the rear side of the diaphragm, and at its rear portion with the front electrode of the resistance cup.

3. In a telephone transmitter, a casing having an apertured front, and a resistance cup within the casing comprising the electrodes, one thereof having a forwardly projecting stud, a diaphragm located at, and closing, the apertured front of the casing, and a thin walled shell having a perforation in the rear portion thereof and engage

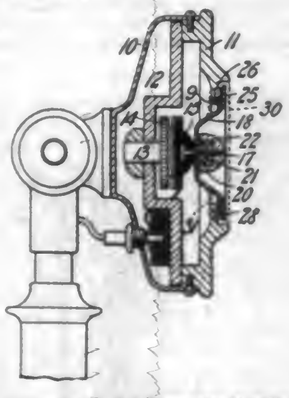
about said stud with such rear portion against the front electrode, and having its forward portion in contact against the margin of the diaphragm.

4. In a telephone transmitter, a casing having an apertured front, and a resistance cup within the casing comprising the electrodes, one thereof having a forwardly projecting stud, a diaphragm located at, and closing, the apertured front of the casing, a thin walled shell having a perforation in the rear portion thereof and engaged about said stud with such rear portion against the front electrode, and having its forward portion in contact against the margin of the diaphragm, and a nut screw engaged on said stud and binding the shell to the front electrode.

5. In a telephone transmitter, the combination with the casing having a comparatively large aperture in its front, and having therewithin the resistance cup comprising the electrodes, of a ring screw-engaged in the apertured front of the casing and having an inwardly extending shoulder-constituting flange, a diaphragm disk restrained against radial and forward displacement by said ring and its shoulder, and a medium between the margin of the diaphragm disk and the front electrode for the transmission of vibrations from the one to the other.

[Claims 6 and 7 not printed in the Gazette.]

977,621. SOUND-REPRODUCING DEVICE. FELIX GOTTSCHALK, New York, N. Y. Filed Oct. 25, 1909. Serial No. 524,385.



1. In an apparatus of the character described, a casing, having an aperture in its front, a resistance cup therein, and a diaphragm of cup-shape having its base or back in proximity to the resistance cup, and having its forwardly extending rim portion in proximity to and free from contact with the margin of said aperture.

2. In an apparatus of the character described, a casing having an aperture in its front, a resistance cup therein, and a diaphragm of cup-shape having its base or back in proximity to the resistance cup, and having its forwardly extending rim portion extending through said aperture and disposed externally of the casing in proximity to and free from contact with the margin of said aperture.

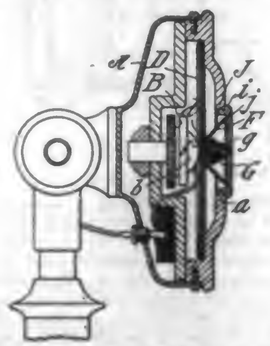
3. In an apparatus of the character described, a casing having an aperture in its front, a resistance cup therein and a diaphragm of cup shape having its base or back in proximity to the resistance cup, having its forwardly extending rim portion extending through said aperture and formed with an outwardly turned flange externally overlapping, and free from contact with the casing at the margin of its aperture.

4. In an apparatus of the character described, a casing, having an aperture in its front, a resistance cup therein, and a diaphragm of cup shape having its base or back in proximity to the resistance cup and having its forwardly extending rim portion in proximity to and free from contact with the margin of said aperture, and means for supporting and confining said cup shaped diaphragm in its relations to said casing and resistance cup.

5. In an apparatus of the character described, a casing having an aperture in its front, and formed rabbeted marginally of said aperture, a resistance cup in the casing, and a diaphragm of cup shape having its base or back in proximity to the resistance cup, having its forwardly extending portion protruding through said aperture and formed with an outwardly turned flange externally overlapping, and disposed within, the rabbeted marginal portion of the casing.

[Claims 6 to 12 not printed in the Gazette.]

977,622. TELEPHONE-TRANSMITTER. FELIX GOTTSCHALK, New York, N. Y. Filed Feb. 25, 1910. Serial No. 545,844.



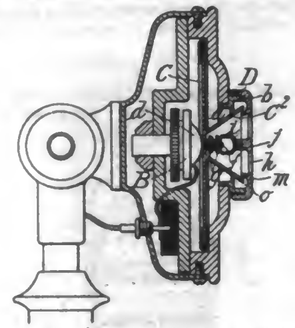
1. A telephone transmitter having an aperture in the front of its casing, the encircling wall of which is screw threaded, and the resistance cup having a forwardly extending stud supported by the front electrode thereof, a forwardly opening cup shaped shell having a perforated back engaged about said stud, a substantially conical member, having therein a screw threaded socket which opens rearwardly, and is closed by the forward attenuated portion of said conical member, and which by its threaded socketed portions screw engages the forward portion of the stud, and a bezel ring screw-engaged in the threaded aperture of the casing and covering the forward circular edge of said shell.

2. A telephone transmitter having an aperture in the front of its casing, and the resistance cup having a forwardly extending screw threaded stud supported by the front electrode thereof, a forwardly opening cup shaped shell having a perforated back engaged about said stud, a nut screwing on the stud and against the back of said shell, a substantially conical member, having therein a screw threaded socket which opens rearwardly, and is closed by the forward attenuated portion of said conical member, and which by its threaded socketed portion screw engages the forward portion of the stud, and which member has its rear portion chambered to receive said nut in an inclosed relation therein, and a bezel ring engaged in the threaded aperture of the casing and covering the forward circular edge of said cup shaped shell.

977,623. TELEPHONE-TRANSMITTER. FELIX GOTTSCHALK, New York, N. Y. Filed Mar. 24, 1910. Serial No. 551,325.

1. A telephone transmitter, having a diaphragm,—between the portion containing the conductor of variable resistance and the apertured front wall of its casing,—which has, as a unitary part thereof, a forwardly extending cup the forward or outer boundary of which projects into proximity with the boundary of said aperture, and comprising portions having spaces between them which extend across the opening at the front of the instrument which leads to the said cup.

2. In a telephone transmitter, the combination with the casing having an apertured front, and the resistance cup, and a diaphragm, and means for securing an engagement between the diaphragm and the resistance cup, of means supported at the front of the casing and extending within the aperture thereof into proximity to, and for covering, the said securing means.



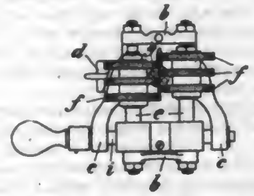
3. In a telephone transmitter, the combination with the casing having an apertured front, and the resistance cup, and a diaphragm having a forwardly extending cup, and means for securing an engagement between the cup provided diaphragm and the resistance cup, of means on the front of the casing for covering and protecting the outer edge portion of said cup and comprising a part which extends into proximity to and for covering the said securing means.

4. In a telephone transmitter, the combination with the casing having an apertured front, and the resistance cup including the front electrode provided with a forwardly extending screw stud and the diaphragm, through and forwardly beyond the central portion of which said stud protrudes, a nut engaging on said stud in front of the diaphragm, and an annular member detachably connected to the front of the casing provided with a part extending from saide to side thereof having a member extending rearwardly into proximity to, and for serving as a covering and guard for, the stud and its engaging nut.

5. In a telephone transmitter, in combination, a casing having an aperture in its front, a resistance cup comprising the front electrode having a forwardly projecting screw-stud, the diaphragm through the central portion of which said stud projects and a nut engaged on said stud in front of the diaphragm, and a member detachably connected on the front of the casing and comprising a portion extending across the aperture in the latter having a rearwardly extending chambered part in proximity to said stud and nut.

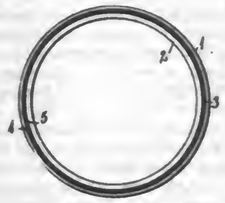
[Claims 6 to 10 not printed in the Gazette.]

977,624. MACHINE FOR SHARPENING KNIVES. HEINRICH AUGUST HERMANN GUHL, Hamburg, Germany. Filed July 23, 1908. Serial No. 445,051.



A sharpening machine comprising a frame composed of a single piece of cast metal provided with upwardly extending parallel arms, lateral arms extending at right angles to the aforesaid arms, parallel shafts journaled in said parallel arms, a series of grinding disks spaced apart on each shaft, a worm wheel fixed on each shaft, a driving shaft journaled in the lateral arms at right angles to and below the parallel shafts, worm wheels on the driving shaft in mesh with the worm wheels on the parallel shafts, straight guide-pins mounted on the frame extending up between the grinding disks and downwardly extending clamping arms fixed on the frame at right angles to each other.

977,625. ELECTRICALLY-HEATED DEVICE. WILLIAM S. HADAWAY, Jr., East Orange, N. J., assignor to Westinghouse Electric and Manufacturing Company, a Corporation of Pennsylvania. Filed May 1, 1909. Serial No. 493,408.



1. An electrically heated roll comprising an outer shell, an inner cylinder having a relatively greater degree of expansibility when heated, and a resistance element interposed between the shell and the cylinder and insulated from each of them.

2. An electrically heated roll comprising an outer shell, a concentric inner cylinder of material having a higher co-efficient of expansion, and a resistance element interposed between the shell and the cylinder and insulated from each.

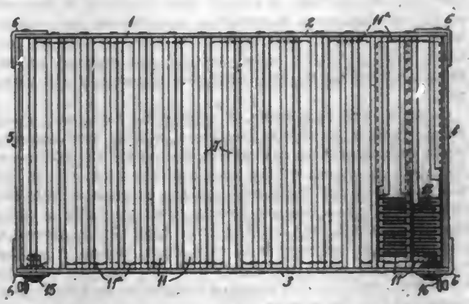
3. An electrically heated device comprising an outer cylinder, a concentric inner cylinder of material having a greater co-efficient of expansion, a resistance element interposed between the cylinders, a relatively thick insulating sleeve separating the resistance from the inner cylinder, and a relatively thin insulating sleeve separating the resistance element from the outer cylinder.

4. An electrically heated device comprising an outer cylinder of iron, a concentric inner cylinder of brass, and a resistance element interposed between the cylinders and insulated from each.

5. An electrically heated roll comprising an outer shell of iron, a concentric inner cylinder of brass, a relatively thick insulating sleeve separating the resistance from the brass cylinder, and a relatively thin insulating sleeve separating the resistance from the iron shell.

[Claim 6 not printed in the Gazette.]

977,626. ELECTRIC TOASTER. WILLIAM S. HADAWAY, Jr., East Orange, N. J., assignor to Westinghouse Electric and Manufacturing Company, a Corporation of Pennsylvania. Filed May 1, 1909, Serial No. 493,410. Renewed Mar. 21, 1910. Serial No. 550,807.



1. A heating device comprising a supporting frame, a plurality of cross bars and sections of resistance ribbon supported only at their edges by, and insulated from, said bars.

2. An electric heater or resistance device comprising a substantially rectangular supporting frame, a plurality o

longitudinally crimped channel shaped cross bars that are supported at their ends by the sides of the supporting frame, and a resistance element supported by, and insulated from, the crimped portions of the cross bars.

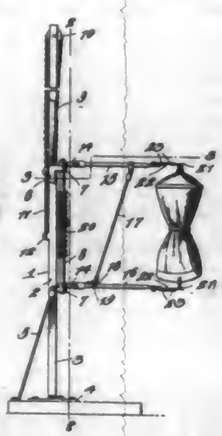
3. An electric heater or resistance device comprising a substantially rectangular supporting frame, a plurality of longitudinally crimped channel shaped cross bars that are supported at their ends by the sides of the supporting frame and a partially exposed resistance element supported by, and insulated from, the crimped portion of the cross bars.

4. An electric heater or resistance device comprising a punched or stamped rectangular supporting frame, a plurality of longitudinally crimped cross bars and a resistance element comprising a resistance strip or ribbon divided into sections and having a series of lateral slots cut alternately from opposite edges to provide a zig-zag path for the electric current, said slotted portions being insulated only at their edges and supported in the crimped portions of the cross bars between which they are disposed.

5. An electric toaster comprising a plurality of heater elements or sections, and a frame having cross bars provided with longitudinal recesses in which the edges of said elements or sections are seated.

[Claim 6 not printed in the Gazette.]

977,627. MAIL-BAG CRANE. PAUL HANSON and SOLLIE MATNEY, Rockford, Wash. Filed Sept. 19, 1910. Serial No. 582,795.

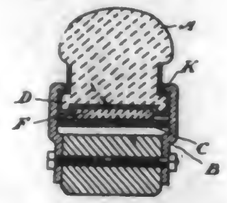


1. A mail bag crane comprising a rigid standard, a carriage slidably mounted thereon, means for raising and lowering the carriage, a rotary shaft mounted in the ends of the carriage and disposed at one side of and parallel with the standard, bag supporting arms carried by said shaft, and a spring coiled around and secured to said shaft and having its ends engaging the side of the standard.

2. In a mail bag crane, a supporting standard, a carriage slidably mounted therein, a raising and lowering chain connected with said carriage whereby the latter may be raised to an out of the way position when not in use, means to lock the chain whereby the carriage is held in a raised position, a bag supporting shaft pivotally mounted on said carriage, bag holding arms hingedly connected to the upper and lower ends of said shaft, means to support said arms in operative position when a bag is engaged therewith, and a coiled spring arranged on said shaft, said spring having its opposite ends engaged with the standard whereby the bag supporting arms are yieldingly held in operative position to support the bag.

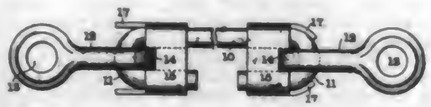
3. In a mail bag crane, a supporting standard, a bag supporting carriage slidably mounted therein, a bag supporting shaft revolubly mounted on said carriage, bag supporting arms hingedly connected to said shaft and adapted to support the bag when engaged therewith, a spring to yieldingly hold said bag supporting arms in operative position, bag engaging hooks arranged on the outer end of said arm, said hooks having shanks bent to form horizontally disposed spring coils whereby the hooks are held in yielding position to engage and support a bag.

977,628. TIRE. HOWARD H. HODGSON, Toronto, Ontario, Canada. Filed July 18, 1910. Serial No. 572,532.



A vehicle tire comprising a fixed recessed rim provided with inwardly extended circular flanges; a rubber tire formed in sections provided with laterally extending flanges fitting under the aforesaid rim flanges; metal sheaths embracing the bases and flanges of said sections and each provided with a depression in its under side; rubber cushions partly received in said depressions; and spring means engaging said cushions to press the rubber tire outwardly.

977,629. BRAKE-ROD JAW. LOUIS A. HOBER, St. Louis, Mo. Filed Aug. 6, 1910. Serial No. 575,873.



1. The combination with a brake rod having an open loop on the end thereof, of a brake rod jaw adapted to link with the said loop, and a retaining member engaging with said loop to hold said jaw against longitudinal movement relative to said rod.

2. The combination with a brake rod having an open loop on the end thereof, of a brake rod jaw adapted to link with said rod, and a retaining member adapted to slide on said loop and hold said jaw against longitudinal movement relative to said rod.

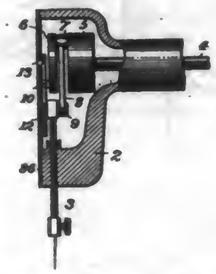
3. The combination with a brake rod having an open loop on the end thereof, of a brake rod jaw adapted to link with said loop, a loop-shaped retaining member surrounding said loop and holding said jaw in position, and means carried by one of the former parts and engaging with the other to secure said retaining member in position to hold said jaw against longitudinal movement relative to said rod.

4. The combination with a brake rod having an open loop on the end thereof, a brake rod jaw adapted to link with said loop, a retaining member engaging said loop and holding said jaw against longitudinal movement, said retaining member being provided with a recess engaging the end of said jaw and preventing movement of the jaw in the place of the loop, and locking means for said retaining member.

5. The combination with a brake rod having an open loop in the end thereof, of a brake rod jaw adapted to link with said loop, a link-shaped retaining member surrounding said loop, said retaining member being provided with a recess engaging the end of said jaw, and locking means carried by said retaining member.

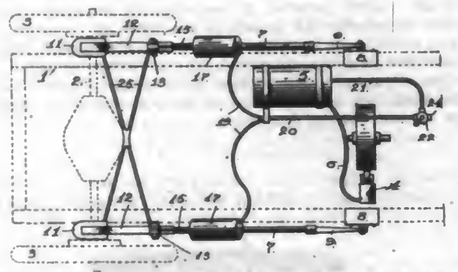
[Claim 6 not printed in the Gazette.]

977,630. TAKE-UP FOR SEWING-MACHINES. RICHARD K. HOHMANN, San Diego, Cal., assignor of one-fourth to Edward Jean Bernhard, Los Angeles, Cal. Original application filed Oct. 10, 1908, Serial No. 457,141. Divided and this application filed Jan. 18, 1909. Serial No. 472,941.



In a sewing machine, the combination with the head of the machine provided with a vertically reciprocating needle bar, of a rotary shaft having secured to its end two separated rotary disks rigidly secured together by a pin near the circumference and the outer disk also carrying on its outer surface a pin near the circumference, a longitudinally slotted take-up arm pivotally supported at one end near the margin of said disks and having one of said pins working in said slot, and a link arm connecting the other pin with said needle bar, the said pins being so related that the take-up will commence its up stroke as the needle goes down.

977,631. BRAKE MECHANISM FOR AUTOMOBILES. JOHN G. HOPPER, San Francisco, Cal. Filed Mar. 3, 1909. Serial No. 481,062.



1. The combination with an automobile of a road brake mechanism comprising a brake lever hinged to the vehicle frame, a brake shoe carried thereby, means for raising and lowering the brake lever including a piston cylinder mounted on the lever and a piston working therein, a pressure reservoir mounted on the vehicle, a connection between the reservoir and the piston cylinder, and means for regulating the pressure from the reservoir to the piston cylinder for placing into action the piston therein.

2. The combination with an automobile of a roadway brake mechanism, the same comprising a brake lever hinged to the frame of the car, a brake shoe carried thereby, a sleeve mounted to slide on the brake lever, a link pivotally connected with a part of the vehicle frame and with said sleeve, a piston cylinder, an air pressure actuated piston working therein, a connection between the piston and said link, a pressure reservoir, connections between said reservoir and the piston cylinder, and means under the control of the operator of the automobile for regulating the pressure from the reservoir to the piston cylinder for placing into action the piston therein.

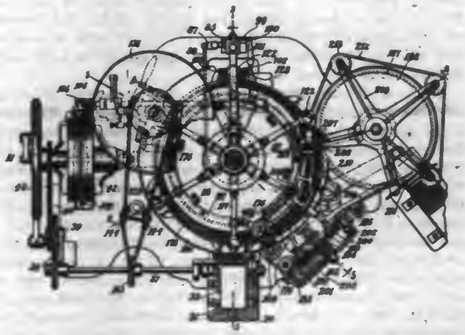
3. The combination with an automobile of a road brake mechanism comprising a brake lever hinged to the vehicle frame, a brake shoe carried thereby, means for raising and lowering the brake lever including a piston cylinder mounted on the lever and a piston working therein, a pressure reservoir mounted on the vehicle, a connection between the reservoir and the piston cylinder, a spring acting against the piston to normally hold the same pressed within the cylinder, and means for regulating the pressure from the reservoir to the piston cylinder for placing into action the piston therein.

4. The combination with an automobile of a road brake mechanism comprising a brake lever hinged to the vehicle frame, a brake shoe carried thereby, means for raising and lowering the brake lever including a piston cylinder mounted on the lever and a piston working therein, a pressure reservoir mounted on the vehicle, a flexible connection between the reservoir and the piston cylinder, and means for regulating the pressure from the reservoir to the piston cylinder for placing into action the piston therein.

5. The combination with an automobile of a roadway brake mechanism, the same comprising a plurality of brake levers hinged to the frame of the machine, link connections between said levers and the rear axle of the machine, a brake shoe carried by each lever, a piston cylinder mounted on each lever, a piston working in each cylinder, connections between the pistons and the links suspended from the rear axle of the machine, mechanism for supplying air under pressure to the said cylinder to actuate the pistons for lowering the brake levers to apply the brake shoes to the surface of the roadway, and means under the control of the operator of the car for controlling the supply of air to the said cylinders.

[Claims 6 and 7 not printed in the Gazette.]

977,632. BAG-FILLING MACHINE. GUY L. HOYT, New York, N. Y., assignor to Robert Gair Company, Brooklyn, N. Y., a Corporation of New York. Filed Nov. 12, 1909. Serial No. 527,724.



1. In a bag-filling machine, the combination of a series of bag-holders, means for automatically and separately grasping the bags and raising them into conjunction with said holders, and means for presenting the bags in succession to said grasping means.

2. In a bag-filling machine, the combination of a horizontally-revolving series of bag-holders, means for grasping the bags individually and automatically drawing them successively up into conjunction with said holders, and means for filling the bags in said holders.

3. In a bag-filling machine, the combination of a horizontally-revolving series of funnels, means for automatically and separately grasping the bags and raising them onto said funnels, and means for presenting the bags in succession to said grasping means.

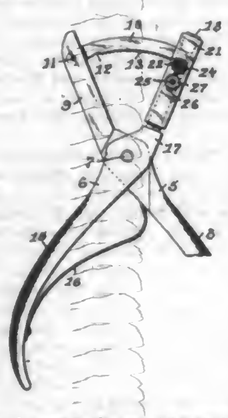
4. In a bag-filling machine, the combination of a bag holder having a pair of upwardly-convergent jaws adapted to externally embrace the side edges of a flat bag to hold the bag open, and means for relatively moving said jaws to open and close them.

5. The combination of a funnel, mechanism for grasping a flat bag and placing it upon the funnel, and means

for externally engaging and contracting the side edges of the bag to open the latter as the bag is advanced upon the funnel.

[Claims 6 to 61 not printed in the Gazette.]

977,633. DENTAL-CROWN SHAPER. FERNANDO OSCAR JAQUES, Jr., Cranston, R. I. Filed Aug. 11, 1910. Serial No. 576,702.



1. In a dental crown shaper, two members operatively secured together, a roll rotatably supported on one of the members, a slide on the roll member, a roll rotatably supported on the slide, means for operating the slide and means for revolving the roll.

2. In a dental crown shaper, two members forming handles and jaws pivotally secured together, a roll rotatably supported on one of the jaws, a slide on the roll jaw, a roll rotatably supported on the slide, and means on the opposite jaw operatively connected with the slide and with the roll on the slide for operating the slide and for revolving the roll on the slide.

3. In a dental crown shaper, two members forming handles and jaws pivotally secured together, a roll rotatably supported on one of the jaws, a slide on the roll jaw, a roll rotatably supported on the slide, means on the opposite jaw operatively connected with the slide and with the roll for moving the slide in one direction and revolving the roll and means for moving the slide in the opposite direction.

4. A dental crown shaper, comprising two members pivotally secured together, one member having a handle and a roll jaw and the other member having a handle and a rack jaw, a roll rotatably supported on the roll jaw, a slide on the roll jaw, a roll shaft extending through an opening in the roll jaw and rotatably supported in the slide, a pinion on the shaft, a roll on the shaft, a rack secured to the rack jaw and extending through an opening in the roll jaw in a position to engage with the pinion on the roll shaft, and means on the rack to operate the slide and revolve the pinion.

5. A dental crown shaper comprising two members pivotally secured together, one member having a handle and a roll jaw and the other member having a handle and a rack jaw, a roll rotatably supported on the roll jaw, a slide on the roll jaw, a roll shaft extending through an opening in the roll jaw and rotatably supported in the slide, a pinion on the roll shaft, a roll on the roll shaft, a toothed rack pivotally secured to the rack jaw and extending through an opening in the roll jaw, in a position to engage with the pinion on the roll shaft, said toothed rack having a notch adjacent its pivot end and an inclined portion adjacent its free end, whereby the slide is moved to bring the roll on the slide toward or into engagement with the roll on the jaw and the roll on the slide is revolved, means for automatically moving the slide in the opposite direction, and means for normally holding the pivot members in the open position.

977,634. CAR-BRAKE. AUGUSTUS F. KLASING, Rome, Ga. Filed July 11, 1910. Serial No. 571,419.



1. A brake operating mechanism comprising a pair of sectors spaced apart, a lever fulcrumed between the sectors, said lever carrying a guiding block adapted to bear against the adjacent sides of the sectors, ratchet teeth formed on top of the sectors, a shaft journaled in the block, a pawl mounted on each end of the shaft, each pawl being adapted to engage the teeth of one ratchet, and connections from the lever to the brake mechanism.

2. A brake operating mechanism comprising a pair of sectors spaced apart, a lever fulcrumed between the sectors, said lever carrying a guiding block adapted to bear against the adjacent sides of the sectors, ratchet teeth formed on top of the sectors, a shaft journaled in the block, a pawl mounted on each end of the shaft, each pawl being adapted to engage the teeth of one ratchet, said lever being provided with an upwardly turned end, and connections extending from the upwardly turned end of the lever to the brake mechanism.

3. A brake operating mechanism comprising a pair of sectors spaced apart, a lever fulcrumed between the sectors, said lever carrying a guiding block adapted to bear against the adjacent sides of the sectors, ratchet teeth formed on top of the sectors, a shaft journaled in the block, a pawl mounted on each end of the shaft, each pawl being adapted to engage the teeth of one ratchet, and connections from the lever to the brake mechanism, said sectors being provided with registering openings in their sides and a pin adapted to be passed through said openings and locked in position for preventing movement of the lever in one direction.

977,635. MEDICATED ARTICLE. ARTHUR B. KLEIN, Covington, Ky. Filed Apr. 10, 1908. Serial No. 426,354.



A cigar comprising the usual filling of tobacco and a wrapper, and a slender medicated body inclosed centrally within the filling of tobacco and terminating a short distance from each end thereof and comprising a medicament in finely divided form inclosed in a combustible wrapper.

977,636. FILE-CABINET. FREDERICK G. KOLLENBERG, Owensboro, Ky. Filed June 2, 1909. Serial No. 499,647.

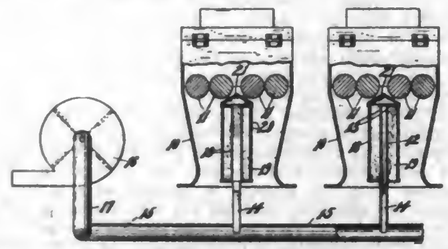


1. In an apparatus for the purpose set forth, the combination of a casing, endless conveyers within said casing, a series of vertically disposed panels carried by said conveyers, means for supporting tickets on the said panels, means for operating the said conveyers comprising an operating shaft projecting forward through the casing, a dial on said shaft, and an index on the casing coöperating with the said dial.

2. In an apparatus for the purpose set forth, the combination of a series of vertically disposed panels, flexible connections between said panels, means for moving the said panels past an opening in the casing, ticket supporting shelves on the panels, and retaining arms on the front sides of the shelves.

3. The combination with a casing, of a series of vertically disposed panels arranged within the casing, means for moving the said panels horizontally within the casing, flexible connections between the adjacent panels, the connection between two of the panels being detachable, and means for holding tickets on the panels.

977,637. ROLLING-MILL. LOUIS KUNDA, South Oshkosh, Wis. Filed Mar. 12, 1910. Serial No. 548,829.



1. In a ventilator for rolling mill casings, a ventilator head having opposite walls spaced a short distance apart with a passageway between them, there being openings in said opposite walls, zigzag frames secured to the ventilator head, a fabric stretched upon said zigzag frames to inclose the openings and to present a maximum surface to the interior of the rolling mill casing, and means for withdrawing air from the ventilator head.

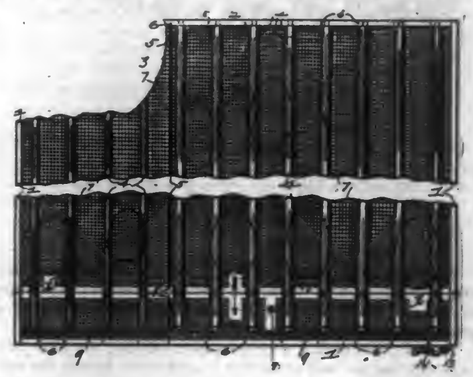
2. In a ventilator for rolling mill casings, a ventilator head comprising opposite walls spaced a short distance apart to occupy a minimum space within the roller mill casing, zigzag frames mounted on the opposite faces of the ventilator head, a covering cloth for the zigzag frames having free fibers on the outside surface thereof to shed the flour from the meshes of the cloth while permitting the moist warm air of the rolling mill casing to pass therethrough, there being openings at the upper ends of the opposite face of the ventilator head to receive the air from the cloth covering, a guard on top of the ventilator head to shed the flour therefrom, a pipe connected with the ventilator head, and a blower having its eyes connected with the pipe.

977,638. EGG-TURNING TRAY FOR INCUBATORS. JOHN KUNZ and FREDRICK C. KUNZ, Middletown, Ohio. Filed Dec. 20, 1906. Serial No. 348,672.

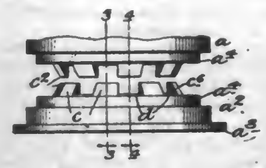
1. In an egg-turning tray for incubators, a suitable frame, a series of removable egg-supporting rollers having sprocket wheels thereon, a driving chain for said rollers engaging said sprocket wheels on the ends of said rollers, and a removable bar below the sprocket chain to maintain it in proper engagement with the wheels.

2. In an egg tray or turner, the combination with a frame, of a series of removable rollers mounted therein, a pointer rigidly attached to one of said rollers, means comprising a series of sprocket wheels attached to said rollers, a chain extending from the roller having the pointer to the sprocket wheels of the remaining rollers, means comprising a dial coöperating with said pointer, and a sight bar movable over said dial to indicate the extent of movement to be given the roller having the pointer.

3. In an egg tray or turner, the combination with a frame, of a series of removable rollers mounted therein, said rollers being of different sizes, a pointer rigidly attached to one of the larger size rollers, means comprising a series of uniform sprocket wheels attached to said rollers, a chain extending from the roller having the pointer to the sprocket wheels of the remaining rollers, means comprising a dial coöperating with said pointer, and a bar having a sight opening therein movable over the face of said dial to indicate the extent of movement to be given the roller having the pointer.



977,639. DIE. MAURICE LACHMAN, New York, N. Y., assignor to Welded Steel Wheel Company, New York, N. Y., a Corporation of New York. Filed Jan. 29, 1910. Serial No. 540,782.

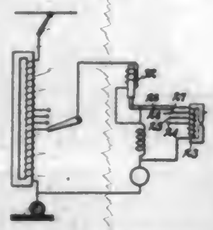


1. A die composed of top and bottom parts, said parts being provided in the adjacent faces thereof with an annulus composed of separate radially arranged and removable blocks, the annulus of each part of the die being provided with an annular groove formed by transverse recesses in said blocks, the said grooves when the separate parts of the die are brought together forming an annular chamber one wall of which is arc-shaped in vertical section.

2. A die comprising top and bottom parts, said parts being provided in the adjacent faces thereof with an annulus composed of radially arranged blocks, the inner ends of the alternate blocks of the annulus in one part of the die overlapping the ends of the corresponding blocks in the annulus of the other part of the die when said parts of the die are brought together and the annulus of each part of the die being provided with an annular groove formed by transverse recesses in said blocks and said annular grooves when the separate parts of the die are brought together forming an annular chamber, one wall of which is arc-shaped in vertical section.

3. A die comprising top and bottom members, provided in their adjacent faces with an annulus composed of radially arranged blocks, the inner ends of the alternate blocks in the annulus of one part of the die being inclined and the inner ends of the corresponding part of the blocks in the annulus of the other part of the die being provided with projections which overlap said inclined ends when the separate parts of the die are brought together, the annulus in each part being provided with an annular groove formed by transverse recesses in the separate blocks of which said annulus is composed and said annular grooves forming when the separate parts of the die are brought together an annular chamber, the inner wall of which is segmental in cross section.

977,640. SYSTEM OF OPERATION FOR DYNAMO-ELECTRIC MACHINES. BENJAMIN G. LAMME, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Mar. 15, 1906. Serial No. 306,217.



1. The combination with a dynamo-electric machine having series-connected armature and field magnet windings, of means for preventing the machine from becoming a generator of direct current.

2. The combination with a dynamo-electric machine having field magnet and armature windings, of means for preventing the machine from becoming a generator of direct current and for maintaining the current that traverses the field magnet winding substantially constant in amount when the machine is operated as a generator of alternating current.

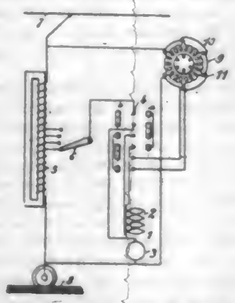
3. The combination with a dynamo-electric machine having field magnet and armature windings, of means for preventing the machine from becoming a generator of direct current and for maintaining the current that traverses the field magnet winding substantially constant in amount and substantially in phase with the current traversing the armature winding when the machine is operated as a generator of alternating current.

4. The combination with a dynamo-electric machine having series-connected field magnet and armature windings, of means for preventing the machine from becoming a generator of direct current and whereby the amount of current that traverses the field magnet winding may be maintained substantially constant when the machine is operated as a generator of alternating current.

5. The combination with a dynamo-electric machine having series-connected field magnet and armature windings, of means for preventing the machine from becoming a generator of direct current, and whereby the amount of current that traverses the field magnet winding may be maintained substantially constant when the machine is operated as a generator of alternating current, and also whereby the field magnetism may be caused to agree approximately in phase with the armature current.

[Claims 6 to 28 not printed in the Gazette.]

977,641. SYSTEM FOR THE OPERATION OF DYNAMO-ELECTRIC MACEINES. BENJAMIN G. LAMME, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Mar. 15, 1906. Serial No. 306,218.



1. The combination with a distributing circuit, and a dynamo-electric machine that may be operated either as a motor or as a generator and is provided with field magnet and armature windings that are arranged in series relation when the machine is operated as a motor, of means for separately exciting the field magnet winding, when the machine is operated as a generator, with current that is out of phase with that of the said distributing circuit.

2. The combination with a dynamo-electric machine that may be operated either as a motor or as a generator and is provided with field magnet and armature windings that are arranged in series relation when the machine is operated as a motor, of means for separately exciting the field magnet winding with current of such phase that the electromotive force phase of the armature may approximate the electromotive force phase of the circuit to which it is connected, when the machine is operated as a generator.

3. The combination with a distributing circuit, and a dynamo-electric machine that may be operated either as a motor or as a generator and is provided with field magnet and armature windings that are arranged in series relation when the machine is operated as a motor, of a source of substantially constant electromotive force of different phase from that of the distributing circuit that is connected to the field magnet winding when the machine is operated as a generator.

4. The combination with a distributing circuit, and a dynamo-electric machine that may be operated either as a motor or as a generator and is provided with field magnet and armature windings that are arranged in series relation when the machine is operated as a motor, of means for separately exciting the field magnet winding with the current of such phase that the electromotive force phase of the armature may approximate the electromotive force phase of the distributing circuit, when the machine is operated as a generator.

5. The combination with a distributing circuit, and a dynamo-electric machine that may be operated either as a motor or as a generator and is provided with field magnet and armature windings that are arranged in series relation for motor operation, of means for deriving from the distributing circuit, and applying the same to the field magnet winding when the machine is operated as a generator, a current of such phase that the electromotive force generated by the machine will be approximately in phase with that of the distributing circuit.

[Claims 6 to 19 not printed in the Gazette.]

977,642. ROPE-BUCKLE. GUSTAF L. LEISNER, Minneapolis, Minn. Filed Jan. 3, 1910. Serial No. 535,999.



A buckle with side bars and ends and provided on one side bar with longitudinally spaced laterally projecting clamping lugs, and a tongue pivoted to the other side bar of said buckle, with its free end adapted to work between said longitudinally spaced clamping lugs, and provided with a laterally projecting clamping shoulder, the said tongue and buckle ends serving to kink a rope in one direction, and the said clamping lugs and clamping shoulder coöperating to pinch the rope in a direction at approximately a right angle to the kink produced by the said tongue and buckle ends, substantially as described.

977,643. OUTLET-BOX. ERNEST R. LE MANQUAIS, Economy, Pa. Filed Sept. 10, 1909. Serial No. 517,023.

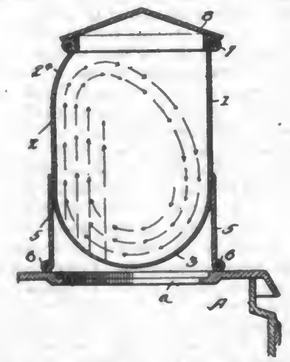


1. An outlet box having a body with a rear portion and a rim therearound, there being threaded orifices in the body, a collar having a flange about one of its ends, there being a slot in the flange which extends through its outer edge, there being a second slot in the flange opposite the first-mentioned slot, which extends through the collar, and screws disposed in the slots which mesh in the threaded orifices in the body.

2. In an outlet box, two sections, each composed of a member and a rim bent about a portion of the edge of the member, the two members abutting to form the back of the box, and the terminals of the two rims abutting, the rims forming the side of a box, a collar having a flange about one of its ends, there being a slot in the flange, which extends through the outer edge, there being a second slot in the flange opposite to the first mentioned slot, which extends through the collar, and screws disposed in the slots, which mesh in threaded orifices in the sections.

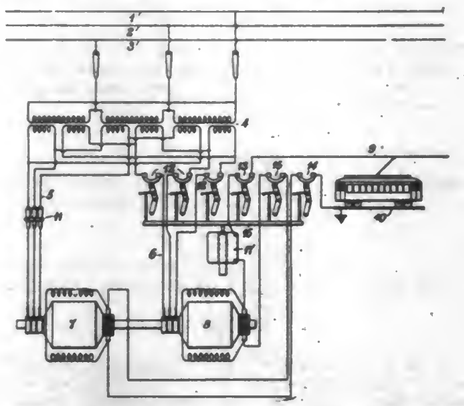
3. In an outlet box, a plurality of sections, each composed of a member and a rim bent around a portion of the edge of the member, the members abutting to form the back of the box, and the terminals of the rims abutting, the rims forming the side of the box, there being markings in the sections which inclose portions which may be readily removed to permit of the insertion of cable holders, a slotted ear on each of the rims, which projects over a neighboring rim, a screw which meshes in a screw thread on each of the rims, the screws being disposed in the slots on the ears respectively, a collar having a flange about one of its ends, ears on the rims having threaded orifices, screws which mesh in the said threaded orifices, there being a slot in the flange which extends through its outer edge, and a second slot in the flange, opposite thereto, which extends through the collar, the last mentioned screws being disposed in the said slots.

977,644. WASHBOILER. LUCY A. LE ROY, Oklahoma, Okla. Filed Feb. 19, 1910. Serial No. 544,762.



In a wash boiler having vertical sides and ends, and a bottom formed semi-cylindrical longitudinally of the vessels, one of the sides having its upper portion curved inwardly, and a supporting casing secured to the sides and ends, the supporting casing being adapted to seat over the opening in a kitchen stove or range and forming pockets or chambers to receive and hold heated air, the side having the curved portion being toward the rear of the stove or range and being heated by radiation from the rear of the stove while the other side, being over the cooler front portion of the stove causes a circulation of water to be set up in the boiler when in use, said circulation consisting of an upward movement of the water along the hotter side having the curved portion, across the boiler caused by the curved portion, downwardly along the cooler front side of the boiler, and then across and along the curved bottom to the place of beginning.

977,645. SYSTEM OF DISTRIBUTION. PAUL M. LINCOLN, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Feb. 3, 1910. Serial No. 541,752.



1. In a system of distribution, the combination with an alternating current circuit, a direct current circuit, and two mechanically coupled rotary converters that are connected in series relation to the direct current circuit and are independently connected to the alternating current circuit, of circuit breakers in the connections of one converter to the alternating current circuit, circuit breakers in the connections of the converters to the direct current circuit, and means for effecting simultaneous opening of all of the said circuit breakers.

2. In a system of distribution, the combination with an alternating current circuit, a direct current circuit, and two mechanically coupled rotary converters that are connected in series relation to the direct current circuit and are independently connected to the alternating current circuit, of circuit breakers in the connections of one converter to the alternating current circuit, circuit breakers in the connections of the converters to the direct current circuit, and means for effecting simultaneous opening of all of the said circuit breakers upon the occurrence of predetermined conditions in the direct current circuit.

3. In a system of distribution, the combination with an alternating current circuit, a direct current circuit, and two mechanically coupled rotary converters that are connected in series relation to the direct current circuit and are independently connected to the alternating current circuit, of circuit breakers in the connections of one converter to the alternating current circuit, circuit breakers in the connections of both converters to the direct current circuit, a circuit breaker in the connection between the converters, and means for effecting simultaneous opening of all of said circuit breakers.

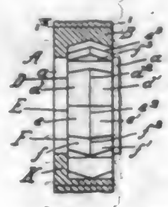
4. In a system of distribution, the combination with an alternating current circuit, a direct current circuit, and two mechanically coupled rotary converters that are connected in series relation to the direct current circuit and are independently connected to the alternating current circuit, of circuit breakers in the connections of one converter to the alternating current circuit, circuit breakers in the connections of the converters to the direct current circuit, a circuit breaker in the connection between the converters, and means for effecting simultaneous opening

of all of the said circuit breakers upon the occurrence of predetermined conditions in the direct current circuit.

5. In a system of distribution, the combination with an alternating current circuit, a direct current circuit having one side grounded, and two mechanically coupled rotary converters that are connected in series relation to the direct current circuit and are independently connected to the alternating current circuit, of circuit breakers in the alternating current circuit connections of the converter that is connected most directly to the ungrounded side of the direct current circuit, circuit breakers in the connections of the converters to the direct current circuit, and means for effecting simultaneous opening of all of said circuit breakers.

[Claims 6 to 9 not printed in the Gazette.]

977,646. CLOSURE-LOCKING MEANS. CARL J. LJUNGGREN, Providence, R. I. Original application filed Sept. 2, 1908, Serial No. 451,444. Divided and this application filed Apr. 4, 1910. Serial No. 553,302.

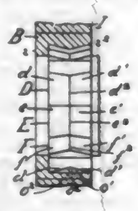


1. In a device of the type set forth, the combination with a stationary member, of a closure body, and a segment upon the body comprising radially graduated stepped portions provided with converging peripheral bearing surfaces.

2. In a device of the type set forth, the combination with a stationary member, of a closure body comprising radially graduated stepped portions, said stepped portions being provided with inclined outwardly converging peripheral bearing surfaces.

3. In a device of the type set forth, the combination with a stationary member, of a closure body comprising radially graduated stepped portions, said stepped portions being provided with peripheral inclined bearing faces converging in lines disposed centrally of the stepped portions.

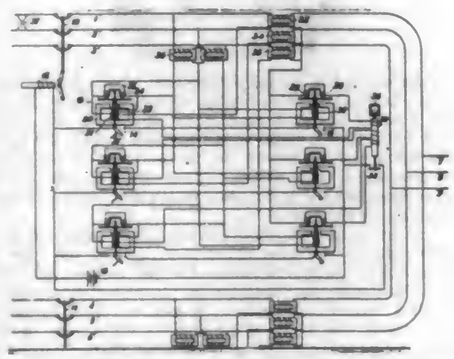
977,647. CLOSURE-LOCKING MEANS. CARL J. LJUNGGREN, Providence, R. I. Original application filed Sept. 2, 1908, Serial No. 451,444. Divided and this application filed Apr. 15, 1910. Serial No. 555,561.



1. In a device of the type set forth, the combination with a stationary member, of a closure body, and a segment upon the body comprising radially graduated stepped portions, said stepped portions being provided with peripheral inclined inwardly converging bearing surfaces.

2. In a device of the type set forth, the combination with a stationary member, of a closure body comprising radially graduated stepped portions, said stepped portions being provided with peripheral inwardly inclined bearing faces converging in lines disposed centrally of the stepped portions.

977,648. MEANS FOR PROTECTING ELECTRICAL CIRCUITS. PAUL MACGAHAN, Wilkinsburg, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., a Corporation of Pennsylvania. Filed Jan. 10, 1908. Serial No. 410,217.



1. The combination with an electrical circuit, circuit-breakers therein, and actuating means for the circuit-breakers, of two switches for controlling the said actuating means, one of which is normally open, means for closing the normally open switch when the circuit is traversed by energy in the reverse of normal direction and by more than a predetermined amount of current, and means for opening the other switch when the circuit is traversed by energy in the normal direction.

2. The combination with an electrical circuit, circuit-breakers therein, and actuating means for the circuit-breakers, of two switches for controlling the said actuating means, means for closing one of the switches when the circuit is traversed by energy in the reverse of normal direction, and means for maintaining the other switch open when the circuit is traversed by energy in the normal direction and for closing it when the circuit is traversed by energy in the reverse of normal direction.

3. The combination with an electrical circuit, circuit-breakers therein, and actuating means for the circuit-breakers, of two switches for controlling the said actuating means, means for closing one of the switches when the circuit is traversed by energy in the reverse of normal direction or by more than a predetermined amount of current, and means for maintaining the other switch open when the circuit is traversed by energy in the normal direction and for closing it when the circuit is traversed by energy in the reverse of normal direction, and a third switch for controlling the circuit-breaker-actuating means that is operated only after the circuit has been traversed by an abnormal amount of current for more than a predetermined length of time.

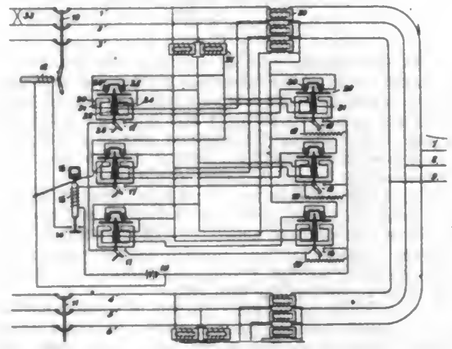
4. The combination with an electrical circuit, circuit-breakers therein, and actuating means for the circuit-breakers, of two switches for controlling the said actuating means one of which is normally open, means for closing the normally open switch when the circuit is traversed by energy in the reverse of normal direction, and means for opening the other switch when the circuit is traversed by energy in the normal direction, and a third switch for controlling the circuit-breaker-actuating means that is operated only after the circuit has been traversed by an abnormal amount of current for more than a predetermined length of time.

5. The combination with an electrical circuit, circuit-breakers therein, and actuating means for the circuit-breakers, of two switches for controlling the said actuating means, means for closing one of the switches only when the circuit is traversed by energy in the reverse of normal direction or by more than a predetemined amount of current, and means for maintaining the other switch open when the circuit is traversed by energy in

the normal direction and for closing it when the circuit is traversed by energy in the reverse of normal condition.

[Claim 6 not printed in the Gazette.]

977,649. PROTECTIVE DEVICE FOR ELECTRICAL CIRCUITS. PAUL MACGAHAN, Wilkinsburg, Pa., assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa., a Corporation of Pennsylvania. Filed Jan. 10, 1908. Serial No. 410,218.



1. The combination with an electrical circuit, circuit-breakers therein, and actuating means for the circuit-breakers, of a switch for controlling the said actuating means, two other switches for controlling the aforesaid switch, a resistance in shunt to one of said other switches, means for closing the unshunted switch when the circuit is traversed by energy in the reverse of normal direction and by more than a predetermined amount of current, and means for holding the shunted switch open when the circuit is traversed by energy in the normal direction.

2. The combination with an electrical circuit, circuit-breakers therein, actuating means for the circuit-breakers, and a switch for controlling the said actuating means, two other switches for controlling the aforesaid switch, and a resistance shunting one of the switches, of means for closing the unshunted switch when the circuit is traversed by energy in the reverse of normal direction and by more than a predetermined amount of current, and means for maintaining the shunted switch open when the circuit is traversed by energy in the normal direction and for closing it when the circuit is traversed by energy in the reverse of normal direction.

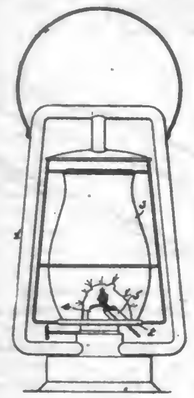
3. The combination with an electrical circuit, a circuit-breaker therein, and actuating means for the circuit-breaker, and a switch for controlling the said actuating means and having a magnet winding, of means for establishing a low-resistance circuit for the said magnet winding when the circuit is traversed by energy in the reverse of normal direction, and for establishing a high-resistance circuit therefor when the circuit is traversed by an abnormal amount of current.

977,650. LANTERN-LIGHTING DEVICE. JAMES P. MALONEY, Elmhurst, Pa. Filed June 8, 1910. Serial No. 565,720.

1. A lighting device for lanterns, comprising a hollow or tubular body member, and a resilient friction member thereon having a hump or turn at one end and the outer end of said hump or turn being secured to one end of said body member whereby the resiliency of said friction member is increased.

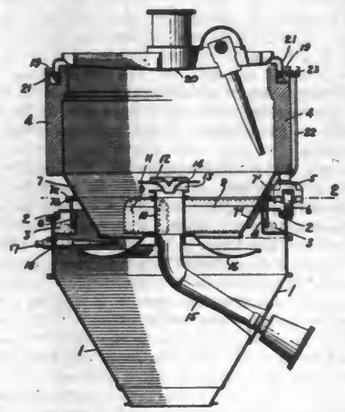
2. A lighting device for lanterns, comprising a body member, and complementary opposing, sinuous or wavy, friction members, each having more than one bend arranged to provide a tortuous passage between them.

3. A lighting device for lanterns, comprising a body member, and opposing sinuous or wavy resilient friction members having humped inner ends secured to the inner



end of said body member, said friction members providing a tortuous passage between them.

977,651. GAS-PRODUCER. WILLIAM B. HUGHES, Cleveland, Ohio. Filed June 11, 1910. Serial No. 566,839.



1. In a gas producer, a revoluble body, a blast box carried by said body, a bottom table carried by said body, and means acting between said body and table for breaking up and removing ashes.

2. In a gas producer, a revoluble body having an ash hopper, an ash table carried by said body beneath said hopper, and a stirring device disposed between said hopper and table.

3. In a gas producer, a revoluble body having an ash hopper, an ash table carried by said body beneath said hopper, and stirring mechanism comprising an adjustable bar disposed between said hopper and table.

4. In a gas producer, a revoluble body, arms carried by said body, and blast mechanism supported by said arms.

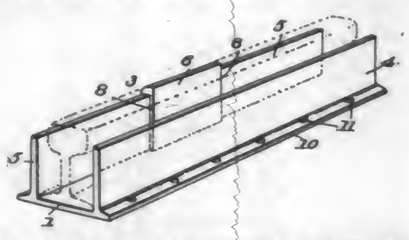
5. In a gas producer, a revoluble body, hollow arms carried by said body, and means supported by said arms whereby blast is introduced to said body.

[Claims 6 and 7 not printed in the Gazette.]

977,652. RAIL-JOINT. WILLIAM F. JOHNSON, Basin, Wyo. Filed Jan. 7, 1910. Serial No. 536,861.

1. A rail chair comprising a base, opposed side members upstanding from the base, one of the side members being divided at longitudinally spaced points to form inter-

mediate and end sections, the intermediate section being rigid and extending inwardly beyond the end sections to provide oppositely and longitudinally facing stop shoulders, the end sections being adapted to be bent inwardly to conform to the contour of a rail.



2. In a rail joint, the combination with the meeting ends of the rails, of a chair comprising a base supporting the rail ends, and opposed side members upstanding from the base on opposite sides of the rail ends, one of the side members being divided at longitudinally spaced points to form end sections and an intermediate section interposed therebetween, the intermediate section constituting a rigid abutment engaging with the rail ends to limit the longitudinal movement thereof in the chair, and the end sections being bent inwardly to conform to the contour of and lie snugly against the adjacent sides of the respective rails.

3. In a rail joint, the combination with the rails formed at one side in their meeting ends with matching recesses, of a chair comprising a base supporting the rail ends, and opposed side members upstanding from the base on opposite sides of the rail ends, one of the side members being divided at longitudinally spaced points to form an intermediate section and end sections, the intermediate section being rigid and being received in the recesses in the rail ends, the end sections being bent inwardly to lie against and conform to the contour of the adjacent sides of the respective rails.

4. In a rail joint, the combination with the meeting ends of the rails formed on one side in their heads and base flanges with matching recesses, of a chair comprising a base supporting the rail ends, and opposed side members upstanding from the base on opposite sides of the rail ends, one of the side members being divided at longitudinally spaced points to form an intermediate section and end sections, the intermediate section extending inwardly beyond the end sections and constituting a rigid abutment spanning the joint and received in the said recesses, the end sections being bent inwardly to lie against and conform to the contour of the respective rail ends.

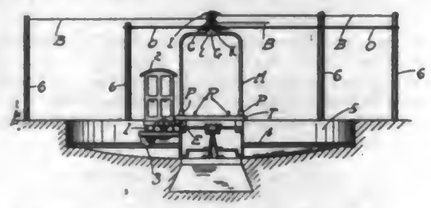
5. In a rail joint, the combination with the meeting ends of the rails, of a chair comprising a base supporting the rail ends, and opposed side members upstanding from the base on opposite sides of the rails, one of the side members being divided at longitudinally spaced points to form an intermediate section and end sections, the intermediate section spanning the joint and having its upper surface flush with the upper surface of the rail ends to afford a continuous tread, the end sections being bent to lie against and conform to the contour of the adjacent sides of the respective rail ends.

[Claim 6 not printed in the Gazette.]

977,653. ELECTRIC COLLECTOR FOR TURN-TABLES. LABAN E. JONES, Anaconda, Mont. Filed Aug. 15, 1910. Serial No. 577,253.

1. In combination with a turntable rotatable about a fixed axis and provided with a hollow staff disposed about said axis and rotatable with the turntable, an electric conductor secured to said staff and rotating therewith, and a fixed feed member located adjacent to the turntable and making rubbing contact with the conductor and supplying a current thereto.

2. In combination with a turntable rotating about a fixed axis, an electrically conducting ring secured to the turntable about said axis and rotating with the turntable, and a fixed feed member making a rubbing contact with the ring and supplying a current thereto, and a conductor for leading the current away from said ring.



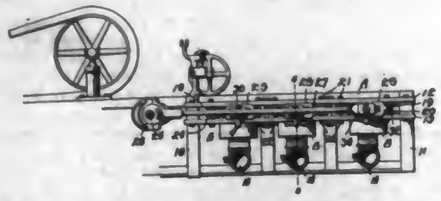
3. In combination with a turntable rotating about a fixed axis, a staff on the turntable provided with a terminal disposed about said axis and rotating with said turntable, a conducting ring anchored to said terminal, and a fixed member looped about the ring and making rubbing contact therewith and feeding a current thereto, and means for leading the current away from said ring.

4. In combination with a turntable rotating about a fixed axis, a metallic ring coupled thereto and insulated therefrom and disposed about the axis of rotation of the turntable, an electric-feed member making rubbing contact with said ring, and a conductor leading from the ring to a suitable point on the turntable.

5. In combination with a turntable, a hollow staff having a terminal disposed about the axis of rotation of said table, a collector-head comprising one or more metal rings coupled to and insulated from said terminal and from one another, means for feeding a current to each of the rings, and means for conducting the current from the rings through the staff to a point on the turntable.

[Claims 6 to 13 not printed in the Gazette.]

977,654. PAPER-MAKING MACHINE. LOUIS F. JURGENSON, Grand Rapids, Minn. Filed Feb. 18, 1910. Serial No. 544,622.



1. In a paper making machine, the combination with a traveling web, of suction apparatus mounted beneath the web, and means for causing a relative movement between the web and the suction apparatus in a direction longitudinal of the direction of movement of the web.

2. In a paper making machine, the combination with a traveling web, of suction apparatus mounted beneath the web, a rotatable shaft, and connections between said rotatable shaft and suction apparatus for effecting a reciprocation of said suction apparatus in a direction longitudinal of the direction of movement of the web during the rotation of said shaft.

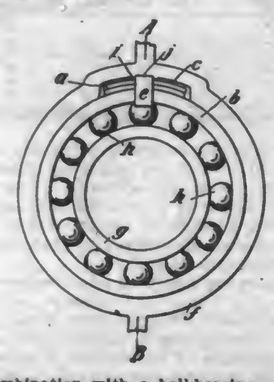
3. In a paper making machine, the combination with a traveling web, of suction apparatus mounted beneath the web and comprising a plurality of corresponding elements and means for simultaneously effecting the reciprocation of adjacent elements of the suction apparatus in opposite directions and longitudinally of the direction of movement of the web.

4. In a paper making machine, the combination with a traveling web, of suction apparatus mounted beneath the web, means for imparting a reciprocating motion to the suction apparatus longitudinally of the direction of movement of the web; and means for shifting the location of the path of travel traversed by the suction apparatus during its reciprocation.

5. In a paper making machine, the combination with a traveling web, of suction apparatus mounted beneath the web and comprising a plurality of corresponding elements, means for imparting a reciprocating motion to each of said elements longitudinally of the direction of movement of the web; and means for shifting the path of travel traversed by each element during its reciprocation.

[Claims 6 to 11 not printed in the Gazette.]

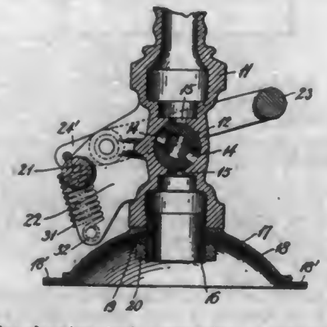
977,655. BALL-BEARING LOCK. ANTON KUNKEL, Arbon, Switzerland, assignor to The Firm of Adolph Saurer Maschinenfabrik, Arbon, Switzerland. Filed May 10, 1910. Serial No. 560,509.



1. The combination with a ball-bearing comprising an outer race ring, of a casing adapted to receive the outer race ring of said ball-bearing and having a recess with a cross channel in its middle, a steel spring adapted to be forced into said recess and to bear close on the outside of said outer race ring, and a hook forced into the cross channel in the recess of said casing and adapted to prevent said steel spring from endwise motion.

2. The combination with a ball-bearing comprising an outer race ring, of a casing adapted to receive the outer race ring of said ball-bearing and having a recess with a transversely recessed projection in its middle, a steel spring adapted to be forced into said recess and to bear close on the outside of said outer race ring, and a hook forced into the transversely recessed projection in the recess of said casing and adapted to prevent said steel spring from endwise motion.

977,656. WASTE-PIPE CLEANER. WILLIAM P. LA ROSE, Hartford, Conn. Filed June 28, 1909. Serial No. 504,670.



1. A pipe-cleaning tool comprising a pressure supply-pipe, a bell attached thereto, and a valve closely connected to said bell and for controlling the admission of fluid pressure thereinto, and means connected with and for operating said valve and for simultaneously forcing said bell against its seat.

2. The combination with a fluid pressure supply pipe and a bell attached thereto, of a valve casing rigidly united to said bell and closely adjacent thereto, a valve between said pipe and said bell, and means for operating said valve and simultaneously forcing said bell against its seat.

3. The combination with a pressure supply pipe, a bell, a valve-casing rigidly connected therewith and closely adjacent thereto, and means carried by said casing for forcing said bell against its seat, of a valve in said casing for controlling the passage of pressure into said bell, and means for operating said valve.

4. The combination with a bell, a valve-casing rigidly connected therewith and closely adjacent thereto, and means for forcing said bell against its seat, of a control-valve in said casing, a device carried by said casing and movable relatively thereto, and means for connecting said device with, and for operating said valve.

5. The combination with a bell, and a valve disposed closely adjacent thereto, of means for forcing said bell against its seat and for simultaneously operating said valve.

[Claims 6 to 9 not printed in the Gazette.]

977,657. TELEPHONE TRANSMISSION SYSTEM. OTTO T. LADEMAN, Milwaukee, Wis. Filed Sept. 2, 1909. Serial No. 515,953.



1. A telephone transmission system comprising a plurality of stations united by a common line circuit, each station having a transmitter, a local battery, a primary winding of an induction coil, said transmitter, local battery and primary winding being adapted for interconnection, a secondary winding of said induction coil bridged across said line circuit, an independent bridge across the line circuit including a receiver, and means for at will increasing the impedance of the receiver bridge.

2. A telephone transmission system comprising a plurality of stations united by a common line circuit, each station having a local transmitter circuit including the primary winding of an induction coil, a secondary winding for said coil bridged across said line circuit, a receiver in an independent bridge across said line circuit, and means for at will increasing the impedance of the receiver bridge.

3. A telephone transmission system comprising a plurality of stations united by a common line circuit, each station having a transmitter, a local battery, a primary winding of an induction coil, said transmitter, local battery and primary winding being adapted for interconnection, a secondary winding of said induction coil bridged across said line circuit, means for increasing the impedance of the receiver circuit and simultaneously closing the local transmitter circuit, and an independent bridge across said line circuit including a receiver.

4. A telephone transmission system comprising a plurality of stations united by a common line circuit, each station having a local transmitter circuit including the primary winding of an induction coil, a secondary winding for said coil bridged across said line circuit, means for increasing the impedance of the receiver circuit and simultaneously closing the local transmitter circuit, and a receiver in an independent bridge across said line circuit.

5. A telephone transmission system comprising a plurality of stations united by a common line circuit, each station having a transmitter, a local battery, a primary winding of an induction coil, said transmitter, local battery and primary winding being adapted for interconnection, a secondary winding of said induction coil bridged across said line circuit, means for decreasing or eliminating the flow of voice currents through said secondary

winding and simultaneously decreasing the impedance of the receiver circuit, and an independent bridge across said line circuit including a receiver.

[Claims 6 to 9 not printed in the Gazette.]

977,658. TELEPHONE DESK-STAND. WILLIAM LEAVER, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 3, 1908. Serial No. 418,943.



1. In a desk stand, the combination with a standard, of a cap for said standard, an opening in the cap having a pair of parallel walls, a cylinder between said walls, and means independent of said parallel walls for holding the cylinder in position, substantially as described.

2. In a desk stand, the combination with a standard and a transmitter case, of a cylinder supporting the transmitter case and a cap supported by the standard, means secured within the cylinder and extending downward within the cap for securing the two together, said means being wholly concealed when the parts are completely assembled, substantially as described.

3. In a desk stand, the combination with a standard, of a cap for said standard having a slot in the top thereof, a transmitter casing having a member fitting within said slot, a pivot, means secured to said member by said pivot to hold said member movable in said slot, said pivot being wholly inside of said cap.

4. In a desk stand, the combination with a transmitter case, of a supporting member therefor having a curved face, a standard, a cap for said standard having a shoulder against which said curved face abuts, and a spring for holding the face and shoulder in frictional relation, substantially as described.

5. In a desk stand, the combination with a standard, of a slotted cap therefor, a cylindrical transmitter support, a pivot, means secured to said support by said pivot to hold said support movable in said slot in the said cap, said pivot being wholly inside of the said cap.

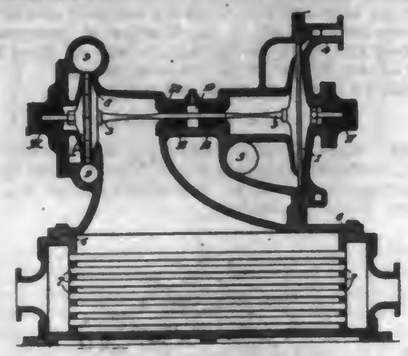
[Claims 6 to 16 not printed in the Gazette.]

977,659. REFRIGERATING-MACHINE. MAURICE LEBLANC, Paris, France, assignor to Societe Anonyme pour l'Exploitation des Procedes Westinghouse-Leblanc, Paris, France. Filed Feb. 24, 1904. Serial No. 195,009.

1. In a refrigerating apparatus, an expansion chamber, a vacuum pump communicating therewith, and auxiliary means, controlled by the pressure within said chamber, for discharging fluid therefrom.

2. In a refrigerating apparatus, an expansion chamber, a vapor delivery means therefor, an auxiliary vacuum creating agent communicating with said chamber, a valve between said agent and said chamber, and means, dependent on the pressure within said chamber, for controlling the operation of said valve.

3. In a refrigerating apparatus, an expansion chamber, a vapor delivery means therefor, an auxiliary vacuum creating agent communicating with said chamber and means, sensitive to pressure within said chamber, for establishing communication between said chamber and said auxiliary agent.

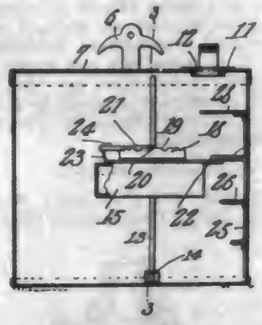


4. In a refrigerating apparatus, a turbine, an exhauster direct connected thereto, an expansion chamber communicating directly with said exhauster, a bearing for the shaft of said exhauster located between said chamber and the working passages of said turbine and a leakage passage located adjacent said bearing and communicating with an auxiliary exhauster.

5. In a refrigerating apparatus, a turbine, a vacuum pump directly connected thereto, an expansion chamber in direct communication with said pump, a bearing for the shaft of said turbine located between said chamber and the working passages of the turbine, a leakage passage located adjacent to said bearing and means, dependent on the variations of pressure within said chamber, for maintaining a vacuum within said passage.

[Claims 6 and 7 not printed in the Gazette.]

977,660. MILK-CAN. BARTHELEMIY LEFLEUR, Vancouver, British Columbia, Canada. Filed Apr. 16, 1910. Serial No. 555,791.



1. In a device of the class described, a receptacle provided with an opening, a coin support arranged for movement in the receptacle with respect to said opening, and float means arranged to coöperate with the said coin supporting means to bring the same to juxtaposition with said opening.

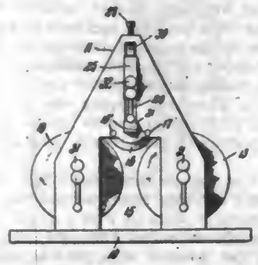
2. In a device of the class described, a receptacle provided with an opening, coin supporting means arranged in the receptacle, said means being movable to position beneath said opening, and a float arranged to so move said coin supporting means.

3. In a device of the class described, a receptacle provided with an opening, a coin support arranged within the receptacle and normally removed from said opening, and a float within the receptacle arranged to move said coin supporting means to position at such opening.

4. In a device of the class described, a receptacle, coin presenting means within the receptacle, and float means for actuating the said coin presenting means.

5. In a device of the class described, a receptacle, the said receptacle being formed in its top with an opening, a coin supporting means arranged for vertical sliding movement in the receptacle from position remote from to position at said opening, abutments upon the member, and a float having means adjustable to engage said abutments selectively whereby to so move said coin supporting means when the receptacle has been filled to a predetermined degree.

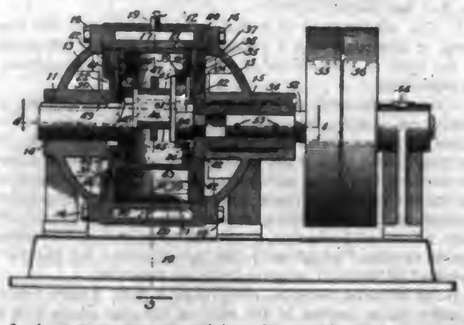
977,661. MACHINE FOR INKING AND REINKING TYPE-WRITER AND SIMILAR RIBBONS. DAVID N. LENNOX, Greenock, Scotland. Filed Mar. 27, 1908, Serial No. 423,755. Renewed May 12, 1910. Serial No. 560,981.



1. A machine of the class described comprising a frame including sides, rotatable ribbon spools mounted in the frame, an inking roller journaled in the frame, an expressing roller mounted in the frame in operative relation with respect to the inking roller, one of the sides of the frame being formed with openings, latches fixed at the other side of the frame, an ink container within which the inking roller is partly rotatable, and pins projecting laterally from each side of the ink container, the pins at one side of the ink container being inserted in the openings in the said side of the frame, and the pins at the other side of the ink container being engaged by the latches.

2. In a device of the kind described, a pair of standards, an inking roll revolubly supported in said standards, bearings slidably mounted in said standards, an expressing roll revolubly supported in said bearings, a cross bar connecting said standards, a tension screw held in said cross bar and provided at its lower end with a ball projection, and a leaf spring bearing at its ends on the expressing roll bearings and connected to said spring by a socket arranged to form in connection with the ball of the tension screw a ball and socket joint.

977,662. COMPRESSOR. JOHN LEVEY, Chicago, Ill. Filed Apr. 14, 1910. Serial No. 555,367.



1. A compressor comprising, in combination, a casing containing a chamber having a cylindrical wall provided with an inlet for the fluid to be compressed and an outlet for the compressed fluid, a rotary piston-cylinder in said chamber the inner surface of which toward its opposite ends is lined with separate bushings having their outer ends convexed and movably supported in said cylinder, means for forcing said bushings into engagement with the inner wall of said chamber, a piston reciprocably confined in said cylinder, and means operating to reciprocate said piston during the rotation of said cylinder for compressing fluid introduced into the cylinder through said inlet.

2. A compressor comprising, in combination, a casing containing a chamber having a cylindrical wall provided with an inlet for the fluid to be compressed and an outlet for the compressed fluid, a rotary piston-cylinder in said chamber the inner surface of which toward its opposite ends is lined with separate bushings having their outer ends convexed and movably supported in said cylinder, means for forcing said bushings into engagement with the inner wall of said chamber, a piston reciprocably confined in said cylinder, and means operating to reciprocate said piston during the rotation of said cylinder for compressing fluid introduced into the cylinder through said inlet.

3. A compressor comprising, in combination, a casing containing a chamber having a cylindrical wall provided with an inlet for the fluid to be compressed and with an outlet for the compressed fluid, a rotary piston-cylinder in said chamber the inner surface of which toward its opposite ends is recessed to afford shoulders and is lined with separate movable bushings having their outer ends convexed and provided with shouldered portions on their peripheries overlapping the shoulders on said cylinder, means operating against the shouldered portions of said rings for forcing the latter into engagement at their ends with the wall of said chamber, a piston reciprocably confined in said cylinder, and means operating to reciprocate said piston during the rotation of said cylinder for compressing fluid introduced into the cylinder through said inlet.

4. A compressor comprising, in combination, a casing containing a chamber having a cylindrical wall provided with an inlet for the fluid to be compressed and with an outlet for the compressed fluid, a rotary piston-cylinder in said chamber, the inner surface of which is lined with separate movable bushings having their outer ends convexed and presenting surfaces extending at an angle to the path through which the piston reciprocates, means operating against said angularly-disposed surface for forcing the bushings into engagement with the cylindrical wall of said chamber, a piston reciprocably confined in said cylinder, and means operating to reciprocate said piston during the rotation of said cylinder for compressing fluid introduced into the cylinder through said inlet.

5. A compressor comprising, in combination, a casing containing a chamber having a cylindrical wall provided with an inlet for the fluid to be compressed and with an outlet for the compressed fluid, a rotary piston-cylinder in said chamber provided at its ends with ring-shaped members surrounding the opening through said cylinder and convexed at their outer ends and adapted to bear against said cylindrical wall, means for forcing said ring-shaped members into engagement with said cylindrical wall, a piston reciprocably confined in said cylinder, and means operating to reciprocate said piston during the rotation of said cylinder for compressing fluid introduced into the cylinder through said inlet.

6. A compressor comprising, in combination, a casing containing a chamber having a cylindrical wall provided with an inlet for the fluid to be compressed and with an outlet for the compressed fluid, a rotary piston-cylinder in said chamber provided at its ends with ring-shaped members surrounding the opening through said cylinder and convexed at their outer ends and adapted to bear against said cylindrical wall, means for forcing said ring-shaped members into engagement with said cylindrical wall, a piston reciprocably confined in said cylinder, and means operating to reciprocate said piston during the rotation of said cylinder for compressing fluid introduced into the cylinder through said inlet, said ring-shaped members being adapted to be acted upon by the fluid as it is undergoing compression, for forcing said members at their outer ends against said cylindrical wall.

[Claims 6 to 8 not printed in the Gazette.]

977,663. DRAFT-REGULATOR FOR FURNACES. ALBERT F. LEWIS, Urbana, Ohio. Filed June 13, 1910. Serial No. 566,506.

1. In combination with a furnace having a pivoted draft door, brackets suitably secured adjacent to the furnace, a lever fulcrumed on one of the brackets, a horizontal arm secured to the same bracket, an expansible rod secured to the lever and the other bracket and extending through the furnace aforesaid, a plate connected to the draft door and having two slots therein, one of said slots being adapted to engage the lever aforesaid and the other slot to engage

winding and simultaneously decreasing the impedance of the receiver circuit, and an independent bridge across said line circuit including a receiver.

[Claims 6 to 9 not printed in the Gazette.]

977,658. TELEPHONE DESK-STAND. WILLIAM LEAVER, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 3, 1908. Serial No. 418,943.



1. In a desk stand, the combination with a standard, of a cap for said standard, an opening in the cap having a pair of parallel walls, a cylinder between said walls, and means independent of said parallel walls for holding the cylinder in position, substantially as described.

2. In a desk stand, the combination with a standard and a transmitter case, of a cylinder supporting the transmitter case and a cap supported by the standard, means secured within the cylinder and extending downward within the cap for securing the two together, said means being wholly concealed when the parts are completely assembled, substantially as described.

3. In a desk stand, the combination with a standard, of a cap for said standard having a slot in the top thereof, a transmitter casing having a member fitting within said slot, a pivot, means secured to said member by said pivot to hold said member movable in said slot, said pivot being wholly inside of said cap.

4. In a desk stand, the combination with a transmitter case, of a supporting member therefor having a curved face, a standard, a cap for said standard having a shoulder against which said curved face abuts, and a spring for holding the face and shoulder in frictional relation, substantially as described.

5. In a desk stand, the combination with a standard, of a slotted cap therefor, a cylindrical transmitter support, a pivot, means secured to said support by said pivot to hold said support movable in said slot in the said cap, said pivot being wholly inside of the said cap.

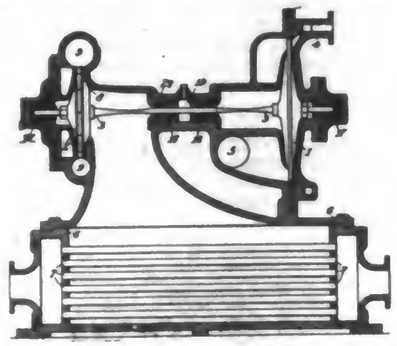
[Claims 6 to 16 not printed in the Gazette.]

977,659. REFRIGERATING-MACHINE. MAURICE LEBLANC, Paris, France, assignor to Societe Anonyme pour l'Exploitation des Procedes Westinghouse-Leblanc, Paris, France. Filed Feb. 24, 1904. Serial No. 195,009.

1. In a refrigerating apparatus, an expansion chamber, a vacuum pump communicating therewith, and auxiliary means, controlled by the pressure within said chamber, for discharging fluid therefrom.

2. In a refrigerating apparatus, an expansion chamber, a vapor delivery means therefor, an auxiliary vacuum creating agent communicating with said chamber, a valve between said agent and said chamber, and means, dependent on the pressure within said chamber, for controlling the operation of said valve.

3. In a refrigerating apparatus, an expansion chamber, a vapor delivery means therefor, an auxiliary vacuum creating agent communicating with said chamber and means, sensitive to pressure within said chamber, for establishing communication between said chamber and said auxiliary agent.

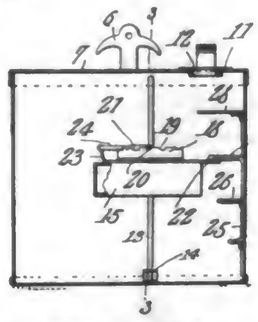


4. In a refrigerating apparatus, a turbine, an exhauster direct connected thereto, an expansion chamber communicating directly with said exhauster, a bearing for the shaft of said exhauster located between said chamber and the working passages of said turbine and a leakage passage located adjacent said bearing and communicating with an auxiliary exhauster.

5. In a refrigerating apparatus, a turbine, a vacuum pump directly connected thereto, an expansion chamber in direct communication with said pump, a bearing for the shaft of said turbine located between said chamber and the working passages of the turbine, a leakage passage located adjacent to said bearing and means, dependent on the variations of pressure within said chamber, for maintaining a vacuum within said passage.

[Claims 6 and 7 not printed in the Gazette.]

977,660. MILK-CAN. BARTHELEMIY LEFLEUR, Vancouver, British Columbia, Canada. Filed Apr. 16, 1910. Serial No. 555,791.



1. In a device of the class described, a receptacle provided with an opening, a coin support arranged for movement in the receptacle with respect to said opening, and float means arranged to coöperate with the said coin supporting means to bring the same to juxtaposition with said opening.

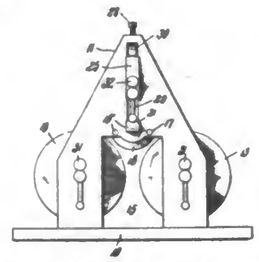
2. In a device of the class described, a receptacle provided with an opening, coin supporting means arranged in the receptacle, said means being movable to position beneath said opening, and a float arranged to so move said coin supporting means.

3. In a device of the class described, a receptacle provided with an opening, a coin support arranged within the receptacle and normally removed from said opening, and a float within the receptacle arranged to move said coin supporting means to position at such opening.

4. In a device of the class described, a receptacle, coin presenting means within the receptacle, and float means for actuating the said coin presenting means.

5. In a device of the class described, a receptacle, the said receptacle being formed in its top with an opening, a coin supporting means arranged for vertical sliding movement in the receptacle from position remote from to position at said opening, abutments upon the member, and a float having means adjustable to engage said abutments selectively whereby to so move said coin supporting means when the receptacle has been filled to a predetermined degree.

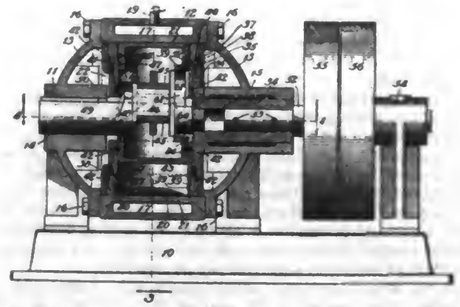
977,661. MACHINE FOR INKING AND REINKING TYPE-WRITER AND SIMILAR RIBBONS. DAVID N. LENNOX, Greenock, Scotland. Filed Mar. 27, 1908, Serial No. 423,755. Renewed May 12, 1910. Serial No. 560,981.



1. A machine of the class described comprising a frame including sides, rotatable ribbon spools mounted in the frame, an inking roller journaled in the frame, an expressing roller mounted in the frame in operative relation with respect to the inking roller, one of the sides of the frame being formed with openings, latches fixed at the other side of the frame, an ink container within which the inking roller is partly rotatable, and pins projecting laterally from each side of the ink container, the pins at one side of the ink container being inserted in the openings in the said side of the frame, and the pins at the other side of the ink container being engaged by the latches.

2. In a device of the kind described, a pair of standards, an inking roll revolubly supported in said standards, bearings slidably mounted in said standards, an expressing roll revolubly supported in said bearings, a cross bar connecting said standards, a tension screw held in said cross bar and provided at its lower end with a ball projection, and a leaf spring bearing at its ends on the expressing roll bearings and connected to said spring by a socket arranged to form in connection with the ball of the tension screw a ball and socket joint.

977,662. COMPRESSOR. JOHN LEVEY, Chicago, Ill. Filed Apr. 14, 1910. Serial No. 555,367.



1. A compressor comprising, in combination, a casing containing a chamber having a cylindrical wall provided with an inlet for the fluid to be compressed and with an outlet for the compressed fluid, a rotary piston-cylinder in said chamber provided at its ends with ring-shaped members surrounding the opening through said cylinder and convexed at their outer ends and adapted to bear against said cylindrical wall, means for forcing said ring-shaped members into engagement with said cylindrical wall, a piston reciprocably confined in said cylinder, and means operating to reciprocate said piston during the rotation of said cylinder for compressing fluid introduced into the cylinder through said inlet.

2. A compressor comprising, in combination, a casing containing a chamber having a cylindrical wall provided with an inlet for the fluid to be compressed and an outlet for the compressed fluid, a rotary piston-cylinder in said chamber the inner surface of which toward its opposite ends is lined with separate bushings having their outer ends convexed and movably supported in said cylinder, means for forcing said bushings into engagement with the inner wall of said chamber, a piston reciprocably confined in said cylinder, and means operating to reciprocate said piston during the rotation of said cylinder for compressing fluid introduced into the cylinder through said inlet.

3. A compressor comprising, in combination, a casing containing a chamber having a cylindrical wall provided with an inlet for the fluid to be compressed and with an outlet for the compressed fluid, a rotary piston-cylinder in said chamber the inner surface of which toward its opposite ends is recessed to afford shoulders and is lined with separate movable bushings having their outer ends convexed and provided with shouldered portions on their peripheries overlapping the shoulders on said cylinder, means operating against the shouldered portions of said rings for forcing the latter into engagement at their ends with the wall of said chamber, a piston reciprocably confined in said cylinder, and means operating to reciprocate said piston during the rotation of said cylinder for compressing fluid introduced into the cylinder through said inlet.

4. A compressor comprising, in combination, a casing containing a chamber having a cylindrical wall provided with an inlet for the fluid to be compressed and with an outlet for the compressed fluid, a rotary piston-cylinder in said chamber, the inner surface of which is lined with separate movable bushings having their outer ends convexed and presenting surfaces extending at an angle to the path through which the piston reciprocates, means operating against said angularly-disposed surface for forcing the bushings into engagement with the cylindrical wall of said chamber, a piston reciprocably confined in said cylinder, and means operating to reciprocate said piston during the rotation of said cylinder for compressing fluid introduced into the cylinder through said inlet.

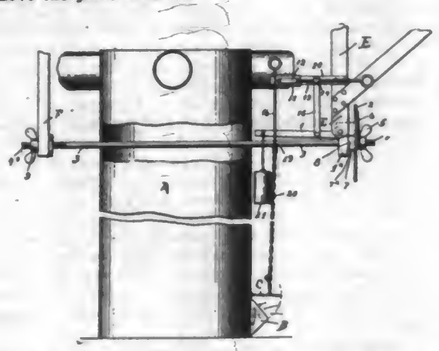
5. A compressor comprising, in combination, a casing containing a chamber having a cylindrical wall provided with an inlet for the fluid to be compressed and with an outlet for the compressed fluid, a rotary piston-cylinder in said chamber provided at its ends with ring-shaped members surrounding the opening through said cylinder and convexed at their outer ends and adapted to bear against said cylindrical wall, means for forcing said ring-shaped members into engagement with said cylindrical wall, a piston reciprocably confined in said cylinder, and means operating to reciprocate said piston during the rotation of said cylinder for compressing fluid introduced into the cylinder through said inlet.

[Claims 6 to 8 not printed in the Gazette.]

977,663. DRAFT-REGULATOR FOR FURNACES. ALBERT F. LEWIS, Urbana, Ohio. Filed June 13, 1910. Serial No. 566,506.

1. In combination with a furnace having a pivoted draft door, brackets suitably secured adjacent to the furnace, a lever fulcrumed on one of the brackets, a horizontal arm secured to the same bracket, an expansible rod secured to the lever and the other bracket and extending through the furnace aforesaid, a plate connected to the draft door and having two slots therein, one of said slots being adapted to engage the lever aforesaid and the other slot to engage

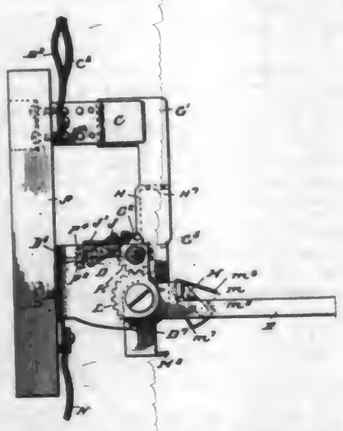
the arm aforesaid, and means operated by the lever to remove the plate from the arm.



2. In combination with a furnace having a pivoted draft door, brackets suitably secured adjacent to the furnace, a lever fulcrumed on one of the brackets, a horizontal arm secured to the same bracket, an expansible rod secured to the lever and the other bracket and extending through the furnace aforesaid, a plate connected to the draft door and having a slot therein to engage the arm, a sleeve slidably mounted on the horizontal arm, a vertical arm secured to the lever, and operative means connecting the vertical arm and sleeve aforesaid.

3. In combination with a furnace having a pivoted draft door, brackets suitably secured adjacent to the furnace, a lever fulcrumed on one of the brackets, a horizontal arm secured to the same bracket, an expansible rod secured to the lever and the other bracket and extending through the furnace aforesaid, a plate connected to the draft door and having two slots therein, one of said slots being adapted to engage the lever aforesaid and the other slot to engage the arm, a sleeve slidably mounted on the horizontal arm, a rod pivotally secured to said sleeve, a threaded rod swivelly secured to said pivoted rod, and a vertical rod secured to the lever aforesaid and engaging said threaded rod.

977,664. CONTROLLING MEANS FOR ELECTRIC CIRCUITS. JULIUS K. LUX, St. Louis, Mo. Filed Apr. 26, 1906. Serial No. 313,836.



1. In a device of the character described, coöperative fixed and movable contacts, operating means including yielding means for urging the coöperative contacts together and apart, and a yielding starter impelled by the said operating means to yieldingly urge the said movable contact, during a portion of its movement.

2. In a device of the character described, the combination of fixed and movable contacts, operating means including a yielding starter for initially starting the movable contact from its extreme positions and resilient means carried by said operating means for actuating said movable contact during a portion only of its movement, substantially as described.

3. In a device of the character described, the combination of fixed and movable contacts, means for actuating said movable contact with a quick, snap action, and a flexible conductor so attached to the movable contact that it will be free from stress at the mid portion of the travel of said movable contact, substantially as described.

4. In a device of the character described, the combination of fixed and movable contacts, means for actuating said movable contact with a quick, snap action, and a flexible conductor attached to said movable contact and formed to extend in a position equidistant from the two extreme positions of its point of attachment to said movable contact, whereby said flexible conductor acts on both the opening and closing movements of the movable contact to accelerate the movement during one portion of the travel of the movable contact and to retard the movement during another portion of such travel, substantially as described.

5. In a device of the character described, the combination of fixed and movable contacts, yielding means for actuating said movable contacts with a quick, snap action, and a flexible conductor secured to said movable contact for augmenting the force of said yielding means during the initial portion of the movement of the movable contact and opposing the action of said yielding means during the latter portion of the movement of said movable contact, substantially as described.

[Claims 6 to 25 not printed in the Gazette.]

977,665. ILLUMINATED SIGN. ARCHIBALD MACKENZIE and THOMAS M. NORTON, Denver, Colo. Filed Aug. 5, 1909. Serial No. 511,385.



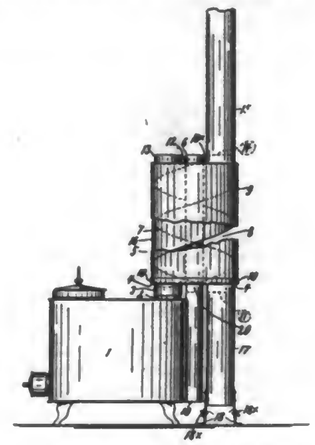
1. An illuminated sign comprising a case, a sign plate, a prism plate located in the case in the rear of the sign plate and adjustable transversely of the sign, and an illuminating device arranged to throw the rays of light upon the prismatic surface of the prism plate, for the purpose set forth.

2. The combination of a case, a sign plate set into the front of the case, and a prism plate adjustably mounted in the rear of each letter of the sign plate, substantially as described.

3. An illuminated sign, comprising a case, a sign plate closing an opening formed in the front of the case, and a series of prism plates adjustably mounted in the case in the rear of the sign plate, each plate having a metal member secured to its top and bottom edge, the said members having extensions, pivots passing through perforations formed in the extensions, one of the metal members of each prism plate having a slotted arm and a fastening device passing through said arm into the case, for the purposes of adjustment, substantially as described.

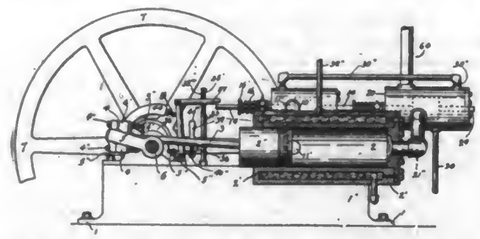
4. An illuminated sign, comprising a case, a sign plate, a prism plate located in the rear of the sign plate, and a slotted guide arm carried by the prism plate, and engaging means on the side of the case, whereby the said prism plate may be adjusted at an angle to the rays of the light, and an illuminating device arranged to throw the rays of the light upon the prism plate, substantially as described.

977,666. HEATING-DRUM. MARTIN MAHLEN, Sauk Center, Minn. Filed Dec. 21, 1908, Serial No. 468,687. Renewed May 2, 1910. Serial No. 558,909.



A heat radiating drum for stove pipes, the same comprising a cylindrical shell with a vertical, central cylindrical core, two spiral flues encircling the core and being adapted, one of them for conveying the smoke and hot air from the stove to the chimney, and the other for heating cold air in the room, its lower end having a pipe extension reaching almost to the floor and its upper end being extended into the air above the shell, said drum being detachable from its bottom plate, and said spiral flue for heating air being a spiral shell fixed to the vertical central core, but the spiral flue for the smoke being open at its outer side when the shell of the drum is removed, for the purpose set forth.

977,667. GAS-ENGINE HAVING AUTOMATIC EXHAUST-OPENINGS THEREIN. ANDREW MATSON, Los Angeles, Cal. Filed Aug. 23, 1909. Serial No. 514,277.

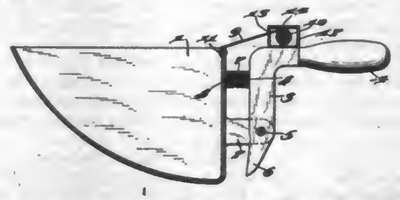


1. A gas engine comprising a main driving cylinder, a primary supplemental cylinder each of said cylinders provided with a piston and with means for reciprocating each of said pistons respectively within said cylinders, each of said cylinders having an opening therein and a pipe for connecting the said opening for re-conveying gases from the said primary supplemental cylinder into the said main driving cylinder, an exhaust cylinder having a piston and means for reciprocating the said piston within the exhaust cylinder, the said exhaust cylinder provided with an opening, the main driving cylinder provided with an opening in the end thereof, a pipe connecting the said opening in the main driving cylinder and the said opening in the exhaust cylinder, a pipe connecting the opening in the exhaust cylinder with the said opening in the end of the main driving cylinder, the said piston in the said exhaust cylinder adapted to open and close the said opening in the exhaust cylinder and to force the waste products of combustion from the said exhaust cylinder into the open air and to expel the products of combustion from the said exhaust cylinder.

2. A gas engine comprising a main driving cylinder, a piston adapted to reciprocate within said cylinder, a primary supplemental cylinder having a piston adapted to reciprocate therein, each of said cylinders having openings therein, a pipe connected with each of said openings for re-conveying gases from the said primary supplemental cylinder into the main driving cylinder, an exhaust cylinder having a piston adapted to reciprocate therein, the said exhaust cylinder provided with a pipe leading to the said main driving cylinder, the said main driving cylinder provided with an opening in the end thereof the said pipe connecting the said opening in the exhaust cylinder and the main driving cylinder, the piston in the said exhaust cylinder adapted to open and close the opening in said exhaust cylinder, the said exhaust cylinder provided with a pipe leading therefrom for conveying the products of combustion from the said exhaust cylinder into the outer atmosphere.

3. A gas engine comprising a main driving cylinder, a piston adapted to reciprocate in said cylinder, and means for operating the said piston, a primary supplemental cylinder provided with a piston adapted to reciprocate therein, and means for operating the said piston in said primary supplemental cylinder, each of said cylinders having an opening therein and a pipe connecting each of said openings for re-conveying heated and expanded gases from the said primary supplemental cylinder back into the said main driving cylinder, an exhaust cylinder having a piston adapted to reciprocate therein and means for operating said piston in said exhaust cylinder, the said exhaust cylinder provided with an opening therein, the said main driving cylinder having an opening therein, a pipe connecting the said opening in the exhaust cylinder with the opening in the end of the said main driving cylinder, the piston in the said exhaust cylinder adapted to open and close the said opening in the said exhaust cylinder, the said exhaust cylinder provided with a pipe leading therefrom into the open air whereby the waste products of combustion are carried from said exhaust cylinder, the said piston in the exhaust cylinder adapted to open and close the opening in said exhaust cylinder and the piston adapted to reciprocate in the said main driving cylinder adapted to open and close the said opening in the end of the said main driving cylinder.

977,668. WEIGHING-SCOOP. JOHN W. MCCONEGHY, Philadelphia, Pa. Filed Mar. 26, 1910. Serial No. 551,612.

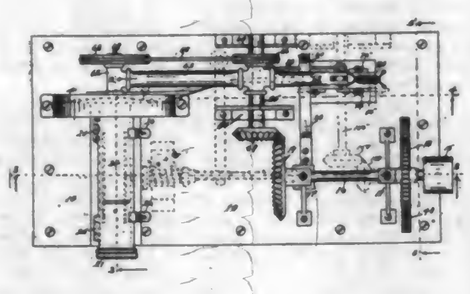


1. In a device of the character described, the combination with a scoop, perforated ears on the scoop, of a handle, a downwardly projecting arm on the handle pivotally secured between its ends, between said perforated ears, the lower end of said arm constituting a stop to limit the pivotal movement of the scoop, a spring between the arm and scoop, and located above the pivotal connection between the handle and the scoop and secured to both, and a measuring tape connecting the handle and scoop, substantially as described.

2. In a device of the character described, the combination with a scoop, perforated ears on the scoop, of a handle, a downwardly projecting arm on the handle pivotally secured between its ends, between said perforated ears, the lower end of said arm constituting a stop to limit the pivotal movement of the scoop, a spring between the arm and scoop, and located above the pivotal con-

nection between the handle and the scoop and secured to both, a box on said handle having openings in its top and end, a spring reel in said box, a measuring tape secured at one end to said spring reel, exposed through said opening in the top of the box, and extending through the opening in the end of the box and secured to the scoop, substantially as described.

977,669. CUT-OFF MACHINE. JOHN MCINTOSH, Indianapolis, Ind., assignor of one-half to Edwin L. Patrick, Indianapolis, Ind. Filed Nov. 22, 1909. Serial No. 529,473.



1. A machine for cutting a strip of material into sections or lengths including a cutter frame movable into and out of cutting position, a cutter mounted in said frame, means for the continuous operation of the cutter, a feeder capable of being continuously operated for feeding the strip to the cutter, means for moving the cutter frame into cutting position at predetermined intervals, and means for stopping the feeder while the cutter frame is in cutting position.

2. A machine for cutting a strip of material into sections or lengths including a cutter frame movable into and out of cutting position, a cutter mounted in said frame, means for the continuous operation of the cutter, a feeder capable of being continuously operated for feeding the strip to the cutter, means for alternately actuating the feeder and for moving the cutter frame into cutting position at predetermined intervals and means for stopping the feeder while the cutter frame is in cutting position.

3. A machine for cutting a strip of material into sections or lengths including a cutter frame movable into and out of cutting position, a cutter mounted in said frame, means for the continuous operation of the cutter, a feeder capable of being continuously operated for feeding the strip to the cutter, a single means for temporarily stopping the feeder and for moving the cutter frame into cutting position simultaneously at varying but predetermined intervals.

4. A machine for cutting a strip of material into sections or lengths including a cutter movable into and out of cutting position, a feeder for feeding the strip to the cutter, means for moving the cutter into cutting position, means for temporarily stopping the feeder during the cutting of the strip, a cam wheel, and lugs on said cam wheel positioned to time the movement of the cutter and the stopping of the feeder.

5. A machine for cutting a strip of material into sections or lengths including a cutter movable into and out of cutting position, a feeder for feeding the strip to the cutter, means for moving the cutter into cutting position, means for temporarily stopping the feeder during the cutting of the strip, a cam wheel, lugs on said cam wheel at equal intervals for actuating the feeder stopping means, and lugs thereon for actuating the cutter moving means, the space between any two of said last-mentioned lugs being equal to or a multiple of the space between any two of the lugs for actuating the feeder stopping means.

[Claims 6 to 9 not printed in the Gazette.]

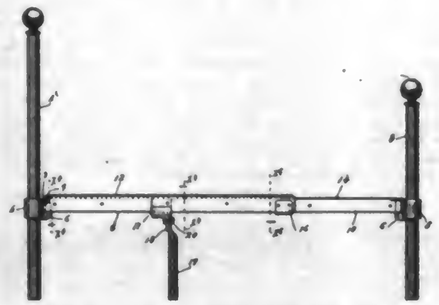
977,670. WHIP-BUTTON. JOHN MCLAUGHLIN and HERBERT D. BEMAN, Westfield, Mass., assignors to United States Whip Company, Westfield, Mass., a Corporation of Maine. Original application filed Dec. 21, 1906, Serial No. 348,830. Divided and this application filed May 27, 1907. Serial No. 375,866.



1. A flexible whip trimming, comprising a substantially straight cylindrical, seamless, flexible tube formed of braided strands and having the end portions of the tube folded in closely against the flexible body, substantially as shown.

2. An independent whip button having a substantially straight tubular body formed solely of flat strands consisting of a plurality of threads extending diagonally and interwoven with each other in tubular form with the ends turned inwardly against the body substantially as shown.

977,671. EXTENSIBLE BEDSTEAD. CARL F. MELANDER, Minneapolis, Minn. Filed Mar. 16, 1910. Serial No. 549,594.



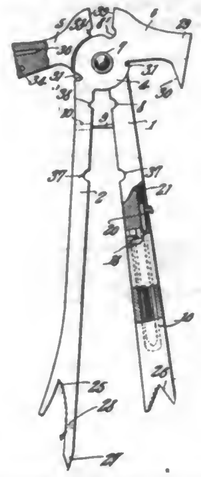
1. A bedstead having a spring frame made up of a pair of sections with their side bars constructed of angle iron, the side bars of one section adapted to slide directly upon the side bars of the other section, reversely projecting keepers for locking the side bars of one section within the side bars of the other of said sections, an intermediate tie bar connecting the inner ends of the side bar of one of said frame sections, and legs pivotally connected to said intermediate tie bar, substantially as described.

2. In a bedstead, the combination with head and foot posts, of a spring frame supported by said posts and made up of frame sections adapted to slide one upon the other, the side rails of said frame sections, at their ends, having reversely projecting keepers that embrace the side rails of the other section, an angle iron tie bar connecting the keepers of one of said frame sections, and legs pivoted to the depending flanges of said tie bar and having eccentric stop shoulders engageable with the connected keepers to limit the outward and downward movement of said legs, substantially as described.

977,672. COMPOUND TOOL. DON A. MODRALL, Robert Lee, Tex. Filed Oct. 12, 1909. Serial No. 522,267.

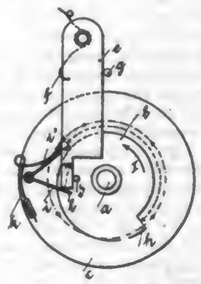
A tool having a handle consisting of separable parts, one of which is terminally provided with a tapping device, there being an axial opening in the other part for the reception of the tapping device, and an angular slot therein, communicating with the opening and extended through the end wall of said part; a pin radially mounted in the tapping device and arranged to be introduced into the slot to

hold the said handle parts together; and a slidably mounted, spring-actuated locking pin, disposed in one of



said parts and arranged to engage the other part to hold the parts against rotation with respect to each other.

977,673. AUTOMATIC COUPLING. OSCAR OEHRING, Berlin, Germany, assignor to American Stamp and Ticket Vending Machine Company, New York, N. Y. Filed Jan. 12, 1910. Serial No. 537,652.



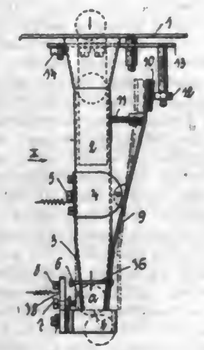
1. The improved automatic coupling for connecting continuously rotating parts with intermittently rotating parts comprising a driving disk provided with a peripheral shoulder or tooth and a stop on one face, a driven disk, a two armed pawl or lever pivoted thereon adapted to engage the shoulder or tooth on the driving disk and couple the disks together, and a spring pressed locking lever arranged at each alternate revolution to move the pawl out of engagement with the driving disk and thus release the driven disk from the driving disk said lever being then operated by the stop on the driving disk to release the pawl so that the pawl is caused to engage and disengage to alternately couple and uncouple the disk substantially as described.

2. An automatic coupling comprising a shaft, two rotatable members mounted thereon one of which is loose on said shaft, coupling means pivoted on one member adapted to engage the other member and turn together for a predetermined distance, a swinging member normally held in the path of rotation of the coupling means for disconnecting the rotatable member, and means on one rotatable member for disengaging the swinging member from the coupling means and permitting said swinging member and coupling means to return to their initial positions.

3. A coupling comprising a shaft, two rotatable members mounted thereon one of which is loose on said shaft and the other fixed thereto, one of said members being the driving member interengaging coupling means mounted on said members and adapted to automatically engage once for every two rotations of the driving member and turn the driven member a predetermined distance, a swinging arm normally held against a fixed stop in the path of rotation of the coupling means and provided with a lug to engage said coupling means and disconnect the two members, and means on said driving member for operating the swinging arm to permit the coupling means to return to its initial position before said driving member has completed one revolution.

4. An automatic coupling comprising a shaft, a fixed member and a loose member mounted thereon, a lever pivoted on the loose member adapted to be engaged by the fixed member as the shaft rotates for turning said loose member a predetermined distance, a swinging arm normally held against a stop in position to engage the pivoted lever as the members rotate and disengage said lever from the fixed member, and a pin on the fixed member adapted to operate the swinging arm as it turns, whereby said coupling lever is permitted to return to initial position, after which the pin escapes from the swinging arm and the latter is again forced against the stop.

977,674. RELEASING DEVICE FOR AUTOMATIC VENDING-MACHINES. OSCAR OEHRING, Berlin, Germany, assignor to American Stamp & Ticket Vending Machine Co., New York, N. Y., a Corporation of New Jersey. Filed Mar. 3, 1910. Serial No. 547,067.

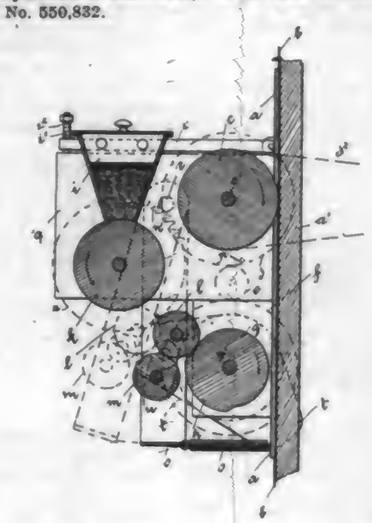


1. In a vending machine operated by an electric motor, a chute tapered at its lower end on opposite sides and open, a resilient member adapted to cover one of said open sides and close the electric circuit through the motor and hold it closed by the pressure of a coin in said chute, a cam operated by the motor, a lever normally closing the opposite tapered side of the coin chute, and a second lever between the cam and the first named lever for releasing said coin and breaking said circuit.

2. In a vending machine operated by an electric motor, a coin chute open on opposite sides at its lower end, movable members adapted to cover said open sides one of said members closing the circuit through the motor and holding it closed by the pressure of a coin in said chute, means operated by the motor for moving the other member to release said coin, and means connecting said members for positively breaking said circuit when the coin is released.

3. In a vending machine operated by an electric motor, a coin chute open at its lower end on its opposite side, movable members adapted to cover said open sides, one of said members being resilient and normally holding the circuit through the motor open but adapted to close said circuit and hold it closed by the pressure of the coin in said chute, means operated by the motor for moving the other member to release said coin and break said circuit, and a connection between the two movable members for positively breaking the circuit through the motor when the coin is released.

977,675. INKING DEVICE FOR PRINTING-MACHINES. OSCAR OEHRING, Berlin, Germany, assignor to American Stamp & Ticket Vending Machine Co., New York, N. Y., a Corporation of New Jersey. Filed Mar. 22, 1910. Serial No. 550,832.



1. A printing machine comprising an ink supplying means, a printing roller having a portion of its periphery smooth, an inking roller adapted to contact with both the printing surface and the smooth surface of the printing roller, means for causing said inking roller to travel between the ink supplying means and the printing roller, the smooth surface of which evenly distributes the ink over the periphery of the inking roller, and the latter roller over the printing surface, a distributing roller in contact with said inking roller to assist in distributing the ink thereover, and means on the shaft of the printing roller for causing the travel of the inking roller.

2. A printing machine comprising a feed mechanism, a printing roller having a portion of its periphery smooth, an ink supply means, an inking roller adapted to contact with both the printing surface and the smooth surface of the printing roller, a vibrating support therefor, and direct means for swinging said inking roller and its support between the ink supplying means and the printing roller, the smooth surface of the latter serving to evenly distribute the ink over the periphery of the inking roller, and the latter roller over the printing surface.

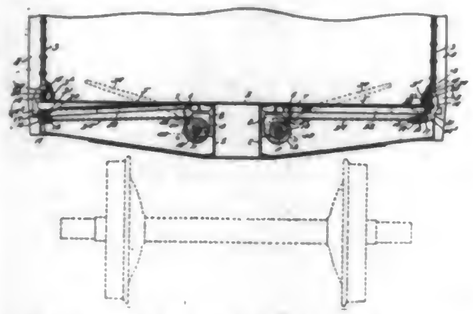
3. A printing machine comprising a feed mechanism, a printing roller having a portion of its periphery smooth, an ink fountain, a distributing roller therefor, an oscillating inking roller mounted in vibrating arms and adapted to swing between the distributing roller and the printing roller and contact with both the printing surface and the smooth surface of the printing roller, the smooth surface of said printing roller serving to evenly distribute the ink over the periphery of the inking roller and the latter over the printing surface, and a cam on the printing roll shaft for directly operating one of said vibrating arms.

4. A printing machine comprising a feed mechanism, a printing roller having a portion of its periphery smooth, an ink supplying means, an oscillating inking roller, and means rotatable with the printing roller for swinging said inking roller between the ink supplying means and both the smooth and printing surfaces of the printing roller during the greater portion of the rotation of said printing roller.

5. A printing machine comprising a feed mechanism, a printing roller having a portion of its periphery smooth, an ink fountain, an ink distributing roller associated therewith, an oscillating inking roller adapted to receive ink from said distributing roller and apply the same to the printing roller, the smooth surface of the printing roller spreading the ink evenly over the surface of the inking roller before the latter engages the printing surface, and means operated by the rotation of the feed mechanism for intermittently turning the ink distributing roller.

[Claim 6 not printed in the Gazette.]

977,676. DOOR MECHANISM OR THE LIKE. JOHN PEARSON, Chicago, Ill. Filed Aug. 7, 1909. Serial No. 511,692.



1. In a device of the kind described and in combination, a door hinged at one edge thereof, means for raising said door, hooks coöperating with said raising means for supporting the free edge of said door, supporting means for said hooks and means for positively retaining said hooks in operative position comprising a slidable bar carried by said hook supporting means and engaging said hooks and means for operating said bar.

2. In a device of the kind described and in combination, a door hinged at one edge thereof, means for raising said door, a hook coöperating with said raising means for supporting the free edge of the door, and means independent of said door raising means for positively retaining said supporting hooks in operative position comprising a slidable bar carried by said hook supporting means and engaging said hooks and means for operating said bar.

3. In a device of the kind described and in combination, a door pivotally supported at one edge thereof, means for raising the door, a pivotally supported hook provided with an opening therethrough arranged at the opposite edge of the door, said hook coöperating with the means for raising the door, and means extending through the opening in said hook for retaining the hook in operative position.

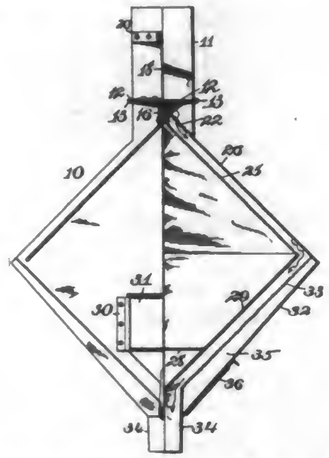
4. In a device of the kind described and in combination, a door pivotally supported at one edge thereof, a supporting member pivotally supported at the opposite edge of the door, means coöperating therewith for raising the door, and means independent of said door raising means and supporting member for retaining the supporting member in operative position.

5. In a device of the kind described and in combination, a door pivotally supported at one edge thereof, a hook shaped supporting member for the free edge of the door, a flexible controlling member for said supporting member arranged to support the door throughout the opening or closing thereof means for straining said flexible member, and means slidably connected with said supporting member for positively locking the same in operative position.

[Claims 6 to 17 not printed in the Gazette.]

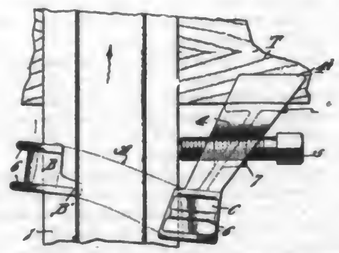
977,677. GRAIN-SEPARATOR. EDWARD J. PIDGEON, Newark, N. J. Filed Feb. 1, 1910. Serial No. 541,283.

1. A separator comprising a casing formed of a back plate and a front plate of approximately diamond-shape, top plates and outer side plates, downwardly diverging screens placed between the front and back plates and beneath the top plates, an outlet pipe passing through the bottom of the outer side plates, downwardly converging screens extending from the top plates to the top edge of the outlet pipe, inner side plates extending from the bottom of the diverging screens to the center of the casing above the outlet pipe, an inclined back plate forming, with the inner side plates and the front plate a chamber for the reception of the dirt from the diverging screens, and closures in the outer side plates to provide access to the chambers formed between the outer side plates and the converging screens.



2. A separator comprising a casing formed of a back plate and a front plate of approximately diamond-shape, top plates and outer side plates, downwardly diverging screens placed between the front and back plates and beneath the top plates, an outlet pipe passing through the bottom of the outer side plates, downwardly converging screens extending from the top plates to the top edge of the outlet pipe, inner side plates extending from the bottom of the diverging screens to the center of the casing above the outlet pipe, an inclined back plate forming, with the inner side plates and the front plate a chamber for the reception of the dirt from the diverging screens, closures in the outer side plates to provide access to the chambers formed between the outer side plates and the converging screens, a gate in the supply pipe, and means for operating the gate.

977,678. RAIL-ANTICREEPER. JAMES G. POATTEUS, Marion, Ind., assignor of one-half to Edward L. Adreon, Jr., St. Louis, Mo. Filed June 16, 1910. Serial No. 567,193.



1. A device of the character described, comprising flange-engaging members which bear upon the top face of the base flange of the rail at points between the edges of said flange and the web of the rail, and means for causing said members to exert a downward clamping pressure on the rail, said members being so formed that they do not bear upon the top face of said base flange adjacent the longitudinal edges of said flange.

2. A device of the character described, comprising clamping members having flange-engaging faces which are so designed that they do not bear upon the edge portions of the top face of the base flange of the rail, and resilient means arranged in engagement with the base flange of the rail and operating to cause said members to normally exert a downward clamping pressure on the flange of the rail.

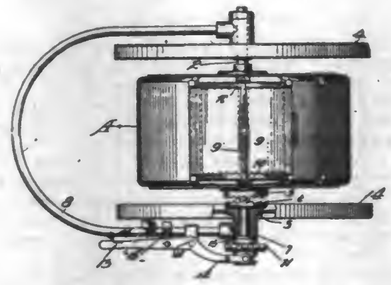
3. A device of the character described, comprising a cast metal portion that projects under the base flange of the rail, said portion being so formed that it is normally in tension when the device is arranged in operative position, and cast members formed integral with said portion for engaging the base flange of the rail.

4. A device of the character described, comprising a cast portion that projects under the base flange of the rail, said portion being so formed that it is normally in tension when the device is arranged in operative position, and hook-shaped flange-engaging members integrally connected to said portion and having clamping faces which are so designed that they do not bear upon the edge portions of the top face of the flange of the rail.

5. A device of the character described, comprising a cambered portion that is adapted to be arranged under the base flange of the rail with its crown in engagement with the bottom face of said flange, and flange-engaging members on said cambered portion that lap over the base flange of the rail, said members being so formed that they do not engage the longitudinal edges of the base flange of the rail or the portions of the top face of said flange which are adjacent the longitudinal edges of same.

[Claims 6 to 16 not printed in the Gazette.]

977,679. COMBINED MIXER AND CARRIER. FRANK D. ROBBINS, Oakland, Cal. Filed Mar. 9, 1910. Serial No. 548,181.



1. A portable concrete mixer and carrier comprising bearing wheels, a handle connected to said wheels, a shaft supported thereon and about which the handle is turnable in a vertical plane, a rotatable drum on said shaft, clutch mechanism between the drum and wheels for locking the shaft at will to the wheels, to cause the drum to turn with said wheels, and means for coupling the handle to the shaft to enable the shaft to be turned by the handle and the drum to be tilted by the handle.

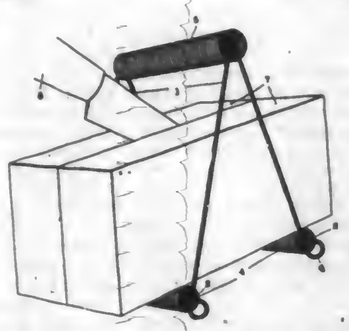
2. A manually propelled concrete mixer comprising an axle, traction wheels loose on the shaft, a receptacle secured on the shaft, a handle turnable on the shaft, means for coupling said shaft to said wheels to cause the receptacle to rotate with the heels, and means for coupling the handle to the shaft to enable said shaft to be turned and the receptacle dumped by the tilting of the handle.

3. A combined barrow and mixer comprising supporting wheels with hubs, a shaft on which the wheels turn loose, a tongue pivoted on the hubs, a drum carried by and mounted to turn with the axle, means for locking the shaft at will to the wheels to cause the drum to turn with the wheels, and means for locking the tongue to said shaft to enable the drum to be turned and dumped by the tongue independent of the movement of said wheels.

4. A combined barrow and mixer comprising supporting wheels with hubs, a shaft on which the wheels turn loose, a tongue pivoted on the hubs, a drum carried by and mounted to turn with the shaft, and means for locking

the shaft at will to the wheels to cause the drum to turn with the wheels, said last named means including complementary clutch mechanism between the drum and wheels and other clutch mechanism between the tongue and shaft.

977,680. KNIFE-CLEANER. MERRITT D. ROBISON, San Francisco, Cal. Filed Jan. 17, 1910. Serial No. 538,566.



1. A knife cleaner comprising a frame having side members movable horizontally with respect to each other, and a cleaning means between such side members.

2. A knife cleaner comprising an inverted V-shaped frame having two side members each having two lower end members, rings on each end member movable upon its adjacent end member, resilient means between said side members, and a cleaning means between said side members.

977,681. MANUFACTURE OF ARTIFICIAL STONE FROM SLAG. WILHELM SCHUMACHER, Osnabrück, Germany. Filed July 5, 1906. Serial No. 324,901.

1. The herein described method of manufacturing artificial stone, which consists in coarsely disintegrating granulated slag, heating the distintegrated mass and then subjecting it to pressure, in the presence of moisture.

2. The herein described method of manufacturing artificial stone, which consists in coarsely disintegrating granulated slag, compressing the disintegrated mass into coherent bodies and subjecting such bodies to the action of steam under pressure.

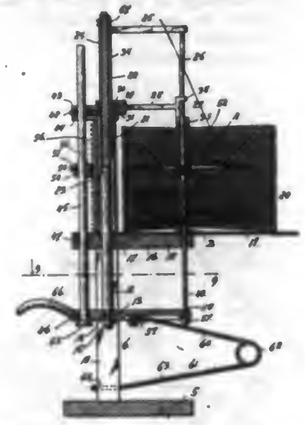
3. The herein described method of manufacturing artificial stone, which consists in coarsely disintegrating granulated slag, heating the disintegrated mass, compressing it into coherent bodies and subjecting such bodies to the action of steam under pressure.

4. The herein described method of manufacturing artificial stone, which consists in coarsely disintegrating granulated slag, then mixing it with lime and a suitable liquid, and heating the mixture and subjecting it to pressure, or subjecting such bodies to the action of steam under pressure.

5. The herein described method of manufacturing artificial stone, which consists in coarsely disintegrating granulated slag, then mixing it with lime and a suitable liquid, heating the mixture, compressing it into coherent bodies and subjecting such bodies to the action of steam under pressure.

977,682. PAPER-FILE. THOMAS C. SHIVERT, Limon, Colo. Filed Dec. 28, 1909. Serial No. 535,279.

1. The combination with a stationary frame, including a support for a pile of bills or papers, of a plate vertically movable on said frame and carrying a bill-holding rod, a shaft also vertically movable on the frame and having a stop at its lower extremity located in the path of travel of the said plate to limit the downward movement of the latter, and a bill-selecting arm mounted on the said shaft at a distance above the stop on the shaft equal to the length of the bill-holding rod, the said shaft being normally free to move downwardly until the bill-selecting arm reaches the plane of the top of the platform upon which the pile of bills rests.



2. A bill file, comprising a stationary frame, a plate vertically movable thereon and carrying a bill-holding rod arranged to pass through the pile of bills when the plate is at its upward limit of movement, a shaft vertically movable on the frame independently of the said plate, the latter having an opening through which the shaft passes and the shaft having a stop at its lower extremity to limit the downward movement of the plate, and a bill selecting arm mounted on the shaft a distance above the stop on the latter approximately equal to the length of the bill-holding rod, the bill-selecting arm being normally capable of vertical adjustment with the said shaft, the latter being free to turn with the bill-selecting arm to allow the latter to enter the pile of bills where the one to be removed is located, and an interlocking connection between the bill-selecting arm and the frame when the said arm is in the last named position to prevent the downward movement of the shaft when the bill holding rod moves downwardly, for the purpose set forth.

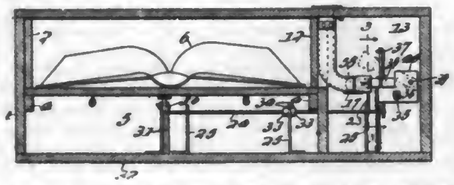
3. A bill file, comprising a frame including a bill-supporting platform, a plate vertically movable on the frame and carrying a bill-holding rod adapted to pass through a pile of bills on the platform, a shaft vertically movable on the frame independently of the said plate and having a bill-selecting arm mounted thereon, the lower extremity of the arm having a stop to limit the downward movement of the plate, the said stop being located at a distance below the bill-selecting arm approximately equal to the length of the bill-holding rod, the said shaft being journaled in the frame and the bill selecting arm being normally in a position disengaged from the pile of bills, the bill selecting arm, however, being free to be moved into the pile of bills for selecting purposes, the shaft being journaled to turn to harmonize with the movement of the said arm, means for locking the bill-holding arm at its limit of upward movement, and means for releasing the locking means when the bill-selecting arm is moved into the pile of bills for selecting purposes.

4. A bill file, comprising a relatively stationary frame, including a support for the pile of bills, a shaft vertically movable on the frame, a bill-selecting arm mounted on the shaft, a plate vertically movable on the frame and having an opening through which the said shaft passes, the latter having a stop at its lower extremity to limit the downward movement of the plate, a bill-holding rod carried by the said plate and of a length equal to the distance from the stop on the shaft to the horizontal center of the bill-selecting arm, which is slotted to receive the bill to be removed, the shaft being free to turn in the frame and the bill-selecting arm being fast thereon and normally disengaged from the pile of bills but movable into said pile for bill-selecting purposes, means for locking the said plate and the bill-holding rod at their upward limit of movement, and a connection between said means and the said shaft, whereby as the latter is turned as the bill selecting arm is moved into the pile of bills, the locking means is released and the bill-holding rod allowed to fall until the said plate engages the stop on the shaft.

5. A bill file, comprising a relatively stationary frame, including a support for a pile of bills, a shaft vertically movable on the frame, a bill-selecting arm mounted on the shaft, a support vertically movable on the frame and having an opening through which the said shaft passes, the latter having a stop at its lower extremity to limit the downward movement of the support, a bill-holding rod carried by the said support and of a length equal to the distance from the stop on the shaft to the horizontal center of the bill-selecting arm, the shaft being free to turn on the frame and the bill-selecting arm being fast thereon and normally disengaged from the pile of bills but movable into said pile for bill-selecting purposes, an auxiliary bill-holding rod normally out of alinement with the main bill-holding rod, and a gearing connection between the said shaft and the auxiliary bill-holding rod whereby, as the bill-selecting arm is moved into the pile of bills in the performance of its bill-selecting function, the auxiliary bill-holding rod will be brought into alinement with the main bill-holding rod, so that when the main bill-holding rod moves downwardly with the said support the auxiliary bill-holding rod will move downwardly into the pile of bills a distance equal to the downward movement of the main bill-holding rod, whereby the bills of the upper portion of the pile are retained in place above the bill to be removed.

[Claims 6 to 14 not printed in the Gazette.]

977,683. COIN-CONTROLLED VENDING-MACHINE. JUDSON H. SENCINDIVER, Washington, D. C., assignor to Cabinet Vending Co. (Inc.), Washington, D. C. Filed Sept. 23, 1909. Serial No. 519,130.



1. In a device of the character stated, a slidable member, means for automatically closing the same, means for locking the same as it is closed, and means coacting with said locking means embodying a rock shaft on which one member of said locking means is mounted for disengaging it from said member for controlling the movement of the latter.

2. In a device of the character stated, a slidable member, means for automatically closing the same, means for locking the same as it is closed, and means coacting with said locking means embodying a rock shaft on which one member of said locking means is mounted for disengaging it from said member for controlling the movement of the latter,, one portion of said means being movable with the slidable member.

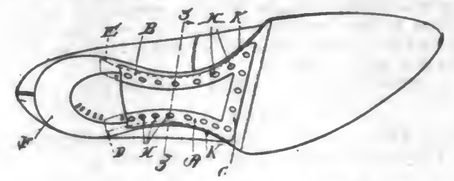
3. In a device of the character stated, a slidable member, means for automatically closing the same, means for automatically locking the same when closed, a carriage, coöperating means movable with the carriage, and a connection between the carriage and the locking means.

4. In a device of the character stated, a slidable member, means for automatically closing the same, means for automatically locking the same when closed, a carriage, coöperating means movable with the carriage, a connection between the carriage and the locking means, and means coöperating with a portion of said locking means for separating the latter.

5. In a device of the character stated, a slidable member, a locking device therefor, controlling mechanism, and an inclined member fixed with relation to and coöperating with one portion of said mechanism.

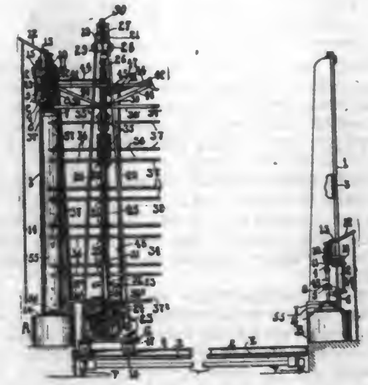
[Claims 6 to 24 not printed in the Gazette.]

977,684. ARCH-SUPPORTER. JOHN C. SHEPARD, Norway, Me. Filed June 3, 1908. Serial No. 436,416.



In combination with a boot or shoe, a three sided arch supporter comprising two side strip portions, a transverse strip portion connecting the two forward ends of said strip portions, said arch supporter being secured to the outer face of the outer sole, the transverse portion lying across the outer sole of the shoe just back of the ball of the foot, the two side portions extending rearwardly on the outer face of the shank following the contour of the two side lines of the shank, the open rear ends thereof extending backward between the heel and the outer sole near the outer edges thereof and concealed between the heel and the heel portion of the sole between which it is secured.

977,685. MANUFACTURE OF DRAWN GLASS. JAMES RAMSEY SPEER, Pittsburg, and GEORGE H. HARVEY, Glenfield, Pa., assignors to Brownsville Glass Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 16, 1907. Serial No. 368,473.



1. In the manufacture of vertical drawn glass, tw glass drawing apparatuses, means located between sai drawing apparatuses and movable from one to the othe for supporting the drawn articles, and means for lowe ing said article-supporting means movable away fro each drawing apparatus with an article thereon to a hor zontal position.

2. In the manufacture of vertical drawn glass, tw glass drawing apparatuses, a carriage located betwee the same and movable from one to the other, a mast o said carriage, means on said mast to support a draw article, and means for lowering the mast in different dire tions to a horizontal position.

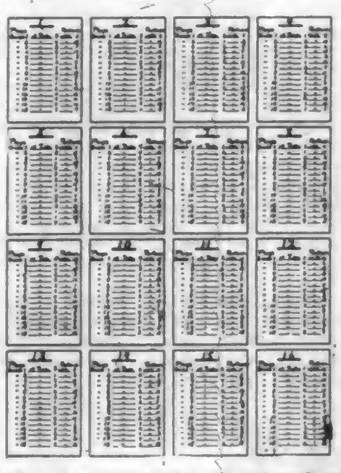
3. In the manufacture of vertical drawn glass, tw glass drawing apparatuses, a carriage located betwee the same and movable from one to the other, a mast o said carriage, means on said mast to support a draw article, and means for lowering the mast away from eith drawing apparatus to a horizontal position.

4. In the manufacture of vertical drawn glass, two pa allel lines of glass drawing apparatus, a truck movable be tween said rows, a carriage on the truck movable at righ angles to the movement of the truck, a mast mounted swing away from either of said rows, means on said ma for supporting drawn articles, and means for swinging th said mast in either direction to a horizontal position.

5. In an apparatus for the manufacture of vertical drawn glass, two lines of glass drawing apparatus, a truck movable between said rows, a carriage on the truck movable at right angles to the movement of the truck, means on the carriage for supporting and lowering to a horizontal position the articles drawn from any of said drawing apparatuses.

[Claims 6 to 10 not printed in the Gazette.]

977,686. TALLY. MARSHALL TAYLOR, Pittsburg, Pa. Filed Dec. 1, 1908. Serial No. 465,554.



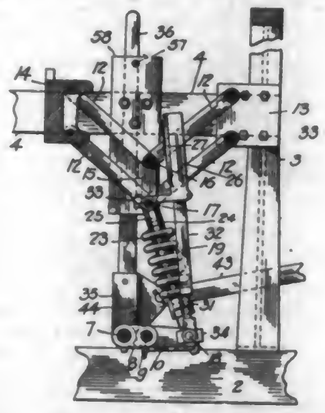
1. A tally set comprising a series of cards or tablets each having thereon three columns or lines of figures, one indicating consecutively the numbers of the games to be played, another indicating the table at which each game is to be played, and the third indicating the number of the partner at each of the games, the first column or line of figures being identical on all of the cards or tablets of the set, while the second and third columns or lines of figures are not identical on any two cards or tablets of the set, said second column or line of figures being different on each card or tablet of the set from the third column or line of figures.

2. A tally set comprising a series of cards or tablets each having thereon three columns or lines of figures, one indicating consecutively the numbers of the games to be played, another indicating the table at which each game is to be played, and the third indicating the number of the partner at each of the games, the first column or line of figures being identical on all of the cards or tablets of the set, while the second and third columns or lines of figures are not identical on any two cards or tablets of the set, said second column or line of figures being different on each card or tablet of the set from the third column or line of figures, the numbers in the second and third columns or lines of figures being so arranged as to indicate that each player plays as a partner with every other player.

977,687. MOLDING-MACHINE. EDWARD GEORGE TODT, Manitowoc, Wis., assignor to J. A. Ferguson, Denver, Colo. Filed Aug. 13, 1909. Serial No. 512,720.

1. In a molding-machine, a reciprocating pressure head, and an actuating mechanism operatively connected therewith, and comprising a rotatory crank shaft, a belt-pulley operatively associated therewith, a lever, a brake-block connected therewith so as to engage a face of said pulley, a spring adapted to resiliently maintain said block in engagement with said face, and a means for moving said lever about its fulcrum whereby said block is moved against the action of said spring.

2. In a molding-machine, a reciprocating pressure-head, and an actuating mechanism operatively connected therewith and comprising a crank shaft, a worm-wheel carried thereby, a worm meshing with said wheel, a belt-pulley operatively associated with said worm, a brake block normally in frictional engagement with a face of said pulley, and a means for disengaging said block from said face.



3. In a molding-machine, a movable pressure-head, a relatively stationary abutment, a toggle composed of pivotally connected members, connecting the two, a rock shaft, a laterally projecting arm connected therewith, a yielding connection between said arm and said toggle, and an indicatory device comprising a casing connected with the pivotal connection between the toggle-members and carrying a dial, a pointer movable upon the latter, a pinion connected therewith, and a longitudinally movable rack connected with said arm, in mesh with said pinion.

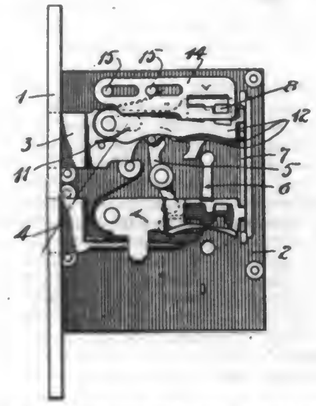
4. In a molding-machine, a movable pressure-head, a relatively stationary abutment, a toggle composed of pivotally connected members, connecting the two, a rock shaft, a laterally projecting arm connected therewith, a yielding connection between said arm and said toggle, and an indicatory device comprising a driving member and a driven member respectively connected with said arm and with the pivotal connection between the toggle-members, and an indicating member connected with said driven member.

5. In a molding machine, a movable pressure head, a relatively stationary abutment, a toggle connecting said head and abutment and composed of pivotally connected arms, a rocker arm, a bar connected at one end to said rocker arm and formed at its other end with a longitudinal slot wherein the pivotal connection between said toggle arms is loosely received, a head movable in said slot and engaging said pivotal connection, a member secured to said bar adjacent the first-mentioned end thereof, and an expansible spring interposed between said head and member and engaged at opposite ends with the same.

977,688. LOCK. HENRY G. VOIGHT, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Sept. 9, 1910. Serial No. 581,207.

1. In a lock, a movable bolt, a tumbler a fence movable by the bolt and carried thereby and also movable to different positions across the path of movement of said bolt incidental to the movement of the tumbler in the act of operating the lock, with means also movable with said bolt for holding said fence in at least two of said different positions, said tumbler having a gated passage arranged to permit the passage therethrough of said fence, one means to lift said tumbler to one elevation to permit the passage of said fence when the same is in one of said two positions and another means to lift the tumbler to another elevation to permit the passage of said fence when the latter is in the other of said two positions.

2. In a lock, a bolt movable to and fro in one plane, a tumbler, a fence carried by and movable by the bolt and also movable transversely of the plane of movement of the bolt incidental to the movement of the tumbler in the act of operating the bolt, means also movable with said bolt for holding said fence in at least two of said positions, said tumbler arranged to co-act with the fence, a key to operate said tumbler to permit the passage therethrough of the fence when the latter stands in one of said transverse positions, and another key arranged to operate said tumbler to advance the fence through the tumbler when said former stands in the other transverse position.



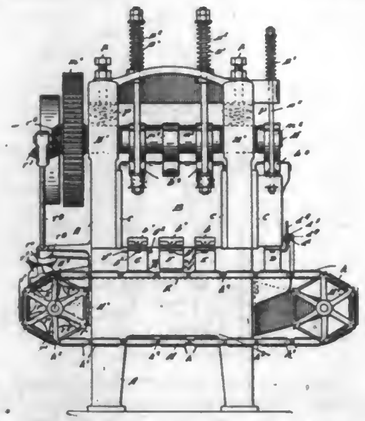
3. In a lock, a reciprocating bolt, a swinging member pivoted thereto and carrying a fence, a slide having two step supports for said fence, a gated tumbler for said fence, one means to operate said tumbler to move said bolt and to pass said fence through said tumbler when the latter stands on one step but not on the other, and another means to lift both said tumbler and said fence and to shift the latter on to said other step by passing the same through said gated tumbler.

4. In a lock, a bolt, a tumbler, a fence carried by said bolt and movable with said bolt in one plane and independently of said bolt in another plane, means for supporting said fence at two different elevations, said means being movable dependently with, and independently of, said bolt, in the act of operating the lock, said fence controlling said tumbler.

977,689. CAN-FLANGE SWAGING AND SOLDERING MACHINE. GEORGE W. WEBER, New York, N. Y., assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed July 8, 1907. Serial No. 382,724.

1. In a can-body and can-cover flange swaging and soldering machine, the combination of an intermittently movable carrier having a series of can body flange engaging dies for supporting the can bodies by their externally projecting soldering flanges, of a filling plunger for forcing or leveling the material in the can and clearing the upper surface of the can body flange from projecting pieces and supplying to each can the desired oil or liquid, a swaging die for swaging and pressing together the soldering flanges of the body and cover and removing "drawing" puckers, creases, warpings and other irregularities from the body flange, a heated swaging die for fusing or welding the flanges of body and cover together under pressure, an independently movable cover holder for the heated swaging die, a cooling and closing die to close together any remaining leaks or interstices, a reciprocating cross head for operating said dies, and means for intermittently moving the carrier to bring the several can body supporting dies thereon into registry successively with the several dies on the cross head, substantially as specified.

2. The combination of a movable carrier having a series of can body flange engaging dies for supporting the can bodies by their externally projecting soldering flanges, of a swaging die for pressing together the soldering flanges of the body and cover and removing "drawing" puckers, creases, warpings and other irregularities from the body flange, a heated swaging die for fusing or welding the flanges of body and cover together under pressure, an independently movable cover holder for the heated swaging die, and a cooling and closing die, substantially as specified.



3. The combination of a movable carrier having can body flange engaging dies for supporting the can bodies, by their externally projecting soldering flanges, of a swaging die coöperating in turn with each of said dies on said carrier for pressing together the soldering flanges of the can body and cover and a heated swaging die coöperating in turn with each of said dies on said carrier for fusing or welding the flanges of body and cover together under pressure, and a stationary anvil bed to support said can body flange engaging dies and resist the thrust of said swaging die and of said heated swaging die, substantially as specified.

4. The combination with a carrier having a series of can body flange engaging dies, of an opposing heated die coöperating in turn with each of said dies on said carrier for fusing or welding the flanges of body and cover together under pressure, and a stationary anvil bed to support said can body flange engaging dies and resist the thrust of said opposing heated die, substantially as specified.

5. The combination with a carrier having a series of can body flange engaging dies, of an opposing heated die for fusing or welding the flanges of body and cover together under pressure, and a cooling and closing die, and a stationary anvil bed to support said can body flange engaging dies and resist the thrust of said opposing heated die and of said cooling and closing die, substantially as specified.

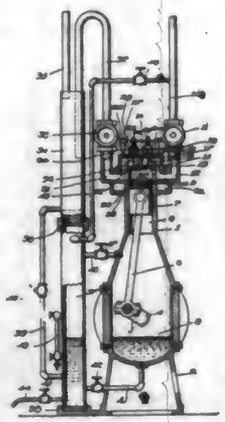
[Claims 6 to 33 not printed in the Gazette.]

977,690. GAS-PUMP. ALFRED S. WHITE, Chicago, Ill. Filed Dec. 11, 1909. Serial No. 532,614.

1. In a gas pump, the combination of a lubricating chamber adapted to contain oil, a discharge pipe, a trap in said pipe for separating oil from the gas carried through said discharge pipe, an oil reservoir, means connecting said reservoir with said trap, and means connecting said reservoir with said lubricating chamber.

2. In a gas pump, the combination of a lubricating chamber adapted to contain oil, a discharge pipe, a trap in said pipe for separating oil from the gas carried through said discharge pipe, an oil reservoir, means connecting said reservoir with said trap, means connecting said reservoir with said lubricating chamber, and an outlet from said reservoir for drawing off sediment from the oil.

3. In a gas pump, the combination of a lubricating chamber adapted to contain oil, a discharge pipe, a trap in said pipe for separating oil from the gas carried through said discharge pipe, an oil reservoir, means connecting said reservoir with said trap, means connecting said reservoir with said lubricating chamber, and means for equalising the pressure in the reservoir and the lubricating chamber.



4. In a gas pump, the combination of a suction pipe, a discharge pipe, a trap in said discharge pipe for separating oil from the gas discharged from the pump, an oil reservoir, means connecting said trap with said reservoir, a lubricating chamber, means connecting the reservoir with the lubricating chamber, and means connecting the reservoir with the suction pipe for decreasing the pressure in said reservoir.

5. In a gas pump, the combination of a suction pipe, a discharge pipe, a trap in said discharge pipe for separating oil from the gas discharged from the pump, an oil reservoir, means connecting said trap with said reservoir, a lubricating chamber, means connecting the reservoir with the lubricating chamber, means connecting the reservoir with the suction pipe for decreasing the pressure in said reservoir, and means for equalizing the pressure in said reservoir and said lubricating chamber.

[Claims 6 to 12 not printed in the Gazette.]

977,691. TAP-WRENCH. CHARLES E. WILLIAMS, Mansfield, Mass., assignor to Bay State Tap and Die Company, Mansfield, Mass., a Corporation of Massachusetts. Filed June 3, 1910. Serial No. 564,750.



1. A tap wrench having jaws which are formed with flatted faces and with side edges convexly curved in cross-section, one of said jaws being movable and having a threaded end, a head formed with a tubular cylindrical neck at each end, one of which receives the threaded end of the movable jaw, said head having a transverse work-opening and concave grooves in the sides thereof to form ways for the jaws, said head having a flat walled chamber between the ends of said work-opening and the cylindrical neck, said chamber being formed at its inner end to correspond in cross-sectional contour with the cross-sectional contour of the jaws, and covering the rear ends of the jaws.

2. A tap wrench having a head formed with a transverse work-opening and concave ways for the jaws in the sides of said head, in combination with jaws having convex sides which fit in said concave ways, said head and said jaws all having two flat faces.

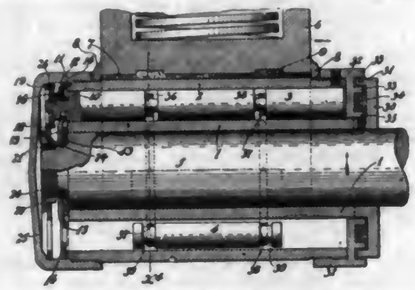
3. A tap wrench having a head formed with a chamber for the jaws and having a transverse work-opening through the side walls of the chamber, said head having concave grooves in the opposite sides of the jaw-chamber to form ways for the jaws, said head having a non-cylindrical chamber between the said work-opening and the neck connecting therewith.

4. A tap wrench having a head formed with a chamber for the jaws and having a transverse work-opening through the side walls of the chamber, said head having concave grooves in the opposite sides of the jaw-chamber to form ways for the jaws, said head having a non-cylindrical chamber between the said work-opening and the cylindrical neck connecting therewith, the walls of said chamber having two flat faces which prevent the jaws from rotating.

5. A tap wrench having a head formed with a chamber for the jaws and having a transverse work-opening through the side walls of the chamber, said head having concave grooves in the opposite sides of the jaw-chamber to form ways for the jaws, a tubular cylindrical neck at each end of the head, said head having a non-cylindrical chamber between the end of said work-opening and the cylindrical neck connecting therewith the walls of said chamber having two flat faces which prevent the jaws from rotating, in combination with two jaws fitted in said grooved ways, one of said jaws being slidable longitudinally therein, and having a threaded end which extends into one of said tubular necks, and means connected with said movable jaw whereby the said movable jaw may be moved longitudinally.

[Claim 6 not printed in the Gazette.]

977,692. ROLLER-BEARING. OSWALD F. ZAHN, Los Angeles, Cal., assignor to Zahn Self Righting Roller Bearing Company, Los Angeles, Cal., a Corporation of California. Filed Mar. 20, 1907. Serial No. 363,519.



1. A roller bearing comprising bearing members and bearing rollers, the bearing rollers and one of the bearing members having interengaging ribs and abutments, said ribs being elastic.

2. In a roller bearing, rollers having elastic ribs at one end, and means for engaging with said ribs to cause said ends to each advance or be retarded relatively to the other end.

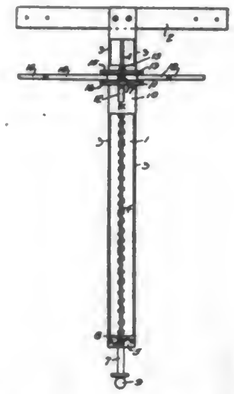
3. A roller bearing comprising bearing members, rollers, and abutments in connection with the bearing members and engaged by the rollers to take the end thrust, said abutments being elastic.

4. A roller bearing comprising bearing members and bearing rollers, one of the bearing members and the bearing rollers having interengaging ribs and abutments, said ribs being elastic, and having a clearance on the side away from the pressure receiving side to allow yielding thereof.

5. A roller bearing comprising bearing members and bearing rollers, said bearing rollers and one of said bearing members having interengaging abutments and ribs, and longitudinally yielding supporting means for one of said abutments.

[Claims 6 to 11 not printed in the Gazette.]

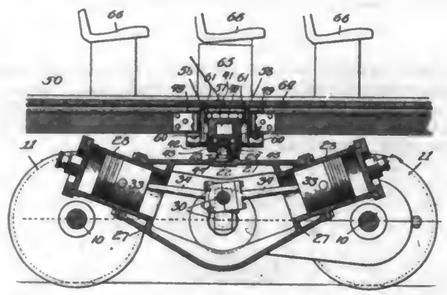
977,693. RACK. ALBERT ANDERSON, Tacoma, Wash. Filed Mar. 28, 1910. Serial No. 551,959.



1. In a rack, the combination with a fixed guide piece having a vertical groove therein; a vertically movable rod mounted in said groove and extending downward from the lower end of said guide piece; a clamp mounted on the lower end of said guide piece and engaging said rod to hold it in vertical position therein; a carrier mounted on the upper end of said rod and sliding on said guide piece; an arm-holder pivotally secured to said carrier; a central rack arm secured to said holder and adapted to turn it on its pivot; and side rack arms pivotally secured to said holder.

2. In a rack, the combination with a fixed guide-piece having a vertical groove therein; a vertically movable rod mounted in said groove and extending downward from the lower end of said guide piece; a clamp mounted on the lower end of said guide piece and engaging said rod to hold it in vertical position therein; a carrier mounted on the upper end of said rod and sliding on said guide piece; a pair of horizontal plates secured to said carrier; an arm-holder pivotally mounted between said horizontal plates and adapted to turn in the horizontal plane; a rack arm secured to said holder and adapted to turn it on its pivot; and rack arms pivoted to said holder and adapted to turn in the horizontal plane and held in horizontal position by said holder.

977,694. CENTER-BEARING FOR RAILWAY-CARS. CHARLES H. ANDERSON, Seattle, Wash. Filed Aug. 19, 1910. Serial No. 577,918.



1. In a car-truck, a yieldingly-mounted structure, including in its organization oppositely-disposed cylinders and an intermediate shaft-chamber, and forming a center-bearing support for a car-body.

2. In a car-truck bolster, a central chamber, a shaft in the chamber, cylinders at opposite end of the chamber inclining toward the shaft, and pistons in the cylinders operatively connected with the shaft.

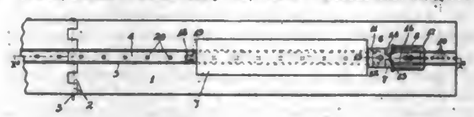
3. In a car-truck, the combination with the truck-wheels and spring-supported side-frames, of a truck-bolster supported upon the side-frames and including in its organization oppositely-disposed cylinders and a chamber between the cylinders, pistons in the cylinders, and a shaft in said chamber operatively connected with the pistons and with wheels of the truck.

4. In a car truck, the combination with the wheel-axles and spring-supported wheel-pieces, of a truck-bolster supported upon the wheel-pieces and including in its organization oppositely-disposed cylinders and a chamber between the cylinders, pistons in the cylinders, and a shaft extending across, and beyond opposite walls of, the chamber and operatively connected with the pistons, the shaft being operatively connected outside said chamber with a wheel-axle.

5. In a car-truck, the combination with the wheel-axles, and spring-supported wheel-pieces, of a truck-bolster supported upon the wheel-pieces and including in its organization oppositely-disposed cylinders and a chamber between the cylinders, pistons in the cylinders, a shaft extending across, and beyond opposite walls of, the chamber and operatively connected with the pistons, and a fly-wheel on the shaft, the shaft being operatively connected with a wheel-axle.

[Claims 6 to 20 not printed in the Gazette.]

977,695. BENCH-CLAMP. DANIEL A. ANDERSON, Deer Creek, Minn. Filed May 19, 1910. Serial No. 562,171.



1. In a bench clamp, the combination with a base board provided with a longitudinally extended guide strip, of a clamp supporting plate slidably mounted on said guide strip and provided with a latch engageable with perforations in said guide strip to adjustably secure said plate in different positions, a clamping head having a limited sliding movement on said supporting plate, a crank shaft connected to said supporting plate and the said clamping head and provided with a hand piece for oscillating the same to thereby move said clamping head and said crank shaft being movable from one side to the other of a dead center, and a second clamping head on said base plate, substantially as described.

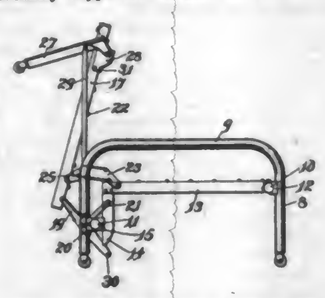
2. In a bench clamp the combination with a base board provided with a longitudinally extended guide strip, of a clamp supporting plate slidably mounted on said guide strip, a pair of laterally spaced yielding bearing bars connected at one end to said supporting plate, a clamping head having a limited sliding movement on said supporting plate, a crank shaft provided with an operating ball and movably connecting said clamping head to the free ends of said supporting bars, means for adjustably securing said supporting plate in different positions on said guide strip, and a second clamp head on said base board, substantially as described.

977,696. FOLDING BED. HARRY B. ARNOLD, New Britain, Conn., assignor to The National Spring Bed Company, New Britain, Conn., a Corporation of Connecticut. Filed Apr. 8, 1910. Serial No. 554,204.

1. A folding bed including a supporting frame having end rails rigidly connected by a side member secured thereto, said frame being open at the opposite side, means rigidly fixed against movement and located beyond the point of possible contact with a fabric supported by said member for holding the end rails rigidly in fixed relation at the open side of the frame, a carrier pivotally secured to said frame, and a swinging bed member pivotally supported on said carrier.

2. A folding bed including a supporting frame having end rails rigidly united at their ends by a side piece secured thereto, said frame being open at the opposite

side, downwardly projecting supports from the end rails at the open side of the frame, a rail rigidly connecting said supports and located below the point of possible contact with a fabric supported by said frame, a carrier pivotally secured to said end rails, and a swinging bed member pivotally supported on said carrier.



3. A supporting member, a fabric supporting frame located below the tops of the supporting member and open at one side, fabric frame supports projecting downwardly therefrom at the open side thereof, a rail secured to the supporting member and rigidly connecting the lower parts of said fabric frame supports, a carrier pivotally attached to said supporting member, and a swinging bed member pivotally supported on said carrier.

4. A supporting member, a fabric supporting frame including end rails each secured at one end to the supporting member, said frame being open at the opposite ends of the rails, fabric frame supports projecting downwardly from the rails at the open ends of the frame, a rail secured to said fabric frame supports to rigidly connect them, a carrier pivotally secured to said end rails, and a swinging bed member pivotally supported on said carrier.

5. A supporting member including two end frames, a bar connecting said frames at one side, a fabric supporting frame having end rails rigidly secured to said bar, fabric frame supports projecting downwardly from the opposite ends of each of said end rails, a rail secured at its opposite ends to each of said end frames and also secured to said fabric frame supports, a carrier pivotally secured to each of said end bars, and a swinging bed member pivotally supported on said carrier.

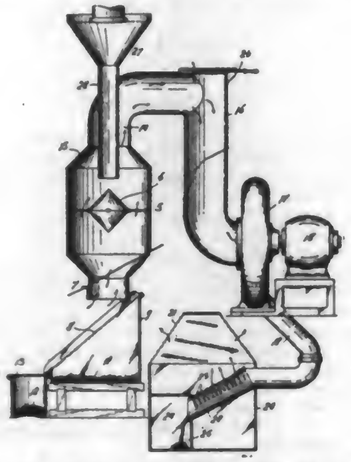
[Claims 6 to 18 not printed in the Gazette.]

977,697. COFFEE-CLEANING APPARATUS. WILLIAM D. BALCOM, Greeley, Colo., assignor of one-half to Nella C. Balcom, Greeley, Colo., and one-fourth to John W. Morey and one-fourth to Edgar E. Sellers, Denver, Colo. Filed Dec. 5, 1908. Serial No. 466,176.

1. A coffee cleaner, comprising a vertically-disposed, open-ended drum suitably supported, a discharge pipe entering the drum from the top, a cone-shaped spreader located therein directly under the discharge pipe, a draft conduit communicating with the upper extremity of the drum, a screen-covered housing in which the opposite extremity of the conduit is located, a suction producing device located intermediate the conduit and a gate, located between the suction-producing device and the drum, as means of regulating the draft produced, substantially as described.

2. A coffee cleaner, comprising a vertically-disposed, open-ended pipe or drum, a cone-shaped spreader mounted thereon, means for discharging the coffee on the spreader from above, a draft conduit communicating with the upper extremity of the drum, a screen-covered housing in which the opposite extremity of the conduit enters, the extremity of the conduit within the housing having a plurality of slots for the escape of the waste material, and means for causing a draft therethrough, substantially as described.

3. A coffee cleaner, comprising an open-ended drum, means for causing the coffee to be treated to pass downwardly through the drum, means for producing an upward draft through the drum, a receptacle at the discharge extremity of the drum, and provided with an inclined screen cover upon which the clean coffee is discharged, a second receptacle adapted to receive the coarse grade of coffee from the inclined screen, while the fine grade passes through the screen into the first-named receptacle, and a screened housing communicating with the upper extremity of the drum into which the waste material is adapted to enter, under the action of the draft, substantially as described.



4. A coffee cleaner, comprising a vertically disposed drum, provided with reduced open ends, a cone-shaped spreader centrally suspended therein, a discharge pipe entering the drum from the top, and terminating above the apex of the spreader, whereby the coffee to be treated is discharged upon the latter, and caused to spread outwardly in all directions, a receiving receptacle provided with a screen cover, located under the lower extremity of the drum, a draft conduit communicating with the upper extremity of the drum, a screen covered housing in which the opposite extremity of the draft conduit is located, a suction producing device, located intermediate the said draft conduit, a gate, located intermediate the suction producing device and the drum, for regulating the draft therethrough, to cause the coarser grade of coffee to be discharged at the lower extremity of the drum on the inclined screen of the receiving receptacle, and the fine material to pass through the draft conduit and enter the screen covered housing under the influence of the suction producing means, substantially as described.

977,698. LINING BOXES TO CONTAIN EXPLOSIVES. HAMILTON M. BARKSDALE, Wilmington, Del., assignor to E. I. du Pont de Nemours Powder Company, Wilmington, Del., a Corporation of New Jersey. Filed Dec. 13, 1909. Serial No. 532,747.



1. In combination with a former, the outer contour of which is slightly less than the interior of the box and provided with vertical grooves in its sides and a groove in its bottom parallel to the ends of the former, of a table having a projection adapted to mate with the groove in the bottom of the former, plates pivotally connected with said table on opposite sides of said projection, said plates

having projections corresponding to the vertical grooves in said former, and means to move said plates on their pivots to cause the projections to enter the grooves.

2. In combination with a former, the outer contour of which is slightly less than the interior of the box and provided with vertical grooves in its sides and a groove in its bottom parallel to the ends of the former, of a table having a projection adapted to mate with the groove in the bottom of the former, plates pivotally connected with said table on opposite sides of said projection, said plates having projections corresponding to the vertical grooves in said former, and means to move said plates on their pivots to cause the projections to enter the grooves, said plates being movable toward and from said table projection.

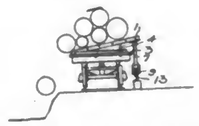
3. In combination with a former, the outer contour of which is slightly less than the interior of the box and provided with vertical grooves in its sides and a groove in its bottom parallel to the ends of the former, of a table having a projection adapted to mate with the groove in the bottom of the former, plates on opposite sides of said projection, carriers to which said plates are pivoted, said carriers being mounted on the table to move toward and from said table projection, said plates having projections corresponding to the vertical grooves in said former.

4. In combination with a former adapted to enter the box to be lined, said former having vertical grooves in its sides and a groove in its bottom parallel to the ends of the former, of a table having a projection adapted to mate with the groove in the bottom of the former, plates pivotally connected with said table on opposite sides of said projection, said plates having projections corresponding to the vertical grooves in said former, and means to move said plates on their pivots to cause the projections to enter the grooves.

5. In combination with a former adapted to enter the box to be lined, said former having vertical grooves in its sides and a groove in its bottom parallel to the ends of the former, of a table having a projection adapted to mate with the groove in the bottom of the former, plates pivotally connected with said table on opposite sides of said projection, said plates having projections corresponding to the vertical grooves in said former, and means to move said plates on their pivots to cause the projections to enter the grooves, said plates being movable toward and from said table projection.

[Claims 6 to 22 not printed in the Gazette.]

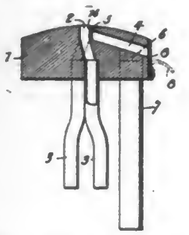
977,699. CAR-DUMPING DEVICE. JAMES H. BERRYMAN, Tacoma, Wash. Filed Mar. 28, 1910. Serial No. 551,948.



1. In a car-dumping device, the combination of a load-carrying car; a vertically movable bunker mounted on the car and under the load; a lifting bar mounted on the said bunker and adapted to raise one end thereof; a tension rod secured to the car and to the lifting bar to brace it; and an inclined and elevated rail adapted to be engaged by the lifting bar and adapted to raise said bar and one end of the bunker to dump the load thereon as the car moves therepast.

2. In a car-dumping device, the combination of a load-carrying car; a vertically movable bunker mounted on the car and under the load; a lifting bar mounted on the said bunker and extending downward therefrom, but adapted to be swung into substantially horizontal inoperative position; a tension rod adjustably secured to the car and to the lifting bar to brace it in either of said positions; and an inclined and elevated rail adapted to be engaged by said lifting bar when in its vertical position and adapted to raise said bar and one end of the bunker to dump the load.

977,700. TRACKER-BAR. GEORGE P. BRAND, New York, N. Y. Filed Apr. 7, 1909. Serial No. 488,342.



1. A tracker bar provided with note ducts and bleed holes communicating with the same and disposed at approximately the outer face of the tracker bar the entrances to said bleed holes being visible and accessible through the mouth of said duct.

2. A tracker-bar having a chamber and a bleed hole disposed in proximity to the acting face of said tracker-bar and in communication with said chamber and with the duct of the tracker-bar, said bleed hole being disposed intermediate the acting face of the tracker-bar and said chamber and accessible through the mouth of the tracker-duct in line with said chamber.

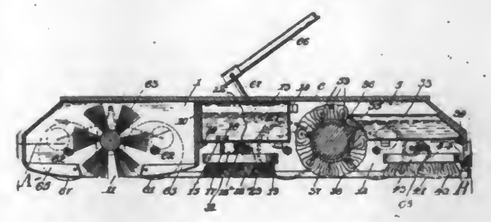
3. A tracker-bar provided with a duct and a chamber, and a bleed hole disposed in close proximity to the acting face of the tracker-bar and communicating with said chamber and with the duct of the tracker-bar, said bleed hole terminating adjacent the outer end of the tracker-duct, the distance from the bleed to the mouth being less than the diameter of the duct, the bottom wall of said chamber being inclined downwardly and away from the tracker-duct.

4. A tracker-bar provided with a duct and a chamber, a bleed hole disposed in close proximity to the acting face of the tracker-bar and communicating with said chamber and with the duct of the tracker-bar, said bleed hole terminating adjacent the outer end of the tracker-duct, the distance from the bleed to the said outer end being less than the diameter of the duct, the bottom wall of said chamber being inclined downwardly and away from the tracker-duct, and a movable closure for the outer end of said chamber.

5. A tracker-bar provided with a duct and a chamber, and a bleed hole disposed in close proximity to the acting face of the tracker-bar and communicating with said chamber, said bleed hole terminating adjacent the outer end of the tracker-duct, the distance from the bleed to the said mouth being less than the diameter of the duct, the bottom wall of said chamber being inclined downwardly and away from the tracker-duct, the inlet end of said bleed hole being provided with rounded walls.

[Claims 6 to 12 not printed in the Gazette.]

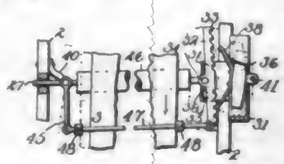
977,701. FLOOR-CLEANER. KARL TORSTEN BROBERG, Montreal, Quebec, Canada, assignor of two-thirds to Arthur Hawthorne Davis, St. John, New Brunswick, Canada. Filed Feb. 8, 1909. Serial No. 476,610.



In a floor cleaner, in combination, a casing, a chamber at the front end, a water tank located immediately to the rear of said chamber having a discharge orifice through

the bottom thereof, a rotary scrubbing brush operating horizontally beneath said tank and having a plurality of perforations through the back thereof and a central stub shaft and a trip lug projecting upwardly therefrom, a cross bar forming a bearing for said shaft, a worm wheel mounted on said stub shaft, a worm shaft journaled in the sides of said casing and coacting with said worm wheel, a pinion mounted on said worm shaft outside the casing, running gear supporting said casing, a plurality of gear wheels connecting said running gear with said worm shaft pinion, a spring-held valve closing the aforesaid discharge orifice and operated by said trip lug, a rotary mop having its supporting shafts journaled in the sides of said casing, a pinion on the mop shaft connected with said gear wheels, and a horizontal wiping mop having a stub shaft projecting upwardly and centrally therefrom, a cross bar forming a bearing for said stub shaft from the wiper, a worm-wheel on said wiper shaft, a worm shaft journaled in the sides of said casing and coacting with said worm-wheel, and a pinion mounted on said wiper worm shaft and connected with said gear wheels.

977,702. AUTOMATIC CENTERING DEVICE FOR ENDLESS APRONS. PAUL L. BROCKARDT, Hamilton, Ohio. Original application filed Aug. 12, 1908, Serial No. 448,113. Divided and this application filed July 6, 1909. Serial No. 506,205.



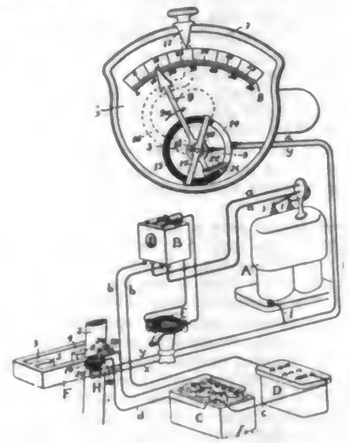
1. An automatic centering device for endless aprons comprising a movable bearing, a guide roll journaled at one end therein, a rack bar mounted to oscillate on the bearing, a block provided with a pawl adjacent to the rack, means actuated by the lateral movement of the apron for oscillating the rack in a plane with the pawls, and lever mechanism arranged for alternately oscillating the block for engaging and disengaging the pawl with the rack and for sliding the block with the rack.

2. An automatic centering device for endless aprons comprising a movable bearing, a guide roll journaled at one end therein, a rack bar mounted to oscillate on the bearing, a block provided on one side with pawls adapted to engage with opposite portions of the rack, means actuated by the lateral movement of the apron for oscillating the rack into engagement with either of the pawls, and lever mechanism arranged to alternately oscillate and slide the block for respectively engaging the pawls with the rack alternately and for moving the rack and bearing with the guide roll at different angles to the direction of the apron.

3. An automatic centering device for endless aprons comprising a bearing slidably mounted on a support, a transverse guide roll journaled at one end therein and contacting with the apron, a rack pivotally mounted at its center on the bearing, a transverse rod pivotally engaging with one end of the rack and provided with shoes arranged to contact alternately with the respective edges of the apron for moving the rod longitudinally with the rack in different horizontal angles, a block provided on one side with oppositely disposed pawls adapted to alternately engage with opposite end portions of the rack, and a lever for actuating the block.

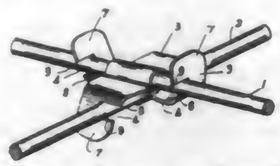
977,703. AUTOMATIC SPEED CONTROL. THEOPHILUS BROWN, Worcester, Mass. Filed Dec. 26, 1907. Serial No. 408,036.

In a speed control for explosion engines, the combination with an indicator for indicating the speed of a vehicle, means on said indicator for opening an electric circuit for preventing the formation of a spark in the cylinder of the engine to reduce the speed of the engine, a change speed lever arranged to occupy different positions corresponding to the different speeds of said vehicle and



means acting automatically for cutting said indicator out of said circuit except when said lever is in the position of highest speed.

977,704. SPRING-CLIP FOR REINFORCING-BARS. JAMES L. BROWNLEE, Wheeling, W. Va. Filed June 21, 1909. Serial No. 503,587.



1. In a reinforced construction, the combination of cross members or bars with spring clips having central cross grooves, to receive the members or bars and partly surround same, resilient arms extending outward and downward from the edges of the central cross grooves and terminating in legs bent upward from the backs of the resilient arms; said legs provided with edge slots that receive the coöperating cross members or bars and form seats for same, substantially as specified.

2. In a reinforced construction, the combination of cross members or bars with spring clips having central cross grooves to receive the members or bars and partly surround same, resilient arms extending outward and downward from the edges of the central cross grooves and terminating in legs bent so as to form angles of or near 45° with the coöperating members or bars, said legs provided with edge slots that receive the members or bars and form seats for same, substantially as specified.

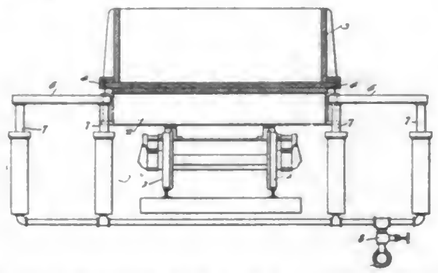
3. In a reinforced construction, the combination of cross members or bars with spring clips having central cross grooves to receive the members or bars and partly surround same, resilient arms extending outward and downward from the edges of the central cross grooves and terminating in legs bent so as to form angles of or near 45° with the coöperating cross members or bars, said legs provided with edge slots whose sides are perpendicular to the faces of the clips opposite engaging edges that bite opposite sides of the coöperating cross members or bars and prevent them from slipping through the edge slots; said engaging edges formed by the sides of the edge slots being perpendicular to the faces of the clips and the legs carrying said edge slots bent so as to form angles of or near 45° with a horizontal plane passed through the central cross groove, substantially as specified.

4. In a reinforced construction, the combination of cross members or bars with spring clips having central cross grooves to receive the members or bars and partly surround same, resilient arms extending outward and downward from the edges of the central cross grooves, so as to form resilient body portions for the legs and space between said legs to permit the clips to intersect, said legs provided with edge slots that receive the coöperating cross members or bars and form seats for same substantially as specified.

5. In a reinforced construction, the combination of cooperating cross members or bars with a pair of spring clips struck from a blank sheet or plate of steel, or other resilient metal, and crimped so as to form central cross grooves to receive the coöperating cross members or bars and partly inclose same, resilient arms extending outward and downward from the top edges of the central cross grooves, legs formed by the extremities of the resilient arms being bent upward from the backs of the clips so as to form angles of or near 45° with a horizontal plane passed through the central cross grooves, said legs provided with edge slots whose sides are perpendicular to the faces of the clips, and diagonally opposite engaging edges that bite opposite sides of the coöperating cross members or bars and prevent them from slipping through the edge slots, said engaging edges formed by the sides of the edge slots being perpendicular to the faces of the clips and the legs carrying said edge slots bent so as to form angles of or near 45° with a horizontal plane passed through the central cross grooves, said clips interlocked so that the central cross groove of one clip receives one of the coöperating cross members or bars and the central cross groove of the other clip to receive the other coöperating cross member or bar and the edge slots of one clip to receive the member or bar that passes through the central cross groove of the other clip and the edge slots of the other clip to receive the member or bar that crosses the member or bar passing through its central cross groove, substantially as specified.

[Claims 6 to 9 not printed in the Gazette.]

977,705. FREIGHT-CAR AND THE LIKE. JOHN BRYAN, Yellow Springs, Ohio. Filed Dec. 1, 1909. Serial No. 530,719.



1. The combination, with a track, a truck adapted to travel on said track, a supporting member, and a container removably mounted on said supporting member, of means, permanently arranged with respect to said track, to lift said container to permit the withdrawal of said truck and said supporting member and to support said container after said truck and said supporting member have been withdrawn.

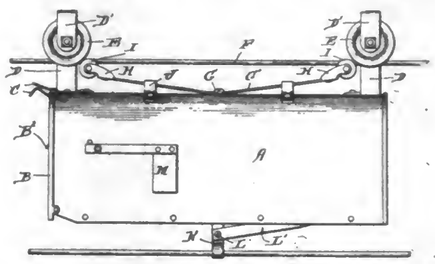
2. The combination, with a track, a truck adapted to travel on said track, a supporting member, and a container mounted on said supporting member and having outwardly extending portions, of lifting jacks permanently arranged on each side of said track to engage the outwardly extending portions of said container, and means for actuating said lifting jacks in unison.

3. The combination, with a track, a truck, and a removable container mounted on said truck, of loading platforms permanently arranged on opposite sides of said track and forming a support for said container when the latter has been removed from said truck.

4. The combination, with a track, a truck, and a container removably mounted on said truck, of a loading platform arranged on one side of said track and forming a support for the corresponding side of said container when the latter has been removed from said truck, and means for supporting the opposite side of said container.

5. The combination, with trucks, a supporting member, and a container removably mounted on said supporting member and having portions extending outward beyond the opposite sides of said supporting member, of permanently arranged platforms spaced apart to receive said trucks between them and having portions adapted to extend beneath the outwardly extending portions of said container, and means for raising and lowering said platforms.

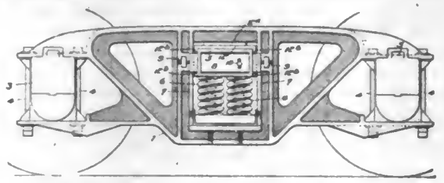
977,706. MAIL CARRIER OR BOX. WILLIAM T. BUCK, Vliets, Kans. Filed Feb. 23, 1910. Serial No. 545,397.



1. A mail carrier comprising a metal box having hangers secured thereto adjacent each provided with inverted U-shaped portions, grooved wheels mounted in said U-shaped portions, and a bowed spring secured on the top of said box having forked brackets secured on its ends carrying grooved wheels for engaging the underside of the supporting track.

2. A mail carrier having hangers provided with grooved wheels for supporting the same on cable track, spring actuated retaining wheels for engaging the underside of the said cable track adjacent said supporting wheels, and a U-shaped strap carried by the bottom of said carrier having a clamping bolt for binding said strap over the operating cable.

977,707. CAR-TRUCK. HARRY C. BUHOUP, Chicago, Ill. Filed Mar. 28, 1910. Serial No. 552,009.



1. In a car truck, the combination with side-frames each having a bolster opening therein and columns adjacent to said opening, of a bolster, a bolster guide at each end of and removably secured to said bolster and adapted to overlap the outer faces of the columns of the respective side-frames, and a bolster guide at each end of and removably secured to said bolster and adapted to overlap the inner faces of the columns of the respective side-frames.

2. In a car truck, the combination with side-frames each having a bolster opening therein and columns adjacent to said openings, of a bolster which is wider intermediate of its ends than at its ends, inner and outer bolster guides mounted on each end of said bolster, and side bearings mounted upon said inner bolster guides.

3. In a car truck, the combination with side-frames, of a bolster having slotted ends, bolster guides fitting in the

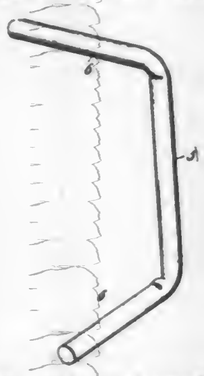
said slotted ends of the bolster and overlapping their respective side-frames, and bolster guides mounted on said bolster and overlapping their respective side-frames.

4. In a car truck, the combination with side-frames each of which is provided with columns, of a bolster, outer bolster-guides overlapping the outer faces of the columns of their respective side-frames, and inner bolster-guides which are secured to and straddle the bolster and overlap the inner faces of the columns of their respective side-frames.

5. In a car truck, the combination with side-frames each of which is provided with columns, of a bolster, outer bolster-guides overlapping the outer faces of the columns of their respective side-frames, inner bolster-guides which are secured to the bolster and overlap the inner faces of the columns of their respective side frames, and a side bearing mounted on each of said inner bolster-guides.

[Claims 6 to 10 not printed in the Gazette.]

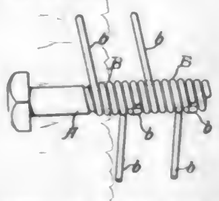
977,708. FLOORING-TOOL. JOHN E. BURNS, Minneapolis, Minn. Filed Sept. 23, 1910. Serial No. 583,420.



1. A tool of the class described comprising a shank having a lateral bend at one of its ends, said bend being offset with respect to corresponding sides of the shank.

2. A tool of the class described comprising a shank having a lateral bend at each of its ends, said bends being offset with respect to corresponding sides of the shank, and lying in planes at right angles to each other.

977,709. REINFORCEMENT SCREW-BORE. DAVID CRAIG, Melrose, Mass., assignor to The David Craig Company, a Corporation of Maine. Filed Nov. 30, 1908. Serial No. 465,368.



1. A reinforcement for a screw bore comprising a wire bent to form a helix having one or more laterally projecting arms adapted to anchor said reinforcement to the material in which said bore is formed.

2. In combination with a mass of hardened plastic material having a screw bore formed therein, a reinforcement for said bore comprising wire bent to form a helix partially embedded in the walls of said bore, and one or more arms projecting from and formed integral with said reinforcement and embedded in said material.

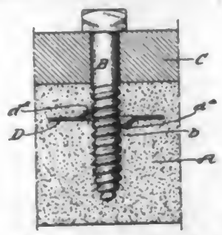
3. In combination with a mass of hardened plastic material having a bore formed therein, a reinforcement for said bore comprising wire bent to engage the ribs or threads of a bolt or the like, said wire partially embedded in the walls of said bore and having integral arms extending laterally away from said bore and embedded in said material.

4. In combination with a mass of hardened plastic material having a screw bore formed therein, a reinforcement for said bore comprising wire bent to form a helix partially set into the walls of said bore, and a threaded bolt or screw engaging said helical wire with its thread extending into and part way through the spaces between the coils of said helix, that part of said spaces between the coils of said helix not occupied by said thread being filled with said hardened plastic material and arms made integral with said helical wire embedded in said material whereby said reinforcement is anchored within said bore.

5. In combination with a mass of hardened plastic material having a screw bore formed therein, a reinforcement for said bore comprising wire bent to form a helix partially set into the walls of said bore, the coils of said helix being spaced apart, and a threaded bolt or screw engaging said helical wire with its thread extending into and part way through the spaces between the coils of said helix, that part of said spaces between the coils of said helix not occupied by said thread being filled with said hardened plastic material portions of said wire extending tangentially from said coils and embedded in said material whereby said reinforcement is anchored within said bore.

[Claims 6 and 7 not printed in the Gazette.]

977,710. MEANS FOR SECURING BOLTS IN BODIES OF HARDENED PLASTIC MATERIAL. DAVID CRAIG, Melrose, Mass., assignor to The David Craig Company, a Corporation of Maine. Filed Mar. 11, 1909. Serial No. 482,857.



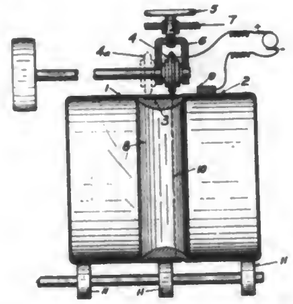
1. In combination with a mass of hardened plastic material, an anchor for a bolt comprising a sheet of metal having a perforation therethrough, the opposed edges of said perforation being oppositely bent to form offset screw engaging means, and a screw threaded bolt extending into said material and passing through said perforation, the thread of said bolt engaging the offset edges of said perforation.

2. In combination with a mass of hardened plastic material, an anchor for a bolt comprising a sheet of metal having a perforation therethrough, said sheet being slit at opposite sides of the perforation to form two opposed lips, said lips being oppositely bent from the plane of said sheet, and a screw threaded bolt extending into said material and passing through said perforation, the thread of said bolt engaging said offset opposed lips.

3. In combination with a mass of hardened plastic material, an anchor consisting of an elongated strip of metal, wholly embedded within said mass, said strip being twisted and having a series of flattened parts made with perforations therethrough, and a plurality of bolts extending into said material and provided with screw threads or ribs which engage the edges of said perforations.

4. In combination with a mass of plastic material, an anchor consisting of an elongated metallic strip, wholly embedded within said mass, said strip being readily flexible, whereby it may be given any desired shape within said plastic mass before the same hardens, said strip being also provided with a series of perforations, and a plurality of bolts extending into said material and provided with screw threads or ribs which engage the edges of said perforations.

977,711. METHOD OF ELECTRIC WELDING. JAMES F. CRAVEN, Pittsburg, Pa. Filed Mar. 5, 1909. Serial No. 481,492.



1. The method of electrically welding sheets or thin plates consisting in overlapping said sheets or plates and progressively pressing the overlapping portions thereof firmly together along a line so narrow as to force the sheets into intimate contact to form a good path of conductivity for the current and to concentrate the current to produce a high degree of heat, and simultaneously therewith passing an electric current from plate to plate at said line and fusing the metal and producing the weld.

2. The method of electrically welding sheets or thin plates consisting in overlapping said sheets or plates and progressively pressing the overlapping portions of the sheet firmly together by rolling pressure along a line so narrow as to force the sheets into intimate contact to form a good path of conductivity for the current and to concentrate the current to produce a high degree of heat, and simultaneously therewith passing an electric current from plate to plate at said line and fusing the metal and producing the weld.

3. The method of electrically welding sheets or thin plates consisting in overlapping said sheets or plates and by means of properly shaped electrical terminals progressively pressing the overlapping portions firmly together along a line so narrow as to force the sheets into intimate contact to form a good path of conductivity for the current and to concentrate the current to produce a high degree of heat, and simultaneously therewith passing an electric current from plate to plate at said line and fusing the metal and producing the weld.

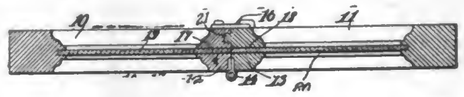
4. The process of electrically welding sheets or thin plates consisting in overlapping said sheets or plates and by means of properly shaped rolling electrical terminals progressively pressing the overlapping portions together along a line so narrow as to force the sheets into intimate contact to form a good path of conductivity for the current and to concentrate the current to produce a high degree of heat, and simultaneously therewith passing an electric current from plate to plate at said line and fusing the metal and producing the weld.

5. The method of electrically welding overlapping tubular sheets or thin plates, consisting in applying a stiffening ring inside of the overlapping portions, and then progressively pressing said overlapping portions into close contact along a line, and simultaneously therewith passing an electric current from plate to plate and thereby fusing the metal and producing the weld.

[Claims 6 and 7 not printed in the Gazette.]

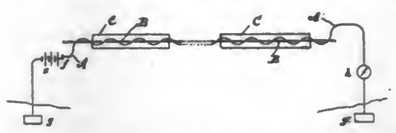
977,712. WINDOW-SASH. WILLIAM R. CAUMP, Collinsville, Tex. Filed May 31, 1910. Serial No. 564,247.

1. A window sash formed in two sections having glass receiving channels in their members and arranged edge to edge, the channels of the confronting members of the sash sections being extended entirely through the same to permit the glass to engage edge to edge, hinges uniting the confronting members of the sash sections at one side, and fastening means uniting said confronting members at the opposite sides.



2. A window sash formed in two sections having glass receiving channels in their members and arranged edge to edge, the channels of the confronting members of the sash sections being extended entirely through the same to permit the glass to engage edge to edge and the adjacent faces of the confronting sash members tongued and grooved longitudinally at one side of the glass receiving channel, hinges uniting the confronting members of the sash sections at one side, and fastening means uniting said confronting members at the opposite side.

977,713. ELECTRIC CABLE. JOHANNES H. CUNTZ, Hoboken, N. J. Filed Mar. 29, 1901. Serial No. 53,476.



1. A cable consisting of a continuous conductor, disposed helically about a supporting core, so as to counteract suitably the electrostatic capacity of the cable.

2. A cable consisting of a continuous conductor disposed helically about a supporting non-current carrying core, said core consisting of stranded paramagnetic material so as to secure a suitable amount of inductance to counteract the electrostatic capacity.

3. A cable consisting of a continuous conductor disposed helically about a supporting core, said core consisting of stranded paramagnetic material, insulating material surrounding and inclosing said core and conductor for suitably counteracting the electrostatic capacity of the cable.

4. An article of manufacture, a cable consisting of a core of high permeability, one or more conductors wound helically about the same and insulated therefrom whereby any intentional leakage is prevented, insulation surrounding and inclosing said conductor and core, and sheathing surrounding said insulation for the purpose of suitably counteracting the electrostatic capacity of the cable.

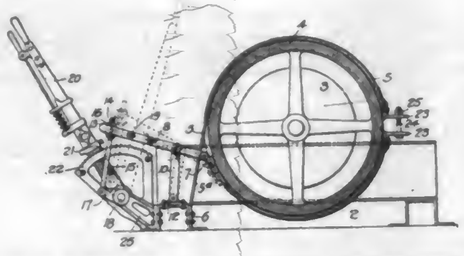
5. A cable comprising a core consisting of fine wires of high permeability, a conductor consisting of a plurality of parts constituting the sole current-carrying member, said conductor helically disposed about said core and insulated therefrom, so as to counteract suitably the electrostatic capacity.

[Claims 6 to 18 not printed in the Gazette.]

977,714. BAND-BRAKE. GILBERT H. DENTON, Denver, Colo. Filed Apr. 21, 1909. Serial No. 491,357.

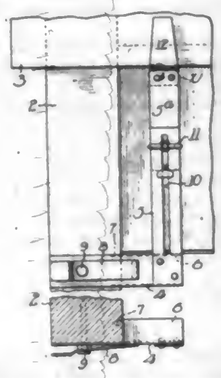
1. In a band-brake, the combination with an element having a circular brake-surface, of a band partly encircling the same, an end portion of the said band projecting tangentially to the said surface and being fixed at its extremity upon a stationary support, while its opposite end terminates in close proximity to the said surface, an arm oscillatory upon a stationary support, a lever fulcrumed upon the free extremity of the latter and connected with the free end of the band, a controlling lever, and a means, for transposing an oscillatory motion of the latter into a movement of the first named lever about its fulcrum.

2. In a band-brake, the combination with an element having a circular brake-surface, of a band partly encircling the same, an end portion of the said band projecting tangentially to the said surface and being fixed at its extremity upon a stationary support while its opposite end terminates in close proximity to the said surface, an oscillatory support, a lever fulcrumed upon the free extremity of the latter and connected with the free end of the band, a controlling lever, a crank arm operatively associated therewith, and a pitman connecting the latter with the first named lever.



3. In a band brake the combination with an element having a circular brake-surface, of a band partly encircling the same, an end portion of the said band projecting tangentially to the said surface and being fixed at its extremity upon a stationary support, while its opposite end terminates in close proximity to the said surface and to the point of tangency of the fixed end portion, and a lever one arm of which is pivotally connected with the free end of the band and intersects the said fixed end portion, the said lever having its fulcrum movable in the direction of the brake-surface, whereby when by actuation of the opposite arm of the said lever, the latter is moved about its fulcrum, the free extremity of the said band will be drawn simultaneously toward the point of tangency of its fixed portion and toward the said surface.

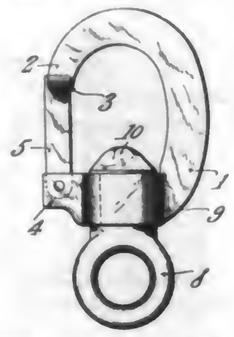
977,715. WEATHER-BOARDING GAGE. JAMES W. DOUGHERTY, Sterling, Kans. Filed Mar. 14, 1910. Serial No. 549,162.



1. A weather boarding gage comprising a long and a relatively short member arranged at right angles to each other, said relatively short member having toothed depending lateral members made integral therewith and a finger provided with a nail arranged thereon, said long member being extensible and terminating in a finger made integral therewith.

2. A weather boarding gage comprising a long and a relatively short member arranged approximately at right angles to each other, said relatively short member having toothed depending lateral members made integral therewith and a finger provided with a nail arranged thereon, said long member comprising a stationary and a movable portion, a finger made integral with said movable portion and a prong secured to said movable portion near the base of the aforesaid finger.

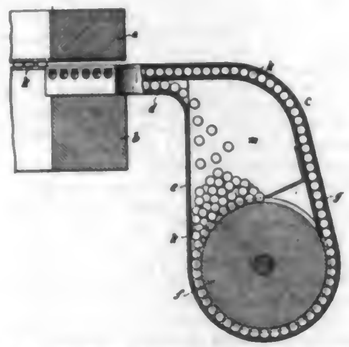
977,716. HOOK. JOSEPH DOYO, Tenino, Wash. Filed Jan. 10, 1910. Serial No. 537,285.



1. A hook comprising a shank having one end portion adapted to be connected with a cable and its other end portion formed into a bill having a transversely disposed slot, a latch pivoted to the shank and having a free end portion adapted to enter the slot at the bill of the shank and to spring laterally into engagement with the side walls of the said slot.

2. A hook comprising a shank having one end portion formed into a bill provided with a transversely disposed slotted extremity, a latch pivoted to the shank and having a bifurcated end adapted to enter the slot at the bill end of the shank and to spring into engagement with the side walls of the said slot, an eye swiveled to the other end portion of the said shank and having an enlarged end located within the said shank.

977,717. BALL-GRINDING MACHINE. BERTHOLD EITNER, Berlin, Germany. Filed Aug. 31, 1909. Serial No. 515,388.



1. A ball grinding machine comprising grinding plates formed with annular grooves, means for operating said plates in a horizontal plane, means for mixing the balls at an intermediate period in the grinding operation, means for positively removing the balls from said grinding plates to said mixing means, and means for positively returning said balls to said grinding plates.

2. A ball grinding machine comprising grinding plates formed with annular grooves, means for operating said plates in a horizontal plane, a mixing chamber for mixing the balls at an intermediate period in the grinding operation; means for positively removing the balls from said grinding plates to said mixing chamber, and means for positively returning said balls to said grinding plates.

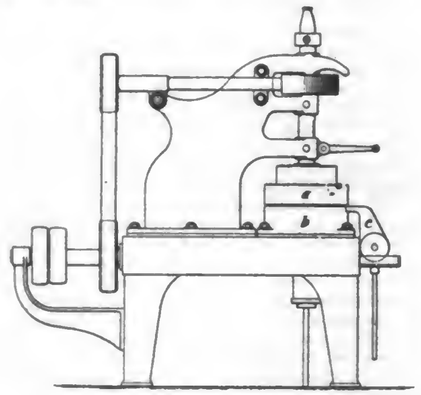
3. A ball grinding machine comprising grinding plates formed with annular grooves, means for operating said plates in a horizontal plane, means for mixing the balls at an intermediate period in the grinding operation, means for positively removing the balls from said grinding plates to said mixing means, a conveyer plate having grooves therein for positively returning said balls to said grinding plate and means for rotating said conveyer plate.

4. A ball grinding machine comprising grinding plates formed with annular grooves, means for operating said plates in a horizontal plane, a mixing chamber for mixing the balls at an intermediate period in the grinding operation; means for positively removing the balls from said grinding plates to said mixing chamber, a conveyer plate having grooves therein for positively returning said balls to said grinding plates, and means for rotating said conveyer plate.

5. A ball grinding machine comprising grinding plates formed with annular grooves, means for operating said plates in a horizontal plane, means for mixing the balls at an intermediate period in the grinding operation, means connecting said mixing means with said grinding plates, means for positively removing the balls from said grinding plates to said mixing chamber, and means for positively returning said balls to said grinding plates.

[Claims 6 and 7 not printed in the Gazette.]

977,718. BALL-GRINDING MACHINE. BERTHOLD EITNER, Berlin, Germany. Filed Aug. 31, 1909. Serial No. 515,389.



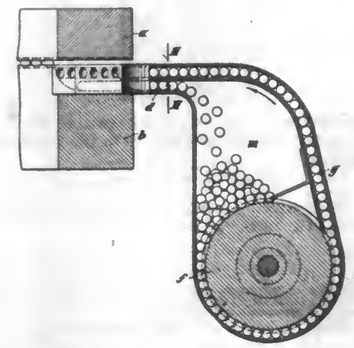
1. A ball grinding machine comprising ball grinding plates operating in a horizontal plane, means for operating one of said plates, grooves in one of said plates and ball deflecting, mixing and returning means operating in conjunction with said grooved plate.

2. A ball grinding machine comprising an emery ball grinding plate, rotating in a horizontal plane, a coöperating stationary grooved plate, means adapted to operate said emery plate, and ball deflecting, mixing and returning means operating in conjunction with said stationary grooved plate.

3. A ball grinding machine comprising ball grinding plates operating in a horizontal plane, means for operating one of said plates, grooves in one of said plates, a grooved ball deflecting member acting in conjunction with said grooved plate, the grooves in said ball deflecting member being continuous with the grooves in said plate, ball mixing means and ball returning means including a further grooved ball deflecting member the grooves of which are also continuous with said grooved plate.

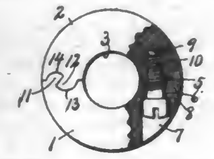
4. A ball grinding machine comprising a rotatable emery ball grinding plate, a stationary grooved ball grinding plate, means adapted to operate said emery plate to rotate in a horizontal plane, a grooved ball deflecting member acting in conjunction with said grooved plate, the grooves in said deflecting member being continuous with the grooves in said plate, ball mixing means and ball returning means including a grooved ball deflecting member the grooves of which are also continuous with said grooved plate.

977,719. BALL-GRINDING MACHINE. BERTHOLD EITNER, Berlin, Germany. Filed Mar. 26, 1910. Serial No. 551,673.



The combination of a pair of plates, a mixing receptacle below said plates, and an undivided collecting passage connected with channels in one of said plates, said undivided passage leading to the mixing receptacle.

977,720. SHAFT-COLLAR. FERRAND F. ELLIS, Oneida, N. Y. Filed Mar. 22, 1910. Serial No. 550,931.



1. A shaft collar comprising opposite substantially semicircular sections having registering shaft openings, the meeting faces of the sections at one side of the shaft opening being provided respectively with a longitudinally tapering rib and a corresponding longitudinally tapering groove, the rib wedging axially of the collar in the groove, and a clamping bolt connecting the collar sections at the opposite sides of the shaft opening and lying wholly within the periphery of the collar.

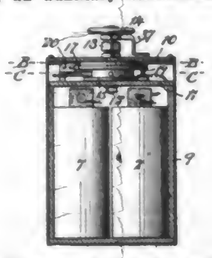
2. A shaft collar comprising opposite circular half sections each section having its meeting face at one side of the shaft opening provided with a longitudinally tapering rib and a longitudinally tapering groove, such rib and groove tapering in opposite directions, the rib of one section having a wedging fit with the corresponding groove in the other section, and means at the opposite side of the shaft opening for drawing the sections toward each other.

977,721. ELECTRIC BATTERY. CHARLES J. EVERETT, New York, N. Y. Filed Mar. 6, 1905. Serial No. 248,413.

1. In an electric battery, a plurality of cells, a box inclosing the same, battery terminals, a switch located within the box arranged to cut off one of the battery terminals, an auxiliary circuit maker and breaker under the control of the switch for cutting off the other battery terminal and means exterior to the box for operating the switch.

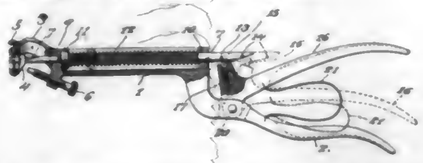
2. In an electric battery, a plurality of cells, a box inclosing the same, battery terminals, a switch located

within the box arranged to cut off one of the battery terminals and to successively bring additional cells into the battery circuit, an auxiliary circuit maker and breaker



under the control of the switch for cutting off the other battery terminal and means exterior to the box for operating the switch.

977,722. SAW-SET. DANIEL E. FABUN, Los Angeles, Cal. Filed Aug. 16, 1909. Serial No. 513,202.



1. A saw set comprising a shank, a head on the shank provided with an anvil, a hammer slidable on the shank, a spring in the shank bearing against the hammer, a pair of hand levers, one of which is fixed to the shank and the other pivoted to the shank, a spring pressed latch carried by the pivoted hand lever, the hammer having a notch which is engaged by said latch.

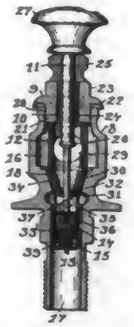
2. A saw set comprising a hollow shank having a finger grip extending therefrom in the same general longitudinal direction, a hammer longitudinally slidable in said shank, a coil spring in said hollow shank encircling the hammer, a head projecting beyond the shank, an anvil on said head in line with the end of said hammer, a hand lever pivoted to said shank and extending in the same general longitudinal direction as said shank, and means operated by said hand lever for co-acting with said hammer for retracting said hammer longitudinally in said shank, placing said spring under compression and suddenly releasing said hammer.

3. A saw set comprising a shank having a finger grip extending therefrom in the same general longitudinal direction, a hammer longitudinally slidable in the shank, a coil spring in the shank for propelling said hammer longitudinally therein, a head on the shank, an anvil on the head in line with said hammer, a collar screwed on said hammer against which said spring bears, a hand lever pivoted to said shank and extending in the same general longitudinal direction as said shank, and means operated by said hand lever for retracting the hammer to compress the spring and automatically release the hammer to permit the spring to drive the hammer toward the anvil.

4. A saw set comprising two hand levers pivoted together, one of said levers having a shank with an anvil at the forward end thereof, a hammer slidable in said shank, elastic means in said shank for driving said hammer toward said anvil, said shank extending in the same general longitudinal direction as said hand levers, the other lever having means operated by pressing said hand levers together for moving said hammer away from said anvil and then releasing said hammer.

977,723. VALVE MECHANISM. FREDERICK FRANKLIN FIELD, Lakewood, R. I. Filed May 17, 1910. Serial No. 561,883.

1. In a valve mechanism, a body member having a chamber, an inlet duct having a funnel-shape end opening into the chamber, an outlet duct from the chamber and an open end, a separable valve mechanism in the body member adapted to fit in the funnel-shape end of the inlet duct, means for simultaneously closing the open end of the body member and securing the valve mechanism in the funnel-shape end of the inlet duct and means for operating the valve mechanism.



2. In a valve mechanism, a body member having a chamber, an inlet duct having a funnel-shape end opening into the chamber, an outlet duct from the chamber and an open internally screw-threaded end, a separable valve mechanism in the body member having a member adapted to fit in the funnel-shape end of the inlet duct, means for simultaneously closing the open end of the body and securing the valve mechanism in the funnel-shape end of the inlet duct, consisting of a separable top screw-threaded into the open end of the body and engaging with the valve mechanism and means for operating the valve mechanism through the separable top on the body member.

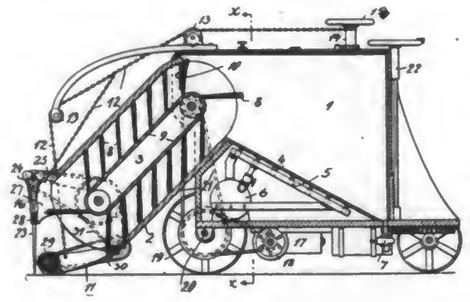
3. In a valve mechanism, a body member having a chamber, an inlet duct having a funnel-shape end opening into the chamber, an outlet duct from the chamber and an open internally screw-threaded end, a separable valve mechanism in the body member having a vacuum chamber member with a funnel-shape top which fits in the funnel-shape end of the inlet duct, a valve seat member having a cone-shape end which fits in the funnel-shape end of the vacuum chamber member and a valve head in the vacuum chamber member, means for simultaneously closing the open end of the body and for securing the valve mechanism in the funnel-shape end of the inlet duct, consisting of a separable top screw-threaded into the open end of the body member and engaging with the valve seat member and means for operating the valve head in the vacuum chamber member.

4. In a valve mechanism, a body member having a chamber, an inlet duct having a funnel-shape end opening into the chamber, an outlet duct from the chamber and an open internally screw-threaded top, a separable valve mechanism in the body member having a vacuum chamber member with inlet holes in the side and a funnel-shape top which fits in the funnel-shape end of the inlet duct, a valve seat member having a valve seat which surrounds an inlet opening and a cone-shape portion which fits in the funnel-shape end of the vacuum chamber member, a valve head slidable in the vacuum chamber member whereby a vacuum may be formed under the valve head when the valve head is moved outwardly, means for simultaneously closing the open top of the body and for securing the separable valve mechanism in the funnel-shape end of the inlet duct, consisting of a separable top screw-threaded into the open top of the body member and engaging with the valve seat member, means for operating the valve head to open the holes in the vacuum chamber member and to open the valve seat opening and means located within the vacuum chamber member and under the valve head for slowly closing the inlet holes in the vacuum chamber member and the valve seat opening in the valve seat member.

5. The combination in a valve mechanism of a body member having a chamber, an inlet duct having a funnel-shape end opening into the chamber and forming a funnel-shape seat, an outlet duct from the chamber and an open internally screw-threaded top, a separable valve mechanism in the body member consisting of a vacuum chamber member having inlet holes in the side, and a funnel-shape top which fits in the funnel-shape seat in the body member, a cylindrical valve seat member having an open top, a valve seat which surrounds an inlet opening at the lower end, openings in the sides and a cone-shape lower portion which fits in the funnel-shape end of the vacuum chamber member, a valve head slidable in the vacuum chamber member whereby a vacuum may be formed in the bottom of the vacuum chamber member when the valve head is moved outwardly, a stem on the valve head, a separable top screw-threaded into the open top of the body member and engaging with the valve seat member, a valve stem extending down through the top and engaging with the stem on the valve head, and a head on the valve stem whereby the air in said vacuum chamber member acts as a cushion to the valve head when it is forced inwardly to open the valve, the valve being slowly closed by the gradual inflow of air around the valve head and into the chamber under it and by the water pressure.

[Claim 6 not printed in the Gazette.]

977,724. SNOW-MELTING MACHINE. SAMUEL FRIEDMAN, New York, N. Y. Filed Apr. 4, 1910. Serial No. 553,300.



1. A snow melting machine comprising in combination an inclined melting surface, means for heating the same, and means for delivering snow to such inclined melting surface comprising a brush conveyer, and cleaning means for said conveyer comprising comb-teeth between which the tufts of the brush-conveyer pass.

2. A snow melting machine comprising in combination melting means and means for delivering snow and the like thereto, comprising a conveyer, and ice breaking means operating in advance of the conveyer, and arranged to break up layers of ice and the like for reception by the conveyer.

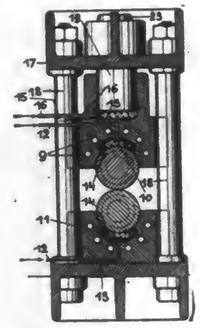
3. A snow melting machine comprising in combination melting means, means for delivering snow and the like thereto, comprising a conveyer, a plow supported in proximity to the road surface, and a brush for sweeping street coverings upon such plow.

4. A snow melting machine comprising in combination melting means, means for delivering snow and the like thereto, comprising a conveyer, a plow supported in proximity to the road surface, a brush for sweeping street coverings upon such plow, ice breaking means operating in advance of such plow, and means for operating the same.

5. A snow melting machine comprising in combination melting means and means for delivering snow and the like thereto, comprising a conveyer, and ice breaking means operating in advance of the conveyer, and arranged to break up layers of ice and the like for reception by the conveyer, and means for adjusting vertically the position of such ice breaking means.

[Claims 6 to 10 not printed in the Gazette.]

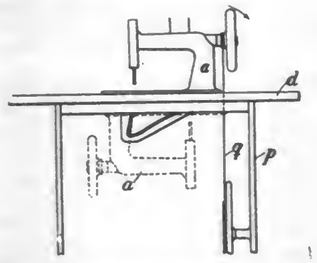
977,725. ROLLING-MILL. ALFRED GAUTSCHI, Menziken, Switzerland, assignor to Aluminiumwarenfabrik Gontenschwil Aktiengesellschaft, Gontenschwil, Switzerland. Filed Aug. 17, 1909. Serial No. 513,318.



1. A rolling mill, comprising in combination, a top roll bearing, a top roll, a bottom roll bearing, a bottom roll, pressure chambers provided in the said top and bottom roll bearings for the reception of a pressure medium, the said chambers extending over a certain portion of the periphery of the rolls and being connected with a source of pressure.

2. A rolling mill, comprising in combination, a top roll bearing, a top roll, a bottom roll bearing, a bottom roll, pressure chambers provided in the said top and bottom roll bearings for the reception of a pressure medium, the said chambers extending over a certain portion of the periphery of the rolls and being connected with a source of pressure, and means for subjecting the top roller bearing to fluid pressure.

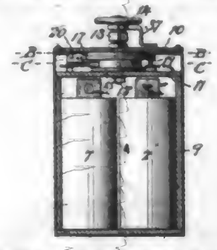
977,726. SEWING-MACHINE TABLE. SVEN PETTER GERDIN, Amal, Sweden. Filed Sept. 14, 1909. Serial No. 517,565.



1. A sewing machine table having an opening, plates depending from opposite sides of said opening, each of said plates being provided with a substantially straight guide-way and an irregular guide-way, one end of said irregular guide-way being positioned above the plane of said straight guide-way and the other end being positioned below the plane of said straight guide-way, and a movable plate in said opening, said plate being provided on opposite sides thereof with studs engaging said guide-ways, said guide-ways and said studs being so positioned that said movable plate may be turned in this opening through an angle of 180°.

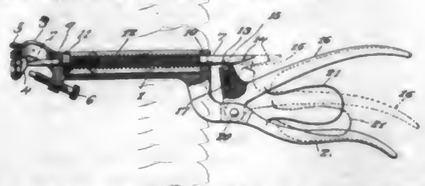
2. A sewing machine table having an opening, plates depending from opposite sides of said opening, each of said plates being provided with a straight horizontal guide-way, and an irregularly formed guide-way, one end of which is positioned above the plane of said straight guide-way and the other end of which is positioned below said straight guide-way, the ends of said irregular guide-way being equi-distant from one of the ends of the said straight guide-way, and a movable plate in said opening,

within the box arranged to cut off one of the battery terminals and to successively bring additional cells into the battery circuit, an auxiliary circuit maker and breaker



under the control of the switch for cutting off the other battery terminal and means exterior to the box for operating the switch.

977,722. SAW-SET. DANIEL E. FABUN, Los Angeles, Cal. Filed Aug. 16, 1909. Serial No. 513,202.



1. A saw set comprising a shank, a head on the shank provided with an anvil, a hammer slidable on the shank, a spring in the shank bearing against the hammer, a pair of hand levers, one of which is fixed to the shank and the other pivoted to the shank, a spring pressed latch carried by the pivoted hand lever, the hammer having a notch which is engaged by said latch.

2. A saw set comprising a hollow shank having a finger grip extending therefrom in the same general longitudinal direction, a hammer longitudinally slidable in said shank, a coil spring in said hollow shank encircling the hammer, a head projecting beyond the shank, an anvil on said head in line with the end of said hammer, a hand lever pivoted to said shank and extending in the same general longitudinal direction as said shank, and means operated by said hand lever for co-acting with said hammer for retracting said hammer longitudinally in said shank, placing said spring under compression and suddenly releasing said hammer.

3. A saw set comprising a shank having a finger grip extending therefrom in the same general longitudinal direction, a hammer longitudinally slidable in the shank, a coil spring in the shank for propelling said hammer longitudinally therein, a head on the shank, an anvil on the head in line with said hammer, a collar screwed on said hammer against which said spring bears, a hand lever pivoted to said shank and extending in the same general longitudinal direction as said shank, and means operated by said hand lever for retracting the hammer to compress the spring and automatically release the hammer to permit the spring to drive the hammer toward the anvil.

4. A saw set comprising two hand levers pivoted together, one of said levers having a shank with an anvil at the forward end thereof, a hammer slidable in said shank, elastic means in said shank for driving said hammer toward said anvil, said shank extending in the same general longitudinal direction as said hand levers, the other lever having means operated by pressing said hand levers together for moving said hammer away from said anvil and then releasing said hammer.

977,723. VALVE MECHANISM. FREDERICK FRANKLIN FIELD, Lakewood, R. I. Filed May 17, 1910. Serial No. 561,883.

1. In a valve mechanism, a body member having a chamber, an inlet duct having a funnel-shape end opening into the chamber, an outlet duct from the chamber and an open end, a separable valve mechanism in the body member adapted to fit in the funnel-shape end of the inlet duct, means for simultaneously closing the open end of the body member and securing the valve mechanism in the funnel-shape end of the inlet duct and means for operating the valve mechanism.



2. In a valve mechanism, a body member having a chamber, an inlet duct having a funnel-shape end opening into the chamber, an outlet duct from the chamber and an open internally screw-threaded end, a separable valve mechanism in the body member having a member adapted to fit in the funnel-shape end of the inlet duct, means for simultaneously closing the open end of the body and securing the valve mechanism in the funnel-shape end of the inlet duct, consisting of a separable top screw-threaded into the open end of the body and engaging with the valve mechanism and means for operating the valve mechanism through the separable top on the body member.

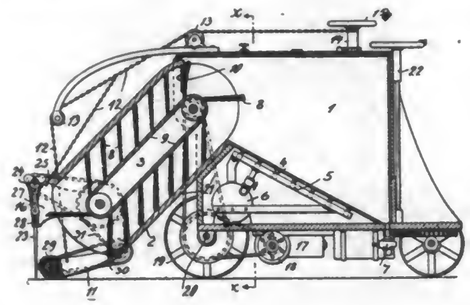
3. In a valve mechanism, a body member having a chamber, an inlet duct having a funnel-shape end opening into the chamber, an outlet duct from the chamber and an open internally screw-threaded end, a separable valve mechanism in the body member having a vacuum chamber member with a funnel-shape top which fits in the funnel-shape end of the inlet duct, a valve seat member having a cone-shape end which fits in the funnel-shape end of the vacuum chamber member and a valve head in the vacuum chamber member, means for simultaneously closing the open end of the body and for securing the valve mechanism in the funnel-shape end of the inlet duct, consisting of a separable top screw-threaded into the open end of the body member and engaging with the valve seat member and means for operating the valve head in the vacuum chamber member.

4. In a valve mechanism, a body member having a chamber, an inlet duct having a funnel-shape end opening into the chamber, an outlet duct from the chamber and an open internally screw-threaded top, a separable valve mechanism in the body member having a vacuum chamber member with inlet holes in the side and a funnel-shape top which fits in the funnel-shape end of the inlet duct, a valve seat member having a valve seat which surrounds an inlet opening and a cone-shape portion which fits in the funnel-shape end of the vacuum chamber member, a valve head slidable in the vacuum chamber member whereby a vacuum may be formed under the valve head when the valve head is moved outwardly, means for simultaneously closing the open top of the body and for securing the separable valve mechanism in the funnel-shape end of the inlet duct, consisting of a separable top screw-threaded into the open top of the body member and engaging with the valve seat member, means for operating the valve head to open the holes in the vacuum chamber member and to open the valve seat opening and means located within the vacuum chamber member and under the valve head for slowly closing the inlet holes in the vacuum chamber member and the valve seat opening in the valve seat member.

5. The combination in a valve mechanism of a body member having a chamber, an inlet duct having a funnel-shape end opening into the chamber and forming a funnel-shape seat, an outlet duct from the chamber and an open internally screw-threaded top, a separable valve mechanism in the body member consisting of a vacuum chamber member having inlet holes in the side, and a funnel-shape top which fits in the funnel-shape seat in the body member, a cylindrical valve seat member having an open top, a valve seat which surrounds an inlet opening at the lower end, openings in the sides and a cone-shape lower portion which fits in the funnel-shape end of the vacuum chamber member, a valve head slidable in the vacuum chamber member whereby a vacuum may be formed in the bottom of the vacuum chamber member when the valve head is moved outwardly, a stem on the valve head, a separable top screw-threaded into the open top of the body member and engaging with the valve seat member, a valve stem extending down through the top and engaging with the stem on the valve head, and a head on the valve stem whereby the air in said vacuum chamber member acts as a cushion to the valve head when it is forced inwardly to open the valve, the valve being slowly closed by the gradual inflow of air around the valve head and into the chamber under it and by the water pressure.

[Claim 6 not printed in the Gazette.]

977,724. SNOW-MELTING MACHINE. SAMUEL FRIEDMAN, New York, N. Y. Filed Apr. 4, 1910. Serial No. 553,300.



1. A snow melting machine comprising in combination an inclined melting surface, means for heating the same, and means for delivering snow to such inclined melting surface comprising a brush conveyer, and cleaning means for said conveyer comprising comb-teeth between which the tufts of the brush-conveyer pass.

2. A snow melting machine comprising in combination melting means and means for delivering snow and the like thereto, comprising a conveyer, and ice breaking means operating in advance of the conveyer, and arranged to break up layers of ice and the like for reception by the conveyer.

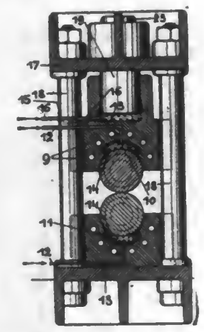
3. A snow melting machine comprising in combination melting means, means for delivering snow and the like thereto, comprising a conveyer, a plow supported in proximity to the road surface, and a brush for sweeping street coverings upon such plow.

4. A snow melting machine comprising in combination melting means, means for delivering snow and the like thereto, comprising a conveyer, a plow supported in proximity to the road surface, a brush for sweeping street coverings upon such plow, ice breaking means operating in advance of such plow, and means for operating the same.

5. A snow melting machine comprising in combination melting means and means for delivering snow and the like thereto, comprising a conveyer, and ice breaking means operating in advance of the conveyer, and arranged to break up layers of ice and the like for reception by the conveyer, and means for adjusting vertically the position of such ice breaking means.

[Claims 6 to 10 not printed in the Gazette.]

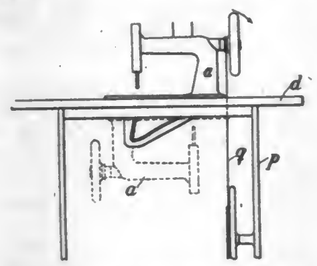
977,725. ROLLING-MILL. ALFRED GAUTSCHI, Menziken, Switzerland, assignor to Aluminiumwarenfabrik Gontenschwil Aktiengesellschaft, Gontenschwil, Switzerland. Filed Aug. 17, 1909. Serial No. 513,318.



1. A rolling mill, comprising in combination, a top roll bearing, a top roll, a bottom roll bearing, a bottom roll, pressure chambers provided in the said top and bottom roll bearings for the reception of a pressure medium, the said chambers extending over a certain portion of the periphery of the rolls and being connected with a source of pressure.

2. A rolling mill, comprising in combination, a top roll bearing, a top roll, a bottom roll bearing, a bottom roll, pressure chambers provided in the said top and bottom roll bearings for the reception of a pressure medium, the said chambers extending over a certain portion of the periphery of the rolls and being connected with a source of pressure, and means for subjecting the top roller bearing to fluid pressure.

977,726. SEWING-MACHINE TABLE. SVEN PETTER GRADIN, Amal, Sweden. Filed Sept. 14, 1909. Serial No. 517,565.



1. A sewing machine table having an opening, plates depending from opposite sides of said opening, each of said plates being provided with a substantially straight guide-way and an irregular guide-way, one end of said irregular guide-way being positioned above the plane of said straight guide-way and the other end being positioned below the plane of said straight guide-way, and a movable plate in said opening, said plate being provided on opposite sides thereof with studs engaging said guide-ways, said guide-ways and said studs being so positioned that said movable plate may be turned in this opening through an angle of 180°.

2. A sewing machine table having an opening, plates depending from opposite sides of said opening, each of said plates being provided with a straight horizontal guide-way, and an irregularly formed guide-way, one end of which is positioned above the plane of said straight guide-way and the other end of which is positioned below said straight guide-way, the ends of said irregular guide-way being equi-distant from one of the ends of the said straight guide-way, and a movable plate in said opening,

said plate being provided on opposite sides thereof with studs engaging said guide-ways, said guide-ways and said studs being so positioned that said movable plate may be turned in said opening through an angle of 180°.

977,727. GARMENT-HANGER. ROBERT W. GIESE, Philadelphia, Pa. Filed Sept. 14, 1910. Serial No. 582,005.



1. A garment hanger of the character described, comprising a bracket, an arm on the bracket having a bearing therein, a block, a plurality of parallel spring rods on the block, a journal on the block located in said bearing, means for frictionally clamping said journal in the bearing, and means for limiting the turning movement of the journal in the bearing, substantially as described.

2. A garment hanger of the character described, comprising a bracket, an arm on the bracket having a bearing therein, a block, a plurality of parallel spring rods on the block, a journal on the block located in said bearing, said bearing of greater depth than the journal and having a screw threaded socket in its lower end, a disk against the lower face of said arm having a central opening, and a screw projected through said opening in the disk and screwed into the socket in the journal, substantially as described.

3. A garment hanger of the character described, comprising a bracket, an arm on the bracket having a bearing therein, a block, a plurality of parallel spring rods on the block, a journal on the block located in said bearing, said bearing of greater depth than the journal and having a screw threaded socket in its lower end, a disk against the lower face of said arm having a central opening, a screw projected through said opening in the disk and screwed into the socket in the journal, said journal having a curved annular groove, a screw in the arm projected into said groove, and the end walls of said groove adapted to engage the screw and limit the turning movement of the journal, substantially as described.

977,728. CONCRETE TIE. WILLIAM J. GREEN, Chicago, Ill. Filed June 2, 1908. Serial No. 436,319.



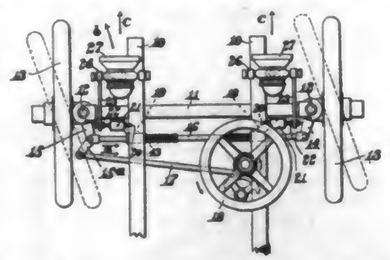
1. In combination in a tie, a concrete body portion, a metal holding plate provided with slots and seated in the body portion, a rail supporting block mounted over the plate, rail securing bolts passing through the block and through the slots in the plate, and means for securely anchoring the holding plate to the body portion.

2. In combination in a tie, a concrete body portion provided with recesses on the upper portion, a slotted metal holding plate mounted with its slots over the said recesses, a rail supporting block mounted on the plate, rail securing bolts extending through the block and slots with their ends lying in the said recesses, and means for securely anchoring the holding plate to the body portion.

3. In combination in a tie, a concrete body portion provided with recesses on the upper portion, a slotted metal holding plate mounted with its slots over the said recesses, a rail supporting block mounted on the plate, rail securing bolts extending through the block and slots with their heads lying in the said recesses, wood blocks in the recesses for engaging the heads and preventing them from turning, and means for securely anchoring the holding plate to the body portion.

4. In combination in a tie, a concrete body portion, an anchoring plate embedded in the body portion, a holding plate thereabove, a rail supporting block above the holding plate, securing bolts connecting the two plates, a rail, and rail securing bolts extending through the holding plate and block.

977,729. LAMP-CONTROLLING DEVICE FOR MOTOR-CARS. WARREN A. GREENLAW, Melrose Highlands, Mass. Filed Mar. 9, 1910. Serial No. 548,513.



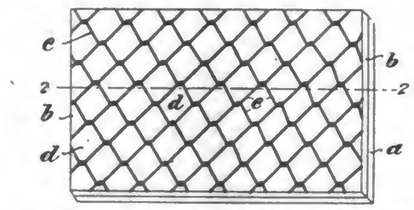
1. A device for operating the lamps of a motor car, consisting of vertical lamp supports; a bearing for each of said supports in which said supports are movable vertically, said bearings being provided with notches in their upper faces each having an inclined wall; a member secured to each of said supports having a lug adapted to engage with one of said notches; a spring for retaining said lug normally in the bottom of said notch; an anti-friction abutment for said spring surrounding said support; and means operatable by the steering mechanism for oscillating said supports and moving said lug up the inclined wall of said notch against the tension of said spring.

2. A device for operating the lamps of a motor car, consisting of vertical lamp supports; a bearing for each of said supports in which said supports are movable vertically, said bearings being provided with notches in their upper faces each having an inclined wall; a member secured to each of said supports having a lug adapted to engage with one of said notches; springs for retaining said lugs normally in the bottom of said notches; a radial arm secured to each support; a two-armed pivoted lever for each lamp support; a link between one arm of each lever and one of said radial arms; a reciprocating member forming part of the steering mechanism; and cam fingers secured thereto each adapted in its movement to engage the other arm of one of said levers and move it about its pivot.

3. A device for operating the lamps of a motor car, consisting of vertical lamp supports; a bearing for each of said supports in which said supports are movable vertically, said bearings being provided with notches in their upper faces each having an inclined wall; a member secured to each of said supports having a lug adapted to engage with one of said notches; springs for retaining said lugs normally in the bottom of said notches; a radial arm secured to each support; a two-armed pivoted lever for each lamp support; a link between one arm of each lever and one of said radial arms; a reciprocating member forming part of the steering mechanism; cam fingers secured thereto each adapted in its movement to engage the other arm of one of said levers and move it about its pivot; and means whereby said cam finger may be moved into an inoperative position.

4. A device for operating the lamps of a motor car, consisting of vertical lamp supports; a bearing for each of said supports in which said supports are movable vertically, said bearings being provided with notches in their upper faces each having an inclined wall; a member secured to each of said supports having a lug adapted to engage with one of said notches; a spring for retaining said lug normally in the bottom of said notch; a radial arm secured to each support; a two-armed pivoted lever for each lamp support; a link between one arm of each lever and one of said radial arms; a reciprocating member forming part of the steering mechanism; flat-sided members secured to said reciprocating member; cam fingers each provided with a socket adapted to receive one of said flat-sided members; collars on said reciprocating member; and a spring between each collar and each finger adapted to retain said finger in engagement with one of said flat-sided members.

977,730. PLASTER. WALTER GUTTMANN, Mülheim-on-the-Ruhr, Germany. Filed Mar. 15, 1910. Serial No. 549,420.



1. The combination with an adhesive plaster of a series of threads spaced apart from each other and running across the face thereof and permanently sunk therein to a depth which leaves only their upper surfaces exposed.

2. The combination with an adhesive plaster of an open mesh net of fine thread extending over the face of the active material and permanently sunk therein to a depth which leaves exposed only the upper surfaces of the threads forming the net.

3. The combination with an adhesive plaster of two sets of threads permanently sunk in the face of the adhesive material to a depth sufficient to leave only their upper surfaces exposed, the threads of each set being widely spaced apart, and those of one set running crosswise of those of the other set.

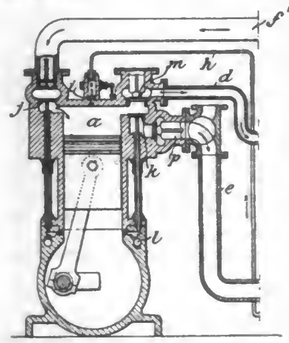
4. As an article of manufacture an adhesive plaster having its active face divided into a great number of small quadrilateral portions separated by narrow border lines of non-adhesive material by which the plaster may be removed.

977,731. THERMODYNAMIC MACHINE. JOSEPH EMILE HAENNIG, Belfort, France. Filed Apr. 30, 1907. Serial No. 371,170.

1. In the transformation of heat into motive force, the process which consists in successively compressing, heating, expanding and cooling a part of a motive fluid, driving a motor by the expanding of said part of the motive fluid, and submitting another part to vaporization and then to condensation, by communication of heat units from it to said first part.

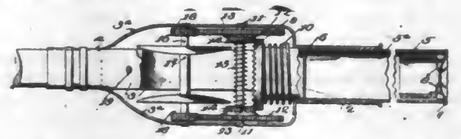
2. In the transformation of heat into motive force, the process which consists in successively compressing, heating, expanding and cooling a part of a motive fluid, and submitting another part to vaporization and then to condensation by communication of heat units from it to said first part, the motive fluid being a liquefiable gas whereby the transformation may be effected at a low temperature.

3. In the transformation of heat into motive force, the process which consists in admitting a motive fluid superheated to a cylinder, cooling it therein after a short expansion by means of a small quantity of the motive fluid in a liquid state, compressing said expanded motive fluid in a saturated condition, and returning it to a regenerator, condensing at a higher pressure in said regenerator the fluid vaporized in the cylinder, and causing it to give up its latent heat to the fluid cooled by the vaporization in the cylinder.



4. A machine for transforming heat into motive force, and adapted to use at the same time atmospheric air or carbonic acid as motive fluids, said machine having two motor-cylinders, one adapted to produce a fall in temperature by means of atmospheric air, and the other adapted to utilize this fall in temperature by means of carbonic acid.

977,732. REEL. HARVEY HALL, Paonia, Colo. Filed Aug. 28, 1909. Serial No. 515,077.



1. The combination with a fishing rod, of a hollow handle, a rotatable sleeve mounted in the handle and adapted to be rotated independently thereof, said sleeve having gear teeth at its inner end, a transverse shaft on the handle, loose pinions on said shaft engaged by the gear teeth of the sleeve, a reel mounted on the handle, and means operatively connecting the said pinions and the reel whereby the latter may be operated upon a rotation of the former.

2. The combination with a fishing reel, of a handle, a rotatable sleeve concentric with and mounted interiorly of the handle and longitudinally shiftable therein, said sleeve having an annular series of gear teeth at one end extending parallel to the axis of the sleeve, a counter-shaft extending transversely of the handle, a pinion on the shaft engaging with the gear teeth on the sleeve, a transverse reel-shaft mounted in the handle, a reel thereon, and multiplying gears between said pinion and the reel-shaft.

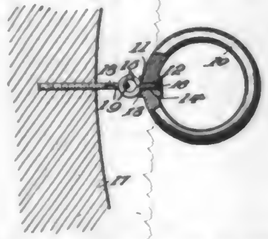
3. The combination with a fishing reel, of a handle, a rotatable sleeve concentric with and mounted interiorly of the handle and longitudinally shiftable therein, said sleeve having an annular series of gear teeth at one end extending parallel to the axis of the sleeve, a counter-shaft disposed transversely of the handle, oppositely disposed loose pinions on the counter-shaft adapted to be engaged with the gear teeth on the sleeve when the sleeve is forced inward, a transversely extending reel-shaft mounted on the handle, a reel thereon, multiplying gearing between said pinions and the reel-shaft, and yielding means normally holding the longitudinally movable sleeve into engagement with the pinions.

4. In a fishing reel, a handle adapted to receive the butt end of a fishing rod, a rotatable sleeve therein, having teeth at one end, a shaft mounted in said handle transverse to the axis thereof, pinions on the shaft meshing with the teeth on said sleeve, gear wheels mounted on the shaft, clutch mechanisms between the gear wheels and said pinions operating in reverse directions to each other, a reel mounted on the handle and gear wheels on the shaft of the reel engaging with the first named gear wheels.

5. The combination with a fishing rod, of a handle therefor comprising a body portion having forwardly projecting sides engaging with the fishing rod, a rotatable sleeve mounted in the body portion, said sleeve being toothed at one end, springs forcing said sleeve inward, a counter-shaft mounted in the handle, loose gears on the counter-shaft having their outer faces formed with rigid teeth, the teeth of one gear being oppositely inclined to the teeth of the other, pinions mounted on said shaft, the inside faces of the pinions being formed with rigid teeth engaging with the teeth on said loose gears, a reel mounted thereon and gears on said reel, a shaft engaging with the pinions on the counter-shaft.

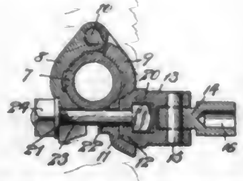
[Claims 6 to 8 not printed in the Gazette.]

977,733. HAME-RING. BERNARD HANLON, Miles City, Mont. Filed July 21, 1909. Serial No. 508,691.



A hame ring including a circular body to loosely receive a rein for longitudinal movement therethrough, a bolt disposed through one side of said body, said bolt being formed of a length of wire overturned upon itself to form a loop at its outer end, and having the free ends thereof engaged through said body, the extremities of the free ends of said loop being upset and seated within the face of the body to loosely retain the bolt in position, a threaded shank engaged through the loop of said bolt to support the body, said bolt and said shank admitting of the swinging of the ring into various angles in planes at right angles to one another.

977,734. MOUNTING FOR DRILLS. CHARLES C. HANSEN, Easton, Pa., assignor to Ingersoll-Rand Company, New York, N. Y., a Corporation of New Jersey. Filed Sept. 2, 1908. Serial No. 451,443.



1. In a mounting for drills, a suitable support, a clamp engaging the support, a base, a socket piece hinged to the base and arranged to receive and support the rear end of the drill and a bolt for securing the base to the support clamp and the support clamp to the support.

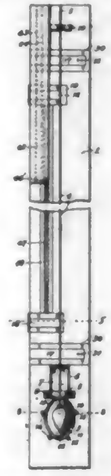
2. In a mounting for drills, a suitable support, a clamp engaging the support, a base rotatably mounted on the support clamp, a socket piece hinged to the base and arranged to receive and support the rear end of the drill and a single means for securing the base to the support clamp and the support clamp to the support in the desired adjustments.

3. In a mounting for drills, a suitable support, a clamp engaging the support, a base rotatably mounted on the support clamp, a socket piece hinged to the base and arranged to receive and support the rear end of the drill and a bolt for securing the base to the support clamp and the support clamp to the support in the desired adjustments.

4. In a mounting for drills, a suitable support, a clamp engaging the support comprising members hinged together one of said members having a recess, a base having a cone fitted to said recess, a socket piece hinged to the base and arranged to receive and support the rear end of the drill and a single means for securing the cone within the recess and the support clamp to the support in the desired adjustments.

5. In a mounting for drills, a suitable support, a clamp engaging the support comprising members hinged together one of said members having a recess, a base having a cone fitted to said recess, a socket piece hinged to the base and arranged to receive and support the rear end of the drill and a bolt for securing the cone within the recess and the support clamp to the support in the desired adjustments.

977,735. PLUMB-LEVEL. JOHN C. HANSEN, Jr., Newark, N. J. Filed Feb. 13, 1909. Serial No. 477,608.



1. A plumb level, comprising a stock, means associated therewith for indicating its level position, adjustable slides associated with said stock for clamping the latter to the object to be leveled, and screws for adjusting said slides.

2. A plumb level, comprising a stock, means associated therewith for indicating its level position, adjustable slides associated with said stock and provided with engaging feet for clamping the stock to the object to be leveled, keepers for said slides, supporting feet associated with said keepers, and adjustable screws carried by said supporting feet and connected to said slides for adjusting the latter.

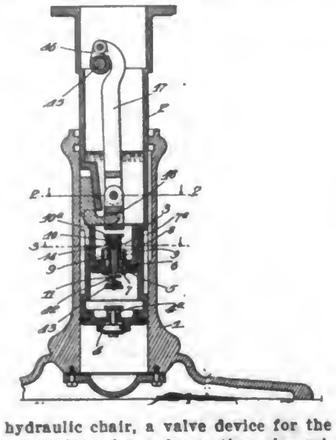
3. A plumb level, comprising a stock, means associated therewith for indicating its level position, adjustable slides associated with said stock for clamping the latter to the object to be leveled, keepers for said slides, actuating devices for adjusting said slides and with which the latter are detachably connected, supplemental slides carried by said stock and interchangeable with the slides carried by said actuating devices, and keepers for said supplemental slides.

4. A plumb level, comprising a stock, means associated therewith for indicating its level position, a gage arm pivotally connected to said stock and adapted to be projected at right angles thereto, and a supporting arm pivotally connected to said gage arm and adjustable upon the stock for holding the supporting arm in adjusted position, said stock having a pocket for receiving the supporting arm to hold the latter in such relation to the stock as to maintain the gage arm exactly at right angles to the stock.

5. A plumb level comprising a stock having a plumb-bob and line thereon, slides arranged to project from the stock transversely to the normal position of the line, said slides being adapted to grasp an element between the slides and the edge of the stock, and means for adjustably securing the slides to the stock.

[Claims 6 to 12 not printed in the Gazette.]

977,736. HYDRAULIC CHAIR. MARTIN HANSON, Chicago, Ill., assignor to Louis Hanson Company, Chicago, Ill., a Corporation of Illinois. Filed July 9, 1910. Serial No. 571,145.

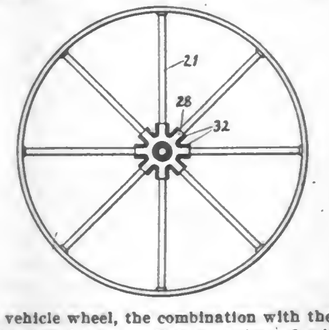


1. In a hydraulic chair, a valve device for the purpose indicated, consisting of a valve-seating element through which the flow of liquid is to be controlled, the liquid passage therethrough opening at one end of said element in a single port and at the other end in a plurality of ports; a main valve which closes the single port having a stem which extends through one of the ports at the other end, said main valve and stem being apertured from end to end; a supplemental valve which closes said aperture of the main valve stem; a relatively strong spring which reacts between the two valves for holding the supplemental valve seated, and a relatively light spring which reacts between said supplemental valve and said valve-seating element for holding the main valve seated.

2. In a hydraulic chair, a valve device for the purpose indicated, consisting of a seating element through which the flow of liquid is to be controlled; a liquid passage therethrough opening by a single port at one end and by a plurality of ports at the other end; a main valve which closes the single port having a stem which occupies one of said plurality of ports, said main valve and its stem being axially apertured from end to end; a supplemental valve which closes the end of said axial aperture in the main valve stem, having a stem which extends through said axial aperture and protrudes below the main valve stem; a stop on the protruding end of said stem; a relatively strong spring reacting between said stop and the main valve for holding the supplemental valve seated; and a relatively light spring reacting between the supplemental valve and said valve-seating element.

3. In a hydraulic chair, a valve device for the purpose indicated, consisting of a valve-seating element through which the flow of liquid is to be controlled, having for such flow a passage which at the lower end opens by a single port, and at the upper end opens by a central port and a group of ports surrounding such central port; a main valve which closes said single port, having its stem occupying said central port, said main valve and its stem being axially apertured from end to end; a supplemental valve which closes the upper end of said axial aperture, having a stem which extends down through said aperture and protrudes below the same; a stop in said stem, and a relatively strong spring reacting between said stop and the lower end of the main valve for holding the supplemental valve seated, and a relatively light spring reacting between the supplemental valve and the upper end of the valve-seating element.

977,737. VEHICLE-WHEEL. WILLIAM HASLUP, Sidney, Ohio, assignor to Sidney Steel Scraper Company, a Corporation of New Jersey. Filed Mar. 17, 1909. Serial No. 484,054.



1. In a vehicle wheel, the combination with the rim and spokes, of a hub having radial arms formed with spoke clamping portions; with clamped members having beveled sides engaged by said clamping portions for holding the spokes in place.

2. In a vehicle wheel, the combination with the rim and spokes, of a hub having radial arms formed with spoke clamping portions; with clamped members contained between the respective clamping portions of said arms, the engaging surfaces of said arms and said clamped members being angularly formed to bring the fulcrum of the clamping pressure at the base of said clamping portions.

3. In a vehicle wheel, the combination with the rim and spokes, of a hub having radial spoke-arms provided with dovetail clamping means having flattened inner surfaces and engaging the spokes to secure the same in fixed relation to the hub.

4. In a vehicle wheel, the combination with the rim and spokes, of a hub formed in two sections adapted to be held together; radial arms extending from one of said sections and having clamping projections; and clamped members for each arm to inclose the spokes therebetween and having beveled sides engaged and clamped by the clamping projections of said arms.

5. In a vehicle wheel, the combination with the rim and spokes, of a hub formed in two confronting sections, one of said sections being formed with radial arms having clamping projections; clamped members for each arm to inclose the spokes therebetween and having beveled sides engaged and clamped by the clamping projections of said arms; an axial extension for one of said hub sections, extending through the other section; and means for locking the latter section to said axial extension.

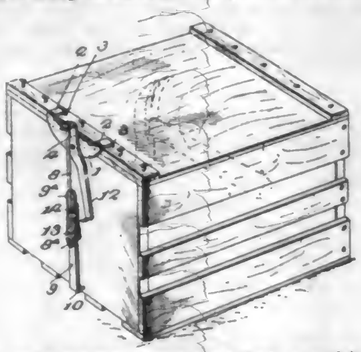
[Claims 6 and 7 not printed in the Gazette.]

977,738. CLAMP. WARREN L. HERRICK, San Jose, Ca
Filed Mar. 25, 1910. Serial No. 551,549.

1. A clamp of the character described, comprising head provided with lugs, a lever fulcrumed intermediat of its ends on said head, an arm pivotally connected one arm of said lever, a co-acting arm, the last named ar being provided with a lug, and a spring through which th arms pass in overlapping relation to each other, the arm being connected to the spring, substantially as described.

2. A clamp of the character described, comprising head provided with laterally projecting toothed lugs,

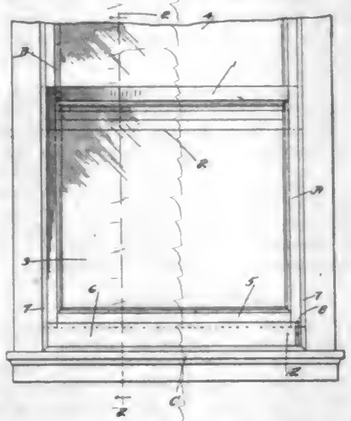
lever fulcrumed intermediate of its ends on said head, an arm provided at one end with a laterally projecting lug, another arm pivotally connected to one arm of the lever, and a spring through which the two arms pass, the spring being constructed in adjustably connected sections, the said arms being connected to the sections respectively.



3. A clamp of the character described, comprising a head provided with laterally projecting lugs, a lever fulcrumed intermediate of its ends on said head, an arm provided with a lug, another arm connected to said lever, a spring through which the overlapping ends of the arms pass, the spring being constructed in sections, the convolutions of which are interengaged, whereby a turning movement of one section relative to the other will extend and contract the spring, the adjoining ends of the arms being connected to said sections respectively.

4. A clamp of the character described, comprising a head provided with laterally projecting lugs, a lever fulcrumed intermediate of its ends on said head, an arm provided at one end with a laterally projecting lug and provided with a hook at the other end, another arm provided at one end with a loop, the lever being formed with a laterally projecting extremity on which the loop is pivotally mounted, the second named arm being provided at its opposite end with a hook, the adjoining ends of the two arms overlapping, and a spring through which said ends pass, the hooked ends of the arms being connected to the spring, as and for the purpose set forth.

977,739. WINDOW-VENTILATOR. CHRISTIAN HERRMANN, Bristol, R. I. Filed Mar. 7, 1910. Serial No. 547,638.



A device for closing the opening below a partially raised window comprising a bar adapted to be placed upon a window seat with one of its faces bearing against the front face of the lower rail of the window, said bar being formed with a groove slot in one end thereof and with a socket leading from the bottom of the said groove longitudinally into the bar, a coil spring within said socket and normally projecting beyond the end of the bar, the inner end being secured to the socket, an extension piece having a blade which enters said groove slot and is slidable therein, said extension piece being formed with a flanged head whose outer face is adapted to engage one of the sides of the window frame while the opposite end of the bar is adapted to engage the opposite side of the window frame, the blade of said extension piece being formed with a lug which is adapted to enter the outer end of said coiled spring, the blade being formed with a hole through which the end of the coiled spring may be passed by a screwing turn of the spring, thereby connecting the spring with the blade, said spring normally holding the extension piece with its head at some distance beyond the end of the bar while the blade is within the groove.

977,740. PIPE-COUPLING. CAMPBELL P. HIGGINS, Roselle, N. J., assignor to The Babcock & Wilcox Company, Bayonne, N. J., a Corporation of New Jersey. Filed Aug. 2, 1906. Serial No. 328,837.



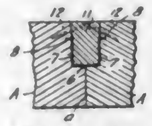
1. The herein described article comprising a seamless spherical shell of wrought metal having an integral neck projecting therefrom and from which other necks may be drawn at varying angles and at various diameters.

2. The herein described article comprising a seamless spherical shell of wrought metal having an integral projecting neck, and one or more pipe connections drawn from said shell at any desired angle.

3. The herein described process of making a seamless blank of wrought metal for the manufacture of pipe couplings which consists in forming a circular blank into a hemispherical cup shape, and then contracting the open end to form a spherical body portion and a projecting neck integral therewith.

4. The herein described process of making pipe couplings which consists in forming a circular blank into a hemispherical cup shape, and then contracting the open end to form a spherical body portion and a projecting neck integral therewith, and then farcing or drawing out additional necks at any desired angle integral with said body portion.

977,741. WATER-TIGHT SEAM. GEORGE H. HILDRETH, Seattle, Wash. Filed Mar. 7, 1910. Serial No. 547,913.



1. A deck-seam comprised by forming a recess between adjoining planks by the provision of rabbets formed in the upper faces of the latter, a plate formed with a flat central web portion for seating upon the bottom of said recess and having flanges extending at right angles from the sides of said web and terminating in marginal flanges which are respectively forced into the plank material to the sides of said recess, and a filler to fill the space in the recess which is unoccupied by said plate and serving to maintain said marginal ribs in engagement with the planking.

2. A deck-seam comprised by forming a recess between adjoining planks by the provision of rabbets formed in the upper faces of the latter, a plate formed with a central web portion for seating upon the bottom of said recess and having flanges extending upwardly from the sides of said web and terminating in marginal flanges which are respectively forced into the plank material to the sides of said recess, and a filler to fill the space in the recess which is unoccupied by said plate and serving to maintain said marginal ribs in engagement with the planking.

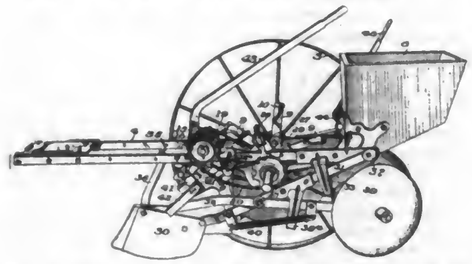
3. A deck-seam comprised by forming a recess between adjoining planks by the provision of rabbets formed in the upper faces of the latter, a plate formed with a flat central web portion for seating upon the bottom of said recess and having flanges extending at right angles from the sides of said web and terminating in marginal flanges which are respectively forced into the plank material to the sides of said recess, a filler to fill the space in the recess which is unoccupied by said plate and serving to maintain said marginal ribs in engagement with the planking, and means for securing said filler in place.

4. A deck-seam comprised by forming a recess between adjoining planks by the provision of rabbets formed in the upper faces of the latter, a plate formed with a central web portion for seating upon the bottom of said recess and having flanges extending upwardly from the sides of said recess, a filler to fill the space in the recess which is unoccupied by said plate and serving to maintain said marginal ribs in engagement with the planking, and means for securing said filler in place.

5. The means for protecting a deck-seam which is formed by a recess of less depth than the planking and arranged symmetrically with respect to the subjacent seam between the adjoining planks, and comprising a plate having a central web adapted to lie on the bottom of the recess, flanges which are arranged to contact with the sides of the recess, and marginal flanges which are respectively pressed into the planking at opposite sides of the recess and a filler for closing the space within the recess which is unoccupied by said plate.

[Claim 6 not printed in the Gazette.]

977,742. POTATO-PLANTER. JOHN HIST, Barberton, Ohio. Filed May 8, 1909. Serial No. 494,892.



1. A potato planter having a main frame mounted on a pair of wheels, a plow frame pivotally attached to the rear end of the main frame, a covering device pivotally attached to the plow frame and independent of the main frame, a rotary potato dropping device located between the plow and covering device, means for rotating the dropping device, means for raising the plow and covering device from the ground, and means operated by the connections between the plow and covering device for disengaging the driving mechanism from the dropping device when they are raised from the ground; substantially as described.

2. A potato planter having a main frame mounted on an axle, a wheel secured to each end of said axle so as to be rotated thereby when the planter is moved, a plow frame pivotally attached to the rear end of the main frame, a covering device pivotally connected to the plow frame and independent of the main frame, a rotary potato dropping device located between the plow and covering device, means for rotating the dropping device, means for raising the plow and covering device from the ground, and means operated by the connections between the plow and covering device for disengaging the driving mechanism from the dropping devices when they are raised from the ground; substantially as described.

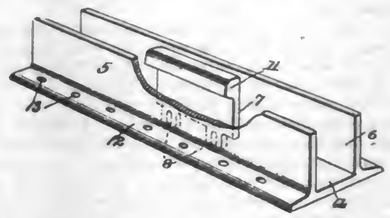
3. A potato planter having a main frame mounted on an axle, a wheel secured to each end of said axle so as to rotate the axle when the planter is moved, a plow pivotally connected to the main frame, a covering device on each side of the plow, each having an independent pivotal connection with the plow frame and arranged for free movement thereon, a rotary potato dropping device located between the plow and covering devices, means for rotating the dropping device, means for raising the plow and covering device from the ground, and means operated by the connections for the covering devices for disengaging the driving mechanism from the dropping device when they are raised from the ground; substantially as described.

4. A potato planter having a main frame mounted on an axle, wheels secured to the ends of said axle to rotate the axle when the planter is moved, a plow having a rearwardly extending frame pivotally connected to the main frame, a covering device on each side of the plow and pivotally connected thereto, said covering devices being adapted to move freely on their pivotal connections and independent of each other, a rotary potato dropping device located between the plow and covering devices, means for rotating the dropping device, means for raising the plow and covering devices from the ground, and means operated by the connections for the covering devices for disengaging the driving mechanism from the dropping device when they are raised from the ground; substantially as described.

5. A potato planter of the character described, having a main frame supported on a pair of wheels, a plow having a frame pivotally connected to the main frame, a covering device on each side of the plow each covering device having a pivotal connection with the plow frame and adapted for free movement independent of each other, a rock shaft, a crank and link connection between the rock shaft and plow, crank connections between the rock shaft and the covering devices so that when said rock shaft is rocked the plow and covering devices will be raised from the ground, and a spring to draw the plow and covering devices toward the ground; substantially as described.

[Claims 6 to 16 not printed in the Gazette.]

977,743. RAIL-JOINT. WILLIAM F. JOHNSON, Basin, Wyo. Filed July 11, 1910. Serial No. 571,427.



1. A rail chair including a base, opposed side plates upstanding from and integral with the base and adapted to be bent to fit against the sides of the rail, an abutment separate from the base and the side plates, and means for removably securing the abutment upon the base between the side plates.

2. A rail chair including a base formed with an opening, opposed side plates upstanding from the base, an abutment separate from the base and the side plates and mounted upon the former between the latter, the abutment having an apertured ear depending through the opening, and a pin inserted in the ear to removably secure the abutment in place.

3. A rail chair including a base, side plates upstanding from the base, and an abutment upstanding from the base between the side plates, one of the side plates being

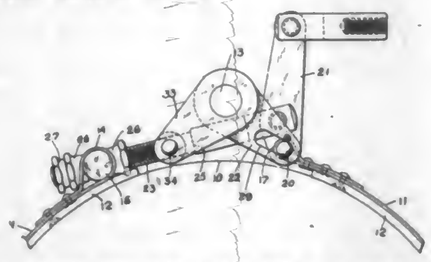
separate from the abutment and being adapted to be bent inwardly to fit against the rail and to bear against the adjacent side of the abutment to brace the same against lateral strain.

4. A rail chair including a base, opposed side plates upstanding from the base, an abutment separate from the base and the side plates and positioned upon the former between the latter, and means for removably securing the abutment in place, the abutment projecting upwardly above the side plates and being formed along its upper edge with a laterally projecting flange overhanging and bearing upon the upper edge of one of the side plates.

5. A rail chair including a base, opposed side plates upstanding from the base, and an abutment upstanding from the base between the side plates and formed on one side with a laterally projecting flange, the side plate adjacent to said flange being separate from the abutment and being adapted to be bent inwardly to fit against the rail and to bear against said side of the abutment and beneath the flange thereof, whereby to brace the abutment against lateral and vertical strain.

[Claims 6 and 7 not printed in the Gazette.]

977,744. BRAKE. EDWARD F. KELLEY, Bridgeport, Conn., assignor to The Royal Equipment Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Sept. 6, 1910. Serial No. 580,612.



1. A brake comprising a band adapted to engage a rotary drum, pairs of pivoted link plates, one pair of link plates being loosely connected with one end of the brake band, an operating lever pivotally connected with the brake band at the point of connection with the link plates, a stud to which the other pair of link plates are pivotally connected and an adjusting bolt pivotally connected to the operating lever and passing through the stud, the other end of said bolt being connected to the other end of the brake band.

2. As an improvement in brakes, a brake band adapted to engage a rotary drum, an operating lever connected to one end of said band, pairs of pivoted link plates, one pair of link plates being loosely connected to the same end of the band, a stud to which the other pair of link plates are pivoted, and an adjusting bolt which passes through said stud and connects the other end of the brake band with the operating lever, said bolt being movable with relation to said stud and being provided with means for engaging said stud to limit the movement of the bolt.

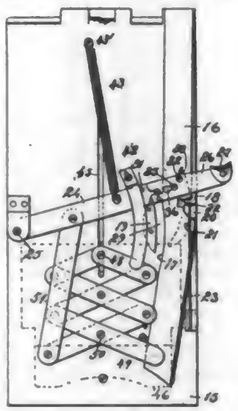
3. A brake comprising a rotary drum, a brake band inclosing the drum, an operating lever connected to one end of the band, pairs of pivoted link plates, one pair of link plates being pivotally connected to the same end of the band, a stud to which the other pair of link plates are pivoted and which is provided with a transverse hole and a longitudinally movable adjusting bolt which passes through said hole, is connected to the operating lever and to the other end of the band, and is provided with a shoulder adapted to engage the stud to limit the movement of the band when the drum is turned backward.

4. A brake comprising a band having eyes at one end with an opening between them, a stud in said eyes having a transverse hole, a second stud also having a transverse hole, an operating lever connected to one end of the band, an adjusting bolt connected to said lever, passing through said studs and having a shoulder adapted to engage the second mentioned stud, for the purpose set forth, nuts on said bolt lying in the opening between the eyes and engaging the first mentioned stud and pairs of pivoted link plates, one pair of link plates having slotted connection with the end of the band to which the operating lever is pivoted and the other pair of link plates being pivoted to the second mentioned stud.

5. As an improvement in brakes, an arm, a brake band adapted to engage a rotary drum, a stud carried by one end of said band, an operating lever pivotally mounted on said stud, pairs of link plates pivoted on said arm, one pair of said plates being loosely connected with said stud, a second stud to which the other pair of link plates are pivoted and a longitudinally movable adjusting bolt connecting the other end of the band with the operating lever and passing through the second mentioned stud, said bolt having a shoulder adapted to engage said stud, for the purpose set forth.

[Claim 6 not printed in the Gazette.]

977,745. VENDING-MACHINE. ADOLPH H. KOCH, Los Angeles, Cal. Filed June 11, 1909. Serial No. 501,617.



1. In a vending machine, a plate or partition having on one side a vertically movable vending plate and on the other side a coin chute having therein a pivoted trigger provided with a stop-stud and adapted to be operated by a coin, in combination with a fixed guide-stop for a coin, an operating lever having a stud normally in the path of said stop-stud, and means on the lever for displacing the position of the trigger and its stop-stud through an intervening coin.

2. In a vending machine, a plate or partition having on one side a vertically movable vending plate and on the other side an operating lever and a coin chute, said lever having at its outer end a detachable piece, and means for arresting the downward motion of such lever in the absence of a vending coin.

3. In a vending machine, a plate or partition having on one side a vertically movable vending plate and on the other side a coin chute and means for arresting a coin, and an operating lever provided at its outer end with a detachable piece and with attaching devices therefor, including a swinging latch, a stud and detent, and means in the chute for arresting the downward movement of said lever in the absence of a vending coin.

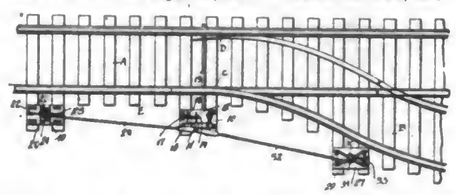
4. In a vending machine, a coin chute having therein a pivoted trigger provided at its upper end with a stop-stud, and normally held in position by a spring, the side of the coin chute opposite the stop-stud being cut away, in combination with a fixed coin guide-stop, between which and said trigger a coin may be placed, and an operating lever provided with a stud normally in the path of the stop-stud, and a pin for depressing a coin and thereby swinging the trigger on its pivot and disengaging its stop-stud from the stud on the lever and permitting the coin to be pushed down.

977,746. FOOD COMPOUND. EDWIN W. LASBY, St. Louis, Mo. Filed Jan. 5, 1910. Serial No. 536,568.

1. The herein described food compound consisting of almond paste, dried white of egg, gelatin, and rice flour, thoroughly mixed in about the proportions specified, the product being dry, and firm.

2. The herein described food compound for preparing macaroons, consisting of almond paste, sixty-four parts, by weight; dried white of the egg, two parts, by weight; gelatin two parts, by weight; and rice flour, one part, by weight, the product being dense, dry and firm.

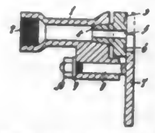
977,747. RAILWAY-SWITCH. HENRY C. MEAD, Arlington, S. D. Filed Apr. 11, 1910. Serial No. 554,753.



1. In a railway switch, the combination of the movable switch points, a pivotally mounted bell-crank, connections between said switch points and one arm of said bell-crank whereby the oscillation of the latter will move the switch points to open and close the switch, a pair of pivoted levers disposed respectively on opposite sides of said bell-crank, a pair of links having their adjacent ends pivotally connected to the other arm of said bell-crank; said links being each provided with longitudinal slots in their outer ends, a laterally projecting pin secured to one of said pivoted levers above its pivot and extending through the slot in the end of one of said links, a laterally projecting pin secured to the other pivoted lever below its pivot and extending through the slot in the end of the other link, and spring actuated means constantly tending to move and hold said levers so that the switch will be disposed in open position.

2. In a railway switch, the combination of the movable switch points, a pivotally mounted bell-crank, connections between said switch points and one arm of said bell crank whereby the oscillation of the latter will move the switch points to open and close the switch, a vertical rod constituting the pivot of said bell crank and rotatable therewith, an intermediate offset portion formed in said rod, a vertical arm disposed adjacent said rod, a spring having one end connected to said arm and the other end to said offset portion, a pair of pivoted levers disposed respectively on opposite sides of said bell crank, a link connecting each of said levers with the other arm of said bell crank, one of said links being connected to the lever above the pivot point of the latter, and the other link connected to its lever below the pivot point of the latter.

977,748. SPRAYING-NOZZLE. JOSEPH MILBURN, Havelock North, New Zealand. Filed Mar. 11, 1910. Serial No. 548,713.

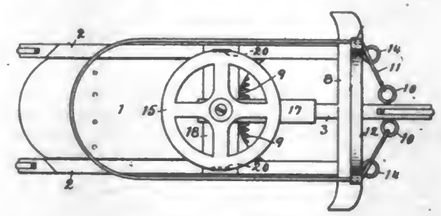


1. The herein described spraying nozzle comprising a socket adapted to be attached to a supply pipe and having a discharge aperture at one end, and a disk movable across the outer end of the discharge aperture and provided with an opening adapted to pass over said aperture, one edge of which opening is beveled on both its exterior and interior surfaces.

2. The herein described spraying nozzle comprising a socket adapted to be attached to a supply pipe and having an outwardly flaring discharge aperture at one end, a nipple having an unthreaded tapering end section inserted in said discharge aperture, and a disk movable across the outer face of the nipple and having an aperture provided with a beveled edge against which liquid issuing from the nipple impinges.

3. The herein described spraying nozzle comprising a socket adapted to be attached to a supply pipe and having a discharge aperture at one end, an annular groove being formed about the outer end of said aperture, and a rotatable disk having an opening therein adapted to move over said groove, and across the discharge aperture as the plate is turned, one edge of said opening being beveled.

977,749. COASTING-SLED. DOLPH A. PAGE, Keene, N. H. Filed Mar. 14, 1910. Serial No. 549,139.



1. In combination with the frame of a sled, including the main runners, the seat, and a foot-rest cross-bar located forward of said seat and connecting the front ends of said runners, of a central steering runner at the forward end of the sled, said steering runner being pivoted directly to said frame beneath the same and arranged in direct supporting and contacting relation to said cross-bar and to other parts of the frame behind such bar.

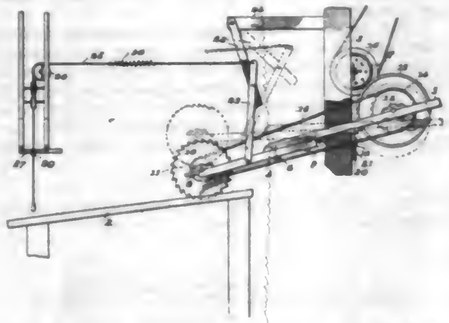
2. The combination, in a sled, of the frame, including the main runners, of the sled, a cross-bar and a guide mounted at the front end of said frame on said runners, said guide having its ends adapted to support a rope, a central steering runner pivotally connected with said frame and extending beneath and in contact with said cross-bar and forward of said guide, and a rope attached to the forwardly-extending part of said steering runner and passing outwardly and rearwardly to the aforesaid ends of said guide and behind the same, such rope being in sliding relation with said guide.

3. The combination, in a sled, with the frame, including the main runners, of the sled, and a centrally-located steering runner, for the forward end of the sled, pivotally connected with said frame, of a steering-post pivotally mounted on the sled and provided with a forwardly-extending arm arranged in direct engagement with said steering runner to operate the same when said post is operated, the steering-post pivotal connection being independent of the steering runner pivotal connection but having its axial center coincident with the axial center of said last-mentioned pivotal connection.

4. The combination, in a sled, with the frame, including the main runners, of the sled, and a centrally-located steering runner, for the forward end of the sled, pivotally connected with said frame, of a removable member mounted on the sled, and a steering-post pivotally mounted on said removable member and provided with a forwardly-extending arm arranged in direct engaging relation with said steering runner to operate the same when said post is operated.

5. The combination, in a sled, with the frame, including the main runners, of the sled, a centrally-located steering runner, for the forward end of the sled, pivotally connected with said frame, and equalizing springs interposed between said main runners and said steering runner, of a steering post pivotally mounted on the sled and provided with a forwardly-extending arm arranged to engage said steering-runner and to operate the same when said post is operated.

977,750. AUTOMATIC SAW-TRIMMER FOR EQUALIZING LENGTHS OF LUMBER. FREDERICK REGENOLD, Memphis, Tenn. Filed Aug. 24, 1909. Serial No. 514,420.



1. In a lumber trimming mechanism, the combination with a trimming table of a plurality of pivotally supported saw frames, a saw arbor and saw carried upon one end of the frame, a gear wheel carried on the other end of the frame, the gear wheel end of each frame being heavier than the saw-carrying end to normally hold the saw above the trimming table, means for transmitting the motion of the gear wheel to its corresponding saw arbor, a common driving means mounted above the series of gear wheels and means for independently moving each saw frame to depress the saw-carrying end of the frame and bring the gear wheel carried on the other end of the frame into engagement with the driving means.

2. In a lumber trimming mechanism, the combination with a trimming table of a plurality of independent pivotally supported saw frames, a saw arbor and saw carried upon one end of each frame, a friction drive wheel carried upon the other end of the frame, means for transmitting the motion of the drive wheel to the saw arbor, a drive shaft common to all of said saws and mounted above the gear wheels thereof, friction drive wheels on said shaft engaging with the drive wheels of the saw frames, and means for independently depressing the saw-carrying end of each of the saw frames to bring its drive wheel into engagement with the common drive wheel or to elevate the saw carrying ends of the frames to disengage said friction wheels.

3. In a lumber trimming mechanism the combination with a trimming table of a plurality of independent pivotally supported saw frames, a saw arbor and saw carried upon one end of each frame, a friction driving wheel carried upon the other end of the frame, of a weight adapted to conterbalance the said saw, a driving mechanism between the drive wheel and the saw arbor, a common driving shaft for all of the saws, friction wheels carried thereon with which the friction wheels on the saw frames are adapted to engage, toggle links connected to the saw frames to depress the saw carrying end of any one frame, a connection to said toggle levers and means for holding said connection in an adjusted position to hold the saw-carrying ends of any one frame downward into engagement with the lumber on the trimming table.

4. In a lumber trimming mechanism, the combination with a trimming table, of a plurality of pivotally supported saw frames, a saw arbor and saw carried upon one end of each frame, a friction drive wheel carried upon the other end of the frame, means for transmitting the motion of the drive wheel to the saw arbor, a drive shaft common to all of said saws and mounted above the gear wheels thereof, friction drive wheels on said shaft and engageable with the drive wheels of the saw frames, means for independently depressing the saw-carrying end of each of the saw frames to bring its driving wheel into engagement with the common drive wheel or to elevate the saw carrying ends of the frame to disengage said driving wheels, said means being adapted to yield to permit the saw-carrying end of the frame to rise if the saw meets with an obstruction.

5. In a lumber trimming mechanism, the combination with a trimming table, of a plurality of independent pivotally supported saw frames, a saw arbor and saw carried upon one end of each frame, a friction wheel carried on the other end of the frame and acting as a weight counterbalancing said saw, a driving mechanism between the friction wheel and the saw arbor, a common driving shaft for all of the saws, friction wheels carried thereon with which the friction wheels on the saw frames engage, toggle links connected to each of the saw frames to depress the saw-carrying end of any one frame, a connection extending from each of said toggle links, means for holding said connection in an adjusted position to hold the saw-carrying end of any one frame into engagement with the lumber, said connection having a yielding resilient section in its length permitting the toggle links to move and the saw to rise if the saw meets an obstruction.

[Claim 6 not printed in the Gazette.]

977,751. SPINDLE-BRAKE FOR SPINNING OR TWISTING APPARATUS. ALONZO E. RHOADES, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Original application filed Dec. 12, 1908, Serial No. 467,252. Divided and this application filed Mar. 12, 1910. Serial No. 548,909.



1. In apparatus of the class described, a spindle-rail, a spindle rotatably mounted thereon, a spindle-brake seated on the rail and having an integral leg depending in front of and below the rail and provided at its lower end with an actuating plate, and means on said plate and leg to direct oil from the spindle to the back of the plate and thereby prevent the oil from collecting on the face of the plate.

2. In apparatus of the class described, a spindle-rail, a spindle rotatably mounted thereon, a spindle-brake seated on the rail and having a leg depending in front of and below the rail and provided with a knee-plate set forward from the leg and beveled rearwardly at its upper edge, the leg having a depression therein behind and below the beveled edge of the knee-plate, to collect oil accumulating on the leg and prevent its passage to the front of the plate.

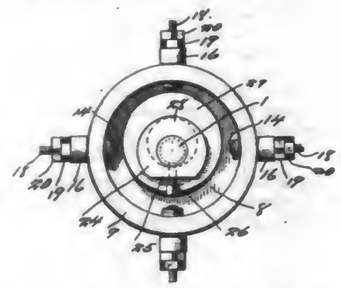
3. In apparatus of the class described, a spindle-rail, a spindle rotatably mounted thereon, a spindle-brake seated on the rail and having a leg depending in front of and below the rail and provided with a knee-plate set forward from the leg and beveled rearwardly at its upper edge, the leg having a depression therein behind and below such edge, to receive oil collecting on the leg, and a rib on the back of the plate communicating with the end of the leg, to direct oil from said depression and discharge it at the lower edge of the knee-plate at its back.

977,752. GAS-ENGINE. EDWIN E. SAVARD and WINFRED E. JONES, Rochester, N. Y. Filed Sept. 22, 1909. Serial No. 518,970.

1. In a timer for gas engines, a shaft, an eccentric presenting a large wearing surface, an eccentric extension on said shaft, a contact disk carried by said eccentric, a rim and contacts adjustable therein, the said eccentric being adjustable on the eccentric extension to vary the length of contact.

2. In a timer for gas engines, the combination with a shaft, of an eccentric presenting a large wearing surface, the shaft having an extension eccentrically disposed with relation to said eccentric and a contact disk carried by said eccentric, the said eccentric being shiftable on said eccentric extension to lengthen or shorten the stroke.

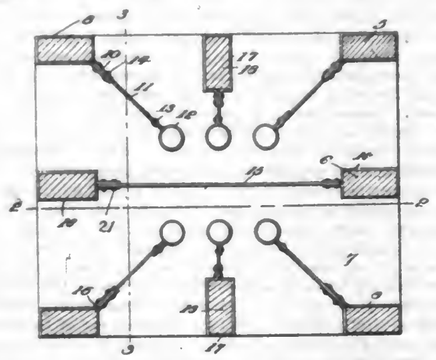
3. In a timer for gas engines, the combination with a shaft having a concentric portion and an extension eccentric with relation thereto, of an eccentric on said extension presenting a large wearing surface, means for adjusting the length of stroke or time of contact, a rim, and fixed rim contacts carried thereby and with relation to which said eccentric is adjusted on the eccentric extension, said rim contacts being fixed in position after once set.



4. In a timer for gas engines, the combination with a shaft, of an eccentric presenting a large wearing surface, the shaft having an eccentric extension carrying said eccentric, means for changing the length of stroke or time of contact, fixed rim contacts with relation to which said eccentric is adjusted on said eccentric extension, and means for simultaneously moving all of said contacts.

5. In a timer for gas engines, the combination with a shaft having a concentric extension and an extension eccentric thereto, of a cup-shaped member on said concentric extension, ball contacts carried by the rim portion of said member, a disk sleeved on the eccentric extension, said disk having a concentric bore and an eccentric extension through which said bore extends, and a disk having a concentric bore in which said eccentric portion fits.

977,753. BONDING-TIE FOR CONCRETE-FLOOR CONSTRUCTION. AUGUST C. SCHUMANN, Laurel, Iowa. Filed Dec. 15, 1909. Serial No. 533,250.



1. A bonding tie for concrete floor construction comprising a post receiving socket having spaced attaching arms extending longitudinally therefrom and of less height than the socket, and an anchoring member interposed between said arms and secured thereto.

2. A bonding tie for concrete floor construction comprising a post receiving socket having spaced attaching arms extending longitudinally therefrom and of less height than the socket, and a longitudinally disposed anchoring member interposed between the arms and secured thereto, the walls of the socket above the attaching arms being bent laterally to form outwardly projecting anchoring lips.

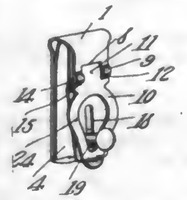
3. A bonding tie for concrete floor construction comprising a substantially rectangular post receiving socket having longitudinally disposed attaching arms extending from one corner thereof, there being laterally extending anchoring lips formed on the socket and disposed in vertical alinement with the attaching arms, and an anchoring member interposed between and secured to said anchoring arms.

4. A bonding tie for concrete floor construction comprising a substantially rectangular post receiving socket having spaced attaching arms extending longitudinally from one corner thereof, and an anchoring member interposed between and secured to the attaching arms and provided with a reinforcing terminal eye.

5. A bonding tie for concrete floor construction comprising a substantially rectangular post receiving socket having longitudinally disposed attaching arms extending from one corner thereof and of less height than the socket, and an anchoring member interposed between the arms and provided with a terminal reinforcing eye, the walls of the socket above the attaching arms being bent outwardly to produce anchoring lips.

[Claims 6 to 10 not printed in the Gazette.]

977,754. DRAWERS-SUPPORTER. ANSON E. SHUSTER, North Bend, Oreg. Filed July 30, 1909. Serial No. 510,361.



A device of the class described comprising a U-shaped body having unequal arms; a U-shaped spring disposed within the body and arranged to depend below the shorter arm of the body; a lever pivoted to the shorter arm of the body and being prolonged beyond the pivotal connection to form a finger to engage the spring, the spring being longitudinally slotted beneath the lever, and the lever being provided with a wedge-shaped opening; a stud slidably mounted in the slot of the spring and arranged to extend through the opening of the lever, the stud being provided with a head to engage the smaller end of the opening in the lever and to move freely through the larger end of said opening.

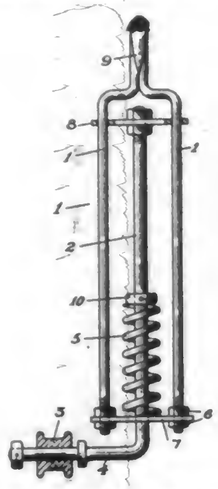
977,755. SAW-FEEDING DEVICE. WILLIAM J. SMITH, Seattle, Wash. Filed Mar. 7, 1910. Serial No. 547,930.

1. A saw feeding device consisting of a frame comprising spaced side bars, a dog on said frame for securing the same to the work, a slide slidably engaged with the side bars of said frame, a head adjustably engaged with the lower end portions of said side bars, a carrier secured to said slide and projecting through said head, a support for the saw provided on said carrier and projecting outwardly therefrom, and resilient means for elevating said carrier having one end portion disposed for adjustment by adjustment of said head.

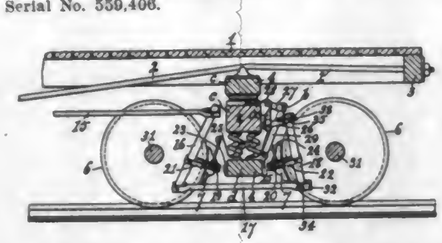
2. A saw feeding device consisting of a frame comprising spaced side bars, a head removably secured to the lower end portions of said bars, a dog on said frame for securing the same to the work, a member extending between and slidably engaged with said side bars, a carrier fixed to said member and projecting through said head and guided thereby, said carrier having its depending end portion provided with a saw engaging support disposed to one side of said frame, and resilient means on said frame for adjusting said carrier.

3. A saw feeding device consisting of a frame comprising spaced side bars having their upper end portions directed toward one another and provided with an angularly

disposed dog, a carrier guided on said frame and projecting below the same, means yieldingly tending to advance said carrier in one direction, and a saw guidin; support on said carrier disposed to one side of said frame.



977,756. LOAD-REGULATED BRAKE. GEORGE F. SOUTH, London, Ontario, Canada. Filed May 4, 1910. Serial No. 559,406.

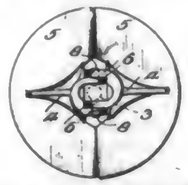


1. A device of the class described comprising a truck formed with upper and lower timbers, springs between said timbers, upwardly-extending levers positioned at opposite sides of said timbers, a longitudinal bar connecting the lower ends of said levers, brake beams, brakes secured to said brake beams, coupling means connecting said brake beams to said levers intermediate the ends of the latter, a coupling rod connected to the upper end of one of said levers, a brake cylinder, a piston within said cylinder, a longitudinal rod connecting the other of said levers at its upper end with said piston, a connecting bar pivoted to the lower timber, a bell crank lever pivoted to the upper timber, one arm of said bell crank lever connected to said coupling rod and the other arm thereof to said connecting bar, castings secured to opposite sides of the lower beam, and supporting hangers pivoted to said castings and brakes.

2. In a device of the class described, a vehicle, a truck secured to said vehicle and formed with upper and lower timbers, springs between said timbers, and wheels secured to said truck, in combination with levers, a longitudinal bar connecting the lower ends of said levers together, a coupling rod connected to one of said levers, a brake cylinder, a brake cylinder piston, a longitudinal rod connecting the other of said levers with said brake cylinder piston, a connecting bar connected to the lower timber of said truck, a bell crank lever, one of the arms of which is connected to said coupling rod and the other to said connecting bar, and said bell crank lever connected to the upper timber of said truck.

3. In a device of the class described, a vehicle, a truck secured to said vehicle and formed with upper and lower timbers, springs between said timbers, and wheels secured to said truck, in combination with levers, a longitudinal bar connecting the lower ends of said levers together, brake beams, brakes connected to said brake beams and adapted to lie close to said wheels, couplings for connecting said brake beams with said levers, a coupling rod connected to one of said levers, a brake cylinder, a brake cylinder piston, a longitudinal rod connecting the other of said levers with said brake cylinder piston, a connecting bar connected to the lower timber of said truck, a bell crank lever, one of the arms of which is connected to said coupling rod and the other to said connecting bar, and said bell crank lever connected to the upper timber of said truck.

977,757. ANCHOR. LEMUEL N. STEWART, Agency, Mo., assignor to George H. Furbeck, St. Joseph, Mo. Filed Mar. 5, 1909. Serial No. 481,230.



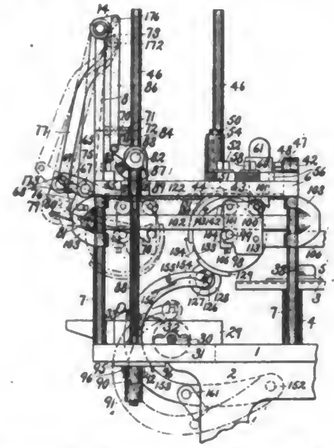
1. A land anchor including separable anchoring arms formed at one end with pairs of spaced ears interlocked with one ear of each pair positioned between the ears of the other pair, one ear of each pair being formed with a pintle pivotally engaged with the adjacent ear of the other pair upon the relative lateral movement of the arms in one direction to space the innermost ears apart, a removable shank passing between the innermost ears of the interlocked pairs and maintaining said innermost ears spaced apart to hold the arms in pivotal association against separation, and means for spreading apart the free ends of said arms.

2. A land anchor including separable anchoring arms formed at one end with pairs of spaced ears interlocked with one ear of each pair positioned between the ears of the other pair, one ear of each pair being formed with a pintle pivotally engaged with the adjacent ear of the other pair upon the relative lateral movement of the arms in one direction to space the innermost ears apart, a removable shank passing between the innermost ears of the interlocked pairs and maintaining said innermost ears spaced apart to hold the arms in pivotal association against against separation, the shank being movable longitudinally between the ears, a means carried by the shank for spreading apart the free ends of said arms by and upon the relative longitudinal movement of the shank.

3. A land anchor including separable anchoring arms formed at one end with pairs of spaced ears interlocked with one ear of each pair positioned between the ears of the other pair, one ear of each pair being formed with a pintle pivotally engaged with the adjacent ear of the other pair upon the relative lateral movement of the arms in one direction to space the innermost ears apart, a shank passing between the innermost ears of the interlocked pairs and maintaining said innermost ears spaced apart to hold the arms in pivotal association against separation, attaching means provided at one end of the shank, and means carried at the other end of the shank for spreading apart the free ends of the arms, said spreading means being detachable from the shank to permit the same to be withdrawn from between the ears.

977,758. ENVELOP-MACHINE. GEORGE P. TAYLOR, Holyoke, Mass. Filed Oct. 13, 1909. Serial No. 522,402.

1. Mechanism, for feeding flexible sheets one at a time from the bottom of a pile, comprising a picker-roller having a gum-receiving and -transferring part and provided with a sheet detaching part, means to reciprocate said roller in a right line, and means to rotate said roller during the entire time of its reciprocal movement, the arrangement being such that the direction of rotation of the roller changes with the change in direction incident to the reciprocating motion.



2. Mechanism, for feeding flexible sheets singly from the bottom of a pile, comprising a picker-roller having a gum-receiving and -transferring part and provided with a sheet-detaching part, means to reciprocate said roller in a right line, and means dependent upon such reciprocating means to rotate said roller during the entire time of its reciprocal movement, the arrangement being such that the direction of rotation of the roller changes with the change in direction incident to the reciprocating motion.

3. Mechanism, for feeding flexible sheets singly from a pile, comprising a picker-roller having a sheet-attaching part and provided with a sheet-detaching member adjacent to such part, means to reciprocate said roller, means to rotate said roller during its reciprocal movement, the arrangement being such that the direction of rotation of the roller changes with the change in direction incident to the reciprocating motion, and means to operate said detaching member.

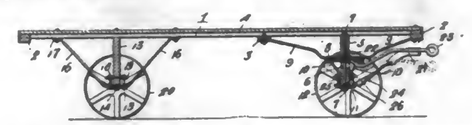
4. The combination, in mechanism for feeding flexible sheets singly from the bottom of a pile, of stationary and movable supporting members for such pile, a reciprocating rotary picker-roller having a sheet-attaching part and adapted when it advances to actuate out of the way and take the place of the removable supporting member beneath said pile and when it retreats to clear the way and permit said member to resume its position beneath said pile, and suitable supports for said movable pile-supporting member and said picker-roller, which supports are separate from and independent of each other.

5. The combination, in mechanism for feeding flexible sheets singly from the bottom of a pile, with stationary and movable supporting members for such pile, and means to withdraw the movable member from supporting relation to said pile and to restore said member to such relation, of a reciprocating rotary picker-roller having a sheet-attaching part and a laterally-projecting member adapted to operate said means to withdraw the movable supporting member and substitute the said picker-roller and to permit of the restoration of the movable supporting member again to active position.

[Claims 6 to 35 not printed in the Gazette.]

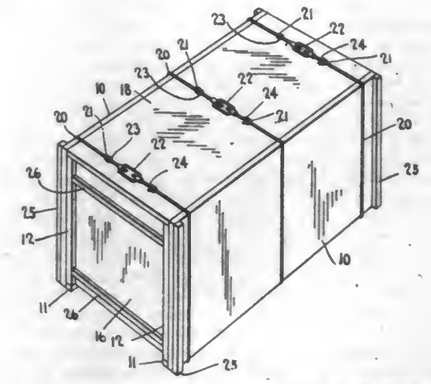
977,759. TRUCK. JAMES WILLIAM TAYLOR, Goldsboro, N. C. Filed Sept. 21, 1909. Serial No. 518,832.

1. In a truck, a main supporting frame, a front bolster secured to said frame, a front axle bed arranged beneath said bolster, a king bolt pivotally connecting said bolster and bed together, a fifth wheel arranged between said bed and bolster, a front axle secured to said axle bed, a draw bar loosely connected to said king bolt within said fifth wheel and a spring metal ball-shaped brace bar secured at its ends to the front axle and bolster and having formed in its central portion an aperture through which said draw bar passes, whereby the latter is adjustably supported in operative position.



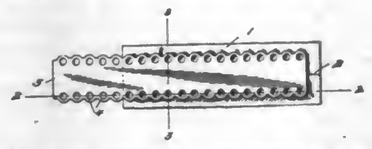
2. In a truck, a main supporting frame, a front bolster secured thereto adjacent to the forward end of the truck, a front axle bed, a king bolt pivotally connecting said bolster and bed together, a front axle secured to the under side of said front axle bed, front supporting wheels mounted on the outer ends of said front axle, a fifth wheel arranged between said front bolster and axle bed and a brace bar secured to said fifth wheel and front bolster, said bar having forwardly and rearwardly extending upwardly inclined portions secured at their ends to the main frame of the truck.

977,760. FOLDING RECEPTACLE. ROBERT J. THOMPSON and ELIGA C. SNODGRASS, Washburn, Tex. Filed June 27, 1910. Serial No. 569,136.



A knock-down receptacle having side walls each provided on its inner face with a cleat adjacent to its lower longitudinal edge and provided with transverse cleats adjacent to its opposite end edges, a bottom having a plurality of transverse cleats provided with rabbeted ends bearing upon the longitudinal cleats of said sides, ends having rabbeted lower edges bearing upon the end edges of the bottom and bearing with their outer faces against the transverse cleats of said sides, a top having transverse cleats on its inner face adjacent its end edges bearing upon the inner faces of the ends, and contractile tie members surrounding the box.

977,761. AMMONIA-LEAK TESTER. WALTER NORTON THOMPSON, Tucson, Ariz. Filed May 28, 1907. Serial No. 376,141.



1. A leak tester consisting of test paper and a stiffener or holder therefor having struck-up parts which engage

the test paper, said stiffener constituting a backing which holds the test paper in extended condition.

2. A leak tester consisting of test paper and a stiffener or holder having a plurality of struck-up parts formed by perforations which engage the test paper, said stiffener constituting a backing which holds the test paper in extended condition.

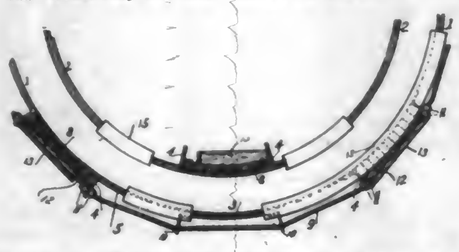
977,762. ERASER-TIP FOR PENCILS. ALFRED TRESCONING, Los Angeles, Cal. Filed June 27, 1910. Serial No. 568,993.



1. An eraser tip for pencils consisting of a resilient socket adapted to be secured upon the end of a pencil and having its outer end of greater diameter than the pencil and threaded, and returned at its extremity to constitute a seat for the eraser; an eraser having a collar or lateral projection intermediate its ends adapted to rest upon the seat at the extremity of the socket, and a ferrule having its outer extremity adapted to embrace the lateral projection of the eraser and to confine it against the seat of the socket, and means for interlocking the socket and the ferrule substantially as and for the purpose set forth.

2. An eraser tip for pencils, in combination with a resilient socket adapted to be secured to the end of a pencil, and having its outer end of increased diameter and threaded, the extremity of the outer end being turned inwardly to provide a seat for the eraser, an eraser body formed with a collar intermediate its ends, a threaded ferrule adapted to be secured to the socket and formed with an inwardly returned extremity to engage the collar of the eraser and press it against the seat of the socket.

977,763. CONCRETE-MOLD. ROBERT B. TUFTS, Atlanta, Ga. Filed July 21, 1908. Serial No. 444,685.



1. A mold including inner and outer walls forming an intermediate molding chamber, said walls comprising rings made up of permanent and sectional segments arranged alternately, said sectional segments comprising a panel of connected staves, the sectional segments of one ring adapted to come between the permanent sections of the supporting and superposed rings whereby to aline and brace said sectional segments during the molding of the courses.

2. A mold including inner and outer walls forming an intermediate molding chamber, said walls comprising rings made up of metallic and non-metallic sections arranged alternately, said latter sections comprising a panel of connected staves, said metallic sections provided with flanges at each end whereby the non-metallic sections may be held in alinement with the metallic sections, and means for connecting the several sections together.

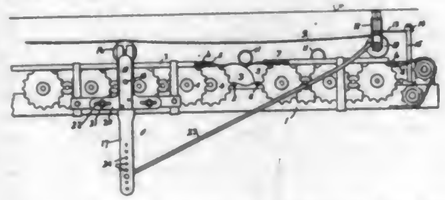
3. A mold comprising a plurality of alternately arranged metallic and wooden segments constituting a ring, said wooden segments comprising a panel of connected staves, and means whereby a stave, or staves, may be removed for varying the diameter of the ring.

4. A mold comprising a plurality of metallic and wooden sections, said latter sections comprising a panel of connected staves, the metallic sections being substantially rectangular, the wooden sections being substantially rectangular or trapezoidal, and means whereby either of the wooden sections may be assembled with the metallic sections for molding conical or cylindrical structures.

5. A mold comprising rings constituting a wall, said rings made up of metallic segments and wooden panels, said panels comprising a plurality of connected staves, said segments and panels provided with a groove and tongue on its upper and lower edge respectively, the tongue of one ring adapted to fit within the groove of another ring whereby to support the same for molding a structure in courses.

[Claims 6 to 11 not printed in the Gazette.]

977,764. BELT-REGULATOR. WILLIAM O. WAKEFIELD, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Sept. 28, 1909. Serial No. 519,984.



1. Means for preventing the lateral creeping of a belt, comprising a supporting roller over which said belt runs, means permitting said roller to rock in a plane parallel with said belt, a teaser roll in contact with one lap of said belt, and connections between the roller and the roll whereby a rocking of the roller will produce a reverse rocking of the roll.

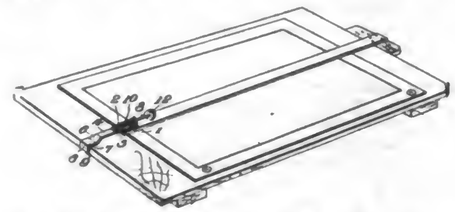
2. Means for preventing the lateral creeping of a belt, comprising a supporting roller over which said belt runs, a yoke in which said roller is journaled, a pivot perpendicular to said belt on which said yoke is mounted, a teaser roll in contact with one lap of the belt, and connections between the yoke and the roll for causing the latter to assume an oblique position when the yoke rocks on its pivot.

3. Means for preventing the lateral creeping of a belt, comprising a supporting roller over which said belt runs, means permitting said roller to rock in a plane parallel with said be.., a teaser roll in contact with one lap of said belt, levers in which said roll is journaled, and connections between said rollers and said levers.

4. Means for preventing the lateral creeping of a belt, comprising a supporting roller over which said belt runs, a yoke in which said roller is journaled, a pivot perpendicular to said belt on which said yoke is mounted, a teaser roll in contact with one lap of said belt, levers in one end of which said roll is journaled, and connecting rods between the other ends of said levers and said yoke.

5. The combination with a belt, of a teaser roll in contact with one lap of said belt, a supporting roller over which said belt passes, movable bearings for both roll and roller, connections whereby the roller when slewed by the belt to an oblique position causes the teaser roll to assume an oblique position but in a reverse direction, and means for varying the ratio of obliquity of the roller and the roll.

977,765. T-SQUARE HOLDER. CLAIR WHITE, Smethport, Pa. Filed Mar. 23, 1910. Serial No. 551,078.



As a new article of manufacture, the herein described T-square holder comprising a base plate formed at opposite edges with upstanding apertured ears, a stem passing through the apertures of the ears, a spring coiled around said stem between the ears and bearing against one ear, a collar secured to said stem and engaged by said spring, a clamping arm provided at one end with an upstanding apertured lug by which it is secured to the foremost end of the stem, the arm being downwardly deflected near its opposite end and formed at said end with a head which extends in a plane off-set from, but parallel to the lower face of the base plate, said head being formed with a right-angularly disposed flange, and the flange being formed with engaging lugs, and a finger piece secured to the opposite end of the stem.

977,766. SLIDE-TROMBONE. HENDERSON N. WHITE, Cleveland, Ohio. Filed Feb. 24, 1908. Serial No. 417,234.



1. A slide trombone having an inner member with bearing portions on its ends, an outer member and band shaped bearing members at its ends sleeved over said inner member and detachably interlocked with the ends of the said outer member.

2. A slide trombone comprising an outer member having oiling chambers about its outside at its ends and valved openings between the walls of said outer member and said chambers, an inner member slidably mounted in said outer member and said valved openings entering the space between the said members, thereby lubricating said parts.

3. A slide trombone having an inner member and an outer member with two ends and a sleeve about each end hermetically sealed at its end to prevent leakage, an oil inlet opening in the wall of said outer member to lubricate the space between said members and a valve for said opening.

977,767. INSOLE-LIP-FORMING MACHINE. WARREN B. WHITE, North Abington, Mass. Filed Sept. 28, 1908. Serial No. 454,987.

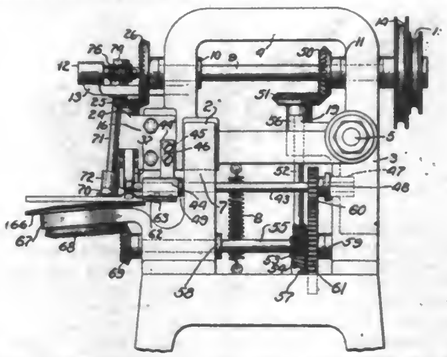
1. A machine of the class described comprising, in combination, incising cutters shaped and related for forming a channel and lips of sufficient material substantially to fill said channel, one of said cutters being a disk.

2. A machine of the class described comprising, in combination, independently supported incising cutters shaped and related for making transverse slits to form a channel and lips of sufficient material substantially to fill said channel.

3. A machine of the class described comprising, in combination, cutting devices including an incising cutter and a rotary cutter for forming a channel and lips of sufficient material substantially to fill said channel.

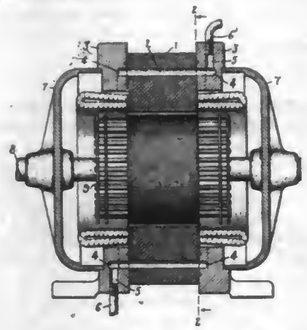
4. A machine of the class described comprising, in combination, cutting devices including a vertical incising cutter and a rotary horizontal cutter for forming a channel and lips of sufficient material substantially to fill said channel.

5. A machine of the class described comprising, in combination, cutters for making transverse slits to form a channel and opposed lips of sufficient material substantially to fill said channel, said cutters being relatively arranged so that one follows through the slit formed by the other.



[Claims 6 to 27 not printed in the Gazette.]

977,768. DYNAMO-ELECTRIC MACHINE. JOHN B. WIARD, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Apr. 27, 1910. Serial No. 557,849.



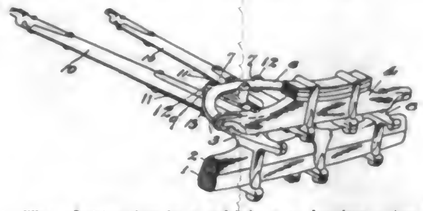
1. In a dynamo electric machine, a stationary core structure having a plurality of holes extending therethrough for receiving a cooling fluid, and end frames clamping said core structure, each of said end frames having a groove registering with said holes and a channel connecting said groove to the exterior of said end frame.

2. In a dynamo electric machine, a stationary core structure having a plurality of holes extending therethrough for receiving a cooling fluid and arranged in a circle, and end frames clamping said core structure, each of said end frames having a circular groove registering with said holes and a channel connecting said groove to the exterior of said end frame.

3. In a dynamo electric machine, a stationary laminated core structure having a plurality of holes extending therethrough for receiving a cooling fluid, the interior walls of said holes being coated or covered so that cooling fluid will not leak out between the laminations, and end frames clamping said core structure, each of said end frames having a groove registering with said holes and a channel connecting said groove to the exterior of said end frame.

4. In a dynamo electric machine, a stationary laminated core structure having a plurality of holes extending therethrough for receiving a cooling fluid arranged in a circle, the interior walls of said holes being coated or covered so that cooling fluid will not leak out between the laminations, and end frames clamping said core structure, each of said end frames having a circular groove registering with said holes and a channel connecting said groove to the exterior of said end frame.

977,769. VEHICLE-GEAR. FRANK E. WILCOX, Mechanicsburg, Pa. Filed May 15, 1909. Serial No. 496,177. Renewed Sept. 30, 1910. Serial No. 584,761.

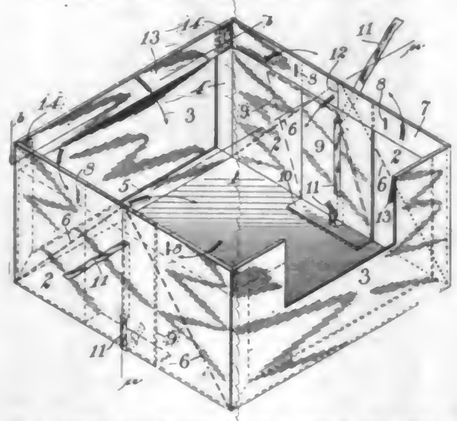


1. The combination in a vehicle gear having a top fifth wheel member provided with perforated lugs at its edge, of reach irons, each having an integral raised and perforated spool or boss with the perforation in line with the perforation in a lug when the parts are assembled, and bolts for uniting the lugs and the spools or bosses.

2. The combination in a vehicle gear having a top fifth wheel member provided with perforated lugs at its edge, of reach irons, each having an integral and perforated spool or boss with the perforation in line with the perforation in a lug when the parts are assembled, a perforated socket at the end of each reach iron, a perforated reach in each socket, and bolts passed through each lug, spool or boss, reach, and socket, and secured in position, as by nuts.

3. The combination in a vehicle gear, of a fifth wheel member having at its edge an integral perforated lug, a reach iron with an integral and perforated spool or boss at its top surface, and a bolt for holding the lug in contact with the spool or boss.

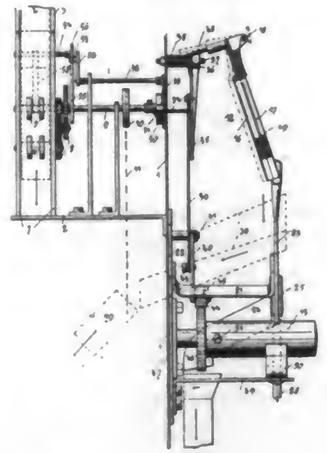
977,770. PAPER BOX. HENRY L. R. WOLF, Dayton, Ohio. Filed July 19, 1910. Serial No. 572,679.



1. A paper box having inwardly folding side and end walls 2 and 3, the end walls 3 having diagonal score lines 6 extending from the lower corners and intersecting at the upper edges of said end walls at points midway of the lengths of said end walls, said end walls having marginal extensions 7 7 folding inwardly and providing centrally disposed pockets on the inner sides of said end walls, said extensions 7 7 being slitted midway of their lengths as at 12, whereby they may fold with the end walls on the diagonal score lines, fasteners 8 8 securing said end wall extensions 7 7 to the end walls on the outer sides of the diagonal score lines, and bracing flaps 9 9 lying on the inner sides of the end walls and adapted to enter said central pockets to maintain the end walls and their pocket extensions in a rigid upright position, and means for maintaining said bracing flaps in engagement with said end walls, substantially as specified.

2. A paper box comprising side and end walls adapted to fold against the bottom of the box or to stand upright, the end walls being provided with score lines whereby they are adapted to be collapsed in diagonal folds against the bottom of the box, said end walls being reinforced along their upper edges by extended flaps which fold along said end walls, said flap extensions being slitted at their longitudinal centers to permit them to break at such points when the end walls are collapsed, fastening means securing said flap extensions to the end walls on each side of the slits and at suitable distances from said slits to provide pockets in the central portions of the end walls, bracing flaps attached to the bottom of the box and lying against the central portions of the end walls across the diagonal score lines, and the upper ends of which enter said pockets, and means such as tape or cord uniting said bracing flaps to the bottom of the box and to the end walls, substantially as specified.

977,771. AUTOMATIC COIN-TESTER FOR COIN-FREED APPARATUS. HEINRICH WOLLHEIM, Berlin, Germany, assignor to The American Stamp and Ticket Vending Machine Company of Washington, District of Columbia. Filed Nov. 27, 1908. Serial No. 464,592.



1. In a coin-controlled apparatus, in combination, the main shaft, a plurality of means for automatically testing the weight, size, shape and the material of the coins, and means whereby each of said plurality of means is automatically operated by the movement of said main shaft.

2. In a coin-controlled apparatus, in combination, the main shaft, means for testing the size and shape of the coins, second means for testing the material of the coins, means whereby each of said means is simultaneously and automatically operated by said main shaft, and means to lock the main shaft at a determined period.

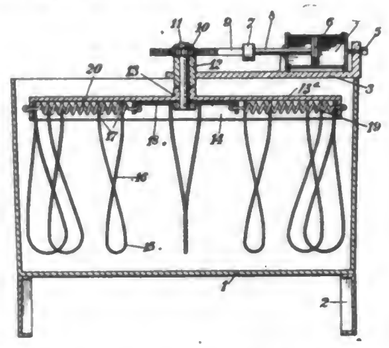
3. In coin-controlled apparatus, a pair of independent movable coin-testers operatively connected to move in substantial unison, an operating shaft intermittently actuated, and means connecting said shaft with one of the testers, the movement of the shaft imparting movement to said testers.

4. In coin-controlled apparatus, a pair of testers for testing different qualities in a coin, said testers operating on a coin successively and being movable, means for operatively connecting the testers to move in substantial unison, an operating shaft intermittently actuated, and means connecting said shaft with one of the testers, the movement of the shaft imparting movement to both testers.

5. In a coin-controlled machine, in combination, an operating shaft, a pair of intermittently movable coin testers, and means connecting said testers with said shaft whereby the latter will operate each of the testers upon its actuation.

[Claims 6 and 7 not printed in the Gazette.]

977,772. WASHING-MACHINE. ISIDOR YASSENOFF, Columbus, Ohio, assignor to The Swash Motor Washer Company, Columbus, Ohio, a Corporation of Ohio. Filed Aug. 14, 1908, Serial No. 448,471. Renewed May 2, 1910. Serial No. 558,912.



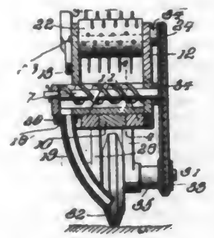
1. A washing machine comprising reciprocating means, a shaft actuated thereby, an agitator rotatably borne upon said shaft, and spring means carried by said shaft for causing said agitator to assume an oscillatory motion.

2. A washing machine comprising reciprocating means, a shaft adapted to be actuated thereby, an agitating member mounted loosely upon said shaft, an arm carried rigidly upon said shaft and having yielding connections with said agitating member whereby the latter is given an oscillatory motion.

3. In a washing machine including reciprocating means and a shaft adapted to be actuated thereby, an agitating member loosely mounted upon said shaft comprising an upper or band portion, depending loop members secured to said band portion and adapted to act as stirrers, an arm rigidly carried on said shaft, spring members connected to the ends of said arm and at their other ends secured to said agitating member whereby the latter is given an oscillatory motion.

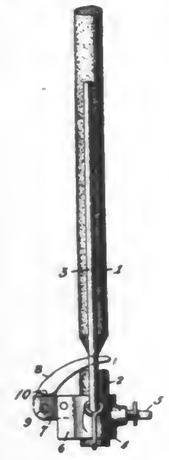
4. A washing machine comprising reciprocating means, a shaft actuated thereby, an agitator rotatably mounted upon said shaft, an open looplike stirring member depending from said agitator, and yielding connections between said shaft and said agitator adapted to cause the agitator to assume an oscillatory motion and also to cushion said agitator.

977,773. GUANO-DISTRIBUTER. LEE J. AKINS, Beckville, Tex. Filed May 3, 1910. Serial No. 559,138.



A fertilizer distributer including a beam, filling blocks carried against the sides of the beam, a hopper mounted over the filling blocks and the beam, said beam and said filling blocks having their upper edges flush to provide a flat bottom for the hopper, a transverse trough seated across the beam and the filling blocks and projecting from one side of the hopper, a spout depending from the trough, a cylinder in the hopper, a worm conveyer in the trough, and rotating means carried by the beam for actuating the conveyer and the cylinder.

977,774. ARC-LAMP SAFETY DEVICE. ORLA F. ASBURY, Charlotte, N. C., assignor of one-half to Daniel A. Tompkins, Charlotte, N. C. Filed Feb. 8, 1909. Serial No. 476,646.



1. In an arc lamp, the combination with the carbons, and a fixed part of the lamp, of a vertically swinging member pivoted to said fixed part and operative to intercept the feeding carbon on the burning away or breaking of the fixed carbon.

2. In an arc lamp, the combination with the carbons, and a fixed part of the lamp, of a vertically swinging intercepting member pivoted to said part and having its free end arranged to rest against and be supported by the fixed carbon.

3. In an arc lamp, the combination with the holder of the fixed carbon, of a finger pivoted thereto to move in a vertical plane, and shiftable automatically into the path of the feeding carbon when the fixed carbon is displaced or burned beyond a predetermined limit.

4. In an arc lamp, the combination with the upper and lower carbons, of a pivoted finger movable in a vertical plane and arranged to rest in inclined position with its free end uppermost and against the lower carbon.

5. In an arc lamp, the combination with the carbons, of a safety device comprising a pivoted finger mounted to extend at its free end between the carbons and thereby intercept the feeding carbon, said finger being curved longitudinally and tapered toward its free end.

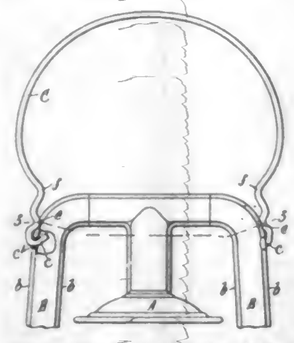
[Claims 6 and 7 not printed in the Gazette.]

977,775. LANTERN. CHARLES BERGENER, Rochester, N. Y., assignor to C. T. Ham Manufacturing Company, Rochester, N. Y. Filed May 6, 1909, Serial No. 494,442. Renewed Oct. 20, 1910. Serial No. 588,187.

1. The combination with a lantern frame provided on opposite sides with holding projections and with pivot sockets, of a bail which is pivoted in said sockets and which is offset adjacent to its pivots on one side of the frame forwardly and on the other side rearwardly, the bail standing in a plane which intersects the transverse plane of the lantern frame at a small angle and engaging, when in an upright position, one of said frame projections on the front side and the other projection on the rear side, substantially as set forth.

2. The combination with a lantern frame provided on each side with a holding projection and with a pivot socket for a bail, of a bail which is pivoted in said sockets and which is offset adjacent to its pivots on one side of the lantern forwardly and on the other side rearwardly and having adjacent to each offset portion a projection adapted to engage the adjacent frame projection when the bail is in an upright position, one of said bail projections engaging the front side of the adjacent frame

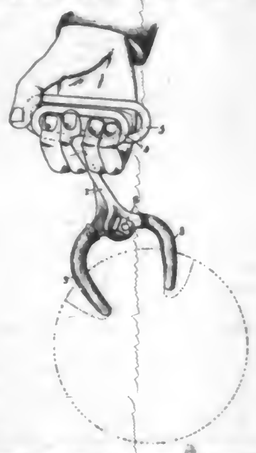
projection and the other ball projection engaging the rear side of the adjacent frame projection, substantially as set forth.



3. The combination with a lantern frame provided on each side with a holding projection and with a pivot socket for a bail, of a bail which is pivoted in said sockets and which is offset adjacent to its pivots on one side of the lantern forwardly and on the other side rearwardly and bent adjacent to its offset portion, forming inwardly-projecting humps, which latter, when the bail is in an upright position, engage against said frame projections, on one side of the lantern against the front side of the adjacent projection and on the other side of the lantern against the rear side, substantially as set forth.

4. The combination with a tubular lantern frame having ribs on the outer sides of the tubes and pivot sockets for a bail in the plane of said ribs, of a bail pivoted in said sockets and offset on one side of the lantern forwardly and on the other side rearwardly and having, adjacent to its offset portions, inwardly projecting bends adapted to engage on one side of the lantern against the front side and on the other side of the lantern against the rear side of the adjacent rib, substantially as set forth.

977,776. BALL-GRIP. MICHAEL A. BOLAND, Buffalo, N. Y. Filed Mar. 21, 1910. Serial No. 550,750.

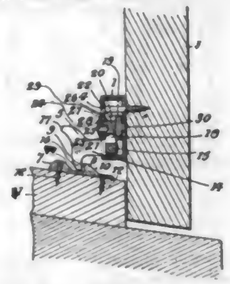


1. A ball grip embodying members pivotally connected together intermediate of their ends, sheathings on the corresponding ends of said members, and finger loops formed on the opposite ends of said members.

2. As a new article of manufacture, the herein described ball grip comprising members formed intermediate of their ends with loops, a pivot bolt extending through said loops, and sheathings secured in the corresponding ends of said members, the other ends of said members being provided with finger loops.

3. As a new article of manufacture, the herein described ball grip, embodying members pivotally connected together intermediate of their ends and laterally extending handles formed on said members at one end, one handle being extended laterally beyond the other handle for the purpose specified.

977,777. COMBINATION BLIND LOCK AND CATCH. WILLIAM J. D. BRANSCOM, Mobile, Ala. Filed Feb. 1, 1910. Serial No. 541,266.



1. The combination with the blind and the casement, of a catch on the casement, a casing secured to the blind, a swinging latch pivoted by one end in the casing, and extending outwardly therefrom and having a nose for engaging the catch, said latch having an upwardly extending lug on its inner end, the inner face of the lug being beveled upwardly and outwardly, a bolt pivoted at its center within the casing, and having at the end adjacent to the latch a lug provided with a beveled face for engaging the face of the lug on the latch to prevent lifting of the latch, the pivotal mounting of the said bolt comprising a lug on its rear face engaging the casing, and a cylindrical extension on the opposite face, said extension having its free end reduced and provided with a recess polygonal in cross section, and an escutcheon having an opening for receiving the reduced end, the casing having an opening provided with undercut walls for engagement by the edge of the escutcheon.

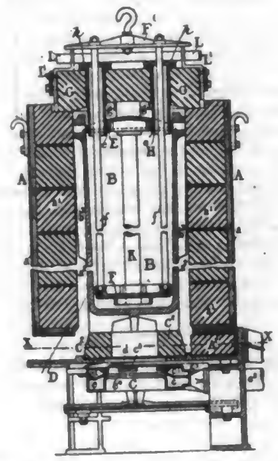
2. A lock and catch of the character specified, comprising a casing, a latch pivoted at one end in the casing and extending laterally therefrom, a bolt having one end wedge shaped for engaging behind the end of the latch to prevent lifting thereof, said bolt comprising a bar pivoted in the casing at its center, a spring engaging the other end of the bolt for holding it in adjusted position, and a lateral extension at the center of the bolt extending out of the casing, and having a recess polygonal in cross section, for the purpose specified.

3. A device of the character specified, comprising a casing, a latch pivoted at one end in the casing, and extending laterally therefrom, the free end of the latch being provided with a nose and a finger piece, a catch for engagement by the nose, a bolt pivoted in the casing and having a wedge shaped end for engaging behind the end of the latch to prevent swinging movement thereof, said bolt having a lateral extension projecting beyond the casing and provided with a polygonal recess for receiving a key, and an escutcheon rotatable in the casing, and having an opening for the extension.

4. A device of the character specified, comprising a casing, a latch pivoted at one end in the casing, and extending laterally therefrom, the free end of the latch being provided with a nose and a finger piece, a catch for engagement by the nose, a bolt pivoted in the casing and having a wedge shaped end for engaging behind the end of the latch to prevent swinging movement thereof, a spring for retaining the bolt in adjusted position, said bolt having a lateral extension projecting beyond the casing and provided with means for engagement by a key whereby to swing the bolt, and an escutcheon rotatable in the casing and having an opening for the extension.

5. A device of the character specified, comprising a casing, a latch pivoted at one end in the casing, and extending laterally therefrom, the free end of the latch being provided with a nose and a finger piece, a catch for engagement by the nose, a bolt pivoted in the casing and having a wedge shaped end for engaging behind the end of the latch to prevent swinging movement thereof, a spring for retaining the bolt in adjusted position, said bolt having a lateral extension projecting beyond the casing and provided with means for engagement by a key whereby to swing the bolt.

977,778. FURNACE FOR HEATING STEEL CUTTERS AND OTHER TOOLS OR ARTICLES. SHIPLEY NEAVE BRAYSHAW, Hulme, Manchester, England, assignor to George Nash, New York, N. Y. Filed Dec. 17, 1909. Serial No. 533,591.



1. A furnace for heating cutter tools and the like comprising in combination, a casing provided with a central flue and a closed top and having a side opening, a pot in said flue reduced in size with respect thereto to provide a surrounding passage for the products of combustion, said pot having an opening communicating with said casing opening and having means preventing access of the products of combustion to said opening, a cover for preventing ingress of the products of combustion to said pot, a burner delivering to the bottom and about the sides of said pot, and means for conveying the products of combustion from said casing.

2. A furnace for heating cutter tools and the like comprising in combination, a base, an inclosure of blocks on said base including movable blocks for regulating air admission, a casing extending upwardly from said inclosure, a burner below said base delivering to said casing, and a pot located in said casing in the path of the products of combustion delivered by said burner.

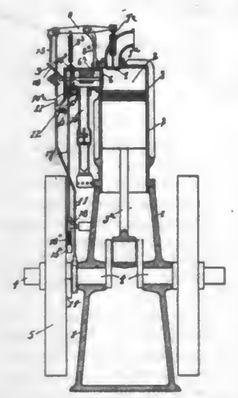
3. A furnace for heating cutter tools and the like comprising in combination a casing provided with a central flue and closed at the top, means for conveying the products of combustion from said casing, said casing being provided with a dipper opening in its side wall, a closure for said opening, a pot in said flue reduced in size with respect thereto to provide a surrounding passage for the products of combustion, said pot having a dipper opening communicating with the opening in said casing and provided with flanges engaging said surrounding passage and overlapping the walls of the openings in said casing.

4. A furnace for heating cutter tools and the like comprising in combination, a casing provided with a closed top having openings, flanged tubes projecting through said openings, tray rods projecting downwardly through said tubes and reduced in size with respect thereto, covers for said tubes provided with openings closely embracing said rods, and a bar for retaining said covers and tubes in position.

5. A furnace for heating cutter tools and the like comprising in combination, a casing provided with a top having openings therein, a pot in said casing having a top provided with openings therein registering with the openings in said top, tubes projecting through said openings in the casing top to the openings in the top of said pot, and rods projecting through said tubes into said pot, substantially as and for the purpose set forth.

[Claims 6 and 7 not printed in the Gazette.]

977,779. EXPLOSIVE-ENGINE. JESSE B. BROWN, Belding, Mich. Filed Mar. 4, 1908, Serial No. 419,219. Renewed Nov. 2, 1910. Serial No. 590,385.



1. In an explosive engine, having a main cylinder with an inlet port and valve and an exhaust port and valve, an operating rod for the exhaust valve, and an actuating rod operatively connected with a cam or eccentric on the engine shaft, and means whereby said actuating rod will be separated from the operating rod when the inlet valve is open, but is adapted to contact with said rod when the inlet valve is closed the relative positions of the rods being governed by the position of the inlet valve.

2. In an explosive engine, a main shaft having a cam thereon, an actuating rod having at its lower end a cam lever engaging directly with said cam, an inlet valve for the engine, an exhaust valve for the engine, an operating rod for the exhaust valve and means whereby the actuating rod may move relative to and with said operating rod, according to the movement of the inlet valve.

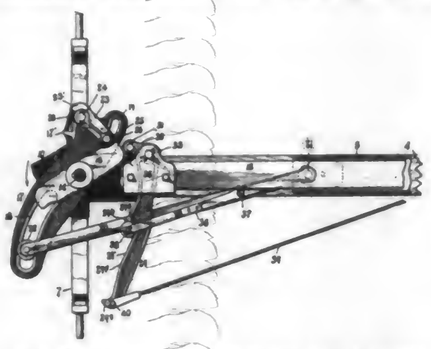
3. In an explosive engine, a main cylinder having an inlet valve, an exhaust valve, an operating rod for the latter, a reciprocating rod adapted to move into and out of contact with and actuate said operating rod to open and close the exhaust valve according to the opening and closing of the inlet valve, and a yieldable guide for the actuating rod permitting the same to move out of alinement with the operating rod and permitting the inlet valve to close when the rods are out of alinement.

4. In an explosive engine, a main cylinder, an inlet valve, an exhaust valve, an operating rod for the latter, an actuating rod for the exhaust valve, and slidable connection between the stem of the inlet valve and said operating rod whereby independent reciprocating movement may be imparted to the operating rod and exhaust valve without disturbing the position of the inlet valve.

5. In an explosive engine, a main cylinder, an inlet valve, an exhaust valve, an operating rod for the latter, an actuating rod for the exhaust valve, and slidable connection between the stem of the inlet valve and said operating rod whereby independent reciprocating movement may be imparted to the operating rod and exhaust valve without disturbing the position of the inlet valve, and means for maintaining the actuating and operating rods in position to hold the exhaust valve open when the speed of the engine exceeds the normal.

[Claims 6 to 11 not printed in the Gazette.]

977,780. BALING-PRESS. JOHN W. BROWN, Quincy, Ill., assignor to Collins Plow Company, Quincy, Ill., a Corporation. Filed June 3, 1910. Serial No. 564,752.



1. In a baling press, the combination with a pitman, a feeder and power mechanism, of a pull back lever operable by said power mechanism, a connection between said pull back lever and pitman, and a connection between said pull back lever and said feeder, the connection between the lever and pitman being arranged to provide for a variation in the speed of movement of said pitman between the initial period of its return stroke and the remainder of its return stroke.

2. In a baling press, the combination with a pitman, a feeder and power mechanism, of a pull back lever operable by said power mechanism, a connection between said pull back lever and pitman movable longitudinally of the lever, and a connection between said pull back lever and said feeder.

3. In a baling press, the combination with a pitman, a feeder and power mechanism, of a pull back lever operable by said power mechanism, a connection between said pull back lever and pitman, and a connection between said pull back lever and said feeder, the connection between the pull back lever and pitman being arranged to impart a more rapid movement to said pitman and feeder during the initial portion of the return stroke of the pitman than during the remainder of its return stroke.

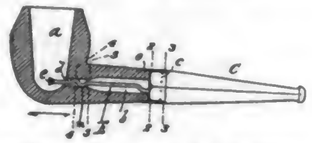
4. In a baling press, the combination with a pitman, a feeder and power mechanism, of a pull back lever operable by said power mechanism, a connection between said pull back lever and pitman, and a connection between said pull back lever and said feeder, the connection between the pull back lever and pitman being arranged to impart a rapid movement to said pitman during the initial portion of its return stroke, and being movable toward the pivotal point of the pull back lever to provide for greater exertion of power thereupon by said lever during the remainder of the return stroke of the pitman.

5. In a baling press, the combination with a pitman, a feeder movably in an arc of a circle and power mechanism, of a pull back lever operable by said power mechanism, a connection between said pull back lever and pitman operable on the pull back lever, and a connection between said pull back lever and said feeder, said connection providing for a rapid initial return movement of the pitman and rapid arcuate movement of the feeder simultaneously with the initial return movement of said pitman.

[Claims 6 to 17 not printed in the Gazette.]

977,781. SMOKING-PIPE. GEORGE WILDER CLAPP, New York, N. Y., assignor to Arthur Brainerd Clapp, Brattleboro, Vt. Filed Nov. 23, 1907. Serial No. 403,429.

1. The combination with a pipe, of a mouthpiece, a passage connecting said mouthpiece and the bowl of the pipe, a metal collar attached to the outer end of the stem and projecting beyond it, said collar having an internal flange at its outer end, a mouthpiece having a metal cap on its inner end to be inserted into the collar and form a substantially air tight joint with said internal flange, and a cleaner connected to the mouthpiece and extending into the bowl and having a bearing against the wall of said passage.

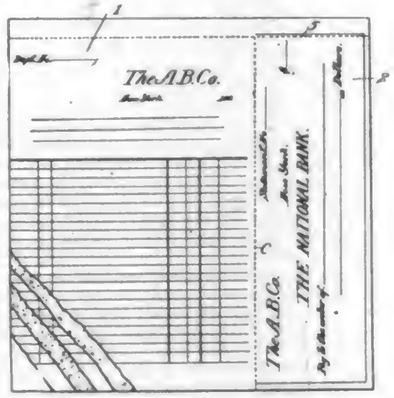


2. The combination with a pipe of a mouthpiece, a direct passage connecting said mouthpiece with the bowl of the pipe, a cleaner secured to the inner end of said mouthpiece and projecting through said passage into the bowl, the free end of the cleaner being adapted upon insertion to clear the passage and also press back the tobacco in the bowl contiguous to the bowl opening and being of such conformation as to permit easy withdrawal from the bowl.

3. The combination with a pipe of a mouthpiece, a direct passage connecting said mouthpiece to the bowl of the pipe, a cleaner secured to said mouthpiece at its inner end and projecting through said passage into the bowl of the pipe, said cleaner having a conical head on its free end, the base of the cone forming the end of the cleaner and the sides inclining to the shank thereof.

4. The combination with a pipe, of a mouthpiece, a passage connecting said mouthpiece and the bowl of the pipe, a metal collar attached to the outer edge of the stem and projecting beyond it, said collar having an internal flange at its outer end, the mouthpiece having a metal cap on its inner end to be inserted into the collar and form a substantially air-tight joint with said internal flange.

977,782. COMBINED ENVELOP, REMITTANCE-SHEET, AND CHECK. JACOB G. COHEN, New York, N. Y. Filed May 17, 1909. Serial No. 496,571.

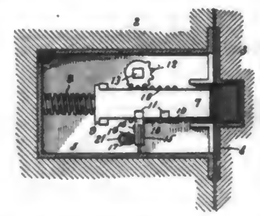


In combination with an envelop forming a backing and a receptacle, a top sheet removably secured to the envelop and suitably ruled to form a remittance sheet, and having a portion separated therefrom by a weakened line, and properly designated to constitute a check or draft, a transfer sheet below the top sheet, also removably secured to the envelop, and a carbon sheet intermediate the two.

977,783. MORTISE-LOCK. LEWIS A. COLEMAN, Norfolk, Va., assignor of one-third to Robert H. Gregory, Norfolk, Va. Filed July 5, 1910. Serial No. 570,421.

1. In a lock, the combination with a latch, of latch operating means, a locking-bolt for said latch, and a selective series of key-operated bolt-engaging and actuating tumblers.

2. In a lock, the combination with a latch, of latch-operating means, a locking-bolt for said latch, a normally-disengaged bolt-operating tumbler capable of operative engagement with said bolt, and means to rotate said tumbler and throw said bolt.



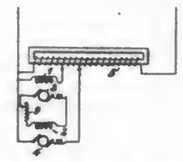
3. In a lock, the combination with a latch, of latch-operating means, a locking-bolt for said latch, a normally-disengaged geared tumbler for actuating said bolt, and key controlled means to intergear said bolt and tumbler and throw said bolt.

4. In a lock, the combination with a latch, of latch-operating means, a rack-faced locking-bolt for said latch, a geared tumbler shiftable to and from engagement with said bolt, and means for rotating said tumbler and throwing said bolt.

5. In a lock, the combination with a latch, of latch-operating means, a locking-bolt for said latch, a rotatable tumbler-barrel, and a tumbler rotatable with said barrel, and shiftable to and from bolt-engaging position.

[Claims 6 to 17 not printed in the Gazette.]

977,784. ALTERNATING-CURRENT GENERATOR AND MOTOR SYSTEM. WILLIAM COOPER, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Original application filed Sept. 3, 1907, Serial No. 391,225. Divided and this application filed Nov. 30, 1908. Serial No. 465,272.

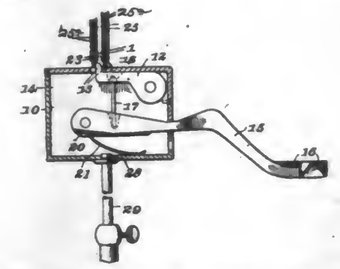


The combination with an alternating current distributing circuit, and a generator that supplies current thereto, an exciter that supplies the field magnet winding of the generator and has its field magnet winding connected to the distributing circuit, and a resistance in circuit with the field magnet winding of the generator for adjusting the phase of the current supplied to the distributing circuit with respect to the electro-motive force of the circuit.

977,785. SHEET-MUSIC TURNER. THOMAS M. COTTRELL, Chicago, Ill., assignor to Paul Nielsen and Fay E. Peterson, Chicago, Ill. Filed July 31, 1909. Serial No. 510,541.

1. In a music leaf turner, a casing formed in its top with a series of apertures, detents mounted in said casing and formed with upturned extremities adapted to protrude through said apertures, levers fulcrumed in said casing, the levers and detents being formed with side recesses and sockets, links mounted in said recesses and formed with hooked extremities entering said sockets whereby to operatively connect the levers and detents, springs in the casing arranged to hold the detents and levers elevated, a spindle carried by said casing, and spring pressed arms secured to said spindle and arranged to swing over the top of the casing and adapted for engagement by said detents.

2. In a music leaf turner, a vertically disposed spindle formed with annular grooves, springs encircling the spindle in the grooves, the springs being secured at one end to the spindle and having offset free extremities, arms formed with apertured knuckles adapted to be slipped over the spindle, and in registry with the grooves, the knuckles being formed with grooves in which the free extremities of the springs are adapted to lie, a cap piece secured to the top of the spindle and adapted to hold the knuckles thereon, means for holding the arms against movement by their springs, and means for releasing the holding means.



3. In a music leaf turner, a vertically disposed spindle formed with annular grooves, springs encircling the spindle in the grooves, the springs being secured at one end to the spindle and having opposite free extremities, arms formed with apertured knuckles adapted to be slipped over the spindle and in registry with the grooves, the knuckles being formed with grooves in which the free extremities of the springs are adapted to lie, a cap piece secured to the upper end of the spindle and adapted to hold the knuckles thereon, said cap piece being formed with a stop arm projecting laterally therefrom arranged to engage the first named arms, means for holding said arms against movement by their springs, and means for releasing said holding means.

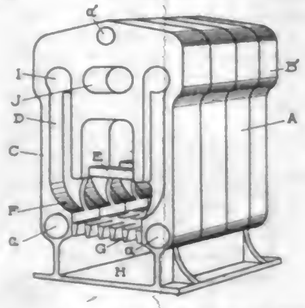
4. In a music leaf turner, a casing provided with a top which is formed with a series of apertures, partitions adapted to be slipped into the casing, transverse shafts secured to said partitions, horizontally extending detents mounted on said shafts between the partitions and formed with upwardly extending ends adapted to protrude through said apertures, the detents being formed in their side edges with sockets, horizontally extending levers fulcrumed in the casing below said detents and formed in their side edges with recesses, links formed with laterally projecting ends mounted in said recesses and sockets whereby to operatively connect the levers with the detents, springs acting on said levers to raise the same to the detents, a spindle connected to said casing, and spring pressed leaf turning arms mounted on said spindle and adapted to be engaged by said detents.

977,786. HEATING-BOILER. ALFRED G. CRIPPS, Akron, Ohio, assignor to Prudential Heating Company, Akron, Ohio, a Corporation of Ohio. Filed May 24, 1909. Serial No. 497,998.

1. A sectional heating boiler comprising joined end and intermediate sections with vertical water legs, a down draft grate formed of hollow grate bars connecting the water legs of said intermediate sections, and an up draft grate, and having vertical smoke flues at the side of said boiler formed between said up and down draft grates and extending upwardly to a smoke flue extending longitudinally of said boiler above the down draft grate, substantially as described.

2. A sectional heating boiler comprising joined end and intermediate sections with side water legs, a down draft grate formed of hollow grate bars made integral with and connecting the water legs of said intermediate sections, and an up draft grate below the down draft grate, and a pair of horizontal flues, one on each side, extending above said grate longitudinally of the boiler, and vertical flues at each side of said boiler formed between the water legs of adjacent sections connected with the space between said

down draft and up draft grates at their lower ends and with said horizontal flues at their upper ends, substantially as described.



3. A sectional heating boiler comprising joined end and intermediate sections with side water legs, a down draft grate formed with hollow grate bars made integral with and connecting the water legs of said intermediate sections, and an up draft grate below the down draft grate, and having vertical smoke flues formed between the water legs of adjacent sections connected with the space between said down draft and up draft grates and extending upwardly to horizontal flues in the upper part of the boiler by means of which smoke is made to pass longitudinally through said boiler to the front and then to the rear, substantially as described.

977,787. DECOY. EVAN J. DAVIS, Prosser, Wash. Filed Sept. 7, 1909. Serial No. 516,339.



1. A decoy, the body of which comprises a relatively vertical main portion formed with slots extending transversely therethrough, two wing sections arranged on the opposite sides of said main portion and extending longitudinally thereof, and connecting strips secured to said wing sections and passing through said slots, said strips rigidly connecting said wing sections together, as and for the purpose set forth.

2. As a new article of manufacture a decoy, the body of which comprises a relatively vertical main portion formed with a plurality of slots extending therethrough, wing sections arranged on opposite sides of said main portion and connecting strips secured to said wing sections and passing through said slots, said connecting strips being offset intermediate of their ends as and for the purpose set forth.

3. A decoy, the body of which comprises a relatively vertical main portion formed with a plurality of slots extending transversely therethrough, wing sections arranged on opposite sides of said main portion, and connecting strips securing said wing sections together in rigid relation to each other and passing through said slots, said connecting strips being off-set intermediate of their ends, and one of said wings being heavier than the other, as and for the purpose set forth.

977,788. PIPE-WRENCH. ROBERT O. DOHM, Dane, Wis. Filed July 7, 1910. Serial No. 570,898.

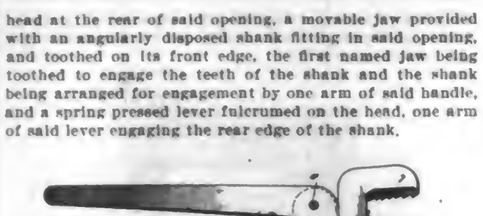
1. A wrench of the character described, comprising a head having an opening extending therethrough, and a jaw in advance of said opening, a handle fulcrumed in the head at the rear of said opening, a movable jaw provided with an angularly disposed shank fitting in said opening, and toothed on its front edge, the first named jaw being toothed to engage the teeth of the shank and the shank being arranged for engagement by one arm of said handle, and a spring pressed lever fulcrumed on the head, one arm of said lever engaging the rear edge of the shank.



2. A wrench of the character described, having an opening extending therethrough and a jaw in advance of said opening, the jaw being provided with a tooth extending into said opening, a handle fulcrumed in the head at the rear of said opening, a movable jaw provided with an angularly disposed shank fitting in said opening and toothed to engage the teeth of the jaw, a pin secured to the head in the rear of the shank, a lever fulcrumed on said pin to engage the rear edge of the shank, and a spring bearing against the lever and the head and arranged to press one end of the lever into engagement with the shank.

3. A wrench of the character described, comprising a head having an opening extending therethrough, and a jaw in advance of said opening, the jaw being provided with teeth extending into the opening, a handle fulcrumed in the head in the rear of said opening, a movable jaw provided with an angularly disposed shank fitting in said opening and toothed on its front edge to engage the teeth of the first named jaw, said shank being arranged for engagement by one arm of said handle, a transversely extending pin secured to the head, a lever formed intermediate of its end with apertured ears by which it is fulcrumed on said pin, and a spring secured to said pin, and having an intermediate portion bearing against the lever in a direction to rock the same into engagement with the shank, the ends of said spring engaging the head.

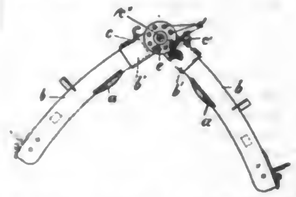
977,789. MAT. JOHN P. DONOVAN, Westfield, Mass. Filed Mar. 5, 1909. Serial No. 481,291.



1. A mat comprising a plurality of bundles of strands, each bundle being held together by a confining collar of pliable material compressed around such bundles, the rings being provided with annular exterior flanges and a plurality of binding strips having recesses in their longitudinal edges to receive said collars between their flanges and hold the same in position and means for binding said longitudinal strips together, substantially as shown.

2. The combination, in a mat, of a plurality of sheaves of leather strands arranged in bundles with confining collars of pliable material split from end to end and compressed around the centers of such bundles, a plurality of binding-strips arranged with their longitudinal edges abutting and having perforations to receive said sheaves, tie-rods connecting said strips transversely, and a frame around the outside of said strips to secure them in position, such frame comprising flanged side and end pieces and angle pieces fastened to said side and end pieces adjacent their ends.

977,790. SADDLE FOR DRAFT-ANIMALS. JULIUS DRUCKER, Brünn, Austria-Hungary. Filed Apr. 26, 1910. Serial No. 557,795.

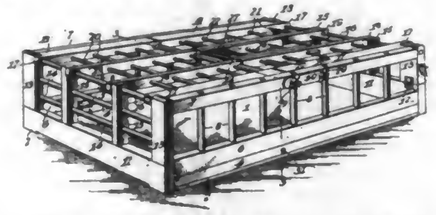


1. In an adjustable saddle, a pair of saddle-bars, arms supporting said saddle-bars, caps provided with sockets for receiving and holding the bars, said caps being provided with perforated disks turning pivotally one upon the other, in combination with means for fixedly adjusting the caps in any desired position.

2. An adjustable saddle, comprising saddle-arms, caps provided with sockets engaging the saddle-arms and having their upper ends shaped into perforated disks, the disks being pivotally connected, and means for holding the adjacent disks in fixed relation.

3. In an adjustable saddle, saddle arms having disks at their upper ends and pivotally connected for relatively adjusting said arms, one of the disks having a plurality of adjacent equidistant holes, and the other disk having a plurality of holes equidistant but more closely spaced than those of the first disk, and removable means passing through openings in the adjacent disks for holding the latter in the adjusted relation.

977,791. FOLDING SHIPPING CRATE OR COOP. CHARLES B. FERRELL and JUNIOUS M. PERRINE, Spencer, W. Va. Filed Aug. 10, 1909. Serial No. 512,161.

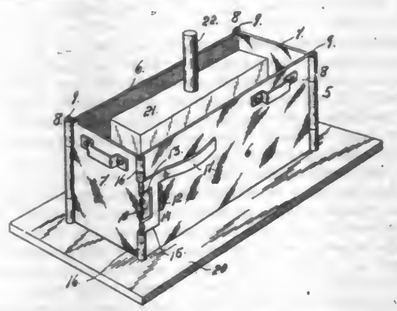


A folding crate comprising a flooring, bed timbers secured to said flooring sides and ends hinged to said bed timbers, top members pivotally mounted upon said ends, said top and side members being provided with series of apertures formed in alinement, said bed timbers being provided with apertures formed in alinement with one of said series of apertures and a U-shaped locking member adapted to pass through the alined said apertures to retain said crate in a set-up or folded position.

977,792. MOLD FOR CEMENT BLOCKS. ETTA P. FRINK and DRURY A. JONES, Fort Lupton, Colo. Filed Feb. 24, 1908. Serial No. 417,315.

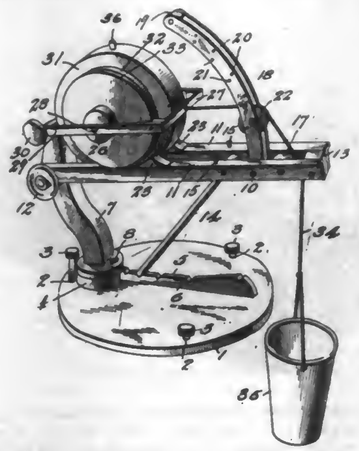
1. A mold of the class described, composed of two side members and two end members, one of the end members being hinged to both side members, while the other end member is hinged to one of the side members, the last named end member and the other side member being detachably connected by means of a locking tongue formed on the end member, the said tongue being centrally located on the edge thereof and extending at a right-angle therefrom, an outwardly projecting lip carried by the tongue at its extremity, and a locking plate provided with an opening through which the locking tongue is adapted to pass, the locking plate being pivotally connected with the side members and adapted to interlock with the said tongue beyond the opening, substantialy as described.

2. A mold of the class described, composed of two side members and two end members, one of the end members being hinged to both side members and the other end member hinged to one of the side members, the last named end member and the other side member being detachably connected by means of a tongue with which one of the connecting members is provided, a locking plate pivotally connected to the extremity of one of the side members, the said plate having an opening between the pivotal point and the body portion thereof, and through which the tongue of the end member is adapted to pass, and a lever arm integral with the upper extremity of the plate for operating purposes, the said plate adapted to interlock with the tongue, at the opposite end of the locking plate from the opening, substantially as described.



3. A mold of the class described, composed of a number of members hinged together, two of the members being detachably connected by means of a tongue formed on one member, and a hinge locking device with which the other member is provided, the locking device having an opening through which said tongue is adapted to pass, the tongue having a lip adapted to be engaged by the opposite end of the locking device from the opening, when in the locking position and an operating lever connected with the upper portion of the locking device, substantially as described.

977,793. EDUCATIONAL APPLIANCE. WILLIAM D. GIBBS, Durham, N. H. Filed Apr. 26, 1909. Serial No. 492,291.



1. An educational appliance consisting of a base; leveling screws; a notched ridge in connection with the base; an upright; a track comprising two parallel bars spaced apart and at one end pivotally connected with the upright; a prop for supporting the track at different angles and adapted to engage the notches in the ridge; two

segments having series of holes secured to the track; wheels adapted to be supported upon the track; a draw bar in connection with the wheels; an anti-friction pulley carried by the segments; an anti-friction pulley supported by the track; a cord secured to the draw bar and engaging the anti-friction pulleys; and a receptacle supported by the cord.

2. The combination in an educational appliance, of a base; a vertical upright; a track pivotally secured to the upright by a clamp screw; means for leveling the appliance; means for supporting the track at various angles to the horizon; an anti-friction wheel supported by the track; wheels of different diameters; means for supporting weights; and a draw bar and cord uniting the wheels and the means for supporting weights.

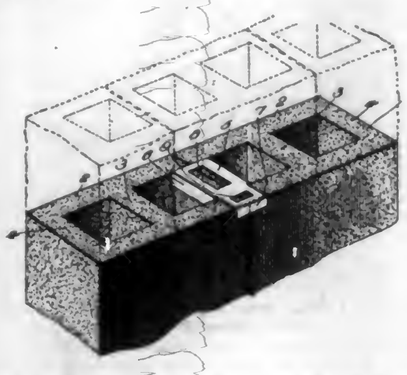
3. The combination with a track, of means for supporting the same at various angles to the horizon; two wheels adapted to move upon the track; journals, as 26, in connection with the two wheels; a wheel of relatively large diameter located between the aforesaid two wheels; a plurality of wheels supported by the aforesaid two wheels and movable toward and away from the wheel of relatively large diameter; and means in connection with the journals for moving all the wheels.

4. The combination with a track, of means for supporting the same at various angles to the horizon; two wheels adapted to move upon the track; journals, as 26, in connection with the said two wheels; a wheel of relatively large diameter located between the aforesaid two wheels; a plurality of wheels supported by the aforesaid two wheels, some of said wheels being wider at the tread portion than the others; and means in connection with the journals for moving all the wheels.

5. The combination in an educational appliance having a track, and with two small wheels 25, 25, of a relatively large metallic wheel located between the said two small wheels; two relatively narrow tired wheels 32, 32; two relatively wide tired wheels; and means for moving said wheels along the track; said two relatively narrow tired wheels and said two relatively wide tired wheels being located so their axes coincide with the axes of the two small wheels.

[Claims 6 to 14 not printed in the Gazette.]

977,794. BONDING AND TIE PLATE FOR BUILDING-BLOCKS. GEORGE M. GRISWOLD and HUGH C. BEAGLEY, Kingman, Kans. Filed Apr. 18, 1910. Serial No. 556,176.



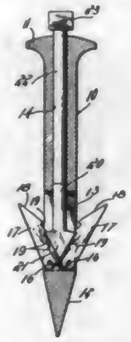
1. A tie-plate for building blocks, one face of the plate being smooth, the other face having lateral wings projecting at right angles to the tie-plate but of less length than the same, one end of the tie-plate beyond the wings having a transversely extending flange at right angles to the plate and projecting from the same face of the plate as the lateral wings, the other end of the tie plate terminating coincident with the adjacent ends of the lateral wings.

2. A tie-plate for building blocks having lateral wings extending at right angles to the tie-plate but of less length than the tie-plate, one end of the tie-plate beyond the wings having a flange extending at right angles to the plate and projecting from the same face of the plate as the lateral wings, said tie-plate being provided with bonding openings.

3. In combination with a wall formed of hollow building blocks, the end walls of said blocks abutting against each other, of a tie-plate disposed upon the adjacent ends of said blocks, said tie-plate having lateral flanges bent at right angles to the plate and extending into the hollow interiors of the blocks, said tie-plate at one end extending to the face of the blocks and being provided with a flange bent at right angles to the plate and projecting from the same face of the plate as the lateral wings, said flange engaging with said block faces.

4. In a wall, the combination with adjacent building blocks, said blocks being hollow, of a tie-plate engaging with the abutting ends of the blocks, said tie-plate having lateral wings bent at right angles to the plate and having a length equal to the width of the hollow interior of the block, said tie-plate extending beyond the wings and being formed at its extremity with a flange bent at right angles with the plate and projecting from the same face of the plate as said lateral wings and adapted to engage the faces of adjacent blocks of the same course, the tie-plate being further provided with a longitudinally extending opening and with a transversely extending opening, the transversely extending opening being adjacent to the bent end of the tie-plate.

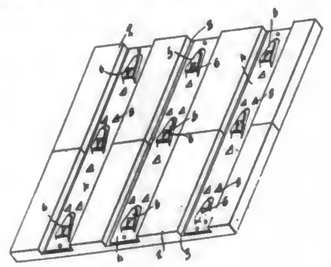
977,795. RAILROAD-SPIKE. WILLIAM GRONKE and WALLACE T. ROUSE, Canora, Saskatchewan, Canada. Filed Nov. 4, 1909. Serial No. 526,232.



1. In a railroad spike, a body provided with a through slot near its bottom extending longitudinally thereof, said body further having an opening extending from the slot upward through the head, a pair of barbs pivoted at their lower ends to the body in the lower part of the slot and adapted to lie entirely therein during driving of the spike, a plunger movable in the opening, a head on said plunger to force said barbs apart when moved downward therebetween, means to engage the upper end of the plunger to permit the same being driven downward and means on the head and barbs to prevent retraction of the head after the plunger is forced downward.

2. In a railroad spike, a body provided with a through slot near its bottom extending longitudinally thereof, said body further having an opening connecting therewith and extending from the slot through the head, a pair of barbs pivoted at their lower ends in the lower part of the slot and adapted to lie entirely therein during driving of the spike, a plunger movable in the opening, a triangular head on said plunger to force said barbs apart when moved downward therebetween, ratchets on the inner sides of the barbs to engage the angles on said head when the latter is moved downward, said ratchets preventing retraction of said head, and a removable pin in the upper part of the opening adapted to rest on the upper end of the plunger and force the same downward when the upper end of the pin is struck.

977,796. PARQUET FLOORING. WILLIAM A. HALL, Cincinnati, Ohio, assignor to The Cincinnati Cooperage Company, Cincinnati, Ohio, a Corporation of Ohio. Filed May 2, 1910. Serial No. 558,840.



1. As a new article of manufacture, a parquet floor block, comprising a series of sections of wood fitted together to form the block, with grooves in the under surface of the block, and metal plates countersunk in the grooves, to which each section is individually secured to prevent warping and to render the block easy of attachment as an entirety upon the flat surfaces of the floor.

2. In a parquet flooring, a series of sections of wood, with grooves on the under surface of the sections, and metal strips countersunk in said grooves and secured to the sections to bind the sections together to form a block with means connected with the metal strips to secure said blocks to the foundation floor.

3. In a parquet flooring, a series of sections of wood, with parallel grooves on the under surface of the section, and metal strips, countersunk in said grooves and secured to the sections to bind the sections together to form a block with means connected with the metal strips to secure the said blocks to the foundation floor.

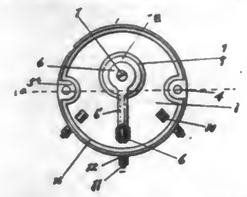
4. In a parquet flooring, a series of sections of wood, with parallel grooves on the under surface of the sections, and metal strips mounted in said grooves and secured to the sections, to bind the sections together to form a block, said metal strips provided with tongues and staples in the foundation floor with which said tongues engage to secure the blocks to the floor.

5. In a parquet flooring, a series of sections of wood, with parallel grooves on the under surface of the sections, and metal strips mounted in said grooves and secured to the sections, to bind the sections together to form a block, said metal strips provided with pointed tongues and staples in the foundation floor with which the side edges of the tongues engage to force the blocks into place, said staples having horizontal portions under which the tongues also engage to secure the blocks to the floor.

[Claim 6 not printed in the Gazette.]

977,797. ELECTRICAL SWITCH. WILLIAM P. HAMMOND, Passaic, N. J., assignor to William P. Hammond, Theodore A. Hammond, and Woolsey A. Shepard, doing business under the firm name of Securo Manufacturing Company, Passaic, N. J. Filed Feb. 24, 1908. Serial No. 417,279.

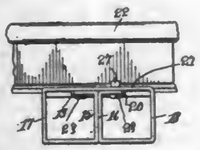
1. In an electric switch, the combination of a hollow base formed of insulating material and having an opening in the front thereof, a knob extending through the opening and journaled therein, a series of contacts embedded in the base and exposed on the interior thereof, a switch arm secured to the inner end of the knob and adapted to be turned thereby into engagement with the various contacts, a concave spring washer surrounding the knob on the interior of the base and interposed between the base and the switch arm so as to bear outwardly against the latter and draw the knob closely against the base for the purpose of producing a water proof joint, and terminal attachments inserted in the base from the exterior thereof and engaging the before mentioned contact members.



2. In an electric switch, the combination of a hollow base formed of insulating material and having an opening in the front thereof, a knob extending through the opening and journaled therein, a series of contacts embedded in the base and exposed on the interior thereof, a switch arm secured to the inner end of the knob and adapted to be turned thereby into engagement with the various contacts, a pair of washers surrounding the knob on the interior of the base and interposed between the base and the switch arm, the washer adjacent the switch arm being in electrical connection with one of the contacts, while the washer adjacent the base has a concave formation and acts as a spring to draw the knob inwardly so as to produce a tight joint between the same and the base, and terminal attachments extending into the base from the exterior thereof and engaging the contact members.

3. In an electric switch, the combination of a hollow base formed of insulating material and having an opening in the front thereof, a knob extending through the opening and journaled therein, a series of contacts embedded in the base on the interior thereof, a switch arm secured to the inner end of the knob and adapted to be turned thereby into engagement with the various contacts, and terminal attachments inserted in the base from the exterior thereof and arranged at right angles to the contact members, the inner ends of the terminal attachments having a threaded engagement with the said contact members.

977,798. METAL RAILWAY-TIE. JOHN HEINONEN, Brush Prairie, Wash. Filed Aug. 24, 1910. Serial No. 578,645.



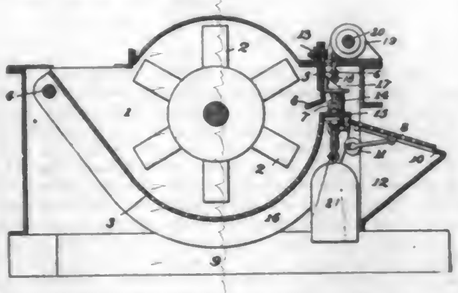
1. A railway tie constructed of a plate of metal bent to form an oblong tube with a continuous top and a divided bottom and central vertical webs bearing back to back and extending between the top and bottom members, the upper edges of the vertical webs being extended laterally, and bearing beneath the continuous top, and fastening devices extending through the flanges and the continuous top.

2. A railway tie constructed of a plate of metal bent to form an oblong tube with a continuous top having rail receiving depressions and a divided bottom and with central vertical webs bearing back to back and extending between the top and bottom members, the upper edges of the vertical webs being extended laterally and bearing beneath the continuous top, and fastening devices extending through the flanges and the continuous top and provided with lateral heads for bearing upon the rails supported in said depressions.

3. A railway tie constructed of a plate of metal bent to form an oblong tube with a continuous top having rail receiving depressions oblique at one side to the transverse axis of the tie, and a divided bottom and central vertical

webs bearing back to back and extending between the top and bottom members, the upper edges of the vertical webs being extended laterally and bearing beneath the continuous top, fastening devices extending through the flanges and the continuous top and provided with lateral heads for bearing upon the rails supported in said depressions, and wedge keys within said depressions and bearing against the rail and the oblique sides of the depressions.

977,799. CRUSHING OR PULVERIZING MACHINE. JOSEPH L. HILLER, Mattapoisett, Mass. Filed Dec. 9, 1909. Serial No. 532,262.



1. A crushing machine comprising a cylinder, a portion of which constitutes a grinding surface or cage having openings for the passage of crushed material, said cylinder having a transverse passage opening therefrom in rear of the grinding surface or cage, a wall of said passage being adjustable relatively to said cage whereby a passage of predetermined area may be maintained and the cage adjusted to compensate for wear of the hammers.

2. In a crushing machine, the combination with a cylinder comprising a grinding surface or cage having openings for the passage of crushed material, and revolving hammers arranged in said cylinder, of a fender extending transversely of the crushing cylinder in the path of material in said cylinder, said cylinder having a passage communicating with said fender.

3. In a crushing-machine, the combination with a cylinder comprising a grinding-surface or cage and revolving hammers arranged in said cylinder, of a fender extending transversely of the crushing-cylinder in the path of material in said cylinder, said cylinder having a passage communicating with said fender, and means for adjusting the size of said passage.

4. In a crushing machine, the combination with a cylinder comprising a grinding surface or cage having openings for the passage of crushed material, and revolving hammers arranged in said cylinder, of a fender extending transversely of the crushing cylinder in the path of material in said cylinder, a slide located outside the crushing cylinder, and a passage leading from the fender to said slide.

5. In a crushing machine, the combination with a cylinder comprising a grinding surface or cage, having openings for the passage of crushed material, and hammers arranged in said cylinder, of a fender extending transversely of the crushing cylinder in the path of material in said cylinder, a screen located outside the crushing cylinder, said cylinder having a passage leading from the fender to said screen.

[Claims 6 and 7 not printed in the Gazette.]

977,800. PAPER-HOLDER. CHARLES O. HISCOCK, Detroit, Mich. Filed Apr. 7, 1910. Serial No. 553,988.

1. A paper holder, having in combination side bars provided with holding pins, caps adapted to engage over the ends of the side bars, and spreaders of wedge form adapted to engage between the side bars and spread the same against the side walls of the cap cavities, substantially as described.

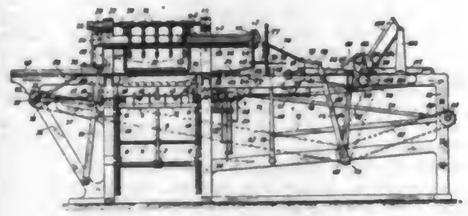
2. A paper holder, having in combination side bars provided with holding pins projecting from one of said side bars, and cavities in the other of said side bars, caps adapted to engage over the ends of said bars and spreading wedges located within said caps, and having their wedged faces diverging from the axis of said cap, substantially as described.



3. In a paper holder, the combination of side bars, caps adapted to hold the side bars together, wedges adapted to spread the side bars and means for securing the wedges in said caps, substantially as described.

4. As a means for holding the side bars of a paper holder, a cap adapted to engage over the ends of said side bars, a wedge secured in said cap with its wedged faces diverging from the axis of said cap, substantially as described.

977,801. PAPER-BAG MACHINE. CARL HOLWEG, Strasburg, Germany. Filed Mar. 1, 1909. Serial No. 480,652.



1. In a paper bag making machine, in combination, a pointed former, means for pressing the sheet against the bottom of the former, vertically reciprocating means located below the former for turning up the edges of the sheet, vibrating means for turning down said edges in succession upon the top of the former, means for drawing the so formed paper tube up to the point of said former, two crushers for beating in the edges of the projecting tube end, means for further advancing the tube, vertically and horizontally reciprocating means for holding the latter, a rotatable spreader for turning back the upper flap of the bag bottom, means for further advancing the bag, a two-bladed plicator for defining the bag bottom corners, and means for folding down said corners, substantially as described.

2. In a paper bag making machine, in combination, a pointed former presenting superposed projecting tongues, means for pressing the sheet against the bottom of the former, vertically reciprocating means located below the former for turning up the edges of the sheet, vibrating

means for turning down the edges in succession upon the top of the former, means for drawing the so formed paper tube up to the said tongues, two pivotal crushers, adapted to enter between the tongues and beat in the edges of the projecting tube end, means for further advancing the tube, vertically and horizontally reciprocating means for holding the latter, a rotatable spreader for turning back the upper flap of the bag bottom, means for further advancing the bag, a two bladed plicator for defining the bag bottom corners, and means for folding down said corners, substantially as described.

3. In a paper bag making machine, in combination, a pointed former presenting projecting superposed tongues, means for pressing the sheet against the bottom of the former, vertically reciprocating means located below the former for turning up the edges of the sheet, vibrating means for turning down the edges in succession upon the top of the former, means for drawing the so formed paper tube up to said tongues, a vertically reciprocating spring actuated plate adapted to descend upon the upper tongue and clip the tube, two pivotal crushers, adapted to enter between the tongues and beat in the edges of the projecting tube end, means for further advancing the tube, vertically and horizontally reciprocating means for holding the latter, a rotatable folder for turning back the upper flap of the bag bottom, means for further advancing the bag, a two-bladed plicator for defining the bag bottom, and means for folding down said corners, substantially as described.

4. In a paper bag making machine, in combination, a pointed former presenting projecting superposed tongues, means for pressing the sheet against the bottom of the former, vertically reciprocating means located below the former for turning up the edges of the sheet, vibrating means for turning down the edges in succession upon the top of the former, means for drawing the so formed paper tube up to said tongues, two pivotal crushers, adapted to enter between the tongues and beat in the edges of the projecting tube end, means for further advancing the tube, a vertically and horizontally reciprocating plate for holding the latter, means for sliding the lower tongue with the tube, a gripper adapted to seize the tube from the advanced tongue, a rotatable spreader for turning back the upper flap of the bag bottom, means for further advancing the bag, a two-bladed plicator for defining the bag bottom corners, and means for folding down said corners, substantially as described.

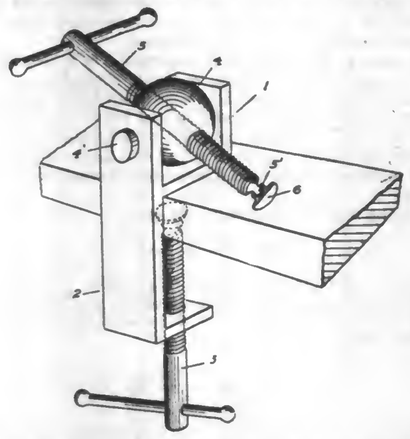
5. In a paper bag making machine, in combination, a pointed former, means for pressing the sheet against the bottom of the former, vertically reciprocating means located below the former for turning up the edges of the sheet, vibrating means for turning down said edges in succession upon the top of the former, a sliding reciprocating gripper for drawing the so formed paper tube up to the point of said former, two crushers for beating in the edges of the projecting tube end, means for further advancing the tube, a vertically and horizontally reciprocating plate for holding the latter, a rotatable flat spreader for turning back the upper flap of the bag bottom, means for further advancing the bag, a two-bladed plicator for defining the bag bottom corners, and means for folding down said corners, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

977,802. CLAMP. PETER JENSEN, Bremerton, Wash. Filed Dec. 24, 1909. Serial No. 534,882.

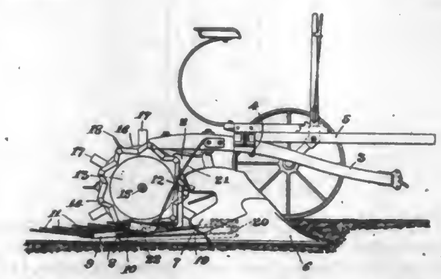
1. A device of the character described comprising a substantially L-shaped bracket, securing means mounted in the foot part of said bracket, a base from which said bracket depends opposed to said securing means, said base being U-shape and formed in its stem portions with seats, a nut part having trunnions engaged in the seats of said base, and a clamping screw engaged in said nut.

2. A device of the character described comprising a substantially L-shaped bracket, a clamping screw mounted in the foot part of said bracket, a base from which said bracket depends opposed to said screw, said base being U-shape and formed in its stem portions with seats, a nut part having trunnions engaged in the seats of said base,



and a clamping screw engaged in said nut and adjustable therein laterally of said first screw.

977,803. POTATO-DIGGER. GEORGE W. JESSUP, Sr., Moorestown, N. J. Filed Oct. 14, 1909. Serial No. 522,636.



1. In a potato digger, the combination of a plow frame, a plowshare, a mold-board, a frame extending laterally from the plow frame adjacent the mold-board, means extending rearwardly from said second frame for separating potatoes from plowed ground, and a bar supported in front of and below said second frame and in spaced relation thereto.

2. In a potato digger, the combination of a plow frame, a plowshare, a mold-board, a frame extending laterally from the plow frame adjacent the mold-board, means extending rearwardly from said second frame for separating potatoes from plowed ground, and a bar extending away from said mold-board in front of and below said second frame and in spaced relation thereto, said bar being supported at its end adjacent said mold-board and having its other end free.

3. In a potato digger, the combination of a plow frame, a plowshare, a mold-board, a frame extending laterally from the plow frame adjacent the mold-board, means extending rearwardly from said second frame for separating potatoes from plowed ground, and a fin supported away from said mold-board in a plane above the plane of said second frame, said fin being positioned to direct plowed ground delivered from said mold-board rearwardly to said means.

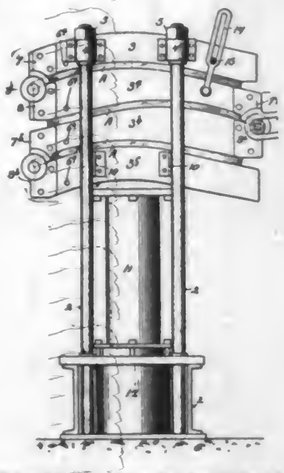
4. In a potato digger, the combination of a plow frame, a plowshare, a mold-board, a frame extending laterally from the plow frame adjacent the mold-board, means extending rearwardly from said second frame for separating potatoes from plowed ground, and a bar having one end

secured to said plow frame and having its other end provided with a fin located away from said mold-board in a plane above the plane of said second frame, said fin being positioned to direct plowed ground delivered from said mold-board rearwardly to said means.

5. In a potato digger, the combination of a plow frame, a plowshare, a mold-board, a frame extending laterally from the plow frame adjacent the mold-board, means extending rearwardly from said second frame for separating potatoes from plowed ground, and a vine-engaging bar supported to extend outwardly from said plow frame above said mold-board and then downwardly toward said second frame.

[Claim 6 not printed in the Gazette.]

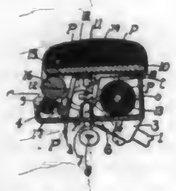
977,804. WOOD-BENDING MACHINE. WILLIAM A. KNILANS, Sheboygan, Wis., assignor to Crocker Chair Company, Sheboygan, Wis. Filed Aug. 6, 1910. Serial No. 575,977.



1. In a wood bending machine having a fixed form and a reciprocative form, a pair of intermediate forms in toggle connection with the fixed and reciprocative forms, each form being provided with a steam chamber, and a power mechanism connected to the reciprocative form.

2. A wood bending machine comprising a fixed form and a reciprocative form, an intermediate pair of forms having corresponding ends fulcrumed to ends of the fixed and reciprocative forms, the opposite ends of the intermediate forms being in shackle connection one with the other, and a power mechanism connected to the reciprocative form.

977,805. SANITARY HEAD-REST. ERNEST E. KOKEN, deceased, St. Louis, Mo.; Walter F. Koken executor of said Ernest E. Koken. Filed Apr. 30, 1910. Serial No. 558,690.



1. A head-rest comprising a lower relatively fixed section, an upper detachable section mounted thereon and forming a chamber between the sections, a spring-controlled combined rotatable and reciprocating key mounted on the lower section, a cross-pin at the inner free end of the key, a forked member on the upper section adapted to be engaged by said cross-pin whereby the sections become locked together, the locking members dividing the chamber into two compartments.

2. A chambered head-rest comprising a relatively fixed lower section provided with a bottom having a rear longitudinal slot, front and side walls, the latter being extended above the front wall and provided with front upper depressions of a depth substantially equal to said extension, and with rear upper cut-away portions or recesses, an upper detachable section provided with front lugs engaging said depressions, and spacing the section from the front wall of the lower section, and having rear lobes between the planes of the side walls of the lower section, a feed roller mounted between the lobes and having operating spindles extending across the recesses, a friction roller on the lower section engaging the feed-roller, an apron on the upper section positioned in proximity to and forward of said friction roller for an assembled position of the sections, and means on the respective sections for maintaining a yielding connection between them and between the rollers.

3. A chambered head-rest comprising a lower fixed section having a bottom, front and side walls, a spring-controlled rotatable key having a longitudinal movement, an inner terminal cross-pin on said key, an upper detachable section, an angle-piece having one leg secured to the inner face of the upper section, an arm on said leg terminating in a deflected fork adapted to coöperate with the key and cross-pin thereof, an apron formed with and rearward of, the second leg of the angle-piece, lobes extending rearwardly from the base of the second leg, a roller mounted between the lobes, and a coöperating roller mounted above the rear of the bottom of the lower section, said bottom being provided with a slot slightly forward of, and parallel to, the last named roller, and means for spacing apart the front of the upper section from the upper edge of the front wall of the lower section.

4. A chambered head-rest comprising a relatively fixed lower section and a detachable upper section, means for yieldingly locking the detachable section to the fixed section, said locking means extending across the chamber from section to section and forming a compartment for holding a roll of sheet material, the sections being spaced apart in front by an elongated slot through which the sheet may be initially passed rearward over the upper section, a pair of rear feed rollers mounted in the rear of the respective sections on opposite sides of the line of separation of the sections, the lower section being provided with an outlet slot for the withdrawal of the sheet from between the feed-rollers, and means for guiding the sheet to said outlet slot.

977,806. CIGAR-MACHINE. JOSEPH D. LACROIX, New York, N. Y., assignor to Eugene H. Davis, New York, N. Y. Original application filed Aug. 16, 1904, Serial No. 220,920. Divided and this application filed Jan. 8, 1906. Serial No. 295,155.

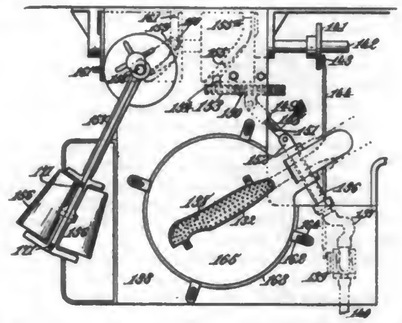
1. In a cigar machine, a wrapper cutting die having a fixed position, and an overturning wrapper transferrer forming the bed for the die and movable into and outwardly from the said die and provided with means movable in reverse directions through the die to dispose the transferrer within said die.

2. In a cigar machine, a wrapper cutting die having a fixed position, and an overturning wrapper transferrer coacting therewith and embodying suction means projecting through and also movable in reverse directions through the die and operating to accurately position the transferrer within the die.

3. In a cigar machine, a wrapper cutting die having a fixed position, an overturning wrapper transferrer coacting therewith and having suction means connected thereto and movable in reverse directions through the die, and suction releasing means coacting with the transferrer.

4. In a cigar machine, a wrapper cutting die having a fixed position, an overturning wrapper transferrer coacting therewith and provided with a flat perforate face

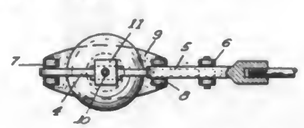
movable within the walls of the said die, and suction means connected to and serving as the support for the transferrer and movable into and through the die.



5. In a cigar machine, a wrapper cutting die having a fixed position, a wrapper transferrer coacting therewith and having an overturning movement alternately in opposite directions and provided with a tubular member movable through the die, suction means coöperating with the tubular member, and means for cutting off suction from the transferrer at intervals and for partially destroying the effect of suction upon the wrapper while being cut and transferred.

[Claims 6 to 22 not printed in the Gazette.]

977,807. VALVE. GORDON LAND, Seattle, Wash., assignor to U. S. Flush Tank Company, Inc., Seattle, Wash., a Corporation of Washington. Filed Nov. 24, 1909. Serial No. 529,783.



1. In combination with a movable valve and the stem thereof, an operating means for said valve including a lever formed with opposite convex surfaces and having an opening extending through the same and freely receiving said stem, and a connection between said valve stem and said lever comprising a head secured to said valve stem and provided with spaced bearing surfaces for riding engagement with the convex surfaces of said lever.

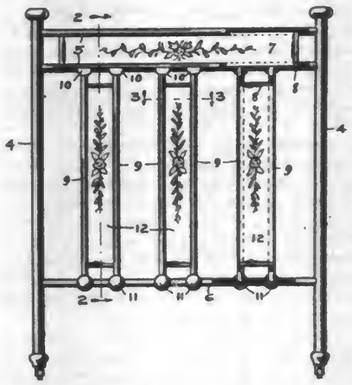
2. In combination with a movable valve and the stem thereof, an operating means for said valve including a lever formed with opposite convex surfaces and having an opening extending through the same and freely receiving said stem, and a connection between said valve and said lever comprising a head secured to said valve stem and formed with an opening through which said lever projects with its convex surfaces in riding engagement with the adjacent opposite walls thereof.

3. In combination with a movable valve and the stem thereof, a head adjustable on said valve stem formed with an opening, and an operating means for said valve including a lever projecting through the opening of said head and being free for angular movement therein.

4. In combination with a movable valve and the stem thereof, a head on said stem having its lower portion enlarged to form a deflector, and operating means for said valve including a lever having connection with said head.

5. In combination with a movable valve and the stem thereof, said stem having an externally threaded free end portion, a head formed with an opening provided in its opposite walls with alining apertures one of which is threaded, said apertures normally adjustably receiving said valve stem, and valve operating means including a lever projecting through and freely engaged in the opening of said head.

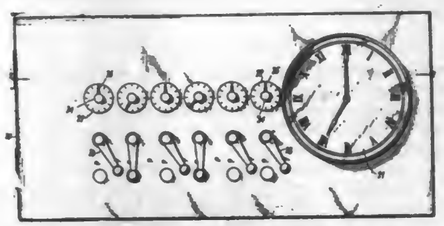
977,808. METAL FURNITURE. JAMES F. LINDLEY, Jr., Indianapolis, Ind., assignor to The T. B. Laycock Manufacturing Company, Indianapolis, Ind., a Corporation of Indiana. Filed Jan. 24, 1910. Serial No. 539,814.



1. In an article of manufacture, sheet metal panels, rolls at the ends of said panels, tubular supports for said panels in parallel pairs, the adjacent walls of each of said pairs being slotted longitudinally to receive the corresponding edges of the panels which edges are inserted in said slots, said slots having enlargements to receive the rolls of the panels which are inserted therein.

2. In an article of furniture, sheet metal panels, wires at the ends of said panels, tubular supports for said panels in parallel pairs, the adjacent walls of each of said pairs being slotted longitudinally to receive the corresponding edges of the panels, which edges are inserted in said slots, said slots having enlargements to receive the end wires which are inserted therein.

977,809. ELECTRIC CALL AND ALARM SYSTEM. GEORGE S. LOVERIDGE, Fennville, Mich. Filed Jan. 21, 1910. Serial No. 539,254.



1. In a device of the kind described, a series of open electric circuits, a signal in each of said circuits, time controlled circuit closers to close said circuits independently, a single open circuit, a series of magnets equal in number to the signals and connected in multiple in said single circuit, a series of open lines each connecting the single circuit with a respective one of the signal circuits to form circuits through said signals when the single circuit and the open connecting lines are closed, a circuit closer in each of the open lines actuated by the energization of the respective magnets, and a manually operable switch to close the single circuit, simultaneously energize all of said magnets and thereby simultaneously complete the circuits through the signals.

2. In a device of the kind described, a series of open electric circuits, a signal in each of said circuits, time controlled circuit closers to close said circuits independently, a single open circuit, a series of magnets equal in number to the signals and connected in multiple in said single circuit, a series of open lines each connecting the single circuit with a respective one of the signal circuits to form

circuits through said signals when the single circuit and the open connecting lines are closed, a switch in each of the signal circuits located in that branch of the circuit whereto the respective open line is connected and positioned in the respective signal circuit more remote from the signal than the connection of the respective open line, a circuit closer in each of the open lines actuated by the energization of a respective magnet, and a manually operable switch to close the single circuit, simultaneously energize all of said magnets and thereby actuate the circuit closers in the open lines and operate all of said signals.

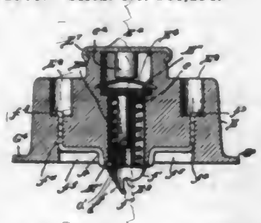
3. In a device of the kind described, a series of revoluble shafts, a finger projecting laterally from each of said shafts, a sleeve revolubly mounted on each of said shafts to bear against the respective finger, each sleeve being provided with a recess to engage the finger when the sleeve is rotated on the shaft, a common clock-work actuated means to rotate all of said sleeves simultaneously, and circuit closers each actuated by the movement of a respective sleeve along its shaft when the respective finger and recess are brought into alinement.

4. In a device of the kind described, a series of revoluble shafts, a finger projecting laterally from each of said shafts, a sleeve revolubly mounted on each of said shafts to bear against the respective finger, each sleeve being provided with a recess to engage the finger when the sleeve is rotated on the shaft, a common clock-work actuated means to rotate all of said sleeves simultaneously, circuit closers each actuated by the movement of a respective sleeve along its shaft when the respective finger and recess are brought into alinement, and circuits each containing a signal and each connected to a respective circuit closer.

5. In a device of the kind described, a series of revoluble shafts, a finger projecting laterally from each of said shafts, a sleeve revolubly mounted on each of said shafts to bear against the respective finger, each sleeve being provided with a recess to engage the finger when the sleeve is rotated on the shaft, a common clock-work actuated means to rotate all of said sleeves simultaneously, circuit closers each actuated by the movement of a respective sleeve along its shaft when the respective finger and recess are brought into alinement, a dial surrounding each of said shafts, a pointer carried by each shaft and moving over the respective dial, and yieldable means to hold the pointers in adjusted positions on the dials.

[Claims 6 and 7 not printed in the Gazette.]

977,810. OPERATING MEANS FOR ROTARY ELECTRIC SWITCHES. JULIUS K. LUX, Washington, D. C. Filed Dec. 4, 1906. Serial No. 346,196.



1. In an axially movable circuit controlling device, an operating means with a cavity adjacent its axis, a plunger in said cavity, fastening means for said plunger, and means for holding said fastening means, said fastening means comprising a portion within the handle which is caused to yield to lock with said handle.

2. The method of engaging an expansible retainer to a handle of a circuit controlling device consisting in inserting said retainer then expanding such retainer by pressing and revolving the same simultaneously so the periphery of the retainer forms its seating groove in the body of the handle to which it is attached.

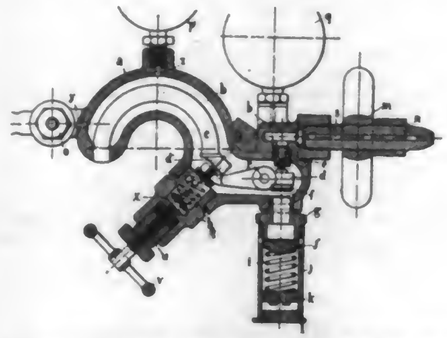
3. An operating means for an axially movable circuit controlling device comprising a handle having a cavity adjacent its axis, a plunger in the cavity, a plunger plate secured to the inner side of the handle across the adjacent end of said cavity and slidably interlocked with the plunger to rotate the latter, and retaining means for the plunger including an expansible disk in the cavity across the outer end of the plunger and having its edges embedded in the walls of the cavity.

4. An operating means for axially movable circuit controlling devices comprising a body portion having an opening therethrough, a plunger mounted in the opening, and an expansible disk bridging the opening at the outer end of the plunger to retain the latter in position.

5. In an axially movable circuit controlling device, an operating spindle, a spring engaging said spindle, a handle, a plunger therein in engagement with the spindle, and a retainer for the plunger engaging the handle and provided with a device to sit astride the connection between the spring and spindle.

[Claims 6 to 9 not printed in the Gazette.]

977,811. PRESSURE-REGULATOR. JACQUES MANDET, Paris, France. Filed May 26, 1909. Serial No. 498,533.



1. The combination with an expansion chamber having an inlet and outlet, of a Bourdon tube associated therewith, a valve controlling the inlet, a lever carrying the valve having a bearing against the free end of the tube, a spring for holding the lever against said tube, and means for varying the tension of the spring.

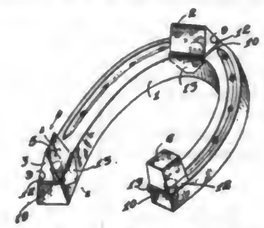
2. The combination with an expansion chamber having an inlet and outlet, of a Bourdon tube associated therewith, a valve controlling the inlet and having a bearing against the tube, and means for opposing a variable yielding resistance to the action of the tube.

3. The combination with an expansion chamber having an inlet and an outlet, of a hollow Bourdon tube located in the chamber and secured at one end to one wall thereof, said end being open and communicating with the space outside of the chamber, and a valve controlling the inlet and having a portion associated with the inner end of the tube.

4. In an apparatus for the expansion of gases, under pressure and for regulating their flow, the combination with an expansion chamber, of a C-shaped tube of the Bourdon type, a lever, an admission controlling valve for the fluid under high pressure carried by the lever, and a regulatable abutment lying against the free end of the C-shaped tube and associated with the lever, a regulatable spring holding the abutment against the end of the C-shaped tube, a safety valve in the expansion chamber, and an outlet pipe for the expanded fluid.

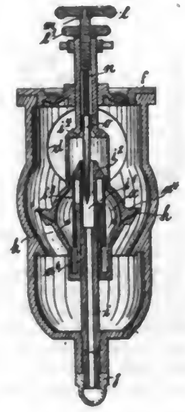
977,812. HORSESHOE SAFETY DEVICE. CONSTANTI E. MARKOWSKI, Washington, D. C. Filed Feb. 5, 1910. Serial No. 542,185.

In combination with a horse shoe having a threaded opening; a calk having a body portion provided with a basal face having a threaded stem projecting therefrom and engaged in the opening in said shoe, said face being rabbeted along the entire length of one edge, a locking plate held on said stem between said face and the horse shoe, a flange on said plate engaging in and completely filling said rabbet, said flange being held entirely in the



rabbet, whereby the calk protects the flange from action by the ground and access is had to the ends of the flange, and a second flange formed on said plate and engaging the side of the shoe.

977,813. CARBURETER. CHARLES A. MARRDER, New York, N. Y. Filed May 4, 1909. Serial No. 493,893.



1. A carbureter for producing explosive mixtures of constant proportions comprising a mixing chamber with air intake, a fuel supply pipe within same issuing the fuel through its open top, a movable nozzle forming an auxiliary storage chamber for the fuel, an adjustable fuel supply regulator within said nozzle, and means outside of the mixing chamber to move said nozzle and fuel supply regulator up and down on the fuel supply pipe whereby both the air and fuel supply may be regulated and stopped by the operator.

2. A carbureter for producing explosive mixtures of constant proportions comprising a mixing chamber with tapered air intake, a fuel supply pipe within issuing the fuel through its open top, a movable nozzle forming an auxiliary storage chamber for the fuel, a needle valve within said nozzle having a tapered inner portion reaching into the supply pipe, and a lever operatively connected with the nozzle adapted to move said nozzle and needle valve up and down on the fuel supply pipe whereby both the air and fuel supply may be regulated and stopped by the operator.

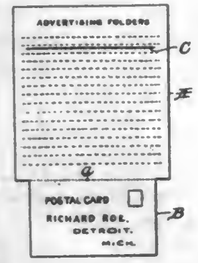
3. A carbureter for producing explosive mixtures of constant proportion comprising a mixing chamber with tapered air intake, a stationary fuel pipe within, a nozzle forming an auxiliary storage chamber for the fuel sliding on the fuel pipe and communicating therewith, said nozzle being tapered complementary to the tapered air intake and having discharge orifices in the tapered portion so that both may be closed when the nozzle descends, and a needle valve reaching into the fuel pipe for regulating the flow of fuel into the nozzle storage chamber connected to said nozzle and moving in unison therewith.

4. A carbureter for producing explosive mixtures of constant but variable proportions comprising a mixing chamber with air intake, a fuel pipe within, a nozzle forming an auxiliary storage chamber for the fuel sliding on the fuel pipe while in communication therewith and throttling the air intake, a needle valve for controlling the continuous fuel supply to the nozzle storage chamber connected to the nozzle and moving in unison therewith and adapted to be so adjusted that various quantities of fuel may be mixed with a certain quantity of air.

5. A carbureter for liquid hydrocarbons comprising a mixing chamber with tapered air intake, a liquid supply tube vertically mounted within the carbureter, a movable nozzle adapted to slide on the liquid supply tube forming a storage chamber and having an annular portion tapered complementary to the tapered air intake, and discharge orifices in said tapered portion of the nozzle, so arranged that the air intake and discharge orifices are open when the nozzle is in a raised position and both are closed when same is lowered.

[Claims 6 to 16 not printed in the Gazette.]

977,814. FOLDER. FREDRICK C. MATHEWS, Detroit, Mich., assignor to Mathews, Kaye, Mann & Co., Detroit, Mich., a Corporation of Michigan. Filed Mar. 28, 1910. Serial No. 551,843.



1. A return postal card folder comprising a body portion bearing a printed communication upon one side and a postal card attached to one edge thereof and bearing the address of the sender upon the same side, the body portion being wider than the postal card and provided near its opposite edge with a slit corresponding to the width of the postal card and adapted to coöperate therewith to form a tongue and slit closure by inserting the postal card into the slit when the body portion is folded.

2. A return postal card folder made of one piece of card board with a body portion having the advertising matter printed upon one side and a postal card portion attached to one edge thereof and bearing the address of the sender upon the same side with the advertising matter, the body portion being wider than the postal card portion and provided with a slit adjacent to the edge opposite to that to which the post card portion is attached and adapted to coöperate with the postal card portion to form a tongue and slit closure for the body portion when the same is folded upon itself and to leave a suitable portion of the postal card portion exposed to serve as a place for the address in mailing.

977,815. PROPELLER. WILLIAM B. MAXWELL, GROVER C. MAXWELL, and EDWARD BUCKMAN, New York, N. Y. Filed Oct. 12, 1907. Serial No. 397,090.

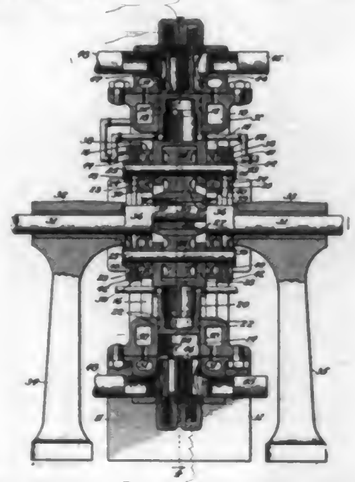


1. A propeller comprising a pair of blades having their circumferences disposed in the form of spirals from their leading edges to their following edges, the progressing face

of one blade and the retreating face of the other merging into a continuous curve which extends from the leading to the following edges respectively of said blades.

2. A propeller comprising a pair of spirally disposed blades, each of said blades having a portion of its surface contiguous to its leading edge disposed in a plane perpendicular to the axis of rotation of said blades and then merging gradually into a surface curving rearwardly from said perpendicular plane to its following edge, the circumference of each of said blades describing an arc of more than 180° whereby the leading edge of each blade overlaps the following edge of the other.

977,816. MULTIPLE PISTON MECHANISM. RICHARD J. MCCARTY, Kansas City, Mo. Filed Apr. 20, 1909. Serial No. 491,186.



1. A mechanical movement comprising in combination, a plurality of reciprocatory power pistons arranged in the same plane, a rotary power shaft having a crank portion in said plane, rolling power transmitting means between said pistons and said crank portion of the shaft including an anti-friction power roller on each of said pistons coöperating with the crank part of said shaft, a secondary roller on each piston, and a ring encircling and common to said secondary rollers and adapted by co-action therewith to maintain all of said power rollers in contact with the crank part of said shaft, substantially as described.

2. A mechanical movement comprising in combination, a plurality of reciprocatory power pistons arranged in the same plane, a rotary power shaft having a crank portion in said plane, rolling power transmitting means between said pistons and said crank part of the shaft including a power roller on each of said pistons contacting and coöperating with the crank part of said shaft, a floating ring T-shaped in cross-section, and a pair of secondary rollers on each of said pistons engaged and encircled by said ring, the latter by co-action with said secondary rollers operating to maintain the power rollers in contact at all times with the crank part of said shaft.

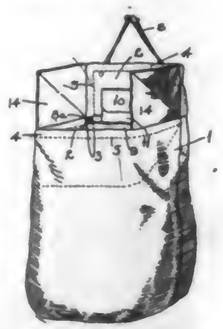
3. A mechanical movement comprising in combination, a reciprocatory power piston, a rotary power shaft having a crank portion in the plane of said piston, a power roller on said piston co-acting with the crank part of said shaft, guides, and a freely-rotatable guide wheel on said piston coöperating with said guides to assist in maintaining the straight line of travel of the piston, substantially as described.

4. A mechanical movement comprising in combination, a plurality of reciprocatory power pistons arranged in the same plane, a rotary power shaft having a crank portion in said plane, a power roller mounted centrally of each of said pistons, all of said rollers coöperating with the crank part of said shaft, guides on opposite sides of each of said pistons, guide wheels on each piston co-acting with said guides, and means to maintain said power rollers in contact with the crank part of said shaft, substantially as described.

5. A mechanical movement comprising in combination a rotary power shaft having a crank part, a driving ring freely rotatable on the crank part of said shaft, a piston, a roller on said piston having continuous contact with said driving ring, and means to maintain said roller and driving ring in contact, substantially as described.

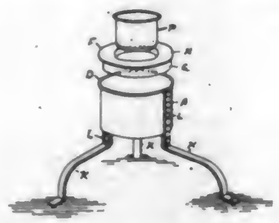
[Claims 6 to 12 not printed in the Gazette.]

977,817. BAG. FRANK MCKAIN, Cleveland, Ohio. Filed Feb. 28, 1910. Serial No. 546,436.



A bag the interior of the mouth of which is provided with facings sewed thereto at the edge thereof, and stitched to form a casing extending around the mouth of the bag, a closure frame comprising sections pivoted together and wholly inclosed within said casings, and gussets secured to the casings, in the angles at the ends of the closure frame, said gussets being cut with their free edges forming angles, and which when the gussets are folded fit closely under the frame sections.

977,818. FLOWER-POT HOLDER. THOMAS MCMANUS, Detroit, Mich. Filed Feb. 26, 1910. Serial No. 546,139.



1. A flower pot holder, having, in combination with a casing member, a removable collar member adapted to be interposed between the wall of the casing and the outer face of an included flower pot, and adjustable supporting members arranged peripherally of said casing and extending outwardly therefrom, whereby it may be maintained in upright position regardless of the unevenness of the surface whereon the holder is placed, substantially as described.

2. In a flower pot holder, in combination with a holding shell, a plurality of outwardly and downwardly extending adjustable supporting members therefor, and removable means adapted to be inserted between a flower pot and the holding shell and to extend down over a portion of the pot whereby it is firmly held from undesired movement with respect to the shell, substantially as described.

3. In a flower pot holder, the combination of a holding shell, a removable inwardly flanged collar member adapted to fit over the top edge of said holding shell, a pot holding casing adapted to be supported by said collar member spaced from the sides and bottom of the holding shell, and independently adjustable brace members for the holding shell extending outwardly and downwardly from opposing points on the outer face thereof, substantially as described.

4. A flower pot holder, having, in combination with a casing member, a removable collar member adapted to be fitted over the top edge thereof, said collar member extending inwardly therefrom and having downwardly depending flanges at its inner and outer edges, a removable pot-holding casing adapted to fit closely within said collar member, the upper portion of its sides being engaged by the inner depending flange thereof, whereby it is held from contact with the sides and bottom of the first-named casing, and adjustable brace members for the holding shell extending downwardly and outwardly from the peripheral portion of the first-named casing, whereby it is held from contact with the ground and from unintentional overturning.

977,819. PROCESS OF MAKING PHOSPHATIC SLAG AND IRON. HERMANN MEHNER, Velten, Germany. Filed May 17, 1910. Serial No. 561,872.

1. In the process of manufacturing a phosphatic-slag fertilizer, the improvement which comprises treating tricalcium-phosphate-containing material so as to reduce a part of the phosphoric acid contained therein and form a phosphatic slag consisting substantially of tetra-calcium phosphate, and separating the product of the phosphoric-acid-reduction from the fertilizer-forming residue.

2. In the process of manufacturing a phosphatic-slag fertilizer, the improvement which comprises heating tricalcium-phosphate-containing material in presence of carbon so as to partially dephosphorize the phosphate and convert it into a phosphate slag consisting substantially of tetra-calcium phosphate.

3. In the process of manufacturing a phosphatic-slag fertilizer, the improvement which comprises treating tricalcium-phosphate-containing material in presence of carbon and a metal-containing material, so as to reduce a part of the phosphoric acid contained in said tricalcium-phosphate-containing material, forming thereby a phosphatic slag consisting substantially of tetra-calcium phosphate, and binding the freed phosphorus to the metal, and separating the slag from the phosphorus-containing metal.

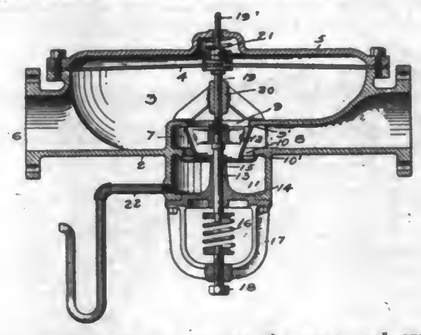
4. In the process of manufacturing a phosphatic-slag fertilizer, the improvement which comprises treating tricalcium-phosphate-containing material in presence of carbon and iron so as to reduce a part of the phosphoric acid contained in said tricalcium-phosphate-containing material, forming thereby a phosphatic slag consisting substantially of tetra-calcium phosphate, and separating the same from the formed iron-phosphorus compound.

5. In the process of manufacturing a phosphatic-slag fertilizer, the improvement which comprises heating tricalcium-phosphate-containing material in admixture with metallic ores and carbon so as to partly dephosphorize the tricalcium-phosphate material, forming thereby from the phosphate a phosphatic slag consisting substantially of tetra-calcium phosphate, and separating the same from the product of reduction of the metallic ores.

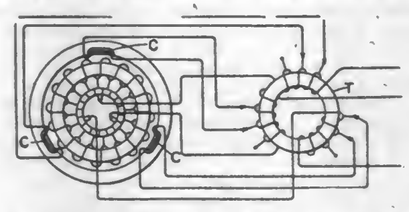
[Claims 6 and 7 not printed in the Gazette.]

977,820. GAS-PRESSURE REGULATOR. LAWRENCE A. MEEK, Wilkinsburg, Pa., assignor of one-half to Edwin Ruud, Pittsburg, Pa. Filed May 31, 1907. Serial No. 376,475.

A gas regulator comprising a casing having a suction chamber provided with a double seated gas inlet, a tubular balanced valve for the inlet whereby the gas entering through one of the valve seats passes directly to the suction chamber and that entering through the other seat passes to the suction chamber through the valve, a diaphragm within the suction chamber and operatively connected to the valve for opening the same, and spring means for holding the valve normally closed.



977,821. ALTERNATING-CURRENT DYNAMO-ELECTRIC MACHINE. MAURICE MILCH, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Apr. 8, 1904. Serial No. 202,134.



1. In an alternating current dynamo-electric machine having a fluctuating field, a rotor winding provided with a commutator, brushes bearing on said commutator, and means for inducing in the coils short-circuited by the brushes an electro-motive force equal and opposite to the electro-motive force due to the fluctuating field threading said short-circuited coils.

2. In an alternating current dynamo-electric machine having a fluctuating field, a rotor winding provided with a commutator, brushes bearing on said commutator, and means for producing a local field adapted to be cut by the coils short-circuited by the brushes and of a magnitude and phase adapted to produce in said coils an electro-motive force equal and opposite to the electro-motive force induced by the fluctuating field threading said coils.

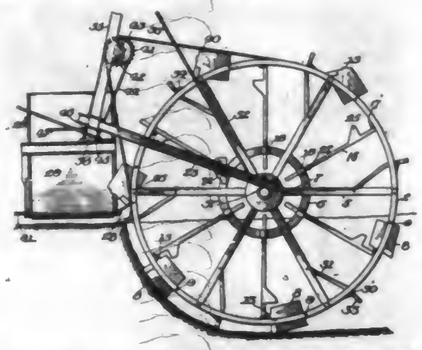
3. In an alternating current dynamo-electric machine having a fluctuating field, a rotor winding provided with a commutator, brushes bearing on said commutator, and means for neutralizing at varying speeds and loads the electro-motive force in the coils short-circuited by the brushes induced by the fluctuating field threading said coils.

4. In an alternating current dynamo-electric machine having a fluctuating field, a rotor winding provided with a commutator, brushes bearing on said commutator, a commutating coil disposed adjacent to the rotor coils short-circuited by the brushes and adapted to produce a local field to be cut by said coils, and means for supplying to said commutating coil a current of a magnitude and phase adapted to produce a field which when cut by said coils neutralizes the electro-motive force induced by the fluctuating field threading said coils.

5. In an alternating current motor, a rotor winding provided with a commutator, brushes bearing on said commutator, a commutating coil adapted to produce a field to be cut by the rotor coils short-circuited by the brushes, means for impressing an electro-motive force on said coil, and means for varying said electro-motive force as the load and speed of the motor vary.

[Claims 6 to 30 not printed in the Gazette.]

977,822. EXCAVATING-MACHINE. DAVID W. MILLER, Chicago, Ill. Original application filed Jan. 8, 1907, Serial No. 351,347. Divided and this application filed Feb. 11, 1908. Serial No. 415,314.



1. In a wheel excavator, an excavating wheel, a series of dumping buckets carried thereby, each bucket being pivoted in rear of its center of gravity, means for holding the buckets in rigid operative position, until they arrive at a certain point, means for successively withdrawing said holding means to permit each bucket to be turned or dumped by gravity, and a fixed stop against which the bucket falls when discharging its contents.

2. In a wheel excavator, an excavating wheel, a series of buckets carried thereby, means for bodily oscillating said buckets to discharge the soil therefrom when the buckets arrive at a predetermined position, and means for holding the buckets in rigid operative position.

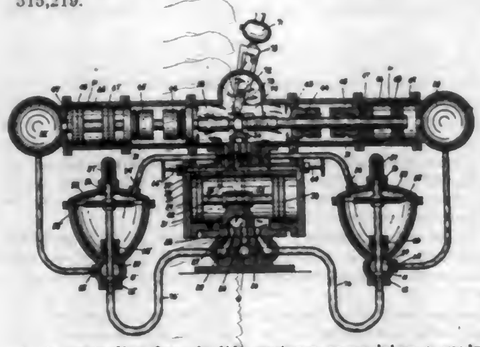
3. In a wheel excavator, an excavating wheel, a series of dumping buckets carried thereby, means for holding said buckets in rigid operative position, until they arrive at a certain point, and means for dumping said buckets at said points to discharge the soil therefrom.

4. In an excavating wheel, the combination with a series of buckets pivotally mounted on said wheel, a traveling conveyer, and an apron for guiding the soil discharged from said buckets onto the conveyer.

5. In a wheel excavator, an excavating wheel, a series of gravity-dumping buckets carried thereby, each bucket being pivoted in rear of its center of gravity, and provided with an endwise-movable locking-bar, coengaging stops for holding the bucket in rigid operative position, and cam-actuated means for successively tripping the buckets when they arrive at dumping position.

[Claims 6 to 8 not printed in the Gazette.]

977,823. CONTROLLING-VALVE FOR PUMPING SYSTEMS. FRANCIS S. MILLER, Indianapolis, Ind., assignor to Harris Air Pump Company, Indianapolis, Ind., a Corporation of Indiana. Filed Aug. 30, 1909. Serial No. 515,219.

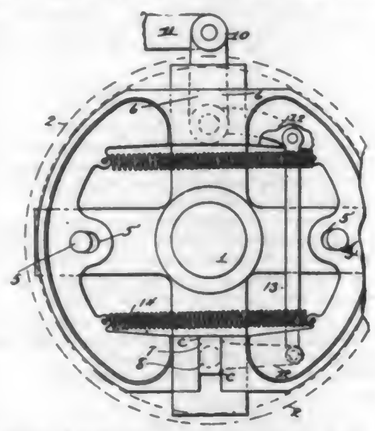


1. A controller for air lift systems comprising a main valve, a piston structure for shifting the same, a valve controlling the flow of motive fluid to said piston structure, a piston structure connected with said second valve, and means for controlling the flow of motive fluid to and from said piston structure in opposite directions, said means comprising a pair of pressure-controlled valves, and pressure connections for said pressure-controlled valves.

2. A controller for air lift systems comprising a main valve chamber, a valve mounted therein and controlling the ports thereof, a double headed piston structure mounted in the main valve chamber and connected with the valve, a controlling-valve chamber, a controlling valve mounted therein and controlling passages between the controlling valve chamber and the opposite ends of the main valve chamber, a stem connected with the controlling valve provided at opposite ends with a piston, a pair of cylinders in each of which is mounted one of said pistons, communicating passages between each of said cylinders and one end of the main valve chamber, a connection between each of said cylinders and the vacuum passage, a valve arranged in each of said passages, means for normally holding said valve closed, and means for producing a vacuum acting upon each of said valves in opposition to said closing means.

3. A controller for air lift systems comprising a main valve chamber, a valve mounted therein and controlling the ports thereof, a double headed piston structure mounted in the main valve chamber and connected with the valve, a controlling-valve chamber, a controlling valve mounted therein and controlling passages between the controlling valve chamber and the opposite ends of the main valve chamber, a stem connected with the controlling valve and provided at opposite ends with a double piston, a pair of cylinders in each of which is mounted one of said double pistons, communicating passages between each of said cylinders and one end of the main valve chamber, the connection with each of said cylinders being between the two parts of the double piston and also to the outer side of one of the parts of the double piston, a connection between each of said cylinders and the vacuum passage, a valve arranged in each of said passages, means for normally holding said valve closed, and means for producing a vacuum acting upon each of said valves in opposition to said closing means.

977,824. EMERGENCY-BRAKE. MARTIN WM. MUEHLHAUSER, Cleveland, Ohio, assignor to Morris S. Towson, Cleveland, Ohio. Filed Feb. 27, 1909. Serial No. 480,373.



1. In an expanding brake, the combination with an overhanging flange, of a support provided with diametrically opposite pivot pins, opposed semicylindrical brake members, pivoted on said pivot pins and diametrically movable thereon, said brake members being provided with parallel opposed faces at each end, cam blocks intermediate between said parallel faces, pivotal pins for said cam blocks in said support, an operating arm for one cam block secured to the corresponding pivotal pin, levers secured to said cam blocks, a link connecting said levers, and releasing springs connecting said brake members.

2. In an expanding brake, in combination, a shaft, an overhanging hub and flange thereon, a disk support or spider on said shaft, duplicate curvilinear brake members adapted to engage said flange and pivoted in said support, the said brake members provided with radial slots in which said pivots are movably secured, said brake members having parallel opposed surfaces at their extremities, duplicate cams pivoted in said support, duplicate levers secured to said cams, a connecting link between said levers, an operating arm for one of said cams, said cams adapted to turn simultaneously on their pivots, and means for releasing said brake members.

3. In an expanding brake, in combination, a shaft, an overhanging hub and flange thereon, a disk on said shaft, duplicate curvilinear brake members adapted to engage said flange, and pivotally connected with said disk intermediate of their ends and having radial movement thereon, said brake members having parallel opposed surfaces at their extremities, duplicate cams pivoted in said disk, duplicate operating levers therefor, a connecting link between said levers, an operating arm for one of said cams, and duplicate springs for automatically releasing said brake members.

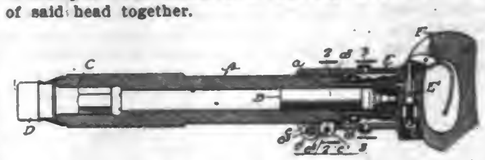
977,825. SURGICAL INSTRUMENT. GEORGE N. MURPHY, Paducah, Ky. Filed Jan. 8, 1910. Serial No. 537,028.



A device of the class described comprising terminally abutting tubular members, one of which is provided with an opening in its side wall adjacent its abutting end, the opening being spaced from said end; a connection inserted into the abutting ends of the tubular members; and elements upon the said members, engaging the connection to provide for an independent rotation of said members, one end face of the connection being positioned substantially at right angles to the axis of the device, and disposed between the opening and the abutting end of the member in which the opening is located.

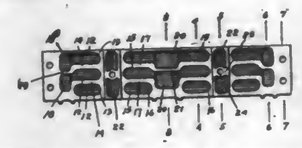
977,826. PNEUMATIC TOOL. REINHOLD A. NOBLING, Aurora, Ill., assignor to Aurora Automatic Machinery Company, Aurora, Ill., a Corporation of Illinois. Original application filed Mar. 8, 1910, Serial No. 547,977. Divided and this application filed May 9, 1910. Serial No. 560,270.

1. In combination with a cylinder and a reciprocating plunger, an extension of said cylinder embracing a hollow head, the end of said cylinder being threaded into the open end of said head and being provided on its outer surface beyond the thread with longitudinally extending serrations, the longitudinal wall of said head being split at its end to form a recess, a block located in said recess provided with serrations at its inner end to engage the serrations on the outer surface of said cylinder, means for wedging said block against the cylinder and for locking it in that position, and means for drawing the split sections of said head together.



2. In combination with a cylinder and a reciprocating plunger, an extension of said cylinder embracing a hollow head, the end of said cylinder being threaded into the open end of said head and being provided on its outer surface beyond the thread with longitudinally extending serrations, the longitudinal wall of said head being split at its open end to form a recess, lugs or ears formed at each side of said recess provided with transverse openings, a block located in said recess provided with a transverse opening, said block having a serrated end adapted to engage the serrations on the outer surface of said cylinder, one set of openings through said ears being eccentrically arranged with reference to the opening through said block, a taper pin extending through the openings in said ears and the opening through said block adapted to draw said block against said cylinder, means for locking said taper pin in position, and a clamping bolt extending through a second pair of openings through said ears adapted to draw said ears together.

977,827. DRAFT-RIGGING FOR RAILWAY-CARS. JOHN F. O'CONNOR, Chicago, Ill., assignor, by mesne assignments, to William H. Miner, Chicago, Ill. Filed May 20, 1908. Serial No. 433,814.



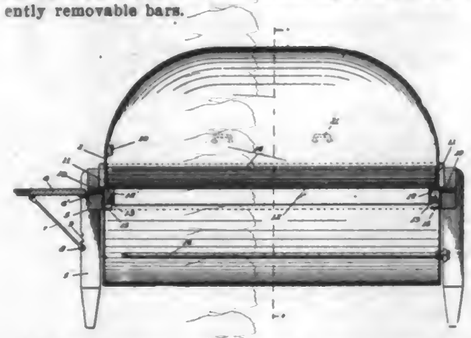
In a draft rigging, a side plate stop casting having on its inner face front, rear, intermediate and supplemental stops for the followers to abut against, and consisting of a main web 1, furnished with transverse bends or convolutions 4, 4, 6, to form said stops, and inwardly projecting rectangular bosses 8, 8 to form the supplemental stops, and having a smooth flat bearing face 11 between the stop shoulders for the ends of the followers to wear against, said stop casting having on its back or rear face a series of longitudinally extending end recesses or depressions with ribs between the same and a series of longitudinally extending intermediate recesses with longitudinal ribs between same, said longitudinally extending recesses or depressions on the back face of said stop casting having rounded ends, the upper longitudinally extending end and intermediate recesses or depressions on the back face of the casting having deepened portions 18, 18 and 20 formed by said bends or convolutions 4, 4 and 6, substantially as specified.

977,828. BATH-CABINET. JOHN R. OHMSTEDE, Seattle, Wash. Filed Dec. 20, 1909. Serial No. 534,189.

1. A bath cabinet comprising an inclosure consisting of upper and lower sections, a body rest in the lower section of said inclosure, and means in said inclosure below said body rest for introducing fluid under pressure for treating the patient, said body rest including spaced bars on which the body of the patient rests, said bars being supported for independent removal whereby their intermediate spaces can be varied in width to expose more or less of the body of the patient directly over said means.

2. A bath cabinet comprising an inclosure consisting of upper and lower sections, the upper edges of the end walls of the lower section of said inclosure curving upwardly

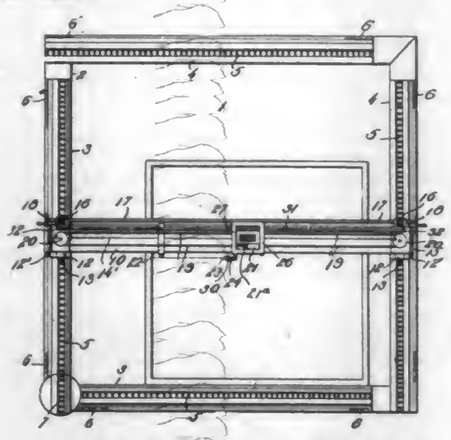
from a central point to each side wall of said section, a body rest arranged in the lower section of said inclosure substantially flush with the upper edges of the said end walls thereof throughout the length thereof, and means beneath said body rest for introducing a treating agent to said inclosure, said body rest including spaced independently removable bars.



3. A bath cabinet comprising an inclosure consisting of substantially cylindrical upper and lower sections, a body rest in the lower section of said inclosure including spaced longitudinal bars, said bars being triangular in cross section to provide broad upper bearing surfaces for the patient and downwardly converging side surfaces and being supported for independent removal, whereby the spaces between the said bars can be varied in width, and means below said body rest for introducing a suitable treating agent.

4. A bath cabinet comprising an inclosure consisting of upper and lower sections, the lower of said sections being provided on opposite walls with lugs, and a body rest comprising end rails removably engaged with the lugs of said inclosure section and provided with seats, side rails fixed to said end rails, and spaced longitudinal bars adapted to support the body to be treated, said longitudinal bars having their end portions removably engaged in the seats of said end rails.

977,829. ENGRAVING-MACHINE. VINCENT LE COMTE OURDAN, Washington, D. C. Filed Mar. 9, 1908. Serial No. 419,947.



1. A machine for engraving series of parallel lines at right angles to each other, comprising two pairs of parallel guideways forming a square, a turntable at the intersection of two of said guideways, a bridge slidably mounted on two of said guideways, and a tool-carriage slidably mounted on said bridge.

2. A machine for engraving series of parallel lines at right angles to each other, comprising two pairs of parallel guideways forming a square, a turntable at the intersection of two of said guideways, a bridge slidably mounted on two of said guideways, means operable from either end of said bridge to move the same along said guideways, a tool-carriage movable along said bridge, and means operable from either end of the same to move said carriage.

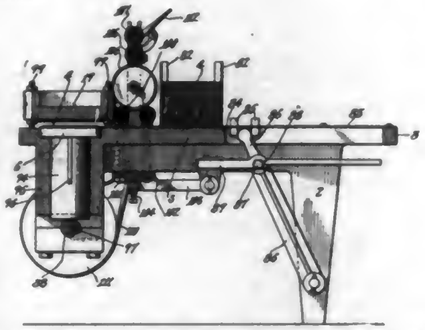
3. A machine for engraving series of parallel lines at right angles to each other, comprising two pairs of parallel guideways forming a square, a turntable mounted for oscillation vertically and horizontally at the intersection of two of said ways, a shoe or slide mounted on each of one pair of parallel ways, a bridge supported at its ends on said shoes or slides, means to adjust the ends of said bridge laterally on the same, and a tool-carriage slidably mounted on said bridge.

4. A machine for engraving series of parallel lines at right angles to each other, comprising two pairs of parallel guideways forming a square, each of said ways being provided with a rack and with a scale, a turntable at the intersection of two of said ways, a shoe or slide mounted on each of one pair of parallel ways, means to clamp said shoes or slides to the ways, a bridge supported at its ends on said shoes or slides, a vernier scale on each end of said bridge adjacent to the scales on the ways, means to adjust and secure each end of the bridge on its shoe or slide, a shaft journaled on said bridge, gears on said shaft meshing with said racks and handles on each end of said shaft, a tool-carriage on said bridge and means operable from either end of the same to reciprocate said carriage along said bridge.

5. A machine for engraving series of parallel lines at right angles to each other, comprising two pairs of parallel guideways forming a square, each of said ways being provided with a rack and with a scale, a turntable at the intersection of two of said ways, a shoe or slide mounted on each of one pair of parallel ways, means to clamp said shoes or slides to the ways, a bridge supported at its ends on said shoes or slides, a vernier scale on each end of said bridge adjacent to the scales on the ways, means to adjust and secure each end of the bridge on its shoe or slide, a shaft journaled on said bridge, gears on said shaft meshing with said racks and handles on each end of said shaft, a tool-carriage on said bridge and provided with a vernier scale, a scale on said bridge with which said vernier coöperates, a hand-pulley on each end of said bridge and a cord or chain connected at one point to said carriage and passing around said pulleys.

[Claims 6 to 13 not printed in the Gazette.]

977,830. PRINTING-MACHINE. ELIJAH A. OVENSHIRE, Los Angeles, Cal. Filed June 29, 1909. Serial No. 505,080.



1. A bed, means for intermittently advancing a strip longitudinally and move the strip across the bed, ways extending laterally from the bed, a plate follower sliding along said ways, a platen movable toward and from the bed, the plate follower having a pair of vertical lugs, a pivoted rock arm, the end of which engages between said lugs, a connecting rod having a notch, means for operating said rod, a pin on said rock arm engaging said notch, a flat spring on the connecting rod bearing against said pin and yieldingly holding the connecting rod in engagement with the pin, and means for reciprocating the connecting rod.

2. A bed, means for intermittently advancing a strip longitudinally and move the strip across the bed, ways extending laterally from the bed, a plate follower sliding along said ways, a platen movable toward and from the bed, the plate follower having a pair of vertical lugs, a pivoted rock arm, the end of which engages between said lugs, a connecting rod having a notch, a pin on said rock arm engaging said notch, a flat spring on the connecting rod bearing against said pin and yieldingly holding the connecting rod in engagement with the pin, a slotted rock arm, a main shaft, a cam on the main shaft, and a crank pin carried by the cam and projecting into said slotted rock arm, said connecting rod being connected to said slotted rock arm.

3. A bed, means for intermittently advancing a strip longitudinally and move the strip across the bed, a platen slidable toward and from the bed, a plurality of separate plates in a pack at one side of the bed, a follower plate for sliding said plates sequentially toward and away from said platen, a pair of inking rollers between said pile of plates and said platen, vertical posts supporting said inking rollers, a horizontal plate supporting said posts, a lever extending under said plate, a shaft, and a cam thereon for rocking said lever to reciprocate said posts and lift the ink rollers intermittently.

4. Means for intermittently advancing a strip longitudinally, a platen slidable toward and from the strip, a plurality of separate plates in a pack at one side of the strip, a follower plate for sliding said plates sequentially toward and away from said platen, a pair of inking rollers between said pile of plates and said platen, vertical posts supporting said inking rollers, a horizontal plate supporting said posts, a lever extending under said plate, a shaft, a cam thereon for rocking said lever to reciprocate said posts and lift the ink rollers intermittently, and a distributing roller above said ink rollers for supplying ink thereto when the first rollers are lifted.

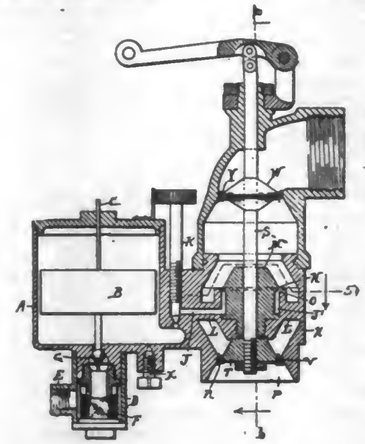
5. Means for intermittently advancing a strip longitudinally, a platen slidable toward and from the strip, a plurality of separate plates in a pack at one side of the strip, a follower plate for sliding said plates sequentially toward and away from said platen, a pair of inking rollers between said pile of plates and said platen, vertical posts supporting said inking rollers, a horizontal plate surrounding said posts, a lever extending under said plate, a shaft, a cam thereon for rocking said lever to reciprocate said posts and lift the ink rollers intermittently, a distributing roller above said ink rollers for supplying ink thereto when the first rollers are lifted, and an adjusting screw in said lever bearing against the underside of said plate.

[Claim 6 not printed in the Gazette.]

977,831. CARBURETER. CHARLES E. PAGE, Detroit, Mich. Filed Feb. 3, 1910. Serial No. 541,911.

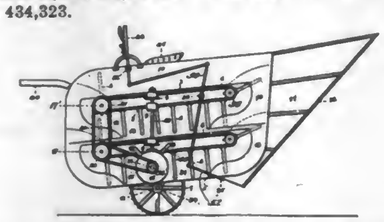
1. In a carbureter, in combination with a float chamber, a mixing chamber connected therewith, a regulating valve for controlling the flow from one chamber to the other, an annular liquid-containing member in the mixing chamber in direct communication with the connection between the two chambers, a vertically movable throttle stem extending through said mixing chamber, and members adjustable relatively to each other carried thereby, whereby the space through which air is admitted into said chamber for mixture with the hydrocarbon therein exposed may be definitely proportioned to the space through which the mingled vapor is permitted to escape from the chamber, substantially as described.

2. A carbureter, having, in combination with a float chamber, a mixing chamber having a passageway extending therefrom to connection with the float chamber, manually actuatable means for controlling the passage therethrough, a vertically bored member suspended from the side walls of the mixing chamber in the central portion thereof, a liquid-containing portion thereof being in communication with the passageway between the two chambers, a stem member slidably engaging through said last named member, and closure members adjustably carried on said stem member, adapted to coöperate with adjacent portions of the wall of the mixing chamber in maintaining a fixed proportion between the size of the aperture therein through which air is admitted thereinto, and of the aperture through which the charged vapor escapes therefrom, substantially as described.



3. In a carbureter, the combination of a float chamber, means for regulating the character of the liquid admitted thereinto, an apertured mixing chamber connected with the float chamber, a centrally supported liquid-containing member in said mixing chamber, a throttle stem slidably engaging lengthwise of the chamber, and a plurality of members adjustable relatively to each other carried on said stem adapted to coöperate with adjacent portions of the wall of the mixing chamber in maintaining a desired ratio between the size of the aperture in the chamber wall through which atmospheric air is admitted thereinto and that of the aperture through which the combustible vapor escapes, substantially as described.

977,832. HARVESTER. ADOLFO FORTUNATO PANDO, Buenos Ayres, Argentina. Filed May 22, 1908. Serial No. 434,323.



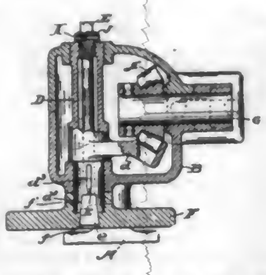
1. In a harvester for corn and the like the combination of guide boards, shields in opposition to said guide boards and forming passage ways for the stalks in coaction with said guide-boards, juxtaposed pairs of superposed conveying chains, two of said superposed chains being adjacent each of said passage ways, wheels rotating about horizontal axes supporting and driving said chains, a plurality of fingers movably mounted on each of said chains, guards in superposition with regard to said shields, said guards and shields being provided with cam portions adapted to shift said fingers into and out of said passage ways.

2. In a harvester for corn and the like the combination of guide boards, shields in opposition to said guide boards and forming independent passage ways for the stalks in coaction with said guide boards, juxtaposed pairs of superposed conveying chains, wheels rotating about horizontal axes supporting and driving said chains, a plurality of fingers mounted movably on each of said chains, guards in

superposition with respect to said shields, said guards and shields being adapted to guide said fingers in horizontal position through said passage ways.

3. In a harvester for corn and such like the combination of guide boards disposed at the sides of the harvester, shields in opposition to each of said guide boards and forming independent passageways for the stalks in coaction with said guide boards, platforms at the bottom of said ways, said passage ways being parallel to each other at the front end of the harvester and leading into each other toward the rear thereof, conveying chains adjacent said passage ways, a plurality of fingers movably mounted on each of said chains and means for deflecting said chains from the parallel portion of said passage ways into the converging portion thereof.

977,833. RAILWAY-SWITCH STAND. CHARLES PARTINGTON, Cincinnati, Ohio, assignor to The Cincinnati Frog and Switch Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Mar. 14, 1910. Serial No. 549,087.



1. The combination, in a switch stand, of a housing; a shell rotatably mounted in the housing and having a segmental gear formed integral therewith; a shaft bolt mounted in the shell; a switch crank adapted to be actuated by the shaft bolt; means for locking the shaft bolt against rotation in the shell; a rock shaft mounted in the housing; a pinion carried by the rock shaft and meshing with the segmental gear, and means for actuating the rock shaft.

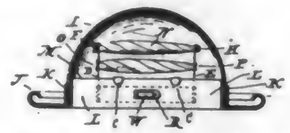
2. The combination, in a switch stand, of a housing; a shell rotatably mounted in the housing, the shell being provided, at its lower end, with a wedge shaped recess; a switch crank provided with an opening; a shaft mounted in the housing and having its upper end threaded to receive a nut; a wedge shaped block fixed to the shaft and adapted to take into the opening in the switch crank and the recess in the shell; a nut adapted to lock the bolt in position; a segmental gear carried by the shaft; a rock shaft; a pinion carried by the rock shaft and adapted to mesh with the segmental gear; and means for actuating the rock shaft.

3. The combination, in a switch stand, of a housing; a shell rotatably mounted in the housing, the shell being provided, at its lower end, with a wedge shaped recess, and with slots extending upwardly from said recess; a switch crank provided with an opening; a shaft mounted in the housing and having its upper end threaded to receive a nut; a wedge shaped block fixed to the shaft and adapted to take into the opening in the switch crank and the recess in the shell; a nut adapted to lock the bolt in position; a segmental gear carried by the shaft; a rock shaft; a pinion carried by the rock shaft and adapted to mesh with the segmental gear; and means for actuating the rock shaft.

4. The combination, in a switch stand, of a housing; a shell rotatably mounted in the housing, the shell being provided, at its lower end, with a wedge shaped recess; a switch crank provided with a wedge shaped opening; a shaft mounted in the housing and having its upper end threaded to receive a nut; a wedge shaped block fixed to the shaft and adapted to take into the opening in the switch crank and the recess in the shell; a nut adapted to lock the bolt in position; a segmental gear carried by the shaft; a rock shaft; a pinion carried by the rock shaft and adapted to mesh with the segmental gear; and means for actuating the rock shaft.

5. The combination, in a switch stand, of a housing; a shell rotatably mounted in the housing, the shell being provided at its lower end, with a wedge shaped recess and with slots extending upwardly from said recess; a switch crank provided with a wedge shaped opening; a shaft mounted in the housing and having the upper end threaded to receive a nut; a wedge shaped block fixed to the shaft and adapted to take into the opening in the switch crank and the recess in the shell; a nut adapted to lock the bolt in position; a segmental gear carried by the shaft; a rock shaft; a pinion carried by the rock shaft and adapted to mesh with the segmental gear; and means for actuating the rock shaft.

977,834. CIGAR-HOLDER. CHARLES F. PIERCE, East Providence, R. I. Filed Mar. 29, 1910. Serial No. 552,266.



1. The improved cigar holder herein described, consisting of the combination of a base comprising a strip of sheet metal slightly curved and provided with integral hooks; a resilient wire mounted at one of its ends upon the contiguous end of said metallic base at a right angle therewith and terminating at its opposite end in a coil, whose outer portion is partially closed, and a second resilient wire mounted at one of its ends upon the other end of said base at a right angle therewith and terminating at its opposite end in a coil, said coils being so located and directed as to receive and hold a cigar by its ends, and said base being so shaped and located as to be supported inside of a hat by the sweat band thereof, with whose edge said hooks are engageable.

2. The improved cigar holder herein described, consisting of the combination of a base comprising a strip of sheet metal slightly curved and provided with integral hooks; a resilient wire secured at one of its ends to the contiguous ends of said metallic base at a right angle therewith and terminating at its opposite end in a coil, whose outer portion is partially closed, and also having, intermediate its ends, another coil; and a second resilient wire secured at one of its ends to the other end of said base at a right angle therewith and terminating at its opposite end in a coil, and also having, intermediate its ends, another coil, all said coils being so located and directed as to receive and hold a plurality of cigars by their ends respectively, and said base being so shaped and located as to be supported inside of a hat by the sweat band thereof, with whose edge said hooks are engageable.

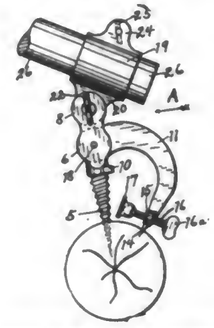
3. In a cigar holder the combination of two parallel, resilient wires, each having a coil at its outer end; and a base connecting the inner ends of said two wires and provided with holding devices adapted to be secured in position upon the sweat band of a hat.

4. In a cigar holder, the combination of two parallel, resilient wires, each having a coil at its outer end, a base having a length slightly less than the length of a cigar and connecting said two wires at their inner ends; and holding devices upon said base, adapted to engage the sweat band of a hat.

5. In a cigar holder, the combination of two parallel wires, each having a coil at its outer end; a base connecting the inner ends of said two wires and having a length somewhat less than the length of a cigar; and spring means for normally pressing in diametrically opposite inward directions a cigar longitudinally upon its two ends, while said cigar is supported by said coils.

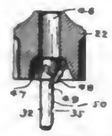
[Claims 6 and 7 not printed in the Gazette.]

977,835. FISHING-ROD HOLDER. ROBERT C. PISCATOR and CHARLES PISCATOR, Indianapolis, Ind. Filed Mar. 3, 1910. Serial No. 547,097.



A rod holder comprising a screw member provided with two perforated radiating toothed disks, a curved clamping arm having a perforated radiating toothed disk on one of its ends adjustably secured to one of the perforated radiating toothed disks of said screw member and gradually tapered through its length to a point at its other end, a threaded ear formed on the side of said curved clamping member at a point near its pointed end, a thumb screw fitted in said threaded ear, a swiveled clamping head secured to said thumb screw by means of a ball-joint, a cross bar secured to said screw member at the top of its threaded portion, and a slitted cylindrical rod clamp provided with a perforated supporting ear having teeth radiating from said perforation adjustably secured to the other of the perforated radiating toothed disks of said screw member.

977,836. FIXED-POLARITY ATTACHMENT-PLUG. CLARENCE D. PLATT, Bridgeport, Conn. Filed Apr. 25, 1910. Serial No. 557,558.



1. A fixed polarity attachment plug comprising a base, terminals carried thereby, a cover plate with part round holes having a straight side and a plug having part round contact pins with a flat side corresponding with the straight side of a hole in the cover plate.

2. A fixed polarity attachment plug comprising a base having sockets, loose terminals therein, a cover plate having part round holes with a straight side and a plug having part round contact pins with a flat side corresponding with the straight side of a hole in the cover plate.

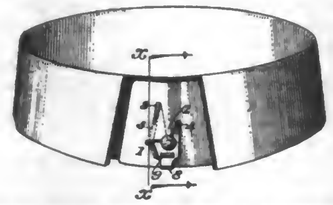
3. A fixed polarity attachment plug comprising a base having sockets with a shoulder, loose terminals therein each comprising a lower step carrying a contact bushing and an upper step engaging a shoulder and carrying a binding screw, a cover plate having part round holes with a straight side, and a plug having part round contact pins with a flat side corresponding with the straight side of a hole in the cover plate.

4. A fixed polarity attachment plug comprising a base having sockets, loose terminals therein each comprising a contact bushing with a spring having a projection, and a binding screw, a cover plate having part round holes with a straight side, and a plug having part round contact pins with a flat side corresponding with the straight side of a hole in the cover plate.

5. A terminal of the character described comprising a plate bent to form upper and lower steps, said lower step having a hole, a contact bushing having a reduced end leaving a shoulder and slots and a spring within the bushing having wings engaging the slots, the reduced end of the bushing being flanged outward under the step whereby the spring and bushing are locked to the plate.

[Claims 6 and 7 not printed in the Gazette.]

977,837. COLLAR-BUTTON LOCK. EUGENE M. PLETCHER and JOHN CORYDON GIBBS, Philadelphia, Pa. Filed Jan. 26, 1910. Serial No. 540,149.



1. A collar-button lock composed of a member adapted to enter a buttonhole, means thereon adapted to interlock the button therewith and laterally control the button and means to engage the bottom edge of a collar.

2. A collar-button lock consisting of a plate having a wedge-shaped member to enter a button hole of a collar and to seat on the rear face thereof, a recess to receive the shank of the button and a member to seat on the opposite face of the collar and engage the shank of the button, and a projection to prevent tilting of the button.

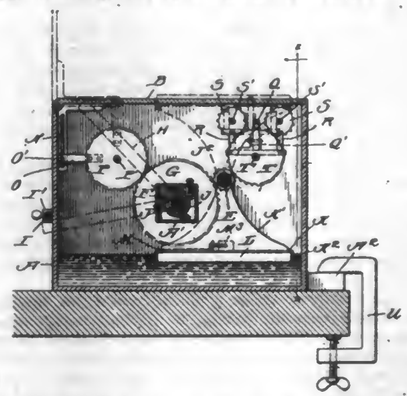
3. A collar-button lock composed of a plate with a bifurcation forming upwardly extending separate tongues, one of which is wedged shape or tapered and adapted to enter a buttonhole of the collar, and the other tongue is adapted to be placed on the exterior of the collar, both tongues being adapted to engage a button-shank and control the button laterally in said hole.

4. A collar-button lock composed of a plate with a bifurcation forming separate tongues, one of which is wedged shape, having at its base a laterally extending recess adapted to receive the button shank, a wall of the other tongue constructed to engage and to lock the button shank in said recess.

5. A collar-button lock composed of a plate having means to engage the bottom edge of a collar and a bifurcation forming separate tongues, and a flange on said plate at the base of the bifurcation forming an enlarged rest for the head of the collar button when the latter occupies a buttonhole on the collar.

[Claims 6 and 7 not printed in the Gazette.]

977,838. HONE-BOX. THOMAS F. POWELL, Spokane, Wash. Filed Jan. 28, 1910. Serial No. 540,600.



1. A hone holding box having a hinged cover, a hone mounted within said box, and means for throwing said

hone up above the upper edge of said box together with means for moving said box top in advance of the movement of said hone.

2. A hone holding box comprising a box proper adapted to contain oil, a hinged top for closing said box, a hone revolubly mounted in said box adapted to be normally held submerged in the oil of said box, and means for operating said hone together with means for operating said box top.

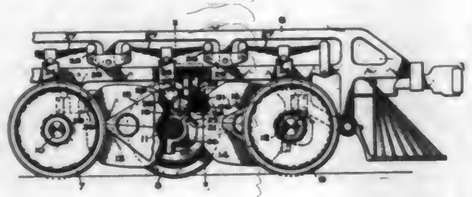
3. In a hone box, the combination with a shaft having a gear at one end, of a hone holder fixed on said shaft, a shaft carrying a gear meshing with the first mentioned gear, a spring for operating on said shaft, and a crank for operating the last mentioned shaft.

4. The combination with a box adapted to contain oil, of a holder movably mounted in said box, a cover for closing said box and means for moving said hone in position to be operated on together with means for swinging said cover out of the path of said hone.

5. A hone holding box comprising a box proper adapted to contain oil, a cover for closing said box, a shaft revolubly mounted in said box, a hone holder provided with arms fixed on said shaft, a hone carried by said hone holder adapted to be submerged in the oil of said box, and means for operating said shaft together with means for opening said cover.

[Claims 6 to 11 not printed in the Gazette.]

977,839. RAILWAY-TRUCK. EDWARD D. PRIEST, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 30, 1910. Serial No. 574,632.



1. In a railway truck, a plurality of axles having driving wheels secured thereto, journal boxes on said axles between the wheels, a truck frame supported on said journal boxes, and driving motors jointly supported by said journal boxes and said frame.

2. In a railway truck, a plurality of axles having driving wheels secured thereto, journal boxes on said axles between the wheels, a truck frame mounted upon said journal boxes, and driving motors geared to said axles and supported jointly by said journal boxes and said frame.

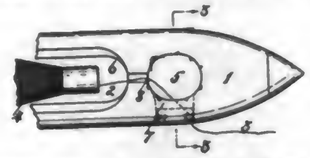
3. In a railway truck, a plurality of axles having driving wheels secured thereto, journal boxes on said axles between the wheels, a truck frame having side members yieldingly supported on said journal boxes, and driving motors geared to said axles and supported on one side on said journal boxes and on the other side by the truck frame.

4. In a railway truck, a plurality of axles having wheels secured thereto, a motor geared to each axle, journal boxes on said axles between the wheels upon which one side of the coöperating motor is supported, a truck frame supported on said journal boxes, and a mechanical connection between the other side of said motors and said frame.

5. In a railway truck, a plurality of axles having driving wheels secured thereto, a driving motor geared to each axle, journal boxes on said axles between the wheels carrying one side of the coöperating motor, a truck frame yieldingly supported on said journal boxes, and a mechanical connection between the other side of said motors and said truck frame.

[Claims 6 and 7 not printed in the Gazette.]

977,840. LOOM-SHUTTLE. CHARLES RAFFERTY, Fall River, Mass. Filed July 8, 1909. Serial No. 506,556.



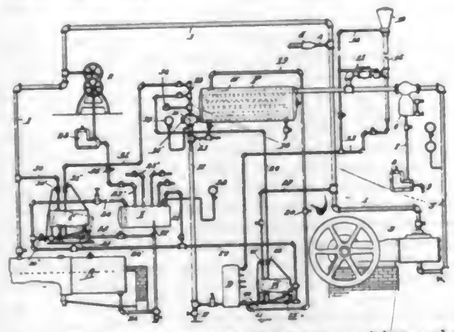
1. In combination with a shuttle body having a bobbin cavity and an opening in its delivery side, a ring located within said opening, said ring being formed with spaced apertures, a T-shaped metallic thread guide having its leg extending in one aperture and the ends of its head seated in the other of said apertures, said body having a throat-like passage leading from said bobbin cavity, and a passage effecting communication between the throat and ring.

2. In combination with a shuttle body having a bobbin cavity, and formed with an opening in its delivery side, a ring located within said opening, said ring being formed with a plurality of apertures, and a thread guide consisting of a body portion having one end seated in one of said apertures, and the other end being formed with an outwardly projecting arm bent inwardly to extend into one of the apertures formed in said ring to form guide eyes for the thread.

3. In combination with a shuttle body having a cavity and an opening in its delivery side, a hollow element disposed in said opening and formed with apertures, a thread guide composed of a member having a leg and an arm, said leg extending in one of said apertures and said arm having its free end extending in another of said apertures to thereby form a thread eye between said leg and arm of said member and the portion of said element therebetween.

4. In combination with a shuttle body having a cavity and a delivery opening, a hollow element disposed in said opening, and a member having an arm and a leg secured to said element so that a thread eye is formed between said arm, said leg and that portion of the element located between the arm and leg.

977,841. SYSTEM OF CONSERVING HOT WATER. JOHN E. ROLLINS, Chicago, Ill. Filed Sept. 6, 1910. Serial No. 580,593.



1. A hot water conserving system comprising a hot water reservoir maintained under comparatively high pressure, steam using apparatus furnishing hot water of condensation at low pressure, other steam using apparatus furnishing hot water of condensation at a higher pressure, a closed receiver for said low pressure condensation, a closed collecting tank for said higher pressure condensation, and a closed trap receiving the hot water from said tank and adapted to deliver its contents to said hot water reservoir, communication between said low pressure receiver and said pressure tank and a by-pass around said tank connecting the low pressure receiver and said trap, and communication between said pressure tank and said trap, means for increasing the pressure at intervals in said low pressure receiver to force its contents into said trap or into said pressure tank, and means for increasing the pressure at intervals in said trap to cause its contents to flow into said high pressure reservoir.

2. A hot water conserving system comprising a steam boiler maintained at comparatively high pressure, a steam using apparatus furnishing hot water of condensation at low pressure, other steam using apparatus supplying hot water of condensation at a higher pressure, a closed receiver for said low pressure condensation, a closed collecting tank for said higher pressure condensation, a gravity, pressure trap arranged above the normal water line in said boiler and adapted to feed its contents into said boiler by gravity, communication between said low pressure trap and said pressure tank and a by-pass around said tank connecting said low pressure receiver with said trap, and communication between said pressure tank and said trap, means for increasing the pressure at intervals in said low pressure receiver to force its hot contents either into said pressure tank or into said trap, and means for increasing the pressure in said trap, at intervals, to permit its contents to flow into said boiler by gravity.

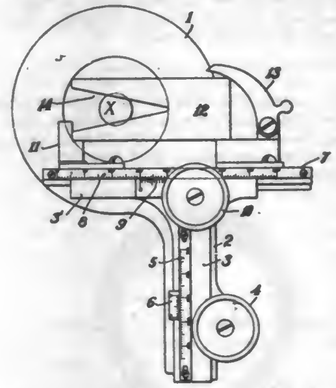
3. A system for returning hot water of condensation to boilers comprising a boiler supplying steam at comparatively high pressure, steam using apparatus receiving steam therefrom and furnishing water of condensation at low pressure, other steam using apparatus receiving steam therefrom and furnishing water of condensation at a higher pressure, a closed receiver for said low pressure condensation, a closed pressure collecting tank for said higher pressure condensation, a closed, pressure, gravity trap arranged above the normal water level in said boiler and adapted to deliver its contents into said boiler by gravity, communication between said low pressure receiver and said trap, communication between said low pressure receiver and said tank, communication between said pressure tank and said pressure trap, permitting the discharge of said tank into said trap, means for increasing the pressure at intervals in said low pressure receiver to force its contents either into said trap or into said pressure tank, and means for increasing the pressure at intervals in said trap for equalizing the pressure in said trap with the boiler pressure to cause the discharge of the contents of the trap into the boiler.

4. A system for returning water of condensation to boilers comprising, a boiler supplying steam at a comparatively high pressure, steam using apparatus receiving steam therefrom and supplying hot water of condensation at low pressure, other steam using apparatus receiving steam therefrom and supplying hot water of condensation at a higher pressure, a low pressure steam trap receiving said low pressure condensation and a high pressure steam trap located above the normal level in said boiler and receiving said higher pressure condensation, means for increasing the pressure in said low pressure trap at intervals, to cause the discharge of its contents into said high pressure trap, means for equalizing the pressure in said high pressure trap, at intervals with the boiler pressure to cause the flow of its contents into said boiler, and a pressure tank connected with both of said traps, receiving the discharge from said low pressure trap when the high pressure trap is discharging and thereby permitting the discharge of the low pressure trap independently of said high pressure trap, said pressure tank being adapted to discharge its contents into said high pressure trap.

5. A hot water conserving system comprising a hot water reservoir maintained under comparatively high pressure, steam using apparatus furnishing hot water of condensation at low pressure, other steam using apparatus furnishing hot water of condensation at a higher pressure, a closed receiver for said low pressure condensation, and a closed pressure trap adapted to receive said higher pressure condensation water, means for increasing the pressure at intervals in said receiver to force its hot contents into said trap and means for increasing the pressure at intervals in said trap to force its contents into said high pressure reservoir.

[Claims 6 to 14 not printed in the Gazette.]

977,842. MAGNETIC SPECIMEN-HOLDER FOR MICROSCOPES. ALBERT SAUVEUR, Cambridge, Mass. Filed July 14, 1910. Serial No. 571,907.



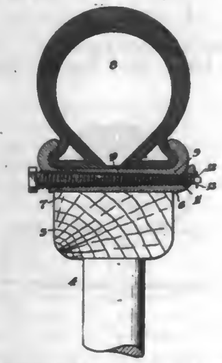
1. A specimen holder for the microscopical examination of metals, comprising a magnetic slide having a plain bearing surface and a tapering notch in one end of the same.

2. A specimen holder for the microscopical examination of metals, comprising a magnetic slide having a plain bearing surface and an opening therein, two walls of which are convergent in the true plane of the bearing surface of the slide.

3. In combination with the mechanical stage of a high power microscope, a specimen holder comprising a magnetic slide having a plain bearing surface and adapted to be held in said stage at right angles to the optical axis of a microscope and having an opening therein, two walls of which are convergent in the true plane of the bearing surface of the slide.

4. In combination with the mechanical stage of a high power microscope, a specimen holder comprising a magnetic slide having a plain bearing surface and adapted to be held in said stage at right angles to the optical axis of a microscope and having a tapering notch in one end of the same.

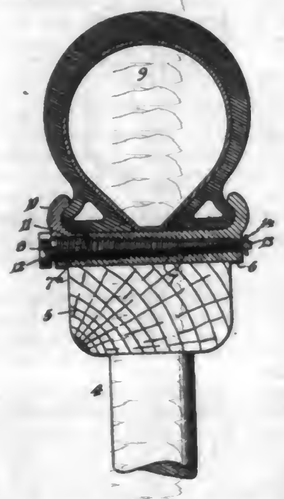
977,843. RIM FOR TIRES OF MOTOR-VEHICLE WHEELS. CHARLES B. SINER, Philadelphia, Pa. Filed Feb. 3, 1910. Serial No. 541,672.



1. In a motor vehicle wheel, a tire having a rim, a felly having a rim, the respective rims in position arranged to form tapering transverse openings, one surface being unthreaded and the other threaded and threaded bolts arranged to engage the threaded portion of each of said openings to wedgingly tighten the rims together, against displacement.

2. In a motor vehicle wheel, a tire having a clamping rim, a felly-rim, the respective rims in position provided with offset tapering openings, one portion threaded and the other unthreaded and threaded bolts arranged to detachably engage in said openings to wedgingly tighten the rims together, against displacement.

977,844. RIM FOR TIRES OF MOTOR-VEHICLE WHEELS. CHARLES B. SINER, Philadelphia, Pa. Original application filed Feb. 3, 1910, Serial No. 541,672. Divided and this application filed Mar. 9, 1910. Serial No. 548,203.



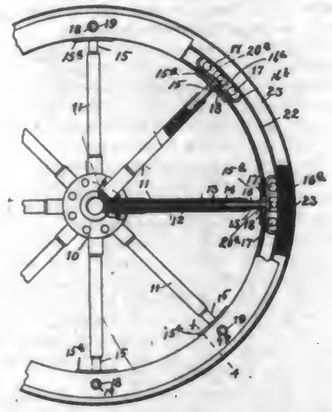
In a motor vehicle wheel, a separable rim, consisting of two parts, one fixed to the wheel-felly, having a flange for engaging the wheel-tire, at one edge and a threaded offset or recess at the other edge portion and having beyond the offset or recess thereof, interiorly a tapering threaded bore, the other part formed into a flange for the wheel-tire and having an unthreaded portion arranged to register with the offset or recess of said part and a headed and threaded tapering bolt for lockingly holding the inflated tire in connection with the said separable rim by the flanges thereof and the two parts of said rim wedged to each other.

977,845. VEHICLE-TOP SUPPORT. JOHN W. TROY, Port Huron, Mich. Filed Nov. 24, 1909. Serial No. 529,740.



A vehicle top support including a clamp to engage the seat rail stud, a spring including a strip secured between the clamp and stud and projecting in both directions beyond the clamp and formed to provide upwardly-extending independent coils, the terminals of the strip being disposed in spaced relation above the clamp, and a bow-receiving saddle secured to said spring terminals and lying between and above the same.

977,846. VEHICLE-WHEEL. OTTO G. WORSLEY, Bangor, Mich. Filed Nov. 27, 1909. Serial No. 530,277.



1. A wheel comprising a hub, hollow spokes radiating therefrom, a hollow rim provided with openings, a tire for said rim, studs in said rim arranged beneath each opening, a shank extending through each opening and having a plate on its outer end that straddles said studs, rollers between said plate and said rim, a head carried by each shank and entering the spokes, a spring in each spoke and interposed between the shank head and the hub, a plate spanning each rim opening and provided with a guide sleeve for the said shanks, said sleeves telescoping with the free ends of the spokes, and a spring carried by each shank and interposed between the head thereof and the free ends of said sleeves.

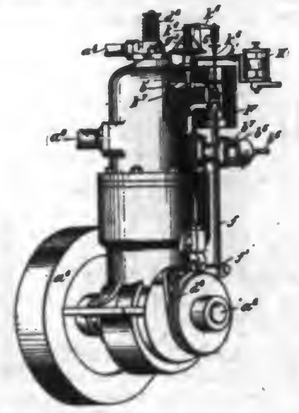
2. A wheel comprising a hollow rim provided with openings, a stud beneath each opening, a plate straddling each stud, rollers interposed between each plate and the rim, a shank entering each opening and engaging the plate, a hub, hollow spokes radiating therefrom, said shanks slidably mounted in the free end portions of said spokes, and means in said spokes opposing the slidable movements of said shanks.

3. A wheel comprising a hub, hollow spokes carried thereby, a hollow rim formed in separable sections, said rim provided with openings, lugs within said rim beneath said openings, plates in said rim and straddling said lugs, rollers carried by said plates, shanks carried by said plates and projecting through said openings, sleeves for said shanks provided with rim-engaging plates, said sleeves and shanks slidable in said spokes, and means for opposing sliding movement of said shanks and sleeves.

977,847. INTERNAL-COMBUSTION ENGINE. LYSANDER E. WRIGHT, Newark, N. J. Filed Oct. 10, 1907. Serial No. 396,697.

1. An internal combustion engine having a power cylinder provided with an exhaust port near each end, the exhaust port near one end being uncovered by the piston as it is completing its power stroke, and with means for supplying the explosive charge and independent means at the other end to permit the introduction of scavenging air when the piston is at the end of its power stroke, and means at said other end to permit the scavenging air to be displaced by the piston upon its return stroke.

2. An internal combustion engine having a power cylinder provided with an exhaust opening at each end, the exhaust opening at one end being uncovered by the piston when it has nearly completed its power stroke, and with means for supplying the explosive charge, a valve controlling the exhaust opening at the other end, an independent inlet for the introduction of scavenging air at said other end, a valve to control said inlet, mechanically operated means to open and hold open the last named valve to admit the scavenging air when the piston is nearing the completion of its power stroke and during a portion of the return stoke, and means to open the other valve when the piston has covered the exhaust opening on its return stroke to permit the displacement of a portion of the air remaining in the power cylinder.



3. An internal combustion engine having a power cylinder provided with an exhaust opening at each end, the exhaust opening at one end being uncovered by the piston when it has nearly completed its power stroke, a valve controlling the exhaust opening at the other end, a chamber in which air is compressed by the piston, an inlet for the introduction of this air into the other end of the cylinder for scavenging, a valve to control the introduction of the scavenging air, means to open the last named valve to admit the scavenging air when the piston is nearing the completion of its power stroke, and means to open the other valve when the piston has covered the exhaust opening on its return stroke.

4. An internal combustion engine having a power cylinder with a valve chamber in the cylinder head, two valves controlling separate ports leading from said chamber to the cylinder and to the exhaust respectively, means to introduce scavenging air into the valve chamber, an exhaust port controlled by the outer valve, and means to open the inner valve to permit the scavenging air to enter the cylinder and then to open the outer valve while the inner valve is still open to permit the scavenging air to be displaced from the cylinder by the piston.

5. In an internal combustion engine, means to regulate the explosive mixture and control the introduction thereof comprising a diaphragm-actuated valve, a chamber containing oil receiving means and communicating with the diaphragm chamber, an auxiliary cylinder in which air is adapted to be alternately rarefied and compressed communicating with said chamber containing the oil receiving means, a valve controlling the outlet from said last named chamber to the power cylinder, and another valve operated simultaneously with the second named valve to permit the compressed air in the auxiliary cylinder to be communicated to the last named chamber for the purpose of atomizing the oil and blowing the mixture into the power cylinder when the second named valve is opened.

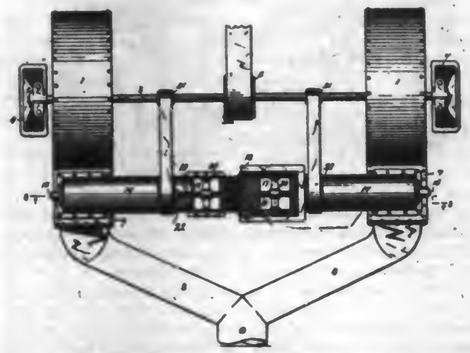
[Claims 6 to 17 not printed in the Gazette.]

977,848. PROCESS OF BLEACHING UNION COTTON AND WOOL GOODS. JAMES S. ARMSTRONG, Lisbon, Me., assignor to Farnsworth Company, Lisbon, Me., a Corporation. Filed June 23, 1910. Serial No. 568,512.

1. The herein described process of bleaching union cotton and wool goods which consists in saturating them, while charged with the natural grease of the wool and with foreign vegetable matter, with a neutral soap, then transferring them to the washer and while in the wash adding water and agitating them to raise a lather and while in the wash and in the lather subjecting them to the action of a compound formed of chlorid of lime, an alkali, sulfuric acid and water until chemical action ceases, then thoroughly washing and rinsing the goods and then subjecting them to the action of fumes of sulfur.

2. The herein described process of bleaching union cotton and wool goods which consists in saturating them, while charged with the natural grease of the wool and with foreign vegetable matter, with a neutral soap, then transferring them to the washer adding water to raise a lather and then subjecting them to a compound formed by the union of chlorid of lime and alkali, sulfuric acid and water in about the proportion of fifteen pounds of chlorid of lime, five pounds of alkali, two pounds fourteen and one half ounces of sulfuric acid and fifty gallons of water, until chemical action ceases, then subjecting them to the fumes of sulfur.

977,849. PNEUMATIC ELEVATOR. GEORGE BERNERT and JACOB BERNERT, South Germantown, Wis. Filed May 13, 1910. Serial No. 561,201.



1. A pneumatic elevator comprising a pair of fan casings having apertured air discharge trunks extending therefrom, a drive shaft extending through both fan casings, fans mounted upon the drive shaft within the casings, valve boxes secured to the discharge trunks about their apertures, spring-controlled flap valves mounted within the boxes, a grain hopper located between the valve casings, troughs connecting the grain hopper and each valve box, a shaft extending through the troughs, right and left spiral conveyers mounted in the opposite troughs respectively, driving means connecting the conveyer shaft and fan driving shaft, a grain delivery pipe, and branch pipes connecting the grain delivery pipe and fan casing trunks.

2. A pneumatic elevator comprising a pair of fan casings having apertured air discharge trunks extending therefrom, a drive shaft extending through both fan casings, fans mounted upon the drive shaft within the casings, valve boxes secured to the discharge trunks about their apertures, valves mounted within the boxes, a grain hopper located between the valve casings, troughs connecting the grain hopper and each valve box, a shaft extending through the troughs, right and left spiral conveyers mounted in the opposite troughs respectively, driving means connecting the conveyer shaft and fan driving shaft, a grain delivery pipe, and branch pipes connecting the grain delivery pipe and fan casing trunks.

977,850. LOCKING DEVICE. JOSEPH W. BLOWER, Columbus, Ohio. Filed Sept. 3, 1910. Serial No. 580,457.

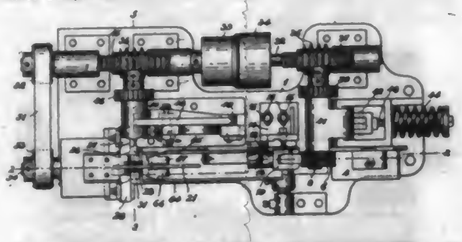
In a locking device, the combination with a bar comprising an enlarged head portion and a central web, said head portion having a vertical opening therethrough communicating at its lower end with a transverse opening in

said web, of a pin comprising an enlarged head portion and a split shank portion, and means for spreading the members of the shank into locking position at each side of the web, said means comprising a wedge fitted within



the split or bifurcated portion of the shank and adapted to have its broadened end bear against the lower wall of the transverse opening in the web when the pin is driven into locking position.

977,851. WELT-SLITTING MACHINE. JAMES BUSFIELD, Haverhill, Mass. Filed Oct. 22, 1909. Serial No. 524,088.



1. The combination of splitting instrumentalities arranged to sever a strip from a sheet of material and divide the same into two welt strips, and slitting knives for forming incisions in the edges of such strips.

2. The combination of splitting instrumentalities arranged to cut a strip from a sheet of material and divide the same into two welt strips having beveled edges, guiding means for reversing the relative positions of the strips thus split so that their beveled edges will be outward, and means for making incisions in the beveled edges of the strips.

3. The combination with welt splitting means constructed and arranged to form a plurality of welt strips having their adjacent edges beveled, of guiding means arranged to cause said strips to cross each other, whereby their beveled edges are outward, and slitting knives mounted and operated to cut the beveled edges of said strips slantwise of the strips.

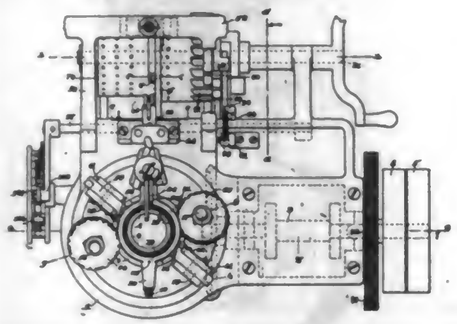
4. A welt-slitting machine comprising a slitting knife movable reciprocatively, and means for feeding a welt strip having a beveled edge past the cutting edge of said knife, said feeding means being arranged to hold the strip with its beveled edge toward the knife and its width in the line of travel of the knife.

5. A machine for slitting or slashing the edge of a welt strip comprising a knife, means for reciprocating said knife in a direction transverse to its cutting edge, and means for feeding the welt strip past said knife in a direction transverse to the line of reciprocations thereof, said feeding means being arranged to guide the welt with its beveled edge toward the knife, whereby such edge is cut or slashed.

[Claims 6 to 27 not printed in the Gazette.]

977,852. PATTERN DEVICE FOR KNITTING-MACHINES. EDGAR C. CHANDLER, Philadelphia, Pa. Original application filed Aug. 18, 1908, Serial No. 449,181. Divided and this application filed Sept. 14, 1909. Serial No. 517,562.

1. In a knitting machine, the combination of the needles, their support, the cam cylinder, rotating means for the cam cylinder, means carried by the cam cylinder to actuate the needles to produce stitches, two independently rotatable members, means for rotating said members independently of each other during successive rotations of the cam cylinder, a thread-feeding part carried by the cam cylinder, a needle operating part, and means controlled by each of said members for moving said needle operating part into and out of operative position.



2. In a knitting machine, the combination of the needles, their support, the cam cylinder, rotating means for the cam cylinder, means carried by the cam cylinder to actuate the needles to produce stitches, a pattern-controlling, needle-operating cam, two independently rotatable drums, means for rotating said drums independently of each other during successive rotations of the cam cylinder, adjustable patterning parts carried by each of said drums, and means controlled by the patterning part of each of said drums for operating the needle-operating cam.

3. In a knitting machine, the combination of the needles, their support, the cam cylinder, rotating means for the cam cylinder, means carried by the cam cylinder to actuate the needles to produce stitches, a thread feeding part carried by the cam cylinder, a needle operating part, two independently rotatable members, means controlled by each of said members for moving said needle operating part into and out of operative position, and means for rotating said members independently of each other, the last named means including a ratchet wheel connected to one of said members and a pawl coacting with said ratchet wheel.

4. In a knitting machine, the combination of the needles, their support, the cam cylinder, rotating means for the cam cylinder, means carried by the cam cylinder to actuate the needles to produce stitches, a thread feeding part carried by the cam cylinder, a needle operating part, two independently rotatable members, means controlled by each of said members for moving said needle operating part into and out of operative position, and means for rotating said members independently of each other, the last named means including a ratchet wheel connected to one of said members, a ratchet wheel connected to the other of said members, a pawl coacting with one of said ratchet wheels, a pawl coacting with the other of said ratchet wheels, and a part actuating both pawls.

5. In a knitting machine, the combination of the needles, their support, the cam cylinder, rotating means for the cam cylinder, means carried by the cam cylinder to actuate the needles to produce stitches, a thread feeding part carried by the cam cylinder, a needle operating part, two independently rotatable members, means controlled by each of said members for moving said needle operating part into and out of operative position, and means for rotating said members independently of each other, the last named means including a ratchet wheel connected to one of said members, a pawl coacting with said ratchet wheel, an operating part for said pawl, and a part moving said pawl out of engagement with the ratchet wheel at predetermined intervals.

[Claim 6 not printed in the Gazette.]

977,853. LADDER. ISAAC C. CLEVENGER, Buchanan, Mich. Filed Apr. 9, 1910. Serial No. 554,318.



1. In a ladder, a brace pivoted thereto, catches pivoted to the side members of the ladder, and means mounted upon the brace for engaging said catches or the top step of the ladder, as specified.

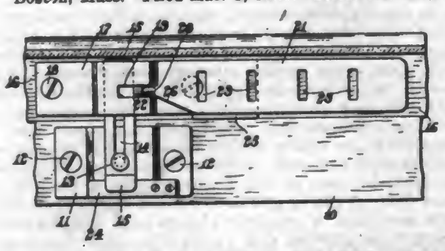
2. In a ladder, a brace pivoted thereto a short distance below the upper ends thereof, catches pivoted to the side members of the ladder, and hooks pivoted to the side members of the brace adapted to engage said catch or the edge of the uppermost step.

3. In a ladder, catches pivoted to said ladder, said catches composed of a body and an integral extension having a hole therein, and hooks pivoted to the brace adapted to register with the holes in the extensions, or engage the edge of the uppermost step of the ladder.

4. In a ladder, two side members, steps secured thereto, clips fastened to said side members a short distance below their upper ends, catches provided with integral extensions having openings therein, said catches being pivoted to the side members, a brace composed of side members having rungs mounted there between, the upper ends of said side members being pivoted in the clips, and hooks pivoted to said side members adapted to register with the holes in the extensions or engage the edge of the uppermost step.

5. In a ladder, two side members, steps secured thereto, clips fastened to said side members a short distance below their upper ends, catches provided with integral extensions having openings therein, said catches being pivoted to the side members, a brace composed of side members having rungs mounted there between, the upper ends of said side members being pivoted in the clips, hooks pivoted to said side members adapted to register with the holes in the extensions or engage the edge of the uppermost step, and a platform pivoted to the side members of the brace, as shown and described.

977,854. WINDOW-FASTENER. HARRY M. CRAWFORD, Boston, Mass., assignor to Warren Stetson, trustee, Boston, Mass. Filed Mar. 5, 1910. Serial No. 547,546.



1. In a device of the class described, the combination with a socket secured to one sash; of a pivot secured to the other sash, a bolt slidably mounted on said pivot and adapted to be moved into a position at right angles to its locking position; and a yielding abutment adapted to engage the end of said bolt when positioned within said socket and the side of said bolt when withdrawn from said socket and thereby prevent its accidental displacement.

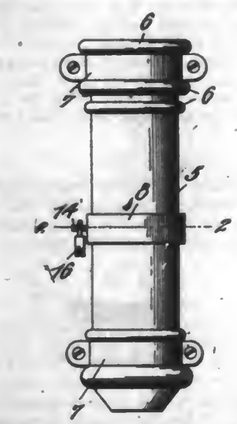
2. In a device of the class described, the combination of a support secured to one window sash and provided with a flanged member; a locking bolt provided with a slot through which said flanged member extends; a socket secured to the other sash and adapted to receive the end of said locking bolt; and yielding means for retaining said bolt in locking position and adapted to co-act with the side of said bolt when withdrawn from said socket thereby preventing its accidental displacement.

3. In a device of the class described, the combination of a socket secured to one sash; of a support secured to the other sash and provided with a vertical projection; a bolt thereon having both a pivotal and slidable movement about said projection; and means for positively retaining said bolt in both its locking or inoperative position and preventing its accidental displacement.

4. In a device of the class described, the combination of a socket secured to one sash; of a support secured to the other sash; a vertical projection thereon, a bolt thereon having both a pivotal and slidable movement about said projection; and a flat spring extending transversely of said support, one side of which is adapted to engage the end of said bolt when inserted in said socket and prevent its accidental displacement.

5. In a device of the class described, the combination with a socket secured to one sash; of a support secured to the other sash and provided with a transverse depression in its upper face; a bolt secured to the upper face of said support and slidable thereon transversely of said depression and adapted to be turned into a position at right angles to its locking position; and a flat spring secured in said depression and normally extending above the upper face of said support in position to engage the end of said bolt and prevent its withdrawal from said socket when in locking position and to engage with the side face of said bolt when withdrawn from said socket and turned into a position parallel to said flat spring.

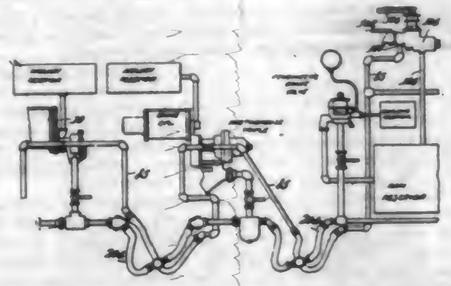
977,855. WHIP-LOCK. LEWIS DIETRICH, Imlay City, Mich. Filed Aug. 20, 1910. Serial No. 578,192.



The combination with a whip socket having circumferential slots therein at diametrically opposite points, a resilient band secured to the socket intermediate of its ends, a whip engaging member secured to the resilient band on opposite sides of its center and extending through the slots in the socket, said members each comprising a body portion having circularly extended fingers,

said fingers and the body portion providing concaved gripping faces to engage upon the periphery of a whip, one end of said band being bent at right angles to the body portion thereof, the other end of the band having a slot therein to receive the twisted end, and a padlock having its shackle disposed through the latter end of the band to secure the same together and retain the gripping members in engagement upon the whip.

977,856. AIR-BRAKE SYSTEM. JOHN DILLANDER, Temple, Tex. Filed Sept. 23, 1908. Serial No. 454,312.



1. In combination with automatic air brakes, a straight air train pipe connected with the exhaust ports of the triple valves of the automatic air brake system, an adjustable pressure determining valve for charging the straight air train pipe, and a manually operable valve at all times accessible to the engineer for opening the said train pipe to the atmosphere at will.

2. The combination with an automatic air brake system, of a straight air train pipe connected to the exhaust ports of the triple valves of the automatic air brake system, and a regulating valve and an exhaust valve for the straight air pipe both at all times accessible to and manually operable by the engineer.

3. The combination with an automatic air brake system, of a straight air train pipe connected to the exhaust ports of the triple valves of the automatic air brake system, a free valve between the exhaust port of each triple valve and the straight air train pipe movable by exhaust pressure from the triple valve to open the exhaust port of said triple valve to the atmosphere and by pressure in the straight air pipe to close the atmospheric connection and in the last named position opening the straight air train pipe to the brake cylinder through the exhaust port of the triple valve, a pressure determining valve for the straight air train pipe at all times under the control of the engineer, and an exhaust valve for the straight air train pipe also at all times under the control of the engineer.

977,857. CARPET AND RUG FASTENER. SAMUEL B. DONCHIAN, Hartford, Conn.; Armenouhi A. Donchian administratrix of said Samuel B. Donchian, deceased. Filed Aug. 4, 1910. Serial No. 575,553.



1. A fastener including a lower member having means to secure it to a surface and a socket for a stud, said lower member also having a narrow bearing for an upper member, said bearing being located near the edge of the upper member a friction member located within said lower member, and an upper member having a stud to be engaged by said friction member, the edge of said upper member being located at a distance from the plane of the under bearing surface of the lower member.

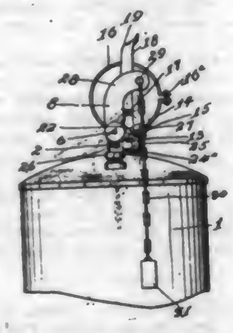
2. A fastener including a lower member having means for securing it to a surface and including upper and lower plates secured together by means of an overturned edge one of said plates providing a narrow bearing, a friction member located in a recess between the plates, an upper member resting wholly upon said ridge and having a stud to be grasped by said friction member, the outer edge of said upper member resting at a distance from the plane of the lower bearing surface of the lower member.

3. A fastener including a lower member having means for securing it to a surface and a recess for a friction member, said lower member also having a narrow bearing for an upper member, said bearing being located at a distance from the center of said member the upper member having a stud to be grasped by said friction member, said upper member having its upper surface parallel with the lower bearing surface of the lower member and an outer projecting edge located at a distance from the plane of said bearing surface.

4. A fastener including a lower member having a recess in its under surface with an opening extending into said recess, said under member also having a narrow bearing for an upper member, a friction member held by said lower member, an upper member having a stud to be grasped by said friction member, said upper member resting wholly upon the narrow bearing of the lower member with its projecting edge located at a distance from the plane of the bearing surface of the lower member, the end of said stud resting in said recess above the surface of the floor when the parts are in engagement.

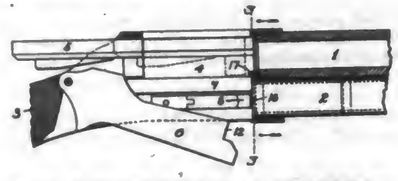
5. A fastener including two members one having means for securing it to a surface and one of said members having a socket for a friction member to receive a stud from the other member, the outer edge of one of said members projecting but slightly beyond the periphery of the other member and said edge being located at some distance from the plane of the bearing surface of the other member, and the stud projecting into said friction member.

977,858. AUTOMATIC CUT-OFF. JOHN CURTIS DUPEE, Chicago, Ill., assignor of one-half to The Padden Gas and Electric Company, New Hampton, Iowa. Filed Aug. 31, 1909. Serial No. 515,435.



In a device of the character described, the combination of an angular valve casing having one portion thereof provided with rigid outstanding ears and with a threaded nipple for attachment to a gas tank or the like, a valve within the other portion of said casing having an exteriorly projecting stem, a curved arm upstanding from said stem and provided with a lower side projection, a weighted chain attached to the upper end of said arm, a supporting arm rigidly secured to said casing ears to extend parallel with said valved casing portion, and having an upturned end, an alarm clock having a hammer, a band clasp carried by said upturned arm-end to removably hold said clock, a trip-lever pivoted upon said upturned arm-end and provided with a wing at its upper end to engage the alarm hammer, and having a notched lower end, and a lever pivoted upon said supporting arm adjacent its opposite end, having one end engaged by said notched lower end of said trip lever, and having a weighted opposite end to receive thereon the side projection of said valve arm to prevent the same from swinging.

977,859. MAGAZINE-FIREARM. SAMUEL D. W. FIX, Amity township, Berks county, Pa. Filed Apr. 19, 1909. Serial No. 490,708.



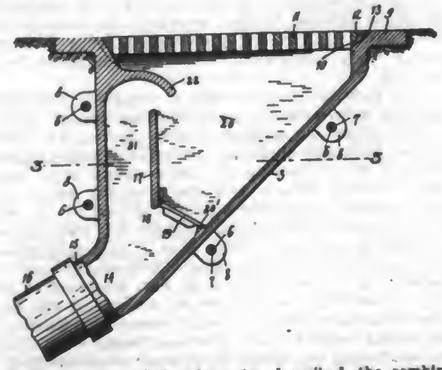
1. In a magazine fire-arm having the magazine arranged beneath and parallel with the barrel, a breech-piece and cooperating carrier in the receiver to the rear thereof, and a carrier-operated escapement for said magazine, of a U-shaped lever, one prong of which extends into the magazine forward of said escapement, and the other prong lying in the path of the breech-piece.

2. In a magazine fire-arm having the magazine arranged beneath and parallel with the barrel, a breech-piece and cooperating carrier in the receiver to the rear thereof, and a carrier-operated escapement for said magazine, of a U-shaped lever, one prong of which extends into the magazine forward of said escapement, and the other prong lying in the path of the breech-piece at the end of the forward movement thereof.

3. In a magazine fire-arm having the magazine arranged beneath and parallel with the barrel, a breech-piece and cooperating carrier in the receiver to the rear thereof, and a carrier-operated escapement for said magazine, of a second escapement pivoted on the outside of the receiver and having projections extending into the receiver, one of which enters forward of said carrier-operated escapement, and the other into the path of the breech-piece.

4. In a magazine fire-arm having the magazine arranged beneath and parallel with the barrel, a breech-piece and cooperating carrier in the receiver to the rear thereof, and a carrier-operated escapement for said magazine, of a second escapement pivoted on the outside of the receiver and having projections extending into the receiver, one of which enters forward of said carrier-operated escapement, and the other into the path of the breech-piece at the end of the forward movement thereof, and a spring to normally press said projections into the receiver.

977,860. AIR-INLET BOX FOR SEWERS. EMIL FRANKLIN, New York, N. Y. Filed Apr. 20, 1910. Serial No. 556,546.



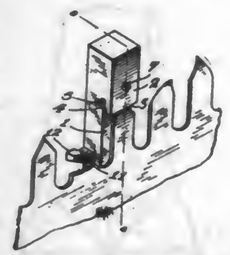
1. In a device of the character described, the combination with a casing open at its upper end and having an outlet in its bottom portion which is adapted to be connected with the sewerage system of a building, a removable grate arranged over the open end of said casing, a partition in said casing dividing the same into a compartment and into an air passage both of which communicate with the open end of said casing and with the outlet thereof, a grate between the lower end of said partition and the bottom of said casing for preventing dirt and foreign matter introduced into said compartment from passing through the outlet of said casing, and a deflector arranged above the mouth of the air passage in said casing.

2. In a device of the character described, the combination with a casing open at its upper end and having an outlet in its bottom portion which is adapted to be connected with the sewerage system of a building, a removable grate arranged above the open end of said casing, a partition in said casing dividing the same into a compartment and into an air passage both of which communicate with the open end of said casing and with the outlet thereof, a grate hinged to the lower end of said partition and resting upon the bottom portion of said casing whereby dirt and foreign matter is prevented from passing through the outlet of said casing, and a deflector arranged above the mouth of the air passage in said casing.

3. In a device of the character described, the combination with a two-part casing open at its upper end and having an outlet in its bottom portion which is adapted to be connected with the sewerage system of a building, a removable grate arranged over the open end of said casing, a partition in said casing dividing the same into a compartment and into an air passage both of which communicate with the open end of said casing and with the outlet thereof, a grate between the lower end of said partition and the bottom of said casing, and a deflector arranged above the mouth of the air passage in said casing.

4. In a device of the character described, the combination with a two-part casing open at its upper end and having an outlet in its bottom portion which is adapted to be connected with the sewerage system of a building, a removable grate arranged above the open end of said casing, a partition in said casing dividing the same into a compartment and into an air passage both of which communicate with the open end of said casing and with the outlet thereof, a grate hinged to the lower end of said partition and resting upon the bottom portion of said casing whereby dirt and foreign matter is prevented from passing through the outlet of said casing, and a deflector arranged above the mouth of the air passage in said casing.

977,861. SAW-SET. JESSE B. GALLAHER, Penrith, Wash. Filed Oct. 8, 1909. Serial No. 521,715.

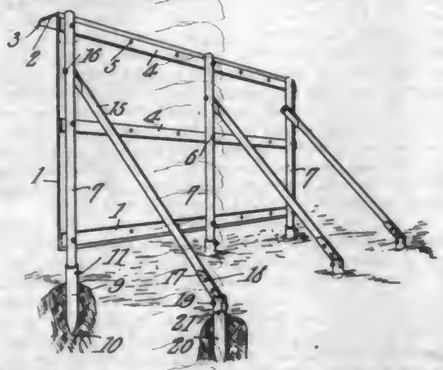


A sawset comprising a body, said body being thickened for a portion of its length, one surface of said body being provided with a longitudinal slot extending into said thickened portion, the outer portion of said slot being parallel to the longitudinal axis of said body, and the inner portion being disposed at an angle to said outer portion and terminating in an enlarged aperture.

977,862. BILL-BOARD. JOHN B. GRANT, Atlanta, Ga. Filed Mar. 31, 1910. Serial No. 552,647.

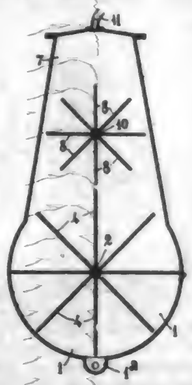
1. A bill board having longitudinally extending bracing members on the rear face thereof, vertically extending

supports connected with said bracing members, said supports extending above the bracing members at their upper ends and below the bracing members at their lower ends, ground devices having sockets to receive the lower ends of said supports and provided with means for locking said supports in different positions of adjustment in said sockets, bracing bars pivotally and detachably connected with said supports adjacent their upper ends, and ground members having slotted upper ends to receive the lower ends of said bracing members, said slotted upper ends being adjustably connected with the lower ends of said bracing members.



2. The combination of a pair of bill boards each having longitudinally extending braces thereon, supports connected with said braces and extending at their upper ends above the same and at their lower ends below the same, ground devices adjustably connected with the lower ends of the supports of each of said bill boards, connecting members connected at their forward ends with the upper ends of the supports of one of said bill boards and at their rear ends with the lower ends of the supports of the other bill board, and braces connected with the upper portion of the upper bill board and having ground members adjustably connected therewith.

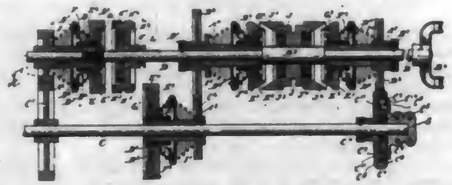
977,863. APPARATUS FOR THE MANUFACTURE OF ARTIFICIAL SILK. GIUSEPPE GUADAGNI, Pavia, Italy. Original application filed July 15, 1908, Serial No. 443,655. Divided and this application filed June 14, 1909. Serial No. 502,065.



1. In an apparatus of the character described, a closed chamber, means for supplying compressed air to the bottom of the chamber, revoluble agitator blades mounted in the latter above the air supply, a rotatable platform mounted in the chamber above said blades for the reception of the moist cellulose, and a pipe at the top of said chamber for the discharge of the ammonia.

2. An apparatus of the character described comprising a closed chamber having a lower cylindrical portion provided with a gutter in its bottom, a perforated pipe mounted in said gutter to supply air under pressure to the cupro-ammonium solution contained in said cylindrical portion, a horizontal rotatable shaft mounted in the latter, agitator blades on the shaft extending into the solution, a revoluble platform for the reception of moist cellulose mounted in the chamber above said blades and partially separating the lower part of the chamber from the upper part, means outside the chamber for revolving the platform, and a pipe at the top of the chamber for the discharge of ammonia from the latter.

977,864. CLUTCH MECHANISM. LOUIS H. HALL, New York, N. Y. Filed Jan. 26, 1910. Serial No. 540,116.



1. In a device of the character set forth, a revolving driving-member and a revoluble driven-member, frictional means mounted on one of said members and movable into frictional contact with the other, positive engaging means carried by said members and arranged to be engaged by a continuation of such movement of said frictional means, means for maintaining the force of said frictional contact until said positive engagement is effected and means actuated by such movement for releasing said frictional engagement after said positive engagement is established.

2. In a device of the character set forth, a revolving driving-member and revoluble driven-member, frictional means mounted on one of said members and movable into frictional contact with the other, compressible yielding means opposing such movement, positive engaging means carried by said members and arranged to be engaged by a continuation of such movement of said frictional means, said opposing yielding means constructed to maintain the force of said frictional contact until said positive engagement is effected and means actuated by such movement for discontinuing such frictional engagement by releasing said yielding means after said positive engagement is established.

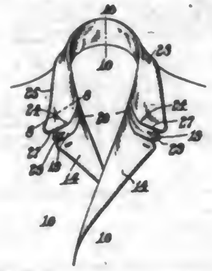
3. In a device of the character set forth, a driving-shaft and a driven-shaft, a friction-wheel carried by each of said shafts, means for moving one of said wheels axially into contact with the other to induce rotation of said driven-shaft, toothed means carried by each of said shafts and constructed to engage initially by the movement of said friction-wheels, a spring opposing such movement, and means actuated by such movement for releasing said spring from tension and discontinuing such frictional contact when engagement of said toothed means is established.

4. In a device of the character set forth, a driving-shaft and a driven-shaft, a friction-wheel carried by each of said shafts and movable axially thereon, an axially movable abutment carried on one of said shafts, a latch in said abutment holding the latter against axial movement, a spring between said abutment and one of said friction-wheels, latch-releasing means carried by such wheel, means for moving said wheels into frictional engagement in opposition to the force of said spring, positive engaging means carried by said shafts and arranged to be initially engaged by such movement of said wheels, said latch-releasing means constructed automatically to actuate said latch and release the tension of said spring, whereby said frictional engagement is discontinued when such positive engagement is established.

5. A driving-shaft, a friction-wheel movable axially thereon, a spring opposing such movement, an abutment for said spring, a latch holding said abutment, latch-releasing means carried by said wheel and actuated by the movement of the latter in compressing said spring, a driven-shaft, a friction-wheel movable axially thereon and adapted to be moved into frictional contact with the friction-wheel on said driving-shaft in opposition to the force of said spring.

[Claims 6 to 10 not printed in the Gazette.]

977,865. COAT-COLLAR. NATHAN HARRIS, Jamaica Plain, Mass., assignor of one-third to Karl M. Goldsmith, New York, N. Y., and one-third to Louis Harris, Boston, Mass. Filed Oct. 25, 1909. Serial No. 524,758.

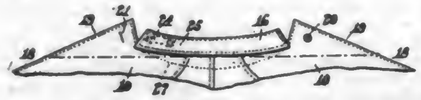


1. In a device of the class described, the combination with the body portion of a coat or similar garment; of a collar the ends of which are a short distance from the ends of the lapels; and curved members interposed between said collar and the body portion of the coat adapted to serve as a stand for said collar when it is folded over upon the upper edge of said curved portion to give a military effect thereto.

2. In a device of the class described, the combination with the body portion of a coat or similar garment; of a collar the ends of which are a short distance from the ends of the lapels; and curved members interposed between said collar and the body portion of the coat adapted to serve as a stand for said collar when it is folded over upon the upper edge of said curved portion to give a military effect thereto, said curved portion terminating in a tab interposed between the ends of said collar and said lapels but separated therefrom for a short distance at each edge.

3. In a device of the class described, the combination with the body portion of a coat or similar garment; of a collar the ends of which are a short distance from the ends of the lapels; and curved members interposed between said collar and the body portion of the coat adapted to serve as a stand for the collar when it is folded over to give a military effect, one of said members being provided with a securing device and both of said members terminating in tabs interposed between the ends of said collar and said lapels, one of which tabs is provided with a member adapted to co-act with said securing device to retain said curved members upright.

977,866. COAT-COLLAR. NATHAN HARRIS, Jamaica Plain, Mass., assignor of one-third to Karl M. Goldsmith, New York, N. Y., and one-third to Louis Harris, Boston, Mass. Filed Nov. 16, 1909. Serial No. 528,612.

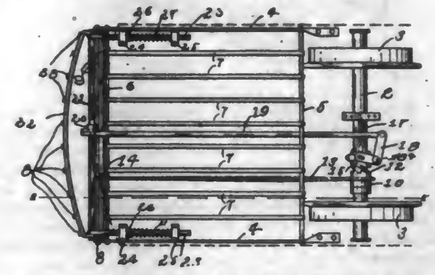


1. In a device of the class described, the combination of a coat, the outer portion of which extends considerably above the line of fold for the collar; an inner collar portion extending above and below said line of fold and secured to the outer portion; and a military collar of less width than said inner collar portion secured thereto at their upper edges and secured near its lower edge to said outer portion, with its lower edge when in use above said line of fold.

2. In a device of the class described, the combination of a coat having a turn-over collar; and a military collar secured to the normally unexposed face thereof with its lowest edge when in use above the line of fold of said turn-over collar.

3. In a device of the class described, a multiple collar composed of two pieces of material secured together at their upper edges the inner piece of which extends considerably below the lower edge of the outer piece and is secured to the inner facing of the garment while the outer piece extends over the outer face of the neck of the body portion of the garment and is secured thereto at or near its lower edge whereby the inner piece of said collar may be turned over on a line of fold immediately beneath the lower edge of said outer collar portion.

977,867. CAR-FENDER. BYRON W. HASKELL and SAMUEL B. MCCREA, Oakland, Cal. Filed June 20, 1910. Serial No. 567,994.



1. A car fender comprising a body carried by a car platform a rotatable pick-up carried by said body, mechanism carried by a car axle for operating said pick-up, a trip frame provided with arms that are slidably connected to said platform, means carried by said arms for projecting said frame forward, and means connected to said frame for operating said mechanism.

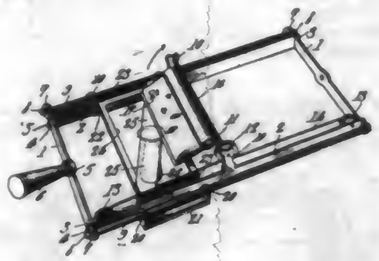
2. In a device of the character described the combination with a car platform, the axle thereof, and a fender carried by said platform, of a roller carried by the fender, a sprocket loose on the axle, a chain connection between said sprocket and roller, a clutch on said axle for locking the sprocket thereto, a trip frame slidably connected to said platform, a shaft carried thereby, a crank on said shaft, a connecting rod pivotally connected to said crank, a shifting lever pivotally connected to said platform and engaging the clutch, and a bell-crank lever carried by said shifting lever and pivotally connected to said connecting rod.

3. A car fender comprising a body carried by a car platform, a rotatable pick-up carried by said body, a mechanism carried by a car axle for operating said pick-up, a shifting lever attached at one end to said mechanism, a bar yieldingly suspended from a car platform, a link connecting said bar to said shifting lever and a trip frame connected to said bar and adapted to be pushed rearwardly to cause said shifting lever to operate said mechanism.

4. A car fender comprising a body carried by a car platform, a rotatable pick-up carried by said body, a toothed clutch loosely mounted upon a car axle, a sprocket chain connecting said clutch and said pick-up, a second toothed clutch slidably mounted upon a car axle, a fork pivotally suspended from a car platform and engaging said second-mentioned clutch, a bell-crank lever suspended from a car platform and attached to the upper end of said fork, an operating rod attached to one end of said bell-crank, and a trip frame connected with the other end of said rod and adapted to cause said rod to be thrust rearwardly to bring said second-mentioned clutch in connection with said first-mentioned clutch.

5. A car fender comprising a body carried by the car platform, a rotatable pick-up carried by said body, mechanism carried by the car axle for operating said pick-up, a shifting lever connected to one end of said mechanism, a bar at the front end of the car, a link connecting said shifting lever to said bar, rods mounted upon the ends of said bar, brackets suspending each of said rods from the car platform, a spring mounted upon each of said rods between said brackets and a trip frame attached to said bar.

977,868. RAZOR-STROPPER. ARTHUR C. HAYDEN, Brockton, Mass. Filed Sept. 26, 1910. Serial No. 583,826.



1. In a razor stropper, the combination with a frame having bearings rising from it, and idle pulleys journaled within it near its ends; of a shaft journaled in said bearings and carrying a blade holder, a carriage sliding within the frame and supporting a strop, a cable attached to the carriage and extending thence in either direction around the idle pulleys and with its center coiled around said shaft, and means for reciprocating the carriage relatively to the frame.

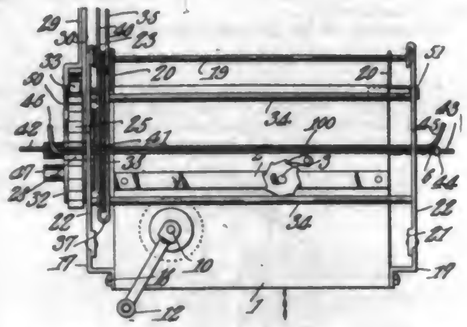
2. In a razor stropper, the combination with a frame comprising side bars and end bars and tracks carried by the end bars parallel with and spaced from the side bars, bearings rising from the mid-length of the side bars, and idle pulleys mounted inside one side bar near its ends; of a shaft journaled in said bearings and carrying a blade holder, a pulley fast on the shaft in line with the idle pulleys, a carriage having eyes at its extremities sliding on said tracks and a body between them supporting a strop, and a cable coiled around and adapted to slip upon said pulley on the blade holder shaft and extending thence over said idle pulleys and connected with the carriage.

3. In a razor stropper, the combination with a rectangular frame comprising end bars having eyes at their extremities and notches just inside the eyes, side bars having ears at their extremities engaging said notches, and tracks consisting of round rods standing parallel with the side bars and extending through the eyes of the end bars, and nuts on their ends, said end bars having eyes at their mid-length; of a handle adapted to engage either of the last-mentioned eyes, a carriage slidably mounted on said tracks and carrying a strop between said side bars, a handle on the carriage, and means for holding the blade against the strop with yielding pressure.

4. In a razor stropper, the combination with a frame comprising side bars and end bars, bearings rising from the side bars, and idle pulleys mounted inside one side bar near its ends; of a shaft journaled in said bearings and carrying a blade holder, a pulley fast on the shaft in line with the idle pulleys, a carriage sliding within the frame and supporting a strop, a cable coiled around and adapted to slip upon said pulley on the blade holder shaft and extending thence over said idle pulleys, and hooks connecting its ends with the carriage.

977,869. WIRE STRETCHER AND SPLICER. GEORGE D. HAYES, Davenport, Iowa. Filed Nov. 5, 1909. Serial No. 526,447.

1. A device of the class described comprising a case; means carried by the case for stretching a pair of wires and overlapping their ends; wire-splicing mechanism arranged to be supported successively on opposite ends of the case to wrap the end of each of said wires about the other wire; and clamping means supported by the case to engage the wires.



2. A device of the class described comprising a case; tiltable members assembled with opposite ends of the case; and wire-splicing mechanism arranged to be mounted successively in the members.

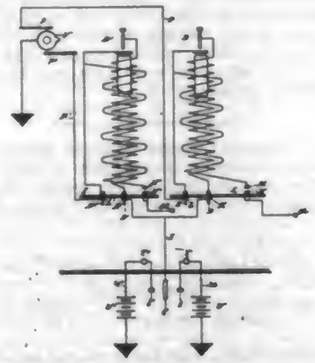
3. A device of the class described comprising a case; tiltable members assembled with opposite ends of the case; wire-splicing mechanism arranged to be mounted successively in the members; and a locking device for maintaining the members in fixed relation with respect to the case.

4. A device of the class described comprising a case; tiltable members assembled with opposite ends of the case; wire-splicing mechanism arranged to be mounted successively in the members; a rod connecting the members; and a wire-engaging clamp slidably mounted upon the rod.

5. A device of the class described comprising a case; means carried by the case for stretching a pair of wires and overlapping their ends; tiltable members assembled with opposite ends of the case; a wire-splicing mechanism arranged to be mounted successively in the members to wrap the end of each of said wires about the other wire; a rod connecting the members; and a wire-engaging clamp slidably mounted upon the rod.

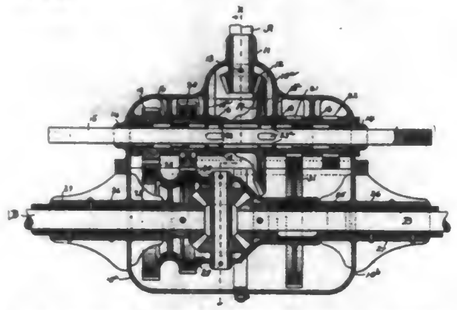
[Claims 6 to 17 not printed in the Gazette.]

977,870. INDUCTION-COIL. JOHN OTTO HEINZE, Jr., Lowell, Mass. Filed May 22, 1909. Serial No. 497,744.



In a box containing two induction coils, removably mounted therein, and each having a secondary coil; two secondary terminals to form an open circuit spark gap connected into each of said secondary circuits, one terminal being located upon its respective coil, and the other being located upon the box, each pair of said terminals forming a spark gap of suitable length when the induction coils are in normal position in the box.

977,871. TRANSMISSION MECHANISM. REINHOLD HERMAN, Crafton, Pa. Filed Jan. 28, 1909. Serial No. 474,828.



1. In power transmission mechanism, a housing, a driven shaft within said housing, a plurality of connected gears journaled in said housing, a differential mechanism intermediate said shaft and connected gears, loose gears in permanent mesh with said connected gears, a drive shaft extending into said housing, a drive gear in permanent drive connection with said drive shaft and axially alined with said loose gears, and means non-supported by the drive and loose gears and located in permanent drive engagement with said drive gear and movable axially of said loose gears for connecting the drive gear with either loose gear at will.

2. In power transmission mechanism, a housing, a driven shaft within said housing, a plurality of connected gears journaled in said housing, a differential mechanism intermediate said shaft and connected gears, loose gears in permanent mesh with said connected gears, a drive shaft extending into said housing, a drive gear in permanent drive connection with said drive shaft and axially alined with said loose gears, and means non-supported by the drive and loose gears and located in permanent drive engagement with said drive gear and movable axially of said loose gears for connecting the drive gear with either loose gear at will, said means extending in parallelism with the driven shaft.

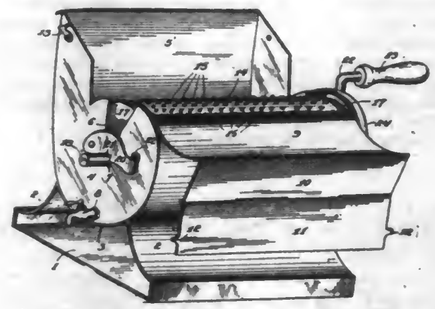
3. In power transmission mechanism, a housing, a driven shaft within said housing, a plurality of connected gears journaled in said housing, a differential mechanism intermediate said shaft and connected gears, loose gears in permanent mesh with said connected gears, a drive shaft extending into said housing, a drive gear in permanent drive connection with said drive shaft and axially alined with said loose gears, and means non-supported by the drive and loose gears and located in permanent drive engagement with said drive gear and movable axially of said loose gears for connecting the drive gear with either loose gear at will, said means being independent of either shaft and extending in parallelism with the driven shaft.

4. In power transmission mechanism, a housing, a driven shaft within said housing, a plurality of connected gears journaled in said housing, a differential mechanism intermediate said shaft and connected gears, loose gears in permament mesh with said connected gears, a drive shaft extending into said housing, a drive gear in permanent drive connection with said drive shaft and axially alined with said loose gears, and means supported wholly by the housing in permanent engagement with said drive gear and movable axially of said loose gears for connecting the drive gear with either loose gear at will.

5. In power transmission mechanism, a housing, a driven shaft within said housing, a plurality of connected gears journaled in said housing, a differential mechanism intermediate said shaft and connected gears, loose gears in permanent mesh with said connected gears, a drive shaft extending into said housing, a drive gear in permanent drive connection with said drive shaft and axially alined with said loose gears, and a floating member supported wholly by the housing and extending axially of said alined gears, said member being in permanent engagement with said drive gear and movable longitudinally to connect said drive gear with either loose gear at will.

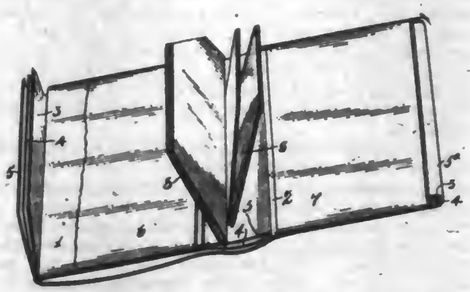
[Claims 6 to 15 not printed in the Gazette.]

977,872. GRATER. AUGUSTA DU BUISSON HOPKINS, Covington, La. Filed Oct. 26, 1909. Serial No. 524,674.



A grater comprising a casing, the rear wall of said casing extending up to form the rear wall of a hopper, a cover hinged to said casing, said cover being bent upwardly at an angle to form the front wall of said hopper, a cover for said hopper hinged to said casing cover, and grating means within said casing.

977,873. BOOKBINDER. CHARLES HERBERT HOYT, New York, N. Y. Filed Nov. 8, 1909. Serial No. 526,145.



1. An extensible bookbinder comprising in combination, a flexible supporting back member having comparatively stiff side covers disposed adjacent thereto one at each side of its central portion, means for separating and adjusting said side covers apart to widen the intermediate portion of said flexible member, and pressure devices detachably carried by said flexible member for removably securing leaves thereto.

2. An extensible bookbinder comprising in combination, a flexible supporting back member having comparatively stiff side covers disposed adjacent thereto one at each side of its central portion, means for separating and adjusting said side covers apart to widen the intermediate portion of said flexible member, and means engaging the outer end of one of said side covers for locking the same in different positions of adjustment.

3. An extensible bookbinder comprising in combination, a flexible supporting back member having comparatively stiff side covers disposed adjacent thereto one at each

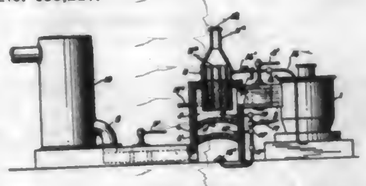
side of its central portion, means for separating and adjusting said side covers apart to widen the intermediate portion of said flexible member, and open-ended clips carried by said flexible member adapted to engage leaves with a yielding pressure for removably securing the same thereto.

4. An extensible bookbinder comprising in combination, a flexible supporting back member, a flexible back cover member, comparatively stiff side covers therefor, one of said side covers arranged to slide relatively to said back cover and supporting back members, and pressure devices detachably carried by said supporting back member for securing leaves thereto.

5. An extensible bookbinder comprising in combination, a flexible supporting back member, a flexible back cover member separable from said supporting back member for some distance along the upper and lower edges thereof, comparatively stiff side covers therefor one of said side covers arranged to slide relatively to said back cover and supporting back members, and pressure devices carried at the upper and lower free edges of said supporting back member for securing leaves thereto.

[Claims 6 to 18 not printed in the Gazette.]

977,874. MANUFACTURE OF GAS. WILLIAM B. HUGHES, Cleveland, Ohio. Filed Sept. 16, 1908. Serial No. 453,217.

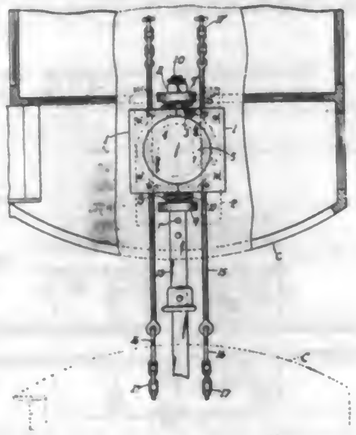


1. The improvements in the manufacture of gas, which comprise a gas producer, independent of said producer a pair of chambers having valved chimneys, a passage for conveying gas from said producer, passages connected with said passage for conveying gas to the respective chambers, a reversing valve for connecting the passage from the producer with the passages to the chambers respectively, passages through which said chambers discharge, a valve for alternately closing one and opening the other of said last named passages, and baffles in the respective chambers between the passages thereto and therefrom.

2. The improvements in the manufacture of gas, which comprise a gas producer, independent of said producer a pair of chambers having valved chimneys, passages for conveying gas from said producer to said chambers, a valve for controlling the flow from said producer to said chambers alternately, passages for conveying gas from said chambers, a valve for closing said last named passages alternately, baffles in the respective chambers between the passages leading thereto and therefrom, and heaters in the respective chambers in the paths of the products of combustion flowing to said chimneys.

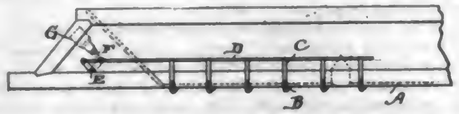
977,875. DRAFT-POCKET. CHARLES A. HUMPHREYS, Chico, Cal. Filed Jan. 22, 1910. Serial No. 539,539.

A draw-bar draft pocket comprising a hollow cylinder, rotatable about its transverse axis and provided with a transverse wall at such axis dividing the cylinder into two pockets, an annular head projecting from the peripheral walls of the cylinder and disposed symmetrically about the axis of rotation of the cylinder, a flanged bearing plate for supporting said head, in combination with a coupler-stem bolt passing axially through the cylinder and playing loosely in the division wall aforesaid, abutments carried by the bolt at points beyond the opposite ends of the cylinder, springs encircling the bolt and confined in the pockets, the ends of the springs bearing respectively against the division wall and their respective abutments, and means for securing a draw-bar to the coupler-stem



bolt at a point in front of the forward abutment, substantially as set forth.

977,876. SYSTEM OF OPERATING DUMP-CARS. FRANK S. INGOLDSBY, St. Louis, Mo., assignor to The Ingoldsby Automatic Car Company, St. Louis, Mo., a Corporation of West Virginia. Filed July 17, 1905, Serial No. 270,019. Renewed Oct. 17, 1910. Serial No. 587,509.



1. The combination of a series of dump cars, each having air dumping mechanism, pipe to supply air thereto, regulating mechanism for retarding the dumping of each car, and an indicator for each regulating mechanism.

2. The combination of a train of dump cars each having door releasing mechanism and an air cylinder for operating the same, of an air pipe extending along the train, pipes connecting the same with the air cylinders, valves in said pipes, and means for indicating the amount of opening of said valves.

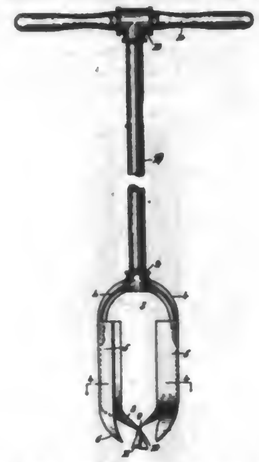
3. In a dump car, the combination of a dumping door, air mechanism to release the same, an air pipe leading to such mechanism, a valve on the car in said pipe operating to choke the passage thereof, and an indicator on said valve.

4. The combination with a plurality of dumping cars, and a fluid pressure actuating motor for each car-body, of means for controlling said motors from a distance, and means causing said motors to automatically move in succession.

977,877. POST-HOLE AUGER. ROBERT THOMAS JENNEY De Pere, Wis. Filed Mar. 18, 1909. Serial No. 484,294.

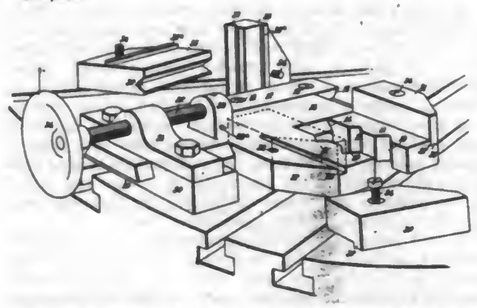
1. A device of the class described presenting oppositely disposed curved shells having downwardly and inwardly extending teeth adapted to cut the earth and having inwardly and downwardly extending integral blades, said blades having cheeks abutting against each other having points bent transversely to said cheeks and projecting diametrically opposite to each other.

2. A device of the class described, presenting a pair of oppositely disposed curved shells having integral downwardly extending teeth projecting inwardly, said shells having inwardly and downwardly extending blades presenting cheeks abutting together, and a fastener at said cheeks connecting said blades directly to each other, said blades having extensions projecting downwardly and



forming bits disposed adjacent to the central axis between said shells.

977,878. VISE FOR DRILL-PRESSES. ARON JOHNSON, New York, N. Y. Filed Jan. 29, 1910. Serial No. 540,845.



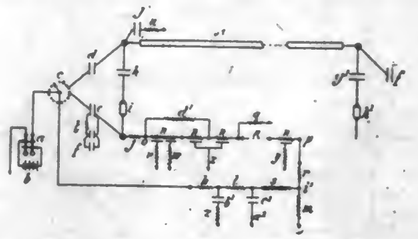
1. A device of the class described, comprising a base having a jaw extending outwardly therefrom at one edge and adjacent one end and having a groove extending longitudinally along said base in the upper surface thereof, a slide mounted within said groove and a jaw carried by said slide and adapted to coöperate with the first-mentioned jaw, the under surface of both of said jaws being in the plane of the under surface of the base.

2. A device of the class described, comprising a base having a jaw at one side thereof with its under surface in the plane of the under surface of the base, and having its upper surface above the plane of the upper surface of the base, a slide mounted upon said base, a detachable plate for holding said slide in engagement with the base, but permitting its longitudinal movement, and a jaw carried by said slide and having a portion thereof in engagement with the side of the base and having its under surface in the plane of the under surface of the first-mentioned jaw.

3. A device of the class described, comprising a base having a jaw extending outwardly from one side edge, a slide movable longitudinally of said base, means for preventing movement other than said longitudinal movement, and a jaw carried by said slide and adapted to coöperate with the first-mentioned jaw, the under surface of both of said jaws being in the plane of the under surface of the base.

4. A device of the class described, comprising a base having a jaw extending outwardly therefrom at one edge and having its under surface in the plane of the under surface of the base, a slide movable lengthwise of said base and having a jaw, the under surface of which is in the plane of the under surface of the base and of the first-mentioned jaw, a transverse member secured to said base and extending across said slide, and a screw bolt movable through said member and having engagement with said second-mentioned jaw for moving the latter and said slide lengthwise of the base.

977,879. ELECTRIC TELEGRAPHY. JUZO KAJIURA, Tokyo, Japan. Filed Apr. 4, 1910. Serial No. 553,415.



1. In systems of electric telegraphy, the combination with an artificial line corresponding to that portion of line cable lying between the home end and a certain convenient intermediate position thereof, of means branching from the center of the balancing rheostat and adapted to imitate the rise and fall of potential in relation to time at the said intermediate position of line cable caused by a sending battery at the home station.

2. In systems of electric telegraphy, the combination with an artificial line corresponding to that portion of line cable lying between the home end and the "intermediate position" thereof, of an arrangement of self-inductances, resistances and capacities branching from the center of the balancing rheostat and adapted to imitate the rise and fall of potential in relation to time at the said "intermediate position" of line cable caused by a sending battery at the home station.

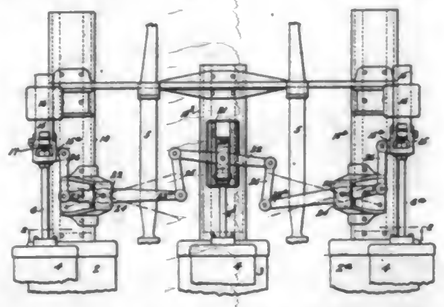
3. In systems of electric telegraphy, the combination with a portion of artificial line connected up at its near end in the usual manner, of another retardation circuit connected at one end to the center of the balancing rheostat and at the other end to the far end of the said portion of artificial line, said other retardation circuit being adapted to imitate the rise and fall of potential in relation to time at a certain convenient intermediate position of line cable caused by a sending battery at the home station.

4. In systems of electric telegraphy, the combination with a portion of artificial line connected up at its near end in the usual manner, of an arrangement of self-inductances, resistances and capacities connected at one end to the center of the balancing rheostat and at the other end to the far end of the said portion of artificial line, said other retardation circuit being adapted to imitate the rise and fall of potential in relation to time at the "intermediate position" of line cable caused by a sending battery at the home station.

977,880. VALVE-OPERATING GEAR. RICHARD W. KAUCHER, Reading, Pa., assignor to Howard D. Taylor, Reading, Pa. Filed June 20, 1910. Serial No. 567,832.

1. In a three cylinder engine comprising two side cylinders and an intermediate cylinder, and reciprocatively mounted valve stems for the several cylinders, independent valve operating mechanisms for said side cylinders, and a valve operating mechanism for said intermediate cylinder comprising a horizontally arranged double-armed floating lever pivotally connected to said intermediate valve stem, and horizontally arranged double-armed transmission levers pivoted respectively to fixed side fulcrums and linked respectively to one arm of said floating lever and to an adjacent side valve stem.

2. In a three cylinder engine comprising two side cylinders and an intermediate cylinder, and reciprocatively mounted valve stems for the several cylinders, independent valve operating mechanisms for said side cylinders, and a valve operating mechanism for said intermediate cylinder comprising a double-armed floating lever pivotally connected to said intermediate valve stem, and double-armed transmission levers pivoted respectively to fixed side fulcrums and linked respectively to one arm of said floating lever and to an adjacent side valve stem, all of said levers being arranged to swing in the same horizontal plane.



3. In a three cylinder engine comprising two side cylinders and an intermediate cylinder, and reciprocatively mounted valve stems for the several cylinders, independent valve operating mechanisms for said side cylinders, and a valve operating mechanism for said intermediate cylinder comprising a double-armed floating lever pivotally connected to said intermediate valve stem, and double-armed transmission levers pivoted respectively to fixed side fulcrums and linked respectively to one arm of said floating lever and to an adjacent side valve stem, all of said valve stems and levers being arranged in the same horizontal plane.

4. A three cylinder engine comprising two side cylinders and an intermediate cylinder each provided with a fixed guide carrier and with a valve stem reciprocatively mounted on said carrier, independent valve operating mechanisms for said side cylinders, a lever fulcrum fixed to each of the side cylinder guide carriers, a double-armed transmission lever horizontally mounted in each of said fulcrums and having one arm thereof linked to the adjacent side valve stem, and a double-armed floating lever pivotally connected to the intermediate valve stem and to the other arms of the respective transmission levers.

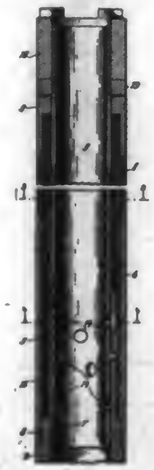
5. A three cylinder engine comprising two side cylinders and an intermediate cylinder each provided with a fixed guide carrier and with a valve stem reciprocatively mounted on said carrier, independent valve operating mechanisms for said side cylinders, and a valve operating mechanism for the intermediate cylinder located above and carried by said fixed guide carriers and operatively connecting the valve stems of the three cylinders.

977,881. PUMP-PLUNGER. OTTO J. KELLER, Los Angeles, Cal. Filed Jan. 14, 1910. Serial No. 538,115.

1. In a pump plunger, in combination, a tube, a fluid-pressure packing encircling said tube, said tube extending beyond said packing, a sleeve connected to the packing and encircling and spaced from the extended portion of the tube, and means permitting the passage of fluid from the tube to the space between the latter and the sleeve and thence to the space between the tube and packing.

2. In a pump plunger, in combination, a tube, a fluid-pressure packing encircling said tube, said tube having a portion thereof extending beyond the packing, said extended portion being perforated, and a sleeve encircling said perforated portion of the tube, said packing and sleeve being spaced from said tube to permit passage of fluid from the perforations in said tube to said packing.

3. In a pump plunger, in combination, a tube, a fluid-pressure packing encircling said tube and connected to it at one end, said tube having a portion thereof extending beyond the packing, said extended portion being formed with perforations, and a sleeve connected to the packing at the other end and encircling the perforated portion of the tube, said packing and sleeve being of sufficient inside diameter to leave a space therebetween and the tube.



4. In a pump plunger, in combination, a tube, a fluid-pressure packing encircling said tube and connected to it at its upper end, said tube having a portion extending below the packing, said extended portion being formed with perforations, a ferrule inclosing the upper end of the packing, a sleeve inclosing the lower end of the packing and also encircling the perforated portion of the tube, said packing and sleeve being spaced from said tube to permit passage of fluid from the perforations in said tube to the space between the latter and the sleeve and thence to the packing, and means for holding the inclosed lower end of the packing tightly against the sleeve.

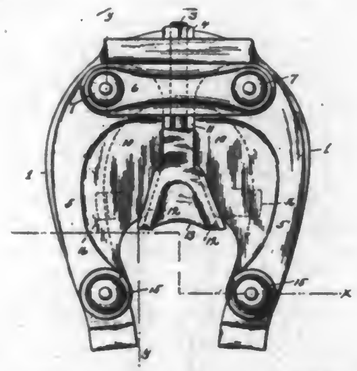
5. In a pump plunger, the combination, a tube, a fluid-pressure packing loosely encircling said tube and connected to it at its upper end, said tube having a portion extending below the packing, said extended portion being formed with perforations, a ferrule inclosing the upper end of the packing, a sleeve inclosing the lower end of the packing and also loosely encircling the perforated portion of the tube, an expanded ring placed within the lower end of the packing to force it against the sleeve, and means for closing the space between the lower ends of the tube and sleeve.

977,882. HORSESHOE AND ANTISLIPPING ATTACHMENT. AARON KENT, Pittsburg, Pa. Filed Mar. 24, 1910. Serial No. 551,288.

1. In a horse shoe having an opening formed through the same, a bolt arranged in said opening, an anti-slipping attachment comprising hinged members having lugs to engage with the side walls of the shoe, and a sliding wedge connected to and operated by said bolt.

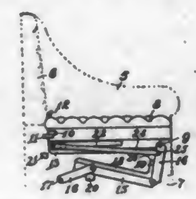
2. In a horse shoe having an opening formed through the toe end of the same, a bolt arranged to operate in said opening, an anti-slipping attachment comprising hinged members having lugs to engage with the inside walls of the shoe, and a sliding wedge connected to and operated by said bolt, whereby said members may be forced apart.

3. In a horse shoe having a longitudinal opening formed through the toe end and in the direction of the length of the same, a bolt arranged to operate in said opening, an anti-slipping attachment comprising hinged members having lugs to engage the inside walls of the shoe, calks arranged in connection with said members, and a sliding wedge connected to and operated by said bolt, whereby said members may be forced apart.



4. In a horse shoe having an opening formed through the front or toe end of the same, a bolt arranged in said opening, an anti-slipping attachment comprising members carrying calks, lugs formed on said members to engage the inside walls of the shoe, a connecting bar having calks, means for hinging said connecting bar to said members, and a sliding wedge engaging said members to force the same apart, said wedge being operated by said bolt.

977,883. DAVENPORT. CHARLES J. KINDEL, Chicago, Ill., assignor to Kindel Bed Company, New York, N. Y. Filed Feb. 2, 1910. Serial No. 541,563.

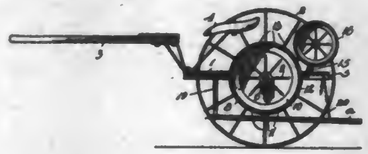


1. In a davenport, the combination with the frame thereof, of the seat hinged at its forward edge to the frame and adapted to turn about said hinge and take position in front of said frame and itself form a part of the bed, an intermediate section hinged to the seat by a rule joint and by the same pintle to the frame of the davenport, and a bed section hinged to the intermediate section and adapted to be elevated bodily, whereby when the seat is unfolded the intermediate and bed sections are brought automatically into horizontal alinement therewith and all three parts together form the bed.

2. In a davenport, the combination with the frame, of the seat pivoted at its forward edge to the frame, an intermediate section pivoted to the seat and to the frame by the same pivots as those by which the seat is pivoted to the frame, means for moving said intermediate section into horizontal alinement with the seat when overturned, a bed section hinged to the intermediate section, and means for guiding the rear edge of the bed section into the horizontal plane of the seat and intermediate section.

3. In a davenport, the combination with the frame, of the seat pivoted at its forward edge to the frame, an intermediate section pivoted to the seat and to the frame by the same pivots as those by which the seat is pivoted to the frame, means for moving said intermediate section into horizontal alinement with the seat when overturned, a bed section hinged to the intermediate section and adapted to be elevated bodily, supports for the rear edge of the bed section when elevated, legs pivoted to the free edge of the seat, and links pivoted to said legs and to the intermediate section whereby the legs are brought automatically into supporting position when the seat is unfolded and are automatically occluded when the seat is folded back on its supports in the davenport frame.

977,884. PLANTER AND SPREADER. THOMAS JOEL KING, Richmond, Va. Filed Oct. 13, 1909. Serial No. 522,878. Renewed Oct. 31, 1910. Serial No. 589,952.



1. In a machine of this character, the combination with a frame U-shaped in plan and having its terminals extending rearwardly to form arms, an axle journaled in said arms intermediate of their ends, and wheels rotatable with the axle, of a drum mounted upon the axle, means to cause the drum to rotate with the axle or to be free therefrom, said drum being provided with a series of rows of apertures through which the contents are fed, and a spreading apron below the drum and having its forward ends hingedly depending from the forward portion of the frame and having its rear ends flexibly and adjustably depending from the ends of the arms.

2. In a machine of this character, the combination with a U-shaped frame having its terminals extending rearwardly to form parallel arms, an axle journaled in said arms intermediate of their ends, and wheels rotatable with said axle, of a drum mounted upon the axle and provided with a series of rows of apertures through which the contents of the drum are fed, means to cause the drum to rotate with the axle or to be free therefrom, and a spreading apron flexibly supported by the frame and its arms below the drum and having a series of parallel corrugations extending rearwardly from the front edge to the rear edge, whereby the contents from the drum fall upon the apron and are spread by the said corrugations.

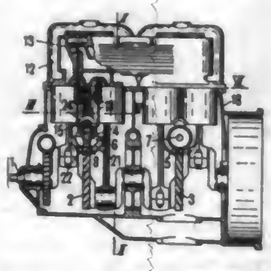
3. In a machine of this character, the combination with a frame, an axle and wheels, of a drum mounted upon the axle, means to cause the drum to rotate with the axle or to be free therefrom, said drum being provided with a series of rows of apertures through which the contents are fed, another drum similar in construction mounted to the rear of the first drum, means transmitting rotation from the axle to said last mentioned drum, and a spreading apron swingingly and flexibly disposed below both drums and adapted to receive and commingle and spread the contents from both drums, said apron having a series of parallel corrugations extending from the front to the rear edge thereof.

4. In a machine of this character, the combination with a frame, an axle and wheels, of a drum mounted upon the axle, means to cause the drum to rotate with the axle or to be free therefrom, said drum being provided with a series of rows of apertures through which the contents are fed, another drum similar in construction to the first drum mounted to the rear of the first drum, means for transmitting rotation from the axle to said last mentioned drum, and an apron mounted below both drums so as to receive the contents from both drums and spread the contents upon the land, said apron having a series of parallel corrugations extending from its front edge to its rear edge.

977,885. INTERNAL-COMBUSTION ENGINE. JOSEPH VALENTIN LAVIOLETTE, Amsterdam, Netherlands, assignor to Industriëele Maatschappij Trompenburg, Amsterdam, Netherlands, (a Limited Company of Netherlands.) Filed Feb. 24, 1910. Serial No. 545,699.

1. In an internal combustion engine, a crank case, a cylinder casting secured thereon and having parallel cylinder portions projecting thereinto, a crank shaft jour-

naled in the crank case, cylinder admission valves arranged in pairs at one side of the casting, cylinder exhaust valves arranged in pairs at the opposite side of the casting, mechanism inclosed in the crank case for operating the valves and including a pair of pivoted tappets for each pair of valves and upon which the stems of the latter engage, a valve operating shaft arranged under the cylinder portions in alinement with the space between the latter and disposed at a right angle to the crank shaft, a helical gear wheel mounted on the crank shaft, a helical gear wheel mounted centrally on the valve operating shaft and in mesh with and driven by the first named gear wheel, a cam provided at one end of the valve operating shaft to control the admission valve tappets, and a cam provided at the other end of the valve operating shaft to control the exhaust valve tappets, the crank case having openings to provide for access to the valve operating mechanism, and closure plates for the openings.



2. In an internal combustion engine, a crank case, a cylinder casting secured thereon and having parallel cylinder portions projecting thereinto, a crank shaft journaled in the crank case, cylinder admission valves arranged in pairs at one side of the casting, cylinder exhaust valves arranged in pairs at the opposite side of the casting, mechanism inclosed in the crank case for operating the valves and including a pair of pivoted tappets for each pair of valves and upon which the stems of the latter engage, a valve operating shaft arranged under the cylinder portions in alinement with the space between the latter and disposed at a right angle to the crank shaft, a helical gear wheel mounted on the crank shaft, a helical gear wheel mounted centrally on the valve operating shaft and in mesh with and driven by the first named gear wheel, a cam provided at one end of the valve operating shaft to control the admission valve tappets, a cam provided at the other end of the valve operating shaft to control the exhaust valve tappets, and a bridge member carrying the valve operating shaft and the tappets and supported in the crank case for removal therefrom, the crank case having openings to provide for access to the valve operating mechanism and closure plates for the openings.

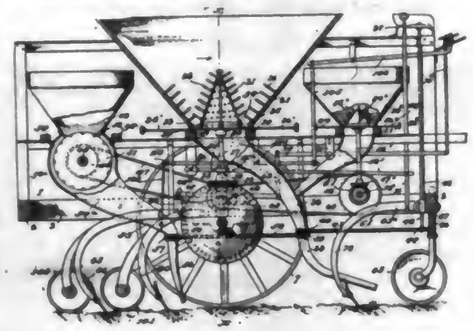
3. In an internal combustion engine, a crank case, a cylinder casting secured thereon and having cylinder portions projecting thereinto, a crank shaft journaled in the crank case, cylinder admission valves arranged in pairs at one side of the casting, cylinder exhaust valves arranged in pairs at the opposite side of the casting, mechanism inclosed in the crank case for operating the valves and including a pair of pivoted tappets for each pair of valves and upon which the stems of the latter engage, a valve operating shaft arranged under the cylinder portions and disposed at a right angle to the crank shaft, gearing between the crank shaft and the valve operating shaft, to drive the latter from the former and cams carried by the valve operating shaft for engagement with the tappets, the crank case having openings to provide for access to the valve-operating mechanism, and closure plates for the openings.

4. In an internal combustion engine, a crank case, a cylinder casting secured thereon and having cylinder portions projecting thereinto, a crank shaft journaled in the crank case, cylinder admission valves arranged in pairs at one side of the casing, cylinder exhaust valves arranged in pairs at the opposite side of the casting, mechanism inclosed in the crank case for operating the valves and including a pair of pivoted tappets for each pair of valves and upon which the stems of the latter engage, a valve operating shaft arranged under the cylinder portions and disposed at a right angle to the crank shaft, gearing between the crank shaft and the valve operating shaft, to drive the latter from the former, cams carried by the valve operating shaft for engagement with the tappets, and a bridge member carrying the valve operating shaft and supported in the crank case for removal therefrom.

5. In an internal combustion engine, a crank case, a cylinder casting secured thereon and having a pair of cylinder portions projecting into the crank case the lower ends of said cylinder portions being in a plane of location approximately coincident with the middle points of the piston rods when the latter are in their uppermost positions, cylinder admission and exhaust valves, a crank shaft journaled in the lower portion of the crank case, and valve operating mechanism driven by the crank shaft, the valve operating mechanism being inclosed in the crank case between the crank shaft and the cylinder portions and being arranged between the pistons which work in said cylinder portions.

[Claims 6 and 7 not printed in the Gazette.]

977,886. COMBINED PLANTER AND FERTILIZER-DISTRIBUTER. DAVID E. LAWRENCE, Central, S. C. Filed Aug. 18, 1910. Serial No. 577,781.



1. In combination, a frame, a seed hopper provided with feeding means, and a spout, a movable section at the end of the spout, a compost hopper mounted in the frame and provided with feeding means, a spout communicating with the hopper, a movable section at the end of the spout and an acid hopper mounted in the frame, and provided with feeding means, a spout leading from the acid hopper to the compost spout above the plane of the movable section of the compost spout, means for operating the feeding means in the respective hoppers and means for simultaneously operating the movable sections of the two spouts.

2. In a machine of the class described, the combination with a frame, a seed hopper provided with feeding means, a spout communicating with the hopper, a compost hopper mounted in the frame and provided with feeding means, a spout communicating with the compost hopper, an acid hopper mounted in the frame and provided with feeding means, a spout communicating with the acid hopper and also communicating with the spout from the compost hopper, means for operating the feeding means in the respective hoppers, traction wheels supporting the frame, furrow openers coöperating with the ends of the two spouts, means for raising and lowering the furrow openers independently of each other, gearing between the traction wheels and the feeding means for operating the latter.

3. In a machine of the class described, the combination with a frame, an axle on the frame, traction wheels on the axle, a gear wheel on the axle, a compost hopper, a spout leading therefrom, feeding means therein, a vertical shaft extending from the feeding means, a gear wheel on the vertical shaft which meshes with the gear wheel on the axle, a horizontal shaft adjacent the vertical shaft, a gear wheel on the horizontal shaft meshing with the gear wheel on the vertical shaft, a clutch for engaging and disengaging the gear wheel on the vertical shaft, a seed hopper mounted in the frame and provided with feeding means, a vertical shaft extending from the latter feeding means, gears for operating the vertical shaft, means for imparting motion through the horizontal shaft to the gears, an acid hopper supported in the frame and provided with feeding means, a spout leading from the acid hopper to the compost spout, a vertical shaft connected to the feeding means in the acid hopper, gears for operating the vertical shaft of the acid hopper, means between the gears and the horizontal shaft for operating the gears, a furrow opener supported on the frame and located in the plane of one of the traction wheels, a second furrow opener located on the frame and in the plane of the other traction wheel, means for independently raising and lowering each of the furrow openers, a furrow opener in the plane of the center of the machine and means for raising and lowering the latter furrow opener.

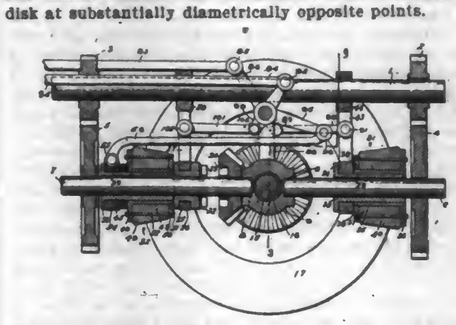
4. In a machine of the class described, the combination with a frame, a horizontal shaft supported thereon, traction wheels on the axle, a compost hopper supported in the frame, a cone-shape base forming a part of the feeding means in the compost hopper and provided on its outer surface with a plurality of spirally arranged spikes, the cone being spaced from the side walls of the hopper to provide an exit for the compost, valves for controlling the space, a vertical shaft depending from the cone, a beveled gear on the shaft, a clutch for connecting and disconnecting the beveled gear to the shaft, a gear wheel on the axle for meshing with the beveled gear on the vertical shaft, a series of inwardly projecting spikes in the hopper to coöperate with the spikes on the cone for agitating and breaking the compost into finer particles, a spout depending from the compost hopper, and a movable section on the end of the compost hopper, a second hopper mounted in the frame and provided with feeding means, a spout leading from the second hopper to the spout of the compost hopper above the movable section thereof, valves for controlling the exit of material from the second hopper, seed mechanism supported in the frame and provided with a spout to coöperate with the spout from the compost hopper, means for operating the seeding mechanism, means for operating the feeding mechanism in the second mentioned hopper, furrow openers coöperating with the spouts, and means for raising and lowering the furrow openers.

5. The combination with a frame, seeding mechanism provided with a spout having a movable section at its lower end, compost mechanism having a spout provided with a movable section, an acid feeding mechanism supported in the frame and provided with a spout which communicates with the spout of the compost mechanism above the movable section thereof, a sprocket wheel on each of the movable sections, a shaft supported in the frame, a sprocket wheel on the shaft, a sprocket chain passing around the sprocket wheel on the vertical shaft and one of the sprocket wheels on one of the movable sections and a sprocket chain passing around the sprocket wheels on the respective sections whereby said sections are simultaneously moved when the shaft is operated.

977,887. COMBINED TRANSMISSION AND DIFFERENTIAL GEAR. CHARLES M. LEECH, Lima, Ohio. Filed Dec. 18, 1909. Serial No. 533,792.

1. In a device of the character described, a driving shaft, a rotary disk, driven shafts arranged in end to end relation to each other near said disk, means carried by the driven shafts for alternately engaging the disk to actuate the same in opposite directions, and connecting means between the driving and driven shafts.

2. In a device of the character described, a driving shaft, a rotary disk, driven shafts arranged in end to end relation to each other upon the same side of said disk, connecting means between the driving and driven shafts, and means connected to the driven shafts to engage the disk at substantially diametrically opposite points.



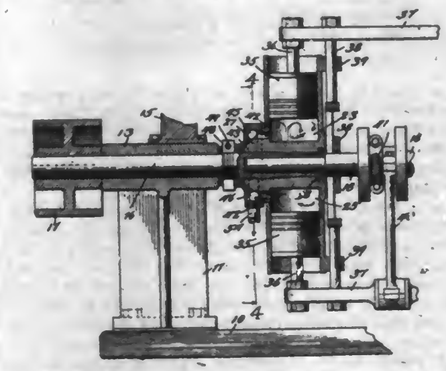
3. In a device of the character described, a driving shaft, a rotary disk, driven shafts arranged in end to end relation to each other upon the same side of said disk, connecting means between the driving and driven shafts, means connected to the driven shafts to engage the disk at substantially diametrically opposite points, and a differential gear mechanism connected to said disk.

4. In a device of the character described, a driving shaft, a rotary disk, driven shafts arranged in end to end relation to each other upon the same side of said disk, connecting means between the driving and driven shafts, and means keyed upon the driven shafts to engage said disk at substantially diametrically opposite points.

5. In a device of the character described, a driving shaft, a rotary disk, driven shafts arranged in end to end relation to each other, connecting means between the driving and driven shafts, means keyed upon the driven shafts to engage the disk at substantially diametrically opposite points for actuating the same in opposite directions, and means for moving said means longitudinally of the driven shafts.

[Claims 6 to 9 not printed in the Gazette.]

977,888. ROTARY ENGINE. GEORGE F. LEIGER, South Haven, Mich. Filed May 16, 1910. Serial No. 561,598.



1. In an engine, in combination, four cylinders adapted to revolve about a common axis, each of said cylinders being located diametrically opposite and in line with another of said cylinders, a piston in each cylinder, rigid connections between the piston in each cylinder and the piston in the cylinder diametrically opposite it, and links coöperating with said rigid connections for pivotally connecting said pistons in eccentric relation to said axis.

2. In an engine, the combination of a shaft, a hub keyed thereon, four cylinders radially mounted on said hub, each of said cylinders being located opposite and in line with another of said cylinders, a piston in each cylinder, a crosshead fixedly secured on each of said pistons,

two bars each of which rigidly connects two oppositely-disposed crossheads, and links connecting two of said crossheads in eccentric relation to said shaft.

3. In a rotary engine, the combination with a revoluble hub, a plurality of cylinders mounted thereon, said hub being provided at one end with longitudinally-extending bores communicating with the inner ends of said cylinders and having its said end beveled, a piston in each of said cylinders, two bars one of which rigidly connects the piston in each cylinder to the piston located in the cylinder on the opposite side of said shaft, and links each connected at one end to one of said pistons and pivotally mounted at their other ends in eccentric relation to said hub, of a valve internally-beveled to fit closely upon the beveled end of said hub, said valve being provided with two concentric grooves on its inner face adapted to register with the bores in said hub, and means for forcing fluid under pressure into one of said grooves in said valve.

4. In a rotary engine, the combination of four revolubly-mounted radially-disposed cylinders, four revolubly-mounted radially-disposed cylinders positioned opposite thereto, pistons in said cylinders, a crosshead connecting the pistons of each pair of oppositely-positioned cylinders, bars 38 connecting each pair of oppositely-located crossheads, and links each connected at one end to one of said crossheads and at its other end mounted in eccentric relation to said revoluble cylinders.

5. In an engine, in combination, four cylinders adapted to revolve about a common axis, each of said cylinders being located diametrically opposite and in line with another of said cylinders, a piston in each cylinder, a piston-rod connected with each piston and extending radially outward therefrom, rigid connections between the piston-rod in each cylinder and the piston-rod in the cylinder diametrically opposite it, and two links coöperating with said rigid connections for pivotally connecting two of said piston-rods in eccentric relation to said axis.

[Claims 6 and 7 not printed in the Gazette.]

977,889. SAFETY-RAZOR. LOUIS N. LEVINSOHN, New York, N. Y., assignor to Eva Levinsohn, New York, N. Y. Filed Oct. 22, 1909. Serial No. 523,995.



1. In a safety razor, a pair of plates between which a razor blade is to be held, one of the plates being provided with a guard, the plates being each provided with two slots, and studs slidably held in the slots of one plate and in sliding engagement with the slots of the other plate.

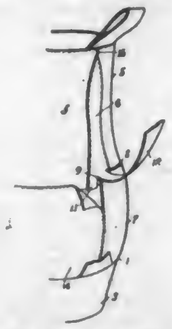
2. In a safety razor, a pair of plates having interlocking engagement whereby the plates will lie on opposite sides at opposite ends, the said plates being each provided at each end with a pair of slots, the slots at one end being centrally arranged and the slots at the other end being near one edge, studs slidably held in the slots of one plate and in sliding engagement with the slots of the other plate, and means for securing the plates together.

3. A safety razor, comprising a pair of plates having interlocking engagement, whereby the plates will lie on opposite sides at opposite ends, one of the plates at one end being formed with a guard, and both plates provided with two slots at opposite sides of the center, the slots at the guard end being centrally arranged and the slots at the opposite end being near one edge, studs slidably mounted in the said slots, and a split tube pivoted to one of the plates and straddling the said plates to form a back for the same.

4. In a safety razor, the combination of a guard plate, a razor blade, and a detachable liner in the form of a plate interposed between the guard plate and razor blade to space the blade fro 1 the guard.

5. In a safety razor, the combination of a razor blade, a guard plate, a clamping plate, between which and the said guard plate the said blade is clamped, studs held on one of the said plates and engaging the said razor blade, and a detachable U-shaped liner plate interposed between the said guard plate and the said razor blade to space the blade from the guard, the liner plate straddling the said studs.

977,890. SHOE. ALPHEUS F. S. LYONS, Neenah, Wis. Filed June 1, 1910. Serial No. 564,359.



1. The combination with a vamp or foxing, of a top connected to said vamp or foxing, and a back stay connected to said top and to said vamp or foxing, said back stay being divided at a point adjacent the junction of said top with said vamp or foxing into tongues, one of which extends within said vamp or foxing and another of which extends without said vamp or foxing.

2. The combination with a vamp or foxing, of a top connected to said vamp or foxing, and a back stay connected to said top, said back stay being divided to form tongues, one of said tongues passing between said top and said vamp or foxing at the junction of said top with said vamp or foxing, and another of said tongues extending outside of said vamp or foxing at the junction of said vamp or foxing with said top.

3. The combination with a vamp or foxing, having portions thereof connected at a seam joint, of quarters secured together along a seam joint, extending in alinement with said first-mentioned seam joint, and a back stay covering said second-mentioned seam joint, said back stay having a plurality of tongues formed on one end thereof and extending on either side of said vamp or foxing, adjacent said first-mentioned seam joint.

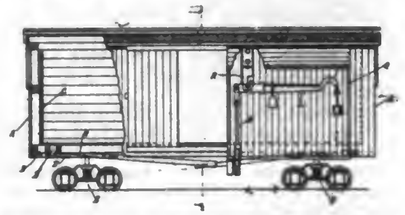
4. The combination with a vamp or foxing, of a top secured to said vamp or foxing, and a trifurcated back stay secured to said top and having tongues, one of which extends outside of said vamp or foxing, and the others of which extend inside of said vamp or foxing, said tongues being joined together at the junction of said vamp or foxing with said top.

5. The combination with a vamp or foxing having portions thereof joined together at a seam joint, of a top connected to said vamp or foxing, and comprising quarters joined together at a seam joint extending in alinement with said first-mentioned seam joint, said top being joined to said vamp or foxing along a seam joint, and a back stay secured to said top, said back stay having a plurality of slits therein whereby three tongues are formed, one of said tongues extending over said first-mentioned seam, and the others of said tongues extending within said vamp or foxing, whereby the junction of said seams is securely locked.

977,891. WEIGHING APPARATUS FOR PORTABLE CARS. JOHN MALENSHECK and FREDRICH KACHEWSKI, West Allis, Wis. Filed June 14, 1909. Serial No. 502,038.

1. The combination with the body of a portable railway car, of a movable load receiver therein having a floor

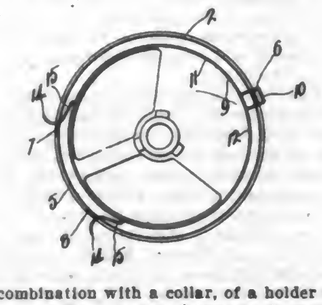
substantially filling the space between the end and side walls of the body and provided with upwardly extending side and end walls in proximity to the end and side walls of the car body, a set of load bearing levers pivotally connected with the body of the car and loosely connected with each other underneath the central portion of the car body, said levers having arms in supporting connection with the load receiver at their outer ends, a transverse lever pivotally fulcrumed to the body of the car and having one arm loosely connected with one of the load bearing levers, and a scale beam loosely connected with the other arm of said transverse lever.



2. The combination with the body of a portable railway car, of a movable load receiver therein, a set of load bearing levers pivotally connected with the body of the car and having arms in supporting connection with the load receiver at their outer ends, the inner ends of said lever being loosely connected with each other, a transverse lever pivotally fulcrumed to the body of the car and having one arm loosely connected with one of the load bearing levers, and a scale beam loosely connected with the other arm of said transverse lever, said scale beam being mounted in a suitable housing also connected with the body of the car.

3. The combination with the floor of a railway car, of a movable load receiver supported by said floor, a set of load bearing levers having forked ends supported from said car floor by pivotal connections secured to the forked arms at intermediate points, and with the outer ends of said forked arms supporting said load receiver, said levers extending inwardly toward the center of the car, and one of said levers being provided with an apertured arm through which the other lever loosely extends, a transverse lever pivotally fulcrumed to the floor of said car and having its inner end linked to one of said forked levers, a scale beam operatively connected to said transverse lever and a housing supported from said car and inclosing said scale beam.

977,892. GLOBE-HOLDER. JOSEPH E. MARTIN, Kansas City, Mo. Filed June 11, 1910. Serial No. 566,294.



1. The combination with a collar, of a holder consisting of a piece of resilient material bent to form a coil embodying overlapping arms terminating in doubled-back terminals extending convergingly outward through the collar at a suitable distance apart and adapted when pressed toward each other to bear against the collar and be caused thereby to effect the expansion of the coil.

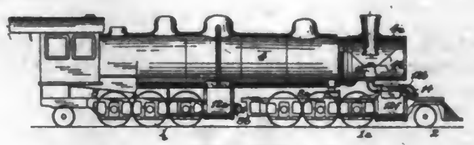
2. The combination with a collar, of a holder consisting of a piece of resilient material bent to form a coil, embodying overlapping arms terminating in doubled-back terminals consisting of inner portions extending convergingly outward and handle portions at the outer ends of said inner portions; said terminals extending through the collar at a suitable distance apart and so arranged that when pressed toward each other the said outwardly converging portions shall bear against the collar and effect the expansion of the coil, and an arm projecting from the coil at a suitable point, slidingly through the collar and adapted to slide outwardly thereof as the coil is expanded.

3. The combination with a light fixture having a collar, and a globe to fit at one end within said collar and of less diameter than such end at a point encircled by the collar, of a holder of spring material bent to form a coil and provided at its ends with terminals projecting outwardly through the collar and between its ends with an arm projecting outwardly through the collar, and means slidingly receiving the ends of the coil between said terminals for preventing sagging of the coil.

4. The combination with a light fixture having a collar, and a globe to fit at one end within said collar and of less diameter than such end at a point encircled by the collar, of a holder of spring material bent to form a coil and provided at its ends with terminals projecting outwardly through the collar and between its ends with an arm projecting outwardly through the collar, and a loop fitting loosely around both ends of the coil between said terminals.

5. The combination with a light fixture provided with a collar and set screws mounted radially therein, of a collar to fit within the first-named collar and adapted to be clamped therein by said set screws, of a holder consisting of a piece of resilient material bent to form a coil with overlapping ends and provided at the extremities of said overlapped ends with terminals extending convergingly outward through the collar at a suitable distance apart and adapted when pressed toward each other to bear against the collar and be caused thereby to effect the expansion of the coil.

977,893. ARTICULATED LOCOMOTIVE. CARL J. MELLIN, Schenectady, N. Y. Filed Sept. 29, 1910. Serial No. 584,421.



1. In an articulated locomotive, the combination of a rear frame, a front frame articulated thereto, and a boiler fixed to the rear frame and having a smoke box which is relieved at bottom and reduced in depth by being formed with a bottom wall located above the lower line of the waist or body of the boiler.

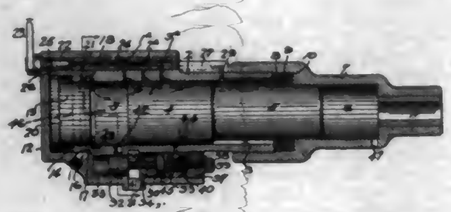
2. In an articulated locomotive, the combination of a rear frame, a front frame articulated thereto, cylinders and steam chests fixed to the front frame, and a boiler fixed to the rear frame and having a smoke box which is relieved at bottom and reduced in depth by being formed with a bottom wall located above the level of the steam chests of the front frame.

3. In an articulated locomotive, the combination of a rear frame, a front frame articulated thereto, and a boiler fixed to the rear frame and having a smoke box provided with a flattened bottom plate located above the lower line of the waist of the boiler.

977,894. PNEUMATIC DRILL. JONAS L. MITCHELL, Denver, Colo. Filed Jan. 31, 1908. Serial No. 413,603.

1. The combination of a suitable shell or casing having a piston chamber and inlet and exhaust ports, a piston, an exhaust valve, means for directing the fluid pressure against said valve to close said exhaust port as said piston advances, and means for directing fluid pressure

against the opposite end of said valve to open said exhaust when said piston has completed or substantially completed its stroke.

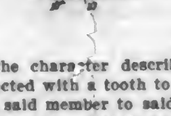


2. The combination of a suitable shell or casing having a piston chamber and inlet and exhaust ports, a piston, an exhaust valve, means for directing fluid pressure against said valve to close said exhaust port as said piston advances, and means for directing fluid pressure from said chamber against the opposite end of said exhaust valve when said piston has completed or substantially completed its stroke.

3. The combination of a suitable shell or casing having a piston chamber and inlet and exhaust ports, a piston, a double piston exhaust valve, means for directing fluid pressure against one of the pistons of said valve to close said exhaust port when said piston advances, and means for directing fluid from said chamber against the opposite piston of said exhaust valve to open said exhaust when the piston has completed or substantially completed its stroke.

4. The combination of a suitable shell or casing having a piston chamber and inlet and exhaust ports, a piston, a double piston exhaust valve, means for directing the fluid pressure against one piston of said exhaust valve to close said exhaust port as said main piston advances, a spring acting against the opposite piston of said exhaust valve, and means for directing fluid pressure from said chamber against said last named piston of said exhaust valve when said main piston has completed or substantially completed its stroke.

977,895. DENTAL APPLIANCE. LLOYD G. MORGAN, East Orange, N. J. Filed Mar. 28, 1910. Serial No. 551,876.



1. A device of the character described, comprising a member to be connected with a tooth to be operated upon, means for securing said member to said tooth, and mechanism including a screw for slightly moving said member and said tooth in a direction coinciding with that in which the tooth extends.

2. A device of the character described, comprising a member provided with means for supporting it upon a plurality of teeth, said member being further provided with a central opening registering with another tooth to be operated upon, means for connecting said member with said tooth to be operated upon, and mechanism controllable at will for gradually moving said member relatively to the teeth upon which it is supported.

3. The combination of a plate provided with tongues and with a central opening between said tongues, and further provided with portions extending in opposite directions from said central opening, said last-mentioned portions having holes, and screws extending through said holes and movable from one hole to the other, said screws being revoluble for the purpose of raising said plate relatively to a tooth registering with said central opening.

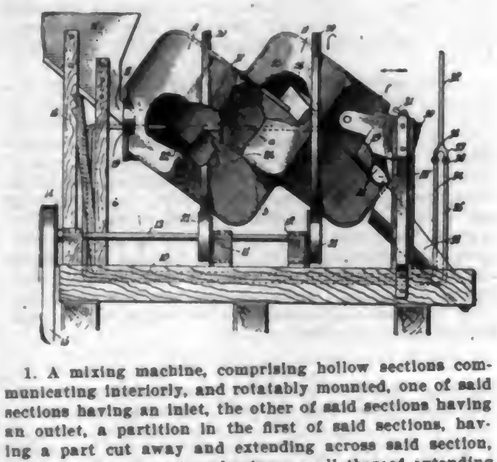
977,896. PIPE-WRENCH. THOMAS JAMES NICHOLSON, Kingston, Ontario, Canada. Filed Sept. 27, 1910. Serial No. 584,026.



1. A pipe wrench comprising a pair of pivotally connected handles terminating in a circular head, pins secured to the head, jaws for detachable engagement with the head and adapted to engage the said pins, and springs secured to the handles and engaging the jaws to removably hold the same in the head.

2. A pipe wrench comprising a pair of pivotally connected handles terminating in a circular head, jaws for detachable engagement with the said head and provided with soft bearing surfaces whereby a polished pipe can be gripped without marring the same, oppositely disposed pins secured to the head and adapted to be engaged by the jaws, and longitudinally extending springs secured to the handles and engaging the jaws to removably hold the same in the head.

977,897. MIXING-MACHINE. ALVIN FLAVEL NIMS, Philadelphia, N. Y. Filed Feb. 25, 1910. Serial No. 545,813.



1. A mixing machine, comprising hollow sections communicating interiorly, and rotatably mounted, one of said sections having an inlet, the other of said sections having an outlet, a partition in the first of said sections, having a part cut away and extending across said section, the first of said sections having a wall thereof extending into the second of said sections to form a partition within said second section.

2. A mixing machine, comprising hollow sections communicating interiorly, and rotatably mounted, one of said sections having an inlet, the other having an outlet chute, a partition in the first of said sections, having a part cut away and extending across said section, the first of said sections having a wall thereof extending into the second of said sections to form a partition within said second section, and partly obstructing the same, said partition formed by said extended wall of said first section having a laterally disposed extension connected with said chute of said second section.

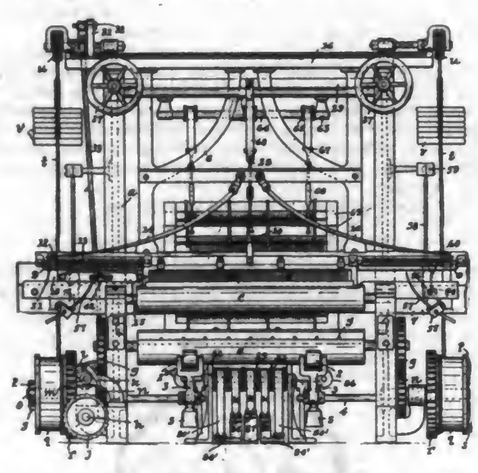
3. A mixing machine, comprising communicating, hollow sections rotatably mounted, one of said sections having a partition extending across the same and partly obstructing it, said one section further having a wall extended into said other section to form a guide partition, said guide partition and said first-mentioned partition being at substantially right angles and intersecting.

4. A mixing machine, comprising communicating, hollow sections rotatably mounted, one of said sections having a partition extending across the same, and partly obstructing it, said one section further having a wall extended into said other section to form a guide partition, said guide partition and said first-mentioned partition being at substantially right angles and intersecting, and a guide chute within said second section and connected with said partition formed by said extended wall of said first section.

5. A mixing machine, comprising communicating, hollow sections mounted to rotate together, one of said sections having a partition extending across the same and partly cut away, said one section further having a wall extended into said other section to form a partition, said last-mentioned partition and said first-mentioned partition being at angles with one another and intersecting, a guide chute within said second section and extending to the outside thereof, and a partition connecting said second partition formed by said extended wall of said first section and said chute.

[Claims 6 to 9 not printed in the Gazette.]

977,898. LOOM. JULIUS PRIBORSKY, Passaic, N. J. Filed June 15, 1910. Serial No. 566,960.



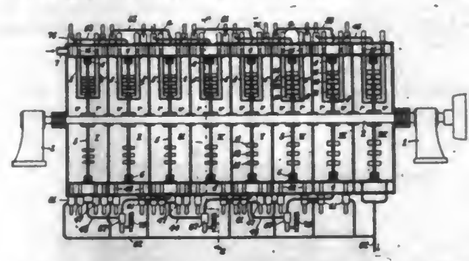
1. In a loom, the combination of the frame, a vibrating lay-structure comprising a lay proper, means for advancing the warp, means for forming sheds in the warp, a shuttle arranged on the lay proper, means for controlling the shuttle, filling-tightening devices pivotally movable in the lay proper in a vertical plane extending parallel with the length of the lay proper and disposed between the shuttle and the filling, and means for actuating said devices, substantially as described.

2. In a loom, the combination of the frame, a vibrating lay-structure comprising a lay proper, means for advancing the warp, means for forming sheds in the warp, a shuttle arranged on the lay proper, means for controlling the shuttle, filling-tightening devices pivotally movable in the lay proper in a vertical plane extending parallel with the length of the lay proper and disposed between the shuttle and the filling, and means, connecting each of said devices with a fixed part of the frame, for actuating said devices upon movement of the lay-structure, substantially as described.

3. In a loom, the combination of the frame, a vibrating lay-structure comprising a lay proper, means for advancing the warp, means for forming sheds in the warp, a shuttle arranged on the lay proper, means for controlling the shuttle, filling-tightening devices pivotally movable in the lay proper in a vertical plane extending parallel with the length of the lay proper and disposed between the shuttle and the filling, and means for actuating each of said devices comprising a stem having a ball and socket connection with a fixed part of the frame and a stirru carried by said stem and pivotally connected with a eccentric part of said device, substantially as described.

4. In a loom, the combination of the frame, the vibra ing lay-structure, the warp-beam, means, actuated fro the lay-structure, for causing the rotary advance of th warp-beam, a cloth-beam, a vertically movable weigh means, controlled by the weight, for causing the rotar advance of the cloth-beam, and an alarm mechanism con prising an electric circuit having a break therein, a sour of energy and an alarm device in said circuit, and a ci cuit disposed at the break in said circuit and in the pat of movement of the weight, substantially as described.

977,899. TURBINE. JAN PROCNER, Pabianice, Russi Filed May 28, 1909. Serial No. 498,857.



1. In a radial turbine, the combination with a housi having a plurality of pressure stages, a shaft passi through the housing, and a rotor having blades on bo sides on said shaft in each pressure stage, of a plurali of radially arranged nozzle tubes in each side of ea pressure stage for supplying a propellant radially fro the interior to the exterior, means for supplying a prope lant to the nozzle tubes on the operative side of the fir pressure stage, and means for supplying the propella from the first pressure stage to the nozzle tubes on t corresponding sides of the additional pressure stages.

2. In a radial turbine, the combination with a housi having a plurality of pressure stages, a shaft passi through the housing, and a rotor having blades on bo sides on said shaft in each pressure stage, of a plurali of radially arranged nozzle tubes in each side of ea pressure stage for supplying a propellant radially from t interior to the exterior, means for supplying a prope lant to the nozzle tubes on the operative side of the fir pressure stage, and means for supplying the propella from the first pressure stage to the nozzle tubes on t corresponding sides of an optional number of the ad tional pressure stages.

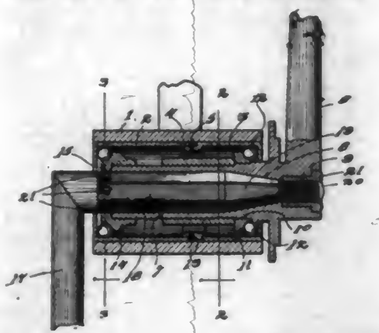
3. In a radial turbine, the combination with a housi having a plurality of pressure stages, a shaft passi through the housing, and a rotor having blades on bo sides on said shaft in each pressure stage, of a plurali of radially arranged nozzle tubes in each side of ea pressure stage for supplying a propellant radially fro the interior to the exterior, means for supplying a pr pellant to an optional number of the nozzle tubes on t operative side of the first pressure stage, and means f supplying the propellant from the first pressure stage a like number of the nozzle tubes on the correspondi sides of the additional pressure stages.

4. In a radial turbine, the combination with a housi having a plurality of pressure stages, a shaft passi through the housing, and a rotor having blades on bo sides on said shaft in each pressure stage, of a plurali of radially arranged nozzle tubes in each side of ea pressure stage for supplying a propellant radially fro the interior to the exterior means for supplying a pr pellant to an optional number of the nozzle tubes on t operative side of the first pressure stage and means f supplying the propellant from the first pressure stage a like number of the nozzle tubes on the correspondi sides of an optional number of the additional pressu stages.

5. In a reversible radial turbine, the combination of a shaft, a housing having a plurality of pressure stages on said shaft, a rotor having blade rims on both sides on said shaft in each pressure stage, each pressure stage comprising a turbine chamber and an annular propellant supply chamber arranged concentrically therewith, a plurality of radially arranged nozzle tubes on each operative side of each pressure stage having nozzles on the ends opening radially inward relatively to the blade rims, said nozzle tubes opening into said supply chamber and being provided therein with admission valves, and means for operating together and in the same direction admission valves of the nozzle tubes located in the same radial plane in the various normally operating pressure stages.

[Claims 6 to 14 not printed in the Gazette.]

977,900. BICYCLE-CRANK. TIMOTHY REYNOLDS, Selma, Cal. Filed Mar. 15, 1910. Serial No. 549,389.



1. In a device of the character described the combination with a hanger, of a pair of cranks each provided with an angular shaft section adapted to enter said hanger from opposite ends, one of said sections being hollow and externally threaded and provided with a cone seat, a cone for said seat, a sleeve having a threaded engagement with said section for holding said cone to its seat, a threaded end cone surrounding and overlapping the free end of said section, said end cone having a flange that is provided with grooves, anti-friction bearings interposed between said cone and said hanger, the other shaft section being adapted to telescope with said hollow shaft section, means for fastening said sections in telescoping relation, and lugs carried by the inclosed section for engagement with the grooves of the flanged cone.

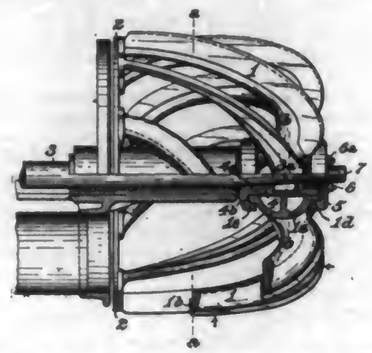
2. In a device of the character described, the combination with the hanger, of a crank having a hollow shaft extension journaled therein, a cone carried by the free end of said section, said cone provided with a flange, said flange provided with grooves, and a second crank provided with a shaft section adapted for telescopic engagement with said hollow shaft section, said second-mentioned shaft section provided with lugs for interlocking engagement with the grooved flange of said cone.

977,901. CUTTER FOR HYDRAULIC DREDGES. ARTHUR W. ROBINSON, Montreal, Quebec, Canada. Filed Sept. 29, 1910. Serial No. 584,463.

1. In a cutter for hydraulic dredges, the combination of a plurality of continuous spiral blade arms, each having a hub section on its inner end, and means for connecting said hub sections into a continuous hub.

2. In a cutter for hydraulic dredges, the combination of a plurality of continuous spiral blade arms, each having a hub section at its inner end, a central sleeve around which said hub sections are abuttingly assembled, and means for connecting said hub sections and sleeve.

3. In a cutter for hydraulic dredges, the combination of a plurality of continuous spiral blade arms, each having a hub section at its inner end, a central sleeve around which said hub sections are abuttingly assembled, and means for clamping said hub sections one against the other and against said sleeve.

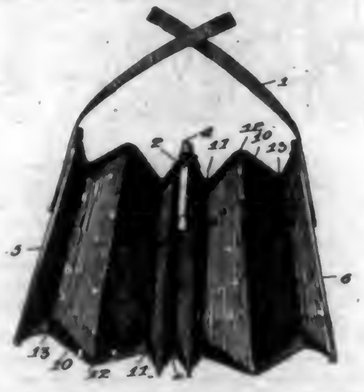


4. In a cutter for hydraulic dredges, the combination of a plurality of continuous spiral blade arms, each having a hub section at its inner end, means for connecting said hub sections into a continuous hub, and a connecting ring secured to the outer ends of the blade arms.

5. In a cutter for hydraulic dredges, the combination of a plurality of continuous spiral blade arms, each having a hub section at its inner end, provided with conically turned end bearings, a central sleeve having a conically bored socket in which said hub sections are fitted, a conically bored cap encircling the opposite ends of the hub sections, and means for clamping said cap upon the hub sections.

[Claims 6 to 8 not printed in the Gazette.]

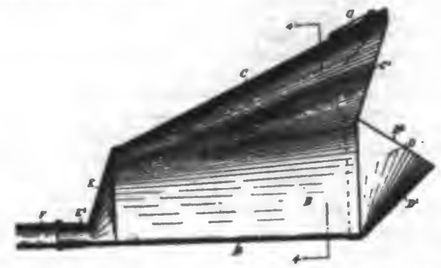
977,902. HAND-BAG. BENJAMIN ROSS, East Boston, Mass., assignor to Dorothy Sesserman Ross, East Boston, Mass. Filed Apr. 20, 1910. Serial No. 556,518.



In a handbag, satchel, grip or suitcase having an unobstructed interior forming a continuous receptacle, end members provided with handles, a transverse opening frame extending partially down each side, a central pliable gusset member secured to the opening frame having side and bottom portions, and accordion like top, side and bottom members between the central member and end members normally retracted but adapted to be extended to increase the capacity of the interior of the receptacle.

977,903. FEMALE URINAL. WILLIAM SCOTT ROSS, New York, N. Y. Filed Apr. 28, 1910. Serial No. 558,282.

1. A female urinal, comprising a receptacle having a flat bottom narrowed from the rear to the front, sides extending upwardly from the side edges of the said bottom and converging from the rear to the front, a top integral with the said sides and inclined upwardly and forwardly, a rear end for closing the rear of the receptacle and connected with the said bottom, sides and top, and a front end forming a lip and connected with the front edge portions of the said sides, the said front end having its front extending upwardly and forwardly and the top edge of the front being approximately segmental and inclined upwardly and rearwardly.



2. A female urinal, comprising a receptacle having a flat bottom narrowed from the rear to the front, sides extending upwardly from the side edges of the said bottom and converging from the rear to the front, a top integral with the said sides and inclined upwardly and forwardly, the front edge of the top being arched in a transverse direction and inclined upwardly and forwardly, a rear end for closing the rear of the receptacle and connected with the said bottom, sides and top, and a front end forming a lip and connected with the front edge portions of the said sides, the said front end having its front extending upwardly and forwardly and the top edge of the front being approximately segmental and inclined upwardly and rearwardly.

3. A female urinal, comprising a receptacle having a flat bottom narrowed from the rear to the front, sides extending upwardly from the side edges of the said bottom and converging from the rear to the front, a top integral with the said sides and inclined upwardly and forwardly, a rear end for closing the rear of the receptacle and connected with the said bottom, sides and top, a front end forming a lip and connected with the front edge of the bottom and the lower front edge portions of the said sides, the said front end having its front extending upwardly and forwardly and the top edge of the front being approximately segmental and inclined upwardly and rearwardly, and an outlet spout at the said rear end for connection with a tube or hose.

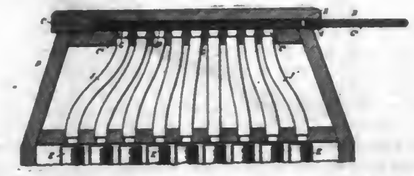
977,904. GAS-BURNER. HANS RUPPERT, Zurich, Switzerland. Filed Dec. 11, 1909. Serial No. 532,588.



1. In a gas burner, in combination, a cock controlling the burner passage, a carrier presenting a guide secured to the burner, a scraper pivoted to said carrier and actuated by the cock-plug, a member sliding in said guide and consisting of an alloy of iron and a rare earth-metal from which sparks are struck by the scraper, said scraper and member being located below the gas exit and outside the province of the flame, and means for conducting an ignition gas jet to the neighborhood of the place where the sparks are produced, substantially as described.

2. In a gas burner, in combination, a cock controlling the burner passage, a carrier presenting a guide secured to the burner, a scraper pivoted to said carrier and actuated by the cock-plug, a member sliding in said guide consisting of an alloy of iron and a rare earth metal from which sparks are struck by the scraper, said scraper and member being located below the gas exit and outside the province of the flame in such relative position to each other that they are always in contact with each other and means for conducting an ignition gas jet to the neighborhood of the place where the sparks are produced.

977,905. VOTING APPARATUS. WILLIAM A. SANFORD, Dunellen, N. J. Filed Apr. 2, 1910. Serial No. 552,943.



1. A voting apparatus, comprising ballots in the form of bodies colored differently as to political parties, a ballot carrier having a perforate shell, and a slide for insertion in the shell and having recesses for receiving the ballots as to the different offices, the recesses of said slide being adapted to be moved into register with the perforations in the shell, means for normally holding the said slide with the recesses out of register with said perforations, and a stand having receptacles for receiving the ballots according to the offices to be voted for, the said stand having a guideway and the said ballot carrier being adapted to removably engage the said guideway.

2. A voting apparatus, comprising ballots in the form of solid bodies of different colors according to political parties, a stand having a guideway, and having receptacles for the reception of the ballots, the said guideway having apertures in its bottom leading to said receptacles one receptacle being provided for each office to be voted for, and a removable ballot carrier adapted for insertion in the guideway of said stand and having a shell provided with perforations for register with the apertures in said guideway, and a ballot receiver having spaced recesses for the reception of the ballots by the voter the said ballot receiver being slidable in the said shell to discharge the ballots from the said recesses, through the perforations of the shell and into the receptacles.

3. A voting apparatus, comprising a stand having receptacles for receiving the ballots according to the offices to be voted for, and a ballot carrier for insertion in the said stand to discharge its ballots, the ballot carrier having a perforate shell, a ballot receiver in the form of a slide for insertion in the shell, the slide being provided with recesses for the reception of the ballots and having a handle at one end, the recesses being adapted to register with the perforations in the shell so that the ballots can drop out of the ballot carrier and pass into the said receptacles, and means for normally holding the said slide with the recesses out of register with the said perforations.

4. A voting apparatus provided with a ballot carrier having a perforate shell, a slide for insertion in the said shell and having a handle at one end, the slide having spaced recesses for the reception of the ballots, the said recesses being normally out of register with the perforations in the shell, and the said recesses being adapted to move into register with the said shell perforations

moving the shell and slide one relatively to the other, to allow the ballots to drop out of the ballot carrier, and means on the handle end of the slide for engaging the shell to normally hold the recesses of the slide out of register with the perforations of the shell.

5. A voting apparatus provided with a ballot carrier having a shell provided on one face with perforations, and a handled slide for insertion in the shell and provided on one face with a single row of recesses, one for the reception of a ballot for a straight ticket and the others for referendums, the other face of the slide having rows of perforations, the recesses in each row being for the reception of votes for the different candidates for each office, the said slide and shell being movable one relative to the other, to move either set of recesses into register with corresponding perforations in the shell.

[Claims 6 and 7 not printed in the Gazette.]

977,906. DENTAL SPATULA. BENJAMIN RICKARD SHOPP, Washington, Conn. Filed Aug. 19, 1910. Serial No. 577,920.



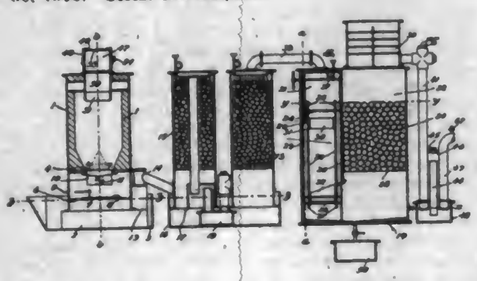
1. The combination of a spatula, and a wax reservoir discharging at the point of the spatula.

2. A bowl having a handle, with the point of the bowl flattened at the under side to form a spatula.

3. The combination of a spatula, and a bowl formed in connection with the spatula, in which wax is adapted to be melted, and having a discharge passage leading to the point of the spatula.

4. The combination of a bowl having a handle and having a spout extending upwardly and outwardly therefrom, with the bottom of the spout shaped to form a spatula.

977,907. GAS-PURIFYING APPARATUS. EDWARD TEMPLE, Sydney, New South Wales, Australia. Filed Nov. 30, 1908. Serial No. 465,311.

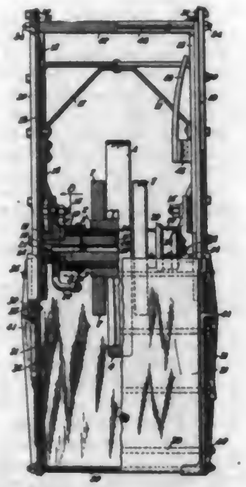


1. In a gas purifying apparatus, a vessel divided into two communicating compartments constructed to be partially filled with water, a series of buckets, means for moving the said buckets within the said compartments in such a manner that the gas above the water therein will be conveyed from the upper portion of the compartment to a point beneath the water where the gas is released and caused to escape to the other or second of said compartments, and a body of coke pebbles or the like in said second compartment and through which the said gas is caused to pass after entering this second compartment.

2. In a gas purifying apparatus, a vessel divided into two communicating compartments constructed to be partly filled with water, sprockets mounted in one of said compartments, chains passing over the said sprockets, buckets carried by the said chains for conveying the gas from the upper portion of the said compartment above the water therein to a point beneath the water therein where the said gas is released and caused to escape to the other of said compartments and a body of coke pebbles and the like in the said second compartment and through which the said gas after entering the same is caused to pass.

3. In a gas purifying apparatus, a vessel divided into two communicating compartments constructed to be partly filled with water, sprockets mounted in one of said compartments, chains passing over the said sprockets, buckets carried by the said chains for conveying the gas from the upper portion of the said compartments above the water therein to a point beneath the water therein where the said gas is released and caused to escape to the other of said compartments, a body of coke pebbles and the like in the said second compartment and an auxiliary vessel placed above the aforesaid vessel and into which the said gas passes after passing through the said body of coke pebbles and the like in the said second compartment.

977,908. ELEVATOR-BOOT. CLARENCE W. UTZMAN, Oakfield, N. Y. Filed July 20, 1909. Serial No. 508,555.

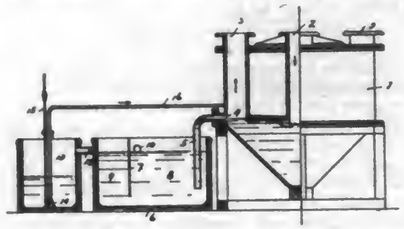


1. An elevator boot, comprising side plates oppositely disposed, having vertically arranged guides on the inner side thereof, said plates being removable from the structural frame; cross braces extended between said plates and fixedly secured thereto, said braces adapted to maintain the relative disposition of said plates; a pulley slidably mounted in said guides; a flexible elevating medium adapted to support the said pulley; and auxiliary weight disks removably mounted on the structure of said pulley.

2. An elevator boot, comprising side plates embodying lower sections detachably connected and upper sections being provided with guides extended within the boot and having a cross fender brace adapted to form a shed for falling material to protect the mechanism below said cross brace, a pulley rotatably mounted on a suitable shaft to receive a flexible elevating medium to guide the same at the lower extension thereof, removable weight members carried by said pulley, extensions provided in said shaft to engage the said guides to be controlled thereby, and a yoke attached to said extensions and guidably mounted in said upper sections of said boot.

3. An elevator boot, comprising side plates oppositely disposed, having vertically arranged guides on the inner side thereof, said plates being removable from the structural frame; cross braces extended between said plates and fixedly secured thereto, said braces adapted to maintain the relative disposition of said plates; a pulley slidably mounted in said guides; a flexible elevating medium adapted to support the said pulley; auxiliary removable weight disks mounted on the structure of said pulley; and fixedly disposed inwardly deflecting guides for maintaining in guided position upon the said pulley the said elevating medium, said guides being disposed above the said pulley.

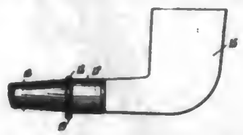
977,909. PROCESS OF REMOVING TAR IN RECOVERING AMMONIA. EMIL WAGENES, Dahlhausen-on-the-Ruhr, Germany. Filed Nov. 9, 1909. Serial No. 526,947.



1. The process for producing sulfate of ammonia from gases resulting from the distillation of coal and the like, which consists in passing the said gases into proximity to an acid bath, drawing off from the surface of said bath tar which collects thereon together with the surface portion of the liquid of the bath, separating the tar so drawn off from the liquid drawn off with it, and returning said liquid to the bath, the surface of the bath being thereby constantly renewed.

2. The process for producing sulfate of ammonia from gases resulting from the distillation of coal and the like, which consists in passing the said gases into proximity to an acid bath, drawing off from the surface of said bath tar which collects thereon together with the surface portion of the liquid of the bath, separating the tar so drawn off from the liquid drawn off with it, and returning said liquid to the bath, near the surface of the bath, the surface of the bath being thereby constantly renewed by the outflow and inflow of such liquid.

977,910. TOBACCO-PIPE. ARTHUR Q. WALSH, New York, N. Y. Filed Feb. 26, 1910. Serial No. 546,052.



1. A tobacco pipe having a suspending ring curved to lie smooth against a rounded portion of the pipe and conform to the shape thereof, and having a hinge adapting it to be swung outwardly from and against the pipe respectively to operative and inoperative position.

2. A tobacco pipe having a stem portion, a suspending device, and a hinge connecting the suspending device to the stem portion of the pipe and adapting the said device to fold against the stem portion of the pipe and swing outwardly therefrom to an operative position, the suspending device being shaped to conform to the shape of the stem portion of the pipe when the said device is in its folded position, and the hinge arranged to retain the pipe in an upright position when the pipe is seated on a flat surface.

3. A tobacco pipe having a stem, and a suspending ring hinged to the stem to swing to and from a position encircling the stem.

977,911. CULTIVATING-MACHINE FOR TILLING AND WEEDING LAND. HUGH WATT, Yarram Yarram, Victoria, Australia. Filed Oct. 28, 1909. Serial No. 525,195.

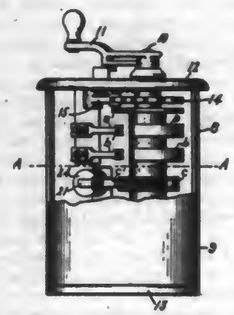
1. In a cultivating machine and in combination, an outer frame having oppositely disposed sides, an upwardly extending link on each of said sides, each of said links being provided with a slot, arms pivotally mounted in said frame and adapted to swing within the same, a pin secured on each of the said arms and passed through the slot in the said link adjacent thereto, a cross bar extending between and connected to the said arms, revoluble devices carried by said arms and means for raising and lowering the said cross bar and the said arms and revoluble devices.



2. In a cultivating machine and in combination, an outer frame *a*, an inner frame *b*, driving wheels *g* mounted between the parts of the said outer and inner frames, a differential cross shaft *k*, sleeve clutches *l* mounted on said cross shaft, springs *m'* for normally maintaining the parts of said clutches in engagement, means for actuating said sleeve clutches against the action of said springs, means for driving the differential cross shaft from the driving wheels, an intermediate shaft *o'*, means for driving this intermediate shaft from the said differential cross shaft, a counter shaft *p*, means for driving the counter shaft from the intermediate shaft, a tail shaft *q*, means for driving the tail shaft from the counter shaft, cutter blades secured on the said counter shaft, adjustable swinging arms in which the said tail shaft is journaled, and means for raising and lowering the said swinging arms radially.

3. In a cultivating machine and in combination, an outer frame *a*, an inner frame *b*, driving wheels *g* mounted between the parts of the said outer and inner frames, a differential cross shaft *k*, sleeve clutches *l* mounted on said cross shaft, springs *m'* for normally maintaining the parts of said clutches in engagement, means for actuating said sleeve clutches against the action of said springs, means for driving the differential cross shaft from the driving wheels, an intermediate shaft *o'*, means for driving this intermediate shaft from the said differential cross shaft, a counter shaft *p*, means for driving the counter shaft from the intermediate shaft, a tail shaft *q*, means for driving the tail shaft from the counter shaft, cutter blades secured in the said counter shaft, adjustable swinging arms in which the said tail shaft is journaled and means for raising and lowering the said swinging arms radially, a running guide wheel *w*, an adjustable rod *u* for supporting said running guide wheel, and an axle secured to the said adjustable rod and upon which the said guide wheel is mounted.

977,912. MOTOR-CONTROL SYSTEM. HAROLD E. WHITE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 19, 1910. Serial No. 572,715.



1. A motor controller having movable contact members, contact fingers coöperating therewith, and means respon-

sive to conditions in the motor circuit for holding said fingers out of engagement with said contact members during overload conditions in the motor circuit.

2. A motor controller having movable contact members, contact fingers coöperating therewith, means for moving said contact fingers into an inoperative position, and means responsive to conditions in the motor circuit for holding said fingers in this inoperative position and out of engagement with said movable contact members during overload conditions in the motor circuit.

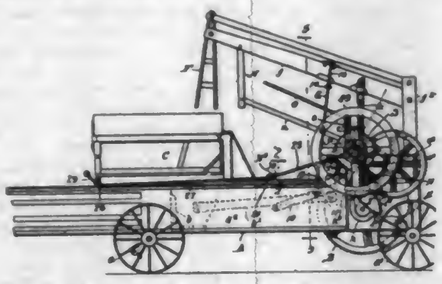
3. A motor controller having movable contact members, contact fingers coöperating therewith, means moving with said movable contact members for moving said fingers into an inoperative position and holding them in said position while said contact members are not in a position to coöperate with said fingers, and means responsive to conditions in the motor circuit for holding said fingers out of engagement with said contact members after said fingers are released by said last mentioned means during overload conditions in the motor circuit.

4. A motor controller having movable contact segments, movable contact fingers coöperating therewith, and magnetic means responsive to conditions in the motor circuit for holding said fingers out of engagement with said segments during overload conditions in the motor circuit.

5. A motor controller having movable contact segments, movable contact fingers coöperating therewith, and magnets energized from the motor circuit for holding said fingers out of engagement with said segments during overload conditions in the motor circuit.

[Claims 6 to 9 not printed in the Gazette.]

977,913. BALING-PRESS. ANDREW WICKEY, East Chicago, Ind. Filed Mar. 26, 1910. Serial No. 551,773.



1. In a baling press, the combination with a frame, standards rising therefrom and a feeder carrying arm fulcrumed on said standards, of a connecting rod connected with and extending down from said arm, an actuating arm fulcrumed upon the frame of the press and being secured to said connecting rod and a rotating element having a laterally projecting roller arranged to engage directly with the actuating arm to pull the same down.

2. In a baling press, the combination with a frame, standards rising therefrom and a feeder carrying arm fulcrumed on said standards, of a pair of connecting rods connected to and extending down from said arm, each connecting rod comprising two slidably connected sections arranged with a spring between them for permitting a limited amount of movement of one section upon the other, a pair of actuating arms fulcrumed on the frame of the press and being connected at points between their ends to said connecting rods and a pair of rotating gear wheels having laterally projecting rollers arranged to engage said actuating arms at points beyond their connections with the connecting rods and arranged to pull the same down.

3. In a baling press, the combination with a feeder carrying arm, of a longitudinally extensible connecting rod projecting down from said arm, an actuating arm secured to the lower end of said connecting rod, an extension fulcrumed to said arm and arranged to swing upwardly with relation thereto from its normal position, but having means for preventing downward movement from said normal position and a rotating element having a roller arranged to engage with said extension on the actuating arm to pull said arm downward.

4. In a baling press having a driving shaft, two sets of gearing and clutches between said shaft and one member of each set of gearing, the combination with a pair of clutch shifting levers extending longitudinally of the press body and fulcrumed between their ends upon said press body, of rods lying along the opposite sides of the press body and extending toward the rear end of the press from said clutch shifting levers and having handles upon their rear ends, and having cranks upon their forward ends which are journaled in the adjacent ends of the clutch shifting levers and a cross bar connecting the ends of said cranks, whereby both clutch shifting levers may be operated simultaneously from either side of the press.

5. In a baling press, having a driving shaft, two sets of gearing and a pair of clutches interposed between the shaft and one member of each set of gearing, the combination with a pair of clutch operating levers extending longitudinally of the machine, of rods lying along both sides of the press and extending from said clutch operating levers to the rear of the press, and having handles at said rear end, and having cranks at their forward ends arranged to actuate the clutch operating levers and a longitudinally adjustable connecting rod connecting the ends of said cranks, whereby both clutch shifting levers may be operated simultaneously from either side of the press.

977,914. HAME AND TRACE CONNECTOR. BERTNIE M. WILHITE and LEWIS OBERWETTER, Gordon, Nebr. Filed May 15, 1909. Serial No. 496,170.

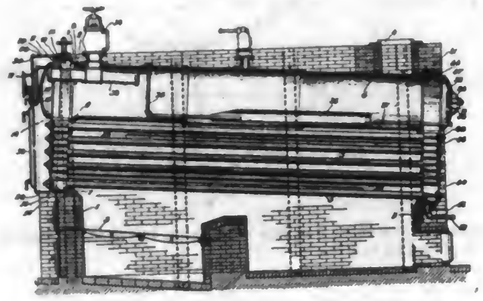


A hames and trace connector comprising a hook member provided with a vertically disposed pivot bar, said hook member having a body portion forwardly and laterally bent to avoid contact with the hames and to extend to the rear of said hames when the strain of the trace is received thereon; a bearing plate to receive said pivot bar to form a bearing therefor; a locking plate having a plurality of hook-shaped extensions opening toward the inside of the said hames, said extensions being disposed in line to form a vertically extending passage; and a spring lock bar arranged to be secured in said passage to prevent the accidental disadjustment of the said connector with said extensions.

977,915. BOILER. EPHRAIM M. WILKINSON, Oswego, N. Y. Filed Nov. 16, 1908. Serial No. 462,889.

1. In a boiler the combination of a suitable support, a steam drum, water tubes and substantially circular inside and outside headers for each end of said drum and tubes, each header being integrally flanged toward the adjacent header, the flanges being connected together to form a single seam between the headers and the inside headers at each end of the boiler embracing both the drum and tubes.

2. In a boiler, the combination of a steam drum and water tubes therefor, substantially circular inside and outside headers for said drum and tubes, the inside and outside headers having integral flanges overlapping each other connected by a single seam, and stay bolts between the outside and inside headers.



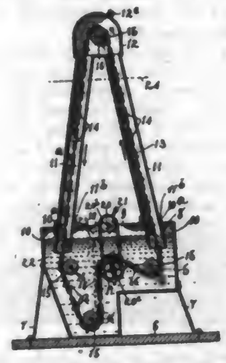
3. In a boiler, the combination of a steam drum and water tubes therefor, substantially circular inside and outside headers for said drum and tubes, the inside and outside headers having integral flanges overlapping each other connected by a single seam, and stay bolts between the outside and inside headers, said stay bolts being rigidly secured to the headers to firmly hold the same.

4. In a boiler the combination of a grate, a steam drum and water tubes, substantially circular front and rear headers therefor, each inside header embracing both the drum and tubes, one lower row of tubes being in the form of an inverted arch above said grate, and baffle brick arranged on said row to form an inverted arch for the deflection of the hot gases.

5. In a boiler the combination of a grate, a steam drum, water tubes below said drum, and substantially circular inside and outside front and rear headers for said drum and tubes, the lower row of said tubes being arranged substantially in the arc of a circle above said grate and substantially concentric with said headers.

[Claims 6 to 22 not printed in the Gazette.]

977,916. AIR-PUMP. SAMUEL R. WILLIAMS, Oberlin, Ohio. Filed May 14, 1909. Serial No. 495,843.

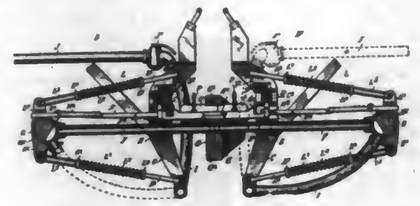


1. In an air exhauster, a receptacle, having a sealing fluid and a discharge opening, an exhaust chamber, tubes having open ends and continuous walls extending between said receptacle and the exhaust chamber, a drive shaft, a driven shaft in the receptacle, a sprocket on the driven shaft, idlers arranged in the receptacle and the exhaust chamber, an endless chain engaging said sprocket and idlers, and having concave buckets thereon.

2. In an air exhauster, a receptacle having a sealing fluid therein, an apertured cover for the receptacle, an exhaust chamber arranged above said receptacle, tubes extending between said chamber and the receptacle, a drive shaft, a driven shaft in the receptacle, a sprocket on said driven shaft, idlers arranged in the receptacle and the exhaust chamber, one of the said idlers in the receptacle being lower than the said sprocket, an endless chain engaging said sprocket and idlers, concave buckets arranged in said chain, and means for operating said drive shaft.

3. In an air exhauster, the combination with a receptacle having an air discharge opening, and a sealing fluid in the receptacle, of an exhaust chamber, an inlet pipe for the said chamber, passages connecting said receptacle and the exhaust chamber, an endless chain comprising a plurality of buckets arranged in said chamber and receptacle and the connecting passages, a drive shaft, a driven shaft in the receptacle, a sprocket on the driven shaft in the receptacle engaging said chain, and idlers in the receptacle adapted to guide the chain in a vertical direction beneath said discharge opening.

977,917. TRAIN-PIPE COUPLING. HARVEY OLIVER WITWER, Lethbridge, Alberta, Canada. Filed Jan. 15, 1910. Serial No. 538,180.



1. A train pipe coupling, comprising a coupling pipe provided with a head and a valve, the coupling pipe being supported from the draw bar of the car and being mounted to swing laterally and to slide in the direction of its length, and means for controlling the position of the said valve by the movement of the said pipe and its head, the said means including a rod mounted to slide and connected with the valve, the said rod being provided at its forward end with a coupling member.

2. A train pipe coupling, comprising a coupling pipe supported from the draw bar of the car and moving with the draw bar, a coupling head on the forward end of the said coupling pipe, a valve on the rear of the said pipe and connected with a pressure supply, and means arranged for manual control and controlled by the movement of the said coupling pipe and coupling head and connected with the said valve to control the opening and closing movement thereof, the said means comprising a valve operating rod mounted to slide at its rear end and having a coupling member at its forward end.

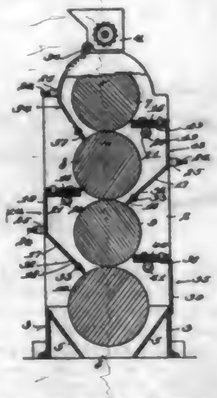
3. A train pipe coupling, comprising a coupling pipe supported from the draw bar of the car and moving with the draw bar, springs connected with the said coupling pipe to normally hold the same in a forward coupling position, a coupling head on the forward end of the said coupling pipe, a valve on the rear of the said pipe and connected with a pressure supply, and means arranged for manual control and controlled by the movement of the said coupling pipe and coupling head and connected with the said valve to control the opening and closing movement thereof, the said means comprising a valve-operating rod mounted to slide at its rear end in a bearing on the valve and adapted to be raised and lowered, the said rod having a coupling member at its forward end extending into an opening in the said coupling head.

4. A train pipe coupling, comprising a coupling pipe supported from the draw bar of the car and moving with the draw bar, a coupling head on the forward end of the said coupling pipe and disposed in a vertical plane oblique to the said coupling pipe, a valve on the rear of the said pipe and connected with a pressure supply, and means arranged for manual control and controlled by the movement of the said coupling pipe and coupling head and connected with the said valve to control the opening and closing movement thereof.

5. A train pipe coupling, comprising a coupling pipe supported from the draw bar of the car and moving with the draw bar, a coupling head on the forward end of the said coupling pipe and disposed in a vertical plane oblique to the said coupling pipe, the coupling head being of an approximately diamond shape and provided at its face near the rear end with a pocket for the reception of the forward end of an opposing coupling head, a valve on the rear of the said pipe and connected with pressure supply, and means arranged for manual control and controlled by the movement of the said coupling pipe and coupling head, and connected with the said valve to control the opening and closing movement thereof.

[Claims 6 to 14 not printed in the Gazette.]

977,918. ROLLER CRUSHING-MILL. FRANK WOLVENDEN, West Point, Miss. Filed May 6, 1910. Serial No. 559,791.



1. In a mill of the type specified, the combination, with a series of superposed crushing rolls, and a housing wherein the same are mounted; of a board provided with separate scraper and diverting portions arranged for coaction with certain of said rolls, said board being pivotally mounted in said housing for movement away from said rolls under the pressure of the crushed material.

2. In a mill of the type specified, the combination, with a series of superposed crushing rolls, and a housing wherein said rolls are mounted; of a gravity-operated combined scraper and diverting board pivoted in said housing for coaction with certain of said rolls and for movement away from the same under the pressure of the crushed material.

3. In a mill of the type specified, the combination, with a series of superposed crushing rolls, and a housing wherein the same are mounted; of a board arranged within said housing having a pivotally mounted upper portion coacting with one of said rolls, and a lower diverting portion coacting with another of said rolls, said lower portion extending beneath and past the pivotal point of the first-named portion, whereby both portions are normally held in operative position.

4. A combined scraper and diverting board for roller crushing mills comprising a horizontal upper portion provided with depending pivot-receiving members, an inclined lower portion extending beneath the first-named portion and past said members, and an intermediate vertical portion connecting the outer edges of said upper and lower portions.

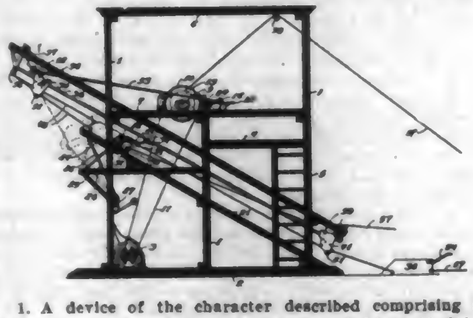
977,919. RAZOR. SAMUEL C. YEATON, Jr., New York, N. Y. Filed Mar. 14, 1908. Serial No. 421,172.

In a safety razor a holder for a double-edged blade made of sheet metal, comprising a V-shaped spring formed by folding the sheet along its transverse center, two sides formed by folding the legs of the V spring back upon themselves, a frame for the blade formed by bending the ends of the sheet outward, guard teeth formed on the



ends of the sheet and lips formed on the corners thereof for gripping the blade.

977,920. EXCAVATING-MACHINE. VERNON A. YOUNGER, San Jose, Cal., assignor to Joshua M. Younger, San Jose, Cal. Filed Sept. 4, 1909. Serial No. 516,169.



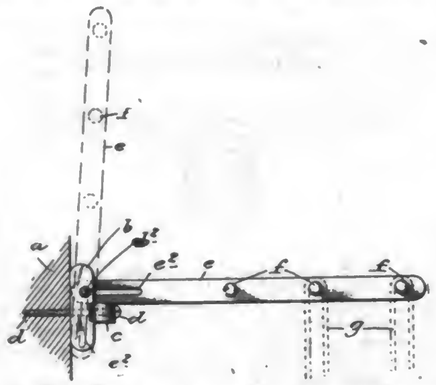
1. A device of the character described comprising a slideway, raising and lowering drums carried by said slideway, separate cables for each drum, shovels connected to said cables, shovel dumping means at one end of said slideway, tracks carried by said slideway, a carrier mounted on each track, and means carried by the cables of the hoisting drums for causing said carriers to render the hoisting drums idle and the lowering drums active after the shovels have been dumped.

2. A device of the character described comprising a slideway provided with runways, a raising and a lowering drum for each runway, shovel dumping means at one end of each runway, a cable for each drum, a shovel connected to the cable of each raising and lowering drum, a track arranged above each runway, a carrier on each track, means carried by the hoisting cables for engaging with said carriers, shovel dumping means at the upper end of each runway, and tripping mechanism actuated by said carriers for rendering the raising drums idle and the lowering drums active after the shovels have been dumped.

3. A device of the character described, comprising a slideway provided with runways, a track supported above each runway, a carrier normally fast on said track, raising and lowering drums for each runway, a cable for each drum, a shovel connected to the cable of the drum of each runway means carried by the hoisting cable for releasing the carrier from the track, and causing the same to travel with said cable, means for automatically dumping the shovels, and means actuated by said carriers for rendering the raising drums idle and the lowering drums active after the shovels have been dumped.

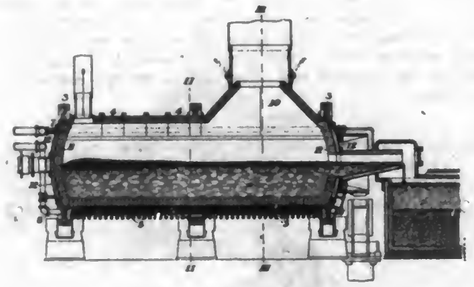
4. A device of the character described comprising an inclined slideway provided with runways, a raising and a lowering drum for each runway, a shaft on which said drums are loosely mounted, a slidable clutch between each raising and lowering drum, a cable for each drum, shovels connected to the cables of the raising and the lowering drums, a shovel dumping platform carried by each runway, a track supported above each runway, a carrier on each track, tripping mechanism at the upper end of said tracks connected with said clutches, and means carried by the hoisting cables for engaging with said carriers to cause the same to actuate the tripping mechanism after the shovels have been dumped and thereby cause said clutches to release the raising drums and engage with the lowering drums.

977,921. GARMENT-HANGER. PAUL T. ZIZINIA, New York, N. Y. Filed Jan. 25, 1910. Serial No. 539,931.



A hanger of the class described comprising two main block members held in parallel position, a cross block member placed transversely of said main block member and recessed longitudinally to receive the same, screws passed through said transverse block member and through said main block members for securing the hanger to an upright support and holding the main block member in parallel position, said main block members being provided above the transverse block member and rearwardly thereof with a transverse pin, an arm one end portion of which is freely movable between said main block members and provided with a longitudinal slot through which said pin passes whereby said arm may be held in a horizontal or upright position and rods passed through and removable from said arm.

977,922. CONVERTER. RALPH BAGGALEY, Pittsburg, Pa. Filed Oct. 6, 1906, Serial No. 337,725. Renewed Oct. 22, 1910. Serial No. 588,534.



1. In a converter of the character described, an exterior shell composed of a succession of circumferentially extending ribs of relatively soft, tough cast metal, each of said ribs having one or more water pipes cast in them, means for supplying water to said pipes, and for separately controlling the supply to different pipes to temper and regulate the cooling action thereof at any desired place, and basic lining within said shell and contacting therewith; substantially as described.

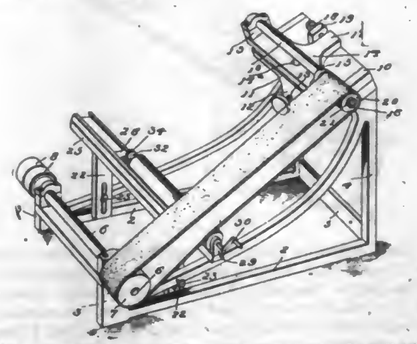
2. In a converter, an exterior shell composed of a succession of circumferentially extending ribs of relatively soft, tough cast metal having each one or more water pipes cast therein, means for admitting water to said pipes and for controlling the same to give a greater cooling action at some times than at others, said pipes being all substantially equi-distant from the outer surface of the shell, and a basic lining for said shell in contact with its inner wall; substantially as described.

3. In a converter, an exterior shell composed of a succession of curved ribs of cast metal, said ribs having each a plurality of water spaces or passages therein, means for supplying water thereto, a basic lining within said shell, and a solid metal unlined nose together with means whereby the supply of water to the said spaces or passages can be controlled to reduce the cooling action; substantially as described.

4. In a copper converter, an exterior shell composed of a succession of curved ribs of cast metal having each a plurality of water circulating pipes cast therein, said pipes being all substantially in the same circular plane, a solid metal nose, and means for applying a cooling medium to the nose; substantially as described.

5. In a converter for use in dissolving ores in a low grade, corrosive matte, an inner basic lining, and an outer metal shell composed of a series of circumferentially extending ribs of relatively soft, tough metal in contact with the outer surface of the lining, and having separate water circulating passages thereto, together with means whereby the water circulation therein can be controlled to temper and regulate the cooling action of the water on the lining in accordance with the requirements during the different stages of the smelting and refining process; substantially as described.

977,923. SANDPAPERING-MACHINE. GEORGE A. BARKER, Cambria, Va., assignor to The Barker Manufacturing Company, Cambria, Va. Filed Dec. 17, 1909. Serial No. 533,715.



1. An abrading machine of the character described, including a frame, parallel drums mounted upon the frame, means for driving the drums, an endless belt of abrading material passing over the drums, a vertically adjustable work support, a laterally adjustable carriage on the work support, work clamps on the carriage, and manually operated means for rotating the work clamps and work in either direction.

2. An abrading machine of the character described, including a frame, parallel drums mounted upon the frame, means for driving the drums, an endless belt of abrading material passing over the drums, means for rotating the drums, a transversely extending cross piece mounted between the drums, a bed plate pivoted to the cross piece, a transversely movable slide supported on the bed plate, and work engaging means mounted on the slide and manually rotatable in either direction.

3. An abrading machine of the character described, including a frame, opposed shafts mounted on the frame, means for driving the shafts, a drum mounted on each shaft, an endless belt of abrading material on the drums, vertically adjustable standards located midway between the shafts, a bed plate on said standards having a slide

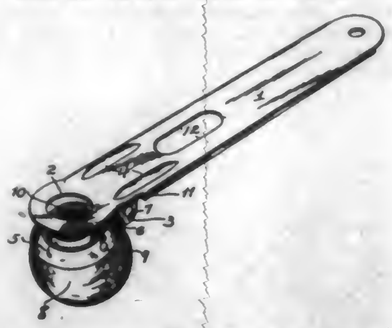
way formed in its upper face, said bed plate being pivotally supported on said standards for movement in a horizontal plane, a latch for holding the free end of said bed plate into engagement with the standards, a slide transversely shiftable in the slideway, upwardly projecting posts on the extremities of the slide, one of said posts being transversely adjustable, and work clamps passing through said posts and adapted to engage with the work, one of said clamps having a crank handle thereon.

4. An abrading machine of the character described, including a frame, standards at opposite ends of the frame, the standards at one end of the frame being higher than the standards at the other, shafts supported in the upper ends of said standards, an upwardly inclined endless belt of abrading material carried on the shafts and rotated therewith, a transversely adjustable work support mounted intermediate of the clamps and beneath the belt, means for moving the shafts relative to each other to slacken or increase the tension of the belt.

5. An abrading machine of the character described, including a frame, oppositely disposed shafts on the frame projecting beyond the frame on one side, means for driving the shaft, drums mounted on the extended ends of the shaft, an endless abrading belt extending over said drums, a transversely movable work carrier mounted beneath the belt to move transversely across the lower stretch of the same, and means on said carrier for supporting and rotating the work to be operated upon.

[Claims 6 and 7 not printed in the Gazette.]

977,924. SOUNDING TOY. RICHARD O. BARLER, Chicago, Ill. Filed Apr. 22, 1910. Serial No. 557,052.



1. In a device of the character described, the combination with a handle portion provided near one end with an opening and a collapsible bulb having movable connection with the handle portion and open under the perforated portion of said handle portion, of means on said handle portion for supporting a strip of paper and guiding it between the open end of the bulb and the opening in the handle portion.

2. In a device of the character described, the combination with a handle portion provided with an opening near one end, of an annulus movably connected with said handle portion near the inner side of said opening and free of the handle portion at the outer side of said opening, a collapsible bulb having an open end, the open end of the bulb projecting upwardly beyond the upper face of the annulus to form a cushion, and means securing the bulb to the annulus.

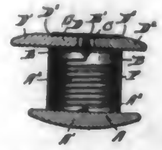
3. In a device of the character described, the combination with a plate having an opening near one end and provided with lugs near the inner side of said opening, of an annulus having lugs pivotally connected with the lugs on the plate, and a bulb secured to said annulus and having an open end disposed under the opening in the forward portion of said plate, the lugs on the plate coöperating with the annulus to form stops for the latter.

4. In a device of the character described, the combination of a handle portion provided with means for supporting and guiding a strip of paper and provided near its forward end with an opening, a bulb movably supported at the forward end of the handle portion and having an opening in line with the opening at the forward end of said handle portion.

5. In a device of the character described, the combination with a plate provided at its side edges with guides for a strip of paper and provided near its forward end with an opening of a bulb movably supported under the forward end of said plate and provided with an opening to aline with the opening in said plate.

[Claims 6 and 7 not printed in the Gazette.]

977,925. COLLAR-BUTTON. NICHOLAS BENINCASA, East Pittsburg, Pa. Filed Feb. 14, 1910. Serial No. 543,676.



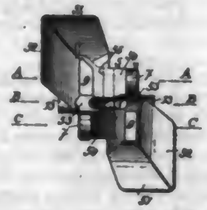
1. A button comprising a base having a tubular stem, a tubular shank slidably mounted upon said stem provided with apertured ears, a sectional head provided with ears adapted to register with the ears of the said shank, a pivot pin extending through said ears and a spring connecting said pivot pin to said base.

2. A button comprising a base, a telescoping shank mounted upon said base, a head formed of two pivoted sections mounted upon said shank, said sections being provided with recesses, a spring connecting said head to said base, and a locking bar actuated by said spring for holding said sections in the same plane.

3. A collar button comprising a base having a tubular stem, a tubular shank slidably mounted upon said stem provided with apertured ears, a pivot pin extending through said ears, a head formed of two sections provided with apertured ears mounted upon said pivot pin, a link mounted upon said pivot pin provided with a pin portion, a locking bar pivotally mounted on said pin portion, and a spring connecting said link to said base.

4. A collar button comprising a base provided with a tubular stem portion, a tubular shank slidably mounted over said stem provided with spaced apertured ears, a pivot pin extending through said ears, a head formed of two sections provided with apertured ears pivotally mounted upon said pivot pin, said sections being provided with grooves or recesses in their outer faces in alinement, a link slidably mounted upon said pin provided with a pin portion, a locking bar pivotally mounted upon said pin portion of said link adapted to be seated within said grooves, and a coil spring connected to said link having its opposite end connected to an eye carried by the base.

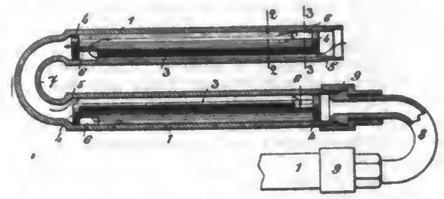
977,926. AUTOMATIC COUPLING FOR CARS AND CARRIAGES. LOUIS BOIRAULT, Paris, France, assignor to The Societe d'Etudes des Brevets Boirault, Paris, France. Filed Feb. 7, 1906. Serial No. 299,902.



In a coupling apparatus for cars, a coupling head having horns and openings arranged cross-wise, the edges of the said openings extending obliquely forward and

forming, on the inner sides, inclined planes which extend to the bases of the horns, and on the outer sides, projecting lugs, the said lugs and inclined planes being adapted to guide the horns of another coupling apparatus up to and into the openings of the said coupling head, substantially as described.

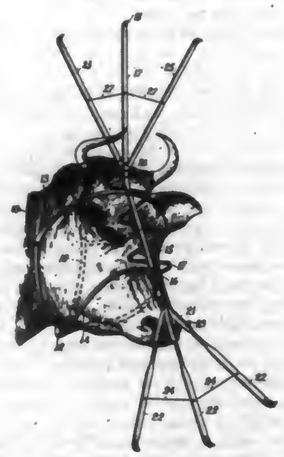
977,927. WATER-TUBE STEAM-GENERATOR. ACHILLE BUGNON, Paris, France. Filed Feb. 9, 1909. Serial No. 477,008.



1. A steam generator practically instantaneous, comprising a series of steam generating tubular elements, each of which is composed of a tube, of a core in the said tube, of transversal partitions at the ends of the core and of longitudinal partitions between the core and the tube, each of the said transversal partitions having an aperture or opening for the purpose of putting the end of the tube in communication with the space intervening between two of the longitudinal partitions, and the longitudinal partitions having openings arranged alternatively at their ends, save in the case of one of the longitudinal partitions which is without an opening, whereby a zigzag channel is formed in the tube.

2. In a steam generator the combination of a water tube, a central tube with two integral ends, radial wings solid with the water tube and resting against the central tube, and rings in the extremities of the water tube, the wings being notched alternately at one end and at the other so that a sinuous path is formed and each ring having a notch in its periphery for the passage of water.

977,928. YOKE FOR CATTLE. CHARLES T. CARLETON, Portales, N. Mex. Filed Apr. 16, 1910. Serial No. 555,944.

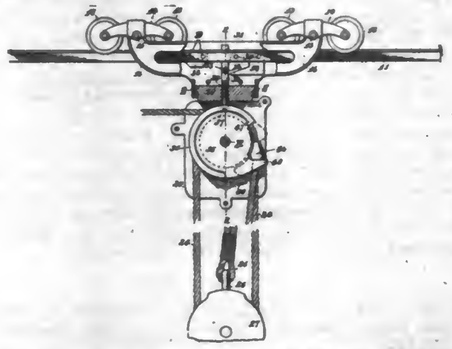


1. In a yoke for cattle, a collar, a member, means by which the member is supported by the collar, a series of prong members pivoted to the said member, the prong members having tubular portions, a second series of prong members having terminals disposed in the tubular portions of the first-mentioned prong members respectively, means for holding the prong members in the second series relatively to the prong members in the first series respectively, and members connecting the second-mentioned prong members.

2. In a yoke for cattle, a collar, a loop secured to the collar and adapted to be disposed across the face of an animal, a member bent back and forth and secured relatively to the loop, the member being extended upwardly a distance above the loop and having its upper terminal fashioned into a prong, a series of prong members pivoted to the bent member at its lower end, the prong members having tubular portions, and a second series of prong members having terminals disposed in the tubular portions of the first-mentioned prong members respectively, means for holding the prong members in the second series relatively to the prong members in the first series respectively, and members connecting the second-mentioned prong members.

3. In a yoke for cattle, two collar members having upper and lower terminals respectively, a loop having two terminals, a bolt connecting the lower terminals of the collar members, the bolt being disposed through orifices in the terminals of the loop, a bolt connecting the upper terminals of the collar members, a link pivoted to the second bolt, a bent member, means pivotally connecting the bent member to the link, and means for holding the bent member relatively to the loop.

977,929. AUTOMATIC CARRIER. MARTIN HUBERT CAWLEY, Epworth, N. D. Filed July 12, 1910. Serial No. 571,629.



1. An automatic carrier, comprising a carrier track system; a wheel supported truck having a depending frame; a hoisting mechanism suspended from said frame embodying a hoisting cable; a bolt vertically mounted in guides in said frame; a plurality of movable stop plates mounted upon said track and extensible therefrom; means for removing said stop plates from the path of said bolt; and a wheel infolding in guiding relation the said cable, said wheel having a recess formed in the periphery thereof to receive said bolt in lowered position.

2. An automatic carrier, comprising a carrier track system; a wheel supported truck having a depending frame; a hoisting mechanism suspended from said frame embodying a hoisting cable; a bolt vertically mounted in guides in said frame; a plurality of movable stop plates mounted upon said track and extensible therefrom; means for removing said stop plates from the path of said bolt; and a wheel infolding in guiding relation the said cable; said wheel having a recess formed in the periphery thereof to receive said bolt in lowered position, and said wheel having a supporting arm to hold the said cable in hoisted position.

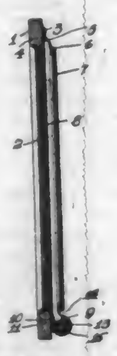
3. An automatic carrier, comprising a carrier track system; a wheel supported truck having a depending frame; a hoisting mechanism suspended from said frame embodying a hoisting cable; a bolt vertically mounted in guides in said frame, said bolt having at the end adjacent to the said track a horizontally disposed member whereby the

said bolt may be lifted; a permanent releasing member mounted on said track and extended therefrom to form an inclined surface, said member being extended into and below the path of said horizontally disposed member; and means for removing the said releasing member from the path of said horizontally disposed member.

4. An automatic carrier, comprising a carrier track system; a wheel supported truck having a depending frame; a hoisting mechanism suspended from said frame embodying a hoisting cable; a bolt vertically mounted in guides in said frame, said bolt having at the end adjacent to the said track a horizontally disposed member whereby the said bolt may be lifted; a wheel rotatively mounted on said frame to hold the said bolt in engagement with the said track, said wheel having a recess formed in the periphery thereof to receive said bolt in lowered position; a plurality of operating plates pivotally mounted on said track and having a drop plate arranged to rest in the path of said horizontally disposed member when the same is supported on said wheel, and said plates having an extension arranged to extend under and in the path of said horizontally disposed member to lift the same; a plurality of releasing members pivotally mounted upon the said track and extended therefrom to form inclined surfaces, said members being extended into and below said horizontally disposed member; and means for removing the said releasing members from the path of said horizontally disposed member.

5. An automatic carrier, comprising a carrier track system; a wheel supported truck having a depending frame; a hoisting mechanism suspended from said frame embodying a hoisting cable; a bolt vertically mounted in guides in said frame, said bolt having at the end adjacent the said track a horizontally disposed member whereby the said bolt may be lifted; a permanent releasing member mounted on said track and extended therefrom to form an inclined surface, said member being extended into and below the path of said horizontally disposed member on said bolt; means for removing the said releasing member from the path of said horizontally disposed member on said bolt; and a fixed plate disposed adjacent to one of said releasing members and opposite the inclined surface thereof, said fixed member being arranged in the path of the said horizontally disposed member on said bolt when the said bolt and horizontal member are lifted in position to release the said hoisting mechanism.

977,930. WINDOW APPLIANCE. CHRISTIAN L. CHESTER, Belle Vernon, Pa. Filed Apr. 4, 1910. Serial No. 553,345.



1. In a window appliance, the combination with a window frame having a pane of glass mounted therein, of a frame connected to said window frame and having its lower portion bent to provide a casing, means carried by the window frame and engaging the bent portion of said frame for connecting said bent portion in position, a pane of glass carried by said frame and forming in connection with the pane of glass carried by the window frame a compartment, and a heater arranged in said casing and adapted to heat the compartment formed by said panes of glass.

2. In a window appliance, the combination with a window frame having a pane of glass mounted therein, of a frame connected to said window frame and having its lower portion bent to provide a casing, means carried by the window frame and engaging the bent portion of said frame for connecting said bent portion in position, a pane of glass carried by said frame and forming in connection with the pane of glass carried by the window frame a compartment, a heater arranged in said casing and adapted to heat the compartment formed by said panes of glass, and said frame having its upper portion provided with means to constitute vent openings.

3. In a window appliance, the combination with a window frame having a pane of glass mounted therein, of a frame connected to said window frame and having its lower portion bent to provide a casing, means carried by the window frame and engaging the bent portion of said frame for connecting said bent portion in position, a pane of glass carried by said frame and forming in connection with the pane of glass carried by the window frame a compartment, a heater arranged in said casing and adapted to heat the compartment formed by said panes of glass, and a lining of non-conductive material for the inner face of said casing.

4. In a window appliance, the combination with a window frame having a pane of glass mounted therein, of a frame connected to said window frame and having its lower portion bent to provide a casing, means carried by the window frame and engaging the bent portion of said frame for connecting said bent portion in position, a pane of glass carried by said frame and forming in connection with the pane of glass carried by the window frame a compartment, a heater arranged in said casing and adapted to heat the compartment formed by said panes of glass, a lining of non-conductive material for the inner face of said casing, and said frame provided at its upper portion with means to constitute vent openings.

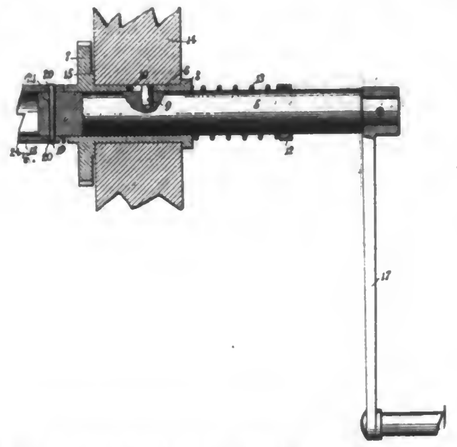
5. In a window appliance, the combination with a window frame having a pane of glass mounted therein, of an auxiliary frame secured to said window frame and carrying a pane of glass, said panes of glass opposing each other and forming a compartment, said auxiliary frame having its lower portion bent to provide a casing having its interior thereof communicating with said compartment, hooks carried by the window frame for connecting the bent portion of the auxiliary frame thereto, and a heater arranged in said casing for heating the compartment formed by the pane of glass.

[Claim 6 not printed in the Gazette.]

977,931. CRANKING DEVICE FOR INTERNAL-COMBUSTION ENGINES. ELBERT CLINTON, Hamden, Conn. Filed Aug. 10, 1910. Serial No. 576,482.

1. In a cranking device for engines, a stub shaft having a clutch member adapted to engage a clutch member on the engine shaft, a collar mounted on the stub shaft and having an opening, one wall of the opening being disposed longitudinally of the collar, the opposite wall of the opening being disposed obliquely relative to and forming with the first-mentioned wall an acute angle, a pin on the stub shaft disposed in the opening in the collar, means for preventing the rotation of the collar in one direction, and a spring means for holding the stub shaft yieldingly with the pin disposed away from the apex of the angle formed by the walls of the said opening.

2. In a cranking device for engines, a stub shaft having a clutch member adapted to engage a clutch member on the engine shaft, a collar mounted on the stub shaft, a ratchet wheel and a flange spaced from each other, a bearing in which the collar between the ratchet wheel and the flange is journaled, a pawl mounted on the bearing and engaging the ratchet wheel, a pin projecting from the stub shaft and disposed in an opening in the collar, one wall of the opening being disposed longitudinally of the collar, the opposite wall of the opening being disposed obliquely relatively to and forming with the first mentioned wall an acute angle, means for rotating the stub shaft, a projection on the stub shaft, and a spring mounted on the stub shaft between the flange and the projection.



3. In a cranking device for engines, a stub shaft having a clutch member adapted to engage a clutch member on an engine shaft, a collar mounted on the stub shaft, a ratchet wheel and a flange spaced from each other and secured to the collar, a bearing in which the collar, between the ratchet wheel and the flange, is journaled, a pawl mounted on the bearing and engaging the ratchet wheel, a pin projecting from the stub shaft and disposed in an opening in the collar, one wall of the opening being disposed obliquely relatively to the normal direction of rotation of the stub shaft and the collar, means for rotating the stub shaft, a projection on the stub shaft, and a spring mounted on the stub shaft between the flange and the projection.

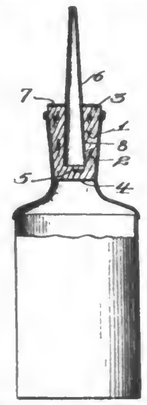
4. In a cranking device for engines, a stub shaft, a clutch member in which the stub shaft is disposed and to which it is secured, a projection on the stub shaft, a collar and a spring mounted on the stub shaft, between the clutch member and the projection, a ratchet wheel and an annular flange spaced from each other and secured to the collar, a bearing in which the collar is journaled, between the ratchet wheel and the annular flange, a pin projecting from the stub shaft and disposed in an opening in the collar, one wall of the opening being disposed obliquely relatively to the normal direction of rotation of the stub shaft and the collar, and means for rotating the stub shaft.

977,932. CLOSURE FOR RECEPTACLES. GEORGE W. COLE, Englewood, N. J. Filed Feb. 21, 1908. Serial No. 416,985.

1. The combination with a stopper having recessed and imperforate portions, of a tapered spout partially embedded in said recessed portion of the stopper and having one end closed by said imperforate portion of the stopper and the other end extending outside the stopper, the wall of the recess conforming to the tapered outline of the spout to resist the outward withdrawal of the spout from the stopper, substantially as described.

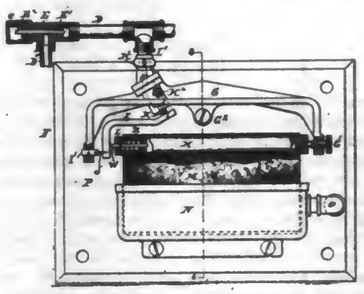
2. The combination with a stopper having a recess formed therein and an imperforate portion, of a tapered tubular spout, one end of said spout being embedded in said recess and closed by said imperforate portion, and a disk secured to said spout and adapted to bear against the outer surface of the stopper, substantially as described.

3. The combination with a stopper having a recess formed therein from the top toward the lower portion and having the lower portion imperforate, of a tapered tubular spout, the portion of greatest circumferential dimension being embedded in said recess and its end closed by said imperforate lower portion of the stopper, said spout having a disk secured thereto and adapted to bear against the outer and upper surface of the stopper, the



lower portion of said stopper being adapted to be severed and removed to uncover and expose the open end of the embedded portion of the spout substantially as described.

977,933. HUMIDITY-REGULATOR. EDWARD W. COMFORT, Pensauken township, Camden county, N. J., assignor to Warren Webster & Company, a Corporation of New Jersey. Filed Mar. 14, 1908. Serial No. 421,166.



1. In a humidity regulator, the combination of two expansible elements having different coefficients of expansion, a lever having a connection with each of the expansible elements so as to be oscillated by the joint action of said elements when expanded unequally, means to maintain one of the elements in a wet condition, and valve devices controlled by the lever.

2. In a humidity regulator, the combination of two long expansible elements having different coefficients of expansion connected together at one end, a lever having a connection with the free ends of each of the expansible elements so as to be oscillated by the joint action of said elements when expanded unequally under variations of the hygrometric condition of the surrounding atmosphere, means to maintain one of the elements in a wet condition, and valve devices controlled by the lever.

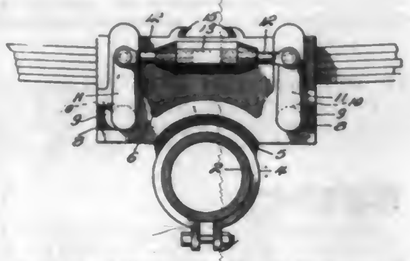
3. In a humidity regulator, the combination of two expansible elements having different coefficients of expansion, a lever having a connection with each of the expansible elements so as to be oscillated by the joint action of said elements when expanded unequally, means to maintain one of the elements in a wet condition, valve devices controlled by the lever, a motor controlled means for varying the atmospheric conditions, a pipe for supplying compressed air or gas to the motor and having a connection with the valve devices, and means for restricting the rapidity of flow of the air or gas to the motor and valve devices.

4. In a humidity regulator, the combination of a metal expansible element supported so as to freely expand in the direction of its length, a lever to control the operation of a motor device pivoted at one end to one end of the metal expansible element, a non-metallic expansible element having one end connected with the other end of the metal expansible element and having its other end jointed to the lever and also having a different coefficient of expansion from that of the metal expansible lever, and means for keeping one of the expansible elements wet.

5. In a humidity regulator, the combination of a metal expansible element supported so as to freely expand in the direction of its length, a lever to control the operation of a motor device pivoted at one end to one end of the metal expansible element, a non-metallic expansible element having one end connected with the other end of the metal expansible element and having its other end jointed to the lever and also having a different coefficient of expansion from that of the metal expansible lever, and means for keeping the non-metallic expansible element wet.

[Claims 6 to 16 not printed in the Gazette.]

977,934. VEHICLE-SPRING FASTENER. WALTER BERTRAM COOK, Medicine Hat, Alberta, Canada. Filed Apr. 23, 1910. Serial No. 557,291.



1. Means for securing a spring, the same comprising a seat upon which the spring is placed, a clip embracing the spring and seat, cam lock bolts mounted upon the clip and adapted to have their cam portions engage the seat, arms at one end of the cam lock bolts, and means for securing said arms after they have been moved to turn the cam lock bolts to draw the parts firmly together.

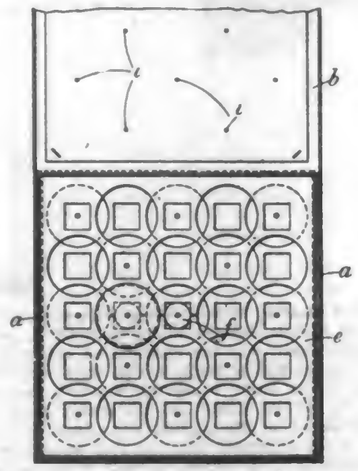
2. Securing means for a spring, the same comprising a seat upon which the spring is placed, a clip embracing the spring and seat, cam lock bolts journaled in the side members of the clip and having their cam portions in engagement with the seat, arms at one end of the cam lock bolts, bolts pivotally connected to the ends of said arms, and a turn buckle for drawing the bolts together and holding the same in an adjusted position.

3. Means for securing a spring, the same comprising a seat upon which the spring is placed, a clip embracing the spring and seat and having openings in one side and open ended slots in the opposite side, cam lock bolts mounted in the said openings and open ended slots of the clip and having their cam portions in engagement with end portions of the seat, arms at one end of the cam lock bolts, and connecting means for holding said arms in an adjusted position.

4. In fastening means of the character described, the combination of a seat provided with longitudinal webs and a clamp, a clip adapted to embrace opposite sides of the seat and having openings near the ends of one side and provided in the ends of its opposite side with outwardly opening slots, cam lock bolts mounted in the openings and slots of the clip and adapted to have their cam portions engage the ends of the said seat and to clear the longitudinal webs, arms at one end of the cam lock bolts, and means for connecting said arms and holding the same in an adjusted position.

5. Means for connecting a spring to a supporting part, said means comprising a seat having a clamp, a clip adapted to embrace the spring and seat and having openings near the ends of one side and open ended slots in the ends of the opposite side, cam lock bolts mounted in said openings and open ended slots of the clip, arms at one end of the cam lock bolts, bolts pivotally connected to the ends of said arms, and a turn buckle for connecting the said bolts.

977,935. BOX FOR PACKING ELECTRIC INCANDESCENT LAMPS. MARY ISABEL COOPER, Hockley, England. Filed June 12, 1909. Serial No. 501,830.



An incandescent lamp bulb carrier comprising a box body or housing, a pair of opposed movable closures and a pair of rack plates arranged parallel with the closed positions of said closures, said racks being provided with alternating apertures of different sizes, the larger size apertures being of circular contour and adapted to seat the bulb portion of the lamps and prevent the downward displacement of said lamps when the latter are in their upwardly disposed positions, and the smaller apertures being of square contour, the square apertures of one rack plate registering with the circular apertures of the other rack plate and being of such a dimension as to permit of the passage of the contact terminals on the diagonal lines of the square and to snugly engage the rounded neck portion of the lamp, whereby said smaller square openings, when the terminals are turned from the diagonal position, prevent the downward displacement of the downwardly disposed lamps, when the lower closure is open, substantially as described.

977,936. BED SHEET AND SHEETING. CHARLES C. COPELAND, New York, N. Y., and FRANK M. BENNET, East Orange, N. J. Filed Nov. 13, 1909. Serial No. 527,872.

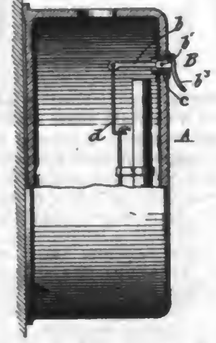


1. As a new article of manufacture, a machine-sewed bed sheet or sheeting made of a plurality of widths of cloth having their selvage edges abutted and secured together in the same plane without puckering and under equal tension, said article being of rectangular shape and having the warp threads of the cloth as well as the woof threads parallel and of the same length, substantially as set forth.

2. As a new article of manufacture, a machine-sewed bed sheet or sheeting made of a plurality of widths of cloth having their selvage edges secured together without puckering and under equal tension by locked zig-zag stitching inclosing the selvage edges and translating pulling strains upon the sheet into compression of the cloth, said article being of rectangular shape and having the warp threads of the cloth as well as the woof threads parallel and of the same length, substantially as set forth.

3. As a new article of manufacture, a machine-sewed bed sheet or sheeting made of a plurality of widths of cloth having their selvage edges abutted and secured together in the same plane without puckering and under equal tension by locked stitching crossing the join or joins obliquely and translating pulling strains upon the sheet into compression of the cloth, said article being of rectangular shape and having the warp threads of the cloth as well as the woof threads parallel and of the same length, substantially as set forth.

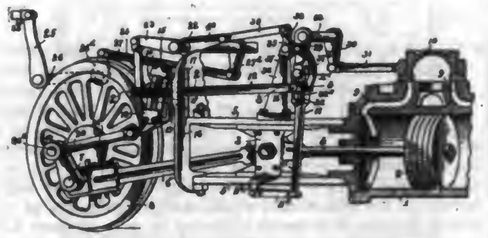
977,937. PUSH-LEVER FOR WATER-CLOSET TANKS. RAYMOND E. CRANE, Cameron, W. Va. Filed Aug. 5, 1909. Serial No. 511,305.



1. As an article of manufacture, an attachment for water closet tanks, comprising a nipple or bushing, means to secure the same in the tank wall, and a push-lever operating in said nipple and having at its forward or operating end a flattened thumb-piece immediately adjacent to and overlying the opening at the end of the nipple.

2. As an article of manufacture, an attachment for water closet tanks, comprising a nipple or bushing, means to secure the same in the tank wall, a push lever pivoted in said nipple, and a thumb-piece carried by the forward or operating end of said push lever immediately adjacent to and overlying the opening at the end of the nipple and directed obliquely to the axis of said lever.

977,938. VARIABLE-LEAD VALVE-GEAR FOR LOCOMOTIVES. WILLIAM LYNN DAVIS, Topeka, Kans. Filed Feb. 12, 1910. Serial No. 543,620.



1. The herein described improvement in valve gears for locomotive engines, comprising an oscillating link and means whereby the same is oscillated by the rotation of the driving wheel of the locomotive, in combination with the link block in, and shiftable from end to end of, said link, in combination lap-and-lead lever having one end connected with the engine cross-head for actuation thereby and having its other end operatively connected to the valve rod, a fulcrum block shiftable longitudinally upon said lever, a radius rod extending from said link block to said fulcrum block for communicating the motion of said link to said combination lever, a reversing lever and a system of levers connecting the same with both said blocks and adapted to move said fulcrum block toward the valve rod connection of the combination lever when the link block is moved from its central position toward either end of said link, and vice versa.

2. The herein described improvement in valve gears for locomotive engines comprising an oscillating link pivotally mounted or trunnioned upon the engine frame in combination with means for oscillating said link from the driving wheel of the locomotive, a link block in, and shiftable from end to end of, said link, a combination lap-and-lead lever having one end connected with the engine cross head for swinging reciprocation thereby and having its other end operatively connected with the valve rod of the engine, a fulcrum shiftable longitudinally upon said lever, a radius rod extending from said link block to said fulcrum and adapted to communicate motion from the link to said combination lever, a reversing lever or member and a system of levers operable thereby to shift said link block and said fulcrum simultaneously to decrease the valve lap as the valve cut-off is increased, and vice versa.

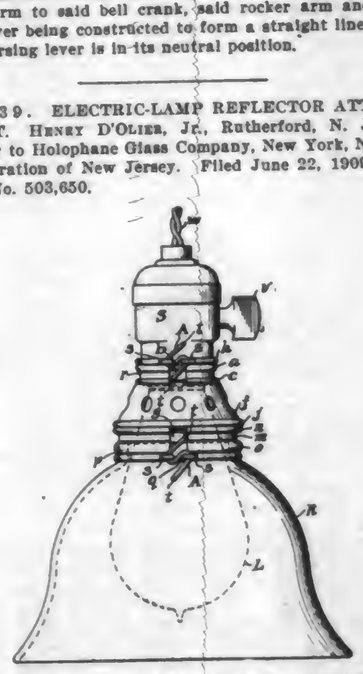
3. The herein described improvement in valve gears for locomotive engines comprising an oscillating link pivoted or trunnioned on the frame of the engine, a means for oscillating said link by the rotation of the driving wheel of the locomotive, in combination with a link block shiftable in said link, a reversing lever for shifting said block in said link, a combination lap-and-lead lever having one end connected with and actuated by the engine cross head and having its other end operatively connected with the valve rod of the engine, a radius rod connecting said link block to said combination lever at a point adjacent to the valve rod connection of the latter and mechanism connected with and actuated by said reverse lever for shifting the connection of said radius rod and combination lever in inversed conformity to the movement imparted to said link block by said reverse lever.

4. The herein described improvement in valve gears for locomotive engines comprising an oscillating link trunnioned upon the frame of the engine and means for oscillating said link from the driving wheel of the locomotive, in combination with a link block in, and shiftable from end to end of, said link, a combination lap-and-lead lever having one end connected to and actuated by the engine cross head and having its other end operatively connected with the valve rod of the engine, a radius rod extending from said link block to a pivotal point on said combination lever adjacent to the valve rod connection of the latter, a reversing lever and a system of levers connecting the same with both ends of said radius rod and operable to shift the link block in said link and, proportionally to the movement of said block away from its central position in the link, diminish the distance between said valve rod connection and said pivotal point of the radius rod and combination lever.

5. The herein described improvement in valve gears for locomotive engines comprising an oscillating link trunnioned on the engine frame in combination with means for oscillating said link from the driving wheel of the locomotive, a link block shiftable in said link, a combination lap-and-lead lever having one end connected with the engine cross head and having its other end operatively connected with the valve rod, and a fulcrum block longitudinally shiftable on said lever, a radius rod connecting said link block and said fulcrum block, a reversing lever coupled to said link block and adapted to shift said link block from end to end of said link, a bell crank coupled to said fulcrum block and adapted to move said fulcrum block toward and from the valve rod connection of said lever, a shaft coupled to and adapted to be partially rotated by movement of said reversing lever, a rocker arm extending

therefrom and a coupling link joining the free end of said rocker arm to said bell crank, said rocker arm and coupling lever being constructed to form a straight line when the reversing lever is in its neutral position.

977,939. ELECTRIC-LAMP REFLECTOR ATTACHMENT. HENRY D'OLIER, Jr., Rutherford, N. J., assignor to Holophane Glass Company, New York, N. Y., a Corporation of New Jersey. Filed June 22, 1900. Serial No. 503,650.



1. The combination with an electric lamp socket, of an attachment comprising a resilient ring member adapted to embrace said lamp socket, a wire reinforcing ring carried by said ring member, ears upon said reinforcing ring, and a locking member engaging said ears.

2. The combination with an electric lamp socket, of an attachment comprising a ring member adapted to embrace said lamp socket, a reinforcing ring carried by and in fixed relation to said ring member, ears upon said reinforcing ring, and means engaging said ears for clamping said ring member to said lamp socket.

3. The combination with a lamp socket, of a resilient ring member adapted to embrace the same, a bead on said lamp socket and extending around the same, a bead extending around said ring member and adapted to register with said socket bead, and a locking member on said ring member, said locking member when in open position limiting the opening of said ring member and allowing said bead to engage said socket bead, and said locking member when in closed position clamping said bead closely upon said socket bead.

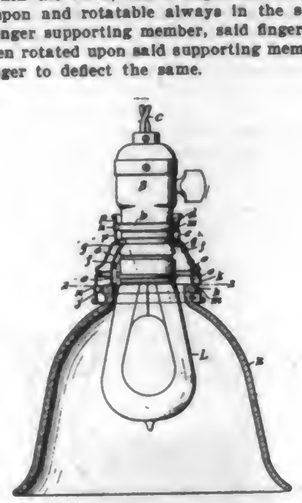
4. The combination with a lamp socket, of a shade or reflector, an extension or connector member, a ring member secured at one edge to said extension or connector member and engaging said lamp socket at its other edge, a second ring member supported at one edge by said extension or connector member and engaging at its other edge said shade or reflector, and locks on each of said ring members on their edges remote from said extension or connector member.

5. The combination with a lamp socket, of a split resilient ring member adapted to engage the same, projections on the ends of said ring member, and an S shaped locking member engaging in said projections.

[Claims 6 to 12 not printed in the Gazette.]

977,940. SHADE OR REFLECTOR ATTACHMENT. HENRY D'OLIER, Jr., Philadelphia, Pa., assignor to Holophane Glass Company, New York, N. Y., a Corporation of New Jersey. Filed Dec. 8, 1909. Serial No. 531,952.

1. In an attachment, the combination with a finger supporting member, of a finger separate therefrom and secured thereto and extending lengthwise of said supporting member within the same, and a finger actuating member supported upon and rotatable always in the same plane upon said finger supporting member, said finger actuating member when rotated upon said supporting member engaging said finger to deflect the same.



2. In an attachment, the combination with a finger supporting member, of a separate finger extending lengthwise thereof within said member and secured thereon, a finger actuating member supported upon and rotatable always in the same plane upon said finger supporting member, and a cam carried by said finger actuating member for engaging said finger to move the same into engaging position.

3. The combination with a lamp socket, of a finger supporting ring, a socket engaging finger supported within and by said finger supporting ring and extending lengthwise thereof, a finger actuating ring having a lip and groove connection with said finger supporting ring at one edge thereof and depending therefrom and rotatable with respect thereto for moving said finger into engagement with said lamp socket.

4. The combination with a lamp socket, of a finger supporting ring, a separate finger secured upon said finger supporting ring, a finger actuating member having a lip and groove connection with said finger supporting ring at one edge thereof and depending therefrom and rotatable with respect thereto, and a cam on said finger actuating member for engaging said finger beyond said finger supporting ring.

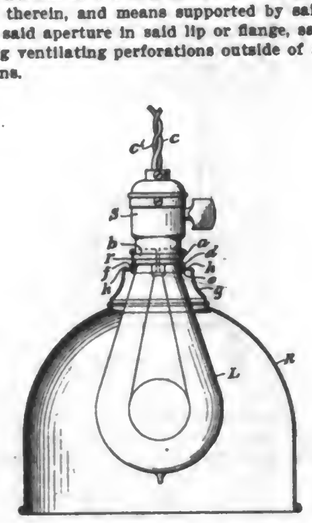
5. The combination with a lamp socket, of a finger supporting ring, a plurality of separate fingers secured to said finger supporting ring and extending lengthwise of said finger supporting ring, a shade or reflector, said fingers adapted to engage said lamp socket and said reflector at their opposite ends, and rotatable cam members supported by said finger supporting ring and movable with respect thereto always in the same plane for causing said fingers to engage said socket and said shade or reflector.

[Claims 6 to 13 not printed in the Gazette.]

977,941. SHADE OR REFLECTOR ATTACHMENT. HENRY D'OLIER, Jr., Philadelphia, Pa., assignor to Holophane Glass Company, New York, N. Y., a Corporation of New Jersey. Filed Dec. 8, 1909. Serial No. 531,953.

1. The combination with a lamp socket casing, of a shade or reflector, an extension on said shade or reflector, an inturned lip or flange on said extension at one end thereof and integral therewith, said lip or flange being normal to the axis of said socket casing and having an aperture therein, and means engaging in said aperture and engaging said lamp socket casing, said lip or flange having ventilating perforations outside of said aperture.

2. The combination with a lamp socket, of a shade or reflector unit, and means for attaching said shade or reflector unit to said socket comprising an extension on said shade or reflector unit, an inturned lip or flange at one end of said extension and integral therewith, said lip or flange being normal to the axis of said socket and having an aperture therein, and means supported by said socket engaging in said aperture in said lip or flange, said lip or flange having ventilating perforations outside of said supporting means.

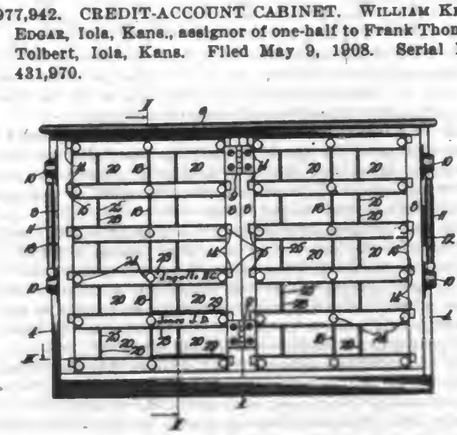


3. The combination with a lamp socket, of a shade or reflector unit, and means for supporting said shade or reflector unit upon said socket comprising an extension on said shade or reflector unit, an inturned lip or flange upon one end of said extension and integral therewith, said lip or flange being normal to the axis of said socket and having an aperture therein, a ring member engaging in said aperture and engaging said lamp socket, said lip or flange having ventilating perforations outside of said ring member.

4. As an article of manufacture, a shade or reflector having an extension thereon, an inturned lip or flange upon one end of said extension and integral therewith, said lip or flange being normal to the axis of said extension and having ventilating perforations.

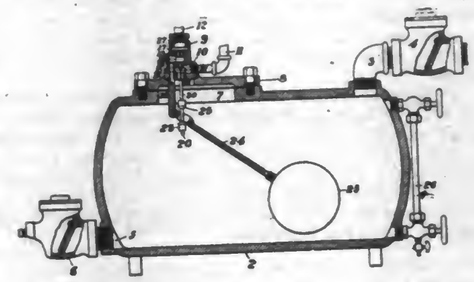
5. As an article of manufacture, a shade or reflector having an extension, an inturned lip or flange on one end of said extension and integral therewith, said lip or flange having an aperture adapted to receive supporting means, and said lip or flange having ventilating perforations outside of said aperture.

977,942. CREDIT-ACCOUNT CABINET. WILLIAM KERR EDGAR, Iola, Kans., assignor of one-half to Frank Thomas Tolbert, Iola, Kans. Filed May 9, 1908. Serial No. 431,970.



In a cabinet, the combination of a frame, comprising a back wall, trapezium-shaped side walls projecting forward from the back wall, a narrow top wall connecting the upper ends of the side walls and the back wall, and a bottom wall connecting the lower ends of the side walls and the back wall and projecting forwardly a considerable distance beyond the free edges of the top wall and the side walls, in combination with a pair of frames of rhomboid form in side elevation consisting of vertical side walls of rhomboid shape and bottom walls resting upon the bottom wall of the first-named frame and terminating a suitable distance forward of the back wall of said frame, back walls extending upwardly and rearwardly within the said frame from the side and bottom walls, and a top wall extending forwardly from the upper end of the said back walls and connecting the said side walls, hinges connecting the adjacent side walls of said pair of frames at the front edges of said walls to permit the front edges of the walls of one of said pair of frames to be folded flatly against the corresponding edges of the companion frame when said pair of frames are removed from the first-named frame, horizontal partitions for said pair of frames, and spring clamps suitably secured at their rear ends and extending downwardly and forwardly to clamp one or more slips of paper upon the underlying partitions at the front ends of the latter, and means to fasten said pair of frames reliably together when folded face to face.

977,943. TRAP. WILLIAM S. ELLIOTT, Pittsburg, Pa. Filed Oct. 20, 1908. Serial No. 458,589.



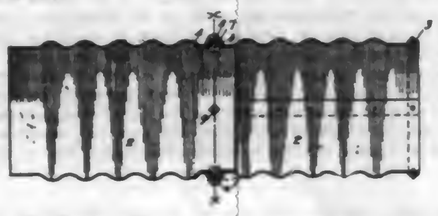
1. In trap mechanism of the character described, a chamber or vessel a valve casing connected to the chamber or vessel and having four valve-seating portions arranged in line, and a valve stem having two separate valve members, each of which has a vale face at each end said faces being adapted to the seating portions, a port arranged to be alternately opened and closed by one of the valve members, a passage leading from the inner side of said valve member to the chamber in which the second valve member is seated, and a port connecting the two valve chambers and arranged to be opened and closed by the second valve member simultaneously with the opening and closing of the first named port together with a flo connected to the valve stem, substantially as described.

2. In a trap, a trap chamber or vessel, a valve casing s cured thereto and having an inlet port, a float-operate valve stem extending into said casing, a valve member said stem controlling said port, a second valve memb also carried by said stem, seats for said valve members both the open and closed positions of the valve, and mea for equalizing the pressure on opposite sides of said me bers in the open and closed position of the valve; substa tially as described.

3. In a trap, a trap vessel or chamber, a valve casi connected thereto and communicating with the chamber vessel, said casing having an inlet port, a valve stem e tending within the casing, a float lever engaging the val stem, a valve on said stem controlling said port, and a se ond valve member also carried by said stem, the valve ca ing having a port connecting the trap chamber with t chamber in which the second valve member operates thereby equalize the pressure on opposite sides of the val members in both positions of the valve; substantially described.

4. In a trap of the character described, a chamber or vessel having valved inlet and outlet connections, a valve casing secured to said chamber and having four seating portions arranged in line, and a valve stem having two separated valve members each of which has a valve face at each end, each of said faces being adapted to one of said seating portions, the casing also having two ports which are alternately opened and closed by the seating and unseating of the valve faces, means for substantially equalising the pressure on said valve faces, and float means for actuating the valve, substantially as described.

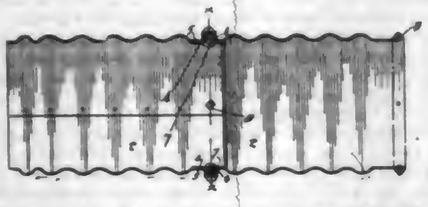
977,944. CORRUGATED CULVERT. FERDINAND J. FELDT, Peoria, Ill. Filed Aug. 29, 1910. Serial No. 579,413.



1. In combination with short corrugated tubular sections, the meeting ends extended some distance from the terminal corrugations and telescoping with each other, of a compressible band, stiffener plates, and means for securing the parts together in the relation substantially as shown.

2. The combination with short circumferentially corrugated metal sections, provided with telescoping longitudinally extending straight terminal ends and means for locking the terminal ends together, comprising a perforated band, its ends disunited, elongated perforated stiffener plates, conforming to the shape of the band and bolts and nuts or the like for securing the parts together in the relation shown and described.

977,945. CORRUGATED CULVERT. FERDINAND J. FELDT, Peoria, Ill. Filed Aug. 29, 1910. Serial No. 579,415.

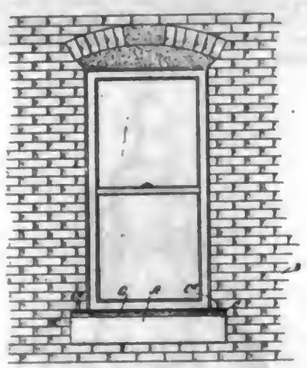


1. In combination, culvert sections provided with intertelescoping meeting ends, the entering portion of one section formed straight and the receiving portion straight with a circumferential corrugation at a point intermediate its length, a perforated ring seated in the corrugation in the receiving end, and bolts and nuts for securing the parts together, substantially as shown.

2. In combination, culvert sections provided with intertelescoping meeting ends, the entering portion of one section formed straight and the receiving portion straight with a circumferential corrugation at a point intermediate its length, a perforated ring seated in the corrugation in the receiving end, concaved washers and bolts and nuts for securing the parts together, substantially as shown.

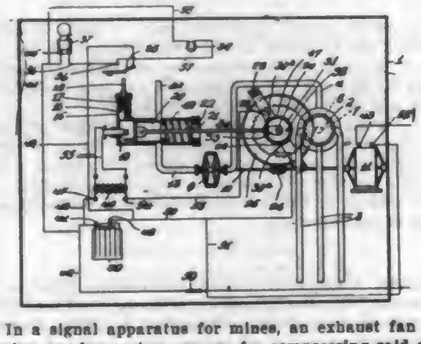
3. In combination with circumferentially corrugated metal culvert sections, provided with intertelescoping straight ends, the receiving portion having a ring seat, of a perforated ring secured in the seat, concaved washers, and bolts and nuts or the like for securing the parts together in the relation shown, substantially as described.

977,946. WINDOW-SILL. GERARD HUBERT GERAERDTS, New York, N. Y. Filed June 26, 1909. Serial No. 504,506.



A window sill of plastic material comprising a body, having on its upper face at the inner side thereof a longitudinal flat ledge provided at each end with an angular portion, the outer edge of the ledge and the angular portion being flush with the sides and ends of the sill, the upper face of the sill between the ledges sloping outwardly and downwardly, the under face of the sill having at its outer side a ledge having a flat surface and provided with a longitudinal groove, spaced apart from the outer edge and having also ledges at the ends extending to the opposite side of the sill, for the purpose specified.

977,947. DANGER-SIGNAL APPARATUS FOR MINES, &c. ANTON GROHS, East Pittsburg, Pa. Filed June 15, 1910. Serial No. 566,941.



1. In a signal apparatus for mines, an exhaust fan for removing gas from mines, means for compressing said gas, means for detonating said gas, and means for utilizing the detonation of said gas to produce a signal.

2. In a signal apparatus for mines, an exhaust fan for removing gas from mines, means for compressing said gas, electrical means for causing a detonation of said gas, and electrical means for utilizing the detonation of said gas to produce an audible and visible signal.

3. In a signal apparatus for mines, an electrically driven fan for exhausting gas from mines, electrically driven means for placing said gas under compression, an electrically operated sparking device for detonating said gas, means actuated by a detonation of said gas, and electrical means in connection with the last mentioned means for producing an audible and visible signal.

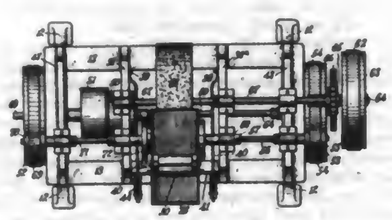
4. In a signal apparatus for mines, an electrically driven fan for exhausting gas from mines, electrically driven means for placing said gas under compression, an electrically operated sparking device for detonating said gas, means actuated by a detonation of said gas, and electrical means in connection with the last mentioned means for producing an audible and visible signal, said means

including a suitable source of electrical energy, and electric bell and lamp adapted to be placed in circuit with said source of electrical energy.

5. In a signal apparatus for mines, the combination with a compression cylinder, of means for intermittently supplying gas to said cylinder from various parts of a mine, electrical means for compressing said gas within said cylinder, an electrically operated sparking device for exploding the said gas within said cylinder, and means actuated by a detonation of said gas for producing a signal.

[Claim 6 not printed in the Gazette.]

977,948. SKEWER-MAKING MACHINE. RONELLO A. GROVER, Andover, Me. Filed Jan. 20, 1910. Serial No. 539,062.



1. A device of the character described, comprising a grinding wheel, a friction plate movable relatively to said grinding wheel, means for pressing said friction plate toward said grinding wheel in order to hold a piece of stock against the latter, a feed roller mounted upon said friction plate and movable bodily therewith toward and from said grinding wheel, and mechanism controllable at will for limiting the bodily movement of said friction plate toward said grinding wheel.

2. The combination of a revoluble grinding member, a friction plate disposed adjacent to the same, a revoluble feed member carried by said friction plate for the purpose of pressing against said grinding member a piece of stock to be operated upon, means for limiting the movements of said friction plate relatively to said grinding member, and mechanism controllable at will for exerting a predetermined degree of pressure against said friction plate and toward said grinding member.

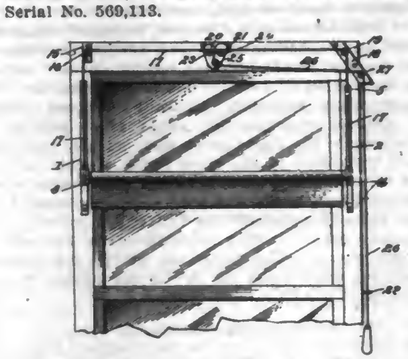
3. The combination of a feed roller provided with pockets for receiving pieces of stock to be operated upon, a revoluble grinding member disposed adjacent to said feed roller and adapted by its own friction against said feed roller to turn the same, mechanism for forcing said feed roller against said revoluble grinding member, and means controllable at will for adjusting the pressure of said feed roller against said grinding member.

4. A device of the character described, comprising a revoluble grinding member, a feed roller disposed adjacent thereto, and actuated by friction directly therewith, said feed roller being provided with pockets for receiving stock to be operated upon and for discharging said stock, and a friction plate for pressing said stock one piece at a time against said revoluble grinding member as said stock is discharged one piece at a time from said pockets.

5. The combination of a revoluble grinding member, a feed roller disposed adjacent thereto and actuated by direct frictional contact therewith, said feed roller being provided with pockets for receiving stock to be operated upon and for discharging said stock, a friction plate for pressing said stock one piece at a time against said revoluble grinding member as said stock is discharged from said pockets, means controllable at will for adjusting the pressure of said friction plate toward said grinding wheel, and mechanism also controllable at will for adjusting the pressure of said feed roller toward said grinding member.

[Claims 6 to 9 not printed in the Gazette.]

977,949. VERTICALLY-MOVABLE SHADE-BRACKET. JOEL E. HALL, Meridian, Miss. Filed June 27, 1910. Serial No. 569,113.



1. The combination with a window frame, of shade brackets vertically movably secured to the frame, plates secured to the frame above each bracket, rollers carried by said plates, a central plate secured to the frame, rollers carried by said plate, a cable passing over the upper rollers of the side plates and central plate and having its ends secured to the shade brackets, a second cable secured to the first cable intermediate the upper rollers of the central plate and extending under the lower roller of the central plate and over the lower roller of one of the side plates.

2. The combination with a window frame, of shade brackets vertically movable secured to the frame, plates secured to the frame above each bracket; a single roller carried by one of said plates, two rollers carried by the other plate, one above the other, a central plate secured to the frame, two rollers carried by the upper end of the central plate in a horizontal alinement, a third roller carried by said central plate below the upper rollers and intermediate the same, a cable passing over the upper rollers of the side and central plates and supporting the shade brackets, and a cable secured to the said cable intermediate the two upper rollers of the central plate and extending down around the lower roller of the central plate and over the lower roller of the side plate.

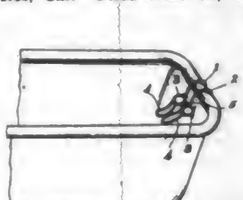
3. The combination with a window-frame, of shade brackets vertically movable on guides carried by the frame, a plate secured to the frame above one shade bracket and having a roller, an obliquely arranged plate above the other bracket and having two rollers, the upper roller arranged directly above the shade bracket, a plate secured to the center of the window frame, two rollers spaced apart and in a horizontal alinement, a third roller carried by the lower end of the plate midway between the upper rollers, a cable secured to one shade bracket and extending up over the roller carried by the plate and passing over the two rollers carried by the center plate and over the upper roller carried by the obliquely arranged plate and secured to the other shade bracket, and a cable secured to the first mentioned cable midway between the two rollers carried by the center plate and passing down around the lower roller and over the lower roller carried by the oblique plate and extending down along the side of the window frame.

4. The combination with a window-frame, of shade brackets vertically movable on guides carried by the frame, a plate secured to the frame above one shade bracket and having a roller, a plate arranged above the other bracket and having two rollers, the upper roller arranged directly above the shade bracket, a plate secured to the center of the window frame and having two rollers spaced apart and in a horizontal alinement, a third roller carried by the lower end of the plate midway between the upper rollers, and a cable having its ends secured to the shade brackets and passing upwardly over the rollers carried by the side bracket and inwardly over the two upper rollers of the center plate, a cable secured to the first mentioned cable between the two rollers and passing down

around the lower roller and over the lower roller of the side plate, and a weighted handle secured to the cable and adapted to counterbalance the shade.

5. The combination with a window frame, of elongated flat metal guides having offset end portions forming a securing portion, shade brackets having angular socket portion through which pass the brackets and having central horizontally extending vertically disposed plates having openings receiving the shade roller pintles, a roller secured to the frame above each bracket, two rollers above the center of the shade roller, a cable having its ends secured to the shade brackets and passing over the side roller and two center rollers, a cable secured to the first cable intermediate the two center rollers, and passing down below a center roller below the two center rollers and over a roller below one of the side rollers and extending down along the side of the window frame and a weighted handle carried thereby.

977,950. BATH-TUB HEAD-REST. ABRAHAM HARRISON, Los Angeles, Cal. Filed June 10, 1910. Serial No. 566,231.

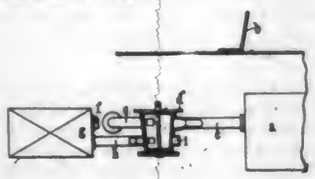


1. A device of the class described comprising a single piece of material having its ends or terminals bent into supporting hooks and its intermediate portion constructed to form a series of loops for supporting a head, together with a resilient connection between the loops and hooks.

2. A device of the class described comprising a pair of hook members, a series of loops connected together and constructed to form a concave seat, and spring loops interconnecting the hooks and said loops.

3. A device of the character described comprising a pair of hooks, a head rest, and springs interconnecting the hooks and the head rest.

977,951. DEVICE FOR REGULATING THE SUBMERSION OF SUBMARINE BOATS AND THE LIKE. MARLEY FOTHERINGHAM HAY, Fiume, Austria-Hungary, assignor to Whitehead & Company, Fiume, Austria-Hungary, a Corporation of Hungary. Filed June 22, 1910. Serial No. 568,396.

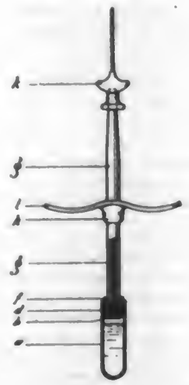


1. Mechanism for controlling the diving mechanism of submarine boats comprising a ballast tank, a pump, and conduits communicating with the ballast tank, the external water, and the inlet and outlet of the pump, in combination with a distributing-cock interposed in said conduits and having passages so arranged that in one position it connects the suction side of the pump to the external water and the discharge side of the pump to the tank, whereby the tank may be filled; in another position it connects the suction side of the pump to the tank and the discharge side to the external water, whereby the tank may be emptied; and in a third position it connects the suction side of the pump to the discharge side thereof; whereby the pump may be driven constantly in the same direction, and by manipulating the distribution cock, may be short-circuited or employed to fill or empty the ballast tank.

2. In mechanism for controlling the diving of submarine boats, a distributing cock having a casing, three conduits disposed symmetrically about the periphery of the casing and communicating respectively with the outside water, with a ballast tank, and, with a discharge of a pump, a fourth conduit extending from the casing to the intake of the pump, and a hollow plug within the casing and adapted in one position to connect the suction side of the pump to the external water and the discharge side of the pump to the tank, whereby the tank may be filled; in another position to connect the suction side of the pump to the tank and the discharge side to the external water, whereby the tank may be emptied; and in a third position to connect the suction side of the pump to the discharge side thereof; whereby the pump may be driven constantly in the same direction, and by manipulating the distribution cock, may be short-circuited or employed to fill or empty the ballast tank.

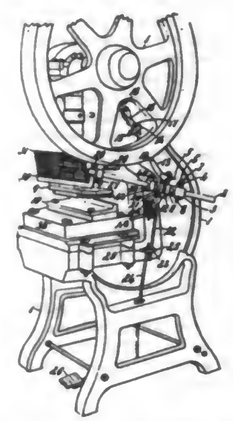
3. In mechanism for controlling the diving of submarine boats, a distributing cock having a casing, three conduits disposed symmetrically about the periphery of the casing and communicating respectively with the outside water, with a ballast tank, and with the discharge of a pump, said casing having also an annular peripheral chamber *i* on a different plane, a fourth conduit connecting said chamber with the intake of the pump, a hollow plug *j* within the casing, a partition *k* dividing the interior of such plug into two compartments of which one *m* has an orifice *p* communicating with the annular chamber *i* and an orifice *o* arranged to register with the three symmetrically disposed conduits, and of which the other compartment *n* has an orifice *q* situated on the plane of the first conduits, and of sufficient extent to connect any two of said conduits, and also an orifice *r* situated on the plane of the annular chamber *i*.

977,952. SURGICAL SYRINGE. ADOLF HEILMANN and BERTHOLD TAUSS, Leipsig, Germany. Filed Mar. 12, 1910. Serial No. 548,839.



In a surgical syringe, the combination of a cylinder provided with an open end, a cup shaped plug fitted tightly in the open end portion of the cylinder and formed at its bottom portion with a central aperture, an axially perforated piston rod provided at one end with a threaded boss of less diameter than the hollow portion of the plug and adapted to be screwed into the aperture of the plug, and formed with a collar adjacent to said boss to engage the outer end of the plug and coöperate with the threaded boss to expand the plug when the parts are screwed together, and a handle carried by the piston rod for forcing the same toward the closed end of the cylinder.

977,953. SAFETY-GUARD FOR STAMPING-PRESSES. JAMES MELVIN JONES, Buffalo, N. Y. Filed Aug. 18, 1910. Serial No. 577,812.



1. The combination with a stamping press of a safety guard attachment comprising a lever pivoted by means of a slotted bracket to a projection on the press frame, an adjustable guard carried by said lever and adapted for up and down movement in front of the dies, an adjustable buffer device carried by the aforesaid lever for preventing hammering and rigid connections between said lever and the latch and foot lever, substantially as set forth.

2. In combination with the latch and foot lever of a stamping press, a lever pivoted to the press framework intermediate said latch and foot lever, by means of a slotted bracket, a box-shaped bracket arranged at or near the front end of said intermediate lever and adapted to be firmly clamped thereto, a slot formed in one side of said box-shaped bracket to receive one arm of an angle bar, a wire screen rigidly attached to the other arm of said bar, teeth formed on the inner edge of the arm received in the aforesaid slot, a similarly toothed key-piece for coöperation with said toothed arm, a set screw for locking said key-piece to said arm and rigid connections from said intermediate lever to the latch and foot lever, substantially as described for the purpose specified.

3. In combination with the latch and foot lever of a stamping press, a lever pivoted to the press framework intermediate said latch and foot lever by means of a slotted bracket, a box-shaped bracket arranged at or near the front end of said intermediate lever and adapted to be firmly clamped thereto, a slot formed in one side of said box-shaped bracket to receive one arm of an angle bar, a wire screen rigidly attached to the other arm of said bar, teeth formed on the inner edge of the arm received in the aforesaid slot, a similarly toothed key-piece for cooperation with said toothed arm, a set screw for locking said key-piece to said arm, a box-shaped sleeve adapted for clamping engagement with the intermediate lever, said box-shaped sleeve having formed at one side thereof a cylindrical recess in which is disposed a spring pressed plunger adapted for adjustment relative to said box-shaped sleeve, an angle bracket having serrations formed on one arm thereof, a clamping plate similarly serrated for coöperation with the aforesaid serrated arm, means for clamping said bracket to the press frame, and rigid connections between the intermediate lever and the latch and foot lever, substantially as described for the purpose specified.

4. In combination with the latch and foot lever of a stamping press, the lever 2, having slotted bracket 5 thereon, box-shaped bracket 28, provided with slot 34, to receive toothed arm 29, toothed key-piece 33, and set screws 36, for locking said key-piece and toothed arm together, substantially as shown.

5. In combination with the latch and foot lever of a stamping press, the box shaped sleeve, 39, having a cylindrical recess 41, at one side thereof, piston rod 42, with plunger head 43, and coil spring 44, arranged in said recess 41, and adapted for adjustment by lock nuts 45, and angle brackets 46, with clamping plate, 47, for fixture on the press frame, substantially as shown.

977,954. POCKET CIGARETTE-MAKING DEVICE. HENRY C. KARLSON, Hasbrouck Heights, N. J. Filed Mar. 9, 1910. Serial No. 548,157.



1. In a device of the character described the combination of a receptacle adapted to contain tobacco, a telescopic cigarette forming tube at one end of said receptacle and a plunger approximately in alinement and coacting with said forming tube adapted to fold alongside said receptacle.

2. In a device of the character described the combination of a receptacle adapted to contain tobacco, a guide sleeve formed with one side of said receptacle at one end thereof, a cigarette forming tube in engagement with said guide sleeve adapted to recede within or extend beyond said receptacle and a plunger located approximately opposite to and coacting with said forming tube adapted to fold with said receptacle.

3. In a device of the character described the combination of a receptacle adapted to contain tobacco, a narrower neck portion for said receptacle at one end thereof, a guide sleeve with said neck portion, a cigarette forming tube slidable within said guide sleeve and extending beyond the latter when in a receding position for manipulation thereof and a plunger coöperating with said forming tube adapted to fold alongside said receptacle.

4. In a device of the character described the combination of a receptacle adapted to contain tobacco, a narrow neck portion for one end of said receptacle, a retainer with a flaring end communicating with said neck portion, a guide sleeve for the other end of said retainer, a telescopic cigarette forming tube engaging said guide sleeve with a portion thereof extending beyond the latter for manipulating, a slide suitably held in coacting position with said receptacle adapted to close and maintain said forming tube in a locked position and a plunger coöperating with and located approximately opposite said forming tube.

5. In a device of the character described the combination of a receptacle adapted to contain tobacco, a neck portion for one end of said receptacle, a retainer communicating with said neck portion, a guide sleeve projecting outwardly from said retainer, a cigarette forming tube in slidable engagement with said guide sleeve, a flaring upper portion for said forming tube registering with said retainer when in an extended position beyond said receptacle, a corrugated lower portion for said forming tube to provide a manipulating grip therefor, a slide coacting with said receptacle adapted to maintain said forming tube in a closed position therewith and a coöperating plunger in approximate alinement with said forming tube.

[Claims 6 to 19 not printed in the Gazette.]

977,955. CUTTER-HEAD FOR TUNNELING-MACHINES. JOHN PRUE KARNS, Boulder, Colo., assignor to J. P. Karns Tunneling Machine Co., Boulder, Colo. Filed May 25, 1909. Serial No. 498,244.

1. A cutter head for tunneling machines having a circular series of radial cutter blades of which a number are of less radial extent than the others, said cutter blades being adapted to deliver impact blows upon the breast of the tunnel, and pivotally mounted trimmers exterior to and in radial alinement with the shorter radial cutter blades, said trimmers being elastically impelled toward the active position and inactive on the retractive movement of the cutter head.

2. A cutter head for tunneling machines having cutter blades adapted to deliver impact blows on the breast of the tunnel, and trimmers carried by the cutter head at the periphery thereof each consisting of a pivoted block and a trimmer point removably carried thereby.



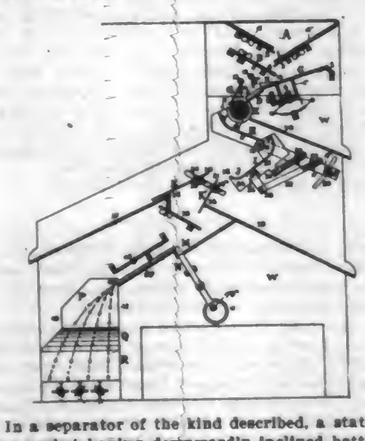
3. A cutter head provided with cutter blades and having spaced parallel ribs constituting holders for the cutter blades, a portion of the cutter blades being arranged in circular series of less radial extent than others and the ribs beyond the ends of the blades of less radial extent being formed into matching ears, and trimmers located between said ears and pivotally connected thereto.

4. In a tunneling machine, a cutter head provided with a circular peripheral series of radial seats, cutter blades in said seats, some of the cutter blades being of less radial extent toward the periphery of the cutter head than others, and trimmers carried at the outer ends of the shorter cutter blades and lodged in the radial seats.

5. In a tunneling machine, a circular cutter head provided with a circular peripheral series of radial seats, some of the seats terminating at their outer ends in ears spaced apart to a greater extent than the width of the seats, cutter blades in said seats, the cutter blades in those seats having ears at their outer ends terminating short of said ears, and trimmers pivotally carried by said ears.

[Claim 6 not printed in the Gazette.]

977,956. SEPARATOR FOR LUMP MATERIAL. ARTHUR LANGERFELD, Scranton, Pa. Filed Mar. 15, 1902. Serial No. 98,381.



1. In a separator of the kind described, a stationary receiving pocket having downwardly inclined bottom pieces and having a restricted discharge opening between said pieces, one of said inclined bottom pieces being extended under the other, a bottom plate inclined oppositely to and extending under and adjacent to the lower end of said extended bottom piece, and forming therewith a stationary secondary pocket having a restricted outlet opening, a feed plate arranged below the outlet of said secondary pocket and inclined oppositely to said bottom plate, means for vibrating said feed plate and separating mechanism arranged to receive the material from said feed plate.

2. In a separator, the combination with a differentiating slide and one or more separating partitions at the lower end of the slide, of means for feeding the material to be separated onto the slide comprising a feed roller at the upper end of the slide, an inclined feed plate arranged to convey material to said roller the inclination of said plate being such that the material will not slide freely thereon, means for giving sudden or jarring movements to said plate, and means for delivering the material onto said plate.

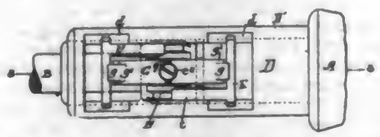
3. In a separator, the combination with a differentiating slide and one or more separating partitions at the lower end of the slide, of means for feeding the material to be separated onto the slide comprising a feed roller at the upper end of the slide, an inclined feed plate arranged at such an angle that the material will not slide freely thereon, means for vibrating said plate, and a stationary slide section arranged to conduct the material from said plate to the roller.

4. In a separator, the combination with a differentiating slide and one or more separating partitions at the lower end of the slide, of means for feeding the material to be separated onto the slide comprising a feed roller at the upper end of the slide, an inclined feed plate arranged at such an angle that the material will not slide freely thereon, having a plain upper portion and ribs or stream breakers near its lower end, means for vibrating said plate, and a stationary slide section arranged to conduct the material from said plate to the roller.

5. In a separator, the combination with a differentiating slide and one or more separating partitions at the lower end of the slide, of means for feeding the material to be separated onto the slide comprising a feed roller at the upper end of the slide, an inclined feed plate arranged at such an angle that the material will not slide freely thereon, having a plain upper portion and ribs or stream breakers near its lower end, means for vibrating said plate, and a stationary slide section having channels arranged to conduct the material from said plate to the roller.

[Claims 6 to 54 not printed in the Gazette.]

977,957. RATCHET MECHANISM FOR SCREW-DRIVERS, &c. GEORGE O. LEOPOLD, Philadelphia, Pa., assignor to North Bro's M'f'g Co., Philadelphia, Pa., a Corporation of Pennsylvania. Filed May 22, 1909. Serial No. 497,649.



1. The combination in ratchet mechanism, of a support, a spindle mounted in the support, a ratchet wheel on the spindle, a sliding pawl piece having two pawls adapted to slide on the support, one of said pawls extending toward the center from one end of the pawl piece and the other extending toward the center from the other end of the pawl piece, said pawl pieces lying parallel to the axis of the ratchet wheel, the pawls terminating short of the center so that they will not overlap, the width of the ratchet being less than the length of the pawl so that either one or the other or both of the pawls will engage the ratchet wheel.

2. The combination in ratchet mechanism, of a support, a spindle mounted in said support, a ratchet wheel on the spindle, a sliding pawl piece having end members and a connecting central member, the pawl extending from one end member toward the center at one side of the central member, a second pawl extending from the other end member toward the center on the other side of the central connecting member, said pawls lying parallel to the axis of the ratchet wheel, the ends of the pawl stopping short of the center of the pawl piece so as not to overlap, the said ratchet wheel being less in width than the length of the pawls so that the pawl piece can be shifted to throw into engagement either one or the other or both of the pawls with the ratchet wheel.

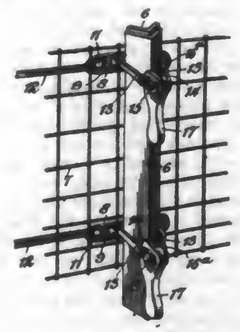
3. The combination of a barrel, a spindle mounted in the barrel and having a ratchet wheel thereon, the teeth of the ratchet wheel being beveled at each end, the barrel having slideways, parallel to the axis of the ratchet, a sliding pawl piece having end members adapted to the slideways and a central connecting piece with pawls projecting toward the center from each end piece, said pawls having beveled ends, and means for holding the pawl piece onto its slideways.

4. The combination of a barrel, a spindle adapted to bearings in the barrel, a ratchet wheel on the spindle, a sliding pawl piece having pawls arranged to engage the ratchet wheel and having a central member, a spring mounted above the pawl piece and having projections resting on the end of the pawl piece and turned down portions extending on each side of the central member of the pawl piece so as to keep the spring central, and a casing inclosing the above described parts.

5. The combination of a barrel, a spindle mounted in the barrel, a ratchet wheel on the spindle, slideways on the barrel, a pawl piece having a central member and end members, said end members resting upon the slideways, a pawl projecting from each end piece toward the center, a spring resting upon the pawl piece and held so as to move with it, a casing, a slot in the casing having a series of notches in its walls, a pin projecting from the pawl piece through the slot in the casing, the spring having a central opening for the free passage of the pin and having projections on each side of the opening adapted to enter the notches in the walls of the slot in the casing.

[Claims 6 to 8 not printed in the Gazette.]

977,958. FENCE-CLAMP. EDGAR LOVE, Darlington, Ind. Filed Nov. 16, 1909. Serial No. 528,384.



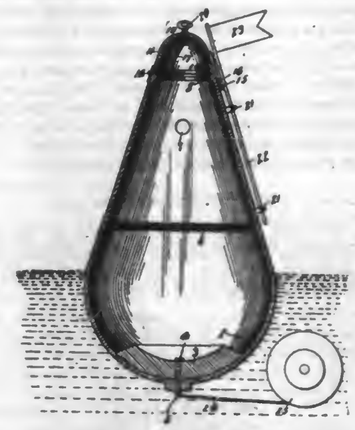
1. A device of the class described, comprising parallel clamping members, a plurality of spaced base plates extending across and adjustable along the inner member, stirrups embracing the members and having their free ends detachably connected to the base plates, cams connected to the other ends of the stirrups and adapted to operate against the outer clamping member for drawing the said members together, and means connected to each base plate for attaching a wire stretcher, said stirrups and base plates being held in locked relation by the pull of the stretching means.

2. A device of the class described comprising clamping members, a base plate engaging one of the members and having one end extending beyond the same, a stirrup embracing the members and having its free ends detachably connected to the base plate, and a cam connected to the other end of the stirrup and adapted to operate against the other clamping member for drawing said members together, said extended end of the base plate providing means for attaching a wire stretching device, said stirrup and base plate being held in locked relation by the pull of the stretching means.

3. A device of the class described, comprising substantially V-shaped clamping members arranged one within the other, a base-plate engaging the base of the inner member and including spaced and substantially T-shaped openings, a cam engaging the apex of the outer member, and links pivotally connected to the cam and detachably connected to the base-plate through the spaced openings thereof for drawing the clamping members together upon the movement of the said cam.

4. A device of the class described, comprising substantially V-shaped clamping members arranged one within the other, a base-plate engaging the base of the inner member, and including spaced and substantially T-shaped horizontal openings, a cam engaging the apex of the outer member and provided with a grooved working edge, links pivotally connected to the cam and detachably connected to the base-plate through the spaced openings thereof for drawing the clamping members together upon the movement of the said cam, said links being provided at their free ends with enlarged heads adapted to engage the openings of the base-plate, and means secured to the base-plate for attaching a wire stretcher.

977,959. BUOY. THOMAS MATTHEWS, Brooklyn, N. Y. Filed Dec. 18, 1909. Serial No. 533,871.

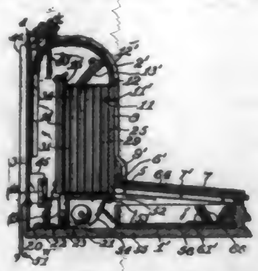


A buoy for the purpose specified comprising a hollow floating body embodying a hemispherical bottom portion and a correspondingly shaped ballasting lining in said base, an elevated deck within the body, a reel having a line wound thereon with one end connected to the reel and the other end connected to the buoy body and a hollow hemispherical cap section hinged to the main body of the buoy, a spring for closing said cap section, a spring catch for holding the cap section closed and an annular gasket of cylindrical shape in cross section seated in semi-cylindrical grooves in the abutting edges of the main body and cap section of the buoy, substantially as described.

977,960. FILING APPLIANCE. PERRY A. MCCASKEY, Alliance, Ohio, assignor to The McCaskey Register Company, Alliance, Ohio, a Corporation of Ohio. Filed Oct. 3, 1907. Serial No. 395,753.

1. In a filing appliance, the combination with the casing, of a carrier, means for pivotally supporting the carrier in the casing, a plurality of removable bill holding

leaves, means mounted on the carrier for pivotally supporting the said bill holding leaves relatively to each other, and means engaging with the top of the said carrier for inclosing the bill holding leaves in the casing.



2. In a filing appliance, the combination of a pivotally mounted carrier, a plurality of bill holding leaves adapted to swing from a substantially vertical to a substantially horizontal position, and means for pivotally and detachably mounting the said leaves on the carrier.

3. In a filing appliance, the combination of a pivotally mounted carrier, a plurality of bill holding leaves hinged together and adapted to swing from a substantially vertical position to a substantially horizontal position, and means for detachably mounting the said leaves on the carrier.

4. A filing appliance including a pair of stationary pivots, a carrier mounted on the pivots and extending below the plane of the pivots when in upright position, and a group of bill-holding leaves connected pivotally together and means for removably securing the foremost leaf to the carrier and thereby supporting the remaining leaves.

5. A filing appliance including a case, a carrier pivoted in the case to normally stand upright and extend below the plane of the pivots, a cushion in the case, a plurality of bill-holding leaves hinged together, and means for removably securing the foremost leaf to the carrier, the rearmost leaf normally resting on the cushion and movable therefrom when the carrier moves on its pivots.

[Claims 6 to 28 not printed in the Gazette.]

977,961. FILING APPLIANCE. PERRY A. MCCASKEY, Alliance, Ohio, assignor to The McCaskey Register Company, Alliance, Ohio, a Corporation of Ohio. Filed Feb. 19, 1908. Serial No. 416,789.



1. A filing appliance including a pivoted guide, and a plurality of leaves pivotally connected together and the foremost leaf pivotally supported, the rearmost leaf engaging and operating the guide and having its top guided thereby when one or more of the remaining leaves moves forward pivotally.

2. A filing appliance including a cabinet having a guide pivoted therein, and a plurality of leaves pivotally connected together and inserted removably in the cabinet clear of the guide, the foremost leaf being pivotally supported and supporting and carrying the remaining leaves clear of the guide, the rearmost leaf engaging and operating the guide and having its top guided thereby only when one or more of the remaining leaves moves forward pivotally.

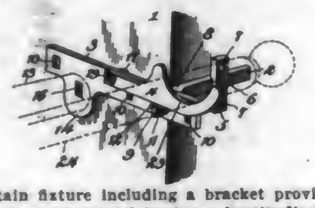
3. A filing appliance including a cabinet, a plurality of bill-holding leaves pivotally mounted in the cabinet in upright position and movable forward to prone position, a guide mounted movably in the cabinet and comprising a horizontal bar acting, when one or more of the leaves forward of the rearmost one are moved forward, to move the upper end of the rearmost one forward, the rearmost one engaging and moving the bar, and a plate or plates mounted on the bar and carried thereby with the rearmost one of the leaves when moved and having index characters thereon.

4. A filing appliance including a plurality of bill-holding leaves having each a hinge-bar on one end thereof provided with pairs of lips and also hinging ears, the ears of one hinge-bar being pivotally connected to the ears of another adjacent hinge-bar, and frame strips attached to the leaf and also to the lips of the hinge-bar, a strip to each lip.

5. A filing appliance including a cabinet having a guide comprising a bar provided with arms pivoted to the cabinet to swing upward and forward, and a plurality of bill-holding leaves hinged together and the foremost one of the leaves supported pivotally in the cabinet, the rearmost one of the leaves engaging the bar of the guide to swing it and thereby being moved forward at its top when the rearmost leaves are elevated and moved forward at their bottoms.

[Claims 6 to 24 not printed in the Gazette.]

977,962. CURTAIN-FIXTURE. CHARLEY MCDONNER, Manitowoc, Wis., assignor of one-half to Charley Simono, Two Rivers, Wis. Filed Mar. 10, 1910. Serial No. 548,410.



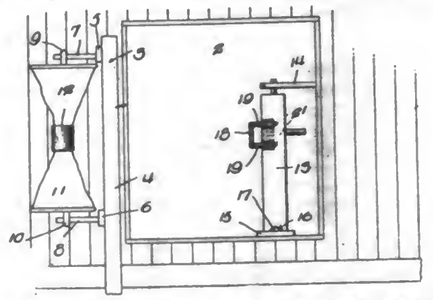
1. A curtain fixture including a bracket provided with a plurality of openings and having a longitudinal slot located above the said openings, a pole supporting member having a fastening device operating in the slot of the bracket, and a slide provided with a lug extending through one of the openings of the bracket and supporting the latter and also located beneath the pole supporting member and forming a rest or support for the same.

2. A curtain fixture including a bracket having a depending shade supporting portion and provided with a plurality of openings and having a longitudinal slot, a slide having a lug secured to one of the openings of the bracket and supporting the same, and an adjustable pole supporting member fitted against the bracket and having a fastening device operating in the said slot.

3. A curtain fixture including a bracket having a depending shade supporting portion and provided with a plurality of openings and having a longitudinal slot, a slide having a lug secured to one of the openings of the bracket and supporting the same, and an adjustable pole supporting member fitted against the bracket and having a bolt piercing the pole supporting member and provided with a flattened portion operating in the slot, and a nut engaging the bolt and having an annular portion receiving the pole supporting member.

4. A curtain fixture including a horizontal slide adapted to extend across the side of the window casing and having a reduced inner end forming a lug, a clamping plate provided with a recess to receive the slide and securing the same in its adjustment, a bracket provided with a plurality of openings to receive the lug of the slide and having a horizontal slot located above the openings, means for securing the bracket to the lug, and an adjustable pole supporting member fitted against the bracket and provided with a fastening device operating in the slot.

977,963. MAIL-CATCHING DEVICE. RUFUS E. MOODY, Nova, Ohio. Filed Apr. 23, 1910. Serial No. 557,262.

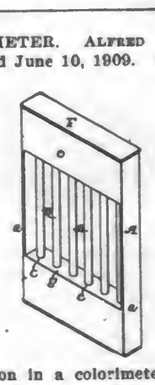


1. In combination with a station post and a mail bag loosely mounted thereon, said bag having its central portion provided with an electro-conductive member forming an armature, a receiving device, said receiving device comprising a crane having connected thereto an electro-magnet, and means for energizing or deënergizing the electro-magnet.

2. In combination with a suspending device, of a mail bag upon the same, said mail bag being provided with an armature, a receiving device comprising a substantially V-shaped crane, said crane having its enlarged portion wrapped to provide an electro-magnet, the crane and the electro-magnet being positioned within the path of the armature of the mail bag, the coils comprising the electro-magnet being connected with a battery, and a switch for energizing or deënergizing the electro-magnet.

3. The combination with a mail bag provided with an armature, a receiving crane provided with an electro-magnet, said crane being mounted upon a vertically movable post, said post having its lower extremity provided with substantially V-shaped depressions arranged at right angles to each other, an independent base for the post, said base being provided with substantially V-shaped projections adapted to engage the depressions of the post to retain the same in its swung position.

977,964. COLORIMETER. ALFRED M. PARKS, Philadelphia, Pa. Filed June 10, 1909. Serial No. 501,358.



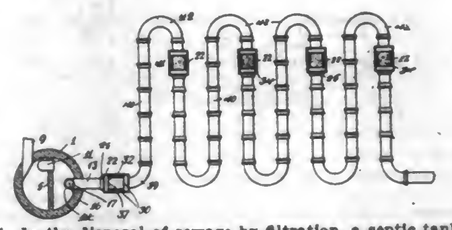
1. The combination in a colorimeter, of a box having two transverse partitions spaced apart, said partitions being perforated, and a single series of tubes extending through the perforations in the partition, the center portion of the tubes being exposed and the back of the box being of a contrasting color with the material in the tubes.

2. The combination in a colorimeter, of a box having a back and two transverse perforated partitions spaced part, the space above and below the said partitions being closed, leaving the central portion of the tubes exposed, and the portion of the back between the partitions and back of the tubes being of a contrasting color with the material in the tubes.

3. The combination in a colorimeter, of a box having sides and a solid back, two transverse partitions spaced apart and perforated for the reception of tubes, the upper and lower portions of the box, beyond the partitions, being closed, a removable lid at one end of the box for the removal of the tubes, and a cover adapted to inclose the portion of the box between the partitions, the body of the box back of the tubes being of a contrasting color with the material in the tubes.

4. The combination in a colorimeter, of a box having transverse partitions perforated for the reception of tubes, the space above and below the said partitions being closed, with a removable back and cover for the space between the partitions, the inner surface of the back and cover being of a contrasting color with the material in the tubes.

977,965. SEWAGE DISPOSAL BY FILTRATION AND AERATION. JOHN B. PAUL, Pittsburg, Pa. Filed Mar. 5, 1910. Serial No. 547,532.



1. In the disposal of sewage by filtration, a septic tank, a plurality of filtering units in communication with said tank and adapted to receive sewage from said tank to flow through said units by gravity, each unit comprising a well, a housing at the bottom of said well, a filtering cage in said housing, pipes connecting the housings of said units, and filtering material within said pipes.

2. In the disposal of sewage by filtration, a septic tank, a plurality of filtering units in communication with said tank and adapted to receive sewage from said tank to flow through said units by gravity, means in connection with said tank and adapted to control the passage of sewage into said units, each unit comprising a housing, a removable filtering cage in said housing, and pipes connecting the housings of said units.

3. In the disposal of sewage by filtration, a septic tank adapted to receive sewage, checkered walls arranged transversely of said tank, filtering units adapted to communicate with said tank and receive sewage therefrom adapted to travel through said units by gravity, means in connection with said tank and adapted to control the passage of sewage into said filtering units, each unit comprising a well, a housing at the bottom of said well, a filtering cage removably mounted in said housing, pipes adapted to connect the housings of said units, filtering material arranged within said pipes, and air inlet pipes located in said well and adapted to extend into said pipes.

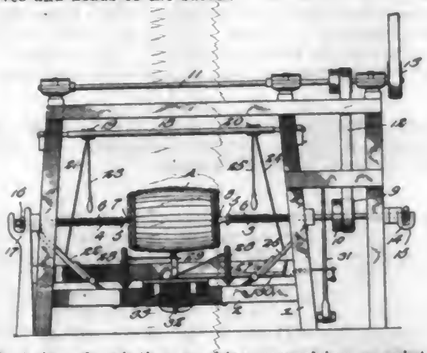
4. In the disposal of sewage by filtration, a plurality of inclined filtering units adapted to receive sewage in the uppermost unit and discharge filtered matter from the lowermost unit, each unit comprising a housing, a removable filtering cage within said housing, pipes adapted to connect said housings, and filtering material within said pipes.

5. In the disposal of sewage by filtration, a plurality of inclined filtration units adapted to receive sewage in the uppermost unit and discharge filtered matter from the lowermost unit, each unit comprising a housing, a removable filtering cage within said housing, pipes adapted to connect said housings, filtering material within said pipes and air inlet pipes adapted to extend into the last mentioned pipes to aerate the contents thereof.

977,966. BARREL-PAINTING MACHINE. JAMES PHILLIPS, Buffalo, N. Y. Filed May 13, 1910. Serial No. 561,245.

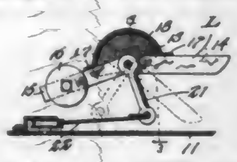
1. A barrel painting machine comprising companion gripping members adapted to be yieldingly engaged with

the barrel, one of the said gripping members being mounted for rotary movement, driving means for revolving the said gripping members, a barrel support located beneath the gripping members and adapted to support the barrel upon release of the gripping members therefrom, a paint receptacle located beneath the gripping members, and movable brushes normally extending into the said receptacle and adapted to be moved into contact with the staves and heads of the barrel.



2. A barrel painting machine comprising a paint receptacle, barrel gripping members designed to support the barrel for rotary movement at a point immediately above the said paint-receptacle, a support comprising movable members adapted to be extended beneath the barrel and to receive and support the same upon release from the barrel of the said gripping members, and movable brushes designed for movement into the said paint receptacle and adapted to be moved into contact with the barrel upon rotation thereof.

977,967. AUTOMATIC BRAKE-SETTING MECHANISM. JAMES F. REYNOLDS, Crete, Nebr., assignor to The American Railway Device Co., a Corporation of Arizona. Filed Sept. 10, 1909. Serial No. 517,350.



In a device of the character described, a supporting member such as a post or upright supported adjacent to a railroad track, a shaft extending therethrough, a lever fulcrumed upon the shaft and having one arm extending in the direction of the track and an oppositely extending arm carrying a weight, a hood supported upon the lever and having side members engaging the shaft, which latter extends through said side members, a crank extending downwardly from the lever, and means connected with said crank to rock the lever against the gravity of the weight, said means including a flexible element connected with the crank, and a suitably supported winding drum for the flexible element.

977,968. SIPHON. LOUIS RIEBE, Summithill, Pa. Filed Nov. 2, 1909. Serial No. 525,863.

1. A siphon, having an inlet and an outlet, and a by-pass between said inlet and said outlet, and a further connection between said by-pass and the siphon.

2. A siphon, having an inlet and an outlet, a plurality of passages between said inlet and said outlet, a further passage connecting said first passages, and a valve for controlling the flow of fluid through one of said first passages.

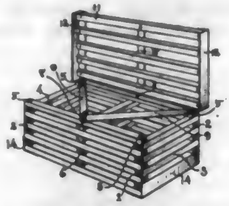
3. A siphon, comprising an inlet, an outlet, a plurality of passages between said inlet and said outlet and communicating therewith, a further passage connecting said first passages, and a valve for controlling the flow of fluid through one of said first passages, said first passages extending to different elevations.



4. A siphon, comprising a plurality of conduits extending to different elevations, and of substantially U-form, a common inlet and a common outlet for said conduits, one of said conduits having a valve controlling the flow of fluid therethrough, and a further conduit connected with one of said first conduits at the crown thereof and communicating with the other of said conduits.

5. A siphon, comprising a plurality of conduits extending to different levels, and of substantially U-form, a common inlet and a common outlet for said conduits, the lower of said conduits having a valve controlling the flow of fluid therethrough, and a further conduit connecting said first conduits and extending from the crown of the lower of said conduits to the higher of said conduits, below the crown thereof.

977,969. COLLAPSIBLE SHIPPING-CRATE. WILLIAM J. ROBERTSON, Newberg, Oreg. Filed Feb. 18, 1910. Serial No. 544,694.



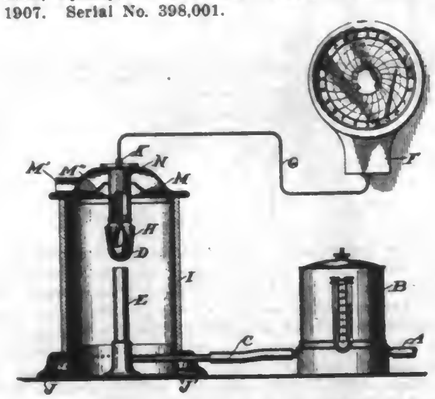
1. A shipping crate of the class described, comprising a front and rear wall and end walls constructed of overlapping bars, rods extending vertically through the overlapping portions of said bars and forming pivots therefor, a cover also formed of bars, said cover being hingedly secured to the rear wall of the crate, straps engaging the rods at the ends of the rear wall, an additional rod extending vertically through the center of the front wall adapted to receive the inner ends of said straps and forming a brace for the crate and shields overlapping the ends of the crate.

2. A crate of the class described, comprising a front and rear wall composed of parallel bars, end walls comprising bars extending at right angles to the bars forming the side walls, the ends of said bars overlapping each other, rods extending vertically through the overlapping portions of the bars, an additional rod extending vertically through the central portion of the front wall and above the uppermost bar, a pair of straps pivoted to the rods extending through the ends of the rear wall and having openings at their opposite ends adapted to engage the rod at the center of the front wall, a cover hingedly secured to the rear wall, a pair of shields at each end of the crate, said shields being angular in cross section and means to secure the cover in its closed position.

3. A crate of the class described, comprising a front and rear wall and end walls constructed of overlapping bars, rods pivotally securing the overlapping portions of said walls, a cover composed of bars and hingedly secured to said rear wall, an auxiliary wall composed of bars inserted between the bars of said front and rear walls about midway of their ends, rods extending vertically through said front and rear walls to pivotally secure said auxiliary walls thereto, the rod passing through said front wall extending somewhat thereabove, and straps pivotally secured to the rods at the ends of the rear wall and adapted to have common engagement with the extension of the rod upon the front wall, for the purpose described.

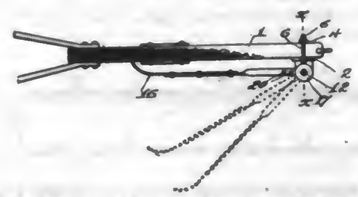
4. A crate of the class described, comprising a front and rear wall and end walls constructed of overlapping bars, rods pivotally securing the overlapping portion of said walls, a cover composed of bars and hingedly secured to said rear wall, an auxiliary wall composed of bars inserted between the bars of said front and rear walls about midway of their ends, rods extending vertically through said front and rear walls to pivotally secure said auxiliary walls thereto, the rod passing through said front wall extending somewhat thereabove, straps pivotally secured to the rods at the ends of said rear wall and the free ends thereof adapted to have common engagement with the extension of the rod in said front wall, and angular shield members secured to the lower portion of the end walls and the ends of said cover, for the purpose described.

977,970. MEANS FOR INDICATING AND RECORDING THE CALORIFIC VALUE OF GASES. FRANK SAWFORD, Sydney, Nova Scotia, Canada. Filed Oct. 18, 1907. Serial No. 398,001.



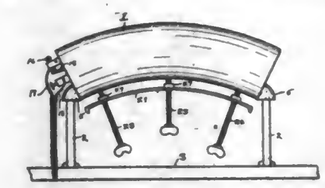
In a calorimeter, the combination with a combustion chamber, of a gas supplied burner whose flame is located within said chamber, a thermometer bulb located within the chamber in position to be enveloped by the flame from the burner, and a shield and flame distributer around the thermometer bulb and separated therefrom by an air insulating space, said shield being adapted to be enveloped by the flame.

977,971. PLOW-FENDER. CHARLES T. SEWELL, Newnan, Ga. Filed Aug. 30, 1910. Serial No. 579,779.



A clamping device for attaching plow fenders, comprising a clamping disk having pointed projections on its inner face and peripheral ears, a clamping bar, bolts extending through the bar and the ears, a plate projecting at right angles from the outer face of the disk and having radial teeth, a cap having two sets of teeth adapted to mesh with the disk teeth in a clamping operation, a countersunk seat between the two sets of teeth and a bolt extending through the plate and through the said seat.

977,972. VULCANIZER. CLARENCE A. SHALER, Waupun, Wis. Filed Nov. 20, 1907. Serial No. 403,018.

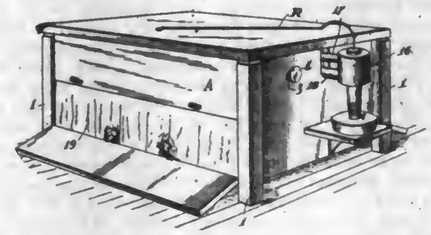


1. The combination of a tubular arched casing, offset standards for the ends of said casing adapted to support the latter in a position with the central portion curving upwardly from the standards, means for heating the casing, a flexible binding member encircling the casing, and down drawing devices extending along the casing underneath its axis, and over the flexible binding member on the under side.

2. The combination of a tubular arched casing provided with heating means, means for supporting said casing in a position with its intermediate portion curving upwardly from its ends in a position to receive a tubular tire and hold it in a suspended position, and means for binding the sides and top of the tire to said casing, comprising a curved bar underneath the axis of the casing, a flexible binding member encircling said casing and the bar, and means for actuating said bar downwardly to draw said flexible member forcibly in the direction of the top and sides of the casing.

3. The combination of a tubular arched casing provided with heating means, means for supporting said casing in a position with its intermediate portion curving upwardly from its ends in a position to receive a tubular tire and hold it in a suspended position, and means for binding the sides and top of the tire to said casing, the interior of said casing being provided with electrical heating coils and a thermostatic device controlling the flow of current through a portion of the coils.

977,973. CONVERTIBLE INCUBATOR AND BROODER. HENRY M. SHEER, Quincy, Ill. Filed Aug. 12, 1905. Serial No. 273,948.

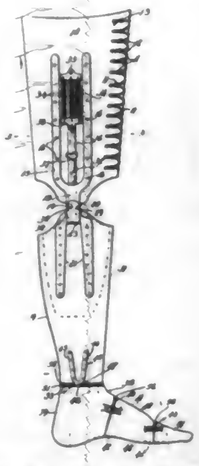


1. The combination with the body of an incubator having openings in the bottom thereof, a false bottom supported above the openings in the bottom, of an egg-tray supported in the body, a hover suspended above the egg-tray, a heating means received above the hover, doors at opposite sides of the incubator, and removable curtains suspended along the door-way.

2. The combination with the body of an incubator, having an egg-tray supported therein, provided with a bottom of wire netting, the bottom of the incubator having openings therein, a false bottom composed of cloth and wire netting received above the opening in the bottom, of

a heating means received in the body above the egg-tray, a hover suspended between the egg-tray and heating means, doors on opposite sides of the body, and curtains suspended along the door-ways.

977,974. ARTIFICIAL LIMB. WILLIAM E. SHOWALTER, Harrisonburg, Va. Filed Apr. 28, 1910. Serial No. 558,176.



1. In an artificial limb, an upper section, a lower section, a hinge member fixed to each side of the lower section, coacting hinge members fixed to opposite sides of said upper section, each of said coacting hinge members comprising a U-shaped portion having its legs secured to the upper section and its bight bowed away from the upper section, said coacting hinge members being each provided with a tongue engaging the respective hinge member on the lower section, a stump pocket movable in said lower section, springs attached to said upper section between the arms of the respective upper hinge members, and straps running between the bights of said upper hinge members and the upper section, said straps having their upper ends connected to the springs and their lower ends attached to said stump pocket.

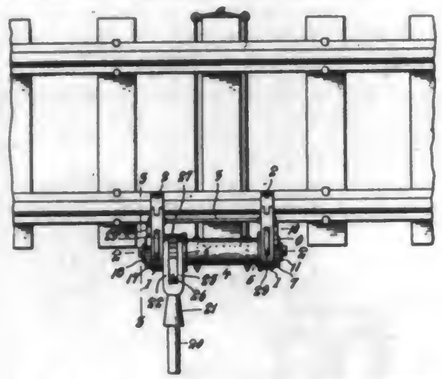
2. In an artificial limb, an upper section, a lower section, a hinge member fixed to each side of the lower section, coacting hinge members fixed to opposite sides of said upper section, each of said coacting hinge members comprising a U-shaped portion having its legs secured to the upper section and its bight bowed away from the upper section, said coacting hinge members being each provided with a tongue engaging the respective hinge member on the lower section, a stump pocket movable in said lower section, springs attached to said upper section between the arms of the respective upper hinge members, and straps running between the bights of said upper hinge members and the upper section, said straps having their upper ends connected to the springs and their lower ends attached to said stump pocket, each of the hinge members attached to the lower section comprising a plate of metal provided with spaced ears to receive the tongue of a respective upper member and spaced legs extending downward from said ears and attached to the lower section.

3. In an artificial limb, an ankle section, a foot, a pair of hinge plates fixed to opposite sides of said ankle section and projecting below the lower end of said section, a pintle extending between said hinge plates beneath the lower end of said section, a longitudinally split sleeve surrounding said pintle with its split edges spaced apart, a plate having a groove extending transversely across its under side and engaging over said sleeve, and screws extending through said plate into the top of the foot section.

4. In a device of the kind described, a hinge joint plate consisting of a flat strip of metal slotted to provide a pair of spaced attaching members, said metal being slit to provide a tongue between said members, said tongue being bent to have its end in spaced relation to the body of the strip and the strip and tongue being perforated to provide a pair of spaced ears.

5. A hinge for artificial limbs comprising a plate consisting of a flat strip of metal slotted to provide a pair of spaced attaching members, said metal being slit to provide a tongue between said members, the tongue being bent from between said members to have its end in spaced relation to the extremity of the strip, a stop pin extending between said extremity and tongue, and a pintle extending between said extremity and tongue in spaced relation to said stop pin; in combination with a second plate of metal stamped substantially to U-shape, the bight of the U being provided with a tongue adapted to be received between the tongue and extremity of the first mentioned plate, said tongue being apertured to receive said pintle, and a shoulder formed on said tongue to engage said stop pin to limit the movement of the plates on said pintle in one direction.

977,975. TIE-PULLER. JESSE R. SMITH, Benton, Ill. Filed Apr. 12, 1910. Serial No. 554,909.



In a tie puller and replacer of the class described, a flanged winch, blocks having handles supporting the winch, spacing rods for the blocks, toothed wheels upon the winch, pawls for the toothed wheels pivoted to the supporting blocks, one of the ends of the winch being provided with a small rounded portion adjacent the toothed wheel, and an enlarged rounded portion adjacent one of the flanges of the winch, a squared portion between these rounded portions, a ratchet wheel having a squared opening for the squared portion of the winch, a lever having a socket portion provided with a pair of spaced arms, one of said arms being provided with an enlarged circular opening, the second arm being provided with a reduced circular opening, these openings being adapted to straddle the ratchet wheel and to engage the large and the small circular portions of the winch, and a gravity pawl pivoted to the winch and engaging the teeth of the ratchet wheel.

977,976. UNDER-WATER EXHAUST AND MUFFLER. JOHN O. SMITH, Cleveland, Ohio. Filed Aug. 12, 1910. Serial No. 576,930.



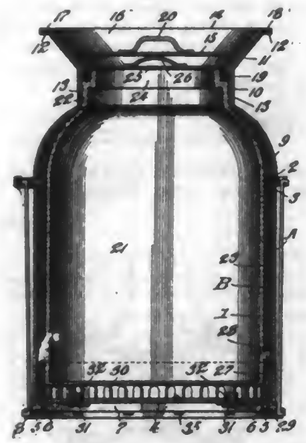
1. An underwater exhaust fitting comprising a bottom and sides forming a chamber, the said chamber decreasing in depth as it progresses to the rear of the fitting, the upper edge of each side of the fitting being provided with a plurality of ports or openings tapered in such manner that the greatest depth of said ports or openings is at the rear ends thereof, a plurality of baffle plates obliquely disposed within the said chamber and arranged to deflect the exhaust through the said ports or openings, the said baffle plates increasing in length in their rearward progression in such manner as to form a tapering passage in the fitting and a plurality of ports or openings arranged one after the other in the bottom of the fitting.

2. An underwater exhaust fitting comprising a chamber to receive the exhaust, said chamber decreasing in depth as it progresses toward the rear of the fitting, a plurality of tapered ports or openings along the top of the chamber at each side thereof, a plurality of baffle plates within the chamber and associated with said ports or openings to deflect the exhaust therethrough, and a port or opening in the bottom of the chamber.

3. An underwater exhaust fitting comprising a chamber, a plurality of ports or openings in each side of said chamber, a port or opening in the bottom of the chamber and a plurality of baffle plates within the chamber and associated with the ports or openings in the sides thereof to deflect the exhaust from the chamber through said ports or openings.

4. An underwater exhaust comprising a chamber provided with a plurality of ports or openings in each side thereof, and a plurality of baffle plates associated with said ports or openings to deflect the exhaust through said ports or openings.

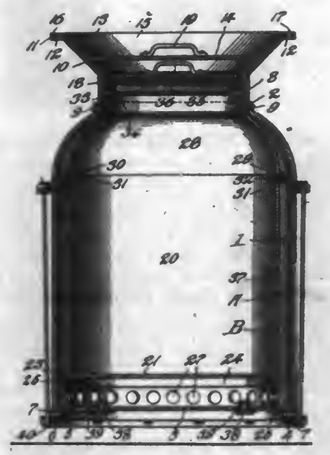
977,977. SANITARY MILK-CAN. LEONARD R. STEEL, Milwaukee, Wis. Filed Nov. 4, 1908. Serial No. 461,070.



1. A milk can comprising a casing provided with an internally threaded contracted neck and having its bottom formed with openings and provided in its upper face with an annular groove surrounding said openings, removable closures for said openings, a receptacle within said casing comprising a body of less diameter than the body of the casing and having a contracted neck formed with a screw-threaded portion engaging the threaded portion of the neck of the casing, and provided upon said neck with a relatively contracted externally threaded mouth, a threaded cover for closing said mouth, supporting lugs or shoulders upon the outer side of said receptacle above the bottom thereof, and an annular supporting member having an imperforate portion inclosing the lower portion of said receptacle and bearing against said lugs, and having its lower portion formed with an annular series of openings and projecting below the bottom of the receptacle and engaging the groove in the bottom of the casing, said openings forming ports of communication between the spaces between the bottom and sides of the casing and receptacle.

2. A milk can comprising a casing having an internally threaded contracted neck and a flaring mouth, a receptacle disposed within the casing with its bottom and sides spaced therefrom, said receptacle having a contracted neck substantially coextensive in diameter with the neck of the casing and externally threaded to engage the same, said neck having its upper portion contracted to provide an outer horizontal shoulder and an externally threaded mouth terminating below the mouth of the casing, means within the lower portion of the casing for supporting the lower end of the receptacle therein, a threaded cover to engage the threaded mouth of the receptacle, a flaring cover to fit within and close the mouth of the casing, said cover being provided with a horizontal head provided with a handle and with a vertical flange below the head entering the space between the neck of the casing and mouth of the receptacle engaging said horizontal shoulder, the said mouth of the casing and flaring cover being provided at their upper edges with lateral flanges formed with perforations for the passage of a seal.

977,978. METAL MILK-CAN. LEONARD R. STEEL, Milwaukee, Wis. Filed Nov. 4, 1908. Serial No. 461,072.



A milk can comprising a hollow outer body having a bottom closing the lower end of the body and provided with a groove in the upper surface thereof, a reduced neck at the upper end of the body, the latter having a flange receiving the lower edge of the neck, an inner body located within and spaced from the outer body and having its lower edge fitted in the groove of the bottom of the outer body, a reduced neck at the upper end of the inner body bearing against the neck of the outer body, means passing through said flange and necks and rigidly securing both necks to the outer body, an inwardly offset flange formed on the inner body at a point above the neck thereof, a cap applied to the flange, a cover applied to the outer body above the cap, and a bottom secured within the inner body above the lower edge thereof, the inner body being provided with an annular series of openings below said bottom.

977,979. MILK-CAN. LEONARD R. STEEL, Milwaukee, Wis. Filed Nov. 4, 1908. Serial No. 461,074.

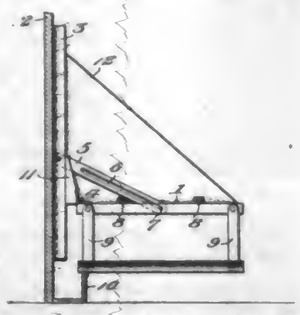
1. A milk can comprising an outer casing having a contracted neck, an inner casing disposed within the outer casing and spaced from the body thereof, said inner casing being provided with the contracted neck fixed to the contracted neck of the outer casing and having an annular recess at the base of said neck, a perforated ring supporting the bottom of the inner casing from the

bottom of the outer casing, a receptacle disposed within the inner casing and spaced from the sides thereof, said receptacle having its upper end extending through the neck of the inner casing, a closure for said receptacle engaging said neck, a lining upon the inner wall of the inner casing, and a jacket or lining surrounding the receptacle, said linings having their upper edges fitted and interlocked in the base recess of the neck of the inner casing.



2. A milk can comprising an outer casing having a contracted neck portion, an inner casing spaced from the outer casing and having a contracted neck portion secured to the neck portion of said outer casing, said inner casing being formed of glass and comprising body and base sections having outwardly extending flanges, a coupling engaging said flanges and uniting said sections, an annular supporting member inclosing said base section and resting against the flange thereof and extending below the same and resting upon the bottom of the outer casing, the depending portion of said supporting member being provided with an annular series of perforations, a glass receptacle arranged within and spaced from the sides of the inner casing and having its upper end extending through the neck of said casing, a cover engaging said neck and closing the receptacle, a lining for the inner casing, and a jacket or lining surrounding the receptacle, said linings having their upper edges interlocked and disposed in a recess in the base of the neck of the inner casing.

977,980. POULTRY-PERCH. ABRAHAM A. STRAIGHT, Manchester, Tenn. Filed Apr. 5, 1910. Serial No. 553,560.



1. A poultry roost including a support, a perch rod, connecting means between said support and said perch rod whereby said rod may be moved into operative or inoperative position with respect to the support, and a dropping board carried by and movable with the perch rod.

2. A poultry roost including a support, a perch rod, connecting means between said support and said perch rod whereby said rod may be moved into operative or inoperative position with respect to the support, and a dropping board carried by and movable with the perch rod, the connection between the board and rods causing said board to move to a position to underlie the perch rod when the latter is moved to an operative position.

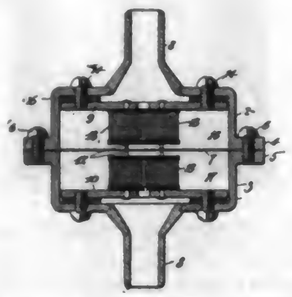
3. A poultry roost including a support, a perch rod, connecting means between said support and said perch rod whereby said rod may be moved into operative or inoperative position with respect to the support, and a dropping board carried by and movable with the perch rods, said board automatically moving to a position to underlie the perch rod when the latter is moved to an operative position, and automatically moving to an inclined discharging position when the perch rod is moved to an inoperative position.

4. A poultry roost including a support, a perch rod, connecting means between said support and said perch rod whereby said rod may be moved into operative or inoperative position with respect to the support, links movably connected at one end to the rod, a dropping board carried by and movably connected to the opposing ends of the links, whereby said board automatically moves to a position to underlie the perch rod when the latter is moved to an operative position and automatically moves to an inclined discharging position when the perch rod is moved to an inoperative position, and a trough to receive the material discharged from the dropping board when the latter is moved to an inoperative position.

5. A poultry roost including a perch rod, a dropping board carried thereby, means for moving the perch rod to an inoperative position, connections between the rod and board to move the latter to a discharging position in the movement of the rod to an inoperative position, and a trough to receive the material from the board when in discharging position.

[Claim 6 not printed in the Gazette.]

977,981. TELEPHONE-RECEIVER. HARVE R. STUART, Wheeling, W. Va. Filed Mar. 21, 1908. Serial No. 422,307.



1. In a receiver, a diaphragm a pair of magnets each in the form of a ring having inwardly extending filleted arms, and pole pieces extending from said arms transversely to the plane of the ring, the pole pieces of one magnet being opposite the pole pieces of the other magnet; adjacent pole pieces of the two magnets being of similar polarity and disposed upon opposite sides of said diaphragm.

2. In a receiver, a pair of magnets each in the form of a ring having inwardly extending arms, pole pieces extending from said arms transversely to the plane of the ring, the pole pieces of one magnet being opposite the pole pieces of the other magnet and adjacent pole pieces of the two magnets being of similar polarity, and a diaphragm situated between the pole pieces of one magnet and the pole pieces of the other magnet.

3. In a receiver, the combination of a hollow casing, a diaphragm secured thereto, a magnet having a pole in proximity to the center of the diaphragm, a second magnet having a pole in proximity to the center of the opposite face of the diaphragm, a resilient member interposed between each of said magnets and the casing, and means for compressing said resilient means for varying the length of the air gap between each magnet and the diaphragm.

4. In a receiver, the combination of a hollow casing, a diaphragm secured thereto, a magnet having a pole in proximity to the center of the diaphragm, a second magnet having a pole in proximity to the center of the opposite face of the diaphragm, a member interposed between each of said magnets and the casing, and means for actuating said member for varying the length of the air gap between each magnet and the diaphragm.

5. In a receiver, the combination of a cup-shaped casing member having a central sound orifice, a magnet within said member and comprising a flat plate having openings therethrough, a resilient ring interposed between said magnet and said casing member, and means for drawing said magnet and casing member together.

[Claims 6 to 9 not printed in the Gazette.]

977,982. SHOE-FASTENING. ZENTARO TANIHARA, Boston, Mass. Filed Dec. 31, 1909. Serial No. 535,873.



A shoe having beads throughout the sides of instep opening, slides movably mounted on the beads and each formed to provide a pair of inwardly extending spaced lugs, the lugs having alining apertures therein, flexible strips having portions interposed between the lugs of the slides and having apertures alining with the apertures in the lugs, the said strips being permanently secured to the vamp of the shoe, and a lacing threaded through the alining perforations in the flexible strips and in the lugs of the slides and holding the strips operatively associated with the slides and opersble to move the slides on the beads to move the strips and beaded portions respectively of the shoe into closed positions.

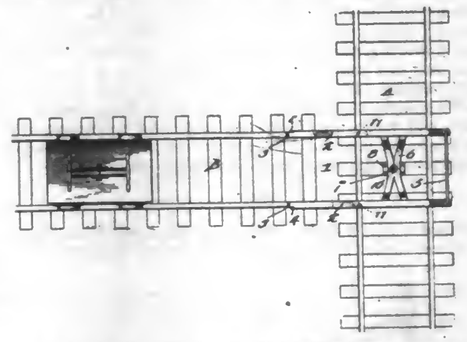
977,983. TURN-TABLE. DAVID TIPTON, Glenmont, Ohio. Filed Apr. 16, 1910. Serial No. 555,798.

1. A turn-table comprising a bearing post, a head member revolubly supported by the post and removably engaged therewith and mounted thereon for rocking movement, and a pair of spaced rails supported by the said head member.

2. A turn-table comprising a head member mounted for rocking and for rotary movements, and spaced rails supported by the head member.

3. A portable turn-table comprising a tie-supported head member, a pair of spaced rails carried by the said head member and extending downwardly and outwardly at an angle therefrom, supports carried by the rails, and a handle connecting the said rails with each other.

4. A portable turn-table comprising a head member, a pair of rails supported by the head member and each having forwardly and rearwardly extending portions of unequal lengths, rail-engaging stops carried by the turn-table for holding the latter against rotation, and a handle connecting the short ends of the said rails.



5. A portable turn-table comprising a bearing plate having a post extending upwardly therefrom, a head member revolubly mounted on said post and adapted for rocking movement on the said bearing plate, a pair of rails supported by the head member, stops formed on said rails at one side of the said head member, and a handle connecting the said rails.

[Claim 6 not printed in the Gazette.]

977,984. GRAPHITE ARTICLE AND METHOD OF MAKING THE SAME. FRANK J. TONE, Niagara Falls, N. Y. Filed Nov. 11, 1905. Serial No. 286,809.

1. As a new article of manufacture, artificial graphite in the state of molecular separation, and characterized by a density of approximately two and two-tenths grams per cubic centimeter; substantially as described.

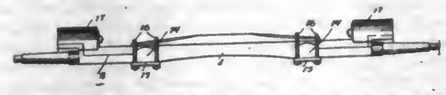
2. As a new article of manufacture, an electric conductor composed of artificial graphite in the state of molecular separation, and characterized by a density of approximately two and two-tenths grams per cubic centimeter and having high electrical conductivity; substantially as described.

3. As a new article of manufacture, a shaped article composed of artificial graphite in the state of molecular separation, and characterized by a density of approximately two and two-tenths grams per cubic centimeter; substantially as described.

4. A new article of manufacture, consisting of artificial graphite in the state of molecular separation, and distinguished from electrically graphitized carbon in the characteristics of greater density and higher electrical conductivity its density being in excess of two grams per cubic centimeter; substantially as described.

5. As a new article of manufacture, artificial graphite characterized by a density exceeding two grams per cubic centimeter; substantially as described.

977,985. DETACHABLE AXLE-STUB. ELI VUNCANNON, Prague, Okla., assignor of one-half to Daniel Kinsey, Prague, Okla. Filed June 7, 1910. Serial No. 565,430.



1. The combination with an axle having depending lugs at opposite ends, and seats formed in said axle, of stub axles mounted in said seats and having lugs to lie adjacent the before mentioned lugs, apertured clips adapted to straddle the axle and the stub axles and to receive said lugs, means to prevent lateral movement of the outer end

of the stub axles on the axle and means to prevent the outer end of the stub axles from dropping.

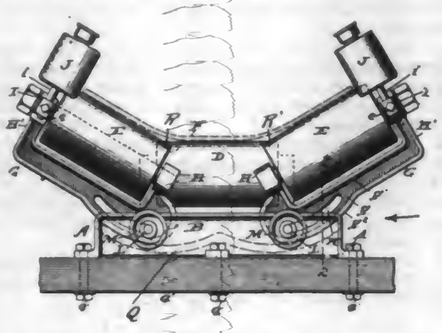
2. The combination with an axle having seats formed in its ends, lugs projecting downwardly from the axle adjacent the seats, and lugs projecting upwardly from the axle at the ends thereof, of stub axles mounted in said seats and having downwardly projecting lugs adapted to lie adjacent the downwardly projecting lugs on the axle, upwardly projecting lugs on said stub axles to lie adjacent the upwardly projecting lugs on the axle, clips straddling the axle and stub axles and being apertured to receive the downwardly projecting lugs on the axle and stub axles, bolts passing through said upwardly extending lugs on the axle and stub axles, said clips and bolts preventing relative movement of the lugs, and independent means to prevent lateral movement of the stub axles on the axle.

977,986. CLAW-BAR. WESTLEY WADDELL, Eagle Grove, Iowa. Filed May 14, 1908. Serial No. 432,858.



A claw-bar made in one integral piece of metal, at one end of which are formed curved oppositely disposed claws, and at right angles to which it is provided with oppositely disposed arms, the extreme ends of which are flared outward to afford greater bearing surface when used as a fulcrum in prying loose boards or other objects to be raised, said oppositely disposed arms being flat and located in a plane at right angles to the length of the bar.

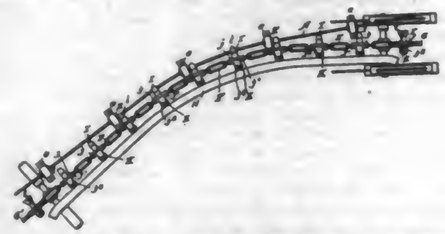
977,987. CONVEYER. FREEMAN R. WILLSON, Jr., Worthington, Ohio, assignor, by mesne assignments, to The Jeffrey Manufacturing Company, a Corporation of Ohio. Filed Aug. 3, 1905. Serial No. 272,597.



1. A conveyer belt support comprising a horizontal central pulley, a stationary support having two curved surfaces each presenting in vertical section an arc of a circle about one end of the upper contacting edge of the stationary pulley as a center, two pulley carrying frames, each formed at its inner end with a mating curved surface adapted to rest upon and slide over one of the said curved surfaces upon the support, and pulleys carried by said pulley carrying frames and supported at a variable angle of inclination at the two ends of the horizontal pulley to form a three pulley troughing belt support.

2. A conveyer belt support comprising a central horizontal pulley, side inclined pulleys, adjustable frames for the latter having curved inner and lower edges, and a double arched seat therefor.

977,988. CONVEYER. FREEMAN R. WILLSON, Jr., Worthington, Ohio, assignor, by mesne assignments, to The Jeffrey Manufacturing Company, a Corporation of Ohio. Filed Oct. 4, 1906. Serial No. 337,424.



1. The combination with an endless carrier or power transmitter having parts arranged to travel in a curvilinear path, of an endless guiding device at the curve in the said path and adapted to engage with and to be disengaged from the carrier or power-transmitter, and having the part which moves in one direction approximately in the plane common to all parts of the curved part of the path of the endless carrier or power transmitter and the part which moves in the opposite direction arranged to travel in planes remote from the last aforesaid planes, substantially as set forth.

2. The combination with an endless carrier or power transmitter having parts arranged to travel in a curvilinear path, of an endless guiding device at the curve in the said path and adapted to engage with and to be disengaged from the carrier or power transmitter, and supporting wheels for the endless guide arranged in planes at right angles or inclined to the plane of the path of the adjacent part of the endless carrier or power-transmitter, the active part of the endless guide traveling in a path approximately parallel to the path of the endless carrier or power transmitter, substantially as set forth.

3. The combination with an endless carrier or power transmitter having parts arranged to travel in a curvilinear path, of an endless guiding device at the curve in the said path and adapted to engage with and to be disengaged from the carrier or power transmitter, and having a path of travel which is approximately parallel to the path of the adjacent part of the endless carrier or power transmitter, and parts of which are in planes at right angles or inclined to the plane of the adjacent part of the endless carrier or power transmitter, substantially as set forth.

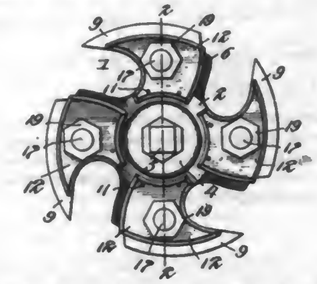
4. The combination with an endless carrier or power transmitter having parts arranged to travel in a curvilinear path, of an endless guiding device at the curve in the said path adapted to engage with and to be disengaged from the carrier or power transmitter, and having the part which moves in one direction approximately in the plane common to all parts of the curved part of the path of the adjacent part of the carrier or endless power transmitter, and arranged to travel approximately parallel to the carrier or transmitter, and the part which moves in the opposite direction arranged to travel in a path approximately parallel to the first aforesaid part of the endless guiding device, and in a plane remote from the aforesaid plane of the adjacent part of the carrier or endless power transmitter, substantially as set forth.

5. The combination with an endless carrier or power transmitter traveling in a curvilinear path and having laterally projecting attachments, formed with surfaces lying in planes at an angle to the path of said endless carrier, of an endless guide adjacent to the curved part of said path and having arms or projections adapted to engage with the said surfaces of said attachments, substantially as set forth.

[Claim 6 not printed in the Gazette.]

977,989. CUTTER-HEAD. GEORGE F. WILSON, Pfafftown, N. C. Filed Oct. 30, 1908. Serial No. 460,305.

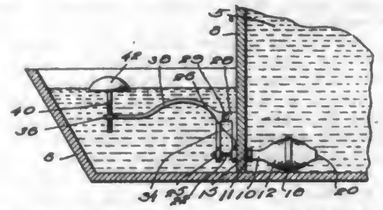
1. A cutter head having an annular series of bits each comprising a main body plate sharpened to form a knife edge at its front edge, each body plate being of an unequal thickness throughout its entire transverse area and formed with a rib having a forward cutting edge disposed in the same transverse plane with the forward cutting edge of the main body plate.



2. A cutter head having a plurality of radial arms, and bits mounted at the ends of the arms and each comprising a main body plate of tapering thickness throughout its width and sharpened at its forward edge and formed with an arcuate cutting rib whose forward edge is sharpened and disposed in line with the cutting edge of the said body plate.

3. A cutter head comprising a hub, a plurality of radial arms extending from the hub, threaded studs extending through the arms, clamping plates mounted at the sides of the arms, said studs being extended through the said clamping plates, clamping nuts mounted upon the studs for adjustment thereon and adapted for engagement with the clamping plates to move them toward each other, and bits operatively positioned between the clamping plates and located at the outer ends of the said arms.

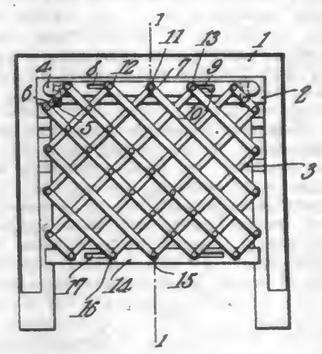
977,990. STOCK-WATERER. BUAMAN WISE, Orleans, Nebr. Filed Nov. 30, 1909. Serial No. 530,640.



The herein described water trough, comprising a threaded tube having an integral stop flange and hollow semispherical exteriorly threaded valve casing, a second semispherical valve casing having an intake opening and an exterior screw thread, a threaded collar uniting said valve casing to form a valve chamber, an elastic valve head within said first mentioned casing, a stem adjustably carried by said head, a threaded bracket on said tube having two apertured ears, a pin within said ears, a bar having an extending ear held upon said pin between the ears of said bracket, said bar being bent approximately at right angles and having an aperture at each end, said stem being held within one of said apertures, means to secure said stem to said bar, a float, and a bolt extending from said float and threading into said remaining bar aperture.

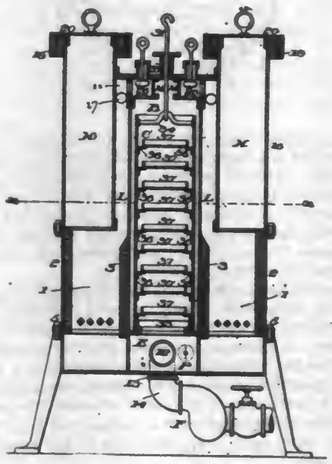
977,991. FENDER. CHARLES H. WOLCOTT, CHARLES O. GOODWYNE, Jr., and EARLY N. GOODWYNE, Forsyth, Ga. Filed Dec. 6, 1909. Serial No. 531,601.

A fender comprising a lazy-tongs structure, a supporting bar having at an intermediate point a vertically disposed slot receiving a rivet of the lazy-tongs structure, said bar having at the opposite sides of the said vertical slot horizontally disposed slots, one of which is provided in its lower edge with a notch, the said lazy-tongs structure having rivets which lie in the said horizontal slots the rivet in the slot provided with the notch



adapted to enter said notch to hold the lazy tongs structure in collapsed condition.

977,992. PROCESS FOR THE RECOVERY OF THE PARAFFIN INGREDIENTS FROM CANNEL-COALS AND OTHER SIMILARLY-CONSTITUTED BITUMINOUS MATERIALS WITHOUT CHANGE IN THEIR CHEMICAL COMPOSITION. HENRY WURTZ, Newark, N. J., assignor to American Chemical Eduction Company, a Corporation. Filed Nov. 21, 1904. Serial No. 233,706.



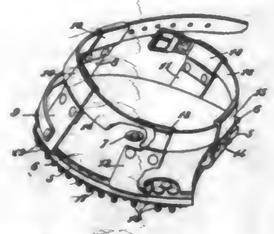
1. The process for recovering, from cannel coal and similarly constituted bituminous compounds, their hydrocarbon ingredients of the paraffin series in chemically unchanged condition; the process consisting of the following steps:—(1) subjecting the material, from which the hydrocarbon ingredients are to be recovered, in an atmosphere of neutral (deoxidized) gases, to a temperature sufficient only to render the hydrocarbon ingredients of the material fluid; (2) then subjecting the material treated to the action of a current of heated neutral gases, the current being directed to contact with it; (3) drawing out, while continuing the current of neutral gases, the fluid ingredients of the material with the neutral gases; and (4) separating them from the neutral gases, all substantially as herein set forth.

2. The process for recovering from cannel coal and similarly constituted bituminous compounds, their hydrocarbon ingredients of the paraffin series in chemically unchanged condition; the process consisting of the following steps:—(1) enveloping the material, from which the hydrocarbon ingredients are to be recovered, by neu-

tral (deoxidized) gases; (2) then subjecting the material to a current of neutral (deoxidized) gases and heating it to a temperature sufficient only to render its hydrocarbon ingredients fluid; (3) drawing out, while continuing the current of neutral gases, the fluid ingredients of the material with the neutral gases; and (4) separating them from the neutral gases, all substantially as herein set forth.

3. The process for recovering from cannel coal and similarly constituted bituminous compounds, their hydrocarbon ingredients of the paraffin series in chemically unchanged condition; the process consisting of the following steps:—(1) subjecting the material, from which the hydrocarbon ingredients are to be recovered, to a current of neutral (deoxidized) gases heated to not more than 750° F., whereby its hydrocarbon ingredients are rendered fluid; (2) drawing out, while continuing the current of neutral gases, the fluid ingredients of the material with the neutral gases; and (3) condensing the recovered mixture, whereby the hydrocarbons are separated from the neutral gases, all substantially as herein set forth.

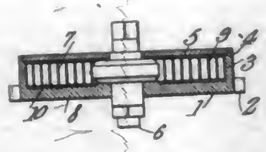
977,993. HORSESHOE. JAMES ABBS and EDWARD MATTHEWS, Philadelphia, Pa. Filed Mar. 23, 1910. Serial No. 551,045.



1. In a combination lawn and anti-slipping boot, an outer sole and an inner sole fixedly secured together at their central portions whereby their marginal portions may be sprung apart, the said outer sole being provided with a plurality of marginal openings, a plurality of calks having shank portions passable through said openings and head portions to bear on the said inner sole, and means for securing the soles to a hoof.

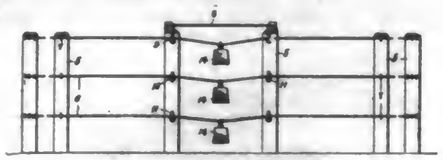
2. In a combination lawn and anti-slipping boot, an outer sole and an inner sole fixedly secured together at their central portions whereby their marginal portions may be sprung apart, a horse-shoe-shaped band arranged on the outer face of the outer sole and provided with a plurality of spaced openings to aline with similar openings formed in the said outer sole, a plurality of calks having shank portions passable through said openings and head portions to bear on said inner sole, and means for securing the soles to a hoof.

977,994. MAINSPRING-BARREL. JOHN AUSTIN, Geneva, Ohio. Filed Apr. 20, 1910. Serial No. 556,496.



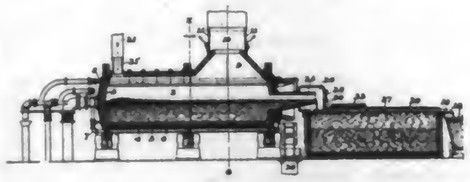
In combination, a main spring barrel provided in its interior with a shoulder, and having an integrally formed base spaced from the shoulder; an anti-friction plate resting upon the base; an anti-friction plate resting upon the shoulder; and a closure fitting within the barrel and resting upon the last named plate to bind the same against the shoulder.

977,995. FENCE-TIGHTENER. SAMUEL R. AUSTIN, Arnett, Okla. Filed Sept. 20, 1909. Serial No. 518,517.



The combination with a fence wire, of a pair of substantially parallel posts, sheaves on the post engaging the fence wire, and a weight mounted on the fence wire between the posts, and causing the slack in the wire to assume a V shape between the posts.

977,996. METHOD OF SMELTING AND REFINING COPPER ORES AND COMPOUNDS. RALPH BAGGALEY, Pittsburg, Pa. Filed Apr. 25, 1907, Serial No. 370,238. Renewed Oct. 22, 1910. Serial No. 588,535.



1. The method of extracting copper, gold, silver and other metals from ores, which consists in the following steps: dissolving or melting ores that contain within themselves oxidizable elements, by submergence in a molten bath of matte and by the heat of oxidation produced by forcing air through the same, and eliminating the silica, alumina and lime; then separating the slag from the low grade matte, then transferring the matte into a converter, oxidizing it therein, adding value-bearing silicious ore, and forming thereby silicate of iron slags, and then eliminating residual oxidizable impurities by forcing air into the bath; substantially as herein described.

2. The method of extracting copper, gold, silver and other metals from ores, which consists in the following steps: dissolving or melting dried and preheated ores that contain within themselves oxidizable elements, by submergence in a molten bath of matte and by the heat of oxidation produced by forcing air through the same, and eliminating the silica, alumina and lime; then separating the slag from the low grade matte, then transferring the matte into a converter, oxidizing it therein, adding value-bearing silicious ore, and forming thereby silicate of iron slags, and then eliminating residual oxidizable impurities by forcing air into the bath; substantially as herein described.

3. The method of extracting copper, gold, silver and other metals from ores, which consists in the following steps; dissolving or melting ores that contain within themselves oxidizable elements, by submergence in a molten bath of matte and by the heat of oxidation produced by forcing air through the same, and eliminating the silica, alumina and lime; then separating the slag from the low grade matte, then transferring the matte, together with commingled flue dust or fines, into a converter, oxidizing it therein, adding value-bearing silicious ore, and forming thereby silicate of iron slags, and then eliminating residual oxidizable impurities by forcing air into the bath; substantially as herein described.

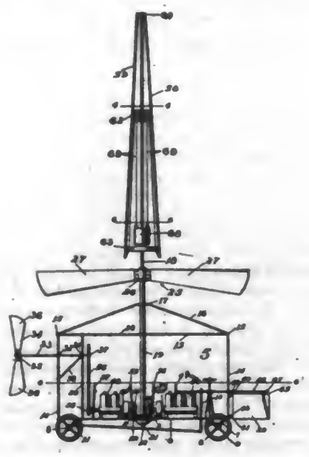
4. The method of extracting copper, gold, silver and other metals from ores, which consists in the following steps: dissolving or melting ores that contain within themselves oxidizable elements, by submergence in a molten bath of matte and by the heat of oxidation produced by forcing air through the same, and eliminating the silica, alumina and lime; then separating the slag from

the low grade matte, then transferring the matte into a converter, oxidizing it therein, adding value-bearing silicious ore, and forming thereby silicate of iron slags, then eliminating residual oxidizable impurities by forcing air into the bath, and returning to the first-named converter, slags from the second converter for cleansing the same and recovering contained mineral values; substantially as herein described.

5. The method of extracting copper, gold, silver and other metals from ores, which consists in the following steps: dissolving or melting ores that contain within themselves oxidizable elements, by submergence in a molten bath of matte and by the heat of oxidation produced by forcing air through the same, and eliminating the silica, alumina and lime; then separating the slag from the low grade matte, then transferring the matte into a converter, oxidizing it therein, adding value-bearing silicious ore and forming thereby silicate of iron slags, then eliminating residual oxidizable impurities by forcing air into the bath; transferring the blister copper thus produced into a refining furnace, and refining it therein; substantially as herein described.

[Claim 6 not printed in the Gazette.]

977,997. FLYING-MACHINE. EDWARD BERTHOLF, Watkins, N. Y. Filed July 6, 1909. Serial No. 506,182.



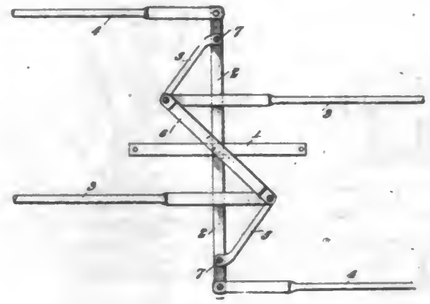
1. In a flying machine, the combination with a lifting wheel having a vertical shaft and a gear on said shaft, a propeller, a pair of motors on opposite sides of said vertical shaft and each having a horizontal drive shaft, connections between the drive shaft of one of the motors and the said propeller to operate the latter, gears on the said motor drive shafts, and means to engage either or both of said gears with the gear of the said vertical lifting wheel shaft.

2. In a flying machine, the combination of a vertical rod, a parachute at the upper end thereof and having ribs movable angularly in a vertical plane, a lower disk secured to said rod and having direction elements, an upper disk secured to the said rod and having direction elements, a weight guided on said rod and cords connecting said weight and the ribs of the parachute and engaging the direction elements of the said disks.

3. A flying machine having a parachute, a vertical rod to which the parachute is connected, a weight movable vertically on said rod and connected to the parachute to normally close the latter and a spring pressed element on said rod to yieldably check the ascent of the weight when the parachute opens.

4. In a flying machine, a standard, a pair of spaced perforated disks secured to said standard, a parachute frame pivoted to said standard above said disks, a weight, and flexible connecting elements extending through the perforations of said disks and having their opposite ends secured to said weight and the outer ends of said parachute frame.

977,998. CAR-BRAKE EQUALIZER. HENRY LEWIS BLUNCK, Sioux City, Iowa. Filed May 14, 1910. Serial No. 561,288.



1. The improved car-brake equalizing attachment, comprising a transverse lever pivoted centrally, rods pivoted to the ends of said lever and extending in opposite directions and connected with devices adapted to be operated manually, and the equalizing attachment proper comprising bars 5 pivoted to the aforesaid lever near its ends, on opposite sides thereof, a connecting bar 6 which is pivotally attached to the inner ends of said bars 5 and extends across the lever diagonally, and brake rods pivoted at the junction of the bars 5 and the connecting bar, and extending in opposite directions for connection with the brake mechanism of front and rear trucks, substantially as described.

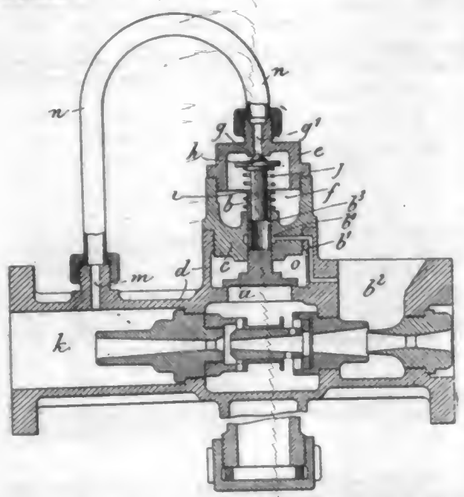
2. The combination with the brake mechanism of front and rear four-wheeled trucks, of the equalizing brake attachment comprising a transverse lever pivoted centrally beneath a car-body, bars 5 pivoted to said lever near its ends and extending inward at an angle thereto and on opposite sides of the same, a rigid connector pivoted to the inner ends of the bars 5, and rods 3 pivoted at the same point and extending in opposite directions to the brake mechanism of the respective trucks, substantially as described.

977,999. BUCKLE. JOHN C. BOWERS, Spokane, Wash. Filed Aug. 10, 1909. Serial No. 512,243.



In a device for the purpose set forth, a body member provided with a longitudinally extending passageway the top of the body being provided with a slot communicating with the passageway, the lower portion of the body being provided with a reduced longitudinally extending groove and an opening communicating with the passageway, a flattened transversely arranged spring connected with the walls of the opening directly below the lower horizontal wall of the passageway, a tubular flattened lever having one of it sextremities pivoted directly beneath the spring and its opposite end projecting through the longitudinal groove of the member, and a curved pin having a flattened shank received in the lever and adapted to normally have its body projecting above the top of the body member of the device and its pointed portion extended within the slot and opening provided in the body member.

978,000. STEAM-INJECTOR. ROBERT GRUNDY BROOKE, Macclesfield, England. Filed Apr. 18, 1910. Serial No. 556,122.



1. In a steam injector, the combination with an overflow valve, means for closing said valve, a fluid pressure chamber in communication with the valve closing means, and a connection for conducting fluid from the delivery of the injector to the pressure chamber, of a valve arranged to intercept fluid tending to pass from the delivery to the pressure chamber with momentary increase of pressure in the delivery, prior to formation of the jet, to values equal to the maximum derivable after the formation of the jet.

2. In a steam injector, the combination with an overflow valve, and a chamber arranged to receive fluid under pressure from the delivery of the injector, of a plunger extending into said chamber, said plunger being connected to the overflow valve and provided with a passage to allow of leakage of fluid from said chamber.

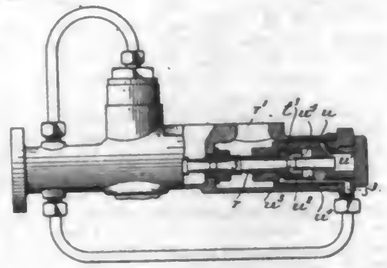
3. In a steam injector, the combination with an overflow valve, a fluid pressure chamber, and a connection for conducting fluid from the delivery of the injector to the pressure chamber, of a loaded valve arranged to intercept temporary passage of fluid to such chamber, and valve operating means influenced by the fluid pressure in the chamber and having leakage passages for the purpose specified.

4. In a steam injector, the combination with an overflow valve, of a fluid pressure chamber, a connection arranged to conduct fluid from the delivery of the injector to the pressure chamber, a loaded valve arranged to intercept passage of fluid to such chamber, and overflow valve operating means arranged to be influenced by the fluid in the chamber and having leakage passages for the purpose set forth.

5. A steam injector, comprising, in combination with a casing having an overflow chamber and an overflow valve therein, of a fluid pressure chamber in said casing, a connection for conducting fluid from the delivery of the injector to the pressure chamber, a hollow plunger connected to the valve and extending into the said pressure chamber, and a loaded valve arranged in the pressure chamber to intercept passage of liquid to the latter and having a stem working in the hollow plunger of the overflow valve, said plunger having leakage grooves therein and said casing having a co-acting leakage passage for the purpose set forth.

978,001. STEAM-INJECTOR. ROBERT GRUNDY BROOKE, Macclesfield, England. Filed Apr. 18, 1910. Serial No. 556,123.

1. In a steam injector, a casing having a steam inlet, a steam nozzle in such casing and in constant communication with the inlet, and a spindle subject to the opposing pressure of steam supplied to the injector and to the delivery pressure and adapted to automatically restrict the communication between the steam inlet and nozzle to curtail the steam supply at starting and to increase the said supply to its full value when a required delivery pressure is set up.



2. In a steam injector, a casing having a steam inlet, a steam nozzle in such casing and in constant communication with the inlet, a retractile spindle adapted to vary the communication between the steam inlet and the nozzle, means whereby the spindle can be advanced toward the nozzle to restrict the communication aforesaid, a piston on the spindle and a chamber within which the piston is free to slide and which has a connection with the delivery of the injector to enable pressure to act on one side of said piston in opposition to the means tending to advance the spindle toward the nozzle.

3. In a steam injector, a casing having a steam inlet, a steam nozzle in such casing and in constant communication with the inlet, a retractile spindle adapted to seat itself upon the steam nozzle and having a passage permitting a restricted supply of steam to pass into the nozzle at starting, a chamber concentric with the spindle connected at one end to the delivery of the injector, and a piston on the spindle working in said chamber and having a passage placing the other end of the chamber in communication with the first named passage in the spindle.

4. In a steam injector, a steam nozzle, a hollow retractile spindle in communication with the steam inlet of the injector and adapted to seat itself upon the steam nozzle and restrict the steam supply at starting, a chamber through which the spindle passes connected at one end to the delivery of the injector, and a piston intermediate of the length of the spindle working in said chamber and having steam passages placing the other end of the chamber in communication with the interior of the retractile spindle.

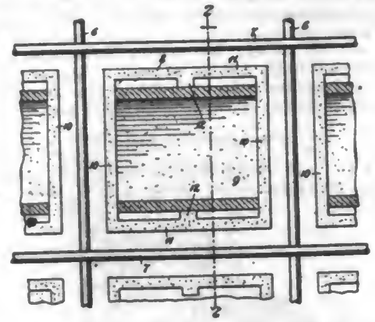
5. In a steam injector, a retractile spindle having a through-way passage shaped to resemble a Venturi tube, a steam nozzle on which the said spindle is adapted to seat itself at starting, a chamber through which the spindle passes connected at one end to the delivery of the injector, and a piston intermediate of the length of the spindle working in said chamber and having steam passages placing the other end of the chamber in communication with the construction of the Venturi passage of the retractile spindle.

978,002. BLOCK FOR BUILDING CONSTRUCTION. FERDINAND BURCHARTZ, New York, N. Y. Filed Nov. 2, 1909. Serial No. 525,878.

1. A building block comprising a tubular block section and a second tubular block section arranged to completely surround the first-named section to form therewith a complete building block, the axes of said sections extending at substantially right angles to each other.

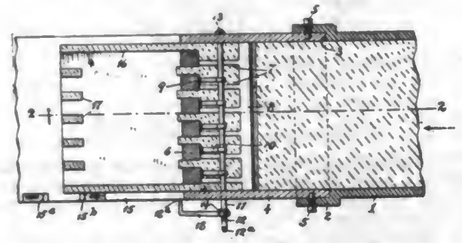
2. A building block comprising a tubular block section, a second tubular block section arranged to fit within the first named section and to form therewith a completed block, the axes of said block sections extending at substantially right angles to each other and projections on one of said block sections arranged to space the adjacent walls of said sections apart.

3. A building block comprising a tubular block section, a second tubular block section arranged to fit within the first named section to form therewith a completed block, the axes of said sections extending at substantially right



angles to each other and flanges on opposite sides of said interior block section extending parallel with the axis of said section, and projecting outwardly therefrom to engage the adjacent walls of the outer section.

978,003. APPARATUS FOR MAKING HOLLOW BUILDING-BLOCKS. FERDINAND BURCHARTZ, New York, N. Y. Filed Jan. 21, 1910. Serial No. 539,279.



1. An apparatus for making hollow blocks comprising a tubular receptacle through which the material is forced, foraminated means in said receptacle adjacent to the discharge end thereof for shaping the material as it passes out of said receptacle and movable means for closing some of the foramina against the passage of the material.

2. An apparatus for making hollow building blocks comprising a tubular receptacle through which the material is forced, foraminated means in said receptacle adjacent to the discharge end thereof for shaping the material as it passes out of said receptacle, movable means for closing some of the foramina against the passage of the material, an indicating device connected with said movable means and arranged to be operated to produce an indication on the shaped material as the said movable means is operated to close some of the foramina and indicating means adapted to coöperate with the indications produced by the indicating device to indicate the points at which the movable means is to be operated.

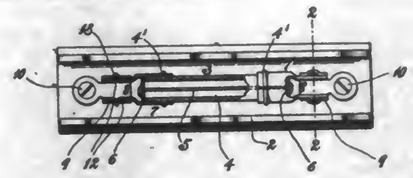
3. An apparatus for making hollow blocks comprising a tubular receptacle through which the material is forced and a plurality of members in said receptacle adjacent to the discharge end thereof, said members being spaced from each other and from the walls of the receptacle for shaping the material as it passes out of said receptacle and movable means for closing the spaces between said members against the passage of the material.

4. An apparatus for making hollow blocks comprising a tubular receptacle through which the material is forced, and a plurality of parallel bars in said receptacle adjacent to the discharge end thereof, said bars being spaced from each other and from the walls of the receptacle for shaping the material as it passes out of said receptacle, and movable means for closing the spaces between adjacent bars against the passage of the material.

5. An apparatus for making hollow blocks comprising a tubular receptacle through which the material is forced, a plurality of parallel bars in said receptacle adjacent to the discharge end thereof, said bars being spaced from each other and from the walls of said receptacle, a series of shutters arranged to close the spaces between adjacent bars against the passage of the material and means connected with said shutters for simultaneously operating all of them.

[Claim 6 not printed in the Gazette.]

978,004. ELECTRICAL CUT-OUT. JAMES LESLIE BURTON, Plainville, Conn., assignor of one-half to Frank A. Champlin, East Long Meadow, Mass. Filed Feb. 11, 1910. Serial No. 543,266.



1. A cut out comprising a fuse member provided with clips, combined with supporting clips one set of clips being adapted to receive the other set of clips and the respective clips being positively interlocked against accidental movement in all directions.

2. A cut out comprising a fuse member provided with resilient clips the shanks of which are interlocked with the body of the fuse member combined with supporting clips one set of clips being adapted to removably receive the other.

3. A cut out comprising a fuse member provided with clips the body of the fuse member having beads and the clips having portions spun over said beads combined with supporting clips one set of clips being adapted to removably receive the other set.

4. A cut out comprising a fuse member having a tubular body, fusible material in said body, and a clip connected to the body said clip having a part closing one end of the tubular body and to which the fusible material is connected.

5. A cut out comprising a fuse member having a tubular body, fusible material in said body, and a clip provided with a tubular shank fitted onto said body and provided with a disk closing an end of the tubular body and with which said fusible material is connected.

[Claims 6 and 7 not printed in the Gazette.]

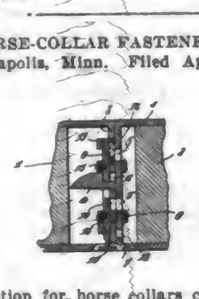
978,005. ADJUSTABLE TAP. ADDISON B. CARLL, Mobile, Ala. Filed Feb. 7, 1910. Serial No. 542,464.



The combination of a mandrel having a head provided with a series of converging longitudinal V-shaped grooves, and a corresponding series of straight-walled radial longitudinal slots leading outward from the said grooves, the apex of the V-shaped grooves facing the center of the head and the said slots being narrower than the widest or outer part of said grooves, a series of cutters having tapered enlarged inner edges snugly fitting in the said V-shaped grooves, and longitudinal lateral shoulders bearing against

the outer walls of the said grooves, the sides of the cutters beyond the said shoulders being straight and parallel to fit in the straight walled radial slots of the mandrel, and means for adjusting the cutters longitudinally of the grooves and slots.

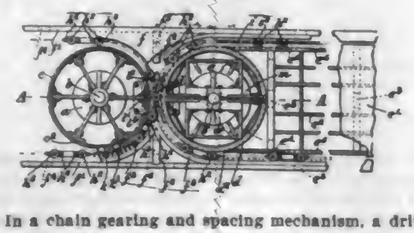
978,006. HORSE-COLLAR FASTENER. ROBERT J. CASSAN, Minneapolis, Minn. Filed Apr. 6, 1910. Serial No. 553,734.



1. A connection for horse collars comprising a pair of members, one of said members being fitted upon one of the ends of the collar, said member having its face provided with a pair of rectangular openings and being further provided with tongues projecting within the openings, the member being also provided with an offset projecting element, the said member having an opening adjacent one of its tongues, the opposite member being provided with alining rectangular slots, the portion between the slots being provided with a T-shaped groove communicating with one of the slots, a sliding member positioned below the slots, said sliding member having its central portion provided with a rectangular groove, the sliding member being further provided with projecting members having openings and adapted to be received by the tongues of the first member, a pressure spring for the sliding member, a head for the sliding member and a projection upon the face of the opposite member adapted to engage the opening within the opposite face.

2. A fastener for the ends of horse collars comprising metal casings engaging the meeting ends of the collar, said casings each provided with flattened plates, one of said plates having substantially rectangular openings, one of the walls provided by each of the said openings having a projecting member, an outwardly extending hook positioned intermediate of the said openings, the plate upon the opposite end of the collar being also provided with a pair of rectangular openings, the space between the openings being provided with a T-shaped slot adapted for the reception of the hook member upon the opposite plate, and a sliding member having a central opening and a pair of spaced offset ears provided with slots, the slots of the ears adapted to engage the projections provided within the rectangular openings of the first plate, and the central opening of the sliding member adapted to engage the central hook member of the first named plate, substantially as and for the purpose set forth.

978,007. CHAIN GEARING AND SPACING MECHANISM. FREDERICK DARCY, Philadelphia, Pa. Filed Mar. 3, 1908. Serial No. 419,054.



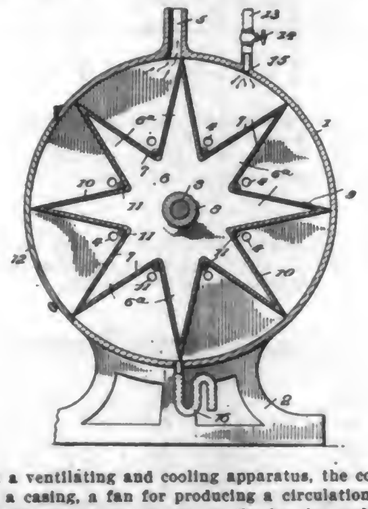
1. In a chain gearing and spacing mechanism, a driving chain and a driven chain constantly engaged and vehicle carrying rods, both chains having recesses receiving the rods.

2. In a chain gearing and spacing mechanism, endless chains operatively engaging with each other and vehicle carrying rods, the chains having recesses receiving the rods.

3. In a chain gearing and spacing mechanism, an endless chain, a toothed wheel and vehicle carrying rods, the chain and wheel being so constructed and mounted as to operatively engage with each other and having recesses receiving the rods.

4. In a chain gearing and spacing mechanism, a chain having toothed links, a chain adapted to engage with the teeth of said toothed links and vehicle carrying rods, both of said chains having recesses receiving the rods.

978,008. AIR-COOLING APPARATUS. GENNARO DRAMIS, Brooklyn, N. Y. Filed Dec. 6, 1909. Serial No. 531,738.



1. In a ventilating and cooling apparatus, the combination of a casing, a fan for producing a circulation of air through the casing, and means on the fan for cooling the air forced through the casing.

2. In a ventilating and cooling apparatus, the combination of a casing, a fan mounted within the casing for producing a circulation of air therethrough, and moisture absorbent material applied to the fan.

3. In a ventilating and cooling apparatus, the combination of a casing, a fan mounted within the casing for producing a circulation of air therethrough, a strip of absorbent material applied to the blades of the fan, and means for moistening the said strip of absorbent material.

4. In a ventilating and cooling apparatus, the combination of a casing, a centrifugal fan mounted within the casing for producing a circulation of air therethrough, a strip of absorbent material extending around the fan and fitting against the blades thereof, and means for moistening the said strip of absorbent material.

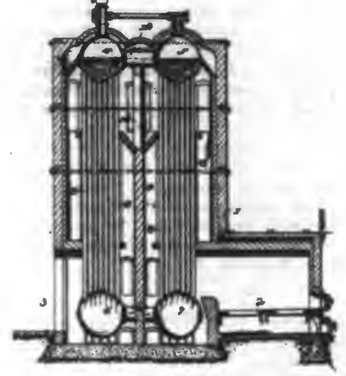
5. In a ventilating and cooling apparatus, the combination of a casing, a centrifugal fan mounted within the casing and formed with radial blades, a strip of absorbent material extending around the fan, retaining rods engaging the absorbent strip for holding the same against the sides of the blades, and means for moistening the absorbent strip.

[Claims 6 to 9 not printed in the Gazette.]

978,009. STEAM-BOILER. GODFREY ENGEL, Brooklyn, N. Y. Filed July 7, 1910. Serial No. 570,814.

1. In a water tube boiler having upper and lower drums arranged in pairs, and two series of generating tubes connecting the upper drums with the lower drums, a water circulating pipe of relatively large diameter connecting all the drums and opening into the steam and water spaces of the upper drums, said pipes extending vertically within the space between the two series of generating tubes.

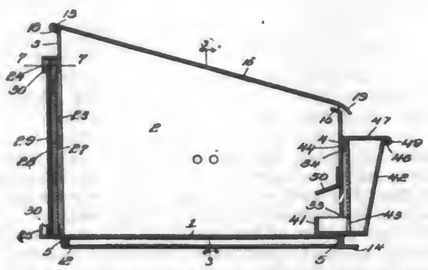
2. In a water tube boiler having upper and lower drums arranged in pairs, and separate series of generating tubes connecting the upper drums to the lower drums, a water circulating pipe extending vertically within the space between the series of generating tubes, such pipe having at its upper and lower ends opposite lateral branches opening directly into oppositely disposed drums at the median lines thereof.



3. In a water tube boiler having upper and lower drums arranged in pairs, and generating tubes connecting the upper drums to the lower drums, a water circulating pipe extending vertically within the space between the tubes, and having an upper horizontal portion connecting the steam spaces and water spaces of the oppositely disposed upper drums, and having a lower horizontal portion communicating with the oppositely disposed lower drums.

4. In combination with a furnace setting, upper and lower drums located therein and arranged in pairs, and two series of generating tubes connecting the upper drums to opposite lower drums, a partition extending vertically between the two series of tubes from the lower part of the furnace setting to a point near the upper drums, and water circulating pipes extending vertically within said partition and having lateral branches opening directly into adjacent drums, the upper branches opening into the steam and water spaces of the upper drums.

978,010. BROODER. WILLIAM T. FAUST, Browerville, Minn. Filed July 9, 1909. Serial No. 506,775.



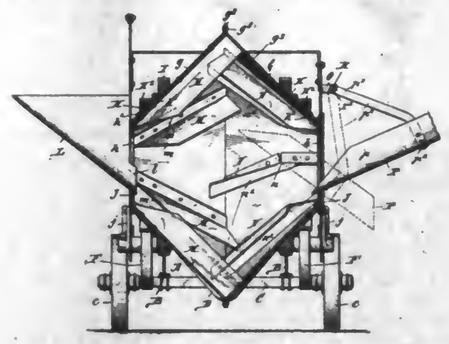
1. A brooder comprising a bottom wall having depending flanges at its front, rear and side edges, side walls having outwardly extending flanges at their upper edges and hooked flanges at their front, rear and lower edges, the latter engaging the side flanges of the bottom wall, front and rear walls having respectively outwardly, and inwardly extending flanges at their upper edges and hooked flanges at their side edges engaging the front and rear flanges of the side walls, and a top wall adapted to rest upon the flanges at the upper edges of the front and rear walls and having side flanges engaging the flanges at the upper edges of the side walls, and a rear downwardly bent flange overhanging and projecting beyond the inwardly bent flange at the upper edge of the rear wall.

2. A brooder having a doorway, guides above and below the doorway, and inner, intermediate and outer doors arranged for movement in said guides in parallel relation, the inner door being imperforate, the intermediate door having openings of a certain size, and the outer door having openings of a different size, said inner and intermediate doors having outwardly bent finger pieces at one side and said outer door having outwardly bent flanges at its opposite sides, the said flanges and finger pieces of the doors frictionally engaging the outer walls of the guideways.

3. A brooder provided in one of its walls with an opening, a hooked retaining strip upon the exterior of said wall above said opening, an inclined guard upon the interior of said wall above the opening, a receptacle having a discharge outlet at its lower end and a downwardly extending hooked flange at its upper forward edge to engage said retaining strip, and provided with a well or open compartment communicating with said outlet and adapted to extend into the brood chamber through the opening in said wall and below said inclined guard.

4. A brooder having one if its walls provided with a plurality of openings, a hooked supporting strip upon the exterior of said wall extending lengthwise above said opening, a downwardly inclined guard upon the inner side of the wall also extending lengthwise above the openings, and a plurality of receptacles each having a downwardly projecting flange at its upper front edge to engage said strip and provided with wells adapted to project through the opening into the brooder and below said inclined guard.

978,011. MIXING-MACHINE. CHARLES E. FOOTE and CHESTER T. FOOTE, Nunda, N. Y., assignors to The Foote Manufacturing Company, a Firm consisting of Charles S. Warner, Wilson H. Willard, Oscar J. Willard, Charles E. Foote, Fred G. Olp, and Chester T. Foote, Nunda, N. Y. Filed Aug. 21, 1907. Serial No. 389,551.



1. In a mixing-machine, a tapering mixing-drum having mixing-wings and discharge-wings secured to the inner sides of its walls and an opening through which the material is discharged, said discharge-wings having their free longitudinal edges bent at an angle to form scoops and at least one of said discharge-wings bent rearward at a point between its ends.

2. In a mixing-machine, the combination of a revoluble drum tapered from its center toward opposite ends and having an opening at each end, straight wings secured to the inner side of the wall on one side of its center and scoop-shape wings secured to the inner side of the wall on the other side of its center, and a discharge-chute normally held in an inoperative position and movable into a position coöperating with said scoop-shape wings to discharge the material from the drum.

3. In a mixing-machine, the combination with a frame having longitudinal side-beams, of bearings secured to said beams, two transverse bars bent into V-shape between

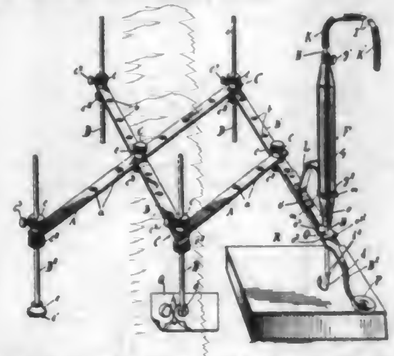
their ends and secured against rotation in said bearings, supporting rollers mounted to rotate on said bars and through which said bars pass, a double cone-shape mixing-drum arranged transversely and supported on said rollers with the V-shaped portions of said bars straddling the enlarged center portion of said drum, and means to cause said drum to rotate.

4. In a mixing-machine, the combination with a frame, of a vertical plate supported on said frame and having an opening, a mixing-drum in rear of and in close proximity to said plate having a discharge opening in registration with the opening in said plate, a bracket secured to said plate in a plane above the opening therein, a discharge-chute, bars to which said chute is secured and which are pivotally attached to said bracket, one of said bars being extended upward beyond its pivotal point, and a weight adjustable on the extended portion of said last-mentioned bar.

5. In a mixing-machine, a drum converging toward its ends and having openings in its ends, and mixing wings secured to the inside of each tapering part of said drum, the wings of the two tapering parts arranged alternately within the drum.

[Claims 6 to 16 not printed in the Gazette.]

978,012. PANTOGRAPHIC PYROGRAPH. WILLIAM B. FOSTER, Norwood, Ohio, assignor, by direct and mesne assignments, of one-third to Millard J. Klaw and one-third to Alfred H. Duwelius, Cincinnati, Ohio. Filed Jan. 6, 1910. Serial No. 536,672.



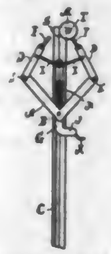
1. In a pantographic pyrograph, the combination of a pantographic frame comprising bars having joints between them and rods upon which said bars are supported, a pyrographic hand-instrument comprising a handle and a burner-tube, one of said bars being provided with an elongated opening extending lengthwise of said bar, a clamp on said last-named bar extending above the same and received about said handle and a keeper pivoted to said last-named bar and provided with a slot the sidewalls of which extend crosswise of the side walls of said elongated opening for positioning said tube lengthwise of said elongated opening, substantially as described.

2. In a pantographic pyrograph, the combination of a pantographic frame comprising bars having joints between them and rods upon which said bars are supported, a pyrographic hand-instrument comprising a handle and a burner-tube, one of said bars being provided with an opening for receiving said tube, a clamp on said last-named bar received about said handle, and a keeper on said last-named bar received about said tube adjacent to said opening, substantially as and for the purpose specified.

3. In a pantographic pyrograph, the combination of a pantographic frame comprising bars having joints between them and rods therefor, a pyrographic hand-instrument comprising a handle having an annular recess and a burner-tube, one of said bars being provided with an elongated opening extending lengthwise of said bar, a spring-fork on said last-named bar the tines whereof are received in said annular recess for clasping said handle, and a keeper on said last-named bar provided with a slot the side walls of which extend crosswise of the side walls of said elongated opening, and are arranged to engage said tube for positioning said tube lengthwise of said opening, substantially as described.

4. In a pantographic pyrograph, the combination of a pantographic frame comprising bars having joints between them and rods therefor, a pyrographic hand-instrument comprising a handle having an annular recess and a burner-tube, a guiding handle on one of said bars, said last-named bar being provided with an elongated opening extending lengthwise of said bar in rear of said guiding handle, a spring-fork on said last-named bar the tines whereof are located above said elongated opening and are received in said annular recess for clasping said first-named handle, and a resilient keeper pivoted to said last-named bar and provided with a slot the side walls of which extend crosswise of the side walls of said elongated opening and are arranged to engage said tube for locking said tube lengthwise of said opening, said keeper being provided with lips engaging the side edges of said last-named bar for keeping said keeper in locking position, substantially as described.

978,013. CLEANER FOR WIND-SHIELDS FOR AUTOMOBILES, TROLLEY-CARS, AND THE LIKE. CHARLES GARDINER, Philadelphia, Pa. Filed Dec. 30, 1909. Serial No. 535,607.



1. In combination, brackets fitted to slide upon a glass wind shield, slides guided by the brackets, scraper arms pivoted to the brackets, scrapers carried by said arms, spring arms connecting the scraper arms and slides, as and for the purpose set forth.

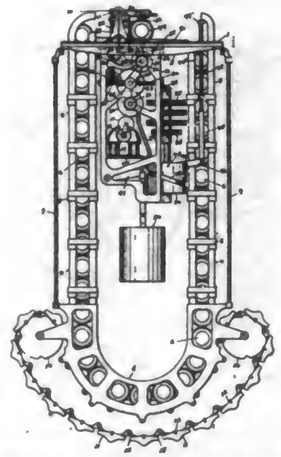
2. In combination, brackets fitted to slide upon a wind shield, slides guided by the brackets, scraper arms pivoted to the brackets, scrapers carried by said arms, spring arms connecting the scraper arms and slides, and spring actuated pulleys connected to the brackets by cords for elevating the scrapers, as specified.

978,014. AUTOMATIC PHONOGRAPH OF THE WAX-CYLINDER TYPE. JAMES IRWIN GEMMILL, Cleveland, Ohio. Filed July 11, 1908. Serial No. 443,172.

1. In mechanism of the character described, in combination, a sound reproducing machine; a series of records; and means adapted to advance the latter along a portion of a path of movement; said records rolling by gravity to complete their path of movement.

2. In mechanism of the character described, in combination, a sound reproducing machine; a series of records; means forming a path along which the latter may travel, said records rolling by gravity along a portion of said path; and mechanical means adapted to advance said records along the remainder of said path, the means forming said path of movement being so arranged relatively to said machine that said records are successively brought into playing position along that portion of their path where they roll by gravity.

3. In mechanism of the character described, in combination, a sound reproducing machine; a series of records; and means adapted to advance the latter along a portion of a path of movement, said records rolling by gravity to complete said movement, whereby said records are successively brought into playing position upon said machine.

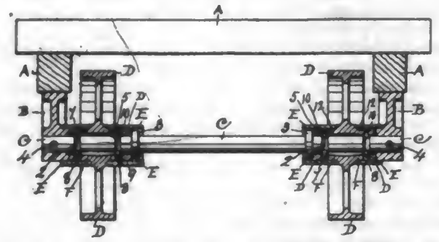


4. In mechanism of the character described, in combination, a sound reproducing machine; a series of records; mechanical means to advance the latter along a portion of a complete circuit, said records rolling by gravity to complete said circuit, and being successively brought during said gravity-effected advance into playing position upon said machine.

5. In mechanism of the character described, in combination, a sound reproducing machine; a series of records; means adapted to advance the latter along a portion of a path of movement intermittently, said records rolling by gravity to complete said movement, whereby said records are successively brought into playing position upon said machine.

[Claims 6 to 34 not printed in the Gazette.]

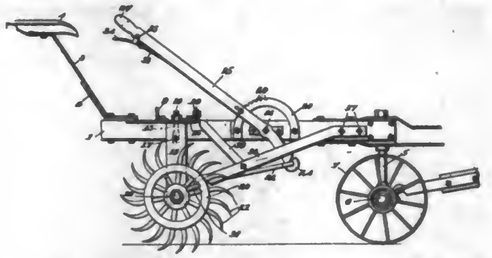
978,015. TRUCK. CHARLES GENTLE, Hamilton, Ontario, Canada. Filed Jan. 11, 1910. Serial No. 537,478.



1. In a truck, a frame, an axle rigid therewith, a wheel adapted to rotate loosely on ball bearings on the axle, a removable tapered plug through one side of the hub of the wheel to admit balls to position, a longitudinal groove, and an annular groove communicating with each other on said hub, a ferrule having a teat on its inner side and adapted to slide on the hub and plug, and said teat to slide in the longitudinal groove, and then to rotate and lock in said annular groove, to retain the plug, and to partially cover the bearing of the axle.

2. In a truck, a frame, bracket bearings rigid therewith, a stationary axle in the bearings, annular grooves in the axle, a wheel on the axle having grooves opposite to and corresponding to the annular grooves a removable tapered plug in the hub of said wheel and opposite to said grooves, a collar on the axle adjoining the hub, a ferrule adapted to slide on the hub and the collar, a longitudinal and an annular groove on the hub, a teat on the ferrule adapted to slide in the longitudinal groove, and to rotate a distance in the annular groove, and to lock therein, and thereby lock the plug and cover the collar, to prevent dust from entering the ball bearings.

978,016. ROTARY ROAD-SCARIFIER. WALTER A. GILLETTE, Los Angeles, Cal. Filed Sept. 1, 1910. Serial No. 580,086.



1. In a rotary road scarifier, the combination of a right angled supporting frame, a gang of disks provided with curved spikes supported on each side of the central portion of said frame, and means for separately adjusting and locking each gang of spike disks, substantially as described.

2. In a rotary road scarifier, the combination of a longitudinal beam, draft appliances supporting the front end of said beam, cross bars carried by said beam, an axle provided with a gang of disks provided with curved spikes movably supported near the outer ends of said cross bars, and means for adjusting the inner end of each of said axles and for locking it in its adjusted position, substantially as described.

3. In a rotary road scarifier, the combination of a longitudinal beam, draft appliances supporting the front of said beam, angle bars spaced apart and supported by said beam and located at right angles thereto, plates uniting the outer ends of said angle bars, a bolt passing through each of said plates, a U shaped plate mounted on each of said bolts, an axle, provided with a gang of disks provided with curved spikes, passing through perforations in said U shaped plates, and means for adjusting and locking said U shaped plates and said axles with the spike disks thereon in different positions, substantially as described.

4. In a rotary road scarifier, the combination of a longitudinal beam, draft appliances supporting the front of said beam, angle bars resting on said beam, spaced apart and located at right angles to said beam, plates connecting the outer ends of said angle bars, a bolt projecting downwardly through each of said plates, a U shaped plate supported by each of said bolts, an axle mounted in the lower arms of each of said plates, the axle being provided with a gang of disks provided with curved spikes, means for adjusting the inner ends of each of said axles, said means including a lever pivoted on said beam and a link connecting the lower end of said lever with one end of said U shaped plate, and means for locking said lever including a toothed segment mounted on said beam and a spring operated rod, and braces for stiffening the whole structure, substantially as described.

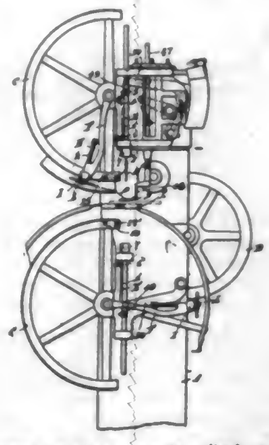
5. In a rotary road scarifier, the combination of a longitudinal beam, draft appliances supporting the front end of said beam, an axle provided with a series of heavy disks rigidly attached thereto journaled near the rear end of said beam, and a series of teeth curved rearward and outward and adapted both to dig into and to cut the road bed, substantially as described.

[Claim 6 not printed in the Gazette.]

978,017. THONG-STITCH SEWING-MACHINE. EMIL GNOETH, Madisonville, Ohio, assignor to The International Harness Machinery Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Oct. 4, 1909. Serial No. 520,785.

1. In a thong-sewing-machine, employing a traveling take-up arm, a rotatable shaft journaled on the end of said

arm and having an abutment on one of its ends, a thong puller having a plurality of arms and secured to said shaft, a notched cylinder on said arm, and friction devices for controlling the rotation of the thong puller, consisting of a series of projections on the face of the thong puller and around the axis of the shaft, adapted to engage with the notches of the cylinder, and a spring interposed between the take-up arm and the abutment on the shaft, for exerting friction against rotation of the thong pulling arms.



2. In a machine of the class described, employing a supporting table, needle bars upon opposite sides of the table, a thong guide upon each side of the table, a traveling thong puller, a double pointed thong needle, a pair of corrugated jaws rigidly mounted in one end of the thong guide, to form a tapering recess, into which the thong is wedged by the pulling of said thong by the thong puller.

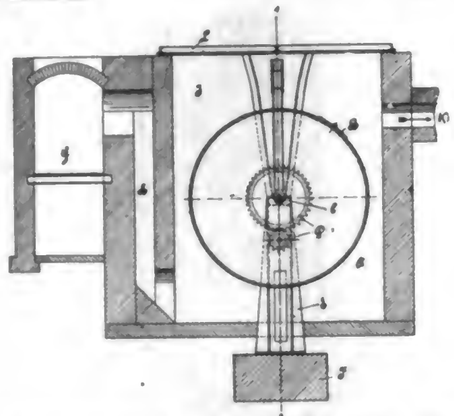
3. In a machine of the class described, employing thong sewing and take-up devices, of a thong guide having tapering jaws provided with corrugated faces to grip and hold the thong.

4. In a machine of the class described, a pair of reciprocating needle bars oppositely disposed in position and travel, each needle bar provided with a bell crank needle catch, and a tripper bar slidably mounted thereon, one end of which is adapted to engage and control the needle catch, and means adapted to move in the path of tripper bar travel upon each alternate reciprocation of said needle bar to actuate said catch to a needle releasing position.

5. In a machine of the class described, a pair of reciprocating needle bars oppositely disposed in position and travel, needle gripping means and gripper tripping means mounted upon each needle bar, means for actuating said tripping means upon each alternate reciprocation of a respective needle bar, a double pointed needle alternately engaged by said needle bars, thong drawing mechanism adapted to engage the thong after it has been partially fed through the goods, tension means therefor, whereby the thong is released after it has been pulled through the goods and the stitch has been pulled to a predetermined degree of tautness, thong gripping means adapted to engage one end of the thong and arrest the movement thereof, comprising a pair of oppositely disposed jaws with relatively tapered and diagonally corrugated surfaces.

978,018. FURNACE FOR HEATING OLD TINNED SHEET-IRON BOXES AND THE LIKE TO RENDER THEM SUITABLE TO BE DETINNED. KARL GOLDSCHMIDT and JOSEF WEBER, Essen-on-the-Ruhr, Germany, assignors to Goldschmidt Detinning Company, Jersey City, N. J., a Corporation of New Jersey. Filed Apr. 8, 1908. Serial No. 425,948.

1. In apparatus of the character described, a heating chamber, a rotatable article-container suspended within said chamber, and means for introducing heated air to said chamber in a direction tangential to the periphery of the container and substantially intersecting its path of movement.



2. In apparatus of the character described, a heating chamber, an article-container suspended within said chamber, means for introducing heated air to said chamber in a direction tangential to the periphery of the container and substantially intersecting its path of movement, and means for rotating said container in a direction to provide movements of the periphery in opposition to the direction of the introduction-flow of the heated air.

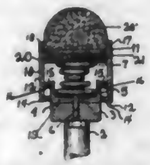
3. In apparatus of the character described, a heating chamber, an article-container suspended within said chamber, means for introducing heated air to said chamber in a direction tangential to the periphery of the container and substantially intersecting its path of movement, and means located without the chamber for rotating said container in a direction to provide movements of the periphery in opposition to the direction of the introduction-flow of the heated air.

4. In apparatus of the character described, a furnace, a heating chamber spaced from said furnace, a passage-way connecting the furnace and heating chamber, said passage-way opening into the chamber adjacent its bottom and having the top of the air inlet spaced from the bottom of the chamber, and a rotatable article-container suspended within the chamber and having the path of movement of its periphery extending into the plane of the top of said opening, whereby incoming air currents will substantially intersect the path of movement of the container.

5. In apparatus of the character described, a furnace, a heating chamber spaced from said furnace, a passage-way connecting the furnace and heating chamber, said passage-way opening into the chamber adjacent its bottom and having the top of the air inlet spaced from the bottom of the chamber, a controlling damper for said passage-way, and a rotatable article-container suspended within the chamber and having the path of movement of its periphery extending into the plane of the top of said opening, whereby incoming air currents will substantially intersect the path of movement of the container.

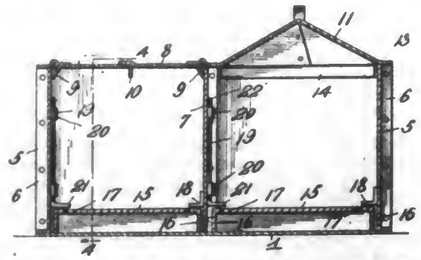
[Claims 6 and 7 not printed in the Gazette.]

978,019. TIRE FOR VEHICLE-WHEELS. NEHEMIAH GUTHRIE and CALLENDER L. JOHNSON, Dallas, Tex. Filed July 29, 1909. Serial No. 510,843.



In a resilient wheel, a circumferential rim having radial flanges provided with outwardly extending projections, opposed parallel casing members embracing the projections of the flanges and provided at their inner edges with flanges projecting substantially parallel to the projections of the first named flanges, a packing interposed between the projections and the flanges of the members, the casing members being movable with relation to the rim, an annular lateral flange on one of the casing members directed toward the other member and provided with circumferential peripheral screw threads, a second annular lateral flange on the other member and having circumferential and internal peripheral screw threads engaging the screw threads of the first lateral flange whereby the casing members are fastened together, and springs confined between the lateral flanges and the rim whereby the casing members are resiliently supported on the rim.

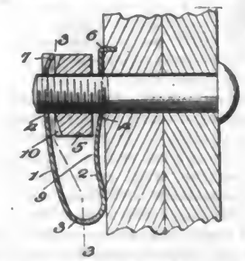
978,020. DOMESTIC BOILER. JOHN RILEY HALDEMAN, Springfield, Mo. Filed Nov. 22, 1909. Serial No. 529,381.



1. In a boiler of the class described, a removable bottom comprising a plate having formed therein adjacent to its outer edges a series of perforations, flanges formed on the edges of said plate to engage the main bottom of the boiler and to support said removable bottom above the same, retaining lugs secured to the end of the boiler and a fastening bolt adapted to be turned into engagement with the edge of the removable bottom opposite to the retaining lugs, whereby said bottom is removably held in position in the boiler.

2. A boiler of the class described adapted to be arranged in multiple to increase the capacity thereof, a partition arranged in the boiler to divide the latter into separate compartments, perforated false bottoms arranged in said compartments, a pipe adapted to connect the several members and the individual compartments therein together whereby the same water level is maintained throughout all of the compartments of the boilers, valves arranged in the connections between said pipe and said boiler compartments, a furnace constructed to correspond with the multiple arrangement of said boilers, and means to cut off part of said furnace whereby the boilers may be run at full or part of their capacity.

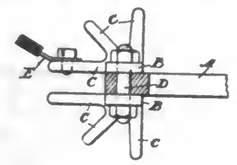
978,021. NUT-LOCK. FREDERICK HARDY, Columbia, Tenn. Filed Feb. 24, 1910. Serial No. 545,680.



1. A nut lock comprising a spring clip embodying members adapted to embrace the nut, one of said members being formed with a locking tooth and the other with a bowed portion, for the purpose specified.

2. The combination with a bolt, of a nut mounted thereon, of a spring clip embodying members embracing the nut, one of said members being formed with a tooth engaging the nut and the other member being provided with an initially formed bowed portion held under tension by the nut and arranged to draw the tooth into engagement with the nut.

978,022. ELECTRICAL RESISTANCE, CONTACT, AND THE LIKE. HENRY STAFFORD HATFIELD, Hove, England. Filed Dec. 28, 1906. Serial No. 349,859.



1. The combination of silicon in a massive form with a current-conducting connecting clamp of metal having a low heat expansion co-efficient.

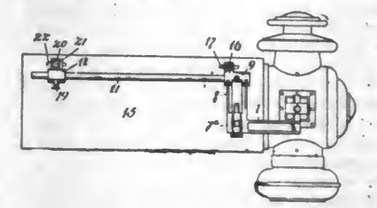
2. The combination of silicon in a massive form with a current-conducting connection of a nickel steel alloy.

3. The combination of silicon in a massive form with a current-conducting connecting clamp having heat radiating wings and in which the clamping member is made of metal having a low heat expansion co-efficient.

4. A resistance consisting of a body of silicon having a superficial coating of an alloy of silicon and another metal.

5. The combination with a resistance consisting of a body of silicon, of a current-conducting connection, the body of silicon having, at the points where it is engaged by the conducting connection, a superficial alloy of silicon and another metal.

978,023. NUMBER-PLATE SUPPORT FOR VEHICLES. WILLIAM B. HUGHES, Cleveland, Ohio. Filed Feb. 17, 1910. Serial No. 544,487.



1. In a device of the character set forth, the combination of a base having a lamp-support at one end thereof and a vertical socket at the opposite end thereof, arms projecting upwardly from said socket and provided each with a flange, a horizontal socket carried by said arms and having a clamping plate provided with a face in substantially the same plane as the flanges of said arms, a rod mounted in the last-mentioned socket, a clamp carried by said rod, and a number-plate carried by said clamps and adapted to engage said flanges.

2. In a device of the character set forth, the combination of a base having a lamp-support, arms projecting upwardly from said base and having flanges, a horizontal socket carried by said arms and having a clamping plate provided with a face in substantially the same plane as the flanges of said arms, a rod mounted in the last-mentioned socket, a clamp carried by said rod, and a number-plate carried by said clamps and adapted to engage said flanges.

3. In a device of the character set forth, the combination of a base having a lamp support, and a rod support provided with a clamping projection, a rod carried by the latter support, a clamping member mounted on said rod, a number plate, and means for securing said plate to said member and said projection.

978,024. GARMENT-SUPPORTER CLASP. ERNEST N. HUMPHREY, New Britain, Conn., assignor to Traut & Hine Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Nov. 1, 1909. Serial No. 525,637.



In a garment supporter clasp, a frame, a button mounted thereon, an elongated sheet metal clip hinged at its upper end to the upper part of said frame, said clip having an opening for said button, said opening being slightly larger than the button head, a transverse rib or corrugation intermediate the length of said clip, and a longitudinal slit in said clip extending from said button opening upwardly through said rib or corrugation.

978,025. BELT-FASTENER. ISAAC JACKSON, Glossop, England. Filed Feb. 24, 1910. Serial No. 545,639.



1. A belt fastener comprising a perforated plate adapted to be applied against the outer surface of a belt and having a tooth adapted to extend through the belt and to force a portion thereof outwardly into a perforation in the plate when clenched against the surface opposite that on which the plate bears, and a protecting body extending across said perforation and about the tooth.

2. A belt fastener comprising a plate having therein a perforation and two projecting teeth which are separated by said perforation and are adapted to extend through a belt and to force a portion thereof into said perforation, and a protecting sheet extending about said teeth and outwardly through the perforation in the plate.

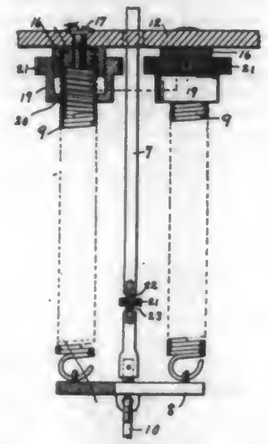
3. A belt fastener comprising a plate having therein a perforation and two projecting teeth which are separated by said perforation and are adapted to extend through a belt and to force a portion thereof into said perforation, and a protecting sheet extending about said teeth and outwardly through the perforation in the plate, the portion of said sheet projecting beyond the outer face of the plate being of greater thickness than the other portions thereof, for the purpose described.

978,026. SPRING-SCALE. LOUIS JAENICHEN, Detroit, Mich., assignor to Standard Computing Scale Company, Limited, Detroit, Mich., a Limited Partnership of Michigan. Filed Sept. 18, 1908. Serial No. 453,584.

1. In a scale, the combination of a supporting plate, a sleeve having interior and exterior threads, a collar having exterior threads, a coil spring adapted to be rigidly held within the sleeve by the collar, a screw to secure the sleeve and collar to the supporting plate, a second sleeve screwed onto the first and having external gear teeth and an interior threaded flange adapted to engage the coils of the spring, and means to engage the gear teeth to adjust the effective length of the spring.

2. In a scale, the combination of a coil spring, means to secure one end thereof rigidly comprising a threaded sleeve, a second sleeve having its bore threaded to screw onto said first sleeve and having a second portion threaded at a different pitch to engage the coil spring, and means to turn said second sleeve.

3. In a scale, the combination of a coil spring, means comprising a screw-threaded portion to support one end of the spring, and means for operatively engaging both this screw threaded portion and the spring for changing the operative length of the spring.

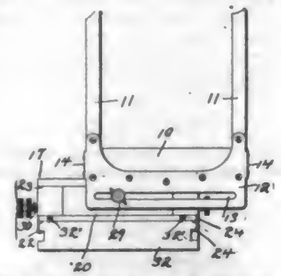


4. In a scale, the combination of a frame, a screw threaded member rigidly mounted thereon, a coil spring, a sleeve having one screw threaded portion to engage the screw threaded member mounted on the frame and another portion screw threaded at a different pitch to engage the coils of the spring, and toothed gearing to cause a relative movement between the sleeve and the spring to adjust the operative length of the latter.

5. In a scale, the combination of a frame, a screw threaded member extending down from the same, a coil spring, a sleeve having a screw threaded portion at its lower end to engage the coil of the spring and at its upper end to engage the screw threaded member mounted on the frame, and toothed gearing to cause a relative rotary movement between the sleeve and the spring to adjust them longitudinally relative to each other and at the same time cause similar longitudinal movement between the frame and the spring.

[Claims 6 to 9 not printed in the Gazette.]

978,027. SLIDING CAMERA-FRONT. ALEXANDER A. JOHNSON, Tacoma, Wash. Filed Nov. 12, 1908. Serial No. 462,312.



1. A camera front adapted for adjustable lateral movement and comprising a carriage portion and a lens carrying frame engaged slidably thereon, said frame carrying front and back side plates having pendent portions provided with registering slots extending laterally of the front and engaged slidably with the carriage portion, said carriage portion having a brace plate secured to the rear face thereof and extending over its opposite ends, the end portions of the plate being provided with pendent track engaging portions, and carrying revolubly a shaft and pinion adapted for engagement with a rack, said carriage having a passage therethrough registering with said slot and having an angular spring secured thereto and extending upwardly over one of the guide plates, said spring normally setting outwardly of said plate, and carrying a centrally threaded nut portion at its outer end disposed in registry with said passage, and a threaded shaft engaged through the passage and with said nut, and having a knurled head at its opposite end outwardly of the adjacent guide plate, and adapted for clamping engagement with said plates to retain the frame adjustably upon the carriage.

2. In a camera front, the combination with a carriage portion, of a frame having spaced plates secured to opposite sides thereof and engaged slidably with the carriage, said plates having laterally extending registering slots, a nut member carried by the carriage and having a threaded opening therethrough in registry with the slot, said carriage having a passage therethrough registering with said slots and opening, and a headed screw member engaged through the slots and opening and with the nut for clamping engagement with the guide plates, to hold the frame adjustably at various points on the carriage.

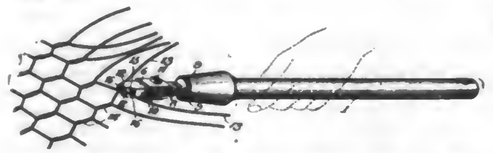
3. In a camera front, the combination with slidable sections, one of said sections having a passage therethrough, and the other of said sections having a slotted portion disposed in registry with the passage; of a nut member carried by the first named section and disposed in resilient spaced relation with the slotted portion, and a headed screw member engaged through the slotted portion, through the passage and with the nut for clamping engagement with the sections.

4. A camera front comprising relatively slidable sections, one of said sections having an overlapping slotted portion, the other of said sections having a perforation therethrough registering with the slot and carrying a nut disposed in resilient spaced relation with the slotted portion, said nut having a threaded opening therethrough registering with the perforation, and a headed screw member engaged through the slot and passage and with the nut for clamping engagement with the sections.

5. In a camera front, the combination with a section carrying a headed screw member of a relatively slidable section having a slotted portion disposed slidably over the screw, and a nut member disposed in resilient spaced relation with the slotted portion and adapted to receive the screw therein.

[Claims 6 and 7 not printed in the Gazette.]

978,028. WIRE-TWISTING IMPLEMENT. AUGUST KASPAR, Shiner, Tex. Filed Mar. 9, 1910. Serial No. 548,232.



1. A wire twisting tool provided with a handle, a twisting head, and a spiral shank for the twisting head, said handle being of a length to entirely house the twisted end of the shank when the latter is in the retracted position.

2. A wire twisting tool provided with a handle, a twisting head, and a spiral shank for the twisting head, said handle being of a length to entirely house the spiral end of the shank when the latter is in the retracted position, the handle being of tubular form with the end through which the shank moves reinforced.

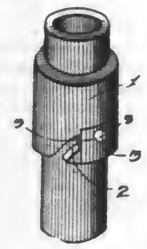
3. A wire twisting tool provided with a handle, a twisting head, and a spiral shank for the twisting head, said handle being of a length to entirely house the spiral portion of the shank when the latter is in the retracted position, the handle being of tubular form with the end through which the shank moves reinforced, and expanding rearwardly.

4. A wire twisting tool provided with an elongated tubular handle, a spirally twisted shank adapted when retracted to have its twisted portion entirely housed in said handle, means in the handle for imparting rotative movement to the shank on the movement of the latter longitudinally of the handle, and a socket member fast to the front end of the shank.

5. A wire twisting tool provided with an elongated tubular handle, a spirally twisted shank adapted when retracted to have its twisted portion entirely housed in said handle, means in the handle for imparting rotative movement to the shank on the movement of the latter longitudinally of the handle, a socket member fast to the front end of the shank, and a stop member carried by the shank in predetermined position thereon.

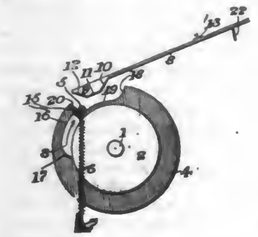
[Claims 6 to 9 not printed in the Gazette.]

978,029. THREADLESS HOSE-COUPLING. HENRY KELL, Worden, Ill., assignor of one-half to John F. Johnson and one-half to Charles W. Piper, Worden, Ill. Filed Jan. 11, 1910. Serial No. 537,467.



A hose coupling of the class described comprising a primary and an auxiliary section, said primary section provided with a bayonet slot thereby forming a finger near the outer end of said primary section, said primary section provided with a cut-out portion formed upon the outer surface thereof adjacent to said bayonet slot and terminating short of one end of said finger, a spring lip seated in said cut-out portion, and lying flat in said cut-out portion throughout its entire length so as to have the outer face thereof flush with the sides of the primary section, said lip overhanging said bayonet slot and partially closing the same, said auxiliary section provided with a laterally extending pin adapted to travel within said bayonet slot, said lip provided with an aperture registering with said bayonet slot and adapted to receive said laterally extending pin, said pin provided with a beveled side, and said spring lip being beveled upon its under surface near the outer end thereof for facilitating the assembling of the primary and auxiliary sections together.

978,030. ELECTRIC CONTACT DEVICE. ARTHUR ATWATER KENT, Philadelphia, Pa. Filed Aug. 16, 1905. Serial No. 274,361.



1. In a contact device, a movable member, a tension device therefor, a stop for limiting the movement of said member in one direction, means for advancing said member to increase the tension thereon, separate means for releasing said member, and a contact member disconnected from and co-acting with said movable member on its return movement to both make and break the circuit.

2. In a contact device, the combination of a movable member, a tension device therefor, a movable cam for advancing said member, and acting in conjunction with a stationary cam to effect the release and return of said member and means disconnected from said member and co-acting therewith on the return movement of said member to both make and break the circuit.

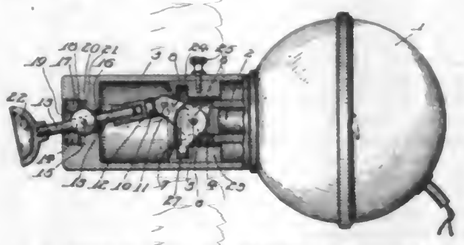
3. In a contact device the combination of a movable member, a tension device therefor, means for advancing said member, separate means for effecting the release and return of said member in a different path from that in which it was advanced and means coacting with said member on the return movement thereof to both make and break the circuit.

4. In a contact device, the combination of a movable member, a tension device therefor, means for advancing said member, separate means for effecting the release and return of said member, and a spring contact arm independent of and disconnected from said movable member and co-acting therewith on the return movement of said member to both make and break the circuit before said member reaches its initial position.

5. In a contact device, a movable member, a stop for limiting the movement of said member in one direction, means for advancing said member, means for returning said member to said stop in a different path from that in which it was advanced, and a contact member disconnected from and co-acting with said movable member on its return movement and intermediate the points between which it was advanced to both make and break the circuit.

[Claims 6 to 46 not printed in the Gazette.]

978,031. MASSAGE-MACHINE. ARTHUR ATWATER KENT, Philadelphia, Pa. Filed May 21, 1908. Serial No. 434,087.



1. In a massage machine a massage rod, a driving shaft, a lever pivoted to said shaft and having one end connected to said massage rod and the other end extending outwardly from the axis of said shaft and means engaging said outwardly extending end of said lever to adjust the other end of said lever to varying distance from the axis of rotation of said shaft.

2. In a massage machine a massage rod a driving shaft, a bell-crank lever pivoted to said shaft intermediate the ends of said lever and means engaging one end of said lever to adjust the other end of said lever to varying distances from the axis of rotation of said shaft and swiveled means for connecting said last mentioned end of said lever with said massage rod.

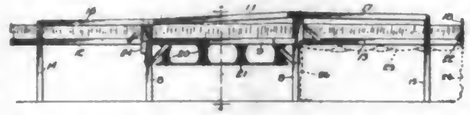
3. In a massage machine, a driving shaft, a bell-crank lever, pivoted to said shaft on an axis transverse to the axis of rotation of said shaft, a sliding member movable in a direction parallel to said shaft and having a circular groove coöperating with one end of said lever and a massage rod swiveled to the other end of said lever.

4. In a massage machine a driving shaft, a bell-crank lever pivoted between its ends to said shaft on an axis transverse to the axis of said shaft, a massage rod swiveled to one end of said lever, means to guide the other end of said lever in a circular path when said shaft is rotated, said means being slidable in a direction parallel to said shaft.

5. In a massage machine, a driving shaft, a bell-crank lever pivoted between its ends to said shaft on an axis transverse to the axis of said shaft, a massage rod swiveled to one end of said lever, a ring adapted to guide the other end of said lever in a circular path when said shaft is rotated, said ring being slidable in a direction substantially parallel to said shaft.

[Claims 6 to 12 not printed in the Gazette.]

978,032. OTTOMAN-BED. CHARLES J. KINDEL, Chicago, Ill. Filed May 18, 1910. Serial No. 562,091.



1. An ottoman bed having a middle section, and leaves or lateral sections hinged to the middle section, one at either side, and adapted to fold, the first upon the middle section and the second upon the first, all of said sections being provided with a bed surface upon one side and the said second section with a seat cushion upon its opposite side, and a valance secured around the edge of said second section and movable with it whereby to hide the entire mechanism of the bed when folded up.

2. In an ottoman bed the combination with the middle section, of lateral sections hinged thereto at either side, bed bottom fabric located in all three sections, cross-rails located in the middle section well below the bed bottom, a continuous mattress fitted to the several sections, one of the lateral sections with its portion of the mattress being constructed and adapted to fold upon the middle section and the other lateral section with its portion of the mattress being constructed and adapted to fold upon that, and a set of reinforcing springs suspended from the frame of the middle section under the bed bottom fabric thereof.

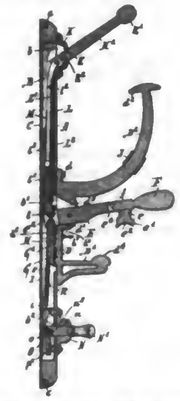
3. In an ottoman bed the combination with the middle section having at its corners upwardly extending posts, lateral sections hinged to said posts and so proportioned and constructed that one may be folded upon the middle section and the other upon that, the latter forming the seat surface of the ottoman, rails joining said posts at the sides of the middle portion, legs pivoted to the sides of the lateral sections and projecting at their upper ends above said sections when in bed form, and guiding links for the legs pivoted to said projecting ends and to the side rails of the middle section, said links and side rails forming continuous side rails for the displayed ottoman bed.

4. In an ottoman bed, the combination of a middle section having upwardly extending posts at opposite sides, those at one side being higher than those at the other, a lateral section hinged to the shorter posts and adapted to be folded upon the middle section and provided at its hinged edge with projections having overturned ends, another lateral section hinged to the taller posts and adapted to fold upon the first lateral section and having at its free edge automatic catches for engaging with the overturned ends of the projections on the first lateral section to hold the said lateral sections in folded position.

5. An ottoman bed consisting of a middle section having a bed bottom rail extending across each end, an inclined rail extending across each end above the bed bottom rail, a lateral section hinged to the lower ends of said rails and adapted to fold upon the middle section, a lateral section hinged to the upper ends of said inclined rails and adapted to fold upon the first folded lateral section, legs pivoted to the side rails of the said lateral section, and leg-operating links pivoted to the legs and to said inclined rails.

978,033. LOCKING HAT, COAT, AND UMBRELLA RACK. FREDERICK L. KINSEY, Buffalo, N. Y., assignor of one-half to John D. Brotherston, Derby, N. Y. Filed Jan. 29, 1910. Serial No. 540,911.

1. A device of the character described, comprising a support having a chamber and an opening extending from said chamber to the outer face of said support, a casting secured to said support and closing said opening, said casting having a projection on its outer face on which an article may be hung and a vertical series of teeth on its inner face, a lever pivotally attached at a point between its ends to said casting and adapted to cooperate with said projection, a spring-pressed pawl pivotally attached to the inner end of said lever and adapted for co-action in said vertical series of teeth, and means to disengage said pawl from said teeth.



2. A device of the character described, comprising a chambered support having an opening extending from its chamber to the outer surface of the support, a casting applied to the outer face of said support and closing said opening, said casting having an opening registering with the above-mentioned opening and a hook extending upward therefrom, also a vertical series of teeth on its rear face, a lock-lever extending through the opening in said casting and pivoted at a point between its ends within said opening, a pawl pivoted to the inner end of said lock-lever and adapted for co-action with said vertical series of teeth, a horizontally-disposed slide-bolt having a wedge-portion adapted to engage said pawl to free it from said teeth, a removable key adapted to actuate said slide-bolt, and a spring-lifted key retaining-lever adapted to engage said key to prevent removal thereof, said key retaining-lever being engaged by the inner end of said lock-lever when in normal position.

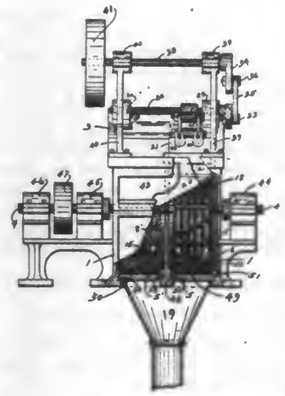
3. In a device of the character described, in combination, a hat locking-device including a swinging lever, means for locking said lever, a hat locking-device including a swinging lever, a rod connecting said levers and comprising two yieldingly connected members, and means for releasing said first-mentioned lever when locked.

4. In a device of the character described, the combination with a support having a coat-hook and a hat-hook, of a lever coöperating with each of said hooks, a telescopic rod connecting said levers, means for locking the lever coöperating with said coat-hook, and means for releasing said lever when locked.

5. In a device of the character described, the combination with a support having a coat hook and a hat hook thereon, of a lock-lever coöperating with each of said supports and pivoted between its ends, a rod connecting corresponding ends of said levers and comprising two members, one of said members being tubular and having a yielding element located therein and the other member fitting within said tubular member against said yielding element, means for retaining said lock-levers in unlocked position, means for locking said levers when actuated, and key-actuated mechanism for releasing said levers so as to permit them to return to normal position.

978,034. GRINDING AND DISINTEGRATING MACHINE. FREDERICK L. KINSEY, Buffalo, N. Y., assignor of one-half to J. Edward Thebaud, Buffalo, N. Y. Filed Apr. 9, 1910. Serial No. 554,485.

1. An apparatus for grinding and disintegrating materials, consisting of a sectional casing having two parallel walls and an annular recess on the inner side of each said walls, a shaft transverse to said walls, within said casing and situated centrally to each of said annular recesses, means for driving said shaft, an internal sectional cylindrical partition, concentric with said shaft, said partition being composed of two kinds of adjoining sections having their curved sides adapted to be mounted within the said annular recesses, one kind of said sections being adapted to grinding, one kind of said sections being adapted to pass therethrough particles of the disintegrated product, grinding shoes fulcrumed on supporting means concentric with and mounted upon said shaft within said partition, means within the said supporting means adapted to engage the inner ends of the grinding shoes to limit the outward movement of said shoes with reference to the inner surface of said partition and adapted to be adjustably fixed upon the said supporting means, an inlet hopper leading within the said partition, means adjoining said partition adapted adjustably to withdraw part of the insufficiently disintegrated material from within the said partition and means to distribute the same to an adjoining auxiliary duplicate grinding apparatus about and upon the said shaft and a collecting hopper connected with the said casing and adapted to collect the disintegrated product which has passed through the said partition, all combined and operated as set forth.



2. In a disintegrating machine, a casing having parallel walls, a shaft passing through said walls, means for rotating said shaft, an internal cylindrical partition composed of two kinds of sections resting within annular grooves in said walls and concentric with said shaft, one kind of said sections having each a fluted concave solid grinding surface, assembled with another kind of said sections having each a semi-grinding sieve-like concave surface, a series of parallel disks within said casing, and positioned upon said shaft, a plurality of individual fluted edged grinding surfaces integral with arms and symmetrically fulcrumed in groups upon said disks and adapted to coöperate with said grinding and semi-grinding sections to disintegrate material fed therebetween, said individual grinding surfaces being curved and divergent to said sections, means upon said disks contacting the otherwise free inner ends of said arms for adjustably governing the outward movement of said individual surfaces, means for feeding material to the device, means for governing the discharge of the insufficiently disintegrated material from said device to a duplicate disintegrating machine, substantially as set forth.

3. In a disintegrating machine, a casing having parallel walls, a shaft passing through said walls, means for rotating said shaft, an internal cylindrical partition composed of sections resting within annular grooves in said walls and concentric with said shaft, one kind of said sections having each a fluted edged concave grinding surface assembled with another kind of said sections having each a semi-grinding sieve-like concave surface, a series of parallel disks within said casing positioned upon

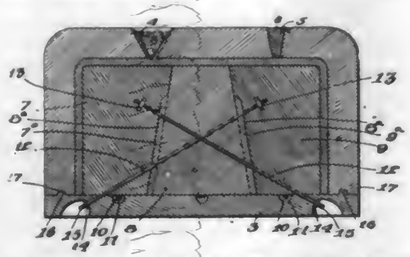
said shaft, a plurality of individual fluted edged grinding surfaces integral with arms and symmetrically fulcrumed in groups upon said disks and adapted to adjustably cooperate with said grinding and semi-grinding sections to disintegrate material fed therebetween, said individual grinding surfaces being curved and divergent to said sections, means upon said disks contacting the inner ends of said arms for adjustably governing the outward movement of said individual surfaces, means for feeding to the device the material to be disintegrated, means for governing the discharge of the insufficiently disintegrated material from within the said partition, means for conveying the disintegrated material from said device to a duplicate disintegrating machine, substantially as set forth.

4. In a disintegrating machine, the combination with a casing, of a rotating element therein, a cylindrical partition within said casing concentric with said rotating element, abrasive means upon the concave surface of said partition, longitudinal rows of fulcrumed arms pivoted upon said rotating element, integral with abrasive means having surface extension upon the outer ends of said arms, said last named means being curved divergent to said partition, means upon the said rotating element in free contact with the inner ends of said fulcrumed arms and adapted to adjustably position the said abrasive means, integral with said arms, relative to the abrasive surface of said partition.

5. In a disintegrating machine, a casing, a curved partition upon and within said casing, a shaft journaled for rotation therein, disks adjustably fixed upon said shaft within said casing, said disks being provided with two series of holes, a set of rods fastened within each series of said holes, a series of sets of devices fulcrumed upon one set of said rods, said devices having their outer ends formed into an abrasive curved surface divergent to said curved partition, cams keyed upon the other set of said rods and between said disks, adapted to contact the otherwise free inner ends of said devices, to limit the outward movement of said devices, means for fixing the angular position of said cams upon the said last mentioned rods upon the said disk.

[Claims 6 to 11 not printed in the Gazette.]

978,035. MOLD FOR FORMING PLASTIC ARTICLES. CHARLES J. KIRK, New Castle, Pa. Filed Nov. 16, 1909. Serial No. 528,311.



1. A means for casting one-piece tanks from plastic material comprising a mold having members conforming to the exterior of the tank provided with a filling orifice in the bottom member, a top block, a separable core comprising a plurality of core members having angular adjacent faces detachably secured to the top block, and means passing through the core members to rigidly secure the core to the top block.

2. In a tank mold, members conforming to the exterior of the tank, a separable core conforming to the interior of the tank comprising core members having their adjacent sides sloping toward the bottom forming member, a top block, a rod passing through and engaging the top block and each of the core members to position and secure the core to the top block.

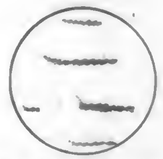
3. In a tank mold, members conforming to the exterior of the tank, a top block, a separable core conforming to the interior of the tank, a projection on the top of each core member, a corresponding recess upon the top block to receive each projection, rods passing through and engaging the top block and each core member, coöperating with the projections and recesses to position and secure the core to the top block, and means for positioning the top block in the same relation during each operation.

4. In a mold for casting one-piece vitreous tanks from a slip, porous members conforming to the exterior of the tank, a porous top block, a porous three-part core conforming to the interior of the tank whereby the water is absorbed from the slip leaving a homogeneous plastic body in the mold, and means for drawing the three parts of the core together in a compact body.

5. In a mold for casting integral one-piece vitreous tanks from a slip, porous members conforming to the exterior of the tank, a porous separable core conforming to the interior of the tank whereby the water is absorbed from the slip leaving a homogeneous plastic body in the mold, and means for positioning the core, and means upon each core member to engage and to secure proper alinement with the adjacent core member and means for drawing the separable members of the core together in a compact body.

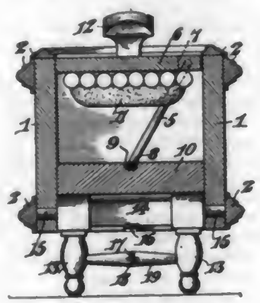
[Claim 6 not printed in the Gazette.]

978,036. METHOD OF MAKING ROLLERS OR WHEELS. EMIL KLAHN, Weehawken, N. J., assignor to Barney & Berry, Incorporated, Springfield, Mass., a Corporation of Massachusetts. Filed Oct. 7, 1908. Serial No. 456,677.



The method of producing a roller for roller skates or the like consisting in forming a cup with the bottom raised in the center, punching the bottom out of said cup, forming a central hole in the bottom of said cup, introducing the punched out bottom of the cup within a wall of the cup, introducing the hub into the opening formed in the center of the bottom of the cup, and expanding the bottom of the cup into engagement with the wall thereof and the hub.

978,037. COMBINED FOOT-REST AND SHOE-CLEANING STAND. WILLIAM A. KLAUSMAN, St. Marys, Pa. Filed Apr. 14, 1910. Serial No. 555,523.



1. The combination with a hollow body, of a reversible cover therefor having one side constructed to serve as a foot rest and the other side provided with a block to support a shoe, and vibratory arms pivotally mounted at their lower ends within the body and having their upper ends pivotally secured to opposite corners of the cover.

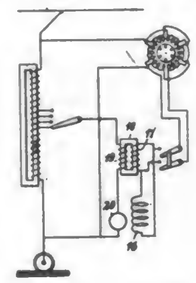
2. The combination of a hollow body, transverse partitions within the body near the ends of the same, a reversible cover for the body adapted to rest upon the said partitions, said cover having one side constructed to form a foot rest and the other side provided with a block to support a shoe, and vibratory arms mounted between the said partitions and the ends of the body and having their upper ends pivotally attached to the said cover.

3. The combination of a hollow body, a reversible cover therefor having on one side a cushion to serve as a foot rest and on the opposite side a block to support a shoe, a rock shaft mounted longitudinally upon the bottom of the body, and vibratory arms at the ends of said rock shaft having their upper ends pivoted to opposite corners of the cover.

4. The combination with a hollow body having a central longitudinal groove in the upper side of its bottom, of a reversible cover for the said body having one side constructed to serve as a foot-rest and the other side provided with supporting means for a shoe, and a rock shaft seated in the said groove in the bottom of the body and having vibratory arms at its ends pivotally attached to the cover.

5. The combination with a hollow body, of a reversible cover therefor having on one side a cushion to serve as a foot rest and on the opposite side a block to support a shoe, a rock shaft supported on the bottom of the body and having arms pivotally connected to the cover, and a support for the cover in either of its adjustments.

978,038. SYSTEM OF REGENERATIVE CONTROL FOR ELECTRIC MOTORS. BENJAMIN G. LAMME, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Original application filed Mar. 15, 1906, Serial No. 306,218. Divided and this application filed Nov. 8, 1907, Serial No. 401,323. Renewed May 20, 1910. Serial No. 562,525.



1. The combination with a dynamo-electric machine adapted for operation either as a motor or as a generator and provided with series-connected field magnet and armature windings, of a source of current to be connected in shunt circuit to the field magnet winding when the machine is operated as a generator.

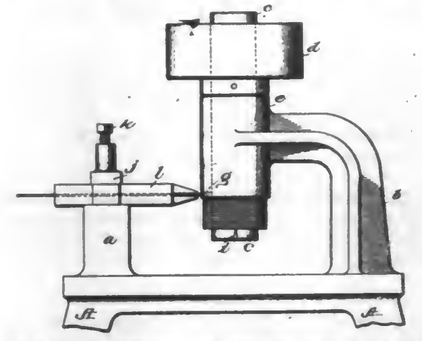
2. The combination with a dynamo-electric machine adapted for operation either as a motor or as a generator and provided with series-connected field magnet and armature windings, of a source of current to be connected in shunt circuit to the field magnet winding when the machine is operated as a generator, and means for preventing direct current from traversing the field magnet winding.

3. The combination with a dynamo-electric machine adapted for operation either as a motor or as a generator and provided with series-connected field magnet and armature windings, of a source of energy to be connected in shunt circuit to the field magnet winding when the machine is operated as a generator, the voltage of the source being approximately equal to the normal or predetermined drop of potential in the field magnet winding.

4. The combination with a dynamo-electric machine adapted for operation either as a motor or as a generator and provided with field magnet and armature windings, of means whereby the field magnet winding is supplied with current proportional in amount to that which traverses the armature when the machine is operated as a motor, and a source of current to be connected in shunt circuit to the field magnet winding when the machine is operated as a generator.

5. The combination with a dynamo-electric machine adapted for operation either as a motor or as a generator and provided with field magnet and armature windings, of means whereby the field magnet winding is supplied with current proportional in amount to that which traverses the armature when the machine is operated as a motor, and whereby direct current is prevented from traversing the same, and a source of current to be connected in shunt circuit to the field magnet winding when the machine is operated as a generator.

978,039. COILING-MACHINE. EDWARD M. LANG, Jr., Portland, Me. Filed Apr. 2, 1906. Serial No. 309,293.



1. In a coiling machine the combination of a bench or support, a bent arm or bracket carried thereby and terminating in a vertically located annular cylinder, the lower end of which is cam faced, a mandrel passing through said cylinder and supported thereby, said mandrel having a knife near its lower end, and means for guiding a strip of solder to said mandrel, substantially as described.

2. In a coiling machine the combination of a bench or support, a bent arm or bracket carried thereby and terminating in a vertically located annular cylinder, the lower end of which is cam faced, a mandrel passing through said cylinder and supported thereby, and having a knife at its lower end, a pulley mounted on the upper end of said mandrel and spring operated adjustable devices for guiding solder to said mandrel, substantially as described.

978,040. PROCESS OF MAKING SOLDER RINGS. EDWARD M. LANG, Jr., Portland, Me. Original application filed Oct. 19, 1904, Serial No. 229,068. Divided and this application filed Dec. 11, 1907. Serial No. 406,118.

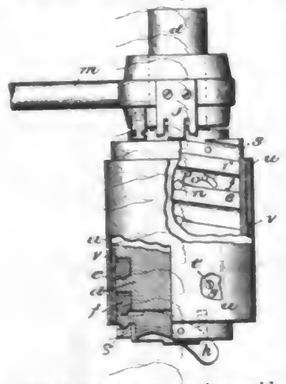
1. The herein described process, which consists of producing a strip or ribbon of solder, bending the same edgewise into a ring, severing a ring from the remainder of the strip or ribbon and grooving said ring, substantially as described.

2. The herein described process, which consists of producing a strip or ribbon of solder, forming the same into a split ring and curving said ring from the center outwardly for the reception of a can cap, substantially as described.

3. The herein described process of preparing the solder rings, which consists in making a strip of solder, bending the same edgewise into a spiral, and forming from said spiral solder rings grooved in cross section from the center outwardly, substantially as described.

4. The process of making solder rings, which consists in producing a strip of solder, bending the same into the form of a ring, cutting the ring thus formed from the strip and grooving or curving said ring from the center outwardly for the reception of a can cap, substantially as described.

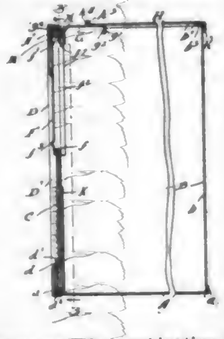
5. The process of preparing solder rings, which consists in making a ribbon or strip of solder of the requisite uniform size, converting the same into a spiral, severing rings



therefrom, and grooving or curving said rings in cross section from the center outwardly, substantially as described.

[Claims 6 to 11 not printed in the Gazette.]

978,041. SHEET-METAL DISPLAY-CAN. WALDEN L. LASKEY, Brooklyn, N. Y., assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed May 1, 1907. Serial No. 371,330.

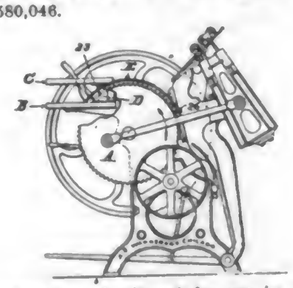


1. In a display can, the combination with a can body having a front plate formed with an opening, of two removable plates closing said opening and having means for engaging each other against relative forward and backward movement, means on the can body holding one of said removable plates against forward and backward movement, the latter plate being vertically slidable, and a spring pressing on one of the plates and acting to force the plates together and to maintain the said engagement of the plates.

2. In a display can, the combination with a can body having a front plate formed with an opening, of two removable plates closing said opening and having means for engaging each other against relative forward and backward movement, means on the can body holding one of said removable plates against forward and backward movement, the latter plate being vertically slidable, and a spring pressing on one of the plates and acting to force the plates together and to maintain the said engagement of the plates, the can body having a fixed guide covering the upper edge of the upper plate.

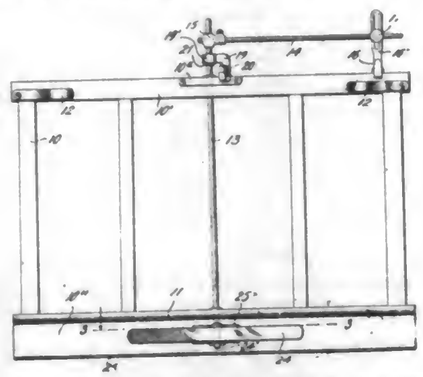
3. In a display can, the combination with a can body having a front plate formed with a single opening, of a removable metal sign plate and a removable glass plate closing said opening and having means for engaging each other against relative forward and backward movement consisting of a continuous channel formed at the lower part of the sign plate in which channel the upper edge of the glass plate is inclosed, and means for forcing the said plates together to maintain the engagement of the said channel.

978,042. GUARD FOR GORDON PRINTING-PRESSES. ALVIA LAUNDER, Chicago, Ill. Filed Sept. 1, 1910. Serial No. 580,046.



A sheet metal guard adapted for use in covering the driven gear wheel of a Gordon printing press, said guard comprising a curved body of substantially L-shaped cross section, there being near one end of said body a reinforcing plate having a laterally projecting punctured lug adapted to be fastened to the work table of said printing press, and an open-seam socket, said socket having outwardly projecting edges, said edges terminating in punctured lugs, said socket being adapted to embrace the feed-board-supporting post, there being a clamping screw in said lugs adapted to removably fasten said socket to said post.

978,043. MUSIC-LEAF TURNER. FRANKLIN G. LINDSAY, Scottdale, Pa., assignor of one-third to Isaac F. Overholt and one-third to William F. Morrison, Mount Pleasant, Pa. Filed Feb. 23, 1910. Serial No. 545,359.

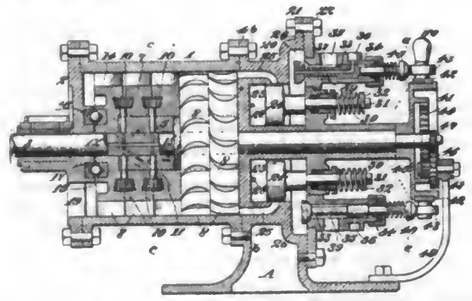


1. In a device of the character set forth, the combination of a main frame, an upright rock shaft journaled therein, music holders adjustably connected to the upper end of said rock shaft for the support of a single sheet of music, means to rotate the rock shaft to swing the music, one of said holders being shorter than the other and movable in a plane in advance of the longer holder, and means associated with the shorter holder to control the swinging movement thereof.

2. In a device of the character set forth, the combination of a stationary frame, a rock shaft journaled in the upper and lower portions thereof, an arm clamped to the upper end of said rock shaft, a music holding snap adjustable vertically and longitudinally along said arm, another arm connected to the rock shaft, a second music holding snap connected to the latter arm, the latter arm being movably held on the rock shaft by friction and controlled in its relation to the shaft by engagement with said frame, and means to rotate the rock shaft.

3. In a device of the character set forth, the combination of a frame having upper and lower horizontal bars, a rock shaft journaled in said bars, means connected to the lower bar for rotating said rock shaft, a spool clamped to the rock shaft above the upper bar, an arm frictionally connected to said spool and adapted to impinge against the said upper bar, and a second arm connected to the rock shaft and adapted to swing therewith through a greater angle than the first mentioned arm, both of said arms coöperating to support a single music sheet.

978,044. TURBINE-MOTOR AND PRESSURE DEVICE. THOMAS J. LOFTUS, Castella, Cal., assignor of one-half to Charles T. Loftus, Castella, Cal., and one-half to Harmon Bell, Oakland, Cal. Filed Feb. 9, 1910. Serial No. 542,866.



1. In a turbine motor, the combination of a turbine housing, a series of combustion chambers at one end thereof, means for delivering explosive fluid under pressure to said chambers, said means including air and gas inlets and normally closed valves controlling said inlets, means for operating the valves to permit the fluids to enter the explosion chamber, means for exploding said fluid in the chambers, said housing having passages connecting its interior with the explosion chambers, and horizontally slidable valves normally closing the inlet to said passages and actuated by the gases of the exploded charge to direct the exploded fluid to the interior of the housing and to the turbine disks, a drive shaft adapted to be revolved by said disks, and connections between the shaft and the first named valves for operating the latter.

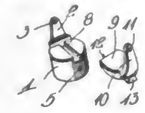
2. In a turbine motor, the combination of a drive shaft, a plurality of revoluble turbine disks adapted to revolve said shaft, a housing for said turbine disks, a series of combustion chambers at one end of the housing, said housing having passages connecting its interior with said chambers, means for admitting explosive fluid under pressure to the combustion chambers, said means including air and gas ports and valves controlling said ports each valve controlling a pair of ports and having a longitudinal passage through it, means for operating the valves to admit the explosive fluid to the chambers, means for exploding the fluid in said chambers, and valves normally closing the passages between the chambers and the interior of the housing, said last named valve being operated by the gases of the exploded charge.

3. In a turbine motor, a drive shaft, a plurality of revoluble turbine disks adapted to revolve said shaft, a housing for said turbine disks, a series of combustion chambers on said housing, normally closed valve controlled passages connecting said combustion chambers with the interior of said housing, ports for the admission of fluids under pressure to said combustion chambers, normally closed valves between said ports and said chambers, means on said drive shaft for opening said valves to admit fluids through said ports into said chambers, and means by which said valves may be operated independent of said drive shaft.

4. In a turbine motor, a series of combustion chambers, valve-controlled ports for admitting explosive fluids under pressure to each of said chambers, means for normally retaining said valve ports closed, a revoluble ring, contact rollers on said ring, and means by which said ring may be revolved so that said rollers will open said valve-controlled ports to admit fluids to said chambers.

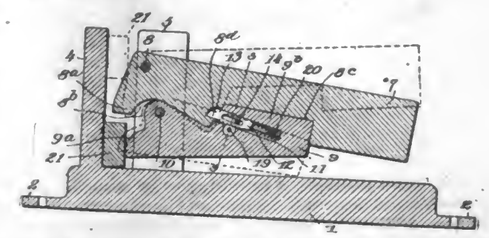
5. In a turbine motor, a series of combustion chambers, ports for admitting explosive fluids under pressure to each of said chambers, normally closed valves between said ports and said chambers, sparking mechanism for exploding fluids in said combustion chambers, a revoluble ring, means on said ring by which said valves and said sparking mechanism may be operated, and means for revolving said ring.

978,045. SPOKE-SOCKET. JOHN MARKWICK, Scranton, Pa. Filed June 2, 1910. Serial No. 564,651.



In a spoke socket, a tubular spoke engaging cap having a closed outer end with its inner face formed at an oblique angle to the body portion thereof, an undercut groove extending transversely across said oblique outer face, an apertured rim engaging ear extending upwardly from one side of said cap at a point opposite one end of said groove, a combined wedge plate and rim engaging member having a transversely extending undercut rib arranged on its lower face for engagement with the groove on the outer face of said cap and provided with an upwardly extending apertured ear arranged over one end of said rib.

978,046. SWITCH-LOCK. CHARLES MCGILL and AVERIL R. HIGGINBOTHAM, Red House Shoals, W. Va. Filed July 19, 1910. Serial No. 572,677.



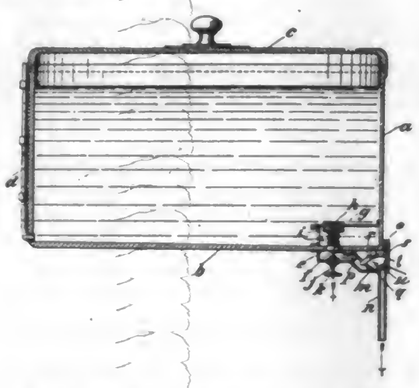
1. The combination with a switch lever, of a switch locking device therefor comprising a base portion, an end upright and a pair of side uprights carried thereby, said end upright being spaced from said side uprights, said space constituting a socket adapted to receive the switch lever, an upper locking member pivotally suspended between said side supports and being provided with a head arranged to project in the path of said switch lever and having a large recess and a small recess adjacent to said large recess, a lower locking member pivotally supported between said side supports, the pivot of said lower member being out of alinement with the pivot of the upper member, an extension carried by said lower member arranged to enter the large recess in said upper member, said extension being provided with a recess, a spring pressed rack member slidably disposed in the recess in said extension and adapted to project into the small recess in said upper member, and a key for moving said rack member.

2. The combination with a switch lever, of a switch locking device therefor comprising a base portion, an end upright and a pair of side uprights carried thereby, said end upright being spaced from said side uprights, said space constituting a socket adapted to receive the switch lever, an upper locking member pivotally suspended between said side supports and being provided with a head arranged to project in the path of said switch lever and

having a large recess and a small recess adjacent to said large recess, a lower locking member pivotally supported between said side supports, the pivot of said lower member being out of alinement with the pivot of the upper member, a latch member carried by said extension arranged to enter the small recess in said upper locking member, and means for retracting said latch member.

3. The combination with a switch lever, of a switch locking device therefor comprising a base portion, an end upright and a pair of side uprights carried thereby, said end upright being spaced from said side uprights, said space constituting a socket adapted to receive the switch lever, an upper locking member pivotally suspended between said side supports and being provided with a head arranged to project in the path of said switch lever and having a large recess, a lower locking member pivotally supported between said side supports, the pivot of said lower member being out of alinement with the pivot of the upper member, an extension carried by said lower member arranged to enter the large recess in said upper member, and means carried by said extension for securing the latter to the upper member.

978,047. APPARATUS FOR DELIVERING LIQUIDS. LUDWIG MINLOS, Cologne-Ehrenfeld, Germany. Filed Nov. 1, 1909. Serial No. 525,688.

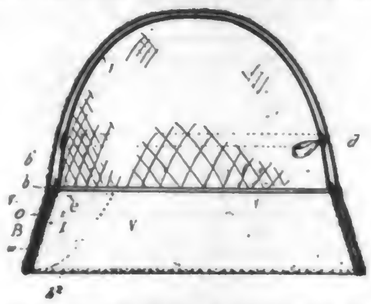


1. A liquid reservoir, a delivering-vessel communicating therewith and having a liquid-outlet and an air-inlet, a valve controlling the passage of the liquid between the two receptacles, a slide controlling the liquid outlet, and linked to said valve, and a double-armed pivotal lever whose one end is engaged by the link connecting the first said valve and slide, while the other end carries a valve adapted to control said air-inlet, substantially as described.

2. A liquid reservoir, a liquid delivery vessel communicating therewith and having a liquid outlet and an air-inlet, a spring actuated valve controlling the passage of the liquid, between the two vessels, a sliding valve, for controlling the liquid outlet, connected to and operated from the said spring actuated valve, slide bars for guiding the sliding vale, and a double armed pivotal lever whose one end is connected with and operated by the link connecting the said valves while the other end carries a valve adapted to control said air inlet, substantially as described.

978,048. HEADWEAR. SOLOMON MONOSON, New York, N. Y. Filed Apr. 5, 1910. Serial No. 553,664.

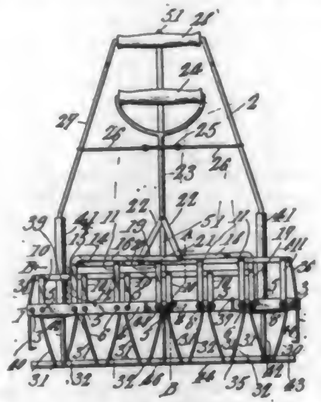
1. As an improved article of manufacture, an article of head-wear consisting of a pliable fur crown and a pliable fur brim joined directly together at the base of the crown forming a continuous unbroken external fur surface with the brim doubled back on itself underneath substantially to the line joining brim and crown, a substantially non-stretchable band to which the edge of the doubled-back brim is attached and which band is attached to the inside of the article substantially at such joining line, and a visor or peak within and concealed by the doubled brim.



2. As an improved article of manufacture, an article of head-wear consisting of a pliable crown and a pliable brim joined together at the base of the crown forming a continuous unbroken external fur surface with the brim doubled back on itself underneath substantially to the line joining brim and crown, a substantially non-stretchable band to which the edge of the doubled-back brim is attached and which band is attached to the inside of the article substantially at such joining line, a substantially non-stretchable band secured within the brim at the doubling thereof, and a vizor or peak within and concealed by the doubled brim.

3. As an improved article of manufacture, an article of head-wear consisting of a pliable crown and a pliable brim joined together at the base of the crown with the brim doubled back on itself underneath substantially to the line of joining of brim and crown, a substantially non-stretchable band to which the edge of the doubled-back brim is attached and which band is attached to the inside of the article substantially at such line of joining, a lining attached to said band, a draw band between the lining and the crown and extending within the lining, and a vizor within and concealed by the doubled brim.

978,049. EGG-HANDLER. HARRISON R. MORRIS, Mapleton, Kans. Filed Sept. 20, 1910. Serial No. 582,902.



1. In a device of the class described, a supporting member; a shaft journaled for rotation therein; a gripping element upon the shaft; a depressible ejector frame slidable in the supporting member; and interlocking elements upon the shaft and the frame to hold the frame normally in elevated position during the rotation of the shaft, the shaft being movable to break the engagement between the interlocking elements, thereby to permit the shaft to rotate and the frame to descend, independently of each other.

2. In a device of the class described, a supporting member; a shaft journaled therein; a gripping element upon the shaft; a depressible ejector frame slidable in the supporting member; coöperating fingers upon the frame and the shaft interlocking to hold the frame normally in elevated position, one of the fingers being resilient to permit the shaft to rotate without breaking the engagement between the fingers; the frame being movable to break the engagement between the fingers.

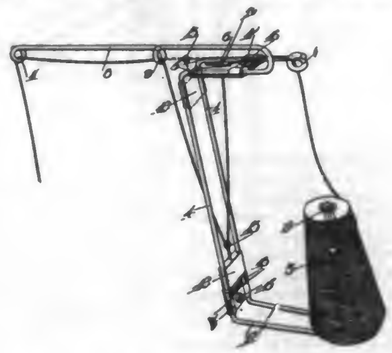
3. In a device of the class described, a supporting member; a shaft journaled therein, a gripping element upon the shaft; a depressible ejector frame slidable in the supporting member; resilient means for depressing the frame; and interlocking elements upon the shaft and the frame to hold the frame normally in elevated position, against the action of the resilient means, the frame being movable to break the engagement between the interlocking elements.

4. In a device of the class described, a supporting member; spaced holding means upon the supporting member adapted for engagement with an egg rack; an ejector frame slidable in the supporting member and constituting a means for removing the egg rack from the holding means; a shaft journaled for rotation in the supporting member; egg gripping means upon the shaft; and interlocking elements upon the shaft and the ejector frame to hold the frame normally inoperative to remove the egg rack from the holding means during the rotation of the shaft; the frame being movable to break the engagement between the interlocking elements.

5. In a device of the class described, a supporting member; primary and secondary shafts journaled therein and provided with upstanding arms; rods pivotally connected with each set of arms, the rods and the arms constituting operating means for the shafts; there being levers rigidly connected at their remote ends with the operating means and having their adjacent ends overlapping; a slidably mounted element; links pivotally connecting said element with the adjacent ends of the levers; and coöperating gripping members upon the shafts.

[Claim 6 not printed in the Gazette.]

978,050. TWINE-HOLDER. JAMES W. MORRIS, Oakland, Cal. Filed May 23, 1910. Serial No. 562,803.

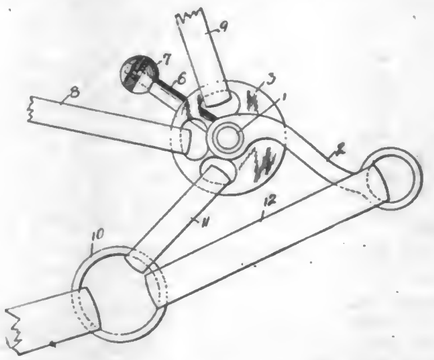


1. A twine holder having in combination a base portion and two parallel vertical standards the upper ends of which have horizontal portions extending to one side of the standards, one of said horizontal portions being returned substantially upon itself and extended to the other side of the standard, a weighted cross-head slidable freely on said standards, and means at the top of the standards and on each side thereof for guiding the two sides of the bight of the twine drawn from the ball, said weight having an eye or guide through which the bight of the twine is passed.

2. A twine holder made from a single piece of wire, said wire bent to provide a base portion and the base portion upturned at one end to form a support for a ball of twine, and at the other end to provide two vertical standards, the top of said standards then bent into horizontal position, a notched guide gripping plate secured to said horizontally bent portion, one of said horizontally bent portions extended and terminating in a guiding eye, the other end of said extension bent and extended to form a spring arm with twine-guiding means in its length, and a weight sliding on said vertical guides, with the bight of the twine slidably engaging with the weight.

3. A twine holder comprising a base with twine-supporting means and vertical standards, a cross-head weight sliding on said standards and prevented from turning thereby, twine-guiding means adjacent to the top of the standards and on each side thereof and in a plane midway between the standards, said standards having their upper ends bent horizontally with the horizontal portions extending right and left of the vertical plane of the standards, a rearwardly extending eye at the top of the standards through which the twine is passed, means on the weight engaging the bight of the twine, and a spring arm extending in an opposite direction from said eye, and said arm having an open guiding eye through which the service end of the twine is drawn.

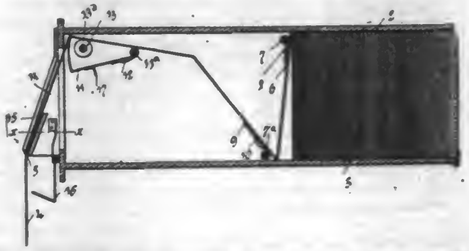
978,051. BIT FOR HORSES. ARTHUR U. NAZOR, Shelby, Ohio, assignor of one-half to G. L. Cooper, Shelby, Ohio. Filed Feb. 25, 1910. Serial No. 545,975.



1. A bit comprising a mouth piece formed of two portions swiveled together so as to have rotary movement, a lug on each portion, and a lever on the outer end of each portion projecting in an opposite direction from the lug and adapted to receive the rein.

2. A bit comprising a mouth piece formed of two parts connected together centrally by a swivel joint, a lug projecting from each part and a ball rotatably mounted on and inclosing the end of the lug.

978,052. TICKET-HOLDER. OSCAR OEHRING, Berlin, Germany. Filed Dec. 8, 1909. Serial No. 532,951.



1. A receptacle for holding a continuous strip of flexible material formed with a series of spaced transverse folds, and a brake in said receptacle arranged to coöperate with

each fold and temporarily retard the movement of said strip after a length equal to the distance between said folds has been withdrawn from the receptacle.

2. A ticket holder comprising a receptacle for containing a continuous strip of flexible material formed with a series of spaced transverse folds that divide the strip into tickets, guiding means within the receptacle for directing the movement of said strip as it is withdrawn from the receptacle, and a brake also in said receptacle arranged to coöperate in succession with the folds in said strip and temporarily retarding the movement of said strip after a length equal to the distance between said folds has been withdrawn from the receptacle.

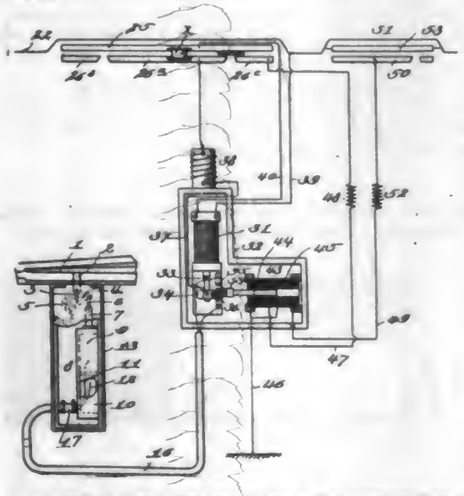
3. A ticket holder comprising a receptacle for a continuous ticket strip formed with a transverse fold between each ticket, swinging guides within said receptacle arranged to bear on said ticket sections as the strip is withdrawn, a brake adapted to coöperate with each fold and temporarily retard the movement of said strip after a length equal to that of a ticket has been withdrawn from the receptacle, and means whereby each ticket may be severed from the strip on the line of the fold.

4. A ticket holder comprising a receptacle for a continuous ticket strip, a guide over which said strip is drawn having an opening therethrough for rendering the ticket visible and cutting edges at its extremity, said ticket strip being weakened throughout its length in transverse lines at equal distances apart, a plurality of retarding flaps for providing slight resistance to the withdrawal of said strip, and a brake for increasing the resistance against movement of said strip at the weakened portion.

5. A holder comprising a receptacle for containing a continuous paper strip, said strip having a plurality of equally spaced openings throughout its lengths, means within the receptacle for intermittently retarding at spaced intervals the withdrawal of said strip, and means adapted to automatically engage the openings in the strip and stop the movement thereof during the act of withdrawing, said means being disengaged from the strip by the fingers as the strip is grasped to again draw out a ticket.

[Claims 6 to 15 not printed in the Gazette.]

978,053. SWITCH-OPERATING MECHANISM. ELMER S. OLMSTED, Louisville, Ky., assignor to Cheatham Electric Switching Device Company, Louisville, Ky., a Corporation of Kentucky. Filed July 1, 1910. Serial No. 569,972.



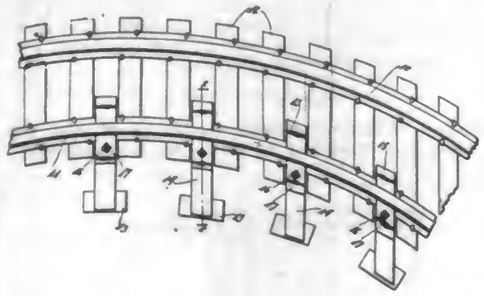
1. In switch operating mechanism, the combination of an electrically operative switch throwing device, means for closing a circuit through the switch throwing device to operate the switch, and a locking device coöperative with the circuit closing means to retain it in predetermined condition during the passage of a car over the switch.

2. In switch operating mechanism, the combination of an electrically operated switch throwing device, circuit closing means for controlling the flow of current through the switch throwing device, an electrically operative locking device arranged to coöperate with the circuit closing means to retain it in predetermined position, and means for automatically releasing the locking device to permit subsequent operation of the switch throwing device.

3. In switch operating mechanism, the combination of an electrically operative switch throwing device, a trolley, circuit closing means operative automatically during the movement of a car for transmitting current from the trolley to the switch throwing device to operate the latter in the proper direction, and a locking device coöperative with the circuit closing means and operative automatically from the trolley to first lock and to subsequently unlock the circuit closing means.

4. In switch operating mechanism, the combination of an electrically operative switch throwing device, a trolley, contact devices thereon controllable by a trolley wheel, a movable contact controllable by said contact devices for transmitting current from the trolley to the switch throwing device, a locking device arranged to engage and disengage said movable contact, and contacts spaced longitudinally of the trolley for operating the locking device to first lock the movable contact to retain the switch in one position and to subsequently unlock the locking device.

978,054. RAILROAD-TRACK. WILLIAM H. OSTRANDER, Poughkeepsie, N. Y., assignor of one-third to Benjamin Weisberger, Poughkeepsie, N. Y. Filed Sept. 14, 1910. Serial No. 582,039.

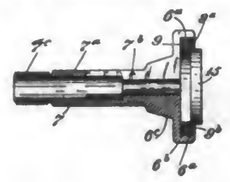


In a railroad track, the combination of a pair of rails, a plurality of spaced ties supporting said rails, a vertical support located adjacent the outer side of one of the rails, a metallic bar having one end resting on said support, and its other end disposed between a pair of ties and provided with an integral lug, the inner face of which follows the contour of and engages the inner face of the adjacent rail, and a metallic block secured to said bar, the inner face of which follows the contour of and engages the outer face of said adjacent rail.

978,055. LATHE-CHUCK. GEORGE L. OWENS, Columbus, Ohio, assignor to George M. Finckel, Columbus, Ohio. Filed Mar. 12, 1910. Serial No. 548,758.

1. A chuck for a lathe comprising, in combination a compressible chuck head provided with a suitable seat, and a plurality of resilient rings of different diameters each open at one point only to render it contractile and said rings adapted to nest together and seat in said seat and be collectively compressed by said chuck head.

2. A work holder for a lathe chuck comprising a plurality of open resilient rings of normally different diameters externally adapted to concentrically nest together and remain in nested position by frictional contact one with another and be collectively compressed by the application of pressure to the outermost one of said rings.



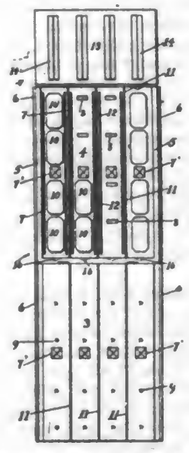
3. A work holder for a lathe chuck comprising a plurality of open resilient rings of normally different diameters externally adapted to concentrically nest together and be collectively compressed by the application of pressure to, the outermost one of said rings each of said rings having one of its inner corners rabbeted.

4. In combination with a chuck for a lathe having a compressible head provided with an internal annular seat, a work holder including a resilient ring open at one portion only to fit in the aforesaid seat, said ring having an interior work-gripping surface and one of its inner corners circumferentially rabbeted to form a supplemental work-gripping seat.

5. A chuck for lathes comprising, in combination, a compressible chuck head provided with a face seat and an annular rim seat around said face seat, and a plurality of rings constructed to nest together and fit on said face seat within the rim seat and be concentrically compressed by the latter seat.

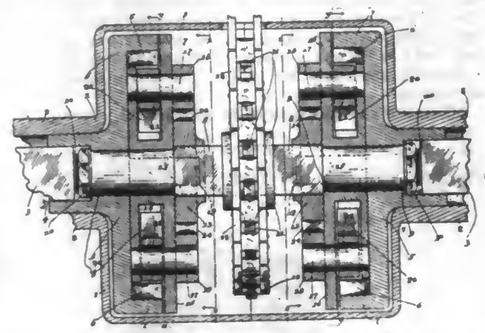
[Claim 6 not printed in the Gazette.]

978,056. PLASTIC-BLOCK MOLD. WALTER W. OWENS, Salt Lake City, Utah. Filed July 16, 1909. Serial No. 508,076.



In a mold of the class described, the combination with a supporting frame, of a base hinged to said frame, sides pivoted to said base, a back pivoted to said base provided with a plurality of vertically extending slots, a plurality of sharpened lugs interposed between each pair of said slots, a front pivoted to said base opposite to said back provided with a plurality of vertical slots therein adapted to coöperate with the slots of said back, a series of screws disposed between said slots of the front and opposite to the sharpened lugs of the back, cores adapted to be retained by said lugs and screws, partitions adapted to be retained in said slots, ribs formed adjacent said slots adapted to create depressions in the blocks formed by the mold, and a top pivoted to said back and adapted to detachably engage the front when the device is in its operative position, said top being provided with a plurality of lock forming lugs for each individual mold.

978,057. DIFFERENTIAL GEARING. ALBERT F. PEACOCK, Buchanan, Mich., assignor of one-half to Alfred E. Mead, Chicago, Ill. Filed July 20, 1910. Serial No. 572,878.



1. A differential gearing comprising two alined driven shafts, a power shaft arranged between and in alinement with said driven shafts, means for driving said power shaft, and automatic means for connecting said driven shafts with said power shaft during the initial rotation of the latter, substantially as described.

2. In a differential gearing, two alined driven shafts, a power shaft in alinement with said shafts and arranged therebetween, means for driving said power shaft, members rigidly fixed to said driven shafts each having a laterally projecting toothed flange, there being journals formed on said power shaft and journaled in said members, a double flanged member mounted on each journal of said power shaft, oscillatory dogs mounted in each flange member and adapted to engage the teeth of said toothed members, and means for oscillating said dogs for engagement with said teeth during the initial movement of said power shaft, substantially as described.

3. In a differential gearing, the combination with two driven shafts in alinement with each other, of a power shaft arranged between and in alinement with said driven shafts, means for driving said power shaft at the center thereof, toothed flanged members rigidly connected to said driven shafts and rotatably mounted on said power shaft, double flanged members rotatably mounted on the journals of said power shaft, oscillatory dogs mounted between the flanges of said double flanged members and adapted to engage the teeth of said toothed flanged members, shafts journaled in said double flanged members on which said dogs are mounted, segment pinions keyed to said last named shafts, and segment gears meshing with said segment pinions rigidly fixed to said power shaft, substantially as described.

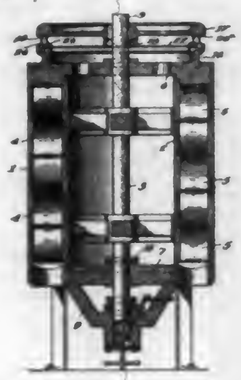
4. In an automobile differential gearing, a two-part casing and axle sleeves carried thereby, alined live axles inclosed by said sleeves and having squared inner ends, members fitted to said squared axle ends and having inwardly projecting teeth in the peripheral portions thereof, members having double radial flanges arranged adjacent said first named members, a power shaft having journals at each end thereof which are journaled in all of said members, shafts arranged parallel with said power shaft journals and journaled in the flanges of said double flanged members, oscillatory dogs mounted on said shafts and adapted to engage the teeth of said first named members, segment pinions keyed to said shafts, segment gears meshing with said pinions fixed to said power shaft, and means for driving the latter, substantially as described.

5. An automobile differential gearing comprising a cylindrical two-part casing, axle sleeves formed integral with and arranged co-axial with said casing, live axles mounted in said axle sleeves having squared inner ends, a power shaft having a central squared portion and cylindrical end portions, said live axles and said power shaft being in alinement, members having internal teeth rigidly fixed to the squared ends of said live axles and rotatably mounted on the cylindrical portions of said power shaft.

double flanged members rotatably mounted on the cylindrical portions of said power shaft, stub shafts arranged parallel with said cylindrical portions and journaled in said double flanged members, oscillatory dogs mounted on said stub shafts and adapted to engage the teeth of said first mentioned members, segment pinions keyed to said stub shafts, double segment gears meshing with said pinions fixed to the squared portion of said power shaft, and a sprocket and chain for driving the latter, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

978,058. INTERNAL-COMBUSTION ENGINE. PETER PETERSON, San Francisco, Cal. Filed June 1, 1909. Serial No. 499,321.



1. In a gas engine of the character described, a stationary casing, a rotatable casing, a driving shaft secured thereto, an explosion chamber above the top of the casing, an inlet valve, an ignition device, an actuating device adapted to operate said inlet valve and ignition device operated by the rotation of the shaft, and means allowing the actuating device to continue operation at the same rate upon the lesser rotation of the shaft.

2. In a gas engine of the character described, a stationary casing, a rotatable casing, a driving shaft secured thereto, an explosion chamber, an inlet valve, an ignition device, an actuating device adapted to successively operate the valve and ignition device, and means carried upon the shaft normally engaging the actuating device arranged to be disconnected upon lesser rotation of the shaft.

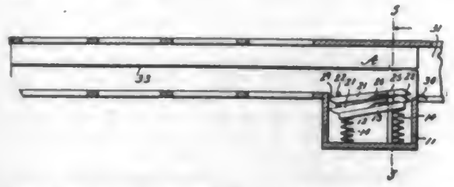
3. In a gas engine of the character described, a stationary casing, a rotatable casing, a driving shaft secured thereto, an explosion chamber, an inlet valve, an ignition device, an stuating device loosely mounted upon the shaft and arranged to successively operate the valve and ignition device, means normally connecting the actuating device to the shaft and disconnecting the same by lesser rotation of the shaft.

4. In a gas engine of the character described, a stationary casing, a rotatable casing, a driving shaft secured thereto, an explosion chamber, an inlet valve, an ignition device, an actuating disk loosely mounted upon the shaft, means upon said disk adapted to successively operate the valve and ignition device, a slip connection between the disk and shaft normally rotating the disk with the shaft and arranged to allow lesser rotation of the shaft without imparting lesser rotation to the disk.

5. In a gas engine of the character described, a stationary casing, a rotatable casing, a driving shaft secured thereto, an annular explosion chamber, a plurality of inlet valves and ignition devices arranged in pairs, a communicating passage from the explosion chamber to the rotatable member arranged on each side of each valve and ignition device, and means for opening and closing the passages adjacent each valve and ignition device operated by the successive explosions in each portion of the explosion chamber between the adjacent passages and means to successively operate the inlet valve and ignition device of each pair.

[Claims 6 to 8 not printed in the Gazette.]

978,059. PORTABLE SHELF. WILLIAM J. POINTER and JAMES A. RAMSEY, Coweta, Okla. Filed June 14, 1910. Serial No. 566,849.



1. The combination with a plurality of shelves, of a casing at one extremity thereof provided with a series of compartments, each compartment adapted to correspond with one of said shelves, a series of lids adapted to be retained in each compartment, means whereby said lids may be partially projected from said compartments, a series of boxes adapted to reciprocate in said shelves and past said casing, hooks carried by one end of each box adapted to engage one terminal of said lid, and means whereby the remaining terminal of said lid may be engaged by said box.

2. The combination with a plurality of shelves, of a casing at one extremity thereof provided with a series of compartments, each compartment adapted to correspond with one of said shelves, a series of lids adapted to be retained in each compartment, means whereby said lids may be partially projected from said compartments, a series of boxes adapted to reciprocate in said shelves and past said casing, hooks carried by one end of each box adapted to engage one terminal of said lid, and a lock adapted to engage the remaining terminal of each lid.

3. The combination with a plurality of shelves, of a casing at one extremity thereof provided with a series of compartments, each compartment adapted to correspond with one of said shelves, a series of lids adapted to be retained in each compartment, means whereby said lids may be partially projected from said compartments, a series of boxes adapted to reciprocate in said shelves and past said casing, hooks carried by one end of each box adapted to engage one terminal of said lid, a lock adapted to engage the remaining terminal of each lid, and means whereby the positive engagement of said lid by said box may be insured.

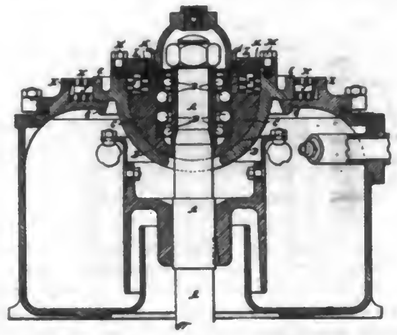
4. The combination with a plurality of shelves, of a series of boxes mounted for movement therein, the front of said boxes being open, means whereby lids may automatically engage one end of said boxes, and means whereby the opposite terminals of said lids may automatically be locked into engagement with said boxes.

5. The combination with a plurality of shelves, of a series of boxes mounted for movement therein, the front of said boxes being open, hooks carried by one terminal of said boxes, lids adapted to be engaged at one end thereof by said hooks, and means whereby the opposite terminals of said lids may automatically engage the opposite terminals of said boxes.

[Claims 6 to 10 not printed in the Gazette.]

978,060. BEARING FOR CENTRIFUGAL MACHINES. ANDREW ROBERT ROBERTSON, Glasgow, Scotland. Filed Sept. 25, 1909. Serial No. 519,587.

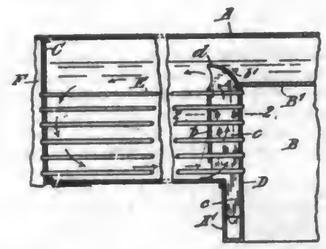
1. In a centrifugal machine of the type described, a spindle bearing which comprises a collar with hemispherical outer bearing face, a hemispherical seat and a support therefor upon which the same is mounted with limited freedom of lateral movement together with resilient means to control the extent of said movement, in combination with independent resilient means, unaffected by the lateral movement of said seat, for controlling the oscillation of said collar on said seat.



2. In a centrifugal machine of the type described, a spindle bearing comprising a hemispherical seat and a support therefor upon which the same is mounted and means for limiting the lateral freedom of movement of said seat upon its support, a hemispherical spindle collar having a bearing on said seat with limited freedom of oscillation, in combination with resilient means moving freely with said seat but arranged between said collar and seat and limiting the extent of oscillation of said collar in said seat.

3. In a centrifugal machine of the type described, a spindle bearing comprising a hemispherical collar, a hemispherical seat therefor on which said collar has limited freedom of oscillation, in combination with a support for said seat engaged with lost lateral motion by the latter and resilient means interposed between said seat and support for limiting the extent of the lateral motion between said seat and support together with independent means moving freely with said seat and interposed between the latter and the spindle collar whereby the extent of oscillation of said spindle on its seat is limited, substantially as described.

978,061. STEAM-GENERATOR. SIDNEY JOHN ROSS and HARRY SCHOFIELD, London, England, assignors of one-third to Oliver Prescott Macfarlane, one-third to Sidney J. Ross, and one-third to Harry Schofield, London, England. Filed Nov. 11, 1909. Serial No. 527,475.

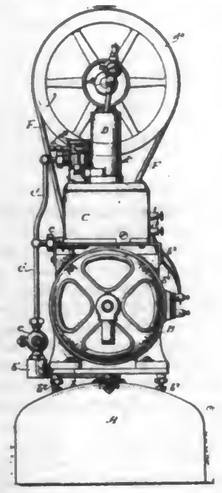


1. A steam boiler having the usual tubes, a partition extending across the tubes near one end of the same adapted to form a passageway near the ends of the tubes in which a circulation of water will be created and a deflecting plate adapted to give direction to the current of water passing through the chamber formed by the partition, substantially as described.

2. In a locomotive boiler having the usual well and tubes, vertical partition plates near the ends of the tubes, and side plates leading down into the well of the boiler, said side plates and partition being adapted to form a chamber near the end of the tubes in which a circulation of water will be created, substantially as described.

3. In a locomotive boiler having the usual well and tubes, vertical partition plates near the ends of the tubes, side plates leading down into the well of the boiler, said side plates and partition being adapted to form a chamber near the end of the tubes in which a circulation of water will be created and deflecting devices near the top of the partition to direct the course of the circulation, substantially as described.

978,062. AIR-COMPRESSING APPARATUS. PERCY RUSSELL, New York, N. Y., and ADOLPH W. SCHRAMM, Riverton, N. J., assignors to Electro Dental Manufacturing Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Aug. 17, 1907. Serial No. 389,068.



1. The combination of a motor, a controller box mounted thereon, a pump on the controller box, a normally closed switch in said box in circuit with the motor, a spring actuated arm, a pulley thereon, a belt connecting the motor and the pump and engaged by said pulley, a shaft fixed to said arm and supported so as to extend in a line passing between the two runs of the belt, and means operatively connected to the shaft for causing opening of the switch when the belt is disengaged from the pulley.

2. The combination of a motor having a driving pulley, a pump also having a pulley, a switch in circuit with the motor, an arm having a body of insulating material and carrying an idler pulley, a belt for said pulleys, with a spring acting on the arm and placed to tend to move the body of insulating material between the switch contacts and also to cause the idler pulley to tighten the belt.

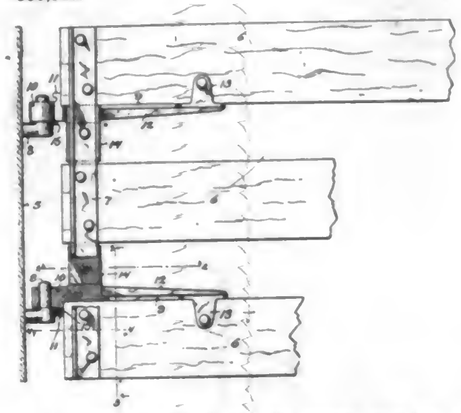
3. The combination of a tank for compressed air, a motor mounted on said tank, a base member for said motor provided with an air passage formed in its body and connected to the tank, a controller box mounted on the motor, a pump mounted on the controller box, and an air conduit communicating with the passage in the base of the motor, with the pump, and with the controller box.

4. The combination of a tank; a motor; a controller box having a switch including a belt controlled member; and a pump, said pieces of apparatus being superposed respectively one upon and vertically above the other; a belt connecting the motor and the pump and controlling the operation of said switch member; with means whereby the tank, motor, controller box, and pump are rigidly connected together.

5. The combination of a tank with a controller box, a motor, and a pump mounted one above the other on said tank, a conduit connecting the controller box and the pump with the tank, and screws placed between the tank and the motor in positions to reinforce and prevent side strains upon said conduit where it enters the tank.

[Claims 6 to 10 not printed in the Gazette.]

978,063. GATE-HINGE. EUGENE W. SAWYER, Milwaukee, Wis., assignor of one-half to Edward C. Baumann, Milwaukee, Wis. Filed Apr. 16, 1910. Serial No. 555,943.



1. A gate-hinge having the leaf thereof provided with vertically extending channel-arms adjacent to the eye-shank of same for the engagement of vertical tie-bars of a gate to which they are attachable, said leaf being also attachable to a gate-slat against an edge of same.

2. A gate-hinge having the leaf thereof provided with vertically extending channel-arms adjacent to the eye-shank of same for the engagement of vertical tie-bars of a gate to which they are attachable, and also provided with vertical ears that extend therefrom in a direction opposite that of the arms, said ears being attachable to a gate-slat facing the sides of same.

3. A gate-hinge having the eye-shank of its leaf vertically extended to abut an end of a gate-slat to which the leaf is secured against an edge of same, and channel-arms likewise extended in the opposite direction from the extension aforesaid adjacent to said shank for the engagement of vertical tie-bars of a gate to which they are attachable.

978,064. CHALK-HOLDER. JOHN J. SAYLES, Denver, Colo. Filed May 2, 1910. Serial No. 558,929.

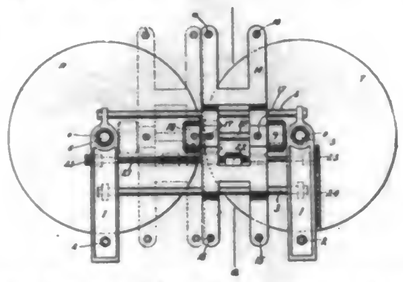


1. A device of the class described, comprising a hollow, semi-spherical, body member, having an opening in the top, an ear offset from the plane of its lower edge, and a plate or cover pivotally connected with the said ear to swing in a plane transversely thereof, substantially as described.

2. A chalk holder, comprising a hollow, semispherical, body member, having an opening in the top, and a plate offset from the base of the body member, and pivotally connected therewith to swing in a plane transversely thereof, substantially as described.

978,065. VARIABLE-SPEED APPARATUS. FRANK SCHAFER, Philadelphia, Pa. Filed Apr. 6, 1910. Serial No. 553,878.

1. In a device of the character stated, a driving disk, a driven disk in the same plane, two pairs of guide rods arranged in opposite pairs at opposite sides and in parallel planes to the disks, frames guided to slide on said rods and connected together, pairs of separately yielding bearings in said frames, shafts journaled in said bearings and parallel to the planes of the driving and driven disk, two pairs of friction disks, each pair secured upon one of said shafts and engaging the faces of the driving and driven disk, and means connected to the frames for longitudinally adjusting the same.

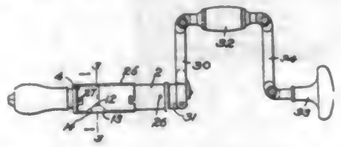


2. In a device of the character stated, a driving disk, a driven disk in the same plane, two pairs of guide rods arranged in opposite pairs at opposite sides and in parallel planes to the disks, frames guided to slide on said rods and connected together, pairs of separately yielding bearings in said frames, shafts journaled in said bearings and parallel to the planes of the driving and driven disk, two pairs of friction disks each pair secured upon one of said shafts and engaging the faces of the driving and driven disk, and a screw engaging a frame to move the same radially in relation to the driving and driven disk.

3. In a device of the character stated, a driving disk, a driven disk in the same plane, two pairs of guide rods arranged upon opposite sides of said disks and in parallel planes thereto, a frame upon each side of said disks, each frame being guided to slide on a pair of said rods, means for connecting said frames together, a pair of friction disks carried by each of said frames, each pair being carried by a frame intermediate of the rods supporting said frame and each pair engaging the faces of the driving and driven disk, and yielding means carried by said frame for supporting said disks.

4. In a device of the character stated, a driving disk, a driven disk in the same plane, two pairs of guide rods arranged in opposite pairs at opposite sides and in parallel planes to the disks, frames guided to slide on said rods and connected together, pairs of separately yielding bearings in said frames, shafts journaled in said bearings and parallel to the planes of the driving and driven disk, two pairs of friction disks, each pair secured upon one of said shafts and engaging the faces of the driving and driven disk, and means for longitudinally adjusting the frames and for holding the same in any adjusted position.

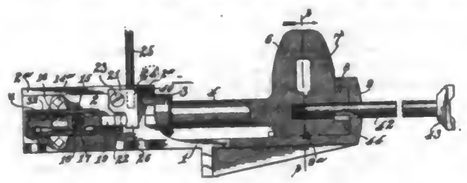
978,066. CARPENTER'S BRACE. ALVIN B. SCHUCKER, Reading, Pa., assignor of one-third to Charles Schultz, Reading, Pa. Filed May 20, 1910. Serial No. 562,410.



1. In a carpenter's brace, a driving shaft provided at one end with a gear wheel, a main stock having a reduced segmental-ring end portion around said gear wheel the spaced-apart ends of which are provided with pivot holes in the plane of the gear teeth, an extension bit-stock having a segmental-ring portion adapted to normally inclose the segmental-ring portion of the main stock and the spaced-apart ends of which are pivotally connected to the latter, and a bit shaft mounted in said bit-stock and provided with a face-gear wheel which is adapted to mesh with said driving shaft gear wheel in varying pivotal positions of the bit-stock, substantially as set forth.

2. In a carpenter's brace, a driving shaft provided at one end with a gear wheel, a main stock having a reduced segmental-ring end portion around said gear wheel the spaced-apart ends of which are provided with pivot holes in the plane of the gear teeth, an extension bit-stock having a segmental-ring portion adapted to normally inclose the segmental-ring portion of the main stock and the spaced-apart ends of which are pivotally connected to the latter, a bit shaft mounted in said bit-stock and provided with a face-gear wheel which is adapted to mesh with said driving shaft gear wheel in varying pivotal positions of the bit-stock, and a locking sleeve slidably fitted upon said main stock and the alined bit-stock, substantially as set forth.

978,067. HYDRAULIC VISE. CHARLES F. SCHWANENGEL, Dayton, Ohio, assignor of one-half to William M. Butz, Dayton, Ohio. Filed June 16, 1910. Serial No. 567,307.



1. In a device of the type specified, a base, a reservoir mounted on said base, a cylinder mounted in said reservoir, a ram adapted to reciprocate and oscillate in said cylinder, a vise jaw mounted on said ram, a second vise jaw pivotally mounted on said base the axis of said jaw being in line with the axis of the ram, and a pump adapted to force liquid from the reservoir into the cylinder behind the ram.

2. In a device of the type specified, a base, a reservoir mounted on said base, a cylinder mounted in said reservoir, a ram adapted to reciprocate and oscillate in said cylinder, a vise jaw mounted on said ram, a second vise jaw pivotally mounted on said base, means whereby both of said jaws are compelled to rock or oscillate concurrently, and a pump adapted to force a liquid from the reservoir into the cylinder back of the ram.

3. In a device of the type specified, a base, a reservoir mounted on said base, a cylinder mounted in said reservoir, a ram adapted to reciprocate and oscillate in said cylinder, a vise jaw mounted on said ram, a second vise jaw pivoted on said base, means for locking said second jaw in a set position, and a pump adapted to force liquid from the reservoir into the cylinder back of the ram.

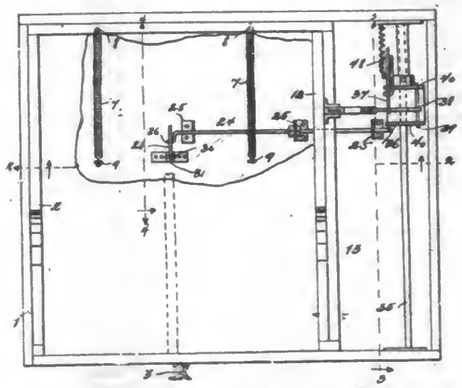
4. In a device of the type specified, a base, a reservoir mounted on said base, a cylinder mounted in said reservoir, a ram adapted to reciprocate and oscillate in said cylinder, a vise jaw mounted on said ram, a second vise jaw pivotally mounted in said base, means whereby both of said jaws may rock or oscillate concurrently, means for locking both of said jaws in a set position, and a pump adapted to force liquid from the reservoir into the cylinder back of the piston.

5. In a device of the type specified, a base, a reservoir mounted on said base, a cylinder mounted in said reservoir, a ram adapted to reciprocate in said cylinder, a vise jaw mounted on said ram, a second vise jaw mounted on said base, a rod mounted on said ram, and extending through said second jaw, whereby said device may be used as a jack, and a pump adapted to force liquid from the reservoir into the cylinder back of the ram.

[Claim 6 not printed in the Gazette.]

978,068. COIN-CONTROLLED VENDING-MACHINE. JUDSON H. SENCINDIVER, Washington, D. C., assignor to Cabinet Vending Co. (Inc.), Washington, D. C. Original application filed Sept. 23, 1909, Serial No. 519,130. Divided and this application filed Dec. 3, 1909, Serial No. 531,129. Renewed Nov. 7, 1910. Serial No. 591,118.

1. In a device of the character stated, a movable member, locking means therefor, and coin-controlled means movable with said member for actuating said locking means, a portion of said coin-controlled means being bodily movable with relation to the other portion.



2. In a device of the character stated, locking means, a slidably mounted carriage, coöperating coin-controlled means movable with said carriage, and connections between said locking means and one portion of the coin-controlled means.

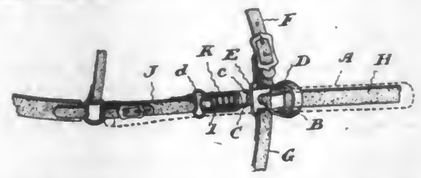
3. In a device of the character stated, a movable member, locking means therefor, a slidably mounted carriage, a guide therefor, and coöperating coin-controlled means carried by the carriage for controlling the locking means.

4. In a device of the character stated, a movable member, locking means therefor, a rock shaft connected with a member thereof, and coin-controlled means movable with said movable member for actuating said rock shaft.

5. In a device of the character stated, a movable member, a locking means therefor, a slidable carriage movable parallel with said member, connections between said carriage and locking means, and coin controlled means carried in part by said carriage.

[Claims 6 to 16 not printed in the Gazette.]

978,069. SINGLE HARNESS. FRANKLIN SIDEY, Bewdley, Ontario, Canada, assignor of one-half to Ernest E. Ainlay, Columbus, Mont. Filed Jan. 31, 1910. Serial No. 541,168.



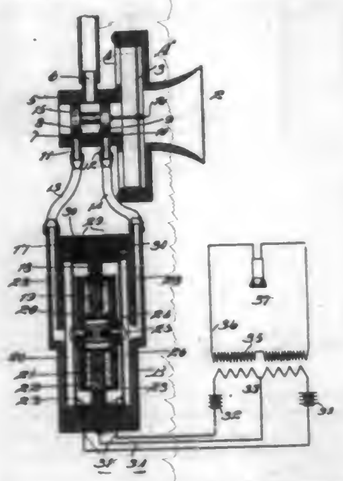
1. In harness, the combination of an eye adapted for connection to a shaft; a plate having a slot therein through which said eye passes, the plate being also adapted for connection to a belly band, a back band and breeching; a draft hook adapted to hook into said eye and adapted also to be connected with a short trace.

2. In harness, the combination of a ring provided with a set screw whereby it may be clamped upon a shaft; an eye formed on the head of the set screw; a plate having a slot therein through which said eye passes, the plate being also adapted for connection to a belly-band, a back-band and breeching; a draft hook adapted to hook into said eye and adapted also to be connected with a short trace.

978,070. TELEPHONE-TRANSMITTER. JOHN SPARKS, Kimberly, Cal. Filed Mar. 30, 1910. Serial No. 552,290.

1. The combination with a mouth-piece having a diaphragm, of a valve-chest to receive fluid under pressure, a balanced-valve operable in the valve chest and connected

to and movable with the mouth-piece diaphragm, and mechanism controlled by the valve and exposable to the fluid pressure for electrically reproducing sonorous vibrations of the diaphragm.



2. The combination of a mouth-piece, a mouth-piece diaphragm, a valve chest, a balanced valve therein connected with said diaphragm, said valve chest connected with a source of fluid pressure supply, mechanism including suitable circuits and receiving mechanism for electrically reproducing sonorous vibrations, and means by which said mechanism is operated by the vibration of said valve.

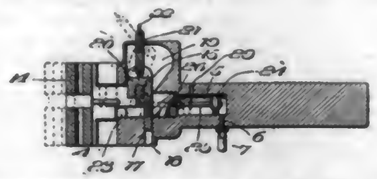
3. The combination of a suitably supported fixed carbon disk, vibrating carbons on each side thereof, diaphragms carrying said vibrating carbons, connections between the vibrating carbons whereby they vibrate in unison, a granular carbon body between each vibrating carbon and the fixed carbon, a telephone mouth-piece and diaphragm, pneumatic means controlled by the mouth-piece diaphragm for actuating the first-mentioned diaphragms, and electrical mechanism controlled by the vibrations of said first-mentioned diaphragms.

4. The combination of a suitably supported fixed carbon disk, vibrating carbons on each side thereof, diaphragms carrying said vibrating carbons, connections between the vibrating carbons whereby they vibrate in unison, a granular carbon body between each vibrating carbon and the fixed carbon, said diaphragms vibrating in fluid chambers, means for alternately increasing the pressure in one chamber and decreasing the pressure in the other, and means for alternately reproducing the vibrations of said diaphragms.

5. The combination of a suitably supported fixed carbon disk, vibrating carbons on each side thereof, diaphragms carrying said vibrating carbons, connections between the vibrating carbons whereby they vibrate in unison, a granular carbon body between each vibrating carbon and the fixed carbon, fluid chambers in which said diaphragms vibrate, a valve chest having ports connected with said chambers, a telephone mouth-piece, a diaphragm actuated by the vibrations in the mouth-piece, a valve in the valve chest, connections between the diaphragm and valve, a receiver, and electrical connections between the receiver and said diaphragms in said fluid chambers.

978,071. PNEUMATIC COUPLING. DAVID B. STANLEY, Maine Prairie, Minn. Filed Oct. 28, 1908. Serial No. 459,903.

1. In a device of the character described, a car coupler having a movable knuckle, a locking pin for the knuckle, an air reservoir, a connection between the reservoir and the coupler, and means actuated by the entrance of air to the coupler for raising the locking pin out of contact with the knuckle and to force the knuckle to swing outwardly from the mouth of the coupler.



2. In a device for the purpose set forth, the combination with a car coupler having a pivoted knuckle comprising a locking jaw and a tail portion, a locking pin having an L-shaped upper portion adapted to engage the tail of the knuckle to lock the same, a movable piston within the coupler, and means for admitting fluid within the coupler to operate the piston to raise the coupling pin out of engagement with the tail of the knuckle and to force the knuckle outwardly upon its pivot.

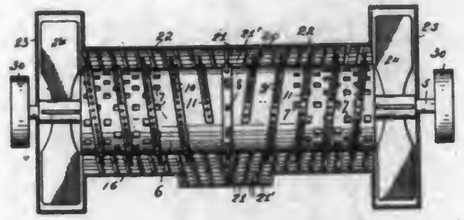
3. In a device of the character set forth, a car coupler provided with a pivoted knuckle having a locking jaw and a tail portion, said coupler being provided with a chamber at its upper portion, the top wall of the chamber being provided with an opening, a locking pin comprising a member having an L-shaped offset adapted to engage the tail of the knuckle, a link connected with the locking pin and extending through the opening provided by the chamber, offsets upon the locking pin, the draw bar of the coupler being provided with a bore communicating with the head of the coupler, a slidable piston within the bore, a wedge shaped member connected with the piston and adapted to lie beneath the offsets of the locking pin, and means for admitting fluid to slide the piston and to raise the locking pin out of engagement with the tail of the knuckle and to force the locking jaw of the knuckle outwardly away from the coupler.

4. The combination with coacting car couplers, each provided with pivoted knuckles, an upwardly extending chamber upon one of the couplers having an inner inclined wall, the lower portion of the coupling being provided with an opening alining with the edge of the said inclined wall, a locking pin having an L-shaped offset portion adapted to engage with the tail of the knuckle and to be positioned within the opening, a link pivotally connected with the locking pin and projecting through the top of said coupler, the draw bar of the said coupling being provided with a bore having an outlet port, a piston provided with a piston rod within the bore, a wedge shaped bifurcated member connected with the piston, offsets provided upon the locking pin adapted to rest upon the inclined walls of the bifurcated member, means for admitting fluid within the bore to operate the piston to cause the wedge shaped member to raise the locking pin out of contact with the tail of the knuckle and arrange said pin in the upwardly extending chamber along the inclined wall, and to force the knuckle outwardly upon its pivot, means for guiding the wedge shaped member in its movement, said means comprising in part a transverse rib positioned upon the lip of the lower portion of the mouth of the coupler, and means provided by the locking jaw of the coacting coupler for revolving the knuckle upon its pivot and causing the locking pin to drop by gravity to secure the knuckle of the first coupler in locked position.

978,072. THRESHING-MACHINE. WILLIAM G. STEWART, Kansas City, Kans. Filed Mar. 6, 1908. Serial No. 419,501.

1. In a threshing machine, the combination with a rotary separating drum having a spiral row of peripheral teeth for engaging the straw and forcing it endwise of the drum, said teeth inclining in a direction opposite their direction of movement, of a casing encircling said drum and provided with peripheral openings.

2. In a threshing machine, the combination with a rotary separating drum having spirally arranged peripheral devices for engaging the straw and forcing it endwise of the drum, of a casing encircling said drum and provided with peripheral openings and having on its inner periphery spirally arranged guiding ribs leading in a direction corresponding to the direction in which the straw is forced by said spirally arranged devices.



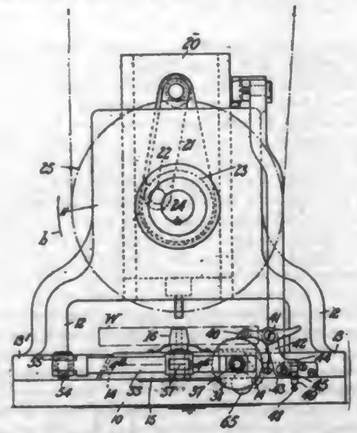
3. In a threshing machine, the combination with a rotary device provided with a spiral row of peripheral teeth, of a casing encircling said device and provided with peripheral openings, and a spiral guiding rib on its inner periphery running in a direction opposite the direction in which said spiral row of teeth runs.

4. In a threshing machine, the combination with a rotary drum having one open end and peripheral openings and having peripheral spirally arranged devices for forcing the straw endwise of the drum, of a casing encircling said drum and provided with peripheral openings and having on its inner periphery spiral guiding means for assisting said spirally arranged devices in forcing the straw endwise of the drum.

5. In a threshing machine, the combination with a rotary drum having an open end and peripheral openings and provided with peripheral spirally arranged teeth for forcing the straw toward the open end of the drum, of a casing encircling said drum and provided with peripheral openings and having on its inner periphery spiral guiding means leading toward the open end of the drum and in a direction corresponding to the direction of movement in which the straw is forced by said spirally arranged teeth.

[Claims 6 to 11 not printed in the Gazette.]

978,073. SLOTTING-MACHINE. BYRON F. STOWELL, Springfield, Mass., assignor of one-third to Robert W. Ellingham and one-third to William Hadley, Springfield, Mass. Filed May 10, 1909. Serial No. 495,132.



1. In a machine of the character described, a standard, a tool holder mounted to reciprocate on the standard and carrying spaced projections, a work carrier movable relatively to the tool holder, a slide having operative connection with the work carrier to feed the latter, said slide having an aperture, a lever pivoted on the standard and having a projecting nose portion disposed in the path of movement of the projections on the tool holder and adapted to be rocked upon its pivot in opposite directions by engagement therewith of said projections during the reciprocation of the work carrier, and a rod having connection at its upper end with said lever and at its lower end projecting through said aperture of the aforesaid slide and provided with cam surfaces on opposite sides thereof and at different places in its length for engagement with the walls of said aperture to force said slide transversely of the bar in opposite directions to effect a sliding movement of the work carrier relative to the movement of the tool holder.

2. In a machine of the character described, a standard, a reciprocatory tool holder mounted on the standard and provided with spaced projections, a work carrier movable relatively to the tool holder, a slide having operative connection with the work carrier to feed the latter, a lever pivoted on the standard and at one end projecting between the projections of the tool holder, whereby the lever is rocked upon its pivot by engagement therewith of said projections, and a rod connected to said lever and having operative connection with said slide to shift the same alternately in opposite directions and thereby effect an alternate sliding movement of the work carrier in opposite directions relative to the reciprocation of the tool holder.

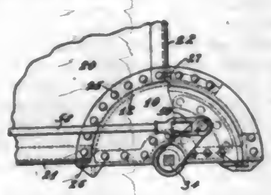
3. In a machine of the character described, a standard, a tool holder mounted to reciprocate on the standard and carrying spaced projections, a work carrier movable relatively to the tool holder, a slide having operative connection with the work carrier to feed the latter, said slide having an aperture, a lever pivoted on the standard and having a projecting nose portion disposed in the path of movement of the projections on the tool holder and adapted to be rocked upon its pivot in opposite directions by engagement therewith of said projections during the reciprocation of the work carrier, a rod having connection at its upper end with said lever and at its lower end projecting through said aperture of the aforesaid slide and provided with cam surfaces on opposite sides thereof and at different places in its length for engagement with the walls of said apertures to force the aforesaid slide transversely of the bar in opposite directions to effect a sliding movement of the work carrier relative to the movement of the tool holder, a lock bolt carried by the work carrier to effect the aforesaid operative connection between the latter and the aforesaid slide, and means to manually effect a disconnection between the work carrier and the aforesaid slide.

4. In a machine of the character described, a standard, a reciprocatory tool holder mounted on the standard and provided with spaced projections, a work carrier movable relatively to the tool holder, a slide having operative connection with the work carrier to feed the latter, a lever pivoted on the standard and at one end projecting between the projections of the tool holder, whereby the lever is rocked upon its pivot by engagement therewith of said projections, a rod connected to said lever and having operative connection with said slide to shift the same alternately in opposite directions and thereby effect an alternate sliding movement of the work carrier in opposite directions relative to the reciprocation of the tool holder, a lock bolt carried by the work carrier to effect the aforesaid operative connection between the latter and the aforesaid slide, and a rod having connection with the lock bolt whereby the latter may be operated to disconnect said operative connection between the work carrier and said slide.

5. In a machine of the character described, a standard, a tool holder mounted for reciprocation on the standard, a work carrier movable relatively to the tool holder, a slide having operative connection with the work carrier to feed the latter and provided with an aperture, and a cam bar operable under the influence of the tool holder to effect a movement of said slide in opposite directions and a consequent similar movement of the work carrier to shift the work into and out of the path of movement of the tool holder during reciprocation of the latter.

[Claims 6 to 12 not printed in the Gazette.]

978,074. DISCHARGE-CONTROLLER FOR ASH-PANS. JOHN G. TALMAGE, Cleveland, Ohio. Filed June 17, 1909. Serial No. 502,659.



1. The combination, with an ash pan, of a segmental gate therefor mounted to swing on a pivot into two extreme positions in one of which the convex surface forms a closure for the pan and in the other of which the concave surface forms a downward deflector for the discharging ashes.

2. The combination, with an ash pan having a horizontal bottom and a vertical end wall, of a segmental gate pivoted substantially at the junction of the planes of the end wall and bottom and having a quadrant surface adapted to occupy either of two extreme positions substantially ninety degrees apart, the gate at its innermost position closing the opening between the end wall and bottom, and the gate at its outermost position providing a curved downward deflector in the path of the discharging ashes.

3. The combination of a locomotive ash pan, a pair of semi-circular extensions for the side walls thereof, a segmental gate pivoted at the center of its curvature between such extensions, the convex surface of the gate being adjacent the ashes when the gate is in the closed position and the concave surface being in the path of the discharging ashes when the gate is in the open position, and suitable flange members between said extensions enabling the gate to make a tight closure when closed.

4. The combination, with a locomotive ash pan, of a pair of extensions for its side walls, three cross members between the same, one of which cross members engages the bottom of the pan and another the end thereof, a segmental gate pivotally mounted between said extensions and having a flange coöperating when the gate is closed with the cross member which is secured to the pan end, the third cross member mentioned engaging and supporting the outer edge of the gate when it is open.

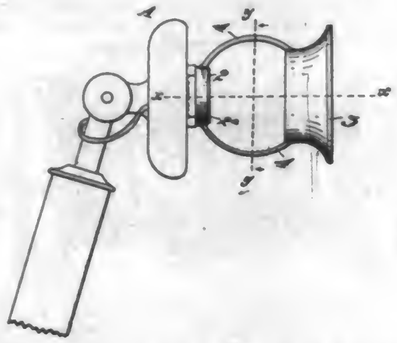
5. The combination, with an ash pan, of a segmental gate for closing the same and comprising a quadrant pivoted at substantially the junction of the planes of the end wall and bottom of the pan, means adapted to engage the gate for holding it with its convex surface against the pan contents to close the pan, and means for holding the gate in open position after it has turned substantially ninety degrees from its closed position, whereby, in the open position, the concave surface of the gate presents a downward deflector in the path of the discharging ashes.

978,075. TELEPHONE-MOUTHPIECE. GEORGE R. TAYLOR, San Francisco, Cal. Filed Sept. 27, 1909. Serial No. 519,834.

1. The combination in a telephone transmitter, of a mouth-piece having its inner end supported at a distance from and substantially in axial line with the transmitter to thereby provide an intervening, substantially unobstructed, transverse space between the back of the mouth-piece and the front of the transmitter.

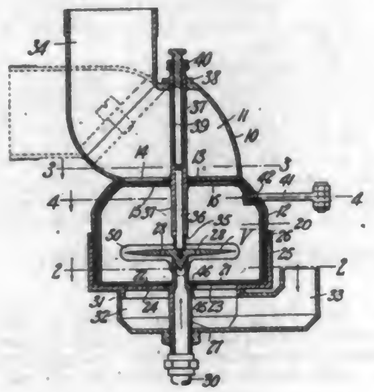
2. The combination with a transmitting mechanism of a telephone, of a mouth-piece, supports or standards extending from the mouth-piece to the transmitter, and forming open unobstructed spaces between said supports.

3. The combination with a transmitting mechanism of a telephone, of an independently supported mouth-piece substantially in axial line with the transmitter, standards or supports having the outer ends attached to the mouth-



piece, and a ring on the inner ends of the standards adapted to be fitted to the transmitter.

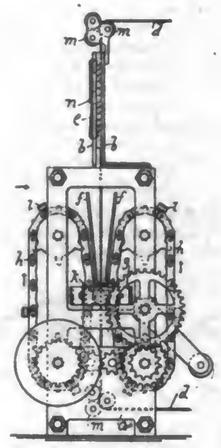
978,076. CARBURETER. DAVID M. TILDEN, Springfield, Mass. Filed Feb. 15, 1910. Serial No. 544,044.



1. A carbureter comprising a casing having openings in the top and two sets of openings in the bottom thereof, a drum forming a receiving chamber and rotatively mounted within said casing, there being openings formed in the top and the bottom of said drum, and there being additional openings formed in the bottom of the drum adapted to register with the openings of the casing, a fuel supply pipe passing through the casing and projecting into the interior of the drum, a spring controlled fuel valve for controlling the fuel supply pipe, said valve carrying a horizontally disposed disk of considerably greater diameter than the fuel supply pipe, there being a plurality of openings formed through said disk as and for the purposes set forth.

2. The combination with a casing comprising an upper chamber and a lower chamber separated from each other by an apertured partition, a carbureting chamber comprising a hollow cylindrical box having its top plate apertured for coöperation with said partition, and also having a lower apertured plate, of a cap for the lower chamber and comprising an air-receiving chamber having an apertured partition for coöperation with the bottom plate of the carbureting-chamber, a fuel-supply passing through said air-chamber into the carbureting-chamber and a valve for the fuel-supply and extending over the apertures in the bottom-plate of the carbureting-chamber.

978,077. MOVING-PICTURE CAMERA. NORTON C. TRAVIS, Brooklyn, N. Y. Filed Apr. 20, 1909. Serial No. 491,113.

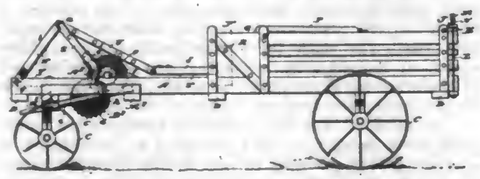


1. A film-feed mechanism comprising, in combination, a pair of oppositely-located movable members between which the film is arranged to pass; means for driving the same; gripping devices carried by said members; converging tracks located adjacent said members and arranged for engagement with said devices during a portion of the travel of the latter, for guiding said devices toward and into engagement with the film; and means for exerting a lateral pressure upon said devices when engaged with the film.

2. In a film-feed mechanism, the combination of a frame; film-conveying members arranged for movement therethrough; converging tracks leading toward said frame, for guiding said members into engagement with the film; and means arranged within the frame for exerting a lateral pressure upon said members, for holding the same in such engagement.

3. In a moving picture apparatus, the combination of a framework, and a window pivotally mounted upon the top of the framework, for swinging movement bodily to one side thereof, to permit access to the interior of the apparatus, said window being provided with a passageway through which the film is arranged to travel.

978,078. BALING-PRESS. PHILIP TRICK, Crestline, Ohio. Filed Sept. 24, 1909. Serial No. 519,401.

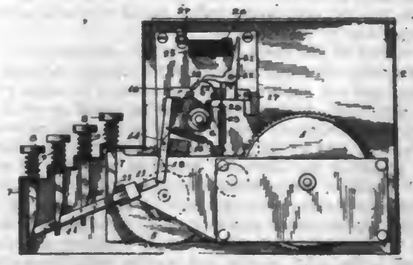


1. The combination in a baling press, of longitudinal bars fixed together and spaced apart to form a main frame, a horizontal floor carried by said bars, longitudinal guide bars fixed to said horizontal floor and spaced apart, a plunger movable in front of said guide bars and having a rearwardly extending bar and also having a runner on the underside of said bar and movable longitudinally between the guide bars, a transverse drive shaft journaled in bearings on the main frame bars and having a crank movable between said bars, wear plates on the inner sides of the rear portions of the main frame bars, a transverse rod carried by the rear portions of said main frame bars, a rear toggle member having a bifurcation in its rear end and also having the arms of said bifurcation pivoted on the end portions of said transverse rod and movable between the said wear plates, a longitudinal-central brace fixed with respect to the main frame bars and connected to the transverse rod at a point between the arms of the rear toggle member, a forward toggle member pivoted to the rear end of the plunger bar, a pitman pivoted to the crank of the drive shaft, and a pintle connecting the rear and forward toggle members together and to the pitman.

2. The combination in a baling press, of longitudinal bars fixed together and spaced apart to form a main frame, a horizontal floor carried by said bars, longitudinal guide bars fixed to said horizontal floor and spaced apart, a plunger movable in front of said guide bars and having a rearwardly extending bar and also having a runner on the under side of said bar and movable longitudinally between the guide bars, a transverse drive shaft journaled in bearings on the main frame bars and having a crank movable between said bars, wear plates on the inner sides of the rear portions of the main frame bars, a transverse rod carried by the rear portions of said main frame bars, a rear toggle member having a bifurcation in its rear end and also having the arms of said bifurcation pivoted on the end portions of said transverse rod and movable between the said wear plates, a longitudinal-central brace fixed with respect to the main frame bars and connected to the transverse rod at a point between the arms of the rear toggle member, a forward toggle member pivoted to the rear end of the plunger bar, a pitman pivoted to the crank of the drive shaft, a pintle connecting the rear and forward toggle members together and to the pitman, a spur gear on one end of the transverse drive shaft, a miter gear on the opposite end of said shaft, a supplemental frame fixed to the rear portions of the main frame bars, a short transverse shaft mounted on said supplemental frame and having a spur gear intermeshed with the first-named spur gear and also having a band pulley, and a longitudinal shaft mounted on the supplemental frame and having a miter gear intermeshed with the first-named miter gear.

3. The combination in a baling press, of a main frame, a plunger movable fore and aft and having a rearwardly extending bar and a runner on said bar guided in the main frame, a transverse shaft carried by the main frame and having a crank, a forward toggle member connected to the plunger bar, a rear bifurcated toggle member connected with and held against lateral movement by the main frame, a pitman connected with the crank of the shaft and also connected with the adjacent portions of the toggle members a transverse rod carried by the rear portion of the main frame, and a longitudinal central brace at the rear end of the main frame, said brace being secured at its forward end to said frame, and at its rear end to said transverse rod at a point centrally of the rear toggle member.

978,079. KEYBOARD TELEGRAPH-TRANSMITTER. DANA S. TROTH, Oakland, Cal. Filed May 8, 1909, Serial No. 494,747. Renewed Nov. 1, 1910. Serial No. 590,156.



1. In a keyboard telegraph transmitter, a plurality of rotatable members with recesses in the peripheries thereof, means for rotating said members, a plurality of contact members mounted adjacent to said members and adapted to engage in said recesses, a contact bar, and said contact

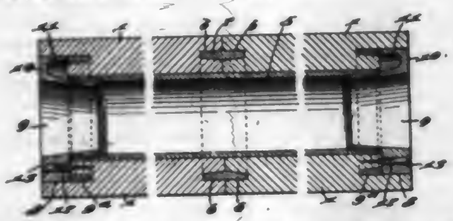
members adapted to contact with said contact bar when engaged in said recesses in said member, substantially as described.

2. In a keyboard telegraph transmitter, a rotatable toothed roller, means for rotating said toothed roller, a plurality of toothed wheels mounted adjacent to said toothed roller and normally out of mesh therewith, means for meshing said toothed wheels with said toothed roller, a plurality of contact members, a contact bar, said contact members normally out of contact with said contact bar, members operatable with said toothed wheels with recesses in the peripheries thereof, said contact members adapted to engage in the said recesses, said contact members adapted to contact with said contact bar when engaged in said recesses, and means to disengage said toothed wheels from said toothed roller, substantially as described.

3. In a keyboard telegraph transmitter, a rotatable toothed roller, means for rotating said toothed roller, a plurality of toothed wheels mounted adjacent to said toothed roller and normally out of mesh therewith, means for meshing said toothed wheels with said toothed roller, a projecting tooth on each of said toothed wheels, said projecting teeth on said toothed wheels adapted to lift said toothed wheels out of mesh with said toothed roller when desired, substantially as described.

4. In a keyboard telegraph transmitter, a rotatable toothed roller, means for rotating said toothed roller, a plurality of toothed wheels mounted adjacent to said toothed roller and normally out of mesh therewith, a plurality of depressible keys, means for meshing said toothed wheels with said toothed roller on the depression of said keys, a plurality of members with recesses in the peripheries thereof operatable with said toothed wheels, a plurality of contact members mounted adjacent to said members and adapted to engage in said recesses, a contact bar, said contact members adapted to contact with said contact bar when engaged in said recesses in said members, and means to return the parts to initial positions, substantially as described.

978,080. PRINTING-ROLL FOR LINOLEUM AND OIL-CLOTH. FREDERICK A. VIESER, Camden, N. J. Filed July 5, 1910. Serial No. 570,328.



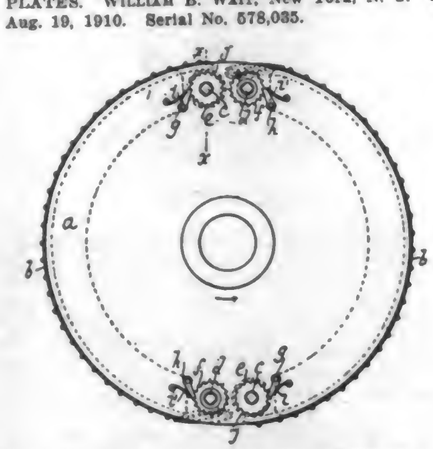
1. A roll of the character described, composed of a circular series of longitudinal wooden strips battened together, said roll having circular grooves in its ends, a tube within the roll, and wedge rings forced into said grooves, substantially as described.

2. A roll of the character described, composed of a circular series of longitudinal wooden strips battened together, said roll having circular grooves in its ends, a tube within the roll, wedge rings forced into said grooves, and bearing rings screwed into the ends of the tube, and bearing against said wedge rings, substantially as described.

3. A roll of the character described composed of a circular series of longitudinal wooden strips battened together and having circular grooves in its ends, a tube within said roll, said roll having circular recesses in its ends, wedge rings having beveled or inclined inner faces located in the said grooves, and bearing rings screwed into the tube and enlarged heads on said bearing rings located in said recesses, and bearing against the wedge rings, substantially as described.

4. A roll of the character described composed of a circular series of longitudinal wooden strips battened together and having circular grooves in its ends, a tube within said roll, said roll having circular recesses in its ends, wedge rings having beveled or inclined inner faces located in the said grooves, and bearing rings screwed into the tube and enlarged heads on said bearing rings located in said recesses, and bearing against the wedge rings, substantially as described, a tube within the roll, and wedge rings forced into said grooves, substantially as described.

978,081. DEVICE FOR AUTOMATICALLY ADJUSTING PLATES. WILLIAM B. WAIT, New York, N. Y. Filed Aug. 19, 1910. Serial No. 578,035.



1. A device of the kind described, comprising a plate support, a shaft journaled in the support, a collar mounted on the shaft, a flexible tensible plate secured to the collar, devices associated with the collar and the shaft for automatically taking up the stretch of the plate by utilising the pressure exerted on the plate when the device is operated.

2. A device of the kind described, comprising a cylindrical plate support, a shaft journaled in the support, a collar mounted on the shaft, a flexible tensible plate secured to the collar, devices associated with the collar and the shaft for automatically taking up the stretch of the plate by employing the pressure exerted on the plate while the device is in operation and means for preventing rearward movement of the collars.

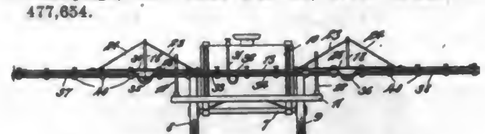
3. A device of the kind described, comprising a cylindrical plate support, a shaft journaled in the support, a flexible tensible plate secured to the shaft, devices associated with the shaft for automatically taking up the stretch of the plate by employing the pressure exerted on the plate while the device is in operation, and means for preventing rearward movement of the shaft.

4. A device of the kind described comprising a cylindrical plate support, a shaft journaled in the support, a series of collars mounted on and having independent oscillation on the shaft, a flexible tensible plate fastened to the collars, devices associated with the collars for automatically taking up the stretch of portions of the plate by utilising the pressure exerted on the plate when the device is operated.

5. A device of the kind described comprising a cylindrical plate support, a shaft journaled in the support, a series of collars mounted on and having independent oscillation on the shaft, a flexible tensible plate, fastened to the collars, devices associated with the collars for automatically taking up the stretch of portions of the plate by utilising the pressure exerted on the plate while the device is in operation, and means for preventing rearward movement of the collars.

[Claim 6 not printed in the Gazette.]

978,082. SPRAYING-MACHINE. JOSEPH D. WALLACE, Champaign, Ill. Filed Feb. 13, 1909. Serial No. 477,654.



1. In a device of the character described, the combination, with a portable frame, of a rearwardly swinging arm normally projecting laterally from said frame, means for locking said arm in its extended position and means for releasing said locking means through the initial pressure of an obstruction in the path of movement of said arm.

2. In a device of the character described, the combination, with a portable frame, of a rearwardly-swinging arm normally projecting laterally from said frame, means for supporting said arm in a horizontal plane in all positions thereof, means normally retaining said arm in its extended position, and means for releasing said retaining means through the initial pressure of an obstruction in the path of movement of said arm.

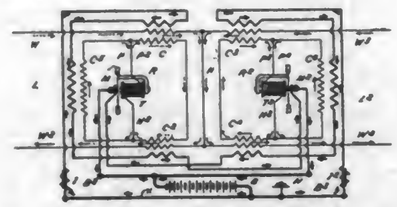
3. In a device of the character described, the combination, with a portable frame, of a laterally-projecting rearwardly-swinging arm on each side of said frame, means for supporting each of said arms in a horizontal plane in all positions thereof, means normally retaining said arm in its extended position, and means non-interferent with said supporting means for releasing said retaining means through the initial pressure of an obstruction in the path of movement of said arm.

4. In a spraying machine, the combination, with a portable frame carrying a source of liquid supply and having a branched delivery pipe, of a laterally-projecting swinging arm on each side of said frame, each arm carrying a branch of said delivery pipe and said branches being provided with suitable spraying nozzles, means normally retaining each of said arms in its extended position, and means for releasing said retaining means through initial pressure of an obstruction in the path of movement of said arm, each of said branch pipes including a flexible portion to permit of the swinging of said branch pipe with its supporting arm.

5. In a spraying machine, the combination, with a portable frame carrying a source of liquid supply and having a branched delivery pipe, of a laterally projecting swinging arm on each side of said frame, each arm carrying a branch of said delivery pipe and said branches being provided with suitable spraying nozzles, means normally locking each of said arms in its extended position, means for releasing said locking means through initial pressure of an obstruction in the path of movement of said arm, each of said branch pipes including a flexible portion to permit of said branch pipe swinging with its supporting arm, and means for supporting said arm in a horizontal plane in all positions thereof.

[Claims 6 to 9 not printed in the Gazette.]

978,083. TELEPHONE REPEATER SYSTEM. NATHANIEL G. WARTH, Columbus, Ohio. Filed July 15, 1907. Serial No. 383,883.



1. In a reciprocal telephonic repeating system, the combination of a divided main telephone circuit having independent induction coil secondary windings in each division, differentially controlled repeating devices, one device for each main circuit, divided local or tertiary circuits and a primary circuit for each main circuit, each repeating device being connected into its respective tertiary circuits and respectively associated inductively with its main circuit secondary windings, primary windings in each primary circuit associated with said secondary windings, a battery or current supply and a transmitter in each primary circuit, each transmitter being actuated from its respective main circuit and operating to transmit into the next associated circuit only, together with means within the tertiary circuits for rendering each repeating device operative by its respective inducing line currents and inoperative by the reproduced currents set up by the opposite or associated repeating device.

2. In a reciprocal telephone repeating system, the combination of a telephone-line comprising operatively independent circuit sections, secondary induction coil windings connected in each section, divided tertiary and primary windings and respective divided tertiary and primary circuits therefor inductively associated with their respective line sections, an independent repeating device for each line circuit section, each repeating device being connected in a respective tertiary circuit or tertiary circuit divisions, which provide for differential current flows or equivalent neutralizing counter-action in the repeating devices to the reproduced currents, an auxiliary induction coil secondary winding connected in one side or circuit of each divided tertiary circuit, and a primary to said winding being connected in the respective primary circuit with said main circuit primary windings, a battery or current supply for each primary circuit and the transmitter of the opposite repeating device included in said primary circuit, whereby each repeating device is operated to repeat by the received induction currents from its respective circuit section and retransmits the initial currents with renewed force into the next circuit section, and the opposite or reciprocating repeater device is not operated by such reproduced currents, thus preventing self-reaction and securing unidirectional reciprocal retransmission.

3. In a telephonic repeating system, the combination of a telephone main circuit consisting of independent circuit sections, an independent repeating relay for each section, the relays being controlled by both coöperating and opposing electro-magnetic actions, independent induction-coil secondary windings in each main circuit section, primary and tertiary windings associated with said secondary windings for each relay, primary and tertiary circuits for said primary and tertiary windings, the respective tertiary windings being in their respective tertiary circuits of each relay, a transmitter and a battery included in each primary circuit, the transmitter in each case controlling the outward currents in the opposite main and tertiary circuits, an auxiliary or balancing induction-coil, secondary winding for each relay, the respective tertiary windings of the main circuit induction coils operating the respective relays by the induced inward currents from their respective circuit sections, and the repeated or outward currents energizing said tertiary windings being opposed in their effect upon the receivers by the currents set up in the auxiliary induction coils, thereby producing a neutral effect and preventing self reaction.

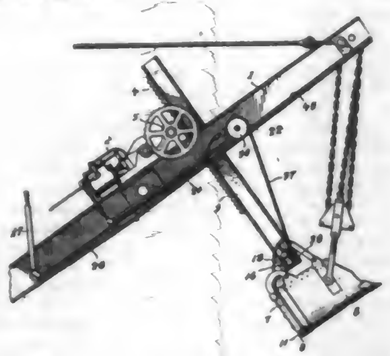
4. In a telephonic repeating system, the combination with a main line secondary circuit and a primary repeater circuit, of a repeating device, two local or tertiary circuits, each connected with the repeating device, one of said local or tertiary circuits being directly inductively connected with the main line secondary circuit and with the primary repeater circuit, and the other local or tertiary circuit being directly inductively connected with the primary repeater circuit only.

5. In a telephone repeating system, the combination with a main line circuit and repeater local circuits, of a repeating primary circuit containing a battery and a transmitter and also containing separate primary induction-coil windings, one of said windings being inductively

connected with one of said repeater local circuits only and another of said windings being inductively connected with another of said repeater local circuits and with the main line circuit.

[Claims 6 to 24 not printed in the Gazette.]

978,084. DIPPER-TRIP FOR STEAM-SHOVELS. JOSEPH L. WATSON, Riesel, Tex. Filed July 5, 1910. Serial No. 570,415.



1. In a device of the class described, the combination with a boom and a reciprocating bucket arm, of a bucket thereon, latching means for the bucket bottom, means for tripping said latching means, fluid pressure means for operating said tripping means, flexible piping for connecting the fluid pressure means with the tripping means, means for holding said flexible piping and forming a connection between said fluid pressure means and flexible piping, and means carried by said holding means for taking up the slack in said piping as the dipper arm moves inwardly.

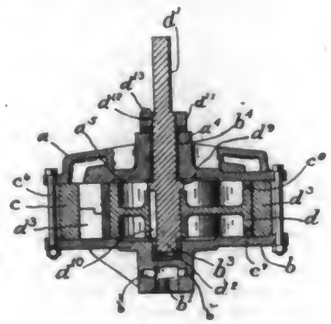
2. In combination with a dredging bucket having a fluid pressure operated tripping mechanism for its bottom, of flexible piping for connecting the tripping mechanism with the source of supply, a valve chest connecting the flexible piping with the source of supply, and means carried by the valve chest for taking up the slack in the flexible piping when the bucket moves inwardly.

3. In combination with a dredging bucket having fluid pressure operated tripping mechanism for its bottom, a valve chest carried by the bucket boom, flexible piping connected to the valve chest and to the tripping mechanism said valve chest being connected with a source of supply, means for controlling the steam in the valve chest to the tripping mechanism, and means for exhausting the steam from the tripping mechanism through the valve chest and the flexible piping.

4. In combination with a boom and a dredging bucket having fluid pressure operated mechanism for the bottom lock, a valve chest carried by the boom and connected with a suitable source of fluid pressure supply, a drum carried by the valve chest and communicating therewith, flexible piping wound upon the drum and connected at one end with the drum and at its opposite end with the tripping mechanism, means carried by the drum for taking up the slack in the flexible pipe when the bucket moves inwardly, and means in the valve chest for controlling the admission and exhaust of the fluid pressure means to and from the flexible piping.

5. In combination with a boom and a dredging bucket having fluid pressure operated mechanism for the bottom lock, a valve chest carried by the boom and connected with a suitable source of fluid pressure supply, a drum carried by the valve chest and communicating therewith, flexible piping wound upon the drum and connected at one end with the drum and at its opposite end with the tripping mechanism, means carried by the drum for taking up the slack in the flexible pipe when the bucket moves inwardly, means in the valve chest for controlling the admission and exhaust of the fluid pressure means to and from the flexible piping, and an exhaust pipe connected to the valve chest and leading to the outer end of the boom.

978,085. ROTARY MOTOR. HENRY F. WEINLAND, Springfield, Ohio, assignor to The Lagonda Manufacturing Company, Springfield, Ohio, a Corporation of Ohio. Filed Dec. 26, 1907. Serial No. 408,005.



1. In a rotatable motor such as described, a casing and a runner with radially movable paddles and removable cages therefor having no radial movement, said cages being made in sections adapted to be forced apart by the actuating medium, the inner ends having abutting shoulders to prevent the escape of the actuating medium, substantially as described.

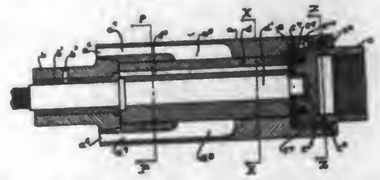
2. In a rotatable motor such as described, a casing and a runner with radially movable paddles and removable cages for said paddles seated in said runner and having no radial movement, sealing rings between the runner and casing intercepted by the cages, said cages being made in sections and adapted to be forced apart by the actuating medium, the inner ends being arranged to form a seal to prevent the escape of the actuating medium, substantially as described.

3. In a rotatable motor such as described, a casing and a runner with radially movable paddles and removable cages for said paddles seated in said runner and having no radial movement, sealing rings between the runner and casing, intercepted by the cages, said cages and paddles each being made in sections adapted to be forced apart by the actuating medium, the inner ends of each having abutting shoulders to prevent the escape of the actuating medium, substantially as described.

4. In a rotatable motor such as described, a runner, a casing having a chamber therefor with inlet and exhaust ports, a driving shaft rotated by the runner but adapted to move longitudinally therethrough, radially movable paddles and removable cages for said paddles seated in said runner and having no radial movement, sealing rings between the runner and casing intercepted by the cages, said cages being made in sections and adapted to be forced apart by the actuating medium, the inner ends being arranged to form a seal to prevent the escape of the actuating medium and means to take the end thrust of the shaft, substantially as described.

5. In a rotatable motor such as described, a runner, a casing having a chamber therefor with inlet and exhaust ports, a driving shaft rotated by the runner but adapted to move longitudinally therethrough, radially movable paddles and removable cages for said paddles seated in said runner and having no radial movement, sealing rings between the runner and casing intercepted by the cages, said cages and paddles each being made in sections adapted to be forced apart by the actuating medium, the inner ends of each having abutting shoulders to prevent the escape of the actuating medium, a bearing portion on the casing and a collar fixed on the shaft to take the end thrust, substantially as described.

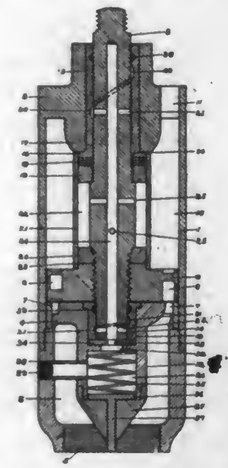
978,086. ROTARY MOTOR. HENRY F. WEINLAND, Springfield, Ohio, assignor to The Lagonda Manufacturing Company, Springfield, Ohio, a Corporation of Ohio. Filed Dec. 30, 1907. Serial No. 408,456.



1. In a rotatable motor, a runner having paddles adapted to move outwardly from the axis thereof, a casing forming with the runner oppositely disposed chambers having inlet and exhaust ports opening into the chamber in the longitudinal center thereof and a field of fine perforations opening into each chamber where the paddles in their outward movement strike the walls of the chambers, said perforations admitting the actuating medium to cushion the paddles and protect the walls of the chambers, substantially as described.

2. In a rotatable motor, a runner, a casing forming a chamber for the runner, said casing having ports communicating with the chamber, a pin fixed in said casing, a removable ported head having a longitudinal recess adapted to receive said pin to guide the head in place with its ports to register with the ports of the casing and means to secure said head in place, substantially as described.

978,087. LUBRICATING DEVICE. HENRY F. WEINLAND, HERMON G. WEINLAND, and GEORGE H. AINGE, Springfield, Ohio, assignors to The Lagonda Manufacturing Company, Springfield, Ohio, a Corporation of Ohio. Filed Mar. 12, 1908. Serial No. 420,577.



1. The combination of a rotatable member and a stationary member having a bearing therefor, said stationary member further having formed therein a chamber for a pressure medium with a suitable inlet and also a lubricant reservoir with a conduit to said bearing, means in said reservoir subject to the pressure in said chamber to force the lubricant to said bearing, a device to return said means to its initial position when not under pressure, and means to introduce a lubricant to said reservoir, substantially as described.

2. The combination of a rotatable member and a stationary member having a recess forming a bearing for said rotatable member, said stationary member further having formed therein a chamber for a pressure medium with a suitable inlet and also a hollow portion extending into said chamber having an opening to said bearing, a cap to close the outer end of said hollow portion to form a lubricant reservoir, a piston in said reservoir having a spindle extending through said cap subject to the pressure in said chamber, a spring adapted to return said piston to its initial position when not under pressure and a conduit to introduce a lubricant to said reservoir, substantially as described.

3. The combination of a rotatable member and a casing having bearings therefor, said rotatable member having a lubricant chamber formed thereon with conduits to said bearings, said casing having a head with one of said bearings formed therein, said head further having a chamber for a pressure medium with a suitable inlet and a lubricant reservoir with an opening to one of said conduits, means in said reservoir subject to the pressure in said pressure chamber to force the lubricant to the lubricant chamber on the rotatable member and to said bearings, a device to return said means to its initial position when not under pressure, and means to introduce a lubricant to the reservoir in said head, substantially as described.

4. The combination of a rotatable member and a casing having a head with a removable bushing forming a bearing for said rotatable member, said bushing having a shoulder to engage the inner side of said head, collars on said rotatable member, a band or cylinder shrunk on said collars to form a lubricant reservoir having a conduit to said bearing, disks interposed between said bushing and one of said collars, the band or cylinder extending over said disks and bushing shoulder and abutting on said head and means to introduce a lubricant to said reservoir, substantially as described.

5. The combination of a rotatable member and a casing having oppositely disposed heads with bearings for said rotatable member, said rotatable member having a closed lubricant chamber formed thereon with conduits to said bearings, one of said heads further having a chamber with suitable inlet for a pressure medium and a lubricant reservoir with an opening to one of said conduits, a piston in the lubricant reservoir of the head subject to the pressure in the pressure chamber, a groove to evenly distribute the lubricant to the bearings and a packing to prevent the escape of the lubricant from the bearings, substantially as described.

978,088. ROTARY MOTOR FOR DRIVING BOILER-TUBE CLEANERS. HENRY F. WEINLAND and HERMON G. WEINLAND, Springfield, Ohio, assignors to The Lagonda Manufacturing Company, Springfield, Ohio, a Corporation of Ohio. Filed July 29, 1908. Serial No. 445,950.

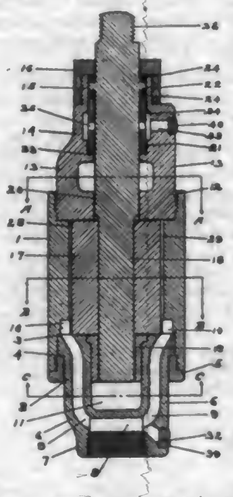
1. In a rotary motor, a casing, a runner, a driving shaft, a feed head, a front head having an outwardly extending bracket, a bearing carried by the bracket, said bracket having an open space between the head and bearing and exhaust ports through the head adapted to discharge against said bearing, substantially as described.

2. In a rotary motor, a casing, a runner, a driving shaft, a feed head, a discharge head having an outwardly extending bracket with a bearing for the shaft, said bracket being formed with an open space between the head and bearing, substantially as described.

3. In a rotary motor, a casing, a runner, a driving shaft, a feed head, a discharge head having an outwardly extending bracket with a bearing in which said shaft is journaled and abutting portions on said shaft and bracket to take the end thrust in both directions, said bracket being formed with an open space between the head and bearing, substantially as described.

4. In a rotary motor, a casing, a runner, a driving shaft having a collar thereon, a feed head, a front head with an outwardly extending bracket terminating in a hub like portion having an internal shoulder, a removable bushing forming a bearing for the shaft and adapted to abut on said shoulder to take the end thrust on the collar in one direction and a cap secured to said hub

adapted to take the end thrust in the opposite direction, said bracket having an open space between said head and hub portion and exhaust ports through said head adapted to discharge against said hub bearing portion, substantially as described.



5. In a rotary motor, a casing, a runner, a driving shaft having a collar thereon, a feed head, a front head removably secured to the casing with an outwardly extending bracket terminating in a hub like portion having an internal shoulder and an exterior screw threaded reduced portion, a removable bushing forming a bearing for the shaft adapted to abut on said shoulder and take the end thrust on the shaft collar in one direction, a cap adapted to be screwed on said reduced portion and to take the end thrust in the opposite direction, spacing rings interposed between said shaft collar and the bushing and cap, said hub having an annular chamber about said bushing, a feed hole to said chamber, the bushing having openings from the chamber to the shaft, said bracket having an open space between the head and hub and exhaust ports through said heads adapted to discharge against said hub bearing portion, substantially as described.

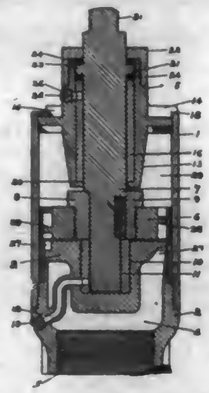
[Claims 6 to 13 not printed in the Gazette.]

978,089. TURBINE FOR DRIVING BOILER-TUBE CLEANERS. HENRY F. WEINLAND and HERMON G. WEINLAND, Springfield, Ohio, assignors to The Lagonda Manufacturing Company, Springfield, Ohio, a Corporation of Ohio. Filed Aug. 12, 1908, Serial No. 448,142. Renewed Oct. 21, 1910. Serial No. 588,370.

1. In a turbine such as described, a casing, a runner, a driving shaft, a feed head, a discharge head having openings therethrough, one of said openings being formed with a shoulder, a bushing in said opening in which said shaft is journaled, said bushing being held against longitudinal movement by abutting at one end against said shoulder and means constantly engaging the opposite end to form a thrust bearing, substantially as described.

2. In a turbine such as described, a casing, a runner, a driving shaft having a collar thereon, a feed head, a discharge head having openings therethrough, one of said openings being formed with a shoulder, a bushing in said opening in which said shaft is journaled, said bushing being held against longitudinal movement by abutting at one end against said shoulder and means to hold said collar constantly against the other end of said bushing forming a thrust bearing to take the end thrust in both directions, substantially as described.

3. In a turbine such as described, a casing, a runner, a driving shaft having a collar thereon, a discharge head having central oppositely extending hubs with an opening therethrough and an inwardly extending flange projecting from the rearwardly extending hub forming a shoulder in said opening, a bushing in said opening in which said shaft is journaled, said bushing resting at one end against said shoulder and means to hold said collar constantly against the other end of said bushing to form a thrust bearing to take the end thrust in both directions, substantially as described.

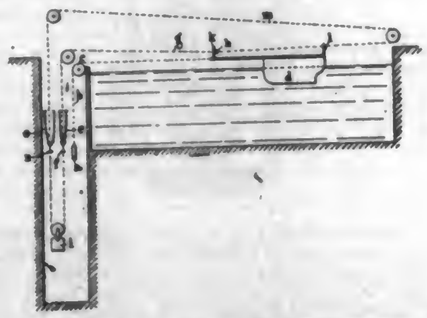


4. In a turbine such as described, a casing, a runner, a driving shaft having a collar thereon, a discharge head having an opening with a shoulder and a bushing therein abutting on said shoulder in which said shaft is journaled, said collar bearing against the opposite end of said bushing to take the end thrust in one direction and a removable member secured to said head bearing constantly against the opposite side of said collar to take the end thrust in the opposite direction, substantially as described.

5. In a turbine such as described, a casing, a runner, a driving shaft having a collar thereon, a feed head, a spider removably secured to the discharge end of the casing and having oppositely extending hubs, said hubs having an opening with a shoulder and a bushing therein abutting on said shoulder forming a bearing for the shaft, a reduced portion on said hub, a cap secured thereto and spacing rings between the bushing and collar and between the collar and cap, substantially as described.

[Claims 6 to 15 not printed in the Gazette.]

978,090. SHIP-MODEL TESTING. HERMANN WELLENKAMP, Kiel, Germany. Filed Apr. 3, 1908. Serial No. 424,994.



1. In tank testing appliances of the character described, means adapted to engage the model tested for imparting an initial velocity thereto, said means having limited duration of action a weight, and means in connection therewith for moving the model so as to maintain its initial velocity during the period of measurement after the means for imparting initial velocity has ceased to act.

2. In tank testing appliances of the character described, a weight having limited travel for imparting an initial velocity to the model tested, means whereby said weight may be secured to said model and means for limiting the travel of said weight, together with a lesser weight provided with means for securing the same to the model and adapted to maintain the initial velocity of the latter during the period of measurement after the first weight has ceased to act.

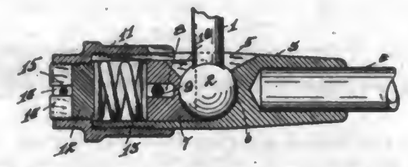
3. In tank testing appliances of the character described, a weight having limited travel for imparting an initial velocity to the model tested, means for securing said weight to the said model and means for automatically eliminating the action of said weight after its preliminary work in combination with means for maintaining, during the period of measurement, the initial velocity thus imparted to the model.

4. In tank testing appliances of the character described, a weight having limited travel for imparting an initial velocity to the model tested, means whereby said weight may be secured to said model and means for limiting the travel of said weight, together with a lesser weight provided with means for securing the same to the model and adapted to maintain the initial velocity of the latter during the period of measurement after the first weight has ceased to act, together with a tuning fork chronograph, a drum upon the circumference of which said chronograph makes its record and means for rotating said drum at a speed governed by the speed of said model.

5. In tank testing appliances of the character described, a weight having limited travel for imparting an initial velocity to the model tested, means whereby said weight may be secured to said model and means for limiting the travel of said weight, together with a lesser weight to maintain the initial velocity of the model during the period of measurement after the first weight has ceased to act, said model being provided with a propeller shaft and means for connecting said lesser weight operatively thereto.

[Claim 6 not printed in the Gazette.]

978,091. BALL-AND-SOCKET JOINT. LOUIS WESSEL, Cincinnati, Ohio, assignor to The Cincinnati Ball Crank Company, Cincinnati, Ohio, a Corporation. Filed Nov. 25, 1907. Serial No. 403,700.

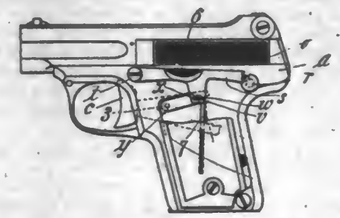


In a ball and socket joint, a sleeve, two socket members in the sleeve, one of which is longitudinally movable, the sleeve and movable socket member each provided with a slot, an arm having a ball end engaging between said socket members with the arm projecting through said slots to limit the movement thereof, a pin projecting through said sleeve and a notch in the movable socket member to hold the same against rotation, a spring for exerting tension against said movable socket member, and a combined cap and adjusting plug adjustable on the end of the sleeve to adjust the tension of said spring, substantially as described.

978,092. SAFETY-STOP FOR AUTOMATIC PISTOLS. JOSEPH H. WESSON, Springfield, Mass. Filed June 18, 1909. Serial No. 503,032.

1. In a firing mechanism for fire arms, the combination with the trigger, the hammer, and the sear, of a safety device comprising separate locking means for the trigger and for the hammer, and operating means including a lever controlled independently of the trigger, for simultaneously freeing the separate locking means to permit the operation of the trigger.

2. In a firing mechanism for fire arms, the combination with the trigger, the hammer, and the sear, of means for locking the hammer comprising a rotatable stud, means for locking the trigger against operative movement, and a lever adapted to actuate the said locking means simultaneously to release both the hammer and the trigger.



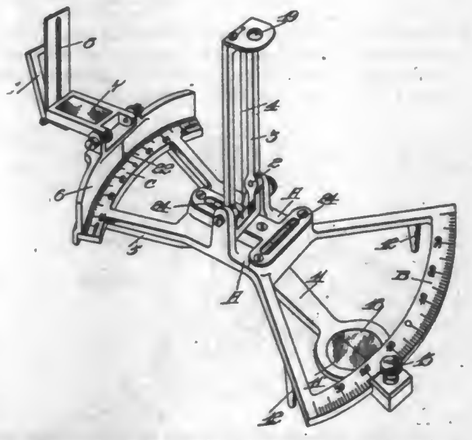
3. In a firing mechanism for fire arms, the combination with the frame, the trigger, the sear, and the hammer, of an element carried by said trigger for locking engagement with said frame, an element mounted to normally obstruct the movement of said hammer, and a manually movable device in operative engagement with both of said elements to unlock said trigger and said hammer for firing.

4. In a firing mechanism for fire arms, the combination with the frame, the trigger, the sear and the hammer, of a manually operated device pivoted to the side of said frame, a stud carried by said frame to obstruct said hammer and having an operative engagement with said pivoted device whereby to release said hammer, a pawl carried by said trigger to normally lock the latter on said frame and operatively connected to said pivoted device to release said trigger at the instant that said hammer is unlocked.

5. In a firing mechanism for fire arms, the combination with the frame, the trigger, the sear, and the hammer, of a manually operated device pivoted to the side of said frame, a pawl pivoted to said trigger, and formed to be locked against said frame, a pin and slot connection between said pivoted device and said pawl, a stud carried by said frame for rotary movement, a spur carried by said hammer to be locked behind said stud, a rack and pinion connection between said pivoted device and said stud, and means to normally maintain said pivoted device upraised to hold said trigger and said hammer in locked position.

[Claims 6 and 7 not printed in the Gazette.]

978,093. AZIMUTH INSTRUMENT. ARTHUR F. H. WEULE, San Francisco, Cal. Filed Mar. 30, 1910. Serial No. 552,343.



1. An azimuth instrument consisting of a frame with segmental graduated ends in a horizontal plane, said sections having a common center, a vertically disposed sight wire located at said center in a plane at right angles to the plane of said end segments, and a movable member pivoted concentrically with the end segments and having

a radial cross-hair arranged in a plane coincident with said sight wire, and a frame turnable on horizontal pivots and carrying said sight wire.

2. An azimuth instrument consisting of a frame with segmental graduated ends in a horizontal plane, said sections having a common center, a verticaly disposed sight wire arranged at said center in a plane at right angles to the plane of said end segments, a supporting frame for the sight wire, a movable member pivoted concentrically with an end segment and having a vertical flange concentric with said end segment.

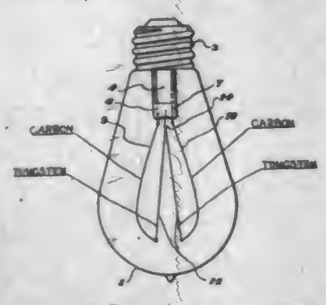
3. An azimuth instrument consisting of a frame with segmental graduated ends in a horizontal plane, said sections having a common center, a vertically arranged sight wire disposed at said center in a plane at right angles to the plane of said end segments, means for supporting said sight wire, a movable member pivoted concentrically with the end segments and having a radial cross-hair arranged in a plane coincident with said sight wire, a movable member pivoted concentrically with the end segments and having a vertical flange, a mirror carried by the flange and a vertically slotted sight member on the mirror with a slot in the plane of said sight wire.

4. An azimuth instrument consisting of a frame with segmental graduated ends in a horizontal plane, said sections having a common center, a vertically arranged sight wire disposed at said center in a plane at right angles to the plane of said end segments, means for supporting said sight wire, a movable member pivoted concentrically with the end segments and having a radial cross-hair arranged in a plane coincident with said sight wire, a second movable member pivoted concentricaly with said end segments and having a flange, a mirror carried by the flange, a vertically slotted sight member on the mirror with a slot in the plane of said sight wire, and a mask for said slotted sight member.

5. An azimuth instrument consisting of a frame having two end segments having a common center and each segment graduated from its middle to each side, a sight wire disposed at said center in a plane at right angles to the plane of the segments, means for supporting said sight wire, a frame adapted to swing under one of said segments and having means for locking it thereto and carrying a radial cross-hair which is arranged in the same plane as the sight wire, and a flange concentric with the other end segment and projecting thereabove and having a graduation mark alinable with the graduations on said end segment.

[Claims 6 to 8 not printed in the Gazette.]

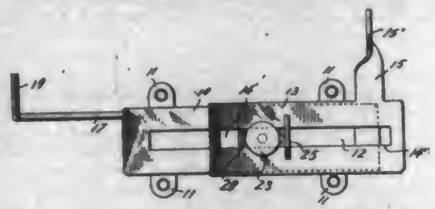
978,094. INCANDESCENT ELECTRIC LAMP. ALBERT A. WILKINS, Middleton, Mass., assignor of one-half to Frederick R. Campbell and Charles E. Campbell, Lynn, Mass. Filed Sept. 13, 1909. Serial No. 517,358.



1. An incandescent electric lamp the light giving element of which is composed of alternate sections having positive and negative co-efficients of resistance, substantially as described.

2. An incandescent electric lamp the light giving element of which is composed of sections of carbon and tunsten arranged in series, substantialy as described.

978,095. CURTAIN-HANGER. OMER A. WILLEY, Lawrence, Mass. Filed Apr. 7, 1910. Serial No. 554,060.



In a device of the class described, the combination with a casing having a longitudinally extending slot therein, of a plate U-shaped in cross section reciprocally mounted on said casing having a longitudinal slot therein to register with the slot in said casing, an upwardly extending bracket carried by said plate the upper terminal of said bracket being offset outwardly and a wire bent to conform with the shape of the casing and be retained therein, a portion of said wire projecting from said casing having the outer terminal thereof offset and bent upwardly to form a bracket adapted to support one terminal of a lace curtain pole, a clamping plate reciprocally mounted in said casing provided with a threaded stud projecting through said registering slots, and longitudinal grooves adapted to engage the portion of the wire within the casing, a nut adapted to engage said threaded stud and retain the clamping plate, the wire, and the plate in various positions, with respect to said casing, and a bracket carried by said clamping plate projecting through said slot, said bracket being located below the bracket carried by said plate, and provided with a channel on each side thereof in which said plate reciprocates.

978,096. DETACHABLE SPINDLE. CHARLES B. WILSON, Bartow, Fla. Filed Apr. 5, 1910. Serial No. 553,516.

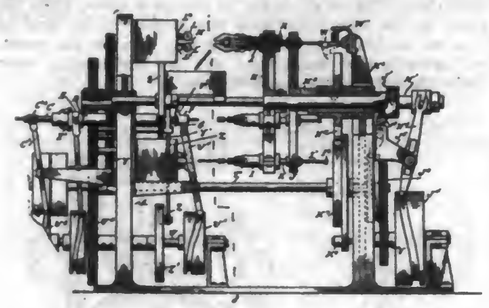


An axle adapted to be secured to the lower side of an axle bed and having its opposite end portions tapered and extending in advance of the outer ends of the bed and terminating in a cone-shaped portion, and provided with oppositely positioned longitudinal ribs, in combination with a spindle having a tapered bore in one end to receive one of the tapered ends of the axle, the said bore having oppositely positioned slots to receive the said ribs, the said bored end portion being insertible into the space formed by the undercut and tapered end portion of the axle and a tapered pin passing through alining openings in the axle and spindle and serving to prevent endwise movement of the spindle on the axle.

978,097. TWIST-DRILL MACHINE. ABRAM D. WILT, Jr., Detroit, Mich. Filed Oct. 29, 1906. Serial No. 341,109.

1. The combination with a work carrier having means for holding a plurality of separate blanks, of a plurality of groove cutters at different stations set for successive cuts upon the work, and mechanism operating correspondingly at each station for presenting the work to cause the successive cutters to trace the same spiral path in relation to the work, and to successively deepen the groove therein.

2. The combination of means for carrying a plurality of separate blanks to a plurality of stations, groove cutters at different stations set for successive cuts, and mechanism operating simultaneously and correspondingly at each station for presenting the work to cause the successive cutters to trace the same spiral path upon the work presented thereto.



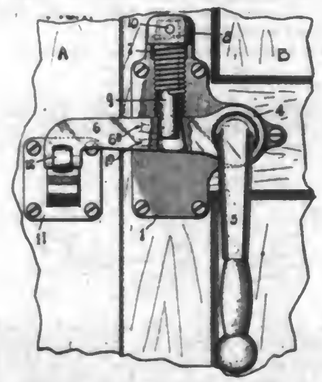
3. The combination of means for carrying a plurality of separate blanks to a plurality of stations, groove cutters in fixed location at different stations set for successive cuts, and mechanism operating simultaneously and correspondingly at the different stations for feeding the work through the same spiral path in relation to the successive stationary cutters.

4. The combination of means for periodically advancing a stock bar, means operating while said bar is in fixed position for dressing the end thereof and severing the dressed portion, a work holder for engaging the severed blank, a plurality of groove cutters located at different stations and set for successive cuts, and means for intermittently moving said work holder to the successive stations, and means for moving the work while at said stations to present the work correspondingly to trace the same spiral path in relation to the successive cutters.

5. The combination with a cutter and a work holder, of means for moving the one in relation to the other, comprising a master spiral and a coöperating sleeve, and means for differentially actuating the same in a direction of the axis of the spiral whereby a spiral trace of the cutter upon the work is produced.

[Claims 6 to 16 not printed in the Gazette.]

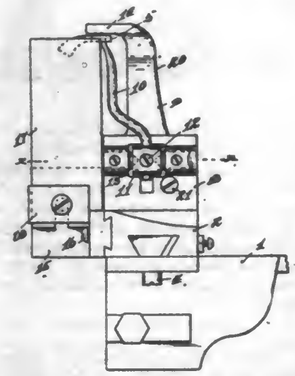
978,098. DOOR-FASTENER. EDWARD J. WIRFS, Memphis, Tenn. Filed Apr. 18, 1910. Serial No. 556,090.



1. In a door fastener, a pivotally mounted latch arm, a rod surmounting said latch arm and loosely seated in the latch arm, a spring surrounding said rod and serving to depress the latch arm, and a keeper adapted to receive the free end of said latch arm.

2. In a door fastener, the combination of a door plate provided at its upper end with a spring seat member, a latch arm pivotally fitted to said door plate, a rod mounted at its upper end in said spring seat member and loosely fitted at its lower end in said latch arm, a spring surrounding said rod and interposed between said arm and said spring seat member, and a keeper adapted to receive the free end of said latch arm.

978,099. ATTACHMENT FOR SOLE-SEWING MACHINES. CHARLES WOLENTARSKY, Cincinnati, Ohio, assignor of one-fourth to Charles H. Krippendorf, one-fourth to William Fowler, and one-fourth to A. C. Oppenheimer, Cincinnati, Ohio. Filed Apr. 22, 1908. Serial No. 428,641. Renewed Oct. 13, 1910. Serial No. 586,941.

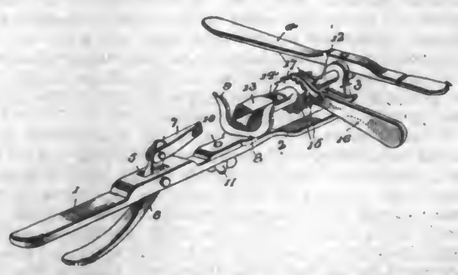


1. In an attachment for a sole sewing machine in combination with the table, a carrier, a cutter and guide therefor curved inwardly and forwardly with reference to the table, and a shield adjustably secured to the carrier, substantially as described.

2. In an attachment of the class described, a carrier arm, a guide on the inside thereof, a set screw having its head on the outside of the arm, a nut on the inside of the arm engaging the screw for securing the guide to the arm and a pin on the guide engaging the nut and holding it stationary, whereby the nut may be tightened by operating the screw from the front of the arm, substantially as described.

3. In a shoe sewing machine, a work support, a carrier, a cutter and a guard mounted on said carrier below the work support, said cutter and guard from their point of attachment to the carrier to the work support being curved in substantially parallel lines to conform to the shape of a shoe upper in position on the machine, permitting a free presentation of the shoe, so that the needle will pass vertically through the sole at the shank of the shoe.

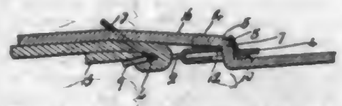
978,100. BOLT-HOLDER AND WRENCH. CHARLES [illegible] WOOD, Danville, Ill., assignor of one-half to Orville A. Gunnell, Danville, Ill. Filed June 9, 1909. Serial No. 501,002.



A bolt holder and wrench comprising a handle, a lever pivotally connected to the handle, an arm connected to the lever adapted to engage a bolt, a plate upon the handle adapted to engage the felly of the wheel, a bar connected

to the handle adapted to engage the spokes of the wheel, a shaft journaled upon the handle, a head on the shaft adapted to engage the nut, ratchet wheels mounted upon the shaft, the teeth of which project in opposite directions, a lever mounted upon the shaft between the wheels having pawls thereon adapted to engage the ratchet wheels for causing the shaft to be rotated in either direction for screwing or unscrewing the nut.

978,101. BUCKLE. IRVIN H. ABELL, East Hampton, Conn., assignor to George W. Goff, East Hampton, Conn. Filed Apr. 25, 1910. Serial No. 557,478.



A slide buckle having a frame comprising side bars, a front, a rear and a transverse bar, said front bar formed with a lip projecting upward from its inner edge, said lip formed with a transverse gripping rib, a slide beneath said frame and having a forward bar and a rear bar extending up through the frame and resting upon the surface thereof, the gripping or forward edge of the slide arranged in a plane above the plane of the frame and coacting with said gripping rib to clamp a strap passing between them.

978,102. PRUNING IMPLEMENT. JOHN A. ALLEN, Painted Post, N. Y. Filed June 17, 1910. Serial No. 567,514.



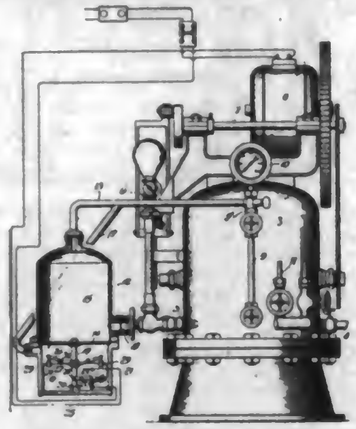
A pruning implement comprising a pole having a bifurcated end portion, a saw mounted to reciprocate therein, a rod secured to the saw and passing through the handle and providing the saw operating means, an arcuate member carried by the pole at the bifurcated end thereof and extending in the lengthwise direction of the pole and having bifurcated portions at either end embracing the saw blade, said bifurcated portions providing guiding means for the saw, a diagonally disposed member carried by the pole adjacent the saw cutting edge and providing a means for directing to the saw the limb to be severed, said directing member being bifurcated adjacent the pole to permit of the movement of the saw.

978,103. CARBONATING APPARATUS. CHARLES L. BASTIAN, Chicago, Ill. Filed Nov. 1, 1909. Serial No. 525,623.

1. In a carbonating apparatus, the combination of a carbonating tank, means for supplying gas to the tank, means for supplying water to the tank, a flexible diaphragm positioned to be flexed when the water in the tank reaches a predetermined level, and means connected with and disposed beneath the diaphragm and adapted to be actuated by said diaphragm for controlling the operation of said water supplying means.

2. In a carbonating apparatus, the combination of a closed carbonating tank, means for supplying gas to the tank, means for supplying water to the tank, a flexible diaphragm adapted to be flexed when the water in the tank reaches a predetermined level, means disposed beneath and adapted to be operated by said diaphragm for controlling the operation of said water supplying means, and means establishing communication between the carbonating tank above the level of the water therein and the chamber beneath said diaphragm.

3. In a carbonating apparatus, the combination of a carbonating tank, means for supplying water and gas to the tank, and means for controlling the water supply comprising a diaphragm adapted to be flexed in one direction by the weight of the water when the predetermined level is reached in the tank to shut off the water supply and adapted to return to neutral position when the water in the tank falls below the predetermined level to turn on the water supply connections between the chamber beneath said diaphragm and the carbonating tank above the level of the water therein.



4. In a carbonating apparatus, the combination of a stationary carbonating tank, means for supplying gas to the tank, a pump for supplying water to the tank, an electric motor for operating the pump, an electric circuit, a switch in said circuit, a diaphragm adapted to be operated by the weight of the water and connections including a pivoted lever between said diaphragm and said switch to operate said switch.

5. In a carbonating apparatus, the combination of a carbonating tank, means for supplying gas to the tank, a pump for supplying water to the tank, an electric motor for operating the pump, an electric circuit, a switch in said circuit, a diaphragm connected with said switch and adapted to throw the same to open position when the water in the tank reaches a predetermined level and to throw the switch to closed position when the water in the tank falls below said level and means establishing communication between the upper part of the tank and the chamber beneath said diaphragm.

[Claims 6 to 9 not printed in the Gazette.]

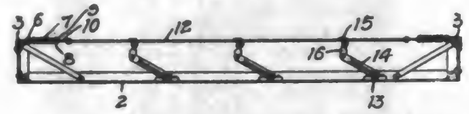
978,104. VEHICLE-SEAT LOCK. EDWARD M. BAUKNECHT, Martins Ferry, Ohio. Filed Sept. 15, 1909. Serial No. 517,853.



1. In a device of the class described, a sideboard, a cleat, a hanger carried by the cleat and adapted to be engaged with the said sideboard, a lock mounted upon the sideboard, a spring-pressed latch member, a pivoted keeper, spring means exerting its tension against the said latch member, said latch member being formed for engagement with the said keeper to hold it against pivotal movement, and means upon the keeper to engage the latch member to limit the pivotal movement of the keeper in one direction.

2. A seat lock for vehicles comprising a member adapted to be engaged with the vehicle and having a recess formed therein, a pivoted keeper supported by the member, a latch member engaging the keeper to hold it normally against pivotal movement, a spring located in the said recess and exerting its tension against the said latch member, and spring means exerting its tension against the keeper to move it on its pivot into released position when the latch member is released from the keeper.

978,105. COUCH AND BED SPRING EQUALIZER. GROVE R. BECKWITH and JEREMIAH W. BACON, Minneapolis, Minn., assignors to Self Equalizer Bed Company, Minneapolis, Minn., a Corporation of Minnesota. Filed Dec. 23, 1908. Serial No. 468,992.



1. The combination, with a frame and a spring surface thereon, of arms supported on said frame, an equalizer arranged above said spring surface and links pivotally connecting said arms with said equalizer.

2. The combination, with a frame, of a spring surface mounted thereon, an equalizer bar extending transversely of said surface, arms having pivotal supports on said frame on each side thereof, and links pivotally connecting said arms with the ends of said bar, substantially as described.

3. An equalizer for bed springs, couches and the like, comprising bars extending transversely with respect to the longitudinal axis of the springs and adapted to equally distribute the load thereon, shafts journaled beneath said springs, arms mounted on said shafts and having pivotal connections with said bars, and said arms being normally inclined with respect to the plane of said springs.

4. An equalizer for bed springs, couches and the like, comprising a spring surface, an equalizer arranged above the same, arms pivotally supported beneath said equalizer and links pivotally connecting said arms with said equalizer, for the purpose specified.

5. A spring surface for beds, couches and the like having non-yielding middle portions and yielding end portions attached to said middle portions at one end and having fixed connections at their other end, and an equalizer bar arranged to bear on said non-yielding portions, said bar resting freely on the top of said non-yielding portions and distributing the load evenly thereon.

[Claims 6 to 11 not printed in the Gazette.]

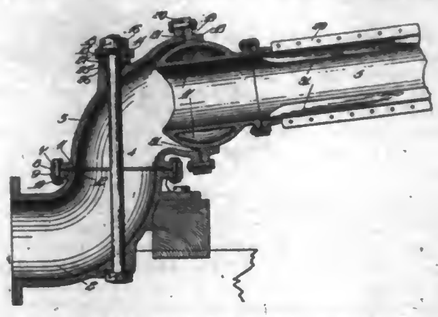
978,106. POCKET SAFETY DEVICE. IVAR G. BERGENSTROHLE, Worcester, Mass. Filed Oct. 12, 1909. Serial No. 522,342.



1. As an article of manufacture, a watch guard, comprising a frame made of wire having horizontal means on the top for engaging the watch stem, parallel legs extending downwardly therefrom uniformly spaced apart throughout their length, and adapted to lie along the surface of a watch, an arm extending upwardly and outwardly from the bottom of each of the legs, a pad on the upper ends of said arms, and a sheet metal strip connecting the lower ends of said legs.

2. As an article of manufacture, a device for retaining articles in the pocket comprising a downwardly extending frame having means thereon for securing it to the article to be retained, two integral flexible arms extending upwardly and outwardly from the bottom of the frame, and a rubber pad secured to the ends of said arms in position to engage the outer wall of the pocket.

978,107. HYDRAULIC GIANT. SENECA L. BERRY, Sunnyvale, Cal. Filed Jan. 24, 1910. Serial No. 539,808.



1. In a hydraulic giant, the combination of an elbow section having a socket, a nozzle with a ball to fit the socket, the socket having an outside annular flange, a ring bolted to the flange with a packing secured therebetween, which packing bears on the periphery of the ball, the ball having recesses and pivot pins fitting said recesses and screwing into said ring which is secured to the flange, and U-bolts passed through the ring and flange and embracing said pivot pins.

2. In a hydraulic giant, the combination of an elbow section having a socket, a nozzle with a ball to fit the socket, the socket having an outside annular flange, a ring bolted to the flange with a packing secured therebetween, which packing bears on the periphery of the ball, the ball having recesses and pivot pins fitting said recesses and screwing into said ring which is secured to the flange, U-bolts passed through the ring and flange and embracing said pivot pins, and straps on the outer ends of said pins and secured to a thrust-flange on the nozzle.

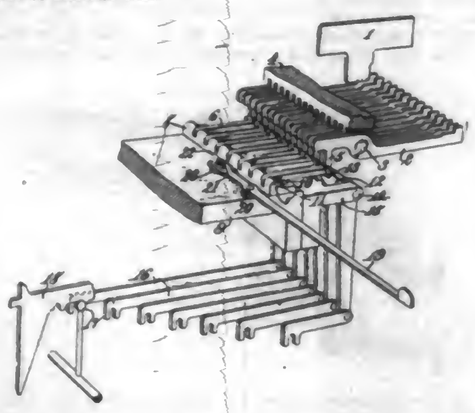
3. In a hydraulic giant and in combination with the elbow section thereof, a nozzle made up of a plurality of longitudinal cylindrical segments with outwardly projecting radial flanges, said flanges bolted together, the interior of said nozzle devoid of projecting rivet heads and metal strips secured between the flanges and forming radial vanes within the nozzle.

978,108. FONT-SELECTING MECHANISM FOR MONOLINE COMPOSING-MACHINES. WILLIAM E. BERTRAM, Brooklyn, N. Y., assignor to Mergenthaler Linotype Company, New York, N. Y., a Corporation of New York. Filed July 6, 1909. Serial No. 506,087.

1. In a composing machine, the combination of a plurality of series of gates for controlling the delivery of matrices of different fonts, one series of gates for one font being arranged in alternating relation with the series for another font, a series of devices controlling the delivery movements of said gates, a series of releasing devices for said gate controlling devices, and font selecting devices interposed between said gate controlling and releasing devices and capable of occupying different positions relatively to the gate controlling devices, each selecting device having relatively offset portions capable of being positioned to coöperate with and trip the gate controlling devices for one or another font.

2. In a composing machine, the combination of a plurality of series of gates for controlling the delivery of matrices of different fonts, one series of gates for one font being arranged in alternating relation with the series for another font, a series of devices for controlling the delivery movements of said gates, a series of releasing devices for said gate controlling devices, and font selecting devices interposed between said gate controlling and re-

leasing devices and adjustable relatively to the gate controlling devices, each selecting device having laterally stepped tripping portions capable of being positioned to coöperate with and trip the gate controlling devices for one or another font.



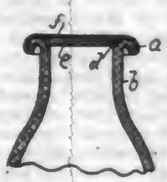
3. In a composing machine, the combination of a plurality of series of gates for controlling the delivery of matrices of different fonts, a series of detents for controlling the delivery movements of said gates, one series of gates and detents for one font being arranged in alternating relation to the gates and detents of another series and for another font, a series of detent levers for tripping said detents, and font selecting devices shiftable in a direction parallel to the plane of movement of the detents and having differently positioned detent tripping portions capable of being positioned to coöperate with and trip the detents of one or another series.

4. In a composing machine, the combination of a plurality of series of gates for controlling the delivery of matrices of different fonts, a plurality of series of detents for controlling the delivery movements of said gates, a series of detent levers, and font selecting means interposed between said detents and the detent levers and embodying pawls having detent tripping portions arranged in stepped relation, the relation between said pawls and detents being variable whereby the detents of any one series may be tripped by the detent levers.

5. In a composing machine, the combination of a plurality of series of gates for controlling the delivery of matrices of different fonts, detents individual to said gates for controlling the delivery movements thereof, a series of detent levers, and font selecting means interposed between said detents and detent levers, said selecting means embodying a series of pawls, each pawl having a plurality of detent tripping portions arranged in laterally stepped relation, the pawls being shiftable longitudinally whereby the series of detent levers may be operatively associated with one or another series of detents.

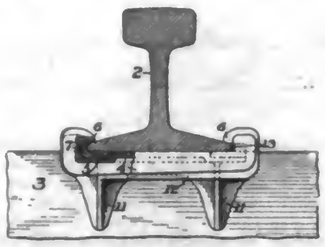
[Claims 6 and 7 not printed in the Gazette.]

978,109. COVER-FASTENING DEVICE FOR BOTTLES. LOUIS BLUMENTHAL, Brooklyn, N. Y. Filed Aug. 27, 1910. Serial No. 579,230.



A device of the kind described, comprising a bottle having the upper part of its mouth formed with a downwardly extending flange to form an annular groove, said groove being located under the mouth and between the neck of the bottle and the flange, an annular shoulder situated in the mouth of the bottle, a cover resting on the shoulder, and an outer flexible cover arranged over the inner cover, said cover extending over the flange while its end portion is pressed into and thereby clamped in the groove.

978,110. RAIL-ANCHOR. JACOB J. BYERS, Chicago, Ill., assignor to National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Filed Apr. 25, 1910. Serial No. 557,530.



1. A rail anchor comprising two parts or sections having a longitudinal wedging engagement with each other at each side of the rail base and at the outer edges thereof and arranged to grip the base of the rail, each section having at one side means for engagement with the base flange of the rail, and at the opposite side a portion which forces the other section into gripping engagement with the rail; substantially as described.

2. A rail anchor, comprising two parts or sections, each extending transversely underneath the rail base, each of said parts or sections having means for engaging one edge of a rail base, and the sections having a longitudinal wedging engagement with each other at the outer edges of the rail base; substantially as described.

3. A rail anchor comprising two parts or sections, each extending transversely underneath the rail base one of which is arranged to slide longitudinally upon the other, and having coacting wedging surfaces in the horizontal plane of the rail base, each of said sections having a rail base gripping portion, and one of said sections having a tie-engaging portion; substantially as described.

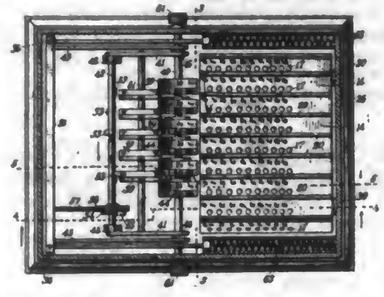
4. A rail anchor comprising two parts or members, each of said members having at one edge a wedge-shaped lip or flange, and at the other edge an overhung flange formed with a wedging or tapered outer wall, the overhung flange of one section being arranged to engage the raised lip or flange of the other section; substantially as described.

5. A rail anchor comprising two parts or members, each of said members having at one edge a wedge-shaped lip or flange, and at the other edge an overhung flange formed with a wedging or tapered outer wall, the overhung flange of one section being arranged to engage the raised lip or flange of the other section, and one of said raised ribs or flanges having a serrated inner rail-gripping surface; substantially as described.

[Claim 6 not printed in the Gazette.]

978,111. ADDING-MACHINE. WILLIAM H. CALLAHAN. Utica, N. Y. Filed Feb. 6, 1909. Serial No. 476,853.

1. An adding machine, comprising a plurality of rotary registering members disposed in alined position; a plurality of reciprocable selective members disposed in parallel arrangement, said selective members having manipulating devices formed thereon in numerical series order; a plurality of transmission mechanisms to operatively connect said registering and selective members when said selective members are arranged in composite order; a conveyer to support said selective members in sliding relation to permit lateral movement of said members on said conveyer; a resetting mechanism arranged to return the said selective members to their initial position; a guide member disposed in parallel arrangement with said manipulating devices and to the right of said registering members, said guide member having an extension toward said registering members adapted to dispose the said selective members in line with the first of said registering members when said manipulating devices are carried to the end of said extension; and a carrying mechanism connecting said registering members to move each of said members one unit space simultaneously with each complete revolution of the adjacent member disposed to the right.



2. An adding machine, comprising a plurality of rotary registering members disposed in alined position; a plurality of reciprocable selective members disposed in parallel arrangement, said selective members having manipulating devices formed thereon in numerical series order; a plurality of transmission mechanisms to operatively connect said registering and selective members when said selective members are arranged in composite order; a conveyer to support said selective members in sliding relation to permit lateral movement of said members on said conveyer; a resetting mechanism arranged to return the said selective members to their initial position; a guide slot having an elongated extension disposed at the right of said registering members and in parallel arrangement with said manipulating devices, said slot having a lateral branch extended toward said registering devices whereby the said selective members are disposed successively in line with the first of said registering members; and a carrying mechanism connecting said registering members to move each of said members one unit space simultaneously with each complete revolution of the adjacent member disposed to the right.

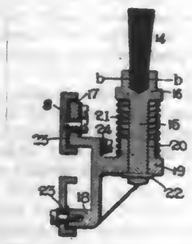
3. An adding machine, comprising a plurality of rotary registering members disposed in alined position; a plurality of reciprocable selective members disposed in parallel arrangement, said selective members having manipulating devices formed thereon in numerical series order; a plurality of transmission mechanisms to operatively connect said registering and selective members when said selective members are arranged in composite order; a conveyer to support said selective members in sliding relation to permit lateral movement of said members on said conveyer; a resetting mechanism arranged to return the said selective members to their initial position; a guide member disposed in parallel arrangement with said manipulating devices and to the right of said registering members, said guide member having an extension toward said registering members adapted to dispose the said selective members in line with the first of said registering members when said manipulating devices are carried to the end of said extension; a carrying mechanism connecting said registering members to move each of said members one unit space simultaneously with each complete revolution of the adjacent member disposed to the right; and a resetting mechanism for said registering devices operable at will for rotating each of said registering members to their initial position.

4. An adding machine, comprising an endless conveyer belt disposed in transverse arrangement; rotary members for supporting said belt; a plurality of selective bars slidably mounted on said belt to be laterally extended therefrom, said bars having a plurality of manipulating devices formed thereon in numerical series order, said manipulating devices on each bar being normally alined on said coinveyer; a plurality of rotary registering members disposed in alined position and rotatively mounted in the planes of extension of said bars; and a framing member having a guide slot provided with a vertical extension equal in length to and disposed above said manipulating devices located at the right of said registering members, said slot having a branch extended toward said registering members.

5. An adding machine, comprising an endless conveyer belt disposed in transverse arrangement; rotary members for supporting said belt; a plurality of selective bars slidably mounted on said belt to be laterally extended therefrom, said bars having a plurality of manipulating devices formed thereon in numerical series order, said manipulating devices on each bar being normally alined on said conveyer; a plurality of rotary registering members disposed in alined position and rotatively mounted in the planes of extension of said bars; and a cover for said selective and registering members provided with a guide slot having a vertical extension in line with said manipulating devices, said slot being located to the right of said registering members, and having at the lower end a branch extended toward said registering members, said cover being further provided with openings arranged above said registering members to expose the characters on the periphery thereof when so supplied.

[Claims 6 to 11 not printed in the Gazette.]

978,112. TRANSPORTATION SYSTEM. WILLIAM C. CARR, Buffalo, N. Y. Filed Dec. 11, 1908. Serial No. 466,998.



1. The combination with a bracket, of a brush composed of a holder having a shank slidably mounted in said bracket, and an enlarged head provided with a socket, and a series of sections of spring wire having their lower terminals rigidly mounted in the socket of said holder.

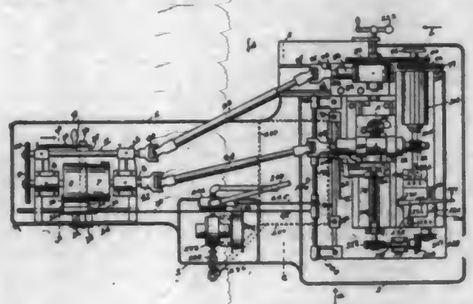
2. The combination with a bracket having upper and lower members adapted to be fastened to a car, and a lateral projecting member provided with a vertical opening, of a brush composed of a holder having a shank slidably mounted in the vertical opening in the lateral member of the bracket, and an enlarged head provided with a top socket and a series of spring wire sections arranged in a bunch with their lower ends rigidly fastened in the socket of the enlarged portion of the holder.

3. The combination with a bracket having a lateral projecting member provided with a vertical opening and a vertical tubular flange above said vertical opening, of a brush composed of a holder having a shank movably mounted in the vertical opening in the lateral member of the bracket, and an enlarged head provided with a top socket, a series of spring wire sections arranged in a bunch with their lower ends rigidly fastened in the socket of the enlarged portion of the holder, and a coil spring having its lower end fitted around the vertical tubular flange and its upper end bearing against the enlarged head of the brush holder.

4. The combination with a bracket having a vertical opening, of a brush composed of a holder having a shank slidably mounted in the vertical opening in the bracket and an enlarged head provided with a socket, a series of spring wire sections arranged in a bunch with their lower

ends rigidly fastened in the socket of the enlarged portion of the holder, and a coil spring loosely surrounding the shank of the holder with its respective ends bearing against the bracket and the enlarged head of the holder.

978,113. HOBBING GEAR-CUTTER. PLINY CATUCCI, Newark, N. J., assignor, by mesne assignments, to The Meisselbach-Catucci Manufacturing Company, a Corporation of New Jersey. Filed Jan. 4, 1908. Serial No. 409,277.



1. In a gear cutter, the combination of a rotating cutter spindle, a cutter mounted thereon, a work spindle in operative relation to said cutter spindle, supports for said spindles, driving mechanism for simultaneously rotating said spindles, feeding mechanism for advancing one of said spindles relatively to the other spindle, a rock shaft having an arm thereon for directly engaging the support of the advancing spindle, said rock shaft having a connection to said driving mechanism for automatically stopping the same at a predetermined position of said advancing spindle.

2. In a hobbing gear cutter, the combination of a cutter spindle with a hobbing cutter mounted thereon, a work spindle substantially at right-angles to said cutter spindle, feeding mechanism for advancing said cutter spindle in a path parallel to said work spindle, driving mechanism for said spindles consisting of a drive shaft directly connected to said cutter spindle, a driven shaft parallel to said drive shaft and connected by intermediate change gearing to the said work spindle, means for adjusting said driven shaft toward and away from said drive shaft, and change gearing connecting said shafts whereby, they are constrained to rotate at a predetermined relative rotational ratio and thereby produce a predetermined relative rate of rotation between said cutter and drive spindles respectively.

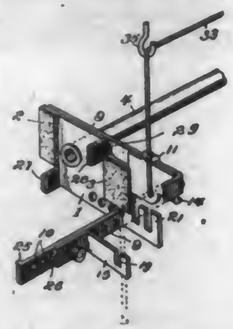
3. In a hobbing gear cutter, the combination of cutter and work spindles respectively mounted at right-angles to each other on suitable supports, drive mechanism for said spindles consisting of a drive shaft mounted in fixed bearings and a driven shaft mounted parallel to and adjustable toward and away from said drive shaft, intermeshing change gearing mounted upon said shafts for producing a predetermined relative rotational ratio between them, a flexible shaft directly connecting said drive shaft to said cutter spindle and change gear connection between the driven shaft and the work spindle.

4. In a hobbing gear cutter, the combination of cutter and work spindles respectively mounted at right-angles to each other on suitable supports, drive mechanism for said spindles consisting of a drive shaft mounted in fixed bearings and a driven shaft mounted parallel to and adjustable toward and away from said drive shaft, intermeshing change gearing mounted upon said shafts for producing a predetermined relative rotational ratio between them, a flexible shaft directly connecting said drive shaft to said cutter spindle and change gear connection between the driven shaft and the work spindle, feed mechanism actuated by said work-spindle drive mechanism, for advancing the cutter spindle in a path parallel to the axis of the work spindle.

5. In a hobbing gear cutter, the combination of cutter and work spindles respectively mounted at right-angles to each other on suitable supports, drive mechanism for said spindles consisting of a drive shaft mounted in fixed bearings and a driven shaft mounted parallel to and adjustable toward and away from said drive shaft, intermeshing change gearing mounted upon said shafts for producing a predetermined relative rotational ratio between them, a flexible shaft directly connecting said drive shaft to said cutter spindle and change gear connection between the driven shaft and the work spindle, feed mechanism actuated by said work-spindle drive mechanism, for advancing the cutter spindle in a path parallel to the axis of the work spindle, and mechanism actuated by the advancement of the cutter spindle support for stopping the rotation of said drive shaft..

[Claims 6 to 28 not printed in the Gazette.]

978,114. WINDOW-SHADE AND LACE-CURTAIN SUPPORT. HERBERT F. COOK, Colorado Springs, Colo. Filed Mar. 26, 1909. Serial No. 485,036.



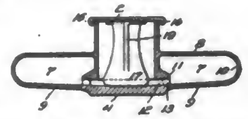
1. A support of the class described comprising a pair of shoes, an extension bar connecting said shoes and adjustable in length to vary the distance between the shoes, and flat shoulders projecting at right angles from the outer faces of the shoes and arranged at different elevations to enable them to be moved into and out of engagement with the parting beads of the window frame by a rocking movement of the shoes.

2. A support of the class described comprising a pair of shoes, means connecting said shoes, shoulders projecting from the outer faces of the shoes and arranged in parallel vertical planes and adjacent to the upper and lower sides of the shoes to enable them to be moved into and out of clamping engagement with the parting beads of the window frame by rocking movement, and means for rocking the shoes.

3. A support of the class described comprising a pair of shoes, a telescoping bar connecting said shoes, shoulders projecting from the outer faces of the shoes and arranged in parallel vertical planes adjacent to the upper and lower sides of the shoes to enable them to be moved into and out of frictional engagement with the parting beads of the window frame by a rocking movement of the shoes, and curtain supporting arms disposed in such relation to the shoes as to maintain the latter in clamping engagement with the parting beads of the window frame when weight is placed on said arms.

4. A support of the class described comprising a pair of shoes, an extension bar connecting said shoes, and shoulders projecting at right angles from the outer faces of the shoes and arranged in parallel vertical planes and located adjacent to the upper and lower sides of the shoes to enable them to be moved into and out of engagement with the opposed inner faces of the parting beads of the window frame by a rocking movement of the shoes, the weight of the article suspended by the support serving to hold the shoulders in clamping engagement with the parting beads.

978,115. BEARING. OSCAR GARLAND COSBY, Hampton, Va., assignor of forty-nine one-hundredths to Francis F. Causey, Hampton, Va. Filed Apr. 13, 1910. Serial No. 555,126.



1. The combination with a slide bearing of a plurality of reservoirs in open communication therewith and with each other through the bearing.

2. The combination with a slide bearing, of a plurality of reservoirs in open communication therewith and with each other through the bearing, said reservoirs being formed for a gravity feed.

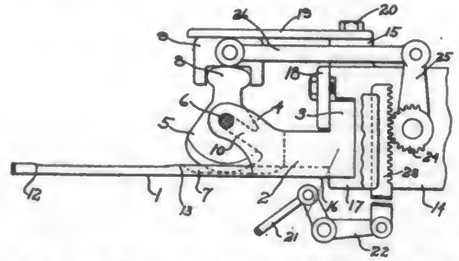
3. The combination with a slide bearing of a plurality of reservoirs in open communication therewith, the upper edges of the female portion of the bearing being above the possible height of lubricant in the reservoir.

4. The combination with a slide bearing, of a plurality of reservoirs in open communication with the lower portion of the bearing, the upper edges of the oil confining space of the bearing being above the possible height of lubricant in the reservoir.

5. A side bearing or slide bearing including a body formed to provide a bearing recess, said body being formed with an endless channel offset from and in communication with the recess, and a plurality of reservoirs in open communication with the channel.

[Claims 6 to 10 not printed in the Gazette.]

978,116. CUTTING PILE-WIRE. GEORGE CROSSLAND, Watertown, Mass., assignor to George H. Briggs, Amesbury, Mass. Filed June 26, 1909. Serial No. 504,445.



1. In a loom the combination of a continuous pile wire provided with a slot near one end thereof and provided with an upward extension adjacent said slot, a reciprocatory cutter blade pivotally supported by said extension and having its cutting edge located in said slot, and means for reciprocating said blade to sever the pile loops as drawn along said wire.

2. In a loom the combination of a continuous pile wire provided with a shoe or enlarged portion having a rearward extension overhanging said slot, a reciprocatory cutter blade pivotally supported by said extension and having its cutting edge located in said slot, and means for reciprocating said blade to sever the pile loops as drawn along said wire.

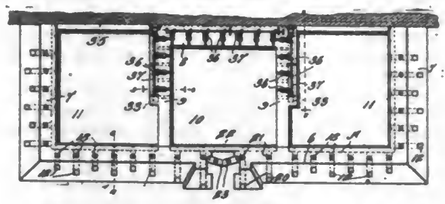
3. In a loom the combination with a pile wire, of a pivot rod, a pile cutting knife directly mounted on said pivot rod and removably engaging the latter, and means for operating said knife.

4. In a device of the character described, the combination of a pile wire, a reciprocatable cutter blade pivotally hung, said blade being provided with a slot whereby it may be readily removed from its pivot, and means for reciprocating said blade to sever the pile loops as drawn along said wire.

5. In a device of the character described, the combination of a pile wire, a reciprocatable cutter blade pivotally hung, said blade being provided with an open-ended slot from its pivoting point to its edge whereby it may be readily removed from its pivot, and means for reciprocating said blade to sever the pile loops as drawn along said wire.

[Claims 6 to 11 not printed in the Gazette.]

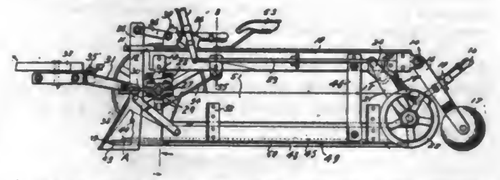
978,117. TIDE-MOTOR. GEORGE DEGAGNE, Houghton, Mich. Filed Dec. 31, 1909. Serial No. 535,865.



1. A device of the character described, comprising walls forming a dry basin and a reservoir, tunnels or passages connecting said basin and reservoir with the tidal flow, turbine pits in the walls confining the dry basin and having outlets into the latter, a flue extending through said walls, and passages connecting said flue with the reservoir and with the turbine.

2. In a device of the character described, walls forming a reservoir and a dry basin, tunnels extending at various levels through the wall and communicating at their inner ends with the reservoir, gates adapted to obstruct said tunnels, passages extending through the wall and communicating with the dry basin, means for obstructing said passages, turbine pits in the walls adjacent to the dry basin, and having discharge passages communicating with the dry basin, a flue in the walls surrounding the dry basin and having passages communicating with the turbine pits and with the reserveir, and storage cavities in the walls communicating with the flue adjacent to the turbine pits.

978,118 SAGE-BRUSH-GRUBBING MACHINE. SAMUEL T. DURANT and GUST GUNDERSON, Mountain Home, Idaho; W. C. Howie, administrator of said Samuel T. Durant, deceased, assignor to Thecla Durant. Filed Nov. 6, 1909. Serial No. 526,610.



1. In a machine of the class described, the combination with a supporting frame, of a soil cutting head movable vertically at the forward extremity of said supporting frame, cutting bars converging to said cutter head, a cutting plate carried by said head and extending below the lower surface thereof, and means whereby said cutting apparatus may be raised and lowered from contact with the ground for transportation.

2. In a machine of the class described, the combination with a supporting frame, of a forward axle swiveled to the forward extremity of said frame, a rearward axle pivoted thereto, means for raising and lowering said rearward axle, a cutter plate movable vertically in said frame adjacent the forward axle, cutter heads pivotally secured to each side of said cutter plate, toothed bars pivotally secured to said cutter head and attached at their rearward extremity to said frame, and means for raising and lowering said cutting plate.

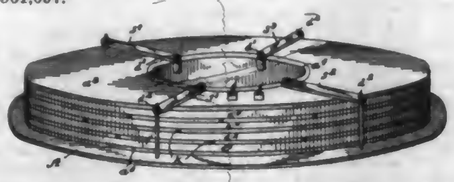
3. In a machine of the class described, the combination with a supporting frame, of converging toothed cutter bars secured thereto, means for raising and lowering the forward extremity of said cutter bars, a colter pivotally supported to the rearward extremity of said frame by a bracket, and means for regulating the pressure with which said colter bears against the ground.

4. In a machine of the class described, the combination with a supporting frame, of a forward axle swiveled to said supporting frame having a brace thereto attached to said frame by a universal joint, a rear axle pivoted to said frame, and adapted to be raised and lowered, a colter bracket pivotally mounted adjacent said rearward axle carrying at its lower extremity a colter, means interposed between said colter and pivot for regulating the tension with which the same bears against the ground, and means for cutting and removing the plants.

5. In a machine of the class described, the combination with a longitudinally extending bar having a cutter plate adjustable vertically on the forward extremity thereof, cutter heads removably secured to each side of said cutter plate forming in combination a removable cutter head, and converging cutter bars secured to said removable cutter head carrying toothed cutting blades.

[Claims 6 to 9 not printed in the Gazette.]

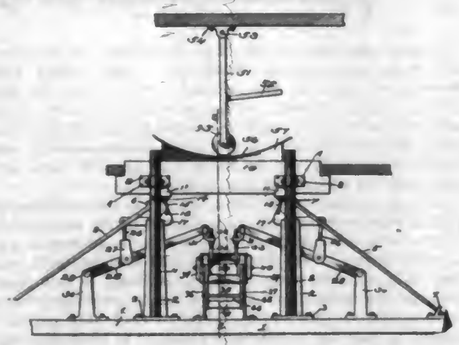
978,119. LIFTING-MAGNET. ARTHUR C. EASTWOOD, Cleveland, Ohio. Filed May 13, 1910. Serial No. 561,097.



1. In a magnet-winding, two or more superposed winding-sections, each composed of a flat spiral having a plurality of convolutions, and insulating spacing means between adjacent winding sections, said means having passages therein leading to the exterior of the winding so as to lead moisture and air from between the successive convolutions of each section and to admit insulating compound between the said convolutions.

2. For a magnet-winding having two or more superposed winding-sections, insulating spacing means between adjacent sections, there being passages in each spacing means, by which a fluid insulating material may be introduced into the interior of the winding, or air and moisture may be extracted therefrom, or both.

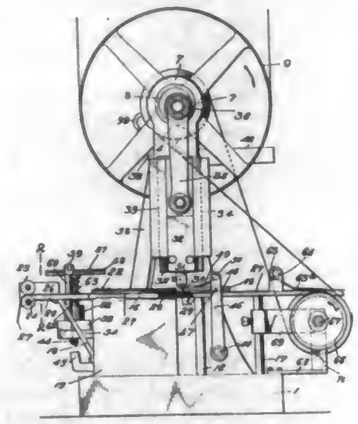
978,120. TABLE FOR LEATHER-WORKING MACHINES. EDWARD Y. B. ENGELMAN, Noxen, Pa. Filed Jan. 4, 1909. Serial No. 470,733.



1. In a device of the character described, a reciprocatory table, standards positioned beneath said table, a knife edge fulcrum loosely mounted in said standards, a lever mounted on said fulcrum, means pivotally connecting said lever with said table, a second lever pivotally connected with said first lever, a treadle connected to the said second lever to impart motion to the said levers, and the first said pivotal means connected to said table to impart motion to said table.

2. In a device of the character described, a reciprocatory table, a link pivotally connected to said table at each end thereof, a lever pivotally connected with each of said links, a loosely mounted fulcrum for engaging each of said levers, a second lever pivotally connected with said first lever, a treadle connected to said second lever whereby when motion is imparted to said treadle the said first mentioned lever and said second mentioned lever and said link are operated to impart motion to said table.

978,121. FILM-PERFORATING MACHINE. JULIUS R. ENGELMAN, Jersey City, N. J., assignor to Herman A. Metz, Brooklyn, N. Y. Filed July 28, 1909. Serial No. 510,093.



1. In a perforating machine, a perforating device, a feeding finger, means for reciprocating said finger in a path parallel with the path of stock feed movement and manually adjustable means for varying the amplitude of reciprocation of said finger, substantially as described.

2. In a perforating machine, a perforating device, reciprocating feeding fingers, a rocking lever for reciprocating same, a manually-adjustable stop for limiting the movement of said rocking lever in the feeding direction, and means for rocking said lever, substantially as described.

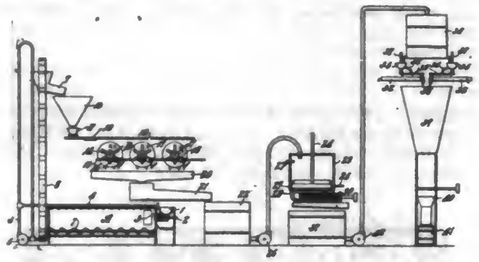
3. In a perforating machine, a perforating device, reciprocating feeding fingers, a rocking-lever having one arm connected to said feeding-fingers for reciprocating same, and having another arm adjacent to the main shaft, a cam on said shaft for rocking said lever, and relatively-adjustable stops on said rocking-lever and the frame for limiting the movement of said rocking-lever in the feeding direction, substantially as described.

4. In a perforating machine, a perforating device, horizontally-reciprocating, hooked feeding fingers, a rocking-lever having one arm connected to said feeding fingers for reciprocating same, and having another arm adjacent to the main shaft, a cam on said shaft for rocking said lever, a retracting-spring for moving said lever in the feeding direction, and relatively-adjustable stops on said rocking-lever and the frame for limiting the movement of said rocking lever in the feeding direction.

5. In a perforating machine, a feeding device comprising spring-pressed, hooked feeding fingers, a rocking lever for reciprocating same, comprising a rock-arm connected to said feeding arms, a second rock-arm adjacent to the driving shaft, a rock-shaft connecting said arms, a cam on the main shaft, a retracting-spring for said rocking-lever, a manually-adjustable stop engaging said rocking-lever for limiting its movement in the feeding direction.

[Claims 6 to 16 not printed in the Gazette.]

978,122. APPARATUS FOR MAKING WHITE LEAD. FRANCIS H. LUDINGTON, JOHN P. MARSHALL, and LOUIS C. BESSON, St. Louis, Mo.; said Marshall and Besson assignors to said Ludington; Harriet N. Ludington and Eliot K. Ludington executors of said Francis H. Ludington, deceased. Filed Feb. 28, 1910. Serial No. 546,506.

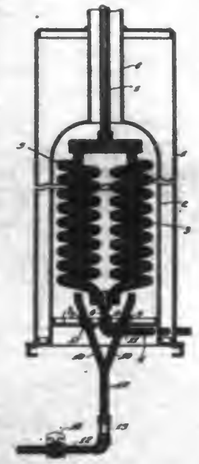


1. An apparatus for making white lead, comprising means for atomizing the metal and converting it into a sludge, a rotatable oxidizing receptacle that contains air and water and which is adapted to receive said sludge and thus cause the metallic lead to be converted into a lead oxid, means for supplying the sludge to said oxidizing receptacle, a discharge conduit communicating with said receptacle and provided with means for collecting the metallic lead or non-oxidized particles of lead that escape from the oxidizing receptacle with the lead oxid, a carbonating tank provided with an agitator and having carbon dioxid supply pipes connected with same, means for feeding the oxidized lead to said carbonating tank, a screening device through which the carbonate of lead passes after it is drawn out of the carbonating tank, a heated drying member, means for feeding the carbonate of lead to said drying member, and means for removing the dried product from said drying member.

2. An apparatus for making white lead, comprising means for atomizing lead and converting it into a sludge, a rotatable oxidizing member that contains water and which is adapted to receive said sludge, means for supplying air to said member, means for conveying the sludge from said atomizing means to said oxidizing member, a carbonating tank, means for conveying the lead oxid from the oxidizing member to said carbonating tank, means for agitating the material in the carbonating tank and introducing a supply of carbon dioxid into the mass so as to convert the oxid into carbonate of lead, a screening device through which the carbonate of lead passes after it leaves said carbonating tank, a drying mechanism provided with means for converting the carbonate of lead into a powdered condition, and means for supplying the carbonate of lead to said drying mechanism.

3. An apparatus for making white lead, comprising means for atomizing the lead and converting it into a sludge, a supply hopper, means for conveying the sludge into said supply hopper, a rotatable oxidizing member, means for conveying a certain quantity of sludge from said hopper and introducing it into said oxidizing member, a conduit adapted to receive the material that is drawn out of said oxidizing member, a storage tank communicating with said conduit, a carbonating tank provided with an agitating device, means for transferring the oxid from said storage tank to said carbonating tank, means for introducing a supply of carbonic acid gas into the contents of said tank, means for screening the carbonate of lead that is drawn out of the carbonating tank, a storage tank for containing the screened carbonate of lead, a heated drying member provided with a scraping device which removes the dried material therefrom, means for feeding a stream of carbonate of lead onto said drying member, a cooling apparatus through which the dried product passes after it leaves the drying member, and a packing apparatus for packing the product in the container or package in which it is placed on the market.

978,123. BURNER FOR WATER-HEATERS. CHARLES HART, Oakland, Cal., assignor to The Hart Heater Company, a Corporation of California. Filed Nov. 30, 1909. Serial No. 530,601.



1. In an apparatus of the character described, a casing having openings in its bottom, and a burner consisting of a fuel supply pipe with diagonal branched ends projecting through the openings in the bottom of the casing, and having vertical open end portions located at spaced distances apart from each other.

2. In an apparatus of the character described, a casing having an elevated closed bottom with a group of apertures arranged about the center of the bottom, a fuel supply pipe having at its end a plurality of diagonal pipes united at one end with the fuel supply pipe and projecting through the apertures in the bottom of the casing and formed with vertical open ends, and means located in the fuel supply pipe for feeding air thereto.

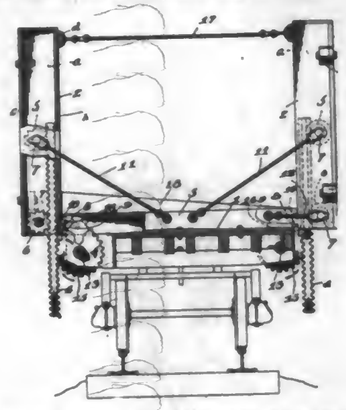
3. In an apparatus of the character described, a casing having an elevated closed bottom with a group of apertures arranged about the center of the bottom, a fuel supply pipe having at its end a plurality of diagonal pipes united at one end with the fuel supply pipe and projecting through the apertures in the bottom of the casing and formed with vertical open ends, means located in the fuel supply pipe for feeding air thereto, and a pair of cross bars located in the fuel supply pipe adjacent to the air and gas mixing portion of the pipe.

978,124. AUTOMATIC CAR-STAKE. JOHN G. SMITH, Tyrconnell, W. Va., assignor of one-half to Hugh G. Smith, Tyrconnell, W. Va. Filed Aug. 8, 1910. Serial No. 576,058.

1. In a flat car having, in combination with the car-body, detachable side stakes or standards, interlocking or coupling devices between the car-body and said stakes or standards, cables attached to the car-body and movable hooks on said stakes for engagement by said cables, and controlling means for simultaneously disengaging said hooks from said cables and unlocking the stakes at a side of the car.

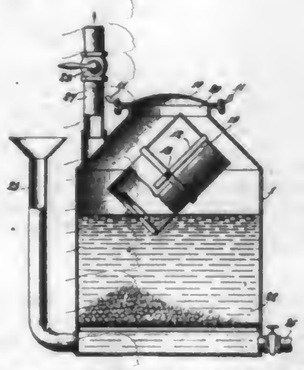
2. A flat car having, in combination with the car-body, detachable side stakes or standards, the latter provided with movable racks and pinions engaged thereby, said pinions carrying hooks for engaging cables attached to the car-body, and a longitudinal operating shaft having gear wheels controlling said racks.

3. A flat car having, in combination with the car-body, detachable side stakes or standards, the latter provided with movable racks and pinions engaged thereby, said pinions carrying hooks for engaging cables attached to the car-body, interlocking coupling devices between the car-body and the stakes, and a longitudinal operating shaft having gear-wheels in mesh with said racks and having means for controlling said interlocking devices.



4. A flat car having, in combination with the car-body, detachable side stakes or standards, the latter provided with movable racks and pinions engaged thereby, said pinions carrying hooks for engaging cables attached to the car-body, coupling lugs on the feet of the standards, coacting coupling dogs on the car-body, and a longitudinal shaft having gear wheels in mesh with said racks and cams for controlling said dogs.

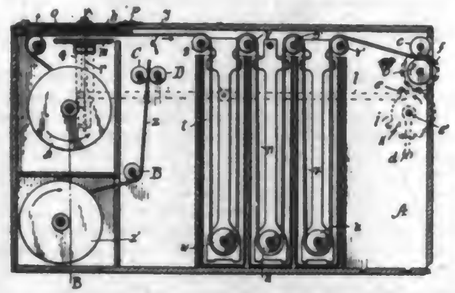
978,125. NON-AUTOMATIC ACETYLENE-GENERATOR. FRANCIS B. RAY, New York, N. Y., assignor, by direct and mesne assignments, to Ray Acetylene Company, Elkhart, Ind., a Corporation of South Dakota. Filed Jan. 15, 1909. Serial No. 472,468.



1. In a non-automatic acetylene generator, the combination with a tank adapted to contain water and having an opening at the top through which a commercial can of carbid may be inserted into the tank, a tilting cradle within said tank to receive said can and retain it above the surface of the water, means for rocking the cradle to discharge the carbid into the water at will, a standpipe for feeding water into the tank for temporarily relieving by the rise or overflow of water in said pipe the excess pressure produced by the generation of gas, means for discharging the gas from the tank and means for discharging the residuum and water from the tank.

2. In a non-automatic acetylene generator, the combination with a tank adapted to contain water and having an opening at the top through which a commercial can of carbid may be inserted into the tank, a tilting cradle within said tank to receive said can and retain it above the surface of the water, means for rocking the cradle to discharge the carbid into the water at will, a perforated bottom disposed a suitable distance above the tank bottom, a standpipe of suitable height entering the tank below said perforated bottom for feeding water into the tank and for relieving by the rise or overflow of water in said pipe the excess pressure produced by the generation of gas, means for discharging the gas from the tank, and means for discharging the residuum and water from the tank, the motion of the water in the tank caused by the rising and falling of water in said pipe during the disintegration of carbid, constantly removing the residuum from the carbid pieces as it is formed.

978,126. APPARATUS FOR THE PRODUCTION OF BROMID-OF-SILVER POST-CARDS AND SIMILAR COPIES. THEODOR BUSAM, Stuttgart, Germany. Filed Sept. 22, 1910. Serial No. 583,292.



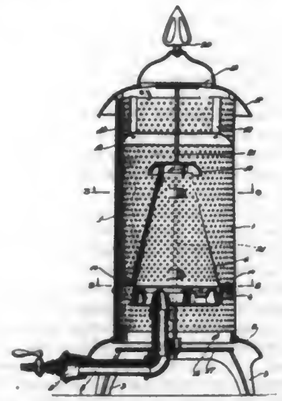
1. In a photographic printing and developing apparatus, a casing having an exposure opening therein, a photographic plate applied to said opening, a door guarding said opening against the admission of light, means for feeding sensitized material across said opening, a press plate for pressing the sensitized material against the photographic plate, a rod connected to the door having an angular end, a rod connected to the press plate extending through the angular end of the first mentioned rod, a shoulder on the second mentioned rod, a spring interposed between the shoulder and the end of the rod connected to the door, and a lever for communicating motion to the first mentioned rod.

2. In a photographic printing and developing apparatus, a casing having an exposure opening therein, a photographic plate applied to said opening, a door guarding said opening against the admission of light, means for feeding sensitized material across said opening, a press plate for pressing the sensitized material against the photographic plate, a rod connected to the door having an angular end, a rod connected to the press plate extending through the angular end of the first mentioned rod, a shoulder on the second mentioned rod, a spring interposed between the shoulder and the end of the rod connected to the door, a lever connected to the first mentioned rod, and means for oscillating the lever.

3. In a photographic printing and developing apparatus, a casing having an exposure opening therein, a photographic plate applied to said opening, a door guarding said opening against the admission of light, means for feeding sensitized material across said opening, a press plate for pressing the sensitized material against the photographic plate, a rod connected to the door having an angular end, a rod connected to the press plate extending through the angular end of the first mentioned rod, a shoulder on the second mentioned rod, a spring interposed between the shoulder and the end of the rod connected to the door, a lever connected to the first mentioned rod, and means associated with the means for feeding sensitized material for actuating said lever.

4. In a photographic printing and developing apparatus, a casing having an exposure opening therein, a photographic plate applied to said opening, a door guarding said opening against the admission of light, means for feeding sensitized material across said opening, a press plate for pressing the sensitized material against the photographic plate, a rod connected to the door having an angular end, a rod connected to the press plate extending through the angular end of the first mentioned rod, a shoulder on the second mentioned rod, a spring interposed between the shoulder and the end of the rod connected to the door, and receptacles containing fluids adapted to act on the sensitized material through which the said sensitized material is drawn.

978,127. GAS-STOVE. JOHN M. BROCK, New York, N. Y., assignor to William M. Crane Company, a Corporation of New York. Filed Sept. 16, 1907. Serial No. 392,994.



1. A gas stove comprising in combination, a hollow, rigid member forming within itself a combustion chamber and adapted to be heated to incandescence, a burner constructed and arranged to admit air with and independently of the fuel and to concentrate the combustion substantially within said chamber, and means for protecting the outer surface of said member from drafts of cold air, said means including a casing constructed to admit unheated air to the lower portion and to discharge heated air from the upper portion thereof, said casing being in part at least permeable to light and radiant heat.

2. A gas stove comprising in combination, an upwardly tapering, hollow, reticulated, rigid member forming within itself a combustion chamber and adapted to be heated to incandescence, a burner constructed and arranged to admit air with and independently of the fuel and to concentrate the combustion substantially within said chamber, and a casing for protecting the outer surface of the said member from drafts of cold air, said casing being constructed to admit unheated air to the lower portion and to discharge heated air from the upper portion thereof and being in part at least permeable to light and radiant heat.

3. A gas stove comprising in combination, an upwardly tapering, hollow member formed of cast iron and forming within itself a combustion chamber, a burner constructed and arranged to admit air with and independently of the fuel and to concentrate the combustion substantially within said chamber, and a casing for protecting the outer surface of said member from drafts of cold air, said casing being constructed to admit unheated air to the lower portion and to discharge heated air from the upper portion thereof and being in part at least permeable to light and radiant heat.

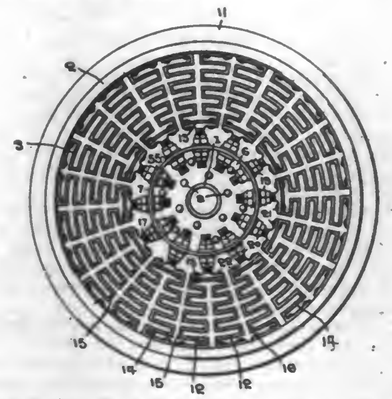
4. A gas stove comprising in combination, an upwardly tapering, hollow, reticulated, rigid, metallic member forming within itself a combustion chamber and adapted to be heated to incandescence, a burner constructed and arranged to concentrate the combustion substantially within said chamber, a deflector mounted on the top of said member and a casing inclosing said parts, said casing being in part at least permeable to air, light and radiant heat.

5. A gas stove comprising in combination, an open-topped, hollow member forming within itself a combustion chamber and adapted to be heated to incandescence, a burner constructed and arranged to concentrate the combustion substantially within said chamber, a deflector mounted immediately above the open top of said member, and a casing inclosing said parts, said casing being in part at least permeable to light and radiant heat.

[Claims 6 to 12 not printed in the Gazette.]

REISSUES.

13,177. WHEEL. THOMAS BERNTSON, Pittsburg, Pa., assignor to Frank C. Park, J. Worth Carnahan, and Ellwood P. Morey, Washington, D. C. Filed July 28, 1910. Serial No. 574,413. Original No. 948,408, dated Feb. 8, 1910, Serial No. 436,652.



1. A wheel including a hub, a felly, and a series of springs connecting the hub and felly, each of said springs comprising duplicate sections of uniform width connected at their relatively inner ends by an integral cross strip, each spring section being of substantially sinuous form having the cross portions of gradually increasing length from the inner to the outer end of the spring, whereby the end portions of the section aline radially of the wheel when in place therein.

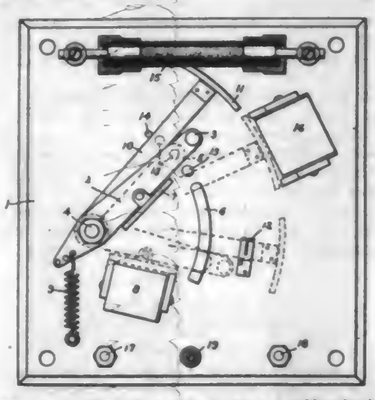
2. A wheel including a hub, a felly, a series of springs connecting the hub and felly, said springs including a section of substantially sinuous form having the cross portions of gradually increasing length from the inner to the outer end of the spring, and of a uniform width and independent means alined longitudinally of the hub and adjustably securing each spring and hub together.

3. The combination of a hub and felly with spokes consisting of springs made in a single strip of uniform width and in substantially sinuous form the cross portions of such springs gradually increasing in length from one end of the spring to the other.

13,178. CONTROLLER. ERNEST SCHATTNER, London, England, assignor to General Electric Company, a Corporation of New York. Filed Sept. 12, 1910. Serial No. 581,736. Original No. 775,501, dated Nov. 22, 1904, Serial No. 207,759.

1. A motor-starting rheostat having a self-reducing resistance, means for closing circuit therethrough, a movable switch-arm, means whereby said arm when moved

short-circuits the resistance, and means for retarding the movement of the switch-arm.



2. A motor-starting rheostat, having a self-reducing resistance, an electromagnet, means for closing circuit through the resistance and the coils of the electromagnet in parallel, a contact, a switch-arm movable into engaging relation to said contact to short-circuit the resistance, and means whereby the electromagnet retards the movement of the switch-arm.

3. A motor-starting rheostat, having a self-reducing resistance, means for closing circuit therethrough, a contact, a switch-arm arranged to fall by gravity into engaging relation to said contact to short-circuit the resistance, and means for arresting the movement of the switch-arm until the ohmic value of the resistance falls to a predetermined amount.

4. A motor-starting rheostat, having a self-reducing resistance, means for closing circuit therethrough, a contact, a switch-arm movable into engaging relation to the contact to short-circuit said resistance, an armature carried by the switch-arm, and a magnet arranged to retard the movement of the switch-arm.

5. A motor starting rheostat, having a self-reducing resistance, an electromagnet, means for closing circuit through the resistance and the coils of the electromagnet in parallel, a contact, a switch-arm movable into engaging relation to the contact to short-circuit the resistance, and an armature carried by the switch-arm, said electro-magnet having its poles in proximity to the path of movement of said armature whereby movement of the switch-arm is retarded.

6. A motor-starting rheostat having a self-reducing resistance, means for closing circuit therethrough, a switch-arm movable to short-circuit said resistance, an armature carried by the switch-arm, and a magnet by which the armature passes when the switch-arm moves to the short-circuiting position.

7. A motor-starting rheostat having a self-reducing resistance, an electromagnet, means for closing circuit through the resistance and the coils of the electromagnet in parallel, a switch-arm movable to short-circuit the resistance, and an armature carried by the switch-arm, said electromagnet being so arranged that said armature passes its poles when the switch-arm moves to the short-circuiting position.

8. A motor-starting rheostat, having a resistance, two independently-movable switch-arms, a contact coöperating with the first arm to close circuit through the resistance, a contact coöperating with the second arm to short-circuit the resistance, means whereby movement of the first arm releases the second arm, and means for retarding the movement of the second arm.

9. A motor-starting rheostat, having a self-reducing resistance, two independently-movable switch-arms, a contact coöperating with the first arm to close circuit through the resistance, a contact coöperating with the second arm to short-circuit the resistance, means whereby movement of the first arm releases the second arm, and means dependent upon the ohmic value of the resistance for arresting the movement of the second arm.

10. A motor-starting rheostat, having a self-reducing resistance, two switch-arms independently pivoted at the same point, a contact coöperating with one arm to close circuit through the resistance, a contact coöperating with the other arm to short-circuit the resistance, means whereby movement of the first arm releases the second arm, means dependent upon the ohmic value of the resistance for retarding the movement of the second arm, means whereby both arms are held in the "on" position, and means for returning both arms to the "off" position on failure of the line voltage.

11. In a motor-starting switch, means for closing the starting circuit of the motor, a contact, a switch-arm arranged to fall by gravity into engaging relation to said contact to establish the running connections of the motor, a magnet-winding adapted to suspend said switch-arm by the direct magnetic pull of said magnet-winding, and means for impressing on the terminals of said magnet-winding an automatically decreasing electromotive force.

12. In a motor-starting switch, means for closing the starting-circuit of the motor, a movable switch-arm adapted when moved to establish the running connections of the motor, an armature carried by said switch-arm, an electromagnet having its poles in proximity to the path of movement of said armature whereby movement of the switch-arm is arrested by the direct magnetic pull of said magnet, and means for impressing upon the terminals of said electromagnet an automatically-decreasing voltage.

13. In a motor-starting switch, means for closing the starting circuit of the motor, a contact, a mechanically supported switch-arm, a magnet winding, means for removing the support from the switch arm and simultaneously causing said arm to be suspended by the direct magnetic pull of said magnet winding when the starting circuit of the motor is closed, and means for impressing on the terminals of said magnet winding an automatically decreasing electromotive force whereby the switch arm will be released and fall by gravity into engaging relation to said contact to establish the running connections of the motor.

14. In a motor-starting switch, means for closing the starting circuit of the motor, a contact, a mechanically supported switch-arm, a magnet winding, means for removing the support from the switch arm and simultaneously causing said arm to be suspended by the direct magnetic pull of said magnet winding when the starting circuit of the motor is closed, means for impressing on the terminals of said magnet winding an automatically decreasing electromotive force whereby the switch arm will be released and fall by gravity into engaging relation with said contact to establish the running connections of the motor, and means whereby the switch arm is raised and the mechanical support restored upon abnormal decrease of voltage.

13,179. VENTILATOR. WILLIAM A. SCOTT, Jr., Pittsburg, Pa., assignor to American Car Screen Company, Pittsburg, Pa. Filed Sept. 9, 1910. Serial No. 581,337. Original No. 935,864, dated Oct. 5, 1909, Serial No. 459,715.



1. A removable ventilator for car windows consisting of a frame, a plurality of plates each having a width approximately equal to the width of one of the bars forming the frame, adjacent plates being provided with interlocking means whereby one plate may be shifted by the other, a plurality of guide grooves for the reception of the ends of the plates in the bars adjacent to the bar or frame member behind which the plates lie when folded and extending across said bar or member, and a bar extending across the opening in the frame and adapted to support the plates as against injury.

2. A ventilator having in combination an open frame, a plurality of guiding grooves arranged at opposite ends of the frame grooves extending across the bottom bar of the frame, a plurality of plates having a width approximately equal to that of the bottom bar of the frame and having their ends arranged in said grooves, adjacent plates being provided with interlocking devices whereby one plate is shifted by the other in its movement, a toothed bar arranged across the opening of the frame and a lip or projection on one of the plates yieldingly held in engagement with the bar.

3. A ventilator having in combination an open frame, a plurality of guiding grooves at the ends of the frame, a plurality of plates having their ends arranged in the grooves, interlocking means on adjacent plates whereby one plate may shift the other plate, a toothed bar extending across the frame in the direction of the movement of the plates and adjacent to the plane of movement of the inner plate, and a lip or projection on the outer plate extending across the inner plate to engage said bar.

4. A ventilator consisting of an open frame, a plurality of plates arranged to move in parallel planes, adjacent plates being provided with interlocking means whereby a plate may be shifted by an adjacent plate; a bar extending in the direction of movement of the plates, and means on one of the outer plates of the series adapted to engage said bar and support the plates in any desired position.

5. A ventilator consisting of an open frame, a plurality of plates arranged to move in parallel planes, means for connecting a plate to the next inner plate on the movement of the outer plate a distance approximately equal to its width, a bar extending in the direction of movement of the plates and adjacent to the plane of movement of the inner plate and means on the outer plate of the series adapted to engage said bar and support the plates in any desired position.

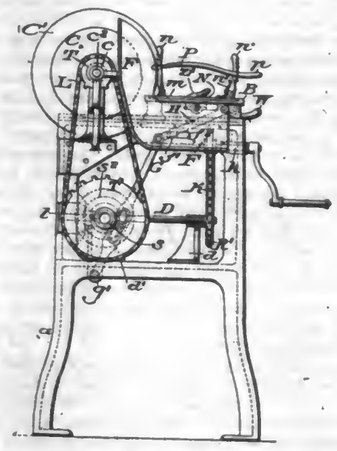
6. A ventilator consisting of an open frame adapted to be removably held between the sash and sill of a car or other window, a plurality of plates arranged to move in parallel planes to vary the area of the ventilating opening, said plates being provided on adjacent edges with interlocking means whereby a plate may be shifted by an adjacent plate, and a catch carried by the outer plate of the series and adapted to engage a stationary portion of the frame and support all the plates at any desired height.

7. A ventilator consisting of an open frame adapted to be removably held between the sash and sill of a car or other window, a plurality of plates movably mounted in parallel grooves in the frame to vary the area of the ventilating opening, said plates being provided with means whereby each plate after a predetermined independent movement will shift an adjacent plate, and a catch carried by a plate of the series and adapted to engage a stationary portion of the frame and support all of the plates at any desired height.

8. A ventilator consisting of an open frame adapted to be removably held between the sash and sill of a car or other window, a plurality of plates movably mounted in parallel grooves in the frame to vary the area of the ventilating opening, said plates being provided with means whereby each plate after a predetermined independent movement will shift an adjacent plate, and a spring catch carried by a plate of the series and adapted to engage a stationary portion of the frame and support all of the plates at any desired height.

18,180. MACHINE FOR SLICING GERMAN SAUSAGES, &c. WILHELMUS ADRIANUS VAN BERKEL, Rotterdam, Netherlands. Filed Sept. 7, 1907. Serial No. 391,845. Original No. 628,742, dated July 11, 1899, Serial No. 676,561.

1. In a machine for slicing German sausages and the like meat goods, the combination with a stationary but revoluble circular knife and means for rotating same, of a movable table, means for adjusting the length of travel of the table, means for clamping to said table the meat or the like to be cut, and means for reciprocating said table transversely to the axis of said knife, substantially as hereinbefore described.



2. In a machine for slicing German sausages and the like meat goods, the combination with a stationary but revoluble circular knife and means for rotating same, of a movable table, means for adjusting the length of travel of the table, means for reciprocating said table transversely to the axis of said knife, an adjustable plate covering a portion of said table, means for clamping the meat or the like to said plate, and means for automatically moving said plate toward the knife after each slice or cut, substantially as hereinbefore described.

3. A machine for slicing German sausages and the like meat goods, comprising a stationary but revoluble circular knife having a spherical or dished form, means for rotating said knife, a movable table, means for reciprocating said table transversely to the axis of the said knife, an adjustable plate on said table, means for clamping the meat or the like to said plate, means for automatically moving said plate toward the knife after each slice or cut, and means for adjusting the length of travel of the table, in combination, substantially as hereinbefore described.

4. In a slicing machine of the kind described, the means for reciprocating the table in adjustable slide-tracks on the table-frame transversely to the axis of the circular knife, consisting of the combination with one of the gear-wheels of the machine of a lever having one end pivotally connected to the frame, and its other end linked to the table, said gear-wheel having a pin to engage in a slot formed in said lever in such a way that the table is reciprocated with a slow forward movement but with a quick return, substantially as hereinbefore described.

5. In a slicing machine of the kind described, the means for reciprocating the table in adjustable slide-tracks on the table-frame transversely to the axis of the circular knife, consisting of the combination with one of the gear-wheels of the machine, of a lever having one end pivotally connected to the frame, and its other end linked to the table, said gear-wheel having a pin to engage in a slot formed in said lever in such a way that by the shifting of said pin in said slot the table is reciprocated with a slow forward movement but with a quick return, the said pin being adjustably mounted on the side of the gear-wheel to adapt it to set at a variable distance from the center, whereby the length of travel of the table may be adjusted, substantially as hereinbefore described.

6. In a slicing machine of the kind described, the means for automatically moving forward the feed-plate after each slice comprising a threaded spindle arranged beneath the table and means for rotating said spindle in combination with a nut formed of two parts pivotally connected with one another on the feed-plate, the upper part of the said nut being firmly connected with the plate and adapted to slip or travel over the threaded rod while the lower part

is provided with a thread to engage said rod, and an arm or extension on said lower part engaging in a slotted bar which is pivotally mounted like a ball with a counterweight tending to press it normally upward to thus keep the two parts of the nut closed and in engagement with the screw-thread while permitting of an immediate release of the nut and therewith of the feed-plate from the threaded spindle, substantially as heretofore described.

7. In a slicing machine of the kind described, the mechanism for the rotation of the threaded spindle after each slice or cut so as to move forward the feed-table, consisting of a ratchet-wheel fixed on the threaded spindle, in combination with a double lever, the one arm of which carries a pawl to engage the ratchet wheel, and the other are a roller bearing on an inclined plane or cam whereby on the return movement of the table the said ratchet-wheel and therewith the threaded spindle are rotated by the pawl to move the feed-plate with the meat or the like, the said inclined plane or cam being so mounted on the machine-frame as to be laterally and vertically adjustable in order that it may be set for thicker slices of meat, or to suit the length of travel of the table, substantially as hereinbefore described.

8. In a slicing machine of the kind described, the combination of a table, a feed-plate obliquely mounted on said table, means for automatically moving said fed-plate obliquely toward the knife or cutter after each slice or cut, and means for adjusting the length of travel of the said table, substantially as described.

9. In a machine for slicing meat, a stationary but revoluble circular knife, means for rotating said knife, a movable table, means for clamping to said table meat or the like to be cut, and means for reciprocating said table with a slow forward movement but with a quick return.

10. In a meat slicing machine, a table for supporting the article to be sliced, a circular cutter having its cutting plane presenting at an angle to the plane of the cut, means for reciprocating one of said elements in its relation to the other, and means for rotating the cutter.

11. In a meat slicing machine, a table for supporting the article to be sliced, a circular cutter having its cutting plane presenting at an angle to the plane of the cut, means for reciprocating one of said elements, in its relation to the other, means for rotating the cutter, and means for intermittently feeding the article to be sliced to the cutter.

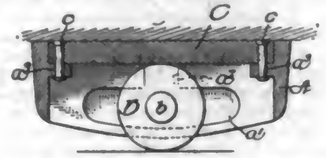
12. In a machine for slicing meat, comprising a stationary but revoluble circular knife, means for rotating said knife, a movable table, means for reciprocating said table transversely to the axis of the knife, an adjustable plate on said table, means for clamping the meat or the like to said plate, a screw for automatically moving said plate toward the knife after each slice or cut and means for operating said screw.

13. A machine for slcing meat, comprising a stationary but revoluble circular knife, means for rotating said knife, a movable table corrugated at one end, means for reciprocating said table transversely to the axis of the knife, a plate slidably fitted in guides on said table and covering a portion thereof, a clamp on said plate, a screw for automatically moving said plate toward the knife after each slice and gearing for operating said screw.

14. In a meat slicing machine, a stationary but revoluble dished circular cutter, means for rotating said cutter, a movable table, means for reciprocating said table transversely to the axis of said cutter, a meat support upon the table and movable toward and from the cutting plane and having means for clamping the meat, and means for automatically moving such support toward the cutting plane after each slice or cut.

13,181. SIDE BEARING FOR CARS. EDWIN S. WOODS, Chicago, Ill. Filed Nov. 2, 1908. Serial No. 460,797. Original No. 860,177, dated July 16, 1907, Serial No. 190,823.

1. In an antifriction bearing, the combination with an open top casing adapted to be secured to a bolster, an anti-friction device carried by said casing, and a member removable from said casing, located in position to serve as a tread for the antifriction device and to retain the same from displacement from said casing, said member forming a cover for said casing.



2. In a roller bearing, a casing provided with an elongated roller chamber, a roller removably mounted in said chamber and provided with trunnions, flanges on the side walls of the casing adapted for engagement by said trunnions, and a wear plate removably fitted within said chamber and arranged to confine said roller in said chamber.

3. In a roller bearing, a casing provided with an elongated roller chamber, a roller removably mounted in said chamber and provided with trunnions, flanges on the side walls of the casing adapted for engagement by said trunnions, a wear plate removably fitted within said chamber and arranged to confine the roller in the chamber, and means for locking the wear-plate in place.

4. In a roller bearing, a chambered casing, a roller removably mounted therein provided at its ends with trunnions, said casing being provided with an opening to receive the roller and with notches at the sides of the opening through which the trunnions of the roller pass when the roller is inserted into and removed from the casing, flanges on the side walls of the casing adapted for engagement by said trunnions, and a wear plate removably fitted in said casing and constructed and arranged to confine the roller in the casing.

5. In a roller bearing, a chambered casing, a roller removably mounted therein provided at its ends with trunnions, said casing being provided with an opening to receive the roller and with notches at the sides of the opening through which the trunnions of the roller pass when the roller is inserted into and removed from the casing, flanges on the side walls of the casing adapted for engagement by said trunnions, and a wear plate removably fitted within said casing and having a part so disposed relatively to said notches as to prevent the trunnions from passing through the notches when the wear plate is in place.

6. In a roller bearing, an integral casing provided with an elongated roller chamber, a roller removably mounted in said chamber and provided with trunnions, flanges on the side walls of the casing adapted for engagement by said trunnions, a wear plate removably fitted within said chamber, and arranged to confine said roller in said chamber.

7. In a roller bearing, an integral casing provided with an elongated roller chamber, a roller removably mounted in said chamber and provided with trunnions, flanges on the side walls of the casing adapted for engagement by said trunnions, a wear plate removably fitted within said chamber, and arranged to confine the roller in the chamber, and means for locking the wear plate in place.

8. In a roller bearing, a chambered integral casing, a roller removably mounted therein provided at its ends with trunnions, said casing being provided with an opening to receive the roller and with notches at the sides of the opening through which the trunnions of the roller pass when the roller is inserted into and removed from the casing, flanges on the side walls of the casing adapted for engagement by said trunnions, and a wear plate removably fitted in said casing and constructed and arranged to confine the roller in the casing.

9. In a roller bearing, a chambered integral casing, a roller removably mounted therein provided at its ends with trunnions, said casing being provided with an opening to receive the roller and with notches at the sides of the opening through which the trunnions of the roller pass when the roller is inserted into and removed from the casing, flanges on the side walls of the casing adapted for engagement by said trunnions, and a wear plate removably fitted within said casing and having a part so disposed relatively to said notches as to prevent the trunnions from passing through the notches when the wear plate is in place.

10. A side bearing for railway cars comprising a casing or shell which has openings in its top and bottom and a roller in said shell adapted for rolling contact, through said openings, with bearing surfaces; said casing or shell being provided with tracks located in position to support the roller when the latter is below and free from the upper bearing surface and the said roller having free movement in the shell both endwise of the latter and vertically with respect to said tracks.

11. A side bearing for railway cars comprising a casing or shell which has openings in its top and bottom and a roller in said shell adapted for rolling contact, through said openings, with bearing surfaces and provided with trunnions at its ends; said casing or shell having inwardly extending flanges forming tracks which are located in position to engage the said trunnions when the roller is below and free from the upper bearing surface and the said roller having free movement in the shell both endwise of the latter and vertically with respect to the said tracks.

12. A side bearing for railway cars comprising an upper bearing plate, an open-topped casing or shell made separate from said bearing plate, and a roller in said shell provided with trunnions at its ends; said shell having on its side walls tracks adapted to engage the trunnions when the roller is out of contact with the bearing plate and said shell and bearing plate having interfitting parts at their meeting margins, adapted to rigidly hold the bearing plate and shell from relative lateral movement.

13. In a device of the class described, the combination with a suitable roller having oppositely extending gudgeons, of a box open at its top to receive the roller, and having a longitudinally slotted bottom, through which the roller projects, there being inwardly extending side flanges on the box, to limit the downward movement of the roller, and a cover for the box separately formed and adapted to furnish an upper tread for the roller.

14. In a device of the class described, the combination with a suitable roller having oppositely extending gudgeons, of a box open at its top to receive the roller, and having a longitudinally slotted bottom, through which the roller extends, there being horizontal channels in the side walls, and upwardly extending channels communicating therewith through which the gudgeons pass in assembling the structure, and a cover for the box, separately formed and adapted to furnish an upper tread for the roller.

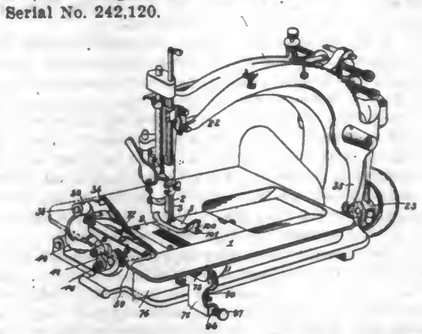
15. In a side bearing, the combination with a casing open at the top and having a longitudinally slotted bottom and inwardly extending side flanges, of an antifriction device adapted to be inserted into said casing through the open top and project through the slotted bottom thereof, and provided with oppositely extending gudgeons adapted to engage said side flanges, and a separately formed plate adapted to be secured to said casing to form an upper tread for said antifriction device.

16. In a device of the class described, the combination with an antifriction device having oppositely extending gudgeons, of a box open at the top to receive said antifriction device and having a longitudinally slotted bottom through which said antifriction device projects, inwardly extending side flanges on said box to limit the downward movement of said antifriction device, and a cover for said box separately formed and adapted to furnish an upper tread for said antifriction device.

17. In an antifriction bearing, in combination with a bolster, a carrier secured to said bolster, an antifriction device supported by said carrier, a member removable from said carrier and located in position to serve as a tread for said antifriction device and to retain the same against displacement from the carrier, and means for rigidly locking said member in place when said carrier is secured to said bolster.

18. In an antifriction bearing, the combination with a carrier supporting an antifriction device, of a member provided with tread surfaces on its opposite sides, said member being removably carried by the carrier in position to serve as a tread for the antifriction device and retain the same against displacement from the carrier and arranged to be reversed to present either of two opposite sides to the antifriction device.

13,182. SEWING AND TRIMMING MACHINE. BERNARD H. ZIMMERMAN, Stittville, and ROBERT HUGHES, Jr., Utica, N. Y., assignors, by mesne assignments, to Union Special Machine Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 13, 1907. Serial No. 357,137. Original No. 804,364, dated Nov. 14, 1905, Serial No. 242,120.



1. In a sewing machine and in combination with the stitching mechanism thereof, feeding mechanism and cutting mechanism, the latter comprising a fixed blade or knife, a movable cutter, and means for operating the movable cutter in a forward direction, the feeding mechanism moving backward in its feeding movement simultaneously with the forward cutting movement of said movable cutter; substantially as described.

2. In a sewing machine and in combination with the stitching mechanism thereof, feeding mechanism and cutting mechanism, the latter comprising a fixed blade or knife, a movable cutter and means for operating the movable cutter in a forward direction, the said feeding mechanism moving backward in its feeding movement simultaneously with the forward cutting movement of said movable cutter, and said movable cutter receiving part of its motion from said feeding mechanism; substantially as described.

3. In a sewing machine and in combination with the stitching mechanism thereof, feeding mechanism and cutting mechanism, the latter comprising a fixed blade or knife, a movable cutter, and means for operating the movable cutter in a forward direction, the feeding mechanism moving backward in its feeding movement simultaneously with the forward cutting movement of said movable cutter, and means for yieldingly holding the movable cutter in position; substantially as described.

4. In a sewing machine and in combination with the stitching mechanism thereof, a feed dog, mechanism for giving said dog a backward and forward movement and an up and down movement, a cutting member coacting with said feed dog and means for moving said cutting member backward and forward in opposition to the movement of said feed dog, said cutting member also receiving an up and down movement from the feed dog; substantially as described.

5. In a sewing machine and in combination with the stitching mechanism thereof, feed mechanism comprising a feed dog, mechanism for giving said dog a backward and forward movement and an up and down movement, a cutting member coacting with said feed dog, and means for moving said cutting member backward and forward in opposition to the movement of said feed dog, the said cutting member being yieldingly held in position and also receiving an up and down movement from the feed mechanism; substantially as described.

6. In a sewing machine and in combination with the stitching mechanism thereof, a main shaft, a feed dog, a cam on said main shaft imparting an up and down move-

ment to said feed dog, a cutting member provided with a piercing point and having a connection with said feed dog for moving the cutter up and down, and means for giving said cutting member a horizontal movement; substantially as described.

7. In a sewing machine and in combination with the stitching mechanism thereof, a main shaft, a lever or arm carrying a feed dog, connections between said shaft and said lever or arm for moving the same up and down and backward and forward, and a cutting member provided with a piercing point and having a forward movement to pierce the folded fabric, and means for giving said cutting member a downward movement to cut the lower ply of said fabric; substantially as described.

8. In a sewing machine and in combination with the stitching mechanism thereof, a main shaft having a cam thereon, a lever or arm coacting with said cam and receiving an up and down movement therefrom, a feed dog supported on said lever or arm, a connection between said shaft and said lever or arm for moving the latter, and its feed dog backward and forward, and a cutting member with a piercing point having a forward piercing movement, the feed dog moving backward in its feeding movement simultaneously with the forward piercing movement of said cutting member; substantially as described.

9. In a sewing machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed dog, connections between said shaft and said lever or arm for moving the same up and down and backward and forward, a cutting member having a connection with said lever or arm and movable up and down thereby, and a cam carried by said shaft for giving said cutting member a backward and forward movement; substantially as described.

10. In a sewing machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed dog, a cam on said shaft for giving said feed dog movement up and down, a cutting member having a connection with said lever or arm and movable up and down thereby, means on said shaft for giving said feed dog a backward and forward movement, and means on the shaft for giving the knife a backward and forward movement; substantially as described.

11. In a sewing machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed dog, a cam on said shaft for giving said feed dog movement up and down, a cutting member having a connection with said lever or arm and movable thereby, means on said shaft for giving said feed dog a backward and forward movement, and means on the shaft for giving the knife a backward and forward movement, said movements being in opposite directions; substantially as described.

12. In a sewing machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed dog, a knife and knife carrier, a cam on said shaft for giving said feed dog and said knife and knife-carrier their vertical movements, and a cam on the shaft for giving said knife its horizontal movement; substantially as described.

13. In a sewing machine and in combination with the stitching mechanism thereof, a shaft, a feed dog, a lever or arm carrying said feed dog and movable by said shaft, and a knife having a connection with said lever or arm and receiving vertical motion only therefrom, said connection being adjustable whereby the position of said knife may be changed for cutting different thicknesses of material and means for giving said knife a horizontal movement; substantially as described.

14. In a sewing machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed dog, and movable by said shaft, a knife, and an eccentric connecting said knife with said lever or arm, whereby the position of the knife may be changed; substantially as described.

15. In a sewing machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed dog, means on said shaft for giving said feed dog movement, a knife carrier and its knife, means for giving movement to said knife carrier, and an adjustable eccentric connecting said knife carrier with the means for giving it movement whereby the position of the knife may be adjusted; substantially as described.

16. In a sewing machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed dog, a cam on said shaft for giving said lever or arm and its dog an up and down movement, a connection for giving said lever or arm and its dog a backward and forward movement, a knife carrier and its knife and an eccentric connecting said knife carrier and said lever or arm, whereby the knife carrier is moved by said lever or arm and its position is adjustable by said eccentric; substantially as described.

17. In a sewing machine and in combination with the stitching mechanism thereof, a shaft, a lever or arm carrying a feed dog, a cam for giving an up and down movement to said lever or arm, a connection for giving a backward and forward movement to said lever or arm, a knife carrier and its knife, a connection for giving the knife carrier a backward and forward movement, and an eccentric connecting said knife carrier and the lever or arm, whereby said knife carrier is moved by the lever or arm and is adjustable by means of its eccentric; substantially as described.

18. A cutting mechanism including in combination, a work support, feeding mechanism, a cutting device, means for moving said cutting device to sever the material, and means located in advance of the cutting device in the direction of the feed, and operating upon the material for diverting the material out of the path of the cutting device, whereby the cutting action of said cutting device is rendered ineffective.

19. A cutting mechanism including in combination, a work support, feeding mechanism, a cutting device, means for operating said cutting device to sever the material, and a device adapted to engage the under face of the material in advance of the cutting device, whereby said material may be diverted out of the path of the cutting device, and means for raising and lowering said device engaging the under face of the material relative to the work support.

20. A cutting mechanism including in combination, a work support, a feeding mechanism, a cutting device, means for moving said cutting device to sever the material, a member operating upon the material in advance of the cutting device, and movable relative to the work support for adjusting the plane in which the material moves relative to the cutting device.

21. A cutting device including in combination, a work support, feeding mechanism, and a cutting mechanism, and means located in advance of the cutting mechanism operating upon the material for diverting the material out of the path of said cutting mechanism, whereby the cutting action of said cutting mechanism is rendered ineffective.

22. A cutting device, including in combination, a work support, feeding mechanism, a cutting mechanism and means for operating said cutting mechanism, a device engaging the under face of the material passing over the work support, and means for raising and lowering said device relative to the work support.

23. A cutting device including in combination, a work support, a feeding mechanism, a cutting mechanism and means for operating said cutting mechanism, and means movable relatively to the work support and operating upon the material for adjusting the plane in which the material moves.

24. A cutting device including in combination, a work support, a feeding mechanism and a cutting mechanism, including a blade entering between and separating layers of material, and means operating upon the material for adjusting the plane in which said material moves.

25. A cutting device including in combination, a work support, a feeding mechanism, and a cutting mechanism including a blade entering between and separating layers of material, a device for engaging the under face of the material passing over the work support, and means for raising and lowering said device.

26. A cutting device including in combination, a feeding mechanism, a cutting mechanism comprising a blade adapted to enter between and separate superposed layers of fabric, and a device for raising and lowering the material in front of said blade.

27. A cutting device including in combination, a feeding mechanism, a cutting mechanism comprising a blade adapted to enter between and separate superposed layers of fabric, a device for raising and lowering the material in front of said blade, and means for limiting the movement of said device.

28. The combination with a work support and feeding mechanism for feeding the material across the work support, a cutting mechanism including a blade, and a cooperating movable cutter, and means operating upon the material and independent of the cutting mechanism for making said cutter ineffective.

29. The combination with a work support and feeding mechanism, for feeding the material across the work support, of a cutting mechanism including a blade and a coöperating movable cutter for entering between and separating superposed layers of fabric, and means independent of the cutting mechanism, for making said cutter ineffective.

30. The combination with a work support and feeding mechanism for feeding the material across the work support, of a cutting mechanism including coöperating cutting members adapted to sever the material, and means for rendering said cutting mechanism ineffective, comprising a member arranged to be thrown into juxtaposition to the cutting members in advance thereof in the direction of the feed, whereby the material is diverted out of the path of the cutting mechanism.

31. A cutting mechanism including in combination, a work support, a feeding mechanism and a cutting device, means for moving said cutting device to sever the material and a finger normally located below said cutting device and in advance thereof, and movable into juxtaposition to said cutting device, whereby the plane of movement of the material relative to the cutting device may be varied, and means for holding said finger in its adjusted positions.

32. A cutting mechanism including in combination, a work support, feeding mechanism, a cutting device, means for moving said cutting device to sever the material, and means independent of the cutting device located in advance thereof in the direction of feed and operating upon the material for rendering the cutting action of said cutting device ineffective.

33. The combination with a work support and feeding mechanism, for feeding the material across the work support, of a cutting mechanism including a member relatively movable with respect to the work support, and means for rendering the same ineffective, said means comprising a member arranged to be thrown into juxtaposition to the cutting edge of said cutter in advance thereof to allow material to pass over said cutter.

34. The combination with a work support and feeding mechanism, of a cutting mechanism comprising a cutter, a finger normally located below said cutter and in advance thereof, and movable in juxtaposition to the cutting edge of said cutter to allow material to pass over said cutter, and means for holding said finger in position; substantially as described.

35. A cutting mechanism, including in combination, a work support, a feeding mechanism, a cutting device, means for operating the cutting device, and means in advance of and independent of the cutting mechanism and operating upon the material for rendering its cutting action ineffective; substantially as described.

36. A cutting mechanism including in combination a work support, a presser foot, a feeding mechanism for feeding two or more plies of fabric beneath the presser foot, a cutting device including a separating and cutting member adapted to enter between said layers of fabric to support one of said layers, and to cut said other layer, and means independent of the cutting device for rendering its cutting action ineffective; substantially as described.

37. A cutting device including in combination, a work support, feeding mechanism and means for separating superposed layers of fabric and cutting one of said layers and including a member moving substantially at right angles to the work support, and means operating upon the material for rendering the cutting action ineffective during the continued operation of the feeding mechanism.

38. In a sewing machine, in combination with stitch-forming mechanism, a cutting device including means for separating superposed layers of fabric and cutting one of said layers and including a member moving substantially at right angles to the work support, and means operating upon the material for rendering the cutting device ineffective.

39. In a sewing machine, the combination with a work support, stitch-forming mechanism, a feeding mechanism and a cutting mechanism including a cutting device having a point adapted to penetrate a folded fabric, and separate superposed layers of fabric and cut one of said layers, means for actuating said cutting device, and means for rendering the cutting device ineffective.

40. A cutting device including in combination cutting members, means for causing them to coöperate to perform the severing action, and means for rendering the cutting action ineffective during the continued movement of the cutting device, said means being located in advance of the cutter in the line of feed operating upon the material, and being independent of the cutting mechanism.

41. In a sewing machine and in combination with the stitching mechanism thereof, cutting mechanism comprising a blade and a movable cutter, and means independent of the cutting mechanism and operating upon the material for making said cutter ineffective; substantially as described.

42. In a sewing machine and in combination with the stitching mechanism thereof, a cutter, and means for making said cutter ineffective, comprising a member arranged to be thrown in juxtaposition to the cutting edge of said cutter to allow material to pass over said cutter; substantially as described.

43. In a sewing machine and in combination with the stitching mechanism thereof, cutting mechanism comprising a cutter, a finger normally located below said cutter, and movable in juxtaposition to the cutting edge of said cutter to allow material to pass over said cutter, and means for holding said finger in either of its positions; substantially as described.

44. In a sewing machine and in combination with the stitching mechanism thereof, cutting mechanism comprising a cutter, a finger normally located below said cutter and movable into position to allow material to pass over said cutter, a lever for moving said finger, and means for holding said lever in position; substantially as described.

45. In a sewing machine and in combination with the stitching mechanism thereof, cutting mechanism comprising a cutter, a finger normally located below said cutter, a lever for moving said finger into position to allow material to pass over said cutter, and means for holding said lever in either of its positions and for adjusting said lever and its finger; substantially as described.

46. In a sewing machine and in combination with the stitching mechanism thereof, cutting mechanism comprising a cutter, a finger normally located below said cutter, and movable into position to allow material to pass over said cutter, a lever for moving said finger, means for holding said lever in either of its positions, and a screw for changing the limit of movement of said lever; substantially as described.

47. In a sewing machine and in combination with cutting and stitching mechanisms thereof, said cutting mechanism being located in advance of said stitching mechanism, a presser foot co-acting with said cutting mechanism and having a vertical guiding wall projecting from its lower side and a ledge or flange projecting therefrom, whereby one layer may be guided and fed under the ledge or flange; substantially as described.

48. In a sewing machine and in combination with cutting and stitching mechanisms thereof, said cutting mechanism being located in advance of said stitching mechanism, a presser foot coacting with said cutting mechanism and having a vertical wall acting as a guide for a

strip of material, and a ledge or flange projecting laterally from said vertical wall, said ledge or flange having a passage between it and the foot proper; substantially as described.

49. In a sewing machine and in combination with the stitching mechanism thereof, feeding mechanism, and cutting mechanism comprising a fixed blade and a movable cutter, the latter projecting forward over the cloth plate and having both forward and downward movements, the feeding mechanism moving backward in its feeding movement simultaneously with the forward cutting movement of said movable cutter; substantially as described.

50. In a sewing machine and in combination with the stitching mechanism thereof, cutting mechanism comprising a blade having a piercing point, said blade having a forward movement to pierce a folded fabric and a downward movement to cut the lower ply of said fabric; substantially as described.

DESIGNS.

41,023. EMBLEM. NATHAN JOSEPH, San Francisco, Cal. Filed Sept. 28, 1910. Serial No. 584,381. Term of patent 14 years.



The ornamental design for an emblem as shown.

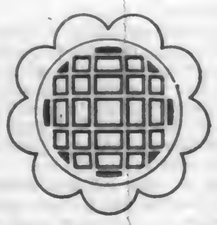
41,024. FRATERNAL EMBLEM. GEORGE E. NEARNEY, Attleboro, Mass. Filed Oct. 1, 1910. Serial No. 584,950. Term of patent 14 years.



The ornamental design for a fraternal emblem, as shown.

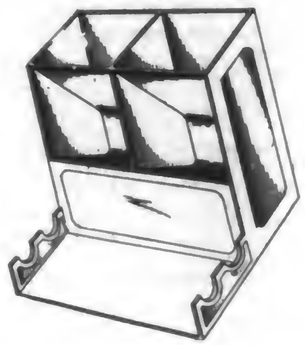
41,025. FLOWER-HOLDER. REUBEN HALEY, Beaver, Pa., assignor to Jefferson Glass Company, Follansbee, W. Va. Filed Oct. 22, 1910. Serial No. 588,575. Term of patent 7 years.





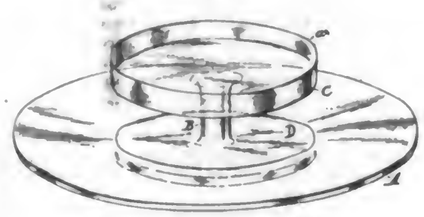
The ornamental design for a flower holder, as shown.

41,026. PEN-RACK AND PAPER-CLIP HOLDER. WILLIS H. PAIGE, Kansas City, Mo. Filed Aug. 8, 1910. Serial No. 576,265. Term of patent 7 years.



The ornamental design for a pen rack and paper clip holder, as shown.

41,027. DISH. WILLIAM H. KREBS, New Bedford, Mass. Filed Jan. 19, 1909. Serial No. 473,200. Term of patent 7 years.



The ornamental design for a dish as shown and described.

41,028. CAN. EMMA R. LEE THAYER, Hastings-upon-Hudson, N. Y., assignor to Bruguier Chemical Co., Newark, N. J., a Corporation of New Jersey. Filed July 16, 1910. Serial No. 572,384. Term of patent 14 years



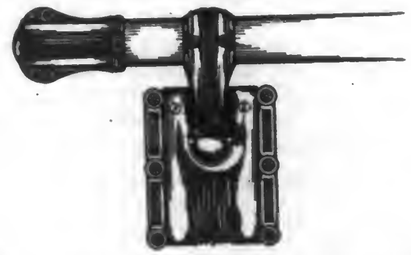
The ornamental design for a can as shown and described.

41,029. REFLECTOR OR SIMILAR ARTICLE. WILLIAM A. DOREY, New York, N. Y. Filed Nov. 20, 1909. Serial No. 529,156. Term of patent 14 years.



The ornamental design for a reflector or similar article, substantially as shown and described.

41,030. BURIAL-CASKET HANDLE. CHARLES BLESCH, Newport, Ky., assignor to The Crane & Breed Manufacturing Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Oct. 17, 1910. Serial No. 587,635. Term of patent 7 years.



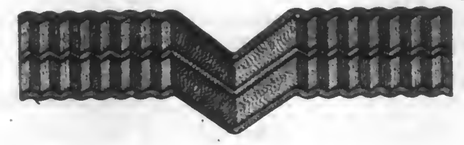
The ornamental design for a burial-casket handle as shown.

41,031. NECKSCARF OR MUFFLER. SAMUEL S. SAMPLINER, Cleveland, Ohio, assignor to N. J. Rich & Company, a Partnership consisting of N. J. Rich, H. J. Rich, and S. S. Sampliner, Cleveland, Ohio. Filed July 19, 1910. Serial No. 572,749. Term of patent 7 years.



The ornamental design for a neck scarf or muffler, as shown and described.

41,032. NECKSCARF OR MUFFLER. SAMUEL S. SAMPLINER, Cleveland, Ohio, assignor to N. J. Rich & Company, a Partnership consisting of N. J. Rich, H. J. Rich and S. S. Sampliner, Cleveland, Ohio. Filed July 23, 1910. Serial No. 573,588. Term of patent 7 years



The ornamental design for a neck scarf or muffler as shown and described.

TRADE-MARKS

PUBLISHED DECEMBER 6, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 20,177. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) MAATSCHAPPIJ TOT VOORTZETTING DER ZAKEN VAN DER LINDE & TEVES, Amsterdam, Holland. Filed June 9, 1906.



Particular description of goods.—Plows, Harrows, Shovels, Rakes, Spades, Knives, Files, Saws, Bores, Planes, Scissors, and Hatchets.

Ser. No. 33,273. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) HOWARD F. G. CLARK, Syracuse, N. Y. Filed Mar. 9, 1908.

IMRESCO

Particular description of goods.—Antiseptic Surgical Dressings.

Ser. No. 40,289. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) GEORGIA BARBECUE SAUCE CO., Atlanta, Ga. Filed Feb. 1, 1909.



No claim being made to the words "Georgia Barbecue Sauce" and the outline representation of the map of Georgia.

Particular description of goods.—A Sauce.

Ser. No. 42,835. (CLASS 50. MERCHANDISE NOT OTHWISE CLASSIFIED.) FRANK E. BESSLER, Akron, Ohio. Filed June 4, 1909.

F. E. Bessler.

Which consists of the applicant's signature.
Particular description of goods.—A Movable Stairway.

Ser. No. 44,658. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) THE CHAS. A. MAISH CO., Cincinnati, Ohio. Filed Sept. 13, 1909.

Meisalind

Particular description of goods.—Cotton Piece Goods.

Ser. No. 44,932. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE LUNKENHEIMER COMPANY, Cincinnati, Ohio. Filed Sept. 24, 1909. Used ten years.

LUNKENHEIMER

Particular description of goods.—Grease-Cups, Oil-Cups, and Wrenches.

Ser. No. 45,389. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) NATIONAL CARBON COMPANY, Cleveland, Ohio. Filed Oct. 18, 1909.

COPHITE

Particular description of goods.—Electrical Conducting Material Made of a Mixture of Finely-Divided Metal and Carbon and Electrical Brushes and Electrical Machine-Bearings Made Therefrom.

Ser. No. 45,551. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) FOREIGN STEEL COMPANY, Hoboken, N. J., and New York, N. Y. Filed Oct. 26, 1909.

L.A.W.

Particular description of goods.—Files.

Ser. No. 46,237. (CLASS 39. CLOTHING.) THE MILLER BROS. STAR SHOE CO., Cleveland, Ohio. Filed Dec. 1, 1909.

SHOES UNITED

No claim being made to the word "Shoes."
Particular description of goods.—Boots and Shoes.

Ser. No. 46,363. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE CUTAWAY HARROW CO., Haddam, Conn. Filed Dec. 8, 1909. Used ten years.

FARMERS FAVORITE

Particular description of goods.—Mills for Grinding Fruit and Similar Substances.

Ser. No. 47,120. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) HARRY VISSERING & COMPANY, Louisville, Ky., and Chicago, Ill. Filed Jan. 14, 1910.

VILCO

Particular description of goods.—Compressed-Air and Steam Fluid-Pressure Track-Sanding Apparatus; Compressed-Air and Steam Fluid-Pressure Bell-Ringing Apparatus; Lubricator Devices; Lubricator Casings, Plugs, and Caps; Bushings for Track-Sanding Apparatus; and Parts Thereof.

Ser. No. 47,693. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) KENTUCKY REFINING CO., Louisville, Ky. Filed Feb. 9, 1910.

DESPOT

Particular description of goods.—Cotton-Seed Oil.

Ser. No. 47,883. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) GEORGE J. GEER, New York, N. Y. Filed Feb. 18, 1910.

PATRICIA

Particular description of goods.—Woolen Fiber, Worsted Fiber, Silk Fiber, Mohair Fiber, and Cotton Fiber Piece Goods and Piece Goods Made of a Combination of Two or More of Those Fibers.

Ser. No. 47,884. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) GEORGE J. GEER, New York, N. Y. Filed Feb. 18, 1910.

INDITA

Particular description of goods.—Woolen Fiber, Worsted Fiber, Mohair Fiber, and Cotton Fiber Piece Goods and Piece Goods Made of a Combination of Two or More of Those Fibers.

Ser. No. 47,885. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) GEORGE J. GEER, New York, N. Y. Filed Feb. 18, 1910.

PRISCILLA

Particular description of goods.—Woolen Fiber, Worsted Fiber, Silk Fiber, Mohair Fiber, and Cotton Fiber Piece Goods and Piece Goods Made of a Combination of Two or More of Those Fibers.

Ser. No. 49,218. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) GRIFFITH-DURNEY COMPANY, San Francisco, Cal. Filed Apr. 21, 1910.

CARNATION

Particular description of goods.—Canned Salmon.

Ser. No. 49,884. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE CARR MILLING CO., Hamilton, Ohio. Filed May 23, 1910.



Which is the fanciful representation of a lady in the act of using a telephone and the word "Telephone" in script letters displayed at an angle across the picture.
Particular description of goods.—Wheat-Flour.

Ser. No. 49,918. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE HENRY MUHS COMPANY, Passaic, N. J. Filed May 25, 1910.

TARGET BRAND

No claim is made to the word "Brand."
Particular description of goods.—A Compound of Refined Cotton-Seed Oil and Oleo-Stearin.

Ser. No. 49,988. (CLASS 39. CLOTHING.) BROWN DURRELL CO., Boston, Mass. Filed May 28, 1910. Used ten years.

Boston Mills

Particular description of goods.—Men's, Women's, and Children's Knitted Shirts, Vests, Drawers, and Union Suits.

Ser. No. 50,031. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) FRITZ ERLE GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, Cöln-Nippes, Germany. Filed June 1, 1910.

Erla

Particular description of goods.—Orange-Flavored Aerated Non-Alcoholic Fruit Drinks.

Ser. No. 50,264. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WELLS FLOUR MILLING COMPANY, Wells, Minn. Filed June 11, 1910.

KING KOLE

Particular description of goods.—Wheat-Flour.

Ser. No. 50,301. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) HARRY W. DE FOREST, St. John, New Brunswick, Canada, and Boston, Mass. Filed June 13, 1910.



Which consists of my portrait.
Particular description of goods.—Tea.

Ser. No. 50,574. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) INDEPENDENT BAKING COMPANY, Davenport, Iowa. Filed June 25, 1910.

NEMO

Particular description of goods.—Biscuit.

Ser. No. 50,692. (CLASS 15. OILS AND GREASES. THE BOURGEOIS COMPANY, Omaha, Nebr. Filed July 1910.

COMMANDMENT BRAND

Particular description of goods.—Beeswax Candles.

Ser. No. 50,846. (CLASS 43. THREAD AND YARN. THE BARBOUR BROS. CO., Paterson, N. J. Filed Jul 15, 1910. Used ten years.

BARBOUR'S

Particular description of goods.—Linen Thread.

Ser. No. 50,966. (CLASS 37. PAPER AND STATIONERY.) SALUBRATAPETEN-FABRIK BASEL, Grenzach, Baden, Germany, and Basel, Switzerland. Filed July 21, 1910.



Particular description of goods.—Wall-Coverings Made of Paper.

Ser. No. 51,016. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) WARD-TRUITT COMPANY, Atlanta, Ga. Filed July 23, 1910.



Particular description of goods.—Lace, Shawls, Ribbon, Elastic Webbing, Canvas, and Damasks.

Ser. No. 51,061. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) AKIN-ERSKINE MILLING COMPANY, Evansville, Ind. Filed July 26, 1910.

JUBILEE

Particular description of goods.—Wheat-Flour.

Ser. No. 51,096. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) EDWARD L. MERTZ, Fort Wayne, Ind. Filed July 26, 1910.

LOCOS

Particular description of goods.—Remedies for Coughs, Colds, La Grippe, Constipation, Dyspepsia, Dyspeptic Headache, Diseases of the Blood, Kidney Disorders, Diabetes, Lumbago, Rheumatism, Backache, Weak Back, Inflammation of the Bladder, Stone in the Bladder, Gout, Gravel, Heart Trouble, Urinary Diseases, and a Liniment for Neuralgia, Sciatica, Pain in Back or Chest, Pleurisy, Stiff Joints, Sore Feet, Sprains, Bruises, Frost-Bites, Cuts, Sore Muscles, Tender Feet, Bunions, Headache, Mosquito-Bites, and Skin Troubles.

Ser. No. 51,183. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) VIRGINIA CANNING CO., Petersburg, Ill. Filed July 30, 1910.

OLD SALEM



No claim being made to the words "Old Salem" and the words "at the Old Salem Chatauqua Grounds."

Particular description of goods.—Canned Fruits, Canned Vegetables, Canned Baked Beans, Canned Pork and Beans, Canned Lye-Hominy, and Canned Sauer-Kraut.

Ser. No. 51,209. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) ROBERT L. JOHNSTONE, New York, N. Y. Filed Aug. 1, 1910.

MO-JOES

Particular description of goods.—Chewing-Gum.

Ser. No. 51,386. (CLASS 37. PAPER AND STATIONERY.) THE R. F. MARLEY COMPANY, Terre Haute, Ind. Filed Aug. 13, 1910.



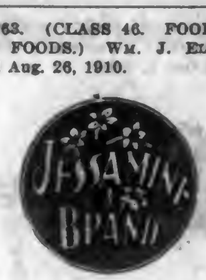
Particular description of goods.—Writing-Tablets, Drawing-Tablets, Box Letter-Files, Type-Writer Paper, and Note-Books.

Ser. No. 51,415. (CLASS 15. OILS AND GREASES.) CLARENCE SCHOCK, Mount Joy, Pa. Filed Aug. 16, 1910.



Particular description of goods.—Gasolene and Illuminating-Oils.

Ser. No. 51,563. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WM. J. ELLSWORTH, Blanton, Fla. Filed Aug. 26, 1910.



Particular description of goods.—Oranges, Lemons, Grape-Fruit, Tangerines, and Limes.

Ser. No. 51,569. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) PELICAN LAKE OYSTER & PACKING COMPANY, LTD., Houma, La. Filed Aug. 26, 1910.

"CREOLE"

Particular description of goods.—Canned Oysters and Canned Shrimp.

Ser. No. 51,585. (CLASS 22. GAMES, TOYS, AND SPORTING GOODS.) SAMSTAG & HILDER BROTHERS, New York, N. Y. Filed Aug. 27, 1910.



Particular description of goods.—Animal-Dolls.

Ser. No. 51,622. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) E. MERCK, Darmstadt, Germany. Filed Aug. 30, 1910. Used ten years.



Particular description of goods.—Acetals; Acetones; Acetylenes; Acids; Aethyl Compounds; Albuminoids; Albumoses; Aldehydes; Aldoses; Aldoxims; Alizarins; Alkali Albuminates; Alkalies; Alkaloids and Their Compounds, Derivatives, and Salts; Alums; Amids; Amido Compounds and Derivatives; Amin Compounds and Their Derivatives; Ammonia Compounds; Amyl Compounds; Amylenes; Anilids; Anilins and Derivatives, Compounds, Colors, and Dyes; Anthracene Derivatives; Azo Compounds; Bases, Organic and Inorganic; Benzene and Derivatives; Bitter Principles; Butylenes; Camphors; Carbids; Carbinols; Carbohydrates; Carbylamins; Chinons; Colloids; Cresols; Cyanogen Derivatives; Diamins; Esters; Ethers, Simple and Compound; Gases, Compressed and in Solution; Gelatinoids; Globulins; Glucosids; Glycerins; Glycols; Halogen Derivatives, Compounds, and Substitution Products; Hydrazins; Hydrazones; Keratins; Ketones; Ketoxims; Mercaptals; Mercaptans; Mercaptids; Mercaptols; Methyl Compounds; Naphthols; Neutral Principles; Nitranilins; Nitriles; Nitrogen Compounds; Nitrolamins; Nitrophenols; Nitrosites; Nitrotoluenes; Nucleins; Nucleodiumins; Fatty, Ethereal, Expressed, Essential, and Distilled Olefins and Derivatives; Oxims; Peptones; Phenols; Phenylenediamins; Photographic Developers, Reducers, Intensifiers, and Fixing Agents; Propanols; Propyl Compounds; Proteids; Proximate Principles; Reagents; Reducing Agents; Resinols; Salts; Sulfo-Alcohols; Sulfo-Ethers; Terpanes; Thio-Ethers; Ureids; Urethanes; Vitellins; Xylenes; Xylenols; Xylidins.

Ser. No. 51,677. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) CATHERINE L. MELLYNN, San Francisco, Cal. Filed Sept. 6, 1910.

WITCH OLIO

Particular description of goods.—Superfluous-Hair Remover.

Ser. No. 51,680. (CLASS 14. METALS AND METAL CASTINGS AND FORGINGS.) COCKER BROS. LTD., Sheffield, England. Filed Sept. 6, 1910.

SIMETEORA

Particular description of goods.—Tool-Steel and Steel in Bar, Rod, Rail, and other Unwrought and Partly-Wrought Forms.

Ser. No. 51,687. (CLASS 2. RECEPTACLES.) CROWN-COLUMBIA PULP & PAPER CO., San Francisco, Cal. Filed Sept. 6, 1910. Used ten years.

Crown



Particular description of goods.—Paper Bags.

Ser. No. 51,710. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) LOUIS METZGER & CO., New York, N. Y. Filed Sept. 7, 1910.

Naustrige

Particular description of goods.—Hat-Trimmings Made of Ribbozene and Chenille.

Ser. No. 51,750. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) RICHHEIMER & CO., Chicago, Ill. Filed Sept. 10, 1910.

Yours Truly

Particular description of goods.—Coffees.

Ser. No. 51,816. (CLASS 39. CLOTHING.) EMERY & MARSHALL, Haverhill, Mass. Filed Sept. 14, 1910.

EM

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 51,895. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) SHERRIFFS BROS. COMPANY, Healdsburg, Cal. Filed Sept. 20, 1910.

ELK

Particular description of goods.—Dried Prunes.

Ser. No. 51,932. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) ALB. & E. HENKELS, Langerfeld, Germany, and Bridgeport, Conn. Filed Sept. 23, 1910.

"H"

Particular description of goods.—Laces.

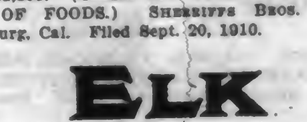
Ser. No. 51,951. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) MAURICE F. SCHLESINGER, New York, N. Y. Filed Sept. 24, 1910.

TAPS

Particular description of goods.—A Cathartic Tablet.

Ser. No. 51,958. (CLASS 50. MERCHANDISE NOT OTHERWISE CLASSIFIED.) YESTERLAID EGG FARMS CO., Pacific, Mo. Filed Sept. 26, 1910.

CHANTECLER



Particular description of goods.—Chicken-Coops.

Ser. No. 52,041. (CLASS 39. CLOTHING.) ROY CLIFFORD JONES, Braddock, Pa. Filed Sept. 30, 1910.

WALKOVER

Particular description of goods.—Hats, Caps, and Helmets.

Ser. No. 52,061. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) KROWER & TYNBERG, New York, N. Y. Filed Oct. 1, 1910.



Particular description of goods.—White Embroideries.

Ser. No. 52,069. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) ECLIPSE WHITE LEAD AND COLOR COMPANY, New York, N. Y. Filed Oct. 3, 1910.

HERALD

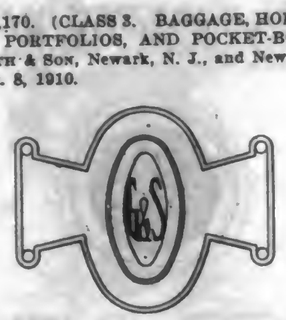
Particular description of goods.—White Lead, White Pigments Ground in Oil, Colors Ground in Oil, and Ready-Mixed Paints.

Ser. No. 52,082. (CLASS 37. PAPER AND STATIONERY.) KEUFFEL & ESSER COMPANY, Hoboken, N. J. Filed Oct. 3, 1910.

Schola

Particular description of goods.—Ledger, Bond, and Drawing Paper.

Ser. No. 52,170. (CLASS 3. BAGGAGE, HORSE EQUIPMENTS, PORTFOLIOS, AND POCKET-BOOKS.) L. GOLDSMITH & SON, Newark, N. J., and New York, N. Y. Filed Oct. 8, 1910.



Particular description of goods.—Trunks, Traveling-Bags, and Suit-Cases.

Ser. No. 52,187. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE PERRY MANUFACTURING COMPANY, Denver, Colo. Filed Oct. 10, 1910.

VICTOR

Particular description of goods.—Vacuum Cleaning-Machines.

Ser. No. 52,208. (CLASS 15. OILS AND GREASES.) THE TEXAS COMPANY, Houston, Tex. Filed Oct. 11, 1910.

SCALE BRAND



Particular description of goods.—Kerosene.

Ser. No. 52,209. (CLASS 15. OILS AND GREASES.) THE TEXAS COMPANY, Houston, Tex. Filed Oct. 11, 1910.



HERCULES

Particular description of goods.—Kerosene.

Ser. No. 52,367. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) ADOLPH KASTOR & BROS., New York, N. Y. Filed Oct. 21, 1910.

PATHFINDER

Particular description of goods.—Razors, Pocket-Knives, Scissors, Shears, Hunting-Knives, Butcher-Knives, Carvers, and Table-Knives.

Ser. No. 52,405. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) PACIFIC MILLS, Lawrence and Boston, Mass. Filed Oct. 24, 1910.



Particular description of goods.—Wool and Cotton Piece Goods.

Ser. No. 52,421. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) J. G. DAVIS CO., Rochester, N. Y. Filed Oct. 24, 1910.

GRANITE

Particular description of goods.—Wheat-Flour.

Ser. No. 52,422. (CLASS 31. FILTERS AND REFRIGERATORS.) THE JOHN C. JEWETT MFG. CO., Buffalo, N. Y. Filed Oct. 24, 1910.

KITCHENETTE

Particular description of goods.—Refrigerators.

Ser. No. 52,439. (CLASS 35. BELTING, HOSE, MACHINERY PACKING, AND NON-METALLIC TIRES.) GORHAM RUBBER COMPANY, San Francisco, Cal. Filed Oct. 25, 1910.

GRIZZLY

Particular description of goods.—Rubber Belting, Rubber Hose, Cotton Rubber-Lined Hose, Machinery Packing in Which Rubber is One of the Principal Ingredients, and Rubber Tires.

Ser. No. 52,454. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) ROGERS & THOMPSON, West New York, N. J., and New York, N. Y. Filed Oct. 26, 1910.

Pluvette

Particular description of goods.—Waterproofed and Spot-Proofed Silks.

Ser. No. 52,480. (CLASS 22. GAMES, TOYS, AND SPORTING GOODS.) ERNEST H. JACKSON, New York, N. Y. Filed Oct. 27, 1910.

SOLDIER BOY

Particular description of goods.—A Game.

Ser. No. 52,493. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE WALTER M. LOWNEY COMPANY, Boston, Mass. Filed Oct. 28, 1910.

SOUVENIR

Particular description of goods.—Candies.

Ser. No. 52,704. (CLASS 39. CLOTHING.) CENTRAL KNITTING COMPANY, St. Louis, Mo. Filed Nov. 10, 1910.



Particular description of goods.—Hosiery.

Ser. No. 52,709. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) AUGUSTUS A. SCHOENHEIT, San Jose, Cal. Filed Nov. 10, 1910.



Particular description of goods.—A Corn Remedy.

TRADE-MARKS

REGISTERED DECEMBER 6, 1910.

80,297. SAFETY-MATCHES. AKTIESELSKABET BRYN TÆNDSTIKFABRIK, Bryn, Norway.
Filed July 20, 1909. Serial No. 43,651. PUBLISHED MARCH 15, 1910.

80,298. SAFETY-MATCHES. AKTIESELSKABET BRYN TÆNDSTIKFABRIK, Bryn, Norway.
Filed July 20, 1909. Serial No. 43,652. PUBLISHED MARCH 15, 1910.

80,299. [WITHDRAWN.]

80,300. METALLIC PLATES TO BE USED TO REINFORCE COMPOSITION FLOORING. THE BERGER MANUFACTURING COMPANY, Canton, Ohio.
Filed December 2, 1909. Serial No. 46,256. PUBLISHED OCTOBER 4, 1910.

80,301. ALL KINDS OF CANDIES. ISAAC EMANUEL BLOCK, Chicago, Ill.
Filed June 3, 1910. Serial No. 50,084. PUBLISHED OCTOBER 4, 1910.

80,302. CERTAIN TOILET PREPARATIONS. SCHUYLER COLFAX BOROM, Minneapolis, Minn.
Filed June 13, 1910. Serial No. 50,289. PUBLISHED OCTOBER 4, 1910.

80,303. SOAP. THE BURCKHARDT COMPANY, Cincinnati, Ohio.
Filed June 17, 1910. Serial No. 50,409. PUBLISHED OCTOBER 4, 1910.

80,304. CANNED VEGETABLES. CALIFORNIA CANNERIES CO., San Francisco, Cal.
Filed August 25, 1908. Serial No. 36,936. PUBLISHED JULY 27, 1909.

80,305. TOOTH, NAIL, HAIR, CLOTHES, AND COMPLEXION BRUSHES. DEITSCH BROTHERS, New York, N. Y.
Filed July 23, 1910. Serial No. 51,014. PUBLISHED OCTOBER 4, 1910.

80,306. AUTOMOBILES. DETROIT-DEARBORN MOTOR CAR CO., Detroit, Mich.
Filed January 20, 1910. Serial No. 47,265. PUBLISHED JUNE 21, 1910.

80,307. MATTRESSES, BOX-SPRINGS, AND PILLOWS. DIXIE COTTON FELT MATTRESS COMPANY, Chicago, Ill.
Filed June 9, 1910. Serial No. 50,211. PUBLISHED OCTOBER 4, 1010.

80,308. HONES, OILSTONES, AND WHETSTONES. SEVERIN ROBERT DROESCHER, New York, N. Y.
Filed June 27, 1910. Serial No. 50,601. PUBLISHED OCTOBER 4, 1910.

80,309. CIGARETTES. ERWIN-NADAL TOBACCO CO., Wilson, N. C.
Filed April 30, 1910. Serial No. 49,398. PUBLISHED OCTOBER 4, 1910.

80,310. STENCIL-PAPER AND STENCILS. LOUIS E. FULLER, New York, N. Y.
Filed July 21, 1910. Serial No. 50,965. PUBLISHED OCTOBER 4, 1910.

80,311. CARBONATED TONIC BEVERAGE AND SYRUP FOR MAKING SAME. CONRAD C. GAUTIER, Greencastle, Ind.
Filed April 16, 1910. Serial No. 49,160. PUBLISHED OCTOBER 4, 1910.

80,312. SHOES AND SLIPPERS. DANIEL GREEN FELT SHOE COMPANY, New York and Dolgeville, N. Y.
Filed May 27, 1910. Serial No. 49,947. PUBLISHED OCTOBER 4, 1910.

80,313. CALCULATING-MACHINES. GRIMME, NATALIS & CO., KOMMANDITGESELLSCHAFT AUF AKTIEN, Brunswick, Germany.
Filed March 3, 1910. Serial No. 48,149. PUBLISHED JULY 19, 1910.

80,314. WOOLEN AND COTTON PIECE GOODS. HAMILTON WOOLEN COMPANY, Boston, Mass.
Filed March 12, 1910. Serial No. 48,360. PUBLISHED MAY 24, 1910.

80,315. GINGHAMS. HARRIS-LIPSITZ COMPANY, Dallas, Tex., and New York, N. Y.
Filed March 21, 1910. Serial No. 48,577. PUBLISHED OCTOBER 4, 1910.

80,316. LUMBER, LOGS, VENEER, SHINGLES, AND LATHS. HOFFMAN BROTHERS COMPANY, Fort Wayne, Ind.
Filed February 12, 1910. Serial No. 47,784. PUBLISHED MAY 10, 1910.

80,317. CANNED FRUITS, VEGETABLES, PORK AND BEANS, SAUER-KRAUT, AND HOMINY. KOTHE, WELLS & BAUER COMPANY, Indianapolis, Ind.
Filed May 27, 1910. Serial No. 49,954. PUBLISHED OCTOBER 4, 1910.

80,318. WRITING AND PRINTING PAPER. LASHER & LATHROP, INC., New York, N. Y.
Filed February 1, 1910. Serial No. 47,505. PUBLISHED MAY 3, 1910.

80,319. MECHANICALLY-OPERATED SIGNAL HORNS AND ALARMS. LOVELL-MCCONNELL MANUFACTURING COMPANY, Newark, N. J.
Filed April 16, 1910. Serial No. 49,155. PUBLISHED OCTOBER 4, 1910.

80,320. PLASTIC COMPOSITIONS. MAGNESITE BUILDING MATERIAL COMPANY, LIMITED, Boise, Idaho.
Filed July 20, 1910. Serial No. 50,947. PUBLISHED OCTOBER 4, 1910.

80,321. WHEAT-FLOUR. MALDONADO & CO., INC., San Francisco, Cal.
Filed March 26, 1908. Serial No. 33,672. PUBLISHED JANUARY 11, 1910.

80,322. FERTILIZERS. MAYER FERTILIZER & JUNE COMPANY (by change of name now The Mayer Fertilizer Co.), St. Louis, Mo.
Filed May 8, 1905. Serial No. 4,612. PUBLISHED JUNE 19, 1906.

80,323. COLD-CREAM. FREDERICK MEINHARD, Peoria, Ill.
Filed May 12, 1910. Serial No. 49,656. PUBLISHED OCTOBER 4, 1910.

80,324. REMEDY FOR COLIC IN THE LARGE AND SMALL INTESTINES. SAMUEL A. MURPHY, Columbia, S. C.
Filed September 28, 1909. Serial No. 44,995. PUBLISHED OCTOBER 4, 1910.

80,325. SOAP. THE M. & J. SCHNAIBLE COMPANY, La Fayette, Ind.
Filed July 17, 1909. Serial No. 43,602. PUBLISHED SEPTEMBER 28, 1909.

80,326. LARD. SPRINGFIELD PROVISION CO., Nashua, N. H., and Springfield, Mass.
Filed December 29, 1909. Serial No. 46,768. PUBLISHED AUGUST 16, 1910.

80,327. RUBBER NIPPLES. THE STAR RUBBER CO., Akron, Ohio.
Filed November 11, 1908. Serial No. 38,574. PUBLISHED NOVEMBER 2, 1909.

80,328. CANNED PEARS. STETSON-BARRET CO., Los Angeles, Cal.
Filed July 30, 1910. Serial No. 51,187. PUBLISHED OCTOBER 4, 1910.

80,329. CANNED MEATS AND SAUSAGES. VETTE & ZUNCKER PACKING COMPANY, Chicago, Ill.
Filed July 24, 1908. Serial No. 36,292. PUBLISHED JANUARY 11, 1910.

80,330. PIANOS. WALLACH MUSIC CO., Marion, Ind.
Filed July 28, 1910. Serial No. 54,119. PUBLISHED OCTOBER 4, 1910.

80,331. WHEAT-FLOUR. WESTERN FLOUR MILL COMPANY, Davenport, Iowa.
Filed June 8, 1910. Serial No. 50,197. PUBLISHED OCTOBER 4, 1910.

80,332. CERTAIN FURNITURE. EMIL WILLBRANDT, St. Louis, Mo.
Filed April 25, 1910. Serial No. 49,274. PUBLISHED OCTOBER 4, 1910.

80,333. PLAIN WHITE, DYED, AND PRINTED PERCALE. THE WINDSOR PRINT WORKS, North Adams, Mass., and New York, N. Y.
Filed June 17, 1910. Serial No. 50,392. PUBLISHED OCTOBER 4, 1910.

80,334. PLAIN WHITE, DYED, AND PRINTED PERCALE. THE WINDSOR PRINT WORKS, North Adams, Mass., and New York, N. Y.
Filed June 17, 1910. Serial No. 50,393. PUBLISHED OCTOBER 4, 1910.

80,335. RUFFLES. MLLE. WOLFE CO., Philadelphia, Pa.
Filed July 14, 1910. Serial No. 50,829. PUBLISHED OCTOBER 4, 1910.

LABELS

REGISTERED DECEMBER 6, 1910.

15,415.—*Title:* "WILD FLOWER HONEY." (For Honey.) FREDERICK C. AMEISS, St. Louis, Mo. Filed November 25, 1910.

15,416.—*Title:* "LET THE LITTLE BROWNIES DO THE WORK." (For Laxatives.) BROWN DRUG CO., Vancouver, Wash. Filed October 25, 1910.

15,417.—*Title:* "DARN-LESS HOSIERY." (For Hosiery.) BUSTER BROWN HOSIERY MILLS, Chattanooga, Tenn. Filed November 11, 1910.

15,418.—*Title:* "CREDITOR'S BLUE-LEDGER." (For Ledgers.) D. F. DAVENPORT, Americus, Ga. Filed November 2, 1910.

PRINTS

REGISTERED DECEMBER 6, 1910.

2,671.—*Title:* "DON'T FORGET CREAM OF WHEAT." (For Wheat Breakfast Food.) CREAM OF WHEAT CO., Minneapolis, Minn. Filed November 26, 1910.

2,672.—*Title:* "CLUETT SHIRTS." (For Shirts.) CLUETT, PEABODY & COMPANY, Troy, N. Y. Filed October 22, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

BLOOD *v.* ROSS.

Decided November 21, 1910.

1. INTERFERENCE—MOTION TO DISSOLVE—TRANSMISSION.
The transmission of motions to dissolve is left largely to the discretion of the Examiner of Interferences, and his decision granting a motion to transmit will be disturbed only upon a clear showing of abuse of discretion.

2. SAME—SAME—SAME—ONE OF THE PARTIES A PATENTEE.
A motion to dissolve alleging that the counts have different meanings in the two cases and that R. has no right to make the claims *Held* properly transmitted, notwithstanding the fact that R. is a patentee.

3. SAME—SAME—SAME—SAME.
In an interference involving a patentee and an applicant a motion to dissolve brought by the applicant and alleging that if the counts be construed broadly enough to read on both cases they are unpatentable *Held* properly refused transmission.

APPEAL on motion.

CUTTER-HEAD FOR PLANERS.

Mr. George H. Maxwell and *Messrs. Meyers, Cushman & Rea* for Blood.

Messrs. Linthicum, Belt & Fuller for Ross.

MOORE, *Commissioner:*

This case is before me upon appeal by both parties to the interference from the decision of the Examiner of Interferences rendered upon a motion of Blood to transmit his motion to dissolve the interference.

The motion of Blood for dissolution alleges:

(1) That the issue of the interference has different meanings when applied to the patent of Ross and the application of Blood.
(2) That Ross has no right to make the claim constituting the subject-matter of the issue.
(3) That if the issue be construed broadly so as to cover both the Ross patent and the Blood application, the same is unpatentable over various references cited.

The Examiner of Interferences transmitted grounds 1 and 2 of the motions to dissolve and refused to transmit ground 3 thereof.

Blood appealed from the portion of the decision of the Examiner of Interferences declining to transmit the third ground of his motion, while Ross appealed from transmission of the first two grounds of the motion to dissolve.

The record shows that Ross has a patent issued October 26, 1909, upon an application filed May 31, 1906; that the application of Blood was filed prior to the issuance of said patent, and that after the issue of the Ross patent Blood copied therefrom the claim forming the issue and requested the declaration of an interference.

Ross contends that by reason of the fact that he has a patent his opponent is estopped from urging the grounds of his motion, irrespective of whether said patent was properly or inadvertently granted.

Under the practice set forth in *Pickard* v. *Ashton and Curtis*, (137 O. G., 977;) *Thiem* v. *Bowen*, (143 O. G., 1345,) and *Knight* v. *Cutler* (140 O. G., 1119) the transmission of motions to dissolve is left largely to the discretion of the Examiner of Interferences, and his decision granting a motion to transmit will be disturbed only upon a clear showing of abuse of discretion. I find no such showing to exist in the present case, and the appeal of Ross is accordingly dismissed.

It may be said, however, that under the provisions of section 4904 of the Revised Statutes the Patent Office has jurisdiction of a patent for the purpose of determining priority of invention where it is involved in an interference proceeding. A motion to dissolve merely raises the question of whether an interference properly exists. This preliminary question must be disposed of prior to the award of priority. That this determination may incidentally cast a cloud on the patent should not deter the Office from taking proper action. (*Griffith* v. *Dodgson*, 122 O. G., 2064.)

Concerning Blood's appeal from the decision refusing to transmit the third ground of his motion it is well settled that where an applicant is involved in an interference with a patentee and alleges in a motion to dissolve the non-patentability of the issue his conclusion will be accepted and the interference dissolved without transmitting the motion for dissolution. (*Lipe* v. *Miller*, 109 O. G., 1608; *Robins* v. *Titus and Titus*, 111 O. G., 584; *Weissenthanner* v. *Golstein*, 111 O. G., 810; *Yarnall* v. *Pope*, 115 O. G. 2136; *Griffith* v. *Dodgson*, 116 O. G., 1731.)

It appears, however, that Blood is not urging the non-patentability of the issue, but rather the diversity in meaning of the counts when properly construed and applied to the cases of the respective parties. This ground of the motion, construed as Blood contends it should be, is practically the same as ground 1 of the motion which has been transmitted. Under the decisions cited Blood may not be heard to urge the non-patentability of the issue *per se*. The Examiner of Interferences therefore properly refused to transmit this ground of the motion.

The decision of the Examiner of Interferences is affirmed.

EX PARTE NICOLAUS.

Decided September 30, 1910.

1. TRADE-MARKS—SIMILARITY—"OMNALINE" AND "OMNIA."

The word "Omnaline" *Held* properly refused registration as a trade-mark for a pharmaceutical preparation in view of the prior registration of the word "Omnia" for goods of the same descriptive properties.

2. SAME—GOODS OF THE SAME DESCRIPTIVE PROPERTIES—LINIMENT AND POWDER.

A powder designed to be used in the "treatment of rheumatism, neuralgia, and lumbago," and a liniment *Held* to constitute goods of the same descriptive properties.

ON APPEAL.

TRADE-MARK FOR PHARMACEUTICAL PREPARATIONS FOR RHEUMATISM, ETC.

Mr. Curt B. Mueller for the applicant.

TENNANT, *Assistant Commissioner:*

This is an appeal from the decision of the Examiner of Trade-Marks refusing to register the word "Omnaline," for pharmaceutical preparations for the treatment of rheumatism, neuralgia, and lumbago, in view of the trade-mark "Omnia," registered by The Reliance Manufacturing Company March 7, 1893, No. 22,615, for liniment.

It is pointed out in the brief that the merchandise of the applicant is a powder, whereas that upon which the registered mark is used is a liniment, and it is therefore urged that the products upon which the respective marks are used are not of the same descriptive properties. This alleged difference is not believed to be of importance in view of the decision of the court of appeals in the case of *The Schuster Co.* v. *Muller*, (126 O. G., 2192; 28 App. D. C., 409,) in which the court said:

> The mixture of ground roots and bark having on the wrapper of the package containing the mixture, directions how to make the bitters by steeping the contents in Holland gin, was properly considered by the Commissioner to be goods of the same descriptive property as bitters made from these roots and barks and bottled.

Furthermore, it is believed that the merchandise of the applicant and of the registrant are of the same descriptive properties within the ruling of the court of appeals in the cases of *Walter Baker & Co.* v. *Harrison* (138 O. G., 770; 32 App. D. C., 272) and *Phoenix Paint & Varnish Company* v. *John T. Lewis & Bros.*, (139 O. G., 990; 32 App. D. C., 285.)

The resemblance between the marks is so striking that in my opinion the concurrent use of these marks upon merchandise of the same descriptive properties would be likely to cause confusion in the mind of the public.

The decision of the Examiner of Trade-Marks is affirmed.

EX PARTE HARDY, JR.

Decided November 25, 1910.

PROSECUTION OF APPLICATION—NON-RESPONSIVE ACTION—ABANDONMENT.

In response to a rejection accompanied by a statement that, in the opinion of the Examiner, there was no patentable novelty in the case the applicant presented one specific claim. The Examiner finally rejected this claim and called attention to a certain decision. The applicant filed an argument stating that he did not understand the application of the references or the pertinency of the decision cited. The Examiner then called attention to a slight fallacy in the mode of operation described and pointed out the portion of the decision considered pertinent. The only action taken by applicant within one year from this latter action of the Examiner was to file an amendment containing three claims broader than that finally rejected. *Held* that the application is abandoned.

ON PETITION.

MINE-LAMP.

Messrs. C. A. Snow & Co. for the applicant.

TENNANT, *Acting Commissioner:*

This is a petition that the ruling of the Examiner that this application stands abandoned be set aside.

The record shows that in the Examiner's second action upon the case the applicant was advised that, in his opinion, there was no patentable novelty in the case and that his next action would probably be a final rejection under the practice announced in *ex parte Miller*, (130 O. G., 780.) In response to this action of the Examiner the applicant filed certain amendments to the specification and a single claim drawn specifically to the device illustrated in the drawing. Upon consideration of this amendment the Examiner rejected the claim upon the references of record, making the rejection final, and called attention to the decision in *Stearns and Coe* v. *Russell*, (84 O. G., 1434.) In response to this action the applicant filed an argument stating that he did not understand the application of the references to the claims or the pertinency of the decision cited in the Examiner's letter to the case. In reply to this communication the Examiner pointed out a slight fallacy in the alleged method of operation of the applicant's device and stated that the citation in the last Office action was for the purpose of calling attention to the following sentence:

> The very triviality of the differences dwelt upon only emphasizes the substantial identity.

He reiterated his holding that there was nothing patentable in the invention over the references of record and adhered to the final rejection given in the previous letter and remarked that any further prosecution in this case should be by appeal. This letter was dated September 28, 1909. On March 3, 1910, the applicant presented three claims, which were broader in scope than the claim standing under final rejection. The entry of these claims was refused and the applicant again advised that any further prosecution of the case should be by way of appeal. An argument was subsequently presented by the applicant on May 16, 1910, which was refused consideration. The present petition was brought on October 17, 1910.

It clearly appears that an issue in respect to the patentability of the invention claimed was reached between the Examiner and the applicant as early as the date on which the final rejection was given, though subsequently to that date the claim was again considered by the Examiner and the pertinency of the references pointed out. It is contended by the applicant that the additional reasons given by the Examiner reopened the case. This contention is not tenable. The device was not held to be inoperative, although a certain statement of

the theory of operation was questioned. The decision in the previous Office action was specifically applied in compliance with the applicant's request. If it could be granted that the action of the Examiner in finally rejecting the claim on August 24, 1909, was premature, the action of September 28, 1909, clearly cured that informality. Nothing remained for the applicant to do but to appeal from the Examiner's action. No such action, however, was taken within the year, and the case now stands abandoned.

The petition is denied.

EX PARTE POTTER & ROZIENE.

Decided November 25, 1910.

TRADE-MARKS—"MOSQUITO DOPE"—DESCRIPTIVE.

The words "Mosquito Dope" as applied to a preparation for keeping away mosquitos *Held* properly refused registration, since it is descriptive of the goods upon which it is used.

ON APPEAL.

TRADE-MARK FOR LIQUID APPLICATION FOR THE KEEPING AWAY OF MOSQUITOS AND FLEAS.

Mr. H. B. Stonebraker for the applicants.

TENNANT, *Assistant Commissioner:*

This is an appeal from the action of the Examiner of Trade-Marks refusing to register a trade-mark including the words "Mosquito Dope," for a liquid preparation for keeping away mosquitos and fleas, upon the ground that these words are descriptive of the merchandise to which the alleged trade-mark is applied.

As pointed out by the Examiner the word "dope" is defined in the *Century Dictionary and Cyclopedia*, additional volume 1, as—

> any drug, such as opium, laudanum, morphine, cocaine, hydrate of chloral, hashish, etc., which has the property of inducing sleep or of stupefying.

It is contended in behalf of the applicants that the merchandise is not a preparation which is adapted to stupefy mosquitos, but rather an aromatic preparation, the odor of which serves to drive insects away. This contention is without force, for if the preparation known as "Mosquito Dope" is not stupefying to mosquitos the use of these words on the preparation would be deceptive. The common use of the word "dope" as applied to medical preparations in the sense above quoted and also as a slang expression is well known. I am of the opinion that the words "Mosquito Dope" upon a liquid preparation for keeping away mosquitos and fleas is descriptive of the character of the quality of the goods and is therefore prohibited registration under the provisions of section 5 of the act of February 20, 1905.

The decision of the Examiner of Trade-Marks is affirmed.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court of Appeals—Sixth Circuit.

JACKSON CUSHION SPRING CO. *v.* D'ARCY.

Decided June 13, 1910.

PATENTABILITY—SPRING STRUCTURES.

The D'Arcy patent, No. 785,410, for an improvement in spring structures, claim 2, which covers a wire clip for securing spiral springs to a wire frame in spring structures in upholstery constructions, consisting of a wire bent into a double loop with a central and two end arms, each of which is clamped around both the frame-wire and spring, *Held* not anticipated.

Mr. Luther V. Moulton for the appellant.

Mr. Fred L. Chappell for the appellee.

Before SEVERENS and WARRINGTON, Circuit Judges, and SANFORD, District Judge.

SANFORD, *Dis. J.:*

This is an appeal by the Jackson Cushion Spring Company, the defendant below, from an interlocutory decree adjudging that claim 2 of Letters Patent No. 785,410, issued March 21, 1905, to Frank P. D'Arcy, the complainant below, on improvements in springs, is a good and valid claim, and is infringed by the defendant, and enjoining further infringement. The defenses relied on are the invalidity of D'Arcy's patent for want of invention, and non-infringement.

The invention claimed by D'Arcy relates to a wire clip or fastening device for securing spiral springs to a wire frame in spring structures in upholstery constructions. This fastening device is described in claim 2 of his patent as follows:

> 2. In a spring structure the combination of a wire frame, spiral springs arranged in said frame, so that portions thereof and of said frame overlap, and fasteners for securing said springs in position in said frame consisting of pieces of wire formed into double loops having comparatively wide bases, the arms of said fasteners being clamped about the frame and springs, for the purpose specified.

The following reproduction of a portion of Figure 1 in the drawings accompanying the specifications, giving "a plan view" of the entire spring structure, shows the method of attaching the spiral springs to the frame-wires by the fastening device in question, which is lettered C:

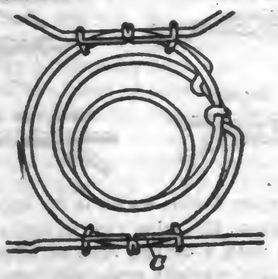
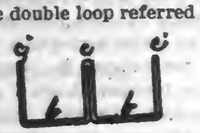


Fig. 3 in the drawings giving "a plan view of the fastening device C," and showing its "double-loop" form, is reproduced below, except that in the reproduction the letters, *b* and *b*, are added to designate the bases of the double loop referred to in the claim



The specifications refer to this fastening device as follows:

> The several parts are secured together by the fastening device C, preferably made of wire formed in a double loop as clearly appears in Fig. 3. The parts are placed together in proper relation and the fastener C clamped upon the same by bending the central arm, *c*, and the end arms, *c' c'*, about the parts to be united. This fastening arranged in this way prevents any rolling action betwee

the parts and holds them securely in position. I am aware that parts in springs have been united by a wire fastener having two arms, as *c' c'*; but such structures have proved unsatisfactory in that the parts slip and roll upon each other and the spring when used soon gets out of shape. My improved structure, however, by making use of three or more connected wires, unites the parts securely, and they may be subjected to the most severe usage without displacing the parts.

It is clear that the term "double loop," as used in the specifications and claim, refers to the form of the wire fastener shown in Fig. 3 before its arms are bent so as to clasp together the wire frame and springs, it then being in the form of a double U with flattened bases, the doubled portion of the wire in the center forming the central arm of the fastener, *c*, the bent portions of the wire at each end forming the outer arms, *c'* and *c'*, and the three arms being connected by the bases, *b* and *b*, of the double loop; this double-loop fastener being then used to attach the spring to the frame-wire by clamping each of its three arms around both the spring and frame-wire as shown in Fig. 1.

In D'Arcy's original specifications the first claim referred broadly to—

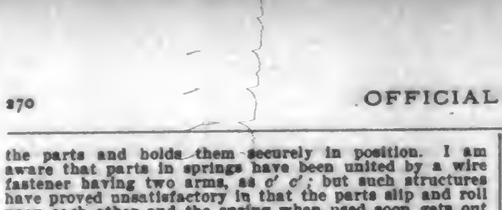
fasteners, C, having three or more arms for securing the several parts together, as specified,

and the second to—

fastening devices, C, having arms, *c*, *c'*, *c'* adapted to clasp the parts to be joined, substantially as described;

but neither of the claims referred specifically to the double-loop feature of the fastening device.

These claims were rejected by the Examiner on reference to various prior patents, including Staples, No. 572,581, Blecher, No. 554,977, Jackson, No. 608,048, and Kuersten, No. 694,391. The fastening devices in these four prior patents are shown by the following illustration:



In the Staples device, which is for improvements in upholstering, the wire clip is not made in a double loop with a central arm, as in the D'Arcy device, but in a straight piece with two end arms, each of which is clamped about the spring and frame-wire. The spring and frame-wire are not clamped together in the center; and there is a second circular wire clip which embraces the first clip and the frame-wire. In the Blecher patent, which does not relate to spring structures, but is a device for clamping fence-slats to longitudinal wire strands, the wire fastener shows a double loop, as in the D'Arcy patent. However, none of the arms of this double loop are clamped around both the fence-wire and the slat, the central arm being clamped around the fence-wire alone, and the end arms twisted around the fence-wire alone; and the slat, which is placed vertically to the fence-wire with a hole through which the central arm of the loop may pass, is not clamped by any of the arms of the loop, but is held in place between the fence-wire and the bases and side arms of the loop. Both the Jackson and Kuersten patents, which are spring structures, show sheet-metal clips with multiplied extensions, which correspond in a sense to the arms of the loop in D'Arcy's device. However, in each of these devices the projections corresponding to the arms of D'Arcy's clip do not clamp together the spring and wire frame as in D'Arcy's device, but infold the spring only, the frame-wire being held by an extension of the sheet-metal clip itself in the opposite direction to the extensions holding the spring, and the spring and frame-wire being held together by the intervening body of the metal clip itself.

After the rejection of the original claims by the Examiner on account of the foregoing and other references, D'Arcy made several successive amendments to his claim, as a result of which claim 2 was finally stated as above set forth, embodying specifically his claim for fasteners to secure the springs in position in the frame—

consisting of pieces of wire formed into double loops having comparatively wide bases, the arms of said fasteners being clamped about the frame and springs, for the purpose specified.

Thus stated, the Examiners-in-Chief, on appeal, reversed the decision of the Examiner, saying:

None of the patents cited by the Examiner shows the exact structure covered by the appeal claims, in which the double loops of the fasteners are the real locking means. The patents to Kuersten and Jackson show sheet-metal fastening devices, and the remaining patents show wire fastening devices for the parts of wire articles. In each of the revealed constructions, however, the loops are, as will be seen, not the real clamping means for the members which are secured together.

The wire fastener manufactured and sold by the Jackson Cushion Spring Company, which the court below held to be an infringement of D'Arcy's device, is also used for securing the frame-wire and springs in a spring structure in upholstering construction. Its form and use are shown by the following illustration:



In this fastener the "double loop" of D'Arcy's device appears, and as in D'Arcy's device the central arm composed of the double fold of wire, incloses, though in a slightly less degree, both the frame-wire and the spring. This device shows, however, this difference from D'Arcy's device, namely, that the outer arms of the double loop do not inclose both the frame-wire and the spring, but clamp only the frame-wire, the spring being embraced and held in position against the frame-wire solely by the bases of the two loops, which are curved over so as to encircle the spring-wire.

Our conclusions are as follows:

1. In the prior state of the art, as disclosed in the earlier patents above referred to, and those to Bates, No. 701,461, and Gail, No. 639,225, to which detailed reference need not be made, the use in spring structures of a wire fastener having bent arms to secure the frame-wire and spring, was not new; and the Blecher patent had disclosed in the

kindred art of wire fencing the use of a wire fastener made in the form of a double loop. D'Arcy's claim, however, in its application to spring structures, differs from all earlier devices in the use of an integrally-made fastener, consisting of a wire bent into a double loop as shown in Fig. 3, with three arms, each of which directly and of itself performs the office of clamping or locking the spring and the frame-wire together, and in which the wide bases of the loop serve as spacing members that keep apart the points of connection made by the clamping-arms. This "double-loop" fastener, with the respective functions of its bases as spacing members and its arms as clamping members, unites the spring and frame-wires securely and gives stability to the structure. It was this form of a "double-loop" fastener, with "comparatively wide bases" and with three arms clamping both the frame and the springs, which was claimed as new in D'Arcy's patent; and it was the "exact structure" of this device which was referred to by the Examiners-in-Chief in stating that "the double loop of the fasteners are the real locking means" distinguishing it from prior devices. However, in view of the prior state of the art, in which D'Arcy was not a pioneer in inventing a wire fastener to secure the parts of spring structures together, but merely devised a new form to accomplish this result, and in view of the express language of his claim and the description in his specifications, we are of the opinion that his invention did not extend broadly to the use of a wire fastener made in the form of a double loop, without regard to the functions of its several parts—a double-loop wire fastener having previously appeared in the Blecher wire-fence device—but was restricted to the form shown and described by him in his specifications and drawings, with the respective functions of the arms and bases of the double loop as therein shown, and must be limited to the structure therein disclosed. (*Keystone Bridge Co.* v. *Phœnix Iron Co.*, 95 U. S., 274; 24 L. Ed., 344; *Burns* v. *Meyer*, 100 U. S., 671; 25 L. Ed., 738; *Duff* v. *Sterling Pump Co.*, 107 U. S., 636; 2 Sup. Ct., 487; 27 L. Ed., 517; *Wells* v. *Curtis*, sixth circuit, 66 Fed., 318; 13 C. C. A., 494; *Ludington Novelty Co.* v. *Leonard*, C. C., 119 Fed., 937.) Thus restricted, we are of opinion that his claim disclosed patentable novelty and is valid.

2. We do not, however, concur in the view of the court below that the wire fastener above described as being manufactured and sold by the defendant, and which is the only one of the defendant's devices involved under the present appeal, comes within the range of equivalents, and constitutes an infringement of D'Arcy's device. It is true that this device of the defendant consists, as does D'Arcy's, of a wire fastener integrally made, bent in the form of a double loop with three arms and connecting bases, and in which the central arm is clamped more or less completely around both the frame-wire and spring. However, in the defendant's fastener the end arms of the loop are not clamped around both the frame-wire and the spring as in D'Arcy's device, but around the frame-wire alone; and in the defendant's fastener the spring is embraced only by the curved bases of the loop and thus held in place against the frame-wire, while in D'Arcy's device the engagement of the spring by the bases of the loop is merely incidental. The function of holding the spring against the frame-wire, which in the D'Arcy patent is, in effect, performed entirely by the clamping-arms, is thus, in the defendant's fastener, performed by the curved bases of the loop, which are not used primarily as spacing members to keep the points of connection apart, but as the substantial infolding members of the spring itself. The two devices thus show substantially different functions and uses of both the end arms and bases of the double loop. However, for the reasons above stated, the D'Arcy device cannot be held to cover every double-loop wire fastener, the central arm of which is used as a clamping member, without regard to the uses and functions of the end arm and bases of the loop and the method by which they infold the spring and frame-wire, but must be limited to the structure shown in his specifications and drawings. And since D'Arcy's invention is not of a broad and primary character involving entirely new mechanical functions, but is a secondary improvement marking only a small step in the art, and with comparatively small meritoriousness in the improvement, the range of equivalents is correspondingly narrow and the doctrine of equivalents should be less liberally applied in his favor. (*Miller* v. *Eagle Mfg. Co.*, 151 U. S., 86; 14 Sup. Ct., 310; 38 L. Ed., 121; *Bundy Mfg. Co.* v. *Detroit Time Register Co.*, sixth circuit, 94 Fed., 525; 36 C. C. A., 375; *King Axe Co.* v. *Hubbard*, sixth circuit, 97 Fed., 795; 38 C. C. A., 423; *Taber* v. *Meriden Brittannia Co.*, C. C., 106 Fed., 83.) Applying this rule we are of opinion that the defendant's device is not a mere colorable departure from the D'Arcy device coming within the range of permissible equivalents, but involves a substantial departure from the specific structure disclosed in the D'Arcy patent, to which alone his claim is valid, and hence does not constitute an infringement. (*Duff* v. *Sterling Pump Co.*, *supra*.)

3. It is to be noted that this is not an appeal from a preliminary injunction, but is, as above stated, an appeal from an interlocutory injunction entered at a hearing on pleadings and proofs, leaving only the ascertainment of profits and damages preparatory to a final decree. This is said in explanation of the extended consideration we have given to the merits.

That part of the decree which awards an injunction must be reversed, and the cause will be remitted for further proceedings.

ADJUDICATED PATENTS.

The Ashley design patent, No. 37,504, for a design for an inkstand, *Held* valid and infringed. *Ashley* v. *Samuel C. Tatum Co.*, (C. C.,) 181 Fed. Rep., 840.

The Hall patent, No. 454,964, for combination of thermostatic valves with return-pipes, *Held* void in view of the prior art. *Warren Webster & Co.* v. *C. A. Dunham Co.*, (C. C. A.,) 181 Fed. Rep., 836.

The Murray patent, No. 893,087, for a saw-guard, claim 3 is void for lack of novelty. Claims 1, 2, and 4 *Held* not infringed. *Murray* v. *Seattle Cedar Lumber Mfg. Co.*, (C. C.,) 181 Fed. Rep., 843.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 16, 1910.

Sharpless Bros., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Consolidated Cotton Duck Co., of Continental Trust Building, Baltimore, Md., for registration of a trade-mark and the trade-mark registrations to Minot, Hooper & Co., of 40 Thomas street, borough of Manhattan, New York, N. Y., registered August 29, 1905, No. 45,761; Lindeke, Warner & Schurmeier, of East Fourth and Sibley streets, St. Paul, Minn., registered April 20, 1897, No. 29,854; Sharpless Bros., of 812–814 Market street, Philadelphia, Pa., registered May 23, 1893, No. 23,072; Denny, Poor & Co., of New York, N. Y., registered December 30, 1890, No. 18,761; John Dunn, of East Orange, N. J., registered June 22, 1886, No. 13,436, and Stark Mills, of Manchester, N. H., registered November 8, 1881, No. 8,822, and March 13, 1906, No. 50,391, and the Office actions sent to Sharpless Bros. at their address of record have been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Sharpless Bros., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 16, 1910.

Steinfeld, Korngood and Co., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Chas. E. Shedaker & Sons, Eighth and Walnut streets, Philadelphia, Pa., for registration of a trade-mark and trade-mark registration No. 3,568, dated August 16, 1881, to Steinfeld, Korngood and Co., of Baltimore, Md., and the notice of such declaration sent by registered mail to the said Steinfeld, Korngood and Co. at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Steinfeld, Korngood and Co., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 1, 1910.

Samuel A. Richmond, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the applications of the Wehrman Medicine Company, of 1269 Michigan avenue, Columbus, Ohio, and G. H. Mullen, of Guyandotte, W. Va., for registrations of trade-marks and the trade-mark registrations to the Good Samaritan Ointment Company, of 222 Broadway, Camden, N. J., registered August 21, 1906, No. 55,682; Samuel A. Richmond, of Tuscola, Ill., registered May 13, 1890, No. 17,915, and December 16, 1890, No. 18,714, and Charles C. Brooks, of Waverly, N. Y., registered April 4, 1882, No. 9,253, and the notice of such declaration sent by registered mail to the said Samuel A. Richmond at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Samuel A. Richmond, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 4, 1910.

John Dunn, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Consolidated Cotton Duck Company, of Continental Trust Building, Baltimore, Md., for registration of a trade-mark and the trade-mark registrations to Minot, Hooper & Company, of 40 Thomas street, borough of Manhattan, New York, N. Y., registered August 29, 1905, No. 45,761; Lindeke, Warner & Schurmeier, of East Fourth and Sibley streets, St. Paul, Minn., registered April 20, 1897, No. 29,854; Sharpless Brothers, of 812–814 Market street, Philadelphia, Pa., registered May 23, 1893, No. 23,072; Denny, Poor & Company, of New York, N. Y., registered December 30, 1890, No. 18,761; John Dunn, of East Orange, N. J., registered June 22, 1886, No. 13,436, and Stark Mills, of Manchester, N. H., registered November 8, 1881, No. 8,822, and March 13, 1906, No. 50,391, and the notice of such declaration sent by registered mail to the said John Dunn at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said John Dunn, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 27, 1910.

Henry Werner & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Bennett, Hollander & Lewis, of 947 Pennsylvania avenue, Pittsburg, Pa., for registration of a trade-mark and the trade-mark registration to Joseph Bennett & Company, of 713 Pennsylvania avenue, Pittsburg, Pa., registered April 10, 1900, No. 34,453, and Henry Werner & Company, of 366 Gratiot avenue, Detroit, Mich., registered March 26, 1895, No. 26,267, and the notice of such declaration sent by registered mail to the said Henry Werner & Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Henry Werner & Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

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CONTENTS.

	Page.
ATTORNEYS	273
APPLICATIONS UNDER EXAMINATION	274
TRADE-MARKS	274
PATENTS GRANTED	275
REISSUES	511
DESIGNS	512
TRADE-MARKS—REGISTRATION APPLIED FOR	515
TRADE-MARKS—REGISTERED	525
LABELS AND PRINTS	527
COMMISSIONER'S DECISIONS—	
Iroquois Brewing Company v. American Brewing Company	529
COMMISSIONER'S DECISIONS—Continued.	
Ex parte Gale, Sr.	530
Harris v. Kennedy	530
DECISIONS OF THE U. S. COURTS—	
Warren Webster & Co. v. C. A. Dunham Co.	531
ADJUDICATED PATENTS	533
DISCLAIMER	533
INTERFERENCE NOTICES	533
CHANGES IN CLASSIFICATION	534
ISSUE OF DECEMBER 13, 1910	534

ATTORNEYS.

Department of the Interior,
United States Patent Office,
Washington, December 5, 1910.

Attention is invited to the subjoined order of the Secretary of the Interior, in which it is directed that the order of September 15, 1910, be modified to the extent that the provisions of the same shall not apply to the recognition of attorneys practicing before the United States Patent Office.

The rules governing the recognition of attorneys before this Office in force upon the date of said order are restored.

EDWARD B. MOORE,
Commissioner.

Department of the Interior,
Washington, December 3, 1910.

(Order.)

It is hereby directed that the Patent Office be exempted from the application of the order of the Secretary of the Interior, dated September 15, 1910, providing that:

> "* * * hereafter firms of attorneys or agents as such will not be admitted to practice before this Department, or recognized as having the right to appear before it or any Bureau or Office thereof, in any proceeding or matter involving the services of an attorney or agent, and in the presentation of any matter by any such firm it must be represented by one or more duly qualified members thereof in his or their own person,"

and that the practice of the Patent Office in respect to the recognition of attorneys, as provided for by Rules 17 to 22, inclusive, of the Rules of Practice of the United States Patent Office, in force upon the date of that order, be restored.

R. A. BALLINGER,
Secretary.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business December 6, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended	No. of applications awaiting action.
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Nov. 2	Oct. 28	378
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Nov. 7	Nov. 7	216
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Nov. 8	Nov. 22	188
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Oct. 20	Oct. 29	480
167	5. Bookbinding; Harvesters; Jewelry; Music.	Sept. 26	Sept. 26	444
318	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilisers; Medicines; Preserving; Sugar and Salt.	Oct. 20	Oct. 29	329
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	Oct. 27	Nov. 7	431
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Oct. 20	Oct. 21	300
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	Oct. 26	Nov. 2	284
235	10. Carriages and Wagons.	Oct. 12	Oct. 19	642
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	Oct. 12	Oct. 6	300
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	Oct. 20	Oct. 21	552
320	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	Aug. 30	Nov. 3	490
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire-Working.	Nov. 7	Nov. 1	331
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	Oct. 27	Oct. 28	516
109	16. Telegraphy; Telephony.	Oct. 14	Oct. 13	236
303	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Nov. 10	Nov. 9	176
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	Nov. 7	Oct. 25	192
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	Nov. 7	Nov. 7	220
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Oct. 31	Oct. 24	199
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	Sept. 23	Oct. 3	453
249	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	Sept. 24	Sept. 19	557
379	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	Oct. 1	Nov. 5	358
144	24. Apparel; Apparel Apparatus; Sewing-Machines.	Sept. 22	Sept. 26	445
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Nov. 16	Nov. 22	123
106	26. Electricity, Generation; Motive Power.	Oct. 11	Oct. 3	229
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Nov. 7	Nov. 7	246
65	28. Internal-Combustion Engines.	Sept. 30	Oct. 24	370
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Woodworking; Woodworking-Tools.	Oct. 4	Nov. 8	312
152	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	Oct. 17	Oct. 24	291
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Nov. 7	Nov. 7	237
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	Oct. 13	Nov. 7	336
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	Nov. 7	Nov. 7	261
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	Nov. 1	Sept. 29	330
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Nov. 7	Nov. 11	459
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	Sept. 16	Oct. 8	658
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	Oct. 3	Sept. 26	530
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	Oct. 10	Oct. 26	442
221	39. Water Distribution.	Oct. 3	Oct. 3	374
220	40. Baggage; Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Nov. 7	Nov. 9	422
125	41. Railway Draft Appliances; Resilient Tires and Wheels.	Aug. 31	Sept. 19	576
279	42. Electric Railways; Electric Signaling; Electricity, Medical and Surgical; Railway Signaling; Signals; Surgery.	Sept. 22	Sept. 26	556
382	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	Sept. 12	Sept. 29	569

Oldest new case, Aug. 30; oldest amended, Sept. 19.
Total number of applications awaiting action..... 16,321

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	Nov. 8	Nov. 15	964
	Designs	Nov. 10	Nov. 22	113
	Labels and Prints	Nov. 21	Nov. 22	54

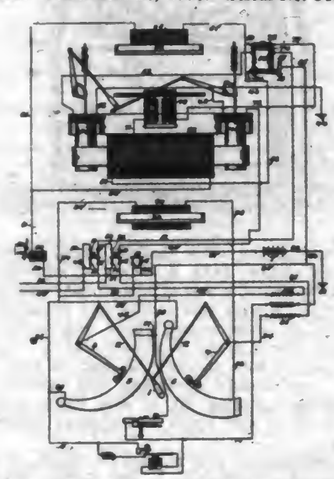
Trade-Marks.

Extra copies of the trade-mark portion of the GAZETTE, which will be sold separately, may be obtained single or in quantities for five cents each. Coupons will be taken in payment thereof.

PATENTS

GRANTED DECEMBER 13, 1910.

978,128. TELAUTOGRAPH. RALPH W. ARMSTRONG, New York, N. Y., assignor to The Gray National Telautograph Company, New York, N. Y., a Corporation of Virginia. Filed Nov. 16, 1906. Serial No. 343,696.



1. The combination with the transmitter and receiver of a telautographic station and circuit connections leading from them to the receiver and transmitter, respectively, of a distant station, of a snap-switch, in one position of which the receiver is "on" and the transmitter "off" with respect to the distant station, and in another position of which this condition is reversed, manually controlled spring mechanism for moving the switch with a snap action to these two positions, and a lock operated simultaneously with the switch for retaining it in the latter position, substantially as described.

2. The combination with the transmitter and receiver of a telautographic station and circuit connections leading from them to the receiver and transmitter, respectively, of a distant station, of a pivotally supported snap-switch, in one position of which the receiver is "on" and the transmitter "off" with relation to the distant station, and in another position of which this condition is reversed, a suitably supported actuating spring connected with the switch and movable to opposite sides of its pivotal support so as to move it to these positions, and manually operated means for so moving said spring, substantially as described.

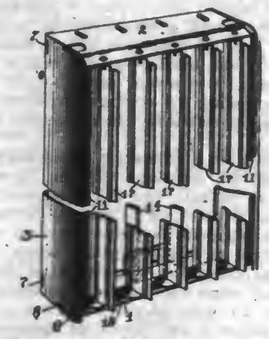
3. The combination with the transmitter and receiver of a telautographic station and circuit connections leading from them to the receiver and transmitter, respectively, of a distant station, of a pivotally supported snap-switch, in one position of which the receiver is "on" and the transmitter "off" with relation to the distant station, and in another position of which this condition is reversed, a suitably supported actuating spring connected with the switch and movable to opposite sides of its pivotal support so as to move it to these positions, manually operated means for so moving said spring, and a lock operated simultaneously with the switch for retaining it in its second above-named position, substantially as described.

4. The combination with the transmitter and receiver of a telautographic station and circuit connections leading from them to the receiver and transmitter, respectively, of a distant station, of a pivotally supported snap-switch, in one position of which the receiver is "on" and the transmitter "off" with relation to the distant station, and in another position of which this condition is reversed, an actuating spring connected with the switch and movable to opposite sides of its pivotal support so as to move it to these positions, a spring support connected with said actuating spring, and a manually operated plug connected with said spring support and adapted to move it from normal position so as to effect such movement of the actuating spring, substantially as described.

5. The combination with the transmitter and receiver of a telautographic station and circuit connections leading from them to the receiver and transmitter, respectively, of a distant station, of a pivotally supported snap-switch, in one position of which the receiver is "on" and the transmitter "off" with relation to the distant station, and in another position of which this condition is reversed, an actuating spring connected with the switch and movable to opposite sides of its pivotal support so as to move it to these positions, a spring support connected with said actuating spring, a manually operated plug connected with said spring support and adapted to move it from normal position so as to effect such movement of the actuating spring, and a lock operated simultaneously with the switch for retaining it in its second above-named position, substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

978,129. REGISTER OR VENTILATOR. JAMES H. BAILEY, New York, N. Y. Filed Sept. 14, 1908. Serial No. 452,840.



1. In a register or ventilator, a face-plate, a frame comprising two side-pieces and two end-pieces tapering from front to rear the side-pieces being turned over at their top edges onto inturned portions of the end-pieces, projections on said end-pieces adapted to engage and be upset in apertures in said side-pieces certain of the projections being on depressed portions of the end-pieces and certain of the projections being on inturned portions of the end pieces, inturned portions of said end-pieces forming lugs to which the face-plate may be fastened, an inturned portion on one of said end-pieces containing seats for the revolving pivots of valves, an inturned guide for the thumb-piece of a connecting-rod on said end-piece and integral therewith, an inturned portion on the other end-piece carrying removable pivots on which the valves swing, a connecting-rod riding between the valve bearings on the revolving pivots, a thumb-piece on the connecting-rod, a leaf-spring between the connecting-rod and the guide for

the thumb-piece, pins carried by said connecting-rod engaging slots in upturned portions of the valves by which the valves are actuated, a plurality of valves, bearings at one end of the valves, removable valve pivots on one end-piece engaging the bearings, revolving pivots at the other end of the valves engaging the bearings in the other end-piece, upturned portions on the valves, slot-bearings for the pins on the connecting-rod in the upturned portions of the valves, rods engaging and extending between the end-pieces and bearing against the face-plate to reinforce the face-plate and recesses in the rods to receive the inturned guide for the thumb-piece of the connecting rod.

2. In a register or ventilator, a face plate, a frame comprising two side-pieces and two end-pieces tapering from front to rear the side-pieces being turned over at their top edges onto upturned portions of the end-pieces, projections on said end-pieces adapted to engage and be upset in apertures in the side pieces, upturned portions on said end-pieces to which the face-plate may be fastened, an upturned portion on one of said end-pieces containing seats for the revolving pivots of the valves, an upturned guide on said last mentioned end-piece and integral therewith for the thumb-piece of the connecting-rod, removable pivots on an upturned portion of the other end-piece upon which the valves swing, a leaf-spring, a connecting rod resting between the valve bearings on the revolving valve pivots and held in place between them and the guide by the leaf-spring, pins on the connecting-rod, slots in upturned portions of the valves engaging the pins on the connecting-rod by which the valves are actuated, a thumb-piece on the connecting-rod, a plurality of valves, bearings at one end of the valves for the removable valve pivots, and pivots at the other end of the valves engaging the bearings in the end-piece.

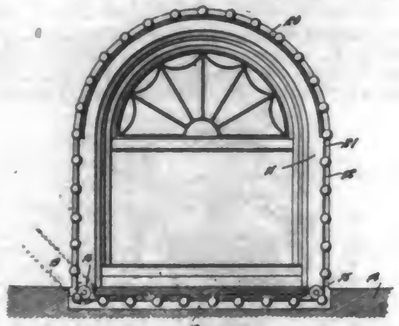
3. In a register or ventilator, a face plate, a frame comprising two side-pieces and two end-pieces tapering from front to rear, projections on said end-pieces adapted to engage and be upset in apertures in the side-pieces, upturned portions also on said end-pieces to which the face-plate may be fastened, an upturned portion on one of said end-pieces containing seats for revolving pivots of valves, an upturned guide integral with said end-piece for the thumb-piece of a connecting-rod, removable pivots on an inturned portion of the other of said end-pieces on which the valves swing, a connecting-rod, projections on the connecting rod, a thumb-piece on the connecting-rod, a plurality of valves, bearings at one end of the valves for the removable valve pivots, pivots at the other ends of the valves engaging the bearings in the end-piece and slot-bearings on the valves for the projections on the connecting-rod.

4. In a register or ventilator, a frame comprising two side-pieces and two end-pieces tapering from front to rear, projections on said end pieces adapted to be engaged and upset in apertures in the side-pieces certain of the projections being in depressed portions of the end-pieces and certain of said projections being in upturned portions of the end-pieces the side-pieces being turned over at their top edges onto upturned portions of the end pieces, seats on an upturned portion of one end piece for the revolving pivots of the valves, an upturned guide on said end-piece for the thumb piece of a connecting-rod, removable pivots on an inturned portion of the other end-piece on which the valves swing, a plurality of valves, pivots on the valves, a rod connecting the valves and adapted to actuate them and a thumb-piece on the connecting rod.

5. In a register or ventilator, a face plate, a frame tapering from front to rear, a plurality of valves, bearings at one end of the valves, removable valve pivots in the frame engaging the bearings, revolving pivots at the other end of the valves, bearings in the frame which the revolving pivots engage, slot bearings on the last mentioned end of the valves, a leaf-spring, a guide on the frame for a connecting-rod, a connecting-rod resting between the valve bearings on the revolving valve pivots and held in place between them and the guide by the leaf-spring, pins on the connecting-rod to engage the slot bearings on the valves by which the valves are actuated, rods engaging and extending between the end-pieces of the frame and bearing against the face-plate to reinforce the face-plate and portions cut out of the rods to receive the guide for the connecting-rod.

[Claims 6 and 7 not printed in the Gazette.]

978,130. ADVERTISING DEVICE. THOMAS H. BARRON, New York, N. Y. Filed Apr. 1, 1907. Serial No. 365,724.

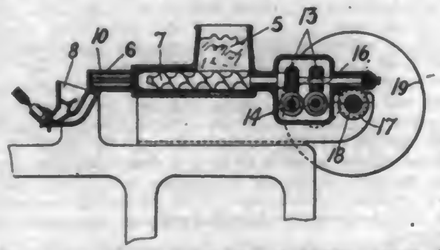


1. The combination of a flexible carrier mounted to travel in an endless path, a source of electric energy and an electric circuit, a part of said circuit being mounted upon and movable with said carrier and including a plurality of electric lamps mounted upon said carrier, and a part of said circuit being stationary and in continuous electrical contact with the movable part of said circuit, means for continuously advancing said carrier, and a suitable casing inclosing all of said parts except the luminous bulbs of said lamps which alone project from said casing.

2. The combination, with an electric circuit, of an endless belt carrying conductors in said circuit, a series of electric lamps fixed upon said belt and in said circuit through said conductors, suitable contacts connected to a source of electric energy and continuously in circuit with said conductors, means for advancing said belt, and a suitable casing inclosing all of said parts except the luminous bulbs of said lamps which alone project from said casing.

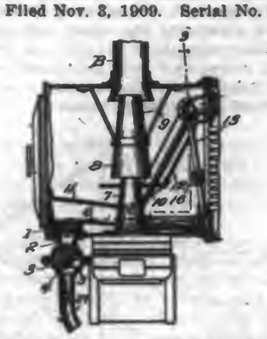
3. The combination, with an electric circuit, of an endless belt carrying conductors in said circuit, a series of electric lamps mounted upon and projecting edgewise in said belt and in said circuit through said conductors, suitable contacts connected to a source of electric energy and continuously in circuit with said conductors, means for advancing said belt, and a suitable casing inclosing all of said parts except the luminous bulbs of said lamps which alone project from said casing.

978,131. PROCESS OF HEATING CREAM USED FOR MAKING FONDANTS, CHOCOLATE CENTERS, AND THE LIKE. WILLIAM BOYD, Dundee, Scotland, assignor of one-half to James Keiller and Son Lt'd., Dundee, Scotland. Filed June 29, 1907. Serial No. 381,529.



The herein described process of heating cream for making fondants and the like, which consists in forcing the cream to travel quickly through a heating zone in a plurality of thin streams.

978,132. SPARK-ARRESTER. EMIL BROMBACHER, Buffalo, N. Y. Filed Nov. 3, 1909. Serial No. 526,098.

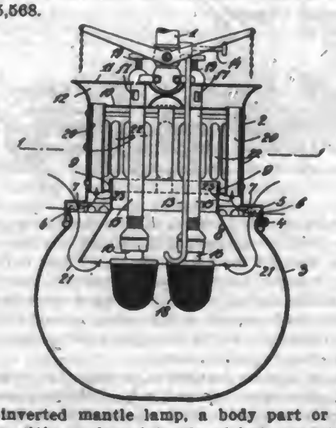


1. The combination with a locomotive, of a spark arrester mounted in the smoke box thereof and comprising a discharge trough, a revoluble collector located beneath the trough and provided with a series of pockets, the said smoke box divided to form upper and lower compartments, a foraminous sheet of material for establishing communication between the compartments, the lower compartment having a platform which extends upwardly and outwardly at an angle from the bottom of the smoke box toward the discharge trough, fluid conveying nozzles mounted upon the platform and extending toward the forward end thereof, connections between the nozzles and the steam pipe of the locomotive cylinders, a valve located in said connections, a controlling rod operatively connected with the valve, and a reciprocating rod operatively connected with the said revoluble collector and with a movable part of the locomotive so that in movements of the latter rotary motion will be imparted to the collector.

2. The combination with a locomotive and its reciprocating valve rod, of a spark arrester mounted in the smoke box of the locomotive and comprising a trough located in advance of the fire tubes, a deflector forwardly of the fire tubes and extending downwardly and outwardly toward the trough, a revoluble collector located beneath the trough, and means operatively connecting the collector with the valve rod to revolve the same.

3. The combination with a locomotive and its reciprocating valve rod, of a spark arrester mounted in the smoke box of the locomotive and comprising a trough located in advance of the fire tubes, a deflector forwardly of the fire tubes and extending downwardly and outwardly toward the trough, a revoluble collector located beneath the trough, means operatively connecting the collector with the valve rod to revolve the same, and a receptacle communicating with the collector.

978,133. INVERTED-MANTLE LAMP. FRANK M. BROOKS, New York, N. Y. Filed June 7, 1910. Serial No. 565,568.



In an inverted mantle lamp, a body part or hood, a continuous globe, a funnel inside of but separated from the globe, the body part or hood having air inlet holes opening into the space between the globe and the funnel and outlets for the products of combustion immediately above the top of the funnel, a closed chamber in the upper part of the hood, Bunsen burner tubes located inside of the funnel, the air inlet ports of which are within the chamber, means to confine and to conduct pure air from the space between the globe and the funnel to the chamber, and gas supply pipes for each Bunsen burner tube outside of the lamp.

978,134. CABLE-TRACK SUPPORT. WILLIAM T. BUCK, Vliets, Kans. Filed Feb. 23, 1910. Serial No. 545,390.



1. A cable support comprising a block having a curved groove formed on its face, and provided with a groove in its upper edge communicating with the groove in its face.

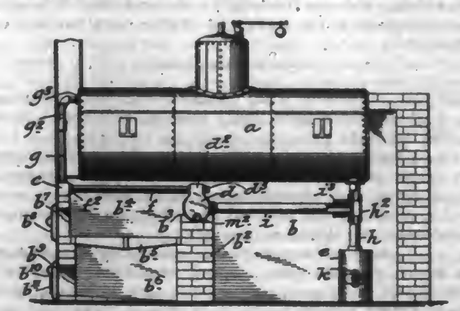
2. A cable support comprising a block having a straight edge and a rounded edge, said block being cut away to form a central enlargement, having an undercut edge said cutaway portion communicating with grooves formed in one edge of said block.

3. The combination with a cross bar having rounded ends, of a block having a central opening to receive the rounded end of said cross bar, said block being provided with a straight edge and a curved edge, the face of said block being cut away to form a central curved enlargement having an under cut edge said cutaway portion communicating with grooves formed in the edge of said block, the under edge of said rounded portion of said cross bar being cut away to receive a cable when sprung into the grooves of said block.

4. In a cable track support, the combination with a post carrying a cross bar having rounded outer ends, braces connecting said cross bar to said post, of blocks mounted on the ends of said cross bar and secured thereon by riveting the ends of said cross bar, said blocks being cut away to form a cable receiving groove in one face communicating with cable receiving grooves formed in the edge of said block.

5. The combination with a cross bar adapted to be secured to a post, of cable supports mounted on the ends of said cross bar, said cable supports comprising blocks having curved and straight edges said blocks being provided with grooved faces communicating with grooves formed in the straight edges of said block into which the cables to be supported are adapted to be sprung.

978,135. STEAM-GENERATOR. JAMES J. BUSH, New York, N. Y. Filed Mar. 11, 1910. Serial No. 548,519.



1. A water heating, circulating and steam generating attachment for steam boilers, comprising a transverse water drum, a front transverse water box and a rear mud drum, the end portions of the water drum being provided longitudinally of the top thereof with raised members

and said front transverse box and the raised members of the water drum being connected by horizontally arranged pipes, the mud drum being provided with a vertically arranged pipe by means of which it may be connected with the bottom rear end portion of a boiler, said pipe being provided with a three way coupling and a tube connected with the water drum, and with said coupling by means of a slip joint, said water box being also provided with tubes whereby it may be connected with the front end of a boiler at the top thereof.

2. A water heating, circulating and steam generating attachment for steam boilers, comprising a transverse water drum, a front transverse water box and a rear mud drum, the end portions of the water drum being provided longitudinally of the top thereof with raised members, and said front transverse box and the raised members of the water drum being connected by horizontally arranged pipes, the mud drum being provided with a vertically arranged pipe, by means of which it may be connected with the bottom rear end portion of a boiler, said pipe being provided with a three way coupling and a tube connected centrally of the water drum and with said coupling, said water box being also provided with tubes whereby it may be connected with the front end of a boiler at the top thereof.

3. The combination with a boiler of a supplemental water heating, circulating and steam generating attachment, comprising a front transverse water box, an intermediate transverse water drum and a rear end mud drum, the end portions of the water drum being provided longitudinally of the top thereof with raised members, tubes connecting the water box with said members, a vertically arranged tube connecting the mud drum with the rear end portion of the boiler and provided with a three way coupling and a tube connected centrally with the water drum and with said coupling, said water box being also provided with tubes by means of which connection is made with the front end portion of the boiler.

4. In a device of the class described, a water drum, the end portions of which are provided at the top thereof with longitudinally arranged raised members, both opposite side walls of which are provided with apertures or openings, and tubes adapted to be inserted into the apertures or openings in one of the said side walls, and the apertures in the other of said side walls being provided with closure devices.

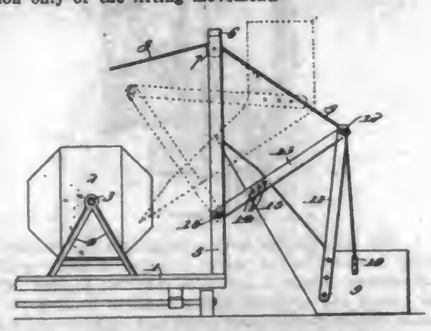
5. A water heating, circulating and steam generating attachment for boilers, comprising an intermediate water drum, a front transverse water box and a rear mud drum, the end portions of the water drum being provided longitudinally of the top thereof with raised members and said transverse box and the raised members of the water drum being connected by horizontally arranged pipes, the mud drum being provided with a vertically arranged pipe by means of which it may be connected with the bottom rear end portion of a boiler, said pipe being provided with a three way coupling and a tube connected with the water drum and with said coupling, said water box being also provided with tubes whereby it may be connected with the front end of the boiler at the top thereof.

978,136. LOADER FOR CEMENT-MIXERS. WILLIAM A. COOK, South Bend, Ind. Filed Sept. 7, 1909. Serial No. 516,515.

1. A loader for cement mixers comprising a framework, a bucket provided with a spout, bars rigidly secured to said spout and pivotally mounted in said frame work, connections between the body of said bucket and said bars, and means for lifting said bucket.

2. A loader for cement mixers comprising a framework, a bucket provided with a spout, bars rigidly secured to said spout and pivotally mounted in said framework, brace bars rigidly secured to the body of said bucket and having connection with said pivot bars, and means for lifting said bucket.

3. In a device of the character stated, a vertical framework, a bucket provided with a spout, means for pivotally mounting the spout on a horizontal axis on said framework, bars rising from the bucket to the rear of its pivot, a cross bar connecting the upper ends of said bars, a pulley on the frame above the pivot of the spout and a lifting rope passed over said pulley and attached to the bucket and having a bearing on said cross bar during a portion only of the lifting movement.

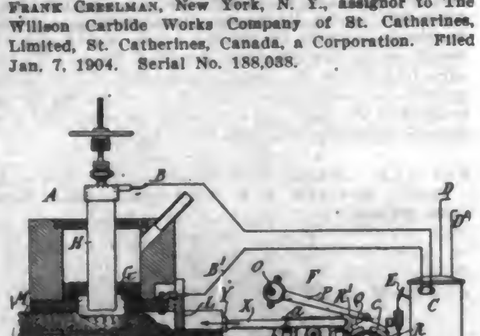


4. In a device of the character stated, a vertical framework, a pivotally mounted bucket having a spout pivoted on a horizontal axis of said framework, bars rising from the bucket to the rear of its pivot, a cross bar connecting the said bars, a lifting rope attached to the bucket to the rear of the attachment of said bars, and a pulley mounted on the framework above the pivot of the spout and over which said rope passes, the construction being such that the rope contacts with said cross bar during a portion only of the lifting operation.

5. A loader for cement mixers comprising a framework, a bucket provided with a spout, bars rigidly secured to said spout and pivotally mounted in said framework, connections between the body of the bucket and said bars, and a lifting rope connected to said bucket, said connections being provided with a bearing adapted to support the said lifting rope during the initial lifting movement of the bucket.

[Claim 6 not printed in the Gazette.]

978,137. APPARATUS FOR ELECTRIC SMELTING. FRANK CRESELMAN, New York, N. Y., assignor to The Willson Carbide Works Company of St. Catharines, Limited, St. Catherines, Canada, a Corporation. Filed Jan. 7, 1904. Serial No. 188,038.



1. In an electric furnace, in combination, a pair of stationary electrodes arranged to permit the passage of the material between them from above, with an outlet opening directly beneath them and a transversely movable receptacle for the molten product arranged close beneath said electrodes, and beneath said opening, whereby the product in said receptacle serves to support the material undergoing reduction in said opening.

2. In an electric furnace in combination, a pair of stationary electrodes arranged to permit the passage of the material between them from above with an outlet opening directly beneath them, and a receptacle for the molten material comprising a series of conveyer sections adapted to pass successively below said electrodes close beneath said opening to form a continuous pig of product and arranged close beneath the zone of fusion, whereby the product in said receptacle immediately beneath the electrodes is molten and serves to support the material undergoing reduction.

3. In an electric furnace in combination, means for fusing the material, a transversely movable receptacle receiving the fused product, and an actuating mechanism for said receptacle controlled by the variations in the voltage.

4. In combination, an electric arc furnace, and means for supplying thereto a current of constant amperage notwithstanding variations in the internal resistance of the furnace, said furnace having an opening and constructed to maintain fusion of the material in said opening, and to withdraw the product therefrom progressively as it is formed and at a rate controlled by the variations in the voltage.

5. A regulating mechanism for electric furnaces comprising in combination a movable part of the furnace, a pusher therefor, and means for advancing said pusher by short steps continuously in one direction, said pusher being adapted to be quickly returned to its starting point.

[Claims 6 to 24 not printed in the Gazette.]

978,138. PRINTING-PASTE. JOSEPH DEINET, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Apr. 29, 1909. Serial No. 492,987.

1. A printing paste comprising the leuco compound obtained by treating dibenzoyl-1.5-diaminoanthraquinone with reducing agents in conjunction with thickening agents characterized by producing on the textile fiber after oxidation a yellow shade which remains unchanged upon boiling with 10% muriatic acid and also remains unchanged when touched with cold concentrated sulfuric acid and dilute caustic potash and which upon being touched with a watery solution containing 0.4% of anhydrous hydrosulfite of sodium and 0.8% of caustic soda changes its color of yellow to olive-brown which on exposure to air assumes again its original appearance, substantially as described.

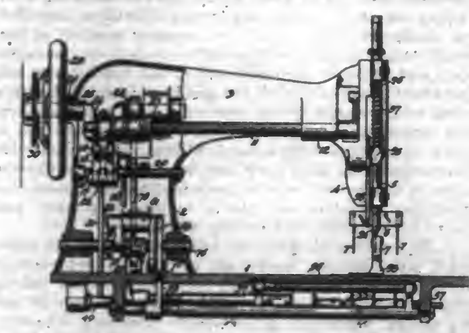
2. A printing paste comprising the leuco compound obtained by treating dibenzoyl-1.5-diaminoanthraquinone with tin crystals, copperas powder and tartar powder in conjunction with thickening agents characterized by producing on the textile fiber after oxidation a yellow shade which remains unchanged upon boiling with 10% muriatic acid and also remains unchanged when touched with cold concentrated sulfuric acid and dilute caustic potash and which upon being touched with a watery solution containing 0.4% of anhydrous hydrosulfite of sodium and 0.8% of caustic soda changes its color of yellow to olive-brown which on exposure to air assumes again its original appearance, substantially as described.

978,139. PRINTING-PASTE. JOSEPH DEINET, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Apr. 29, 1909. Serial No. 492,988.

1. A printing paste comprising the leuco compound obtained by treating dibenzoyl-1.8-diaminoanthraquinone with reducing agents in conjunction with thickening agents, characterized by producing on the fiber after oxidation a yellow shade which remains unchanged upon boiling with 10% muriatic acid and remains also unchanged upon being touched with cold dilute and cold concentrated nitric acid and which upon being touched with a watery solution containing 0.4% of anhydrous hydrosulfite of sodium and 0.8% of caustic soda changes its color of yellow to rust-brown which on exposure to air assumes again its original appearance, substantially as described.

2. A printing paste comprising the leuco compound obtained by treating dibenzoyl-1.8-diaminoanthraquinone with tin crystals, copperas powder and tartar powder in conjunction with thickening agents, characterized by producing on the fiber after oxidation a yellow shade which remains unchanged upon boiling with 10% muriatic acid and remains also unchanged upon being touched with cold dilute and cold concentrated nitric acid and which upon being touched with a watery solution containing 0.4% of anhydrous hydrosulfite of sodium and 0.8% of caustic soda changes its color of yellow to rust-brown which on exposure to air assumes again its original appearance, substantially as described.

978,140. CHAIN-STITCH SEWING-MACHINE. ALBERT H. DE VOE, Elizabeth, N. J., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Apr. 22, 1909. Serial No. 491,575.



1. In a sewing machine, the combination with the main shaft provided with a plurality of actuating members, stitch-forming mechanism comprising a reciprocating needle and a coöperating loop-taker, and feeding mechanism including a work-engaging member and actuating and lifting rock-shafts having independent operative connections therewith, of means including a toggle device having one of its component members mounted upon a fixed fulcrum and connected with one of the actuating members of the main-shaft for imparting to each of the component members of the stitch-forming mechanism a plurality of stitch-forming movements for each rotation of said shaft, a crank-arm upon the feed-actuating rock-shaft, an operative connection between another of the actuating members of the main-shaft and said crank-arm for imparting to the actuating rock-shaft rocking movements corresponding in number with the operative movements of said stitch-forming mechanism, a crank-arm upon the lifting rock-shaft and an operative connection between the toggle member having the fixed fulcrum and the crank-arm of said lifting rock-shaft for imparting operative movements to the latter corresponding in frequency with those of said actuating rock-shaft.

2. In a sewing machine, the combination with the main shaft provided with a plurality of actuating members, stitch-forming mechanism comprising a reciprocating needle and a coöperating loop-taker, and feeding mechanism including a work-engaging member and actuating and lifting rock-shafts having independent operative connections therewith, of means including a toggle device having one of its component members mounted upon a fixed fulcrum and connected with one of the actuating members of the main-shaft for imparting to each of the component members of the stitch-forming mechanism a plurality of stitch-forming movements for each rotation of said shaft, means connected with another of the actuating members of the main-shaft for imparting to the actuating rock-shaft rocking movements corresponding in number with the operative movements of the stitch-forming mechanism, and a link connection between the toggle member having the fixed fulcrum and said lifting rock-shaft for imparting to the latter rocking movements corresponding in frequency with those of the actuating rock-shaft.

3. In a sewing machine, the combination with the main shaft provided with a plurality of actuating members

stitch-forming mechanism comprising a reciprocating needle and a coöperating loop-taker, and feeding mechanism including a work-engaging member, of means connected with one of the actuating members of said main-shaft and including a common rocking member for imparting to the component elements of the stitch-forming mechanism a plurality of stitch-forming movements for each rotation of the main-shaft, an operative connection intermediate said common rocking member and the work-engaging member for imparting to the latter rising and falling movements, and an operative connection intermediate another of the actuating members of the main-shaft and said work-engaging member for imparting to the latter work-advancing movements.

4. In a sewing machine, the combination with the frame comprising a bed-plate and an overhanging bracket arm, the main-shaft, stitch-forming mechanism including a reciprocating needle, and a coöperating loop-taker, and feeding mechanism including a work-engaging member, of needle-actuating means comprising a rock-shaft journaled upon and disposed longitudinally of the bracket-arm and operatively connected with the needle and provided with a crank-arm, a toggle device connected with said crank-arm and comprising two pivotally connected members one of which is provided with a fixed fulcrum, and a connection intermediate the main-shaft and said toggle whereby the latter is alternately bent in opposite directions, means for imparting operative movements to said loop-taker, and means for actuating said feeding mechanism.

5. In a sewing machine, the combination with the main-shaft, stitch-forming mechanism including a reciprocating needle and a coöperating loop-taker, and feeding mechanism including a work-engaging member, of needle actuating means comprising a rock-shaft extending longitudinally of the bracket-arm and operatively connected with the needle and provided with a crank-arm, a toggle device connected with said crank-arm and comprising two pivotally connected members one of which is provided with a fixed fulcrum, and a connection intermediate the main-shaft and said toggle whereby the latter is alternately bent in opposite directions, a loop-taker operating rock-shaft parallel with the needle-actuating rock-shaft, an operative connection intermediate one of said toggle members and the loop-taker rock-shaft for imparting thereto oscillatory movements, and means for actuating said feeding mechanism.

[Claims 6 to 10 not printed in the Gazette.]

978,141. THERMOMETER. FAIRLEIGH S. DICKINSON, Rutherford, N. J. Filed Dec. 12, 1908. Serial No. 467,192.



1. A thermometer having a tube, a plug secured at one end thereof and a resilient handle member projecting from and permanently secured to said plug and including a spring which permits flexure of the handle member relative to the tube, said plug being provided with means to hold said handle member against longitudinal movement with relation to the tube.

2. In a thermometer, the combination of a carrying case open at one end, a tube insertible therein and having a plug to detachably engage the open end of the case, and a resilient handle member permanently connected with the plug and including a spring which permits flexure of the handle member relative to the tube, said plug being provided with means to hold said handle member against longitudinal movement with relation to the tube, said handle member being exterior of the carrying case when the tube is inserted therein.

3. A thermometer having a tube, a plug carried thereby, a handle member pivoted to the plug, and means for holding said handle member normally alined with the tube, but permitting flexure at the pivotal connection between the parts.

4. A thermometer having a tube, a handle member pivotally carried by said tube, and means for holding said handle member normally alined with the tube but permitting flexure at the pivotal connection between the parts.

978,142. DISINFECTING COMPOUND. WILHELM DREYFUS, New York, N. Y. Filed Dec. 1, 1908. Serial No. 465,541.

1. A disinfecting liquid comprising free mineral oil incorporated with an essential oil and with a solution of caustic alkali and formaldehyde, substantially as described.

2. A disinfecting liquid comprising free mineral oil incorporated with an essential oil and with a solution of caustic alkali and formaldehyde in alcohol, substantially as described.

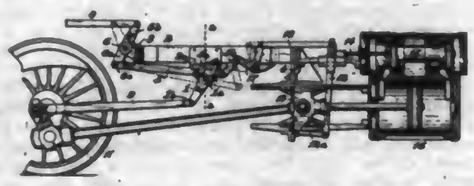
3. A disinfecting liquid comprising free mineral oil incorporated with an essential oil and with an alkaline solution of polymerized formaldehyde, substantially as described.

4. The process of preparing a disinfecting fluid which consists in mixing a refined mineral oil with an essential oil and a solution of caustic alkali and formaldehyde of such proportions that the saponifying effect of the alkali is neutralized, substantially as described.

5. The process of preparing a disinfecting fluid which consists in mixing a mineral oil with an essential oil and an alcoholic solution of caustic alkali and formaldehyde of such proportions that the saponifying effect of the alkali is neutralized, substantially as described.

[Claim 6 not printed in the Gazette.]

978,143. VALVE-GEAR. HARRY DUBBEL, Dunkirk, N. Y. Filed Sept. 29, 1910. Serial No. 584,455.



1. The combination, in a steam engine valve gear of the radial type, of an eccentric crank, a transmission bar, a valve stem coupled to the transmission bar, a double armed rocker yoke, journaled on a fixed support and coupled, at its opposite ends, to the eccentric crank and to the transmission bar, and means for imparting movement to the transmission bar relatively to the eccentric crank.

2. The combination, in a steam engine valve gear of the radial type, of an eccentric crank, a transmission bar, a valve stem coupled to the transmission bar, a double armed rocker yoke journaled on a fixed support and coupled, at its opposite ends, to the eccentric crank and to the transmission bar, respectively, and an oscillatory reverse shaft coupled to the transmission bar and adapted to impart movement thereto relatively to the eccentric crank.

3. The combination, in a steam engine valve gear of the radial type, of a driving axle, an eccentric crank fixed thereon, a transmission bar, a valve stem coupled to the transmission bar, a double armed rocker yoke journaled on a fixed support and having a pin on its lower arm traversing in an arc the middle of which is substantially in line horizontally with the driving axle, the upper arm of said yoke being coupled to the transmission bar, an eccentric rod coupling the pin of the lower arm of the rocker yoke to the eccentric crank, and means for imparting movement to the transmission bar relatively to the eccentric crank.

4. The combination, in a steam engine valve gear of the radial type, of a driving axle, an eccentric crank fixed thereto, a double armed rocker yoke journaled on a fixed support, a transmission bar, a link coupling the upper arm of said yoke to the transmission bar, an eccentric rod coupling the lower arm of the yoke to the eccentric crank, a bell crank journaled on a fixed support, a link coupling said bell crank to the transmission bar, a combination lever actuated from the cross head of the engine, a valve stem coupled to the combination lever, a bar coupling the combination lever to the bell crank, and means for imparting movement to the transmission bar relatively to the rocker yoke and eccentric crank.

978,144. GUN. NEWSOM DUNHAM, Fulton, Mo. Filed June 23, 1910. Serial No. 568,545.



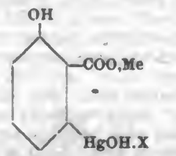
1. In a fire-arm, a hammer, a firing pin at all times in the path of the hammer, a trigger having a forward extension, a safety block carried by the forward extension of the trigger and movable by the latter into blocking relation to the hammer when the trigger is in the normal or unpulled position, and a trigger spring carried by the trigger and engaging the safety-block.

2. In a fire-arm, a hammer, a main spring therefor, a rebound spring normally holding the hammer retracted from the limit of its forward movement, a firing pin at all times in the path of movement of the hammer, a trigger, a safety block movable by the trigger into blocking relation to the hammer when the hammer is in the normal or unpulled position, and a spring carried by the trigger and engaging the safety block.

3. In a fire-arm, a hammer, a main spring therefor, a rebound spring for the hammer normally holding the latter retracted from the forward limit of its movement under the action of the main spring, a firing pin at all times in the path of the hammer, a trigger provided with a forward extension, a safety block carried by the forward extension of the trigger and movable into and out of blocking relation to the hammer when held by the rebound spring, and a spring carried by the trigger and engaging the safety block.

978,145. ORGANIC MERCURY COMPOUND. MAX ENGELMANN, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Dec. 21, 1909. Serial No. 534,325. (Specimens.)

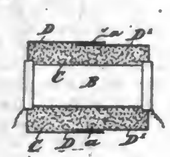
1. The herein described new mercury compounds possessing probably the following general formula:



in which Me means alkali metal and X an amino fatty acid, obtainable by reacting with alkali and an amino fatty acid upon ortho-oxymercuric compound of salicylic acid anhydrid, which new mercury compounds are whitish powders easily soluble in water and insoluble in ether, and containing the mercury so firmly combined that the aqueous solutions do not give any precipitate on the addition of dilute caustic soda lye or a cold solution of ammonium sulfid; and being valuable therapeutics, substantially as described.

2. The herein described new specific mercury compound obtainable by reacting with alkali and beta-amino-alpha-oxyisobutyric acid upon ortho-oxymercuric compound of salicylic acid anhydrid which is a whitish powder, easily soluble in water, insoluble in alcohol, ether and benzene having no definite melting point, but decomposing at about 200° C., and containing the mercury so firmly combined that the aqueous solution does not give any precipitate on the addition of dilute caustic soda lye or a cold solution of ammonium sulfid; and being a valuable therapeutic compound, substantially as described.

978,146. ELECTRIC FURNACE. CHARLES FÉRY and CHARLES LANGLET, Paris, France. Filed Jan. 30, 1907. Serial No. 354,866.



1. An electric furnace having a heating chamber, two members, one of which is an electric conductor adapted to impart heat to said chamber, and the other of which is a jacket arranged around said conductor, and a protecting filling interposed between said members, one of said members being capable of expansion and contraction independently of the other member to compensate for unequal expansion and contraction of the members relatively to each other during the operation of the furnace.

2. An electric furnace having a heating chamber, an electric conductor adapted to impart heat to said chamber, an expansible jacket arranged around said conductor, and a protecting filling interposed between the conductor and said jacket.

3. An electric furnace having a heating chamber, an electric conductor adapted to impart heat to said chamber, a longitudinally extensible jacket arranged around said conductor, and a protecting filling interposed between the conductor and said jacket.

4. An electric furnace having a heating chamber, an electric conductor adapted to impart heat to said chamber, a jacket arranged around the conductor and provided with elastic heads connected with the conductor, and a protecting filling interposed between the conductor and said jacket.

5. An electric resistance furnace having a heating chamber, an electric conductor surrounding the said chamber, a protecting mass surrounding the said conductor, and a casing surrounding the said protecting mass and having end cheeks that are corrugated.

[Claim 6 not printed in the Gazette.]

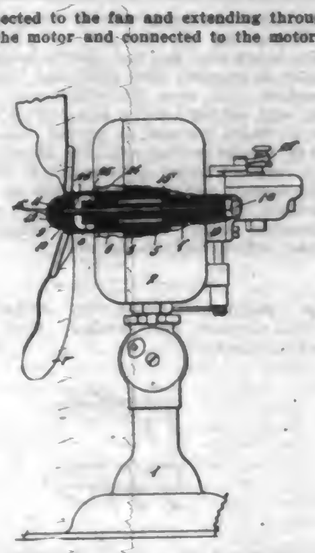
978,147. OSCILLATING ELECTRIC FAN. HERBERT I. FINCH, St. Louis, Mo., assignor to Emerson Electric Manufacturing Company, St. Louis, Mo., a Corporation of Missouri. Filed July 6, 1910. Serial No. 570,659.

1. The combination of a fan base, a motor pivotally mounted thereon, an armature having a fan connected thereto, said armature being mounted on a hollow sleeve, a motor oscillating means, and a device passing through the hollow sleeve connecting the fan to the oscillating means.

2. The combination of a fan base, a motor pivotally mounted thereon, an armature mounted on a hollow sleeve, a fan mounted on the armature, a motor oscillating means, and a rod or spindle passing through the sleeve and connecting the fan to the oscillating means.

3. The combination with a fan base, of a motor pivotally mounted thereon, a fan connected to the armature of the motor, motor oscillating means, and a driving shaft de

tachably connected to the fan and extending through the armature of the motor and connected to the motor oscillating means.



4. In a device of the class described, a fan base, a motor housing pivotally mounted thereon, oscillating means carried by the motor, a hollow sleeve extending through the armature of the motor, a fan carried by the armature of the motor, and a shaft extending from the fan through the hollow sleeve to the motor oscillating means.

5. In a device of the class described, a fan base, a motor housing pivotally mounted thereon, oscillating means carried by the motor, a hollow sleeve extending through the armature of the motor, means for maintaining the hollow sleeve in position in the armature, a fan carried by the armature of the motor, and a shaft extending from the fan through the hollow shaft to the motor oscillating means.

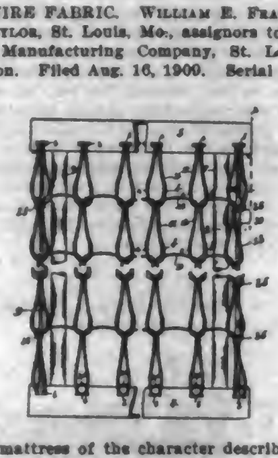
[Claims 6 to 9 not printed in the Gazette.]

978,148. DEVICE FOR HOLDING PILLOW-SHAMS. MATTIE F. FRAKES, Portland, Oreg. Filed Feb. 2, 1910. Serial No. 541,517.



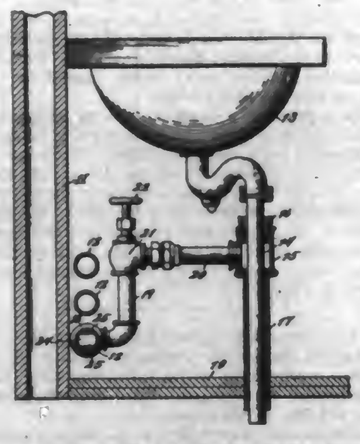
In a device of the class described, the combination with adjustable post clamps, of stub rods pivotally connected thereto and independently detachable therefrom, said stub rods having collars formed adjacent the lower terminals thereof, jointed side rods detachably secured to said stub rods, an adjustable upper horizontal bar clamped between said collars and the side bars, formed of a plurality of bars having slidable dove-tailed connections, a lower adjustable horizontal bar interposed between the lower terminals of the side rods, an intermediate adjustable horizontal bar interposed between the joints of the said side rods and forming pivots thereof, and stops carried by the lower sections of said side rods adapted to bear against the upper sections thereof when the device is in its operative position.

978,149. WIRE FABRIC. WILLIAM E. FRANK and CALVIN C. TAYLOR, St. Louis, Mo., assignors to The Foster Brothers Manufacturing Company, St. Louis, Mo., a Corporation. Filed Aug. 16, 1900. Serial No. 512,963.



In a bed mattress of the character described, the combination of end pieces held apart by side rails, said end pieces having a plurality of holes adapted to hold a wire fabric composed of strands of wire by hooking one end of said wire into one of said cross bars and passing it thereabout with a loop passed through each of said holes and having the loops of a remote strand of said wire passed through the holes of the other end piece and bent back to form hooks, in the manner substantially as described.

978,150. THAWING DEVICE FOR DRIP-PIPES. EGBERT H. GOLD, Chicago, Ill. Filed May 18, 1910. Serial No. 562,102.



1. The combination with a drip pipe, of a conduit carrying a supply of steam, means constituting a passage-way for steam from said conduit to said drip pipe, and a dam in said conduit at a point beyond, relative to the flow of the steam therethrough, the opening from said conduit of said passageway.

2. The combination with a drip pipe, of a conduit carrying a supply of steam, a jacket surrounding said drip pipe, a connecting pipe leading from said conduit to said jacket, and a dam in said conduit at a point beyond, relative to the flow of the steam therethrough, the opening from said conduit of said passageway.

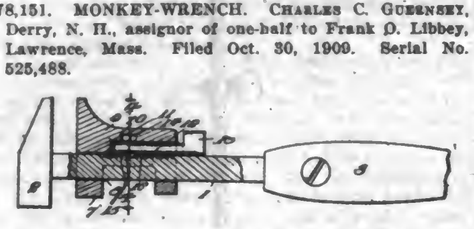
3. The combination with a drip pipe, of a conduit carrying a supply of steam, a jacket surrounding said drip pipe, a connecting pipe leading from said conduit to said jacket, a dam in said conduit, and a valve in said connecting pipe.

4. The combination with a drip pipe, of a conduit carrying a supply of steam, a jacket surrounding said drip pipe, a connecting pipe leading from said conduit to said jacket, and a dam in said conduit, said jacket terminating above the end of said drip pipe for the purpose specified.

5. The combination with a drip pipe, of a conduit carrying a supply of steam, a jacket surrounding said drip pipe, a fitting in said conduit, a connecting pipe leading from said fitting to said jacket, and a partition which extends across said fitting but does not entirely close the passageway therethrough.

[Claims 6 to 13 not printed in the Gazette.]

978,151. MONKEY-WRENCH. CHARLES C. GUERNSEY, Derry, N. H., assignor of one-half to Frank O. Libbey, Lawrence, Mass. Filed Oct. 30, 1909. Serial No. 525,488.



1. A wrench including a shank having a fixed jaw and provided at one longitudinal edge thereof with transversely disposed inclined teeth, a movable jaw slidably mounted on the shank and provided with a longitudinal seating recess opening through one end of the movable jaw, there being a transverse recess formed in the movable jaw and intersecting the longitudinal recess, and a locking key journaled in the seating recess and provided with a laterally extending lug projecting within the transverse recess, one end of the locking key being provided with a cam disposed at a point diametrically opposite the lug and provided with threads for engagement with the teeth on the shank, the other end of the key being projected through the open end of the movable jaw and provided with a laterally extending thumb piece disposed on the same side of the key as said lug.

2. A wrench including a shank provided with a fixed jaw and having one longitudinal edge thereof provided with transversely disposed inclined teeth, a movable jaw slidably mounted on the shank and provided with a longitudinal seating recess opening through one end of the movable jaw, there being a transverse recess formed in said movable jaw and communicating with the seating recess, the rear wall of said transverse recess being curved to produce a bearing surface, and a locking key journaled in the seating recess and having one end thereof provided with a laterally extending lug seated in the transverse recess and bearing against the curved wall thereof, one end of said locking key being provided with a cam arranged diametrically opposite the lug and provided with threads adapted to engage the teeth on the shank, the opposite end of the key being projected through the open end of the movable jaw and provided with a terminal laterally extending thumb piece arranged on the same side of the key as said lug and disposed at substantially right angles to the length of the key, the walls of the key between the lug and thumb piece being smooth and unobstructed.

978,152. AUTOMATICALLY-ACTING SPRING FLAP-VALVE. MAX FRIEDRICH GUTERMUTH, Darmstadt, Germany. Filed June 30, 1908. Serial No. 441,222.



1. A flap valve comprising a spring flap, means for fixing the position of one end of said flap, a curved seat plate at the other end of said flap, a correspondingly curved seat surrounding a port normally closed by said valve and means for conducting the fluid to said port in a direction approximately tangential to said curved seat.

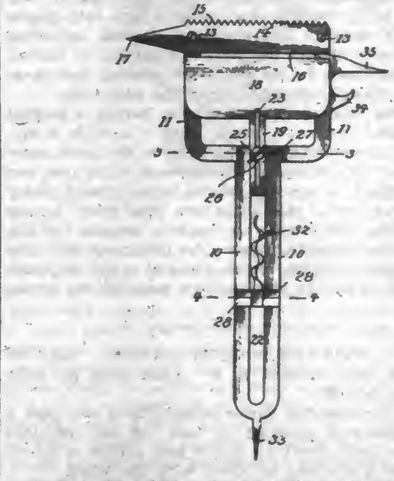
2. A flap valve, comprising a spring flap, means for fixing the position of one end of said flap, a curved seat plate at the other end of said flap, a seat member having a surface curved to correspond with said plate and a passage normally coved by said plate, one wall of said passage being directed approximately tangentially to the curve of said surface.

3. In a flap valve, a spring flap comprising a part at one end adapted to be fixed in position, a curved seat plate at the other end of said flap, and an intermediate coiled portion; means for fixing the position of the first-mentioned end of said flap, a seat curved to correspond to said seat plate and surrounding a port normally closed by said seat plate, and means for conducting fluid to said port in a direction approximately tangential to the curve of said seat.

4. In a flap valve, a spring flap comprising a curved seat plate and a coiled portion, slotted means for securing one end of said coiled portion, a seat curved to correspond with said seat plate and surrounding a port normally closed by said plate, and means for conducting fluid to said port in a direction approximately tangential to the curve of said seat.

5. In a flap valve, a spring flap comprising a curved seat plate and a coiled portion, two slotted members engaging opposite sides of one end of said coiled portion, means for securing said slotted members in position, a seat curved to correspond with said seat plate and surrounding a port normally closed by said plate, and means for conducting fluid to said port in a direction approximately tangential to the curve of said seat.

978,153. VEGETABLE-CUTTER. GEORGE HAHN, New York, N. Y. Filed June 15, 1910. Serial No. 566,909.

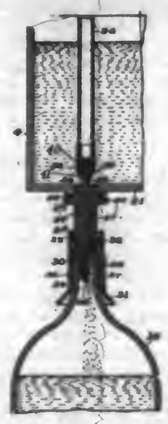


1. A device of the character described, comprising a frame having a pair of spaced head-forming arms, and an integral pair of spaced handle-forming arms, arranged at closer proximity to each other than the head-forming arms, a blade secured to the head-forming arms, a gage guided upon said arms, said gage and arms having contiguous flat surfaces, a foot integral with the gage and accommodated within the slot intermediate the handle-forming arms, and means for adjustably securing said foot to said handle-forming arms.

2. A device of the character described, comprising a frame having a pair of spaced head-forming arms, and an integral pair of spaced handle-forming arms arranged at closer proximity to each other than the head-forming arms, a blade secured to the head-forming arms, a gage guided upon said arms, said gage and arms having con

tiguous flat surfaces, a slotted foot integral with the gage and being provided with turned up sides that bear against the inner sides of the handle-forming arms, a plate secured to said arms, and a thumb screw passing through the slotted foot and tapped into the plate.

978,154. FILLING-MACHINE. JOSEPH F. HALLER, Sheridan borough, Pa. Filed May 23, 1908. Serial No. 434,608.



1. In a filling machine, the combination of a filling head, a filling tube carried thereby and having a pointed lower end and provided with a discharge opening on one side extending substantially to the point, and a vent tube extending through the filling tube and opening substantially at the point of the latter, the lower end of said filling tube being closed around the vent tube, said closure on the side opposite the discharge opening extending above the lower edge of the discharge opening to thereby direct the material to the discharge opening and cause the drip to draw the material out of the vent tube.

2. A filling tube comprising a tube having a pointed lower end and cut away on one side to provide a discharge opening extending substantially to the point thereof, and a vent tube extending through said filling tube and opening slightly to one side of the point of said filling tube, the lower end of said filling tube being closed around the vent tube, said closure on the side opposite the discharge opening extending above the bottom of said discharge opening to thereby direct material to the discharge opening and cause the drip to draw material out of the vent tube.

978,155. SKIRT-MEASURING DEVICE. JOHN W. HAWKINS, New Durham, N. H. Filed June 11, 1909. Serial No. 501,655.

1. A skirt measuring device comprising a rod, and a member adjustably mounted on said rod and provided with means constructed to attach said rod to a fabric, whereby the device may be lifted with the fabric.

2. A skirt measuring device comprising a rod, and a prong adjustably mounted on said rod and provided with a pointed portion adapted to attach said rod to a fabric, whereby the device may be lifted with the fabric.

3. A skirt measuring device comprising a rod, and a hook-like prong adjustably mounted on said rod and provided with a pointed portion adapted to attach said rod to a fabric, whereby the device may be lifted with the fabric.

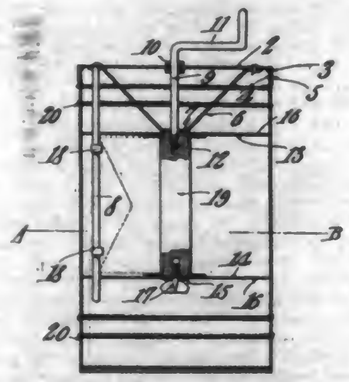
4. A skirt measuring device comprising a rod provided with graduations, and a slide adjustably mounted on said rod, and provided with a prong and having a pointed portion adapted to attach said rod to a fabric, whereby the device may be lifted with the fabric.

5. A skirt measuring device comprising a rod provided with graduations, and a slide adjustably mounted on said rod, and provided with a plurality of hook-like prongs each having a pointed portion adapted to attach said rod



to a fabric, whereby the device may be lifted with the fabric.

978,156. DEVELOPING-TANK FOR PHOTOGRAPHIC FILMS. ARTHUR C. HAYDEN, Brockton, Mass. Filed Jan. 6, 1910. Serial No. 536,606.



1. In an apparatus of the class described, a suitable tank, a removable cover therefor, an arbor carried by the cover and extending beyond the inner face of the latter, said arbor being provided at its inner end with means for the attachment thereto and suspension thereby of the spool on which the film is carried in a camera, a head for the end of the spool remote from that carried by the arbor and of greater diameter than the diameter of the normal head of the spool, and means for the ready attachment of the supplemental head to the spool.

2. In an apparatus of the class described, a tank, a cover therefor, an arbor extending through the cover and having spaced bearings carried by the cover, one of the bearings being interior to the tank when the cover is applied, and said arbor having means at its inner end for attachment to and suspension of a film spool, a rod carried by the cover at one side of and parallel with the axis of the arbor and provided with means for holding the free end of the protecting envelop of the film, and supplemental heads for the film spool attachable to and removable therefrom.

3. In an apparatus of the class described, a suitable tank, a removable cover therefor, an arbor carried by the cover and extending beyond the inner face of the latter and there provided with means for the attachment and suspension of the spool on which the film is carried in

a camera, and a supplemental head for the spool for upholding the film within the tank when unwound from the spool.

4. In an apparatus of the class described, a suitable receptacle, an arbor entering the same and provided at the inner end with screw threads adapted to engage a film spool within the receptacle and constituting the sole means of supporting said spool, a rod within the receptacle when the latter is in operative condition and then in fixed relation to the receptacle, said rod constituting means for holding one end of the protecting envelop of the film and a supplemental head for the end of the spool remote from that engaged by the arbor, said head having means for the ready attachment thereof to the spool, and also engaging the rod.

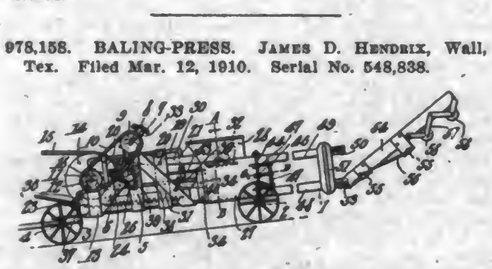
5. In an apparatus of the class described, a suitable tank, a removable cover therefor, an arbor carried by the cover and extending beyond the inner face of the latter, said arbor being provided at its inner end with means for the attachment and suspension of a spool on which the film is carried in a camera, a rod carried by the cover to one side of and parallel with the longitudinal axis of the arbor, disks constituting supplemental heads for the film spool and each provided with a circular series of perforations any one of which is adapted to be traversed by the rod, one of said heads when in operation being carried by the arbor, and means for the attachment of the other head to the end of the spool remote from that engaged by the arbor.

978,157. ADVERTISING DEVICE. WILLIAM HEISTERMAN, London, England. Filed June 1, 1909. Serial No. 499,434.



An advertising device comprising a sheet of fabric which is translucent, the same having on its front side designs and the like made in colors which are transparent and on its rear side a reproduction of the designs and the like on the front side in reverse or negative manner, the designs and the like uncolored on a ground which is a reproduction of the color of the design and the like on the front side, and in addition on the rear side designs and the like in reverse or negative manner in opaque colors, substantially as and for the purpose described.

978,158. BALING-PRESS. JAMES D. HENDRIX, Wall, Tex. Filed Mar. 12, 1910. Serial No. 548,838.



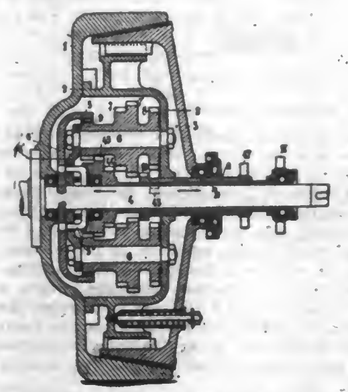
1. A machine of the class described including a press box, a plunger, a shank extending therefrom, a guide rod above said shank and movable therewith guides for the rod, and a revoluble crank movable against the shank to shift the plunger into the press box.

2. A machine of the class described including a press box, a plunger, a shank extending from the plunger, said shank having a head at its free end, a wear device upon the head, a guide rod integral with said device and secured to the plunger, guides for the rod, and a revoluble crank movable against the wear device to shift the shank and plunger in one direction.

3. A baling press including a press box, parallel angle irons extending beyond the corner portions of the press box, a base extending between and secured to the lower angle irons, a top strip extending between and secured to the upper angle irons, said base and top strip having free flexible outer ends converging, a plunger, means for actuating the same to direct material under pressure between the base and top strips, and tension means for adjusting the free ends of the angle irons relative to each other.

4. A baling press including a press box, a base extending forwardly and rearwardly therefrom, standards upstanding from the base, guide members extending over the base and supported by the standards, a plunger, a shank thereon, said shank having a head, a guide rod extending longitudinally above the shank and secured to the plunger, said rod being slidably mounted within the guide members, a revoluble crank movable against the head to shift the plunger in one direction, and means for automatically returning the plunger subsequent to said movement, one end of the rod constituting a wear plate upon the head for engagement with the crank.

978,159. TRANSMISSION-GEARING. CHARLES EDOUARD HENRIOD, Neuilly, France. Filed Aug. 28, 1908. Serial No. 450,717.



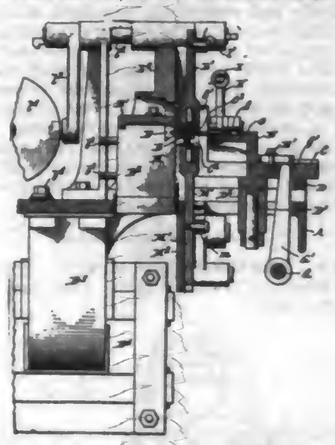
1. In a transmission gearing, the combination with a driving shaft and a driven shaft, of a fly wheel, the satellite wheels of variable diameter borne in said fly wheel, wheels loosely and slidably mounted on the driven shaft, the speed of the satellite wheels varying under the action of the slidable wheels, a gear on the driven shaft constantly meshing with one of the satellite gears, and a buffer mechanism for said slidable wheels which will permit the latter to sufficiently yield under the action of the satellite wheels, and thereupon to become arrested substantially as and for the purpose specified.

2. In a transmission gearing, the combination with a driving shaft and a driven shaft, of a fly wheel, the satellite wheels of variable diameter borne in said fly wheel, wheels loosely and slidably mounted on the driven shaft, the speed of the satellite wheels varying under the action of the slidable wheels, a gear on the driven shaft constantly meshing with one of the satellite gears, a lever mechanism for causing the displacement of the slidable wheels, and buffer springs connecting said lever mechanism with the said slidable wheels, said buffer springs permitting the slidable wheels to yield under the action of the satellite wheels and thereupon to become arrested, substantially as and for the purpose specified.

3. In a transmission mechanism, the combination with a driving shaft and a driven shaft, of a fly wheel, the satellite wheels of variable diameter borne in said fly wheel, sleeves loosely and slidably mounted on the driven shaft, wheels carried by said sleeves, the speed of the satellite wheels varying under the action of the slidable wheels, a gear on the driven shaft constantly meshing

with one of the satellite gears, and a buffer mechanism for said slidable wheels which will permit of the latter to sufficiently yield under the action of the satellite wheels, and thereupon to become arrested, substantially as and for the purpose specified.

978,160. ELECTRIC CHAIN-WELDING MACHINE. CARLTON L. HOFF, York, Pa., assignor to Standard Chain Company, York, Pa., a Corporation of Pennsylvania. Filed Nov. 20, 1908. Serial No. 463,621.



1. In an electric chain link welding machine, the combination with the movable carriage and link gripping jaws mounted on and movable with the carriage, of the fixed welding electrodes constituting the circuit terminals, the link engaging faces of said electrodes being formed into a converging seat for centering and pressing the ends of the link together when advanced by the carriage.

2. In an electric chain link welding machine the combination with the terminal electrodes forming a seat between them for the end of a link, of gripping jaws for the link movable bodily toward and from the electrodes and pivotally mounted on an axis to swing transversely whereby the end of the link may be centered between the electrodes.

3. In an electric chain link welding machine the combination with the terminal electrodes forming a seat between them for the end of a link, of gripping jaws for the link, a carriage on which the jaws are mounted, movable toward and from the electrodes and a pivotal support for the carriage whereby the carriage and jaws may be turned to center the link between the electrodes.

4. In an electric chain link welding machine, the combination with the terminal electrodes forming a seat between them for the end of a link, of a carriage movable toward and from the electrodes, a guiding support for the rear end of the link and gripping jaws for the forward end of the link mounted on and movable with the carriage.

5. In an electric chain welding machine, the combination with the terminal electrodes forming between them a seat for the end of a link, of a pair of gripping jaws movable bodily in unison toward and from the electrodes and having supports for the forward end of the link extending in line with the lower edges of the jaws.

[Claims 6 to 16 not printed in the Gazette.]

978,161. WHEEL. JOSEPH W. HOLMES, Galesburg, Ill. Filed May 14, 1910. Serial No. 561,463.

1. A ground wheel comprising a rotatable rim and a stationary band exterior thereto.

2. A ground wheel comprising a sectional rotatable rim and a stationary supporting band exterior thereto.

3. In combination in a ground wheel, a rotatable rim, a stationary supporting band exterior thereto, and balls interposed between said band and rim.

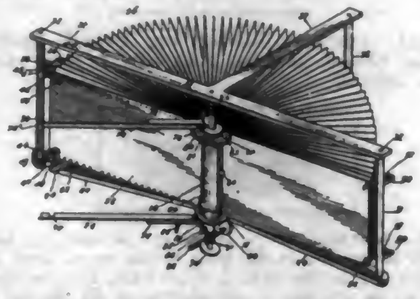
4. A wheel comprising a rim provided with a race and a tire-channel in its periphery, a supporting-band exterior to said rim and provided with an interior race, friction-reducing means disposed in said races, and a tire disposed in said channel.



5. A wheel comprising a rim provided with a race and a tire-channel at each side thereof, said race and channels disposed in the periphery of said rim, a supporting-band exterior to said rim and provided with an interior race, friction-reducing means disposed in said races, and tires disposed in said channels.

[Claim 6 not printed in the Gazette.]

978,162. SIGN-EXHIBITING APPARATUS. LESLIE HOPKINS, Kansas City, Mo. Filed Mar. 9, 1909. Serial No. 482,348.



1. In an object exhibiting apparatus the combination with a vertical axial support, of a vertical swinging sign plate rotatively mounted at its inner upper end portion upon said support, a stop on said support for the lower end portion of said plate, and an elevator for the outer end of said plate.

2. In an object exhibiting apparatus, the combination with a center post, of a suitable flanged support concentric therewith, and a swinging exhibiting plate having a notch in the upper portion and inner end rotatively and detachably connected with said flanged support.

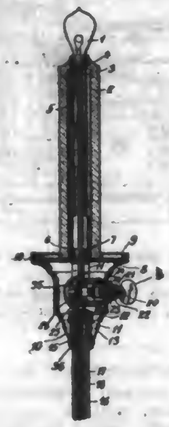
3. In an object exhibiting apparatus, the combination with a base plate, a stationary post, a rotary shaft extending through and in line with the vertical axis of said post and also said base plate, swinging exhibiting devices rotatably mounted on said post, spring-controlled sliding hubs on the ends of said shaft, arms on said hubs means for imparting an outward movement to said hubs, and means for imparting motion to said shaft.

4. In an object exhibiting apparatus, the combination with a base plate, a stationary post, a rotary shaft extending through and in line with the vertical axis of said post and also through said base plate, swinging exhibiting devices rotatably mounted on said post, spring-controlled outwardly-sliding hubs on the ends of said shaft and movable in rotation therewith, plate carrying devices on said hubs, means controlling the movement outwardly of said hubs, and means for imparting motion to said shaft.

5. In an object exhibiting apparatus, the combination with a base plate, a stationary post, a rotary shaft extending through and in line with the vertical axis of said post and also through said base plate, swinging exhibiting devices rotatably mounted upon said post, spring-controlled outwardly-sliding hubs on the ends of said shaft and movable in rotation therewith, cams on said post and base plate, and spring-controlled dogs on said arms, adapted to move upon the cam surfaces of said cams, and means for imparting motion to said shaft.

[Claims 6 to 12 not printed in the Gazette.]

978,163. ELECTRIC-LIGHTING FIXTURE. LEMUEL R. HOPTON, Plainfield, N. J., assignor to Enos Company, New York, N. Y., a Corporation of New York. Filed Mar. 1, 1910. Serial No. 546,677.



1. The electric candle fixture, comprising a fixture arm having a collar and adjacent threaded end, a candle cup coöperating with said collar and having a cup flange at its upper portion, a sleeve engaging the thread on said fixture arm and clamping said candle cup against the collar thereon, a resilient retainer yoke secured to said sleeve and provided with notches in the ends of its arms, a support within said cup flange and provided with apertures having tongues projecting into said apertures to cooperate with said notches and be thereby firmly held in position by said retainer, a threaded bushing in said support, a cover plate above said support and within said cup flange, a candle tube engaging said bushing and holding said cover plate in position and a switch extending between the arms of said retainer yoke.

2. The electric candle fixture, comprising a fixture arm having a threaded end, a candle cup having a cup flange adjacent its upper portion, a sleeve engaging the threaded end of said fixture arm and holding said candle cup thereto, a resilient retainer yoke secured to said sleeve, a support within said cup flange and engaged and held in position by said retainer, a candle tube having a threaded engagement with said support and a switch secured to said candle cup and extending within said retainer yoke.

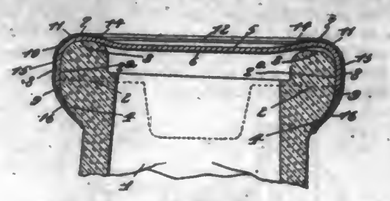
3. The electric candle fixture, comprising a fixture arm, a candle cup secured to said fixture arm, a resilient retainer yoke located within said candle cup and secured to said fixture arm, a support engaged by said retainer yoke and removably held in position with respect to said candle cup, a candle tube secured to said support and a switch extending within said retainer yoke.

4. The electric candle fixture, comprising a candle cup, a retainer yoke mounted within said candle cup, a support engaged by said retainer yoke, and firmly held in position with respect to said candle cup, a candle tube mounted on said support and a switch extending within said retainer yoke.

5. The lighting fixture, comprising a fixture arm, a cup secured to said fixture arm, a retainer located within said cup and secured to said fixture arm, a support engaged by said retainer and thereby held in position with respect to said cup and a switch located within said cup adjacent the end of said fixture arm.

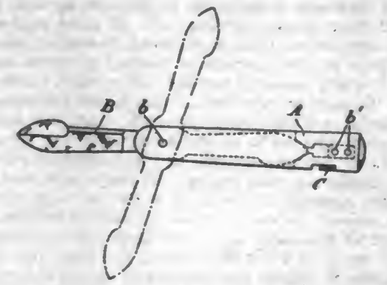
[Claims 6 to 8 not printed in the Gazette.]

978,164. BOTTLE-CLOSURE. LOUIS HUETHWOHL, New York, N. Y. Filed June 19, 1909. Serial No. 503,074.



In combination with a bottle neck provided with an annular outwardly directed fillet extended around its mouth, the upper surface thereof being rounded in profile and the lower part of said fillet being sloped inwardly to produce a curved shoulder; of an inner compressible member extending across the opening of the neck and being of such diameter that its marginal portion laps over the rounded upper surface of the fillet and extended down about the fillet in cylindrical form, the central portion of the member being depressed below the marginal portion, an outer metallic member annular in form and extending over the mouth of the neck and having a central opening to expose the inner member, said outer member having a depressed edge portion surrounding its central aperture and having a marginal curved portion conforming to the upper curved surface of the fillet, and resilient tongues integrally produced upon and pendent from the marginal curved portion correspondingly curved with relation to the lower part of the fillet to contact therewith, the lower or free ends of the tongues being bent outwardly to afford hook parts.

978,165. DOUBLE-BLADED TOOL. OSCAR W. JOHNSON, Hackensack, N. J., assignor of one-half to J. Allen Gregory, New York, N. Y. Filed Sept. 18, 1909. Serial No. 518,387.



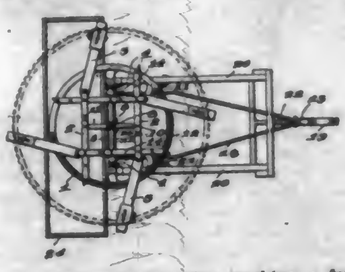
A double-bladed tool consisting of a suitable handle, a double-pointed blade, pivoted between its ends therein and a holding device for the point of the inner end of said blade which consists of a slotted plate with flaring mouth located between the side pieces of the handle and a nut located in the slot of said plate and engaged between the handle pieces, whereby said plate is adapted to slide and release said point.

978,166. WHEELWRIGHT-MACHINE. JOHN W. KALDENBACH, Seat Pleasant, Md. Filed May 3, 1910. Serial No. 559,106.

1. In a tire setting and cooling machine, a frame, a water tank, a pivoted wheel trestle, a rotatable wheel securing shaft mounted centrally in the trestle, means to vertically raise the trestle above the frame, and means to engage and secure the wheel shaft from rotation only in the lower position of the trestle.

2. In a tire setting and cooling machine, a frame, a water tank, members mounted to reciprocate vertically upon the frame adjacent the tank, a pivot block pivotally

mounted upon the reciprocating members, a wheel trestle supported thereon, a wheel securing shaft passing centrally through the trestle and pivot block rotatably mounted in the pivot block and secured to the trestle support, means to secure a wheel to the trestle on one end of the shaft and a handle on the opposite end beyond the pivot block for rotating the shaft and trestle, and means to operate the reciprocating members.



2. In a tire setting and cooling machine, a frame and a water tank secured thereto, guides upon the vertical posts of the frame adjacent the water tank, vertical sliding members mounted to reciprocate in said guides having their upper portions bent at right angles extending rearwardly thereof and having a link joining their horizontal extremities, means to reciprocate said members in a vertical direction, a pivot block pivotally mounted between the vertical portions and below the angular extensions of the members adjacent the top thereof, a wheel trestle pivotally mounted upon the pivot block adapted to normally rest upon the horizontal portion of the reciprocating members and engage the under side of the link joining the horizontal extremities of the members to one side of the pivotal points of the pivot block to retain it in a horizontal position.

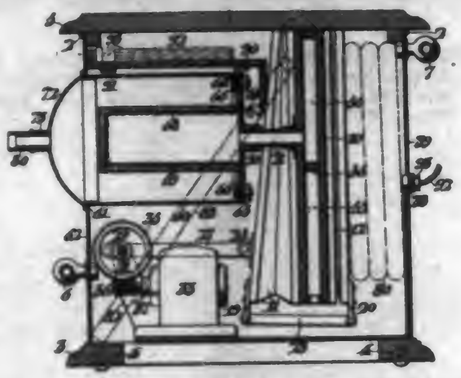
4. In a tire setting and cooling machine, a frame and a water tank secured thereto, guides upon the vertical posts of the frame adjacent the water tank, vertical sliding members mounted to reciprocate in said guides having their upper portions bent at right angles and joined together at their horizontal extremities, means to reciprocate said members in a vertical direction, a pivot block pivotally mounted between the vertical portion and below the angular extension of the members adjacent the top thereof, a wheel trestle pivotally supported upon the pivot block adapted to normally rest upon the horizontal portions of the reciprocating members, a wheel receiving shaft passing centrally through the trestle and pivot block rotatably mounted in the pivot block and secured to the trestle support, means to secure a wheel to the trestle on one end of the shaft and a handle on the opposite end beyond the pivot block for rotating the shaft and trestle, and means to engage the handle and end of the shaft in the lower position to prevent rotation of the shaft.

978,167. PORTABLE VACUUM-CLEANER. CADWALLADER W. KELSEY, Philadelphia, Pa. Filed Dec. 14, 1908. Serial No. 467,391.

1. A vacuum cleaner comprising a receptacle having an opening in one of the outer walls thereof, a vacuum chamber, a dust collecting receptacle adapted to be inserted in said opening and to close the same, and means for connecting said dust collecting receptacle with the vacuum chamber.

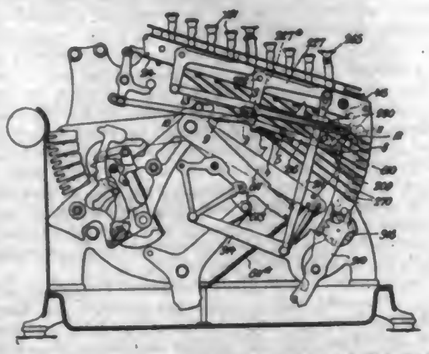
2. A vacuum cleaning apparatus, comprising a receptacle having an opening in one wall thereof, a vacuum chamber, a tube extending into said vacuum chamber, a dust-collecting cylinder rotatably and removably secured in said opening and extending into said receptacle, said cylinder having a connecting boss detachably connected with said tube.

3. A vacuum cleaning apparatus comprising a rectangular receptacle, spaced walls forming a vacuum chamber, and located parallel with one of the walls of the receptacle, which wall has an opening therein, a dust collecting receptacle removably secured in said opening and closing the same and extending into said rectangular receptacle, a tube carried by one of said spaced walls and connecting



with said vacuum chamber, said dust collecting receptacle having a projecting boss detachably connected with said tube, and means for withdrawing the dust collecting receptacle from said rectangular receptacle.

978,168. ADDING-MACHINE. WILLIAM J. KILPATRICK, Detroit, Mich., assignor to Burroughs Adding Machine Company, Detroit, Mich., a Corporation of Michigan. Filed May 6, 1910. Serial No. 559,724.



1. In a machine of the character described, the combination of adding wheels; actuating racks; means for engaging and disengaging the same and said wheels; means for reciprocating the racks; latches for detaining the latter; a bail for displacing the latches; a total key and connections for reversing the order of engagement and disengagement of racks and wheels; couplings between said key and the bail, with provisions for operating the latter by the key through direct thrust in the couplings; and means for uncoupling the total key and bail before the wheels and racks disengage in the taking of a total.

2. In a machine of the character described, the combination of adding wheels; actuating racks; means for engaging and disengaging the same and said wheels; means for reciprocating the racks; latches for detaining the latter; a bail for displacing the latches; a total key and connections for reversing the order of engagement and disengagement of racks and wheels; a movably-mounted coupler shouldered to effect a direct thrust engagement between the bail and the key; and means for displacing the coupler before the wheels and racks disengage in the taking of a total.

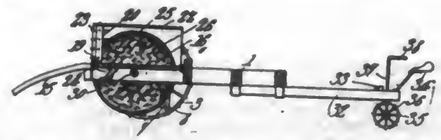
3. In a machine of the character described, the combination of adding wheels; actuating racks; means for engaging and disengaging the same and said wheels; means for reciprocating the racks; latches for detaining the latter; a bail for displacing the latches; a total key and connections for reversing the order of engagement and disengagement of racks and wheels; a pivoted coupler-piece carried by the key connections and shouldered for direct thrust engagement with the bail; and means for disengaging said coupler-piece from the bail before the wheels and racks disengage from each other in a totaling operation.

4. In a machine of the character described, the combination of adding wheels; actuating racks; means for engaging and disengaging the same and said wheels; means for reciprocating the racks; latches for detaining the latter; a bail for displacing the latches; a total key and connections for reversing the order of engagement and disengagement of racks and wheels; a pivoted coupler-piece carried by the key connections and shouldered for direct thrust engagement with the bail and spring-connected to the latter; and means for disengaging said coupler-piece from the bail before the wheels and racks disengage from each other in a totaling operation.

5. In a machine of the character described, the combination of adding wheels; actuating racks; means for engaging and disengaging the same and said wheels; means for reciprocating the racks including a restoring frame; latches for detaining the racks; a bail for displacing the latches; a total key and connections for reversing the order of engagement and disengagement of racks and wheels; and a coupler-piece carried by the key-connections and shouldered for engagement with the bail and adapted to be displaced by the aforesaid restoring frame.

[Claims 6 and 7 not printed in the Gazette.]

978,169. CORN-HUSKING MACHINE. CHARLES BYRON KIMBALL, Pine River, Wis. Filed May 23, 1910. Serial No. 562,877.



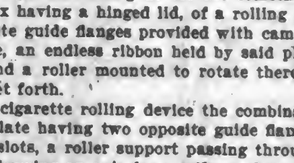
1. A corn husker including a roller having a spiral conveying rib, a husking disk mounted for rotation and extending throughout the length of the roller and disposed adjacent thereto, said roller constituting means for directing the detached ears against, and for moving them along the face of the disk, said roller and disk coöperating to remove the husks from the ears, and superposed yielding fingers for contacting with and holding the ears in contact with the rear portion of the disk.

2. A corn husking machine including a roller, a husking disk mounted for rotation adjacent the roller, and extending throughout the length thereof, said roller constituting means for directing the detached ears against, and for moving them along the working face of the disk, said roller and disk coöperating to remove the husks from the ears, laterally yieldable fingers for holding the ears in contact with the rear portion of the disk, and revoluble means for feeding ears to the roller and between the disk and fingers.

3. A corn husking machine including a frame, a husking disk mounted for rotation in a substantially vertical plane, superposed laterally yielding fingers converging rearwardly toward the disk and a roller interposed between the fingers and disk, said roller constituting means for directing the detached ears against, and for moving them along the working face of the disk, said roller and disk coöperating to remove the husks from the ears.

4. A corn husking machine including a frame, a husking disk mounted for rotation in a vertical plane, superposed laterally yielding fingers converging rearwardly toward said disk, a roller interposed between the disk and fingers, certain of said fingers overhanging the roller, said roller constituting means for directing the detached ears against, and for moving them along the working face of the rotating disk, said roller and disk coöperating to remove the husks from the ears, means for actuating the disk and roller and an upstanding feed roller operated by the first mentioned roller for directing material between the fingers and disk.

978,170. COMBINED CIGARETTE-ROLLER AND TOBACCO-BOX. MAX KRONAUER, Paterson, N. J., assignor to The Progress Manufacturing Company, a Corporation of New Jersey. Filed Oct. 28, 1909. Serial No. 525,181.



1. In a cigarette rolling device, the combination of a box, with hinged lid having an elongated slot through which a cigarette may be delivered, a cigarette rolling and delivering device operatively secured, and concealed from view, within said box when the same is closed, and means for automatically covering said slot from within, after the delivery of a cigarette through the same, substantially as set forth.

2. In a cigarette rolling device, the combination of a box body having a lid hinged thereto, with a cigarette rolling and delivering device carried by and between said box and consisting of two detachable parts, namely, a roller-plate carrying an endless ribbon and a roller mounted to rotate upon a carrying device forming an axis therefor, substantially as set forth.

3. In a cigarette rolling device the combination with a tobacco box having a hinged lid, of a rolling plate having two opposite guide flanges provided with cam slots, and a rear flange, an endless ribbon held by said plate, a roller support and a roller mounted to rotate thereon, substantially as set forth.

4. In a cigarette rolling device the combination with a box of a plate having two opposite guide flanges provided with cam slots, a roller support passing through said cam slots and forming an axis for a roller and a roller adapted to rotate on said axis substantially as set forth.

5. In a cigarette rolling device the combination with a box of a roller plate having two opposite flanges provided with cam slots, an endless ribbon held by said plate, a vertical flange on the rear end of said plate to control said ribbon, a roller adapted to rotate upon its axis and such an axis adapted to be moved in and guided by said cam slots substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

978,171. ELECTRIC FURNACE. FRANZ VON KÜGELGEN, Holcombs Rock, Va., and GEORGE O. SEWARD, East Orange, N. J., assignors to Virginia Laboratory Company, New York, N. Y., a Corporation of New York. Filed Dec. 18, 1907. Serial No. 407,019.

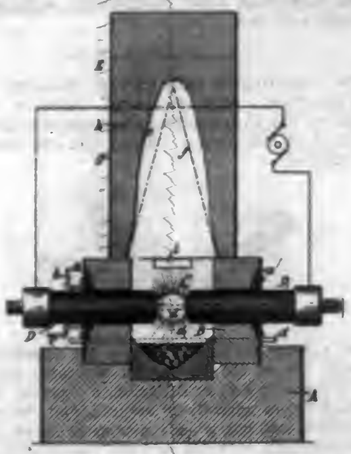
1. A reverberatory electric furnace having a closed top and non-conducting lining adapted to inclose and retain a substantially inert gaseous body of sufficient thickness to protect the lining beyond it from fusion.

2. A reverberatory electric furnace comprising electrodes and a furnace chamber, with a closed top and a non-conducting lining having an upwardly extending cavity of sufficient height to inclose and retain a substantially inert gaseous body of such thickness as to protect the lining of said cavity from fusion.

3. A reverberatory electric furnace comprising a furnace chamber and electrodes, and a removable top consisting of a hollow hood covering said chamber having a refractory lining sufficiently remote from the source of heat to avoid fusion thereby, and adapted to inclose a substantially inert gaseous body serving as a heat shield.

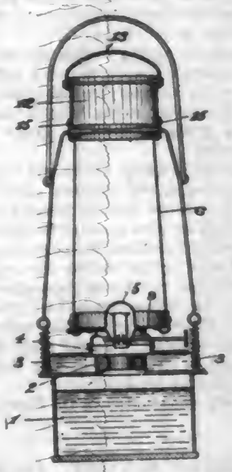
4. A reverberatory electric furnace comprising a furnace chamber and electrodes, the top of said chamber being ex-

tended upwardly, having a refractory lining, and being imperforate so as to inclose a substantially inert gaseous



body, and being of such height that the refractory lining is protected by said gaseous body from fusion.

978,172. LANTERN. FRANK LENNE, Montreal, Quebec, Canada. Filed Oct. 14, 1909. Serial No. 522,658.



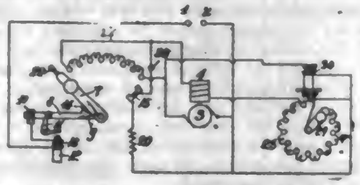
1. The combination in a lantern of the character described, a yoke adapted to hold the lantern chimney in position, a hood provided with slots adapted to receive said yoke, and catches connected to the hood and adapted to engage the yoke to connect the hood thereto.

2. The combination in a lantern of the character described, a yoke adapted to hold the lantern chimney in position, a hood comprising a cylindrical wall and a cap supported by the upper edge of the cylindrical wall and spaced slightly therefrom, and means for connecting the hood to the yoke.

3. A lantern of the character described, comprising a font, a burner supported by the font, a chimney provided with notches in its upper edge, a hood adapted to overlap the upper end of the chimney and provided with notches in its lower end adapted to be alined with the notches in the edge of the chimney, and a yoke adapted to be seated in both sets of notches and hold the chimney in position.

4. A lantern of the character described, comprising a font, a burner supported by the font, a chimney provided with notches in its upper edge, a hood adapted to overlap the upper end of the chimney and provided with notches in its lower end adapted to be alined with the notches in the edge of the chimney, a yoke adapted to be seated in both sets of notches and hold the chimney in position, and means for connecting the hood to the yoke.

978,173. ELECTRIC-MOTOR-CONTROLLING APPARATUS. HARRY WARD LEONARD, Bronxville, N. Y. Filed Jan. 23, 1905, Serial No. 242,203. Renewed Feb. 20, 1907. Serial No. 358,417.



1. The combination of a motor having a field winding energized by a current independently of its armature current and permanently connected in a closed circuit containing the armature, armature controlling means, independent means for controlling the current in said field winding, and electrical means functionally relating the said two controlling means for insuring proper sequence of operation of said two means.

2. The combination of a rheostat for controlling the armature circuit of a motor, a rheostat for controlling the field of the motor, and electro-responsive means for protecting the motor against improper operation under a condition of weakened field, said means being affected under certain conditions by the armature controlling rheostat.

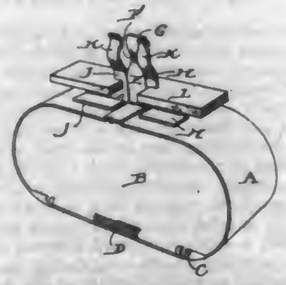
3. The combination of a rheostat for controlling the armature circuit of a motor, means for controlling the field strength, and electroresponsive means for insuring the starting up of the motor under a condition of proper field strength and for protecting the motor from overload current.

4. The combination of means for controlling the armature circuit of a motor, means for controlling the field strength of the motor, and means comprising an electro-responsive device for functionally relating the said two controlling means for insuring proper sequence of operation of said armature and field controlling means.

5. The combination of a starting resistance for an electric motor, said starting resistance having a movable element for varying the resistance, a resistance for controlling the field strength of the motor, said latter resistance having a movable element for varying the resistance, and independently movable electrical means for insuring that the field resistance will be in a proper condition as regards amount of effective resistance when the motor is started.

[Claims 6 to 88 not printed in the Gazette.]

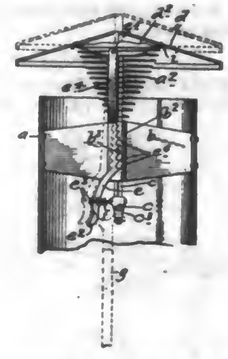
978,174. CARRIER FOR CABLE-CARRIER APPARATUS. CHARLES R. LIBBY, Lowell, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed May 16, 1908. Serial No. 433,196.



1. In a carrier for cable carrier apparatus, a receptacle or box provided with projecting members forming the stationary part of the cable clamp, and a cover for said receptacle provided with a projecting member adapted to pass between said members on the box and to engage the table on the opposite side to that engaged by said projecting members.

2. In a carrier for cable carrier apparatus, a receptacle or box provided with yielding members forming the stationary part of the cable clamp, and a cover for said receptacle provided with a projecting member adapted to pass between said members on the box and to engage the cable on the opposite side to that engaged by said projecting members.

978,175. VENTILATOR. WILLIAM J. LINDEMEYER, Stapleton, N. Y. Filed Apr. 18, 1910. Serial No. 556,065.



1. In a ventilating device of the class described, a flue, tube or casing, a transverse support mounted in the top portion thereof and provided with a central vertically arranged keeper, a shaft mounted in and vertically movable in said keeper, a hood connected with the upper end of said shaft, a locking device pivotally suspended from said hood and provided with teeth adapted to engage stops on the sides of said keeper, a tension device connecting the lower end of said shaft and the lower end of said yoke-shaped attachment and tension means for holding said hood in an elevated position.

2. A ventilating device of the class described, comprising a tube, flue or casing in which is placed a transverse support provided with a central vertical guide, a vertically movable shaft passing through said guide, a hood connected with the upper end of said shaft, a spring placed between said hood and said support and normally serving to hold said hood in its highest position, a yoke-shaped locking device pivotally suspended from said hood and the side arms of which are provided with ratchet teeth adapted to engage stops connected with said keeper, and a tension device connecting the lower end of said shaft and the lower end portion of said yoke-shaped locking device.

3. A ventilating device of the class described, comprising a tube, flue or casing, a transverse support adapted to be secured therein and provided with a central vertically arranged keeper, a shaft vertically movable through said keeper, a hood connected with the upper end of said shaft, a spring placed between said hood and said keeper, a lock device pivotally suspended from said hood and provided with teeth adapted to engage stops on said keeper and a tension device connecting the lower end of said shaft with said lock device.

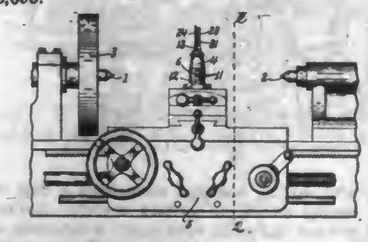
4. In a ventilating device of the class described, a transverse support adapted to be secured in a tube, flue or casing and provided with a central vertically arranged keeper, a shaft movable vertically through said keeper, a hood connected with the upper end of said shaft, a depending locking device connected with said hood and adapted to be engaged by said keeper at different points and means for connecting the lower end of said locking device with the lower end of said shaft.

978,176. RAIL-CHAIR. THOMAS P. LIVINGSTON, Augusta, Ga. Filed Jan. 8, 1910. Serial No. 537,011.



In a device of the class described, chair sections, one of said sections comprising a body portion formed with an upstanding rail-engaging flange arranged to abut against one side of the web of a rail disposed between the chairs and to overlap the base flange of the said rail, the said chair being formed in the under side of its body with a groove, the side walls of which are vertical, the said groove extending parallel to the inner edge of the said body of the chair, and the under side of the body between the said edge thereof and the adjacent edge of the groove being beveled and convex and of such a width that the outer edge of the bevel will register with the edge of that base flange of the rail other than the one overlapped by the said chair; the other chair comprising a body formed with an upstanding rail-engaging flange arranged to overlie the base flange of the rail in spaced relation with respect thereto, the upper face of the body of the said chair being formed with a tongue fitting in the groove in the under side of the body of the first mentioned chair, the said body of the last mentioned chair between the said tongue and the base of the rail-engaging flange, being concave in its upper surface, that side of the tongue next adjacent the deeper wall of the groove in the under side of the first mentioned chair being beveled whereby to permit of rocking of the last mentioned chair to bring the bevel of its tongue against the said deeper wall of the groove of the first mentioned chair and the overhanging portion of its rail engaging flange upon the outer edge portion of the base flange of the rail and subsequent rocking of the last mentioned chair to cause its tongue to clear the under side of the body of the first mentioned chair.

978,177. INSTRUMENT FOR COMPARING THE RELATIVE POSITIONS OF CENTERS. NATHEN ALBERT LOCKE, Fulton, N. Y. Filed Nov. 21, 1904. Serial No. 233,693.



1. An instrument for comparing the relative positions of centers of spindles having tapered ends, the same comprising a detecting member movable in opposite directions and having opposite contact surfaces for engaging the tapered end of each spindle, the detecting member being movable in either direction by the tapered end of the spindle until both contact surfaces are engaged with said tapered end, substantially as and for the purpose specified.

2. An instrument for comparing the relative positions of centers of spindles having tapered ends, the same comprising a detecting member movable in opposite directions

and having opposite substantially parallel contact surfaces for engaging the tapered end of each spindle, the detecting member being movable in either direction by the tapered end of the spindle until both contact surfaces are engaged with said tapered end, substantially as and for the purpose described.

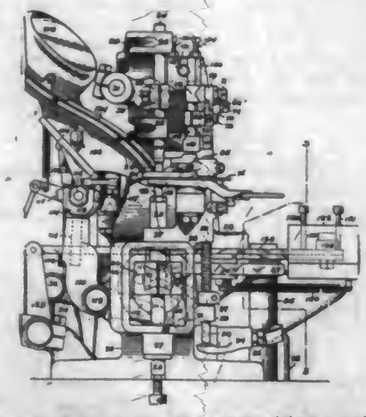
3. An instrument for comparing the relative positions of centers of spindles having tapered ends comprising a movable detecting member provided with opposite substantially parallel pins for engaging the tapered ends of the spindle, the pins being fixed relatively to each other and formed of rounding cross-section, substantially as and for the purpose set forth.

4. An instrument for comparing the relative positions of centers of spindles having tapered ends, the same comprising a detecting member movable in opposite directions and having a passage extending from side to side thereof for receiving the spindles from either side of the detecting member, and also having contact surfaces at opposite sides of the passage for engaging the tapered end of each spindle, the detecting member being movable in either direction by the tapered end of the spindle until both contact surfaces are engaged with said tapered end, substantially as and for the purpose specified.

5. An instrument for comparing the relative positions of centers of spindles having tapered ends, the same comprising a detecting member movable in opposite directions and having a passage and contact surfaces at opposite sides of the passage arranged substantially equidistant from the ends thereof, the contact faces engaging the tapered end of each spindle, and the detecting member being movable in either direction by the tapered end of the spindle until both contact surfaces are engaged with said tapered end, substantially as and for the purpose described.

[Claims 6 to 23 not printed in the Gazette.]

978,178. MACHINE FOR INSERTING EYELETS. FREDERICK W. LUSCOMB, New Bedford, Mass., assignor to Atlas Tack Company, Fairhaven, Mass., a Corporation of New Jersey. Filed Dec. 5, 1908. Serial No. 466,098.



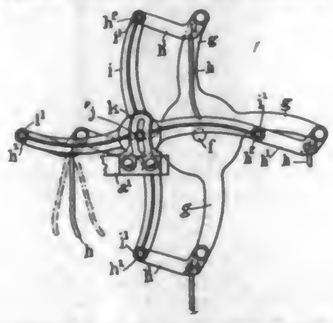
1. An eyelet setting machine comprising a pair of cooperative setting members, carriers therefor movable in alinement toward and from each other, a rotatable shaft, means driven by the shaft for reciprocating one of said carriers and including means for shifting the range of movement thereof, and independent means driven by said shaft for reciprocating the other carrier, and including means for shifting the range of movement of that carrier.

2. In an eyelet setting machine, coöperative setting members, a cutting plate, a carriage movable toward and from said setting members in a plane parallel to said plate, a cutter mounted on said carriage so as to be movable to and from said plate and arranged to be moved by the carriage to and from the line of said setting members, toggle links mounted upon said carriage for actuating said cutter with relation to the carriage, means for reciprocating the carriage, and means for reciprocating said toggle links.

3. In an eyelet setting machine, coöperative setting members, a cutting plate, a carriage movable toward and from said setting members in a plane parallel to said plate, a plunger arranged in bearings on said carriage so as to be movable toward and from said plate, a cutter mounted on said plunger to engage the plate, pivot studs affixed respectively to said carriage and said plunger, toggle links embracing said pivot studs respectively, means for actuating said toggle links, and means for reciprocating said carriage to move the cutter to and from the line of the setting members.

4. In an eyelet setting machine, a combination of cooperative setting members movable in alinement with each other, and a cutter having a rectilinear cutting movement and a curvilinear movement to and from the line of the setting members.
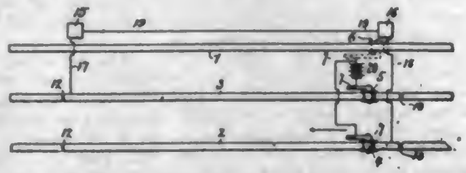
978,179. POTATO-DIGGER. WILLIAM E. MARTIN, Stamford, England. Filed Oct. 29, 1909. Serial No. 525,363.



1. In a potato digger, the combination of a driven shaft, radial arms on said driven shaft, pins carried by the radial arms, forks hanging on said pins, cranks attached at one of their ends to the fork heads, a pin carried by the other end of each crank, bearings to receive said pins and a second set of radial arms mounted eccentric to the said driven shaft and by which said bearings are carried, and a quadrant carrying the axle on which the second set of radial arms rotates whereby the angularity of the forks may be altered, substantially as set forth.

2. In a potato digger, the combination of a driven shaft, radial arms on said driven shaft, pins carried by the radial arms, fork heads mounted on said pins and having a vertical part and a horizontal part both of which are perforated, prongs perforated at their upper ends passed through the perforations in the horizontal part, nuts and bolts for fixing the perforated upper portions of the prongs to the vertical part, cranks attached at one of their ends to the fork heads, a pin carried by the other end of each crank, bearings to receive said pins and a second set of radial arms mounted eccentric to the said driven shaft and by which said bearings are carried, substantially as set forth.

978,180. RAILWAY SIGNALING SYSTEM. ALONZO C. MATHER, Chicago, Ill. Filed July 3, 1907. Serial No. 382,078.



1. In an electric signal system the combination with main rails, one of said rails being divided into sections, a third rail divided into sections corresponding to the sections of the said last mentioned rail, electrically operated signal devices arranged along the track way including a partial electric circuit, one terminal of which is connected to a section of the third rail and the other terminal to a corresponding section of one of the track rails, in combination with a train carried device including a current generator, a plurality of trolleys, one pole of said current generator being connected to one of said trolleys which engages the said third rail and the other pole thereof connected to a pair of said trolleys, and means for bringing one or the other of said last mentioned trolleys into engagement with a given section of a given track rail depending upon the direction of the travel of the train.

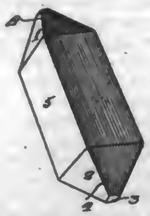
2. In an electrical signaling system for railways, the combination of a vehicle, main rails over which said vehicle travels in either direction, a third rail extending parallel with and midway between said main rails, an electric circuit including one of said main rails, the said third rail, a conductor connecting said main rail with said third rail, a source of current, an electrically operated instrument, a contact wheel carried by said vehicle located above said third rail, contact wheels carried by said vehicle located above each of said main rails and means for bringing either one of said last mentioned contact wheels into contact with the main rail which is included in said electric circuit to complete the latter.

978,181. BUCKET. DAVID C. MCCAN, Los Angeles, Cal. Filed Oct. 26, 1909. Serial No. 524,716.



A conveyer bucket comprising a shell consisting of sector shaped end portions connected by a cylindrical body, a similarly shaped scoop concentrically arranged within said shell and having a bottom extending between its end portions, said shell and scoop being pivoted together at the apex of said sector shaped end portions, the body of the shell having a slot parallel with the end portions, a stud carried by the scoop and working within said slot, and means on said stud adapted to clamp the shell between itself and the scoop, whereby said parts may be relatively adjusted.

978,182. FUEL-BRIQUET. DAVID C. MCCAN, Los Angeles, Cal. Filed Apr. 14, 1910. Serial No. 555,463.

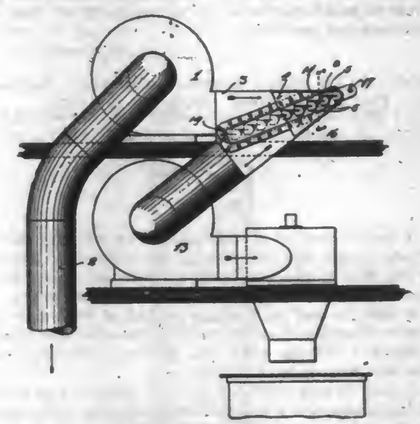


1. As an article of manufacture, an elongated briquet having obtuse tetragonal ends and composed of dried wood shavings and the like compressed into a coherent mass.

2. As an article of manufacture, an elongated briquet having truncated tapering ends and composed of dry wood shavings and the like compressed into a coherent mass.

3. As an article of manufacture, an elongated briquet having truncated pyramidal ends and composed of dried wood shavings and the like compressed into a coherent mass.

978,183. ARRESTER. DAVID C. MCCAN, Los Angeles, Cal. Filed Apr. 25, 1910. Serial No. 557,437.



1. An arrester comprising a plurality of members each consisting of a table having a depending and forwardly extending lip, the table of each member extending into the recess between the table and lip of a succeeding member.

2. An arrester comprising a plurality of members each consisting of a table having a depending and forwardly extending lip and vanes arranged between said table and said lip, the table of each member extending between the lip and table of a succeeding member.

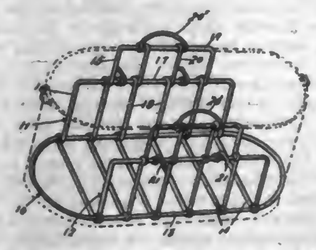
3. An arrester comprising a plurality of members, each consisting of a table having a depending and forwardly extending lip and vanes arranged between said table and lip, the table of each member extending between the lip and table of a succeeding member and interlocking with said vanes.

4. An arrester comprising a plurality of members severally consisting of tables provided with lips, vanes forming partitions between said lips and tables, said vanes being provided with slots for the accommodation of the end of the table of the next succeeding member, and means to hold said members in interlocked position.

5. An arrester comprising a plurality of members severally consisting of tables having downwardly depending and forwardly extending lips, vanes within said lips and provided with slots, said slots being arranged to receive the edges of said tables in succession, and means to hold said members together.

[Claims 6 and 7 not printed in the Gazette.]

978,184. CLOTHES-DRAINER. WILLIAM MCDONALD, Cameron, Wis. Filed Mar. 28, 1910. Serial No. 551,945.

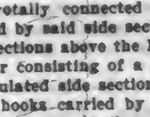


1. A clothes drainer consisting of a reticulated bottom section, side sections pivotally connected to said bottom section, each side section consisting of an upper and lower

reticulated frame pivotally connected together at their meeting, hooks carried by said side sections, and handles carried by said side sections above the hooks.

2. A clothes drainer consisting of a reticulated bottom section, foldable reticulated side sections collapsible upon said bottom section, hooks carried by said side sections adapted to engage the rim of a boiler, and handles pivotally connected to said side sections and engageable with the rim of said boiler whereby to maintain the side sections in upright position.

978,185. WIRE NAIL. HUGH P. MCMILLAN, Baltimore, Md. Filed June 9, 1909. Serial No. 501,145.

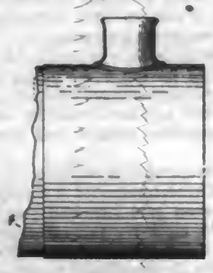


1. A nail formed of a single strand of wire and having a driving prong and two loops,—one extending laterally from one side of the driving prong and the other extending laterally from the other side of the driving prong.

2. A nail formed of a single strand of wire and comprising a plurality of loops one of which overlaps another and forms a driving head and having a driving prong turned inwardly from said head.

3. A nail formed of a single strand of wire and having a driving prong and a loop formed integrally therewith,—said loop being provided at its inner side with a recess for the escape of water from the loop.

978,186. ARTICULATED LOCOMOTIVE. CARL J. MELLIN, Schenectady, N. Y. Filed Sept. 29, 1910. Serial No. 584,422.



1. In a locomotive engine, the combination of a main frame, cylinders secured thereto, a four wheeled leading truck adapted for swiveling movement relatively to the main frame, and an equalizing lever system by which the main frame is supported on the truck through bearing points in front and in rear, respectively, of the cylinders.

2. In a locomotive engine, the combination of a main frame, cylinders secured thereto, a driving wheel axle journaled therein and rotated by pistons in said cylinders, a four wheeled leading truck adapted for swiveling movement relatively to the main frame, an equalizing lever coupled to the main frame and bearing on the truck, and connections through which a portion of the weight on the equalizing lever is transmitted to the driving wheel axle.

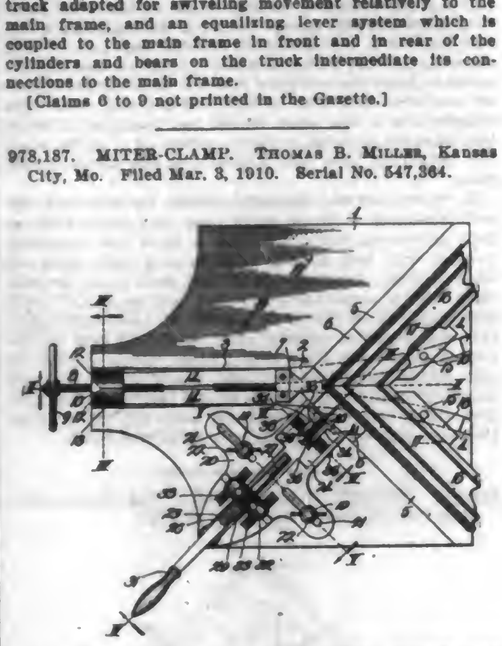
3. In a locomotive engine, the combination of a main frame, cylinders secured thereto, a driving wheel axle journaled therein, a four wheeled leading truck adapted for swiveling movement relatively to the main frame, an equalizing lever system by which the main frame is supported on the truck through bearing points in front and in rear of the cylinders, and connections to said equalizing lever system, through which a portion of the weight on the main frame is transmitted to the driving wheel axle.

4. In a locomotive engine, the combination of a main frame, cylinders secured thereto, a four-wheeled leading truck adapted for swiveling movement relatively to the main frame, and a three point suspension equalizing lever system by which the main frame is supported through bearing points in front and in rear, respectively, of the cylinders.

5. In a locomotive engine, the combination of a main frame, cylinders secured thereto, a four wheeled leading truck adapted for swiveling movement relatively to the main frame, and an equalizing lever system which is coupled to the main frame in front and in rear of the cylinders and bears on the truck intermediate its connections to the main frame.

[Claims 6 to 9 not printed in the Gazette.]

978,187. MITER-CLAMP. THOMAS B. MILLER, Kansas City, Mo. Filed Mar. 3, 1910. Serial No. 547,364.



1. A miter clamp, comprising a bed plate provided with a longitudinal dove-tail recess in its upper side terminating at one end in outwardly flaring branch recesses, a cross-head dove-tailed in the said recess and slidable longitudinally therein and provided with a threaded passage, a pair of jaws fixed with relation to the bed plate and extending convergingly rearward at equal angles and at their rear ends meeting and bridging the said recess and provided at such meeting ends with an extension overhanging said recess, a screw engaging the threaded bore of the cross head and swiveled at its front end in said extension and provided at its rear end with a handle, a pair of movable jaws each bridging one of the branch recesses forward of the fixed jaws and extending substantially parallel therewith, and a pair of bars each fitting slidingly in the said recess and one of its branches and underlying and secured to one of the movable jaws and pivoted at its opposite end to the underside of the said cross head.

2. A miter clamp, comprising a bed plate provided with a longitudinal dove-tail recess in its upper side terminating at one end in outwardly flaring branch recesses, a cross-head dove-tailed in the said recess and slidable longitudinally therein and provided with a threaded passage, a pair of jaws fixed with relation to the bed plate and extending convergingly rearward at equal angles and at their rear ends meeting and bridging said recess and provided at their meeting ends with an extension overhanging said recess, and near their meeting ends with nail-receiving recesses, a screw engaging the threaded bore of the cross head and swiveled at its front end in said extension and provided at its rear end with a handle, a pair of movable jaws each bridging one of the branch recesses forward of the fixed jaws and extending substantially parallel therewith, and a pair of bars each fitting slidingly in the said recess and one of its branches and underlying and secured to one of the movable jaws and pivoted at its opposite end to the underside of the said cross-head.

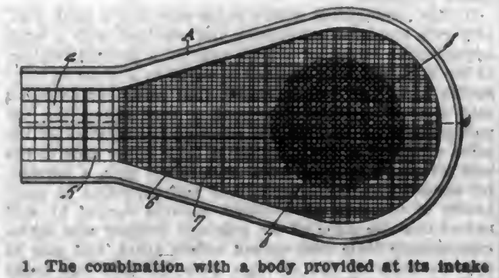
3. A miter clamp, comprising a bed plate provided with a longitudinal dove-tail recess in its upper side terminating at one end in outwardly flaring branch recesses, a cross-head dove-tailed in said recess and slidable longitudinally therein and provided with a threaded passage, a pair of jaws fixed with relation to the bed-plate and extending convergingly rearward at equal angles and at their rear ends meeting and bridging said recess and provided at their meeting ends with an extension overhanging said recess, and near their meeting ends with nail-receiving recesses, a screw engaging the threaded bore of the cross-head and swiveled at its front end in said extension and provided at its rear end with a handle, a pair of movable jaws each bridging one of the branch recesses forward of the fixed jaws and extending substantially parallel therewith, and a pair of bars each fitting slidingly in the said recess and one of its branches and underlying and secured to one of the movable jaws and pivoted at its opposite end to the under side of the said cross-head; in combination with a pair of jaws for receiving and holding a nail opposite one of said nail-receiving recesses and at right angles to the fixed jaw containing said recess, springs holding said jaws pressed yieldingly together, a plunger, and means to cause said plunger to move endwise and engage the nail and force the same endwise and then engage the jaws and force the same apart.

4. In a miter clamp, the combination of a pair of fixed jaws having recesses and a pair of movable jaws to clamp the members of a frame against the fixed jaws and with their mitered ends together, of a nailing attachment comprising a plate bearing a fixed relation to one of the fixed jaws, a pair of nail or brad holding jaws having a flaring mouth at their outer ends and arranged opposite the recess of said fixed jaw, springs holding said nail-holding jaws yieldingly together to support a nail or brad between them above the said plate, a reciprocatory plunger mounted on said plate, and means for advancing said plunger to cause it to advance the nail or brad and force it through the mitered end of one of said members and longitudinally into the mitered end of the other member and in such movement pass between and force apart the said nail or brad holding jaws.

5. In a miter clamp, the combination of a pair of fixed jaws having recesses and a pair of movable jaws to clamp the members of a frame against the fixed jaws and with their mitered ends together, of a nailing attachment comprising a plate bearing a fixed relation to one of the fixed jaws, a pair of nail or brad holding jaws having a flaring mouth at their outer ends and arranged opposite the recess of said fixed jaw, springs holding said nail-holding jaws yieldingly together to support a nail or brad between them above the said plate, a reciprocatory plunger mounted on said plate, and a lever suitably supported and connected to said plunger to advance the same and cause it to advance the nail or brad, and force it through the mitered end of one of said members and longitudinally into the mitered end of the other member and in such movement pass between and force apart the said nail or brad holding jaws.

[Claim 6 not printed in the Gazette.]

978,188. COMBINATION-SHOE. JAMES DUDLEY MOORE, Northwilkesboro, N. C. Filed Sept. 6, 1910. Serial No. 580,486.



1. The combination with a body provided at its intake end with a grain receiving chamber, with a lateral discharge, and with an opening near its discharge end, of a double screen removably arranged in the body and provided at its intake end with means for checking the discharge of grain.

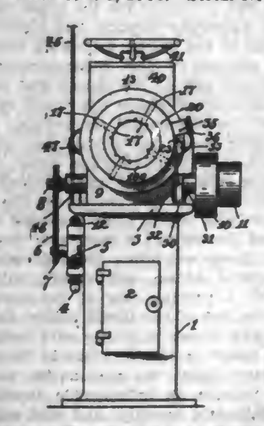
2. The combination with a body provided at its intake end with a grain receiving chamber, with a lateral channel, and with a transverse opening near its discharge end, of a double screen loosely arranged within the body, and provided at that portion which will be disposed beneath the chute of the mill with a relatively fine screen to check the discharge of grain.

978,189. SOAP-HOLDER. JAMES A. MOSS, Fort Leavenworth, Kans. Filed Sept. 28, 1909. Serial No. 519,931.



In a device for the purpose set forth, a cylindrical casing having open ends and having its body portion serrated the entire length thereof, a soap holding follower within the casing, said follower comprising a disk constructed of a single piece of resilient material and being of a cross-sectional concavo-convex shape, the edges of the disk being provided with spaced teeth, the central portion of the disk being provided with an upwardly projecting spur and the body of the disk being provided with a plurality of radiating slits each dividing each of the teeth to add to the resiliency of the device.

978,190. PIPE CUTTING AND THREADING MACHINE. PETER NEFF, Cleveland, Ohio, assignor to The Loew Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Jan. 9, 1908. Serial No. 409,904.

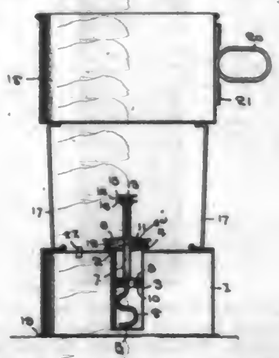


1. In a machine of the character set forth, the combination with a rotatable die support, of a die-adjusting member rotatable with and with respect to the die support, means for effecting the relative rotation of the die support and member, a cutting die, and feeding means therefor, said feeding means also engaging and operating the means that effects the relative rotation of the

die-support and member, to release the die adjusting member therefrom and permit the simultaneous rotation of both members.

2. In a machine of the character set forth, the combination with a rotatable die support, of a die-adjusting member rotatable with and with respect to the die support, a stop movable into and out of the path of movement of the die-adjusting member, to hold the same against rotation with the die support, a cutting die mounted on the rotatable die support, and means also mounted on the die support for feeding the cutting die to its work, said feeding means also constituting means for moving the stop out of engagement with the die-adjusting member.

978,191. VAPOR-LAMP. CLYDUS M. NEISLER, Litchfield, Ill. Filed July 7, 1910. Serial No. 570,829.



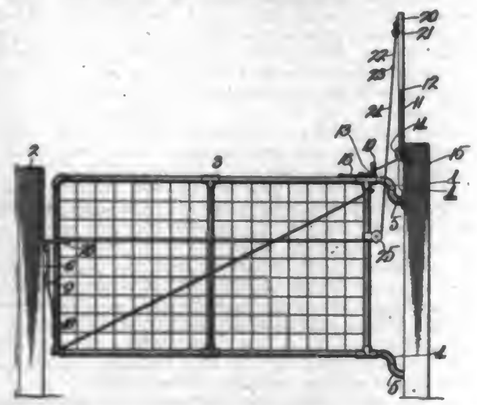
1. In a vapor lamp, the combination with a reservoir, of a casing extending through the upper end wall of the reservoir, the lower end of said casing having a port therein, a screw cap closing the upper end of the casing, a partition adjacent the upper end of the casing, packing between said partition and screw cap, a sleeve slidably mounted through said screw cap and partition, a packing ring at the lower end of said sleeve, a burner at the upper end of the sleeve and an oil conveying medium extending through the sleeve and into the lower portion of the casing.

2. In a vapor lamp, the combination with a reservoir adapted to contain an inflammable liquid, of a tubular casing adapted to enter said reservoir and having a port in its lower end, a closure for the upper end of said casing, a sleeve extending through said closure, a burner at the upper end of the sleeve, a packing ring at the lower end thereof adapted to close communication between the upper and lower end of the casing and means to cause the inflammable liquid within the casing to move through the sleeve to a point adjacent the burner.

3. In a vapor lamp, the combination with a reservoir adapted to contain an inflammable liquid, of a casing extending within said reservoir and provided with a shoulder adjacent the upper end resting on the upper wall of said reservoir, said casing being provided with a port at the lower end thereof and a removable closure at the upper end, a sleeve extending through said closure and slidably mounted within said casing, said sleeve being provided with a packing ring at the lower end thereof to prevent the rise of the liquid within the casing above such point, and means to convey said inflammable liquid through the sleeve to a point adjacent the burner.

4. In a vapor lamp, the combination with a reservoir adapted to contain an inflammable liquid, of a casing inserted within said reservoir and said casing being provided with a port at the lower end and a closure at the upper end thereof, a sleeve extending through said closure and slidably mounted within said casing, means to draw the liquid from said reservoir within said casing when said sleeve is moved upwardly, and additional means to convey said liquid within the casing to a point adjacent the burner.

978,192. GATE. BENJAMIN F. NEUDECK, Kansas City, Kans., assignor of one-half to R. H. Weber, Kansas City, Mo. Filed Aug. 10, 1910. Serial No. 576,556.



1. The combination with a hinged gate, of a lever susceptible of oscillation at right angles to the gate when closed, suitable guiding means at opposite sides of the plane of the gate when the same is closed, cables engaging said guiding means and extending convergingly upward therefrom to the lever and attached to the same and convergingly downward from said means to the gate and attached thereto forward of the hinge point, a pair of pins movable with and at opposite sides of the gate and standing normally between the front portions of said cables, one being adapted when the gate is swung open to deflect one of said pair of cables toward the latch post so that when a pulling strain is applied on said cable it shall exert a lateral pull on the gate and easily effect the closure of the same, the other pin being adapted to perform the same function for the other of said cables when the gate is to be closed from the opposite direction, and means for rocking said lever to cause the same through one of said cables to open the gate and through the other to close the same.

2. The combination with a hinge post and a latch post of a gate hinged to the former and provided with a latch engaging the latter, of a lever bearing a pivoted relation to the hinge post and adapted to swing in a plane at right angles to the gate when closed, pull cords for swinging said lever in opposite directions, a cord connecting the pull cords with the latch for effecting the tripping of the same, a pair of cables attached at their upper ends to the said lever and at the lower ends to the gate, guiding means for holding said cables spread widely apart intermediate their ends, and pins at opposite sides of and movable with the gate, one being adapted when the gate is swung open to deflect one of said pair of cables toward the latch post so that when a pulling strain is applied on said cable it shall exert a lateral pull on the gate and easily effect the closure of the same, the other being adapted to perform the same function for the other of said pair of cables when the gate is to be closed from the opposite direction.

3. The combination with a hinge post and a latch post, of a gate hinged to the former and provided with a latch engaging the latter, of a lever bearing a pivoted relation to the hinge post and adapted to swing in a plane at right angles to the gate when closed, pull cords for swinging said lever in opposite directions, a cord connecting the pull cords with the latch for effecting the tripping of the same, a pair of cables attached at their upper ends to the said lever and at their lower ends to the gate, a horizontal bar secured to the hinge post and extending at right angles to the gate when closed, sheaves carried by said bar at opposite sides of the post and holding said cables intermediate their ends spread widely apart, and pins at opposite sides of and movable with the gate, one being adapted when the gate is swung open to deflect one of said pair of cables toward the latch post so that when a pulling strain is applied on said cable it shall exert a lateral pull on the gate and easily effect the closure of the same, the other pin being adapted to perform the same function for the other of said cables when the gate is to be closed from the opposite direction.

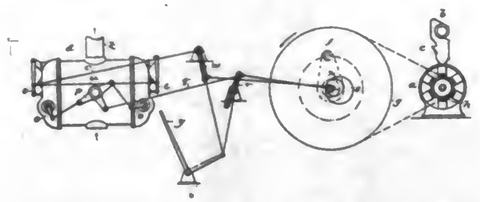
978,193. PROCESS OF MAKING FERTILIZER. SPENCER B. NEWBERRY, Sandusky, Ohio, assignor of one-half to George B. Fishburne, Charleston, S. C. Filed Aug. 24, 1908. Serial No. 450,044.

1. The process of conversion of insoluble phosphate of lime into citrate soluble form by calcination with lime and an alkaline carbonate.

2. The process of conversion of insoluble phosphate of lime into citrate soluble form by calcination with an amount of lime approximately equal to the phosphoric acid, and an amount of sodium carbonate approximately equal to one-half the phosphoric acid, contained in the phosphate treated.

3. The process of conversion of insoluble phosphate of lime into citrate soluble form by calcination with lime and alkali.

978,194. MOTOR-COMPRESSOR. BRUNO V. NORDBERG, Milwaukee, Wis. Filed June 18, 1909. Serial No. 502,859.



1. In a motor-compressor the combination of an alternator, a synchronous motor, and an engine provided with means for converting it from a compressor into a motor and vice versa, and having a power transmitting connection with said synchronous motor.

2. In a motor-compressor the combination with an alternator and a synchronous motor, of an engine connected with said motor and provided with valves and means for reversing said valves whereby they are caused to function either as suction valves or as exhaust valves.

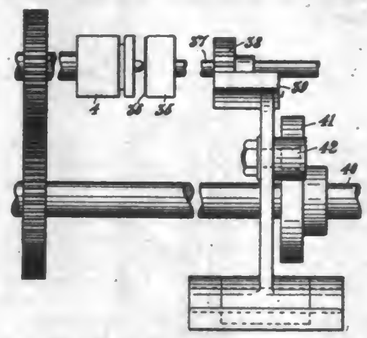
3. In a motor-compressor the combination with a synchronous motor, an alternator for actuating the same and a compressed air reservoir, of an engine connected with said reservoir and with said motor and having valves adapted to discharge air into said reservoir and to admit air therefrom into the engine, and means for adjusting said valves so as to enable the engine to operate either as a compressor or as a motor.

4. In a motor-compressor the combination with a synchronous electric motor, an alternator for actuating the same and a compressed air reservoir, of an engine connected with said motor and provided with valves adapted to discharge air into said reservoir and to admit air therefrom into the engine, means for setting said valves so as to enable the engine to operate as a compressor or as a motor, reversible valves capable of acting as suction or as exhaust valves, and means for reversing said valves.

5. In a motor compressor the combination with a synchronous motor, an alternator for actuating the same, and a compressed air reservoir, of a compressed air engine provided with valve mechanism and means for setting said mechanism for compressing and discharging air into said reservoir or for admitting air therefrom to drive the engine and bring the electric motor to synchronism with the alternator in starting.

[Claims 6 and 7 not printed in the Gazette.]

978,195. MACHINE FOR MANUFACTURING DRAWERS FOR MATCH-BOXES AND THE LIKE. JOHAN GUSTAF OLSSON, Jönköping, Sweden, assignor to Jönköpings och Vulcans Tändsticksfabriksaktiebolag, Jönköping, Sweden. Filed Jan. 9, 1909. Serial No. 471,487.



1. In a machine for manufacturing box-drawers the combination of a continuously rotating mandrel, a second mandrel mounted co-axially with the former, and means for imparting to the said latter mandrel an oscillating movement, at intervals, so that the said latter mandrel rotates, at intervals, synchronously with the former, substantially as and for the purpose set forth.

2. In a machine for manufacturing box-drawers the combination of a continuously rotating mandrel, a second mandrel mounted co-axially with the former, means for causing the said latter mandrel to rotate synchronously with the former so as to allow a box-blank to be moved from one mandrel onto the other, and to thereupon stop for enabling a bottom to be attached to the box-blank, substantially as and for the purpose set forth.

3. In a machine for manufacturing box-drawers the combination of a continuously rotating mandrel, a second mandrel mounted co-axially with the former, a gear wheel connected to the said latter mandrel, a cog segment engaging the said gear wheel, and means for imparting an oscillating movement to the said cog segment, substantially as and for the purpose set forth.

4. In a machine for manufacturing box-drawers the combination of a continuously rotating mandrel, a second mandrel mounted co-axially with the former, a gear wheel connected to the said latter mandrel, a cog segment engaging the said gear wheel, a cam actuating the said cog segment, and a spring adapted to press the said cog segment against the cam substantially as and for the purpose set forth.

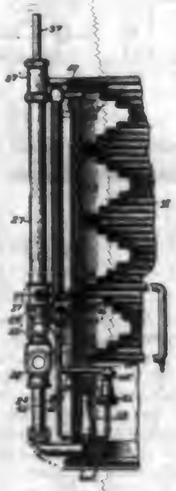
5. In a machine for manufacturing box-drawers the combination of a continuously rotating mandrel, a second mandrel mounted co-axially with the former, a gear wheel connected to the said latter mandrel, a cog segment engaging the said gear wheel, a roller carried by the said cog segment, a rotary cam bearing on the said roller, and a spring adapted to press the said roller against the cam, substantially as and for the purpose set forth.

978,196. WATER-HEATER. IRA J. O'MALLEY, Chicago, Ill. Filed Oct. 26, 1908. Serial No. 459,456.

1. In a water heater, the combination of an intermittently and automatically operated main burner, means for supplying gas thereto, means operated by contraction to automatically shut off the gas supply from the main burner, and operated by expansion to automatically turn on the gas supply to said burner, a pilot burner, means for supplying gas thereto, a starting valve positioned in the means for supplying gas to the pilot burner, means for automatically closing the starting valve, and a manual device for opening said valve only, whereby gas may be admitted to the pilot burner without permitting gas to flow to the main burners.

2. In a water heater, the combination of a main burner, means for supplying gas thereto, a pilot burner, means fo

supplying gas to said pilot burner, a thermostat, a thermostat valve disposed in the means for supplying gas to the main burner, a starting valve disposed in the means for supplying gas to the pilot burner, and connections between the thermostat and said starting and thermostat valves, whereby both of said valves are closed upon contraction of the thermostat.



3. In a water heater, the combination of a main burner, a pilot burner, means for supplying gas to the main burner, a thermostat valve located in said gas supplying means, means for supplying gas to the pilot burner, a starting valve located in said pilot burner gas supplying means, a thermostat, a connection between said thermostat and thermostat valve for controlling the operation of said valve, and a yielding connection between said thermostat and the starting valve adapted to close said starting valve upon contraction of the thermostat but permitting said starting valve to be opened without affecting the thermostat valve.

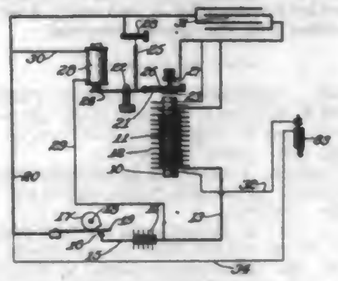
4. In a water heater, the combination of a main burner, means for supplying gas thereto, a pilot burner, means for supplying gas to said pilot burner disposed in the main burner gas supplying means, a starting valve disposed in the pilot burner gas supplying means, a thermostat, connections between both of said valves and the thermostat, whereby said valves are closed upon contraction of the thermostat, and manual means for opening said starting valve to admit gas to the pilot burner, the connection between the starting valve and the thermostat permitting said valve to be opened without affecting the thermostat valve.

5. In a water heater, the combination of an intermittently and automatically operated main burner and a relatively continuously lighted pilot burner, separate means for supplying gas to said pilot and main burners, a thermostat valve controlling the supply of gas to the main burners, a starting valve for shutting off the supply of gas to the pilot burner, a device normally expanded by heat from the pilot light and adapted to contract when said heat is reduced beyond a predetermined degree to automatically close said thermostat and starting valves, and manual means for opening said starting valve without effecting the position of the thermostat valve.

[Claims 6 to 18 not printed in the Gazette.]

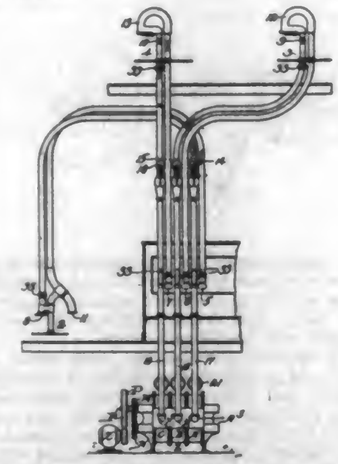
978,197. ELECTRIC IGNITION APPARATUS. HARRY G. OSBURN, Detroit, Mich. Filed Oct. 1, 1908. Serial No. 455,592.

The combination of a timing device; an induction coil in circuit therewith; a circuit breaker consisting of an arm pivoted between its ends and so disposed that one end can be attracted by said induction coil and a fixed contact engaging said arm when the latter is in its non-attracted position; and an electromagnet of high resist-



ance arranged in operative relation with the other end of said arm to hold the circuit breaker open when it has been attracted by said induction coil.

978,198. PNEUMATIC-DESPATCH-TUBE APPARATUS. ALBERT W. PEARSALL, Lowell, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed Feb. 18, 1908. Serial No. 415,701.



1. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, a blower or pump normally short-circuited to the atmosphere, and means for pneumatically controlling the switching of the current of air generated by said blower or pump from the atmosphere to said transmission tube actuated by the insertion of a carrier into said tube for despatch.

2. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, a blower or pump normally short-circuited to the atmosphere, means for pneumatically switching the current of air generated by said blower or pump from the atmosphere to said transmission tube actuated by the insertion of a carrier into said tube for despatch, and means for regulating the flow of air through said tube and limiting the same to the interval necessary for the transmission of said carrier.

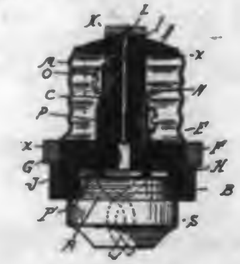
3. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, a blower or pump connected with said tube and provided with an air inlet in said connection adapted to supply air to said blower or pump, and means for pneumatically controlling said air inlet to switch the flow of air through said tube actuated by the insertion of a carrier into said tube for despatch.

4. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, a blower or pump connected

with said tube and provided with an air inlet in said connection adapted to supply air to said blower or pump, means for pneumatically controlling said air inlet to switch the flow of air through said tube actuated by the insertion of a carrier into said tube for despatch, and means for automatically reëstablishing the flow of air through said inlet after the transmission of said carrier through said tube.

5. In a pneumatic despatch tube apparatus, a plurality of transmission tubes, a blower or pump having a plurality of independent cylinders or compartments each connected with one of said tubes, means for normally short-circuiting to the atmosphere each of said cylinders, said means being actuated by the insertion of a carrier into one of said tubes for transmission to load its respective cylinder and maintain the flow of air through said tube for driving said carrier only while said carrier is in transmission.

978,199. PLUG FOR ELECTRICAL CONDUCTORS. JAMES W. PHELPS, Detroit, Mich. Filed Dec. 2, 1908. Serial No. 466,175.



1. An electrical contact plug comprising a body member having a recessed base, a member of insulating material having a threaded engagement with said recess and centrally apertured, contacts mounted upon opposite sides of said body member, and flexible conductors connected to said contacts passing through apertures in said body member into said recess and upon opposite sides thereof and then extending laterally through said central aperture whereby said insulating members constitute a clamp for said conductors.

2. An electrical contact plug comprising a body of insulating material having a transversely projecting integral flattened portion of reduced cross section, a metallic contact member surrounding said flattened portion and spaced therefrom, and means secured to opposite sides of said flattened portion and in the space inclosed by said metallic contact for attaching a flexible conductor thereto.

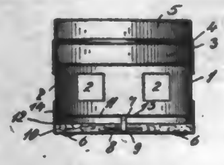
3. An electrical contact plug comprising a body of insulating material having a transversely projecting integral flattened portion of reduced cross section, a metallic contact member surrounding said flattened portion, spaced therefrom and removably swiveled upon said body, and means upon opposite sides of said flattened portion and in the space inclosed by said metallic contact for attaching the conductor to the flattened portion.

4. An electrical contact plug comprising a body of insulating material having a transversely projecting integral flattened portion, a threaded contact member surrounding said flattened portion, spaced therefrom and removably swiveled upon said body, and terminal connections upon opposite sides of said projection, one of said connections having a laterally extending portion projecting into engagement with the threaded contact.

5. An electrical contact plug comprising a body of insulating material having a transversely projecting integral flattened portion, a revoluble threaded contact member swiveled upon said body, a stationary contact member carried by said projection, and terminal connections upon opposite sides of said projection, one of said connections having a laterally extending flange engaging the stationary contact member.

[Claims 6 to 9 not printed in the Gazette.]

978,200. DISINFECTING LAMP OR CANDLE. WALTER L. PLUMB, Glen Ridge, N. J. Filed May 6, 1910. Serial No. 559,700.



1. A lamp for a disinfecting apparatus comprising a shallow, imperforate pan to contain the fuel, a fixed cover plate therefor having a central opening, a detached perforated piece of material which will not float upon the fuel if the latter is fluid, and a piece of wicking short enough to stand erect during all the burning of the lamp, said wicking passing through a perforation in said detached material and supported entirely by the sides of the perforation.

2. A disinfecting apparatus embodying a shallow pan-like part containing the fuel, a fixed cover plate therefor having a central opening, a detached perforated piece of metal wholly within the shallow pan, and a piece of wicking passing through the perforation in the piece of metal and supported entirely by the sides thereof, said wicking being short enough to stand erect during all the burning of the lamp and which extends upwardly to about the upper side of the cover plate.

978,201. FOUNDATION FOR SIGNAL-POLES AND THE LIKE. FRANK H. T. POTTER, Chicago, Ill. Filed Dec. 27, 1909. Serial No. 535,019.



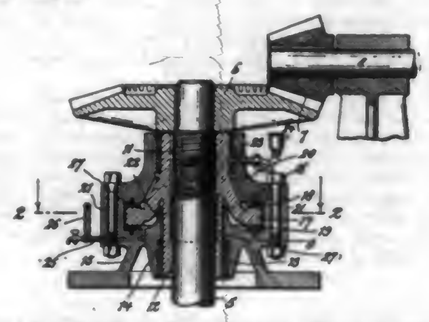
1. In a foundation for signal poles and the like, the combination of blocks of foundation material, having on their inner portions longitudinal locking recesses for receiving locking material, as cement, and provided on their upper portions with bolts for attaching a superstructure to them, and a base block having in its upper face a recess for receiving the lower portions of the foundation blocks, and provided on its inner portion with a hole in communication with a locking groove, substantially as described.

2. In a foundation for signal poles and the like, the combination of blocks of foundation material, provided on their inner portions with locking grooves for receiving locking material, as cement, and adapted on their adjacent faces to provide recesses for the entrance of the cement between them, and provided on their upper portions with bolts for attaching a superstructure to them, and a base block provided in its upper face with a recess for receiv-

ing the lower portions of the foundation blocks, and having in its inner portion a hole in communication with a locking groove, substantially as described.

3. In a foundation for signal poles and the like, the combination of blocks of foundation material, having on their inner portions longitudinal locking recesses for receiving locking material, as cement, and provided on their upper portions with means for attaching a superstructure to them, and a base block having in its upper face a recess for receiving the lower portions of the foundation blocks, substantially as described.

978,202. BEARING. ARTHUR T. PRESCOTT, East Orange, N. J., assignor to George H. Frothingham Co., a Corporation of New York. Filed June 24, 1910. Serial No. 568,638.



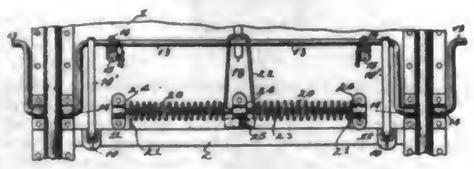
1. The combination with a vertical rotatable spindle, of a sleeve secured fast thereon and rotatable therewith, said sleeve having a portion projecting downwardly therefrom at a point intermediate its ends and including an outwardly extending annular ring having upper and lower bearing surfaces, of a bearing therefor provided with radial bearing elements for co-engagement with the sleeve at the upper and lower ends thereof and with thrust bearing elements for co-engagement with the upper and lower surfaces of the said annular ring, the said thrust bearings being arranged within an oil chamber bounded upon the outside by a casing wall and upon the inside by an uprising sleeve disposed between the body of the said shaft sleeve and the annular ring portion thereof, whereby a sufficient quantity of oil may be retained for constantly flooding the said thrust bearing surfaces.

2. The combination with a vertical rotatable spindle, of a sleeve secured fast thereon and rotatable therewith, the said sleeve having an outwardly projecting portion extending downwardly therefrom at a point intermediate its ends, the lower extremity of the said portion including a further outwardly extending annular ring having upper and lower bearing surfaces, of a bearing therefor provided with radial bearing elements for co-engagement with the sleeve at the upper and lower ends thereof and with thrust bearing elements for co-engagement with the upper and lower surfaces of the said annular ring, the said bearing being provided with an uprising sleeve received between the body portion of the first said sleeve and the said downwardly projecting portion thereof and having outer casing walls, and means for supplying lubricating material to the upper radial bearing, whereby the said lubricating material may flow downward therefrom around the said outwardly and downwardly projecting portion of the sleeve over both the said thrust bearings up and around the bearing upper sleeve and thence down to the lower radial bearing, substantially as set forth.

3. The combination with a vertical rotatable spindle, of a sleeve secured fast thereon and rotatable therewith, the said sleeve having a portion projecting downwardly therefrom at a point intermediate its ends and including an outwardly extending annular ring having upper and lower bearing surfaces, of a bearing therefor comprising a base and a separate cover detachably secured thereto, the said base and cover having radial bearing elements for the said lower and upper ends of the sleeve respectively, and having also end thrust bearings for the lower and upper faces respectively of the said annular ring, the base portion of the said bearing having an uprising oil retaining sleeve disposed between the body portion of the said spindle sleeve and the portion including the said annular ring.

4. The combination with a vertical rotatable spindle, of a sleeve secured fast thereon and rotatable therewith, the said sleeve having radial bearing surfaces toward the upper and lower ends thereof, upper and lower thrust bearing surfaces intermediate the ends thereof, and an annular under-cut recess extending upward to a point above both the lower and upper thrust bearing surfaces, of an inclosed bearing having upper and lower bearing surfaces for co-engagement with the said radial bearing surfaces of the sleeve, and upper and lower thrust bearing surfaces for co-engagement with the thrust bearing surfaces of the said sleeve and provided with an uprising sleeve arranged to enter the said recess, the upper level thereof being above the level of both of the said thrust bearing surfaces, the said bearing and sleeve being provided with annular channels connecting the lower radial bearing surfaces with the lower thrust bearing surfaces, the lower thrust bearing surfaces with the upper thrust bearing surfaces and the upper thrust bearing surfaces with the upper radial bearing surfaces, and means for admitting lubricating material to the upper radial bearing surfaces.

978,203. VEHICLE. HERMAN C. PRIEBE, Chicago, Ill. Filed May 6, 1909. Serial No. 494,460.



1. A vehicle having a swinging floor section, crank mechanism provided upon the vehicle, link mechanism intervening between the crank mechanism and the swinging floor section, whereby the crank mechanism serves to swing the floor section, and spring mechanism engaged by the crank portion of the mechanism when said crank mechanism is operated to permit the floor section to descend, and pushing upon the crank mechanism to exert elevating action upon the floor section.

2. A vehicle having a swinging floor section, crank mechanism provided upon the vehicle, link mechanism intervening between the crank mechanism and the swinging floor section, whereby the crank mechanism serves to swing the floor section, spring mechanism engaged by the crank portion of the mechanism when said crank mechanism is operated to permit the floor section to descend, and operating upon the crank mechanism to exert elevating action upon the floor section, and restraining means brought into restraining engagement with the spring mechanism when the floor section is lowered to prevent the spring mechanism from prematurely exerting elevating action upon the floor section.

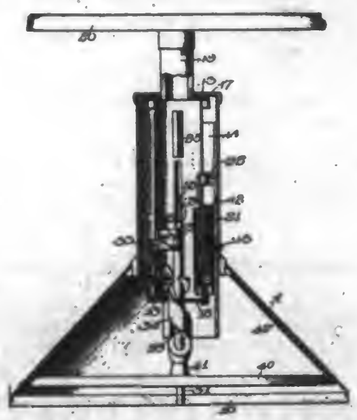
3. A vehicle having a swinging floor section, crank mechanism provided upon the vehicle, link mechanism intervening between the crank mechanism and the swinging floor section, whereby the crank mechanism serves to swing the floor section, and spring mechanism mounted upon the car body independently of the swinging floor section and engaged by the crank portion of the mechanism when said crank mechanism is operated to permit the floor section to descend, and operating upon the crank mechanism to exert elevating action upon the floor section, said spring mechanism including a spring whose ends are held against rotation and whose central portion is extended to be within the range of movement of the crank.

4. A vehicle having a swinging floor section, crank mechanism provided upon the vehicle, link mechanism intervening between the crank mechanism and the swinging floor section, whereby the crank mechanism serves to swing the floor section, spring mechanism mounted upon the car body independently of the swinging floor section and engaged by the crank portion of the mechanism when said crank mechanism is operated to permit the floor section to descend, and operating upon the crank mechanism to exert elevating action upon the floor section, and restraining means brought into restraining engagement with the spring mechanism when the floor section is lowered to prevent the spring mechanism from prematurely exerting elevating action upon the floor section, said spring mechanism including a spring whose ends are held against rotation and whose central portion is extended to be within the range of movement of the crank.

5. A vehicle having a swinging floor section, crank mechanism provided upon the vehicle, link mechanism intervening between the crank mechanism and the swinging floor section, whereby the crank mechanism serves to swing the floor section, spring mechanism mounted upon the car body independently of the swinging floor section and engaged by the crank portion of the mechanism when said crank mechanism is operated to permit the floor section to descend, and operating upon the crank mechanism to exert elevating action upon the floor section, said spring mechanism including a spring whose ends are held against rotation and whose central portion is extended to be within the range of movement of the crank, and a detent engaged by the spring portion that is projected to lie within the path of movement of the crank when said crank has operated the said projected portion in lowering the associate floor section, whereby the spring mechanism is restrained from elevating the floor section until the projected portion of the spring mechanism is disengaged from the detent.

[Claims 6 to 9 not printed in the Gazette.]

978,204. COMPUTING-SCALE. THEODORE C. PROUTY, Aurora, Ill., assignor to Wilcox Manufacturing Company, Aurora, Ill., a Corporation of Illinois. Filed Dec. 24, 1908. Serial No. 469,101.



1. In a scale, the combination with a rotatable indicating member and a rotatable and longitudinally-movable spiral connected therewith, of a gravity-operating device for said spiral, a support for articles to be weighed, and means operated by the depression of said support for permitting said gravity-operating device to fall and rotate said spiral.

2. In a scale, the combination with a plunger, a rotatable spiral and a member connected therewith adapted to have indicating characters thereon, of a device loosely connected to said plunger, and adapted after the descent of the plunger to move down and rotate said spiral.

3. In a scale, the combination with a plunger, a rotatable spiral, and a member connected therewith adapted to have indicating characters thereon, of a device loosely connected to said plunger and having its lower end normally held toward said spiral and adapted after the descent of the plunger to move down and rotate said spiral.

4. In a scale, the combination with a plunger provided with a longitudinal slot, a rotatable spiral and a member connected therewith adapted to have indicating characters thereon, of a device connected with said plunger and movable in the said slot therein, and adapted after the descent of the plunger to move down and rotate said spiral.

5. In a scale, the combination with a plunger provided with a longitudinal slot, the walls of which converge at the lower end of the slot, a rotatable spiral, and a member connected therewith adapted to have indicating characters thereon, of a device connected with said plunger and movable in the said slot therein and adapted after the descent of the plunger to move down and rotate said spiral.

[Claims 6 to 16 not printed in the Gazette.]

978,205. INCUBATOR. ISRAEL PUTNAM, Elmira, N. Y. Filed July 12, 1909. Serial No. 507,049.



1. An incubator comprising an egg compartment, a heating chamber above said compartment, a nonporous heat conducting diaphragm between the two, means for supplying heat to the chamber, means for producing a downward circulation of air in the chamber, a porous diaphragm in the egg compartment upon which to rest the eggs, and a bottom closure for the incubator composed of two porous diaphragms spaced apart with a porous filling of nonheat conducting material between.

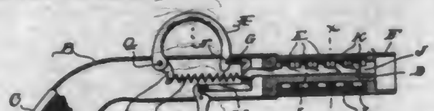
2. An incubator comprising an egg compartment, a chamber above said compartment, a nonporous heat conducting diaphragm between the two, a burner in the chamber, means for supplying both air and fuel to said burner from outside the chamber, means for producing a downward circulation of air in the chamber, a porous diaphragm in the egg compartment upon which to rest the eggs, and a bottom closure for the incubator composed of porous nonheat-conducting material.

3. An incubator comprising an egg compartment, a chamber above said compartment, a nonporous heat conducting diaphragm between the two, a burner at the center of the chamber, a wall inclosing an air space around the burner, an air conduit leading to said space from outside the incubator, means for feeding fuel to the burner from outside the chamber, and means for producing a downward circulation of air in the chamber, whereby the heat of the chamber is imparted to the diaphragm immediately beyond and around said wall.

978,206. PADLOCK. JOSEPH RANYAK, Detroit, Mich. Filed Sept. 1, 1910. Serial No. 580,098.

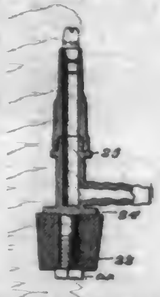
1. A padlock comprising a casing, a lever pivotally secured in said casing, a shackle pivotally secured in the casing, a series of tumblers at the end of the casing, a

round bar secured to the casing and forming the support of the tumblers, a locking bolt slidingly engaging in a groove of said support and provided with wards cooperating with said tumblers to lock and unlock the locking bolt, two heads on the locking bolt one to engage the free end of the shackle, and the other to engage with the lever, and a spring under tension connecting the locking bolt with the shackle.



2. A padlock comprising a casing, a shackle pivoted in said casing, a lever pivoted in said casing, a series of tumblers, a round bar secured to the casing and rotatively supporting the tumblers in position thereon, a locking bolt having a shank slidingly engaging in a groove of the supporting bar and provided with wards coöperating with the tumblers to lock and unlock said locking bolt, heads on said locking bolt engaging respectively the free end of the shackle and the inner end of the lever and a spring under tension connecting the locking bolt with an extension on the pivoted end of the shackle.

978,207. GAS-BURNER ATTACHMENT. MARK G. RAY, Richmond, Va., assignor of one-half to Charles K. Bryant, Richmond, Va. Filed Mar. 14, 1910. Serial No. 549,158.



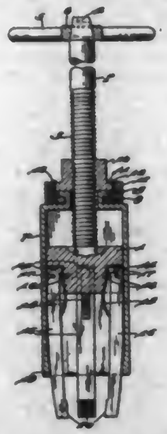
1. A device of the class described including a casing having angularly disposed passages for connection with a burner and gas tube, respectively, and a tapered plug formed of yieldable material depending from the casing for frictional engagement with the walls of a supporting socket.

2. A device of the class described including a casing having angularly disposed passages for connection with a burner and gas tube, respectively, a plug formed of yieldable material engaging the base of the casing and adapted to frictionally engage the walls of a supporting socket, and means for clamping the plug in position on the casing.

3. A device of the class described including a casing having angularly disposed passages for connection with a burner and gas tube, respectively, and provided with a flat base having a threaded socket formed therein, a tapered plug formed of yieldable material bearing against the flat base of the casing, and a clamping screw extending through the plug and engaging the threaded walls of the socket for clamping the plug in position on the casing.

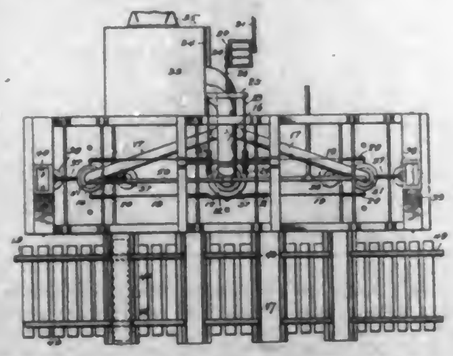
4. A device of the class described including a casing having a tubular extension, the end of which is reduced and threaded for engagement with a burner and provided with an angularly disposed nipple for connection with a gas tube, there being a threaded socket formed in the base of the casing, a tapered plug formed of yieldable material bearing against the base of the casing and provided with a central bore registering with said socket, the small end of the plug being countersunk, and a clamping screw extending through the bore of the plug and having its head seated in the countersunk portion of the plug and its threaded end engaging the socket.

978,208. WRENCH. PATRICK REILLY, Philadelphia, Pa. Filed Nov. 29, 1909. Serial No. 530,445.



In a wrench, the combination with a block, having a plurality of flat faces and recesses corresponding in number to the number of flat faces, a screw-threaded rod fixed to the center of said block, a casing movable on said block and having a plurality of internal flat faces engaging the flat faces of the block, compelling the block and casing to turn together, a handle on the free end of said rod, arms pivoted in said recesses, flat springs secured in said recesses and pressing said arms outward against the end of said casing, said casing having at its end a reduced internal diameter, and an adjusting nut mounted on said rod, a grooved extension on said casing, and a ring of three internal diameters, the larger internal diameter located over the nut, the intermediate diameter located over the larger diameter of the extension, and the smallest diameter projecting into the groove of the extension, substantially as described.

978,209. DRY-KILN. JAMES R. RIPLEY, Memphis, Tenn. Filed July 21, 1910. Serial No. 573,008.



1. In a dry kiln, a casing, air conducting pipes, oppositely disposed distributing devices carried by said pipes and movable vertically within said casing, and means for alternately moving said devices.

2. In a dry kiln, a casing, air conducting pipes, oppositely disposed distributing devices carried by said pipes and movable vertically within said casing, and means for automatically and alternately moving said devices.

3. In a dry kiln, a casing, air conducting pipes, oppositely disposed distributing devices carried by said pipes and movable vertically within said casing, and means for simultaneously and alternately moving said devices.

4. In a dry kiln, a casing, air conducting pipes, oppositely disposed distributing devices carried by said pipes and movable vertically within said casing, means for alternately moving said devices, a track disposed intermediate of said devices, a carrier movable laterally of said tracks, and a truck adapted to be shifted by said carrier.

5. In a dry kiln, a casing, air conducting pipes, oppositely disposed distributing devices carried by said pipes and movable vertically within said casing, means for alternately moving said devices, a track disposed intermediate of said devices, a carrier movable laterally of said tracks, a truck adapted to be shifted by said carrier, and a loading and unloading track outside of said casing and adapted to coöperate with said carrier.

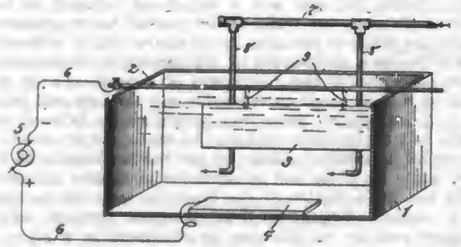
[Claims 6 to 19 not printed in the Gazette.]

978,210. TIRE-TREAD ATTACHMENT. OSCAR A. RIXFORD, East Highgate, Vt. Filed Feb. 14, 1910. Serial No. 543,675.



The herein described tread attachment for tires, comprising side chains having their ends adjustably connected and cross members arranged between the side chains at intervals and each consisting of a pair of double snap hooks and a one-piece tread shoe, the latter being in the form of an elongated link provided with parallel side bars formed on their outer faces with integral studs, said side bars of the link being curved longitudinally and united by U-shaped ends, the latter being engaged by the outer ends of the two snap hooks, and the inner ends of said snap hooks being engaged with the links of the side chains as and for the purpose set forth.

978,211. ART OF EXTRACTING METALS ELECTROLYTICALLY. JAMES HART ROBERTSON, New York, N. Y. Filed June 20, 1908, Serial No. 439,562. Renewed May 5, 1910. Serial No. 559,485.



1. A method of extracting metals which consists in simultaneously subjecting the powdered ore thereof while in suspension in an electrolyte to the combined action of a heated vapor or gas while in motion, and an electrical current.

2. A method of extracting metals which consists in simultaneously subjecting the powdered ore thereof while in suspension in an electrolyte to the agitating effect of a heated vapor or gas and in simultaneously effecting the deposition of the metal upon a fusible electrode.

3. A method of extracting metals which consists in simultaneously subjecting the powdered ore thereof while in suspension in an electrolyte to the agitating effect of a heated vapor or gas and in simultaneously effecting the deposition of the metal upon an electrode capable of being disintegrated by heat.

978,212. PROCESS OF REFINING COPPER. WALTER S. ROCKEY and HILLIARY ELDRIDGE, New York, N. Y. Filed Sept. 12, 1910. Serial No. 581,648.

1. The process of refining copper consisting in providing a suitable crucible or hearth and placing therein a predetermined quantity of boron trioxid and fusing same by heat to form a bath, then adding the copper to be refined and fusing same in said bath of flux until the oxids and other impurities contained by said metal are reduced or eliminated, and then cooling said copper beneath said flux to prevent oxidation and absorption of gases during the cooling period.

2. The process of refining cathode copper consisting in providing a suitable crucible or hearth such for illustration as magnesite and placing therein a predetermined quantity of boron trioxid and fusing said boron trioxid by heat, then adding a sufficient quantity of silica to neutralize the action of the boron trioxid on the silica that may be contained in the crucible or hearth and then adding the copper to said flux and fusing and heating the same therein until the oxids, gases and other impurities contained in said metal are reduced or eliminated.

3. The process of refining cathode copper consisting in providing a suitable crucible or hearth such for illustration as magnesite and placing therein a predetermined quantity of boron trioxid and fusing said boron trioxid by heat, then adding a sufficient quantity of silica to neutralize the action of the boron trioxid that may be contained in the crucible or hearth, then adding the copper to said flux and fusing and heating same therein until the oxids, gases and other impurities contained in said metal are reduced or eliminated from the copper, and then cooling said metal beneath said flux to prevent oxidation during the cooling period.

4. The process of refining cathode copper, consisting in providing a suitable crucible or hearth which is constructed of material refractory to heat and neutral to the flux employed, such for illustration as magnesite, and placing therein a predetermined quantity of boron trioxid and fusing the said boron trioxid by heat and then adding cathode copper to said fused flux of boron trioxid and fusing and heating the said cathode copper therein until the contained oxids of the cathode copper are reduced by the reaction of the contained hydrogen, hydrocarbon and other impurities that may be present in the said cathode copper and the gases and other impurities are eliminated from the said cathode copper, substantially as described.

5. The process of refining copper consisting in providing a suitable crucible or hearth which is constructed of material refractory to heat and neutral to the flux employed, such for illustration as magnesite, and placing therein a predetermined quantity of boron trioxid, and fusing the said boron trioxid by heat and then adding copper which has been previously immersed in a hydrocarbon oil to said fused flux of boron trioxid and fusing and heating the said copper therein until the surface and contained oxids of the copper are reduced by the reaction of the contained hydrogen of the copper and the hydrogen and carbon of the decomposable hydro-carbon oil that had been added with the copper substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

978,213. UMBRELLA AND PARASOL. JAMES ROSS, Lancaster, Pa. Filed May 6, 1910. Serial No. 559,751.

1. An umbrella or parasol comprising a frame having ribs each having an elastic section more yielding than the remainder of the rib, and a cover connected to the ribs

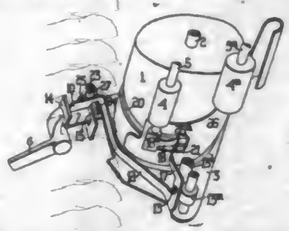
and having a contracted portion extending entirely around the same, the contracted portion of the cover being adjacent to the elastic portions of the ribs, whereby when the umbrella or parasol is raised all the ribs will be abruptly bent at their yielding parts.



2. An umbrella or parasol comprising a frame having ribs each of which is flattened near its outer end, and a cover attached to the ribs and having a contracted outer edge.

3. An umbrella or parasol comprising ribs each of which is provided with a short flattened portion near its outer end, and a cover attached to the ribs and having a contracted outer edge.

978,214. TYPE-WRITING MACHINE. CHARLES G. ROSENHAUER, New York, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of Delaware. Filed Apr. 8, 1910. Serial No. 554,000.



1. In a typewriting machine, the combination with a platen and line-space mechanism to feed the paper, of a latch to lock the line-space mechanism inoperative, a paper-controlled trip to hold the latch idle until the bottom edge of the paper passes the trip, and a releasing finger independent of the paper and movable independently of the latch to throw the latter and retain it in idle position.

2. In a typewriting machine, the combination with a platen having a depression therein, and line-space mechanism to turn the platen, of a paper-controlled trip tending to occupy said depression upon the removal of the paper, and a latch controlled by the trip and automatically interposable in the path of the line-space mechanism, to prevent the mechanical feed of the paper.

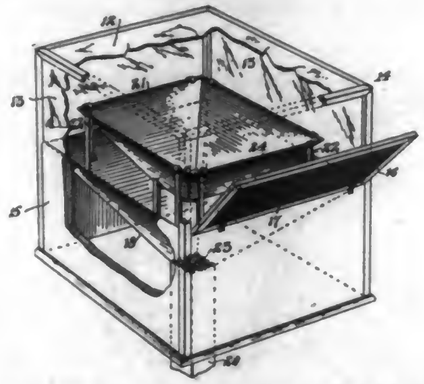
3. In a typewriting machine, the combination with a platen and a line-space mechanism to feed the paper, of a paper-controlled trip, a latch controlled by the trip and interposable directly in the line-space mechanism, to prevent the mechanical feed of the paper, and a release device independent of the sheet and movable independently of the latch to dislodge the latch from the line-space mechanism and hold it in idle position.

4. In a typewriting machine, the combination with a platen having a depression therein, and a line-space mechanism to feed the paper, of a sheet-controlled paper end indicating device including a latch to lock the line-space mechanism against operation, a trip tending to occupy the depression in the platen and effective to hold the latch inoperative until the bottom edge of the paper passes from between the trip and the depression, and a releasing lever to disconnect the latch from the line-space mechanism and retain it in ineffective position.

5. In a typewriting machine, the combination with a platen frame, a platen having a depression therein, pressure-roll mechanism and line-space mechanism to feed the paper, of a paper end indicator including a lever, a latch on one arm of the lever tending to engage and lock the line-space mechanism inoperative, and a paper-controlled trip hinged on the pressure-roll mechanism and engaged by the opposite arm of the lever to hold the latch idle until the bottom edge of the paper uncovers the depression to admit the trip.

[Claims 6 to 8 not printed in the Gazette.]

978,215. SHOW-CASE. JAMES A. ROTHERHAM, Revere, Mass. Filed Aug. 17, 1910. Serial No. 577,551.



1. A transparent show case having an air inlet at one side, internal means for causing a circulation in the case, of light material, such as popped corn, by a blast of air entering the case through said inlet, and means for preventing the escape of said material through the air inlet whereby the same charge of material may be displayed indefinitely.

2. A transparent show case having an air inlet at one side, and an internal conduit, the inner end of which is arranged to receive a blast of air passing from said inlet, while its outer end is arranged to deliver the blast into the outer portion of the case, the walls of the case and conduit forming endless passages through which popped corn or the like may be circulated by a blast of air entering the case through said inlet.

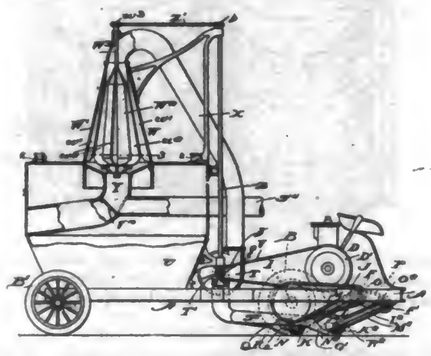
3. A transparent show case having a hopper-shaped bottom, an air inlet at the depressed central portion of said bottom; a hopper-shaped or flaring conduit within the case having a smaller end arranged to receive a blast of air entering the case and a larger end adjacent to the top of the case, the walls of the conduit being separated from the walls of the case by air spaces which coöperate with the space surrounded by the conduit in forming endless passages for the circulation of popped corn or the like by a blast of air entering the case through said inlet.

4. A transparent show case having an air inlet at one side, and an internal conduit, the inner end of which is arranged to receive a blast of air passing from said inlet, while its outer end is arranged to deliver the blast into the outer portion of the case, the walls of the case and conduit forming endless passages through which popped corn or the like may be circulated by a blast of air entering the case through said inlet, the case being provided with a guarded outlet for the escape of air and for the retention of the circulated material within the case.

5. A transparent show case having an air inlet at one side, and an internal conduit, the inner end of which is arranged to receive a blast of air passing from said inlet, while its outer end is arranged to deliver the blast into the outer portion of the case, the walls of the case and conduit forming endless passages through which popped corn or the like may be circulated by a blast of air entering the case through said inlet, the air inlet being provided with a guard to prevent the circulated material from falling into it.

[Claim 6 not printed in the Gazette.]

978,216. STREET-CLEANING MACHINE. ROBERT A. RUTHERFURD and MACDONOUGH CRAVEN, New York, N. Y. Filed Feb. 14, 1906. Serial No. 301,032.



1. In a street cleaning machine, the combination of means for removing the dust and dirt from the surface to be cleaned, comprising suction and blast chambers with mouths open to such surface, means for separating the dust and dirt from the air, having an air exit, means through which said exit has separate connection with the atmosphere and with the blast chamber, a valve adapted to divert the air into either of said connecting means, and means for drawing the dust-and-dirt laden air into the suction chamber and delivering the same to the separator.

2. In a street cleaning machine, a nozzle having suction and blast chambers, means arranged in the nozzle between said chambers and adapted to loosen the dirt, suction means communicating with the suction chamber, a separator into which the dirt-and-dust laden air is delivered, and means for conveying the separated air to the blast chamber.

3. In a street cleaning machine, a rotary brush, suction and blast chambers on opposite sides thereof, a wall arranged between said chambers and serving as a hood to the brush, suction means communicating with the suction chamber, and means for delivering air to the blast chamber.

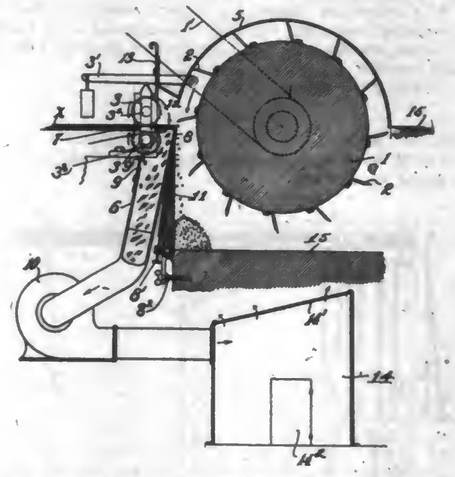
4. In a street cleaning machine, a rotary brush, a nozzle adapted to cover said brush and provided with suction and blast chambers on opposite sides of the latter, suction means communicating with the suction chamber, a separator into which the dust-and-dirt laden air is delivered, said separator having an air exit, and means for conveying the air from said exit to the blast chamber.

5. In a street cleaning machine, a rotary brush and its shaft, mounted to freely follow the inequalities of the surface to be cleaned, a nozzle having a suction chamber and a chamber constituting a hood for the brush, said nozzle mounted upon the brush shaft and partaking of the rising and falling movements thereof, and means for lifting the dirt and dust through said nozzle.

[Claims 6 to 10 not printed in the Gazette.]

978,217. CUTTING-MACHINE. MICHAEL EMMET RYAN, Fall River, Mass. Filed Apr. 22, 1909. Serial No. 491,461.

1. In a machine for cutting skins, a knife cylinder, a spiral cutting blade disposed thereabout, a stationary knife in cutting position adjacent to the edge of said blade, a pair of feed rolls adjacent to said stationary knife for feeding a skin across the edge thereof, and an exhaust device having a mouth between said rolls and said stationary knife blade and below the line of feed thereto.



2. In a machine for cutting skins a knife cylinder, a plurality of spiral cutting blades disposed thereabout, a stationary knife in cutting position adjacent to the edges of said blades, a pair of corrugated feed rolls adjacent to said stationary knife for feeding the skin across the edge thereof, and an exhaust device having a mouth between said rolls and said stationary knife blade and below the line of feed thereto.

3. In a machine for cutting skins a knife cylinder, a plurality of spiral cutting blades disposed thereabout, a stationary knife in cutting position adjacent to the edges of said blades, a pair of corrugated feed rolls adjacent to said stationary knife for feeding a skin across the edge thereof, an exhaust device having a mouth between said rolls and said stationary knife blade and below the line of feed thereto, and a casing for said knife cylinder, said casing having an opening above said rolls.

4. In a machine for cutting skins a stationary knife, a knife adapted to be moved past the same, a pair of feed rolls adjacent to said stationary knife, and means disposed between said rolls and said knife for holding down a skin against said stationary knife.

5. In a machine for cutting skins a stationary knife, a knife adapted to be moved past the same, a pair of corrugated feed rolls adjacent to said stationary knife, and an exhaust device disposed between said rolls and said stationary knife.

978,218. SHOW-CASE MOISTENER. ALLSTON SARGENT, New York, N. Y. Filed May 24, 1909. Serial No. 497,880.



1. A moistener comprising a hard absorptive body, a glass top plate therefor, and end caps for securing the ends of the body and glass together.

2. A moistener comprising a hard absorptive body having two exposed surfaces inclined downwardly and toward each other, a substantially flat top plate therefor and means for securing said parts together.

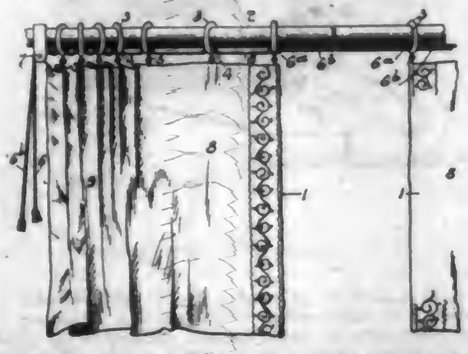
3. A moistener comprising a hard absorptive body polygonal in cross section, a glass plate secured to one side thereof and means for supporting said device.

4. A moistener comprising a hard absorptive body, a transparent top plate therefor, a reinforcing strip having its edges embedded in the lower part of the body and means for supporting said device.

5. A moistener comprising a hard absorptive body, a transparent top plate therefor, a reinforcing strip having its edges embedded in the lower part of the body and end caps therefor.

[Claim 6 not printed in the Gazette.]

978,219. MEANS FOR OPERATING CURTAINS. DICKRAN M. SARKISIAN, Malden, Mass. Filed June 13, 1910. Serial No. 566,469.



1. The combination of a curtain and rings therefor; friction devices on said rings, and an operating cord frictionally engaging said friction devices, said operating cord moving against and engaging said friction devices when operated to move the curtain.

2. The combination of a suspended curtain; friction devices attached to the curtain at intervals; an operating cord in frictional engagement with the friction devices, said friction devices and operating cord constituting means for moving the curtain to fold it from one side and unfold it from the opposite side.

3. The combination of a suspended curtain; operating means to fold the curtain from one side and unfold it from the opposite side, said means comprising a plurality of curtain rings; friction devices connected with said rings, and an operating cord engaging said friction devices and adapted to move the rings simultaneously and be released therefrom successively.

4. The combination of a curtain support; a plurality of curtain suspenders mounted thereon; a curtain suspended from said suspenders; an operating cord frictionally engaging all but one of said suspenders and adapted to move the suspenders simultaneously and be released therefrom successively in the operation of opening and closing the curtain.

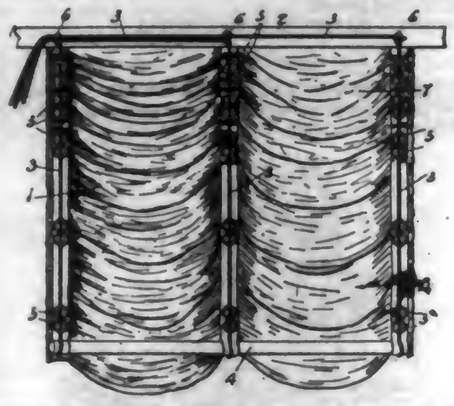
5. The combination of a pole; a plurality of curtain rings thereon; a double curtain suspended from the rings; friction devices on the rings; an operating cord frictionally engaging said friction devices of all but the two center rings, said cord being made fast to said center rings and adapted to move the rings simultaneously and be released therefrom successively.

[Claims 6 to 8 not printed in the Gazette.]

978,220. MEANS FOR OPERATING CURTAINS. DICKRAN M. SARKISIAN, Malden, Mass. Filed June 13, 1910. Serial No. 566,470.

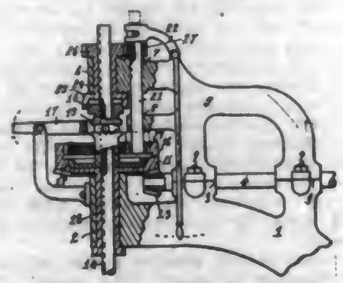
1. The combination of a lambrequin shade, rows of friction members attached to said shade, said friction members comprising double eyes angularly disposed one to the other, said friction eyes attached to the curtain in pairs at regular intervals, a weight at the bottom of the curtain, and a plurality of operating cords suspended from the top, passing through and frictionally engaging the friction rings and fastened to the weight at the bottom of the curtain.

2. In combination with a vertically movable curtain, a plurality of friction devices fastened to the curtains at their center, the free ends thereof extending from the curtain at an angle to each other, an operating cord



passing through the rings or loops and engaging frictionally therewith, and a weight at the bottom of the curtain and the ends of the operating cords.

978,221. GEARING. SHERMAN C. SCHAUER, Cincinnati, and PAUL L. BROCKARDT, Hamilton, Ohio, assignors, by mesne assignments, to The Cincinnati Bickford Tool Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Mar. 6, 1908. Serial No. 419,464.



1. The combination with a spindle, an internal and a spur gear concentric therewith, and means for detachably engaging the spindle with either of said gears, of a shaft journaled in fixed bearings, pinions thereon engaging with the respective gears and means for moving said shaft longitudinally with one of said pinions out of engagement with the corresponding gear.

2. A gearing comprising oppositely disposed rotative members, the one being provided with an internal gear, and the other with a spur gear, and a shaft provided with pinions in engagement with the respective gears, and means for disengaging one of the pinions.

3. The combination with a spindle, an internal and a spur gear concentric therewith, and means for detachably engaging the spindle with either of said gears, of a shaft journaled parallel with the spindle, a pinion splined thereon and in continuous engagement with one of said gears, a pinion secured on said shaft and detachably engaging with the other said gear, and means for moving the shaft longitudinally with the latter pinion out of engagement with the corresponding gear.

978,222. CULVERT. JULIUS H. SCHLAFLY, Canton, Ohio, assignor to The Canton Culvert Company, Canton, Ohio, a Corporation of Ohio. Filed June 8, 1909. Serial No. 500,868.

1. The combination, with two pipe sections, placed end to end but without lapping by one another, each section having annular corrugations formed therein, extending at intervals from end to end of the sections, of a circular band, arranged to inclose the joint at the abutting ends of said sections and also having corrugations on each side of its middle line, which are adapted to nest with and embrace the end corrugation of said pipe sections, thereby preventing separation of said sections, the corrugations in said band corresponding to those in said sections and the diameter of said band when its ends are brought together, corresponding substantially to the diameter of said sections, and means for drawing the ends of said band together to clamp it on the joint



2. A culvert composed of pipe sections placed end to end, each section being made up of plates riveted together, and having annular corrugations formed therein, a band having corrugations extending lengthwise thereof on each side of its longitudinal center, said corrugations over-lapping and embracing respectively the corrugations in the ends of said pipe sections and said band having its ends turned outwardly forming lips thereon and means passing through said lips for drawing the ends of said band together, substantially as described.

3. In combination, two pipe sections placed end to end, each section provided with circumferential corrugations at the ends thereof, a clamping band arranged to encircle the abutting ends of said sections, said band provided with corrugations adapted to nest with and embrace the end corrugation of each of said pipe sections, the corrugations in said band corresponding to those in said sections, and means for drawing the ends of said band together.

4. A culvert composed of sections placed end to end, each section having circumferential corrugations formed therein, a band having corrugations extending lengthwise thereof, said corrugations over-lapping and embracing the corrugations in said sections, and said band having its ends bent outwardly forming corrugated flanges, and means connected to said flanges for drawing the ends of said band together.

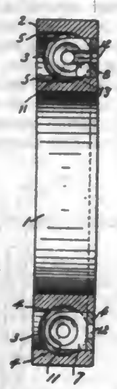
5. A sheet metal culvert comprising cylindrical sections provided with circumferential corrugations extending to the extremities of the sections, longitudinally adjacent sections arranged end to end, and a clamping band provided with annular corrugations adapted to engage the corrugations in the ends of the sections adjacent the abutting ends thereof, said band provided at its ends with outwardly bent corrugated flanges, and means for drawing said flanges toward each other.

[Claims 6 to 9 not printed in the Gazette.]

978,223. BALL-BEARING AND RETAINER THEREFOR. STEFAN SCHNEIDER, Chicago, Ill. Filed Feb. 2, 1910. Serial No. 541,430.

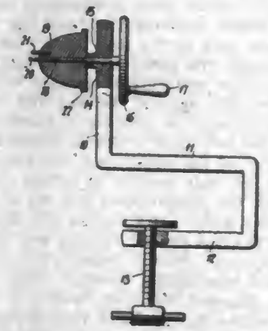
1. A ball bearing, comprising an inner and an outer bearing member, a ring between said members, a plurality of spacers removably secured on said ring, and balls between said spacers, each spacer having cup shaped seats in its bearing faces, and one of said spacers having a groove extending from each seat to its inner end whereby the spacer may be inserted between the balls and lock the balls in place.

2. A ball bearing, comprising a pair of annular bearing members, a ring interposed between said members, and a plurality of spacers having studs on their inner ends adapted to be rigidly but removably secured to said ring, each spacer having countersunk seats in its bearing faces, and one of said spacers having grooves extending from its seats to the outer end of its stud.



3. A ball bearing, comprising an outer and an inner annular bearing member having ball races in their contiguous faces, a ring interposed between said members and having a plurality of alternately arranged angular apertures and countersunk seats, balls in said seats, and spacers having angular studs rigidly but removably secured in said angular apertures, and one or more of said spacers having longitudinal grooves extending from the outer end of its stud to the center of the spacer.

978,224. FORMING-MACHINE. HART SCHRADER, Jr., and ZACHARY P. FORSTER, New York, N. Y. Filed Feb. 1, 1910. Serial No. 541,359.



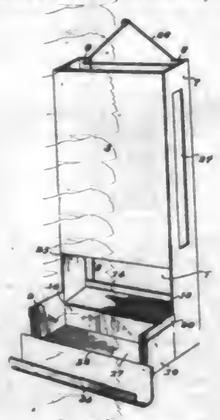
In a device of the character described, the combination of a standard provided with a bearing opening, a shaft mounted in said bearing opening having a threaded intermediate portion and a reduced terminal, a conical former detachably mounted on said threaded intermediate portion, the outer end of said former being terminated inwardly of the outer end of said reduced terminal, a pin projecting from said former at its apex in spaced relation to the reduced terminal of said shaft, a circumscribing flange on the inner end of said former, and means for rotating said shaft.

978,225. MATCH-SAFE. JOHN SCHUT, Chicago, Ill. Filed Nov. 9, 1909. Serial No. 527,035.

1. A match safe including a body portion having a compartment for the reception of a box of matches and provided with an integral receiving tray and trough arranged at the lower end of said body portion, the bottom of the tray, trough and box receiving compartment being disposed in stepped relation.

2. A match safe formed of a single piece of metal and including a body portion having oppositely disposed side walls terminating in inwardly extending flanges spaced

from the front of the match safe to form a compartment for the reception of a box of matches, the bottom of the compartment being inclined upwardly and the metal at the front of said bottom being bent downwardly and laterally to produce a match receiving tray, the metal being thence bent upwardly for a distance equal to approximately one-half the height of the tray and thence continued downwardly and upwardly to form a depending trough, the bottom of the match receiving compartment, tray and trough being disposed in stepped relation.



3. A match safe formed of a single piece of metal and comprising a body portion having its side walls bent inwardly to produce guide flanges spaced from the front of the body portion to form a compartment for the reception of a box of matches, the metal at the bottom of the compartment being bent downwardly and laterally to produce a match receiving tray, and the metal forming the opposite ends of the tray being bent to produce reinforcing flanges, the metal at the forward portion of the tray being bent upwardly in contact with the adjacent ends of the end walls of the tray and thence downwardly and outwardly to produce a longitudinally disposed trough the bottom of which is disposed in a plane below the bottom of the match tray, there being an opening formed in the body portion to permit the discharge of matches from the compartment into the receiving tray.

4. A blank for match safes formed of a single sheet of metal, having one end thereof reduced and its intermediate portion provided with a transverse incision intersected by spaced longitudinal incisions, there being spaced longitudinally disposed fold lines forming a continuation of the longitudinal incisions and intersecting the transverse incision, said fold lines being extended from one end of the blank to the reduced portion thereof, and a plurality of transverse fold lines disposed between the transverse incision and the reduced portion of the blank.

978,226. TOOL-HOLDER. FRANK W. SHILLITTO, New Haven, Conn., assignor to The Ready Tool Company, New Haven, Conn., a Corporation of Connecticut. Filed Mar. 12, 1910. Serial No. 548,893.

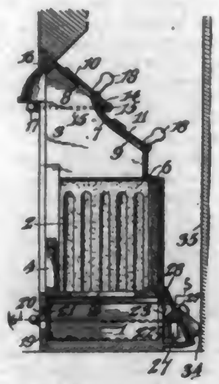


1. In a device of the character described, the combination with the body member, having an opening therethrough substantially parallel with the sides thereof and at an angle to the bottom of said body member inclined rearwardly; a cutter within said opening having a notched face; a dog having a notched face, and a head wider than the shank portion designed to rest upon the top of said body member when said shank is within said opening; and a screw threaded through said body member, the point thereof impinging against the back of said dog.

2. In a device of the character described, the combination with the body member, having an opening therethrough substantially parallel with the sides thereof and at an angle to the bottom of said body member inclined rearwardly; a cutter within said opening having a notched face; a dog having a shank portion and a head portion, said shank portion having a notched face and of substantially the same width as said opening and said head portion wider than said shank portion; and a screw threaded through said body member, the point thereof impinging against the face of the shank portion of said dog opposite said notched face.

3. In a device of the character described, the combination with the body member, having a cutter opening therethrough; a cutter within said opening having a notched face; a dog having a notched face, and a head wider than the shank portion, designed to support said dog when said shank is within said opening; and a screw threaded through said body member, the point thereof impinging against the back of said dog.

978,227. FIREPLACE-GRATE. EDWARD H. SHOLAR, Chattanooga, Tenn. Filed Sept. 21, 1909. Serial No. 518,887.



1. A fireplace heater including an ash-pit, means at the front of the ash-pit for admitting air thereto, separate means opening into the rear portion of the ash-pit for admitting air thereto, a grate basket arranged over the ash-pit and above both air-admitting means, a damper means disposed above the basket for permitting the products of combustion to pass upwardly into the chimney from the heater, there being a port between the rear portion of the ash-pit and chimney for permitting a draft downwardly through the basket, and a device arranged at the port for establishing communication between the ash-pit and chimney while cutting off the supply of air from the last-mentioned means or opening the supply of air while cutting off communication between the ash-pit and chimney.

2. A fireplace heater including a firebox having a grate basket, an ash pit under the basket, and a draft controlling means above the firebox for discharging the products of combustion into the chimney, in combination with a combined back and down draft device consisting of a port in the rear of the ash pit, an air duct open at one end at the front of the heater and at the opposite end at the rear portion of the ash pit for conducting air directly from the room through the said port into the ash pit to pass upwardly through the rear portion of the grate basket when the draft means is open, and a valve for controlling communication between the ash pit and chimney and for cutting off the supply of air through the duct to permit a down-draft through the firebox and grate when the valve is open and the draft means is closed and for opening the supply when the valve is closed and the draft means open.

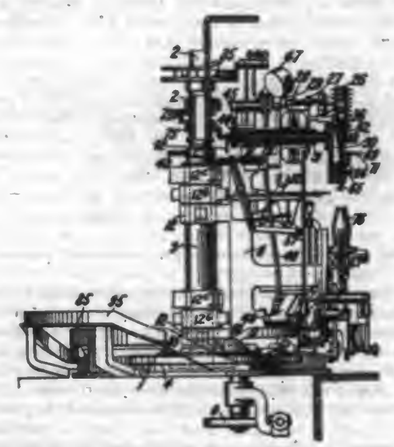
3. A fireplace heater including a firebox having a grate basket, an ash pit under the same, dampers for controlling the discharge of the products of combustion out of the top of the heater to the chimney, there being a port in the rear of the ash pit, a device controlling communication between the rear of the ash pit and chimney, and means for supplying air through the said port to the rear portion of the grate and controlled by the said device to interrupt the air supply when the ash pit and chimney are in communication and to open the supply when they are not in communication.

4. A fireplace heater having a grate basket, an ash-pit under the same provided with a port communicating with the chimney, dampers for controlling the passage of the products of combustion to the chimney, air ducts in the side walls of the ash-pit open at the front for receiving air and arranged to communicate with the rear of the ash-pit, and a common valve at the said port for closing both ducts to interrupt the supply of air while establishing communication between the ash-pit and the chimney and opening the air supply when communication between the ash-pit and chimney is interrupted, said valve being operated in conjunction with the dampers to provide an upward back draft or downward draft through the heater.

5. A fireplace heater having a firebox, an ash pit under the same, damper means above the firebox for controlling the discharge of the products of combustion to the chimney, there being a port in the ash-pit forming an air inlet or an outlet for the products of combustion, an air duct leading from the front of the heater to the rear thereof and communicating with the firebox through the said port, a swinging valve arranged to simultaneously close the air duct and establish communication between the port and chimney and open the duct when the communication between the port and chimney is interrupted, and means for actuating the valve in coöperation with the damper means to produce a draft in either direction through the port.

[Claims 6 to 9 not printed in the Gazette.]

978,228. MACHINE FOR THE MANUFACTURE OF GLASS BOTTLES. THOMAS WILLIAM SIMPSON, Castleford, England. Filed Mar. 19, 1910. Serial No. 550,541.



1. In a machine for the manufacture of glass bottles, of that type in which several complete bottle-forming mechanisms are carried from and revolved around a vertical column each bottle-forming mechanism so carried being mechanically operated to produce a bottle during a single revolution; the combination of a plurality of movable frames each carrying a complete bottle-forming mechanism, a central vertical column around which said frames are intermittently revoluble, each frame being supported loosely and independently thereon, a constantly revolving member, means for disconnecting each frame from said constantly revolving member as each frame arrives at a common stopping station at which the parison mold of its bottle-forming mechanism is to receive its supply of molten glass, and again locking that frame after such operation to the revolving portion of the machine but not in the same angular relation to the adjacent frames, the next frame in its turn arriving at the stopping station being similarly released from the revolving member and held stationary during the supply of molten glass and being again locked to the revolving member likewise in a different angular position in relation to its adjacent frames, and so on, and means for operating the bottle-forming mechanism of each frame during its continuous revolving motion to effect the complete formation of a bottle.

2. In a machine for the manufacture of glass bottles, the combination with a plurality of independently movable frames, each carrying a bottle-forming mechanism, and a central vertical column around which each of said frames is intermittently revoluble, of a constantly revolving member provided with a number of locking stations double the number of said frames less one, and mechanically operated means by which each frame arriving at a predetermined point in each revolution is released from its locking station on the revolving member, permitted to be stationary until the arrival of the next locking station, and then locked to the latter and permitted to commence its next revolution.

3. In a machine for the manufacture of glass bottles, the combination with three independently movable frames, each carrying a bottle-forming mechanism, and a central vertical column around which each of said frames is intermittently revoluble, of a constantly revolving member provided with five locking stations, and mechanically operated means by which each frame arriving at a predetermined point in each revolution is released from its locking station on the revolving member, permitted to be stationary until the arrival of the next locking station, and then locked to the latter and permitted to commence its next revolution.

4. In a machine for the manufacture of glass bottles, the combination with a plurality of independently movable frames, each carrying a bottle-forming mechanism and a central vertical column around which each of said frames is intermittently revoluble, of a constantly revolving member adapted to be locked to each of said frames, mechanically operated means for unlocking each frame from said revolving member as the frame arrives at a predetermined point in each revolution, an intercepting device adapted to definitely stop such frame, and means for releasing said frame from said intercepting device and for again locking said frame to said revolving member.

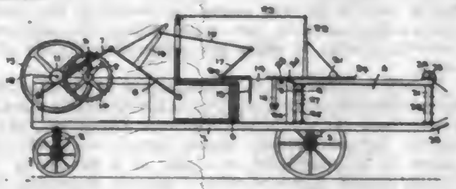
5. In a machine for the manufacture of glass bottles, the combination of a plurality of independently movable frames, each carrying a bottle-forming mechanism, and a central vertical column around which each of said frames is intermittently revoluble, of a constantly revolving member including a horizontal disk carrying an annular series of notch-forming projections on its top concentric with said column, the leading projections forming lifting inclines, a notch-engaging bolt carried by each frame and adapted to interact with either of said inclines when not already locked, and with the adjoining notch, and mechanism adapted to lift said bolts in succession for unlocking said frames from said revolving member.

[Claims 6 to 15 not printed in the Gazette.]

978,229. BALING-PRESS. THOMAS CHESLEY SMITH, Bardwell, Ky. Filed July 12, 1910. Serial No. 571,598.

1. In a baling press, the combination with a frame having a baling chamber therein, of a plunger slidably mounted in said frame, means to move said plunger into and out of the baling chamber, a standard carried by the plunger operating means, a feeder operated by said standard to force hay into the path of the plunger, an additional feeder hinged to said frame, a standard carried thereby and means to connect said last mentioned standard to the plunger, whereby the movement of said plunger will raise or lower said last mentioned feeder.

2. In a baling press, the combination with a frame having a baling chamber therein, of a plunger slidably mounted in the frame, means to move said plunger toward and from the baling chamber, a pair of opposed feeders pivotally mounted in the frame, means connecting one of said feeders with the plunger, and means connecting the other of said feeders with the plunger operating mechanism, whereby the movement of the plunger will cause said feeders to act simultaneously and force the hay into the path of the plunger with the reverse movement thereof.



3. In a baling press, the combination with a frame having a baling chamber therein, of a plunger slidably mounted in said frame, a toggle operating means for said plunger, a pair of feeders pivotally mounted in the frame, means connecting one of said feeders with the plunger, and means connecting the other of said feeders with the plunger link of the toggle, whereby the movement of the plunger will operate said feeders so as to force hay into the path of the plunger with the reverse movement thereof.

978,230. SAFETY-RAZOR. WILLIS A. SMITH, New York, N. Y. Filed Apr. 22, 1909. Serial No. 491,572.



1. In a safety razor, a blade-holder, a stem projecting from said blade-holder, a handle on the stem and movable relatively to the blade-holder, a blade having a reciprocating movement relatively to the blade-holder, and means operatively connecting said blade and the handle whereby the blade is reciprocated by the movement of the handle relatively to the holder.

2. In a safety razor, a blade-holder comprising a plurality of plates two of which are hinged for movement sidewise with relation to each other and another of said plates being intermediate said hinged plates, a blade positioned between the intermediate plate and one of the hinged plates, a movable handle, means for connecting said handle to the blade-holder, and means for operatively connecting said handle and the blade whereby the blade is operated by the movement of the handle relatively to the holder.

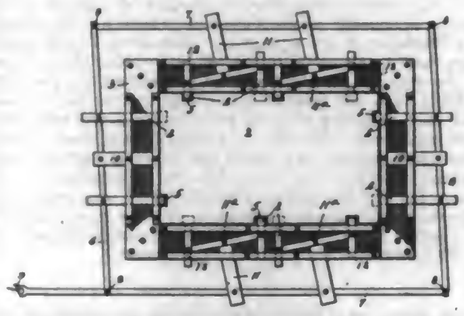
3. A safety razor comprising a holder, a movable handle, means connecting said handle and the blade holder whereby the handle may be turned on its axis, a blade movable with respect to said holder, and means operatively connecting the blade and the handle, whereby the blade may be operated within the holder by the movement of said handle relative to said holder.

4. A safety razor comprising a holder, a handle connected to said holder for movement relatively thereto, a reciprocatory blade, and means operatively connecting said blade and the handle whereby the blade is reciprocated by the movement of the handle relatively to the blade holder.

5. A safety razor comprising a holder, a movable handle, means connecting the handle to said blade holder, said handle being rotatable on the axis of said connecting means, a movable blade supported within the holder, and means operatively connecting said movable handle and the blade for imparting movement to the latter relative to said holder.

[Claims 6 to 20 not printed in the Gazette.]

978,231. FEEDING MECHANISM FOR CARDS OR SHEETS. FOSTER M. SPURR, Boston, Mass., assignor to Spurr Addressing Machine Company, Boston, Mass., a Corporation of Massachusetts. Filed Feb. 8, 1910. Serial No. 542,682.



1. Means for releasing cards one at a time from a stack of cards having marginal recesses, the recesses of adjacent cards being out of register, comprising a plurality of associated pairs of fingers, pivoted elements carrying said fingers at opposite sides of the pivotal axes of said elements, and means for actuating said pivoted members to project the fingers of each associated pair of fingers alternately into register with the recesses of said cards.

2. Means for releasing cards one at a time from a stack of independent cards having marginal recesses, the recesses of adjacent cards being out of register, comprising a plurality of associated pairs of fingers distributed around the margins of said card stack, and means for projecting one of the fingers of each pair alternately into register with the marginal recesses of the cards and withdrawing the other fingers of the several pairs from beneath the card stack to release the previously supported card.

3. Means for releasing cards one at a time from a stack of disconnected cards having marginal recesses, the recesses of adjacent cards being out of register, comprising a frame having an opening for guiding the passage of the cards therethrough, pairs of associated fingers supporting said stack of cards arranged about said frame, and means for simultaneously actuating said fingers to project a finger of each pair alternately into the card passage opening of said frame in register with the marginal recesses of the lowermost card and withdrawing the other finger of each pair to release said card.

4. Means for releasing cards one at a time from a stack of cards having marginal recesses, the recesses of adjacent cards being out of register, comprising a frame having an opening for the passage of the cards, pairs of associated fingers arranged about said frame, and a lever and link parallelogram connected with said fingers for projecting the finger of each associated pair of fingers alternately into the card passage opening of the frame in register with the marginal recesses of said cards.

5. Means for releasing cards one at a time from a stack of cards having marginal recesses, the recesses of adjacent cards being out of register, comprising a frame having an opening for the passage of the cards, pairs of associated fingers arranged about said frame and slidable thereon, guides for said fingers, and means for simultaneously actuating said fingers to project a finger of each pair alternately into the card passage opening of said frame in register with the marginal recesses of said cards.

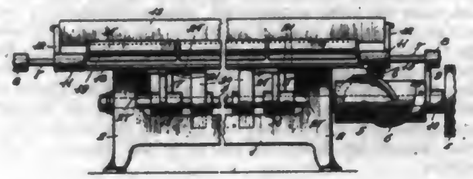
[Claims 6 to 8 not printed in the Gazette.]

978,232. GLOVE. FRANK J. STEIN and THOMAS KNAPIK, Chicago, Ill., assignors to Reliance Glove Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 13, 1910. Serial No. 555,223.



A glove, comprising a part for the palm, thumb, first and fourth fingers and a wrist tab formed of a single piece with a cut separating said thumb and first finger extending downwardly toward the palm and terminating in a curved end, and a part for the back of the hand and thumb having a shoulder for positioning said part relative to said palm, the upper edge of said part being adapted to be stitched to the thumb edge of said cut; the lower edge of said part being adapted to be stitched to the first finger edge of said cut and suitable blanks for completing the remaining portion of said glove, substantially as described.

978,233. DOUGH-MOLDING MACHINE. FRANK STREICH, St. Louis, Mo., assignor to American Baker's Machinery Company, St. Louis, Mo., a Corporation of Missouri. Filed Oct. 19, 1909. Serial No. 523,483.



1. In a machine of the class described, a reciprocating molding board, a pair of molding boards arranged to swing beneath the reciprocating molding board, and moving laterally with respect thereto the top surfaces of which molding boards are convex, dough engaging members carried by said swinging molding boards, the dough engaging faces of which members are concave in cross section, a driven shaft, and means fixed on said shaft and engaging parts carried by the molding boards for imparting motion thereto.

2. In a machine of the class described, a reciprocating molding board, a molding board arranged to swing laterally beneath the reciprocating molding board, a dough engaging member carried by the laterally moving board, and the dough engaging face of which member is concave.

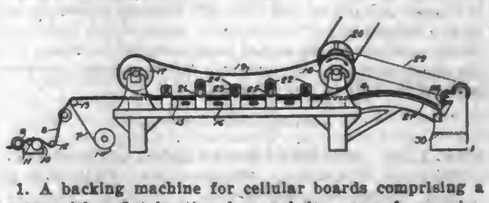
3. In a machine of the class described a reciprocating molding board, a molding board arranged to swing laterally beneath said reciprocating molding board, the top surface of which laterally moving molding board is convex, a dough engaging member carried by the laterally moving molding board, and the face of which dough engaging member is concave.

4. In a machine of the class described, a frame, a molding board arranged for reciprocation thereon, a pair of molding boards arranged to swing in the frame beneath the reciprocating molding board, and to move laterally with respect thereto, the top surfaces of which molding boards are convex, dough engaging members on the swinging molding boards the dough engaging faces of which boards are concave in cross section, the inner faces of which dough-engaging members are smooth and concave in cross section throughout their length, a shaft journaled in the frame there being a connection between said shaft and the reciprocating mold board, whereby the same is reciprocated as said shaft is rotated, and means on the shaft and operated thereby for imparting swinging movement to the laterally moving molding boards.

5. In a machine of the class described, a frame, a molding board arranged for reciprocation thereon, a pair of molding boards arranged to swing in the frame beneath the reciprocating molding board, and to move laterally with respect thereto, a shaft journaled in the frame. disks fixed on said shaft, in which disks are formed cam grooves, links connected to the laterally moving molding boards, and rollers carried by said links, which rollers operate in the cam grooves.

[Claims 6 to 10 not printed in the Gazette.]

978,234. MACHINE FOR THE MANUFACTURE OF CELLULAR BOARDS. THOMAS H. TAYLOR, Cincinnati, Ohio, assignor to The Charles Boldt Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Apr. 23, 1909. Serial No. 491,847.



1. A backing machine for cellular boards comprising a heater with a flat heating face, a belt, means for moving the belt across the face of the heater and rollers supported by the belt and adapted to hold it yieldingly in engagement with the face of the heater to feed the cellular board over the heater and to yield for varying thickness of the board.

2. In a backing machine for cellular boards, a heater plate extending the entire length of the machine, a pressure belt, a pair of pulleys supporting said pressure belt, one leg of which is adapted to transmit pressure to said plate, means for driving said pulleys, so as to move said belt across the face of said plate, a series of rolls for increasing the pressure of said belt, movable bearings for said rolls, brackets located on each side of said plate and provided with ways in which said bearings are located, and means for supporting said rolls in an inoperative position by turning said bearings diagonally, and supporting them on the tops of said brackets.

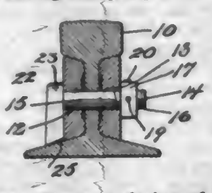
3. A backing machine for cellular boards comprising means for backing the board in combination with means for constantly impelling the strip to be backed through the machine, a knife for severing the strip at the delivery end of the machine, and an arched delivery table between the means for backing the strip and the knife.

4. In a machine for making multiple ply paper fabrics, means for cementing together paper webs, means for constantly impelling the fabric through the machine, a knife for severing the fabric at the delivery end of the machine and an arched delivery table between the means for cementing the webs and the knife.

978,235. RAILROAD-RAIL BOLT. REUBEN L. TIPTON, Safford, Ala. Filed June 21, 1910. Serial No. 568,207.

1. In combination with the meeting ends of a pair of rails and angle bars, of a bolt having a vertically arranged and elongated opening through one end thereof, a nut on

said end provided with transversely formed openings adapted to register with said elongated opening and to receive a pin therethrough, said pin adapted to form a binding contact with the side walls of said elongated opening, and a head on said bolt, provided with depending resilient spaced legs having biting edges.



2. In combination with an angle bar of a rail joint, a bolt having a nut on one end, means for locking said nut to said bolt, and a head on the opposite end of said bolt having depending spaced legs, the lower faces of said legs being inclined upwardly and inwardly toward said angle bar, said faces also being upwardly and inwardly inclined toward each other, whereby a biting edge is formed on each of said legs, and which is adapted to bite into the surface of said angle bar.

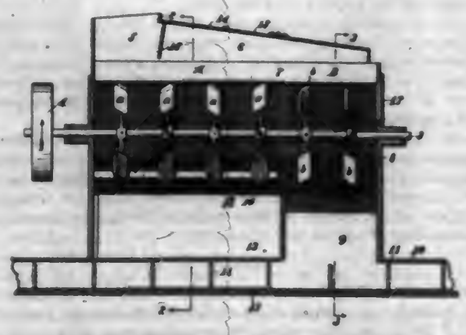
3. In combination with a rail joint having fish-plates thereon, a bolt having a nut on one end, means for locking said nut to said bolt, and a head on the opposite end of said bolt having depending spaced legs, the lower faces of said legs being inclined upwardly and inwardly toward said angle bar, said faces also being upwardly and inwardly inclined toward each other, whereby a biting edge is formed on each of said legs, and a biting corner formed at the intersection of the inclined edges of the faces, said biting edge and biting corner being adapted to engage into the upper surface of the base of a rail to prevent the movement of the bolt in any direction.

978,236. PROCESS OF UTILIZING COKE-BREEZE. HENRY A. TOBELMANN, Warren, Ariz. Filed May 25, 1910. Serial No. 563,423.

1. The method of utilizing coke breeze, which comprises pulverizing the coke breeze, cleaning the ash therefrom, mixing the cleaned coke breeze with suitable proportions of clean coking slack, and subjecting the mixture to heat sufficient to fuse and coke the mass.

2. The method of utilizing coke breeze, which comprises pulverizing the coke breeze, cleaning the ash therefrom, mixing the cleaned coke particles with suitable proportions of clean coking slack, and subjecting the mixture to a temperature sufficient to cause the particles of the mixture to cohere and coke the slack.

978,237. COTTON-CLEANER. ALBERT LEROY TREZISE, Jennings, Okla. Filed June 5, 1909. Serial No. 500,334.



1. A cotton cleaner having an elongated body, a substantially cylindrical screen disposed therein, a shaft extending longitudinally in said screen, a plurality of beaters attached to said shaft and arranged in sets, one set of said beaters being inclined in a direction to advance the cotton toward the delivery end of said screen when said shaft is rotated, the other set of said beaters being disposed adjacent to the delivery end and being adapted to retard the cotton advanced by said first set of beaters, a delivery chute communicating with said screen at the delivery end of said body, means for withdrawing the cotton from said delivery chute, said means being adapted to cut off admission of air to said delivery chute, said body having an exhaust connection for withdrawing air through said screen, and a feed hopper for delivering cotton to the interior of said screen.

2. A cotton cleaner having an elongated body, a substantially cylindrical screen extending longitudinally therein, a shaft lying within said screen, a plurality of beaters carried by said shaft having inclined paddles adapted to advance the cotton therein when said shaft rotates, other beaters carried by said shaft having paddles oppositely inclined adapted to arrest the advance of the cotton at the delivery end of said body, a delivery chute for receiving the cotton from said screen, a delivery duct in communication with said delivery chute, and a conveyer belt running in said delivery duct and having gates substantially closing the interior thereof, said body having an exhaust connection for drawing an air current through said screen.

3. A cotton cleaner comprising a casing, a substantially cylindrical screen arranged within the casing, a shaft concentric with the screen and a plurality of beaters carried by the shaft, each of said beaters comprising an inclined paddle extending radially from the shaft, the beaters at the entrance end of the casing being inclined in the same direction to advance the cotton and the beaters at the delivery end of the casing being inclined in the opposite direction to arrest the advance of the cotton, a delivery chute below the last-named beaters, a delivery duct with which the chute communicates, and a conveyer belt running in the delivery duct and having gates substantially closing the interior thereof, the casing having an exhaust connection for drawing an air current through the screen.

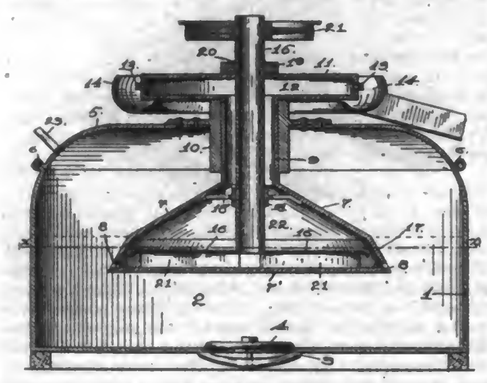
4. A cotton cleaner comprising a casing, a substantially cylindrical screen in the casing, a shaft journaled concentrically of the screen, a plurality of beaters attached to the shaft and arranged in sets, one set of the beaters being inclined in a direction to advance the cotton toward the delivery end of the screen when the shaft is rotated and the other set being arranged adjacent to the delivery end of the casing and inclined to retard the cotton advanced by the first set, a delivery duct to which the casing delivers, means for withdrawing the cotton from the casing, said means being adapted to cut off the admission of air to the delivery duct, the casing having an exhaust connection for withdrawing air through the screen and a feed hopper for delivering cotton to the interior of the screen.

978,238. CENTRIFUGAL SEPARATING WASHING APPARATUS. LAMARTINE C. TRENT, East Auburn, Cal. Filed Apr. 23, 1909. Serial No. 491,783.

1. A centrifugal apparatus comprising an outer casing which constitutes a pressure chamber, a vessel provided with a series of peripheral outlets rotatable therein, a diaphragm within the vessel to form a passage-way for the flow of the material being treated toward the peripheral outlets, means for delivering material below the diaphragm, a passage-way for the flow of the separated liquid into the rotatable vessel above the diaphragm, and means for drawing from within the vessel the liquid and lighter particles separated from the solids.

2. In an apparatus of the character described, the combination of a centrifugal provided with peripheral outlets rotatable in a chamber under pressure, a deflector plate within the centrifugal to one side of said outlets for directing the material to said outlets, of means for causing an upward flow of the separated liquid through the centrifugal and an inflow under pressure into the centrifugal during the discharge of solids therefrom.

3. In a centrifugal apparatus, the same comprising a rotatable vessel for receiving the liquid material to be treated, separating the solids therefrom and ejecting the same against an inflowing current under pressure, and vacuum creating means for withdrawing the separated liquid through the said vessel.



4. In a centrifugal apparatus, the same comprising rotatable means for receiving liquid material, separating the solids therefrom and ejecting the same against a current pressure moving in an opposite direction to the flow of travel of the separated solids, and vacuum creating means for withdrawing the separated liquid through the said vessel.

5. In a centrifugal machine for separating solids from liquid material, the same comprising means for separating the solids from the liquid material and deflecting the separated solids under pressure directly against a counter current under pressure, whereby the solids are freed of adhering material or liquids.

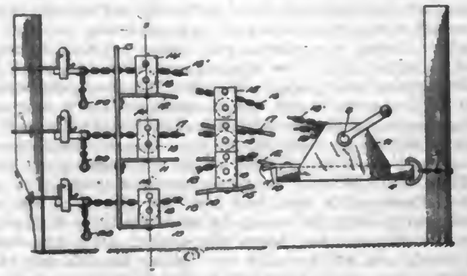
[Claims 6 to 12 not printed in the Gazette.]

978,239. SILVER CLEANING AND POLISHING PASTE. GEORG UHL and WILHELM SCHMIDT, New York, N. Y. Filed May 17, 1910. Serial No. 561,904.

1. The herein described composition of matter, comprising soft soap, boiled whiting, a mixture of prepared chalk, metallic mercury, clarified honey and water, soda and water, substantially as and for the purpose set forth.

2. The herein described composition of matter for cleaning silver, comprising 0.5 pound soft soap, 6.5 ounces boiled whiting, 0.375 ounce of a mixture derived from 37% prepared chalk, 38% metallic mercury, 10% clarified honey and 15% water, 0.25 ounce soda and 0.875 ounce water, substantially as described.

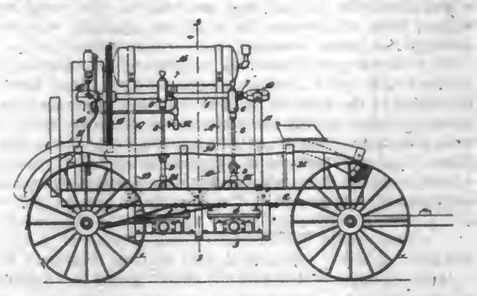
978,240. WIRE-STRETCHER. ANDREW VALLEM, Ruthton, Minn. Filed Apr. 8, 1910. Serial No. 554,254.



1. A wire-stretcher of the class described, comprising a frame, a windlass carried thereby, arms connected to said frame and having their inner ends rigidly connected together, each of said arms being provided with a U-shaped swiveled frame, pulleys carried by said frame, flexible members connected with said windlass and said pulleys, and means for connecting said flexible members with the wire to be stretched.

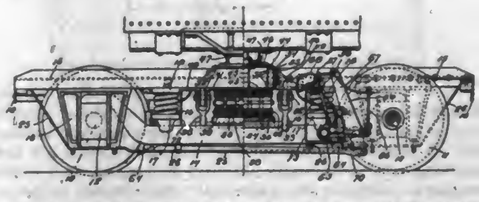
2. In a wire stretcher having a windlass, the combination of a plurality of arms, one of the arms having a vertically projecting portion connected with the other arms, pulleys mounted on each arm, said vertically projecting portion being provided with a plurality of apertures, flexible members connected with said windlass and extending through said apertures and over said pulleys, one end of said flexible members being connected with means for engaging wires.

978,241. PORTABLE PUMP. WALTER H. VAN WINKLE, New York, N. Y., assignor to Water Works Equipment Company, New York, N. Y., a Corporation. Filed Nov. 20, 1908. Serial No. 463,694.



A portable pump having a frame, an open ended pump with bearings on its rim, said bearings having slots therein, in combination with the moving element of the pump, a guide and a hook ended connecting rod, the hook connecting the moving element of the pump, and T-headed bolts which pass through the slots and engage with the bearings, holding the guide in the bearings.

978,242. TRUCK. WILLIAM VOSS, Wilmington, Del., assignor to American Car and Foundry Company, St. Louis, Mo., a Corporation of New Jersey. Filed Aug. 27, 1910. Serial No. 579,321.



1. In a truck frame, the combination of wheel pieces, each comprising an H-section, and means connecting the webs of the said wheel pieces said webs being disposed horizontally and the H-section being of substantially uniform cross section throughout its length.

2. In a truck frame, the combination of H-section wheel pieces, transoms, and means connecting the transoms to the web of the H-sections each of said H-sections being of substantially uniform cross section throughout its length.

3. In a truck frame, the combination of H-section wheel pieces, and transoms connected to the horizontal webs of the H-sections each of said H-sections being of substantially uniform cross section throughout its length and extending substantially throughout the length of the truck.

4. In a truck frame, the combination of H-section wheel pieces, and transoms having flanged ends connected to the horizontal webs of the H-section.

5. In a truck frame, the combination of H-section wheel pieces, and transoms having T-head ends connected to the H-sections.

[Claims 6 to 30 not printed in the Gazette.]

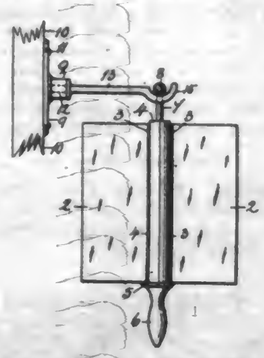
978,243. TIRE-ARMOR. ARTHUR FRANCIS WALKER, Herne Hill, and JOHN GILLES, Brixton, London, England. Filed Feb. 8, 1909. Serial No. 476,738.



1. A tire armor comprising a series of plates provided at each side with a slot, clip plates having turned-up edges, inwardly turned lips provided in the turned-up edges of the clip plates, the said lips engaging with the slots in the plates substantially as described.

2. A tire armor comprising a series of plates provided at each side with a slot, the said plates being arched or curved to the form of the tire, clip plates passing transversely under the edges of the respective plates, said clip plates being provided with turned-up edges, inwardly turned lips provided on the turned-up edges of the clip plates, the said lips engaging with the slots of the plates substantially as described.

978,244. BOOK. WILLIAM JAMES WALSH, Hamilton, Ontario, Canada. Filed Feb. 21, 1910. Serial No. 545,028.

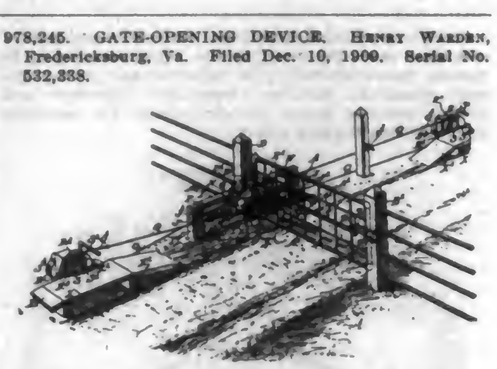


1. In a cylindrical book, a round vertical shaft having a handle extending from the lower end thereof, a spindle extending from the opposite end of the shaft and concentric therewith, a head on the end of said spindle for suspending said shaft, and a plurality of leaves bound to and radially extending from the shaft and adapted to be rotated and brought to various positions by means of said handle.

2. A cylindrical book consisting of a round vertical shaft, a collar formed on the lower end of the shaft, a spindle having a head extending from the upper end of the shaft, and concentric therewith, a plurality of leaves bound to and radially extending from the shaft in close proximity with said collar to form a circular book, a bracket, a horizontal oscillatory arm supported by and extending therefrom, means in the opposite end of the arm to allow the insertion of said spindle and head therein, and means on the lower end of the shaft for rotating and bringing the book to various positions.

3. A cylindrical book consisting of a round vertical shaft, a plurality of leaves bound to and radially extending therefrom, a spindle extending from the upper end of the shaft, a head on the spindle, oscillatory means to loosely support said head, and means on the book to rotate the book and to bring it to various positions.

978,245. GATE-OPENING DEVICE. HENRY WARDEN, Fredericksburg, Va. Filed Dec. 10, 1909. Serial No. 532,338.



1. The combination, with a gate, of an opening and closing mechanism therefor, comprising a guide, a pair of members mounted on and independently movable along said guide, a reciprocating operating device which, when moved, engages one of said members and moves it in one direction or engages the other of said members and moves it in the opposite direction according to the direction of movement of said device, resilient means connecting said members through which each member when moved by said device tends to move the other in the same direction, and connections between said members and the gate whereby one of said members when moved through said resilient means opens the gate and the other of said members when moved through said resilient means closes the gate.

2. The combination, with a gate, of an opening and closing mechanism therefor comprising a guide, a pair of members mounted on and independently movable along said guide, a reciprocating operating device which, when moved, engages one of said members and moves it in one direction and engages the other of said members and moves it in the opposite direction according to the direction of movement of the device, resilient means connecting said members through which each member when moved by said device tends to move the other in the same direction, connections between said members and the gate whereby one of said members when moved through said resilient means opens the gate and the other of said members when moved through said resilient means closes the gate, and devices for locking each member against return movement from the position into which it is positively moved by said operating device, one of said locking devices being moved into, and the other being moved out of, the locking position by said operating device as the latter is moved from one extreme position into the other extreme position.

3. The combination with a gate support, of a gate hinged at one edge to said support, a reciprocating member, flexible connections between said member and the gate whereby when said member is reciprocated the gate is opened or closed, a guide rod, a pair of sleeves mounted on said guide rod, and movable relatively to said member and adapted, one on a predetermined movement in one direction, and the other on a predetermined movement in the other direction, to engage and move said member, a helical spring surrounding said guide rod and bearing at its ends against the adjacent ends of said sleeves, a slide having arms engaging the guide rod at opposite sides of said sleeves, means for reciprocating said sleeves, and locking dogs one adjacent each end of the guide and adapted to drop behind the corresponding sleeve and hold the latter against return movement when the sleeve has been moved away from that end of the guide by the adjacent slide arm, said slide and said dogs having coöperating provisions whereby when the slide is moved in one direction the locking dog toward which the slide is moving is lifted out of the locking position and the locking dog away from which the slide is moving is allowed to drop into the locking position.

4. The combination, with a gate, of an opening and closing mechanism therefor, comprising a guide, a pair of members mounted on and independently movable along said guide, a reciprocating operating device which, when moved, engages one of said members and moves it in one direction or engages the other of said members and moves it in the opposite direction according to the direction of movement of said device, resilient means connecting said members through which each member when moved by said device tends to move the other in the same direction, a reciprocating member engaged and moved in one direction by one of the first mentioned members and engaged and moved in the opposite direction by the other of the first mentioned members when one or the other of said members is moved by said resilient means, and connections between said reciprocating member and the gate for opening and closing the latter according to the direction of movement of the member.

5. The combination with a gate, of an opening and closing mechanism therefor comprising a guide, a pair of members mounted on and independently movable along said guide, a reciprocating operating device which, when moved, engages one of said members and moves it in one direction or engages the other of said members and moves it in the opposite direction according to the direction of movement of the device, resilient means connecting said members through which each member when moved by said device tends to move the other in the same direction, a bow like member slidably mounted in each of the first mentioned pair of members and having end portions each of which is engaged and moved by the adjacent one of said members upon a predetermined movement of the latter, and connections between the ends of the bow and the gate for opening and closing the latter.

[Claims 6 to 13 not printed in the Gazette.]

978,246. WINDOW-SHADE SUPPORT. LOUIS F. WEIHER, New York, N. Y. Filed Mar. 4, 1910. Serial No. 547,210.

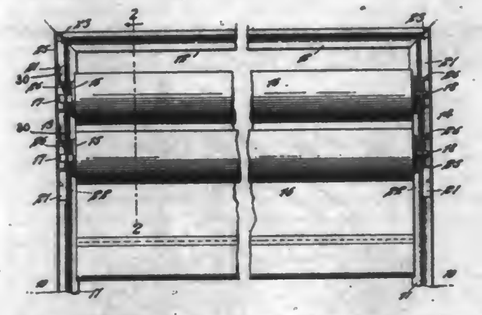


1. In combination with a metal window casing having facing stop-beads (10) and part (11) whose ends match the ends of said stop-beads, shade-roller holders therefor each comprising an integral metal strip or plate to engage the face of a stop-bead of said casing and having a box-like section affording a bearing for a stud at the end of the shade-roller and at one end being bent over in line with its length to form a hook-member and hooked over the end of the stop-bead and engaged by the said part (11), which binds against the said holders and prevents vertical movement of the same, said holders closely binding against the inner and outer faces of the stop-beads and one holder in its box-like portion being slotted to receive the polygonal stud of the roller spring-mechanism, while the other holder in its box-like portion has a bearing for the usual end-stud rigidly connected with the roller; substantially as set forth.

2. In combination with a metal window casing having facing stop-beads (10) and part (11) whose ends match the ends of said stop-beads, shade-roller holders therefor each comprising an integral metal strip or plate to engage the face of a stop-bead of said casing and having a box-like section affording a bearing for a stud at the end of the shade-roller and at one end being bent over in line with its length to form a hook-member and hooked over the end of the stop-bead and engaged by the said part (11), which binds against the said holders and prevents vertical movement of the same, said holders closely binding against the inner and outer faces of the stop-beads, and one holder in its box-like portion being slotted to receive the polygonal stud of the roller spring-mechanism, while the other holder in its box-like portion has a bearing for the usual end-stud rigidly connected with the roller, and both of said holders being recessed at their outer portions, as at 23, to clear a space for any screws necessary for securing the stop-beads; substantially as set forth.

3. In combination with a metal window casing having facing stop-beads (10) and part (11) whose ends match the ends of said stop-beads, shade-roller holders therefor each comprising an integral metal strip or plate to engage the face of a stop-bead of said casing and having a box-like section affording a bearing for a stud at the end of the shade-roller and at one end being bent over in line with its length to form a hook-member and hooked over the end of the stop-bead and engaged by the said part (11), which binds against the said holders and prevents vertical movement of the same, said holders closely binding against the inner and outer faces of the stop-beads and one holder in its box-like portion being slotted to receive the polygonal stud of the roller spring-mechanism and provided with a spring-latch to lock said stud in said slot, while the other holder in its box-like portion has a bearing for the usual end-stud rigidly connected with the roller, said spring-latch being a strip of metal riveted at one end to the holder and having a yielding cross-bar within the box-like section thereof and crossing and at its ends extending laterally beyond the edges of the slot therein; substantially as set forth.

978,247. WINDOW-SHADE SUPPORT. LOUIS F. WEIHER, New York, N. Y. Filed Mar. 4, 1910. Serial No. 547,211.



1. In combination with a window-casing, shade-roller holders therefor each comprising a metal plate having an arm between a stop-bead and a side of said casing, an upper member hooked over the upper end of said stop-bead and an inwardly extending plate-section having a box-like portion affording a bearing for a stud at the end of the roller, one holder in its box-like portion being slotted to receive the polygonal stud of the roller spring-mechanism and the other holder in its box-like portion having a bearing for the usual end-stud rigidly connected with the roller; substantially as set forth.

2. In combination with a window-casing, shade-roller holders therefor each comprising a metal plate having an arm between a stop-bead and a side of said casing, an upper member hooked over the upper end of said stop-bead and an inwardly extending plate-section having a box-like portion affording a bearing for a stud at the end of the roller, one holder in its box-like portion being slotted to receive the polygonal stud of the roller spring-mechanism and the other holder in its box-like portion having a bearing for the usual end-stud rigidly connected with the roller, and said upper member and said arm of each holder having a tooth to be driven into the stop-bead contiguous thereto; substantially as set forth.

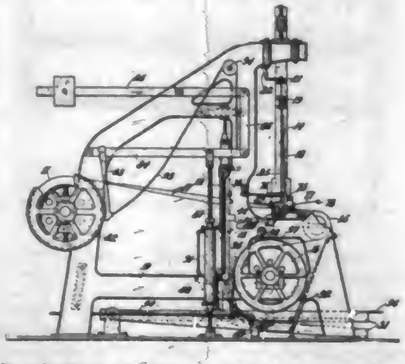
3. In combination with a window-casing, shade-roller holders therefor each comprising a metal plate having an arm between a stop-bead and a side of said casing, an upper member hooked over the upper end of said stop-bead, a flange engaging the inner edge of the stop-bead and an inwardly extending plate-section having a box-like portion affording a bearing for a stud at the end of the roller, one holder in its box-like portion being slotted to receive the polygonal stud of the roller spring-mechanism and the other holder in its box-like portion having a bearing for the usual end-stud rigidly connected with the roller; substantially as set forth.

4. In combination with a window-casing, shade-roller holders therefor each comprising a metal plate having upper and lower arms between a stop-bead and a side of the casing, an upper member hooked over the upper end of said stop-bead and an inwardly extending plate-section having a box-like portion affording a bearing for a stud at the end of the roller, one holder in its box-like portion being slotted to receive the polygonal stud of the roller spring-mechanism and the other holder in its box-like portion having a bearing for the usual end-stud rigidly connected with the roller; substantially as set forth.

5. In combination with a window-casing, shade-roller holders therefor each comprising a metal plate having upper and lower arms between a stop-head and a side of the casing, upper and lower vertical flanges along said arms engaging the edge of the stop-bead, an upper member hooked over the upper end of said stop-bead and an inwardly extending plate-section having a box-like portion affording a bearing for a stud at the end of the roller, one holder in its box-like portion being slotted to receive the polygonal stud of the roller spring-mechanism and the other holder in its box-like portion having a bearing for the usual end-stud rigidly connected with the roller; substantially as set forth.

[Claims 6 and 7 not printed in the Gazette.]

978,248. LOOM. ALBERT B. WEISSENBORN, Appleton, Wis. Filed Nov. 1, 1909. Serial No. 525,618.



1. In a loom, a suitably operated lay, pressure operated picker means carried by the lay for throwing the shuttle back and forth, suitably operated heddle frames, and controlling means on the lay for the pressure operated picker means adapted to coöperate with the heddle frames whereby one picker means is operated in one position of the heddle frames and the other picker means is operated in the other position of the heddle frames.

2. In a loom, a suitably operated lay, a picker stick pivotally mounted at each end thereof, a pressure cylinder connected with each picker stick, valves for the pressure cylinders, trip levers controlling the valves, suitably shifted heddle frames, and trip pins movable with the heddle frames for engaging the trip levers of the respective ends of the lay in the different positions of the heddle frames.

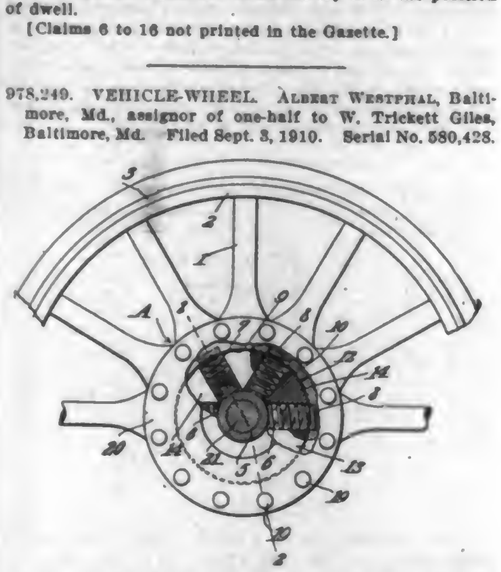
3. In a loom, a lay, a picker stick pivotally mounted thereon, a pressure cylinder carried by the lay and connected with the picker stick, for causing the operation thereof, a spring seated valve for controlling the admission of pressure to the cylinder, a tubular valve stem on said valve having communication with the interior of the cylinder, a valve rod receiving the end of the valve stem and adapted in one position to be spaced from the upper end of the valve stem to permit the exhaust of the cylinder therethrough and in another position to close the end of the stem and to force the valve off of its seat, and means operated by the swing of the lay for causing the movement of the valve rod from one position to the other.

4. In a loom, a suitably operated lay, shuttle boxes carried thereby, a shuttle throwing means for the shuttle boxes, a shuttling board hinged to the lay and extending from one shuttle box to the other, and means operated by the movements of the lay for swinging the shuttling board into and out of position with relation to the shuttle boxes.

5. In a loom, a suitably operated lay, shuttle boxes carried thereby, a shuttle throwing means for the shuttle boxes, a shuttling board hinged to the lay and extending from one shuttle box to the other, a pair of toggle links connected to the shuttling board and to the lay, and a stationary yielding roller in the path of the toggle links to be engaged thereby for swinging the shuttling board into an operative position when the lay is in the position of dwell.

[Claims 6 to 16 not printed in the Gazette.]

978,249. VEHICLE-WHEEL. ALBERT WESTPHAL, Baltimore, Md., assignor of one-half to W. Trickett Giles, Baltimore, Md. Filed Sept. 8, 1910. Serial No. 580,428.



1. In a wheel of the character described, comprising a hub provided with sockets, a sleeve within the hub having radial arms, springs having one end held in position by said arms and their other ends resting in said sockets, and a metal band provided with openings through which one end of the springs pass to retain said ends in said sockets.

2. In a wheel of the character described, comprising a hub provided with sockets, a sleeve within the hub having radial arms, springs having one end held in position by said arms and their other ends resting in said sockets, a metal band provided with openings through which one end of the springs pass to retain said ends in said sockets, and triangular cushions between said springs.

978,250. BALL. WILLIAM P. WHITLEY, St. Louis, Mo., assignor to The Rawlings Manufacturing Company, St. Louis, Mo., a Corporation of Missouri. Filed June 9, 1910. Serial No. 566,030.

1. A ball consisting of a body made up of a core formed of a number of small pieces of light resilient material, a winding of thread or yarn around said core, a series of superimposed layers made up of a number of small pieces of light resilient material, a winding of thread or yarn upon each layer and a cover inclosing said body.



2. The herein described ball comprising a core made up of a number of small pieces of sponge, a reinforcing thread or yarn mounted upon the surface of said core, a series of superimposed layers formed of a number of small pieces of sponge arranged upon said core, a reinforcing thread or yarn mounted upon each layer, and a cover inclosing the body.

978,251. OIL-CAN OR TOOL BOX. HORACE E. WHITNEY, Cambridge, Mass., assignor to Dover Stamping and Manufacturing Company, Cambridge, Mass., a Corporation of Maine. Filed Mar. 18, 1909. Serial No. 484,314.

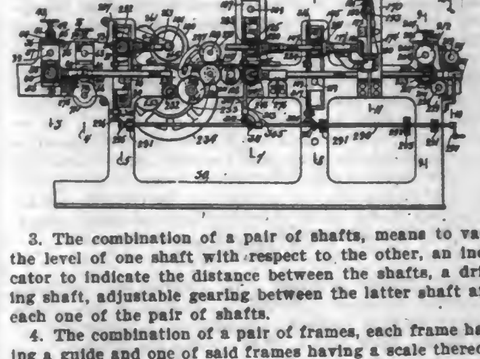


The box above described having a cover separable therefrom, loops secured to said box and cover, a flexible strap received by said loops and adapted to secure said cover in closed position, a pair of said loops on said box and cover respectively being located adjacent the meeting edges thereof, and a clamp carried by one of said last-named loops on said cover and adapted detachably to connect said strap to said cover at any suitable point in the length of said strap, whereby the portion of said strap connecting said meeting edges forms a detachable hinge for said cover and maintains said box and cover normally in fixed relation when said strap is loosened to permit said cover to be opened.

978,252. GEARING. ANDERS JOHAN WIKANDER, South Windham, Conn, assignor of one-half to Axel Theodor Johnson, Brooklyn, N. Y. Original application filed Feb. 4, 1907, Serial No. 355,623. Divided and this application filed Aug. 5, 1907. Serial No. 387,119.

1. The combination in a machine of a driving shaft, a rotary side shaft, an adjustable side shaft journaled adjacent to the said rotary shaft, adjustable gearing between the driving shaft and the said adjustable side shaft, and gearing between the rotary side shaft and said driving shaft.

2. The combination of a pair of frames having a number of pairs of guides, a pair of cross-heads in each pair of guides, a bracket extending from one of the cross-heads of each pair, a side shaft journaled in said brackets, a cross-shaft journaled in each pair of cross-heads, a gear on each cross-shaft, and an accompanying gear for each one thereof on the side shaft to mesh therewith, vertical screws journaled on each frame, each one of said screws engaging with a thread in each of the cross-heads, a bevel gear on each of the vertical screws, a second side shaft journaled to one of the frames below the first side shaft, bevel gears on the second shaft, each of the latter bevel gears gearing with a bevel gear of one of the screws, a third side shaft journaled to the other frame, bevel gears on the third side shaft, bevel gears on the screws adjacent to the third side shaft, the latter bevel gears meshing with the gears on said third shaft, connections between the second and third side shafts, means to turn one of the latter shafts, and thereby operate the appurtenances co-acting therewith.



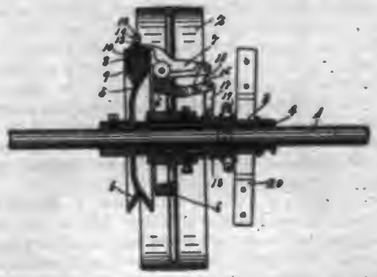
3. The combination of a pair of shafts, means to vary the level of one shaft with respect to the other, an indicator to indicate the distance between the shafts, a driving shaft, adjustable gearing between the latter shaft and each one of the pair of shafts.

4. The combination of a pair of frames, each frame having a guide and one of said frames having a scale thereon, a side shaft journaled to one of said frames, an adjustable side shaft parallel to the side shaft, a gear on the adjustable side shaft, a driving shaft journaled in the frames, a pair of cross-heads in the guides, a cross-shaft journaled in the cross-heads, a gear on the cross-shaft with its teeth meshing with the teeth of the gear on the adjustable shaft, means to vertically move the adjustable shaft with the cross-heads and their cross-shaft, a pointer on one of the cross-heads for said scale, gearing interposed between the driving shaft and said side shaft, and gearing interposed between the driving shaft and said adjustable side shaft.

5. The combination of a pair of frames, a number of pairs of guides formed therewith, a pair of cross-heads in each pair of guides, a bracket extending from one of the cross-heads of each pair, a side shaft journaled in said brackets, a cross-shaft journaled in each pair of cross-heads, connecting means between the cross-shafts and the side shaft, an element engaging with each of the cross-heads, a second shaft adjacent to each frame below the first side shaft, connections between said elements and said second shafts, means to simultaneously rotate the second shafts, and thereby operate the appurtenances connected therewith.

[Claims 6 to 8 not printed in the Gazette.]

978,253. FRICTION-CLUTCH. WILLIAM A. WILKINS, Minneapolis, Minn., and ADAM HENRY IRVING, Spokane, Wash. Filed Nov. 24, 1909. Serial No. 529,664.

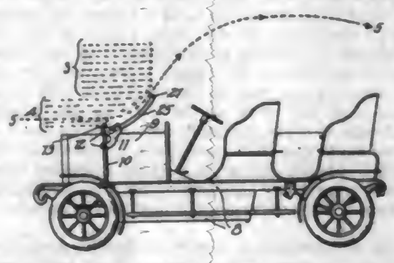


1. The combination with rotary driving and driven members, of a clutch mechanism comprising a clu

wheel secured to one of said rotary members and having a grooved periphery, a clutch lever pivoted to the other rotary member, connections applied to one end of said lever for moving the same, and a brake shoe to fit the peripheral groove of said clutch wheel and mounted in the other end of said lever with freedom for radial and oscillatory adjustments in the plane of said clutch wheel and in respect to the said lever.

2. The combination with rotary driving and driven members having a common axis, of a clutch wheel secured to one of said members and provided with a V-shaped annular groove in its periphery, a multiplicity of clutch levers intermediately pivoted to the other rotary member, brake shoes having V-shaped segmental faces for engagement with the groove of said clutch wheel, means securing said brake shoes to projecting ends of said levers with freedom for radial and oscillatory adjustments in the plane of said clutch wheel and for oscillatory adjustments transversely of the plane of said clutch wheel, a sleeve mounted to slide in respect to but to rotate with the rotary member to which said levers are pivoted, intermediate levers pivoted to the same rotary member, links connecting the outer ends of said intermediate levers to said sleeve, and links connecting the intermediate portions of said intermediate levers to the outer ends of said clutch levers, substantially as described.

978,254. WIND-SHIELD FOR VEHICLES. WILLIAM HERMAN WINSLOW, Chicago, Ill., assignor to The Steam Power Devices Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 7, 1908. Serial No. 419,641.



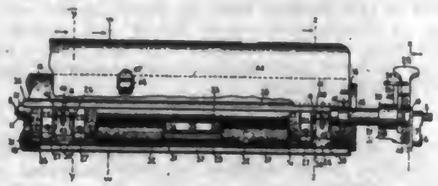
1. In combination with an automobile, a standard supported from the framework on either side of the hood, an adjustable bracket supported from each standard, a spring roller supported transversely of the automobile above the hood between such brackets, a flexible curtain carried by such roller, curved guideways supported from such brackets, transverse reinforcing strips in such curtain having ends adapted to engage such guideways, such curtain when extended constituting a deflector extending upward and to the rear and adapted to direct air currents in the same direction over the seats of the automobile, a bar secured across the outer end of such curtain, and means carried by such bar for engaging the guideways at any desired points.

2. In combination with an automobile, a standard supported from the framework on either side of the hood, an adjustable bracket supported from each standard, a spring roller supported transversely of the automobile above the hood between such brackets, a flexible curtain carried by such roller, curved guideways supported from such brackets, transverse reinforcing strips in such curtain having ends adapted to engage such guideways, such curtain when fully extended being wholly below the line of sight of the driver, such curtain when extended constituting a deflector extending upward and to the rear and adapted to direct air currents upward and to the rear, whereby air currents that would otherwise strike the driver are directed upward and over his head.

3. In combination with an automobile, a standard supported from the framework on either side of the hood, a bracket supported from each standard, a roller supported between such brackets, a flexible curtain carried by such roller, curved guideways for such curtain supported from such brackets, and means for securing the outer end of such curtain in any desired position on such guideways.

4. In combination with an automobile, a standard supported from the framework on either side of the hood, a bracket supported from each standard, a roller supported between such brackets, a flexible curtain carried by such roller, curved guideways for such curtain supported from such brackets, means whereby said guideways may positively retain such curtain against lateral movement, and means for securing the outer end of such curtain in any desired position on such guideways.

978,255. TYPE-WRITING MACHINE. OSCAR WOODWARD, New York, N. Y., assignor to Densmore Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Jan. 31, 1906. Serial No. 298,796.



1. In a typewriting machine, the combination of a platen, a platen carrier comprising a longitudinally extending bar, a sleeve mounted on said bar, slotted hanger arms on said sleeve, means for affording variation in the normal relationship between said hanger arms and said sleeve, a shaft supported in slots in said hanger arms, a feed roll on said shaft, springs on said hanger arms engaging said shaft, and means tending constantly to turn said sleeve.

2. In a typewriting machine, the combination of a platen, a platen carrier comprising a bar extending longitudinally thereof, a sleeve on said bar, slotted hanger arms on said sleeve, said hanger arms being adjustable both longitudinally of and circumferentially of said sleeve, a shaft supported in the slots of said hanger arms, a feed roller on said shaft, springs coöperative with said shaft and with said hanger arms, and a draw spring connected with said sleeve and with the platen carrier and tending constantly to turn said sleeve and urge said hanger arms toward the platen.

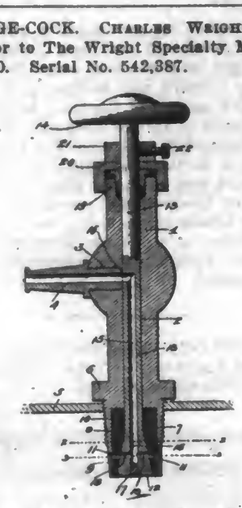
3. In a typewriting machine, the combination of a platen, a platen carrier comprising a bar extending longitudinally of the platen, a sleeve rotatable on said bar, hanger arms fixed on said sleeve and depending therefrom, said hanger arms being provided with slots at their lower ends, a shaft bearing in said slots and carrying a paper feed roller, springs on said hangers coöperative with said shaft to maintain it in its bearings and press it toward the platen, and a draw spring having one end connected with said sleeve and the other end secured at the opposite side of said platen carrier.

4. In a typewriting machine, the combination of a platen, a platen carrier comprising a bar extending longitudinally of the platen, a sleeve rotatable on said bar, hanger arms fixed on said sleeve and depending therefrom, said hanger arms being provided with slots at their lower ends, a shaft bearing in said slots and carrying a paper feed roller, springs on said hangers coöperative with said shaft to maintain it in its bearings and press it toward the platen, a draw spring having one end connected with said sleeve and the other end secured at the opposite side of said platen carrier, and a tubular housing for said draw spring fixed to the platen frame.

5. In a typewriting machine, the combination of a platen, a platen carrier comprising a longitudinal bar, a sleeve on said bar, hanger arms adjustable on said sleeve, a feed roller supported by said hanger arms, a paper apron supported on said hanger arms and provided with an opening for said feed roller, and means tending constantly to turn said sleeve and urge said feed roller and paper apron toward the platen.

[Claims 6 to 22 not printed in the Gazette.]

978,256. GAGE-COCK. CHARLES WRIGHT, Youngwood, Pa., assignor to The Wright Specialty Mfg. Co. Filed Feb. 7, 1910. Serial No. 542,387.



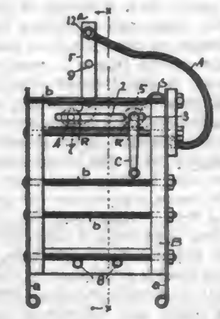
1. In a device of the character described, a valve casing having in one end a recess and oppositely disposed inlet ports, a fiber lining arranged in said recess, said lining having ports formed therein to coincide with the ports in the casing, a conically shaped valve seat formed in said lining and communicating with the ports therein, a valve stem operatively mounted in said casing, a conical valve on said stem adapted to engage said valve seat, said valve and stem having formed therein discharge passages which are adapted to be brought into and out of communication with the ports in said casing and lining to open and close the valve, and a discharge nozzle communicating with the passage in said valve stem.

2. In a gage cock, a casing having a recessed inner end adapted to be engaged with a boiler, said recessed end having formed therein oppositely disposed inlet ports, a fiber lining arranged in the recessed end of said casing, said lining having formed therein inlet ports communicating with the ports in said casing, a conically shaped valve seat formed in said fiber lining, a conically shaped valve arranged in said seat and adapted to be held in tight engagement therewith by the pressure of the fluid in the boiler, said valve having formed therein a transverse passage adapted to be brought into and out of alinement with the ports in the casing and fiber lining, an operating stem formed on said valve and projecting through said casing, said stem having a passage communicating with the passage in said valve, and a discharge nozzle adapted to communicate with the passage in said stem when the valve is in an open position.

3. In a gage cock, a casing having a recessed inner end and a central longitudinal bore extending therethrough and communicating with said recessed end, a discharge nozzle connected with said casing, a fiber lining arranged in said recessed end, said lining and end having formed therein oppositely disposed inlet ports, a conical valve seat formed in said lining, a conical valve engaged with said seat, said valve having formed therein a transverse passage adapted to communicate with the ports in said fiber lining, a stem formed on said valve and projecting through the bore in said casing, said stem having a passage communicating at its inner end with the transverse passage in said valve and opening at its outer end through the side of the stem, opposite said discharge nozzle, said passage having a greater diameter than the transverse passage in said valve, a packing nut arranged on the outer end of said casing around the projecting end of said stem, and means on said stem to hold the valve in tight engagement with its seat.

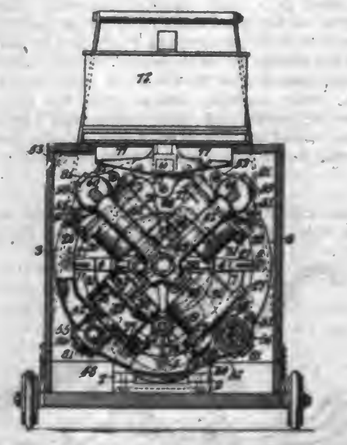
4. In a gage cock, a casing having arranged therethrough a centrally disposed bore, a discharge nozzle communicating with said bore, a fiber filling or lining arranged in the inner end of said casing, a conical valve seat formed in said filling, a conically-shaped valve adapted to be engaged with said seat, said valve filling and casing having formed therein inlet ports and passages adapted to be brought into and out of alinement by the turning of the valve in its seat, a stem formed on said valve and projecting through the bore in said casing, said stem having formed therein a discharge passage opening through the end of the valve and communicating at its inner end with the discharge nozzle when the valve is turned to an open position, a plug to close the inner end of said passage, a packing gland and nut arranged on the outer end of the casing around said stem, a stop collar arranged on the stem, a set screw adapted to hold said collar in adjusted engagement with the valve stem whereby the valve will be held in tight engagement with its seat, and a handle on the outer end of said valve stem.

978,257. MOP-WRINGER. JOHANN ZIEBUR, Cleveland, Ohio. Filed July 5, 1910. Serial No. 570,270.



A rectangular receiving vessel, front and rear wringer rolls slidably mounted in respect to each other at the top of said vessel, a roll operating frame having its inner ends bent downward at right angles and pivotally engaged with the ends of the front roller, bow springs extending over said vessel connected at their front ends with the upper and outer portions of said frame and at their rear ends with the rear and top of said vessel, and springs bearing against the ends of the rear roll.

978,258. AIR-PUMPING APPARATUS. ERNEST L. ZIMMER, Minneapolis, Minn., assignor to Zimmer Vacuum Renovator Company, Minneapolis, Minn. Filed Feb. 17, 1909. Serial No. 478,361.



1. In a pumping apparatus, the combination of an a
nular tubular frame having a fluid inlet port, valve cha
bers disposed transversely within said frame, each havi
inlet and outlet ports at its opposite ends and an inte
mediate combined inlet and outlet port, a series of radial

arranged cylinders supported on the frame and having communication with the valve chambers through the combined inlet and outlet ports, a series of pistons successively moving in the cylinders, a common means for operating all said pistons, outlet conduits leading from each of the valve chambers to a common discharge, and valves within the said chambers controlling the inlet and outlet ports thereof.

2. In a pumping apparatus, a tubular frame having a fluid inlet port, a series of piston cylinders supported on the frame and having inlet ports communicating with the interior thereof, a series of pistons successively moving in the series of cylinders, a discharge conduit leading from each of the cylinders, said cylinders and pistons being removable together as a unit in a lateral direction from the tubular frame, and inlet and outlet valves controlling the admission and discharge of fluid to and from said cylinders.

3. In a pumping apparatus, an annular tubular frame having a fluid inlet port, a series of cylinders radially supported on the frame and extending toward the center of the same, pistons in the cylinders, piston rods extending to the center of the frame, a gear supporting frame mounted adjacent to the tubular frame, a crank shaft supported on the gear supporting frame, and having crank mechanism engaging with all the piston rods of the several cylinders, a motor, driving gear mounted on the gear frame and engaging with the crank shaft to drive the same, outlet conduits leading from each of the cylinders to a common discharge, and valves for controlling the inlet and outlet of fluid to and from the cylinders.

4. In a pumping apparatus, a base, an annular tubular frame vertically supported on said base, a vertical gear supporting frame mounted adjacent to the annular frame, a series of radial inwardly-extending cylinders supported on the annular frame and extending toward the center thereof, a crank shaft mounted on the gear supporting frame and extending into the space between the inner ends of the cylinders, connections between the crank shaft and the pistons in said cylinders, a motor, means for driving the crank shaft from the motor, outlet conduits connected to each of the cylinders and extending therefrom to a common discharge, and valves for controlling the inlet and outlet of fluid to and from the cylinders.

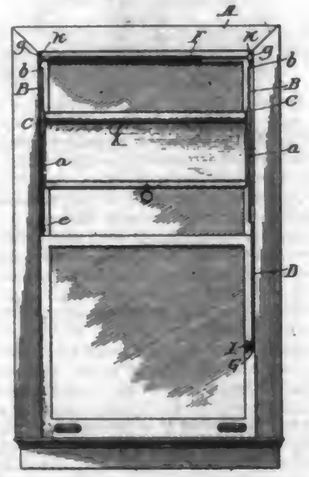
5. In a pumping apparatus, a base, an annular tubular vertically disposed frame mounted upon said base and having an inlet port connected to a source of fluid supply, a series of radially arranged cylinders mounted on the annular frame and having connections to the interior thereof, said cylinders projecting inwardly toward the center of the frame, a gear supporting frame mounted on the annular frame in a plane parallel therewith, driving gears supported on the gear supporting frame and having connection with a motor, a crank shaft on the gear supporting frame driven by said driving means, pistons in the cylinders, connections between the crank shaft and said pistons, outlet conduits leading from the cylinders to a common discharge, and valve mechanism controlling the inlet and outlet of fluid to or from the cylinders.

[Claims 6 to 21 not printed in the Gazette.]

978,259. PLOW ATTACHMENT. WILLIAM ADEN, Saratoga, Wyo. Filed May 28, 1910. Serial No. 563,916.

The combination with an ordinary plow, of a substantially horizontal blade having a reduced inner end forming a shank secured to the bottom of the mold board of the plow, the main portion of the blade projecting laterally from the plow and inclined rearwardly, the front edge of the blade being rounded and beveled to a cutting edge, and the rear thick portion of the blade being formed with a longitudinal series of vertical openings, a series of independent rods arranged in spaced parallel relation and having straight body portions provided with upwardly and rearwardly curved rear ends, the front ends of said rods being bent to form upwardly and rearwardly turned hooks, the latter being loosely connected in the vertical openings of the rear portion of the blade whereby said rods are loosely connected to the blade for independent vertical and horizontal movement.

978,260. ADJUSTABLE SHADE-FIXTURE. CHRISTIAN T. AGERSBURG and JOHN A. LOFF, Chicago, Ill. Filed Apr. 8, 1908. Serial No. 425,908.



1. An adjustable shade fixture comprising upper and lower pulleys, endless belts engaging said pulleys, guide-channels the side edges of which are flanged outward and have their ends bent to form stop-lugs, runners secured to and carried by said belts having bearings therein for a shade roller, and having their side edges bent back so as to embrace said flanges, and means carried by the axis of one of the pulleys for adjustably clamping said pulley.

2. An adjustable shade fixture comprising upper and lower pulleys, endless belts engaging said pulleys, guide-channels the side edges of which are flanged outward, runners having their side edges bent back so as to embrace said flanges which runners have eyes in which said belts are secured and have bearings for a shade roller, and means for adjustably clamping said lower pulley.

3. An adjustable shade fixture comprising upper and lower pulleys having alternating radiating points on each side of their peripheral concavity, endless belts engaging said pulleys, guide-channels the side edges of which are flanged outward, runners having their side edges bent back so as to embrace said flanges which runners have eyes in which said belts are secured and have bearings for a shade roller, and means for adjustably clamping said lower pulley.

4. An adjustable shade fixture comprising upper and lower pulleys having alternating radiating points on each side of their peripheral concavity, endless belts engaging said pulleys, guide-channels the side edges of which are flanged outward and have their ends bent to form stop-lugs, runners secured to and carried by said belts having bearings therein for a shade roller and having their side edges bent back so as to embrace said flanges, and means for adjustably clamping one of said pulleys.

5. An adjustable shade fixture comprising upper and lower pulleys one of said lower pulleys being divided transaxially, endless belts engaging said pulleys, guide-channels the side edges of which are flanged outward, runners secured to and carried by said belts having bearings therein for a shade roller and having their side edges bent back so as to embrace said flanges, and means for clamping said divided pulley together.

[Claim 6 not printed in the Gazette.]

978,261. COPYING-FRAME. EUGEN ALBERT, Munich, Germany. Filed July 13, 1909. Serial No. 507,862.



1. The combination in a copying frame, of a negative and plate holding frame, a pressure frame hinged thereto and having on each side thereof a spring support, flat leaf springs with a small downward curvature located by their ends in said supports and each spring adapted to act through its intermediate curved portion upon the plate independently of the other springs, thereby producing an even effectual pressure over the entire plate.

2. The combination, in a copying frame, of a pressure frame having on each side thereof a projecting spring support, with a series of flat leaf springs located by their ends in said supports and extending across the frame with a small downward curvature, a flexible shield spanning said frame and engaged by the bows of said springs, a frame for holding the negative and the plate upon which it is to be copied, and means for moving the pressure frame so as to cause said springs to exert a uniform pressure upon said shield at the back of the plate.

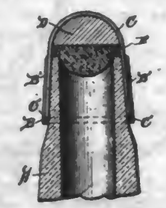
3. The combination in a copying frame, of a pressure frame having on each side thereof a projecting spring support, flat leaf springs with a small downward curvature located by their ends in said supports, a frame for holding the negative and plate independently of the pressure frame, hinges on one side of the pressure frame connecting it to the negative and plate holding frame, a bracket on the opposite side of the pressure frame and a bolt and wing nut connected to the negative holding frame and coacting with the said bracket to draw the two frames together, whereby to press said springs uniformly upon the back of the plate, substantially as and for the purpose set forth.

4. The combination, in a copying frame, of a pressure frame having shouldered spring supports on each side thereof, intermediate spring supports extending longitudinally of same, a plurality of flat leaf springs extending between two of the said supports and positioned in staggered relation to adjoining springs, and means for drawing together the pressure frame and the negative holding frame, substantially as described herein.

5. The combination, in a copying frame, of a negative holding frame, a pressure frame having shouldered spring supports on each side thereof, a central intermediate shouldered spring support extending longitudinally of same, a plurality of flat leaf springs with a small downward curvature extending between the spring supports on the sides of the pressure frame, a plurality of flat leaf springs with a downward curvature, extending between one of the spring supports on the side of the pressure frame and the intermediate spring support, and means for drawing together the pressure frame and the negative holding frame, substantially as described herein.

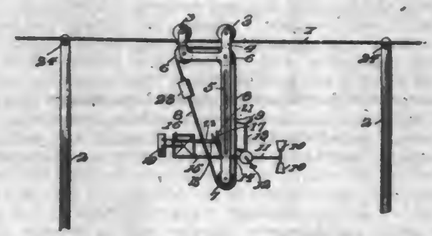
[Claim 6 not printed in the Gazette.]

978,262. BOTTLE-STOPPER FASTENER. JOHN A. ALBERTONI and THEODORE ZUPPA, Akron, Ohio; said Zuppa assignor to said Albertoni. Filed Dec. 21, 1908. Serial No. 468,532.



In a bottle stopper fastener, the combination with a bottle neck having an annular shoulder undercut to form an annular groove and provided with oppositely disposed vertical grooves, of a stopper adapted to be arranged in the mouth of said bottle, a semi-circular shaped cap arranged on said stopper having an annular groove in its curved face, a substantially U-shaped spring locking ball arranged in said groove and the grooves of the shoulder, said ball having its ends bent outwardly in opposite directions and slightly upwardly adapted to fit within the undercut portions of the shoulder of the bottle.

978,263. AMUSEMENT APPARATUS OR AVIATOR-INSTRUCTOR. HAROLD B. ANDERSON and BYRON B. BROCKWAY, Cleveland, Ohio, assignors to Cleveland Aeroplane Company, Cleveland, Ohio. Original application filed Jan. 16, 1909, Serial No. 472,711. Divided and this application filed Mar. 30, 1910. Serial No. 552,472.



1. An apparatus of the character described, comprising a track, and an aeroplane having an attached traveling support upon said track, and arranged in respect to the aeroplane to support it in its operative position as it travels on the support.

2. An apparatus of the character described, comprising a track, and an aeroplane having an attached support arranged in respect to the aeroplane to position the center of gravity below said track and thereby support the aeroplane in operative position as it travels on the track.

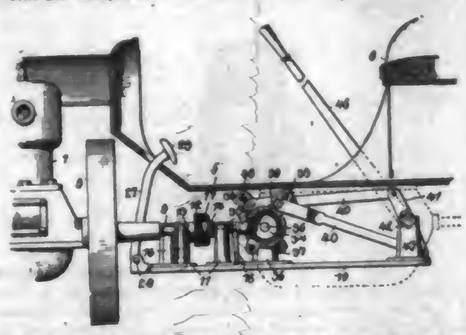
3. An apparatus of the character described, comprising a track, an aeroplane device, and an auxiliary support formed as a part of the aeroplane device, the auxiliary support and the aeroplane device attached at all times to the main support and to each other.

4. An apparatus of the character described, comprising a track, a frame having supporting wheels resting upon the track and an aeroplane device supported by the frame and movable vertically independent of the frame and an operator's seat attached to the aeroplane device.

5. An apparatus of the character described, comprising a track, a frame having wheels supported upon the track, a vertically movable member supported on the frame, an aeroplane device and operator's seat carried by the vertically movable member, and means for controlling the aeroplanes for the purpose described.

[Claims 6 to 10 not printed in the Gazette.]

978,264. ENGINE-STARTING DEVICE. PETER P. AU BUCHON, French Village, Mo. Filed Mar. 9, 1910. Serial No. 548,272.



1. The combination with a motor vehicle engine, of engine starting mechanism comprising a shaft transversely positioned with respect to the engine shaft, ratchet wheels rigidly secured on said shaft, a second rotatably mounted shaft, a bar fixed thereon extending upon opposite sides of said shaft, a reciprocating arm pivotally connected to each end of said bar, gravity pawls carried by said arms each movable over the teeth of one of the ratchet wheels, said pawls being alternately locked with their respective ratchet wheels upon the reciprocation of said arms to rotate the first named shaft continuously in one direction, and gearing connecting said transverse shaft and the engine shaft whereby the engine shaft may be rotated.

2. The combination with a motor vehicle engine, of starting means comprising a shaft transversely positioned with respect to the engine shaft, ratchet wheels secured thereon, yoke members loosely mounted on said shaft, said ratchet wheels being disposed between the arms of the respective yoke members, a gravity pawl arranged between the arms of each of said members adapted for alternate locking engagement with the respective ratchet wheel, a second shaft, a bar secured to said shaft extending upon opposite sides thereof, reciprocating arms pivoted to the ends of said bar and to said yoke members, a lever secured to the last named shaft to oscillate the same and reciprocate said arms whereby the yoke members are alternately locked to their respective ratchet wheels, to rotate the first named shaft continuously in one direction, a gear on the end of the first named shaft, a pinion secured on the engine shaft, and manually operable gearing between the transverse shaft and the engine shaft adapted to connect the pinion and gear whereby the engine shaft may be rotated.

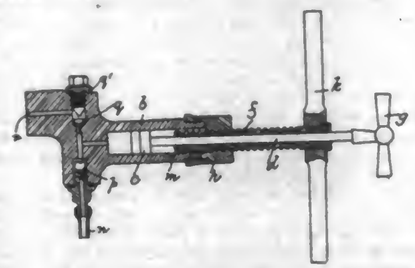
3. The combination with a motor vehicle engine, of engine starting mechanism arranged beneath the body of the vehicle, said mechanism comprising a shaft transversely positioned with relation to the engine shaft, ratchet wheels secured thereon, yoke members loosely mounted upon the shaft, said ratchet wheels being positioned between the arms of the yoke members, a gravity pawl carried by each of said members adapted to engage with the teeth of the ratchet wheels to lock said members on the shaft, reciprocating arms pivotally connected to said members, a second rotatably mounted shaft, a bar fixed thereon, said arms being connected to the opposite ends of the bar, an operating lever secured on one end of said shaft, the rotation of said shaft being adapted to reciprocate the arms in opposite directions and alternately lock the yoke members with the ratchet wheels, whereby said transverse shaft is constantly rotated in one direction, a pinion on the engine shaft, a gear secured on the transverse shaft, and manually operable gearing between said pinion and gear adapted to connect and disconnect the same to rotate said engine shaft.

4. The combination with a motor vehicle engine of starting mechanism arranged beneath the vehicle body and adapted to be operated from the operator's seat, said mechanism comprising a shaft transversely positioned with respect to the engine shaft, means for rotating said shaft constantly in one direction, a beveled gear secured on the end of said shaft, a pinion secured on the engine shaft, a shaft rotatably journaled in bearings and disposed parallel to the engine shaft, a beveled pinion on said shaft engaging with the gear on the transverse shaft, a sliding pinion on the parallel shaft normally out of engagement with the pinion on the engine shaft, means for sliding said pinion into engagement with the pinion on the engine shaft, and means for automatically returningg the sliding pinion to its inoperative position.

5. The combination with a motor vehicle engine, of starting mechanism for said engine, said mechanism comprising a rotatable shaft transversely positioned with respect to the engine shaft, manually operated means for rotating said shaft, a pinion secured on the engine shaft, a gear secured on the transverse shaft, a shaft rotatably mounted in parallel relation with the engine shaft, a gear secured thereon meshing with the gear on the transverse shaft, a pinion mounted on the parallel shaft, said pinion having a collar formed thereon, a key carried by said pinion and collar, said shaft having a longitudinal slot to movably receive the key, manually operated means for sliding the pinion on the shaft into engagement with the pinion on said engine shaft, and means for automatically returning the sliding pinion to its inoperative position.

[Claim 6 not printed in the Gazette.]

978,265. HAND-PUMP. SAMUEL BARNETT, Derby, England, assignor of one-half to James Tonge, Bolton, Lancaster, England. Filed Dec. 18, 1909. Serial No. 533,929.



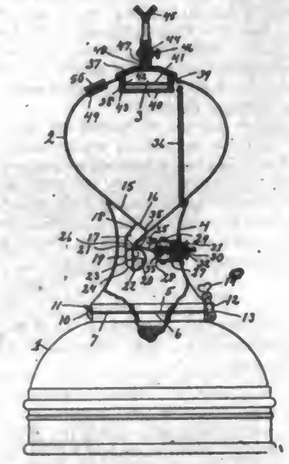
1. In a hand pump, a cylinder, a piston sleeve extending into said cylinder, a piston rod extending through the sleeve and having a piston at its inner end, said rod being freely and manually movable for preliminary operation, and means to cause the sleeve subsequently to actuate the piston.

2. In a hand pump, a cylinder, a piston operating within such cylinder, a piston-rod secured to said piston, a screwed sleeve through which the piston-rod takes, a nut for meshing with said screwed sleeve, and a handle for operating same, substantially as specified.

3. In a hand pump, a cylinder, a piston operating within said cylinder, a rod secured to said piston, having a handle or means whereby its motion may be transmitted to said piston, a screwed sleeve through which said rod takes, a nut meshing with said screwed sleeve a handle for operating said screwed sleeve so that it may be brought to press upon the piston within said cylinder, and valves arranged to operate in conjunction with said cylinder, substantially as herein specified.

4. In a hand pump, a cylinder, a piston operating within said cylinder, a rod secured to said piston, having a handle or means whereby its motion may be transmitted to said piston, a screwed sleeve through which said rod takes, a nut meshing with said screwed sleeve a handle for operating said screwed sleeve so that it may be brought to press upon the piston within said cylinder, and ball bearings to intervene between the end of the screwed sleeve and the piston, in combination.

978,266. ACETYLENE-GENERATOR. CHARLES W. BECK, New York, N. Y., assignor, by mesne assignments, to Electrolite Gas Lamp Company, New York, N. Y. Filed Jan. 25, 1901. Serial No. 44,658.



1. In an acetylene generator, the combination with a lower generating chamber, an elevated carbid hopper and a discharge passage affording communication between the hopper and generating chamber, of a valve mechanism controlling said discharge passage and comprising two cut-off members located at intervals apart and adapted to alternately close the discharge opening, and means for actuating said valve mechanism comprising a tubular housing seated in the side wall of the generator chamber between the hopper and the liquid holder and at a point laterally opposite the valve mechanism, a flexible diaphragm closing the inner end of said housing, a screw cap closing the outer end of said housing, said diaphragm being within the generating chamber and subject to the pressure therein, a guide rod having one end operatively connected with the central portion of said diaphragm and extending through the housing and out through the screw cap, a coiled expansion spring surrounding said guide rod and interposed between the diaphragm and screw cap and a link connecting said diaphragm with the valve mechanism, substantially as described, and the valve will be positively closed as the pressure increases, whereby predetermined quantities of carbid will be fed and the feed chute will be closed when the pressure exceeds a certain point and when it falls below a certain point.

2. In an acetylene generator, the combination of a lower generating chamber, an upper carbid hopper, a contracted intermediate waist portion constituting a gas chamber and a discharge chute connected with the lower end of said hopper and extending within the waist portion, of means for controlling the flow of carbid through said chute comprising a C-shaped valve member pivotally mounted adjacent to said chute, having its opposite ends arranged to reciprocate across the passage through said chute in alternation, and means for actuating said valve member comprising a tubular housing seated in the side wall of the waist portion of the generating chamber at a point laterally opposite said valve member, a flexible diaphragm extending across and closing the inner end of said housing, and being within the generating chamber and subjected to the pressure therein, a spring acting upon said diaphragm to force it inwardly and a link operatively connecting the diaphragm with the valve member, substantially as described.

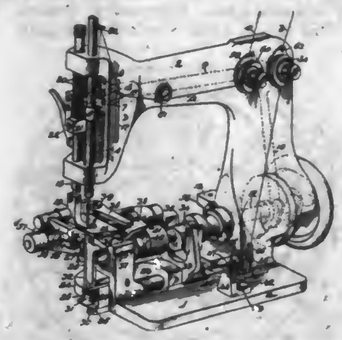
3. In a carbid feed acetylene generator, the combination of a carbid hopper, a liquid holder below the hopper, a gas chamber being formed between the carbid hopper and the liquid holder, a discharge chute depending from the hopper within the gas chamber, a pivoted valve having an upper and a lower part adapted to alternately close the chute and cut off the flow of carbid, a flexible diaphragm within the gas chamber, and means positively connecting the diaphragm to the valve whereby the gas pressure will actuate the diaphragm to positively close the valve, a spring for normally forcing said diaphragm inward, and a device connected to the diaphragm and extending to the outer side of the casing, whereby the diaphragm may be positively vibrated in either direction, and the valve manually operated to feed any desired amount of carbid.

4. In a carbid feed mechanism the combination of a carbid hopper provided with a discharge chute, a valve in said chute and consisting of two members rigidly connected together and separated a suitable distance, a pivot for said valve midway between the valve members, said valve members being curved on an arc struck from said pivot and operating to alternately close the chute, a diaphragm within the generator, a spring for forcing said diaphragm inward and a link connecting said diaphragm with the valve, whereby said valve will be operated in one direction by gas pressure and in the other direction by spring pressure to feed predetermined quantities of carbid and to maintain the feed chute closed when the gas pressure exceeds a certain point and when it falls below a certain point.

5. In a carbid mechanism the combination, of a carbid hopper with a discharge chute, a valve in said chute and consisting of two members rigidly connected together and separated a suitable distance, a pivot for said valve midway between the valve members, said members being curved on an arc struck from said pivot and operating to alternately close the chute, a diaphragm within the generator, a spring for forcing said diaphragm inward and a link connecting said diaphragm with the valve whereby said valve will be operated in one direction by gas pressure and in the other direction by spring pressure to feed predetermined quantities of carbid and to maintain the feed chute closed when the gas pressure exceeds a certain point and when it falls below a certain point, and means for varying the tension of the spring operating on the diaphragm against gas pressure.

[Claims 6 and 7 not printed in the Gazette.]

978,267. THREAD-CONTROLLER FOR SEWING-MACHINES. JOSEPH BERGER, Bayonne, N. J., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Feb. 4, 1910. Serial No. 541,976.



1. In a sewing machine, the combination with a reciprocating needle, a coöperating lower-thread looper, and an actuating rock-shaft therefor, of a stationary thread-detaining shoulder, a vibratory thread-guiding arm fixed upon said rock-shaft and having its thread-engaging portion movable in a path adjacent and transverse to said shoulder, and a cast-off member also carried by said arm and adapted to dislodge from said shoulder the thread deposited thereon by said thread-guiding arm.

2. In a sewing machine, the combination with a reciprocating needle, a coöperating lower-thread looper, and an actuating rock-shaft therefor, of a stationary thread-detaining shoulder forked transversely to its thread-engaging portion, a vibratory thread-guiding arm fixed upon

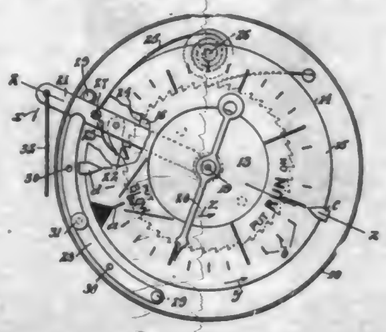
said rock-shaft and forked to embrace said thread-detaining shoulder and provided with thread-guiding eyes movable from one to the other side of said shoulder, and a cast-off member also carried by said arm and adapted to enter the fork of said thread-detaining shoulder to dislodge from the same the thread deposited thereon by said thread-guiding arm.

3. In a sewing machine, the combination with a reciprocating needle, and a coöperating lower-thread looper, of a stationary thread-detaining shoulder, a reciprocatory thread-guide forked to embrace said shoulder and formed with thread-guiding eyes, means for actuating said thread-guide to move its thread-eyes from one to the other side of said shoulder, a cast-off finger movable with the thread-guide and adapted to positively disengage from said shoulder thread deposited thereon by the thread-guide, and means for securing said finger upon the thread-guide adjustably transversely of the direction of movement of said thread-guide.

4. In a sewing machine, the combination with a reciprocating needle, a coöperating lower-thread looper, and a supporting rock-shaft upon which said looper is fixed to perform its operative movements in a direction transverse to said shaft, of a stationary thread-detaining shoulder, a vibratory arm fixed upon the looper-supporting rock-shaft and forked to embrace said thread-detaining shoulder and provided in the outer end with alined thread-eyes, and a cast-off finger carried by and supported within the fork of said vibratory arm and having its operative portion arranged out of alinement with said thread-eyes.

5. In a sewing machine, the combination with a reciprocating needle, a coöperating lower-thread looper, and a supporting rock-shaft upon which said looper is fixed to perform its operative movements in a direction transverse to said shaft, of a stationary thread-detaining shoulder, a vibratory arm secured for circular adjustment upon the looper-supporting rock-shaft and forked to embrace said thread-detaining shoulder and provided in the outer end with alined thread-eyes, and a cast-off finger secured within the fork of said vibratory arm and adapted for adjustment toward and from said rock-shaft and having its outer operative portion at an inclination to the circular path of movement of the eyed outer portion of said vibratory arm.

978,268. APPLIANCE FOR CONTROLLING THE MAKING OF WATER-GAS. HERBERT N. CHENEY, Boston, Mass. Filed Oct. 4, 1909. Serial No. 520,970.



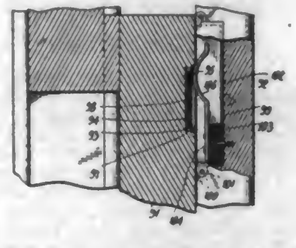
1. An appliance for use in controlling the relative time of the blow and run in making water gas, comprising two co-acting time-indicating elements, one of which has an actuating motor, means for directly adjusting one element relatively to the other independently of said actuating motor, and a stop for positively determining the amount of adjustment to a predetermined degree.

2. An appliance for use in controlling the relative time of the blow and run in making water gas, comprising a movable dial having a fixed indicator for the blow-starting period, a series of indications for the run-starting period, a pointer adjustable along said series, a motor actuated pointer, means for adjusting the dial, and a stop for positively limiting the degree to which the dial can be adjusted.

3. An appliance for use in controlling the relative time of the blow and run in making water gas, comprising a movable dial having a fixed indicator for the blow-starting period, a series of indications for the run-starting period, a pointer adjustable along said series, a motor-actuated pointer, the movable dial having ratchet teeth, and a lever and pawl for shifting the dial.

4. An appliance for use in controlling the relative time of the blow and run in making water gas, comprising a movable dial having a fixed indicator for the blow-starting period, a series of indications for the run-starting period, a pointer adjustable along said series, a motor-actuated pointer, the movable dial having ratchet teeth, a lever and pawl for shifting the dial, and stops for said lever one of said stops being adjustable.

978,269. AUTOMATIC BURGLAR-ALARM. HENRY B. COLLIER, Prairie Grove, Ark. Filed Sept. 14, 1908. Serial No. 452,906.



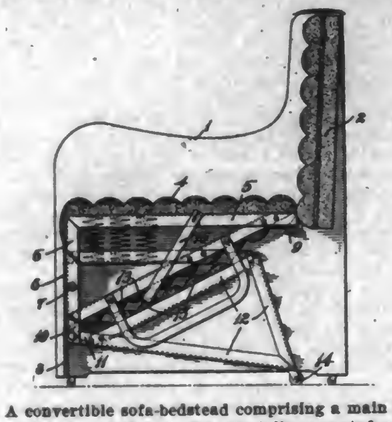
1. A circuit closer for alarm circuits comprising a base of insulating material formed along parallel edges with notches and having grooves in the front face intersecting said notches, a pair of contacts fixed upon the front face of said base adjacent one of said grooves, a conductor wire connected electrically at its ends with the two contacts and passed through the notches and back and forth across the back face of the base, the loops of said wire lying in said grooves, and a pair of contacts normally in engagement with the first mentioned contacts.

2. A circuit closer for alarm circuits comprising a base of insulating material, a pair of contacts fixed upon one face of the base, said base being provided at its ends with teeth, and a single strand of conductor wire connected electrically at its ends with the contacts upon the base and passed back and forth between its ends along the other face of the base and around the teeth, and a pair of contacts normally in engagement with the first mentioned contacts.

3. A circuit closer for alarm circuits comprising a base of insulating material formed along parallel edges with notches, a pair of contacts fixed upon one face of the base, a conductor wire connected electrically at its ends with the two contacts and passed through the notches and back and forth across the other face of the base, and a pair of contacts normally in engagement with the first mentioned contacts.

4. In a circuit closer for alarm circuits, the combination with two elements one movable with respect to the other; of a base of insulating material formed along parallel edges with notches, one of said elements being provided with a recess for the reception of said base and the front face of the base being substantially flush with the face of said element, a pair of contacts fixed upon the front face of said base, a conductor wire connected electrically at its ends with the two contacts and passed through the notches and back and forth between the bottom of said recess and the back of the base, and a second pair of contacts carried by the other element and normally in engagement with the first mentioned contacts.

978,270. SOFA-BEDSTEAD. RUDOLPH COOPERSMITH, St. Louis, Mo. Filed June 24, 1910. Serial No. 568,609.



1. A convertible sofa-bedstead comprising a main frame, a reversible triangular frame pivotally mounted on said main frame, and a secondary triangular frame pivotally attached to said reversible frame, said reversible frame being arranged and adapted to provide a support for the sofa seat in one of its positions and a support for the bed mattress in its other position, and said secondary frame being arranged and adapted to accommodate itself to the movement of said reversible frame and form a support for the bed mattress in the same plane as the reversible frame.

2. A sofa-bedstead comprising a reversible frame which is triangular in transverse section, said frame being pivoted at its opposite ends, a seat mounted on one side of said reversible frame and a mattress mounted on the side of said frame opposite to that on which the seat is mounted, and a secondary frame pivotally connected to said first mentioned frame, said secondary frame being also triangular in transverse section, said secondary frame being so proportioned with respect to said first mentioned frame, that when said first mentioned frame is reversed and its side on which the mattress is mounted is brought into a horizontal plane, one side of the secondary frame also assumes a horizontal position in the same plane, and when said first mentioned frame is in the position with the side on which the seat is mounted in a horizontal plane, said secondary frame is folded under said first mentioned frame, and a mattress on the side of said secondary frame which coöperates with the mattress side of said first mentioned frame.

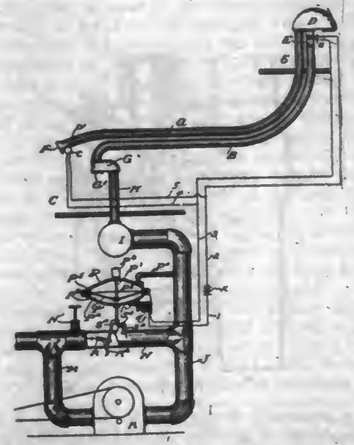
3. A sofa-bedstead comprising a reversible frame which is triangular in transverse section, said frame being pivotally mounted at its opposite ends near one of its sides, one side of said frame being normally supported in substantially horizontal position and having a seat thereon, the other side of said frame being normally in inclined position and having a mattress thereon, a secondary frame pivotally connected to said first mentioned frame, said secondary frame being also triangular in transverse section, one side of said secondary frame being normally in substantially parallel relation to the inclined side of said first mentioned frame and having a mattress thereon, said two mentioned frames being so proportioned with respect to each other, that when the first mentioned frame is swung over on its pivots and its normally inclined mattress side is moved into horizontal position, the secondary frame is also moved so that its mattress side is in the same plane horizontally as the mattress side of said first mentioned frame.

4. A sofa-bedstead comprising a reversible frame which is triangular in transverse section, said frame being pivotally mounted at its opposite ends near one of its sides, one side of said frame being normally supported in substantially horizontal position and having a seat thereon, the other side of said frame being normally in inclined position and having a mattress thereon, a secondary frame pivotally connected to said first mentioned frame, said secondary frame being also triangular in transverse section, one side of said secondary frame being normally in substantially parallel relation to the inclined side of said first mentioned frame and having a mattress thereon, said two mentioned frames being so proportioned with respect to each other, that when the first mentioned frame is swung over on its pivot and its normally inclined mattress side is moved into horizontal position, the secondary frame is also moved so that its mattress side is in the same plane horizontally as the mattress side of said first mentioned frame, and means for supporting said first mentioned frame in its position with the mattress side uppermost.

5. A sofa-bedstead comprising a reversible frame which is right angled triangular in transverse section, said frame being pivoted at its opposite ends near one of its right angle sides and the other right angled side being uppermost in a horizontal plane and having a seat thereon, a mattress mounted on the inclined side of said frame, and a secondary frame pivotally connected to the lowermost corner of said first mentioned frame, said secondary frame being also triangular in transverse section and so proportioned with respect to said first mentioned frame that it lies normally under the same, one side of said secondary frame having a mattress thereon and being arranged and adapted to assume a horizontal position in the same plane with the normally inclined side of said first mentioned frame when it is moved into horizontal position.

[Claims 6 to 11 not printed in the Gazette.]

978,271. PNEUMATIC-DESPATCH-TUBE APPARATUS. JAMES T. COWLEY, Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed May 11, 1908. Serial No. 432,154.



1. In a pneumatic despatch tube apparatus, a tube fo the transmission of carriers, a constantly operating blowe or pump, a vacuum connection between said tube an said blower or pump, a conduit normally communicatin with the atmosphere and connecting the outlet of sai blower or pump with said vacuum connection, a normall open valve controlling said conduit, and means adapte to be operated to close said valve to create a flow of ai through said transmission tube and said blower or pum for driving carriers.

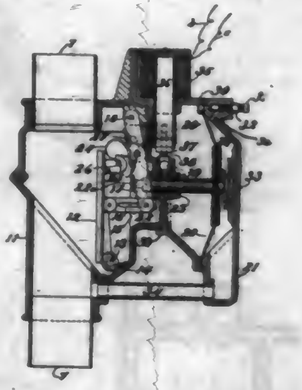
2. In a pneumatic despatch tube apparatus, a tube fo the transmission of carriers, a constantly operating blowe or pump, a vacuum connection between said tube an said blower or pump, a conduit normally communicatin with the atmosphere and connecting the outlet of sai blower or pump with said vacuum connection, a normall open valve controlling said conduit, means adapted to b operated to close said valve to create a flow of air throug

said transmission tube and said blower or pump for driving carriers, and means for retaining said valve closed to maintain the flow of air through said transmission tube only during the interval necessary for the transmission and delivery of said carriers.

3. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, a constantly operating blower or pump, a vacuum connection between said tube and said blower or pump provided with an air inlet, a normally open valve controlling said inlet, means for regulating the volume of air normally entering said inlet to maintain a normal pre-determined vacuum in said connection, means under the control of said vacuum adapted to be operated to close said valve to create a flow of air through said transmission tube for driving carriers, and means for retaining said valve closed during the interval of transmission of said carriers.

4. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, a constantly operating blower or pump, a vacuum connection between said tube and said blower or pump provided with an air inlet, a normally open valve controlling said inlet, means for regulating the volume of air normally entering said inlet to maintain a normal predetermined vacuum in said connection, means under the control of said vacuum adapted to be operated to close said valve to create a flow of air through said transmission tube for driving carriers, means for retaining said valve closed during the interval of transmission of said carriers, and means for releasing and opening said valve when said carriers have delivered.

978,272. PNEUMATIC-DESPATCH-TUBE APPARATUS. JAMES T. COWLEY, Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed May 11, 1908. Serial No. 432,155.



1. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, an exhauster connected with said tube, a normally closed valve adapted to control the flow of air through said tube for driving carriers, means for opening said valve to create a flow of air through said tube for the despatch and transmission of carriers, means for locking said valve fully open during the transmission of said carriers, timing means adapted to operate to release and permit the closure of said valve to cut off the flow of air when said carriers have delivered from said tube, and means under the control of said timing means for unlocking and closing said valve.

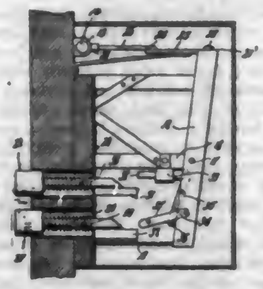
2. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, an air valve controlling the passage of air through said tube and normally closed, an exhaust tube, mechanism for operating said valve, an electric circuit for controlling said mechanism, mechanism operated by the insertion of a carrier into said tube to close said circuit for opening said air-valve to create a flow of air through said tube for driving carriers, means for locking said valve in full open position during the transmission of carriers, and means under the control of said timing means for unlocking and closing said valve.

3. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, an air valve controlling the passage of air through said tube and normally closed, an exhaust tube, mechanism for normally holding said air-valve closed, an electric circuit for controlling said mechanism, mechanism operated by the insertion of a carrier into said tube to close said circuit for opening said air-valve to create a flow of air through said tube for driving said carrier, means for locking said valve fully open during the transmission of said carrier, timing means adapted to operate to release and permit the closure of said valve to cut off the flow of air when said carrier has delivered, and means under the control of said timing means for unlocking and closing said valve.

4. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, an air-valve controlling the passage of air through said tube, an exhaust tube in communication with said transit tube and normally closed by said air-valve, mechanism normally holding said air-valve closed, a valve adapted to be operated to admit atmospheric pressure to said mechanism to open said air-valve to create a flow of air through said tube for driving carriers and adapted to cut off atmospheric pressure from said mechanism to close said air-valve, a solenoid magnet connected to operate said valve to control the admission of atmospheric pressure to said mechanism, an electric circuit adapted to be operated to control said solenoid magnet, and means for retaining said valve in full open position during the transmission of carriers.

5. In a pneumatic despatch tube apparatus, a tube for the transmission of carriers, an exhaust tube in communication with said transit tube and normally closed by said air-valve, mechanism normally holding said air-valve closed, a solenoid magnet, an armature or core for said magnet, a valve connected with and held normally closed by the weight of said core, an electric circuit adapted to be closed to energize said magnet to open said valve for admitting atmospheric pressure to said mechanism to open said air-valve to create a flow of air through said tube for driving carriers, said circuit adapted when broken to deënergize said magnet for cutting off the admission of atmospheric pressure from said mechanism to close said air-valve, and means for retaining said air valve in full open position during the transmission of carriers.

978,273. LOCK. NELSON H. CRANE, McIndoe Falls, Vt. Filed June 21, 1909. Serial No. 503,462.



1. The combination with a door, of a spring pressed bolt normally locking said door, a swinging lever pivoted in proximity to the door and adapted to trip the bolt, an arm pivoted to the lever, a second arm pivoted to a suitable stationary support, and push buttons, one being operable upon the arm carried by the support to move it against the other arm for pushing the latter in the path of movement of the other button whereby upon actuating the latter it will simultaneously shift the lever and the arm pivoted thereto for releasing the bolt.

2. The combination with a normally bolt locked element, of a plurality of push buttons, a swinging member connected with the element and adapted to trip its bolt, an arm pivoted to said member and adapted to be engaged by one of the buttons, the said arm being normally out of the path of movement of the button, a fixed support having means carried thereby operable by the other button for moving the said arm into a position to be operated upon by the first mentioned button whereby upon actuating the latter it will move the arm for operating the member to simultaneously release the bolt and open the said element carrying the same.

3. The combination with a door having a bolt automatically locking the same, of a swinging bar connected with said bolt for moving the same to released position, a plurality of combination button controlled devices, means normally out of the path of movement of one of the devices and adapted to be moved into the path of movement of the said device whereby the bar may be operated by the said device to release the bolt and means operated upon by the other device to move the said first named means into the path of movement of the device for operating the same.

4. The combination with a door and a bolt automatically locking the same, of a swinging bar connected with said bolt for moving the same to released position, a plurality of combination button controlled devices, means normally out of the path of movement of one of the devices and adapted to be moved into the path of movement of the said device whereby the bar may be operated to release the bolt, means operated upon by the other device to move the said first named means into the path of movement of the device for operating the same, and a door supporting the bolt and having connection with the said bar and operated upon thereby for opening it on releasing the bolt.

978,274. PUNCTURE-PROOF GUARD FOR PNEUMATIC TIRES. GEORGE S. CRAWFORD, McKeesport, Pa., assignor of one-half to Roy R. Reed, McKeesport, Pa. Filed Mar. 17, 1910. Serial No. 549,984.



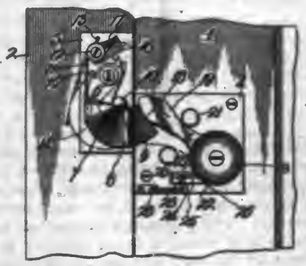
1. As a new article of manufacture, a puncture-proof guard for pneumatic tires, comprising a strip of suitable material having arranged thereon alternate rows of inverted, flanged guard-plates and T-shape guard-plates the horizontal portion of the T-shape plates overlapping the flanged portion of the inverted plates.

2. As a new article of manufacture, a puncture-proof guard for pneumatic tires, comprising a strip of suitable material having arranged thereon alternate rows of inverted, flanged guard-plates and T-shape guard-plates, said guard-plates being fastened to said strips by suitable securing means, the horizontal portion of the T-shape plates overlapping the flanged portion of the inverted plates.

3. In a pneumatic-tire, the combination with the inner and outer tubes, of an interposed puncture-proof guard comprising a strip of suitable material having secured thereon alternate rows of inverted, flanged guard-plates and T-shape guard-plates, the horizontal portion of the T-shape plates overlapping the flanged portion of the inverted plates.

978,275. DOOR LATCH AND LOCK MECHANISM. EVANDER A. CREWSON, Versailles, and CHARLES C. CREWSON, Kansas City, Mo. Filed Jan. 18, 1910. Serial No. 538,635.

1. The combination with a door jamb and a hinged door, of a plate secured to the door jamb remote from the hinge edge of the door and provided with a stop, a latch of substantially hook-shape and flat at one side and pivotally suspended on said plate with its flat side against the latte and so hung that it presses against said stop, with its fre end or terminal projecting beyond the inner edges of sai plate and jamb and overlapping the free edge of the doo when closed, the overlapping end or terminal of the hoo being formed at its side remote from the said plate with cam face which slopes toward the doorway so that in th closing movement of the door the free edge thereof sha strike said cam face and repress the latch until its fre end is cleared by the door; the latch also having a shou der, and a movable detent carried by said plate and adap ed for engagement with said shoulder when the latch repressed, to hold the latch in withdrawn or inoperati position.



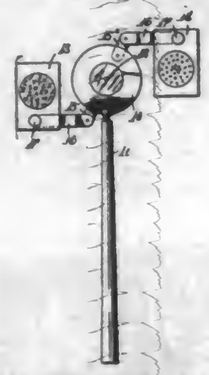
2. A pivotally suspended door latch of hook-shape, ha ing one side substantially flat and the other bowed swelled adjacent to the hook terminal to provide a ca face; the pivoted end of the latch having a recess in edge to provide a pair of oppositely-disposed shoulde and a pivoted detent for engagement with either of sa shoulders to lock the latch against swinging movement one direction.

3. The combination with a door jamb and a hing door, of a plate secured to the door jamb remote from t hinged edge of the door and provided with a stop, a la of substantially hook-shape and flat at one side and piv ally suspended on said plate with its flat side against latter and so hung that it presses against said stop, w its free end or terminal projecting beyond the inner ed of said plate and jamb and overlapping the free edge the door when closed, the overlapping end or terminal the hook being formed at its side remote from the s plate with a cam face which slopes toward the doorw so that in closing, the free edge of the door shall str said cam face and repress the latch until its free end cleared by the door; said latch having a shoulder, an movable detent carried by the plate and adapted for gagement with said shoulder to hold the latch in advan or operative position to lock the door closed.

4. The combination of a door and a door jamb, a l carried by the door and capable of turning and provi with an arm, and a hook-shaped latch pivoted to the d jamb and adapted when the door is closed to overlap same at its inner side and provided at its side more rem from the jamb with a swelled or bowed portion formin cam-face and having the edge of its free end extend downwardly and inwardly with respect to the door op ing and adapted to be engaged by the arm of the l when the latter is turned, and to engage said arm after door is closed to return the said arm to its original p tion, and means to lock the knob against rotation.

5. The combination of a door and a door jamb, a l carried by the door and capable of turning and provi with an arm, and a hook-shaped latch pivoted to the d jamb and adapted when the door is closed to overlap same at its inner side and provided at its side most rem from the jamb with a swelled or bowed portion formin cam-face and having the edge of its free end extend downwardly and inwardly with respect to the door op ing and adapted to be engaged by the arm of the l when the latter is turned, and to engage said arm a the door is closed to return the said arm to its orig position, and means engaging the latch, to prevent tur movement of the same and of the door knob.

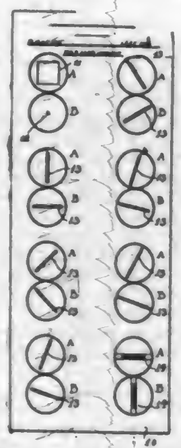
978,276. SKIASCOPE. ANDREW JAY CROSS, New York, N. Y. Filed Apr. 20, 1909. Serial No. 493,038.



1. A skiascope having targets supported at the sides thereof, one of said targets being in front of the plane of the skiascope body and one behind said plane and on the same plane as the nodal point of the examiner's eye.

2. A skiascope having brackets supported at the sides thereof, one of said brackets being adapted to support a target in front of the vertical plane of the skiascope, and the other of said brackets being adapted to support a target behind the vertical plane of said skiascope and on the same plane as the nodal point of the examiner's eye.

978,277. EYE-TESTING DEVICE. ANDREW JAY CROSS, New York, N. Y. Filed Apr. 9, 1910. Serial No. 554,881.



1. A device of the kind described, comprising a card or plate having successive groups of sight apertures therein, the apertures being such as are used for eye testing.

2. As an improved article of manufacture, a card or plate having a series of sight apertures therein, the apertures being such as are used for eye testing.

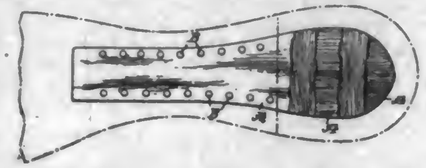
3. As an improved article of manufacture, a card or plate having rows of sight apertures therein, the apertures being spaced apart and similar to the apertures of eye testing disks.

4. A device of the kind described comprising a card having sight openings or slits therein, the slits being grouped and those of each group arranged at right angles to each other.

5. A device of the kind described comprising a card or plate having a series of sight apertures arranged in groups thereon, each group comprising a pair, and a portion of the apertures being in the form of slits with the slits of each pair at right angles to each other.

[Claims 6 to 11 not printed in the Gazette.]

978,278. METHOD FOR FORMING SHANKS FOR BOOTS AND SHOES. JOHN EDWIN DAVIDSON, Toronto, Ontario, Canada, assignor of one-half to Frank E. Wachtler, Boston, Mass. Filed May 19, 1908. Serial No. 433,652.



1. The herein described method of forming laminated shanks for boots, shoes and like footwear, consisting of superimposing layers of wood coated with a binding substance and having the grain of successive layers running at an angle one to the other, the superimposed layers forming a laminated sheet, then subjecting the laminated sheet to pressure, then cutting the sheet into strips of a width corresponding approximately to the length of a shank, and finally subjecting the strip simultaneously to pressure and to heat to compress the layers and bend the same into arch-shape in the direction of the width of the strip.

2. The herein described method of forming laminated shanks for boots, shoes and like footwear, consisting of superimposing layers of wood coated with a binding substance and having the grain of successive layers running at an angle one to the other, the superimposed layers forming a laminated sheet, then subjecting the laminated sheet to pressure, then cutting the sheet into strips of a width corresponding approximately to the length of a shank and finally subjecting the strip simultaneously to pressure and to heat to compress the layers and bend the same into arch-shape in the direction of the width of the strip, and finally cutting the strip transversely to form the finished shank.

3. The herein described method for forming shanks for boots and shoes, consisting in forming a laminated sheet of wood, cutting the sheet into strips of a width corresponding approximately to the length of a shank, subjecting the strip simultaneously to pressure and heat to compress the strip and bend the same into arch shape in direction of the width of the strip, and finally cutting the strip transversely to form the finished shank.

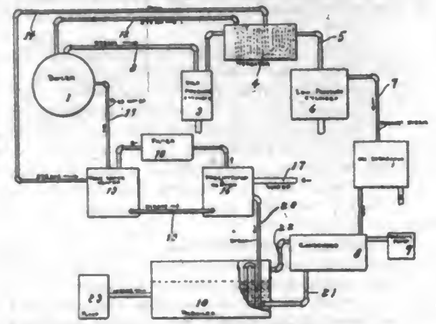
4. The herein described method for forming shanks for boots and shoes, consisting in cutting a strip of a width corresponding approximately to the length of a shank from a laminated sheet of wood, subjecting the strip simultaneously to pressure and heat to compress the strip, reduce the material at the sides to feather edge and bend the same into arch shape in direction of the width of the strip, and finally cutting the strip transversely to form the finished shank.

978,279. DISTILLATION SYSTEM FOR ICE PLANTS. ARTHUR FAGET, San Francisco, Cal., assignor to Pacific Engineering Company, San Francisco, Cal., a Copartnership. Filed Nov. 23, 1909. Serial No. 529,500.

1. In a water distillation system, a steam boiler, a steam power plant, steam connections from the boiler whereby the steam used in the power plant may be reheated during its passage therethrough, a feed-water heater and steam connections from the reheater to the feed water heater, whereby the live steam passing through the reheater will heat the feed water nearly to that of the boiler, as set forth.

2. In a water distillation system, a steam boiler, a steam power plant, steam connections from the boiler whereby the steam may be reheated in its passage through the power plant, a condenser into which the power plant discharges, a feed-water heater, a feed-water filter, a secondary feed-water heater wherein the feed-water is raised nearly to the temperature of the boiler, means to pass feed water through each heater, and pipes whereby the steam used for reheating the power steam is passed through each feed water heater, as set forth.

3. In a water distillation system, a steam boiler, a steam power plant, steam connections from the boiler whereby the steam may be reheated in its transmission through the power plant, a condenser into which the power plant discharges, a feed-water heater, a filter, a secondary reheater in which the feed-water is heated to substantially the temperature of the boiler, piping whereby the steam used for reheating the power steam will be passed through the feed water heaters and a vacuum boiler into which the steam from the reheater and feed-water heaters is discharged, as set forth.

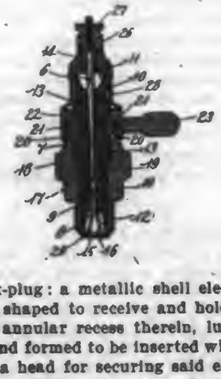


4. In a water distillation system, a steam boiler, a steam power plant connected with the boiler, steam connections for reheating the steam during its passage through the power plant, a water heater to which the reheater steam connections lead, and a vacuum reboiler into which the steam is discharged from the several heaters, substantially as described.

5. In a water distillation system, a boiler, a power plant, steam connections whereby the steam used in the power plant is reheated during its passage therethrough, a feed-water heater, a connection from the re-heater to the feed-water heater, a filter through which the feed-water is passed after it has been partially heated, and a vacuum reboiler into which the steam from the re-heater and feed-water heaters is discharged, substantially as set forth.

[Claims 6 to 9 not printed in the Gazette.]

978,280. REMOVABLE SPARK-PLUG. WRAY FALWELL, Boston, Mass., assignor, by direct and mesne assignments, to Wray Manufacturing Company, a Corporation of Massachusetts. Filed Dec. 6, 1909. Serial No. 531,484.



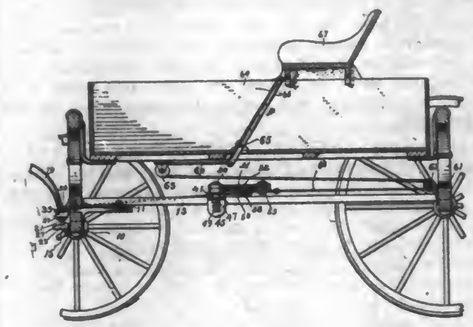
1. In a spark-plug: a metallic shell electrode, a hollow metallic holder shaped to receive and hold said electrode, and having an annular recess therein, lugs located upon said electrode and formed to be inserted within said recess, combined with a head for securing said electrode therein, and means for withdrawing said electrode from said holder without removing said head therefrom.

2. In a spark-plug: a metallic shell electrode, a hollow metallic holder adapted to receive and hold said electrode and having an annular recess therein, lugs located upon said electrode and formed to be inserted within said recess, combined with a head threaded to engage with the top of said holder and to be turned down upon the same, and to secure said electrode, said head having openings through which said shell electrode may be inserted or withdrawn when said head is loosened.

3. In a spark-plug: a metallic shell electrode, a hollow metallic holder adapted to receive and hold said electrode and having an annular recess therein, lugs located upon said electrode and formed to be inserted within said recess, combined with a head threaded to engage with the top of said holder and be turned down upon the same, and to secure said electrode, said head having openings through which said shell electrode may be inserted or withdrawn when said head is loosened, and a handle secured to said head for the purpose of turning the same.

4. In a spark-plug: a metallic shell electrode, a hollow metallic holder adapted to receive and hold said electrode and having an annular recess therein, lugs located upon said electrode and formed to be inserted within said recess, combined with a head threaded to engage with the top of said holder and be turned down upon the same, and to secure said electrode, said head having openings through which said shell electrode may be inserted or withdrawn when said head is loosened, and said head being provided with a stop situated at the side of one of the openings through which the lugs are withdrawn.

978,281. HORSE-RELEASER. FRANK FISHER, Reardon, Wash. Filed Nov. 19, 1909. Serial No. 528,902.



1. The combination with the running gear of a vehicle including the forward axle the thill clips and the reach members swingingly coupled to the axle, of thill shackle coupling bolts operating through the thill clips, a supporting device, means for detachably coupling said supporting device to the reach members, bars pivotally connected at one end to said supporting device, other bars pivotally united at their confronting ends and likewise pivotally connected respectively to the free ends of said first mentioned bars, connecting means between said first mentioned bars and said coupling bolts, and a pull device connected to said last mentioned bars at their coupled ends.

2. The combination with the running gear of a vehicle including the forward axle the thill clips and the reach members swingingly coupled to the axle, of thill shackle coupling bolts operating through the thill clips, a supporting device comprising a plate bearing upon said reach members and having down-turned ends engaging the outer faces of the same, clip members connected to said plate and bearing against the inner faces of the reach members, bars pivotally connected at one end to said supporting plate, other bars pivotally united at their confronting ends and pivotally connected respectively to the free ends of said first mentioned bars, connecting means between said first mentioned bars and the free ends of said coupling bolts, and a pull device connected to said other bars at their coupled ends.

978,282. PROCESS OF FERMENTATION FOR USE IN MANUFACTURE OF YEAST AND SPIRIT. DESIDER FORSTER and PHILIPP FINITZER, Budapest, Austria-Hungary. Filed June 9, 1909. Serial No. 500,996.

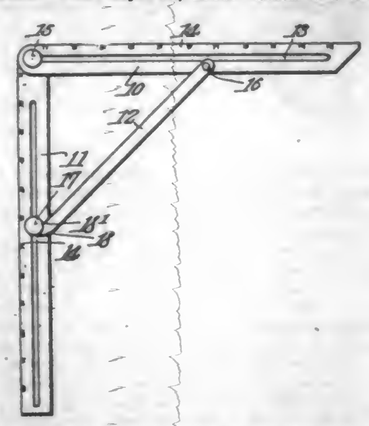
1. The improvement in the process of alcoholic fermentation wherein the fermentation due to the presence of lactic acid bacteria is employed which consists in interrupting the spontaneous acidification of the yeast mash due to the lactic acid bacteria by adding inorganic acid sufficient only in quantity to arrest the multiplication of lactic acid bacteria without destroying the vitality of the said bacteria then present in the mash, fermenting the mash with yeast and in adding said yeast mash to the main mash for fermentation.

2. The improvement in the process of alcoholic fermentation which consists in the preparation of a yeast mash by the fermentation due to lactic acid bacteria, said fermentation being interrupted when in a highly active stage and before the addition of the yeast, by adding inorganic acid in quantity insufficient to destroy the vitality of the lactic acid bacteria, fermenting the mash with yeast and in adding the prepared yeast mash to the main mash.

3. The improvement in the process of fermentation of saccharomyces and lactic acid bacteria which consists in interrupting the fermentation due to the presence of lactic acid bacteria when the acidity is such that approximately 20 cubic centimeters of the yeast mash filtrate require 0.8–1.3 cubic centimeters of normal caustic soda for neutralization, by the addition of an inorganic acid, and in subsequently fermenting the mash with yeast and adding said yeast mash to the main mash.

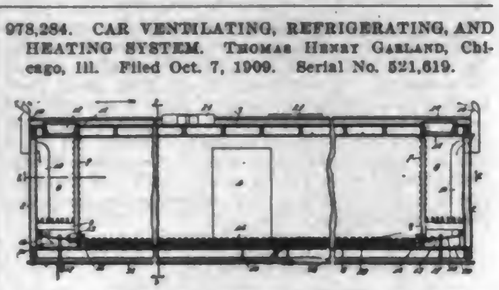
4. The improvement in the process of fermentation which consists in preparing a mash, acidifying said mash by lactic acid fermentation until a certain degree of lactic acidity has been reached, then interrupting the lactic acid fermentation without destroying the lactic acid bacteria by the addition of an inorganic acid and subsequently subjecting the mash containing the lactic acid bacteria to yeast fermentation, and adding the yeast mash to the main mash.

978,283. CONVERTIBLE TOOL. OLE FYLLING, Crookston, Minn. Filed Sept. 30, 1909. Serial No. 520,255.



In a device of the class described, a blade formed at one end with an opening and throughout the greater portion of its length with a slot, a blade formed also throughout the greater portion of its length with a slot, a set screw engaged through the slot of the last mentioned blade and the opening at the end of the first mentioned blade, an arm permanently pivotally connected at one end to the second mentioned blade at a point substantially midway between the ends thereof, and a set screw engaged through the other end of the said arm and through the said slot in the first mentioned blade, the last mentioned end of the arm being laterally off-set whereby when the blades are in alinement, the arm will lie wholly inwardly of the edges of the blades.

978,284. CAR VENTILATING, REFRIGERATING, AND HEATING SYSTEM. THOMAS HENRY GARLAND, Chicago, Ill. Filed Oct. 7, 1909. Serial No. 521,619.



1. In a temperature controlling system, the combination of a compartment whose temperature is to be controlled, circulating conductors arranged along the floor of the compartment, means for connecting said conductors to receive and to circulate either heat or cold producing medium, ventilating mechanism for deflecting air flow to the spaces immediately surrounding said conductors, and additional ventilating mechanism for causing upward flow of the air from said spaces and through the compartment.

2. In a temperature controlling system for controlling the temperature in a moving vehicle, the combination of circulating piping arranged along the floor of the vehicle, a heat producing source for the vehicle, a cold producing source for the vehicle, means for adapting said piping to be connected either with said heat or cold producing source, air circulating mechanism controlled by the movement of the vehicle for deflecting air into the vehicle and for causing the air to flow adjacent said piping to be affected by the temperature of said piping, and additional circulating means controlled by the movement of the vehicle to cause flow of the air from said piping and upwardly through the vehicle.

3. In a refrigerating car, the combination of piping extending back and forth along the car bottom, ice receptacles at the ends of the car, means for causing the water of the ice to circulate through said piping, and means controlled by the movement of the car for causing circulation and mixing of the air directly cooled by the ice within the ice compartments and the air cooled by contact with said piping with the air in the car to thereby cause uniform cooling of the car.

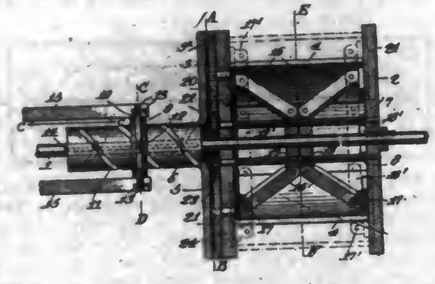
4. In a railway car, the combination of double floors forming a space at the bottom of the car, main supply piping extending through said space and adapted for receiving either a heating or a cooling fluid, piping branches leading from said main piping to supply various sections of the car, and valves for controlling the connections of said piping branches with the main piping.

5. In a railway car, the combination of an upper and a lower floor forming between them a shallow space, said upper floor having openings for connecting said space with the interior of the car, piping arranged in said space for circulating heating or cooling medium through said space, and means for causing the circulation of air through said space and upwardly through the top floor into the interior of the car, said top floor being in the form of hinged sections adapted to be swung upwardly away from said piping.

[Claims 6 to 8 not printed in the Gazette.]

978,285. EXPANSIBLE PULLEY. HARRY D. GAULT, Wooster, Ohio. Filed Aug. 23, 1909. Serial No. 514,819.

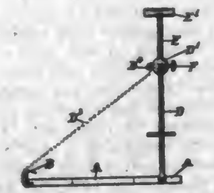
1. In an expansible pulley, the combination with a shaft, of a pair of end sections rigidly mounted opposite each other thereon, a series of adjustable rim segments fitted to slide in and out along radial grooves in said end sections, a pair of collars linked to said rim segments and mounted and adapted to slide laterally on said shaft between said end sections, a pair of right and left threaded rods mounted in said end sections on opposite sides of said pulley shaft to actuate said collars toward and away from each other between said sections, a pair of cogged pinions mounted on said threaded rods respectively, a pair of gear wheels mounted on one of said end sections and adapted to gear with said pinions respectively, a rotatable disk having internal gear teeth adapted to mesh with said gear wheels to actuate the same simultaneously in either direction, and means in connection with said rotatable disk for rotating the same on said pulley shaft independently of the rotation of said shaft, substantially as set forth.



2. In an expansible pulley, the combination with a shaft, of a pair of end sections rigidly secured to said shaft and provided with radial grooves, a series of rim segments, operable in said grooves respectively, a pair of collars slidably mounted on said shaft between said end sections, a pair of link bars linked to said collars and to each segment respectively, a pair of right and left threaded rods mounted in said pulley sections on opposite sides of said shaft and extending through said collars, a pair of gear wheels mounted upon an end section in operative connection with said threaded rods respectively, a disk, having a flanged periphery and internal gear teeth, mounted rotatably on said shaft adapted to engage said gear wheels, and a sleeve rigidly secured to said disk, and means for actuating said sleeve endwise in either direction to rotate the same independent of the rotation of said shaft, substantially as set forth.

3. In an expansible pulley, in combination, a shaft, a pair of end sections rigidly secured thereto, a series of rim segments operable between said end sections, a pair of collars slidably mounted on said shaft between said sections, a pair of link bars linked to said collars respectively and to each rim segment, a pair of right and left threaded rods mounted in said sections on opposite sides of said shaft, in operative engagement with said collars, a pair of gear wheels mounted to rotate said threaded rods respectively, adjacent to one end section, a disk having an internal gear in operative engagement with said gear wheels, and a sleeve rigidly secured to said disk and loosely mounted on said shaft, said sleeve having a pair of spiral grooves therein, and a shaft having a longitudinal groove in said shaft within said sleeve, a collar slidably mounted on said sleeve, and a bolt passing from said collar into said longitudinal groove through said spiral grooves, and means for sliding said collar along said shaft while it rotates, substantially as set forth and for the purpose specified.

978,286. SHOE-STRAIGHTENER. ALFRED RAYNE GREEN, Leeds, England. Filed July 1, 1910. Serial No. 569,884.



1. In a shoe straightener, the combination, with a base for the shoe sole to rest on, of a projection secured to the base and adapted to engage with the toe portion of the shoe sole, an upright secured to the base and projecting above the shoe, and a pressure rod connected to the upper part of the upright and adapted to bear downwardly on the shoe heel inside the shoe.

2. In a shoe straightener, the combination, with a base for the shoe sole to rest on, of a projection secured to the base and adapted to engage with the toe portion of the shoe, a foldable upright pivotally connected to the base and adapted to project above the shoe, and a pressure rod connected to the upper part of the upright and adapted to bear downwardly on the shoe heel inside the shoe.

3. In a shoe straightener, the combination, with a base for the shoe sole to rest on, of a projection secured to the base and adapted to engage with the toe portion of the shoe sole, an upright secured to the base and projecting above the shoe, a pressure rod slidable vertically in the upper part of the upright, and means for securing the rod to the upright.

978,287. MUFFLER FOR EXPLOSIVE-ENGINES. ALBERT H. GREWE, Des Plaines, Ill. Filed Jan. 12, 1910. Serial No. 537,661.



1. In a muffler, a casing having an inlet opening at one end and an exhaust opening at the opposite end, an perforate spiral tube held in said casing between the inlet and exhaust openings, and sound insulating material packed around said spiral tube and in said casing.

2. In a muffler, a cylindrical casing having an inlet opening at one end and an exhaust opening at the opposite end, a partition across said casing at the inlet end having an opening therethrough, a spiral tube held in said casing between the partition and exhaust end, one end of the tube being connected to the opening in the partition and the other end to the opening in the exhaust end, and sound insulating material packed around the spiral tube.

3. In a muffler, a spiral exhaust tube having retarding plates extending thereacross, each plate comprising a vane having a hollow side disposed toward the inlet end of the tube.

4. In a muffler, a spiral exhaust tube having retarding plates arranged in staggered relation and extending transversely of said tube, each plate comprising a vane having a hollow side disposed toward the inlet end of the tube.

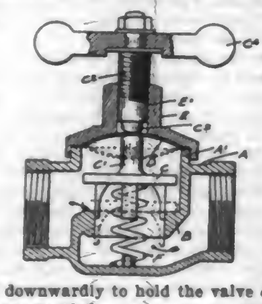
5. In a muffler, an exhaust tube having retarding plates extending thereacross, each plate comprising a vane bent to form two portions arranged at an angle to each other, the apex of the angle being directed toward the exhaust end of the tube.

[Claims 6 and 7 not printed in the Gazette.]

978,288. VALVE. JOHN WILLIAM HARKOM, Melbourne, Quebec, Canada. Filed Apr. 29, 1909. Serial No. 492,940.

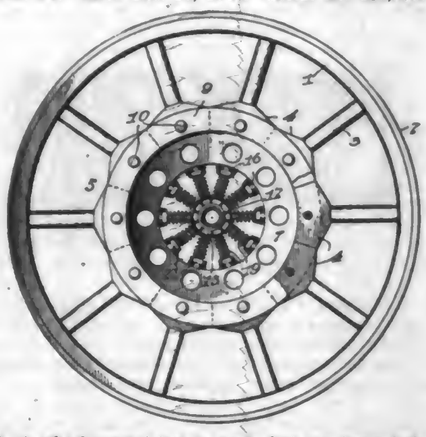
In a high pressure steam and temperature valve, the combination with the valve casing having a valve seating orifice and provided with a flange and the bonnet fitting thereon, of a yielding metallic resilient imperforated diaphragm having the edge held between the bonnet and the flange and normally dished shaped and capable of being moved up and down, and the valve having a div

valve stem between the two portions of which the diaphragm is interposed, the said diaphragm being designed



to be pressed downwardly to hold the valve closed, as and for the purpose specified.

978,280. VEHICLE-WHEEL. JOSIAH H. HARVEY, Scranton, Pa. Filed Dec. 17, 1908. Serial No. 467,959.



1. A wheel comprising an outer hub, an inner hub free to rotate relatively to the outer hub, parallel tracks carried by one hub, arms carried by the other hub and working between said tracks, and coiled springs encircling said arms operating to yieldingly sustain the hubs in concentric relation.

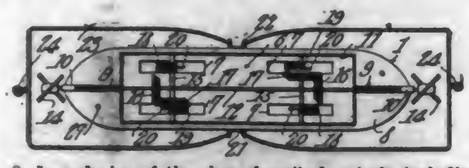
2. A wheel comprising an outer hub, an inner hub free to rotate relatively to the outer hub, parallel tracks carried by one hub, arms carried by the other hub, and coiled springs encircling said arms operating to yieldingly sustain the hubs in concentric relation, said arms being adapted to work outward and inward and to slide circumferentially of and between the tracks.

3. A wheel comprising an outer hub, an inner hub free to rotate relatively to the outer hub, parallel tracks carried by one hub, arms carried by the other hub, springs on said arms operating to yieldingly sustain the hubs in concentric relation, and runners movable along said tracks and through which the arms slide.

4. A wheel comprising an outer hub, an inner hub free to rotate relatively to the outer hub, parallel tracks carried by one hub, arms carried by the other hub, springs on said arms operating to yieldingly sustain the hubs in concentric relation, and runners through which said arms slide and against which the springs rest, said runners being provided with rollers adapted to travel in contact with said tracks.

978,290. BAIT. MELVIN L. HEATLY, Silver Springs, Fla. Filed Mar. 25, 1910. Serial No. 551,473.

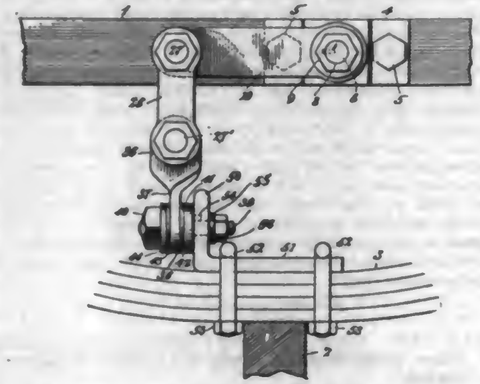
1. In a device of the class described, a body; a crank shaft journaled for rotation therein; means upon the shaft for actuating the same by relative movement between the body and the liquid in which the body is disposed; an element protruding beyond the contour of the body and pivoted upon the crank of the shaft within the contour of the body, the pivotal connection between said element and the crank constituting the sole means for supporting said element, whereby the same may have both longitudinal sliding movement and free swinging movement with its point of pivotal mounting as a center.



2. In a device of the class described, a body including transversely separable parts having openings in their meeting faces defining a chamber in the body; a frame surrounding the chamber and inserted in one opening, the frame being extended into the other opening to aline the body parts; a shaft journaled longitudinally of the body in the frame and provided, beyond the body, with propelling means; an element movable beyond the contour of the body; and means disposed in the chamber for operatively connecting the movable element with the shaft.

3. In a device of the class described, a body including transversely separable parts having openings in their meeting faces defining a chamber in the body; a frame surrounding the chamber and inserted into one opening, the frame being receivable in the other opening to aline the body parts; a shaft journaled longitudinally of the body in the frame and provided beyond the contour of the body with propelling means; a shaft journaled for rotation in the frame transversely of the first named shaft and provided with a crank; an element swinging freely upon the crank and movable beyond the contour of the body; and means disposed in the chamber for operatively connecting the shafts.

978,291. ANTIVIBRATION DEVICE FOR VEHICLES. EDWARD HELMUS, Brooklyn, N. Y. Filed July 17, 1907. Serial No. 384,150.



1. A shock absorber provided with a cone-and-socket joint, the said joint comprising a stud fixed relatively to one member, a conical socket fixed relatively to the other member, a cone mounted on said stud so as to slide but not to turn thereon and fitting said socket, and means for adjusting the cone on the stud and holding it in such adjustment to regulate the tension of the joint.

2. A shock absorber provided with a cone-and-socket joint, the said joint comprising a stud fixed relatively to one member, a conical socket fixed relatively to the other member, a cone mounted on said stud so as to slide but not to turn thereon and fitting said socket, a follower on said stud engaging said cone to adjust it in its socket, and means for locking the follower against the cone.

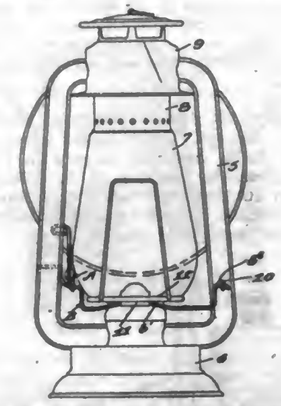
3. A shock absorber provided with a cone-and-socket joint, the said joint comprising a stud fixed relatively to one member, an inwardly convergent conical socket fixed relatively to the other member, a cone mounted on said stud so as to slide but not to turn thereon, and means for forcing the cone in the socket and holding it therein to regulate the tension of the joint.

4. A shock absorber provided with a cone-and-socket joint, the said joint comprising a stud fixed relatively to one member, and provided with a screw-thread, a conical socket fixed relatively to the other member, a cone mounted on said stud so as to slide but not to turn thereon and fitting said socket, a plate or follower mounted on said stud and adapted to engage the larger end of the cone, and a nut mounted on the screw-thread of the stud for engaging said follower to force the cone in the socket.

5. A shock absorber comprising pivoted members suitably mounted between two relatively movable bodies and having one of its joints provided with a friction device, the axes of motion of some of the pivotal joints being parallel with each other while the axis of motion of another of the joints is at right angles thereto, one of said pivoted members having its respective ends arranged in planes at right angles to each other and being so arranged as to permit of relative side swaying of said bodies.

[Claims 6 to 19 not printed in the Gazette.]

978,292. TUBULAR LANTERN. JAMES H. HILL, Rochester, N. Y., assignor to Defiance Lantern & Stamping Co., Limited, a Corporation. Filed Apr. 9, 1910. Serial No. 554,491.



1. A globe-locking attachment for lanterns comprising a catch member and a clamp member, each constructed of a single piece of wire, the first-named member consisting of an attaching end, a catch, and a hook, and the second-named member of a handle, a pair of bearing portions, and a crank, one of said bearing portions being fulcrumed on said hook.

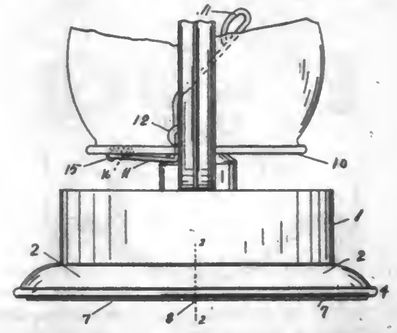
2. The combination, with the frame and globe of a lantern, of a globe-locking attachment comprising a member attached to one side of the frame and formed with a catch and a hook and a second member pivotally-connected at one end with said hook and at the other end with the opposite side of said frame, said second member having a handle portion arranged for coöperation with said catch.

3. A globe-locking attachment for lanterns comprising a stationary wire member formed with a catch and a hook, and a rocking wire member formed with a handle arranged for coöperation with the catch, a bearing portion fulcrumed on the hook and a crank connected with the globe.

4. A globe-locking attachment for lanterns comprising a stationary wire member formed with a catch and a hook, and a wire member connected with the globe and fulcrumed on said hook, the second-named member having a handle portion arranged for coöperation with said catch.

5. A globe-locking attachment for lanterns comprising a stationary member formed with a catch and an open hook to form a fulcrum-bearing for a rocking member connected with a globe-plate and from which said member may be removed, and a rocking member connected with a globe-plate and having a portion fulcrumed in said open hook and provided with a handle arranged for coöperation with said catch.

978,293. LANTERN. JAMES H. HILL, Rochester, N. Y., assignor to Embury Manufacturing Company, Rochester, N. Y. Filed May 13, 1910. Serial No. 561,077.



1. A device of the character described comprising a side wall and a bottom plate, and a protecting strip secured to the under side of said plate near its edge, and extending below the bottom of the lantern proper and forming a foot on which the lantern stands.

2. A lantern oil-pot comprising a side wall and a bottom plate connected by a joint, and a protecting strip secured to the under side of said plate near its edge by the metal of said plate.

3. A lantern oil-pot comprising a side wall and a bottom plate connected by a joint, and a protecting strip having a shoulder on its outer side secured to the under side of said plate by the metal of said plate extending under said shoulder.

4. A lantern oil-pot comprising a side and bottom, the latter having a downwardly extending shoulder near its edge, a protecting strip below the bottom and against said shoulder and held in place by the metal of the bottom engaging said strip.

5. A lantern oil-pot comprising a side wall and a bottom plate, the latter having a downwardly extending shoulder near its edge and a bead inside the same, and a protecting strip under the plate between said shoulder and bead.

[Claim 6 not printed in the Gazette.]

978,294. AUTOMATIC CUT-OFF VALVE. FRANCIS HODGKINSON, Edgewood Park, Pa., assignor to The Westinghouse Machine Company, a Corporation of Pennsylvania. Filed Oct. 8, 1909. Serial No. 521,743.

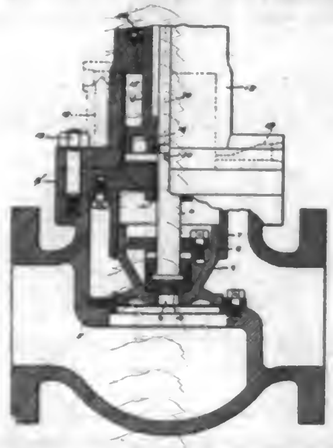
1. In combination with a supply valve, a manually operated and fluid actuated means for closing said valve and means for rendering the fluid actuated means incapable of opening said valves until said manually operated means is moved to the closed position.

2. In combination with a supply valve, a fluid actuated means for closing said valve, a fluid actuated means for opening said valve and manually operated means for controlling the operation of said fluid actuated means.

3. In combination with a supply valve, an automatically controlled piston for closing said valve, manually operated means for closing said valve independently of said piston, means for rendering said piston ineffective in opening said valve without the coöperation of said manually operated means.

4. A supply valve, an automatically controlled device for closing said valve, means for closing said valve independently of said device and means for rendering said device ineffective in opening said valve without the coöperation of said independent closing means.

5. A supply valve, an automatically controlled device for controlling said valve, means for manually closing said valve independently of said device and a valve for render-



ing said device ineffective in opening said valve without the coöperation of said means.

[Claims 6 to 17 not printed in the Gazette.]

978,295. SANITARY DRINKING APPLIANCE. REBECCA E. HOOPER, Half Moon Bay, Cal. Filed Apr. 25, 1910. Serial No. 557,350.

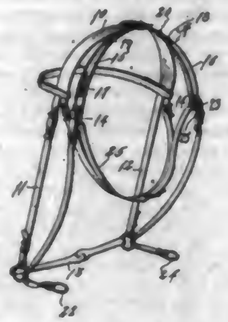


A sanitary drinking appliance for schools and public places, the same comprising a column of nested cups each cup of the series being provided with a finger extension, and a support for said series of cups frictionally and yieldingly embracing the lowermost cup of the series.

978,296. BRIDLE ATTACHMENT. JOHN J. HORN, Surrey, N. D. Filed July 13, 1910. Serial No. 571,833.

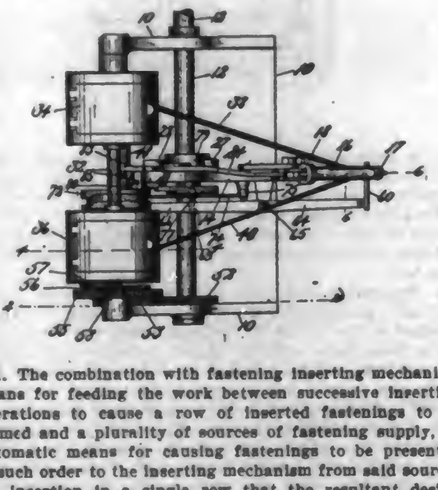
1. An attachment for bridles comprising a yoke member adapted for attachment to the crown strap of a bridle, an eye secured to each end of the yoke member, a pair of springs each having one end secured to the yoke member, a choke strap passing through the eyes at each end of the yoke member, connections between each end of the choke strap and the free ends of said springs and means for connecting each terminal of the choke strap with a rein.

2. An attachment for bridles comprising a yoke member adapted for attachment to the crown strap of a bridle, an eye on each end of the yoke member, a pair of springs each having one end secured to the yoke member and normally incased in said member, a choke strap passing through the eyes at the ends of said yoke member, connections between each end of the choke strap and the free ends of said springs and means for connecting each terminal of the choke strap with a rein.



3. The combination with a bridle comprising a crown strap and cheek straps supporting a bit, of a yoke member attached to the crown strap of the bridle, an eye on each end of the yoke member, a pair of springs each having one end secured to the yoke member, a choke strap passing through the eyes at the ends of the yoke member and having its ends extended through bit loops for attachment to reins, and connections between the ends of the choke strap and the free ends of said springs.

978,297. MACHINE FOR INSERTING FASTENINGS. HAROLD C. HUDSON, Lynn, Mass., administrator of Thomas K. Keith, deceased, assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Original application filed Mar. 29, 1902, Serial No. 100,556. Divided and this application filed Aug. 8, 1906. Serial No. 329,704.



1. The combination with fastening inserting mechanism means for feeding the work between successive inserting operations to cause a row of inserted fastenings to be formed and a plurality of sources of fastening supply, of automatic means for causing fastenings to be presented in such order to the inserting mechanism from said sources for insertion in a single row that the resultant design contains a series of fastenings from at least one of the sources of supply.

2. The combination with fastening inserting mechanism means for feeding the work between successive inserting operations to cause a row of inserted fastenings to be formed and a plurality of sources of fastening supply, of automatic means for causing fastenings to be presented in such order to the inserting mechanism from said sources

for successive insertion in a single row that the resultant design contains a series of fastenings from at least one of the sources of supply.

3. The combination with fastening inserting mechanism means for feeding the work between successive inserting operations to cause a row of inserted fastenings to be formed and a plurality of sources of fastening supply, of automatic means for causing series of fastenings to be presented to the inserting mechanism for successive insertion in the same row first from one source of supply and then from another.

4. The combination with a single fastening-inserting mechanism and a plurality of sources of fastening supply, of automatic means for causing series of fastenings to be presented to the inserting mechanism for insertion in succession first from one source of supply and then from another.

5. The combination with fastening-inserting mechanism, a plurality of sources of fastening supply and a fastening presenter, of automatic means for moving said presenter to and fro in such prearranged order between said sources of supply and the inserting mechanism, that several fastenings are taken successively from one at least of said sources of supply.

[Claims 6 to 28 not printed in the Gazette.]

978,298. COCOA AND CHOCOLATE POT ATTACHMENT. BARBARA C. INWOOD, New York, N. Y. Filed July 13, 1908. Serial No. 443,182.



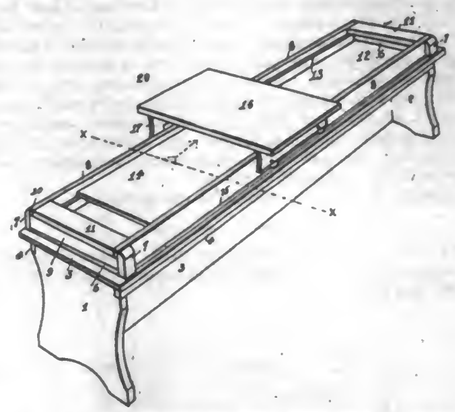
In a cocoa and chocolate pot attachment, the combination with a pot having a concaved bottom terminating in a central depression forming a socket and having an opening in its cover in vertical alinement with said socket, of a rod having its lower end mounted in said socket and extending through the opening in the cover, said rod having a threaded upper end, a knob mounted on said end, said rod having its lower end portion coiled to form a double spiral adapted to be compressed and expanded by pressing on said knob.

978,299. OPTICAL TABLE. MAX JACOBS, Wilkes-Barre, Pa. Filed Mar. 25, 1910. Serial No. 551,485.

1. A combination optical table comprising a compartment for lenses, tracks, a shiftable support mounted within said compartment, and a longitudinally-movable slide arranged over said compartment and traveling upon said tracks.

2. A combination optical table comprising a support, a compartment for lenses mounted thereon, a shiftable supporting member arranged within said compartment, tracks exteriorly of said compartment, and a longitudinally-movable slide arranged over said compartment and traveling upon said tracks.

3. A combination optical table comprising means constituting a lens compartment and provided therein with a pair of tracks, a supporting member within said compartment and shiftable upon said tracks, a longitudinally-movable slide arranged over said compartment, and tracks exteriorly of said compartment and upon which said slide travels.



4. A combination optical table comprising a compartment for lenses, supporting means therefor, means to constitute a pair of tracks arranged exteriorly of said compartment, and a longitudinally-movable slide arranged over and extending transversely with respect to said compartment and traveling upon said tracks.

5. A combination optical table comprising a compartment for lenses, a stationary support therefor, a shiftable support mounted within said compartment, a longitudinally-movable slide arranged over said compartment and traveling upon said stationary supporting means, and stops arranged exteriorly of said compartment for limiting the movement of said slide in either direction.

[Claims 6 and 7 not printed in the Gazette.]

978,300. SHEET-METAL DOOR AND THE LIKE. ANDREW JOHNSON, Jamestown, N. Y. Filed June 1, 1910. Serial No. 564,471.



1. A door or the like formed from sheet metal bent longitudinally to form the stiles and the interposed panel, the ends of the sheet metal which extend longitudinally of the door being formed into an interlocking joint falling within the area of the panel and the said interlocking parts being securely united together.

2. A door or the like formed from sheet metal bent longitudinally to form the stiles and the interposed panel, the ends of the sheet metal which extend longitudinally of the door being formed into an interlocking joint falling within the area of the panel and the said interlocking parts being securely united together, and suitable filling material in the space between the sheets forming the panel.

3. A door or the like formed from sheet metal bent longitudinally to form the stiles and the interposed panel, the ends of the sheet metal which extend longitudinally of the door being formed into an interlocking joint falling within the area of the panel and the said interlocking parts being securely united together, and a longitudinal reinforce bar located between said interlocking joint and the adjacent sheet of metal of the said panel.

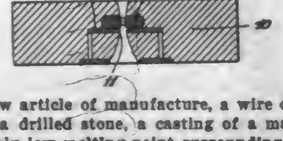
4. A door or the like formed from sheet metal bent longitudinally to form the stiles and the interposed panel, the ends of the sheet metal which extend longitudinally of the door being formed into an interlocking joint falling within the area of the panel and the said interlocking parts being securely united together, and rails each formed of sheets of metal bent into shape and fitted across

the panel between the stiles and securely fastened to the panel.

5. A sheet metal door or the like comprising stiles and the interposed panel, rails formed of sheet metal bent into shape and fitted across the panel between the stiles and securely fastened thereto, a channel-iron having its underside secured to said panel transversely thereof and a second channel-iron reversed in its position and of less width than the first one and adapted to fit within the channel of the first iron with its underside outermost, said channel-irons lying beneath the sheet metal of the rail so that the back of the outer channel-iron makes contact with the underside of the rail.

[Claims 6 to 11 not printed in the Gazette.]

978,301. WIRE-DRAWING DIE. GEORGE ALBERT JOYCE, London, England. Filed June 25, 1910. Serial No. 568,768.



1. As a new article of manufacture, a wire drawing die comprising: a drilled stone, a casting of a material having a relatively low melting point surrounding said stone, and a perforated reinforcing plate supporting said stone of a material having a relatively high melting point, embedded in said casting on one side of the stone and reinforcing the latter in the direction of the pull exerted on the wire to be drawn.

2. As a new article of manufacture, a wire drawing die comprising: a drilled stone, a casting of a material having a relatively low melting point surrounding said stone, and a perforated reinforcing plate supporting said stone of a material having a high tensile strength embedded in said casting on one side of the stone and reinforcing the latter in the direction of the pull exerted on the wire to be drawn.

3. As a new article of manufacture, a wire drawing die comprising: a drilled stone, a casting of a material having a relatively low melting point surrounding said stone, and a perforated reinforcing plate supporting said stone, of a material having a high tensile strength and a relatively high melting point, embedded in said casting on one side of the stone and reinforcing the latter in the direction of the pull exerted on the wire to be drawn.

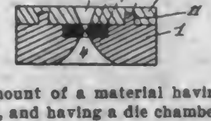
4. As a new article of manufacture, a wire drawing die comprising: a drilled stone, a casting of non-corrosive material having a relatively low melting point surrounding said stone, and a perforated reinforcing plate, supporting said stone, of a corrosive material having a relatively high melting point, embedded in said casting on one side of the stone and reinforcing the latter in the direction of the pull exerted on the wire to be drawn.

5. As a new article of manufacture, a wire drawing die comprising: a drilled stone, a casting of non-corrosive material having a relatively low melting point surrounding said stone, and a perforated reinforcing plate of high tensile strength, and supporting said stone, of a corrosive material having a relatively high melting point, embedded in said casting on one side of the stone and reinforcing the latter in the direction of the pull exerted on the wire to be drawn.

[Claim 6 not printed in the Gazette.]

978,302. DIE. GEORGE ALBERT JOYCE, London, England. Filed June 25, 1910. Serial No. 568,769.

1. In a die, a mount of a material of high tensile strength and a relatively high melting point, having a die chamber and opposite bores leading thereto, said mount consisting of a plurality of parts welded together at a point remote from the die chamber, a die member seated in said chamber, and a body of material of a relatively low melting point surrounding said die member in the chamber and holding it in alinement with the bores aforesaid.



2. In a die, a mount of a material having a relatively high melting point, and having a die chamber and opposite bores leading thereto, said mount consisting of a plurality of parts welded together at a point remote from the die chamber, a die member seated in said chamber, and a body of material of a relatively low melting point surrounding said die member in the chamber and holding it in alinement with the bores aforesaid.

3. In a die, a steel mount having opposite bores leading to a die chamber and composed of a plurality of parts welded together, a drilled stone seated in said chamber, and a body of composition for holding said stone in said chamber.

4. The process of making a die which consists in seating a drilled stone within the chamber of a supporting member of a mount by casting a body of material having a lower melting point than that of which the mount is composed into said chamber around the stone, and then welding a top plate on the supporting member.

5. The process of making a die which consists in seating a drilled stone within the chamber of a steel supporting member by casting a body of material having a lower melting point than that of steel into said chamber around the stone, and then welding a top plate of steel on the supporting member.

[Claim 6 not printed in the Gazette.]

978,303. SAFETY-RAZOR BLADE. OTTO KAMPFE, New York, N. Y., assignor to Kampfe Bros., a Corporation of New York. Filed Dec. 20, 1909. Serial No. 533,998.



1. As a new article of manufacture, a thin, flexible razor blade and a bent or curved frame secured thereto along one edge thereof.

2. As a new article of manufacture, a thin, flexible razor blade and a bent or curved frame receiving one edge of the blade and secured thereto so as to impart a permanent bent or flexed form to the blade.

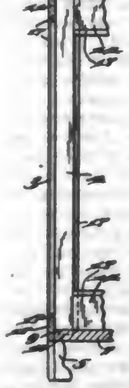
3. As a new article of manufacture, a thin, flexible razor blade sharpened along one longitudinal edge, and a metal frame of flattened U-form in cross section longitudinally bent or curved and receiving the opposite unsharpened edge of the razor blade and secured thereto along said edge.

978,304. RUBBER ATTACHMENT. HENRY KARNATZ, Menomonie, Wis. Filed Mar. 4, 1910. Serial No. 547,281.



The herein described rubber attachment comprising a central flexible member, side members of less flexibility than the central member, said side members having reversely curved upper edges and tapering toward one of their ends, said tapered ends being disposed beneath the ankles of the wearer, the lower longitudinal edges of said side members and the lower edge of the central member describing a continuous curved line, said members being secured together at their lower edges and to the upper edge of a rubber, the opposed inner ends of said side members being oppositely curved, said members and the central member carrying fastening devices whereby the ends of the side members may be detachably connected to the body of the central member, said fasteners being concentrically arranged with the curved inner ends of the side members whereby said central member is stretched between the opposed ends of the side members and over the lacing of the shoe of the wearer when the fastening members are connected.

978,305. CHINA-CLOSET. RICHARD J. KEPPEL, Philadelphia, Pa., assignor to Keppel & Company, Chester, Pa. Filed July 14, 1910. Serial No. 572,044.



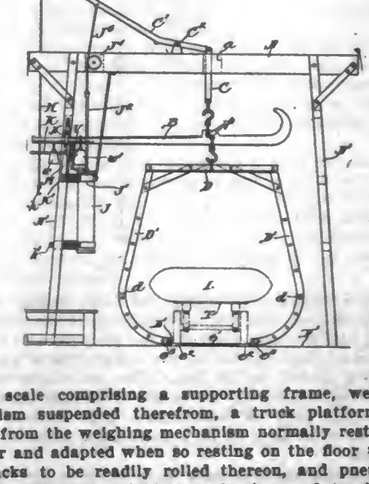
1. In a device of the character described, the combination with a top and a bottom, of side bars or uprights connecting the top and bottom at the rear corners of the closet, rear uprights connecting the top and bottom at the rear corners of the closet, front uprights connecting the top and bottom, and front and rear feet secured to the bottom, the rear feet being recessed to receive the rear bars, substantially as described.

2. In a device of the character described, the combination with a top and a bottom, of front uprights connecting the top and bottom, said top and bottom having combined straight and dove-tailed mortises, and dove-tailed tenons on the ends of said front uprights constructed to enter the straight portions of the mortises, and when moved longitudinally of the mortises, interlock in the dove-tailed portions thereof, side bars or uprights connecting the top and bottom at the rear corners of the closet, rear uprights connecting the top and bottom at the rear corners of the closet, and front and rear feet secured to the bottom, and rear feet being recessed to receive the rear bars, substantially as described.

978,306. PORTABLE SCALE. THEODORE L. KEPPLER, Brookline, Mass., assignor to The American Sugar Refining Company, Boston, Mass., a Corporation of New Jersey. Filed Apr. 9, 1910. Serial No. 554,523.

1. A scale comprising a portable supporting frame, weighing mechanism suspended therefrom, a weighing platform suspended from said weighing mechanism and adapted to normally rest on the floor, said platform being made of two parallel strips of angle iron rigidly fastened together, one side of each strip standing vertically and forming wheel guides while their other sides form wheel ways for trucks and have their forward ends sloping downwardly to the plane of the floor, and means to lift said weighing mechanism and platform together bodily away from the floor to weigh the load on said platform and to lower the same again to the floor.

2. In a scale comprising a portable supporting frame, weighing mechanism suspended therefrom, a platform suspended from said weighing mechanism normally resting on the floor and with the weighing mechanism adapted to be lifted, said platform comprising a pair of angle wheelways spaced apart and rigidly connected, and a bail for suspending said platform comprising an upstanding frame on each side of the same bowed outwardly for a short distance and then converging slightly upward in straight lines.



3. A scale comprising a supporting frame, weighing mechanism suspended therefrom, a truck platform suspended from the weighing mechanism normally resting on the floor and adapted when so resting on the floor to permit trucks to be readily rolled thereon, and pneumatic means to lift said weighing mechanism and truck platform together bodily away from the floor to weigh the load carried by said platform and to lower the same again to the floor.

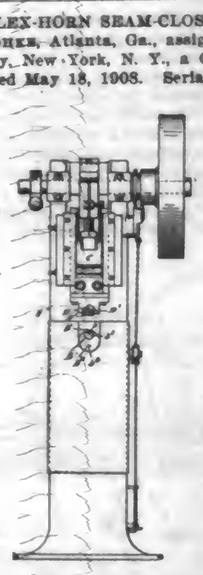
4. A scale comprising a supporting frame, weighing mechanism suspended therefrom, a truck platform suspended from the weighing mechanism normally resting on the floor and adapted when so resting on the floor to permit trucks to be readily rolled thereon, means to lift said weighing mechanism and truck platform together bodily away from the floor to weigh the load carried by said platform and to lower the same again to the floor, said means comprising a motor, and means to control said motor.

5. A scale comprising a supporting frame, a scale beam suspended therefrom, a truck platform suspended from the scale beam and normally resting on the floor adapted to permit trucks to be readily rolled thereon, a holding device to prevent the swing of the scale beam while the platform is resting on the floor, pneumatic means to lift the scale beam and platform together bodily away from the floor and to lower the same again to the floor, and means to release said scale beam from said holding device and at the same time to operate said pneumatic lifting means.

978,307. PROCESS OF TRANSFORMING SUBSTANCES SOLUBLE IN ALCOHOL INTO EMULSIONS IN WATER. SAMUEL KNOPF, Vienna, Austria-Hungary. Filed Oct. 23, 1908. Serial No. 459,276.

The process for transforming substances insoluble in water into emulsion, which consists in saponifying at ordinary temperature oleic acid, substantially 40 parts with 8 parts of 50% caustic alkali solution in the presence of 20 parts of alcohol, then intimately mixing the same with naphthalene dissolved in petroleum forming an emulsion which can be mixed with water in any quantity.

978,308. DUPLEX-HORN SEAM-CLOSING MECHANISM. JOHN KOHER, Atlanta, Ga., assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed May 18, 1908. Serial No. 433,339.



1. In a duplex horn edging and seam closing machine, the combination with the horn and edge folding and seam closing dies having a groove on the under face to receive a lock seam when formed on the outside, of a fixed gage having a groove on its upper face to receive the lock seam when formed on the inside, a movable spring supported gage and an intermediate gage adapted to act either as a movable or as a fixed gage, substantially as specified.

2. The combination with a horn, of a die having a groove on its under face to receive an outside formed lock seam, of a fixed gage having a groove on its upper face adapted to receive an inside formed lock seam, a movable gage and an intermediate gage adapted to act either as a movable gage or as a fixed gage, substantially as specified.

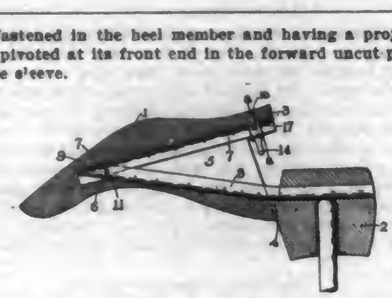
3. The combination with a horn, of a fixed gage, a movable gage and an intermediate gage adapted to act either as a movable gage or as a fixed gage, springs for supporting said movable gage, springs for supporting said intermediate gage as a movable gage and means for fixing said intermediate gage in its retracted position, substantially as specified.

4. The combination with a horn, of a fixed gage, a movable gage and an intermediate gage adapted to act either as a movable gage or as a fixed gage, springs for supporting said movable gage, springs for supporting said intermediate gage as a movable gage and means for fixing said intermediate gage in its retracted position, said means consisting in a holding down pin or rod furnished with a threaded nut for retracting said intermediate gage, substantially as specified.

5. The combination with a horn, of a fixed gage, a movable gage and an intermediate gage adapted to act either as a movable gage or as a fixed gage, springs for supporting said movable gage, springs for supporting said intermediate gage as a movable gage and means for fixing said intermediate gage in its retracted position, said means consisting in a holding down pin or rod furnished with a threaded nut for retracting said intermediate gage, said horn having a socket to receive the threaded nut of the holding down pin or rod, substantially as specified.

978,309. FOLDING LAST. CLEMENTS B. KOSTMAS, Buffalo, N. Y. Filed Nov. 12, 1909. Serial No. 527,635.

1. In a folding last, a toe member having a recess, a metal reinforcing sleeve secured in the recess in the toe member and having its upper portion cut away from its rear end to near its front end, a heel member, and a metal bar fastened in the heel member and having a projecting part pivoted at its front end in the forward uncut portion of the sleeve.



2. In a folding last, a toe member having a recess, a metal reinforcing sleeve secured in the recess in the toe member and having its upper portion cut away from its rear end to near its front end, a heel member and a metal bar fastened in the heel member and having a projecting part provided at its front end in the forward uncut portion of the sleeve; and said front end being beveled.

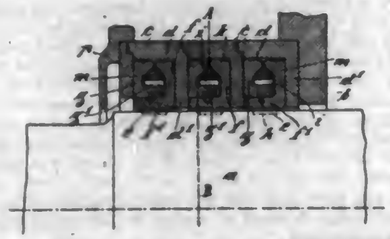
3. In a last of the class described, a toe member, a tubular metal member rigidly fitted within the toe member, a heel member, and a metal bar rigidly fastened to the heel member and having a projecting part movably secured in the tubular metal members; said projecting part being adapted to fit continuously throughout its length against the sides and bottom of and be supported by the tubular member when the last is in operating position.

4. In a last of the class described, a toe member, a metal reinforcement within said toe member, a heel member, a metal bar fastened to the heel member and projecting within the metal reinforcement, and a locking device adjustably supported by the metal reinforcement and adapted to be turned above the bar to secure the last in extended operating position.

5. In a last of the class described, a toe member, a metal reinforcement within said toe member, and having an exterior groove, a heel member, a metal bar fastened to the heel member and projecting within the metal reinforcement, and a locking device having a curved strip slidably supported in the groove of the metal reinforcement.

[Claims 6 to 8 not printed in the Gazette.]

978,310. STUFFING-BOX. FRIEDRICH CARL KRÜGER, Hanover, Germany. Filed Dec. 15, 1909. Serial No. 533,246.



1. In a stuffing box for rotary shafts, the combination with the shaft of a divided casing, means for connecting the parts of said casing together, a plurality of internal radial flanges on said casing, a pair of radial flanges surrounding said shaft and located between a pair of flanges on said casing, means for connecting said flanges to said shaft so as to cause said flanges to rotate with said shaft while permitting an axial movement of said flanges with respect to said shaft so as to enable each of said last mentioned flanges to make contact with a side face of the corresponding flange on said casing and elastic means tending to maintain contact between the said pair of flanges on said shaft and the flanges on said casing.

2. In a stuffing box for rotary shafts, the combination with the shaft of a sectional casing, comprising a plurality of internal radial flanges, means for connecting the sections of said casing together, a pair of radial flanges surrounding said shaft and located between a pair of flanges on said casing, means for connecting said flanges to said shaft so as to cause said flanges to rotate with said shaft while permitting an axial movement of said flanges with respect to said shaft so as to enable each of said last mentioned flanges to make contact with a side face of the corresponding flange on said casing and elastic means tending to maintain contact between the said pair of flanges on said shaft and the flanges on said casing.

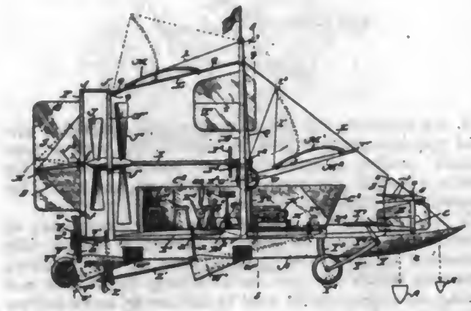
3. In a stuffing box for rotary shafts, the combination with the shaft of a divided casing, means for connecting the parts of said casing together, a plurality of internal radial flanges on said casing, a pair of radial flanges surrounding said shaft and located between a pair of flanges on said casing, means for connecting said flanges to said shaft while permitting an axial movement of said flanges with respect to said shaft so as to enable each of said last mentioned flanges to make contact with a side face of the corresponding flange on said casing, a split spring ring located between said pair of flanges a coned surface at the outer periphery of said ring at each side thereof and corresponding coöperating coned surfaces on adjacent faces of said pair of flanges.

4. In a stuffing box for rotary shafts, the combination with the shaft of a divided casing, means for connecting the parts of said casing together, a plurality of internal radial flanges on said casing, a collar on said shaft located between a pair of flanges on said casing, a radial flange on said collar, means for connecting said collar to said shaft so as to cause said collar to rotate with said shaft while permitting an axial movement of said collar with respect to said shaft, a second collar on the first named collar, a radial flange on said second collar, means for causing said collars to rotate together while permitting a relative axial movement, and elastic means tending to maintain contact between the flanges on said collars and the said pair of flanges on said casing.

5. In a stuffing box for rotary shafts, the combination with the shaft of a divided casing, means for connecting the parts of said casing together, a plurality of internal radial flanges on said casing, a collar on said shaft located between a pair of flanges on said casing, a radial flange on said collar, means for connecting said collar to said shaft so as to cause said collar to rotate with said shaft while permitting an axial movement of said collar with respect to said shaft, a second collar on the first named collar, a radial flange on said second collar, means for causing said collars to rotate together while permitting a relative axial movement, a split spring ring located between the pair of flanges on said collars, a coned surface at the outer periphery of said ring at each side thereof and corresponding coöperating coned surfaces on adjacent faces of the flanges on said collars.

[Claims 6 and 7 not printed in the Gazette.]

978,311. MOTOR-BOAT. SIMON LAKE, Milford, Conn. Filed Apr. 11, 1910. Serial No. 554,723.



1. In a motor boat, the combination with the hull, of hydroplanes connected at one end to said hull, yielding connections controlling the positions of the free ends of said hydroplanes whereby said free ends may yield in coming into contact with the crest of a wave, an aeroplane arranged over said hull, trimming rudders arranged forward and aft of said aeroplane, means for controlling the positions of said trimming rudders, means for propelling, and means for steering the boat.

2. In a motor boat, the combination with the hull, of hydroplanes connected at one of their ends to the bottom of said hull and yielding connections secured to the free ends of said hydroplanes whereby said hydroplanes are free to follow the uneven surface of the water when the hull of the boat is above the surface, an aeroplane arranged over the hull, trimming rudders arranged forward and aft of said aeroplane, means for controlling the positions of said trimming rudders, means for propelling, and means for steering the boat.

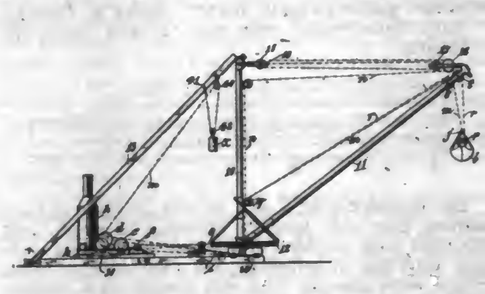
3. In a motor boat, the combination with the hull, and means for propelling the boat, of hydroplanes hingedly connected to the bottom of the hull, elevating planes arranged above the hull, bow and stern trimming rudders, and means for operating the said rudders for maintaining the boat on an even keel.

4. In a motor boat, the combination with the hull, and means for propelling the boat, of hydroplanes carried by the hull, adjustable elevating planes arranged above the hull, bow and stern trimming rudders, bow and stern guiding rudders, a common means for operating said trimming rudders, as specified, and means for operating said guiding rudders.

5. In combination with a motor boat, having means for propelling same, of elevating planes for lifting the hull of the boat out of the water when in motion, trimming rudders arranged at the bow and at the stern of the boat, a balancing rudder, and a common means for operating said trimming rudders and said balancing rudder.

[Claims 6 to 22 not printed in the Gazette.]

978,312. HOISTING AND CONVEYING APPARATUS. ASHER LAMBERT, Newark, N. J. Original application filed May 3, 1906, Serial No. 314,929. Divided and this application filed Feb. 10, 1909. Serial No. 477,157.



1. The combination of a self opening bucket, a hoisting rope, a controlling rope, means for hauling on one of said ropes to raise the bucket, means for shifting the weight of the bucket from one rope to the other and a separate, independent means for lowering said bucket while supported upon said second rope.

2. The combination of a self opening bucket, a hoisting rope, a controlling rope, means for hauling on one of said ropes to raise the bucket, means for shifting the weight of the bucket from one rope to the other and a separate independent means for gradually lowering said bucket while supported upon said second rope.

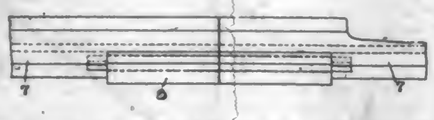
3. The combination of a self opening bucket, a hoisting rope, a controlling rope, means for hauling on one of said ropes to raise the bucket, means for shifting the weight of the bucket from one rope to the other and a separate detached means for gradually lowering said bucket while supported upon said second rope.

978,313. PUMP FOR MEDICATING AIR. JAMES A. LEE, Bellsville, Ohio. Filed Jan. 11, 1910. Serial No. 537,469.



A pump for medicating air comprising a cylinder having an outlet at one end, a plunger operating in the cylinder, a cage located in the cylinder at a point adjacent to the outlet thereof, the said cage comprising a cylindrical washer-like base member and spaced pairs of horizontal arms which extend through the said cylindrical washer-like base member and upwardly in arcuate form from the base member and having their upper terminals connected together, the said arms forming an openwork bottom for the said washer-like member, absorbent material confined between the upwardly extending arcuate portions of the arms of the cage, and a member of foraminous material located directly beneath the said washer-like member.

978,314. RAILWAY-RAIL JOINT. JAMES E. LEONARD, Walla Walla, Wash. Filed Sept. 12, 1910. Serial No. 581,498.

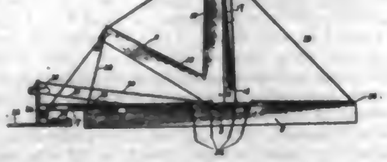


The combination of a pair of rails provided at their meeting ends with laterally extending shoulders, said shoulders being provided with alining longitudinal openings exteading therethrough and each with a radial groove communicating with said opening, of a connecting bolt rod extending through the said openings of the said shoulders and provided at its ends with radial key ribs to engage the outer ends of said shoulders and to operate in the said grooves when said connecting bolt rod is being applied to or removed from said rails.

978,315. HAY-STACKER. LAFAYETTE S. LINNELL, Almena, Kans. Filed Apr. 27, 1909. Serial No. 492,437.

1. A stacker comprising a beam mounted for oscillation in a vertical plane and forks each having an arm connected at its lower end to the said beam for angular movement and also for turning movement, said arms being disposed at opposite sides of the said beam so that when one fork is raised the other is lowered.

2. A stacker comprising a beam mounted for oscillation in a vertical plane, arms on opposite sides of said beam in the plane of movement thereof and mounted for angular movement with respect to the beam and also for turning movement, forks carried by the respective arms and connections between the said arms and the said beam whereby when one of said arms is raised by the beam the other is lowered.



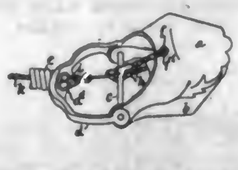
3. A stacker comprising a beam mounted for oscillation in a vertical plane, arms on opposite sides of said beam in the plane of movement thereof and each having its lower end swivelly connected thereto so that said arms are movable angularly with respect to said beam and are also enabled to be turned, forks at the upper ends of and carried by the said arms, flexible connections between said forks and said beam and means for operating the latter so that when the beam is moved in either direction one of said arms with its fork is raised and the other is lowered.

4. A stacker comprising a base frame a substantially V-shaped beam pivotally connected at its lower end to said base frame and movable angularly in a vertical plane, means for operating said beam, arms having their lower ends swivelly connected to opposite sides of said beam in the plane of movement thereof, forks carried by the said arms flexible connections between said forks and the said beam and means for operating said forks.

5. A stacker comprising a beam mounted for angular movement in a vertical plane, arms also mounted for movement angularly in a vertical plane and disposed on opposite sides of said beam in the plane of movement thereof, means for operating said beam, forks carried by the said arms, each of said forks having a head rigidly fixed to said arm and a tine member pivotally connected to said head, flexible connections between the fork heads and the beam locking means to secure the tine members of the forks to the heads thereof in loading position and means to operate said locking means to cause said forks to discharge their loads.

[Claims 6 and 7 not printed in the Gazette.]

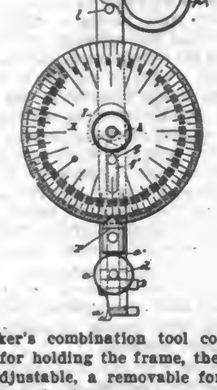
978,316. PIPE-CLEANER. HENRY LOWRY, Belfast, Ireland. Filed July 7, 1910. Serial No. 570,831.



1. An appliance for use in drain-pipes, comprising pivoted spring-controlled jaws in combination with a bow-shaped carrier, a screw-threaded central boss on the latter, a flexible pipe screwed in said boss, and means for opening said jaws, as specified.

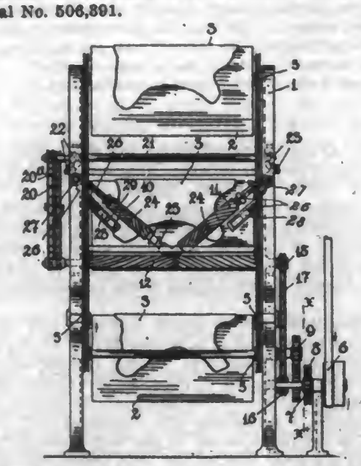
2. An appliance for use in drain pipes, comprising in combination with each other, a carrier, a flexible tube connected to it, pivoted jaws on said carrier, a spring crosswise within the jaws, hooks holding the ends of said spring, an external chain fixed to said hooks, and a pulling cable attached to said chain and leading through the flexible tube, as specified.

978,317. COMBINATION WATCHMAKER'S TOOL. HERBERT LUTZ, Hamilton, Ontario, Canada, assignor of one-fourth to Benjamin Harris and one-fourth to Charles Richard Ford, Hamilton, Canada. Filed Apr. 1, 1910. Serial No. 552,767.



A watchmaker's combination tool constructed with a frame, means for holding the frame, the lower end of the frame made adjustable, a removable forked jaw held between the ends of the frame, a plunger formed to operate between the sides of the frame, a cam mounted in the frame to impinge on and operate the plunger, slots in the frame to admit and guide the pins of the plunger at its upper end, a block secured between the sides of the frame near its lower end, the plunger made to pass through the said block, a coiled spring made to surround the plunger between the said block and pin at its top, a projecting foot formed at the lower end of the plunger, means to tighten or loosen the frame, at each side of the said block, a reversible dial measuring plate held on the square end of the cam shaft, and a pointer to indicate on the dial the thickness and width of watch springs when placed between the foot of the plunger and the jaw at the bottom of the frame.

978,318. MACHINE FOR DRESSING, STRETCHING, AND OTHERWISE TREATING SKINS, HIDES, LEATHER, AND THE LIKE. ARTHUR MIRTIL MARX, Frankfort-on-the-Main, Germany. Filed July 7, 1909. Serial No. 506,891.



1. In a machine for dressing, stretching and otherwise working skins, hides, leather and the like a frame, tables for the skins movably arranged in said frame, rollers with working ribs rotatably arranged in said frame on both sides of the path of the tables and parallel to them, said rollers on both sides of said path being arranged in pairs in symmetrically slanting directions relatively to the direction of the motion of the tables, the slanting rollers of each pair forming an angle opening in the direction of said motion, and means for displacing one of each pair of rollers axially.

2. In a machine for dressing, stretching and otherwise working skins, hides, leather and the like a frame, tables for the skins movably arranged on said frame, rollers with working ribs rotatably arranged in said frame on both sides of the path of the tables and parallel to them, said rollers on both sides of said path being arranged in pairs in symmetrically slanting directions relatively to the direction of the motion of the tables, the slanting rollers of each pair forming an angle opening in the direction of said motion, the working ribs of each slantingly arranged roller running spirally from a dividing plane intermediate its ends to said ends, and means for axially displacing said slantingly arranged rollers.

3. In a machine for dressing, stretching and otherwise working skins, hides, leather and the like, a frame, tables for the skins movably arranged on said frame, rollers with working ribs rotatably arranged in said frame on both sides of the path of the tables and parallel to them, one pair of said rollers being located on each side of said table path and arranged in symmetrically slanting directions with relation to the direction of the motion of the tables, the slanting rollers of each pair forming an angle opening in the direction of said motion, a horizontal roller on each side of said path below the adjacent pair of slanting rollers, the three rollers of each side being rotatably arranged in a common frame slidingly arranged within the chief frame of the machine, and springs for pressing said roller frames with said rollers against the passing tables.

4. In a machine for dressing, stretching and otherwise working skins, hides, leather and the like, a frame, tables for the skins movably arranged on said frame, rollers with working ribs rotatably arranged in said frame on both sides of the path of the tables and parallel to them, said rollers on both sides of said path being arranged in pairs in symmetrically slanting directions relatively to the direction of the motion of the tables, the slanting rollers of each pair forming an angle opening in the direction of said motion, the working ribs of each slantingly arranged roller running spirally from a dividing plane intermediate its ends to said ends, one of each pair of said slanting rollers being shorter than the other, and means for axially displacing the shorter of each pair of slantingly arranged rollers.

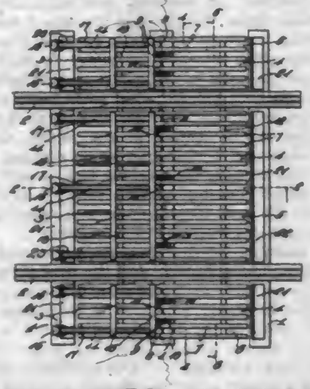
5. In a machine for dressing, stretching and otherwise working skins, hides, leather and the like, a frame, tables for the skins movably arranged in said frame, rollers with working ribs rotatably arranged in said frame on both sides of the path of the tables and parallel to them, said rollers on both sides of said path being arranged in pairs in symmetrically slanting directions relatively to the direction of the motion of the tables, the slanting rollers of each pair forming an angle opening in the direction of said motion, the working ribs of each slantingly arranged roller running spirally from a dividing plane intermediate its ends to said ends, and means for axially displacing said slantingly arranged rollers, said movable rollers being made hollow.

[Claims 6 to 8 not printed in the Gazette.]

978,319. CATTLE-GUARD FOR RAILWAYS. EARNEST G. MCCARSON and CHARLES A. BEDELL, Chattanooga, Tenn. Filed Jan. 26, 1910. Serial No. 540,728.

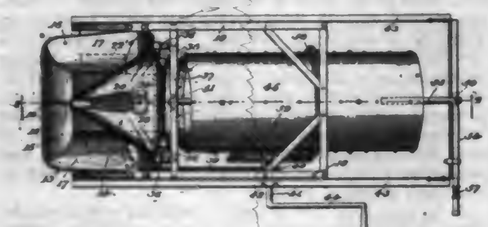
A cattle guard for railway tracks comprising bearing brackets arranged upon one of the cross ties, bearing rods arranged in said brackets, platform sections arranged between and on opposite sides of the track and pivotally mounted upon the bearing rods, strips connected to the platform sections provided with downwardly bent U-

shaped portions which provide for the passage of said strips between the track rails so as to permit of a swinging movement of the platform sections, strips pivoted to the cross ties and arranged between certain of the platform sections having reversely arranged curves on opposite sides, rollers on certain of the platform sections, one set of said curves of the strips adapted to contact with said rollers when the platform is arranged in a horizontal position, the other set of said curves of the strips adapted



to contact with the rollers when the platform sections are elevated, a strip secured to each of the bottoms of the platform sections at a point near the ends thereof, said strips having approximately U-shaped portions which are adapted to fit in the space between the ties and support the platform sections, and triangular shaped guard strips arranged upon the road bed adjacent to the platform sections.

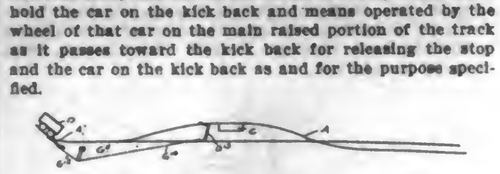
978,320. FEED-REGULATOR FOR CONCRETE-MIXERS. FRANK V. MCDONALD, Los Angeles, Cal. Filed Oct. 29, 1907. Serial No. 399,754.



In a device of the class described, the combination of a frame, a feed belt mounted in said frame, a multiple hopper mounted above said feed belt, said hopper comprising a substantially rectangular container, a substantially triangular container mounted within said rectangular container, a partition wall extending from said rectangular container to one wall of said triangular container in such manner as to divide the rectangular container into two separate compartments, the triangular container and each compartment of the rectangular container being provided with outlet openings which are arranged in such manner as to discharge the contents of each container upon a separate zone of said feed belt and a controlling gate for each of said discharge openings.

978,321. APPARATUS FOR HANDLING MINE-CARS. JAMES MCEVOY, Toronto, Ontario, Canada. Filed Feb. 3, 1910. Serial No. 541,674.

1. In an apparatus for handling mine cars, the combination with the main track having a raised portion and a depressed portion and the upwardly curved end forming the kick back, and the switch track, of a stop designed to hold the car on the kick back and means operated by the wheel of that car on the main raised portion of the track as it passes toward the kick back for releasing the stop and the car on the kick back as and for the purpose specified.



2. In an apparatus for handling mine cars, the combination with the main track having a raised portion and a depressed portion and the upwardly curved end forming the kick back, and the switch track, of shoe stops designed to engage with the wheels of the car to hold the car on the kick back, and means operated by the wheels of that car on the main raised portion of the track as it passes toward the kick back for releasing the stop and the car on the kick back as and for the purpose specified.

3. The combination with the main track having a raised portion and a depressed portion and the upwardly curved end forming the kick back, and the switch track, of shoes swung on rods located in proximity to the track and journaled in suitable bearings, a spring on the rod connected to the shoe and to the bearing and means connected to the shoe and operated by the wheels of the car on the raised portion of the main track for throwing the shoe out as the car on the main portion passes toward the kick back as and for the purpose specified.

4. The combination with the main track having a raised portion and a depressed portion and the upwardly curved end forming the kick back, and the switch track, of shoes swung on rods located in proximity to the track and journaled in suitable bearings, a spring on the rod connected to the shoe and to the bearing, arms connected to the shoes, a lever suitably fulcrumed between the tracks, wire connections to the ends of the lever and the arms, a bell crank on the side of the track, a connection from one end of the lever to the bell crank, a bell crank located in proximity to the track and the raised portion thereof designed to be operated by the wheels of the car as it passes toward the kick back and a connection between the bell crank on the raised portion of the main track and the bell crank at the kick back as and for the purpose specified.

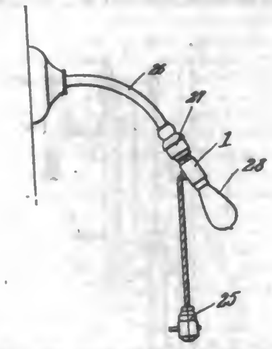
5. The combination with the main track having a raised portion and a depressed portion and the upwardly curved end forming the kick back, and the switch track, of shoes swung on rods located in proximity to the track and journaled in suitable bearings, a spring on the rod connected to the shoes and to the bearing, means connected to the shoes and operated by the wheels of the car on the raised portion of the main track for throwing the shoes out as the car on the main portion passes toward the kick back, and means for holding the shoes clear of the wheels of the car when they are thrown back and releasing means for such means as and for the purpose specified.

[Claims 6 and 7 not printed in the Gazette.]

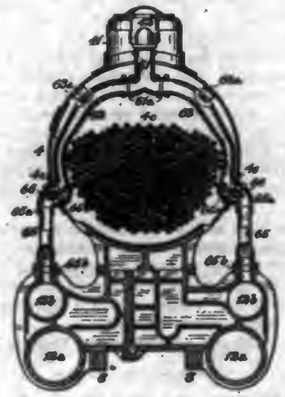
978,322. COMBINED SWITCH SOCKET AND PLUG. WILLIAM PINKNEY MCNEEL, San Antonio, Tex. Filed Aug. 9, 1910. Serial No. 576,359.

1. A combined switch socket and plug for incandescent lamps comprising a body member having a plug at one end and a socket at the other end, with interior terminal extensions of the like members of the plug and socket ends, and an exterior switch coupled to the said terminal extensions.

2. A combined switch socket and plug for incandescent lamps comprising a body member in the form of a sleeve of insulating material, a plug member at one end thereof, a socket member at the other end thereof, an insulating disk to which the terminals of the socket member are connected, a conducting strip extending from the plug member to the like terminal of the socket member and lying along the inner wall of the body sleeve, the latter being provided with a side passage therethrough, a conducting strip extending into the body member from the center terminal of the plug member, a conducting member extending from the center terminal of the socket toward the strip leading from the center member of the plug, an exterior switch, and conductors leading therefrom to the conducting members connected respectively to the center terminal members of the plug and socket.



978,323. STEAM-PIPES FOR ARTICULATED LOCOMOTIVES. CARL J. MELLIN and WILLIAM L. REID, Schenectady, N. Y. Filed Sept. 29, 1910. Serial No. 584,461.



1. In an articulated locomotive, the combination of a rear frame, a front frame coupled thereto, a plurality of driving wheels supporting each of said frames, a boiler fixed to the rear frame and projecting, with the capacity of relative movement, over the front frame, cylinders fixed to the rear frame and actuating the driving wheels thereof, a main steam supply pipe within the boiler, internal branch steam pipe sections connected thereto and extending downwardly between the boiler shell and tubes, and external branch steam pipe sections extending from the internal sections to the valve chests of the cylinders.

2. In an articulated locomotive, the combination of a rear frame, a front frame coupled thereto, a plurality of driving wheels supporting each of said frames, a boiler fixed to the rear frame and projecting, with the capacity of relative movement, over the front frame, cylinders fixed to the rear frame and actuating the driving wheels thereof, a main steam supply pipe within the boiler, internal branch steam pipe sections connected thereto and extending downwardly between the boiler shell and tubes, external branch steam pipe sections extending from the internal sections to the valve chests of the cylinders, and means for permitting a limited degree of movement of the external sections relatively to the internal sections.

3. In an articulated locomotive, the combination of a rear frame, a front frame coupled thereto, a plurality of driving wheels supporting each of said frames, a boiler fixed to the rear frame and projecting, with the capacity of relative movement, over the front frame, cylinders fixed to the rear frame, and actuating the driving wheels thereof, a main steam supply pipe within the boiler, internal branch steam pipe sections connected thereto and extending downwardly between the boiler shell and tubes to openings in the lower portion of the shell, ball joint rings connected to the internal pipe sections at said openings, and external branch steam pipe sections abutting against said rings and extending therefrom to the valve chests of the cylinders.

4. In an articulated locomotive, the combination of a rear frame, a front frame coupled thereto, a plurality of driving wheels supporting each of said frames, a boiler fixed to the rear frame and projecting, with the capacity of relative movement, over the front frame, cylinders fixed to the rear frame and actuating the driving wheels thereof, a main steam supply pipe section within the boiler, internal branch steam pipe sections connected thereto and extending downwardly between the boiler shell and tubes to openings in the lower portion of the shell, bearing plates secured to the boiler shell around said openings, ball joint rings fitting in the ends of the internal sections, bolts connecting said rings and sections to the boiler shell, and external steam pipe sections abutting against said rings and extending therefrom to the valve chests of the cylinders.

5. In an articulated locomotive, the combination of a rear frame, a front frame coupled thereto, a plurality of driving wheels supporting each of said frames, a boiler fixed to the rear frame and projecting, with the capacity of relative movement, over the front frame, cylinders fixed to the rear frame and actuating the driving wheels thereof, a main steam supply pipe within the boiler, internal branch steam pipe sections connected thereto and extending downwardly between the boiler shell and tubes to openings in the lower portion of the shell, bearing plates secured to the boiler shell around said openings, inner ball joint rings fitting between the internal sections and the boiler shell, outer ball joint rings fitting in the bearing plates, bolts connecting said inner and outer ball joint rings and internal sections to the boiler shell, and external steam pipe sections abutting against the outer ball joint rings and extending therefrom to the valve chests of the cylinders.

978,324. MANUFACTURE OF BOOTS AND SHOES. JOSEF MICHEEL, Kervenheim, Germany. Filed Feb. 3, 1903. Serial No. 141,746.

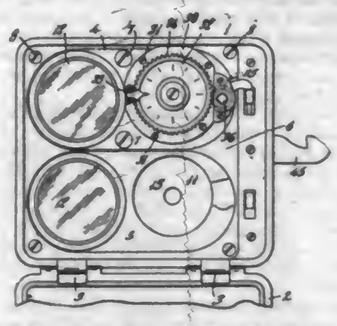
The process herein described of providing caps for boots and shoes, which consists in stiffening corresponding parts of the upper leather and its lining by plastering them at that part of the boot or shoe, where a cap is to be formed, on their adjacent sides opposite each other with celluloid-solution to such extent and shape, as corresponds to the form of the cap which is to be made, thus filling up the pores of the leather and the lining with celluloid, and then laying the two parts upon each other with their plastered places together and uniting the same in any usual manner, and finally mounting the whole upon a last and pressing it until the solution is dried and the whole hardened.

978,325. TIME-LOCK. OTTO F. MINTH, Cincinnati, Ohio, assignor of one-fourth to Joseph E. Hausfeld and one-fourth to Victor E. Tresise, Cincinnati, Ohio. Filed Mar. 10, 1910. Serial No. 548,337.

1. In a time lock, in combination with the bolt releasing mechanism, a watch movement with driving means separate therefrom, worm gear intermediate the watch movement and driving means, and a clutch device coupling the worm gear to the driving means, with means for releasing the clutch at predetermined times to transfer the driving action to the bolt releasing mechanism.

2. In a time lock, in combination with a bolt releasing mechanism; a watch movement with driving means sepa

rate therefrom, worm gearing intermediate the watch movement and the driving means, with direct connection therefor with the watch movement, and a clutch device coupling the worm gear to the driving means, with means for releasing the clutch at predetermined times to transfer the driving action to the bolt releasing mechanism.



3. In a time lock, in combination with a bolt releasing mechanism, a watch movement with driving means separate therefrom, worm gearing intermediate the watch movement and driving means, and a clutch device coupling the worm gear to the driving means, with means for releasing the clutch, under the action of the driving means, at predetermined times to transfer the driving action to the bolt releasing mechanism.

4. In a time lock, in combination with a bolt releasing mechanism, a watch movement with driving means separate therefrom, worm gearing intermediate the watch movement and driving means, with direct connection therefor with the watch movement, and a clutch device coupling the worm gear to the driving means, with means for releasing the clutch, under the action of the driving means, at predetermined times to transfer the driving action to the bolt releasing mechanism.

5. In a time lock, in combination with bolt releasing mechanism, a watch movement with driving means separate therefrom, and gearing connecting the same with the watch movement, a clutch device interposed between the driving means and watch movement, with means for releasing the clutch at predetermined times with means to transfer the driving action from the watch movement to the bolt releasing mechanism.

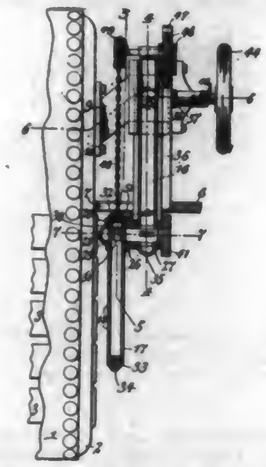
[Claims 6 to 16 not printed in the Gazette.]

978,326. BOILER-TUBE CLEANER. WILLIAM L. MIGGETT, Ann Arbor, Mich., assignor to Raphael Herman, Detroit, Mich. Filed Sept. 28, 1908. Serial No. 455,054.

1. The combination of a steam boiler having tubes, and a combustion chamber provided with an opening leading from the interior to the exterior thereof, a steam supply conduit movable through said opening from the exterior to the interior of said chamber and vice versa, and a steam delivery nozzle rotatable on said supply conduit on an axis arranged at right angles to the direction of movement of the conduit and transversely past the ends of said tubes.

2. The combination of a steam boiler having tubes, a combustion chamber provided with an opening leading from the interior to the exterior thereof, a movable cover for said opening, a steam supply conduit movable through said opening from the exterior to the interior of said chamber and vice versa, and a steam delivery nozzle rotatable on said supply conduit on an axis arranged at right angles to the direction of movement of the conduit and transversely past the ends of said tubes.

3. The combination with a steam boiler having tubes or flues, a combustion chamber and an opening from the interior to the exterior of said chamber, of a steam conduit movable lengthwise through said opening into and out of the combustion chamber and adapted to remain stationary while in its inner operative position relatively to the boiler tubes, and a nozzle pivoted on said conduit on an axis arranged at right angles to the direction of movement of the conduit so as to sweep past the mouths of the boiler tubes and provided on its side with openings through which steam is delivered into the mouths of said tubes.

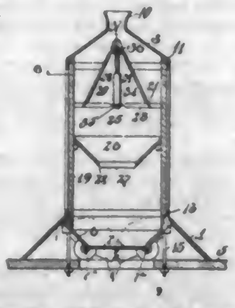


4. The combination of a steam boiler having tubes, and a combustion chamber provided with an opening leading from the interior to the exterior thereof, a stationary steam conduit arranged outside of the combustion chamber, a longitudinally movable steam conduit having a sliding connection with said stationary conduit and movable through said opening into and out of said chamber, and a steam delivery nozzle pivoted on said longitudinally movable conduit on an axis arranged at right angles to the direction of movement of the conduit and adapted to sweep past the ends of said tubes and having a plurality of outlet openings in its side facing the ends of said tubes.

5. A boiler tube cleaner comprising a stationary steam chamber having a steam outlet opening, an intermediate steam conduit having a steam inlet opening and movable for bringing its opening into or out of line with the opening of the stationary chamber, and a delivery nozzle pivoted to said intermediate conduit.

[Claims 6 to 29 not printed in the Gazette.]

978,327. FARE-BOX. HENRY S. MILLER, Cleveland, Ohio. Original application filed Dec. 14, 1909, Serial No. 533,515. Divided and this application filed Mar. 9, 1910. Serial No. 548,135.



1. The combination with a fare box casing, of an inspection box mounted in operative relation thereto, the latter box comprising a vertically-extending casing having an inlet, a deflector beneath said inlet, and metal strips extending across said casing, said deflector having its lower end slitted and supported by said strips with the slits engaged thereby.

2. In an inspection box, the combination of a casing having a hopper inlet at the top thereof and provided with corner pieces, lugs projecting inwardly from said corner pieces, metal strips extending diagonally across said casing and each having at its opposite ends a sleeve adapted to be interposed between said lugs, bolts located within said corner pieces and extending through said lugs and the interposed sleeves, and a deflector within said casing having its lower end slitted to receive said strips.

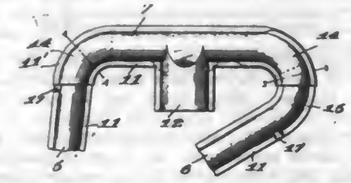
3. In an inspection box, the combination of a casing having an inlet at the top thereof and provided with spacing pieces, lugs projecting inwardly from said pieces, metal strips extending across said casing and each having at its opposite ends a sleeve adapted to be interposed between said lugs, bolts located within said pieces and extending through said lugs and the interposed sleeves, and a deflector within said casing supported by said strips.

4. An inspection box comprising a casing having an opening at the top thereof and having below said opening a tapered deflector and means for supporting said deflector, said means comprising lugs projecting inwardly from said casing, metal strips having sleeves at their opposite ends, said sleeves being operatively secured to said lugs, said strips having their webs arranged substantially vertically at the outer portions thereof and being connected at their central portions, the lower edges of said deflector being provided with slits to receive the outer portions of said strips.

5. In an inspection box, the combination of a casing having inwardly projecting lugs, metal supporting members each having at its outer end a sleeve, means securing said sleeves to said lugs, a chute in said casing having a central opening, said chute being provided with downwardly projecting pins, and sleeves at the inner ends of said supports adapted to receive said pins.

[Claims 6 to 12 not printed in the Gazette.]

978,328. TUBULAR LANTERN. EARNEST HILLIARD MINNS, Rochester, N. Y., assignor to Defiance Lantern & Stamping Co., Limited, a Corporation. Filed Apr. 9, 1910. Serial No. 554,504.



1. A lantern frame comprising separate tubular parts arranged for telescopic engagement at their mutually-adjacent ends, one of said parts being formed with longitudinal channels and the other part with longitudinal ribs conformably fitted in said channels.

2. A lantern frame comprising separate tubular parts having their mutually adjacent ends curved and arranged for telescopic engagement, one of said parts being formed with longitudinal channels, and the other part with longitudinal ribs conformably fitted in said channels whereby the co-action between the curved walls and the channels and ribs of said ends will prevent lateral and rotatory movement of said ends with respect to each other.

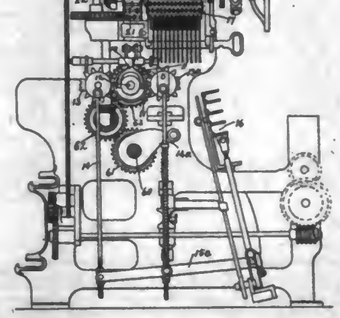
3. A lantern frame comprising separate tubular parts arranged for telescopic engagement at their mutually adjacent ends each of said parts being constructed of mating halves formed at their longitudinal edges with out-turned flanges, the flanges of one half of each part being interlocked with those of the other half to form ribs, the ribs of one of said parts overlying and being interlocked with those of the other part.

4. A lantern frame comprising separate tubular parts arranged for telescopic engagement at their mutually-adjacent ends, each of said parts being constructed of mating halves formed at their longitudinal edges with out-turned flanges, the flanges of one half of one of said parts being clenched around those of the other half, and the flanges of the other part being arranged against and clenched around the clenched flanges of the first-named part.

5. A tubular lantern frame having the ends of its side members inserted in those of its top member, and having said members formed with oppositely-located longitudinal ribs, the ribs on the ends of said side members being locked in those of said top member.

[Claim 6 not printed in the Gazette.]

978,329. HEALD AND SHUTTLE-BOX OPERATING MECHANISM OF LOOMS. DAVID NICHOLS, Shipley, England, assignor to George Hodgson Limited, Bradford, England. Filed Sept. 5, 1908. Serial No. 451,847.

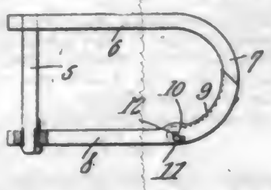


1. An improvement in looms comprising mechanism for operating the shuttle boxes, mechanism for operating the healds, and mechanism for controlling said shuttle box operating mechanism and said heald operating mechanism comprising independent crank wheels provided with teeth, partially toothed drums for rotating said crank wheels, vibrator levers for supporting said crank wheels, independent pattern mechanisms for actuating said vibrator levers, the pattern mechanism for the dobby actuating crank wheels acting at a different time from the pattern mechanism for actuating the shuttle boxes, and independent locking devices for said vibrator levers.

2. An improvement in looms comprising mechanism for operating the shuttle boxes, mechanism for operating the healds, and mechanism for controlling said shuttle box operating mechanism and said heald operating mechanism, comprising independent crank wheels provided with teeth, partially toothed drums for rotating said crank wheels, vibrator levers for supporting said crank wheels, independent pattern barrels for controlling the operation of the respective vibrator levers of said dobby and shuttle mechanism respectively, said barrels being relatively adjustable, and independent locking devices for said vibratory levers.

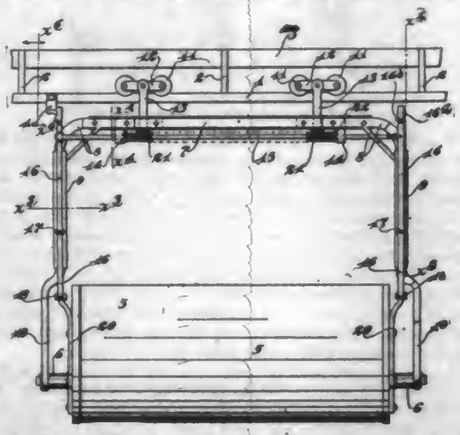
3. In a loom a partly toothed drum, toothed crank-wheels, lever or equivalent means for connecting these crank wheels to the healds, another partly toothed drum in alinement with the former and arranged to act at the opposite time thereto, toothed crank wheels and lever or equivalent connections to couple these latter toothed crank wheels to put the shuttle-box mechanism into and out of action, two pattern barrels mounted in alinement with each other the one being adjusted to control the movement of the healds while the other is adjusted at a different time to control the movements of the shuttle boxes, two locking bars, one for locking the crank wheels which move the healds while the other acts at a different time and locks those which put the box operating mechanism into and out of action, two cams and their lever and spring connections for operating said locking bars at different times substantially as herein specified.

978,330. CLEVIS. CHARLES A. NORMAN, Latimer, Kans. Filed June 14, 1910. Serial No. 566,833.



In a clevis, an upper part having a hooked forward end and having a pin depending from its rear end, and provided at its lower end with a shoulder, a lower part having a forward channeled extension fitting the hook of the upper part when the clevis is closed and formed at its rear end with an opening receiving the shouldered lower end of the pin, the sides of the channeled extension being formed with slots and the upper part formed at the extremity of its hook with studs fitting in the slots, and means normally yieldably holding the lower member in a forward direction, said means comprising a leaf spring secured to the pin at its lower end and bearing against the forward wall of the opening in the said lower member and holding the rear wall of the opening in engagement with the shoulder at the lower end of the pin.

978,331. LITTER-CARRIER. GUSTAV A. OLSON, Albert Lea, Minn. Filed Apr. 29, 1910. Serial No. 558,409.



1. The combination with a track, of a truck frame having wheels arranged to run on said track, a bucket pivotally connected to said frame and provided with lock heads at its ends, a pair of lock levers pivotally connected to said frame and coöperating one with each of said lock heads when in intermediate positions and movable to either side of said lock heads to release the same, means connecting said levers for common movements and yieldingly holding the same in intermediate positions engaged with said lock heads, and a relatively fixed abutment associated with said track and operative to move said levers simultaneously into releasing positions.

2. The combination with a track, of a frame having wheels arranged to run on said track, a bucket pivotally connected to said frame and provided with lock heads at its ends, lock levers pivotally connected to said frame and normally engaging said lock heads, a thrust rod connecting said levers for common movements, a spring normally holding said thrust rod in an intermediate position, and a tripping abutment associated with said track for forcing said levers into releasing positions, at least one of the said lock heads having a cam acting surface acting on the coöperating lever, to effect reëngagement of the said lever with said lock heads when said bucket is moved from a dumping back to normal position.

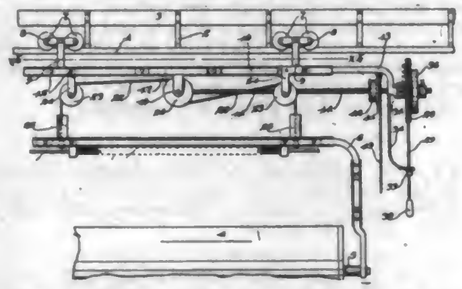
3. In a carrier of the kind described, an inverted approximately U-shaped frame made up of elbow brackets, horizontal laterally spaced top bars, depending laterally spaced upright end bars, and depending arm extensions, the said parts being rigidly connected, of wheel frames swiveled to the upper portions of said elbow brackets and provided with truck wheels, a bucket pivotally connected to the said arm extensions, and provided with a lock head, a lock lever pivoted to said frame and normally engaging said lock head, and a spring yieldingly holding said lock lever in an intermediate locking position, substantially as described.

4. A litter carrier provided with a pivoted bucket and a coöperating lock lever yieldingly held in an intermediate locking position.

5. The combination with a track and a coöperative tripping abutment, of a truck frame having wheels arranged to run on said truck, a bucket pivotally connected to said frame, and a bucket latching mechanism comprising a lever having a pivoted end for engagement with said tripping abutment when turned upward said pivoted end being capable of pivotal movement in one direction only from its operative position, substantially as described.

[Claim 6 not printed in the Gazette.]

978,332. LITTER-CARRIER. GUSTAV A. OLSON, Albert Lea, Minn. Filed July 14, 1910. Serial No. 571,900.



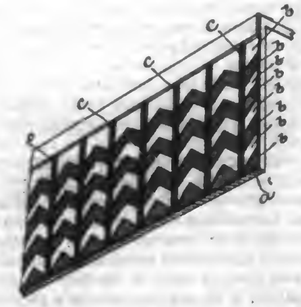
1. The combination of an elevated track and a truck arranged to travel thereon, of a bucket supporting frame, a bucket pivotally connected to the latter, a windlass connecting the bucket supporting frame to the truck frame with freedom for vertical movements, and coöperating parts on the truck frame and bucket supporting frame for locking the latter to the former against lateral and endwise movements only when the bucket supporting frame is raised.

2. The combination of an elevated track and a truck arranged to travel thereon, of a bucket supporting frame, a bucket pivoted to the latter, a windlass drum and guide sheaves journaled on the truck frame, cables passed over said guide sheaves and connecting the said drum to the said bucket supporting frame and alining channels on said bucket supporting frame engageable with said sheaves, to lock said bucket supporting frame against lateral and endwise movements in respect to the truck frame, substantially as described.

3. The combination of an elevated track and a truck arranged to travel thereon, of a bucket supporting frame and a bucket pivoted thereto, a windlass suspending said bucket supporting frame from the truck frame with freedom for vertical movements, and means for operating said windlass comprising a counter shaft connected thereto, and an oscillatory spring retracted wheel loosely mounted on said counter shaft, pawl and ratchet connections between said wheel and shaft and a pawl and ratchet retaining device for said counter shaft normally resisting rotation of said counter shaft under the weight of the bucket, substantially as described.

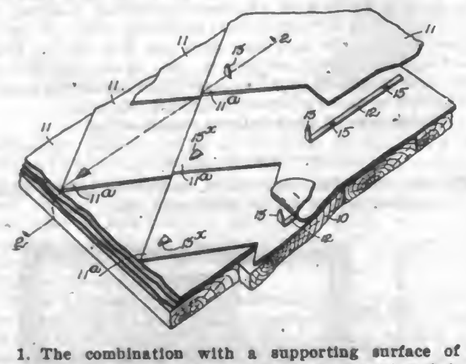
4. The combination of an elevated track and a truck mounted to travel thereon, of a bucket supporting frame and a bucket pivoted thereto, a windlass suspending said bucket frame from the truck frame with freedom for vertical adjustments, and means for operating said windlass comprising a counter shaft, a spring retracted driving wheel loosely mounted on said counter shaft, a coöperating ratchet wheel fixed on said counter shaft, a driving dog carried by said wheel and operative on said shaft wheel, an operating cable applied to said wheel, a brake drum and a retaining ratchet wheel secured to said counter shaft, a retaining pawl normally engaging said ratchet wheel and resisting rotation of said counter shaft under the weight of the bucket, which brake band cooperates with said brake drum, and a connection to said retaining pawl and to said brake band, operative first, to throw said pawl into inoperative position, and by further movements to set the said brake band on the drum, substantially as described.

978,333. PROTECTIVE COVERING FOR ROOFS, &c. FREDERICK C. OVERBURY, New York, N. Y., assignor to Flintkote Manufacturing Company, Rutherford, N. J., a Corporation of New Jersey. Filed Jan. 2, 1908. Serial No. 409,018.



The combination with a roof, of a series of furring strips laid crosswise of the roof, and a series of elongated flexible strips adapted to withstand elemental action, and laid crosswise of said furring strips to form overlapping courses, the said flexible strips sagging between the furring strips, and presenting inwardly curved outer surfaces.

978,334. ROOFING-FASTENER. FREDERICK C. OVERBURY, New York, N. Y., assignor to Flintkote Manufacturing Company, Rutherford, N. J., a Corporation of New Jersey. Filed Sept. 2, 1909. Serial No. 515,926.

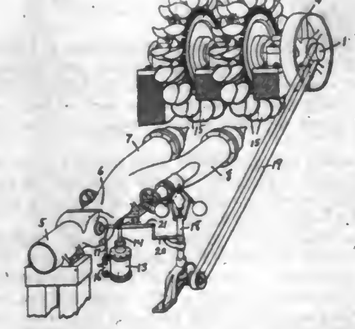


1. The combination with a supporting surface of a plurality of strips or sheets of roofing material each having a serrated edge, a fastener comprising a single strip of material forming an elongated body portion constructed to lie concealed under said roofing material, said fastener strip being provided with means whereby it may be attached to said supporting surface, one end of said fastener strip being arranged at an angle to the body thereof, and passed through one of the serrated projections of the overlying roofing strip, said angular portion being flexible and bent in a direction away from said body to permit said roofing material to expand and contract without buckling between the prong and the attaching means, the top face of said body being free of upwardly projecting protuberances.

2. The combination with a supporting surface of a plurality of strips or sheets of roofing material each having a serrated edge, a fastener comprising a single strip of material forming an elongated body portion constructed to lie concealed under said roofing material, and arranged to lie at right angles to said roofing strips, one end of each fastening being passed through one of the serrated projections of the overlying roofing strip, and continuing beyond the point of penetration in a direction in line with the body of the fastening, whereby said roofing material is free to expand and contract without buckling between the prong and attaching means.

3. The combination with a supporting surface, of a plurality of overlapping strips of roofing material, and fasteners for securing said strips to the supporting surface, said fasteners having elongated portions concealed under the strips and having attaching means passed through portions of the strips of roofing material which lie under the said elongated portions of the fasteners, said fasteners being provided with prongs out of alinement with the attaching means and projecting through overlying strips, said prongs continuing beyond the point where they pass through the strips, in a direction away from the points of attachment of the body portions to permit the material to expand or contract.

978,335. WATER-WHEEL. ARNOLD PFAU, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed July 25, 1907. Serial No. 385,404.

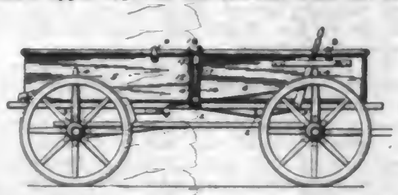


The combination with a shaft, of a plurality of wate jet actuatable wheels thereon, a pipe for supplying wate to said wheels, a branched nozzle hinged to said pipe at single connection with the hinge axis at an angle to th pipe conduit at the single hinge connection, the numbe of branches of said nozzle corresponding to the number o wheels upon said shaft, each of said branches being pro vided with a valve for controlling the flow of water there through, a governor responsive to the changes of speed o said shaft, and a single regulating means controlled b said governor for raising and lowering said branche nozzle.

978,336. WAGON-BOX FOR HOISTING AND DUMPIN GRAIN, BEETS, &c. JOHN C. PROCTOR, Seattle, Was Filed July 24, 1909. Serial No. 509,410.

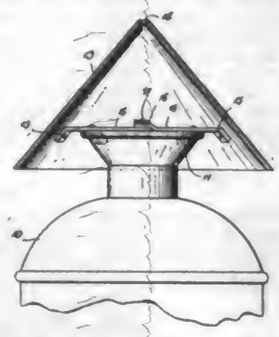
A sectional wagon body, comprising the platform of th running gear having clamps pivoted to the opposite side thereof, one part of each of the clamps having a bend its upper end and a curve at right angles to the bend, lever pivoted to said bend; a second part having a ben

on its lower end with the lever also pivoted thereto, said second part having upwardly extended arms provided with hooks on their upper ends which are adapted to engage the inner upper edges of two sections when the lever is



forced downward so as to hold the inner ends of the two sections in contact with the platform of the wagon body, and hooks for holding the outer ends of said sections to said platform, substantially as specified.

978,337. MILK-CAN SHIELD. WILLIAM H. SCHMELING, Albion, Wis. Filed Feb. 28, 1910. Serial No. 546,369.



1. A shield for receptacles comprising a body, a plurality of bars longitudinally slotted and connected together at one end and connected to the body at their other ends, a clamp device bearing upon each of said bars, and a clamp screw engaging through said slots and clamp devices.

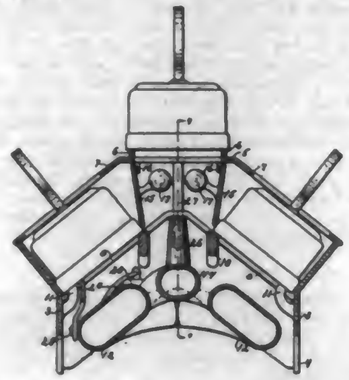
2. A shield for receptacles comprising a body having a vent aperture, a plurality of bars connected to said body, and clamp devices connected to said bars and adapted to detachably engage the same to a receptacle.

3. The combination with a receptacle including the cover thereof, of a shield extending over said cover and spaced therefrom, a plurality of bars longitudinally slotted and connected to said shield, clamp devices connected to said bars and detachably engaging the cover portion of said receptacle, and means operating through said slots for coupling said clamp devices to said bars.

4. The combination with a receptacle including the cover thereof, of a shield extending over said cover and spaced therefrom, a plurality of bars having longitudinal slots and connected to said shield, a clamp device bearing upon each of said bars and including a depending portion engaging the cover of said receptacle, and a clamp screw extending through said clamp device and the slots of said bars.

978,338. GAS-STOVE. OTTO H. SCHRADER, Milwaukee, Wis. Filed Apr. 12, 1909. Serial No. 489,284.

1. In a structure of the class described, the combination with a casing comprising side and end walls, the upper portions of said side walls being inclined outwardly, a top having a horizontally-arranged central portion forming a central grid, and outwardly-inclined portions at each side thereof; side grids arranged to support an iron in an inwardly inclined position, said grids each comprising solid end portions extending inwardly from the end walls of the casing, inner serrated bars and finger-like rests projecting inwardly from the side walls of said casing; and a burner arranged to deliver to the bottoms of the irons arranged on said side walls.



2. In a structure of the class described, the combination with a casing comprising side and end walls; a top having a horizontally-arranged central portion forming a central grid, and outwardly-inclined portions at each side thereof; side grids arranged to support an iron in an inwardly-inclined position; swinging deflectors arranged below the said central grid, said deflectors being retained in their inner position by the irons placed on said side grids; and a burner comprising a pair of members arranged adjacent to the side walls of said casing to deliver to the bottoms of the irons arranged on said side grids.

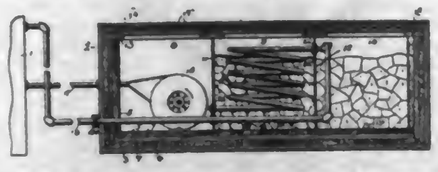
3. In a structure of the class described, the combination with a casing comprising side and end walls; a top having a horizontally-arranged central portion forming a central grid, and outwardly-inclined portions at each side thereof; side grids arranged to support an iron in an inwardly-inclined position; a burner comprising a pair of members arranged adjacent to the side walls of said casing to deliver to the outer edges of the irons arranged on said side grids; and means for securing the parts together, comprising a pair of upwardly-projecting studs on said burner and screws arranged through said casing top and the inwardly-inclined end portions of said grids and threaded into said studs.

4. In a structure of the class described, the combination of a pair of grids arranged one above the other; a burner for the lower grid, and a deflector interposed between said grids, all coacting for the purpose specified.

5. In a structure of the class described, the combination of a central horizontally-arranged grid, side grids adapted to support an iron in an inwardly-inclined position at each side of said central grid; swinging deflectors interposed between the said side grids and said central grid, said deflectors being retained in their inner positions by the irons placed on said side grids; and a burner adapted to deliver to the irons arranged on said side grids.

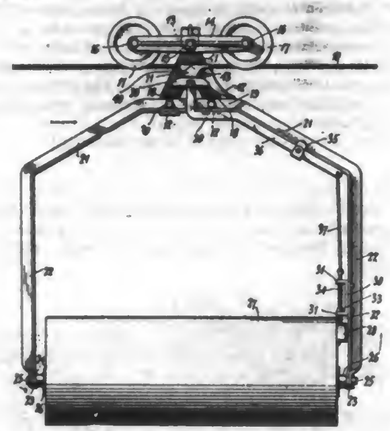
[Claims 6 to 12 not printed in the Gazette.]

978,339. COOLER. MARCUS A. SIMMONS, Yeager, Okla. Filed Feb. 24, 1910. Serial No. 545,665.



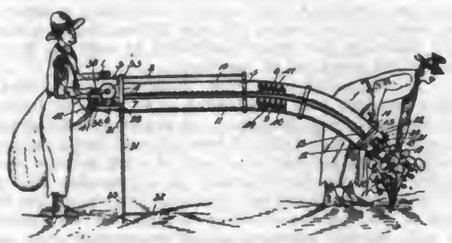
A cooler comprising three compartments, a blower in one of said compartments, an outlet from the blower to the exterior of the cooler, an ice compartment in the cooler, a freezing-mixture-compartment in the cooler, an air-intake-pipe extending through the blower-compartment and the freezing-mixture-compartment and communicating with the ice-compartment only of the cooler, a pipe in the freezing-mixture-compartment in open communication with the blower-compartment and the ice-compartment, and distinct from said outlet and air-intake-pipe, as set forth.

978,340. LITTER-CARRIER. FRED STRAND and AUSTIN STRAND, Dennison, Minn. Filed Feb. 21, 1910. Serial No. 545,153.



In a litter carrier, a tip bucket, a bail to which said bucket is pivoted, coacting latch means on said bail and bucket, a trip lever on said bail operatively connected to the latch means on the bail, and a guide end on said lever comprising a plate bent to U-shape with the mouth of the U uppermost; in combination with a trip finger pivoted to a fixed object and adapted to be received between the arms of the U-shaped plate, and means to limit the movement of said trip finger in one direction.

978,341. COTTON-PICKER. LOUIS C. STUKENBORG, Birmingham, Ala. Filed Nov. 2, 1909. Serial No. 525,951.



1. In a cotton picker, a box, flexible conveyer tubes connected thereto, pulleys at the ends of said tubes, a belt on said pulleys, means for operating said belt, brushes on said belt, the fibers of said brushes being parallel with said belt at their respective points of conjunction, the free ends of said fibers being slightly raised from said belt and extending in the direction of motion of the belt and adapted to engage the cotton, and a receptacle on said box for receiving the cotton.

2. In a cotton picker, a box, flexible conveyer tubes connected thereto, pulleys at the ends of said tubes, a belt on said pulleys, means for operating said belt, brushes on said belt, one end of the brush fibers being secured to said belt and in parallel relation thereto, the free ends of said fibers being slightly removed from said belt and extending in the direction of motion of the belt, and adapted to engage the cotton, a receptacle on said box for receiving the cotton, and means above said receptacle to remove the cotton from said belt.

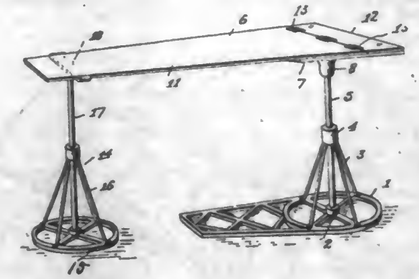
3. In a cotton picker, a box, flexible conveyer tubes connected thereto, pulleys at the ends of said tubes, a belt on said pulleys, means for operating said belt, brushes on said belt adapted to engage and remove the cotton bolls from the plant, a receptacle on said box for receiving the cotton and a helical spring above said receptacle, adapted to engage said brushes and remove the cotton therefrom.

4. In a cotton picker, a box, an arm pivotally mounted upon said box, flexible conveyer tubes connected to said box and supported by said arm, pulleys at the ends of said tubes, a belt on said pulleys, means for operating said belt, brushes on said belt adapted to engage the cotton, said brushes being inclined in the direction of motion of the belt, and a receptacle on said box for receiving the cotton.

5. In a cotton picker, a box, an arm on said box, flexible conveyer tubes connected to said box and supported by said arm, pulleys at the ends of said tubes, a belt on said pulleys, brushes on said belt adapted to engage and remove the cotton from the plant, a wheel on the picker end of the conveyer tubes, brushes on said wheel, said brushes adapted to be engaged by the brushes on said belt, whereby said wheel is rotated, means for removing the cotton from the first said brushes, and a receptacle on said box to receive the cotton.
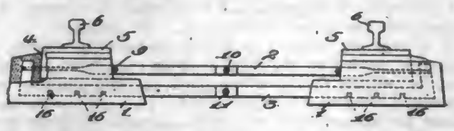
[Claims 6 and 7 not printed in the Gazette.]

978,342. IRONING-BOARD. ARVIE E. J. WEAVER, Brewton, Ala. Filed June 23, 1910. Serial No. 568,476.



A device of the character described, comprising an elongated base provided with a socket at one end, a stand having an apertured collar secured to said base, a standard having an angular upper end rotatably mounted in said collar and socket, a sleeve board having an integral extended base and an angular seat to engage the angular end of the standard, and a main-board hinged to the extended base of said sleeve-board.

978,343. CROSS-TIE OR SLEEPER OF REINFORCED CONCRETE OR OTHER PLASTIC MATERIAL. HAROLD A. WILLS, Plainfield, N. J. Filed May 26, 1909. Serial No. 498,452.



1. A cross-tie comprising concrete end base members spaced apart from each other, a metallic bar connecting the end members and extending longitudinally into the lower portion thereof and having upwardly extending portions toward the outer faces of the members and lying below the top surface of the members, and other metallic bars connecting the end base members together in a higher horizontal plane than the first mentioned bar and embedded in the end members.

2. A cross-tie comprising concrete end base members spaced apart from each other and each formed with a

cavity to receive a wooden shock-absorbing block, a wooden block fitting in each of said cavities, a metallic bar connecting the end members together, a reinforcing member embedded in the concrete of each end member around the wooden block in the cavity and a cross bar connecting together opposite limbs of said reinforcing member at the inner side of the base member.

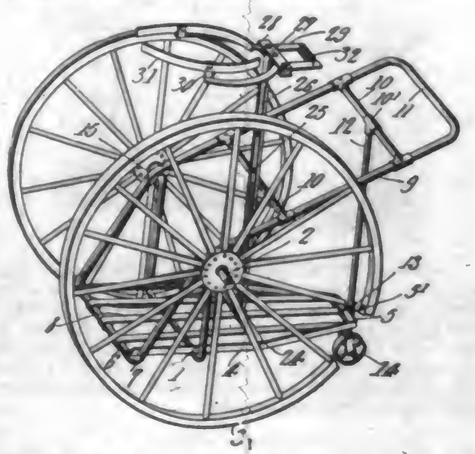
3. A cross-tie comprising concrete end members, each formed with a cavity to receive a wooden shock-absorbing block and having an open side, a wooden block fitted in each cavity, and a locking-bar crossing the open side of the cavity across the block therein to hold the block in place.

4. A cross-tie comprising concrete end members, each formed with a cavity to receive a wooden shock-absorbing block and having an open side, a wooden block fitted in each cavity, a reinforcing member embedded in the concrete around the block in the cavity, and a locking-bar connecting parts of said reinforcing member and extending across the end of the block at the open side of the cavity.

5. A cross-tie comprising concrete end members, each formed with a cavity having an open side toward the opposite concrete member to receive a wooden shock-absorbing block, a wooden block fitted in each cavity and projecting above the top of the concrete end member, metallic bars connecting one concrete end member with the other, and reinforcing members embedded in the concrete of the end members.

[Claims 6 to 8 not printed in the Gazette.]

978,344. CART. REUBEN D. WIRT, Philadelphia, Pa. Filed July 29, 1910. Serial No. 574,498.



1. A cart including a bent axle, supporting wheels, a platform resting upon the intermediate portion of the axle, a caster supporting one end portion of the platform, and a bag-holder carried by the intermediate portion of the platform, that portion of said platform between the holder and the caster constituting a can support.

2. A cart including a bent axle, supporting wheels, a platform bearing on the axle, a caster constituting a support for one end portion of the platform, said platform including a continuous angular side and end strip, and means for supporting a dirt receptacle upon the front portion of the platform, said platform extending rearwardly beyond said supporting means.

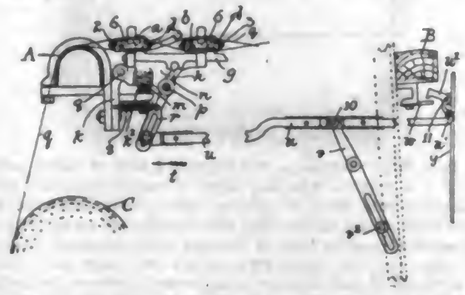
3. A cart including a bent axle, supporting wheels, a platform bearing on the intermediate portion of the axle, a wheel supporting one end portion of the platform, and means upon the platform for supporting a dirt receptacle upon said platform and over the axle, the platform extending beyond the supporting means to constitute a can support.

4. A cart including a wheel supported axle, a platform mounted on the axle, side members connected to one end of the platform and extending over the axle, a connection between the side members, a fitting upon said connection, a fitting secured to the platform, a caster wheel constituting a support for the platform, and a stem projecting from the caster wheel and mounted for rotation within said fittings.

5. A cart including a wheel supported axle, a platform bearing at an intermediate point thereon, side members connected to the axle and attached to one end of the platform, a fitting upon the other end of said platform, a connection between the side members, a fitting carried by said connection, a stem mounted for rotation within the fittings, a caster wheel at the lower end of said wheel and constituting a support for the platform, means engaging the stem and coöperating with one of the fittings to hold the stem against removal from the fittings, said means being detachable.

[Claims 6 to 11 not printed in the Gazette.]

978,345. WARP STOP MECHANISM FOR LOOMS. JAMES WRIGHT and HERBEN WRIGHT, Ingrow, near Keighley, England. Filed Apr. 6, 1909. Serial No. 488,325.



1. An improved warp stop mechanism comprising a frame provided with longitudinal parts extended between the sheets of warp threads, a rod extended longitudinally of said frame, a plurality of detectors each having one end engaging said rod, the other end of each detector being supported by the warp threads, bearing members carried by said frame, sliding members mounted in said bearing members, means for reciprocating said sliding members, a bar removably supported by said sliding members below said detectors, and means controlled by said bar for arresting the operation of the loom.

2. An improved warp stop mechanism comprising a frame provided with longitudinal parts extended between the sheets of warp threads, a rod extended longitudinally of said frame, a plurality of detectors each having one end engaging said rod, the other end of each detector being supported by the warp threads, pivoted bearing members for said frame, means for resiliently supporting the free ends of said bearing members, sliding members mounted in said bearing members, means for reciprocating said sliding members, a bar removably supported by said sliding members below said detectors, and means controlled by said bar for arresting the operation of the loom.

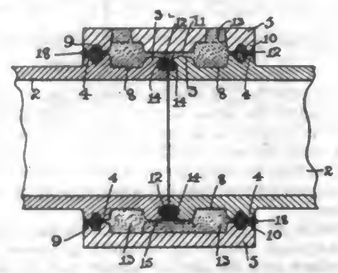
3. An improved warp stop mechanism comprising a frame provided with longitudinal parts extended between the sheets of warp threads, means for pivotally supporting the frame outside of the sheets of said warp threads, a plurality of detectors each having one end mounted in said frame, the other end of each detector being normally supported by the warp threads, a bar mounted to reciprocate in said frame below said detectors and arranged to engage the latter upon the breaking of a warp thread, and means controlled by said bar for arresting the operation of the loom.

4. An improved warp stop mechanism comprising a frame provided with longitudinal parts extended between the sheets of warp threads, pivotally mounted bearing members for supporting the frame outside of the sheets of warp threads, resilient supports for said bearing members, a plurality of detectors each having one end mounted in said frame, the other end of each detector being normally supported by the warp threads, a bar mounted to reciprocate in said frame below said detectors and arranged to engage the latter upon the breaking of a warp thread, and means controlled by said bar for arresting the operation of the loom.

5. An improved stop mechanism comprising a frame provided with longitudinal parts extended between the sheets of warp threads, yielding supports for said frame outside of the sheets of warp threads, a plurality of detectors mounted in said frame and normally supported by the warp threads, a bar mounted to reciprocate in said frame below said detectors and arranged to engage the latter upon breaking of a warp thread, and means controlled by said bar for arresting the operation of the loom.

[Claims 6 and 7 not printed in the Gazette.]

978,346. DEVICE FOR FORMING JOINTS IN PIPES OR MAINS. MATTHEW YARROW, Smithills, Bolton, England, assignor to Yarrow and Company (Bolton) Limited, Bolton, England. Filed Oct. 2, 1907. Serial No. 395,567.



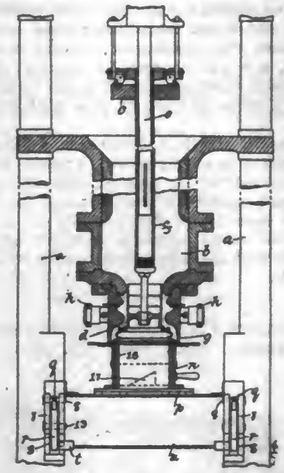
1. The combination with two pipe members having their ends in alinement and provided with flanges having coinciding grooves constructed to receive calking material, each of said pipe members being also provided with a tapered flange spaced from said first mentioned flange, of a sleeve having internally beveled flanges coöperating with the tapered flanges of said pipe members, said sleeve being provided with a plurality of openings.

2. The combination with two pipe members having their ends in alinement and provided with flanges having coinciding grooves constructed to receive calking material, each of said pipe members being also provided with a tapered flange spaced from said first mentioned flange and having a rounded edge, of a sleeve having internally beveled flanges provided with rounded edges and coöperating with the tapered flanges of said pipe members, the tapered flanges of said sleeve and the internally beveled flanges of pipe members being provided with annular grooves, said sleeve being provided with a plurality of openings.

978,347. MACHINE FOR THE MANUFACTURE OF EARTHENWARE PIPES. MATTHEW YARROW, Smithills, Bolton, England, assignor to Yarrow and Company (Bolton) Limited, Bolton, England. Filed Sept. 18, 1908. Serial No. 453,682.

1. A machine for producing earthenware pipes or mains, comprising a cylinder, a plunger operating therein, dies arranged to receive material from said cylinder, a core coöperating with said dies, a table for receiving the molded articles as they are formed, counterbalancing levers for said table, and means connected to said table for moving said counterbalancing levers.

2. A machine for producing earthenware pipes or mains, comprising a cylinder, a plunger operating therein, dies arranged to receive material from said cylinder, a core coöperating with said dies, a table for receiving the molded articles as they are formed, counterbalancing levers for said table, cam levers for moving said counterbalancing levers, and means connected with said table for controlling said cam levers.



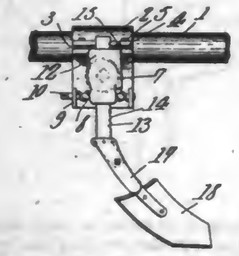
3. A machine for producing earthenware pipes or mains, comprising a cylinder, a plunger operating therein, dies arranged to receive material from said cylinder, a core coöperating with said dies, an annular member projecting into said dies for supporting the molded articles, a table upon which said member is mounted, counterbalancing levers for said table, and means connected with the table for moving said levers.

4. In a machine of the class described, a cylinder, a plunger acting within said cylinder, dies and a core mounted in connection with said cylinder, a table arranged to receive the pipes produced, projecting pins carried by said table, levers pivoted on the framework and having inclined ends for the engagement of said pins and rounded ends to engage with inclines formed on weighted levers, and said weighted levers substantially as herein specified.

5. In a machine of the class described, a cylinder, a plunger in said cylinder, dies and a core mounted in connection with said cylinder, an annular piece taking within said dies, inclines on said annular piece, another annular piece beneath the former, inclines on this latter for engagement with the inclines on the former and a table for supporting said annular pieces, substantially as herein set forth.

[Claim 6 not printed in the Gazette.]

978,348. CULTIVATOR-STANDARD. EDWARD D. YEATTS, Sanger, Tex. Filed Aug. 1, 1910. Serial No. 574,756.

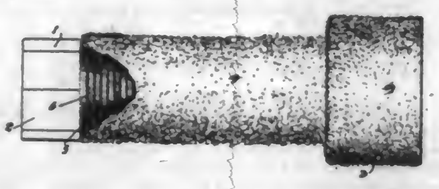


1. A standard structure comprising a block adapted to be applied to a beam, a sleeve journaled in the block, a worm wheel carried by the sleeve, a worm journaled upon the block and meshing with the worm wheel, a bolt carried by the sleeve and restrained against independent rotation with relation to the same, a collar carried by the bolt and a standard adjustably mounted in the collar.

2. A standard structure comprising a block adapted to be applied to a beam, a sleeve journaled in the collar, a worm wheel carried by the sleeve, a worm journaled upon the block and meshing with the worm wheel, a bolt carried by the sleeve and restrained against independent rotary movement with relation to the same, a collar carried by the bolt, a worm mounted for rotation in the collar, and a standard slidably mounted in the collar and having at its edge a series of teeth in mesh with the last named worm.

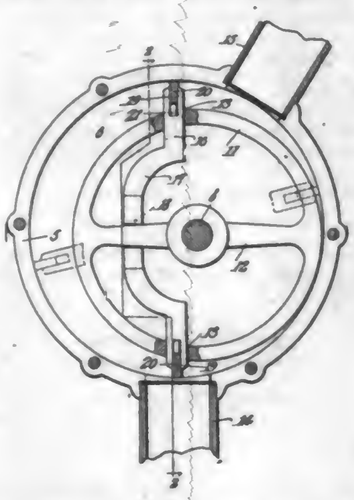
3. A standard structure comprising a block having an opening adapted to snugly receive a beam, spaced flanges located at the side of the opening, draw bolts drawing the flanges toward each other and clamping the block upon a standard, a sleeve journaled in the block, a worm wheel carried by the sleeve, a worm journaled upon the block and meshing with the worm wheel, and a standard carried by the sleeve.

978,349. WATER-PIPE. DANIEL ALTON, Strathcona, Alberta, Canada. Filed June 13, 1910. Serial No. 566,618.



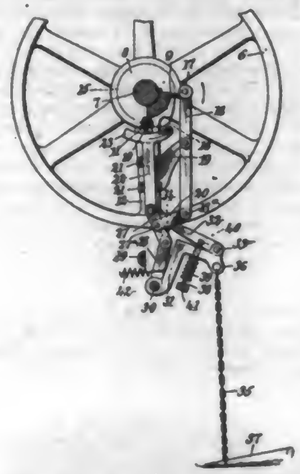
A wire wound wooden water pipe having an initial coating of asphalt, a thickness of burlap around the asphalt, a coating of asphalt around the burlap, and a final coating of sawdust, as and for the purpose specified.

978,350. ROTARY PUMP. JAMES BAGULEY, Evanston, Wyo. Filed Oct. 24, 1908. Serial No. 459,376.



In a rotary pump, a cylinder, a head mounted eccentrically within the cylinder for rotation, and a piston slidably mounted in the head and transecting the same, said piston projecting at both ends beyond the periphery of the head, and a spring pressed packing strip mounted at each end of the piston, the said ends of the piston being located in a plane to one side of the axis of the head and said plane being coincident with the axis of the cylinder in one position of the rotation of said piston.

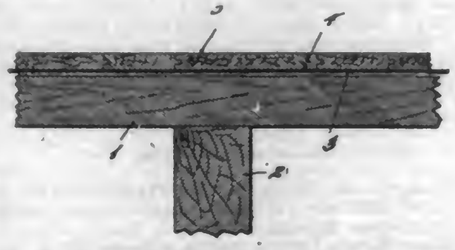
978,351. LATCH-CONTROLLING DEVICE FOR CLUTCH MECHANISMS. CARL OTTO BERGMAN, Evanston, Ill. Filed Feb. 21, 1908. Serial No. 417,123.



1. The combination of clutch mechanism, a latch for normally causing the same to release periodically, toggle mechanism for locking said latch mechanism, a lever for controlling said toggle mechanism, and a cam driven by power for actuating said lever, thereby restoring said latch to its normal position independently of the will of the operator.

2. A device of the character described, comprising clutch members, a clutch pin mounted upon one of said clutch members and adapted to engage the other clutch members for the purpose of locking said clutch members together, a latch for momentarily throwing said clutch pin out of action, means for moving said latch into and out of the path of travel of said clutch pin, and mechanism controllable automatically by the rotation of a shaft for positively locking said latch partially within the path of travel of said clutch pin.

978,352. MOISTURE-PROOF WOOD FLOOR. JOHN W. BRADY, St. Louis, Mo. Filed Mar. 19, 1910. Serial No. 550,538.



1. The herein described flooring consisting of a sub-floor, a layer of reactive pulverized absorbent material on said sub-floor, a sheet of water proof material above the layer of pulverized absorbent material, and an upper floor on top of the thin sheet of material.

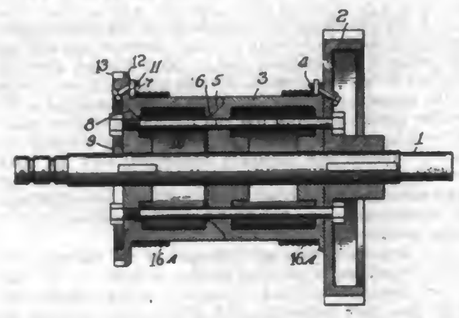
2. The herein described flooring comprising a sub-floor, a layer of pulverized absorbent material thereon, a thin sheet of wax coated material on the layer of pulverized material and an upper floor on top of the thin sheet of material.

3. The herein described flooring consisting of a sub-floor, a layer of pulverized chalk thereon, a sheet of wax coated paper on the layer of chalk, and an upper floor on the sheet of wax coated paper.

4. The combination with a hard wood flooring of a thin sheet of water proof material applied to the under side of said hard wood flooring, and a layer of reactive pulverized absorbent material applied to the under side of the layer of pulverized absorbent material.

5. The combination with a hard wood flooring, of a thin sheet of water proof material applied to the under side of said hard wood flooring, a layer of reactive pulverized absorbent material applied to the under side of the sheet of waterproof material, and a support for the layer of pulverized material and the sheet of water proof material.

978,353. WINCH-DRUM. CHARLES HENRY BRAINARD, Chicago, Ill., assignor to Monighan Machine Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 27, 1909. Serial No. 535,082.



1. The combination of a shaft, a gear wheel mounted thereon, a driving drum section rigidly connected to said wheel, a loose drum section frictionally engaging the end of said driving section, means beyond said loose section for controlling the pressure at the friction surface, means for holding said loose section while said driving section turns, a cable having an end connected to each drum section, and means extending from said controlling means through said loose drum section to said first named drum section for drawing said members together.

2. The combination of a shaft, a drum section mounted thereon and driven thereby, said section having a conical friction surface near its end, a conical friction member mounted on said shaft and movable longitudinally thereon, bolts for moving said friction member, and a second drum section having at one end a friction surface contacting with said friction member, and at the other end a friction surface contacting with said first named section, and means for holding said second section while the other section turns.

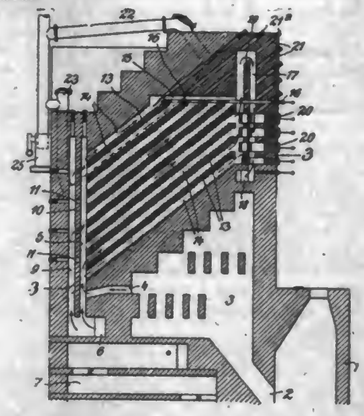
3. The combination of a shaft, a drum section carried by said shaft and connected rigidly thereto, said section having at its end a cylindrical shoulder and a conical friction surface, a loose section out of contact with said shaft, said loose section inclosing said shoulder and fitting against said friction surface, means located beyond said loose section for controlling the friction between said sections, and means extending from said last named means through said loose section for producing relative movement of said sections when desired.

4. The combination of a shaft, a drum section mounted thereon and driven thereby, a disk mounted on said shaft, a loose drum section having a friction surface bearing against an end of said first named section and having a friction surface engaging with said disk, bolts for drawing said disk toward said first named section to increase the pressure at said friction surfaces, and stops on the periphery of said loose section for engagement with a holding means.

5. The combination of a shaft, a driving drum keyed to said shaft, a driving gear rigidly connected to said driving section, said driving section having a conical friction surface near its end, a second drum section supported at one end by said driving section and having its winding periphery flush with that of said driving section, a disk having a friction surface bearing against said second section, bolts for drawing said disk toward said driving section to increase the pressure at said friction surfaces, and ratchet teeth on the periphery of said second section.

[Claims 6 to 8 not printed in the Gazette.]

978,354. GAS-PRODUCING OVEN. HERMANN ALBERT ROBERT BRÖKER, Hamburg, Germany, assignor to Ofenbau-Gesellschaft M. B. H., München, Germany, a Corporation of Germany. Filed Sept. 20, 1909. Serial No. 518,688.



1. The combination of an oven having a gasifying chamber and superposed heating channels laterally thereof, an upward passage connected with the delivery ends of said heating channels, a downward channel connected with the upper end of said upward passage and a partition which separates said downward channel from the upward passage and from the delivery ends of the heating channels.

2. The combination of an oven having a gasifying chamber and superposed heating channels located at each side of said chamber, and movable means, located at different levels, for opening or obstructing said channels to vary the circulation of the heating gases.

3. The combination of an oven having a gasifying chamber and superposed heating channels located at each side of said chamber, an outlet channel, a vertical channel connected with said outlet channel, and a partition which separates said vertical channel from the discharge ends of the lower heating channels.

4. The combination of an oven having a gasifying chamber and superposed heating channels located at each side of said chamber, an outlet channel, a vertical channel connected with said outlet channel, a partition which separates said vertical channel from the discharge ends of the lower heating channels, and cut-off slides extending through said partition in line with the lower channels.

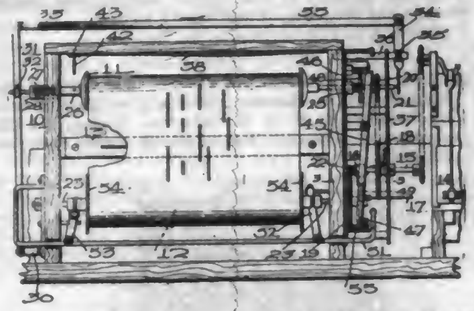
5. The combination of an oven having a gasifying chamber and superposed heating channels located at each side of said chamber, an outlet channel, a vertical channel connected with said outlet channel, a partition which separates said vertical channel from the discharge ends of the lower heating channels, and cut-off slides extending through said partition in line with the lower channels, said slides being perforated to allow the gases to escape from the open lower channels.

[Claims 6 to 8 not printed in the Gazette.]

978,355. SPOOL-ADJUSTING DEVICE FOR MUSICAL INSTRUMENTS. THEODORE P. BROWN, Worcester, Mass., assignor to Simplex Piano Player Company, a Corporation of Massachusetts. Filed Apr. 25, 1910. Serial No. 557,341.

1. In a musical instrument, the combination of a pair of spindles for holding the music spool, means whereby when one of said spindles is moved the other will be moved in the opposite direction, and means connected

therewith for moving both spindles in the same direction without changing their distance apart.



2. In a musical instrument, the combination of two supports for a spool, means for moving said supports in opposite directions, and means for adjusting said supports simultaneously in the same direction.

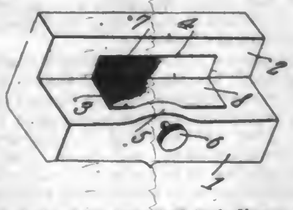
3. In a musical instrument, the combination of two supports for a spool, a sliding rod, means for moving said rod, a lever fulcrumed on said rod and adapted to move one of said supports, and a lever connected with the first named lever and adapted to move the other support in the same direction.

4. In a musical instrument, the combination of two supports for the opposite ends of a spool, means for moving said supports in opposite directions, a slidable rod, connections from the rod to said supports for moving them in the same direction when the rod slides, and a lever having an arm extending transversely with respect to the slidable rod, said rod having a slot for receiving said arm.

5. In a musical instrument, the combination of two supports for a spool, a slidable rod, connections from the rod to said supports for moving them in the same direction when the rod slides, and means for moving the supports in opposite directions without interfering with the adjustment of the rod.

[Claims 6 to 12 not printed in the Gazette.]

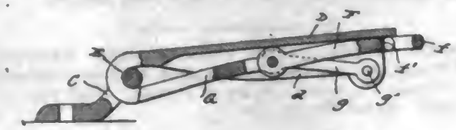
978,356. LAWN-MOWER SHARPENER. LEE CHAILLE, Butlerville, Ind. Filed Nov. 15, 1909. Serial No. 528,113.



A device of the class described including a block having a flange perpendicular thereto, there being a recess in the block and a recess in the flange, said recesses communicating, an abrading block fitting snugly within the recess in the flange and having one face parallel with and disposed beyond the recessed face of the flange, an abrading block detachably seated within the recessed block and having its sharpening surface parallel with and elevated above the recessed block, said sharpening or abrading block abutting against the block within the flange to hold it against displacement, and means adjustably mounted within the recessed block for clamping the abrading blocks together to hold them within their recesses.

978,357. DETACHABLE STRAP-TIGHTENER. PHILIP D. CHRISTMAN, Bryan, Ohio. Filed Jan. 15, 1910. Serial No. 538,249.

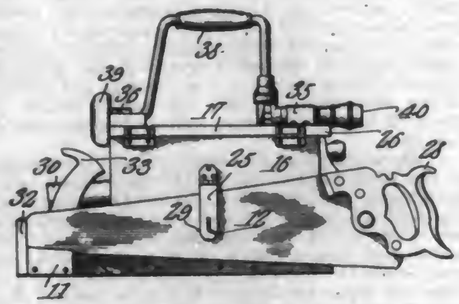
1. A detachable take-up connector of the character set forth embodying a housing having a hook at one end and longitudinal side walls, extending to the opposite end, a lever member pivotally mounted in the housing between the side walls on an axis fixed with relation to the housing and lever and at its free end coöperating with the hook to close the same, and a link member pivotally connected with an intermediate part of the lever member to move across the axis of the latter in closing, said link member having shoulders in proximity to its free end for coöperation with the housing in the closed position of the link member to hold the lever member closed.



2. A detachable take-up connector of the character set forth, embodying a housing having a hook at one end and side walls at the opposite end, a lever member pivotally mounted at one end between the side walls and coöperating at the opposite end with the hook to close the same, a link member having a loop at one end forming shoulders adapted to coöperate with the side walls of the housing and at the opposite end pivotally connected with an intermediate part of the lever to move between the side walls and across the axis of the lever in closing, said link resting against and serving to support the housing when in closed position.

3. A detachable take-up connector of the character set forth, embodying a housing having a hook at one end, a lever pivotally mounted at one end in the housing and at its free end coöperating with the hook to close the same, a link member pivotally connected with the lever to move across the axis of the latter in closing, means on the link for the connection of a coöperating strap and shoulders on the end of the housing and shoulders on the free end of the link, coöperating with the shoulders on the housing when the link is moved beyond the axis of the lever to hold the lever in closed position.

978,358. TOOL-CHEST. WILLIS H. COLBY, near Chattanooga, Tenn. Filed Dec. 29, 1909. Serial No. 535,519.



1. In a device of the class described, a receptacle provided with spaced elements to engage a bit stock, whereby the bit stock may be made to serve as a pivotally mounted handle for the receptacle, one of said elements being engageable by a portion of the bit stock to hold the bit stock against pivotal movement.

2. In a device of the class described, a miter box; a tool chest; and a multi-part tool-holding device, the parts of which are pivotally connected respectively with the box and the chest, and manipulative to connect the box and the chest, whereby the same may be simultaneously lifted, the chest and the box having interlocking elements to position the parts of the tool-holding device for union with each other.

3. In a device of the class described, a miter box having its bottom terminally extended beyond its side walls; a receptacle arranged to be superposed upon the box; a lid hinged to the receptacle and arranged to overhang the extended portion of the box; the overhanging portion of the lid and the extended portion of the box being provided with alined openings; and a tool arranged to be terminally inserted into the openings.

4. In a device of the class described, a tool chest; a socket mounted upon the chest adjacent one end thereof; a pivoted clip mounted upon the chest adjacent the other end thereof; a bit stock arranged to be engaged by the clip and the socket; a head carried by the bit stock and arranged to engage one end of the chest; and a chuck carried by the stock and arranged to engage the socket to draw the head against the chest.

5. In a device of the class described, a miter box; a tool chest arranged to be superposed thereon; and a tool arranged to be mounted in the box and provided with an upstanding handle, the box and the chest being provided with interlocking elements, and the tool and the chest being provided with interlocking elements; the chest being shorter than the box to clear the handle of the tool, and the box being extended beneath the handled end of the tool to protect the same.

[Claims 6 to 11 not printed in the Gazette.]

978,359. CEMENTING WELLS. AUGUSTUS STEIGER COOPER, Los Olivos, Cal. Filed June 27, 1910. Serial No. 569,033.



1. The method of cementing wells to shut off surface water, which consists in placing in the bottom of the well-bore a foundation filling; then lowering into the bore a casing with its lower open end separated from the surface of said foundation; then supplying said casing with sulfur; then circulating through the casing a heating medium of a temperature to melt the sulfur; then when the sulfur is melted applying pressure sufficient to drive it out of the casing and up between said casing and the wall of the well-bore, and, finally, effecting the hardening of the sulfur by cooling.

2. The method of cementing wells to shut off surface water, which consists in placing in the bottom of the well-bore a foundation filling; then lowering into the bore a casing with its lower open end separated from the surface of said foundation; then supplying said casing with sulfur; then supplying the casing with asphaltum resting on the sulfur; then circulating through the casing a heating medium of a temperature to melt the sulfur and asphaltum; then when the sulfur and asphaltum are melted applying pressure sufficient to drive them out of the casing and up between said casing and the wall of the well-bore; and, finally, effecting the hardening of the sulfur and asphaltum by cooling.

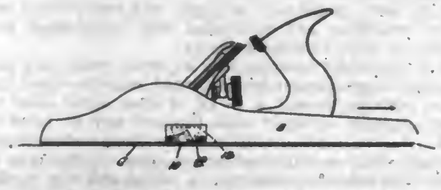
3. The method of cementing wells to shut off surface water, which consists in placing in the bottom of the well bore, a sealing body penetrable to the casing but impervious to liquid; then lowering into the bore a casing with its lower open end separated from the surface of said sealing body; then supplying said casing with sulfur; then circulating through the casing a heating medium of a temperature to melt the sulfur; then applying pressure to the melted sulfur to drive it out of the casing and up between said casing and the wall of the well-bore; then while the sulfur is still melted, lowering the casing to cause its lower end to penetrate the sealing body; and, finally, effecting the hardening of the sulfur by cooling.

4. The method of cementing wells to shut off surface water, which consists in placing in the bottom of the well bore a sealing body penetrable to the casing but impervious to liquid; then lowering into the bore a casing with its lower open end separated from the surface of said sealing body; then supplying said casing with sulfur; then supplying the casing with asphaltum above the sulfur; then circulating through the casing a heating medium of a temperature to melt the sulfur and asphaltum; then applying pressure to drive the melted sulfur and asphaltum out of the casing and up between said casing and the wall of the well-bore; then while the sulfur and asphaltum are still melted, lowering the casing to cause its lower end to penetrate the sealing body; and, finally, effecting the hardening of the sulfur and asphaltum by cooling.

5. The method of cementing wells to shut off surface water, which consists in placing in the bottom of the well-bore a bituminous body penetrable to the casing to form a seal for said casing when lowered; then covering said sealing body with a body of material also penetrable to the casing, to form a protection against heat for the sealing body, then lowering into the bore a casing with its lower open end separated from the surface of said protecting body; then supplying said casing with sulfur; then circulating through the casing a heating medium of a temperature to melt the sulfur; then applying pressure to the melted sulfur to drive it out of the casing and up between said casing and the wall of the well-bore; then while the sulfur is still melted, lowering the casing to cause its lower end to penetrate the sealing body and its protecting covering; and, finally, effecting the hardening of the sulfur by cooling.

[Claims 6 to 10 not printed in the Gazette.]

978,360. CARPENTER'S PLANE. WILLIAM H. CROSBY, Pittsburg, Pa. Filed Mar. 4, 1910. Serial No. 547,349.



1. A plane provided with a non-directional bearing mounted to recede beyond the surface of the face of the plane on a forward stroke, and to automatically drop into position to raise the plane on a backward stroke.

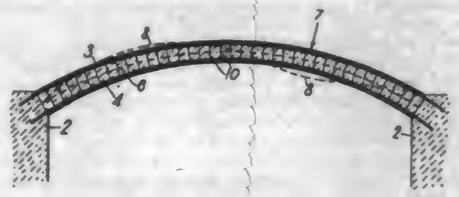
2. A plane provided with ball bearings operative to lift the plane off the work on a backward stroke, substantially as described.

3. The combination with a plane of a bearing block set in its face and having a slot arranged with an elongated dimension at a small angle to the surface of the face, and balls in said slot adapted to drop to a low position when in contact with the wood on a backward stroke and to lift freely and recede on a forward stroke.

4. The combination with a plane of a block set crosswise in its face and arranged to support therein a series of ball bearings, substantially as described.

5. The combination with a plane of a ball bearing mounted in the face thereof and bearing surfaces set on an incline so that the ball is automatically lifted out of operative position on a forward stroke of the plane.

978,361. REINFORCED ARCH, BRIDGE, OR VIADUCT. ROBERT A. CUMMINGS, Beaver, Pa. Filed June 11, 1909. Serial No. 501,629.



1. A reinforced concrete arch or girder comprising a series of closely arranged metal reinforcement members arranged transversely of the arch or girder, the parts of each member lying substantially in a single plane substantially normal to the neutral equilibrium curve of the arch or girder and extending from top to bottom and side to side thereof and the metal thereof comprising a substantial portion of the cross-sectional area of the arch or girder, whereby said reinforcement members resist vertical tension stresses throughout the width of the arch or girder, and cementitious material embedding and enveloping said reinforcement members.

2. A reinforced concrete arch or girder comprising a series of reinforcement members consisting of open metal sheets or mesh and arranged transversely of the arch or girder and all parts of each member lying substantially in a single plane substantially normal to the neutral equilibrium curve of the arch or girder and extending from top to bottom and side to side thereof and comprising a substantial portion of the cross-sectional area thereof, whereby said reinforcement members resist vertical tension stresses throughout the width of the arch or girder, and cementitious material embedding and enveloping said reinforcement members.

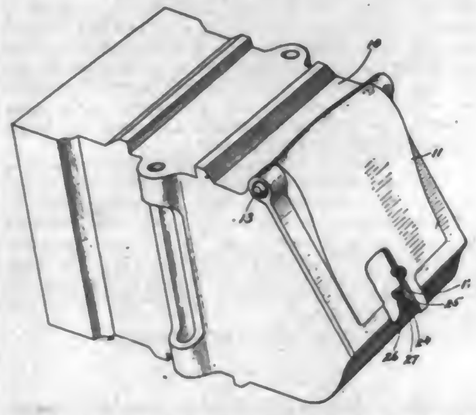
3. A reinforced concrete arch or girder comprising longitudinal reinforcement members, and a series of reinforcement members arranged transversely of the arch or girder and all parts of each lying substantially in a single plane substantially normal to the neutral equilibrium curve thereof and extending from top to bottom and side to side thereof and comprising a substantial portion of the cross-sectional area thereof, whereby said reinforcement members resist vertical tension stresses throughout the width of the arch or girder, and cementitious material embedding and enveloping said longitudinal and transverse reinforcement members.

4. A reinforced concrete arch or girder comprising longitudinal reinforcement bars arranged near the upper and lower surfaces thereof, a series of open metal sheet or mesh members arranged close together and all parts of each lying in substantially a single plane substantially normal to the neutral equilibrium curve of the arch or girder and extending from top to bottom and side to side thereof and comprising a substantial portion of the cross-sectional area thereof, whereby said reinforcement members resist vertical tension stresses throughout the width of the arch or girder, and cementitious material enveloping and embedding said longitudinal and transverse reinforcement members.

5. A reinforced concrete arch or girder comprising a series of metal reinforcement members arranged transversely of the arch and all parts of each lying in substantially a single plane substantially normal to the neutral equilibrium curve of the arch or girder and extending from side to side and top to bottom thereof and comprising a substantial portion of the cross-sectional area thereof, the spaces between adjacent transverse members being less than the thickness of the arch or girder, whereby said reinforcement members resist vertical tension stresses throughout the width of the arch or girder, and cementitious material embedding and enveloping said reinforcement members.

[Claim 6 not printed in the Gazette.]

978,362. BOX-COVER FASTENER. HERBERT W. DREW, Chicago, Ill., assignor to Northern Railway Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 10, 1909. Serial No. 532,334.



1. In a device of the character described, a journal box, a hinged cover for said box, a flexible bar attached to said cover, and means on central part of said bar adapted to engage said box and offer a yieldable resistance to the opening of said cover.

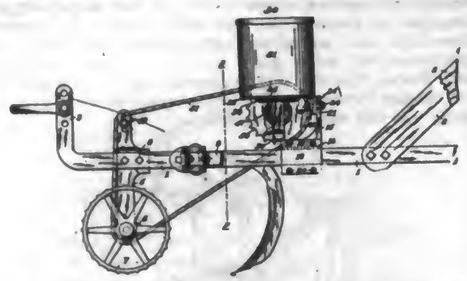
2. In a device of the character described, a journal box, a hinged cover for said box, a flexible bar attached to said cover, and a projection on the intermediate part of said bar having a beveled face to permit it to ride over the edge of said box against the resistance of said flexible bar when said cover is being closed, and another beveled face to permit it to ride over the edge of said box against the resistance of said flexible bar when said cover is being opened.

3. In a device of the character described, a journal box, a hinged cover for said box, a flexible bar attached to said cover, said bar being fixed to said cover at one end and bearing freely upon said cover at its other end, and a projection on said bar having a beveled face to permit it to ride over the edge of said box against the resistance of said flexible bar when said cover is being closed, and another beveled face to permit it to ride over the edge of said box against the resistance of said flexible bar when said cover is being opened.

4. In a device of the character described, a journal box having an opening with an inwardly beveled edge, a hinged cover for said box having an inwardly projecting lip with a portion disposed at right angles thereto, and an inwardly projecting lug adjacent said portion, a flexible member fixed between said lug and said angularly disposed portion of said lip, an angularly disposed portion of another lip on said cover adapted to receive the pressure of the other end of said flexible member, and means on said flexible member adapted to engage the beveled edge of said opening.

978,363. FERTILIZER-DISTRIBUTING ATTACHMENT TO CULTIVATORS. TILGHMAN S. FRANTZ and WILLOUGHBY H. TROXELL, near Coplay borough, Pa. Filed Mar. 22, 1910. Serial No. 550,940.

1. In combination with a cultivator having a forwardly projecting central beam provided with a supporting wheel, a pedestal bracket rigidly secured to said beam and formed with a clamping plate arranged in a plane at right angles thereto, a transverse hopper-carrying bar secured to said clamping plate, hoppers on the oppositely extended end portions of said transverse bar each having a bottom formed with a depending shaft-bearing lug arranged in alinement with the centers of the hoppers, and with a depending bar-clamping bracket arranged at right angles to said bearing lug and out of alinement therewith, a rotary feed-device in each of said hoppers, a drive-shaft therefor mounted in said depending lugs on the hoppers, and means for driving said shaft from the supporting wheel, substantially as set forth.



2. In combination with a cultivator having a forwardly projecting central beam provided with a supporting wheel, a pedestal bracket adjustably clamped to said beam and formed with a transverse clamping plate arranged in a plane at right angles thereto and having parallel vertical slots, a transverse hopper-carrying bar adjustably bolted to said vertically slotted clamping plate and having its oppositely extending ends provided with horizontal slots, hoppers adjustably secured to the respective horizontally-slotted ends of said transverse bar and each provided with a rotary feed-device, a drive-shaft mounted in depending lugs on said hoppers and provided with horizontally adjustable drive-pinions for said feed-devices, and means for driving said shaft from the supporting wheel, substantially as set forth.

978,364. HAT-GUARD. BURTON A. GARLINGHOUSE, Jackson, Mich. Filed Nov. 27, 1909. Serial No. 530,201.



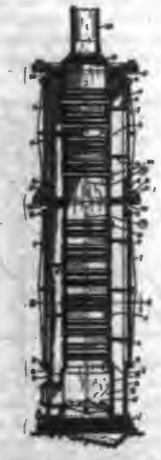
1. A hat guard, comprising a clip adapted to be secured to a sweat band of a hat, a plate pivoted at one end to the clip, and having the movable end projecting outward therefrom, and a stop on the clip engaging the plate and limiting its movement to one half of a revolution about its pivot.

2. A hat guard comprising a clip adapted to be attached to the sweat band of a hat, a plate pivoted at one end to the upper part of the clip and adapted to turn upward above the clip and downward in front of the same, an outward projection on the movable end of the plate, and a stop formed of a projection on the clip and folded in front of the same, and also adapted to engage the end of the plate and stop the same in upward position and to engage the edge and front of the plate and hold the same in downward position.

3. A hat guard, comprising a clip adapted to be secured to a sweat band of a hat, a plate pivoted to said clip at one end having folded edges, and an outwardly projecting movable end, and a stop on the clip adapted to engage the end of one folded edge to limit the movement of the plate upward and also engaging the opposite edge and front of the plate to stop and frictionally hold the plate in lowered position.

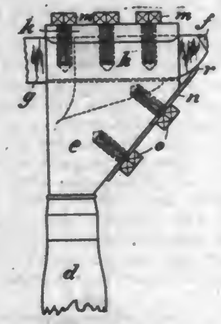
978,365. HOT-WATER BOILER. WILLIAM H. GEIS, Massillon, Ohio. Filed May 4, 1909. Serial No. 493,877.

In a hot water boiler, the combination of a base, a boiler section mounted upon said base, said boiler section consisting of upper and lower portions, the lower portion constituting the combustion chamber and the upper portion the boiler section, said sections provided with inner and outer walls spaced from each other, horizontal flanges located between the spaced walls, said flanges located in different horizontal planes upon opposite sides of the boiler, open headed water tubes connected to the inner walls of the boiler section and vertical flanges arranged between the outer and inner walls of the boiler section, said vertical



flanges extending from top to bottom of the combined boiler and combustion chamber section and a feed pipe located below the lowermost horizontal flange of the lowermost boiler section, substantially as and for the purpose specified.

978,366. IMPLEMENT FOR TAPPING TREES. GUSTAVE GLAUSER, Girardot, Colombia, assignor to Ferd. Esser & Co., Hamburg, Germany. Filed Mar. 1, 1909. Serial No. 480,727.

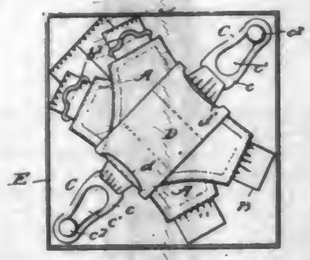


In a tapping implement a frame, two cutting blades attached to the frame in a position to form an acute angle to one another, the cutting edges being arranged at their place of junction and a guiding surface, beyond which the blades project and adapted to guide the implement at an angle to the surface to be cut, a second pair of cutting blades attached to the frame in a position symmetrical to the first named cutting blades and a second guiding surface symmetrically positioned on the frame with regard to the first named guiding surface.

978,367. DISPLAY-PACKAGE FOR GARTERS. GEORGE B. GLIDDEN, Dighton, Mass., assignor to George Frost Company, Boston, Mass., a Corporation of Massachusetts. Filed Oct. 10, 1910. Serial No. 586,197.

1. A display package for garters, consisting of a pair of garters each comprising a pad, a leg-band and a clasp, each of which garters has the leg-band folded around the pad and a flexible band inclosing the pads having slots through which the clasps extend.

2. A display package for garters, consisting of a pair of garters each comprising a pad, a leg-band and a clasp and each garter of the pair having the leg-band folded across the pad with the clasp projecting therefrom at right angles to the leg-band, one garter so folded being placed flatwise over the other, the clasp of the under garter projecting from the pad in a direction diametrically opposite to the other, and a flexible band extending around both pads and having slots through which the clasps project.



3. A display package for garters, comprising a flat rectangular box and a pair of garters therein, each garter of the pair comprising a pad, a leg-band and a clasp, the leg-band of each garter being folded across the back of the pad, the pads being disposed flatwise one above the other with the clasps of the two pads projecting in diametrically opposite directions from the pads, and a flexible band extending around both pads having slots through which the clasps extend, which clasps are arranged in diametrically opposite corners of the box, substantially as shown and described.

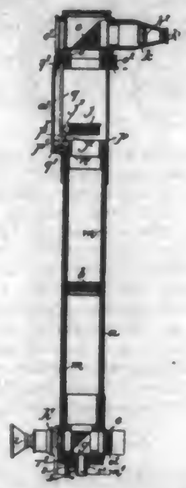
978,368. APPARATUS FOR SIGHTING OBJECTS FROM PROTECTED POSITIONS. HOWARD GAUBB, Rathmines, Dublin, Ireland. Filed Mar. 6, 1909. Serial No. 481,715.



1. Sighting apparatus comprising optical elements and means for arranging such elements in different orders to enable the apparatus to be used at one time as a telescope and at another time as a periscope.

2. Sighting apparatus comprising stationary optical elements common to a telescopic optical system and to a periscopic optical system, movable elements for completing the periscopic system and means for alternately bringing the said movable elements into and out of operative relationship with the stationary optical elements.

3. An instrument for sighting objects from protected positions, comprising a tubular structure having a view orifice at its exposed end and a viewing orifice at its other end, a reflecting prism opposite each of said orifices, a telescopic objective between said prisms, a supplementary object glass adapted to be brought into an operative position between the telescopic object glass and the prism of the view orifice and to be moved into an inoperative position, a lens carrier adapted to be brought opposite the prism of the view orifice and to be removed therefrom, and means for simultaneously bringing the supplementary object glass into the operative position and moving the lens carrier opposite the view orifice of the tubular structure and for simultaneously moving these parts into the inoperative positions.



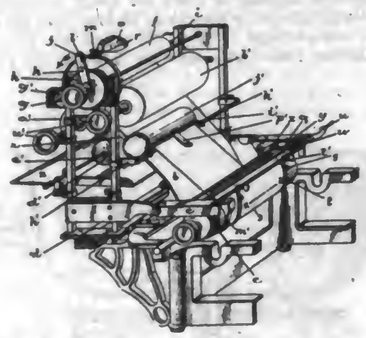
4. An instrument for sighting objects from protected positions, comprising a tubular structure having a view orifice at its exposed end and a viewing orifice at its other end, a reflecting prism opposite each of said orifices, a telescopic objective between said prisms a supplementary object glass adapted to be brought into an operative position between the telescopic object glass and the prism of the view orifice and to be moved into an inoperative position, a lens carrier adapted to be brought opposite the prism of the view orifice and to be removed therefrom, a pancratic day eye piece disposed opposite the viewing orifice, and means for simultaneously bringing the supplementary object glass into the operative position and moving the lens carrier opposite the view orifice of the tubular structure and for simultaneously moving these parts into the inoperative positions.

5. An instrument for sighting objects from protected positions, comprising a tubular structure, a second tubular structure within the other tubular structure, a telescopic objective mounted within the inner structure so that it cannot move endwise, means at the exposed end of the outer structure for reflecting light rays to the viewing end thereof, an eye piece at the viewing end of such structure, means for reflecting light rays from the interior of the instrument into the eye piece, a carrier movable with respect to the ray reflecting means at the exposed end of the instrument, a lens combination on such carrier, a supplementary object glass between the telescopic objective and the ray reflecting means at the exposed end of the instrument, means for producing relative movement between the inner and outer tubular structures, and means whereby said movement simultaneously moves the lens combination and supplementary object glass into or out of operative relationship with both of the said ray reflecting means.

[Claims 6 to 10 not printed in the Gazette.]

978,369. TYPE-WRITING MACHINE. WHITFIELD HAINER, Toronto, Ontario, Canada. Filed May 25, 1909. Serial No. 498,207.

1. In an attachment to type writing machines in combination, a carbon supply roll from which the carbon is intermittently fed by the spacing of the lines, an adjustable signal, means moved by the carbon supply roll for actuating the signal, means for rewinding the carbon on the carbon supply roll, and means arresting the rewinding of the carbon to correctly return its free end to a fixed zero position at each rewinding.



2. In an attachment to typewriting machines in combination, a carbon supply roll from which the carbon is intermittently fed by the spacing of the lines, a pinion rotated by the carbon supply roll, a spur wheel meshing with the pinion, and adjustable means to arrest the revolution of the spur wheel and pinion when the predetermined quantity of carbon has been rewound on the carbon supply roll.

3. In an attachment to typewriting machines in combination, a carbon supply roll from which the carbon is intermittently fed by the spacing of the lines, a pinion rotated by the carbon supply roll, a spur wheel meshing with the pinion, an arm adjustably connected to the spur wheel and revolubie with it, an alarm actuated by the arm as the spur wheel revolves in one direction, and a stop to engage with the arm and arrest the revolution of the spur wheel when it is turned in the opposite direction.

4. In an attachment to a typewriting machine, a shaft, two arms rockably supported thereby, a rod connecting the rockable arms, paper fingers adjustably mounted on the connecting rod, an adjustable lug for one of the rockable arms, and a releasing lever engaging the adjustable lug to actuate the rockable arms and paper fingers.

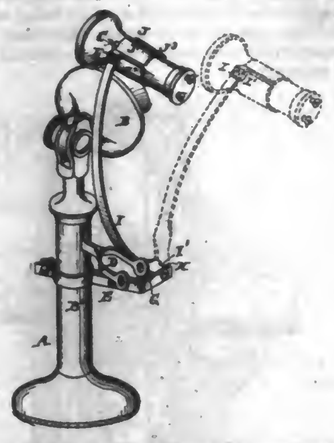
5. In a typewriting machine in combination, a carriage, and a carbon holder turnable in one direction by the feeding of carbon to the platen and automatically turnable in the opposite direction when the carbon is released by the platen, a carbon supporting plate for the carbon holder to lift the carbon from an impression position, and means for rockably holding the carbon holder.

[Claim 6 not printed in the Gazette.]

978,370. TELEPHONE-RECEIVER SUPPORT. JOSEPH G. HARRIS and ANTHONY MANCUSO, Philadelphia, Pa. Filed Sept. 5, 1908. Serial No. 451,797.

1. The combination of a telephone stand having an upright body and a pivoted switch lever, with a bracket adjustably clamped around the body part of the stand and provided with a pivot arranged in a horizontal plane close to the horizontal plane of the switch lever and in front of it, a swinging arm hinged to the pivot carried by the bracket and adapted to be swung backward so as to rest directly and bodily upon and be supported by the switch lever, a telephone receiver, and means on the free end of the swinging arm for supporting the receiver said means consisting of a clamp comprising one part, a second part hinged to the first mentioned part, and clamping devices for drawing the parts together.

2. In a telephone receiver support, the combination of a bracket consisting of two parts E' E^2 bolted together and having oppositely bent curved parts on one end and a long angular extending part at the other end terminating in a slot G and an abutment H, with swinging arm I hinged in the slotted portion and adapted to be supported by the abutment when swung forward, a clamp carried upon its free end consisting of two parts hinged together and provided with means to draw the two parts of the clamp together, and means to draw the two curved parts of the bracket together to constitue a clamp.



3. In a telephone receiver support, the combination of a bracket consisting of two parts E' E^2 bolted together and having oppositely bent curved parts on one end and a long angular extending part at the other end terminating in a slot G and an abutment H, with swinging arm I hinged in the slotted portion on an axis parallel, to the plane of the curved parts of the bracket and adapted to be supported by the abutment when swung forward, a clamp carried upon its free end consisting of two parts hinged together and to the arm I on an axis transversely arranged with respect to the hinge axis of the arm I in the bracket said hinge including means to draw the two parts of the clamp together, and means to draw the two curved parts of the bracket together to constitue a clamp.

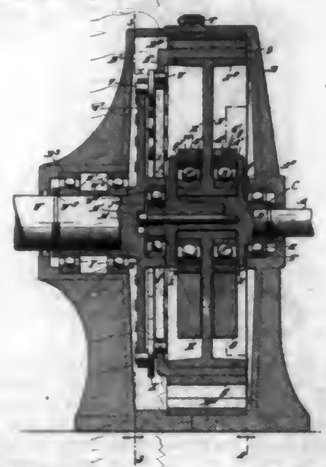
4. In a telephone receiver support, the combination of a bracket consisting of two parts E' E^2 bolted together and having oppositely bent curved parts on one end and a long angular extending part at the other end terminating in a slot G and an abutment H, with swinging arm I hinged in the slotted portion and said arm being bent backward and upward when turned away from the abutment, and adapted to be supported by the abutment when swung forward, a clamp carried upon its free end consisting of two parts hinged together and one of which is hinged to the arm I said hinge including means to draw the two parts of the clamp together, and means to draw the two curved parts of the bracket together to constitute a clamp.

978,371. MECHANISM FOR TRANSMITTING ROTARY MOTION. WILLIAM L. HARRISON, Branford, Conn. Filed Feb. 18, 1910. Serial No. 544,547.

1. The combination of a stationary internally toothed gear, an externally toothed gear in mesh therewith and adapted to roll thereon, the second-named gear being eccentric with reference to the first, means for driving the eccentric gear, an outwardly presented or convex bearing member connected with said eccentric gear, a counterweight connected with said driving means and having its center of gravity held on the side of the stationary gear's axis opposite to the center of gravity of the eccentric gear, the centrifugal force of said counterweight being exerted upon said convex bearing member, and means for transmitting the motion of the eccentric gear to a driven member.

2. The combination of a stationary internally toothed gear, an externally toothed gear in mesh therewith and adapted to roll thereon, the second-named gear being eccentric with reference to the first, means for driving the eccentric gear, an outwardly presented or convex bear-

ing member connected with said eccentric gear, a counterweight rotatable about the axis of the stationary gear and having its center of gravity held on the side of the stationary gear's axis opposite to the center of gravity of the eccentric gear, an inwardly presented or concave bearing member connected with the counterweight, the centrifugal force of said counterweight being exerted upon said bearing members, which adjoin each other, and means for transmitting the motion of the eccentric gear to a driven member.



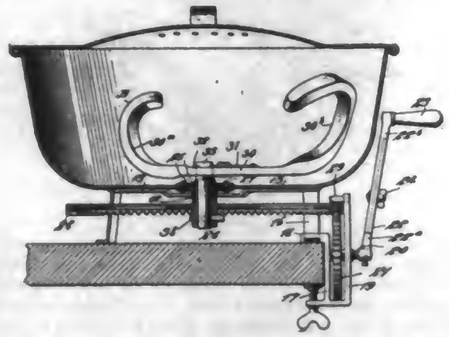
3. The combination of a stationary internally toothed gear, an externally toothed gear eccentric thereto and in mesh therewith, means for driving the eccentric gear, an outwardly presented or convex race connected with the eccentric gear and concentric therewith, a counterweight rotatable about the axis of the stationary gear and having its center of gravity held on the side of the stationary gear's axis opposite to the center of gravity of the eccentric gear, an inwardly presented or concave race connected with the counterweight and surrounding said convex race concentrically, bearing balls interposed between said races, and means for transmitting the motion of the eccentric gear to a driven member.

4. The combination of the drive shaft, two spaced, alining concave bearing members connected with said shaft and arranged eccentrically thereto, counterweights connected with said shaft and disposed on the side of the axis opposite to the center of said bearing members, an eccentric externally toothed gear having a web arranged between the said bearing members, convex bearing members carried by said web and surrounded by said concave bearing members concentrically, a stationary internally toothed gear having its center upon the axis of the shaft and meshing with said eccentric gear, and means for transmitting the motion of the eccentric gear to a driven member.

5. The combination of the drive shaft, two spaced, alining concave races connected with said shaft and arranged eccentrically thereto, counterweights connected with said shaft and disposed on the side of the axis opposite to the center of said races, an eccentric externally toothed gear having a web arranged between the said races, convex races carried by said web and surrounded by said concave races concentrically, bearing balls interposed between said races, a stationary internally toothed gear, in mesh with the eccentric gear and having its center upon the axis of the shaft, and means for transmitting the motion of the eccentric gear to a driven member.

978,372. BREAD-DOUGH MIXER. LEVI HAYNE, Schenectady, N. Y., and EDWIN BERTRAM PIKE, Pike, N. H. Filed Oct. 29, 1909. Serial No. 525,399.

1. A dough mixer comprising a dough pan, a kneading device therein comprising a bar having one of its ends curved upwardly rearwardly with respect to the direction of rotation of the kneading device and then inwardly to form a gathering arm adapted to move the dough inwardly and upwardly, the other end of said bar being curved upwardly and forwardly with respect to the direction of rotation of the kneading device to form a distributing arm adapted to move the dough outwardly and downwardly, this latter arm being shorter than the gathering arm and arranged to move the dough into the path of the gathering arm, and means for rotating the kneading device.



2. A dough mixer comprising a pan, a pan support formed with radial arms adapted to embrace the pan and with supporting legs, one of said legs connecting together two of the radial pan-holding arms, a clamp adapted to engage said leg to hold the pan supporting frame, a driving gear carried by said clamp, a stirrer shaft extending through the bottom of the dough pan and through the pan support, a crown gear on the lower end of said stirrer shaft and arranged to mesh with the driving gear, means for holding said two gears in mesh, an operating crank connected to the driving shaft, and a kneading device connected to the stirrer shaft within the dough pan.

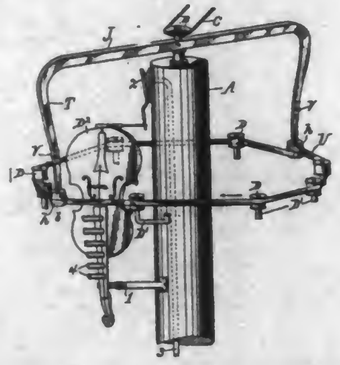
3. A dough mixer comprising a dough pan, a kneading device therein formed of a bar having a substantially horizontal portion and two end kneading portions, one of its ends being curved upwardly and rearwardly with respect to the direction of rotation of the kneading device, and then inwardly to form a gathering arm to move the dough inwardly and also upwardly, the other end of said bar being curved upwardly and forwardly with respect to the direction of rotation of the kneading device, its extreme end being also turned inwardly, to form a distributing arm adapted to move the dough outwardly and downwardly, means for rotating said arm, said means being connected thereto at the horizontal portion of said arm, the distributing arm being shorter than the gathering arm, and serving to move the dough into the path of the gathering arm.

4. A dough mixer comprising a dough pan, a kneading device therein formed of a bar having a substantially horizontal portion and two end kneading portions, one of its ends being curved upwardly and rearwardly with respect to the direction of rotation of the kneading device, and then inwardly to form a gathering arm to move the dough inwardly and also upwardly, the other end of said bar being curved upwardly and forwardly with respect to the direction of rotation of the kneading device, its extreme end being also turned inwardly to form a distributing arm adapted to move outwardly and downwardly, means for rotating said arm, said means being connected thereto at the horizontal portion of said arm, the distributing arm being shorter than the gathering arm, and serving to move the dough into the path of the gathering arm, and a latch device for detachably connecting the kneading device to the driving means.

5. A dough mixer comprising a pan, a stirrer shaft extending through the bottom of said pan, a kneading device secured to said shaft within the pan comprising a bar having one of its ends curved upwardly rearwardly with respect to the direction of rotation of the kneading device and then inwardly to form a gathering arm adapted to move the dough inwardly and upwardly, the other end of said bar being curved upwardly and forwardly with respect to the direction of rotation of the kneading device to form a distributing arm adapted to move the dough outwardly and downwardly, a support for said pan and on which said pan rests, the lower end of the stirrer shaft extending through said support, a gear mounted on the lower end of said shaft below the support, a clamp adapted to engage the pan support, a driving gear carried by said clamp and meshing with the gear on the stirrer shaft, and a crank connected to the shaft of said driving gear.

[Claims 6 and 7 not printed in the Gazette.]

978,373. BOW FOR SELF-PLAYING VIOLINS. ERNST ALFRED PAUL HENNIG, Dresden, Germany, assignor to Ludwig Hupfeld, Aktiengesellschaft, Leipzig, Germany. Filed July 13, 1910. Serial No. 572,060.



1. A revolving bow for musical stringed instruments comprising a band support and a band having overlapping adjacent ends arranged edge to edge, on the support for the purpose specified.

2. In a self playing violin, the combination with a string support, of a revolving band carrier, a band support thereon, and a band or bands surrounding the string support having overlapping adjacent ends arranged edge to edge on the support.

3. In a self-playing violin, the combination with a string support, of a revolving band carrier, a band support thereon, and a band or bands surrounding the string support having overlapping adjacent ends arranged edge to edge on the support and means to adjust the tension of the band.

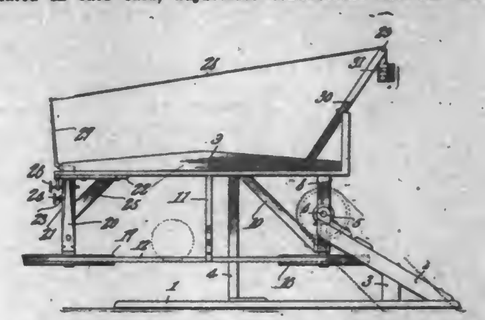
4. A revolving bow for musical stringed instruments, comprising a rotatable member, band supports connected therewith, a band connected with the supports, means on the supports to adjust the tension of the band, said supports mounted to yield radially.

5. A revolving bow for musical stringed instruments, comprising a rotatable member, band-supports connected therewith having peripheral faces inclined in opposite directions, bands connected to both faces of the supports, said supports mounted to yield radially.

[Claims 6 and 7 not printed in the Gazette.]

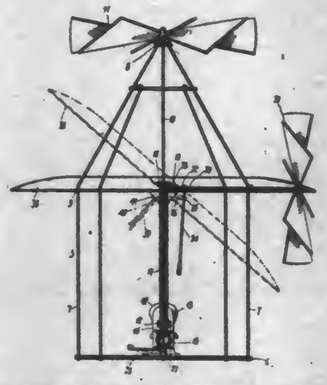
978,374. BAND-SAW. WILLIAM B. HEYER, Newport, Vt. Filed July 7, 1909. Serial No. 506,350.

In a band sawing machine, the combination with a normally horizontal beam having a notch opening out one end, ears at opposite sides thereof, an upright rotary shaft at its other end, a saw pulley carried by the shaft, a plate slidably mounted beneath and having a notch registering with that in the beam, a post depending rigidly from the plate, a box below the post, a stub shaft journaled therein, a saw pulley on said shaft, a band saw connecting the pulleys, and means for adjusting the box with relation to the post; of a lever extending through said registering notches, a pin through the lever and journaled in said ears, adjustable connections between the



lower end of the lever and said post, and tension devices supported by the beam and connected with the upper end of the lever.

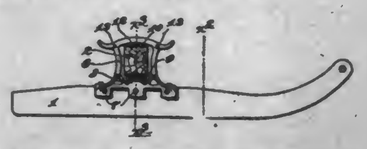
978,375. FLYING-MACHINE. HORACE G. HILL, Youngs, Miss. Filed Aug. 13, 1909. Serial No. 512,724.



1. In a machine of the class described, a skeleton frame, a rotatable vertical shaft journaled centrally in the frame, a propeller wheel fixed to the upper end of the shaft, propeller means for forwardly advancing the frame, a motor, gear connections between the motor and the shaft, gear connections between said means and the motor, means for engaging and disengaging the connections, a passenger carrier detachable from the frame, and adjustable aeroplanes at opposite sides of the frame.

2. In a machine of the class described, a skeleton frame, a rotatable vertical shaft journaled centrally in the frame, a propeller wheel fixed to the upper end of the shaft propeller, means for forwardly advancing the frame, a motor, gear connections between the motor and the shaft, gear connections between said means and the motor, means for engaging and disengaging the connections, a passenger carrier detachable from the frame, adjustable aeroplanes at opposite sides of the frame, and means locking the planes in adjusted position.

978,376. BOB-SLED. ENOCH HOIBY, Minneapolis, Minn. Filed Mar. 28, 1910. Serial No. 551,932.



1. In a bobsled, the combination with runners and yoke-like pedestal brackets secured thereto, of bearing cap

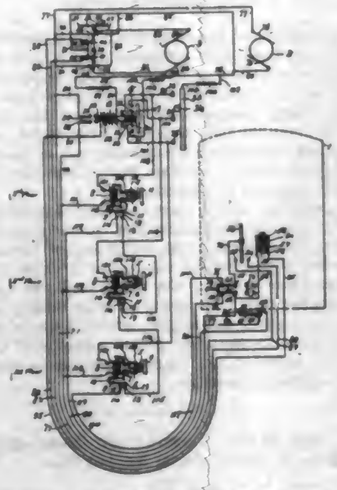
mounted for sliding movements in the upper portions of said brackets, and a cross tree pivotally supported by bearings on the lower portions of said brackets and pivotally connected to said bearing caps, substantially as described.

2. In a bobsled, the combination with runners and yoke-like pedestal brackets secured thereto, said brackets having rounded bearings on the lower portions and channeled upper bars, of bearing caps mounted to slide in the channeled upper bars of said brackets, a cross tree, lower bearings secured to the ends of said cross tree and formed with sockets engaging the rounded lower bearings on said brackets, and upper bearing plates secured to the ends of said cross tree and having rounded bearings seated in said bearing heads, whereby said runners are mounted for oscillatory movements in approximately vertical and horizontal planes, substantially as described.

3. In a bobsled, the combination with runners and yoke-like pedestal brackets secured thereto, said brackets having rounded bearings on the lower portions and channeled upper bars, and a cross tree pivotally mounted on the lower bearings of said brackets and connected to the channeled upper bars of said brackets with freedom for horizontal pivotal movements and for oscillatory movements in a vertical plane, the said brackets being split or divided, substantially as and for the purposes set forth.

4. In a bob-sled, the combination with runners and yoke-like pedestal brackets secured thereto, said brackets having rounded bearings on the lower portions and channeled upper bars, of bearing caps mounted to slide in the channeled upper bars of said brackets, a cross tree, lower bearings secured to the ends of said cross tree and formed with sockets engaging the rounded lower bearings on said brackets, and upper bearing plates secured to the ends of said cross tree and having rounded bearings seated in said bearing heads, whereby said runners are mounted for oscillatory movements in approximately vertical and horizontal planes, the said brackets being split or divided longitudinally and rigidly but detachably secured together, substantially as described.

978,377. ELEVATOR. HENRY A. HUMPHREY, Kansas City, Mo., assignor to Safety Elevator Lock and Signal Company, Kansas City, Mo., a Corporation of Missouri. Filed June 7, 1910. Serial No. 565,574.



1. In elevators, the combination with a car, of a motor in an electric circuit for operating the car, gate locking means, electric means for controlling the gate locking means, means operative synchronously with the car for controlling said electric means, means operative independently of said synchronously operative means for controlling the operation of said electric means, and means controlled by the gate locking means for controlling the motor circuit.

2. In elevators, the combination with a car, of a motor in an electric circuit for operating the car, gate locking means, electric means for controlling the gate locking means, means operative synchronously with the car for controlling said electric means, a switch in circuit with said electric means, electromagnetic means controlling the operation of said switch independently of said synchronously operative means, means carried by the car for controlling the operation of said electromagnetic means, and means controlled by the gate locking means for controlling the motor circuit.

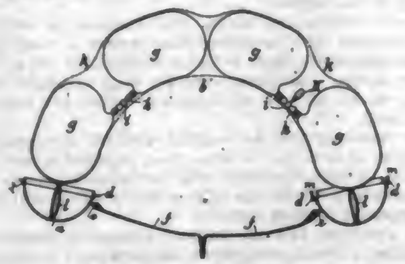
3. In elevators, the combination with a car, of a motor in an electric circuit for operating the car, gate locking means, electric means for controlling the gate locking means, means operative synchronously with the car for controlling said electric means, a switch in circuit with said electric means, electromagnetic means for moving the switch to the closed position, means for normally forcing the switch to the open position, a circuit closer on the car in circuit with the electromagnetic means, and means controlled by the gate locking means for controlling the motor circuit.

4. In elevators, the combination with a car, of a motor in an electric circuit for operating the car, gate locking means, electric means for controlling the gate locking means, means operative synchronously with the car for controlling said electric means, a switch in circuit with said electric means, electromagnetic means for moving the switch to the closed position, a spring for moving the switch to the open position, a circuit closer in circuit with said electromagnetic means, and means controlled by the gate locking means for controlling the motor circuit.

5. In elevators, the combination with a car, of a motor in an electric circuit for operating the car, gate locking means, electric means for controlling the gate locking means, means operative synchronously with the car for controlling said electric means, a switch in circuit with said electric means, electromagnetic means for moving the switch to the closed position, a spring for moving the switch to the open position, a circuit closer carried by the car and in circuit with said electromagnetic means, and means controlled by the gate locking means for controlling the motor circuit.

[Claims 6 to 8 not printed in the Gazette.]

978,378. LIFE-SAVING APPARATUS. TENEDOS INGARAMO, Zurich, Switzerland. Filed Feb. 14, 1908. Serial No. 415,936.



1. In a life-saving apparatus and in combination a divided projectile-like receptacle, automatically releasable means responsive to the action of water for holding together the parts of the receptacle, one or more floatable bodies inclosed in the receptacle, and means operating to inflate the floating bodies on their leaving the receptacle falling into the water.

2. In a life-saving apparatus, and in combination a divided projectile-like receptacle, automatically releasable means responsive to the action of water for holding together the parts of the receptacle, one or more floatable bodies inclosed in the receptacle, and bands soluble in water for separating the interiors of the bodies, said bodies containing substances which when united form a gas.

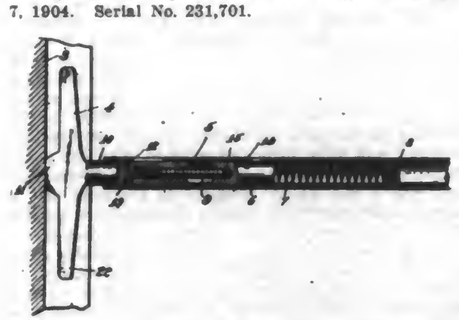
3. In a life-saving apparatus and in combination a divided projectile-like receptacle, bands soluble in water for holding together the parts of the receptacle, one or more floatable bodies inclosed in the receptacle, and means for automatically inflating said floatable body on its falling into water.

4. In a life-saving apparatus, the combination of several bags, means for automatically shutting off communication between the bags when one of them becomes leaky, a detachable intermediate piece for connecting the bags together and a pinch band, soluble in water, for obstructing the intermediate piece.

5. In a life-saving apparatus, the combination of several bags, means for automatically shutting off communication between the bags when one of them becomes leaky, a gas capsule and an intermediate piece for connecting the bags with one another and with said gas capsule.

[Claims 6 to 9 not printed in the Gazette.]

978,379. CURTAIN-FIXTURE. HERBERT E. KEELER, New York, N. Y., assignor to Curtain Supply Company, Chicago, Ill., a Corporation of New Jersey. Filed Nov. 7, 1904. Serial No. 231,701.



1. In curtain fixtures, a spring-actuated curtain, guideways adjacent said curtain, a curtain stick and a weighting bar secured to said curtain, elongated shoes mounted at either end of said stick so as not to rotate with respect thereto and coöperating with said guideways, projecting holding members on said shoes to actively engage said guideways, retaining members on said shoes to prevent the angular displacement of said shoes, a spring in said stick to press said shoes apart and means to limit the extreme distance between said shoes so that when the curtain is canted to any considerable extent the holding members are entirely released from active engagement with said guideways while said retaining members prevent the angular movement of said shoes with respect to the axis of said curtain stick.

2. In curtain fixtures, a spring-actuated curtain, guideways adjacent said curtain, a curtain stick mounted in said curtain, elongated shoes mounted at either end of said stick so as not to rotate with respect thereto, means to press said shoes apart and means to limit the extreme distance between said shoes, said shoes being provided with holding members projecting beyond the outward faces of said shoes to actively engage the guideways when the curtain is level and said shoes being entirely released from active holding engagement with said guideways when said fixture is tilted.

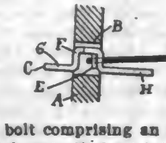
3. In curtain fixtures, a spring-actuated curtain, guideways adjacent said curtain, a curtain stick mounted in said curtain, elongated shoes mounted at either end of said stick, means to force said shoes apart, means to limit the extreme distance between said shoes, each shoe being provided with a holding member projecting beyond the outer face of the shoe to be forced outward into active holding engagement with the guideway when the fixture is level and to be entirely released from active engagement with the guideway when the fixture is tilted.

4. In a curtain fixture, a spring-actuated curtain, guideways adjacent said curtain, a curtain stick mounted in said curtain, shoes mounted at either end of said curtain stick held against rotation with respect thereto and coöperating with said guideways, spring acting means t force said shoes apart, adjustable means to limit the ex treme distance between said shoes while allowing thei reciprocation, each of said shoes being provided with sep arated retaining members and with a holding member sub stantially in line with said curtain stick projecting out ward beyond the plane of said retaining members and be ing pressed outward into active holding contact with sai guideways when said fixture is level and said shoes bein released from holding contact with said guideways whe said fixture is tilted.

5. In curtain fixtures, a spring-actuated curtain, guide ways adjacent said curtain, a curtain stick secured to sai curtain, elongated shoes having spindles engaging sai curtain stick at either end of the same and having a pi and slot connection therewith, means to force said shoe apart, means to limit their extreme distance from eac other, said shoes having holding members to be forced int active holding contact with said guideways when sai curtain is level.

[Claims 6 to 16 not printed in the Gazette.]

978,380. TOGGLE-BOLT. JOSEPH KENNEDY, New York N. Y. Filed May 18, 1908. Serial No. 432,586.

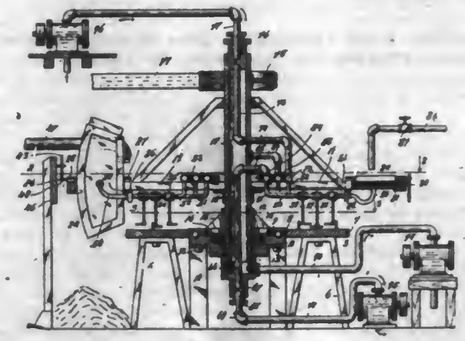


1. A toggle bolt comprising an anchor bar consisting a piece of metal centrally bent into U-shaped form to for a transverse recess and provided with a longitudinal slo in said centrally bent portion, a bolt adapted to pas through said slot, and a nut on said bolt.

2. A toggle bolt comprising an anchor bar consisting a piece of metal having outwardly extending legs, and central retaining loop forming a transverse recess ar provided with a longitudinal aperture therein, a bolt adap ed to pass through said aperture and a nut on said bolt.

3. A toggle bolt comprising an anchor bar consisting a piece of metal centrally bent into U-shaped form to for a transverse recess and having legs extending from eac side of said central bent portion, one side and the base said U-shaped portion being longitudinally slotted, a bo adapted to pass through said slot and a nut on said bolt.

978,381. SUCTION-FILTER. HARRY E. KIER, Colorad Springs, Colo. Filed Sept. 29, 1909. Serial No. 520,19



1. In a filter, the combination with a horizontally di posed rotary frame, of a filtering tray tiltably mount thereon and traveling therewith, means for delivering the tray the solution to be filtered, a conduit connect with the bottom of the tray, a valve for controlling t passage of solution through said conduit, suction mea connected with the conduit for drawing off the solut from the bottom of the filter, means for opening and cl

ing the said valve at predetermined intervals whereby the period during which the solution is drawn off may be controlled, and means for tilting the tray for dumping purposes, means for automatically returning it to its normal or horizontal position after the dumping operation, substantially as described.

2. The combination with a rotary frame, of a tray mounted thereon and adapted to travel therewith, means for delivering to the tray the solution to be filtered, a conduit connected with the bottom of said tray, two pipes in communication with said conduit, a valve for controlling each pipe, suction-inducing mechanism connected with each pipe, means for automatically opening the valve connected with the first pipe, means for closing the valve connected with the first pipe, and means for opening the valve connected with the second pipe simultaneously with the closing of the valve connected with the first pipe, and means for delivering water to the tray before the closing of the first pipe and the opening of the second pipe, whereby two different grades of solution are drawn off from the tray, substantially as described.

3. The combination with a rotary frame, of a filtering tray mounted thereon and rotating therewith, a conduit connected with the bottom of said tray, two pipes in communication with said conduit, suction-inducing mechanism connected with each pipe, a valve for controlling each pipe, depending stems connected with each valve, pins in operative relation with said stems; means for opening and closing each valve as the frame rotates and at predetermined intervals, the said means being arranged to open the valves of the two pipes at different times and to close one valve simultaneously with the opening of the other.

4. The combination with a rotary frame, of a filtering tray mounted thereon, a conduit connected with the bottom of the tray, three pipes in communication with the said conduit, each pipe being provided with a controlling valve, suction-inducing mechanism connected with two of the pipes, air forcing mechanism connected with the other pipe, depending stems connected with each of said valves, pins in operative relation with said stems as means for opening and closing each valve at predetermined intervals as the tray rotates, substantially as described.

5. The combination with a rotary frame, of a filtering tray mounted thereon, a conduit connected with the bottom of the tray, three pipes connected with the conduit, two of them being suction pipes, and one of them being an air-forcing pipe, each pipe being equipped with a controlling valve, depending stems connected with said valves, pins in operative relation with said stems as means for opening and closing each valve at predetermined intervals, substantially as described.

[Claims 6 to 15 not printed in the Gazette.]

978,382. REAR GUN-SIGHT. DEAN W. KING, San Jose, Cal. Filed Mar. 18, 1909. Serial No. 484,238.



1. In a rear gun sight the combination with a shank, the sight stem longitudinally movable in the shank and a screw sleeve having an operative connection with the stem for purposes of adjustment, of a pawl pivotally mounted on the shank which is slotted to receive the pawl, a spring seated in the shank and engaging the inner extremity of the pawl to hold the latter in locking engagement with the sleeve, the pawl protruding exteriorly beyond the shank to permit adjustment to unlock the sleeve, substantially as described.

2. In a rear gun sight, the combination with a shank, a stem longitudinally adjustable in the shank, and an adjusting sleeve having an operative connection with the stem, of a pawl pivotally mounted on the shank and engaging a slot with which the shank is provided, the inner extremity of the pawl projecting into a central perforation formed in the shank, a spring acting upon the inner extremity of the pawl causing it to interlock with the adjusting sleeve and a washer mounted on the shank and provided with a notch which the pawl enters, the shank being mounted to oscillate from a given center whereby the pawl when disengaged from the adjusting sleeve may be caused to engage the outer edge of the washer which holds the pawl in the unlocked position with reference to the sleeve.

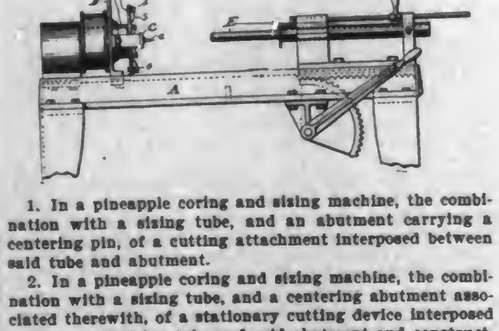
3. In a rear gun sight the combination with a shank, an axial bolt upon which the shank is mounted to turn, a sight stem longitudinally movable in a perforation formed in the shank, a sleeve journaled on the shank and having an interlocking connection with the stem, a pawl mounted on the shank and engaging a slot formed therein, the inner extremity of the pawl protruding into the perforation of the shank and being spring actuated to cause the pawl to normally engage the sleeve to lock the latter against movement, and a cam washer mounted on the axial bolt and having a notch adapted to receive the pawl when the latter is in the locked position with reference to the sleeve.

4. A gun sight including a vertically adjustable stem, a rotary sleeve for regulating the position of said stem, and means for locking the sleeve against movement when the sight is in the position for use, said means including a cam washer provided with a recess, and a pawl engaging said recess and having a part simultaneously engaging the sleeve to lock the latter as aforesaid.

5. A gun sight including a sight stem and a rotary sleeve for the vertical adjustment of the stem and means for locking the said sleeve against rotary movement including a device having a recess which the locking means engages when in the locked position and a cam which the locking means engages when the sight is adjusted to disengage said means from the rotary sleeve.

[Claims 6 to 9 not printed in the Gazette.]

978,383. PINEAPPLE CORING AND SIZING MACHINE. ARCHIE EDWARD LISTER, Pearl City, Hawaii. Filed Oct. 16, 1909. Serial No. 522,968.



1. In a pineapple coring and sizing machine, the combination with a sizing tube, and an abutment carrying a centering pin, of a cutting attachment interposed between said tube and abutment.

2. In a pineapple coring and sizing machine, the combination with a sizing tube, and a centering abutment associated therewith, of a stationary cutting device interposed between said sizing tube and said abutment and constructed to slit the fruit when the latter is forced toward said tube.

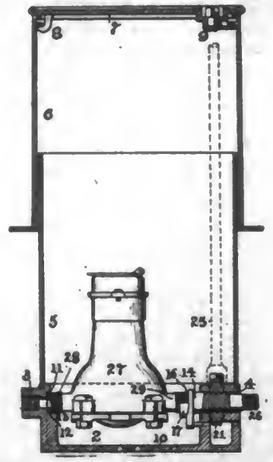
3. In a pineapple coring and sizing machine, the combination with a sizing tube, and a centering abutment associated therewith, of a ring-shaped cutting device concentric with said tube and interposed between the same and said abutment.

4. In a pineapple coring and sizing machine, the combination of means to size the fruit, and means to incise the outer portion only of the fruit substantially simultaneously with the sizing operation.

5. In a pineapple coring and sizing machine, the combination of means to size the fruit, and means to incise longitudinally during the sizing operation the outer portion only of the fruit.

[Claims 6 to 9 not printed in the Gazette.]

978,384. METER-BOX. HERBERT M. LOFTON, Chattanooga, Tenn. Filed Apr. 27, 1909. Serial No. 492,476.



1. In a meter box, a lower portion having at one side a fixed port for the passage of water, combined with a longitudinally adjustable tubular part extending through the opposite side of the meter box and constituting the other water port thereof, said tubular part being screw threaded at its outer end, and means to adjust the tubular part bodily toward or from the fixed port whereby a meter may be clamped between the fixed port and the longitudinally adjustable part.

2. In a meter box, a box shaped portion having at one side a fixed port and at the other side a guide passage, combined with packing about the fixed port on the inside, a tubular portion guided in the guide passage in the box and having at its outer end screw threads, packing arranged upon its inner end, a meter having its integral ports at opposite sides directly clamped between the packing of the fixed port and the adjustable tubular portion, means carried by the box and surrounding the adjustable tubular portion and mechanically connected with it for adjusting said tubular portion toward or from the fixed port.

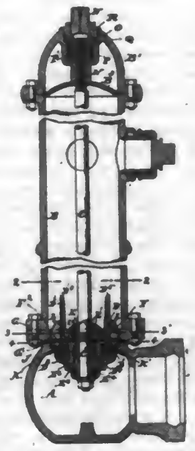
3. In a meter box, a lower portion having at one side a port for the passage of water and provided with a supporting bearing at a lower elevation than and to one side of the port for the meter on the inside of the box, combined with a longitudinally adjustable tubular part at the opposite side of the meter box and constituting the other port of the meter box and also provided on its inner end with a supporting bearing at a lower elevation and independent of the port for the meter, and means to adjust the tubular part toward or from the first mentioned water port whereby a meter may be clamped between the water port and the longitudinal adjustable part while being supported upon the bearings.

4. In a meter box, a lower portion having at one side a port for the passage of water, combined with a longitudinally adjustable tubular part at the opposite side of and extending through the meter box and threaded to constitute the other water port thereof, and means consisting of gearing adapted to be rotated from the upper part of the meter box to adjust the tubular part bodily toward or from the first mentioned water port whereby a meter may be clamped between the water port and the longitudinal adjustable part.

5. In a water meter box, a lower portion having at one side a port for the passage of water, combined with a longitudinally adjustable tubular part at the opposite side of the meter box and constituting the other water port thereof, and means to adjust the tubular part toward or from the first mentioned water port consisting of gearing comprising a worm wheel carried by the meter box and having a screw-threaded connection with the longitudinally adjustable part and a worm carried by the meter box engaging the worm wheel for rotating it, whereby a meter may be clamped between the water port and the longitudinal adjustable part.

[Claims 6 to 12 not printed in the Gazette.]

978,385. FIRE-HYDRANT. HERBERT M. LOFTON, Chattanooga, Tenn. Filed Aug. 30, 1909. Serial No. 515,147.



1. In a fire hydrant, the combination of the shoe having the upper integral screw-threaded flange part formed with an annular groove formed in the screw threaded surface so that the threads are arranged both above and below the groove and also having a plurality of outwardly extending drain holes opening therefrom, a valve seat ring screwed into the shoe and having a drain opening in line with the annular groove of the shoe and also having inwardly projecting guide lugs above the line of the drain opening, a gasket between the bottom of the seat ring and shoe, and a valve for the seat ring provided with upwardly extending guide wings guided in the inwardly projecting guide lugs of the seat ring.

2. In a fire hydrant, the combination of the shoe having the screw-threaded flange part formed with an annular groove and a plurality of outwardly extending drain holes opening therefrom, a valve seat ring screwed into the shoe and having a drain opening in line with the annular groove of the shoe and also having inwardly projecting guide lugs above the line of the drain opening, a gasket between the bottom of the seat ring and shoe, a valve for the seat ring provided with upwardly extending guide wings guided in the inwardly projecting guide lugs of the seat ring, a valve rod, and a pilot valve secured to the valve rod and seating upon the lower part of the main valve and also having a cylindrical body secured to the valve rod and provided with apertures for providing communication for the water below the main valve to the stock above the same when the pilot valve is open and a drain for the water in the stock to the drain orifice of the seat ring when the pilot is closed upon its seat.

3. In a fire hydrant, the shoe having a screw-thread

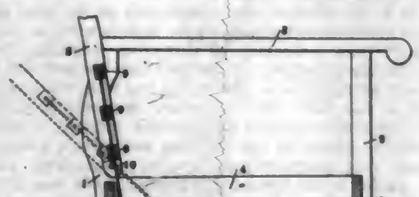
orifice at its top terminating in an inwardly directed flange and also having an annular groove formed in the screw threaded portion intermediate of its ends so that screw threads extend above and below the groove and provided with a discharge aperture opening therefrom, combined with a valve seat ring screwed into the shoe and having an annular shouldered portion at the bottom extending through the central aperture within the flange of the shoe to form an annular pocket below the annular groove and inclosed on all sides and also having a drainage aperture in communication with the annular groove in the shoe, a gasket of less mean diameter than the screw threaded portion of the seat ring arranged in and fully filling the said pocket, and a valve device adapted to cooperate with the valve seat on the seat ring and provided with upwardly extending guide wings for guiding the valve and for controlling the drainage aperture through the seat ring.

4. In a fire hydrant, the shoe having a screw-threaded orifice at its top terminating in an inwardly directed flange and also having an annular groove formed in the screw threaded portion intermediate of its ends so that screw threads extend above and below the grooves and provided with a discharge aperture opening therefrom, combined with a valve seat ring screwed into the shoe and having a tubular opening and an annular shouldered portion at the bottom coöperating with the flange of the shoe to form an annular pocket below the annular groove and inclosed on all sides also upwardly and inwardly directed guide lugs arranged above the tubular opening in the seat ring and having further a drainage aperture in communication with the annular groove in the shoe, a gasket arranged in and fully filling the said pocket, and a valve device adapted to coöperate with the valve seat on the seat ring and provided with integral upwardly extending guide wings for guiding the valve and for controlling the drainage aperture through the seat ring.

5. In a fire hydrant, the shoe having a screw-threaded orifice at its top terminating in an inwardly directed flange and also having an annular groove provided with a discharge aperture opening therefrom, combined with a valve seat ring screwed into the shoe and having an annular shouldered portion at the bottom coöperating with the flange of the shoe to form an annular pocket inclosed on all sides and the said seat ring also having a deep annular groove on its outer threaded portion to come into register with the groove in the shoe when the seat ring is screwed into position, and also provided with a drainage aperture which is also in communication with the annular groove in the shoe, a gasket arranged in the said pocket, and a valve device adapted to coöpearte with the valve seat on the seat ring and provided with upwardly extending guide wings for guiding the valve and for controlling the drainage aperture through the seat ring.

[Claims 6 to 19 not printed in the Gazette.]

978,386. ADJUSTABLE CHAIR. ARTHUR D. LUEDDEMS, Sturgis, Mich., assignor to Jerrold F. Walton, Sturgis, Mich. Filed Mar. 31, 1909. Serial No. 486,965.



1. In a chair, the combination with the frame, of a hinged back; means for adjustably supporting said back comprising a link pivotally connected to said back below its hinges; a rack member comprising a pair of racks between which the forward end of said link is arranged; laterally-projecting rack-engaging members on said link; the rear end of said rack member being slotted to receive said link whereby the same is guided; a return way for said link, said way being curved upwardly at the forward end of said rack; and a pair of guide pieces arranged to coact with the upwardly-curved end of said way to guide the rack-engaging members of said link to said rack members.

2. In a chair, the combination with the frame comprising a horizontally-arranged piece, of hinged back; a downwardly-projecting arm on said back, said arm being arranged with its lower end within said frame, said horizontally arranged piece being slotted to receive and permit the adjustment of said arm; a rack member having a pair of racks arranged on the under side of said frame piece; a link pivotally connected to the lower end of said arm; a rack-engaging member on said link; said rack member being slotted at its rear end to receive said link, whereby it is guided; and a return way for said link.

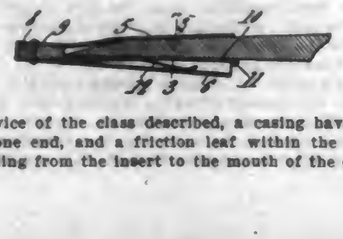
3. In a chair, the combination with the frame, of a hinged back; means for adjustably supporting said back comprising a rack; a rack engaging member connected to said back below its hinges; a return way for said member, said way being curved upwardly at the forward end of said rack; a guide piece arranged to coact with the upwardly-curved end of said way to guide the rack-engaging member of said link to said rack; and a spring arranged to engage said link as the rack engaging member passes from the rack.

4. In a chair, the combination with the frame comprising a horizontally-arranged piece, of a hinged back; a downward-projecting arm on said hack, said arm being arranged with its lower end within said frame, said horizontally-arranged piece being slotted to receive and permit the adjustment of said arm; a link pivotally connected to the lower end of said arm; a rack comprising a pair of members between which the forward end of said link is arranged, mounted upon the under side of said horizontally-arranged frame piece; laterally-projecting rack-engaging members on said link; a return way for said link, said way being curved upwardly at the forward end of said rack; and a pair of guide pieces arranged to coact with the upwardly-curved end of said way to guide the rack-engaging members of said link to said rack-members.

5. In a chair, the combination with the frame, of a hinged back; and means for adjustably supporting said back including a link pivotally connected to said back; a rack comprising a pair of members between which the forward end of said link is arranged; laterally-projecting rack-engaging members on said link; a return way for said link, said way being curved upwardly at the forward end of said rack, the rack and way being formed integrally of a piece of sheet metal, the edges of which are turned upwardly and thence inwardly and thence upwardly and notched to form the rack members, the portions below the rack ends forming the way and the ends being arranged to form attaching members; a pair of guide pieces arranged on the horizontal portions of said rack members to project into said way and coacting with the upwardly-curved forward end thereof to guide the rack-engaging members of said link to said rack; and retaining members for the swinging ends of said guide pieces formed integrally with said way and rack.

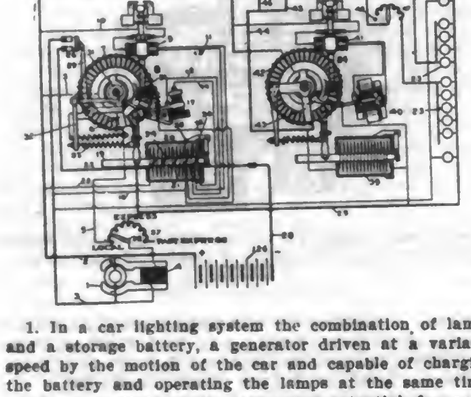
[Claim 6 not printed in the Gazette.]

978,387. CHISEL-PROTECTOR. CHARLES U. MATTHEY, Bromley, Ky. Filed Aug. 13, 1910. Serial No. 577,024.



In a device of the class described, a casing having an insert in one end, and a friction leaf within the casing, and extending from the insert to the mouth of the casing.

978,388. ELECTRIC-LIGHTING APPARATUS. JAMES F. MCELROY, Albany, N. Y., assignor, by mesne assignments, to The United States Light & Heating Company, New York, N. Y., a Corporation of Maine. Filed May 3, 1905. Serial No. 258,659.



1. In a car lighting system the combination of lamps and a storage battery, a generator driven at a variable speed by the motion of the car and capable of charging the battery and operating the lamps at the same time, means controlled by the generator potential for automatically connecting the generator with the lamps and storage battery at a predetermined speed, and electrical means adjustable at the will of an operator for varying the point in speed at which such connection takes place.

2. In a car lighting system the combination with a car circuit and a generator driven at a variable speed by the motion of the car, of an automatic electrical switch controlled by the generator potential for connecting said generator with the car circuit at a predetermined speed, and manually adjustable electrical means for causing the potential at which the said switch operates to be reached at different generator speeds.

3. In a car lighting system the combination of a car circuit, a variable speed generator for supplying the said circuit, a switch controlled by the potential of the generator output for connecting said generator in circuit at a predetermined speed, and a manually adjusting rheostat for causing the potential at which said switch operates to be reached at different generator speeds.

4. In a car lighting system the combination of a car circuit, a variable speed generator for supplying the same, an automatic switch for connecting the generator in circuit, an electric motor for operating said switch, a separate potential magnet controlling the operation of said motor, and an electrical adjustment for causing the critical current pressure at which said potential magnet operates to correspond with different generator speeds.

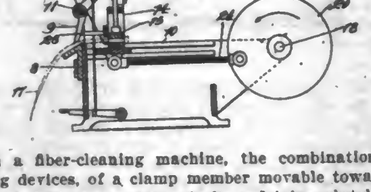
5. In a car lighting system the combination of a car circuit, a variable speed generator for supplying the same and having a shunt field, an automatic regulator controlled by the voltage of the generator for varying resistance in the field circuit, means controlled by the potential of the generator for automatically connecting the generator in circuit, and a manually adjustable rheostat in the generator field circuit.

[Claims 6 to 8 not printed in the Gazette.]

978,389. FIBER-CLEANING DEVICE. MICHAEL G. MCLANE, San Francisco, Cal. Original application filed Apr. 21, 1909, Serial No. 491,334. Divided and this application filed Sept. 23, 1909. Serial No. 519,164.

1. In a fiber-cleaning device, a pair of coacting scrapers, a constantly-operating driver, a reciprocating clamp movable by said driver toward and from said scrapers, and means for disconnecting the clamp from the constantly-operating driver at the end of a single reciprocation of the clamp.

2. In a fiber-cleaning machine, a pair of scrapers, a reciprocating clamp, a constantly revolving shaft, and automatically operated clutch mechanism on the shaft, and means between the shaft and clamp for giving the clamp one complete reciprocation and then disconnecting it from said shaft during the revolution of the shaft.



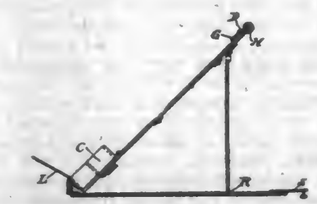
3. In a fiber-cleaning machine, the combination with scraping devices, of a clamp member movable toward and from said devices, a rotary shaft, a driving clutch member fixed on the shaft, a loose driven clutch member normally in engagement with the first-named clutch member, said loose clutch member connected with the clamp to reciprocate the latter, and means including a cam member on said loose clutch member for disengaging the clutch members at the end of each revolution.

4. In a fiber-cleaning machine, the combination of scraping devices, a clamp movable toward and from said devices, a rotary shaft, a clutch member fixed on the shaft, a loose clutch member thereon, said last-named member secured to a disk, said disk having a wrist-pin, a pitman connecting said wrist-pin and said clamp, a spring for pressing the clutches together, and a cam face on said disk for automatically disengaging said clutches at the end of each revolution.

5. In a fiber-cleaning machine, the combination of scraping devices, a clamp movable toward and from said devices, a rotary shaft, a clutch member fixed on the shaft, a loose clutch member thereon, said last-named member secured to a disk, said disk having a wrist-pin, a pitman connecting said wrist-pin and said clamp, a spring for pressing the clutches together, a cam face on said disk for automatically disengaging said clutches at the end of each revolution, and a handle on the disk for turning the latter independent of the rotation of the shaft.

[Claim 6 not printed in the Gazette.]

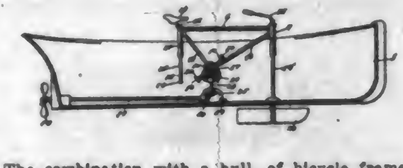
978,390. FOLDING SKETCH-PAD. GERTRUDE MORRISON, New York, N. Y. Filed June 1, 1910. Serial No. 564,527.



1. A device of the character described with a hinged cover, a device for attaching paper on the pad or board, boxes fixed at one end thereof, having on the under surface or back thereof straps or bands adapted for the insertion of the hand beneath them, and having also attached by hinge to the back of the said board sticks or slats adapted to fit into holes or grooves in the outside of the hinged cover of the said board when bent back to receive the same, all substantially as set forth for the purposes specified.

2. A device of the character described having a cover, attached boxes, a device for holding or setting up board when in use, and having at one end thereof a hinged strip, pivoted clips to hold the same when folded over the drawing surface and, at the other end of the drawing surface, a pivoted wire rotating on the same plane with the board, all substantially as described for the purposes specified.

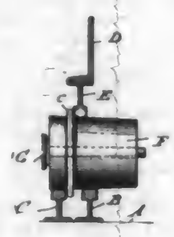
978,391. BICYCLE-BOAT. HERBERT F. NEU, Brookfield, Wis. Filed Jan. 22, 1910. Serial No. 539,458.



1. The combination with a hull, of bicycle frame disposed therein, downwardly diverging braces at the front and rear of the frame and secured to opposite sides of the hull to maintain the frame in vertical position centrally of the hull, a steering rod journaled in the forward end of the frame and having a rudder beneath the bottom of the hull, a propelling shaft supported longitudinally within the frame and having a propelling wheel, and manually operable gearing connections between the frame and propelling shaft.

2. The combination with a hull, of bicycle frame disposed therein, downwardly diverging braces at the front and rear of the frame and secured to opposite sides of the hull to maintain the frame in vertical position centrally of the hull, a steering rod journaled in the forward end of the frame and having a rudder beneath the bottom of the hull, a propelling shaft supported longitudinally within the frame and having a propelling wheel, and a steering bar fixed to the steering rod.

978,392. ANTIFRICTION-BEARING. WILLIAM T. NEWTON, New Orleans, La. Filed June 22, 1910. Serial No. 568,384.

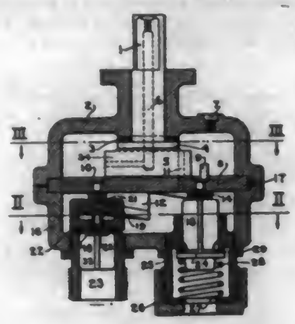


The herein described anti-friction bearing comprising a base, smooth circular rails fixed concentrically on said base in the same horizontal plane and spaced apart, a body arranged above said rails and constructed to be revolved or swung about the center of the circles described by the rails, a depending circular and smooth rail, describing a circle, smaller than that described by the outer and larger than that described by the inner of the first-named rails, carried by and movable with the said body, rollers interposed between the first-named rails and the rail on the body and tapered from their outer ends to their inner ends and each having a smooth periphery in contact with the rails and a circumferential flange arranged between the first-named rails and at the outer side of the rail on the body, and means for holding said rollers in spaced relation.

978,393. ENGINEER'S VALVE. JOHN E. OSMER, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed July 11, 1910. Serial No. 571,318.

1. In an engineer's valve, a plurality of ports, a valve controlling each of said ports, a separate wedge for opening each of said valves, each of said wedges being spaced from its corresponding valve, and means for shifting each of said wedges in contact with its corresponding valve to open same.

2. In an engineer's valve, a plurality of ports, a valve controlling each of said ports, a separate wedge for opening each of said valves, and means for simultaneously



moving said wedges, the one to open one of said valves and another to permit closing of another of said valves.

978,394. COMPOSITION FOR USE IN MANUFACTURE OF ARTIFICIAL PEARLS AND FOR SIMILAR PURPOSES. CHARLES JEAN-BAPTISTE PAIRSEAU-FEIL, Paris, France. Filed Oct. 6, 1909. Serial No. 521,309.

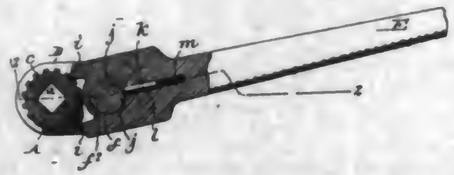
1. A composition for a pearly coating consisting of the combination of dehydrated fish scales and a non-aqueous agglutinating substance.

2. A process for the preparation of a composition of a pearly coating, consisting in dehydrating scales of fish; in mixing the latter with a non-aqueous agglutinating substance.

3. A process for the preparation of a composition for a pearly coating, consisting in mixing essence d'orient with a dehydrating liquid miscible with water; in decanting and adding a new dehydrating liquid; in repeating such decantations and additions of dehydrating liquid until complete dehydration of the scales; in mixing the scales in suspension in the said dehydrating liquid with a non-aqueous agglutinating substance.

4. A process for the preparation of a composition for a pearly coating, consisting in mixing essence d'orient with a dehydrating liquid miscible with water; in adding a deliquescent salt to said liquid; in decanting and mixing the scales in suspension in the remaining liquid with a non-aqueous agglutinating substance.

978,395. RATCHET-WRENCH. ROBERT H. PETERS, Buffalo, N. Y. Filed Dec. 27, 1909. Serial No. 534,939.



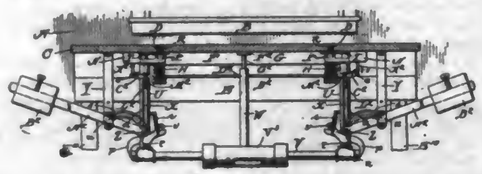
1. A ratchet wrench comprising a rotatable barrel having an axial socket and provided on its periphery with an annular row of teeth, a support on which said barrel is pivoted, a handle pivoted on said support on one side of said barrel and provided on opposite sides of its pivot with jaws which are adapted to engage with the teeth on the adjacent part of said barrel, and a yielding detent device for holding said handle yieldingly in a position in which either one or the other of its jaws engages with the teeth of the barrel.

2. A ratchet wrench comprising a rotatable barrel having an axial socket, circular trunnions at its opposite ends and an annular row of ratchet teeth on its periphery, a support comprising two bars provided at their outer ends with circular bearing openings in which said trunnions

are journaled, a handle pivoted on the inner ends of said bars and provided on opposite sides of its pivot with ratchet jaws which are adapted to engage with the adjacent teeth of said barrel, and a yielding detent device for holding said handle yieldingly in a position in which either one or the other of its jaws engages with the teeth of the barrel.

3. A ratchet wrench comprising a rotatable barrel having an axial socket, circular trunnions at its opposite ends and an annular row of ratchet teeth on its periphery, a support comprising two bars provided at their outer ends with circular bearing openings in which said trunnions are journaled, a pivot pin connected with said bars on one side of said barrel and provided on its periphery with two recesses which are arranged side by side, a handle pivoted on said pin between said barrel and provided with a guideway opening into the pivot opening, a detent pawl or member arranged in said guideway and adapted to engage with one or the other of said recesses, and a spring arranged in said guideway and bearing at its opposite ends against said detent member and the rear wall of said guideway for holding the latter yieldingly in engagement with one or the other of said recesses.

978,396. BURGLAR APPARATUS. MARTIN PLESEC, Swissvale, Pa. Filed Apr. 15, 1910. Serial No. 555,675.

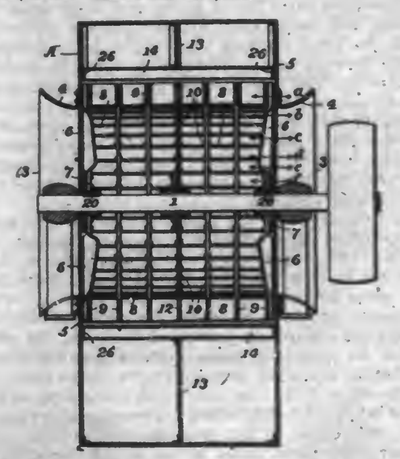


1. In a burglar trapping apparatus, the combination of a frame having a large opening and also having small openings at opposite ends of and in communication with the large opening and further having depending hangers disposed below the large opening, a vertically movable platform resting in the large opening of the frame and flush with the upper side thereof and having at its under side bars which extend beyond the large opening and are adapted to bring up against the under side of the frame, coiled springs interposed between the horizontal portions of the hangers and the said bars and yieldingly supporting the platform, brackets fixed to the under side of the frame and having reduced portions extending under small openings in the platform and also having upstanding lugs disposed in said small openings, bail-shaped, vertically swinging jaws pivoted to the said lugs and normally resting between the platform and the frame and flush with the upper sides thereof, tubes fixed to and depending from the reduced portions of said brackets and each having a long vertical slot and an aperture diametrically opposite said slot and formed in its upper portion, rack bars movable vertically in said tubes and having blocks at their upper ends which normally occupy the said small openings in the frame, pins fixed to said rack bars and movable vertically in the slots of the tubes, jaw-closers fixed to the rack bars and normally receiving the upstanding lugs on the reduced portions of the brackets and adapted to be moved upward on the end arms of the bail-shaped jaws to move the transverse portions of said jaws together, vertically swinging frames receiving and mounted on the said depending tubes, spring-pressed pawls mounted on said frames at one end thereof and arranged to engage the teeth of the rack bars, dogs carried at the opposite ends of the frames and movable into and out of the recesses in the rack bars, means extending between and connecting the lower ends of the depending tubes, an upright tube rising from said connecting means, rock-shafts fixed at their outer ends to the said vertically swinging frames and journaled at their inner ends in the said upright tube, a plate fixed to the under side of the platform and having a plunger guided in the said upright tube, arms fixed to the inner portions of the said rock shafts, a connection between said plate and said arms, and vertically swinging and suitably supported levers having their inner arms connected to the said pins on the rack bars and having weights on their outer arms.

2. In a burglar trapping apparatus, the combination of a frame having an opening, a yieldingly supported platform arranged in said opening, brackets fixed at the under side of the frame, bail-shaped vertically-swinging jaws pivoted at their ends to the brackets and normally resting between the opening walls and the edges of the platform, tubes fixed to and depending from the brackets and having vertical slots, rack bars movable vertically in said brackets and tubes and having pins movable in the tube slots and also having recesses, jaw-closers carried on said rack bars, vertically swinging frames mounted on the depending tubes, pawls carried at one end of said frames and adapted to engage the teeth of the rack bars, dogs carried at the opposite ends of said frames and normally disposed in the recesses of the rack bars, a connection between the platform and the vertically swinging frames for swinging the latter incidental to downward movement of the platform, and suitably supported levers having arms connected to the pins of the rack bars and also having other arms bearing weights.

3. In a burglar trapping apparatus, the combination of a vertically movable platform, suitably supported movable means for catching and holding a burglar, vertically movable means for closing said catching and holding means, means for raising said closing means and thereby closing the catching and holding means, movable means for normally holding said closing means against action, means movable by downward movement of the platform for releasing and permitting of operation of the closing means, adjustable means on the said normally holding means for preventing retrograde or downward movement of the closing means, and adjustable means adapted in one position to prevent movement of the normally holding means and operation of the apparatus.

978,397. FAN. GEORGE S. RICE, Evanston, Ill. Filed Dec. 12, 1908. Serial No. 467,241.



1. The combination with a shaft and casing of a centrifugal fan, of a wheel having peripheral blades, and side spokes consisting of blades to act as propellers to carry the air into the fan, each of the blades being twisted radially, the angle of the twist, measured with respect to a plane at right angles to the fan shaft, decreasing toward the rim of the wheel.

2. The combination with a shaft and casing of a centrifugal fan, of a wheel having peripheral blades, and supporting spokes at each side consisting of blades bent or twisted radially to secure a progressive decrease of

the angle of twist, measured with respect to a plane at right angles to the fan shaft, toward the rim of the wheel.

3. The combination with a fan shaft, of a series of flat rings concentric with said shaft, a series of sets of radial blades provided with side flanges, fastening means passing through the flanges and rings so as to secure said parts into a rigid structure, and side spokes for connecting said end rings to said shaft.

4. The combination with the casing and shaft of a centrifugal blower, of a fan the periphery of which consists of a series of parallel rings and intermediate flanged curved blades, the flanges secured to said rings and with spokes at each side, each spoke twisted radially with a decreasing angle, measured with respect to a plane at right angles to the fan shaft, toward the rim as set forth.

5. The combination of the shaft, a fan having forwardly curved radial blades at the periphery, and casing having a series of overlapping curved blades arranged in a circle about the fan, and propeller arms for driving the air into the fan, each arm being twisted radially to a gradually decreasing angle of twist, measured with respect to a plane at right angles to the fan shaft, toward the rim of the fan.

[Claims 6 to 12 not printed in the Gazette.]

978,398. HOSE-CLAMP. JOSEPH J. RISCHARD, Pasadena, Cal. Filed Mar. 11, 1910. Serial No. 548,564.

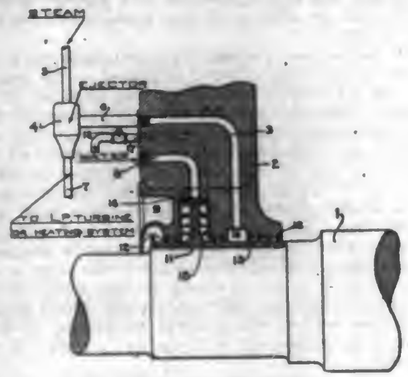


1. In a device of the class described, a body including compressible parts united at one end of the body to form a loop, and spaced apart at the other end of the body to form an open gripping element; a plate bridging the space between said body forming parts to constitute a closure for the loop; means for securing the plate adjacent one end to one portion of the loop; interlocking elements upon the edges of the loop and upon the edges of the plate adapted to hold the body-forming parts against relative movement; and means for compressing the body-forming parts to secure a coöperation of the said interlocking elements.

2. In a device of the class described, a body including compressible parts united at one end of the body to form a loop, and spaced apart at the other end of the body to form an open gripping element; and a plate bridging the space between said body-forming parts to constitute a closure for the loop; means for securing the plate adjacent one end to one portion of the loop; the plate, adjacent its other end, being provided upon its edges with projecting oppositely disposed fingers; there being notches in the edges of the loop, into which the fingers are adapted to fit when the body-forming parts are compressed.

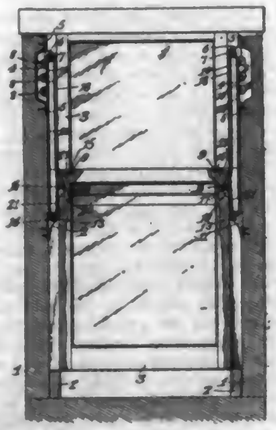
3. In a device of the class described, a body including compressible parts united at one end of the body to form a loop, and spaced apart at the other end of the body to form an open gripping element; a plate bridging the space between said body-forming parts to constitute a closure for the loop; means for securing the plate, adjacent one end, to one portion of the loop; a finger projecting from the edge of the plate adjacent its other end; the loop being provided, in its edge, with a notch adapted to receive the finger, the loop being beveled adjacent the notch, to provide an inclined surface over which the finger is adapted to ride, to enter the notch when the said body-forming parts are compressed.

978,399. PACKING. MAX ROTTER, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed Aug. 15, 1910. Serial No. 577,148.



In a packing, a casing wall, a shaft therethrough, baffling means between the wall and shaft, suction means connecting to the space between the wall and shaft at an intermediate point along the baffling means, and a water seal between the wall and shaft at a point between said intermediate point of connection and atmosphere.

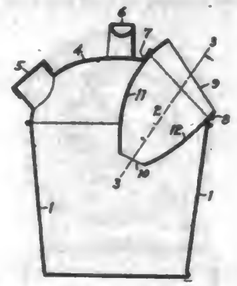
978,400. SASH-BALANCING DEVICE. WILLIAM SAWYER, Armstrong, British Columbia, Canada. Filed July 8, 1910. Serial No. 571,085.



1. The combination with a window frame and a window sash mounted therein, of upper and lower guide rollers mounted on the window frame, a series of rollers fitted in the window frame between the said guide rollers, and a cable having both ends secured to the upper corner of the window sash and passing therefrom in opposite directions to the upper and lower guide rollers, the intermediate portion of the cable being wrapped successively around the rollers between the said upper and lower guide rollers.

2. The combination of a window frame, a window sash mounted therein and provided at its upper corner with connecting horizontal and vertical recesses, a transverse pin passing through the vertical recess, a casing seated in the window frame, a bracket secured to the window frame below the said casing, a guide roller in said bracket, a guide roller at the upper end of the said casing, a series of rollers mounted between the walls of the casing below the said guide roller, and a cable having both ends secured in the horizontal recess in the sash and having an intermediate portion wrapped successively around the several rollers between the walls of the said casing, one branch of the cable passing from the said rollers over the guide roller at the upper end of said casing and then around and under the transverse pin in the vertical recess of the sash, and the other branch of the cable passing from the series of rollers downward to the lower guide roller and around the same and then upward to the sash.

978,401. MILK-PAIL. WILLARD P. SCHANCK, Avon, N. Y. Filed Feb. 17, 1910. Serial No. 544,471.



1. A funnel for milk pails having a direct passage therethrough terminating in a wide inlet and a restricted outlet, and a longitudinally-curved concave inner surface between the inlet and the outlet.

2. A funnel for milk pails having a direct passage therethrough terminating in a wide inlet and a restricted outlet, and a longitudinally-curved concave inner surface between the inlet and the outlet and extending substantially entirely around the funnel.

3. A funnel for milk pails having a direct passage therethrough terminating in a wide inlet and a restricted outlet, and a longitudinally-curved concave inner surface extending substantially from the inlet to the outlet.

4. A funnel for milk pails having a direct passage therethrough terminating in an oblique wide inlet and a restricted outlet, and a longitudinally-curved concave wall opposite the inlet.

5. A funnel for milk pails having a direct passage therethrough terminating in a wide inlet and a restricted outlet, and an inner surface formed to a longitudinally-concave curve such that a normal to such surface at any point intersects the opposite wall of the funnel.

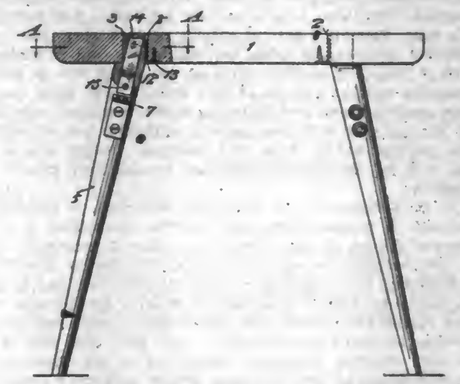
[Claims 6 and 7 not printed in the Gazette.]

978,402. ATTACHMENT FOR GAS-STOVES AND THE LIKE. JOHN SCHOFIELD, Paterson, N. J. Filed Feb. 17, 1910. Serial No. 544,459.



The combination of an upper generally flat and planiform member, the same being substantially rectangular in plan and having two of its opposite edge-portions turned downwardly substantially at right angles and being imperforate and the other two edge portions thereof lying in the same plane as the remainder of said member, a lower member having a downwardly projecting throat and having its under surface around said throat flat, said lower member being substantially rectangular in plan, having its four edge portions turned up at right angles and bearing against the under side of the upper member and two of its said edge-portions orificed, disposed between, spaced from, parallel with and close to the turned down edge-portions of the upper member, and a baffle plate carried by the upper member over said throat, said turned-down edge-portions of the upper member forming with the corresponding turned-up edge-portions of the lower member elongated downwardly open grooves open at their ends, substantially as described.

978,403. KNOCKDOWN TRESTLE. HENRY SCHOTT, New York, N. Y. Filed Apr. 1, 1910. Serial No. 552,840.



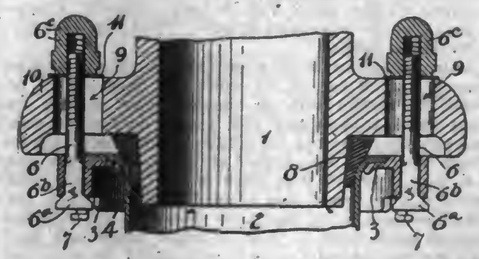
1. A trestle comprising a cross bar having mortises therein, pairs of legs having tenons fitted to enter said mortises, each pair of legs being hinged together and a spring for each pair of legs tending to force the tenons apart against the side walls of the mortise.

2. A trestle comprising a cross bar having mortises therein, pairs of legs having tenons fitted to enter said mortises, each pair of legs being hinged together and a spring interposed between the tenons of each pair of legs above the hinge tending to force the tenons apart against the side walls of the mortise.

3. A trestle comprising a cross bar having mortises therein, pairs of legs having tenons fitted to enter said mortise, each pair of legs being hinged together and springs tending to force the tenons of each pair of legs into snug engagement with an end wall of the mortise and tending to force the tenons apart against the side walls of the said mortise.

4. A trestle comprising a cross bar having mortises therein, pairs of legs having tenons fitted to enter said mortises, each pair of legs being hinged together, a spring interposed between one end wall of the mortise and the tenons, tending to force the tenons into snug engagement with the other end wall of the mortise and a spring interposed between the tenons above the hinge tending to force the tenons apart against the side walls of the said mortise.

978,404. FLOOR-FLANGE. WILLIAM H. SCHULTE, Trenton, N. J., and ROLLIN C. WILSON, Mount Vernon, N. Y. Filed May 29, 1909. Serial No. 499,126.



1. In a device of the character described, a ring-like member, a pipe-receiving seat thereon comprising a de-

pressed flange at the inner edge thereof, arranged in a substantially horizontal plane, a downwardly directed reinforcing and stiffening web of unbroken annular form on the under side of said ring-like member and outside of and spaced away from said pipe-receiving seat, fastening devices arranged externally of said seat and web but in such position relatively thereto as to distribute the pulling strain of said fastening devices uniformly around said ring-like member.

2. In a floor flange for the purpose described, a ring-like member having a depressed inner edge said ring-like member furnishing a substantially horizontal pipe-receiving seat, fastening devices outside of said seat, and an annular downwardly extending reinforcing and stiffening web of unbroken annular form on the lower side of said ring-like member outside of and spaced away from said pipe-receiving seat, said fastening devices arranged outside of but engaging with said annular stiffening web whereby the pulling strain, when the fastening devices are set up, will be distributed uniformly around said ring-like member.

3. In a device of the character described, a ring-like member, a pipe-receiving seat thereon comprising a depressed flange at the inner edge thereof, arranged in a substantially horizontal plane, a downwardly directed reinforcing and stiffening web of unbroken annular form on the under side of said ring-like member and outside of and spaced away from said pipe-receiving seat, fastening devices arranged exclusively of said seat and web but in such position relatively thereto as to distribute the pulling strain of said fastening devices uniformly around said ring-like member, and ears extending outside of said stiffening web and constituting a supporting means for said device.

4. In a device of the character described, a ring-like member, a pipe-receiving seat thereon comprising a depressed flange at the inner edge thereof, arranged in a substantially horizontal plane, a downwardly directed reinforcing and stiffening web of unbroken annular form on the under side of said ring-like member and outside of and spaced away from said pipe-receiving seat, fastening devices arranged externally of said seat and web but in such position relatively thereto as to distribute the pulling strain of said fastening devices uniformly around said ring-like member, and ears extending outside of said stiffening web and constituting a supporting means for said device, said ears being yielding for the purpose described.

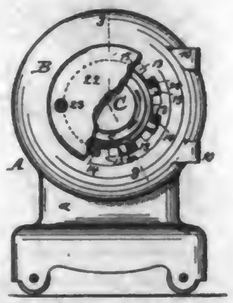
5. In a device of the character described, a ring-like member, a pipe-receiving seat thereon comprising a depressed flange at the inner edge thereof of relatively thin material, whereby the same may yield, said seat being arranged in a substantially horizontal plane, a downwardly directed reinforcing and stiffening web on the under side of said ring-like member and outside of said pipe-receiving seat, fastening devices arranged externally of said seat but in such position relatively thereto as to distribute the pulling strain of said fastening devices uniformly around said ring-like member.

[Claims 6 and 7 not printed in the Gazette.]

978,405. SAFE. JOHN J. SCOTT, Cincinnati, Ohio, assignor to The Victor Safe & Lock Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Feb. 24, 1910. Serial No. 545,663.

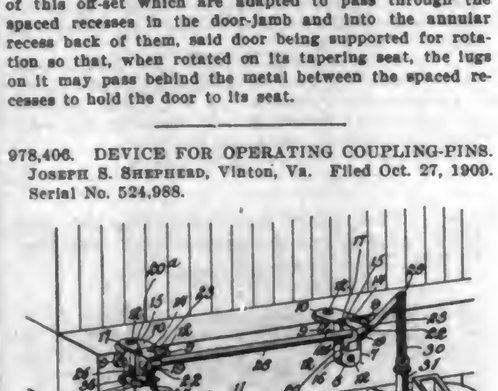
1. In safe-construction, a safe-body having a circular door-opening in one of its walls, the jamb-surface of which is provided with an annular recess between its front and rear-edges and with spaced recesses between said annular recess and the outside whereby said annular recess is rendered open toward the front of the safe, and a circular, rotatable door fitted to the door-opening and provided with spaced lugs adapted to pass through the spaced recesses in the door-jamb mentioned and into the annular recess back of them, in which recess said lugs may move peripherally so as to pass behind the metal between the spaced recesses, thereby holding the door in its opening.

2. In safe-construction, a safe-body having a circular door-opening in one of its walls, the jamb-surface of which is provided with an annular recess between its front and rear-edges and with spaced recesses between said annular recess and the outside whereby said annular recess is rendered open toward the front of the safe, the jamb-surface between said annular recess and its rear edge being inwardly tapered, and a door having a tapering periphery fitted to seat against this tapering part of the jamb-surface and provided with spaced lugs adapted to pass through the spaced recesses in the door-jamb and into the annular recess back of them, said door being supported for rotation so that, when rotated on its tapering seat, the lugs on it may pass behind the metal between the spaced recesses to hold the door to its seat.



3. In safe-construction, a safe-body having a circular door-opening in one of its walls, the jamb surface of which is provided with an annular recess between its front and rear-edges and with spaced recesses between said annular recess and the outside whereby said annular recess is rendered open toward the front of the safe, the jamb-surface between said annular recess and its rear-edge being inwardly tapered, and a door, part of the periphery of which is tapering inwardly and fitted to seat against the tapering part of the jamb-surface, the door outside of this tapering part being reduced in diameter to form an off-set and provided with spaced lugs outside of this off-set which are adapted to pass through the spaced recesses in the door-jamb and into the annular recess back of them, said door being supported for rotation so that, when rotated on its tapering seat, the lugs on it may pass behind the metal between the spaced recesses to hold the door to its seat.

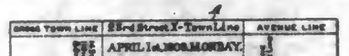
978,406. DEVICE FOR OPERATING COUPLING-PINS. JOSEPH S. SHEPHERD, Vinton, Va. Filed Oct. 27, 1909. Serial No. 524,988.



1. A device for operating coupling pins comprising an operating rod, spaced socket members permanently secured to the end sill of the car, and rod supporting brackets detachably mounted in the sockets of the said members and having transverse openings therein which provide complete bearings for the said rod, whereby the brackets are carried by the rod upon the removal of said brackets from the socket members.

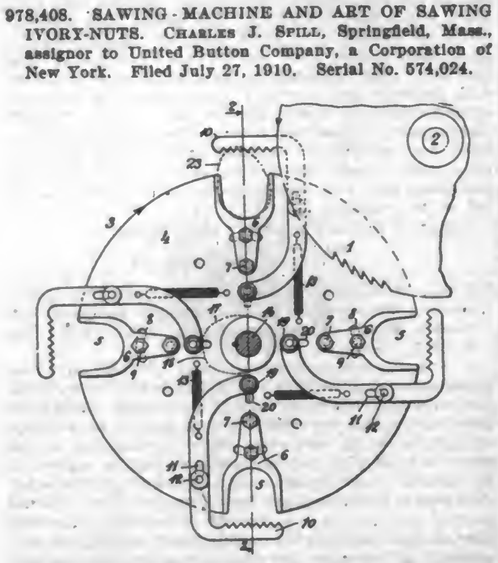
2. A device for operating coupling pins, comprising spaced members permanently secured to an end sill of a car, one of the members being located near the end of the sill, and the other member in close proximity to the coupling, said members being respectively provided with a substantially T-shaped socket having a bottom and undercut side walls, said sockets opening at the outer and upper faces of the members, substantially T-shaped brackets detachably mounted within the sockets and respectively provided with off-set alined complete bearings, and an operating rod for the coupling pin rotatably mounted within the alined bearings of the brackets, whereby the brackets are carried by the rod upon their removal from the spaced members, the inner end of the rod being bent at right-angles and provided at its end with a means for engaging the coupling pin, the outer end of the rod being bent at right-angles to the rod and also at right-angles to the said inner end.

978,407. TRANSFER-TICKET. HENRY J. SMITH, New York, N. Y. Filed June 16, 1909. Serial No. 502,407.



A transfer ticket comprising a central or body portion bearing a contract under which the ticket is used and a series of time limit indications, said body portion having a detachable coupon attached thereto bearing indicia defining a line intersecting the issuing line on which the coupon is good, said body portion also having a second detachable coupon attached thereto which bears indicia defining a line intersecting the before mentioned intersecting line on which the second coupon is good, the ticket also bearing indicia to the effect that the coupons are valid only when attached to the body portion, whereby a passenger, within the time limit for which the ticket is punched, is entitled to a continuous ride on the issuing line, an intersecting line, and a line intersecting the intersecting line, the ticket being canceled either by the lapse of the time for which it is punched or by the use of the coupons.

978,408. SAWING-MACHINE AND ART OF SAWING IVORY-NUTS. CHARLES J. SPILL, Springfield, Mass., assignor to United Button Company, a Corporation of New York. Filed July 27, 1910. Serial No. 574,024.

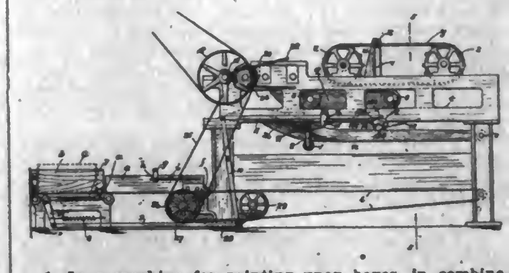


1. The improvement in the art of sawing ivory nuts which consists in providing gage surfaces spaced apart a distance greater than the "diameter" of the nut and less than the "length" thereof, the placing of the nut between and in engagement with said surfaces with its length inclined to the planes of said surfaces, the clamping of the nut in said position and in contact with said gage surfaces, and the presentation of the nut to a saw in a plane parallel to said surfaces.

2. In a machine for sawing ivory nuts, a work holder for presenting the nut to the saw comprising: confining gages spaced apart for positioning the nut and means for clamping the nut so as to permit it to adjust itself in an inclined position between the gages, and a saw extending in a plane between the clamping means and one of the gages.

3. In a machine for sawing ivory nuts, a work holder for presenting the nut to the saws comprising: confining gages spaced apart for positioning the nut and means for clamping the nut so as to permit it to adjust itself in an inclined position between the gages, and two saws spaced a distance apart less than the gages and greater than the width of the clamping means.

978,409. MECHANISM FOR PRINTING BOXES. HOWARD A. STILLWELL, Woodbury, N. J., assignor to E. I. du Pont de Nemours Powder Company, Wilmington, Del., a Corporation of New Jersey. Filed Sept. 8, 1909. Serial No. 516,653.



1. In a machine for printing upon boxes, in combination, a truck adapted to reciprocate, printing rolls beneath which said truck passes, a conveyer, a chute, in line with said conveyer, mounted to swing from a horizontal to a vertical position, mechanism for swinging said chute controlled by said truck in its movement.

2. In a machine for printing upon boxes, in combination, a truck adapted to reciprocate, printing rolls beneath which said truck passes, a conveyer, a chute, in line with said conveyer, mounted to swing from a horizontal to a vertical position, mechanism for swinging said chute controlled by said truck in its movement, and means to close the entry to said chute when said chute is in a vertical position.

3. In an apparatus of the character described, in combination, a reciprocating truck, a chute, said chute being mounted to be movable from a horizontal to a vertical position to receive the article and deliver it to the truck, mechanism for tilting said chute, said mechanism being controlled by the truck in its movement.

4. In an apparatus of the character described, in combination, a reciprocating truck, a chute, said chute being mounted to be movable from a horizontal to a vertical position to receive the article and deliver it to the truck, mechanism for tilting said chute, said mechanism being controlled by the truck in its movement, and a conveyer to deliver the article to the chute.

5. In an apparatus of the character described, in combination, a reciprocating truck, a chute, said chute being mounted to be movable from a horizontal to a vertical position to receive the article and deliver it to the truck, mechanism for tilting said chute, said mechanism being controlled by the truck in its movement, a conveyer to deliver the articles to the chute, and means to hold the articles on the conveyer from movement when the chute is in a vertical position.

[Claims 6 to 19 not printed in the Gazette.]

978,410. ROSIN-APPLICATOR. CLIFFORD G. SWEET, Aurora, Ill. Filed July 28, 1910. Serial No. 574,402.



1. A rosin applicator designed to carry a block of rosin and provided with rosin engaging means for reducing the surface of the rosin to a powder or dust-like form prior to reaching the hairs of a bow impelling the rosin block.

2. A rosin applicator provided with a block of rosin movable with the hairs of a bow where engaged thereby at substantially the same surface speed, and means rendered active by the movement of the rosin block for converting the surface thereof into a powdery or dust-like form prior to the engagement therewith of the hairs of the bow.

3. A rosin applicator provided with a rotatable block of rosin responsive to a movement of a bow thereover to attain a surface speed substantially the same as the speed of movement of the hairs of the bow, and means for preparing the surface of the rosin block where engaged by the bow for transfer thereof to the hairs of the latter, said means acting on the surface of the rosin block before reaching the hairs of the bow.

4. A rosin applicator comprising a rosin block rotatably responsive to the action of a traveling bow thereon, and means in constant operative relation to the rosin block for preparing the surface of the latter for transfer to the hairs of the bow.

5. A rosin applicator comprising a rotatable rosin block responsive to the action of a bow thereon to attain substantially the same surface speed as the speed of travel of the bow, and a scraper for engagement with the rosin block and adapted to act thereon during the movement of the block for preparing the surface of the block for transfer to the hairs of the bow.

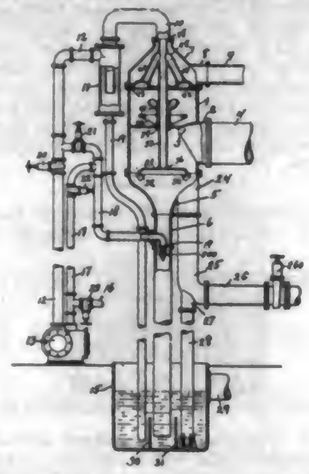
[Claims 6 to 14 not printed in the Gazette.]

978,411. CONDENSER. ROYAL D. TOMLINSON, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed July 25, 1907. Serial No. 385,421.

1. The combination with a condenser casing provided with steam and water inlets and a tail pipe, of an overflow water pipe to act in conjunction with the tail pipe to prevent flooding of the casing when steam is being condensed therein, said overflow pipe having direct communication with the atmosphere, and a valve controlling said communication.

2. The combination with a casing provided with steam and water inlets, of a tail pipe for discharging the condensing water and the water of condensation from said casing, a dry air pipe leading from said casing, a pump with which said dry air pipe is connected, a second pipe communicating with said dry air pipe between said pump and the casing, said second pipe being extended into said tail pipe and adapted to discharge air therein, said dry air pump being provided with a discharge pipe communicating with said last mentioned pipe and being provided also with a free exhaust, and valves in said pipes so disposed that air from the casing may be discharged by said dry air pump either through the free exhaust or into said tail pipe, or that air from the casing may be discharged directly into the tail pipe without passing through the dry air pump.

3. The combination with a casing provided with steam and water inlets, a tail pipe and an overflow pipe, of a dry air pipe, a dry air pump with which said pipe communicates, and an upwardly extended discharge pipe from said dry air pump adapted to discharge air into said tail pipe, said discharge pipe from the dry air pump being extended upward to a point higher than the connection of the overflow pipe with said casing, whereby water from said tail pipe will be prevented from entering the dry air pump.



4. The combination in a condenser, of a casing provided with a steam inlet, a base adapted to be connected with a tail pipe, a top, an umbrella provided with an aperture seated in said condenser, a pipe seated on said umbrella, a spray plate and an urn seated on said pipe, a dam provided with apertures seated in said condenser, and pipes affording communication between the apertures in said dam and said first mentioned pipe.

5. The combination in a condenser of a casing, a base and a top, provided with steam and water inlets, the base of said condenser being adapted to be connected with a tail pipe, the top of said condenser being provided with an outlet adapted to be connected with a dry air pipe, an umbrella provided with an aperture seated in said condenser, an annular dam of substantially semicircular cross section seated in said condenser and provided with apertures, a pipe provided with a collar seated upon said umbrella in alinement with the aperture therethrough, a spray plate resting upon said collar, an urn resting upon said spray plate, pipes seated upon said dam in alinement with the apertures therein, a spider-collector-coupling inclosing said first mentioned pipe and seated upon said last mentioned pipes, said first mentioned pipe being provided with an aperture within the interior of said coupling, and a spider for positioning the top of said first mentioned pipe with respect to the dry air outlet in the top of the condenser.

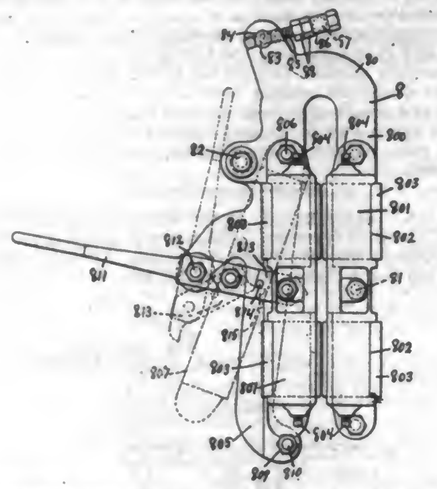
[Claims 6 to 8 not printed in the Gazette.]

978,412. BAND-SAW MILL. WILLIAM H. TROUT, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed Feb. 8, 1907. Serial No. 356,445.

1. A saw guide comprising a base provided with two members between which a saw is adapted to be received, said base being provided with a pivot about which it is adjustable, means for adjusting said base, a block carrying member rigidly secured to one of the members of said base, a second block carrying member pivotally secured to the other of said members, a lever permanently fulcrumed on said base for moving said last mentioned block carrying member about its pivot, and a link permanently connected between the lever and the second block carrying member whereby said member may be fully thrown open without necessitating detaching of parts.

2. The combination in a band saw, of a saw guide,

means for adjusting said guide, means for operating said adjusting means and means for controlling said operating means including a lever, weighted bell cranks tending to



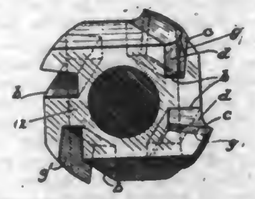
return said lever to neutral position with increasing force and means for arresting said bell cranks at neutral lever position.

978,413. RAILWAY-TIE. LELAND L. VAN HORN, Postville, Iowa. Filed Aug. 15, 1910. Serial No. 577,147.



A railway tie comprising a rectangular metal frame, a bar having its terminals connected respectively to the ends of said frame and its intermediate portion disposed beneath the frame in parallel spaced relation thereto, a filler of cement within said frame and above the bar, the longitudinal edges of said filler being tapered from the lower edge of the frame to the base of the filler.

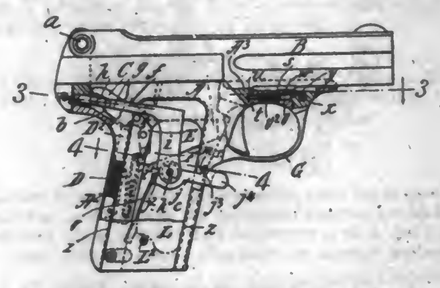
978,414. CUTTER-HEAD FOR WOODWORKING MACHINERY. WILLIAM O. VIVARTTAS, Canton, Ohio. Filed Mar. 12, 1909. Serial No. 482,878.



1. A cutter head comprising a head block having therein longitudinal grooves each of which has a plane side wall whose depth dimensions at different cross-sections lie in the planes of different chords of the head, is located entirely at one side of radii perpendicular to said chords, intersects in its length dimension a plane described on the axis of the head, and converges toward an adjacent groove, and knives inserted in said grooves.

2. A cutter head comprising a head block having therein longitudinal grooves, and knives inserted in said grooves, each of which knives has a plane side whose depth dimensions at different cross-sections lie in the planes of different chords of the head, is located entirely at one side of radii perpendicular to said chords, intersects in its length dimension a plane described on the axis of the head and converges toward an adjacent knife.

978,415. FIREARM. JOSEPH H. WESSON, Springfield, Mass. Filed Nov. 19, 1909. Serial No. 528,892.



1. In a firearm, the combination with a firing mechanism, comprising a trigger, of a spring actuated safety device for normally locking and rendering the firing mechanism inoperative, and having a manually actuated catch located adjacent the trigger and adapted automatically to detachably engage a portion of the frame of the arm, to hold said safety device in its locked position.

2. In a firearm, the combination with a firing mechanism comprising a trigger, of a safety device for normally locking and rendering the firing mechanism inoperative and provided with a manually actuated catch located adjacent the trigger and adapted to detachably engage a suitable portion of the firearm in proximity thereto to hold the safety device in its locked position, and means for automatically forcing the safety device to its locking position and for simultaneously automatically forcing the catch to its engaged position.

3. In a firearm, the combination with a firing mechanism comprising a hammer and trigger, of a safety device comprising a bar longitudinally slidable in the arm, having a transverse hammer-engaging projection, and comprising a forwardly extending member located in proximity to the trigger, and means for forwardly forcing the safety device.

4. In a firearm, the combination with a hammer, of a safety device movable to have a locking engagement with the hammer, and to be disengaged therefrom, a spring for moving the safety device to its locking engagement with the hammer, and a catch for holding the safety device in its hammer locking position and adapted for movement whereby the safety device may be moved to a position of disengagement from the hammer.

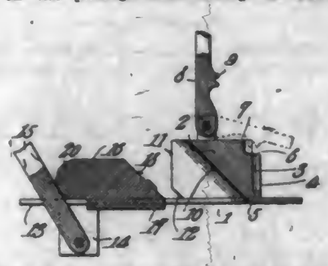
5. In a firearm, the combination with a hammer, of a safety device movable to have a locking engagement with the hammer, and to be disengaged therefrom, a spring for moving the safety device to its locking engagement with the hammer, and a catch jointed, and movable relatively, to the safety device for holding the latter in its hammer locking position and adapted for a swinging movement whereby the safety device may be moved to a hammer disengaging position and also serving as a medium through which the safety device may be manually moved for its disengagement from the hammer.

[Claims 6 to 11 not printed in the Gazette.]

978,416. SWEEP-SHAPER. JAMES F. WHELCHEL, Murrayville, Ga., assignor of one-half to Russell I. Holland, Murrayville, Ga. Filed Apr. 9, 1909. Serial No. 488,890.

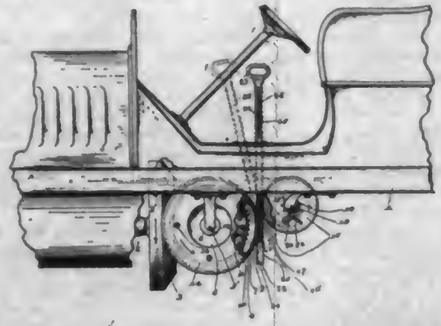
A device for shaping a sweep formed from a blank curved edgewise, comprising a base having an anvil portion provided with an undercut curved surface inclined at an angle of approximately 45 degrees to the plane of the base, and having the lower portions of its ends terminating in edges inclined at an angle of approximately 45

degrees to the plane of the base, said inclined edges lying in planes at an angle of approximately 90° to the plane of the base, said base having a passage, a block slidably mounted in the passage and having an inclined face



pitched at an angle corresponding to the angle of inclination of the inclined surface of the anvil portion, and having a lug, a lever fulcrumed with relation to the base and operating through the passage to engage the said block.

978,417. AUTOMOBILE ENGINE-STARTER. HENRY E. WILSON, Chicago, Ill., assignor of one-fourth to Ralph W. McKinney, Chicago, Ill. Filed Mar. 7, 1910. Serial No. 547,705.



1. In a starting device for automobiles, a power shaft, a rotatable toothed member in operative connection with said power shaft, a second rotatable toothed member mounted adjacent said first named toothed member, and a manually operated starting bar having teeth on opposite edges thereof for meshing with the teeth of said members and of a size to pass freely between said members, substantially as described.

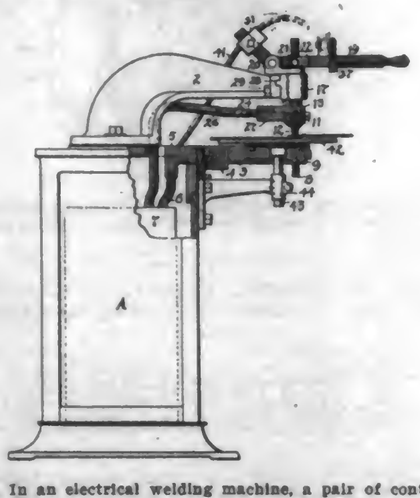
2. In a starting device for automobiles, a power shaft, a rotatable toothed member in operative connection with said power shaft, a second rotatable toothed member adjacent and coplanar with said first named toothed member, a manually operated starting bar having teeth on the opposite edges thereof for meshing with the teeth of said members and of a size to pass freely between said members, and means for preventing said second toothed member from rotating in one direction, substantially as described.

3. In a starting device for automobiles, a power shaft, a rotatable toothed ring in operative connection with said power shaft, a rotatable toothed member coplanar with said ring, a starting bar having teeth on opposite edges thereof for meshing with the teeth of said ring and said toothed member and of a width less than the distance between the teeth of said ring and said rotatable member, and means whereby said power shaft may rotate independent of said ring, substantially as described.

4. In a starting device for automobiles, a power shaft, a rotatable toothed ring in operative connection with said power shaft, a rotatable toothed member coplanar with said ring, a starting bar having teeth on opposite edges thereof for meshing with the teeth of said ring and said toothed member and of a width less than the distance between the teeth of said ring and said rotatable member, and a pawl and ratchet connection between said ring and said power shaft, substantially as described.

5. In a starting device for automobiles, a power shaft, a rotatable toothed member in operative connection with said power shaft, a second rotatable toothed member adjacent and coplanar with said first named toothed member, a manually operated starting bar having teeth on opposite edges thereof for meshing with the teeth of said members and of a size to pass freely between said members, and a pawl and ratchet for preventing said second toothed member from rotating in one direction, substantially as described.

978,418. ELECTRICAL SPOT-WELDING MACHINE. WILLIAM C. WINFIELD, Warren, Ohio, assignor to The Winfield Electric Welding Company, Warren, Ohio. Filed Oct. 8, 1909. Serial No. 521,681.



1. In an electrical welding machine, a pair of contact members, laterally adjustable means to slidably support one of said members for vertical movement and means adapted to be set on different radial lines relatively to the contact members to operate one of said members.

2. In an electrical welding machine, a pair of welding contacts and separate supports therefor having fastening devices to removably and adjustably secure said contacts in fixed position, operating means for one of said supports having a rotatable mounting, and means to fasten said mounting in various set positions.

3. In an electrical welding machine, a set of welding contacts and a support for each, one of said supports comprising a slidable member and a rotatable sleeve about the same and a supporting head for said sleeve, in combination with means to slidably operate said member.

4. In an electrical welding machine, a set of welding contacts and a support for each, one of said supports comprising a vertically slidable member, a rotatable sleeve about said member, a laterally adjustable head for said sleeve, and a stationary arm for said head, in combination with means to operate said slidable member.

5. In an electrical welding machine, a set of welding contacts and a support for each, one of said supports comprising a slidable member, a rotatable sleeve about said member, and a fixed support for said sleeve, in combination with an operating device for said member mounted upon said sleeve and adapted to rotate therewith.

[Claims 6 to 20 not printed in the Gazette.]

978,419. FOUNTAIN-PEN. PAUL E. WIRT, Bloomsburg, Pa. Filed Oct. 31, 1908. Serial No. 460,393.

1. In a fountain pen, a pen bearing section carrying a pen point, and an ink feeding device comprising an auxiliary metallic feed plate underlying the pen point and arranged with its edge portions separated from the latter, and means for flowing ink to said plate.



2. In a fountain pen, a pen bearing section carrying a pen point, and an ink feeding device comprising an auxiliary concavo-convex metallic feed plate underlying the pen point and having its edge portions separated therefrom to leave intervening ink flowing fissures, and means for flowing ink to said plate.

3. In a fountain pen, a pen bearing section carrying a pen point, and an ink feeding device comprising a concavo-convex metallic feed plate underlying the pen point and shorter in length and narrower in width than the same, said feed plate being also struck on the arc of a smaller circle than the pen point, and means for flowing ink to said plate.

4. In a fountain pen, a pen bearing section carrying a pen point, a metallic feed plate underlying the pen point, and a feeder extending through the pen bearing section and having a cylindrical feed head provided with an air vent and arranged to form an ink flowing fissure communicating with the feed plate.

5. In a fountain pen, a pen bearing section carrying a pen point, an auxiliary metallic feed plate underlying the pen point and having its edge portions separated from the latter, a longitudinally movable plunger feeding stem having a feed head slidably related to the feed plate and arranged to normally provide an ink flowing fissure communicating with said plate, and the pen cap carrying a cut-off projection adapted to contact with the feed head and move the same to a cut-off position.

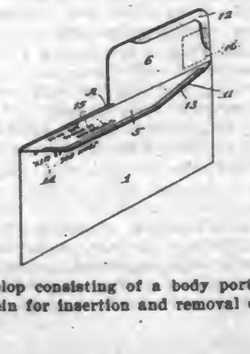
[Claims 6 to 9 not printed in the Gazette.]

978,420. FOUNTAIN-PEN. PAUL E. WIRT, Bloomsburg, Pa. Filed Oct. 31, 1908. Serial No. 460,394.



In a fountain pen, the pen bearing section carrying the pen point, a feed bar having attractive surfaces fitting the pen point, an air vent, and a longitudinally disposed ink duct, said ink duct being of a flaring depth and terminating at its outer end in an open mouth communicating with said attractive surfaces and with said air vent, and an inclining regulating strand lying on the bottom of said duct longitudinally of the latter and terminating at one end contiguous to the mouth thereof, said strand being of less width than the duct bottom or base.

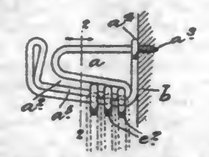
978,421. ENVELOP. JOSEPH H. WITTMANN, Kansas City, Mo. Filed Apr. 11, 1910. Serial No. 554,822.



1. An envelop consisting of a body portion having an opening therein for insertion and removal of mail-matter, a flap at one side of said opening to close the same on outgoing trip, and a flap at the opposite side of said opening to close the same on return trip.

2. An envelop consisting of a body portion having space for an address and an opening for insertion and removal of mail-matter, a primary flap on one side of said opening, having space for an address and adapted to close envelop and cover address on body portion thereof on return trip, and a secondary flap at opposite side of said opening, adapted to close envelop on outgoing trip.

978,422. GARMENT-HANGER. PAUL T. ZIZINIA, New York, N. Y. Filed Jan. 26, 1910. Serial No. 540,146.

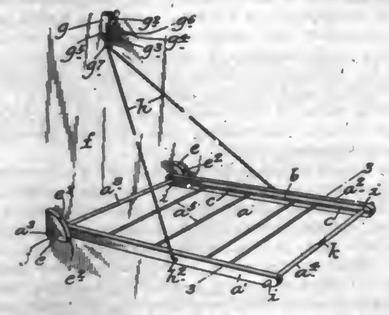


1. A garment hanger of the class described, comprising two end bracket members adapted to be secured to a suitable support and provided with open curved or L-shaped slots or openings, and cross rods removably mounted in said slots or openings, said cross rods being provided with an open loop at right angles thereto and adjacent to an end thereof.

2. A garment hanger of the class described, comprising two end bracket members adapted to be secured to a suitable support and provided with horizontal slots or openings, and cross rods removably mounted in said slots or openings, said cross rods being provided at their ends with handles, one of which is positioned below the point of suspension of said cross rods and automatically operates by gravity to prevent said cross rods from accidentally turning in or being displaced from said slots or openings.

3. A hanger of the class described, comprising two end members rigidly secured to a support and projecting outwardly therefrom, said members being provided with L-shaped slots or openings which extend therethrough horizontally and the longer end portions of which range backwardly, and the shorter end portions of which extend and open outwardly adjacent to the outer ends of said members, and rods removably mounted in said L-shaped slots or openings, said rods being provided with handles which project outside of said end members and adjacent to one end with a U-shaped loop.

978,423. GARMENT-HANGER. PAUL T. ZIZINIA, New York, N. Y. Filed Mar. 8, 1910. Serial No. 547,965.



1. In a device of the class described, a frame composed of parallel side members connected by end rods, one of said side members being provided in its inner face with spaced sockets, and the other with a longitudinal central groove, in the bottom of which are pins spaced to correspond with said sockets and cross rods or rungs, one end of which is adapted to be inserted into said sockets and the other to be lowered into said groove and to rest on said pins.

2. In a device of the class described, a frame composed of parallel side members connected by end rods, one of said side members being provided in its inner face with spaced sockets, and the other with a longitudinal central groove, in the bottom of which are pins spaced to correspond with said sockets and cross rods or rungs, one end of which is adapted to be inserted into said sockets and the other to be lowered into said groove and to rest onto said pins, said rods or rungs being cylindrical in form and the ends thereof which are adapted to enter said groove being provided with recesses, adapted to receive said pins.

3. A device of the class described, consisting of hinge blocks adapted to be secured to a wall or other support, a frame, one end of which is adapted to be mounted between said hinge blocks and to swing in a vertical plane, the opposite end of said frame being provided with a cross rod, a lock block adapted to be secured in a vertical position to the wall or support above said hinge blocks and by means of top and bottom screws passed therethrough, said lock block being provided in the back of the lower end thereof with a recess through which the bottom screw is passed and a link device connected with said screw, and said lock block being also provided in the front of the lower end portion thereof with a recess adapted to receive the cross rod of said frame and with a pivoted catch device connected with the top screw by which said block is secured to the wall or other support and adapted to engage the said cross rod of the frame when said frame is in a vertical position and flexible devices connected with the said link device and with the opposite side portions of said frame.

978,424. CAR-BOLSTER. CHARLES H. ANDERSON, Seattle, Wash. Filed Aug. 18, 1910. Serial No. 577,776.



1. In combination, a car-body bolster, a truck-bolster and a ball and socket bearing-connection for the bolsters, the ball-member forming a lubricant-reservoir provided with an outlet leading to the socket-member, for the purpose set forth.

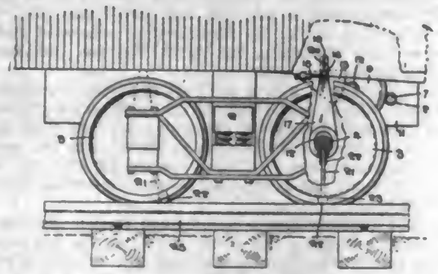
2. In combination, a car-body bolster, a truck-bolster and a ball and socket bearing-connection for the bolsters, the ball-bearing member forming a lubricant-reservoir provided with an outlet leading to the socket-member, and the car-body bolster having a lubricant charging-passage communicating with this reservoir, for the purpose set forth.

3. In combination, a car-body bolster, a center-bearing plate secured to the under side thereof, a truck-bolster having a socket-member, a bearing-piece, interposed between the bolsters, having a ball-member engaging said socket-member and forming therewith a ball and socket connection between the bearing-piece and truck-bolster, and an annular ball-bearing between said bearing-piece and center-bearing plate.

4. In combination, a car-body bolster, a center-bearing plate secured thereto and having a central socket in its under side, a truck-bolster having a socket-member, a bearing-piece, interposed between the bolsters, having a central boss on its upper side loosely entering said central socket in the center-bearing plate, and a ball-member engaging said socket-member, and an annular ball-bearing between said center-bearing plate and bearing-piece, said bearing-piece being hollow and perforated to form a lubricant reservoir and supplier for the ball and socket connection.

5. In combination, a car-body bolster, a center-bearing plate secured thereto and having a central socket in its under side, a truck-bolster having a socket-member, a bearing-piece, interposed between the bolsters, having a central boss on its upper side loosely entering said central socket in the center-bearing plate, and a ball-member engaging said socket-member, an annular ball bearing between said center-bearing plate and bearing-piece, and an annular tongue and groove connection between said bearing-piece and truck-bolster about said socket-member, said bearing-piece being hollow and perforated and forming a lubricant reservoir and supplier for the ball and socket connection.

978,425. MEANS FOR GENERATING POWER. CHRISTOPHER C. ATKINSON, Hawkinsville, Ga. Filed May 7, 1910. Serial No. 560,081.



1. The herein described means for generating power, comprising the combination with the supporting wheels of a vehicle and a motor having gears thereon, of plungers carried by said wheels and adapted to move longitudinally therein, a rack coöperating with the gears of the motor and means coöperating with said plungers adapted to operate said rack to rotate the motor.

2. In a device for generating power, the combination with a car body and supporting wheels therefor, a motor construction carried by the car body and gears for the motor construction, of a rod, a segmental rack fixed to said rod and coöperating with the gears on the motor construction, pitmen connected to said rod and means carried by the supporting wheels adapted to move said pitmen lengthwise and operate the motor construction.

3. A power generating mechanism, comprising the combination with a vehicle body, supporting wheels for said body, a motor construction carried by the body and gears connected to said motor construction, of plungers carried by said wheels and adapted to move longitudinally, a segmental rack coöperating with the gears of the motor construction, a rod to which said rack is secured, pitmen connected to the ends of said rod and means carried by the plungers adapted to engage said pitmen and move the same longitudinally, whereby the segmental rack will be moved to operate the gears of the motor construction.

4. In a power generating mechanism, the combination with a vehicle body, supporting wheels for the body, an axle for said wheels and track rails, upon which said wheels travel, of a segmental rack adapted to coöperate with power-producing mechanisms, a rod to which said rack is connected, said rod having cranked ends, pitmen coöperating with said cranked ends, plungers carried by the wheels and adapted to project through the tread of the wheels, said plungers being moved longitudinally by engagement with the track rails and means carried by the plungers engaging the pitmen to move said pitmen and rock the rod and segmental rack attached thereto.

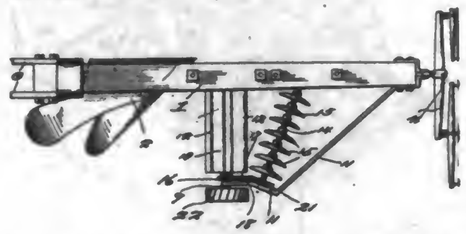
5. In a power generating mechanism, the combination with a power producing means having gears, of wheels, track rails upon which said wheels travel, plungers carried by the wheels, said plungers being operated when moved into engagement with the rails and means interposed between said plungers and said gears adapted to be operated by the plungers, whereby rotating action will be imparted to said gears.

973,426. TAPE-MEASURE. CHARLES FRANCIS BALCH, Earl, Ark. Filed May 14, 1910. Serial No. 561,280.

The combination with a tape measure and a case therefor, of a spring cylinder, a plate constituting a resilient support for said cylinder whereby the latter is forced into frictional engagement with the case, oppositely disposed arms carried by said plate adapted to be detachably secured to said case, and means for releasing said cylinder from its frictional engagement.

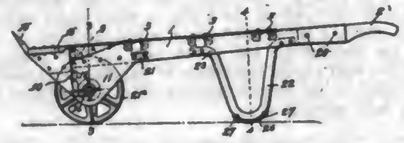


978,427. PLOW ATTACHMENT. ALEXANDREW BANKHEAD, Glen Ullin, N. D. Filed May 21, 1910. Serial No. 562,703.



In a plow attachment, the combination of a plow beam having downwardly projecting beams and an angularly arranged beam, of a plurality of rotating disks and a knife roller, shafts for the disks and the roller mounted in bearings of the downwardly projecting beams and the angularly disposed beam, said knife roller and disks being in advance of the plow, means for gearing the shafts to rotate in unison, means for causing the shafts to rotate, the knives of the roller being designed to cut and break the soil and the clods, said knives being disposed at right angles to said plow beam, and at an acute angle to the axle of the disks.

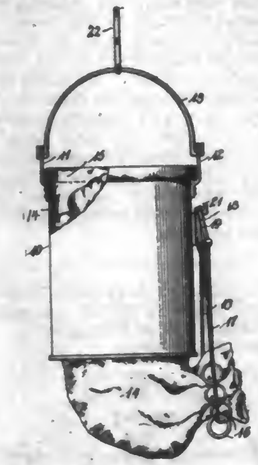
978,428. TRUCK. CHARLES E. BARBA, Altoona, Pa. Filed Aug. 16, 1900. Serial No. 513,158.



1. In a truck of the character set forth, a frame including metallic side bars of channel section, having depending integral pedestals, a diaphragm of metal connecting the pedestals and having an offset flange along its lower edge forming a foot-rest, and wheels journaled in the pedestals.

2. In a truck of the character set forth, a metallic frame comprising side bars of channel section, cross bars of channel iron connecting the side bars and having terminal saddles secured thereto, handles fitted into the rear ends of the channels and secured to the side bars, said side bars having depending integral pedestals, a reinforcing diaphragm or web connecting the pedestals and having its upper edge disposed below the plane of the cross bars, longitudinal straps secured to the cross bars and to the upper edge of the diaphragm or web, wheels journaled in the pedestals, a nosing iron having offset terminals arranged in the channels of the side bars, and substantially V-shaped rear supports of channel section having outstanding ends located and secured in the channels of the side bars.

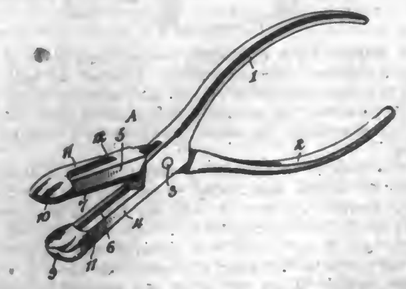
978,429. FRUIT-PICKER'S RECEPTACLE. JOHN S. BARNETT, Central Point, Oreg. Filed Feb. 16, 1910. Serial No. 544,219.



1. A fruit picker's receptacle comprising a rigid tubular member open at the ends and provided with suspension means, a tubular member of fabric material open at the ends and inserted within the rigid member and folded at the upper end over the upper end of the rigid member to form a yieldable guard therefor and extending below the rigid member at its opposite end, a plurality of rings connected to said fabric member near the lower end thereof, a cord extending through said rings at one side of the fabric member, another cord extending through the said rings at the opposite side of the fabric member, a pull ring connected to said cords at one end, and a pull ring connected to said cords at their other ends, said pull rings adapted to be engaged over said suspension means.

2. A fruit picker's receptacle comprising a rigid tubular member open at the ends and provided with suspension means, a tubular member of fabric material open at the ends and inserted within the rigid member and connected at its upper end to the upper end of the rigid member, a plurality of rings connected to said fabric member near the lower end thereof, a cord extending through said rings at one side of the fabric member, another cord extending through said rings at the other side of the fabric member, a pull ring connected to said cords at one end, and a pull ring connected to said cords at their other ends, said pull rings adapted to be engaged over said suspension means.

978,430. DENTAL CROWN-FORMING TOOL. RICHARD R. BRASWELL, Shreveport, La., assignor of one-half to Julia J. Nelson, Shreveport, La. Filed Dec. 14, 1909. Serial No. 533,003.



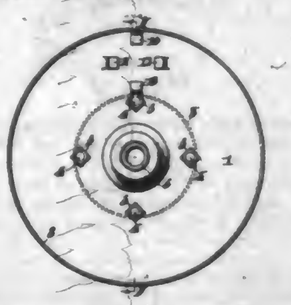
1. A dental tool comprising jaw members pivotally connected and having concave and convex band-forming faces respectively and also having longitudinally-extending

grooves, and crown-shaping forms provided with stems fitting in the grooves and the working faces of the forms being flush with the said band-forming faces of the jaws.

2. A dental tool comprising jaw members having their opposed faces concave and convex respectively and formed with longitudinally extending dovetail grooves in their outer faces, crown-shaping forms at the extremities of the jaws, and attaching stems on the forms fitting in the grooves for detachably securing the forms in place.

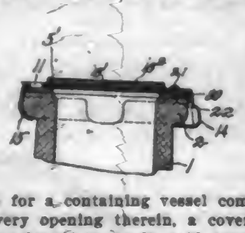
3. A dental tool comprising hingedly-connected handles each having a jaw member, the outer faces of the jaw members having longitudinally-extending dovetail grooves tapering inwardly, crown-shaping forms disposed at the extremities of the jaw member, and wedge-shaped stems on the forms of dovetail cross section for wedging in the grooves of the jaw members.

978,431. REEL. CHARLES E. BRINLEY, Philadelphia, Pa., assignor to The American Pulley Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed July 28, 1909. Serial No. 510,002.



In a sheet metal reel provided with an outwardly projecting peripheral rim, and having a central drum, and means for connecting the heads thereto, the combination with the head, of a plurality of converging tongues, integral with the metal of the head, and arranged in a group radially beyond the region of contact between the head and the drum, said tongues being extended outwardly from the general plane of the head, but lying in a plane within the depth of the peripheral rim.

978,432. CLOSURE FOR CONTAINING VESSELS. EUGENE D. CHELLIS, Portland, Me., assignor to National Metal Seal Company, Portland, Me., a Corporation of Maine. Filed Mar. 27, 1908. Serial No. 423,724.



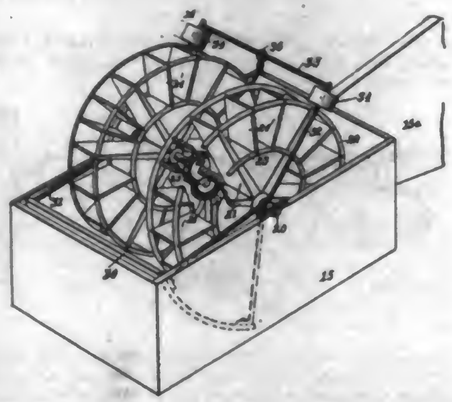
1. A closure for a containing vessel comprising a cap having a delivery opening therein, a cover on said cap having a recess adapted to overlie said opening, a packing in said recess and an upturned flange about said opening and adapted to enter the recess in said cover to engage the packing.

2. A closure for a containing vessel having a shoulder beneath its mouth comprising a cap having a delivery opening therein, a cover on said cap having a recess, a packing in the recess adapted to overlie said opening and an upturned flange about said opening and adapted to enter the recess in said cover to engage said packing and a resilient locking lip on the cover and adapted to engage the shoulder on the vessel.

3. A closure for a containing vessel comprising a cap having a delivery opening therein, a cover on said cap having a recess in the cover, a packing in the recess adapted to overlie said opening and an upturned flange about said opening and adapted to enter the recess in said cover to engage said packing and means for causing the yielding interengagement of said packing and said flange.

4. A closure for a containing vessel comprising a cap having a delivery opening therein, a cover on said cap, a packing on the cover adapted to overlie said opening, an upturned flange about said opening and means for retaining the flange and packing in yielding engagement.

978,433. WINDMILL. JOHN W. COLEMAN, Madrid, Iowa. Filed Aug. 16, 1909. Serial No. 513,145.



1. The combination with the tower top of a windmill, of a frame having a central aperture, means for rotatably mounting the frame upon the tower top comprising a plurality of horizontally mounted rollers journaled in the tower top, a plurality of vertically disposed rollers adapted to contact with the wall of said aperture, bolts secured in the tower top upon which said vertical rollers are mounted, a stationary plate secured by said bolts and located above the bottom of said frame, and a plurality of horizontally disposed rollers mounted in openings in said plate and resting upon the bottom of the frame.

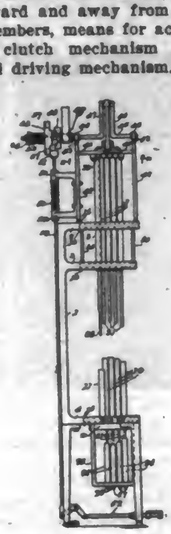
2. The combination with the tower top of a windmill, of a box or frame rotatably supported thereon and provided at one end with a projecting vane, a shaft mounted in bearings at the sides of the frame, a wind wheel mounted on said shaft, a segmental shield, arms mounted on said shaft for supporting the shield and counter balancing means for said shield consisting of parallel arms secured to the shaft, a rod connecting said arms, and weights carried by said parallel arms.

978,434. MACHINE FOR TURNING GLOVES, MITTENS, AND THE LIKE. JACOB E. CROSBY, Springfield, Ohio, assignor of one-half to Charles H. Lannert, Springfield, Ohio. Filed Apr. 26, 1909. Serial No. 492,251.

1. A glove turning machine comprising two groups of turning members, each of said groups comprising a plurality of finger turning members and a thumb turning member, and means for moving one group of said members toward and away from the other group of said members.

2. A glove turning machine comprising two groups of turning members, one group comprising a plurality of finger turning members having their ends arranged to correspond to the relative positions of the tips of the glove fingers, and a thumb turning member of less length than said finger turning members, and the other group of members comprising a plurality of coöperating finger turning members having their ends arranged inversely to the arrangement of the first finger turning members, and a thumb turning member of greater length than said finger turning members.

3. In a glove turning machine, the combination, with a group of finger turning members having their ends arranged to correspond to the relative positions of the tips of the glove fingers, and a group of coöperating finger turning members having their ends arranged inversely to the arrangement of the turning members of the first group, of driving mechanism for moving one group of finger turning members toward and away from the other group of finger turning members, means for actuating said driving mechanism and clutch mechanism for controlling the movement of said driving mechanism.



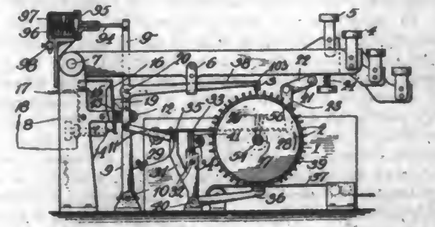
4. In a glove turning machine, the combination, with two groups of turning members, each of said groups comprising a plurality of of finger turning members and a thumb turning member, of driving mechanism operatively connected to one of said groups of turning members to move the same toward and away from the other of said groups of turning members, means for actuating said driving mechanism and clutch mechanism arranged to be actuated by the operator for controlling the movement of said driving mechanism.

5. In a glove turning machine, the combination, with two groups of turning members, one of said groups comprising a thumb turning member and a plurality of finger turning members, having their ends arranged to correspond to the relative positions of the tips of the glove fingers, and the other of said groups comprising a thumb member and a plurality of coöperating finger turning members, having their ends arranged inversely to the arrangement of the first-mentioned finger turning members, of driving mechanism operatively connected to one of said groups of turning members for moving the same toward and away from the other of said groups of turning members, and means actuated by the operator for controlling the movement of said driving mechanism.

[Claims 6 to 30 not printed in the Gazette.]

978,435. TELEGRAPH-TRANSMITTER APPARATUS. HARRY G. DAVIS, Williamsport, Pa., assignor to Electric Press Bulletin Company, Williamsport, Pa., a Corporation of Delaware. Filed Oct. 18, 1909. Serial No. 523,189.

1. In telegraph transmitter apparatus, a frictionally operated drive shaft and connected pin drum, a series of pins on said drum, a latch shaft, latch arms connected to said latch shaft, a latch pin connected to said latch arms, a series of latches mounted on said latch pin and cooperating with the corresponding pins on said pin drum, a corresponding series of character keys operatively connected with said latches, a unison device operated by said drive shaft and comprising a unison arm, a unison lock in the path of said character keys, a connected unison lever in the path of said unison arm and held against movement when said unison device is in actuating position, a unison key, a connected unison latch having a cam surface coöperating with a unison pin on said drum, a pneumatic cushioning cylinder having an adjustable throttling valve coöperating with one of said latch arms, a spring pressed piston in said cylinder normally engaging said latch arms to cushion the same, a latch lug mounted on one of said latch arms, an electrical actuating contact in coöperating with said latch lug to be closed thereby when said latches are actuated, a type wheel connected with said drive shaft, printing devices coöperating with said type wheel actuated by one of said latch arms, means including an interrupter mounted on said drive shaft to generate alternating electrical impulses, a transmitter resistance through which said impulses normally pass to the line and a signal and actuating circuit comprising a signal lamp and said actuating contact in shunt around said transmitter resistance.



2. In telegraph transmitter apparatus, a frictionally operated drive shaft and connected pin drum, a series of pins on said drum, a latch shaft, latch arms connected to said latch shaft, a latch pin connected to said latch arms, a series of latches mounted on said latch pin and cooperating with the corresponding pins on said drum, a corresponding series of character keys loosely connected with said latches, a unison device operated by said drive shaft and comprising a unison arm, a unison lock in the path of said character keys, a connected unison lever in the path of said unison arm and held against movement when said unison device is in actuating position, a unison key, a connected unison latch having a cam surface coöperating with a unison pin on said drum, a latch lug mounted on one of said latch arms, a resilient electrical actuating contact in coöperation with said latch lug to be closed thereby when said latches are actuated, a type wheel slidingly mounted on said drive shaft, a printer bar and printing lever connected with and actuated by one of said latch arms, a feed device for said type wheel controlled by said printing lever, means comprising an interrupter mounted on said drive shaft to generate alternating electrical impulses, a transmitter resistance through which said impulses normally pass to the line and a signal and actuating circuit comprising a signal lamp and said actuating contact in shunt around said transmitter resistance.

3. In telegraph transmitter apparatus, a normally operated drive shaft and connected pin drum, a series of pins on said drum, a latch shaft, a latch arm connected to said latch shaft, a latch pin connected to said latch arm, a series of latches mounted on said latch pin and cooperating with the corresponding pins on said drum, a corresponding series of character keys connected with said latches, a unison device connected to said drive shaft and comprising a unison arm, a unison lock in the path of said character keys having a connected unison lever in the path of said unison arm and held against movement when said unison device is in actuating position, a unison key, a connected unison latch having an actuating member cooperating with a unison pin on said drum, an electrical actuating contact coöperating with said latch arm to be closed thereby when said latches are actuated, means comprising an interrupter connected with said drive shaft to generate electrical impulses, a transmitter resistance through which said impulses normally pass to the line, a signal and actuating circuit comprising a signal lamp and said actuating contact in shunt around said transmitter resistance.

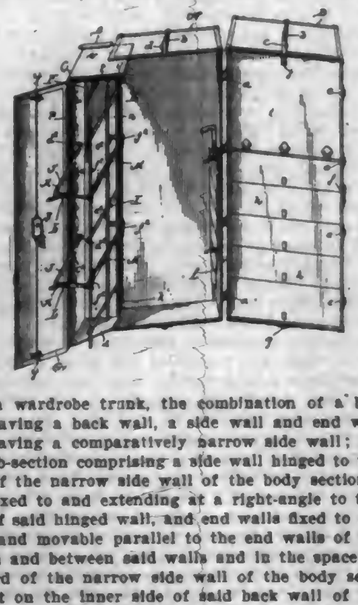
4. In telegraph transmitter apparatus, a normally operated drive shaft and connected pin drum, a series of pins on said drum, a movably mounted latch arm, a latch pin connected to said latch arm, a series of latches moun

ed on said latch pin and coöperating with the corresponding pins on said drum, a corresponding series of character keys loosely connected with said latches, a unison device connected to said drive shaft comprising a unison arm, a unison lock in the path of said character keys and a connected unison lever in the path of said unison arm held against movement when said unison device is in actuating position, a unison key, a connected unison latch having a cam surface coöperating with a unison pin on said drum, an electrical actuating contact coöperating with said latch arm to be closed thereby when said latches are actuated, means comprising an interrupter connected to said drive shaft to generate electrical impulses, a transmitter resistance through which said impulses normally pass to the line and a signal and actuating circuit comprising a signal device and said actuating contact connected in shunt around said transmitter resistance.

5. In telegraph transmitter apparatus, a pin drum, a series of pins on said drum, a latch device and latches connected to said latch device and coöperating with the corresponding pins on said drum, a corresponding series of keys connected with said latches, a pneumatic cushioning device connected with said latch device, an electrical actuating contact in coöperation with said latch device to be operated thereby when said latches are actuated, means comprising an interrupter connected with said pin drum, to generate electrical impulses, a transmitter resistance through which said impulses pass to the line and a signal and actuating circuit comprising a signal device and said actuating contact connected in shunt around said transmitter resistance.

[Claims 6 to 16 not printed in the Gazette.]

978,436. WARDROBE-TRUNK. HERMAN DAVIS, New Orleans, La. Filed May 25, 1910. Serial No. 563,304.



In a wardrobe trunk, the combination of a body section having a back wall, a side wall and end walls and also having a comparatively narrow side wall; a swinging sub-section comprising a side wall hinged to the outer edge of the narrow side wall of the body section, a side wall fixed to and extending at a right-angle to the outer edge of said hinged wall, and end walls fixed to said side walls and movable parallel to the end walls of the body section and between said walls and in the space afforded forward of the narrow side wall of the body section; a bracket on the inner side of said back wall of the body section; and a combined brace and garment support formed in one piece and comprising a bar spaced from that edge of the end wall of the sub-section that is foremost when the sub-section is open, a portion depending from one end of said bar and fixed to the inner side of the second-named side wall of the sub-section; an arm extending at an angle from the opposite end of said bar and arranged immediately under the end wall of the sub-section to support the same, and a portion depending from the inner end of said arm and fixed to the inner side of the first-named wall of the sub-section; the portion of the combined brace and garment support joining the said bar and the said arm being adapted on closing of the sub-section to assume a position upon and be supported by the said bracket.

978,437. FLY-PROOF AND OTHER LIKE SCREEN FOR WINDOWS. FREDERICK DAVISON, St. Louis, Mo. Filed Nov. 3, 1908. Serial No. 460,847.



1. In combination with a fly-proof or other like screen for windows composed of an inner and an outer frame slidably joined, a thin side flange on the outer member of each frame, said side flange extending upward beyond the level of the top member of the frame, substantially as set forth.

2. In combination with a fly-proof or other like screen for windows composed of an inner and an outer frame slidably joined with a lateral movement only, a thin side flange composed as to its outer edge of a single thickness of material without fold on the outer member of each frame substantially as described and for the purpose specified.

3. In combination with a fly-proof or other like screen for windows composed of an inner and an outer frame slidably joined a cover piece secured by one end to the inside end of the top member of the outer frame, descending thence at an angle till it presses the wire cloth of the inner frame, continuing along the said wire cloth with a slight inward curve near the center to near the inside end of the bottom member of the outer frame thence extending outwardly at an angle and fastening to the inside end of the said bottom member for the purpose specified.

4. In combination with a fly-proof or other like screen for windows composed of an inner and an outer frame slidably joined and having a cover piece for pressing the wire cloth of the inner frame against the outer frame, a thin side flange on the outer member of each of the frames substantially as described and for the purpose indicated.

978,438. DYE. OSCAR DRESSEL, Elberfeld, and RICHARD KOTHE and HEINRICH HOERLEIN, Vohwinkel, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed May 19, 1910. Serial No. 562,282.

1. The herein described new dyestuffs obtainable by reacting upon alpha-methylindol compounds with diazotized aminoarylsulfonamids, which dyes are after being dried and pulverized in the shape of their alkaline salts from yellow to orange-yellow powders soluble in water and in concentrated sulfuric acid with a yellow color; yielding upon treatment with stannous chlorid and hydrochloric acid an aminoarylsulfonamid and an amino-alpha-methylindol and dyeing wool from acid baths yellow shades, substantially as described.

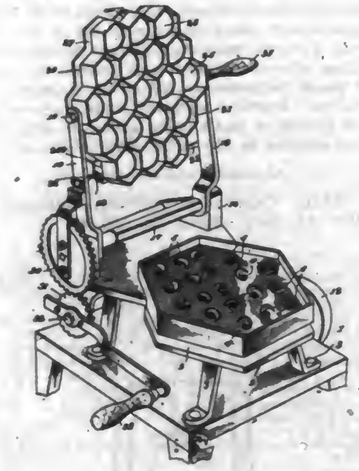
2. The herein described new dyestuff obtainable by reacting upon alpha-methylindol sulfonic acid with diazotized 4-toluidin-2-sulfonanilid, which is after being dried and pulverized a yellow powder soluble in water and in concentrated sulfuric acid with a yellow color; yielding upon reduction with stannous chlorid and hydrochloric acid 4-toluidin-2-sulfonyl-1-naphthylamin-5-sulfonic acid and amino-alpha-methylindol and dyeing wool from acid baths brilliant greenish-yellow shades, substantially as described.

978,439. DYESTUFF. OSCAR DRESSEL, Elberfeld, and RICHARD KOTHE and HEINRICH HOERLEIN, Vohwinkel, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed May 19, 1910. Serial No. 562,283.

1. The herein described new dyestuffs obtainable by reacting upon sulfonic acids of alpha-methylindol compounds with diazotized aminoarylsulfonamids, which dyes are after being dried and pulverized in the shape of their alkaline salts from yellow to orange-yellow powders soluble in water and in concentrated sulfuric acid with a yellow color; yielding upon treatment with stannous chlorid and hydrochloric acid an aminoarylsulfonamid and an amino-alpha-methylindol sulfonic acid and dyeing wool from acid baths yellow shades, substantially as described.

2. The herein described new dyestuff obtainable by reacting upon alpha-methylindol sulfonic acid with diazotized 4-toluidin-2-sulfonanilid, which is after being dried and pulverized a yellow powder soluble in water and in concentrated sulfuric acid with a yellow color; yielding upon reduction with stannous chlorid and hydrochloric acid 4-toluidin-2-sulfonanilid and amino-alpha-methylindol sulfonic acid and dyeing wool from acid baths brilliant yellow shades, substantially as described.

978,440. DOUGH DIVIDING AND ROUNDING MACHINE. AUGUST EGGENHOFER, Zanesville, Ohio. Filed Aug. 19, 1910. Serial No. 577,936.



1. An apparatus of the class described, comprising a base, a plurality of revolving spiral packers mounted on the base, a plurality of cells coöperating with the packers, and means for raising and lowering the plurality of cells toward and from the spiral packers.

2. An apparatus of the class described, comprising a base, a plurality of shafts mounted in the base, a combined spiral cutter and packer on each shaft, gears for revolving the shafts, a tilting frame, means for tilting the frame, a series of cells supported in the frame, there being one cell for each combined cutter and packer, and means for permitting movement of the cells.

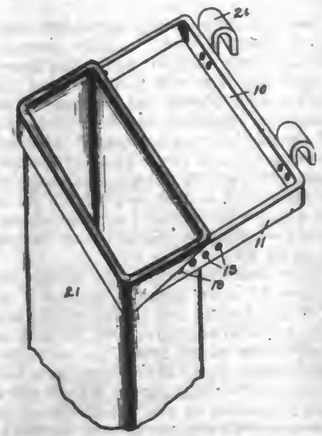
3. An apparatus of the class described, comprising a base, a plurality of spiral packers mounted on the base, each packer having a portion at or near its free end bent upwardly at an angle, a frame, a plurality of cells mounted in the frame, there being a cell for each packer, means permitting vertical movement of the upper portion of each cell, and means for raising and lowering the frame.

4. An apparatus of the class described, comprising a base, a plurality of revolving packers mounted in the base, a pair of arms, a frame mounted in the arms and having a plurality of cells, a movable weighted cap for each cell, and means for permitting slight rise of the cells independent of the movement of the weighted caps.

5. An apparatus of the class described, comprising a base, a series of spirally formed packers mounted on the base, means for individually revolving the packers, a tilting frame, adapted to be moved toward and from the base, gears for tilting the frame, said frame having a plurality of cells, a plate supported over the frame, a series of cup shape caps loosely supported by the plate and fitting in the cells, and means for permitting a slight movement of the frame independent of the movement of the cup shaped caps.

[Claims 6 and 7 not printed in the Gazette.]

978,441. BAG-HOLDER. EDWORD FAIRMAN and RICHARD OTNEY MUNSON, Humboldt, Iowa. Filed Mar. 24, 1910. Serial No. 551,344.



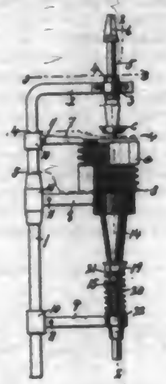
A bag-holder comprising, in combination, a U-shaped frame having two substantially parallel side bars and a transverse connecting bar, said side bars being provided with a series of oppositely alined openings, a resilient bag-stretching member adapted to be journaled for support in any pair of said alined openings, said resilient members having two outwardly bent side portions for frictionally and yieldingly engaging the inner surfaces of said side members when said resilient member is rocked downwardly away from the open end of said U-shaped frame, whereby the bag is rigidly held in an open position between the open end of the frame and said resilient member, and means for supporting said frame.

978,442. VALVE-GRINDING DEVICE. CHARLES H. FIELD, Syracuse, N. Y. Filed Jan. 7, 1910. Serial No. 536,815.

1. In a valve grinding device, a main supporting bracket, a pair of arms mounted on the bracket one above the other for receiving and clamping between them a valve casing, the upper arm being adjustable toward and from the other arm and provided with a vertical opening therethrough, coaxial valve operating spindles alined with said opening and movable axially, and means including a coil spring surrounding one of the valve operating spindles for moving such spindle axially in one direction.

2. In a valve grinding device, an upright bracket, clamping arms mounted upon said bracket one above the other, the upper clamping arm being adjustable vertically and provided with a vertical opening therethrough larger than the valve to be ground, means for clamping the adjustable arm in its adjusted position, coaxial valve operating spindles alined with said opening and movable axially, and

spring operatively connected to one of the valve operating spindles for moving it axially in one direction.



3. In a valve grinding device, an upright bracket having a lateral offset, a rotary axially movable spindle mounted in said offset, laterally projecting arms mounted upon and adjustable relatively to the bracket toward and from each other for receiving and clamping between them a valve casing, an additional spindle movable endwise in one of said arms and having a threaded intermediate portion, a nut engaging said portion and adjustable thereon, an additional arm adjustable on the bracket below said nut and provided with a guide opening for the additional spindle, and a spring between the last named arm and nut for elevating the additional spindle and thereby raising the valve from its seat.

4. In a valve reseating device, an upright supporting bracket, a pair of arms mounted upon and adjustable lengthwise of the bracket for clamping between them a valve casing, an additional arm also mounted upon and adjustable lengthwise of the bracket, a vertically movable spindle guided in one of the first named arms and in said additional arm and normally spring pressed upwardly, an adjustable stop shoulder on said spindle for engaging one of said arms and limiting the upward movement of the spindle, a spring interposed between the stop shoulder and said additional arm for forcing the spindle upward, and a rotary vertically movable valve operating member guided on the bracket and coaxial with said spindle.

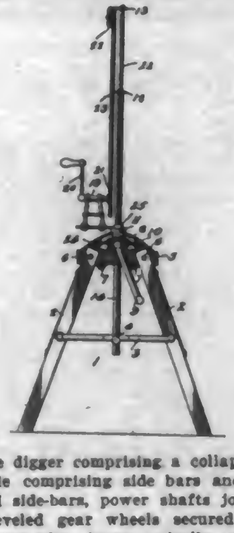
5. In a valve reseating device, an upright bracket, an arm projecting laterally from the upper end of the bracket, a rotary valve operating member movable vertically in said arm, a forked arm adjustably mounted upon the bracket below the first named arm, an additional arm adjustably mounted on the bracket below the forked arm, a vertically movable spindle guided in the additional arm, an adjustable stop on said spindle engaging the under side of the additional arm, a spring for elevating the spindle, and adjustable means for varying the tension of the spring.

978,443. METHOD OF TREATING GLYCERIN. SAMUEL HENRY FLEMING, Camden, N. J., assignor to E. I. du Pont de Nemours Powder Company, Wilmington, Del., a Corporation of New Jersey. Filed May 27, 1909. Serial No. 498,717.



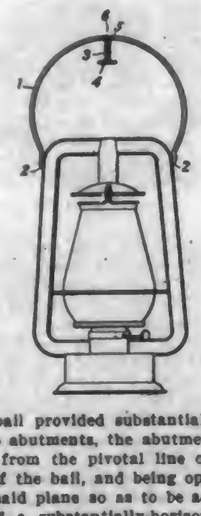
The improvement in the process of polymerizing or condensing glycerin, which consists in subjecting glycerin admixed with a condensing reagent to heat when under a pressure less than atmospheric.

978,444. POST-HOLE DIGGER. MICHEAL FREEMARK, Hope, N. D. Filed June 18, 1909. Serial No. 502,084.



A post hole digger comprising a collapsible supporting frame, a table comprising side bars and cross bars secured to said side-bars, power shafts journaled on said side bars, beveled gear wheels secured to said power shafts, a rectangular frame swivelly mounted on said power shafts, a segmental slotted guide secured to one of said side bars, a thumb screw secured to said rectangular frame and engaging said slotted guide, rods secured to said rectangular frame and extending upwardly, a cross plate connecting the upper ends of said rods, a guide plate slidably mounted on said rods, a drill shaft journaled in said guide plate and slidably mounted in said rectangular frame, a beveled gear wheel splined on said drill shaft and meshing with the beveled gear wheels on the power shafts, a shaft journaled on said table, a sprocket wheel secured to said shaft, a sprocket wheel secured to the cross plate aforesaid, and a chain geared to said sprocket wheels and secured to the guide plate aforesaid.

978,445. BAIL. CHARLES F. FULFORD, Rochester, N. Y. Filed Mar. 18, 1910. Serial No. 550,284.

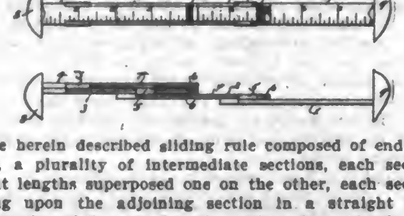


1. A lantern bail provided substantially at its middle portion with two abutments, the abutments being at different distances from the pivotal line of the bail, lying near the plane of the bail, and being oppositely disposed with respect to said plane so as to be adapted to engage opposite sides of a substantially-horizontal lantern-supporting device when the bail is in substantially-horizontal position.

2. A lantern bail having, in combination, a continuous body portion, an arm projecting inwardly from the body portion in the general direction of the plane, and substantially at the center, of the body portion, and a loop at the inner end of the arm arranged at an angle with the plane of the bail.

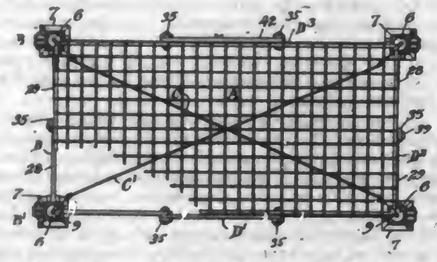
3. A lantern bail having, in combination, a continuous body portion with a substantially central lateral recess, an arm projecting inwardly from the body portion in the general direction of the plane, and substantially at the center, of the body portion, and a loop at the inner end of the arm projecting toward the same side of said plane as said recess.

978,446. RULE. HERMAN GASSTROM, New York, N. Y. assignor to Dahl Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Dec. 22, 1909. Serial No. 534,461.



The herein described sliding rule composed of end sections, a plurality of intermediate sections, each section of flat lengths superposed one on the other, each section sliding upon the adjoining section in a straight line, each section of the same length, marking for said rule consisting of the following divisions: one terminal section marked at the end division with numerals equal to the length of the other terminal section plus the position such numerals occupy on the marked section, from the end, the intermediate sliding sections being marked consecutively to the said marked terminal section, whereby a direct reading can be secured upon the marked section or the intermediate sections from the end of the last section which is slid longitudinally, grooves at the sides of the sections, metal end pieces secured to the sections, having turned ends engaging said grooves in the adjoining section.

978,447. LIFE-SAVING FIRE-ESCAPE. KASIMIR GLAWATZKY, Philadelphia, Pa. Filed May 19, 1910. Serial No. 562,132.



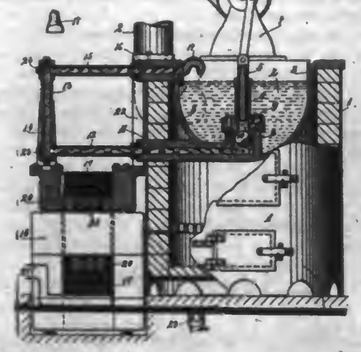
1. In a device of the character described the combination of a receiver for catching a falling body, posts for supporting the receiver horizontally above the ground and provided with suspending hooks, clamps mounted on the posts and provided with seats, sides consisting of legs and of arms provided with lugs for the seats of the clamps and ropes for joining the posts diagonally substantially as described and for the purposes set forth.

2. The combination of a receiver and a frame work for supporting the receiver horizontally above the ground, and consisting of tapered posts, diagonal ropes joining the posts, foldable sides between adjacent posts, clamps provided with seats mounted on the posts and lugs provided by the sides for the clamp seats substantially as described.

3. In a device of the character described, the combination of a receiver, posts provided with hooks for suspending the receiver therefrom, reinforcing means around the posts and under the hooks, recesses around the posts clamps provided with means for clamping them in said recesses, each clamp provided with seats, foldable sides consisting of legs and of arms provided with lugs for the clamp seats and ropes for diagonally joining the posts substantially as described and for the purposes set forth.

4. In a device of the character described, a receiver tapered posts provided with rounded tops and with wide bottoms, bolts vertically mounted in the tops and provided with hooks for suspending the receiver therefrom reinforcing means mounted around the tops of the posts recesses around the posts below the rounded tops, clamps for the recesses and means for clamping them on the posts, seats provided by the clamps, foldable sides consisting of legs and of arms provided with lugs for the clamp seats, bolts horizontally mounted in the posts and provided with hooks and ropes provided with means for suspending them from the hooks of diagonal posts for the purposes set forth.

978,448. APPARATUS FOR TREATING METALS. GEORGE A. GOODSON, Minneapolis, Minn. Filed Feb. 10, 1908. Serial No. 415,068.



1. The combination with a melting pot and circulating connections of small bore outside the melting pot through which the molten metal may be passed, a pump operative to force the molten metal continuously through said circulating connections, and means for subjecting said molten metal to an electric current while passing through said circulating connections, substantially as described.

2. The combination with a furnace, of a melting pot subject to the heat therefrom, circulating connections of small bore, outside the melting pot for said molten metal a pump operative to force the said molten metal from the said melting pot through the said circulating connections and back to the melting pot, and means for subjecting said molten metal to an electric current of large amperage while passing through said circulating connections, substantially as described.

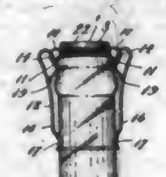
978,449. BOTTLE-STOPPER. FRANK M. HARRISON, Newton, Mass., assignor to Charles H. McDermott, Malden, Mass. Filed Nov. 16, 1909. Serial No. 528,331.

1. A bottle stopper, comprising a yoke having members arranged to engage the neck of a bottle; a plug carried by the yoke for closing the mouth of the bottle; and means engaging the ends of said members for clamping the yoke in position, substantially as described.

2. A bottle stopper, comprising a yoke having resilient arms adapted to engage the neck of a bottle; means carried by the yoke for closing the mouth of the bottle; and means engaging the ends of said arms for clamping the yoke in position, substantially as described.

3. A bottle stopper, comprising a yoke having resilient arms adapted to engage the neck of a bottle; means car-

ried by the yoke for closing the mouth of the bottle; and a lever engaging the lower ends of said arms for clamping the yoke in position, substantially as described.

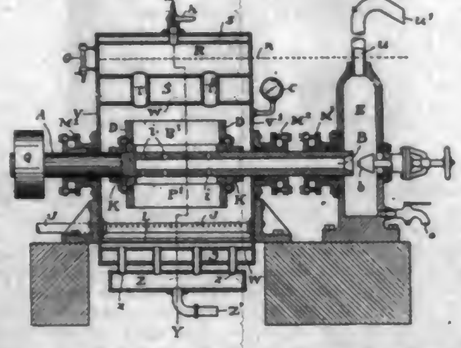


4. A bottle stopper, comprising a yoke having yielding arms for engaging the neck of a bottle; means carried by the yoke for closing the mouth of the bottle; and a lever arranged to engage said yielding arms and adapted to partially embrace and frictionally engage the neck of the bottle, substantially as described.

5. A bottle stopper, comprising a yoke having arms adapted to engage the neck of a bottle, and provided with notches; means carried by the yoke for closing the mouth of the bottle; and means for clamping the yoke in position, said clamping means being held in said notches, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

978,450. APPARATUS FOR SEPARATING SCUM AND PRECIPITATES FROM SUGAR-JUICE. JACOBUS J. HOMANS, Samarang, Java. Filed Oct. 12, 1909. Serial No. 522,319.



1. In an apparatus useful in clarification of sugar-juice, a stationary vessel, means for heating the contents of said vessel while therein, a rotatable device within the vessel for subjecting said contents to centrifugal action, means for supplying sugar-juice into the vessel near the edge thereof and for directing the supplied juice in the same direction as that of rotation of said rotatable device, and a plate secured to the wall of the vessel closed along one edge and open along an edge to readily receive material driven thereto by said rotatable device.

2. In an apparatus useful in clarification of sugar-juice, a stationary vessel, means for heating the contents of said vessel while therein, means for supplying sugar-juice to the vessel, a rotatable device for subjecting its contents to centrifugal action, means for separating said juice from its precipitates, according to their specific gravities into two cylindric layers, the clear juice forming the medium layer, close to the axis of said rotatable device, the scum forming the peripheric layer, and means for leading off separated scum and means for separately leading off the clear juice.

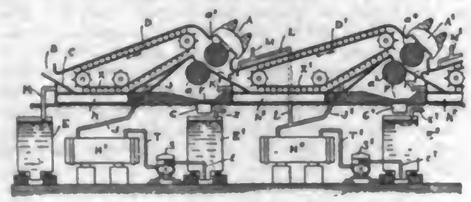
3. In an apparatus useful in clarification of sugar-juice, a vessel, means for heating the contents of said vessel while therein, a rotatable device in the vessel for subjecting its contents to centrifugal action, a chamber for sugar-juice, means for leading off sugar-juice relieved of scum from said vessel to said chamber, and a valve for controlling such leading off of sugar-juice.

4. In an apparatus useful in clarification of sugar-juice, a vessel, means for supplying sugar-juice thereinto, means for heating sugar-juice while in said vessel, a rotatable device for subjecting the contents of the vessel to centrifugal action and having a hollow rotatable shaft which opens into the vessel for leading sugar-juice therefrom, a chamber for receiving sugar-juice delivered from the hollow shaft, and a valve for controlling the delivery of juice through the shaft.

5. In an apparatus useful in clarification of sugar-juice, a stationary vessel, a heating chamber, surrounding said vessel, means for supplying sugar-juice into the vessel while the latter is completely filled with said juice, a rotatable device within the vessel for subjecting said juice to centrifugal action, means for separating said juice from its precipitates, according to their specific gravities, into two cylindric layers, the clear juice forming the medium layer close to the axis of the rotatable device, the scum forming a peripheric layer distant from said axis, and means for leading off separated scum and means for separately leading off the clear juice while in centrifugal action.

[Claims 6 to 8 not printed in the Gazette.]

978,451. EXTRACTING JUICE FROM SUGAR-CANE OR SUGAR-BEET. JACOBUS J. HOMANS, Samarang, Java. Filed Oct. 26, 1909. Serial No. 524,672.



1. In the extraction of juice from sugar-producing vegetable material, the process which consists in squeezing said material, then adding thereto scum separated from sugar-juice, heating the mass to a temperature not lower than that of the "cracking point" of the defecation process, and, while still maintaining the mass at said temperature, squeezing the mass for extraction of juice and to incorporate precipitates of the added scum with the squeezed material.

2. In the extraction of juice from sugar-producing vegetable material, the process which consists in squeezing said material, then adding thereto scum separated from sugar-juice, thoroughly soaking said material, while maintaining the whole at a temperature not lower than that of the "cracking point" of the defecation process, with liquid flowing through said material, and, while still maintaining the mass at said temperature, squeezing the mass for extraction of juice and to incorporate precipitates of the added scum with the squeezed material.

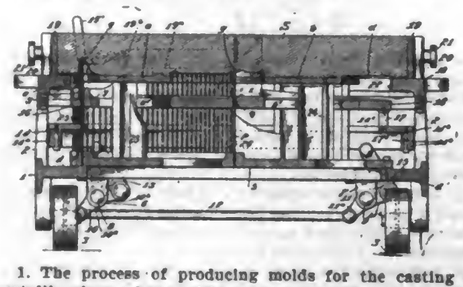
3. In the extraction of juice from sugar-producing vegetable material, the process which consists in squeezing said material, then while moving the material toward another squeezing, adding thereto scum separated from sugar-juice, thoroughly soaking said material, while maintaining the whole at a temperature not lower than that of the "cracking point" of the defecation process, with juice obtained by the last-mentioned squeezing and with hot water flowing through the vegetable material in a direction opposite to the movement of the latter, and, while still maintaining the mass of said temperature, subjecting the same to the second-mentioned squeezing, for extraction of juice and to incorporate precipitates of the added scum with the material.

4. In the extraction of juice from sugar-producing vegetable material, the process which consists in squeezing said material, then adding thereto scum separated from sugar-juice, heating the mass to a temperature not lower than that of the "cracking point" of the defecation process and squeezing the mass for extraction of juice and to incorporate precipitates of the added scum with the squeezed material, and thereafter adding to said mass water and again squeezing the mass while maintaining the mass at said temperature.

5. In the extraction of juice from sugar-producing vegetable material, the process which consists in squeezing said material, then adding thereto scum separated from sugar-juice, heating the mass to a temperature not lower than that of the "cracking point" of the defecation process and squeezing the mass for extraction of juice and to incorporate precipitates of the added scum with the squeezed material, and thereafter adding to said mass diluted juice from following squeezings, and thereafter squeezing the mass, then adding to the mass water and again squeezing, while maintaining the mass during the last-mentioned squeezings at said temperature.

[Claim 6 not printed in the Gazette.]

978,452. PROCESS OF AND APPARATUS FOR CASTING PIANO-PLATES. ALBERT A. HUSBBY, Chicago, Ill. Filed Sept. 10, 1910. Serial No. 581,351.



1. The process of producing molds for the casting of metallic piano plates with string supporting pins, which consists in associating a pattern for the plate with a molding flask, applying pins to the pattern at desired places to be partly supported by the pattern, providing other means for assisting the pattern in supporting the pins, then tamping sand into the flask about the pattern and the pins projecting therefrom, then withdrawing the pattern independently of such other pin supporting means, and then removing the mold from said other pin supporting means.

2. The process of producing molds for the casting of metallic piano plates having string supporting pins, which consists in associating a mold flask with a pattern for the plate, loosely applying pins to the pattern at desired places to be held against lateral displacement by said pattern, providing other supporting means independent of said pattern for supporting said pins to project a distance beyond said pattern, then tamping molding sand into the flask about said pattern and about the projecting ends of the pins, then withdrawing the pattern from the mold but leaving the other supporting members in position to prevent displacement of the pins upon withdrawal of the pattern, and then removing the mold from said other supporting members.

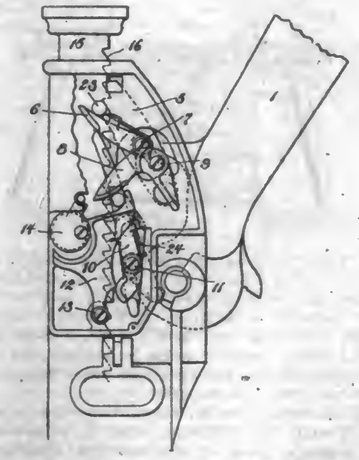
3. In molding apparatus, the combination of a molding flask supporting table, a pattern supporting platform movable toward and away from said table, a pattern on said platform, said pattern having rows of openings corresponding to the positions in which string supporting pins are to appear in the finished casting, stationary spindles received by said openings upon movement of said platform, the outer ends of said spindles being a distance within the outer faces of the pattern when said pattern is in molding position whereby to leave pockets, pins inserted in said pockets to be held against lateral displacement by the surrounding walls of the pattern, said spindles holding said pins against longitudinal displacement and to project a distance beyond said pattern, a molding flask on said table into which sand is to be tamped about said pattern and the pins projecting therefrom, said pattern upon withdrawal from the mold being moved from the pins, and said spindles still engaging said pins to prevent longitudinal displacement thereof during such withdrawal of the pattern.

4. In molding apparatus, the combination of a supporting frame having a top for receiving a molding flask, a pattern supporting platform below said top, a pattern mounted on said platform, means whereby said platform may be raised and lowered to carry said platform upwardly into molding position with reference to said top or downwardly to carry the pattern away from said top, spindles rigidly supported from said table and extending upwardly beyond said top, said pattern having passageways for slidably receiving said spindles, the upper ends of said spindles being a distance below the upper ends of the corresponding passageways through the pattern when the pattern is in molding position whereby to form pockets, a string supporting pin loosely inserted in each pocket to be supported against lateral displacement by the adjacent walls of the pattern and to be projected a distance beyond the surface of the pattern by the corresponding spindle and to be held against longitudinal displacement by the spindle, a molding flask on said supporting frame top into which sand may be tamped about the pattern and the pins projecting therefrom, the projecting ends of the pins being notched to be more securely engaged and clamped by the molding sand, lowering of the pattern from the mold causing disengagement thereof from the pins, but said spindles remaining to prevent longitudinal displacement of the pins during such lowering of the pattern, the lower ends of the pins being rounded, whereby the flask with the molding sand and pins clamped thereby may be removed from the supporting frame top without causing displacement of the pins by the spindles.

5. The process of forming a mold for casting pins in cast products, which consists in supporting the pins against longitudinal displacement during tamping of sand in the mold about the pins, and maintaining such longitudinal support during withdrawal of the pattern from the mold.

[Claim 6 not printed in the Gazette.]

978,453. LIFTING-JACK. MERRILL L. JENKINS, Harvey, Ill., assignor to Buda Foundry & Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 1, 1908. Serial No. 455,672.



1. The combination in a lifting jack, of a ratchet, a lifting pawl coöperating therewith, an actuating lever, a strut pivotally supported on the actuating lever and having is upper end in pivotal engagement with the pawl, a spring held lever carried by the pawl, and means for actuating such lever.

2. The combination in a lifting jack, of a ratchet, a lifting pawl coöperating therewith and provided with a bearing recess, an actuating lever provided with a bearing recess, a link having rounded ends engaging the recesses in the pawl and lever and serving as a pivotal support for the pawl, a controlling lever for the pawl carried thereby, and means for actuating such lever.

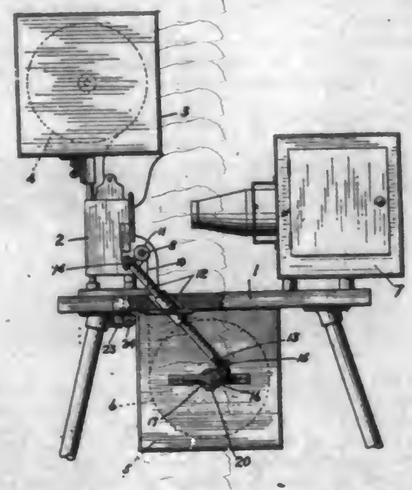
3. The combination in a lifting jack, of an actuating lever, a ratchet, a lifting pawl coöperating therewith and provided with a bearing recess, a strut having a bearing end engaging the recess in the pawl and pivoted to the lever, a spring held lever carried by the pawl, and means for actuating such lever.

4. The combination in a lifting jack, of a ratchet, a lifting pawl provided with a plurality of teeth coöperating therewith, an actuating lever, a strut pivotally supported on the actuating lever and having its upper end in pivotal engagement with the pawl, a spring held lever carried by the pawl, and means controlled by the movement of the actuating lever for operating such spring held lever.

5. The combination in a lifting jack, of a ratchet, an actuating lever provided with perforated side plates integral therewith and a rocking surface therebetween, a lifting member having its lower end bearing against the rocking surface and a pair of holding disks separate from the said member fitting the perforations in the side plates and secured to the opposite sides of the said member.

[Claims 6 to 12 not printed in the Gazette.]

978,454. FILM-WINDING MECHANISM FOR KINETOSCOPES. JESSE B. JOHNSON, Philadelphia, Pa., assignor to Siegmund Lubin, Philadelphia, Pa. Filed Feb. 19, 1909. Serial No. 478,780.

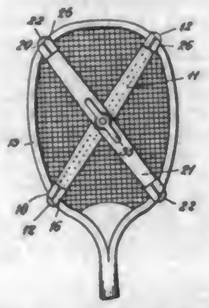


1. A kinetoscope having means comprising a revoluble shaft for feeding a film, a table by which said kinetoscope is supported, a magazine supported by said table, a reel in said magazine, a revoluble shaft on which said reel is mounted, a bearing fixed to said table, a shaft journaled in said bearing, engaging gears connecting said first and third named shafts, and engaging gears connecting said second and third named shafts.

2. A kinetoscope having means comprising a revoluble sprocket shaft for feeding a film, a second revoluble shaft, engaging gears on the respective shafts, a table, a bearing supported by said table, said second shaft being journaled in said bearing, a revoluble reel for winding said film, means supported by said table for supporting said reel, a second gear fixed on said second named shaft, and mechanism engaging said gear last named and a clutching device for revolving said reel.

3. A kinetoscope having a gear connected therewith, a reel having a gear connected therewith, a table for supporting said parts, a bearing supported by said table, a second bearing having an adjustable connection with said bearing first named, a shaft journaled in said second bearing, and gears fixed on said shaft, said gears engaging the respective gears of said kinetoscope and reel.

978,455. RACKET-PRESS. WILLIAM A. JOHNSON, Yonkers, N. Y. Filed Jan. 3, 1910. Serial No. 536,045.



1. A racket press comprising an outer double bow-like member, an inner double bow-like member, a stiffening rib for said inner member, and pivoted connections between said members; both of said members being constructed with cam-like engaging surfaces at each end thereof adapted to fit over the rim of a racket, and a clamp for locking said members together.

2. A racket press comprising a pair of rigid members centrally pivoted together, and cam-like engaging surfaces near the ends of said members inclined transversely and longitudinally to the members.

3. A racket press comprising an outer double bow-like member, an inner double bow-like member, a stiffening rib for said inner member, and pivoted connections between said members; both of said members being constructed with cam-like engaging surfaces at each end thereof adapted to fit over the rim of a racket, a covering for said surfaces, and a clamp for locking said members together.

4. A racket press comprising a pair of double bow-like rigid members centrally pivoted together, cam-like engaging surfaces near the ends of said members inclined transversely and longitudinally to the members, and a clamp for locking the members together.

5. A racket press comprising an outer double bow-like member, an inner double bow-like member, a stiffening rib for said inner member, and pivoted connections between said members; both of said members being constructed with a pair of cam-like engaging surfaces at the ends thereof, inclined toward each other both transversely and laterally and adapted to fit over the rim of a racket.

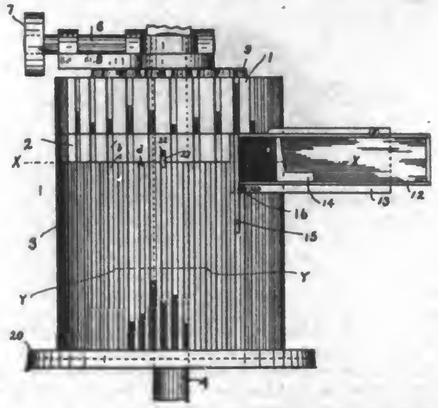
[Claim 6 not printed in the Gazette.]

978,456. TYPE SETTING AND DISTRIBUTING MACHINE. WILLIAM M. KELLY, New York, N. Y. Filed June 29, 1909. Serial No. 505,063.

1. In a machine of the class described, a type channel having blocking wards from one side of said channel and adapted to receive type of various size body when assembled set-way therein—said type having nicks corresponding to said wards and the "land" at the bottom of said nicks being the same for various body sizes—whereby a plurality of body sizes of type may be held set-way in said channel.

2. In a machine of the class described, a type channel having blocking wards which project at least a plurality of type points into said channel and adapted to receive type of various size body having nicks corresponding to said wards, the "land" at the bottom of said nicks being the same for the various body sizes.

3. In a machine of the class described, a type channel having the width of a type body of maximum size; wards or projections from one side of said channel so as to restrict the channel to a type body of minimum size, the type bodies which are larger than the minimum size having nicks which correspond to the wards in said channel, the depths of said nicks corresponding to or being in proportion to the various body widths—whereby a plurality of body sizes may be held set-way in said channel.

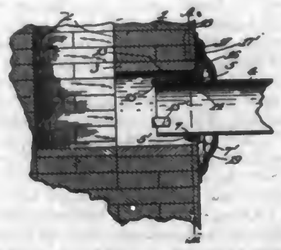


4. In a machine of the class described, a selecting portion having a series of type channels with selecting wards; a type magazine having type channels which are in number a multiple of the number of channels in the selecting portion, thereby forming a plurality of sets of type channels any set of which may be made to aline with the channels having the selecting wards.

5. A type magazine consisting of two sections—a stationary selecting section and a movable or adjustable section; said adjustable section being provided with type channels which are in number a multiple of the number of channels in the selecting section, thereby forming a plurality of sets of type channels, for the purpose set forth.

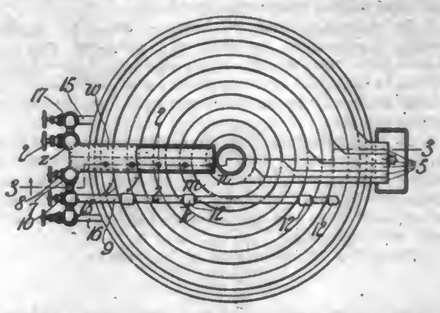
[Claims 6 to 10 not printed in the Gazette.]

978,457. STOVEPIPE-COLLAR. MATTHEW B. KENDRICK, Newport, Ky. Filed Oct. 20, 1909. Serial No. 523,646.



The combination, with a chimney having a flue-hole in the side thereof, and a stove-pipe extending into the flue-hole, of a collar on the stove-pipe in the flue-hole and comprising a strap having a shoulder-like part on one end portion thereof and a tongue on the opposite end portion thereof engaging the shoulder-like part and extending away from the stove-pipe toward the wall of the flue-hole and thence over toward the end portion that has the shoulder-like part thereon, a plurality of bars secured to the collar and extending over the end and against the inner side of the stove-pipe, braces on the bars at the outer edge of the collar and extending against the side of the chimney, securing devices extending through the braces into the wall of the chimney, and an ornamental collar on the stove-pipe against the chimney.

978,458. CREAM-COOLER. DAVID KIHLGREN, Springfield, Mass., assignor to The Confectioners' Machinery & Manufacturing Company, Springfield, Mass., a Corporation. Filed Apr. 18, 1910. Serial No. 556,098.



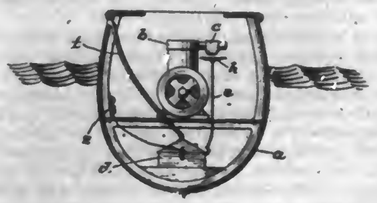
1. In a cream-cooling apparatus, the combination with a cream-receiving receptacle, of a plurality of concentrically arranged cooling members therein, a plurality of depending pipes extending into said members and having an outlet slit in the lower portions thereof, means for supplying a cooling medium to the pipes, each of the compartments having a discharge outlet arranged in the same horizontal plane, substantially as described.

2. In a cream-cooling apparatus, the combination with a receptacle, of a plurality of cooling members located within the receptacle, a plurality of inlet members for conveying the cooling medium to the interior of the cooling members, and a discharge outlet for each of said members and means for supplying the cooling medium to the inlet members.

3. In a cream-cooling apparatus, the combination with a receptacle, a plurality of cream-cooling members, a depending pipe entering each of said members, a header to which the pipes are connected, the header being so constructed that a simultaneous overflow therefrom into each of the pipes is effected, and means for supplying a cooling medium to the header, each of said cooling members having a discharge outlet and arranged in the same horizontal plane.

4. In a cream cooling apparatus, means for supplying the cooling medium with a plurality of cooling members, said members being provided with an outlet for each of said members, and pipe connections for furnishing a cooling medium to either the interior or exterior portions of the cooling members.

978,459. SAFETY APPARATUS FOR VOLATILE IGNITIBLE LIQUIDS. EDWARD R. LAUGHLIN, Ardmore, Pa.; May Willson Laughlin executrix of said Edward R. Laughlin, deceased. Filed Feb. 1, 1909. Serial No. 475,485.



1. In an apparatus for the purpose described, in combination, a receptacle, an inlet passage adapted to allow liquid to pass to the receptacle but restricted against the return passage of gas and an unobstructed gas outlet passage from the receptacle.

2. In an apparatus for the purpose described, in combination, a receptacle, an inlet passage adapted to allow liquid to pass to the receptacle but restricted against the return passage of gas and an unobstructed gas outlet passage from the receptacle to the atmosphere.

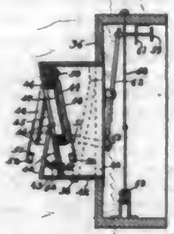
3. In an apparatus of the character described, in combination, a receptacle, an inlet pipe, provided with right angle turns, opening into the receptacle, fine wire mesh screen or screens in said inlet pipe, and an unobstructed vent pipe leading from said receptacle.

4. In an apparatus of the character described, in combination, a receptacle, an inlet pipe, provided with right angle turns, opening into the receptacle, fine wire mesh screens in said inlet pipe adjacent to said right angle turns in said pipe, and an unobstructed vent pipe leading from said receptacle.

5. In an apparatus of the character described, in combination, a receptacle, an inlet pipe, provided with right angle turns, opening into the receptacle, fine wire mesh screen or screens in said inlet pipe, a funnel at the other end of said pipe and an unobstructed vent pipe leading from said receptacle.

[Claims 6 to 11 not printed in the Gazette.]

978,460. ACCORDION OR CONCERTINA. ROBERT C. LEPPERT, Chicago, Ill. Filed Apr. 21, 1910. Serial No. 556,756.



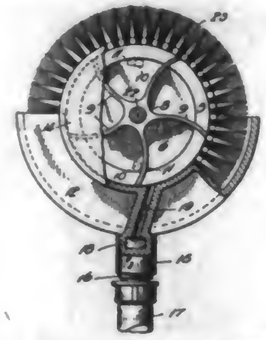
1. In a concertina, the combination with an end box having reeds and keys, of a bellows secured to one end of the box, a partition located between the bellows and the reed compartment and having openings therein, a box located around each of said openings and each provided with an opening in its wall opposite the partition, a sponge-rubber cushion located around each of the openings in said walls, and a vibratory valve to close each of said openings in the boxes and to rest on each of said cushions.

2. In a concertina, the combination with an end box having reeds and keys, of a bellows secured to one end of the box, a partition located at the juncture of the bellows with the box and having a plurality of openings therein, a pair of tremolo boxes mounted on the partition within the bellows, each of said boxes surrounding one of the openings in the partition and having an opening in its wall opposite the partition, a sponge-rubber cushion located around each of the openings in said walls, a vibratory valve adapted to coact with each of said cushions and to close each of the openings which they surround, a spring-actuated valve mounted to close an opening interposed between the first-named openings, the means connected to said valve to control the same.

3. In a concertina, the combination with an end box having reeds and keys, of a bellows secured to one end of the box, a partition located between the bellows and the reed compartment and having a pair of openings for the tremolo boxes and an opening between the same for the passage of air, a tremolo box located around each of two of said openings each provided with an inclined wall opposite the partition, each of said walls having an opening, a sponge-rubber cushion located around each of the openings in said walls, vibratory valves to coact with said cushions and to close the openings in the walls of the boxes, a valve to close the opening for the passage of air, and means to control said valve.

978,461. ROTARY POWER-WASHER. THOMAS F. LINEGAR and HENRY M. STORMS, Seattle, Wash. Filed Apr. 2, 1909. Serial No. 487,407.

1. A rotary washer, comprising, in combination, a partially inclosed casing having a transverse chambered base, a brush having a cylindrical body and adapted to rotate in said casing, ends in said cylindrical body having outwardly projecting bosses, a shaft extending through said bosses and into the sides of said casing, and radial curved vanes extending from said bosses on the outer face of each of said ends, said base having conduits at each end whereby water may be directed against said vanes and the body of said brush having conduits whereby water may be directed from said vanes to the bristles of said cylindrical brush.



2. A rotary washer, comprising, in combination, a partially inclosed casing having a transverse chambered base, a brush having a cylindrical body and adapted to rotate in said casing with its bristles adjacent said chambered base and radial vanes carried by said body and extending partially within said cylindrical body, said chambered base having conduits at its ends for directing water against said vanes, and conduits for supplying water to said brush, and said cylindrical body of the brush having conduits for supplying the water directly from said vanes to the outer side of said cylindrical body.

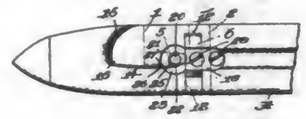
3. A rotary washer, comprising, in combination, a partially inclosed casing, having a transverse chambered base, a brush having a cylindrical body and adapted to rotate in said base, end members inserted in the ends of said cylindrical body to provide an overhanging margin of the latter on each end, and vanes extending from each of said end members and underlying said margin, said chambered base being formed to conduct water to said vanes and said overhanging margins being formed to direct water to the outer periphery of said body.

4. A rotary washer, comprising, in combination, a casing having a chambered base, a shaft mounted in said casing, a brush rotatably mounted on said shaft, said brush comprising an annular body, a plurality of lugs formed on the interior of said body, end members mounted on said shaft and slidably mounted on said annular body, the inward movement of said end members being prevented by said lugs, lugs formed on said end members to engage said lugs in said body to prevent relative rotary movement of the end members and the body, vanes on said end members extending therefrom to the sides of the casing, and means to conduct water from said chambered base to said vanes.

5. A rotary washer, comprising, in combination, a casing having a chambered base, a shaft mounted in said casing, a brush rotatably mounted on said shaft, said brush comprising an annular body, end members inserted into the ends of said annular body and rotatably mounted on said shaft, coöperating means carried by said body and said end members to prevent relative rotation thereof, vanes carried by said end members and extending therefrom to the sides of the casing, and means to conduct water from the chambered base to said vanes.

978,462. HAND-THREADING LOOM-SHUTTLE. HERBERT L. LITCHFIELD, Southbridge, Mass. Filed Dec. 30, 1909. Serial No. 535,640.

1. A loom shuttle having a bobbin-receiving recess and a slotted delivery-eye, and a threading slot to direct the thread from the said recess into the slotted eye, combined with a flat and down curved metal beak seated in the shuttle-body at the outer end of the eye and crossing the slot thereof at its junction with the threading slot, the beak having a tip turned backward from the slot, the beak having at its outer side a laterally offset heel extended forward beyond and above the tip, to maintain the thread above the tip when it draws through the eye to be delivered, the thread passing from the threading slot directly into the eye under the tip of the beak and between the adjacent faces of the beak and heel.



2. A loom shuttle having a bobbin-receiving recess and a slotted delivery-eye, and a threading slot to direct the thread from the said recess into the slotted eye, the shuttle-body having a socket in its front wall at the outer end of the eye, combined with a thread-controller seated in the socket and having a flat beak and an overlapping, laterally separated heel, said beak being curved forward and downward and crossing the slot of the eye at its outer end and having its tip turned away from the threading slot, the upper edge of the heel crossing the beak at its outer side above the tip to form a support for the thread above the tip of the beak as the thread is delivered through the eye.

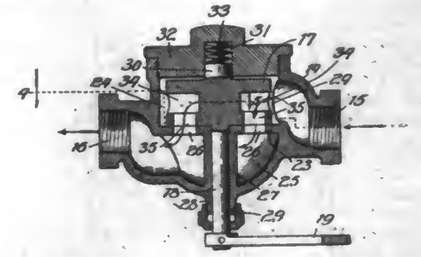
3. A loom shuttle having a bobbin-receiving recess and a slotted delivery-eye, and a threading slot to direct the thread from the said recess into the slotted eye, the shuttle body having a socket at the outer end of the eye, combined with a thread-controller made of plate metal and seated in the socket and having a beak and an overlapping, laterally separated heel, said beak being curved forward and downward and crossing the slot of the eye at its outer end and having its tip turned away from the threading slot, the upper edge of the heel crossing the beak at its outer side above the tip to form a support for the thread as it is delivered through the eye, the outer edge of the beak crossing the threading slot and leaving a clearance between such edge and the shuttle-body adjacent the slot, to permit the ready passage of the thread from the slot around and under the outer edge of the beak directly into the delivery-eye, the upper edge of the heel at its forward extremity engaging the shuttle-body at a point below the bottom of the threading slot.

4. A loom shuttle having a bobbin-receiving recess and a slotted side delivery-eye, and a threading slot intersecting the eye, to direct the thread thereto from said recess, combined with a thread-controller consisting of a flat plate having an elongated body fixedly seated in the side of the shuttle-body and provided with an enlarged, substantially circular, slitted head at the outer end of the eye, the slitted head presenting a downcurved and rearwardly turned beak and a frontwardly extended heel overlapping the tip of the beak and laterally separated therefrom, the substantially straight upper edge of the heel rising above the tip of the beak to support the thread after it has passed through the head of the thread-controller into the eye and extending forward beyond the outer edge of the beak.

5. A hand-threading shuttle having a bobbin-recess and a side delivery-eye, a longitudinal, tubular thread-passage intermediate said recess and eye, an open inlet-slot in the shuttle-body leading into the upper part of said passage from the top of the shuttle-body and downwardly inclined toward the eye side of the body, and an upright thread guide intersecting and extended into the passage and having a downturned retaining hook the point of which is below and back of the center of the passage and at a distance below the lower end of the inlet-slot, the thread being drawn down through the inlet-slot into the thread-passage over the hook and underneath its point and then upward beneath the hook in the threading operation, whereby the thread is overhung and retained by the downturned hook in the thread-passage as it draws around the guide and passes to the delivery eye.

[Claims 6 to 9 not printed in the Gazette.]

978,463. VALVE AND VALVE-OPERATING MECHANISM. FRED LOEDIGE, Chicago, Ill. Filed May 21, 1910. Serial No. 562,587.



1. A valve formed of a casing containing an inlet and outlet, a seat in said casing containing an opening, and a stem-equipped rotary disk coöperating with said seat and containing an opening adapted to be moved into registration with the opening in said seat and opening through said disk in a radial direction, said disk-opening communicating with said inlet when the valve is in both open and closed position.

2. A valve formed of a casing containing an inlet and outlet, a seat in said casing containing an opening, and a stem-equipped rotary disk coöperating with said seat and having its longitudinally-extending sides spaced from said casing-wall and containing an opening adapted to be moved into registration with the opening in said seat and opening through the disk in a radial direction, said disk-opening communicating with said inlet when the valve is in both open and closed position.

3. A valve formed of a casing containing an inlet and outlet, a seat in said casing containing openings, and a stem-equipped rotary disk coöperating with said seat and containing openings adapted to be moved into registration with the openings in said seat and opening through said disk in a radial direction, said disk-openings communicating with said inlet when the valve is in both open and closed position.

4. A valve formed of a casing containing an inlet and outlet, a seat in said casing containing openings, and a stem-equipped rotary disk coöperating with said seat and having its longitudinally-extending sides spaced from said casing-wall and containing openings adapted to be moved into registration with the openings in said seat and opening through the disk in a radial direction, said disk-openings communicating with said inlet when the valve is in both open and closed position.

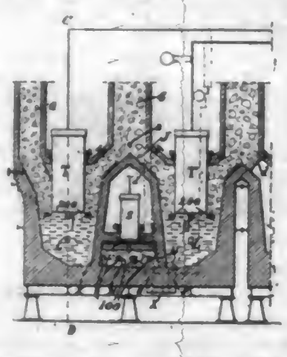
5. A valve formed of a casing containing an inlet and outlet, a seat in said casing containing openings, and a stem-equipped rotary disk coöperating with said seat and having its longitudinally-extending sides spaced from said casing-wall, said disk containing a circular series of radially-extending openings and openings communicating with said radial openings and adapted to be moved into registration with the openings in said seat, said radially-extending openings communicating with said inlet when the valve is in both open and closed position.

[Claims 6 to 8 not printed in the Gazette.]

978,464. ELECTROMETALLURGICAL FURNACE. FRANÇOIS LOUVERNE, Mexico, Mexico. Filed Nov. 23, 1909. Serial No. 464,081.

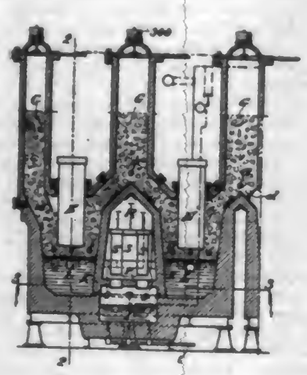
1. A furnace of the character described, comprising a furnace body, a refining chamber built up within the furnace body in such manner as to divide the interior of the furnace body into two separate and distinct reduction chambers and provided with openings through the lower parts of its walls to allow flow of reduced metal direct

from the bottoms of the reducing chambers to the interior of the refining chamber, means for passing a reducing current through the material in the furnace, means for feeding material to the reduction chambers, and means for cutting off the flow of reduced material from the reduction chambers to the refining chamber.



2. A furnace of the character described, comprising a furnace body, a refining chamber built up within the furnace body in such manner as to divide the interior of the furnace body into two separate and distinct chambers and provided with openings through the lower parts of its walls to allow flow of reduced metal directly from the bottoms of the reducing chambers to the interior of the refining chamber, means for passing a reducing current through the material in said reduction and refining chambers while the passages in said refining chambers are open, means for closing said openings, and means for bridging said closures so that the electric current may pass thereabout.

978,465. ELECTROMETALLURGICAL FURNACE. FRANÇOIS LOUVRIER, Mexico, Mexico. Filed Dec. 18, 1909. Serial No. 533,862.



1. A furnace of the character described, comprising a plurality of reduction chambers electrically arranged in series, a preliminary crucible communicating with said reduction chambers and connecting them electrically, by way of the metal that it contains, means to prevent the prolonged contact of reduced metal with reduction slag and means for conducting an electric current through the reducing chambers and the preliminary crucible.

2. A furnace of the character described, comprising a plurality of reduction chambers electrically arranged in series and having floors made of a non-electrically conductive material, a preliminary crucible communicating with said reduction chambers and connecting them electrically, one or two refining crucibles isolated from the reduction chambers and communicating with the preliminary crucible, and means for conducting an electric current through said reduction chambers and through said preliminary crucible.

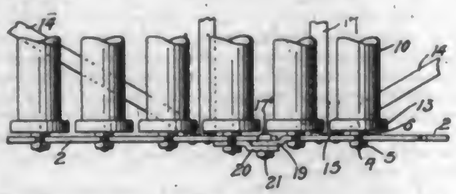
3. A furnace of the character described, comprising a plurality of reduction chambers arranged electrically in series and having floors made of a non-electrically conductive material, a preliminary crucible communicating with said reduction chambers and connecting them electrically, one or two refining crucibles communicating with said preliminary crucible, means for conducting an electric current through the reducing chambers and the preliminary crucible, and means for conducting a separate electrical current through the preliminary crucible.

4. A furnace of the character described, comprising a plurality of reduction chambers electrically arranged in series, a preliminary crucible communicating with said reduction chambers, one or more refining crucibles communicating with said preliminary crucible, means for conducting an electric current through the reducing chambers and the preliminary crucible, and means for conducting a separate electrical current through the refining crucible.

5. A furnace of the character described, comprising a plurality of reduction chambers electrically arranged in series, a preliminary crucible communicating with said reduction chambers, one or two refining crucibles communicating with said preliminary crucible, means for conducting an electric current through the reducing chambers and the preliminary crucible, means for conducting a separate electrical current through the preliminary crucible, means for conducting a separate electrical current through said refining crucible, means for feeding material to the reduction chambers and means for cutting off the feed of material from one or more of the reduction chambers.

[Claims 6 to 8 not printed in the Gazette.]

978,466. GRAVITY-CARRIER. RUFUS P. MATHEWS, St. Paul, Minn., assignor to Mathews Gravity Carrier Co., St. Paul, Minn. Filed Oct. 17, 1906. Serial No. 339,379.



1. A gravity carrier having side rails composed of flat metal bars having slots or notches in their upper edges, rods detachably mounted in said slots and connecting said rails, and rollers having anti-friction bearings on said rods, substantially as described.

2. A gravity carrier comprising side rails having slots or notches in their upper edges at intervals, and idle rollers extending across the carrier from side to side detachably mounted in said notches.

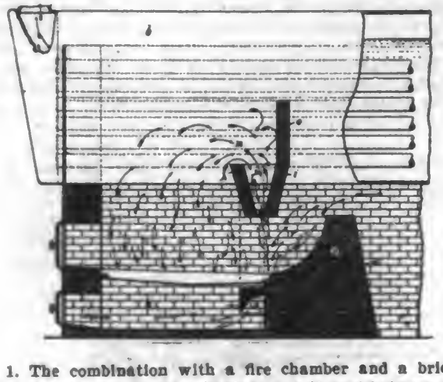
3. A gravity carrier comprising side rails and braces connecting them at intervals, said rails having vertical slots or notches in their upper edges and idle rollers mounted in said slots and extending across the carrier from side to side, each roller being removable without disturbing the other rollers.

4. A gravity carrier comprising side rails, diagonally arranged brace bars connecting said rails, cross rods also connecting said rails, the upper edges of said rails being provided with vertical slots or notches and rollers detachably mounted in said notches.

5. A gravity carrier comprising side rails and rods connecting them at intervals, said rods having threaded ends and hubs fitting thereon, lock nuts engaging said hubs and rollers having anti-friction bearings on said hubs, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

978,467. SMOKE-CONSUMER. WILLIAM MCARDLE, Montreal, Quebec, Canada, assignor to The Perfect Simplex Combustion Company, Montreal, Canada. Filed May 5, 1906. Serial No. 315,426.



1. The combination with a fire chamber and a bridge wall therein, the chamber having an exit port between the bridge wall and the top of the chamber, of a pair of converging plates within such chamber between the front thereof and the bridge wall and adjacent to the said bridge wall and disposed to direct a blast against the portion of the bridge wall forming a portion of such exit port, means whereby air is supplied to the space between such plates and such plates being arranged to present ports whereby the gases of combustion flow into the said space.

2. In a tubular boiler furnace, the combination with a fire chamber and a bridge wall formed with its front side concaved transversely to the fire chamber, of a pair of downwardly converging plates extending transversely to the chamber and disposed to direct a blast against such concaved wall, means whereby air is supplied to the space between the plates, such plates being arranged to present ports whereby the gases of combustion flow into the said space.

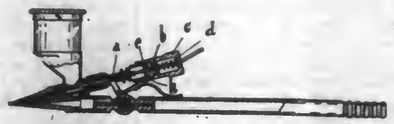
3. In a tubular boiler furnace, a bridge wall having its front side concaved transversely to the fire chamber, a twyer extending continuously from side to side of the fire chamber and disposed to direct a blast against the said concaved wall, means whereby air is supplied to the twyer, the said twyer being provided with intake ports to allow the entry of the gases of combustion thereinto.

978,468. FLUSH-SLUICE CONCENTRATOR. WARREN H. MCARTT, Copper Center, Alaska, assignor to Valdez Creek Consolidated Mining Company, a Corporation of Maine. Filed Mar. 14, 1910. Serial No. 549,179.



1. A device of the class described having, in combination, a casing having a passage extending therethrough, a gate disposed in inclined position in said passage and pivoted to swing about a horizontal axis extending transversely of said passage, said axis being located between the top and bottom of said gate, inclined abutments for said gate located on opposite interior sides of said casing above and below said axis, packing material projecting laterally from said abutments and engaging the upper inclined face of said gate above its axis, means to attach said material to said abutments, packing material projecting laterally from said gate and engaging the bottom of said casing and the upper inclined face of said abutments below said axis, and means to attach the last-mentioned packing material to said gate.

978,469. COLOR SPRAYER OR DISPERSER. HANS MIKOREY, Schöneberg, near Berlin, Germany, assignor to The Firm of Minimax Consolidated Limited, Berlin, Germany. Filed Apr. 28, 1908. Serial No. 429,617.



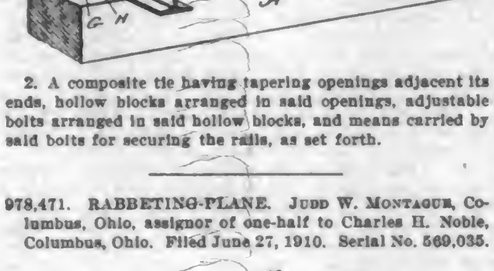
1. The combination, in a color sprayer or disperser, of an air delivery nozzle controlled by a cock, a color delivery nozzle provided with a pin valve, a handle operating the air cock and the color delivery controlling valve, and an automatic braking device braking the movement of the color delivery controlling valve, substantially as set forth.

2. In a color sprayer or disperser, the combination of the valve controlling the delivery of color with a self-returning piston arranged on the valve rod and sliding in a cylinder having a small opening, for aspirating and slowly discharging air by means of said piston, substantially as set forth.

978,470. RAILROAD-TIE AND FASTENER. VERNON J. MILLER, New York, N. Y. Filed Nov. 27, 1908. Serial No. 464,705.

1. A composite tie having openings adjacent the ends, hollow blocks adapted to fit in said openings, a tie-rod connecting said hollow blocks, wedge-bolts arranged with-

in the hollow blocks and having reduced and threaded upper ends, clamps and nuts arranged upon said threaded ends and means for locking the wedge-bolts within the hollow block, as set forth.



2. A composite tie having tapering openings adjacent its ends, hollow blocks arranged in said openings, adjustable bolts arranged in said hollow blocks, and means carried by said bolts for securing the rails, as set forth.

978,471. RABBETING-PLANE. JUDD W. MONTAGUE, Columbus, Ohio, assignor of one-half to Charles H. Noble, Columbus, Ohio. Filed June 27, 1910. Serial No. 569,035.



1. In a plane, the combination with a stock, of a bit with means in connection therewith for longitudinally and laterally adjusting the same with reference to the stock, a knife to angularly coöperate with the cutting edge of said bit, and means connected with the bit and knife for operating the knife to adjust the same with reference to the bit, the knife being movable by moving the bit.

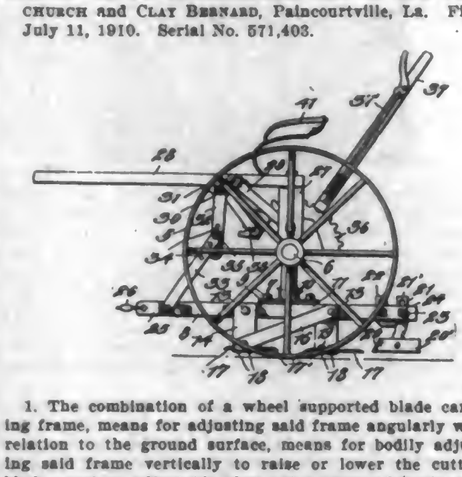
2. In a plane, the combination with a guiding and holding stock, of a removable bit and a removable angularly coöperating knife on the bit, means on the bit for operating the knife to adjust the same with reference to the bit, and means for fixing both the bit and knife to the stock with their cutting edges wholly forward of the material of the stock.

3. In a plane, the combination with a stock, a bit and a knife, means for securing the knife to stand at one end of the edge of the bit and at an angle to the edge of the bit to form a cutting corner, combined with an arched handling frame 10 and means for securing the stock thereto at the side of the latter opposite that containing said cutting corner.

4. In a plane the combination with the stock having a recess 20 and a groove 21 of a bit provided with a longitudinally extending screw 13^c and a laterally extending screw 13^d and a lateral recess providing walls 13^e and 13^f, nuts 18 and 18^a on the screw 13^c extending into said recess 20 and nuts 19 and 19^a and 19^b on said screw 13^d, the nut 19 projecting into said groove 21, a knife having its cutting edge standing at an angle to the cutting edge of the bit and coöperating therewith, said knife provided with a longitudinally extending screw 14^b having nuts 22 and 22^a thereon projecting between the walls 13^e and 13^f and said screw lying between the nuts 19^a and 19 whereby the bit can be adjusted independently of the knife and the knife independently of the bit, substantially as described.

5. In a plane the combination with the stock having a recess 20 and a groove 21, of a bit provided with a longitudinally extending screw 13^c and a laterally extending screw 13^d and a lateral recess providing walls 13^e and 13^f, means on the screw 13^c extending into said recess 20 to adjust and fix the same with reference to the stock, and nuts 19 and 19^a and 19^b on said screw 13^d, the nut 19 projecting into said groove 21, a knife on the bit having its cutting edge standing at an angle to the cutting edge of the bit and coöperating therewith, said knife provided with a longitudinally extending screw 14^b having means thereon to engage the aforesaid walls 13^e and 13^f to longitudinally adjust and fix the same and said screw lying between the nuts 19 and 19^a, whereby the knife can be adjusted independently of the bit and the bit independently of the knife, substantially as described.

978,472. LEVER STUBBLE-SHAVER. EDWARD NEWCHURCH and CLAY BERNARD, Paincourtville, La. Filed July 11, 1910. Serial No. 571,403.



1. The combination of a wheel supported blade carrying frame, means for adjusting said frame angularly with relation to the ground surface, means for bodily adjusting said frame vertically to raise or lower the cutting blades, and an adjustable plow point arranged in the rear end of said frame.

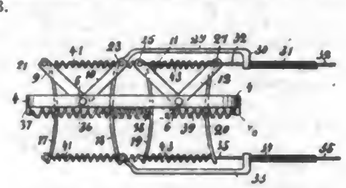
2. The combination of a wheel supported frame, a plurality of cutting blades secured in said frame, means for angularly positioning said frame with relation to the ground surface, means for adjusting said frame vertically to raise or lower the cutting blades, a plow point bodily movable vertically in the rear end of said frame, and means for adjusting said plow point to angularly dispose the same with relation to the ground surface.

3. The combination with an axle and ground wheels mounted thereon, said axle having a crank centrally formed therein, of a cutting blade carrying frame swingingly arranged on the crank of said axle, said frame comprising spaced central longitudinal bars, a parallel bar secured to one side of the central bars and extending in parallel relation thereto, a hanger plate secured to the last named bars at opposite ends thereof and on opposite sides of the central bars, a transversely extending cutting blade secured to the lower end of each of said hanger plates, a U-shaped frame mounted on the axle, a tongue secured on said frame, a transverse shaft rotatably mounted in a bearing on the tongue, arms secured to said shaft, bars secured to said arms and to said frame, and means for rotating said axle and the shaft to raise and lower said frame.

4. The combination with an axle and ground wheels rotatably mounted thereon, said axle having a crank centrally formed therein, of a cutting blade carrying frame, a bearing on said frame, the crank of said axle being disposed in said bearing, said frame having swinging movement on the crank, transversely disposed cutting blades carried by said frame, a U-shaped frame loosely mounted on the axle, a tongue secured to said frame, a lever fixed on the axle to rotate the same and raise and lower the frame, and movable connections between said lever and the forward end of the frame, said connections being arranged upon said tongue.

5. The combination with a crank axle and ground wheels rotatably mounted on each end thereof, of a blade carrying frame swingingly suspended from the crank of the axle, a plow-point adjustably mounted in said frame rearwardly of the blades, a U-shaped frame loosely mounted on the axle on each side of the crank, a tongue secured on said frame, a rack secured to the U-shaped frame, a lever fixed on the axle carrying a spring pressed locking bolt for engagement with the teeth of the rack, a shaft rotatably mounted on the tongue, arms secured on the shaft, bars secured to the blade carrying frame and adjustably connected to said arms, and link bars connecting said shaft to the levers, said lever being adapted to rotate the axle on said shaft to raise and lower the blade carrying frame.

978,473. MILKING-MACHINE. JENS NIELSEN, Copenhagen, Denmark. Filed Apr. 16, 1910. Serial No. 555,783.



1. In a milking machine the combination of milking members arranged in pairs, and means engaging the milking members at their upper and lower edges for alternately moving the upper portions of the members of each pair toward each other and the lower portions of the members of each pair toward each other.

2. In a milking machine the combination of milking members arranged in pairs, and means engaging the milking members at their upper and lower edges for alternately moving the members of each pair toward each other and away from each other and for simultaneously lifting and lowering respectively the members of each pair.

3. In a milking machine the combination of a frame, milking members movably suspended in said frame, and flexible not extensible elements engaging a plurality of said members for imparting movement to the same, the milking members which are not engaged by said elements being connected to the members which are engaged by said elements.

4. In a milking machine the combination of a frame, milking members movably suspended in said frame, and flexible not extensible elements engaging a plurality of said members for imparting movement to the same, the milking members which are not engaged by said elements being resiliently connected to the members which are engaged by said elements.

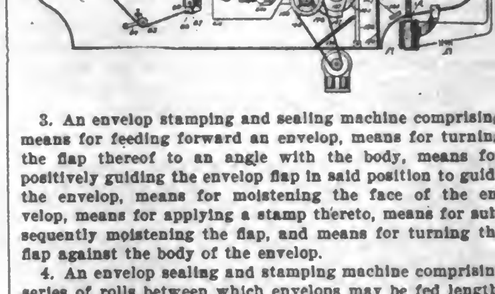
5. In a milking machine the combination of a frame, milking members movably suspended in said frame and arranged in pairs, and flexible not extensible elements engaging one member of each pair for imparting movement to the same, the milking member which is free from engagement with said element in each pair being resiliently connected to the milking member in the other pair which is in engagement with said elements.

[Claims 6 to 14 not printed in the Gazette.]

978,474. MACHINE FOR STAMPING AND SEALING ENVELOPS. LAURITS M. NIELSEN and HENRY WELLER, Boston, Mass., assignors, by mesne assignments, to Nielsen Mailing Machinery Company, Erie, Pa., a Corporation of Maine. Filed Dec. 26, 1905. Serial No. 293,276.

1. An envelop stamping and sealing machine comprising means for feeding forward an envelop, means for opening the flap thereof at an angle with the body, means for positively guiding the flap in the lengthwise direction to guide the envelop, and means for applying a stamp to the envelop while so guided.

2. An envelop stamping and sealing machine comprising means for feeding forward an envelop endwise in the horizontal position, means for turning the flap to a vertical position, means for guiding said flap in said position, a stamp position moistener, and means for applying a stamp to the moistened stamp position.



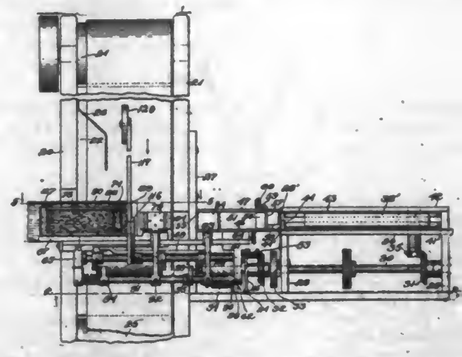
3. An envelop stamping and sealing machine comprising means for feeding forward an envelop, means for turning the flap thereof to an angle with the body, means for positively guiding the envelop flap in said position to guide the envelop, means for moistening the face of the envelop, means for applying a stamp thereto, means for subsequently moistening the flap, and means for turning the flap against the body of the envelop.

4. An envelop sealing and stamping machine comprising series of rolls between which envelops may be fed lengthwise, means extending into the path of the envelops for engaging the flaps of the envelops and turning said flaps approximately at right angles with the bodies, guides for said opened flap, a stamp position moistener, and means for applying stamps to the moistened portions of the envelops.

5. An envelop sealing and stamping machine comprising series of rolls between which envelops may be fed forward, a flap opener plate extending into the path of the envelops and having a curved member adapted to turn the envelop flaps away from their bodies, a guide adapted to receive the flaps when so turned, a stamp position moistener, means for supporting the envelop close to the guide, and a stamp applying mechanism adapted to deliver a stamp to an envelop above said guide.

[Claims 6 to 23 not printed in the Gazette.]

978,475. STAMP-AFFIXING MACHINE. LAURITS M. NIELSEN and HENRY WELLER, Boston, Mass., assignors, by mesne assignments, to Nielsen Mailing Machine Company, Erie, Pa., a Corporation of Maine. Filed April 11, 1906. Serial No. 311,088.



1. In combination, traveling means for feeding forward packages by frictional contact therewith, means for effecting a dwell of each package on the feeding means without affecting such feeding means, and means for subsequently increasing the frictional contact of the packages with the feeding means.

2. A package feeding machine comprising a feed belt, a detent pivotally mounted above the belt, means for positively swinging said detent away from the belt, a spring adapted to retract said detent from the open position and means for locking the detent in the closed position.

3. A package feeding machine comprising a feed belt, a detent pivotally mounted above the belt, means for swinging the detent, and a lever mounted to move with the detent and to intercept a package at a distance from the detent.

4. A package feeding machine comprising a feed belt, a detent pivotally mounted above the belt, a lever pivotally supported above the belt, a lever pivotally supported on an arm extending from the axis on which the detent swings, and means for swinging said detent.

5. A package feeding machine comprising a feed belt, means for intercepting a package fed along by said belt, means for locking said intercepting means, and means for operating on said package while held from movement.

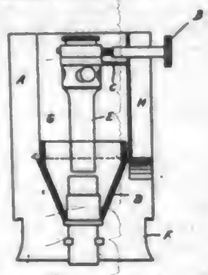
[Claims 6 to 25 not printed in the Gazette.]

978,476. HOP-EXTRACTION PROCESS. ARVID NILSON, Chicago, Ill., assignor to Wahl-Henius Institute of Fermentology, Chicago, Ill., a Corporation of Illinois. Filed Aug. 25, 1910. Serial No. 578,837.

1. The process of extracting from hops their contained bitter substances and resins, which consists in subjecting the hops to the dissolving action of dilute ammonium hydroxid, thereupon separating the resultant solution from the hops, acidifying said solution to precipitate said constituents, and separating the precipitate from the liquid.

2. The process of extracting from hops their contained bitter substances and resins, which consists in preparing a dilute solution of ammonium hydroxid, mixing hops with said solution in the proportion of about 100 pounds of the hops to about 250 gallons of the solution, and maintaining the hops under subjection to the action of the solution until it has extracted said constituents of the hops, thereupon separating the resultant liquid from the hops, then acidifying said liquid by adding lactic acid thereto to precipitate said constituents, and separating and saving the resultant precipitate from the liquid.

978,477. INCANDESCENT GAS-LAMP. ARTHUR CUMMING NOAD, London, England, assignor of one-third to Thomas Townsend Russell, Liverpool, England. Filed June 1, 1909. Serial No. 499,458.



1. In an inverted incandescent gas lamp the combination with the mixing chamber that serves also as the Bunsen tube of a shield surrounding the lower end of the burner, an annular opensided chimney resting on the shield and surrounding the mixing chamber, an air intake for the Bunsen burner and air and gas regulators.

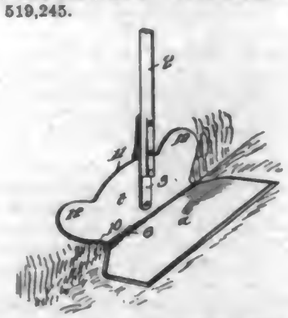
2. In an inverted incandescent gas lamp a Bunsen tube a chimney surrounding the Bunsen tube, said chimney forming an opensided chamber for the admission of air to the Bunsen tube, also forming a closed passage for conducting the products of combustion clear of the air intake, the open side of the air intake extending parallel with the length of the mixing chamber and surrounding the regulators for air and gas supply of the Bunsen tube, and regulators for air and gas extending through such passage.

3. In an inverted incandescent gas lamp a Bunsen tube a chimney surrounding the Bunsen tube and formed of a folded sheet of metal said chimney forming an open sided chamber for the admission of air to the Bunsen tube, and also forming a closed passage for conducting the products of combustion clear of the air intake, the open side of the air intake extending parallel with the length of the mixing chamber and surrounding the regulators for air and gas supply of the Bunsen tube, and regulators for air and gas extending through such passage.

4. In a lamp for inverted incandescent gas lighting the combination of a mixing chamber, an air intake above the same, a chimney surrounding the same, and forming a closed chamber for products of combustion an elongated opening in the said chimney a cooling chamber formed by the chimney communicating with the elongated opening throughout the length of said opening and regulators for the admission of air and gas in the elongated opening.

5. In an inverted incandescent lamp for gas lighting a chimney having two chambers one within the other both surrounding the mixing tube which also forms a Bunsen tube said tube being within the inner chamber, a passage extending from top to bottom of the two chambers and extending through the outer chamber with which it is not connected, to the inner chamber and forming an air inlet and an air intake.

978,478. GARDENING IMPLEMENT. STERLING E. NORMAN, Attleboro, Mass. Filed Sept. 23, 1909. Serial No. 519,245.



1. An implement of the character described having a blade angular in section formed with reëntrant cutting edges at opposite ends, and a handle pivoted to one flange of the angular blade for movement across the face thereof.

2. In an implement of the character described, a blade having a vertical portion, and a horisontal portion, said blade being formed at opposite ends at the junction of the two portions, with reëntrant cutting edges.

3. An implement of the character described, having an angular blade, the ends of said blade, at the angle thereof, being cut away to form opposed inwardly extending cutting edges, a handle pivoted to one flange of the blade for movement across the face thereof, and means for holding the handle set in any adjusted position.

4. An implement of the character described, having an angular blade formed with opposed inwardly extending cutting edges at its ends, one flange of the blade having an arcuate side edge, and a handle pivoted to said flange for movement across the face thereof, and having a clamp engaging with the arcuate margin of the blade to hold the handle set in any adjusted position.

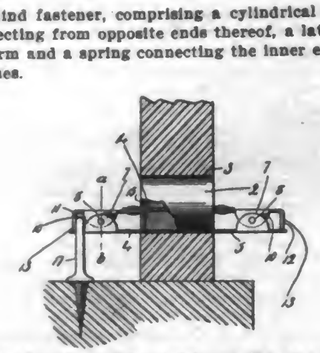
5. An implement of the character described, having an angular blade formed with cutting edges at its ends, one flange of said blade having an arcuate side edge, a handle pivoted to said flange, a clamping bar attached to the handle and extending down below the arcuate edge of the blade upon the outside thereof, and a clamp bolt passing through the handle and clamping bar.

[Claims 6 and 7 not printed in the Gazette.]

978,479. BLIND-FASTENER. HERBERT W. OTTO, Meriden, Conn. Filed Oct. 15, 1910. Serial No. 587,242.

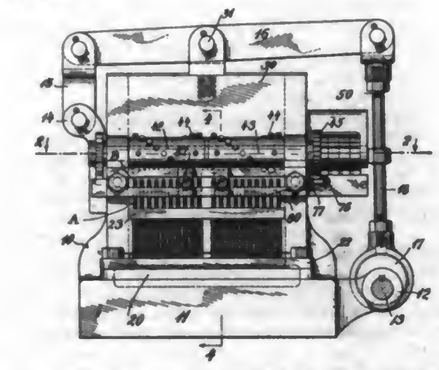
1. A blind fastener, comprising a casing an arm projecting from opposite ends thereof, a latch hinged to each arm and a spring connecting the inner ends of the said latches.

2. A blind fastener, comprising a cylindrical casing an arm projecting from opposite ends thereof, a latch hinged to each arm and a spring connecting the inner ends of the said latches.



3. A blind fastener, comprising a casing an arm projecting from opposite ends thereof, said arms formed with upwardly turned ears, latches having downwardly turned ears, a pintle extending through said ears whereby said latches are hinged to said arms and a spring connecting the inner ends of said latches.

978,480. PERFORATING-MACHINE. CHARLES O. PEARSON, New York, N. Y. Filed Nov. 16, 1909. Serial No. 528,306.



1. A row of punches, a plurality of pins spaced over the punches about an axis in alinement therewith, and means for imparting a continuous relative movement to said punches and pins.

2. A row of punches, a plurality of pins spaced over the punches about an axis in alinement therewith, means for imparting relative movement to said punches and pins, and automatic means for shifting the circumferential positions of said pins.

3. A row of punches, a cylinder in alinement therewith, pins projecting from different circumferential positions on said cylinder, and means for imparting a continuous relative movement to said punches and cylinder.

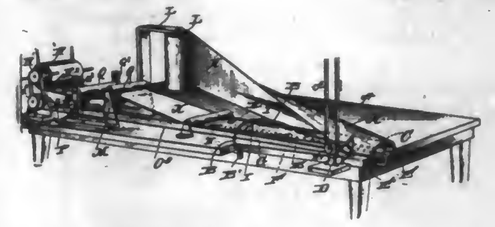
4. A row of punches, a cylinder in alinement therewith, pins projecting from different circumferential positions on said cylinder, means for imparting relative movement to said punches and cylinder, and automatic means for rotating said cylinder desired amounts.

5. A row of punches, a cylinder in alinement therewith, a plurality of pins corresponding in number with the number of said punches, said pins being spaced spirally about said cylinder and projecting radially therefrom, and means for rotating said cylinder in a plurality of steps.

[Claims 6 to 22 not printed in the Gazette.]

978,481. TUBE SEWING AND TURNING MACHINE. JOSEPH PELHAM, Versailles, Mo., assignor of one-half to Joel D. Hubbard, Versailles, Mo. Filed Apr. 19, 1910. Serial No. 556,377.

1. A tube sewing and turning machine comprising a sewing machine, a rod, a support therefor, a ring fixed to the end of said rod at right angles thereto and through which a tubing is adapted to be drawn, stretcher arms for holding the tubing when turned, a reel about which the tubing is wound affording means for drawing the tubing through the ring.



2. A tube sewing and turning machine comprising a sewing machine, a rod, a support therefor, a ring fixed to the end of said rod at right angles thereto and over the edge and through which the tubing is adapted to be drawn, adjustable stretcher mechanism within the tubing adapted to hold the same taut, and means for drawing the tubing through said ring.

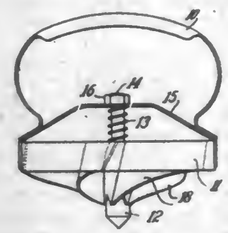
3. A tube sewing and turning machine comprising a sewing machine, a rod, a support therefor, a ring fixed to the end of said rod at right angles thereto and through which a tubing is adapted to be drawn, adjustable stretcher mechanism designed to be positioned within the tubing to hold the same taut, rollers between which the stitched and turned tubing passes, and means for drawing the tubing through said ring.

4. A tube sewing and turning machine comprising a sewing machine, a fixed rod terminating in a ring at right angles to the length of said rod, a stretcher bar extending through said ring, a yielding stretcher arm upon said stretcher bar, means for drawing the tubing through said ring, and wheels journaled upon the ends of said stretcher bar and arm.

5. A tube sewing and turning machine comprising a sewing machine, a reel from which the cloth unwinds, a support for said reel, a rod fixed at one end and terminating in a ring, a stretcher bar fixed at one end and extending through said ring, feeding rollers between which the tubing passes, affording means for drawing the tubing over the edge of and through said ring, an adjustable stretcher arm upon said stretcher bar, and a grooved wheel carried by said arm adapted to bear against the seam of the tubing.

[Claims 6 to 10 not printed in the Gazette.]

978,482. DOUGH-SHAPING IMPLEMENT. GUNTHER H. PETRI, Boston, Mass. Filed June 5, 1908, Serial No. 436,799. Renewed Aug. 15, 1910. Serial No. 577,256.



1. An implement of the class described, having a centre pin and radiating blades, the pin projecting below the blades.

2. An implement of the class described, having a centre pin and radiating blades, the pin projecting below the blades, and the parts of blades near the pin projecting lower than the extremities of the blades.

3. An implement of the class described, having a centre pin and radiating slanting blades, the pin projecting below the blades.

4. An implement of the class described, having a central pin and radiating blades, the pin projecting yieldingly below the blades.

5. An implement of the class described, having a central pin and radiating blades, the pin projecting yieldingly below the blades, and the parts of blades near the pin projecting lower than the extremities of the blades.

[Claims 6 to 14 not printed in the Gazette.]

978,483. CASING FOR INCANDESCENT-LAMP SOCKETS. CLARENCE D. PLATT, Bridgeport, Conn. Filed Jan. 24, 1910. Serial No. 539,659.



1. A casing for incandescent lamp sockets comprising a cap and a shell-member, one of said members having locking perforations punched from the body of the material leaving an unbroken peripheral edge, the other of said members having a series of locking lugs coöperating therewith and beveled to permit longitudinal engagement of the cap and shell-member, said lugs likewise formed from the body of the material leaving an unbroken peripheral edge, with interlocking means appurtenant to said lugs for positively engaging opposite sides of the member bearing the locking openings, whereby said members are interengaged against compressible or expansible action, and a locking member for preventing relative rotation of the parts.

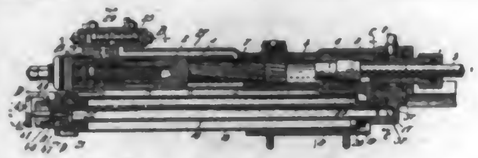
2. A casing for incandescent lamp sockets comprising a cap and a shell-member, respective series of locking perforations and locking lugs coöperating with the perforations and formed from the body of the material of the cap and shell, leaving unbroken peripheral edges, said lugs having bevels to permit longitudinal engagement of the parts, interlocking means appurtenant to the lugs for positively engaging opposite sides of the member bearing the locking openings whereby said cap and shell-members may be separated only upon partial rotation, and means for preventing rotation of the parts.

3. A casing for incandescent lamp sockets comprising a cap and a shell member, locking perforations formed in one of said members above its peripheral edge leaving said edge unbroken, a series of locking members coöperating therewith and formed in the coöperating member within its peripheral edge leaving an unbroken peripheral edge, abrupt shoulders upon one of said members to prevent relative rotation of the parts and longitudinal separation thereof, shoulders upon the auxiliary locking lugs to prevent longitudinal separation of the parts, said lugs provided with over-lapping tongues engaging and holding the cap and shell-part against relative compression or expansion.

4. A casing for incandescent lamp sockets comprising a cap and a shell member, one of said members provided with equi-distant locking perforations, the other of said members provided with locking lugs, a series of said lugs being equi-distantly spaced one from the other, a main locking lug unequally spaced with reference to said equi-distant lugs and disposed to engage one of the equi-distant locking perforations after full engagement of the equi-distant locking lugs and shoulders appurtenant to the main locking lug to prevent relative rotation of the parts.

978,484. FLUID-PRESSURE-OPERATED TOOL. WILLIAM PAELLWITZ, Easton, Pa., assignor to Ingersoll-Rand Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 29, 1909. Serial No. 492,930.

1. A fluid pressure operated tool a fluid pressure operated feeding device therefor comprising a cylinder and its piston, and a manually operated valve having leakage ports of different sizes arranged to bring the interior of the cylinder into communication with external atmosphere for varying the amount of fluid pressure in the feeding device.



2. A fluid pressure operated tool, a fluid pressure operated feeding device located along the side of the tool and comprising a cylinder and its piston, and a manually operated valve having leakage ports of different sizes arranged to bring the interior of the cylinder into communication with external atmosphere for varying the amount of fluid pressure in the feeding device.

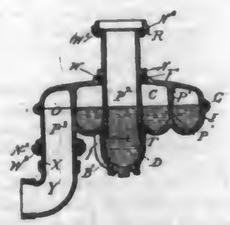
3. A fluid pressure operated tool, a fluid pressure operated tool feeding device comprising a cylinder and its piston, a manually operated valve having leakage ports of different sizes arranged to bring the interior of the cylinder into open communication with external atmosphere, said valve having different operative positions and means for yieldingly holding the valve in its different positions.

4. A support, a fluid pressure operated tool fitted to slide along the same, a fluid pressure operated tool feeding device comprising a cylinder and its piston, the one being fixed to the support and the other to the tool and a manually operated valve having leakage ports of different sizes arranged to bring the interior of the cylinder into open communication with external atmosphere for varying the amount of pressure fluid in the feeding device.

5. A fluid pressure operated tool, a fluid pressure operated tool feeding device, a manually operated valve for controlling the supply of pressure fluid both to the tool and to the tool feeding device and a manually operated valve having leakage ports of different sizes for varying the amount of fluid pressure in the said tool feeding device.

[Claim 6 not printed in the Gazette.]

978,485. WATER-SEAL TRAP. JOHN PICKERING PUTNAM, Boston, Mass. Filed May 16, 1906. Serial No. 317,164.



1. In a water trap the combination with an inlet arm and an outlet arm, of a partitioned reservoir chamber between the two divided into two parts, an upper and a lower part, by a horizontal plane cutting through both the chamber and its partitions so that either part may be finished true by rubbing on a horizontal surface, and means for making a sewer-gas tight connection between the outer walls of the two parts.

2. In a water trap having an inlet arm and an outlet arm, and a reservoir chamber between the two, the combination with the arms, of the two parts of the reservoir chamber, an upper and a lower part divided from one another by a horizontal plane; partitions in each part making a continuous water way from inlet to outlet arm and also divided by the horizontal plane, and means for making a sewer-gas tight connection between the outer walls of the two parts.

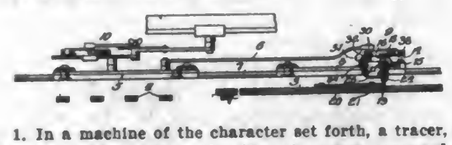
3. In a water trap the combination of an inlet arm, an outlet arm, a reservoir chamber between the arms divided into two parts by a horizontal plane, a vertical partition in each part, the partition in the upper corresponding with that in the lower part, and together forming a continuous waterway from inlet arm to outlet arm, a return bend at the bottom of the inlet arm below the reservoir chamber and connecting with it, and means for making a tight joint between the outer walls of the two parts of the chamber.

4. In a water trap the combination of a reservoir chamber divided into two parts, an upper and a lower part; a depression in the bottom of the lower part provided with a dip forming a trap; a tube forming an inlet arm passing through the reservoir chamber and detachably connected with the trap on one side of the dip; an outlet arm connected with the chamber above the trap; and means for making a sewer-gas tight connection between the outer walls of the two parts.

5. In a water trap the combination of a reservoir chamber divided into two parts, an upper and a lower part; a depression in the bottom of the lower part provided with a dip forming a trap; a tube forming an inlet arm passing through the chamber and detachably connected with the trap on one side of the dip; and an outlet arm connected with the lower part of the chamber at a point above the bottom thereof.

[Claims 6 to 15 not printed in the Gazette.]

978,486. PATTERN-CUTTING MACHINE. CHARLES E. REED, Chicago, Ill., assignor to Charles E. Reed & Company, Chicago, Ill., a Corporation of Illinois. Filed June 2, 1910. Serial No. 564,565.



1. In a machine of the character set forth, a tracer, or stylus, provided with a plurality of grooves arranged in stepped relation, for the purpose set forth.

2. In a machine of the character set forth, a tracer, or stylus, provided with a plurality of tracing surfaces arranged in stepped relation, for the purpose set forth.

3. In a machine of the character set forth, a tracer, or stylus, provided with relatively adjustable grooved tracing devices, for the purpose set forth.

4. In a machine of the character set forth, a tracer, or stylus, provided with a plurality of relatively adjustable concentric tracing devices, for the purpose set forth.

5. In a machine of the character set forth, a tracer, or stylus, provided with a plurality of concentric peripherally-grooved tracing devices, for the purpose set forth.

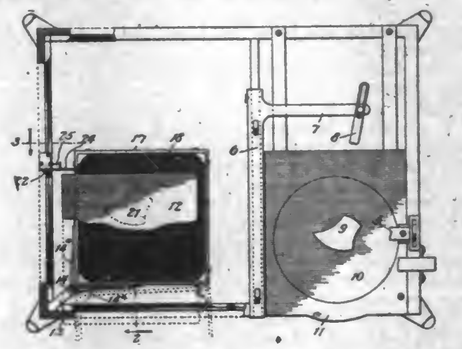
[Claims 6 to 13 not printed in the Gazette.]

978,487. PATTERN-CUTTING MACHINE. CHARLES E. REED, Chicago, Ill., assignor to Charles E. Reed & Company, Chicago, Ill., a Corporation of Illinois. Filed June 3, 1910. Serial No. 564,728.

1. In a machine for punching blanks from a sheet of material, the combination with the punching device thereof adapted to operate on the sheet, of a perforated support located beneath said device and adapted to receive and support the blanks cut from the sheet and permit the bits of material cut from the latter in forming the blank to discharge through the support.

2. In a machine for punching blanks from a sheet of material, the combination with the punching device thereof adapted to operate on the sheet, of a perforated support located beneath said device and adapted to receive and support the blanks cut from the sheet and permit the bits of material cut from the latter in forming the blank to discharge through the support, and a hopper located beneath said support, for the purpose set forth.

3. In a machine for punching blanks from a sheet of material, the combination with the punching device thereof adapted to operate on the sheet, of a shiftable perforated support located beneath said device and adapted to receive and support the blanks cut from the sheet and permit the bits of material cut from the latter in forming the blank to discharge through the support.

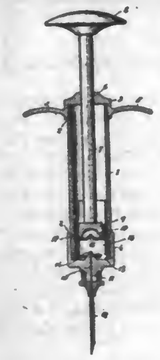


4. In a machine for punching blanks from a sheet of material, the combination with the punching device thereof adapted to operate on the sheet, of a perforated support pivotally mounted on the machine beneath said device and adapted to receive and support the blanks cut from the sheet and permit the bits of material cut from the latter in forming the blank to discharge through the support.

5. In a machine for punching blanks from a sheet of material, the combination with the punching device thereof adapted to operate on the sheet, of a shiftable perforated support located beneath said device and adapted to receive and support the blanks cut from the sheet and permit the bits of material cut from the latter in forming the blank to discharge through the support, and means for releasably holding said support in operative position, for the purpose set forth.

[Claims 6 to 9 not printed in the Gazette.]

978,488. HYPODERMIC SYRINGE AND CARTRIDGE THEREFOR. ALFRED ROESCH, New York, N. Y., assignor to Charles J. Tagliabue Manufacturing Co., New York, N. Y., a Corporation of New York. Filed Mar. 2, 1910. Serial No. 546,799.



1. A syringe comprising a barrel having a discharge end, a receptacle for containing a predetermined amount of fluid removably secured in said barrel and communicating with said discharge end, a separate closure for one end of said receptacle movable lengthwise thereof and means for moving said closure lengthwise of said receptacle to expel the contents thereof.

2. A syringe comprising a barrel having a discharge end, a receptacle for containing a predetermined amount of fluid removably secured in said barrel, means for establishing communication between said receptacle and said dis-

charge end, a cap or closure for closing one end of said receptacle and a plunger movable in said barrel and adapted to engage said cap and move it lengthwise of said receptacle to discharge the contents thereof.

3. A syringe comprising a barrel having a discharge end, a receptacle for containing a predetermined amount of fluid removably secured in said barrel and communicating with said discharge end, a cup shaped closure for one end of said receptacle movable lengthwise thereof and a movable plunger adapted to closely fit said closure and arranged to move it to expel the contents of the receptacle.

4. A syringe comprising a barrel, a receptacle for containing a predetermined amount of fluid removably secured in said barrel, a projection provided with a passage and arranged to puncture the bottom of said receptacle and establish communication with the discharge end, a cup-shaped closure for closing the one end of said receptacle and slidable lengthwise thereof, and a plunger movable in said barrel and adapted to fit in said cup-shaped closure to move it lengthwise of the receptacle for discharging the contents thereof.

5. A syringe comprising a barrel having a discharge end, a receptacle made of easily punctured material in said barrel for containing a predetermined amount of fluid, permanently fixed means in said barrel for puncturing said receptacle and establishing communication with the discharge end and means for expelling the contents of the receptacle.

[Claims 6 to 8 not printed in the Gazette.]

978,489. AMUSEMENT DEVICE. MALCOLM SALMOND, Toledo, Ohio. Filed Sept. 23, 1910. Serial No. 583,526.

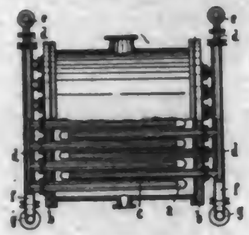


1. An amusement device, comprising a hollow member having an open end, a combustible diaphragm removably closing the open end of such member, a figure held within the member by said diaphragm, and means for causing said figure to spring outwardly from the open end of the member upon a destruction of the diaphragm.

2. An amusement device comprising a shell, a quickly combustible diaphragm closing the open end of such shell, means removably securing the diaphragm to the shell end, a fuse leading from the diaphragm, a figure held within the shell by the diaphragm when in position over the shell end, and means for causing the figure to spring outwardly from the open end of the shell upon a destruction of said diaphragm.

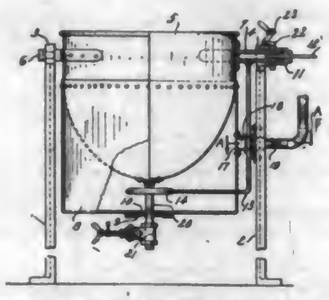
978,490. EVAPORATOR. RICHARD SAUERBREI, Stassfurt, Germany, assignor to G. Sauerbrey Maschinenfabrik, Aktiengesellschaft, Stassfurt, Germany. Filed Jan. 4, 1909. Serial No. 470,668.

1. A cast-iron evaporator having tubes closed at one end and open at the other, the cast-iron heating tubes *a*, which are closed at one end, being in communication with steam pipes *d* which are arranged outside the evaporating vessel and are connected with the steam pipe *e*, whereby joints inside the lye-chamber are avoided and the tube plates of the evaporating vessel are completely relieved from steam pressure, the heating steam being conducted to and from the heating tubes arranged in rows by means of two concentric pipes, out of the inner one *d* of which live steam flows through admission tubes *c* into a row of tubes closed at one end, while the outer pipe *f* receives and leads away the exhaust steam and the condensed water out of the same row of tubes *a*.



2. In an evaporator of the character described, the combination with the evaporator-shell, of steam pipes arranged in rows by means of two concentric pipes, admission tubes through which live steam flows out of the inner pipes, and outer pipes adapted to receive and lead away the exhaust steam, all the joints being disposed outside said shell whereby the walls of said shell are relieved of steam pressure.

978,491. TILTING MIXING-KETTLE. RICHARD J. SAVAGE, Chicago, Ill. Filed June 7, 1909. Serial No. 500,688.



1. A tilting mixing kettle, comprising a support, a kettle pivoted on said support, a furnace on the kettle, a pipe adapted to carry off the products of combustion from the furnace, a hood connected with said pipe and having a bell shaped opening, and a pipe leading from the furnace and having its end tapered to fit closely in said opening when the kettle is in normal position.

2. A tilting mixing kettle, comprising a pair of standards, a kettle pivoted on the standards, a jacket on the kettle, a burner in the jacket beneath the kettle, a fuel supply pipe leading to the burner, a hood on the inner side of one of the standards and having a laterally opening, outwardly flaring mouth, a pipe leading from the hood, and an elbow opening from the jacket and having a tapered end thereon adapted to enter and fit closely in said mouth when the kettle is in upright position.

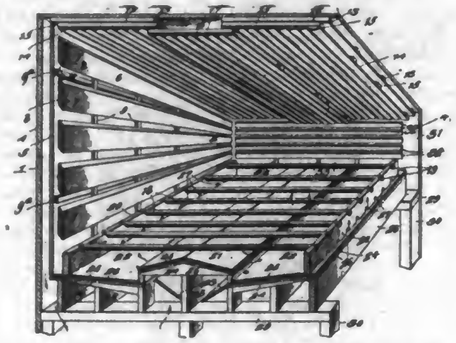
3. A tilting mixing kettle, comprising a support, a kettle pivotally mounted on said support and adapted to be tilted, a jacket engaged on said kettle and adapted to be tilted therewith, an outlet pipe, a hood on the support and connected with the pipe, and an elbow on said jacket adapted to automatically connect with the hood and afford communication between said pipe and jacket when the kettle is returned to normal position.

4. A tilting mixing kettle, comprising a kettle, means pivotally supporting said kettle, a heating jacket on the kettle, an outlet pipe for said jacket, and telescoping means adapted to automatically connect the jacket therewith when the kettle is turned to normal position.

5. A tilting mixing kettle comprising a frame, a kettle pivotally supported thereon, a heating jacket beneath said kettle and supported therefrom, a pipe on said frame, a hood connected with said pipe, and a curved pipe opening from said jacket and adapted when the kettle is swung to normal position to enter said hood and afford communication between the jacket and pipe.

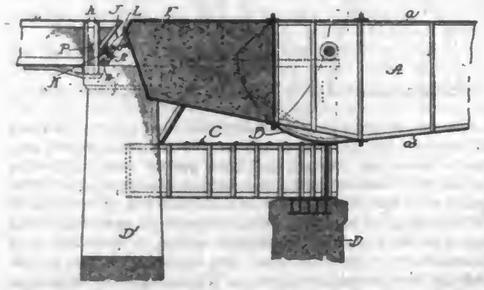
[Claims 6 and 7 not printed in the Gazette.]

978,492. REFRIGERATOR. CHARLES F. SCHAFER, Terre Haute, Ind. Filed Apr. 30, 1910. Serial No. 558,581.



A refrigerator or cold storage structure comprising a body having a lower cooling chamber, an upper ice chamber, outer side walls for the ice chamber, inner side walls for the ice chamber spaced from the said outer side walls, means on the inner side walls for spacing ice therefrom, an outer top uniting the outer side walls and spaced from the inner side walls, cleats secured to the lower face of the top, top plates secured to said cleats and extending inwardly from the upper edges of the inner side walls, said plates being spaced from the top and having their inner edges arranged in spaced relation, other cleats secured to the bottom faces of said plates, corrugated plates secured to the last mentioned cleats and spaced from the first mentioned plates and the inner side walls, other cleats extending across the space between the first mentioned plates and said corrugated plates, a centrally arranged corrugated plate secured to the last named cleats, and spaced from the first mentioned corrugated plates, means in the lower portion of the ice chamber for supporting ice, and means in the lower portion of the ice chamber for collecting drippings and permitting a circulation of air upwardly through the ice chamber.

978,493. REAR-END LOCK FOR BASCULE-BRIDGES. ALBERT H. SCHERZER, Chicago, Ill. Original application filed July 30, 1907, Serial No. 386,256. Divided and this application filed Nov. 26, 1909. Serial No. 529,846.



1. In a bascule bridge the combination with a swinging bridge leaf having at the rear of its support an extension which moves downwardly when the leaf is opened, of a locking device comprising a locking detent mounted on the bridge approach adapted for engagement with a downwardly facing stop-shoulder on said extension of the leaf, said detent having oscillatory movement about its lower end to carry its upper end into and out of engagement with said shoulder and also having endwise movement for pressing it upwardly against said shoulder.

2. In a bascule bridge the combination with a swinging bridge leaf having at the rear of its support an extension which moves downwardly when the leaf is opened and which is provided with a downwardly facing stop-shoulder, of a locking device comprising a locking detent adapted to engage said downwardly facing shoulder, said locking detent having oscillatory movement about its lower end to carry its upper end into and out of engagement with said stop-shoulder and also having endwise movement for pressing it against the said shoulder, means adapted to give endwise movement to said detent, and means for giving swinging movement to said detent.

3. In a bascule bridge the combination with a swinging bridge leaf having at the rear of its support an extension which moves downwardly when the leaf is opened and with a downwardly facing stop-shoulder on said extension, a locking device comprising a locking detent having oscillatory movement about its lower end to carry its upper end into and out of engagement with said stop-shoulder and also having endwise movement for pressing it against said stop-shoulder, a rotative shaft mounted on the bridge approach on which said detent is eccentrically mounted and which by its rotary movement gives endwise movement to the detent, and means for giving swinging movement to said detent.

4. In a bascule bridge the combination with a swinging bridge leaf having at the rear of its support an extension which moves downwardly when the leaf is opened and a downwardly facing stop-shoulder on said extension, of a locking device comprising a locking detent having oscillatory movement about its lower end to carry its upper end into and out of engagement with said stop-shoulder and also having endwise movement for pressing it against said stop-shoulder, a rotative, horizontal shaft mounted on the approach structure, said detent being eccentrically mounted on said shaft, which latter by its rotary movement gives endwise movement to the detent, and means operated by the turning of said shaft for giving oscillatory movement to said detent.

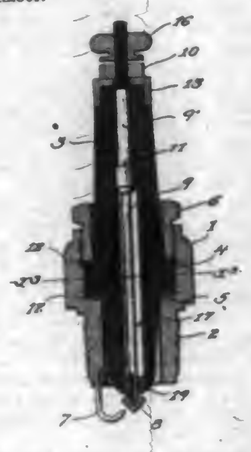
5. In a bascule bridge the combination with a swinging bridge leaf having at the rear of its support an extension which moves downwardly when the leaf is opened and a downwardly facing stop-shoulder on said extension, a locking detent having oscillatory movement about its lower end to carry its upper end into and out of engagement with the said stop-shoulder and also having endwise movement for pressing it upwardly against the said stop-shoulder, a fixed bearing on the approach structure, a horizontal rotative shaft supported in said bearing, eccentrics attached to said shaft at opposite sides of the bearing, said swinging detent having two arms which are severally engaged with the said eccentrics, which latter are adapted to give endwise movement to the detent on the turning of said shaft, and means operated by the turning of said shaft for giving oscillatory movement to the upper end of said detent.

[Claim 6 not printed in the Gazette.]

978,494. SPARK-PLUG FOR INTERNAL-COMBUSTION ENGINES. JAMES E. SEELEY, Los Angeles, Cal., assignor to High Frequency Ignition Coil Company, Los Angeles, Cal., a Corporation of California. Filed Nov. 26, 1909. Serial No. 530,011.

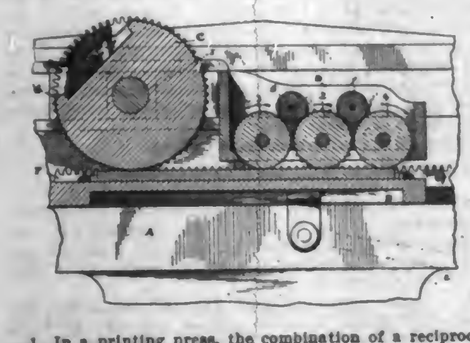
1. A spark plug comprising an outer supporting and conducting member provided with an electrode, an inner conducting member provided with an electrode, and an intermediate insulating member having a flange portion in contact with and secured to said outer conducting and supporting member and having a portion at each end which is out of contact with said outer conducting mem-

ber so as to form an air gap surrounding the insulating member at each end portion thereof and said insulating member supporting said inner conducting member at the outer end thereof and provided with an interior chamber surrounding said inner conducting member and forming an air gap between said inner conducting member and the aforesaid flange portion so as to present an air gap at that portion of the length of the spark plug at which there is no external air gap surrounding the insulating member.



2. A spark plug comprising an outer supporting and conducting member provided with an electrode, an inner conducting member provided with an electrode and an intermediate insulating member having a flange portion in contact with and secured to said outer conducting and supporting member and having a portion at each end which is tapered so as to be out of contact with said outer conducting member so as to form an air gap surrounding the insulating member at each end portion thereof and said insulating member supporting said inner conducting member at the outer end thereof and provided with an interior chamber surrounding said inner conducting member and forming an air gap between said inner conducting member and the aforesaid flange portion so as to present an air gap at that portion of the length of the spark plug at which there is no external air gap surrounding the insulating member.

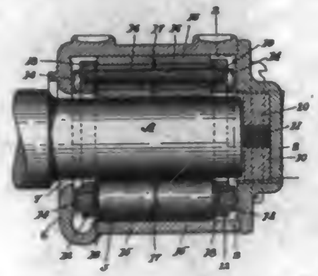
978,495. INKING APPARATUS FOR PRINTING-PRESSES. FRANK P. SHARP, San Francisco, Cal. Filed Jan. 24, 1906. Serial No. 297,541. Renewed Apr. 21, 1910. Serial No. 556,809.



1. In a printing press, the combination of a reciprocating bed provided with racks, an impression cylinder, a movable carrier, inking rolls mounted in said carrier, and a gear fixed to each of said inking rolls, arranged to mesh with one of said racks, for positively driving the said rolls, the gear of one roll being arranged at one end thereof and the gear of an adjoining roll being arranged on the opposite end thereof.

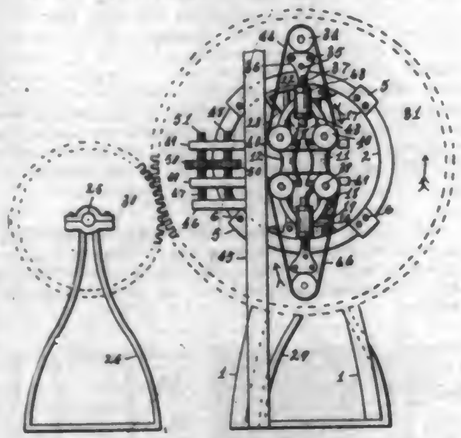
2. In a printing press, the combination of a reciprocating bed provided with racks, an impression cylinder, a movable carrier having apertures in its bottom, inking rolls mounted in said carrier, and a gear for each roll extending through said apertures and arranged to mesh with one of said racks, for positively driving the said roll, the gear of one roll being arranged at one end thereof, and the gear of an adjoining roll being arranged at the other end thereof.

978,496. ROLLER-BEARING. ELIEL L. SHARPNECK, Winthrop, Mass. Filed May 10, 1909. Serial No. 495,032.



A roller bearing comprising a casing having a cylindrical way and ends, and a cage contained within said way and having annular end members furnished at their outer surfaces with antifriction plugs, fixed to said end members, shafts mounted in said end members, and a pair of antifriction rolls rotatably mounted on each of said shafts, said rolls of each pair being separated by washers as and for the purpose described.

978,497. SANDING-MACHINE. GEORGE SIMON, New London, Wis. Filed Aug. 29, 1910. Serial No. 579,539.



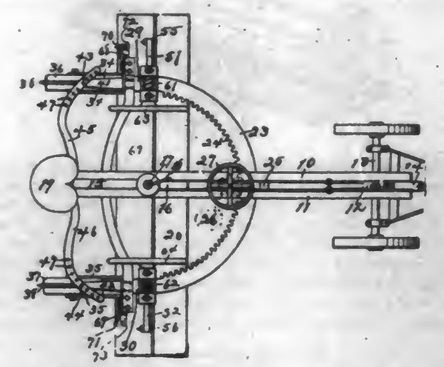
1. In a sanding and polishing machine, a suitable stand or support for the mechanism to be supported, a ring supported from one side of the upper end of said supporting means in a vertical plane and secured thereto at the lower portion of said ring, gear teeth around the circumference of said ring, a shoulder upon the side of said fixed ring opposite its attached supporting means, a revoluble ring mounted for revolution upon said shoulder, means for revolving the revoluble ring upon the shoulder of said fixed ring, two shafts passing through said revoluble ring, a pinion secured to one end of each shaft, the teeth of which are engaged with the teeth around said fixed ring, a sanding belt pulley secured upon each of said shafts upon the opposite side of said revoluble ring from said pinions, and serving as driving pulleys for sanding belts, two idle pulleys for each driving pulley mounted for revolution upon a suitable bracket, secured to said revoluble ring upon the same side of the axial line of said revoluble ring as their driving pulley, means for moving said idle pulleys toward and from their driving pulley, a sanding belt mounted upon each driving and its two idle pulleys, and means for revolving said revoluble ring.

2. In a sanding and polishing machine comprising a fixed ring supported vertically upon a suitable supporting stand and having gear teeth around its circumference, a revoluble ring mounted for revolution upon a shoulder upon said fixed ring, two pinions mounted each upon a shaft revolubly arranged and extending through said revoluble ring and each shaft being provided with a sanding belt pulley which serves as a driver in a sanding belt system, a sanding belt on each of said driving pulleys and one or more idle pulleys to each driving pulley of each system, the combination of a feeding device for feeding the stock to be sanded through said fixed and revoluble rings, consisting of two shafts arranged vertically and substantially parallel with each other and spaced apart across the inside of said fixed ring, one shaft revoluble in suitable bearings secured upon the inside of said fixed ring at the top and bottom thereof, a gear wheel secured upon said shaft, suitable mechanism and means provided for revolving said gear wheel, the other shaft being hinged near its lower end to a suitable holder secured at the lower inside surface of said fixed ring and being movable at its upper end within a suitable holder toward and from the revoluble shaft, a spring arranged near the upper end of said hinged shaft for pressing it toward the revoluble shaft, a feed roll secured to the revoluble shaft, a feed roll mounted loosely upon the hinged shaft, means for supporting the loose roll at a corresponding height as the fixed revolving roll, and a concave surface longitudinally of each roll whose smallest diameter is arranged in the horizontal axial plane of said fixed ring.

3. In a sanding and polishing machine, a suitable stand or support for the mechanism to be supported, a ring supported from one side of the upper end of said supporting means in a vertical plane and secured thereto at the lower portion of said ring, gear teeth around the circumference of said ring, a shoulder upon the side of said ring opposite its attached supporting means, a revoluble ring mounted for revolution upon said shoulder, means for revolving the revoluble ring upon the shoulder of said fixed ring, two shafts passing through said revoluble ring, a pinion secured to one end of each shaft, the teeth of which are engaged with the teeth around said fixed ring, a sanding belt pulley secured upon each of said shafts upon the opposite side of said revoluble ring from said pinions, and serving as driving pulleys for sanding belts, two idle pulleys for each driving pulley mounted for revolution upon a suitable bracket, secured to said revoluble ring upon the same side of the axial line of said revoluble ring as their driving pulley, means for moving said idle pulleys toward and from their driving pulley, a sanding belt mounted upon each driving and its two idle pulleys, means for revolving said revoluble ring, a feeding mechanism for feeding the stock to be sanded through said rings and between the sanding belts, consisting of two shafts arranged vertically and substantially parallel with each other and spaced apart across the inside of said fixed ring, one shaft revoluble in suitable bearings secured upon the inside of said fixed ring at the top and bottom thereof, a gear wheel secured upon said shaft, suitable mechanism and means provided for revolving said gear wheel, the other shaft being hinged near its lower end to a suitable holder secured at the lower inside surface of said fixed ring and being movable at its upper end within a suitable holder toward and from the revoluble shaft, a spring arranged near the upper end of said hinged shaft for pressing it toward the revoluble shaft, a feed roll secured to the revoluble shaft, a feed roll mounted loosely upon the hinged shaft, means for supporting the loose roll at a corresponding height as the fixed revolving roll, and a concave surface longitudinally of each roll whose smallest diameter is arranged in the horizontal axial plane of said fixed ring.

4. In a sanding device for sanding and polishing chair backs and round bent stock for furniture or other purposes, consisting of a stationary ring supported in a vertical plane upon a suitable support and having a ring mounted for revolution upon said stationary ring through both of which rings the article to be sanded is to be fed and two sanding belts arranged upon said revoluble ring and revolving with it around the article to be sanded, the combination therewith of guiding bars for guiding the article relative to said belts, consisting of two horizontally arranged bars fitted to be attached to a stationary part upon opposite sides of the line of feed of the article to be sanded and made adjustable nearer to or farther from said line for adapting the space between said bars to articles of different diameter.

978,498. ROAD-GRADER. NIELS K. SKOW, Newton, Iowa. Filed Oct. 14, 1909. Serial No. 523,082.



1. A road grader, comprising a beam, a caster truck supporting the forward end of said beam, means for attaching draft power to said beam, a scraper blade arranged transversely and pivoted to said beam, a segment slidingly connected to said beam, sliding connections between end portions of the segment and end portions of the scraper blade, casters swiveled to said segment, means for connecting said casters, and levers fulcrumed on said segment and flexibly connected to end portions of said blade.

2. A road grader comprising a beam, a caster truck supporting the forward end of said beam, means for attaching draft power to said beam, a scraper blade arranged transversely and pivoted and arranged for vertical sliding movement relative to said beam, a segment slidingly connected to said beam, sliding connections between end portions of the segment and end portions of the scraper blade, casters swiveled to said segment, means for connecting said casters, and levers fulcrumed on said segment and flexibly connected to end portions of said blade.

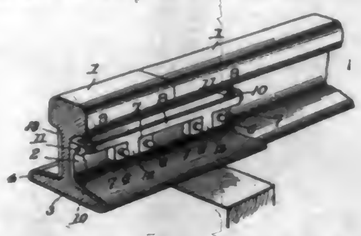
3. A road grader comprising a beam, a caster truck supporting the forward end of said beam, means for attaching draft power to said beam, a scraper blade arranged transversely and pivoted to said beam, a segment slidingly connected to said beam, sliding connections between end portions of the segment and end portions of the scraper blade, casters swiveled to said segment, means for connecting said casters adjustably to each other and to the beam, and levers fulcrumed on said segment and flexibly connected to end portions of said blade.

4. A road grader comprising a beam, a caster truck supporting the forward end of said beam, means for attaching draft power to said beam, a scraper blade arranged transversely and pivoted to said beam, a segment slidingly connected to said beam, sliding connections between end portions of the segment and end portions of the scraper blade, casters swiveled to said segment, means for connecting said casters, and worm-operated bell-crank levers fulcrumed on said segment and flexibly connected to end portions of said blade.

5. A road grader comprising a beam, a caster truck supporting the forward end of said beam, means for attaching draft power to said beam, a scraper blade arranged transversely and pivoted and arranged for vertical sliding movement relative to said beam, a segment slidingly connected to said beam, sliding connections between end portions of the segment and end portions of the scraper blade, casters swiveled to said segment, means for connecting said casters adjustably to each other and to the beam, and worm-operated bell-crank levers fulcrumed on said segment and flexibly connected to end portions of said blade.

[Claims 6 to 21 not printed in the Gazette.]

978,499. NUT-LOCK. JAMES F. SPECK, Hewitt, Okla. Filed May 21, 1910. Serial No. 562,607.



The combination with a rail chair including a base plate, and a fish plate upstanding from one side thereof, the fish plate being formed with pairs of longitudinally spaced bolt openings; of a keeper bar disposed longitudinally above the bolt openings and pivotally connected to the fish plate to turn about a longitudinal axis, and longitudinally spaced locking tongues extended angularly from one longitudinal edge of the keeper bar and normally depending therefrom between the bolt openings of each pair.

978,500. METHOD FOR PRODUCING PICTURES UPON FABRICS. HERMAN SPIEGEL, New York, N. Y. Filed Mar. 10, 1910. Serial No. 548,370.



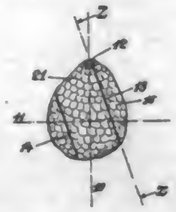
1. Method of producing a matrix for transferring pictures upon fabrics which consists in making a pattern-plate of cardboard, having a picture drawn thereon in outline, perforating the outlines of said picture to form stenciling matrices and stenciling said drawing upon an impression plate by means of said matrices, and coating the body of the impression plate surrounding the configuration of the drawing with impervious material.

2. Method of producing a matrix for transferring pictures upon fabrics which consists in drawing a picture upon suitable material, perforating the outline of said picture to form a stenciling matrix, and stenciling the picture upon a metal plate having interstices therein by the use of said stenciling matrix, and coating the body of said metal plate surrounding the configuration of the picture with a layer of paint, so that colors will pass only through said interstices in stenciling the picture upon fabric by the use of said metal plate.

3. Method of producing pictures upon fabrics consisting in making a drawing in outline upon a suitable material, perforating said drawing for making a stenciling matrix, stenciling the pictures upon a screen-woven stenciling plate, covering the body of said stenciling plate surrounding the configuration of the drawing with a layer of impervious material and finally stenciling the drawing upon a fabric by suitable means.

4. Method of producing pictures upon fabrics which consists in making a pen and ink drawing upon a pattern-plate perforating the outlines of said drawing to form stenciling sheets, stenciling the drawing upon a metal screening, coating the face of said metal screening beyond the outlines of the picture with paint, and finally impressing the picture through said metal screening upon a piece of fabric in multicolors by means of stenciling brushes.

978,501. METHOD OF DIVIDING IVORY-NUTS. CHARLES J. SPILL, Springfield, Mass., assignor to United Button Company, a Corporation of New York. Filed Oct. 25, 1910. Serial No. 588,974.

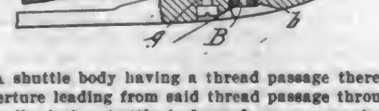


1. That improvement in the art of dividing ivory nuts into pieces, which consists in making a plurality of primary cuts on lines inclined to the "length" of the nut, one of said cuts passing substantially through the "germ" end, thereby severing a plurality of pieces from the nut and producing a "block" forming substantially an oblique oval cylinder, the major axis of which cylinder is greater than the "diameter" of the nut.

2. That improvement in the art of dividing ivory nuts into pieces, which consists in making a plurality of primary cuts on lines inclined to the "length" of the nut, one of said cuts passing substantially through the "germ" end of the nut, thereby severing a plurality of pieces from the nut and producing a "block" forming substantially an oblique oval cylinder, the major axis of which cylinder is greater than the "diameter" of the nut, and then cutting irregular-shaped pieces of substantially the same area as the square of the height of the cylinder "block," from said cylinder "block" in a plane at an angle to the plane of the primary cuts.

3. That improvement in the art of dividing ivory nuts into pieces, which consists in making a plurality of primary cuts on lines inclined to the "length" of the nut, one of said cuts passing substantially through the "germ" end of the nut, thereby severing a plurality of pieces from the nut and producing a "block" forming substantially an oblique oval cylinder, the major axis of which cylinder is greater than the "diameter" of the nut, and then cutting irregular-shaped pieces of substantially the same area as the square of the height of the cylinder "block," from said cylinder "block" in a plane at an angle to the plane of the primary cuts, one or more of which secondary cuts pass substantially through the "germinal" point of the nut.

978,502. SHUTTLE. WILLARD W. STEARNS, Holyoke, Mass. Filed June 27, 1910. Serial No. 569,049.



1. A shuttle body having a thread passage therein and an aperture leading from said thread passage through the side wall of the shuttle body and an eye member, surrounded by shock absorbing material, located and tightly fitted in said aperture.

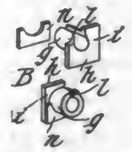
2. A shuttle body having a thread passage and provided with an aperture leading from said thread passage through the side wall of the shuttle body and an eye member surrounded by a shock absorbing material and a metallic sheath or bushing in which the so surrounded eye member is inclosed, fitted in said sidewise opening aperture.

3. A shuttle body having an aperture leading through its side wall to the thread passage in such body, which aperture is inwardly tapered, and a thread delivery eye member having an incasement which is inwardly tapered, and which includes a shock absorbing material.

4. A shuttle body having a sidewise located aperture therein and an eye member having a layer of shock absorbing material surrounding it and incased in a metallic sleeve, fitted in said aperture, and means provided on the shuttle body for engaging, and preventing rotative movement of, said sleeve.

5. A shuttle body having a sidewise located aperture therein and an eye member having an incasement consisting of a surrounding layer of shock absorbing material and an outer metallic shell or sheath which is provided at its outer edge with a recess, and a thread guide detachably engaged within the shuttle body having a projection which engages in the aforesaid recess and prevents both outward displacement and rotative movement of said incased eye member.

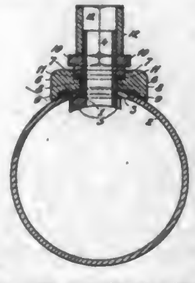
978,503. SHUTTLE. WILLARD W. STEARNS, Holyoke, Mass. Filed June 27, 1910. Serial No. 569,050.



1. A shuttle having a thread passage in the end portion thereof, the side wall of which is provided with a recess leading therethrough above the base of said thread passage, and an eye member composed of vitreous material comprising an annular portion having an opening at its top leading to the passage of the eye and adapted to be fitted in said recess and having at its inner end an integrally formed reinforcing flange to lie within the wall of the thread passage, a layer of cushioning material between said flange and the thread passage wall and a piece of compressible material removably fitted in the base of the thread passage, and engaging the flange of the eye member.

2. An eye member for a self threading shuttle composed of vitreous material comprising an annular portion having an opening through its surrounding wall leading to the passage of the eye and having at its inner end an integrally formed, radially extending reinforcing flange and having a layer of compressible material provided on the surface of said flange.

978,504. JOINTING OF PIPES AND THE LIKE. JOHN G. STEWART, Glasgow, Scotland, assignor to Stewarts & Lloyds Limited, Glasgow, Scotland. Filed Apr. 8, 1910. Serial No. 554,201.



The combination with a main pipe having an orifice, of a tube screw-threaded externally and having at one end a flange passed through said orifice, a plate formed with a recess on its outer face and a groove on its inner face, said plate surrounding the tube and covering the orifice, packing in said groove interposed between the plate and the outer face of the main pipe, a nut in screw-threaded engagement with said tube, said nut entering the recess in said plate, and packing in said recess interposed between the nut and the plate.

978,505. METALLIC FENCE-POST. WILLIAM R. STEWART, Ensley, Ala. Filed Apr. 23, 1910. Serial No. 557,260.



1. A device of the character described, a hollow metal body split longitudinally at its lower end, in combination with expansible wedging means located within the split portion of said body and adapted to be expanded to spread said split portion, substantially as described.

2. A device of the character described, a hollow metal body split longitudinally at its lower end, in combination with expansible wedging means located within the split portion of said body and adapted to be expanded to spread said split portion, and means to hold said wedging means in the position assumed after the end sections have been spread out, substantially as described.

3. A fence post formed by a hollow metal body having its lower end divided into sections by longitudinal slits, in combination with means to spread said sections apart after the post has been inserted in the ground, which means comprise a sectional spreader having slanting upper surfaces to receive an instrument which spreads the sections of both spreader and pipe outwardly, and means to permanently space the sections of the spreader, substantially as described.

4. A fence post formed by a hollow metal body having its lower end divided into sections by longitudinal slits, in combination with means to spread said sections apart after the post has been inserted in the ground, which means comprise a sectional spreader having slanting upper surfaces to receive an instrument which spreads the sections of both spreader and pipe outwardly, and a composition filler inserted to hold said spreader sections in their expanded position.

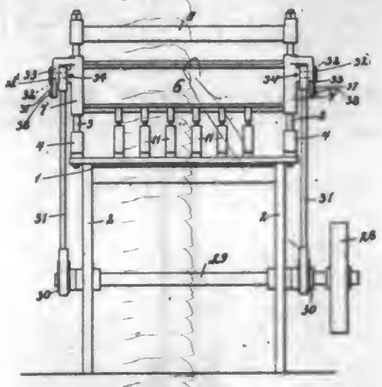
5. The combination with a hollow post having an end thereof split, of a sectional spreader adapted to be inserted in the split end of said post and expanded by means passed lengthwise through the post, and a composition filler introduced in said post to hold said spreader sections expanded, substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

978,506. PUNCHING-MACHINE. EDWIN BALL STIMPSON, Brooklyn, N. Y., assignor to Edwin B. Stimpson Company, a Corporation of New York. Filed Nov. 19, 1909. Serial No. 528,866.

1. In a machine of the class described, the combination of a bed provided with a trough, a block slidable longitudinally in said trough, a cylindrical member having one end directed toward one wall of the trough and being positioned rotatably in a suitable socket in the block, said cylindrical member having an annular recess around it, an

a set-screw in the block located to have its end bear against the side of the annular recess, one of said parts, meaning the end of the set-screw and the side of the annular recess, being tapering, as and for the purpose set forth.



2. In a machine of the class described, the combination of a bed provided with a trough, a block slidable longitudinally in said trough, a cylindrical member having one end directed toward one wall of the trough and being positioned rotatably in a suitable socket in the block, said cylindrical member having an annular recess around it, a set-screw in the block located so that its end bears against the side of said annular recess that is nearer the aforesaid wall of the trough, one of said parts, meaning the end of the set-screw and the said side of the annular recess, being tapering whereby feeding the screw toward the cylindrical member forces said member endwise against the side of the trough.

3. In a machine of the class described, the combination of a cross-head, a slide under the cross-head supported from its bottom edge and being adjustable along said edge, said slide having a recess in its bottom under the cross-head and extending lengthwise thereof for removably supporting a punch block, said block having a top portion receivable loosely in said recess, and means on said block supporting a punch in vertical alinement under the cross-head.

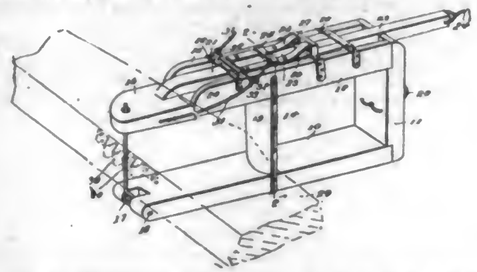
4. In a machine of the class described, the combination of a punch having an annular recess near its head end, the bottom of said recess inclining toward the cutting end of the punch, a punch support having an opening receiving the head end of the punch, a set-screw in said support directed into the annular recess of the punch and acting as a stop to prevent the punch from dropping by contacting with the inclined bottom of the recess, and a feed screw in the upper end of the punch-support opening.

5. In a machine of the class described, the combination of a reciprocating cross-head, an eccentric rod for reciprocating said cross-head, a rotatable pin carried by the cross-head having an eccentric portion by which the eccentric rod is connected with the cross-head, and releasable means for locking the pin in different positions of rotation.

[Claims 6 to 11 not printed in the Gazette.]

978,507. HORSE-DETACHER. PETER SUHR, Schleswig, Iowa. Filed Apr. 7, 1910. Serial No. 553,958.

1. A device as specified comprising a body portion, a block carried by said body portion, a locking pin carried by said body portion, a tree disposed between said block and said locking pin, a leaf carried by said body portion for normal engagement with said locking pin, a guide formed on said body portion, a sliding bolt positioned in said guide for engagement with said leaf to retain the same upon said locking pin, a stop carried by said guide, a pair of leaf springs carried by said bolt for engagement with said stop to prevent the retraction of the same, a lever slidably disposed through said guide and said bolt, a cross-head carried at the forward extremity of said lever for engagement over said springs to depress the same from said stop and to retract said bolt, and means carried by said bolt and connected to said hinged leaf for the purpose of automatically releasing said leaf from engagement with said locking pin upon the retraction of said bolt.



2. In combination with a tree of a frame for engagement with said tree, a locking pin carried upon said frame to secure said tree thereto, a hinged leaf carried by said frame for retaining said pin in position, a sliding bolt carried by said frame to engage said leaf, a cross-bar carried by said bolt, loops formed upon the opposite extremities of said cross-bar, arcuate arms rearwardly extended from said leaf for engagement through said loops and a lever carried by said frame for reciprocating said bolt.

3. A device as specified comprising a base, an arm upwardly extended from the rear end of said base, a guide carried by said arm and extended parallel with said base, a block positioned between said base and said guide intermediate thereof, a locking pin hingedly disposed in the forward end of said base and extended upwardly therefrom, a hinged leaf carried by said guide for engagement with said locking pin, a bolt slidably positioned on said guide to engage said leaf to retain the same against said pin, a cross-bar carried by said bolt, arcuate arms carried by said leaf and engaged slidably with said cross-bar to raise said leaf at times, a stop carried by said guide, springs disposed on said bolt for normal engagement with said stop, a lever slidably mounted on said guide and in said bolt, and a cross-head carried by said lever for engagement with said springs to release the same from said stop and to retract said bolt.

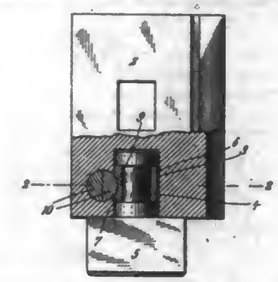
4. A horse detacher including a body portion, a locking pin pivoted at one end and at one side of the body portion, a leaf hinged at the opposite side and at the end of the body portion to receive the free end of the locking pin therethrough, a longitudinally slidable bolt carried by the body portion and engaging over the leaf to retain the same in engagement with the locking pin, and positive lifting means disposed between the sliding bolt and the leaf for raising the leaf from engagement with the locking pin when the bolt is retracted.

978,508. DIE-SECURING MEANS. FRED E. SUTHERLAND and JAMES A. BROWN, Los Angeles, Cal., assignors to The Radial Power Hammer Company, Los Angeles, Cal., a Corporation of California. Original application filed May 27, 1909, Serial No. 498,765. Divided and this application filed Nov. 9, 1909. Serial No. 527,087.

1. The combination of a hammer head having a socket therein, with a die having a round shank provided with an annular groove, a bolster fitting said groove, and means interposed between said hammer head and said bolster for pressing said bolster in said groove.

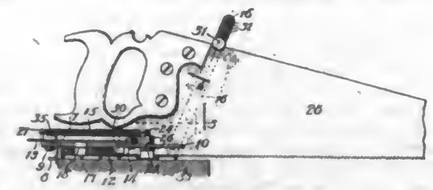
2. The combination of a hammer head having a socket therein, with a die having a round shank provided with an annular groove, a bolster fitting said groove, and a key interposed between said hammer head and said bolster, said key comprising tapering parts, the larger end of each part being arranged contiguous to the smaller end of the other part.

3. The combination of a die holding member, with a rotatable die provided with an annular groove, and means interposed between said member and said groove for positively locating said die in any desired angular position.



4. The combination with a hammer head provided with a cylindrical socket and a keyhole substantially at right angles thereto, of a die having a round shank provided with an annular groove, a recessed bolster adapted to fit in said groove, and locking means comprising a two-part key adapted to fit in said keyhole and the recess in the bolster.

978,509. CARPENTER'S TOOL. JONAS A. SWENSON, St. Charles, S. D. Filed Oct. 1, 1909. Serial No. 520,551.



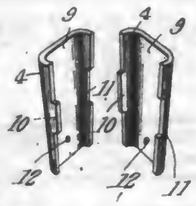
1. A marking device comprising, in combination, a member adapted to be applied to an edge of the object to be marked, means operatively connected with said member and movable with relation thereto for marking the object, means for securing the device at its marker means to a saw, and an upwardly extending arm secured to said last referred-to means and adapted to engage with the saw at its upper edge, for the purpose set forth.

2. A marking device comprising, in combination, a member adapted to be applied to an edge of the object to be marked, a guide-bar secured to said member containing a slot, a marker-bar provided with guides engaging with said guide-bar, one of said guides being connected with said bar at its slotted portion, a coiled spring operatively connected with said marker-bar and member, and means for securing a saw to the device to move with said marker-bar, for the purpose set forth.

3. A marking device comprising, in combination, a member adapted to be applied to an edge of the object to be marked, a guide-bar carried by said member, a marker-bar having guides slidably engaging with said guide-bar, one of said guides being in the form of an upwardly-opening hook engaging at one end with said guide-bar and being connected at its hook end with said marker-bar and affording an upwardly-opening groove adapted to receive the edge of a saw, and means for securing the saw in position on the device.

4. A marking device comprising, in combination, a member adapted to be applied to an edge of the object to be marked, a guide-bar pivotally connected with said member and containing a slot in its outer end portion, a marker-bar carrying guides engaging with said guide-bar, the forward one of said guides being of hook shape and provided with a stud which engages with the slotted portion of said guide-bar, the marker-bar extending into the channel afforded by said hook-shaped guide and secured therein, a spring connected with said hook-shaped guide and with said member, a brace pivotally connected with said guide-bar and adjustably connected with said member, a clamping device carried by said marker-bar in the rear of said hook-shaped guide and adapted to clamp the back edge of a saw seated in the groove provided by said hook-shaped guide, and an arm pivotally connected with said marker-bar and carrying a clamping device adapted to clamp the saw at its upper edge to said arm, for the purpose set forth.

978,510. IMPLEMENT-HANDLE. BENJAMIN F. TAYLOR, Palisades, Colo. Filed Jan. 24, 1910. Serial No. 539,747.



1. In combination, an implement head having a socket, a handle provided with a flared end which is smaller in size than the socket, a pair of complementary members with side flanges, the members and their flanges being of the required size and tapering in thickness so as to fill the space between the socket and the handle, and oblique lips on the members indenting the handle when the parts are in place.

2. In combination, an implement head having a tapering socket, a handle provided with a flaring end which is smaller in size than but similar in shape to the socket, a pair of like wedge members tapering both edgewise and in thickness and of the required shape to fill the space between the socket and the handle, each member having inturned side flanges with a lip on one and a recess in the other whereby the members will be locked together, and means for anchoring the members to the handle.

3. In combination, an implement head having a tapering socket, a handle provided with a flaring end which is smaller in size than the socket, a pair of interfitting wedge members tapering in the same direction as the socket and provided with inwardly projecting oblique lips whose free ends are disposed toward the larger end of the socket, and independent means for anchoring the head upon said members.

978,511. ACETYLENE-GAS GENERATOR. WILLIAM TOBEY and ALFRED J. TOBEY, Iola, Kans. Filed Apr. 28, 1910. Serial No. 558,143.



1. An acetylene gas generator shell comprising an upright partition plate having supporting legs; two cylindrical shell members, gaskets between the shell members and the partition plate, a concentric fastening bolt passing through said plate and the ends of the shell members, a two-part collar embracing one of the shell members, one part of said collar having supporting legs, and fastening means for the two parts of said collar.

2. An acetylene gas generator shell comprising an upright partition plate having supporting legs; two cylindrical shell members, gaskets between the shell members and the partition plate, a concentric fastening bolt passing through said plate and the ends of the shell members, a two-part collar embracing one of the shell members, the parts of said collar being hinged together at one side and provided with a fastener at the opposite side.

3. An acetylene gas generator comprising two outer shell sections, means for securing the same together, a transverse partition between said sections, a carbid can practically filling one of the shell sections, a perforated trough at the top of said can, a grating within the can, a perforated tube within said trough, an air admission valve upon the other shell section, a tube connected with said partition and extending downwardly toward the bottom of the last named shell section, and a check-valve connected to or into said last named tube.

978,512. ACETYLENE-GAS GENERATOR. WILLIAM W. TOBEY and ALFRED J. TOBEY, Iola, Kans. Filed June 13, 1910. Serial No. 566,533.



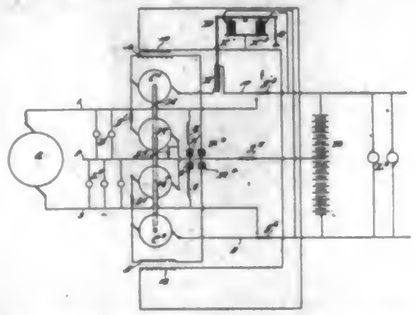
1. In an acetylene gas generator, a tank comprising end caps, one having an offset shoulder, and the other having a groove, a cylinder set into the shoulder and groove, a rod extending through the end caps and having threaded ends carrying nuts, whereby the caps are tightened on the ends of the cylinder, said rod having a valve channel and seat in one end, a cylindrical water chamber set into the groove in said end cap within the main cylinder and set in therefrom to provide an annulus, a diaphragm plate carried on said rod and having a groove into which the opposite end of said cylindrical water chamber is projected, a carbid cylinder set in from the main cylinder to provide an annulus, a tube having communication with said valve channel and projected through said diaphragm plate, a valve adapted for controlling flow through said valve channel and tube, and separate means for communication with the gas and water chamber, substantially as and for the purpose set forth.

2. In an acetylene gas generator, a tank having separate water, carbid and gas chambers, a centrally located rod having threaded ends carrying clamping nuts whereby the parts of the generator are held in position, said rod having a valve channel and seat near one end, a valve stem in the valve channel in said rod, a stuffing box formed in said adjacent clamping nut, a check valved connection between said gas and water chambers, connection between said valve and said carbid chamber, a filler cap and air charging valve for said water chamber, and an outlet valve for said gas chamber, substantially as and for the purpose set forth.

978,513. SYSTEM OF ELECTRICAL DISTRIBUTION. JOSEPH H. TRACY, Philadelphia, Pa. Filed Jan. 10, 1908. Serial No. 410,088.

1. In combination, a three wire system of electrical distribution having translating devices connected between the outside wires and the neutral wire and other translating devices connected across the outside wires, a storage battery, a booster set including two boosters mechanically connected, appropriate connections between the booster and battery terminals and the three conductors of the system, and means responsive only to the load of the translating devices last mentioned and adapted to control both boosters simultaneously.

2. In combination, a three wire system of electrical distribution having translating devices connected between the outside wires and the neutral wire and other translating devices connected across the outside wires, a storage battery, a booster set including two boosters mechanically connected, appropriate connections between the booster and battery terminals and the three conductors of the system, means responsive only to the load of the translating devices last mentioned and adapted to control both boosters simultaneously, and means for controlling one of the boosters independently of the other.



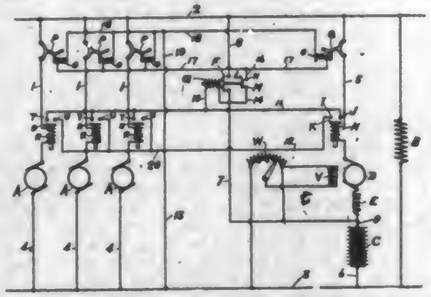
3. In combination, a three wire system of electrical distribution having translating devices connected between the outside wires and the neutral wire and other translating devices connected across the outside wires, a storage battery, a booster set including two boosters mechanically connected, appropriate connections between the booster and battery terminals and the three conductors of the system, means responsive only to the load of the translating devices last mentioned and adapted to control both boosters simultaneously, a field winding on each booster, and a separate rheostat for each field winding.

4. In combination, a three wire system of electrical distribution having translating devices connected between the outside wires and the neutral wire and other translating devices connected across the outside wires, a storage battery, a booster set including two boosters mechanically connected, appropriate connections between the booster and battery terminals and the three conductors of the system, and a booster regulator responsive only to the load of the translating devices last mentioned and adapted to control both boosters simultaneously.

5. In combination, a three wire system of electrical distribution having translating devices connected between the outside wires and the neutral wire and other translating devices connected across the outside wires, a storage battery, a booster set including two boosters mechanically connected, appropriate connections between the booster and battery terminals and the three conductors of the system, a booster regulator responsive only to the load of the translating devices last mentioned and adapted to control both boosters simultaneously, and means for controlling one of the boosters independently of the other.

[Claim 6 not printed in the Gazette.]

978,514. SYSTEM OF ELECTRICAL DISTRIBUTION. JOSEPH H. TRACY, Philadelphia, Pa. Filed Apr. 22, 1909. Serial No. 491,530.



1. In combination an electric circuit and its source, a storage battery connected to the circuit, means dependent upon the battery current connected in series between the battery and the circuit for limiting said current, means for short circuiting said limiting means when the battery current exceeds a predetermined value, and automatic means for disconnecting the source from the circuit when said short circuit is closed.

2. In combination an electric circuit and its source, a storage battery connected to the circuit, means dependent upon the battery current connected in series between the battery and the circuit for limiting said current, means for short circuiting said limiting means when the battery current exceeds a predetermined value and automatic means for disconnecting the source from the circuit and opening the circuit of the limiting means when said short circuit is closed.

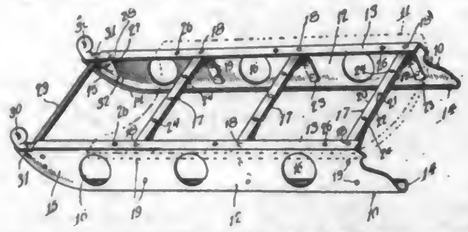
3. In combination, an electric circuit and its source, a storage battery connected to the circuit, means dependent upon the battery current connected in series between the battery and the circuit for limiting said current, means for short-circuiting said limiting means when the current from the source exceeds a predetermined value, and automatic means for disconnecting the source from the circuit when said short-circuit is closed.

4. In combination an electric circuit and its source, a storage battery connected to the circuit, means dependent upon the battery current connected in series between the battery and the circuit for limiting said current, means for short-circuiting said limiting means when the current from the source exceeds a predetermined value, and automatic means for disconnecting the source from the circuit and opening the circuit of the limiting means when said short-circuit is closed.

5. In combination an electric circuit and its source, a storage battery connected to the circuit, means dependent upon the battery current connected in series between the battery and the circuit for limiting said current, means for short-circuiting said limiting means when either the battery current exceeds a predetermined value or the current from the source exceeds a predetermined value, and automatic means for disconnecting the source from the circuit when said short-circuit is closed.

[Claims 6 to 12 not printed in the Gazette.]

978,515. SLED. SAMUEL J. TURNER, Chicago, Ill. Filed May 14, 1909. Serial No. 495,959.



1. A sled, comprising a pair of sheet metal runners formed with inwardly bent flanges upon their upper edges and U shaped treads upon their lower edges, and braces connecting said runners and having end portions secured to said flanges and downward projections secured to the web portions.

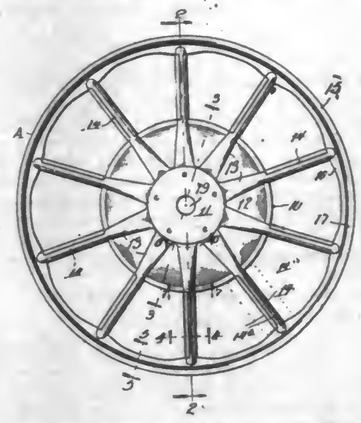
2. A sled, comprising a pair of sheet metal runners, having vertical webs formed with horizontal flanges at their upper edges and U shaped treads at their lower edges, braces connecting said runners and having end portions riveted to said flanges and downward projections riveted to said webs, reinforcement blocks secured to the forward ends of the runners and a cross rod secured in said reinforcement blocks.

3. In a sled, a sheet metal runner, having its lower edge curved upward at its forward end and being formed with an inwardly extending horizontal flange along its upper edge and with an upwardly curved U shaped tread upon its lower edge which continues along said curved front end and a reinforcement block fitted between the flange and tread at the front end of the runner and secured thereto.

4. In a sled, a sheet metal runner having inwardly extending flanges upon its upper and lower edges, the lower flange being curved upward to form a U shaped tread and the lower edge at the forward end being curved upwardly and a reinforcement block fitted between the flanges at the forward end and having integral ribs engaging with the flanges of the runner.

5. In a sled, a sheet-metal runner, comprising a vertical web having a straight, horizontal upper edge which extends from end to end of the runner and a horizontal lower edge which curves upward at the forward end of the runner and meets the upper horizontal edge, said web being formed along its upper edge with a flat horizontal flange and along its entire lower edge with an imperforate U shaped tread, the flange and tread being narrower than the web and projecting from the same side thereof, and all of the parts being constructed of a single piece of sheet metal.

978,516. WHEEL. SAMUEL J. TURNER, Chicago, Ill. Filed Jan. 8, 1910. Serial No. 537,003.



1. A two part wheel body composed of similar halves each having a central portion and a rim portion connected thereto by spoke portions which are bent laterally to tubular form.

2. A two part wheel body composed of similar halves each having a central portion and a rim portion connected thereto by spoke portions bent to tubular form, the tubular spoke portions of one half being closely enveloped by the corresponding portions of the other half.

3. A two-piece wheel body having laterally unconnected tubular spokes and comprising two similar halves of sheet metal each consisting of a centrally perforated, dished disk with radial ribs, tubular spoke members extending out from the disk as continuations of the ribs, respectively, and a half-rim member connecting the outer ends of the spokes, the tubular spoke members of one half closely fitting within the corresponding members of the other half, thereby doubling the spoke walls and uniting said halves into a rigid whole.

4. A wheel body comprising two similar sheet metal halves each having a dished central disk with outwardly pressed radial beads, a rim portion, and spoke portions connecting the beads to the rim and bent to tubular form, the spoke portions of one half closely enveloping the corresponding portions of the other half and abutting both the rim and the disk, substantially as set forth.

978,517. TRUCK. CHARLES W. UNDERWOOD, Crowley, La., assignor of one-fourth to F. S. Button and one-fourth to L. L. Reynaud, Crowley, La. Filed Dec. 18, 1909. Serial No. 533,777.

1. In a railway car truck structure, weight imposed means for laterally, relatively displacing the trucks with respect to the track rails.

2. In a railway car truck structure, relatively displaceable truck sections, and means tending to relatively center said sections, the said sections being normally relatively laterally displaced.



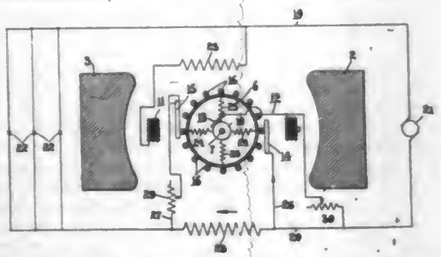
3. In a railway car truck structure, main trucks relatively fixed with respect to the car body, and auxiliary trucks relatively displaceable with respect to the said body and weight imposed means acting to relatively center the auxiliary trucks with respect to the car body and relatively displace the wheels of said trucks with respect to the track rails.

4. In a railway car truck structure, main trucks relatively fixed with respect to the car body and auxiliary trucks relatively displaceable with respect to the car body, said auxiliary trucks being relatively reversed, and means embodied in each of said auxiliary trucks tending to displace the wheels thereof with respect to the track rails.

5. In a railway car truck structure, main trucks relatively fixed with respect to the car body, and auxiliary trucks relatively displaceable with respect to the car body, said auxiliary trucks being relatively reversed, and weight imposed means embodied in each of said auxiliary trucks tending to displace the wheels thereof with respect to the track rails.

[Claims 6 to 12 not printed in the Gazette.]

978,518. ELECTRICAL MEASURING INSTRUMENT. THOMAS W. VARLEY, New York, N. Y., assignor to Westinghouse Electric and Manufacturing Company, a Corporation of Pennsylvania. Filed June 12, 1908. Serial No. 438,019.



1. In an apparatus of the character described a substantially constant magnet, a coil adapted to shift or distort the field caused by said magnet, an armature in said field adapted to respond to the shifting or distorting thereof and a resistance across the armature adapted to collect current from different points thereof, said coil, armature and resistance being connected in the same circuit.

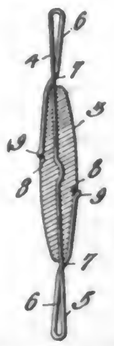
2. In an apparatus of the character described a substantially constant magnet, a coil adapted to shift or distort the field caused by said magnet, an armature in said field adapted to respond to the shifting or distorting thereof, a resistance across the armature adapted to collect current from different points thereof, a resistance in the main circuit, diametrically disposed brushes connecting the armature to said resistance and means for taking off current from said resistance at a point intermediate the ends thereof.

3. In an apparatus of the character described a substantially constant magnet, a coil adapted to shift or distort the field caused by said magnet, an armature in said field adapted to respond to the shifting or distorting thereof, a resistance across the armature adapted to collect current from opposite points thereof, a collector ring in connection with said resistance at approximately the middle point thereof and a connection from said collector ring to said coil.

4. In an apparatus of the character described a substantially constant magnet, a coil adapted to shift or distort the field caused by said magnet, an armature in said field adapted to respond to the shifting or distorting thereof, a resistance across the armature adapted to collect current from different points thereof, means for taking off current from said resistance at a point intermediate the ends thereof and an adjustable resistance between said means and one of the main lines.

5. In an apparatus of the character described, a substantially constant magnet, a coil adapted to shift or distort the field caused by said magnet, an armature in said field adapted to respond to the shifting or distorting thereof, and having more than one connection to one side of the main circuit, a resistance in said main circuit between said connections, an adjustable resistance in one of said connections, a resistance across the armature adapted to collect current from different points thereof, and means for taking off current from said last named resistance at a point intermediate the ends thereof.

978,519. SINKER. GEORGE M. VAUGHN, Chautauqua, Kans. Filed June 22, 1910. Serial No. 568,330.



1. A fishing tackle element comprising a body having a wire extending therethrough, the said wire being provided at its ends with spring hooks which cross and close against said wire at points near the ends of the said body and terminate in bills which close against the said body.

2. A sinker comprising a body provided at opposite sides of its opposite ends with longitudinally extending seats, a resilient wire having its intermediate portion extending through and embedded in the body of the sinker, and its end portions bent upon themselves to provide resilient hooks or clips for engagement with a line and a fish hook, the bills of said spring hooks or clips being offset intermediate their ends and turned in opposite directions, and the free or inner portions of said bills being arranged in said longitudinal seats in the sinker body, and having out-turned extremities projecting slightly beyond the outer surface of the sinker body.

3. A fishing tackle element comprising a body having a wire extending therethrough, the said wire being provided at its ends with spring hooks which cross and close against said wire at points near the ends of the said body and terminate in bills which close against said body, the said body being provided with seats for the reception of the said bills.

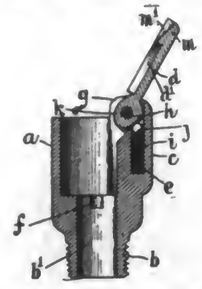
978,520. INCUBATOR. CHARLES L. VETTER, Philadelphia, Pa. Filed Feb. 23, 1910. Serial No. 545,513.

1. In an incubator, an egg tray having a slot in one wall thereof, a bottom for the tray withdrawable through said slot and bars beneath said bottom to form a support for the eggs when the said bottom has been withdrawn and spaced sufficiently to let the chicks fall through.



2. In an incubator, an egg tray having a slotted frame and a plurality of bottoms, one of which is formed of independently rotatable elements and the other of which is removable through the slot.

978,521. OIL-CUP. VERNER J. WAHLSTROM, New York, N. Y. Filed Mar. 26, 1909. Serial No. 485,906.

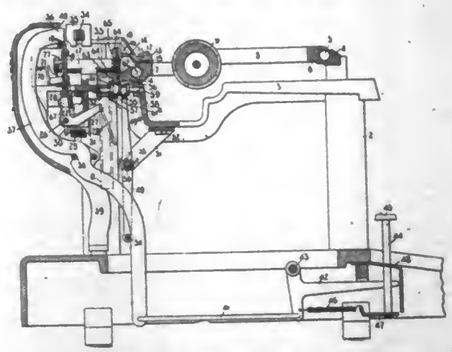


1. In an oil cup, the combination with a vessel or receptacle having an outlet duct, said vessel or receptacle being provided with means adjacent to said duct whereby said vessel or receptacle may be mounted on a bearing, a block having a spring chamber therein and hinge lugs on said block above and on each side of said chamber, of a cap or closure having a substantially elliptical hinge portion whereby it may be hinged between said lugs, with said hinge portion forwardly of said chamber, a spring in said chamber, and an anti-friction ball supported on said spring and adapted to be interposed between said hinge portion and one wall of said block, whereby the action of said ball on a long radius of said hinge portion will hold said cap or closure in the closed position and such action on a shorter radius of said portion will hold said cap or closure in the open position.

2. In an oil cup, the combination with a vessel or receptacle having an outlet duct, said vessel or receptacle being provided with means adjacent to said duct whereby said vessel or receptacle may be mounted on a bearing, a block having a spring chamber therein, and hinge lugs on said block above and on each side of said chamber, all said parts being composed of one integral casting, of a cap or closure having a substantially elliptical hinge portion whereby it may be hinged between said lugs with said hinge portion forwardly of said chamber, a spring in said chamber, and an anti-friction ball supported on said spring and adapted to be interposed between said hinge portion and one wall of said block, whereby the action of said ball on a long radius of said hinge portion will hold said cap or closure in the closed position and such action on a shorter radius of said portion will hold the cap or closure in the open position.

3. In an oil cup, the combination with a vessel or receptacle having an exteriorly screw-threaded nipple having a duct therein communicating with said vessel or receptacle whereby said vessel or receptacle may be mounted on a bearing, a block having a spring chamber therein and hinge lugs on said block above and on each side of said chamber, the bottom of said vessel or receptacle having oppositely disposed slots adapted to be engaged by a screw driver or key for attaching said vessel or receptacle to said bearing, all said parts being composed of one integral casting, of a cap or closure having a substantially elliptical hinge portion whereby it may be hinged between said lugs with said hinge portion forwardly of said chamber, a spring in said chamber, and an anti-friction ball supported on said spring and adapted to be interposed between said hinge portion and one wall of said block, whereby the action of said ball on a long radius of said hinge portion will hold said cap or closure in the closed position and such action on a shorter radius of said portion will hold the cap or closure in the open position.

978,522. TYPE-WRITING MACHINE. JOHN WALDHEIM, Newark, N. J., assignor to Union Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed May 12, 1910. Serial No. 560,840.



1. In a typewriting machine, the combination of a carriage; escapement mechanism therefor including step-by-step feed devices; and means for enabling the carriage to run free of control by said step-by-step feed devices and for rendering the escapement mechanism operative to prevent a rebound of the carriage at the end of said free run thereof and before it is under control of the step-by-step feed devices to afford a step-by-step feed of the carriage.

2. In a typewriting machine, the combination of a carriage, and escapement mechanism therefor including means which prevent rebound of the carriage when it is arrested at the end of a free travel in the direction of its feed and when the carriage is free from control of the escapement mechanism for step-by-step feed.

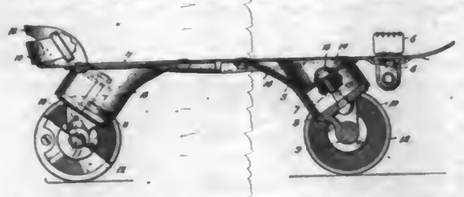
3. In a typewriting machine, the combination of a carriage; escapement mechanism therefor including an escapement wheel and coöperative step-by-step feed means; and means whereby the escapement wheel and its coöperative step-by-step feed means are operative to prevent rebound of the carriage when the carriage is free from control thereof for step-by-step feed and is arrested at the end of a free movement in the direction of its feed.

4. In a typewriting machine, the combination of a carriage; escapement mechanism therefor including an escapement wheel and a rack, means for effecting an operative connection and disconnection between said rack and escapement wheel; a second rack; and means whereby an operative connection is established between said second rack and the escapement wheel when the operative connection between the first mentioned rack and the escapement wheel is broken.

5. In a typewriting machine, the combination of a carriage; escapement mechanism including a feed dog; means for releasing the carriage from step-by-step control of the escapement mechanism; and means whereby said feed dog is rendered operative to resist the rebound of the carriage when the carriage has been released from step-by-step control of the escapement mechanism.

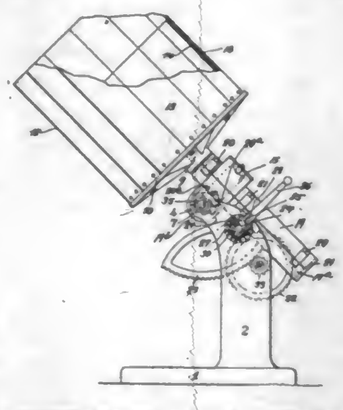
[Claims 6 to 45 not printed in the Gazette.]

978,523. ROLLER-SKATE. IGNAC WANTA, Milwaukee, Wis. Filed May 20, 1909. Serial No. 497,293.



In a roller-skate, the combination of a foot-plate cut out and indented to form depending hollow front and rear diverging protuberances having bottoms that are oblique in opposite directions, a solid rubber cushion-block abutting the bottom of each of the foot-plate protuberances, a pair of roller-carriers each having a plate abutting a cushion-block, a bolt extending through each roller-carrier plate, the adjacent cushion-block and the bottom of a foot-plate protuberance; clamp and set nuts run on the upper end of each bolt, and housings in connection with the foot-plate incasing said protuberances, the cushion-blocks and the roller carrier plates; said housings serving as guides for said plates that have play therein incidental to compression and expansion of said cushion-blocks.

978,524. TUMBLING-BARREL. FREDERICK E. WARNER, Bridgeport, Conn. Filed Oct. 26, 1909. Serial No. 524,715.



1. In a tumbling barrel, a barrel rotating mechanism, comprising a driving shaft, a gear thereon, a driven shaft on which the barrel is mounted, and a gear wheel on said driven shaft operably connected with the gear on the driving shaft, combined with means for tilting the barrel and its supporting and operating shaft and its attached gear wheel, and a housing completely inclosing said barrel rotating mechanism and movable therewith in the tilting movements of the barrel.

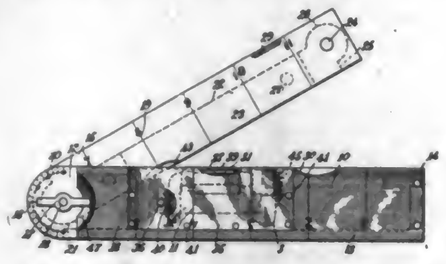
2. In a tumbling barrel, a barrel rotating mechanism, comprising a driving shaft, a worm thereon, a driven shaft on which the barrel is mounted, and a worm wheel on said driven shaft in mesh with the worm on the driving shaft, combined with means for tilting the barrel and its supporting and operating shaft and its attached worm wheel, and a housing completely inclosing said barrel rotating mechanism and movable therewith in the tilting movements of the barrel.

3. In a tumbling barrel, a barrel rotating mechanism, comprising a driving shaft, a worm thereon, a driven shaft on which the barrel is axially supported, a worm wheel on said driven shaft in mesh with the worm on the driving shaft, combined with means for tilting the barrel and its attached driven shaft and worm wheel, a housing completely inclosing said barrel rotating mechanism and movable therewith in the tilting movements of the barrel, and a ball bearing thrust bearing for said driven shaft mounted in and protected by said housing.

4. In a tumbling barrel, a barrel rotating mechanism, comprising a driving shaft, a driven shaft on which the barrel is axially mounted, and gearing connecting said shafts, combined with a housing completely inclosing said barrel rotating mechanism, and means for tilting the barrel and its attached driven shaft and said housing, comprising a segment mounted on and carried by said housing, a crank shaft, a pinion on said crank shaft, a cross shaft, a gear on said cross shaft meshing with said pinion, a pinion on said cross shaft meshing with said segment, and means for locking said crank shaft to hold the barrel in its tilted positions.

5. In a tumbling barrel, the combination with a barrel of the same diameter throughout, of a removable one piece brass lining.

978,525. RULE. DAVID ELMER WEATS, Olympia, Wash. Filed Oct. 2, 1909. Serial No. 520,626.



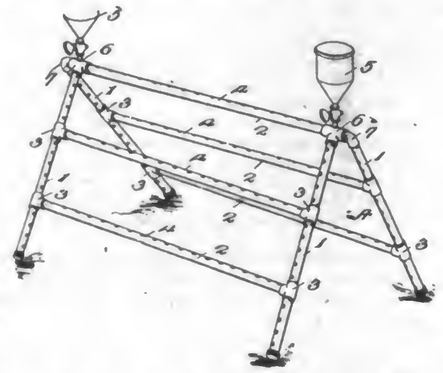
1. In a rule, a body having a recess, a plate covering said recess, a carrier pivotally mounted upon said plate, within said recess, said carrier having eyes, a level glass having arms at substantially right angles, one of said arms being mounted in said eyes of said carrier, an adjusting screw, said carrier having a finger controlled by said screw, said screw being operable from the outside of said plate, and a spring mounted upon said screw and engaging said finger to hold said carrier in a normal position, said plate having sight openings adjacent to said arms of said glass.

2. A rule, comprising a body, an arm pivotally associated therewith, means for clamping said arm in a plurality of positions, means for indicating the relative angularity of said body and said arm, means for leveling the rule, said body being recessed to receive said arm when the rule is folded, said arm having a recess, and successive pivotally-connected rule extensions, the first of said extensions being movably associated with said arm whereby said extensions are adapted to be folded into said recess of said arm, one only of said extensions being secured to said arm.

978,526. MEDICATED POULTRY-ROOST. GLEN FULTON WEST, Colby, Kans. Filed Mar. 4, 1910. Serial No. 547,303.

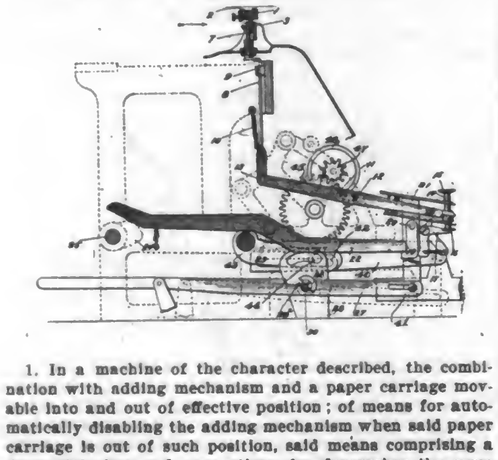
1. A poultry roost comprising tubular frames, consisting of tubular leg members and cross bars connected at their ends to the leg members, T-couplings serving to connect the upper cross bar of one frame to the upper ends of the leg members of said frame, elbow couplings connected to the upper ends of the other frame and having an adjustable connection with said T-couplings whereby the legs may be folded upon or spread out from the legs of the other frame, the legs being perforated, and wicking contained within the legs.

2. A poultry roost of the character described, comprising tubular frames consisting of tubular leg members and tubular crossbars connected at their ends to the leg members, T-couplings serving to connect the upper cross bar of one frame to the upper ends of the leg members of said frame, elbow couplings connected to the upper ends of the leg members of the other frame and having a screw thread connection with said T-couplings whereby the legs may be folded upon or spread out from the legs of the other frame,



the cross bars being formed with upwardly facing perforations, a tank arranged to feed insecticide into said frames, and wicking contained within the legs and cross bars.

978,527. ADDING-MACHINE. WILLIAM W. WILSON, Chicago, Ill., assignor to Universal Adding Machine Company, St. Louis, Mo., a Corporation of Missouri. Filed Mar. 14, 1908. Serial No. 421,103.



1. In a machine of the character described, the combination with adding mechanism and a paper carriage movable into and out of effective position; of means for automatically disabling the adding mechanism when said paper carriage is out of such position, said means comprising a depressible key and connections for depressing the same by the carriage.

2. In a machine of the character described, the combination with adding mechanism and a paper carriage movable into and out of effective position; of means for automatically disabling the adding mechanism when said paper carriage is out of such position, said means comprising a depressible key, a lever engaged therewith, and a plunger acted on by the carriage and operating said lever.

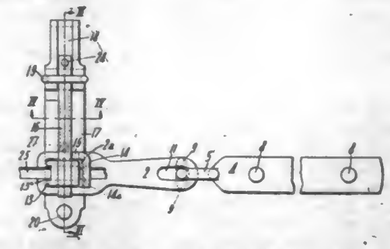
3. In a machine of the character described, the combination with adding mechanism and a paper carriage movable into and out of effective position and also laterally movable; of means for automatically disabling the adding mechanism when said paper carriage is out of effective position together with provisions for so disabling the adding mechanism when the carriage is in a certain predetermined lateral position.

4. In a machine of the character described, the combination with adding mechanism and a depressible key and connections for disabling the same; of a laterally shiftable paper carriage, and connections for depressing said key when the carriage is in a certain predetermined position.

5. In a machine of the character described, the combination with adding mechanism and a depressible key and connections for disabling the same; of a laterally shiftable paper carriage, and connections for depressing said key when the carriage is in a certain predetermined position, said connections comprising a lever engaging the key and a plunger operated upon by the carriage.

[Claims 6 to 8 not printed in the Gazette.]

978,528. CAR-DOOR LOCK. ALEXANDER M. WORTHINGTON, Duluth, and STEPHEN J. RAETZ and JOHN W. KREITTER, Proctor, Minn. Filed Apr. 5, 1910. Serial No. 553,574.



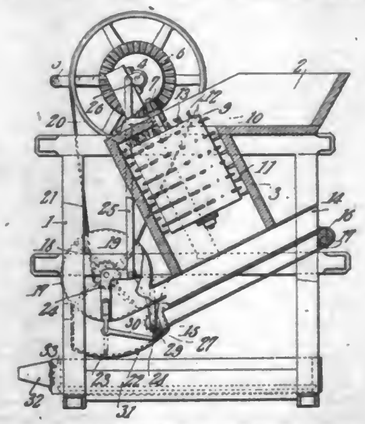
1. A car door lock comprising a staple, a hasp and a locking bolt, and means for sealing said parts in place, the staple, hasp and bolt having registering openings therein through which the sealing means is passed when in place; substantially as described.

2. A car door lock comprising a staple, a flanged hasp and a locking bolt, and means for sealing said parts in place, the staple, hasp flange and bolt having registering openings therein through which the sealing means is passed when in place; substantially as described.

3. In a sealed car door lock having a staple, hasp and hasp locking bolt, a strap having a hooked end engaging with and securing the hasp to the door, and means on the hooked end of the strap adapted to prevent removal of the hasp while the strap is secured to the door; substantially as described.

4. In a sealed car door lock having a staple, hasp and hasp locking bolt, a strap having a hooked end engaging with and securing the hasp to the door, and horns on the hooked end of the strap adapted to prevent removal of the hasp while the strap is secured to the door; substantially as described.

978,529. PEA-THRESHER. ROBERT E. WRIGHT, Dalton, Ga. Filed Mar. 17, 1910. Serial No. 549,963.



A pea thresher comprising a frame, a hopper located thereon, a concave mounted upon the frame and having it

axis disposed at an acute angle to a vertical line, the upper end of the concave communicating with the hopper, a rotor journaled in the concave and having an upper edge portion projecting into the hopper, teeth mounted upon the periphery of the rotor and upon the upper end thereof, and teeth mounted upon the inner side of the concave and at the upper end thereof and adapted to co-act with the teeth upon the rotor.

978,530. JOINT FOR FURNITURE. PERCY G. ABRAMS, Philadelphia, Pa. Filed Apr. 6, 1910. Serial No. 553,749.



1. In a device of the character stated, a strip of material bent into a substantially U-shape, means to secure said strip to a rung, heads on said strip, and a locking member slidingly connected to the said strip and adapted to diverge said heads.

2. In a device of the character stated, a strip of material bent into a substantially U-shape, means to secure said strip to a rung, heads on said strip, a locking member slidingly connected to said strip and adapted to diverge said heads, and prongs on said locking member.

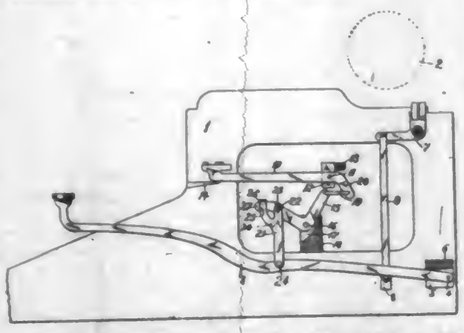
3. In a device of the character stated, a strip of material, a plate formed on each end of said strip, means on each plate to secure said strip to a rung, heads on said strip, and a locking member slidingly connected to said strip and adapted to diverge said heads.

4. In a device of the character stated, a strip of material, a plate formed on each end of said strip, means on each plate to secure said strip to a rung, heads on said strip, a locking member slidingly connected to said strip and adapted to diverge said heads, and prongs on said locking member.

5. In a device of the character stated, the combination of a blank comprising plates spaced apart in substantially parallel relation, heads oppositely disposed with respect to said plates, and a locking member movably secured to said blank and adapted to coact with said heads to force the same apart.

[Claims 6 to 8 not printed in the Gazette.]

978,531. TYPE-WRITER KEY AND TYPE-BAR MECHANISM. JESSE ALEXANDER, Brooklyn, N. Y., assignor of one-half to William Alexander Albert Schnauffer, New York, N. Y. Filed Jan. 6, 1909. Serial No. 470,743. Renewed Oct. 8, 1910. Serial No. 586,072.

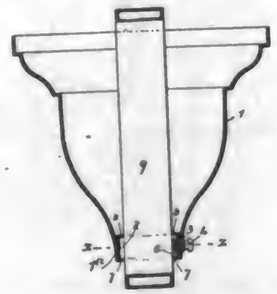


1. In typewriter key and type-bar mechanism, a type-bar, a key lever, a bell-crank actuating lever for said type-bar, an actuating link connecting said bell-crank lever with said key-lever, a connection between said link and said bell-crank lever located at a considerable distance from the pivot point of said bell-crank lever, and a lost motion connection between said link and said bell-crank lever intermediate of said first connection and the pivot point of said bell-crank lever to effect accelerated movement of the type-bar, and means on said link apart from said connections and coöperating with said bell-crank lever to produce quick return of the type-bar.

2. In typewriter key and type-bar mechanism, a type-bar, a key lever, a bell-crank actuating lever having one of its arms connected with said type-bar, an actuating link connected with the other arm of said bell-crank lever and with said key lever, and having a hooked portion to engage over the extremity of said arm leaving said arm otherwise free and a lost motion connection located between said hooked connection and the pivot of said bell-crank lever to effect accelerated movement of said type-bar.

3. In typewriter key and type-bar mechanism, a type-bar, a key lever, a bell-crank lever having one arm connected with said type-bar, an actuating link connecting the other arm of said bell-crank lever with said key lever, a hook on said link arranged to engage over the extremity of said arm leaving said arm otherwise free, and a lost motion connection between said link and said arm located intermediate of the hooked connection and the pivot point of said bell-crank lever to produce accelerated movement of said type-bar during the printing stroke, and a shoulder on said link apart from said connections and adapted to engage said bell crank lever to effect quick return of the type-bar after the printing stroke.

978,532. CANOPY FOR GAS AND ELECTRIC-LIGHT FIXTURES. LAURITZ W. ANDERSEN, Waterbury, Conn., assignor to The Plume and Atwood Manufacturing Company, Waterbury, Conn., a Corporation of Connecticut. Filed Sept. 14, 1910. Serial No. 581,942.

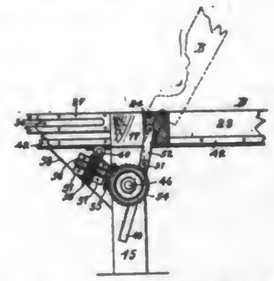


1. A canopy for the pipe or tubing of electric or gas fixtures, comprising a hollow body contracted at one end with a perforation therein, a device interior of the canopy also perforated and forming in connection with said perforated end two spaced apart shell bearings inverted to one another receiving the pipe or tubing, and means passing through both said parts adapted for holding the canopy to the tubing.

2. A canopy for the pipe or tubing of electric or gas fixtures, comprising a hollow body contracted at one end to form a hollow neck perforated at the end, a shell open at one end and perforated at the other end and secured within said neck and forming in connection with the perforated end of said neck two spaced apart bearings for a pipe or tubing, and adjustable means for holding the canopy upon the pipe or tubing at the desired position.

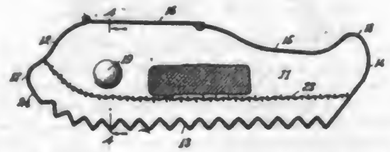
3. A canopy for the pipe or tubing of electric or gas fixtures, comprising a hollow body contracted at one end to form a hollow neck perforated at the end, a shell open at one end and perforated at the other end and secured within said neck and forming in connection with the perforated end of said neck two spaced apart bearings for a pipe or tubing, a bushing interiorly screw-threaded passing through the body portion and through said shell and secured thereto and connecting them together at that point, and a screw adapted to be passed through said bushing and take against the pipe or tubing to hold the canopy upon the same.

978,533. COMBINED PARLOR BED AND CHAIR. FRANK PAUL ANDERSON, Chicago, Ill. Filed May 24, 1909. Serial No. 497,917.



In furniture, a combined chair and bed, including a seat-frame; supports for said seat-frame; a back hinged to said seat-frame, and means for swinging said back from a vertical to a horizontal position and sustaining said back in any intermediate position, said means comprising a shaft below said seat-frame pinions on said shaft, rack bars adapted for engagement by said pinions, links on said racks and connected therewith and with said back, a bevel-wheel upon said shaft, a bevel-pinion meshing with said first-mentioned bevel-wheel, a shaft upon which the bevel-pinion is mounted, a worm-wheel upon the latter shaft, a worm engaging said worm-wheel, a shaft upon which said worm-wheel is mounted, a crank at the outer end of said last-mentioned shaft and bearings for the several shafts, and the rack-bars.

978,534. HAND-RUBBER. MORRIS ANGBAR, New York, N. Y. Filed Aug. 26, 1909. Serial No. 514,724.



1. A hand rubber comprising oppositely disposed sheet metal side walls, a circumferential sheet metal wall including a front wall and a corrugated bottom wall, a rear wall and a top wall, each merging into the other by curved intermediate portions, and a hinged closure extending from the upper edge of the front wall to the front edge of the top wall.

2. A hand rubber, comprising oppositely-disposed sheet metal side walls provided with cavities or recesses to receive the thumb and fingers, a circumferential sheet metal wall secured to said side walls and having a corrugated bottom, a top having a perforated concave portion adapted to receive the ball of the hand, a rear wall, and a perforated inclined front wall, perforated sheet metal pockets secured to said side walls adjacent said recesses, for protecting the thumb and fingers, and a closure hinged the upper edge of the front wall and having its free end extending to the front edge of the top wall.

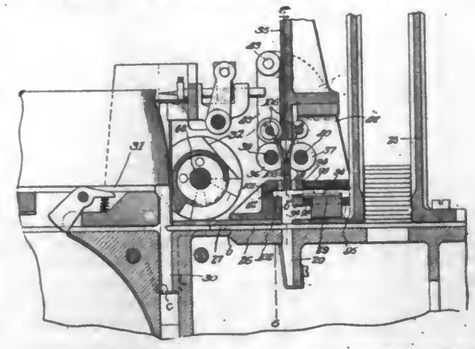
3. A hand rubber, comprising a container having oppositely-disposed sheet metal side walls, each provided with a concave recess to receive the ends of the thumb and fingers, and upwardly and rearwardly-inclined perforated sheet metal pockets secured to said side walls and serving to protect the thumb and fingers.

4. A hand rubber, comprising a container having oppositely-disposed side walls, and upwardly and rearwardly extending perforated sheet metal pockets secured to said side walls adjacent the front end of the latter and adapted to receive the ends of the thumb and fingers, and said container having a transverse concave portion in the top wall thereof adjacent the rear end to receive the ball of the hand and perforated to permit the drainage of water therefrom to the interior of the container.

5. A clothes scrubber in which is comprised a hollow body provided with an imperforate, corrugated bottom, said body having openings in the top thereof and at the end, a cover at the top of the body, and a wire gauze division within the body, substantially as shown and described.

[Claim 6 not printed in the Gazette.]

978,535. MECHANISM FOR CUTTING SHEETS OR WRAPPERS FROM STRIPS. HARRY YARRINGTON ARMSTRONG, Elgin, Ill. Original application filed Oct. 9, 1909, Serial No. 521,834. Divided and this application filed Jan. 6, 1910. Serial No. 536,717.



1. In a sheet delivery mechanism, the combination with means for advancing a strip, of clamping jaws located in advance of the feeding means and adapted to clamp the strip, a knife for severing the strip when so clamped and spring controlled stripper wires for preventing the strip and the severed sheets from clinging to said jaws.

2. In a sheet delivery mechanism, feed rollers between which a strip is advanced, stationary and movable clamping jaws, one at each side of the path of the strip, a swinging arm carrying the movable jaw, said latter jaw being yieldingly mounted on said arm, a knife fixed to and carried by the said arm, means for swinging said arm toward and from the stationary jaw, whereby the strip is first clamped between the jaws, whereupon the movable jaw yields backwardly and the knife moves forwardly relatively to the latter to sever a sheet from the strip, and spring pressed stripper wires located between said jaws for stripping the paper from the jaws.

3. In a sheet delivery mechanism, feed rollers between which a strip is advanced and strip cutting mechanism below said rollers comprising a movable cutting blade and a stationary cutting abutment toward and from which the movable blade is moved, one at each side of the path of the strip, a vertically swinging arm carrying at its upper end the movable cutting blade, a horizontal rock shaft to which said arm is fixed and by which it is swung to move the movable blade into and out of cutting position, and means for rocking said shaft.

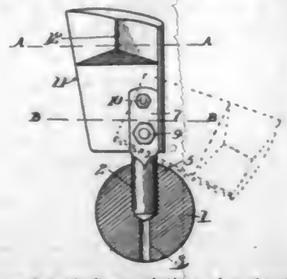
4. In a sheet delivery mechanism, the combination with feed rollers for a strip of paper, of a cutting mechanism comprising a stationary member having a notch and a horizontally reciprocating jaw comprising yielding jaw members separated by a space opposite to said notch and movable toward and from and adapted to be yieldingly pressed against said stationary member, a knife fixed to said reciprocating jaw and occupying the space between said jaw members and adapted to enter said notch of the stationary member when the yielding jaw members are pressed against the stationary member, and means for operating said rollers and said reciprocating jaw.

5. In a sheet delivery mechanism, the combination with

feeding means for a strip, and means for intermittently operating said feeding means, of a cutting mechanism below the feeding means for cutting wrappers from said strip comprising a vertically swinging arm, a cutting knife fixed to the upper end of said arm, a stationary knife or abutment with which the movable knife coöperates to sever the strip into wrappers and means for intermittently swinging said arm to move the movable knife toward and from the stationary knife or abutment during periods of inaction of the feeding means.

[Claims 6 to 11 not printed in the Gazette.]

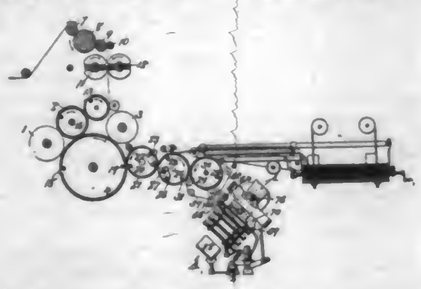
978,536. CLAY-TEMPERING BLADE. JULIUS H. BACH, Chicago, Ill., assignor of two-thirds to The American Clay Machinery Co., Bucyrus, Ohio, a Corporation. Filed July 3, 1908. Serial No. 441,767.



1. A tempering blade consisting of a shank-portion and a knife-portion, said knife-portion being wider than said shank and having a two-bolt connection therewith along substantially the rear edge of the knife-portion, the contacting faces of said knife-portion and shank being unobstructed and adapted when a bolt is broken to move freely one on the other about the remaining bolt.

2. The combination with a shaft having an opening, of a tempering blade having a shank portion to fit said opening and having the outer main portion widened, said outer portion being substantially wedge-shaped in cross section with the thickest portion at the rear, and having its outer extremity thickened to form a reinforce therefor, the thickest portion of the reinforce being at the center of said extremity and tapering from the center toward the back and front edges.

978,537. VARIABLE-SIZE-SHEET FOLDING, CUTTING, AND DELIVERING MECHANISM. HOWARD M. BARBER, Stonington, Conn., assignor to C. B. Cottrell & Sons Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 12, 1907. Serial No. 367,747.



1. Mechanism for folding variable size sheets comprising three cylinders, sheet engaging grippers and a tucking blade on the first cylinder, folding grippers and a tucking blade on the second cylinder, folding grippers on the third cylinder, means for adjusting the time of operation of the several coacting parts, slitters arranged to receive the twice folded sheet from the third cylinder and cut it into four sections and folding devices for imparting a fold to each of the said sections.

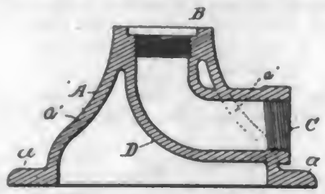
2. Mechanism for folding variable size sheets comprising three cylinders, sheet engaging grippers and a tucking blade on the first cylinder, folding grippers and a tucking blade on the second cylinder, folding grippers on the third cylinder, means for adjusting the time of operation of the several coacting parts, slitters arranged to receive the twice folded sheet from the third cylinder and cut it into four sections, folding devices for imparting a fold to each of the said sections and means for adjusting the folding devices independently of each other.

3. A plurality of sheet folding devices each comprising a folding blade and folding rolls, a pocket for receiving the folded sheets directly from the folding rolls of one folding device, another pocket and delivery pulleys for delivering the folded sheets from the folding rolls of another folding device into said last named pocket, and means for adjusting the folding devices independently of each other.

4. Folding mechanism consisting of two outer and two inner folding devices each folding device comprising a folding blade and folding rolls, pockets for receiving the folded sheets directly from the folding rolls of the two outer folding devices, other pockets and delivery pulleys for delivering the folded sheets from the folding rolls of the two inner folding devices to the last named pockets.

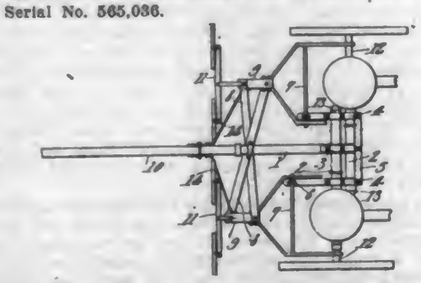
5. Folding mechanism consisting of two outer and two inner folding devices each folding device comprising a folding blade and folding rolls, pockets for receiving the folded sheets directly from the folding rolls of the two outer folding devices, other pockets and delivery pulleys for delivering the folded sheets from the folding rolls of the two inner folding devices to the last named pockets and means for adjusting the folding devices independently of each other.

978,538. PUMP-BASE. JOHN F. BARKER, Springfield, Mass. Filed Feb. 23, 1910. Serial No. 545,421.



The herein described pump base comprising a hollow cast metal body having a substantially conical wall provided with a continuous lower edge, for engaging a supporting surface and bracing the pump in all directions, and with means for attaching it to the supporting surface, said body having a threaded aperture at its upper end to receive the lower end of a pump cylinder, and a threaded lateral aperture in said wall to receive a pipe, and a curved pipe section cast integrally with said main body connecting said threaded apertures and serving as an additional brace for the conical wall.

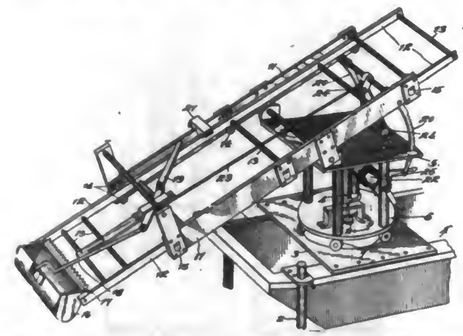
978,539. COUPLING-FRAME FOR PLANTERS. ROBERT A. BARKLEY, Hamilton, Tex. Filed June 4, 1910. Serial No. 565,036.



A coupling frame for planters comprising a beam, parallel sleeves secured at intermediate points to the rear

end portion of the beam and adapted to receive the planter axles, a bar fixed to the rear end of the beam and extending transversely of the same, clamp devices carried at the outer ends of said bar and engaging the end portions of the sleeves, said clamps adapted to be connected with the planter frames, and means for connecting the forward portion of the beam with the forward portions of the planter frames.

978,540. DREDGER. THOMAS BARNETT, San Francisco, Cal. Filed Sept. 13, 1909. Serial No. 517,474.



1. The combination in a dredging and digging apparatus, of a support and inclined frame-work carried thereon, a slidable frame or ladder movable in line with the first named frame-work, a bucket horizontally and eccentrically journaled at the lower end of the ladder so that a rearward movement of the ladder automatically turns and loads the bucket, and means for raising the ladder, and discharging the bucket.

2. The combination in a dredging and digging apparatus, of a main support, a tower turnable about a vertical axis, a guiding frame hinged to said tower, means by which the frame may be tilted in a vertical plane, a ladder guided and slidable within said frame, a bucket horizontally and eccentrically journaled at the lower end of the ladder so that a rearward movement of the ladder automatically turns and loads the bucket, mechanism by which the ladder is retracted and the bucket loaded, a lever carried upon the ladder and means connecting the lever with the bucket, and an adjustable stop on the guiding frame with which the lever contacts when the ladder is drawn upward, and the bucket is tilted and discharged.

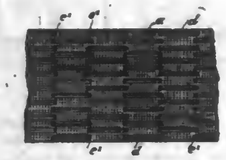
3. The combination in a dredging and digging apparatus, of a dredge boat, and means for fixing said boat in position, a tower or support mounted upon the boat and turnable about a vertical axis, a guide frame, a horizontal hinged shaft upon the tower about which the frame is tiltable, means to lock it at any desired angle, a ladder guided and slidable within the tiltable frame, a D-shaped bucket eccentrically pivoted to the lower end of the ladder, so that a rearward movement of the ladder automatically turns and loads the bucket, said bucket having a cutting or excavating edge, mechanism by which the ladder is lowered in the angular direction of its support to cause the bucket to contact with the surface to be excavated, means by which the ladder is retracted to fill the bucket and afterward raise it above the surface, mechanism by which the tower or support may be turned about the vertical axis to direct the ladder and bucket to any desired point of discharge.

4. The combination in a dredge and digger, of a boat, a support and a tower located upon said boat, a turntable movable upon rollers, and mechanism whereby the tower may be revolved about its vertical axis, a guide frame hinged to the tower to raise and lower in a vertical plane, said frame having rollers, a ladder guided and slidable between said rollers, a D-shaped bucket eccentrically hinged to the lower end of the ladder having a cutting edge whereby it is capable of being drawn along the bottom and filled, mechanism by which the ladder is allowed to extend by gravitation, mechanism by which the guide frame of the ladder may be tilted about its axis of support to raise or lower the bucket, locking mechanism to retain the parts at any point of adjustment, and mechanism consisting of a fulcrumed lever connected to and movable with the bucket and ladder, and a fixed stop whereby the bucket may be automatically tilted.

5. The combination in a dredging and digging apparatus, of a guided slidable ladder, means to change its angle of sliding movement, a horizontally journaled bucket carried at the lower end of the ladder, the journal of the bucket being eccentrically placed whereby a rearward movement of the ladder automatically turns and loads said bucket, and means by which said bucket is reversed and emptied.

[Claims 6 and 7 not printed in the Gazette.]

978,541. WOVEN ELASTIC FABRIC. EMIL BAUMGARTEN, Barmen, Germany. Filed Jan. 5, 1910. Serial No. 536,459.



1. As a new article of manufacture, a woven fabric having lengths of rubber strands woven therein with the ends of the strands projecting from the surface of the fabric.

2. As a new article of manufacture, a woven fabric having a plurality of lengths of rubber strands woven therein with one end of each strand projecting from the surface of the fabric.

3. As a new article of manufacture, a woven fabric having a plurality of lengths of rubber strands woven therein with the greater length of each strand embedded in the fabric and a short end portion projecting from the surface of the fabric.

4. As a new article of manufacture, a fabric having a plurality of lengths of rubber strands secured thereto with the ends of said strands projecting from one surface of the fabric.

5. As a new article of manufacture, a woven fabric having a plurality of relatively short lengths of rubber strands woven therein with the central portions of each trand embedded in the fabric and both ends of each strand projecting from the surface thereof.

[Claims 6 to 10 not printed in the Gazette.]

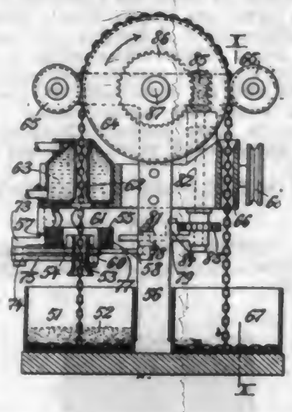
978,542. MACHINE FOR SOLDERING CHAINS. GEORGE HILLARD BENJAMIN, New York, N. Y., assignor to H. F. Barrows Co., North Attleboro, Mass. Filed May 29, 1909. Serial No. 499,231.

1. A machine for fastening interconnected chain links having abutting ends of solder cored wire, comprising a source of heat energy, means for moving said links successively through a contracted zone of said heat, and means for concentrating said heat energy, mainly against said abutting ends during their travel through said heat zone.

2. A machine for fastening interconnected chain links having abutting ends of solder cored wire, comprising a burner for projecting a heating flame, means for moving said links successively through said flame, a guide serving the twofold purpose of guiding the abutting ends of any one of said links into range with said flame, and of guiding the body of said link out of range during said travel of the abutting ends into range with said flame.

3. A machine for fastening interconnected chain links having abutting ends of solder cored wire, comprising means for imparting an intermittent movement to said

links successively and equal to the length of one link, means for projecting a heating flame across the longitudinal axis of a succession of said links, and means for guiding said links whereby the abutting ends are moved in line with said longitudinal axis, and the body of each link is moved out of range with said flame.



4. A machine for fastening interconnected chain links having abutting ends of solder cored wire said abutting ends being located at the points of contact of the links with each other, comprising means for imparting forward movement to said links successively and for guiding the abutting ends in line with the longitudinal axis of a succession of said links, a burner for projecting a heating flame across the path of travel of said abutting ends, and means for imparting an oscillatory movement to said flame during forward travel of said links, whereby said abutting ends of successive links traveling in planes at right angles to each other are exposed to said flame.

5. A machine for fastening interconnected chain links having abutting ends of solder cored wire said abutting ends being located at the points of contact of the links with each other, comprising means for imparting forward movement to said links successively and for guiding the abutting ends in line with the longitudinal axis of a succession of said links, a burner for projecting a heating flame across the path of travel of said abutting ends, means for imparting an oscillatory movement to said burner during forward movement of said links, and adjusting devices whereby the amount of forward movement which takes place during an oscillatory movement of the burner can be made equal to the length of one of said links.

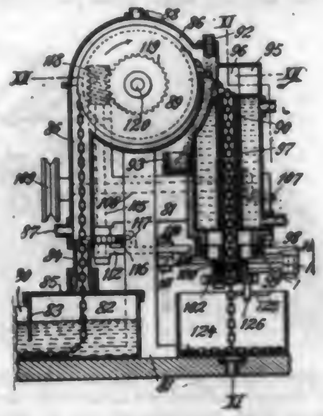
[Claims 6 to 10 not printed in the Gazette.]

978,543. MACHINE FOR SOLDERING CHAINS. GEORGE HILLARD BENJAMIN, New York, N. Y., assignor to H. F. Barrows Co., North Attleboro, Mass. Filed May 29, 1909. Serial No. 499,232.

1. A machine for fastening interconnected chain links having abutting ends of solder cored wire, comprising means for rotating said interconnected links, adjustable means for imparting forward movement to a succession of said links equal to the length of one link for every quarter revolution thereof, and means for projecting a heating flame against said abutting ends of each of said links in succession.

2. A machine for fastening interconnected chain links having abutting ends of solder cored wire, comprising means for imparting continued intermittent forward movement to a succession of said links, a burner for projecting a heating flame against said abutting ends, and means for imparting a continued intermittent rotary movement to said links during their forward travel whereby said abutting ends are more exposed to said flame than the body of the links.

3. A machine for fastening interconnected chain links having abutting ends of solder cored wire, comprising means for imparting continued intermittent forward movement to a succession of said links, a burner for projecting a heating flame against said abutting ends, means for imparting a continued rotary movement to said links during their forward travel, and adjusting devices whereby the amount of forward movement which takes place during a quarter revolution of said links can be made equal to the length of one of said links, whereby the abutting ends of each link are more exposed to said flame than the body of the link.



4. A machine for fastening interconnected chain links having abutting ends of solder cored wire, comprising means for intermittently moving said links a quarter revolution, and for causing said abutting ends to be at the center of said revolution, means for imparting intermittent forward movements to a succession of said links equal to the length of one link for every quarter revolution thereof, means for projecting a heating flame across the path of travel of said links, and means for shifting the line of travel of said links at the junction with said flame, whereby the abutting ends of each link are moved away from an adjacent link and into range with said flame.

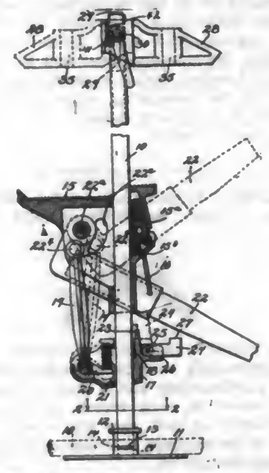
5. A machine for fastening interconnected chain links having abutting ends of solder cored wire, comprising means for imparting continued intermittent quarter revolutions to said links, means for imparting continued intermittent forward movement to a succession of said links equal to the length of one link for every quarter revolution thereof, and means for projecting a heating flame against said abutting ends of each of said links in succession.

[Claims 6 to 9 not printed in the Gazette.]

978,544. JACK. LOUIS C. BEAMAN, Chicago, Ill. Filed Apr. 17, 1909. Serial No. 490,562.

1. A jack comprising a hollow support angular in cross section, a pair of runner members having bores conforming to the configuration of the support for receiving the support, said members being mounted to slide upon said support and provided with means for gripping the support, an operating handle for moving the runner members on the support, a link connection between the runner members for making one of the runner members engage the other runner member to release the latter when the handle is moved in one direction, and means for varying the time that one of the runner members will automatically release the other runner member with respect to the movement of the actuating handle.

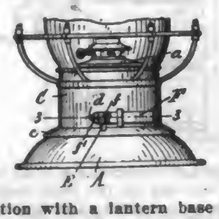
2. A jack comprising a support, a pair of runner members mounted to slide upon the support, said members being provided with means for gripping the support, an operating handle for moving the runner members on the support, a link connection between the runner members for making one of the runner members engage the other runner member to release the latter when the handle is moved in one direction, and means supported by and movable with one of the runner members for insertion between the runner members to be directly engaged by one of the runner members to automatically release the other runner member when the movement of the handle is restricted.



3. A jack comprising a support, a pair of members mounted to slide upon the support and provided with means for gripping the support, an operating handle for moving the runner members on the support, a link-connection between the runner members for making one of the runner members engage the other runner member to release the latter when the handle is moved in one direction, a member pivotally supported by one of the runner members to be projected over the said runner member to vary the time of engagement with the runner member to automatically release the former member and to vary the time of engagement of the members with respect to the movement of the operating handle.

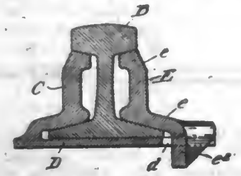
4. A jack comprising a support, a pair of runner members mounted to slide upon the support and provided with means for gripping the support, a pitman connecting said members, an operating handle for moving the runner members on the support, one of the runner members engaging the other runner member to release the latter when the handle is moved in one direction, a member pivotally supported by one of the runner members to be projected beyond the latter and into the path of movement of the other runner member to be engaged thereby when the movement of the handle is restricted, and means for supporting the said pivoted member to project beyond its supporting runner member out of the path of movement of the other runner member to form a projection for manually releasing the runner member.

978,545. SPRING-FASTENING FOR LANTERNS. CHARLES L. BETTS, New York, N. Y., assignor to R. E. Dietz Company, New York, N. Y. Filed June 22, 1904. Serial No. 213,629.



The combination with a lantern base provided with a locking stud and a lantern body provided with an angular slot for said stud, of a locking spring secured at one end to the lantern body and having its opposite free end arranged opposite said slot and provided with a locking face against which said stud engages when located in the end portion of said slot, said face inclined outwardly toward said stud, so as to cause the spring to be deflected outwardly upon forcibly pressing the stud against said locking face by a rotary movement of the base and the lantern body with reference to each other, without requiring the spring to be manipulated, while the resistance of the spring to such unlocking movement is sufficient to hold the parts locked against accidental displacement, substantially as set forth.

978,546. RAIL-JOINT. JOHN A. BODKIN, New York, N. Y. Filed May 20, 1910. Serial No. 562,400.



1. In a rail joint, a splice bar arranged upon one side of two meeting rail ends and having a base plate extending therefrom beneath the rail bases, said base plate projecting laterally beyond the opposite side of the rail bases, a second splice bar fitting between the heads and the bases on the latter side of the rail ends and having a foot flange overlying the rail bases and extending laterally out beyond the rail bases and in engagement with said base plate, the middle portion of said foot flange being bent downwardly so as to form at the lower end of said second splice bar a central truss and feet projecting outwardly beyond the truss at the ends thereof, said base plate being cut away so as to leave a free space within which said truss lies.

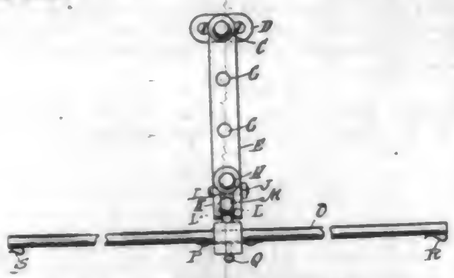
2. In a rail joint, a splice bar arranged upon one side of two meeting rail ends and having a base plate extending therefrom beneath the rail bases, a second splice bar fitting between the heads and the bases on the opposite side of the rail ends and having a foot flange overlying the rail bases and projecting laterally therefrom, said base plate being formed so as to project beyond the edges of the rail bases and engage with the underside of said foot flange, said foot flange having a downwardly extending truss, and said base member being cut away so as to leave a free space within which said truss lies, said foot flange and said base member having registering spike holes adjacent to the edges of the rail bases and also having registering spike holes adjacent to the outer edges thereof.

3. In a rail joint, a splice bar arranged on one side of the meeting ends of two rails and having a base member extending beneath the rail bases and projecting beyond the rail bases at the opposite side, a second splice bar arranged on the latter side of the rails and fitting between the heads and the bases of the rails, said second splice bar having a wide foot flange overlying the rail bases and projecting beyond the same so as to engage with the projecting portion of the base member, the projecting portion of said base member being cut away adjacent to the ends of the rails, and said foot flange being bent downwardly between the ends thereof into the cut away portion of the base member so as to provide a downwardly extending truss connected to the end portions of the foot flange by webs.

978,547. ADJUSTABLE LAMP-BRACKET. CARL BOENSCH, Chicago, Ill. Filed July 9, 1910. Serial No. 571,163.

1. A device of the kind specified comprising a block provided with an opening, a shank thereon equipped with a spherical head, a split member between the parts of which said head is engaged, a vertically disposed rotatably supported member engaged between the said parts of said split member, a set screw connecting said parts of said split member and disposed between the points of

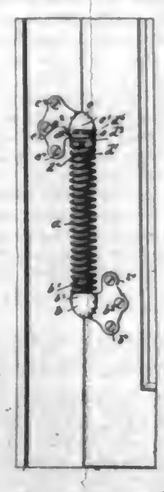
engagement of the same with the said head and a rotatably supported member, a member carrying the lamp at one end passing through and longitudinally movable in said opening in said block, and a spring mounted in said opening and bearing on said lamp carrying member to prevent free longitudinal movement thereof relatively to said block.



2. A device of the kind specified comprising a vertically disposed member, a split member engaged therewith, a block having universal joint connection with said split member, a set screw connecting the parts of said split member and adapted to clamp the same upon said first-named member and determining the freedom of movement of said universal joint, there being an opening in said head, a light carrying member passing through said opening and longitudinally movable relatively to said head, and a spring mounted in said head and bearing upon the said light carrying member to retard longitudinal movement thereof.

3. A device of the kind specified comprising a vertically disposed member, a split member engaged therewith, a block having universal joint connection with said split member, a set screw connecting the parts of said split member and adapted to clamp the same upon said first-named member and determining the freedom of movement of said universal joint, there being an opening in said head, at least partially rectangular, a light carrying member passing through said opening and longitudinally movable relatively to said head, and a spring mounted in the rectangular portion of said opening, said spring having curved end portions bearing at their extremities upon said light carrying member, the depths of said curved end portions being greater than the depth of free space in which the middle portion of said spring is contained.

978,548. DOOR-SPRING. EMIL BOMMER, New York, N. Y. Filed Apr. 2, 1909. Serial No. 487,496.



In a door-spring, the combination, with a coil-spring having inwardly-bent upper and lower ends, of an upper bracket having a cup-shaped enlargement with an inwardly-bent flange at its lower edge, and a transverse slot and a hole sidewise of said slot, an adjustable spring-holder having a cylindrical stud, a notch in said stud, a collar above said notch, a neck above said collar and a perforated tension-head above said neck, a locking pin guided in the hole of the enlargement, said tension-head having radial holes on a level with the slot and hole of the upper bracket, said radial holes being of a larger diameter than the enlarged inner end of the locking pin, and a lower bracket having a fixed stud, the inwardly-bent ends of the coil-spring engaging respectively the notched stud of the upper spring-holder and the notched stud of the lower bracket.

978,549. TIRE. JUNIUS A. BOWDEN, Los Angeles, Cal. Filed Feb. 7, 1908. Serial No. 414,827.



1. A tire having a plurality of recesses, a cup like receptacle permanently secured in each recess, having variant internal diameters, and a stud of yielding material removably seated in each recess and projecting therefrom, the portion of each stud within the receptacle corresponding in its external diameter with the internal diameter of the receptacle.

2. In a rubber tire, a metal cup vulcanized into its tread portion, said cup having an annular exterior recess at its top and a rubber stud conforming in shape with the interior of said cup and detachably seated therein.

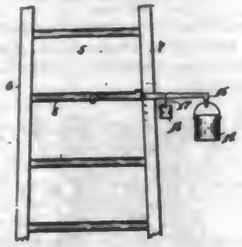
3. As a new article of manufacture, a rubber stud for the tread of tires, said stud having an annular recess and an annular flange immediately below the recess, said flange being a continuation of the bottom of the stud.

4. As a new article of manufacture, a metal cup-like receptacle for vulcanizing into the tread of a rubber tire, said receptacle having an annular exterior recess at its top and having an annular interior recess immediately below said exterior recess and approximately in line with the bottom of said cup.

5. As a new article of manufacture, a rubber vehicle tire having a series of metal cups having shouldered sides vulcanized in its outer face, a detachable rubber stud in each cup engaging said shouldered sides, the top of said stud projecting beyond the top of said cup and the lower portion of said stud being shaped to register with the inner portion of said cup, and said cup having a metal bottom.

[Claims 6 to 11 not printed in the Gazette.]

978,550. LADDER-BRACKET. JOHN W. BOYD, Mishawaka, Ind., assignor to Fabric Roll Protector Co., South Bend, Ind., a Corporation of Indiana. Filed Sept. 23, 1909. Serial No. 519,155.



1. A ladder bracket comprising a body portion, an arm extending from one end of the body portion and at an angle thereto, fingers carried by said arm for engaging the round of the ladder, said fingers constructed and arranged to hold the arms contiguous with and parallel to said round, and a second arm extending from the other end of

the body portion, said second arm adapted to engage one of the uprights of the ladder and extend laterally beyond the uprights.

2. A ladder bracket comprising a body portion, an arm extending from one end of the body portion and at an angle thereto, fingers carried by said arm for engaging the round of the ladder, said fingers constructed and arranged to hold the arms contiguous with and parallel to said round, a second arm extending from the other end of the body portion, said second arm adapted to engage one of the uprights of the ladder and extend laterally beyond the uprights, the upper edge of the second arm having a notch, and a hook provided at the outer end of the second arm.

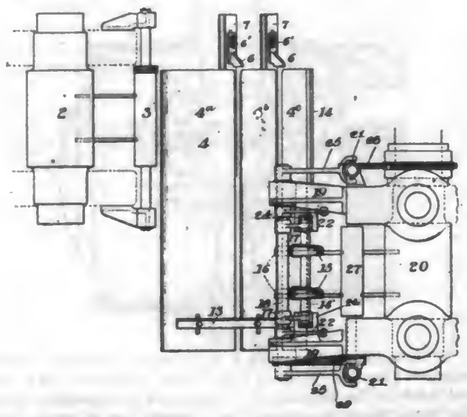
3. A ladder bracket comprising a body portion, an arm extending from one end of the body portion and at an angle thereto, fingers carried by said arm to engage the round of the ladder, said arm having a curved finger at its free end and an oppositely disposed finger at its inner end, said fingers being constructed and arranged to hold the arm contiguous with and parallel to said round, and a second arm extending from the other end of the body portion, said second arm adapted to engage one of the uprights of the ladder and extend laterally beyond the uprights.

4. A ladder bracket comprising a body portion, an arm extending from one end of the body portion and at an angle thereto, fingers carried by said arm to engage the round of the ladder, said arm having a curved finger at its free end and an oppositely disposed finger at its inner end, said fingers being constructed and arranged to hold the arm contiguous with and parallel to said round, and a second arm extending from the other end of the body portion, said second arm adapted to engage one of the uprights of the ladder and extend laterally beyond the uprights, the second arm having a hook at its outer end.

5. A ladder bracket comprising a body portion, an arm extending from one end of the body portion and at an angle thereto, means carried by said arm for engaging the round of the ladder, said means constructed and arranged to hold the arm contiguous with and parallel to the said round, and a second arm extending from the other end of the body portion, said second arm adapted to engage one of the uprights of the ladder and extend laterally beyond the upright.

[Claim 6 not printed in the Gazette.]

978,551. APPARATUS FOR ROLLING METAL SHEETS. CHARLES W. BRAY, Pittsburg, Pa., assignor to The American Sheet & Tin Plate Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Nov. 7, 1905. Serial No. 286,199.



1. A matcher comprising a matching table, and pinch rolls to which the work piece is fed in the direction of the longitudinal axes of the rolls, the ends of the rolls facing the direction of feed being tapered, substantially as described.

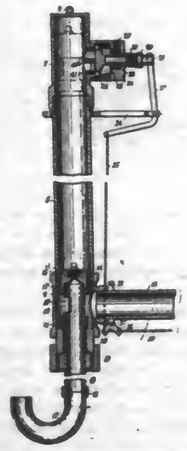
2. A matcher comprising a matching table arranged to receive single sheets to form a pack, means for moving a pack laterally on the table, pinch rolls above and below the table and between which the pack is fed in the direction of the longitudinal axes of the rolls, and fixed and movable stops arranged in alinement with each other and against which the sheets move, the movable stop being disposed beyond the pinch rolls, substantially as described.

3. A matcher comprising a matching table to which the sheets are successively delivered to form a pack, means for moving the pack laterally to the table, and pinch rolls normally spaced during the moving of the pack and between which said pack is moved in the direction of the longitudinal axes of the rolls, substantially as described.

4. A matcher comprising a matching table to which the sheets are successively delivered to form a pack, pinch rolls, feed dogs for engaging the pack and moving the same to the pinch rolls in the longitudinal direction of said rolls, yieldable supports for said dogs, and means for actuating the dogs, substantially as described.

5. A matcher including a table, a feed-in device at one side of the table, feeding-out rolls at the opposite side of the table and out of alinement with the feed-in device, means for moving the work on the table from the feed-in portion thereof in between the pinch rolls in the direction of the longitudinal axes thereof, a guide to direct the work in between the rolls, and means for moving the guide out of the feed-out path of the work to permit of the latter passing out of the rolls, substantially as described.

978,552. DRAFT-EXCITER FOR LOCOMOTIVES. ARTHUR L. BRIDGHAM, Boston, Mass. Filed June 4, 1910. Serial No. 564,912.



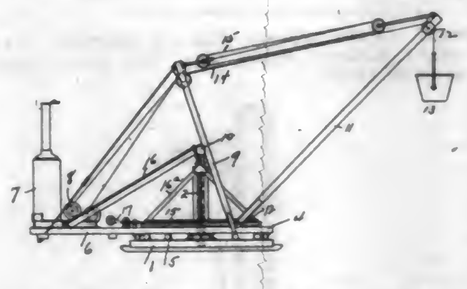
1. A draft exciter for locomotives, comprising a delivery system; a cylinder connected at the lower end with said system and having at the upper end a valve closed opening; a plug piston having suitable packing to close the passage between said cylinder and said piston, and having a central opening forming a passage between the upper and lower space divided by said piston; a regulating device for varying the size of said opening; a steam delivery pipe supported on said piston, having a passage communicating with said cylinder; and means for opening and closing said valve passage.

2. A draft exciter for locomotives, comprising a delivery system; a vertically disposed end closed steam containing cylinder connected with said delivery system at the lower end thereof, and having a valve controlled opening at near the upper end thereof; a plug piston having suitable packing to close the passage between said cylinder and said piston, and having a central opening forming a passage between the upper and lower space divided by said piston;

a regulating device for varying the size of said opening; a steam delivery pipe supported on said piston, having a passage communicating with said cylinder; a spring actuated valve adapted to normally close the said valve controlled opening; a transmission mechanism for unseating said valve adapted to be operated from a distance; and means for maintaining the said piston and said delivery pipe connected therewith in raised position.

3. A draft exciter for locomotives, comprising a delivery system; a vertically disposed end closed steam containing cylinder connected with said delivery system at the lower end thereof, and having a valve controlled opening at near the upper end thereof; a plug piston having suitable packing to close the passage between said cylinder and said piston, and having a central opening forming a passage between the upper and lower space divided by said piston; a regulating device for varying the size of said opening; a steam delivery pipe supported on said piston, having a passage communicating with said cylinder; a spring actuated valve adapted to normally close the said valve controlled opening; a transmission mechanism for unseating said valve adapted to be operated from a distance; and a latch disposed in the path of said piston to support the same in raised position at the upper end of said cylinder; said latch being held in operative position by the said valve.

978,553. HOISTING-DERRICK. FREY LAWARENCE BROBERG, Brooklyn, N. Y. Filed Mar. 31, 1910. Serial No. 552,502.



1. The herein described hoisting derrick, comprising a rotatable platform, a hoisting boom, a derrick frame and hoisting motor mounted thereon, a supporting post pivotally connected with the frame, and means for rotating the platform.

2. The herein described hoisting derrick, comprising a rotatable platform, a hoisting boom, a derrick frame and hoisting motor mounted thereon, a supporting post pivotally connected with the frame, and means for rotating the platform, said means comprising a stationary bull-wheel located above the platform, and means secured on the platform adapted to rotate the same by connection with the bull-wheel.

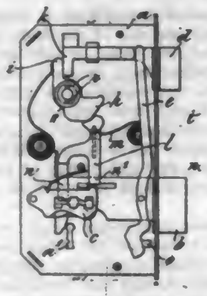
3. The herein described hoisting derrick comprising a rotatable platform, a hoisting boom, a derrick frame, and a hoisting motor mounted on the platform, a stationary bull-wheel above the platform, and cables leading thereto, and means mounted on the platform to take up and pay off said cables.

4. The herein described hoisting derrick comprising a rotatable platform, a hoisting boom, a derrick frame, and a hoisting motor mounted on the platform, a stationary bull-wheel above the platform, and rotating means carried on the platform adapted to engage the bull-wheel.

5. The herein described hoisting derrick, comprising a rotatable platform, a stationary platform, rollers therebetween, a central stationary post passing through the rotating platform, a bull-wheel secured to said post, a cable secured to said bull-wheel, and means for operating said cable from the rotating platform, a hoisting boom and a hoisting motor on the platform.

[Claims 6 and 7 not printed in the Gazette.]

978,554. LOCK. RUDOLF BROHMANN, Hanover, Germany. Filed May 28, 1910. Serial No. 563,917.



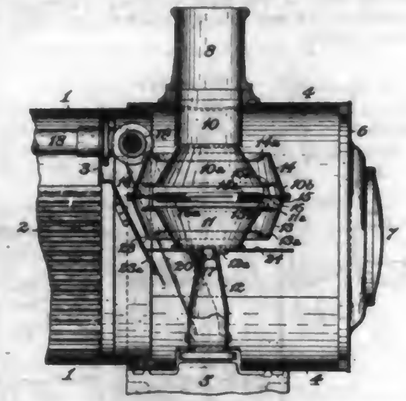
1. In a lock the combination of a dead bolt, a latch bolt, a hand operated lever acting on the latch bolt, a locking member movable into the path of the dead bolt when shot, means integral with said lever for moving said locking member and means for yieldingly holding said lever when the locking member has been moved as aforesaid.

2. In a lock the combination of a dead bolt, a latch bolt, a hand operated lever acting on the latch bolt, a locking member movable into the path of the dead bolt when shot, means integral with said lever for moving said locking member, a lever pivoted to said dead bolt and engaging the latch bolt, and an abutment for said last mentioned lever when the dead bolt is shot.

3. In a lock the combination of a dead bolt, a latch bolt, a hand operated lever acting on the latch bolt, a locking member movable into the path of the dead bolt when shot, means integral with said lever for moving said locking member, a detachable handle for said lever, and a shield permitting removal and insertion of the handle only when the lever is in the position in which the locking member engages the dead bolt.

4. In a lock the combination of a dead bolt, a latch bolt, a hand operated lever acting on the latch bolt, a locking member movable into the path of the dead bolt when shot, means integral with said lever for moving said locking member, and means whereby the dead bolt when drawn prevents movement of said locking member.

978,555. SPARK-ARRESTER. CHARLES E. BROOK, Miles City, Mont. Filed Sept. 29, 1910. Serial No. 584,460.



1. The combination, with a locomotive smoke box, of an exhaust pipe, an inclined transverse deflecting plate at the rear of the smoke box, a table plate extending from the deflecting plate around and beyond the exhaust pipe, a stack having an inward extension or penetration, truncated cone draft pipe sections, secured, at their narrower ends, to the table plate and stack penetration, respectively, and separated by a space, truncated cone casing sections of larger diameter than the draft pipe sections and surrounding said draft pipe sections, and an annular connecting plate, projecting over, but not closing, the spaces between the draft pipe sections and casing sections, and secured to the larger ends of the casing sections.

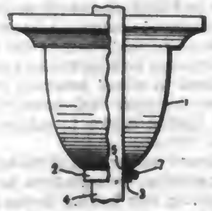
3. The combination, with a locomotive smoke box, of an exhaust pipe, an inclined transverse deflecting plate at the rear of the smoke box, a table plate extending from the deflecting plate around and beyond the exhaust pipe, a stack having an inward extension or penetration, truncated cone draft pipe sections, secured, at their narrower ends, to the table plate and stack penetration, respectively, and separated by a space, truncated cone casing sections of larger diameter than the draft pipe sections, said casing sections surrounding the draft pipe sections and being connected, at their larger ends, intermediate the latter, and flanges projecting inwardly from the narrower ends of the casing sections.

4. The combination, with a locomotive smoke box, of an exhaust pipe, an inclined transverse deflecting plate at the rear of the smoke box, a table plate extending from the deflecting plate around and beyond the exhaust pipe, a stack having an inward extension or penetration, truncated cone draft pipe sections, secured, at their narrower ends, to the table plate and stack penetration, respectively, and separated by a space, peripheral flanges connected to the larger ends of said draft pipe sections, and truncated cone casing sections of larger diameter than the draft pipe sections, said casings surrounding the draft pipe sections and being connected, at their larger ends, intermediate the latter.

5. The combination, with a locomotive smoke box, of an exhaust pipe, an inclined transverse deflecting plate at the rear of the smoke box, a table plate extending from the deflecting plate around and beyond the exhaust pipe, a stack having an inward extension or penetration, truncated cone draft pipe sections, secured, at their narrower ends, to the table plate and stack penetration, respectively, and separated by a space, an annular connecting plate located intermediate of, and projecting over, the draft pipe sections, inwardly flanged facing rings secured to the connecting plate, and truncated cone casing sections surrounding the draft pipe sections, and secured, at their larger ends, to the connecting plate.

[Claims 6 and 7 not printed in the Gazette.]

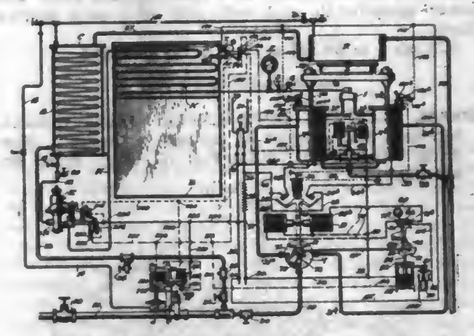
978,556. FIXTURE. PINCUS BURGER, New York, N. Y. Filed Sept. 25, 1908. Serial No. 454,682.



1. A canopy for the pipes of gas and other fixtures, said canopy being provided at the bottom thereof with a neck portion comprising a vertical wall and an inwardly directed bottom flange, said wall and flange forming in connection with the pipe a groove which opens upwardly into said canopy, and a reinforcing ring mounted on said pipe and adapted to be inserted into said groove from within said canopy and means for securing the said canopy to said pipe consisting of a set screw passed through the neck of the canopy and through said ring.

2. A canopy for the pipes of gas and other fixtures, said canopy being provided at the bottom thereof with a neck portion which forms in connection with said pipe a groove which opens upwardly into said canopy, and an open reinforcing ring which is mounted on said pipe and adapted to be dropped into said groove from within said canopy, and means for securing said canopy to said pipe consisting of a screw passed through the neck of the canopy and through said ring.

978,557. AUTOMATIC ABSORPTION REFRIGERATING SYSTEM. GEORGE P. CARROLL, Bridgeport, Conn. Filed July 20, 1907. Serial No. 384,695.



1. In combination a refrigerant reservoir, a plurality of stills in parallel with one another and each adapted to contain an absorbent, an expansion chamber leading from said reservoir to said stills, a conduit leading from said stills to said reservoir, means preventing a back flow of refrigerant from said stills into said chamber, means preventing a back flow of refrigerant from said reservoir into said stills, means for regulating the flow of refrigerant from said reservoir through said chamber, and means operating to intermittently heat the contents of said stills in alternation to a predetermined limit.

2. In combination a refrigerant reservoir, a plurality of stills in parallel with one another and each adapted to contain an absorbent, an expansion chamber leading from said reservoir to said stills, a conduit leading from said stills to said reservoir, means preventing a back flow of refrigerant from said stills into said chamber, means preventing a back flow of refrigerant from said reservoir into said stills, means for regulating the flow of refrigerant from said reservoir through said chamber, and means operating to intermittently heat the contents of said stills in alternation until such contents reach a predetermined high temperature.

3. In combination a refrigerant reservoir, a plurality of stills in parallel with one another and each adapted to contain an absorbent, an expansion chamber leading from said reservoir to said stills, a conduit leading from said stills to said reservoir, means preventing a back flow of refrigerant from said stills into said chamber, means preventing a back flow of refrigerant from said reservoir into said stills, means for regulating the flow of refrigerant from said reservoir through said chamber, means operating to intermittently heat the contents of said stills in alternation, and electric devices controlled by the high temperatures of said stills and operating to end each such heating at a predetermined limit.

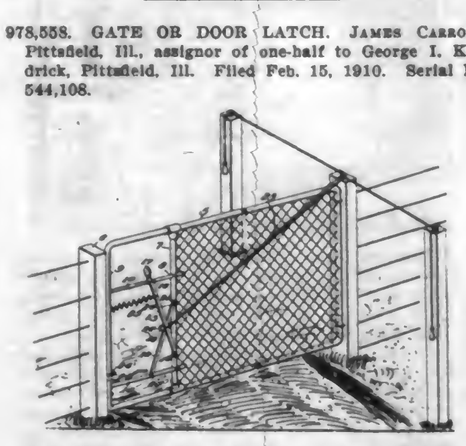
4. In combination a refrigerant reservoir, a plurality of stills in parallel with one another and each adapted to contain an absorbent, an expansion chamber leading from said reservoir to said stills, a conduit leading from said stills to said reservoir, means preventing a back

flow of refrigerant from said stills into said chamber, means preventing a back flow of refrigerant from said reservoir into said stills, means for regulating the flow of refrigerant from said reservoir through said chamber, means adapted for intermittently heating the contents of said stills in alternation to a predetermined limit, and means operating to cause the heating of each still to begin after but to be otherwise independent of the termination of the heating of any other still.

5. In combination a refrigerant reservoir, a plurality of stills in parallel with one another and each adapted to contain an adsorbent, an expansion chamber leading from said reservoir to said stills, a conduit leading from said stills to said reservoir, means preventing a back flow of refrigerant from said stills into said chamber, means preventing a back flow of refrigerant from said reservoir into said stills, means for regulating the flow of refrigerant from said reservoir through said chamber, means operating to intermittently heat the contents of said stills in alternation to a predetermined limit, and means operating to cool each still after each heating thereof.

[Claims 6 to 79 not printed in the Gazette.]

978,558. GATE OR DOOR LATCH. JAMES CARROLL, Pittsfield, Ill., assignor of one-half to George I. Kendrick, Pittsfield, Ill. Filed Feb. 15, 1910. Serial No. 544,108.



1. The combination with a support having spaced keepers secured thereto, of a closure, latch members slidably mounted on the closure and movable to extended position into engagement with the keepers, co-acting levers having their intermediate portions overlapped and pivotally united and their outer ends operatively connected with the latch members, and means for normally and yieldably holding the latch members in extended position, one of the levers being provided with a terminal finger piece.

2. The combination with a support having spaced keepers secured thereto, of a closure, latch members slidably mounted on the closure and movable to extended position into engagement with the keepers, co-acting levers having their intermediate portions overlapped and pivotally united and their outer ends operatively connected with said latch members, a spring operatively connected with one of said levers for normally holding the latch members in extended position, an attaching lug pivotally connected with both levers at the intersection thereof, and an operating cable secured to the attaching lug.

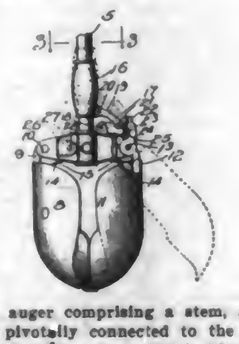
3. The combination with a support having spaced keepers secured thereto, of a closure, spaced latch members slidably mounted on the closure and movable into engagement with said keepers, pivotally united intersecting levers operatively connected with the latch members, an attaching lug pivotally connected with the levers at the intersection thereof, an operating cable secured to the attaching lug, and a coil spring having one end thereof secured to a fixed support and its other end fastened to one of the levers for normally holding the latch members in extended position, one of said levers being provided with a terminal finger piece.

4. The combination with a support having spaced keepers secured thereto, of a closure including a front bar and intermediate brace having openings formed therein, latch members slidably mounted in said openings and movable to extended position into engagement with the keepers, pivotally connected intersecting levers, each having one end thereof pivotally connected to the intermediate brace and its opposite end operatively connected with the adjacent sliding latch member, and a spring having one end thereof secured to the front bar of the closure and its other end connected with the adjacent lever.

5. The combination with a support having spaced keepers secured thereto, of a closure including a front bar and intermediate brace having transversely alined openings formed therein, bolts slidably mounted in said openings and movable to extended position into engagement with the keepers, one of said bolts being provided with an eye, pivotally connected levers, each having one end thereof pivotally connected to the intermediate brace and its other end pivotally connected to the adjacent locking bolt, one of said levers being extended through the eye and provided with a terminal finger piece, an attaching lug interposed between the levers at their points of intersection, an operating cable connected with the attaching lug, a spring connecting the front bar of the closure with one of the levers, and a collar adjustable vertically of the front bar of the closure and provided with a lip adapted to engage one of the keepers for limiting the downward movement of the forward end of the closure.

[Claim 6 not printed in the Gazette.]

978,559. EARTH-AUGER. FRANK H. CHASE, Chicago, Ill., assignor to Standard Earth Auger Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 20. 1909. Serial No. 484,607.



1. An earth auger comprising a stem, a head on the stem, an arm pivotally connected to the head, a blade on the arm, and a pivoted gravity locking device to engage said arm and hold said blade in closed position.

2. An earth auger comprising a stem, a head on the stem, an arm pivotally connected to the head, a blade on the arm, and a pivoted gravity cam locking device to engage said arm and hold said blade in closed position.

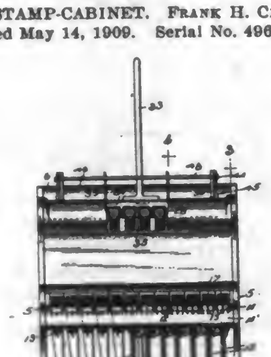
3. An earth auger comprising a stem, a head on the stem, an arm pivotally connected to the head, a blade on the arm, a gravity cam locking device to engage said arm and hold said blade in closed position, and a sleeve slidably mounted on the stem and connections between the sleeve and said locking device to release the same from engagement with the arm.

4. An earth auger comprising a stem, a head on the stem, an arm pivotally connected to the head, a blade on the arm, a gravity cam locking device pivotally mounted on the head to engage said arm and hold said blade in closed position, and means for releasing said locking device for engagement with the arm, said means comprising a sleeve slidable on the stem, and a link pivotally connected to the locking device and sleeve.

5. An earth auger comprising a stem, a head on the stem, an arm pivotally connected to the head, a blade on said arm below its pivot, a projection on said arm extending above its pivot and the head, and a gravity operated cam locking device pivotally mounted on the head and swinging outward from the stem to engage said projection and hold the blade in closed position.

[Claims 6 to 8 not printed in the Gazette.]

978,560. STAMP-CABINET. FRANK H. CHASE, Chicago, Ill. Filed May 14, 1909. Serial No. 496,014.



1. In a stamp cabinet, a support for an integral sheet of connected stamps, means for holding the sheet on the support with the first row of stamps in position for delivery, and means adapted to be operated individually or simultaneously for separating from the sheet by a single operation one or more stamps from the first row.

2. In a stamp cabinet, a support for an integral sheet of connected stamps, means for holding the sheet on the support with the first row of stamps in position for delivery, and a plurality of devices constructed to be operated individually or one by another for separating by a single manipulation one or more stamps from the sheet.

3. In a stamp cabinet, a support for an integral sheet of connected stamps, means for holding the sheet on the support with the first row of stamps in position for delivery, a separate means engaging each of the stamps in the first row for pulling them from the sheet, and means for operating said pulling means separately or in multiple to deliver one or more stamps.

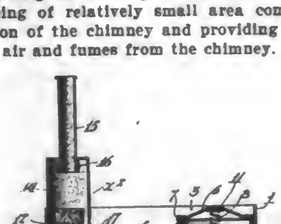
4. In a stamp cabinet, a support for an integral sheet of connected stamps, means for holding the sheet on the support with the first row of stamps in position for delivery, means engaging the stamps in the first row for separating and delivering them from the sheet, and a plurality of key bars for operating said separating and delivering means to deliver one or more stamps from the sheet.

5. In a stamp cabinet, a support for an integral sheet of connected stamps, means for holding the sheet on the support with the first row of stamps in position for delivery, and means for separating and delivering one or more stamps in the first row from the sheet, said means comprising a segment, a roller to press the stamp against the segment, and a key bar for operating the segment.

[Claims 6 to 16 not printed in the Gazette.]

978,561. FUME-PRODUCING DEVICE. PETERSON H. CHERRY, Los Angeles, Cal. Filed Feb. 5, 1910. Serial No. 542,320.

1. A fume producing device comprising a receptacle for the fume producing material, a pneumatic device consisting of a case communicating with said receptacle, said casing being provided with a portion which is movable inwardly and outwardly to cause outflow or inflow of air through the receptacle and thereby cause combustion of the material during the inflow and expulsion of the products of combustion during the outflow and said case being provided with a spring tending to move said movable portion outwardly, means in said case for limiting the inward movement of the movable portion of said case, and chimney means extending over and around the receptacle and having an air-inlet below the receptacle, said air inlet being of small area relatively to the cross section of the chimney to provide for restricted air admission and said chimney having an outlet portion at its top, said outlet portion being of relatively small area compared to the cross section of the chimney and providing for restricted outflow of air and fumes from the chimney.



2. A fume producing device comprising a receptacle for the fume producing material, a pneumatic device consisting of a closed case communicating with said receptacle, said case having a movable portion whereby the contained volume of the receptacle may be increased or diminished to cause in or out draft through the receptacle into the pneumatic device, means in said case for limiting the inward movement of the movable portion of said case, and a chimney extending over and around the receptacle and having an inlet below the top of the receptacle and an outlet above the top of the receptacle, said inlet and outlet being of relatively small diameter compared to the portion of the chimney surrounding the receptacle, whereby a restricted admission of air and obstructed outflow of air are provided for.

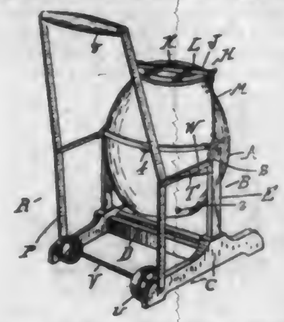
3. A fume producing device comprising a receptacle for containing the fume producing material and a pneumatic device connected thereto to draw air into or expel it from the receptacle, said pneumatic device composing a closed case communicating with said receptacle and having a portion movable inwardly and outwardly to vary the volume within the case, a coil spring within the case, and a stud extending within said spring and serving as a guide therefor and as a stop for the movable portion of the case.

4. A fume producing device comprising a receptacle for the fume producing material, a pneumatic device consisting of a case communicating with said receptacle, said casing being provided with a portion which is movable inwardly and outwardly to cause outflow or inflow of air through the receptacle and thereby cause combustion of the material during the inflow and expulsion of the products of combustion during the outflow and said case being provided with a spring tending to move said movable portion outwardly, and chimney means extending over and around the receptacle and having an air inlet below the receptacle, said air inlet being of small area relatively to the cross section of the chimney to provide for restricted air admission and said chimney having an outlet portion at its top, said outlet portion being of relatively small area compared to the cross section of the chimney and providing for restricted outflow of air and fumes from the chimney, and said inlet portion being vertically slidable in the lower portion of the chimney for the purpose set forth.

5. A fume producing device comprising an open topped receptacle for the fume producing material, means for inclosing said receptacle and having a contracted inlet below said receptacle and a contracted outlet above said receptacle, and a pneumatic suction and compression device connected to said receptacle for producing suction of air from said inclosing means into said receptacle for the

combustion of the material, and subsequently expelling the products of combustion from the receptacle and from the inclosure, through the contracted outlet thereof, said outlet portion being vertically slidable in the lower portion of the chimney for the purpose set forth.

987,562. CHURN. CHARLES N. CHOATE, Woodstock, Ontario, Canada, assignor of one-half to Fred E. Van Atta, Pontiac, Mich. Filed Aug. 2, 1909. Serial No. 510,755.



1. In a churn, the combination with a churn barrel open at one end, of a closure for said end, spaced lugs on said closure, a retaining member for the latter having a plurality of laterally-extending arms contacting with the closure only at points reinforced by the barrel ends, and one of said arms having a bearing on said lugs, for the purpose described.

2. In a churn, the combination with a churn barrel open at one end, of a member encircling the barrel intermediate its ends, a closure for said end, and retaining means for the closure, comprising a member having a plurality of laterally-extending arms contacting with the closure only at points reinforced by the barrel end.

3. In a churn, the combination with a churn barrel open at one end, of a closure for the barrel, a member encircling the barrel and held thereto against endwise movement, of bearings carried by said encircling member, a retaining member upon the closure having projecting ends, and links engaging said projecting ends and having adjustable connections with said bearings.

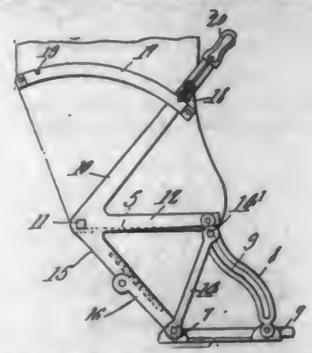
4. In a churn, the combination with the churn barrel provided with trunnions, a closure for the barrel, a retaining member upon the closure having projecting ends, bearings secured to the trunnions, screw eyes having an adjustable engagement with the bearings, and links connecting said screw eyes to the projecting ends of the retaining member.

5. In a churn, the combination with a churn barrel open at one end, of a closure for said end, a member encircling the barrel intermediate its ends, pairs of spaced lugs projecting outwardly from the exterior of the barrel forming bearings for said encircling member and preventing endwise movement of the latter in relation to the barrel, and a retaining member for the closure anchored to the encircling member.

978,563. CAR-STEP. ROBERT R. CRANE, Menominee, Mich. Filed Aug. 31, 1910. Serial No. 579,863.

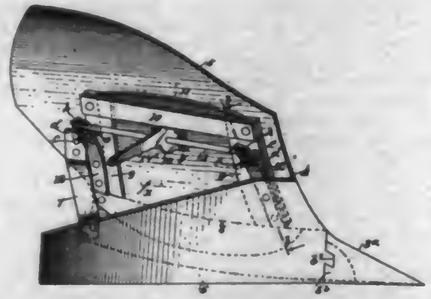
1. In a device of the class described, the combination with a main step, of a supplemental step, rods pivoted to the main step at the forward corners thereof and to the supplemental step at the rear corners thereof, an operating lever, an arm projecting from the lever, a bar pivoted to the arm and to the forward corners of the supplemental step and formed with a slot receiving the pivot between the respective rods and forward corners of the main step and a toggle connecting the lever and the rear corners of the supplemental step, one arm of the toggle being rigid with respect to the lever.

2. In a device of the class described, the combination with a main step, of a supplemental step, rods pivoted to the main step at the forward corners thereof and to the supplemental step at the rear corners thereof, an operating lever, an arm projecting from the lever, a bar pivoted to the arm and to the forward corners of the supplemental step and formed with a slot receiving the pivot between the respective rods and forward corners



of the main step and a toggle connecting the lever and the rear corners of the supplemental step, one arm of the toggle being rigid with respect to the lever, and a riser supported by and between the other arms of the toggle.

978,564. PLOW. RICHARD CUNNINGHAM and MICHAEL FRIAR, Blanchard, N. D. Filed Apr. 3, 1909. Serial No. 487,652.



1. In a plow, the combination with a mold-board, of a share, and means for resiliently securing the share to the mold-board.

2. In a plow, the combination with a mold-board, of a share provided with an upwardly extending tongue having guided and sliding movement on the inner face of the mold-board, and means for resiliently securing the tongue to the mold-board.

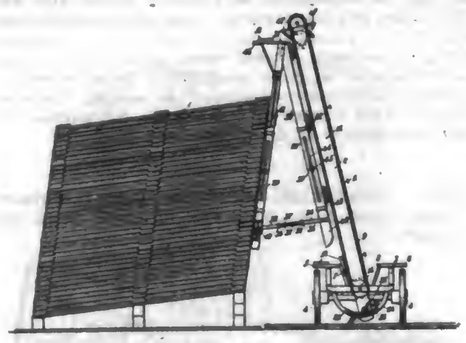
3. In a plow, the combination with a mold-board having a guideway on its inner face, of a share provided with a tongue fitting in the guideway, and a member for locking the tongue in the guideway, said member being pivotally and resiliently mounted at the inner side of the mold-board.

4. In a plow, the combination with a mold-board, and guideways on the inner side of the mold-board, of a plow share, a tongue plate on the plow share that is fitted to slide in the guideways, and means for locking the tongue plate in the guideways.

5. In a plow, the combination with a mold-board, and a landside, of a share shaped to correspond to the outer face of the mold-board and provided with a point at its front end, the share being provided with an upwardly extending tongue having guided and sliding movement on the inner face of the mold-board, means engaging the tongue for locking the share in position, and a tongue and groove connection between the point of the share and the landside.

[Claims 6 to 9 not printed in the Gazette.]

978,565. LUMBER-STACKER. CHARLES ALBERT DENISON, Lockport, La. Filed Mar. 5, 1910. Serial No. 547,580.



1. In a lumber stacker the combination with a support, of a conveyer adjustably connected with said support, and a skid disposed apart from and coöperating with said conveyer to retain the lumber on said conveyer.

2. In a lumber stacker the combination with a support, of a conveyer on said support, means on said conveyer for engaging planks, and means on said conveyer for positively disengaging said planks.

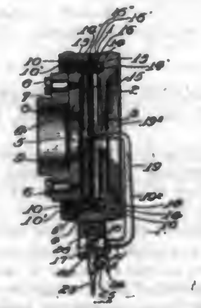
3. In a lumber stacker the combination with a frame, of a conveyer on said frame, said conveyer having a plurality of hooks thereon adapted to engage planks, and a cam bracket adapted to positively remove said planks from said hooks.

4. In a lumber stacker the combination with a frame, of a conveyer adjustable to either side of said frame; means on said conveyer for engaging planks, and means on each side of said conveyer for positively disengaging said planks from said means.

5. In a lumber stacker the combination with a support, of a conveyer on said support, said conveyer having a plurality of hooks thereon extending in opposite vertical directions adapted to support planks on said conveyer, means for operating said conveyer in either direction, and means for positively disengaging said planks from said hooks in whichever direction said conveyer is pivoted.

[Claims 6 to 15 not printed in the Gazette.]

978,566. SOUND-BOX. WILBURN N. DENNISON, Merchantville, N. J., assignor to Victor Talking Machine Company, a Corporation of New Jersey. Filed July 13, 1908. Serial No. 443,290.



1. The combination with a diaphragm, of a pair of concentric yielding rings of substantially circular cross section having oppositely disposed circular ribs projecting therefrom engaging against the opposite sides of the diaphragm respectively.

2. A mounting for a diaphragm, comprising a yielding member having a body portion and a projection extending outwardly from said body portion and carried thereby to engage the diaphragm.

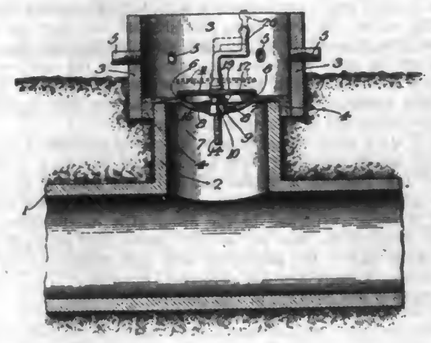
3. A mounting for a diaphragm, comprising a yielding member having a body portion, and an annular rib projecting outwardly from said body portion to engage the diaphragm.

4. A gasket for a sound box, comprising a yielding tubular member having a rib projecting therefrom.

5. A gasket for a sound box comprising a yielding tubular member having a self healing portion through which the gasket may be inflated.

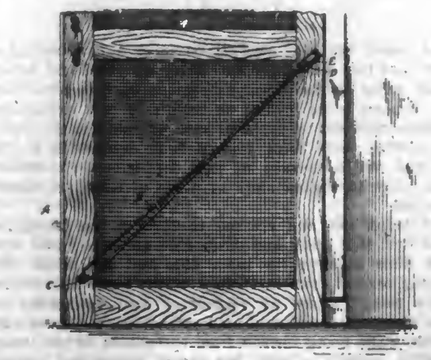
[Claims 6 to 36 not printed in the Gazette.]

978,567. IRRIGATION-VALVE. JAMES M. EADS and ARTHUR S. BENT, Los Angeles, Cal. Filed Mar. 20, 1909. Serial No. 484,645.



An irrigation valve comprising a ring forming a valve seat and having a flange cast integrally therewith, a downwardly bowed yoke extending across the ring and being cast integrally therewith, said yoke having a square tapered orifice formed therein, a brass, square, tapered nut in the orifice in the yoke, the small end of the nut being headed over to secure it in position, an adjusting screw in said nut, said screw having a shoulder, a round portion below the shoulder and a square portion below said round portion, a valve disk below said shoulder, a gasket below the valve disk, said valve disk and said gasket being on said round portion of the screw, a square sleeve with a round flange below the gasket and supporting the same and being mounted on said squared portion of the adjusting screw, a set screw securing said sleeve to the squared portion, and a crank formed on the upper end of the screw.

978,568. DOOR-STAY. OK EATON, Portland, Me. Filed May 5, 1910. Serial No. 559,520.



1. A door stay, comprising a looped flexible connection extending diagonally across the door, means for securing

one end of the flexible connection to one stile of the door, and a twisting device secured to the other stile and to which the other end of the said connection is secured.

2. A door stay, comprising a looped flexible connection extending diagonally of the door, means on one stile of the door for receiving and holding one end of the said flexible connection, and a twisting shaft mounted to turn on the other stile of the door and connected with the other end of the said flexible connection, the said shaft on being turned causing twisting of the said flexible connection and thus shortening thereof, to draw the sagged door parts back into normal position.

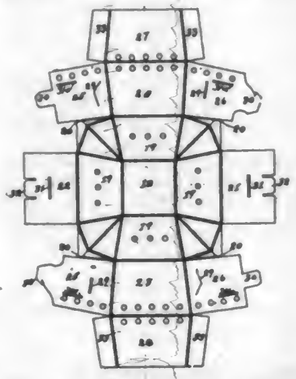
3. A door stay, comprising a looped flexible connection extending diagonally across the door, a holder fixed on one stile of the door for holding one end of the flexible connection, a socket fixed on the other stile of the door, and a shaft mounted to turn in the said socket and engaged by the other end of the flexible connection.

4. A door stay, comprising a wire loop extending diagonally across the door from one side of the door to the other side thereof, a holder and spreader secured to one stile of the door and receiving one end of the said wire loop, a socket attached to the other stile of the door, and a shaft mounted to turn in the said socket and engaged by the other end of the said wire loop.

5. A door stay, comprising a wire loop extending diagonally across the door from one side of the door to the other side thereof, a holder and spreader secured to one stile of the door and receiving one end of the said wire loop, a socket attached to the other stile of the door, a shaft mounted to turn in the said socket and engaged by the other end of the said wire loop, and means for holding the said shaft against accidental turning.

[Claim 6 not printed in the Gazette.]

978,569. RECEPTACLE. JO P. G. ELKIN, Maplewood, Mo. Filed Sept. 17, 1909. Serial No. 518,274.

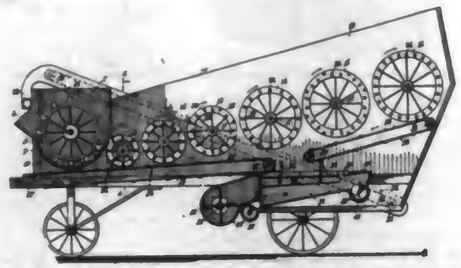


1. A blank cut and creased to form a box having a bottom and top, and inner and outer side and end walls, the top being formed from extensions of the inner side walls, tongues being formed on certain of said extensions to engage slots cut in other of said extensions, the outer end and side walls being formed from extensions of the inner end walls, certain of said last-named extensions having locks to engage slots in other of said last-named extensions.

2. A blank cut and creased to form a box having a bottom and top, inner and outer side and end walls and corner folds between the inner side and end walls, the top being formed from extensions of the inner side walls, tongues being formed on certain of said extensions to engage slots cut in other of said extensions, the outer end and side walls being formed from extensions of the inner end walls, certain of said last-named extensions having locks to engage slots in other of said last-named extensions, and the corner folds having extensions which may be turned over and engaged between the extensions of the inner end walls which form the outer side walls.

3. In a dish cut and scored from a blank of suitable material, the combination with bottom, flaring inner and outer sides, of corners having radiating creases therein adapted to be alternately folded in and out, said corners having an extension at their outer end and being folded upon themselves, wings or extensions on the sides adapted to engage the folded extensions of the corners, thus locking the folded corners in position, for the purpose set forth substantially as described.

978,570. THRESHING-MACHINE. HENRY EWOLDT, Grand Island, Nebr. Filed Feb. 12, 1910. Serial No. 543,507.



1. A threshing machine, comprising a plurality of open sided rotary carrying drums arranged in two series, one of said series having peripheries polygonal in section and one series having peripheries circular in section, said series being arranged alternately.

2. A threshing machine, comprising a plurality of rotary carrying drums the sides whereof are composed of a plurality of closely disposed parallel rods, said drums being arranged in two series, one of which is provided with peripheries polygonal in section and the other of which is provided with peripheries circular in section, the said series being arranged in alternate disposition.

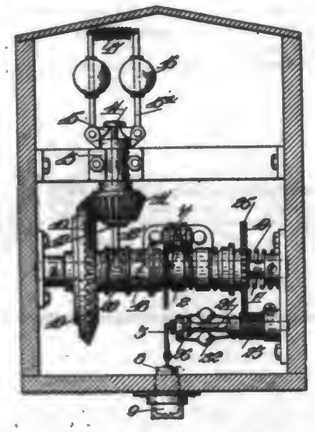
3. A threshing machine, comprising a plurality of open sided rotary carrying drums arranged in two series, one of said series having peripheries polygonal in section, and one of said series having peripheries circular in section, said series being arranged alternately, and said drums being progressively increased in diameter from the receiving to the delivering end of said drums.

4. A threshing machine, comprising a plurality of rotary carrying drums disposed in series, each drum being formed to a diameter greater than the diameter of the drum preceding in the said series, and said drums being arranged in two series, one of which series is provided with peripheries polygonal in section, and one of said series provided with peripheries circular in section, the said series being arranged in alternate disposition.

978,571. AUTOMATIC FIRE-ESCAPE. AMBROSE W. FAEH, Oakland, Cal. Filed Dec. 14, 1909. Serial No. 532,975.

1. The combination in a lowering apparatus, of a winding drum and grooved pulleys around which the rope passes, said pulleys being arranged at opposite sides of the center of the drum, and said rope passing from one of said pulleys around the drum and thence passing from the drum around the other pulley and back to and around the drum, a belt or carrier attached to one end of the rope, a counterweight attached to the opposite end of said rope, a governor, and a brake mechanism actuated by the governor to regulate the descent of the carrier.

2. The combination in a lowering apparatus, of a winding drum, and grooved pulleys around which the rope passes, said pulleys being positioned at opposite sides of the drum, and said rope extending from the drum to the pulley at one side and thence back to the drum and from the drum to the other pulley, and finally back to the drum, a belt or carrier attached to the outer end of the rope, a counterweight attached to the opposite end of the rope, a governor, a band brake and drum, a governor spindle connected to the band brake and means by which the spindle is moved by the governor to apply the brake.



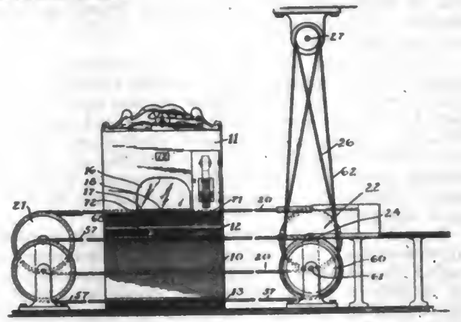
3. An automatic lowering and return mechanism consisting of a winding drum, a shaft therefor, a gear wheel mounted on one end of the shaft, a pinion, a vertically disposed hollow shaft upon which the pinion is mounted, a rope passing around said drum, pulleys around which the rope passes, said pulleys being positioned at opposite sides of the drum and said rope extending from the drum to a pulley at one side and thence back to the drum and from the drum to the other pulley, and finally back to the drum, a belt or carrier fixed to one end of the rope, a returning counterweight attached to the other end of said rope, a governor actuated in unison with the descent of the load, said governor having a vertical stem passing through the hollow pinion shaft, a brake mounted upon the drum shaft and connected with the governor spindle, and a clutch connecting the winding and brake drums during the ascent of the carrier, said clutch being disengaged when the load is removed to allow the weight to act and return the carrier.

4. An automatic lowering and return mechanism consisting of a winding drum, a shaft therefor, a gear wheel mounted on one end of the shaft, a pinion, a vertically disposed hollow shaft upon which the pinion is mounted, a rope passing around said drum, pulleys around which the rope passes, said pulleys being positioned at opposite sides of the drum and said rope extending from the drum to a pulley at one side and thence back to the drum and from the drum to the other pulley, and finally back to the drum, a belt or carrier fixed to one end of the rope, a returning counterweight attached to the other end of said rope, a governor actuated in unison with the descent of the load, said governor having a vertical stem passing through the hollow pinion shaft, a brake mounted upon the drum shaft and connected with the governor spindle, and a clutch connecting the winding and brake drums during the ascent of the carrier, said clutch being disengaged when the load is removed to allow the weight to act and return the carrier, and a second governor acting to regulate the speed of the returning parts.

978,572. SERVING-TABLE FOR RESTAURANTS. AUGUST C. FAST, East Orange, N. J. Filed June 12, 1909, Serial No. 501,760. Renewed May 13, 1910. Serial No. 561,177.

1. An apparatus of the kind described, comprising a table, a food carrier movable behind the table, swinging switch arms extending across the carrier, movable plungers to engage and lock the switch arms, and selective means for operating the plungers.

2. An apparatus of the kind described, comprising a table, a food carrier movable behind the table, spring retained but easily movable switch arms extending across the carrier, and electrically operated plungers to lock the switch arms.



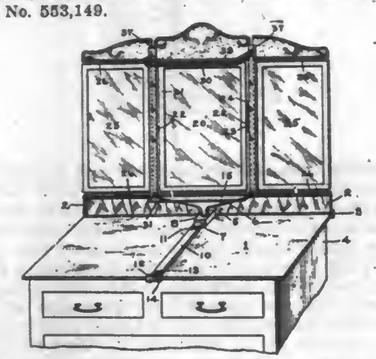
3. An apparatus of the kind described, comprising a table, a food carrier movable behind the table, spring retained but easily movable switch arms extending across the carrier, a locking device for each switch arm, a magnet and armature for operating each locking device, and a switch-board by which a desired magnet can be energized.

4. An apparatus of the kind described, comprising a table, a food carrier movable behind the table, selectively operated means for deflecting a food tray from the carrier to the table, and movable shutters between the food carrier and the table to screen the food carrier.

5. An apparatus of the kind described, comprising a table divided into sections, a movable food carrier behind the table, slides opposite the several sections to receive the food from the carrier, and a shutter operated by the movement of the slide and arranged vertically between the table and the food carrier.

[Claims 6 to 11 not printed in the Gazette.]

978,573. ADJUSTABLE MIRROR. CHARLES LE FITCHET, San Francisco, Cal. Filed Apr. 2, 1910. Serial No. 553,149.



1. A horizontal rail adapted to be secured to the furniture, a slide on said rail, a bracket swiveled in said slide vertical bars carried by said bracket, two U-shaped tracks projecting forwardly from the upper ends of said side bars and a U-shaped track projecting forwardly from the bottom ends of said side bars, a mirror carried by said vertical bars and a mirror on each side of the central mirror, and means mounted to travel on said tracks for supporting each side mirror.

2. A horizontal rail adapted to be secured to the furniture, a slide on said rail, a bracket swiveled on said slide a central mirror supported by said bracket, means for adjusting the central mirror into various angular positions in a vertical plane, and side mirrors supported on each side of the central mirror.

3. A horizontal rail adapted to be secured to the furniture, a slide on said rail, a bracket swiveled on said slide, a central mirror supported by said bracket, means for adjusting the central mirror into various angular positions in a vertical plane, side mirrors supported on each side of the central mirror, and means permitting adjustment of each side mirror into various angular positions in a vertical plane.

4. A horizontal rail adapted to be secured to the furniture, a slide on said rail, a bracket swiveled on said slide, a central mirror supported by said bracket, means for adjusting the central mirror into various angular positions in a vertical plane, side mirrors supported on each side of the central mirror, a plurality of tracks extending forwardly at each side of the central mirror, and means adapted to travel on said tracks for supporting each side mirror.

5. A T rail adapted to be secured to the furniture, an extension of the T rail, dowel pins for detachably securing the extension to the first named rail, a slide adapted to slide on said T rail and its extension, a block on the end of the extension to retain the slide, means for securing the block to the front edge of the top of the furniture, a bracket swiveled on the slide, a central mirror supported by the bracket, and side mirrors supported by the bracket.

[Claims 6 to 16, not printed in the Gazette.]

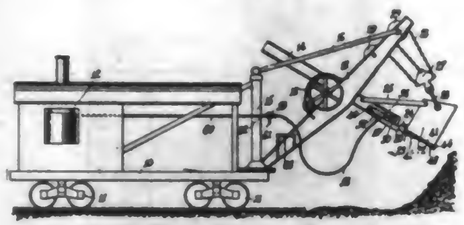
978,574. PRUNING-KNIFE. FRANK A. FRUMVILLER, Detroit, Mich. Filed Sept. 3, 1909. Serial No. 516,047.



A pruning knife, comprising a bill hook having a plurality of parallel separated hook-like members each provided with a laterally extended boss, said bosses being perforated in line to form bearings, one of said hook-like members having formed on the inner curved edge thereof a cutting edge, the other of said members having a squared inner curved edge; a guide extension formed on the member having the said squared edge, said guide extension projected at the side of said extended bosses opposite to the extension of the said hook-like member; a pivot member extended through said perforations formed in said bosses; a guiding blade pivotally mounted on said pivot member and having a wide rearward extension disposed in line with the said guide extension, said blade passing between the said hook-like members; and means connected with said rearward extension for rotating the said blade into cutting relation with the said hook-like members.

978,575. DIPPER-TRIP FOR STEAM-SHOVELS. ALBERT H. GEDDES, Empire, Panama. Filed June 21, 1910. Serial No. 568,075.

1. In a steam shovel, the combination, with a dipper, a door therefor, and means for operating said dipper, of a latch for said door, a cylinder adapted to receive a fluid under pressure, a piston within said cylinder, means for operatively connecting said piston and said latch, whereby the latter can be released by said piston, means for holding said piston in a normal position such that said latch is operative to lock said door, and a stop carried by said means for operatively connecting said piston and said latch and serving to limit the movement of said piston.



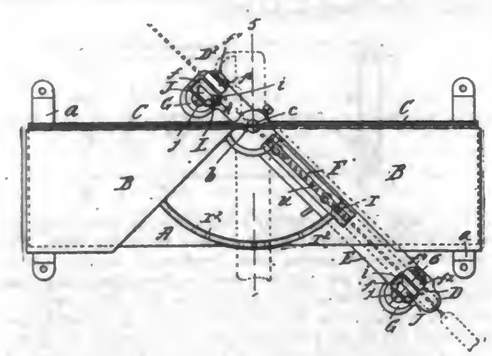
2. In a steam shovel, the combination with a dipper, a door therefor, and means for operating said dipper, of a latch for said door, a cylinder adapted to receive a fluid under pressure and having a piston therein, a flexible elongated member connecting said piston and said latch, a guide for said member, and a stop on said member and adapted to engage said guide to limit the movement thereof.

3. In a steam shovel, the combination with a dipper, stick, a dipper carried thereby, a door for said dipper, and means for operating said dipper, of a cylinder mounted upon said dipper stick and adapted to receive a fluid under pressure, a piston in said cylinder and having a piston rod, a flexible member connecting said rod and said latch, a grooved guide pulley mounted upon said stick and having said flexible member pass around the same, a guide-eye mounted upon said stick and having said member pass through it, and a stop secured to said flexible member and adapted to engage said guide-eye to limit the movement of said member.

4. In a steam shovel, the combination with a dipper, a dipper stick carrying said dipper, a door for said dipper, and means for manipulating said dipper, of a latch for said door, a cylinder adapted to receive a fluid under pressure, and mounted upon said dipper stick, said cylinder having at one end a head and being open at the other end, a spider at said open end, a piston within said cylinder and having a piston rod, said head having a stuffing-box, said piston rod passing through said stuffing-box, a spring within said cylinder and engaging said piston and said spider and tending to move said piston toward said head, a chain operatively connecting said piston rod and said latch, a grooved guide pulley mounted upon said dipper stick and having said chain pass around it, a guide-eye mounted upon said dipper stick and having said chain pass through it, and a stop upon said stop chain and adapted to engage said guide-eye.

5. In a steam shovel, the combination with a dipper, a door therefor, a latch for said door, and means for operating said dipper, of a cylinder adapted to receive fluid under pressure and having an inlet, a piston in said cylinder, an operative connection between said piston and said latch, a spring tending to hold said piston in a normal position such that said latch is operative to hold said door closed, said cylinder having therein a stop shoulder serving to space said piston from one end thereof, said cylinder having an inlet, a pipe for directing fluid to said inlet, a valve for controlling said pipe, said cylinder having a draining opening, and a valve controlling said draining opening and adapted to open when the pressure in said cylinder falls to a predetermined point.

978,576. MITER-BOX. HENRY E. GOODELL, Greenfield, Mass. Filed Jan. 27, 1909. Serial No. 474,599.



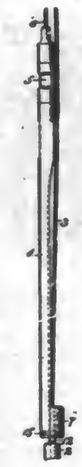
1. In a miter box, the combination with a leg supported base, of a radius bar pivoted to a rear portion of the base and extending rearwardly and forwardly beyond the latter and having at its rear and forward portions upstanding saw guides each comprising vertical members which are separated one from the other, and movable transversely the one relatively to the other, one saw guide member having transverse perforations in its upper and lower portions, headed screws, the shanks of which are passed loosely through said perforations in the one saw guide member, and with a screw thread engagement into the other saw guide member, and spiral springs encircling the intermediate portions of the screw shanks, and in compression between the saw guide members.

2. In a miter box, the combination with a base, of a radius bar pivoted thereto and extending rearwardly and forwardly therebeyond, having at its rear and forward portions fixed upstanding vertical posts, provided with vertical substantially T-shaped ribs, and saw guides comprising members which are separated one from the other, a member of both pairs of saw guides having substantially T-shaped grooves, for vertically slidable engagements with the said ribs of the posts, and stop blocks fitted in the upper portions of said grooves, washers against the grooved faces of the saw guide members, and screws having their shanks extended through the washers and through the mouths of the grooves, with a threading engagement in said stop blocks and having their heads engaging the faces of the washers.

3. In a miter box comprising a table-like base and a horizontal radius bar pivoted to and adapted to swing under the base and having at its front and rear portions upstanding saw guides comprising opposed members with a slot-like opening therebetween and a member of one of the guides having on its face adjacent the slot opening a plate provided with an angular extension, and provided with a comparatively large hole therethrough, a washer overlying the apertured portion of the plate and a screw the shank of which is passed through the washer, and said hole, and with thread engagement in the saw guide member,—the head of the screw engaging the face of the washer.

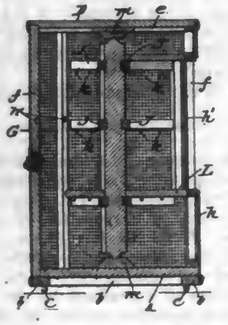
978,577. ROPE-KNIFE. ALBERT C. GRAHAM, Oilfields, Cal. Filed Oct. 19, 1909. Serial No. 523,478.

A cutting tool for well drilling cables comprising a body having a cable passage extending vertically therethrough with the lower end of the body recessed upwardly, and with the upper portions of opposite walls of the recess rounded and said opposite walls converging downwardly from their rounded portions, and a pair of cutters sharp at their lower ends and having rounded upper ends fitting the rounded walls of the recess and pivoted therein and held normally in converging relation by the converging faces of the recess with th



lower portions of the cutters depending beneath th lowermost extremity of the body.

978,578. MEAT-CASE. FRANCIS M. GRANT, Napoleon Ohio. Filed June 19, 1909. Serial No. 503,254.



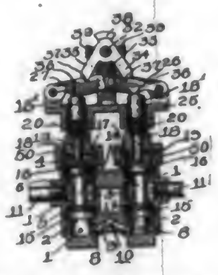
A device of the character described, comprising a ca ing, including strut-members, a central revolving sha arranged in said casing and having radial arms pr jecting therefrom, one of said arms having a fastenin at its outer end, said strut-members each having a sl therein engaged by said fastening, and a shelf carri by the lowermost arms, said casing being provided wi a lower door, also with an upper door forming a se ment thereof and carried by arms of said shaft for o erating the same.

978,579. AIR-VALVE. PAUL J. GREBEL and WILLIAM THEIS, Chicago, Ill., assignors to Manufacturers Equi ment Company, Chicago, Ill., a Corporation of Illinoi Filed Nov. 22, 1909. Serial No. 529,484.

1. A controlling valve comprising a casing provide with an inlet chamber, an outlet chamber and an inte mediate chamber, internal valve seats between the cha bers, a movable closure provided with heads arranged seat on the valve seats to control the passage betwe said chambers, and means for controlling the operatio of said closure.

2. A controlling valve comprising a casing provide with an inlet chamber, an outlet chamber and an interm diate chamber, a movable closure extending into each

said chambers arranged to control the passage between said chambers, and means for controlling the operation of said closure.



3. A controlling valve comprising a casing provided with partitions forming an inlet chamber, an outlet chamber, and an intermediate chamber, a valve seat formed in each partition, a longitudinally movable closure provided with a plurality of heads, one for each seat arranged to control the passage between said chambers, and means for controlling the operation of said closure.

4. A controlling valve comprising a casing provided with an inlet chamber, an outlet chamber and an intermediate chamber, a movable closure arranged to control the passage between said chambers, a plunger extending through the wall of said casing adapted to actuate said closure, a lever adapted to actuate the plunger in one direction and a spring for actuating the plunger oppositely.

5. In a device of the class described a casing provided with an inlet chamber, an outlet chamber, and a chamber intermediate the same adapted to communicate with each, a movable closure in the casing for controlling the communication between the chambers, a plunger loosely engaging the closure for actuating it in one direction, and a spring for retracting the plunger adapting inlet pressure to reversely actuate the closure.

[Claims 6 to 19 not printed in the Gazette.]

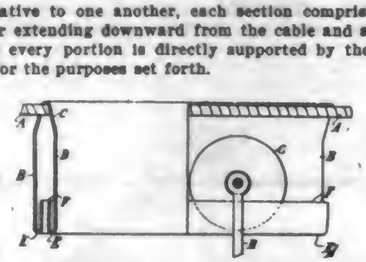
978,580. DYE. OSCAR GÜNTHER and LEOPOLD HESSE, Elberfeld, and ARTHUR ZART, Vohwinkel, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed May 11, 1910. Serial No. 560,687.

1. The herein described new dyestuffs being ureas of sulfonic acids of aminodisazo compounds, which dyes are after being dried and pulverized in the shape of their alkalin salts dark powders soluble in concentrated sulfuric acid with a violet-blue to greenish-blue color; yielding upon reduction with stannous chlorid and hydrochloric acid an aminosulfonic acid, a diamin and an urea of a diamin which is further decomposed into carboxylic acid and a diamin; dyeing cotton from yellow to red to brown shades, substantially as described.

2. The herein described new dyestuff being the urea of the disazo coloring matter: para-aminobenzene sulfonic acid + ortho-aminobenzene sulfonic acid + cresidin, which is after being dried and pulverized in the shape of its sodium salt a dark powder soluble in water with an orange-red color and soluble in concentrated sulfuric acid with a blue color; yielding upon reduction with stannous chlorid and hydrochloric acid para-aminobenzene sulfonic acid, para-phenylenediamin sulfonic acid and the urea of amino-cresidin, which is further decomposed into amino-cresidin and carboxylic acid; dyeing cotton yellowish-red shades fast to light; substantially as described.

978,581. AERIAL OR SUSPENDED RAILWAY. WILLIAM L. HAMILTON, Glasgow, Scotland. Filed Aug. 5, 1910. Serial No. 575,791.

1. A cable in suspension, a longitudinal assemblage of sections wholly supported by resting upon the cable, the adjacent sections having some freedom of angular movement relative to one another, each section comprising a suspender extending downward from the cable and a way of which every portion is directly supported by the suspender, for the purposes set forth.



2. A cable in suspension, a longitudinal assemblage of sections wholly supported by resting upon the cable, the adjacent sections having some freedom of angular movement relative to one another, each section comprising two suspenders extending downward from the cable and two ways of which every portion of each way is directly supported by one of the suspenders, for the purposes set forth.

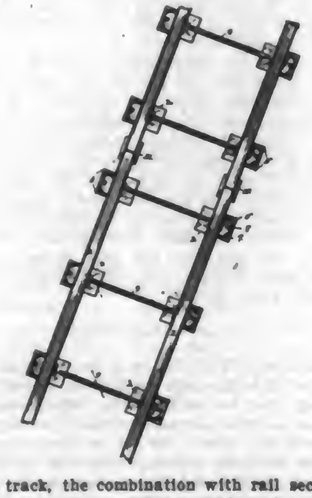
3. A cable in suspension, a longitudinal assemblage of sheet metal sections wholly supported by the cable, the adjacent sections having some freedom of angular movement relative to one another, each section comprising a continuous yoke to rest upon the cable, a continuous suspender depending from the yoke, and a continuous way supported by the suspender, for the purposes set forth.

4. A cable in suspension, a longitudinal assemblage of sheet metal sections wholly supported by the cable, the adjacent sections having some freedom of angular movement relative to one another, each section comprising a continuous yoke to rest upon the cable, two continuous suspenders depending from the yoke and two continuous ways, each supported by one of the suspenders, for the purposes set forth.

5. A cable in suspension, a longitudinal assemblage of sheet metal sections wholly supported by resting upon the cable, the adjacent sections having some freedom of angular movement relative to one another, each section comprising a suspender extending downward from the cable and an upright channel way of which every portion is directly supported by the suspender, for the purposes set forth.

[Claims 6 to 17 not printed in the Gazette.]

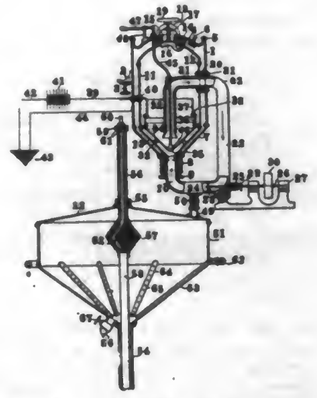
978,582. PORTABLE TRACK. WILLIAM H. HARRIS, Gladstone, N. Mex. Filed Aug. 16, 1909. Serial No. 513,098.



1. In a track, the combination with rail sections, of a block adapted to rest upon the ground; and provided with projections on its outer and inner edges adapted to enter the ground; a clamping member rigidly secured to said block and adapted to embrace the flange of a rail section on one side; a clamping member pivoted to said block and adapted to embrace the flange of a rail section on the other side; an arm on said pivoted clamping member; and a set screw mounted in said arm to contact with said block and force said clamping member against said rail section, substantially as described.

2. In a track, the combination with rail sections of a block adapted to rest upon the ground; a clamping member rigidly secured to said block and adapted to embrace the flange of a rail section on one side; an L-shaped clamping member pivoted to said block adjacent the other side of the rail flange; and having one arm adapted to engage the rail flange; and a set-screw threaded in the other arm and contacting with said block, substantially as described.

978,583. APPARATUS FOR USE IN RECLAIMING VULCANIZED-RUBBER WASTE. CHARLES S. HELLER, Barberton, Ohio, assignor to The Moore Architectural and Engineering Company, Akron, Ohio, a Corporation of Ohio. Filed Feb. 25, 1910. Serial No. 545,959.



1. Apparatus for re-claiming rubber waste comprising a double-walled receptacle adapted to hold a re-claiming solution, the space between the walls constituting a heating chamber provided with means to introduce heat to the same, the lower end of said receptacle conically-formed, a pipe at the conical end of said receptacle communicating with the interior thereof, a member corresponding substantially in contour with the interior of said receptacle positioned within and supported in spaced relation therewith, tubular conducting means having one terminal in open communication with the interior of said member and with the opposite end thereof communicating with said pipe and means positioned in said tubular conducting means arranged to cause said solution to pass from the interior of said member through said tubular means, the space between said member and the inner wall of said receptacle and discharge into said member.

2. Apparatus for reclaiming rubber waste comprising a double-walled receptacle adapted to hold a re-claiming solution, the space between the walls constituting a heating chamber provided with means to heat the same, a pipe at the lower end of said receptacle communicating with the interior thereof, a member corresponding substantially in contour with the interior of said receptacle positioned within and supported in spaced relation therewith, tubular conducting means having one terminal disposed within the interior of said member and with the opposite end communicating with said pipe and means for causing a flow of said solution through said tubular conducting means from the interior of said member to the space between said member and the inner wall of said receptacle and from thence discharge into said member.

3. Apparatus for re-claiming rubber waste comprising a double-walled receptacle adapted to hold a re-claiming solution, the space between the walls constituting a heating chamber and provided with means to introduce heat thereto, the lower end of said receptacle conically-formed, a pipe at said conical end communicating with the interior thereof, a member corresponding substantially in contour with the lower end of said member provided with an opening, a valve to close said opening, a valve-stem for said valve extending outside of said receptacle, means for manipulating said valve-stem, tubular conducting means having a terminal disposed within said member and with the opposite end thereof communicating with said pipe and means for causing said solution to pass from the interior of said member through said tubular conducting means to said pipe and from thence to the space between said member and the inner wall of said receptacle and discharge into said member.

4. Apparatus for re-claiming rubber waste comprising a double-walled receptacle adapted to hold a re-claiming solution and provided with a filling opening normally arranged to be closed by a gate, the space between the walls constituting a heating chamber and provided with means to heat the same, the lower end of said receptacle conically-formed, a pipe at said conical end communicating with the interior thereof, a member corresponding substantially in contour with the lower end of said member provided with an opening, a valve to close said opening, a valve-stem for said valve extending outside of said receptacle, means for manipulating said valve-stem, tubular conducting means having a terminal disposed within said member and with the opposite end thereof communicating with said pipe and means for causing said solution to pass from the interior of said member through said tubular conducting means to said pipe and from thence to the space between said member and the inner wall of said receptacle and discharge into said member.

5. Apparatus for re-claiming rubber waste comprising a double-walled receptacle adapted to hold a re-claiming solution, the space between the walls constituting a heating chamber and provided with means to introduce heat thereto, the lower end of said receptacle conically-formed, a pipe at the conical end of said receptacle communicating with the interior thereof, a member corresponding substantially in contour with the interior of said receptacle positioned therein and supported in spaced relation therewith, an electrically-insulated annulus mounted on said member forming the upper portion thereof, an insulated electric current-conducting wire connected with said annulus, a current-generating instrumentality connected with said wire, current-conducting means extending from said current-generating instrumentality to said receptacle, tubular conducting means having one terminal disposed within said member and with the opposite end thereof communicating with said pipe and means for causing said fluid to pass from the interior of said member through said tubular conducting means, the space between said member and the inner wall of said receptacle and discharge into said member, whereby said solution is caused to pass between the spaced terminals of said current-conducting wires.

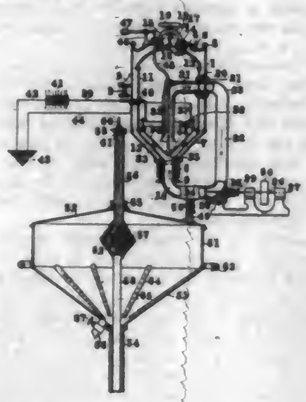
[Claims 6 to 11 not printed in the Gazette.]

978,584. PROCESS FOR RECLAIMING VULCANIZED RUBBER WASTE. CHARLES S. HELLER, Barberton, Ohio, assignor to The Moore Architectural and Engineering Company, Akron, Ohio, a Corporation of Ohio. Filed Feb. 25, 1910. Serial No. 545,960.

1. That improvement in the art of reclaiming rubber which consists in subjecting vulcanized rubber waste to the action of a solution containing a caustic alkali and ferric sulfate in the presence of heat and under pressure and subjecting said waste simultaneously to agitation and the action of an electric current and afterward washing said waste to remove the re-claiming agent therefrom.

2. That improvement in the art of reclaiming vulcanized rubber waste which consists in agitating said rubber waste in a comminuted condition while in a solution containing a caustic alkali and ferric sulfate in

heated condition and under pressure and simultaneously subjecting said waste to the action of an electric current and afterward washing the same to remove the reclaiming agents therefrom.



3. That improvement in the art of reclaiming rubber which consists in subjecting vulcanized rubber waste in a comminuted condition to the action of a solution containing a caustic alkali and ferric sulfate, continuously heating said solution and subjecting the same to pressure and agitation and simultaneously to the action of an electric current and afterward thoroughly washing said waste to remove all trace of the reclaiming agents therefrom.

4. That improvement in the art of reclaiming rubber which consists in commingling vulcanized rubber waste in a comminuted condition with a solution containing a caustic alkali and ferric sulfate, forcing said commingled waste and solution continuously through a heated receptacle to maintain said solution and waste at a proper temperature to cause the separation of the vulcanizing agents therefrom and simultaneously subjecting said waste to the action of an electric current and afterward withdrawing said solution and rubber waste from said receptacle and washing the same to remove the re-claiming agents therefrom.

5. That improvement in the art of reclaiming rubber which consists in commingling vulcanized rubber waste in a comminuted condition with a solution containing for each one hundred (100) pounds of rubber waste twenty-one (21) pounds of caustic alkali, six hundred (600) pounds of water and one (1) pound of ferric sulfate, maintaining said solution in a heated condition and under pressure and subject to agitation during the reclaiming process and simultaneously passing an electric current through said rubber waste while contained in said solution and afterward washing said solution to remove the re-claiming agents therefrom.

978,585. CAN-TOP FASTENER AND OPENER. CLEMENCE HUBER, Streator, Ill. Filed Sept. 10, 1909. Serial No. 517,007.



1. The combination with relatively stationary and movable parts, of a member movably connected to one of the parts and engaging with the other part to lock said parts together, the member being movable to unlock the parts and positively force the same apart.

2. The combination with relatively stationary and movable parts, of a member connected to one of said parts and movable in one direction to engage the other part to lock the said parts together, the member being movable in another direction to unlock the parts and to positively force the movable part from the stationary part.

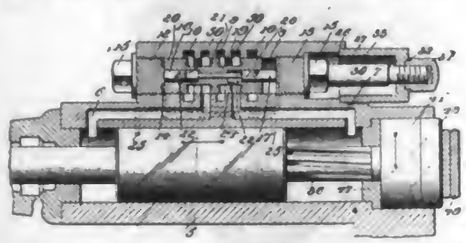
3. The combination with relatively stationary and movable parts, of means for locking said parts together, the locking means being adapted to wedge between the parts to positively force the same apart.

4. The combination with relatively stationary and movable parts, of a member movably connected to one part and having a spiral rib engaging with the other part to lock said parts together, the rib releasing the movable part from the stationary part upon the movement of the member and positively forcing said parts apart.

5. The combination with relatively movable and stationary complemental parts, of a member carried by one of the parts and provided with a spiral rib arranged to engage with the other part to lock said parts together, the rib having a tapered extremity adapted to wedge between the parts to positively separate the same.

[Claims 6 to 8 not printed in the Gazette.]

978,586. ROCK-DRILL. CHARLES A. HULTQUIST, Bisbee, Ariz. Filed Feb. 28, 1910. Serial No. 546,466.



1. A rock drill including a cylinder having inlet and exhaust ports and provided with a valve chamber, a piston operating within the cylinder, removable plugs forming closures for the opposite ends of said chamber, a stationary plunger arranged within the valve chamber and having its opposite ends bearing against the inner faces of the plugs, a valve mounted for reciprocation on the plunger for controlling the admission of fluid to the opposite ends of the cylinder, a duct leading from each end of the valve to the cylinder to permit the passage of fluid for reciprocating said valve, and fluid pressure means for preventing rearward movement of the valve during a part of each stroke.

2. A rock drill including a cylinder having inlet and exhaust ports and provided with a valve chamber, a piston operating within the cylinder, removable plugs forming closures for the opposite ends of the valve chamber, one of which is provided with a stem, a casing spaced from the stem to form a chamber communicating with the inlet port and provided with means for attachment to a source of fluid supply, a plunger interposed between and bearing against the plugs, a valve mounted for reciprocation on the plunger for controlling the admission of fluid to the opposite ends of the cylinder, and a duct leading from each end of the valve to the cylinder to permit the passage of fluid for reciprocating said valve.

3. A rock drill including a cylinder having inlet and exhaust ports and provided with a valve chamber, a piston operating within the cylinder, solid plugs forming closures for the opposite ends of the valve chamber, one of said plugs being provided with a threaded rod, a rotary casing surrounding the rod and spaced from the latter to form a chamber communicating with the inlet port and a source of fluid supply, a plunger interposed between and bearing against the plugs, a valve mounted for reciprocation on the plunger for controlling the admission of fluid to the opposite ends of the cylinder, and a nut engaging the threaded end of the rod and

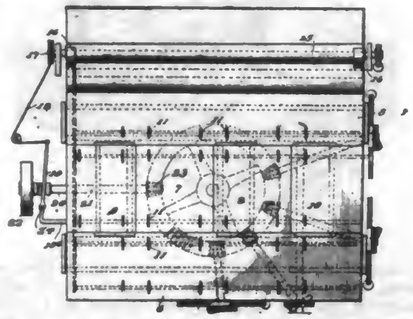
bearing against the casing for securing the latter in adjusted position.

4. A rock drill including a cylinder having inlet and exhaust ports and provided with a valve chamber, a piston operating within the cylinder, removable plugs forming closures for the opposite ends of the valve chamber, one of said plugs being provided with a stem, a casing spaced from and surrounding the stem to form a chamber communicating with the inlet port and a source of fluid supply, means carried by the stem and engaging the casing for holding the latter in adjusted position, a plunger interposed between and bearing against the plugs, a valve mounted for reciprocation on the plunger for controlling the admission of fluid to the opposite ends of the cylinder, a duct extending from each end of the valve to the cylinder to permit the passage of fluid for reciprocating the valve, and pockets formed in the valve around the plunger and communicating with the fluid supply for preventing rearward movement of the valve during a part of each stroke.

5. A rock drill including a cylinder having inlet and exhaust ports and provided with a valve chamber, a piston operating within the cylinder, removable plugs forming closures for the opposite ends of the valve chamber, a stationary rod arranged within the valve chamber and having its opposite ends provided with enlarged heads bearing against the inner faces of the plugs, a valve mounted for reciprocation on the plunger for controlling the admission of fluid to the opposite ends of the cylinder, said valve being provided with a central bore for the reception of the rod and oppositely disposed chambers adapted to receive the heads of said rod, there being ports formed in the walls of said chambers and adapted to communicate alternately with the fluid supply, and a duct extending from each end of the valve to the interior of the cylinder.

[Claims 6 and 7 not printed in the Gazette.]

978,587. ATTACHMENT FOR PULP-PRESSES. JOHN O. HUNT, Glens Falls, N. Y. Filed Mar. 11, 1910. Serial No. 548,731.



1. The combination with the pulp cylinder of a paper pulp press, of a sheet folding apparatus arranged in proximity to said cylinder, actuating mechanism for said folding apparatus, means for starting said actuating mechanism, means for automatically severing the pulp on the cylinder, and an operative connection between said actuating mechanism and said severing means.

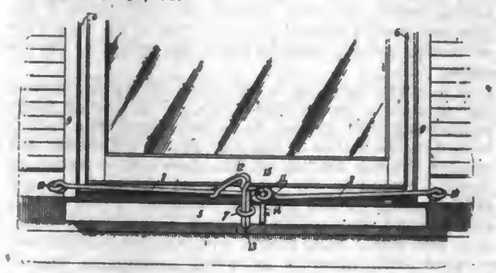
2. The combination with the pulp cylinder of a paper pulp press, of a sheet folding apparatus arranged in proximity to said cylinder, actuating mechanism for said folding apparatus, means for automatically starting the said actuating mechanism, means for automatically severing the pulp on the cylinder, and an operative connection between said actuating mechanism and said severing means.

3. The combination with the pulp cylinder of a paper pulp press, of a sheet folding apparatus arranged in proximity to said cylinder, actuating mechanism for said folding apparatus, means for automatically starting said actuating mechanism, said last named means being controlled automatically by the predetermined thickness of the sheet of pulp on the cylinder, means for automatically severing the pulp on the cylinder, and an operative connection between said actuating mechanism and said severing means.

4. The combination with the pulp cylinder of a paper pulp press, of a sheet folding apparatus arranged in proximity to said cylinder, actuating mechanism for said folding apparatus, means for automatically starting said actuating mechanism, a knife carried by said cylinder and normally held in a retracted position therein, and means controlled by the said actuating mechanism for projecting the knife from the periphery of the cylinder, whereby to sever the sheet.

5. The combination with the pulp cylinder of a paper pulp press, of a sheet folding apparatus arranged in proximity to said cylinder, actuating mechanism for said folding apparatus, a knife carried by said cylinder, and normally held in a retracted position therein, the cylinder being mounted in vertically movable bearings, another cylinder subjacent to the first named cylinder and between which the pulp is adapted to pass, whereby the accumulations of pulp on the first named cylinder will gradually raise the pulp cylinder, a shaft mounted above the pulp cylinder, a cam carried by said shaft and arranged to engage the periphery of the pulp cylinder at a predetermined elevation of the latter, and means for automatically starting said actuating mechanism and for projecting the knife out from the periphery of the pulp cylinder upon the engagement of the said cam with the pulp cylinder and the consequent turning of the shaft on which the cam is mounted.

978,588. SHUTTER MANIPULATOR AND FASTENER. JOHN WILSON HUNTLEY, Rockhill, S. C., assignor to Robert T. Marsh, Rockhill, S. C. Filed May 13, 1910. Serial No. 561,101.



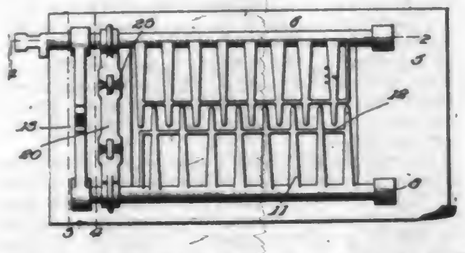
1. In a shutter fastener, in combination with a window frame, two shutters hinged thereto, two rods articulated at their outer terminals to the shutters respectively, the rods having eyes at their inner terminals, one of the rods being disposed in the eye on the other rod, an eye member secured to the window frame, and a pin member carried by one of the rods, having two projections, one adapted to be disposed in the eyes on the rods and the other in the eye member.

2. In a shutter fastener, in combination with a window frame and two shutters hinged thereto, two rods articulated at their outer terminals to the shutters respectively, the rods having eyes at their inner terminals, one of the rods being disposed in the eye on the other rod, an eye member secured to the window frame, and a pin member having means for engaging the eyes on the rods and the eye member, for holding the shutters extended.

3. In a shutter fastener, in combination with a window frame with two shutters hinged thereto, two rods articulated at their outer terminals to the shutters respectively, one of the rods having an eye at its inner terminal in which the other rod is disposed, and means for securing the rods relatively to each other and to the window frame.

4. In a shutter fastener, two rods having inner terminals with eyes respectively, one of the rods being disposed in the eye of the other rod, and a pin member carried by one of the rods, having a projection adapted to be disposed in the eyes on the rods.

978,589. SHAKING AND DUMPING GRATE. CHARLES F. HUTCHINSON, Kingsville, Md., assignor to Hutchinson Bros., Kingsville, Md., a Corporation. Filed Jan. 13, 1910. Serial No. 537,914.

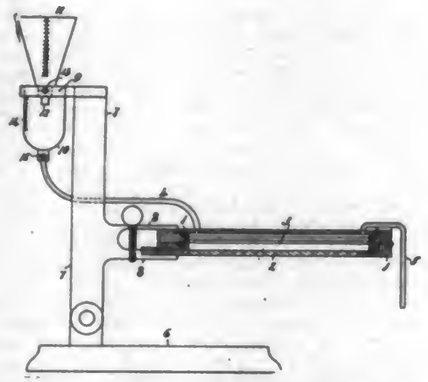


1. A grate including a bed plate having a substantially rectangular opening formed therein and provided with spaced depending sockets arranged at one end of the bed plate, and opening through the top of said plate, there being a transverse opening formed in the other end of the plate, spaced shafts having reduced portions journaled in said sockets and provided with annular grooves defining stop shoulders, said shafts being formed with angular portions and provided with inwardly extending overlapping fingers, toothed segments seated in the transverse opening and having angular openings adapted to receive the angular portions of the shafts, perforated lugs depending from the bottom of the plate at the rear of said transverse opening, a detachable tie bar bearing against the shoulders on the shaft and provided with depressions forming bearings for said shaft, there being spaced perforations formed in the tie bar between said depressions to permit the passage of the lugs, and removable fastening devices extending through the perforations in the lugs and bearing against the lower face of the tie bar for detachably securing said tie bar to the bottom of the bed plate.

2. A grate including a bed plate having an opening formed therein and provided with an upstanding flange surrounding said opening, there being depending sockets formed on the bottom of the plate at one end thereof and opening through the top of said plate and a transverse opening formed in the other end of the plate, spaced shafts having reduced portions journaled in said sockets and provided with annular grooves defining stop shoulders, said shafts being formed with angular portions and provided with inwardly extending overlapping fingers, toothed segments seated in the transverse opening and having angular openings adapted to receive the angular portions of the shafts, perforated lugs depending from the bottom of the bed plate at the rear of the transverse opening, a detachable tie bar bearing against the bottom of the bed plate between the transverse opening and the adjacent wall of the opening in said bed plate, said tie bar being provided with spaced depressions adapted to receive the shafts between said shoulders and having perforations formed therein between the depressions to permit the passage of the lugs, and removable fastening devices extending through the perforations in the lugs and bearing against the lower face of the tie bar for detachably securing said tie bar to the bottom of the bed plate, one of the shafts being extended longitudinally beyond the adjacent end of the bed plate and provided with a lug for engagement with an operating handle.

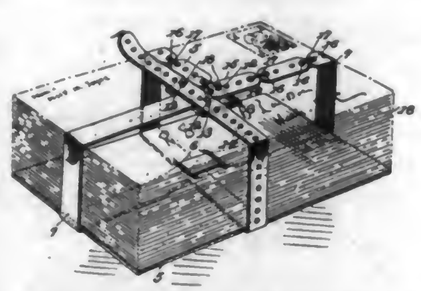
978,590. COMBINED DARK SLIDE AND DEVELOPING-DISH FOR COLOR PHOTOGRAPHY. ROGER BARWICK HUTTON, Pitsea, England. Filed Oct. 15, 1908. Serial No. 457,959.

1. A dark slide for color photography having an internal water tight space and inlet and outlet tubes communicating with said space, in combination with a vessel to contain developer and a balanced pivotal support for the slide and vessel, said support being adapted to automatically tilt when the liquor is transferred from the vessel to the slide.



2. The combination with a dark slide having a space to receive developer, of a supporting stand having a vertically disposed arm, pivotally attached to the stand at its lower end, a clamp carried by said arm above the pivot and holding said slide, a vessel to contain developer carried by said pivoted arm and a conduit leading from said vessel to said dark slide and a second conduit leading from said slide.

978,591. MAIL-BINDER. ALICE M. JAYNE, Bradford, Pa. Filed Feb. 5, 1910. Serial No. 542,362.

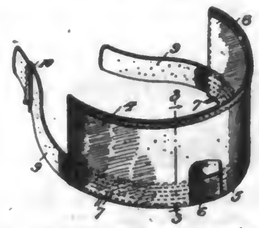


1. A mail binder including a supporting member, and a securing strap having one end thereof provided with an upstanding pin and its other end formed of a plurality of pivotally connected sections movable in a horizontal plane at right angles to each other and having openings formed therein for the reception of the pin.

2. A mail binder including a supporting member, a securing strap carried by the supporting member and formed of a plurality of sections, each having eyelets formed in the opposite ends thereof, links engaging said eyelets and forming a pivotal connection between the adjacent sections, and a reinforcing plate carried by one end of the strap and provided with spaced upstanding pins adapted to enter openings formed in said sections.

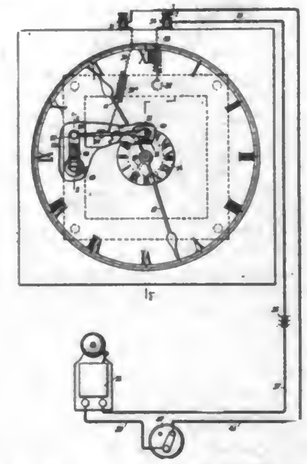
3. A mail binder including a flexible supporting member having spaced slits formed therein, a securing strap having one end thereof extended laterally and folded upon itself to form a pocket, and a substantially triangular supporting plate seated in said pocket and provided with upstanding pins, said plate being retained within the pocket by a row of stitching piercing the adjacent edges of the strap, a portion of the opposite end of the strap being formed of pivotally connected sections having openings formed therein and adapted to receive the pins.

978,592. HOSE-SUPPORTER. JAMES H. JOHNSON, Washington, D. C. Filed Sept. 2, 1909. Serial No. 515,822.



In a hose supporter the combination with a doubled piece of pliable fabric, of a webbing formed of an elastic section and two inelastic ends, said ends being provided with means for securing them together to form an encircling garter, the elastic portion of said webbing being inserted between the folds of the fabric, and stitchings securing the webbing and fabric together, the fabric extending from one side of the webbing to form a flap and being of a length substantially the same as the elastic section.

978,593. ELECTRIC TIME-SIGNAL. JOHN ISAAC JOHNSTON, Graham, Mo. Filed May 10, 1910. Serial No. 560,487.

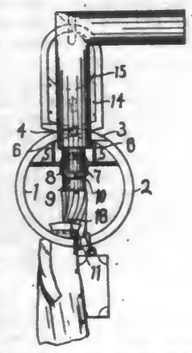


1. In an electric time signal, the combination of a time-controlled revoluble member, a sleeve carried thereby and provided with tongues bent to fit said revoluble member, an alarm dial mounted upon said sleeve and revoluble therewith, a commutator mounted upon said sleeve and provided with a sector, a brush engaging said commutator and adapted to periodically engage and disengage said sector as said commutator turns, and electric alarm mechanism connected with said brush and with said revoluble member and controllable by the contact of said sector relatively to said brush.

2. The combination of a cannon, a sleeve carried thereby and provided with tongues adapted to bend in order to facilitate the fitting of said sleeve upon said cannon, an alarm dial carried by said sleeve and movable by hand for the purpose of turning said sleeve relatively to said cannon, a commutator carried by said sleeve, a brush to be engaged by said commutator, and electric alarm mechanism connected with said brush and with said cannon.

978,594. ARTICLE AND BAG SECURER. EDWARD R. JONES, Steubenville, Ohio. Filed Mar. 30, 1910. Serial No. 552,318.

1. In article securers, two arms pivoted between their ends on each other, clamping members mounted on the lower part of said arms and means mounted on the upper part of said arms for locking the upper and lower ends of said arms and said clamping members together.



2. In article securers, two arms pivoted between their ends on each other, clamping members mounted on the lower part of said arms and extending inwardly from the same and engaging each other, and a lock for locking the upper and lower ends of said arms, and said clamping members together.

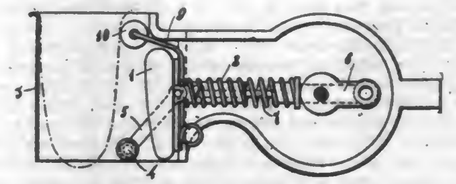
3. In article securers, two arms pivoted on each other, clamping members mounted on and extending inward from said arms and forming in closed position a collar in a slanting position in relation to the vertical position of said arms, and means for locking said arms and said clamping members together.

4. In combination, in article securers, two arms pivoted to each other, pins mounted on said arms, semi-circular pieces mounted on said pins, one of said pieces being provided with lugs on each of its ends, the other piece being provided with corresponding recesses, a coat-hook mounted on one of said arms, and means for locking said arms in closed position substantially as set forth.

5. In combination, in article securers, two arms pivoted to each other, pins mounted on said arms, clamping members mounted on said pins and adapted to engage each other and means for locking said arms in closed position

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978,595. MILKING-MACHINE. GUSTAF EMIL JONSSON Norrköping, Sweden. Filed Mar. 4, 1910. Serial No. 547,267.



1. In a milking machine, the combination of a clamping member, a cutting-off member placed at the top thereof for cutting off the interior of the teat from the udder and means for supporting the said cutting-off member in such a manner as to cause the same to describe a path in an upward and rearward direction relatively to the clamping member, when the latter is pressed onto the teat.

2. In a milking machine, the combination of a clamping member, a cutting-off member placed at the top thereof for cutting off the interior of the teat from the udder, and means for connecting the said cutting-off member to the said clamping member in such a manner as to cause the same to describe a path in an upward and rearward direction relatively to the clamping member, when the latter is pressed onto the teat.

3. In a milking machine, the combination of a clamping member, a spring attached to the said clamping member and a cutting-off member carried by the said spring in such a manner as to swing upwardly and rearwardly

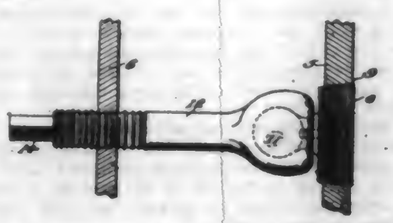
relatively to the said clamping member, when the latter is pressed onto the teat.

4. In a milking machine, the combination of a clamping member, a spring attached to the said clamping member, at the back thereof, and a cutting-off member carried by the said spring in such a manner as to swing upwardly and rearwardly relatively to the said clamping member, when the latter is pressed onto the teat.

5. In a milking machine, the combination of a clamping member, a roller placed at the top and somewhat in front thereof for cutting off the interior of the teat from the udder, and means for supporting the said roller in such a manner as to cause the same to describe a path in an upward and rearward direction relatively to the clamping member, when the latter is pressed onto the teat.

[Claims 6 and 7 not printed in the Gazette.]

978,596. FLEXIBLE STAY-BOLT. JAMES W. KEELEY, Philadelphia, Pa. Filed Oct. 24, 1910. Serial No. 588,754.



1. The combination with a pair of boiler sheets, of a stay bolt engaging one of the sheets and provided with a spherical socket, and a plug engaging the other sheet and having a spherical head fitting within the socket.

2. The combination with a pair of boiler sheets, of a stay bolt engaging one of the sheets and provided with a spherical socket, and a plug engaging the other sheet and having a spherical head fitting within the socket, there being a tell tale hole formed in the plug and having one end thereof opening through the outer face of the plug and its other end terminating short of the end of the head.

3. The combination with a pair of boiler sheets, of a stay bolt having one end thereof threaded for engagement with one of the sheets and its other end provided with a spherical socket, and a plug engaging the mating sheet and provided with a spherical head fitting within said socket, said plug being pierced by a tell tale hole opening through the outer face of the plug.

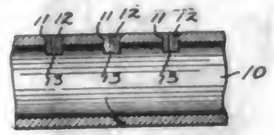
4. The combination with a pair of boiler sheets, of a stay bolt having one end thereof provided with means for engagement with one of the boiler sheets and its other end formed with a spherical socket, and a tapered plug seated in the other sheet and having its outer face disposed substantially flush with the outer face of said sheet and its inner face provided with a spherical head fitting within the socket, said plug being provided with a wrench receiving opening and having a tell tale hole formed therein and intersecting said opening.

5. The combination with a pair of boiler sheets, of a stay bolt engaging one of the sheets and provided with a terminal spherical socket, and a tapered plug threaded in the other sheet and having a reduced neck defining a spherical head fitting with said socket, there being a tell tale hole formed in the neck of the plug and opening through the outer face thereof.

[Claims 6 to 8 not printed in the Gazette.]

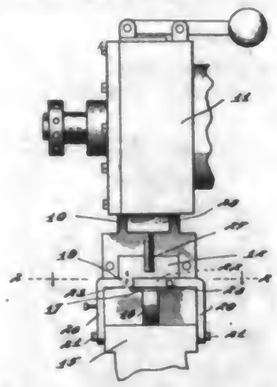
978,597. SPRINKLING-PIPE. OLIVER JEFFERSON KENNEDY, San Diego, Cal., assignor of one-half to Patrick W. Sweeney, Los Angeles, Cal. Filed June 26, 1909. Serial No. 504,536.

A sprinkling pipe provided with a slightly tapering opening leading from the outer periphery of the same with its smallest diameter on a line with the inner surface of the pipe, and a plug of non-corrodible compressible metal of a diameter greater than the smallest diameter of said opening, said plug being forced into and partly



through said opening with its outer end substantially flushed with the pipe and having its inner end protruding a suitable distance within the pipe, said plug having a central bore, as and for the purpose described.

978,598. SHEARING-MACHINE. GOTTFRID KNAUS, Chicago, Ill., assignor to Sellers Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 5, 1910. Serial No. 542,315.



1. In a machine for shearing a body of metal having on the surface thereof a series of conformations of substantially uniform character, the combination with a reciprocating shearing blade of a gravity device past which the body of metal is fed forwardly and which engages successively with said conformations so as to position the successive cuts made by said shearing blade relative to the said conformations respectively adjacent thereto.

2. In a machine for shearing a body of metal having on the surface thereof a series of conformations of substantially uniform character, the combination with a reciprocating shearing blade, of a pivoted stop bar under which the body of metal is fed forwardly and which is brought into engagement successively with said conformations so as to position the successive cuts made by said shearing blade relative to the said conformations respectively adjacent thereto.

3. In a machine for shearing a strip of metal having thereon a succession of transverse ribs, the combination with a support over which said body is moved, of a reciprocating shearing blade, and a stop device which is pivoted to said support and against which said ribs may be successively abutted so as to position the successive cuts relatively thereto.

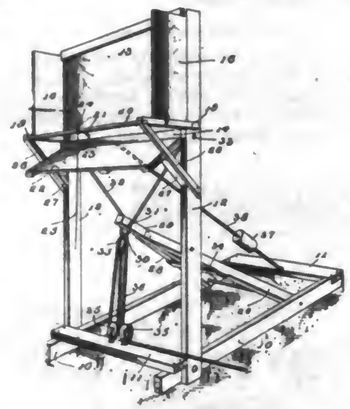
4. In a machine for shearing a strip of metal having thereon a succession of transverse ribs, the combination with a die block, of a reciprocating head, a shearing blade on said head and a stop member pivoted to the die block against which said ribs may be successively abutted so as to position the successive cuts relative thereto.

5. In a machine for shearing a strip of metal having thereon a succession of transverse ribs, the combination with a die block having a slot on its upper surface through which said body is moved of a reciprocating head, a shearing blade on said head and a gravity stop pivoted

to the die block against which said ribs are made to successively abut so as to position the successive cuts with respect thereto.

[Claims 6 and 7 not printed in the Gazette.]

978,599. DUMPING APPARATUS. GEORGE A. LACKEY, Augusta, Kans. Filed Nov. 10, 1909. Serial No. 527,263.



1. A dumping apparatus including a base, arms pivotally mounted at the sides of said base toward the outer end thereof, a platform carried upon the outer ends of said arms, hinged leaves disposed at the opposite ends of said platform, means carried by said arms for retaining said leaves in an upward position, an apron hingedly carried by said platform, and means connected between said base and said elevator for raising the same.

2. A dumping apparatus including a base, a pair of arms hingedly mounted at one end of said base and adapted to swing downwardly against the sides thereof, a platform located upon the outer ends of said arms for positioning against the inner end of said base, leaves hingedly carried by said platform to close the ends of the same, an apron carried by said platform to inclose the inner edge of the same, a locking member carried by said arms for engagement with said apron to lock the same in a closed position, and means disposed between said base and said elevator for raising the same.

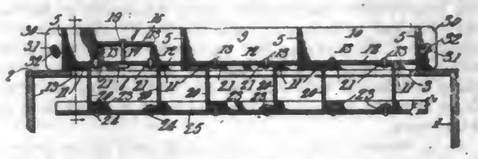
3. A dumping apparatus including a base, arms pivotally carried by said base, a platform carried on the outer ends of said arms, leaves hingedly carried by said platform for engaging the same at times, an apron carried by said platform for deflecting material therefrom, supports carried by said arms, a brace disposed across the upper ends of said supports, said apron adapted to engage against the under side of said brace, a locking member carried by said brace for engagement with said apron, and means carried by said base for swinging said arms into a vertical position.

4. A dumping apparatus including a base, arms pivotally carried upon said base, a platform located across the outer ends of said arms, standards carried by said arms at the inner end of said platforms, a brace engaging across the upper ends of said standards, an apron hingedly carried by said platform for engagement between said standards beneath said brace, a locking member carried by said brace for engagement with said apron, a hoisting member disposed on said base, reach-rods pivotally connected at their opposite extremities to said hoisting member and said arms, and means disposed between said base and said hoisting member for raising said arms.

5. A dumping apparatus including a base, an elevator hingedly mounted at one end of said base and having a rigid load-receiving platform at its outer end, said elevator having a hinged leaf at the inner edge of the platform to release the load when the elevator is in a raised position, a hoisting member carried by said base and connected to said elevator to raise the same and means carried by said base and connected to said hoisting member for actuating the same.

[Claim 6 not printed in the Gazette.]

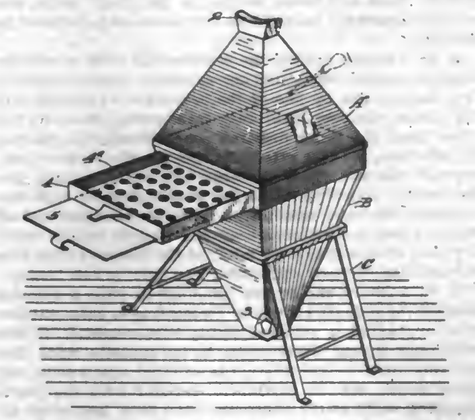
978,600. BRICK-MACHINE. HERMAN W. LAMPMAN, Lagrange, Ind., assignor to William E. Snyder, Lagrange, Ind. Filed June 27, 1910. Serial No. 569,187.



1. A brick machine including a compartment mold box made up of side plates and cross plates, the ends of the side plates being extended beyond the end cross plates and having handles mounted therebetween, cross rods in each of the compartments of the mold box, core plates mounted on said cross rods and having knobs projecting upward therefrom, hollow cores in engagement with said knobs at opposite portions and held against movement thereby, a bolt extending through each of said cores and through the core plate, a back plate, and connecting plates mounted between the core plates and said back plates.

2. A brick machine comprising a compartment mold box consisting of side plates having slots therein, a plurality of cross plates each having a plurality of lugs on each end thereof extending through the slots of the side plates and riveted therein, the ends of the side plates being extended beyond the end cross plates, handles mounted between the extended ends of the side plates, a plurality of cross rods extending across the lower ends of each compartment of the mold box, a core plate mounted in each compartment and resting normally on the cross rods, each core plate having a plurality of headed bolts, a hollow core in engagement with said headed bolts and held against movement thereby, a bolt securing each core to its core plate, a back plate having longitudinal flanges, and a pair of connecting plates mounted between each core plate and the back plate, each connecting plate having an upper flange secured to the core plate by said headed bolts, and a lower flange secured to the back plate between the longitudinal flanges thereof.

978,601. EGG TRANSFER AND TESTING DEVICE. WILLIAM A. LANDIS and LOUIS A. COSTA, Glen Ellen, Cal. Filed Apr. 4, 1910. Serial No. 553,214.



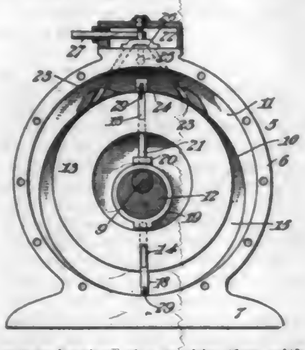
1. The combination in an egg-testing apparatus, of upwardly and downwardly convergent separable members

forming a closed case having observation and light openings at top and bottom, and a perforated testing tray slidable transversely of the apparatus and having an open inner end and sides to inclose the filler sides, said tray constituting a means for transferring the egg-containing compartment drawers or fillers to and from the apparatus, and a curtain plate slidable in said tray.

2. The combination in an egg-testing apparatus, of upwardly and downwardly convergent separable members forming a closed case having observation and light openings at top and bottom, and a perforated open ended testing tray slidable transversely of the apparatus to inclose the sides and bottom of the filler, said tray constituting a means for transferring the egg-containing compartment drawers or filler to and from the apparatus, a curtain-plate slidable in said tray, and a plate fitting the tray front to retain the eggs in the case when the tray is to be withdrawn.

3. A transfer device for egg testing, said device including a tray having an open inner end, a bottom having openings to register with the filler compartments of the carrier, said tray sides inclosing the filler sides and the bottom passing beneath the filler, and a curtain plate slidable below the tray bottom to control the exposure of the eggs within the testing apparatus.

978,602. ROTARY ENGINE. JOHN W. LARIMORE, Benton, Ill. Filed Nov. 24, 1909. Serial No. 529,758.

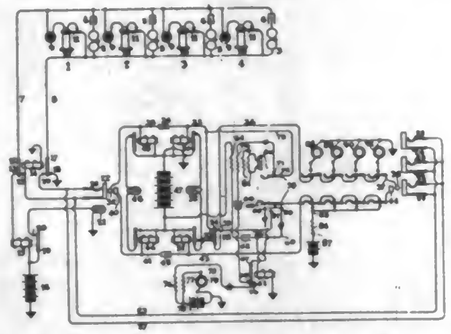


1. In a rotary engine, the combination with a cylinder member having heads, of a shaft extending through the cylinder member, a cam carried by one of the heads and terminating short of the other head, said cam surrounding the shaft, a rotary piston operating in the cylinder member and surrounding the cam, said piston having a member lying between the one end of the cam and one cylinder head and being secured to the shaft, and a piston blade movably mounted on the piston and operated by the cam.

2. In a rotary engine, the combination with a cylinder member having heads and an eccentric piston chamber, of a cam carried by one of the heads and extending into the piston chamber, said cam terminating short of the other head and being disposed concentrically in the piston chamber, a shaft extending through the piston chamber and cam and disposed eccentric to both, a rotary piston located eccentrically in the piston chamber and surrounding the cam, said piston lying between one end of the cam and one cylinder head and secured to the shaft, a piston blade slidably mounted in the piston, and a ring surrounding the cam and connected to the piston blade.

3. In a rotary engine, the combination with a cylinder member, of a shaft extending therethrough, said cylinder member having a piston-receiving bore eccentric to the shaft and having counterbores in its opposite sides that are concentric to the shaft, the counterbores having the walls at one side in substantial register with the corresponding walls of the piston-receiving bore, means for introducing motive fluid into the opposite side of the piston-receiving bore, heads for the cylinder member, a stationary cam carried by one of the heads and extending into the piston-receiving bore, a cam surrounding the shaft, a rotary piston comprising a body located in the piston-receiving bore and having sockets in its opposite sides, and heads secured to the body and operating in the counterbores, said heads having channels in their inner sides alined with the sockets, piston blades slidably operating in the sockets and channels, overlapping rings rotatably mounted on the cam, and link connections between the rings and the piston blades.

978,603. TESTING SYSTEM FOR PARTY-LINES. DWIGHT A. LAWYER and CLIFFORD C. BRADBURY, Chicago, Ill., assignors to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 17, 1908. Serial No. 467,940.



1. In a testing system, the combination with a telephone line having a busy testing terminal, of an operator's testing contact for testing the busy condition of the line, a cord circuit having its answering end conpected with the line, a testing circuit including a portion of the answering end of the sleeve talking strand of said cord circuit closed when a busy line is tested, and a suitable device for interrupting the current flow in said circuit, whereby when said line is tested a special tone is produced in the operator's receiver, said device being normally disconnected from the cord circuit by contacts of the operator's listening key, substantially as described.

2. In a testing system, the combination with a telephone line having a busy testing terminal, of a plurality of cord circuits, an operator's testing contact for testing the busy condition of the line, an alternating current testing circuit, an electromagnetic device for connecting said circuit with the sleeve voice current conductor when a busy line is tested, a pair of normally open contacts adapted to be closed during testing in the circuit between the contacts of said electromagnetic device and the sleeve voice current conductor, whereby a single magnetic device may be used with a plurality of cord circuits, substantially as described.

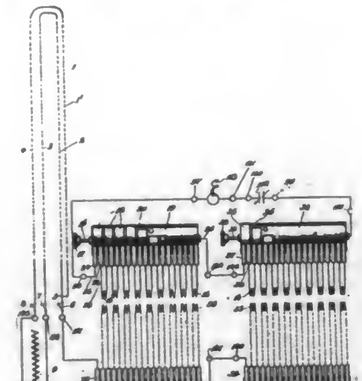
3. In a testing system, the combination with a telephone line having a busy testing terminal, of an operator's testing contact for testing the busy condition of the line, an oscillating current testing circuit, a common conductor, a switch for connecting said circuit with said common conductor during testing, and a second switch for connecting said common conductor with the sleeve strand of the particular cord circuit then in use during testing, wherby said first mentioned switch may be common to a plurality of cord circuits, substantially as described.

4. In a testing system for telephone lines, the combination with a cord circuit in which the sleeve voice current strand is connected with the test contacts of the line during the connection of the cord with the line, of a special test current source adapted to be connected with the sleeve voice current strand during testing, an operator's receiving circuit bridged between voice current strands of the cord circuit, and means to interrupt said receiving circuit whenever said special test producing device is connected with the sleeve strand of the cord circuit to prevent the current from said test producing device from giving a false test to the operator, substantially as described.

5. In a testing system for telephone lines, the combination with a cord circuit having tip and sleeve voice current strands, of an operator's induction coil, a special test current source adapted to be connected with the sleeve talking strand during testing, the current from said source passing over the sleeve of the cord circuit, the sleeve contacts of the answering and multiple jacks of a calling telephone line, the tip of the calling end of the cord circuit and a winding of the operator's induction coil, and means to prevent current from said special test producing device from passing through a winding of the operator's induction coil over any other path, substantially as described.

[Claims 6 to 24 not printed in the Gazette.]

978,604. ELECTRICAL TUNING DEVICE. ROBERT H. MARRIOTT, Brooklyn, N. Y., assignor to United Wireless Telegraph Company, a Corporation of Maine. Filed Nov. 13, 1908. Serial No. 462,496.



1. In a high frequency system of transmission of energy, the combination of a receiving circuit, a variable inductance arranged in said circuit, a local circuit, a variable inductance in said local circuit, all of the inductance in the receiving circuit being adapted to be connected either inductively or conductively with relation to the inductance in the local circuit and switching means for changing from the inductive to the conductive connection at will.

2. In a high frequency system of transmission of energy, an aerial, a variable inductance in circuit with said aerial, a local circuit including a variable inductance, said inductances being adapted to be connected either inductively or conductively with respect to each other, means for grounding said aerial circuit and switching means for changing from the inductive to the conductive connection at will.

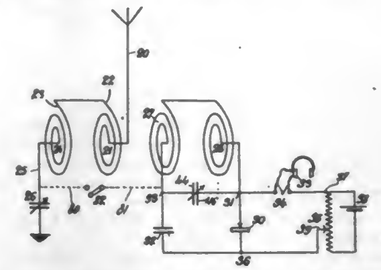
3. In a high frequency system of transmission of energy, an aerial, a variable inductance in circuit with said aerial, a local circuit including a variable inductance, a receiver in said local circuit, said inductances being adapted to be connected either inductively or conductively with respect to each other, means for grounding said aerial circuit and switching means for changing from the inductive to the conductive connection at will.

4. In a high frequency system of transmission, the combination of a grounded aerial, a variable aerial inductance in circuit with said aerial, a local circuit including a receiver, a local variable inductance and switching means whereby said aerial inductance and local inductance may be thrown in series with each other in said local circuit, and whereby also said aerial inductance is adapted to be thrown in series with said aerial and said local circuit.

5. In a high frequency system of transmission of energy, the combination of a circuit to be tuned and a tuning apparatus therefor, the latter including a frame carrying a plurality of self-induction coils, each insulated from the other and each disconnectible from the other, another frame carrying a plurality of inductance coils, each insulated from the other and each disconnectible from the other, a regulating switch for connecting one or more of said first named coils in circuit, a regulating switch for connecting one or more of said latter coils in circuit and means for moving one of said frames with respect to the other so as to vary the inductive relation between said coils.

[Claims 6 to 34 not printed in the Gazette.]

978,605. ELECTRICAL TUNING DEVICE. ROBERT H. MARRIOTT, Brooklyn, N. Y., assignor to United Wireless Telegraph Company, a Corporation of Maine. Filed July 7, 1909. Serial No. 506,424.



1. A tuning device for the high frequency transmission of electrical energy comprising a fixed coil mounted on the frame, a coil mounted on a movable frame, a condenser plate mounted on the opposite side of said movable frame, and a fixed support carrying another condenser plate, with which the former coöperates to form a condenser of variable capacity.

2. A tuning apparatus for the high frequency transmission of electrical energy comprising a box, a frame closing the mouth of the box, a fixed coil mounted on said frame, a movable coil mounted to swing within said box toward and from said fixed coil, a condenser plate carried by one side of said box, a movable condenser plate mounted adjacent to said movable coil and coöperating with said fixed condenser plate.

3. A tuning apparatus for the high frequency transmission of electrical energy comprising a box, a fixed frame closing the mouth of said box, a coil carried by the face of said frame, and movable toward and from said fixed coil, yielding material carried by the back of said movable frame, a condenser plate mounted thereon, yielding material carried by the side of said box, a condenser plate carried thereon, said condenser plates constituting condenser of variable capacity.

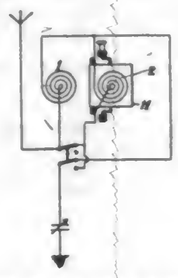
4. In a wireless telegraph tuning system, the combination of an aerial circuit, a local circuit, a fixed coil in each of said circuits in inductive relation with each other, said fixed coils being adapted to be placed and maintained at different fixed distances from each other, a movable coil in said local circuit, means for adjusting the position of each movable coil with relation to the corresponding fixed coil, two of the ends of said local coils being connected together and the remaining ends of the local coils being connected each to a point in said local circuit.

5. In a wireless telegraph tuning system, the combination of an aerial circuit, a local circuit, a fixed coil in each of said circuits in inductive relation with the other, means for adjusting said fixed coils, said fixed coils being adjustable toward and from each other, so as to adjust and fix the inductive relation between them, a movable coil

said local circuit, said movable coil lying wholly outside of the plane of the fixed coil and being adjustable toward and from said fixed coil, two of the ends of said coils in a local circuit being connected together and the remaining ends of the local coils being connected each to a binding post so as to permit their connection with the local circuit.

[Claims 6 and 7 not printed in the Gazette.]

978,606. ELECTRICAL TUNING DEVICE. ROBERT H. MARRIOTT, Brooklyn, N. Y., assignor to United Wireless Telegraph Company, a Corporation of Maine. Filed Aug. 24, 1909. Serial No. 514,441.



1. A tuning device for the high frequency transmission of electrical energy, comprising a fixed coil, a movable coil, said fixed and movable coils being in inductive relation, and means for bodily moving the movable coil so as to alternately present one side and then the other to the fixed coil, said movable coil being arranged at all times at one side of the face of the fixed coil.

2. A tuning device for the high frequency transmission of electrical energy, comprising a fixed coil, a frame, a movable coil secured to one side of said frame, said fixed and movable coils being in inductive relation, and means for bodily moving the frame so as to alternately present one side of the coil and then the other to the fixed coil, said movable coil being arranged at all times at one side of the face of the fixed coil.

3. A tuning device for the high frequency transmission of electrical energy, comprising a fixed coil, a movable coil, said fixed and movable coils being in inductive relation, a switch for throwing said fixed and movable coils in parallel, and means for bodily moving the movable coil so as to alternately present one side and then the other to the fixed coil, said movable coil being arranged at all times at one side of the face of the fixed coil.

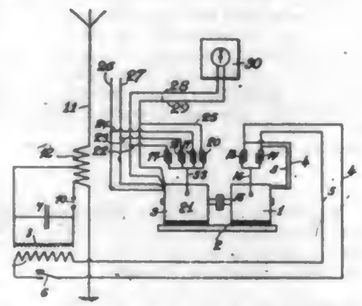
4. A tuning device for the high frequency transmission of electrical energy, comprising a fixed coil, a movable coil, said fixed and movable coils being in inductive relation, switching means for throwing said fixed and movable coils in parallel and in series with each other, and means for bodily moving the movable coil so as to alternately present one side and then the other to the fixed coil.

5. A tuning device for the high frequency transmission of electrical energy, comprising a fixed coil, a movable coil, said fixed and movable coils being in inductive relation, said movable coil being arranged at all times at one side of the face of the fixed coil, a frame to which said movable coil is secured, and a crank attached to said frame whereby said frame may be moved to alternately present one side of the movable coil and then the other to the fixed coil.

[Claims 6 to 9 not printed in the Gazette.]

978,607. PROTECTION APPARATUS FOR DYNAMO-ELECTRIC MACHINES. ROBERT H. MARRIOTT, Brooklyn, N. Y., assignor to United Wireless Telegraph Company, a Corporation of Maine. Filed Nov. 27, 1909. Serial No. 530,076.

1. The combination of a generator, an aerial, a local closed oscillatory circuit including a spark gap, a condenser and an inductance, a transformer for supplying energy to said local circuit, wire leads leading from the generator to said transformer, said aerial and local circuit being in such proximity to and relation with the wiring of said generator that high frequency oscillations are produced in said wiring by the wave action of said oscillatory circuit, and a condenser, one terminal of the condenser being connected to the generator frame and the other to the wire leads between the transformer and the generator.



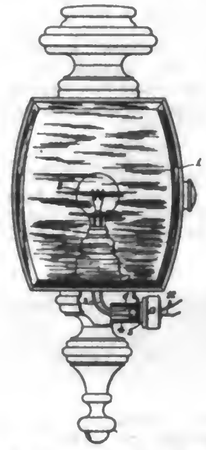
2. The combination of a motor, a generator driven thereby, an aerial, a local closed oscillatory circuit including a spark gap, a condenser and an inductance, a transformer for supplying energy to said local circuit, wire leads leading from the generator to said transformer, wire leads supplying current to said motor, said aerial and local circuit being in such proximity to and relation with the wiring of said generator and motor that high frequency oscillations are produced in said wiring by the wave action of said oscillatory circuit and a plurality of condensers, one terminal of a condenser being connected to the frame of the generator and another terminal to the wire leads between the generator and transformer, and a plurality of condensers for protecting the motor, one terminal of the condensers being connected to the motor frame, the other terminals of the condensers being respectively connected to the leads for supplying the motor with current.

3. The combination of an aerial, a local closed oscillatory circuit including a spark gap, a condenser and an inductance, a transformer for supplying energy to said local circuit, a dynamo, a motor for driving said dynamo, a switch-board, a rheostat located on said switch-board, wires connecting said rheostat with the armature of said motor, the aerial and local circuit being adjacent to the wiring of the generator and a condenser, one plate of said condenser being connected to one of the wires leading from the rheostat and the other plate being connected to the frame of the motor.

4. The combination of an electro-dynamic machine, including a frame, an armature and a field, a switchboard, a rheostat located on said switchboard, wires connecting said rheostat with said armature, and a condenser, one plate of said condenser being connected to one of said wires leading from the rheostat, and the other plate being connected to the frame of the machine.

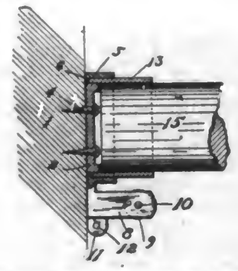
978,608. ELECTRIC CONNECTIONS FOR CARRIAGE-LAMPS. CHARLES O. MATHEWS, Milford, Conn., assignor of one-half to The White Manufacturing Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Mar. 2, 1910. Serial No. 546,940.

1. In a device of the character described, the combination with an incandescent lamp, of an internally threaded sleeve secured to said lamp and communicating with the interior thereof, a head having an externally threaded hollow hub projecting from its rear face, said hub being screwed within said sleeve, said head having a circular continuous externally threaded flange extended from its front end, a disk of insulating material seated within the head, said disk having an opening at its center, oblong blocks of conductive material positioned on either side of the central axis of the disk and on the front face thereof, feed wires contacted alternately thereon, and a cover having an opening, said cover being engaged upon the external screw threads of the circular flange of the head, the whole providing a continuous central passage throughout its entire length for the reception of feed wires.



2. In a device of the character described, in combination with an incandescent lamp, a sleeve secured to the lamp and extending outwardly from one side thereof, a head having an outwardly extending hub at one end secured to said sleeve at the outer end of the latter, a flange extending outwardly from the front end of the head, an insulating disk within the head having an opening which alines with the opening of the hub, blocks of conductive material carried by the disk on opposite sides of the opening thereof, a cover secured to the flange of the head and formed with an opening which alines with the disk opening, and feed wires connected to the blocks, two of the wires extending through the opening in the disk and the hub and the other wires extending through the opening in the cover.

978,609. CURTAIN-POLE CARRIER. CHARLES S. McBRIDE, Brooklyn, N. Y., assignor, by direct and mesne assignments, of one-half to Gould-Mersereau Company, New York, N. Y., a Corporation of New Jersey, and one-half to H. L. Judd Company, New York, N. Y., a Corporation of New York. Filed July 16, 1907. Serial No. 384,034.



1. The combination of a supporting member; a pole retaining sleeve detachably secured to said supporting member, and a roller carrying ring surrounding said pole retaining sleeve.

2. The combination of a threaded supporting member; a pole retaining member threaded upon said supporting member; a flanged roller carrying ring surrounding said supporting and pole retaining members.

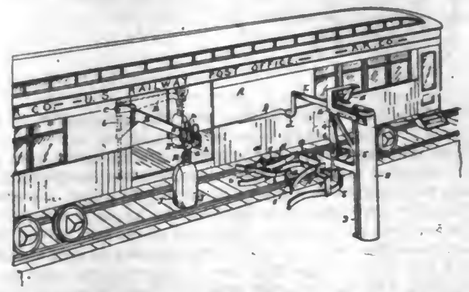
3. The combination of a supporting member; a pole retaining member detachably secured to said supporting member; a roller carrying ring surrounding said pole retaining member and engaging one end thereof, and a set screw passing through said ring and engaging said pole retaining member.

4. A curtain-pole carrier comprising an apertured externally threaded bed-plate; a pole retaining sleeve adapted to screw on said threaded bed-plate, and a ring surrounding said bed-plate, having an internal flange engaging said pole retaining sleeve; said ring provided with an integral roller carrying bracket.

5. A curtain-pole carrier comprising an apertured externally threaded bed-plate; a pole retaining sleeve adapted to screw on said threaded bed-plate, and a ring surrounding said bed-plate, said ring being formed with an internal circumferential flange engaging said pole retaining sleeve; fastening means for said bed-plate; a roller carrying bracket connected to said ring, and an eye formed on said bracket.

[Claims 6 and 7 not printed in the Gazette.]

978,610. DEVICE FOR DELIVERING AND CATCHING MAIL-BAGS. JOHN MCKINLEY, Detroit, Mich. Filed Feb. 26, 1910. Serial No. 546,127.



1. The combination of a swinging crane located adjacent to the opening in a railway car, a pair of adjacent brackets on the end thereof, said brackets being notched at their upper edges, each bracket carrying an L-shaped latch pivoted to said bracket adapted to revolve and raise the load thereon out of the notch, a swinging crane hung upon an immovable fixed support carrying a lance shaped projection, adapted to engage a ring support for mail bags, said parts operating in such a manner that the lance projection from the second named crane is adapted to withdraw the ring support from out of the notch in the brackets by dropping the revoluble latches, substantially as described.

2. In a mail catcher, the combination of a fixed support, a vertical revoluble crane carrying a lance-shaped projection D, and supporting and carrying a nest of springs and a spring buffer, said nest of springs and buffer and a frictional spring contact to hold it in the receiving position and yet permitting the impact of a railway mail bag to throw it from said position and rotate the same around the revoluble support, substantially as described.

3. In a mail catcher, the combination of spring supports 8, 8, spring brackets 9, 9, elastic pieces 10, 10, entering elastic inner pieces 11, 11, and a yielding buffer 13, arranged and adapted to catch and retain a mail bag, substantially as described.

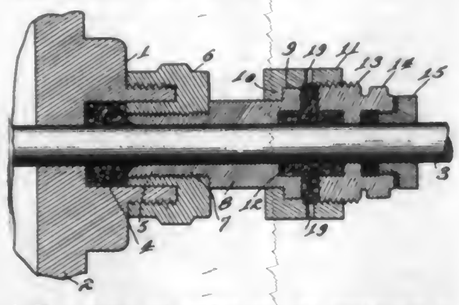
4. In a mail bag support, in combination with supporting brackets, a correlated set of rings, one of which is adapted to rest thereupon and the others of which are adapted to pass beneath said brackets, and spring means adapted to assist in the projection of the ring engaging said brackets from its normal position of rest therein, substantially as described.

5. A supporting ring for mail bags consisting of the combination of a main ring having an opening therein,

L-shaped recess in one end thereof, a closing piece N pivoted to the other end thereof and having a similarly shaped recess at its free end and adapted when closing to form a double L-shaped transverse opening, a spring P pivoted to said main ring and carrying a block adapted to fit into the opening formed by the closing of the piece N, and the end *m* of the ring, thereby locking the two together and permitting them to separate by pressing outwardly the block *p* therefrom, substantially as described.

[Claim 6 not printed in the Gazette.]

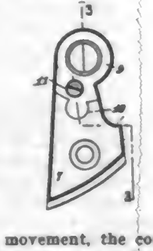
978,611. PISTON-ROD STUFFING-BOX AND LUBRICATOR. WALTER MCLAIN, Spiritwood, N. D. Filed Apr. 26, 1910. Serial No. 557,812.



1. In a piston rod stuffing box the combination of a chambered boss adapted to receive packing material, a gland for compressing the packing material in the boss, a nut carrying said gland and making screw-thread connection with said boss, a nipple fitted to said gland, a sleeve connected with said nipple and having an outer shoulder, a chambered nut mounted upon said sleeve and having an inner shoulder to engage the outer shoulder of said sleeve, said nut being designed to receive packing material and provided with oil openings, and a cap nut threaded into said chambered nut.

2. In a piston rod stuffing box the combination of a chambered boss adapted to receive packing material, a gland for compressing the packing material in the boss, a nut carrying said gland and making screw-thread connection with said boss, a nipple fitted to said gland, a sleeve connected with said nipple and having an outer shoulder, a chambered nut mounted upon said sleeve and having an inner shoulder to engage the outer shoulder of said sleeve, said nut being designed to receive packing material and provided with oil openings, a cap nut threaded into said chambered nut, said cap nut having its outer end reduced and chambered to receive packing material, and a jam nut for compressing said material therein.

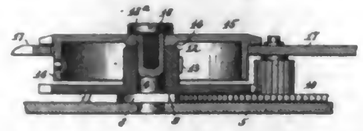
978,612. END-STONE CAP FOR WATCH-MOVEMENTS. WALTER B. MEHL, Waltham, Mass., assignor, by mesne assignments, to The Keystone Watch Case Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed June 10, 1909. Serial No. 501,405.



1. In a watch movement, the combination with a dial plate, of a train bridge secured to said dial plate, an escape end-stone cap provided with a lug having the outline of an arc of a circle, fitting in a correspondingly shaped recess formed in said train bridge, and a screw passing through said escape end-stone cap and into said train bridge and outside of said arc shaped lug for holding said cap and bridge in their proper relative positions, substantially as described.

2. In a watch movement, the combination with a dial plate, of a train bridge secured thereto, an escape end-stone cap formed with a lug having the outline of the arc of a circle and greater than a semi-circle, fitting in a correspondingly shaped recess formed in the train bridge, and a screw passing through said cap and into said bridge and outside of said arc shaped lug for holding the parts in their proper relative positions, substantially as described.

978,613. WATCH-BARREL. WALTER BIRD MEHL, Waltham, Mass., assignor to The Keystone Watch Case Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed July 31, 1909. Serial No. 510,627.



1. In a watch movement, the combination with a dial plate and a top plate, of a stud one end of which is tightly secured to said dial plate, a main wheel provided with a hub mounted on said stud, a combined ratchet wheel and spring-barrel, said ratchet wheel mounted on said stud and bearing on the hub of said main wheel, said spring-barrel and teeth of the ratchet wheel clearing said top plate, and a retaining screw threaded into the opposite end of said stud for retaining said ratchet wheel in position, a clearance being provided between the head of said screw and said ratchet wheel, substantially as described.

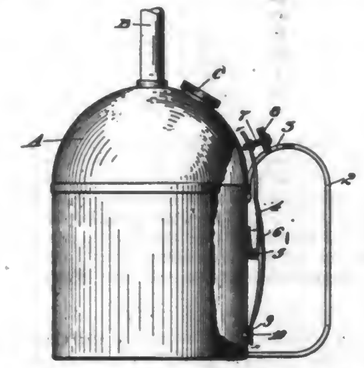
2. In a watch movement, the combination with a dial plate and a top plate, of a stud, one end of which is tightly secured to the dial plate and provided with a flange, a main wheel provided with a hub mounted on said stud and resting on the flange of the latter, a combined ratchet and spring-barrel, said ratchet being provided with a hub in which is fitted said stud, said hub resting on the end of the main wheel hub, said spring-barrel projecting through an opening formed in said top plate, but clearing the edge of said opening, the teeth of said ratchet wheel over-lying, but clearing said top plate, and a retaining screw threaded into the opposite end of said stud for retaining the ratchet wheel in position, the head of said screw clearing said ratchet wheel, substantially as described.

978,614. DISPENSING-CAN. WILLIAM A. L. MILLER, San Francisco, Cal. Filed Apr. 11, 1910. Serial No. 554,854.

1. The combination with a dispensing can having a pouring spout at the upper portion and an air inlet near the bottom, of a valve closable over said inlet, a handle fixed to the side of the can having an opening in the top, a lever vertically fulcrumed to the side of the can, said lever being substantially parallel with and located between the handle and the side of the can, and having a valve on its lower end adapted to close the air inlet, and a locking device at the upper end of the lever adapted to engage the same and lock the valve.

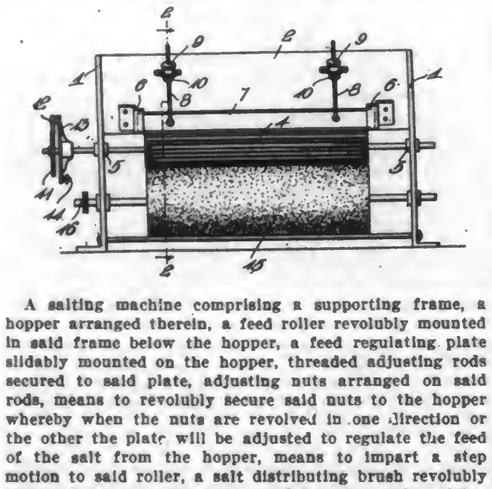
2. The combination with a dispensing can having a pouring spout at the upper portion and an air inlet near the bottom, said can having a handle, of a lever fulcrumed to the side of the can and extending vertically, said lever having a valve at the lower end engaging the air inlet and having an adjusting screw at the upper end for locking the valve in its closed position.

3. The combination with a dispensing can having an opening near the bottom, of a handle fixed to the side of the can having a slotted opening in the top, a lever vertically fulcrumed to the side of the can, to the lower end of which lever the valve is fixed, a screw passing through the upper end of the lever and adapted to hermetically lock the valve.



4. The combination with a dispensing can having an opening near the bottom and a handle at the side, with a slotted opening at the top, of a spring-pressed lever fulcrumed to the side of the can having a valve at the lower end normally closable over the opening, the upper end of said lever projecting through and exposed above the slot in the handle, and a screw passing through said handle adapted to press against the side of the can and maintain the valve in closed position, said screw having a turnable head whereby it may be withdrawn to allow pressure to be applied to open the valve.

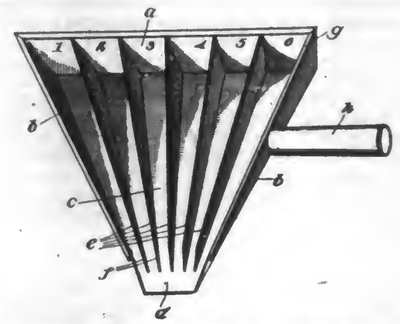
978,615. SALTING-MACHINE. WILSON S. MILLER, St. Louis, Mo. Filed Apr. 7, 1910. Serial No. 553,975.



A salting machine comprising a supporting frame, a hopper arranged therein, a feed roller revolubly mounted in said frame below the hopper, a feed regulating plate slidably mounted on the hopper, threaded adjusting rods secured to said plate, adjusting nuts arranged on said rods, means to revolubly secure said nuts to the hopper whereby when the nuts are revolved in one direction or the other the plate will be adjusted to regulate the feed of the salt from the hopper, means to impart a step motion to said roller, a salt distributing brush revolubly mounted in said frame below the roller, and a drive pulley fixed on the end of the shaft of said brush.

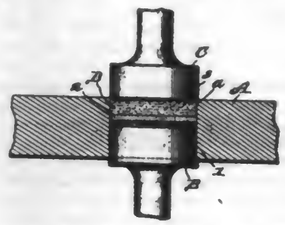
978,616. COMPOUND LADLE. JACINTO MITATS, New York, N. Y., assignor to Mitats Marble Manufacturing Company, a Corporation of New York. Filed May 23, 1910. Serial No. 562,988.

1. A compound ladle for use in making artificial marble or similar articles, consisting of a body divided into compartments or chambers, said compartments being largest at the rear, and all delivering into a common mouth, said ladle being provided with a handle, substantially as described.



2. A compound ladle for making artificial marble and similar articles, consisting of a flat bottom, a back, and sides extending from said back and inclined toward each other, said bottom and sides terminating in a common discharge mouth of comparatively small area, a series of partitions reaching from said back nearly to the front of the ladle, said partitions being highest at the rear and having their front ends beveled off, and a handle attached to one of the sides, substantially as described.

978,617. MANUFACTURE OF IMITATION-STONE BLOCKS. JACINTO MITATS, New York, N. Y., assignor to Mitats Marble Manufacturing Company, a Corporation of New York. Filed June 11, 1910. Serial No. 566,429.



1. The herein described process of manufacture of imitation stone blocks, which consists in pouring into a mold a fluid layer of pulverized marble, cement, and water, well mixed; in placing above said fluid layer a dry mixture of sand and cement; in placing above this dry layer another layer of sand and cement slightly moistened; and in applying heavy pressure to the mass whereby the dry layer forms a weld between the fluid layer below and the moistened layer above, and in further applying a similar block before the cement has set back down to the formed block still in the mold and compressing the two together, substantially as described.

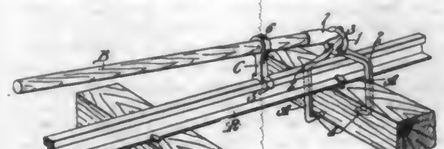
2. The herein described process of manufacture of imitation stone blocks, which consists in pouring into a mold a plurality of striped streams of a fluid material of ground stone, cement and water, well mixed, thereby forming a parti-colored fluid layer; in placing above said fluid layer a dry mixture of sand and cement; in placing above this dry layer another layer of sand and cement slightly moistened; and in applying heavy pressure to the mass whereby the dry layer forms a weld between the fluid layer below and the moistened layer above, substantially as described.

3. The herein described process of manufacture of imitation stone blocks, which consists in pouring into a mold a fluid layer of pulverized marble, cement, and water, well mixed; in placing above said fluid layer a dry mixture of sand and cement; in placing above this dry layer another layer of sand and cement slightly moistened; and in applying heavy pressure to the mass, where

by the dry layer forms a weld between the fluid layer below and the moistened layer above, substantially as described.

4. An imitation stone block manufactured by the herein described process of manufacture of imitation stone blocks, which consists in pouring into a mold a fluid layer of pulverized marble, cement, and water, well mixed; in placing above said fluid layer a dry mixture of sand and cement; in placing above this dry layer another layer of sand and cement, slightly moistened; and in applying heavy pressure to the mass, whereby the dry layer forms a weld between the fluid layer below and the moistened layer above; and in further applying a similar block before the cement has set back down to the formed block still in the mold, and compressing the two together, substantially as described.

978,618. TIE-HOLDING DEVICE. JOHN T. MOORE, St. Louis, Mo. Filed Oct. 6, 1910. Serial No. 585,664.



1. A tie-holding device comprising tie-engaging members which are adapted to be arranged astride of a tie and rail, a fulcrum member separate and distinct from the tie-engaging members and adapted to rest upon the head of the rail, and a lever adapted to be arranged in engagement with said fulcrum member and tie-engaging members for exerting upward pressure on said tie-engaging members.

2. A tie-holding device comprising a pair of approximately hook-shaped members that are adapted to be arranged astride of the tie and rail, means for pivotally connecting the upper ends of said members together, a lever for exerting upward pressure on said members, and a vertically disposed fulcrum member adapted to be arranged on the head of the rail to form a bearing for said lever.

3. A tie-holding device comprising a fulcrum member that is adapted to be mounted upon the head of a rail, means for preventing said member from moving laterally relatively to the rail, a lever bearing upon said member, and a pair of pivotally connected tie-engaging members supported by one end of said lever and adapted to be arranged astride a rail and tie.

4. A tie-holding device comprising a pair of members provided with prongs or hooks that engage the under side of a tie, a device for pivotally connecting the upper ends of said members together, a lever which projects into said device, and a fulcrum member for said lever resting upon the rail being operated on and provided with means for preventing it from moving laterally relatively to the rail.

5. A tie-holding device comprising a pair of approximately hook-shaped members that are adapted to engage the under side of a tie, a ring to which the upper ends of said members are pivotally connected, a lever engaging said ring, and a fulcrum member resting upon the head of the rail and provided with a ring-shaped portion through which said lever passes.

[Claim 6 not printed in the Gazette.]

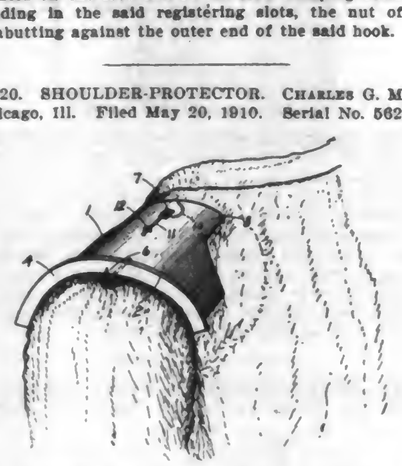
978,619. HOSE-COUPLING. BERNARD MORGAN, Newport, R. I. Filed Apr. 8, 1910. Serial No. 554,095.

1. A hose coupling, comprising a shoe adapted to be seated on the hose and having a slotted cross bar, a clamping band for encircling the hose and having a slotted hook engaging the said cross bar, the slots in the said cross bar and the said hook being in register, and a tightening device having members, of which one engages the free end of the said clamping band and extends in the said registering slots, and the other member operates on the said first-named member and engages the said hook.



2. A hose coupling, comprising a shoe adapted to be seated on the hose and having a slotted cross bar, a clamping band for encircling the hose and having a slotted hook engaging the said cross bar, the slots in the said cross bar and the said hook being in register, and a bolt held on the free end of the said clamping band and extending in the said registering slots, the nut of the bolt abutting against the outer end of the said hook.

978,620. SHOULDER-PROTECTOR. CHARLES G. MUHR, Chicago, Ill. Filed May 20, 1910. Serial No. 562,437.



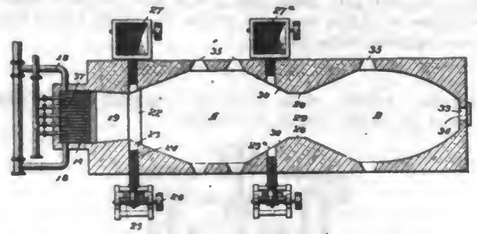
1. A shoulder protector comprising a plate, said plate being of greatest width at its outer end portion, the same being transversely curved to conform to the shoulder, an upwardly projecting flange at the outer edge of said plate, a stationary pointed hooked member at one end and a pivoted hooked member at the other end of said plate adapted to pierce the shoulder portion of the garment of the wearer to secure said plate thereto, substantially as described.

2. A shoulder protector comprising a metallic plate, said plate being of greatest width at its outer end portion, the same being transversely curved to conform to the shoulder, an upwardly projecting flange at the outer edge of said plate, a stationary pointed hook member at the outer end of said plate, a pivoted hook member at the inner end of said plate, said hook members being adapted to pierce the shoulder portions of the garment of the wearer to secure said plate thereto, and means for holding said pivoted hook member in engaging position, substantially as described.

978,621. FURNACE. WILLIAM J. MURPHY and ALBERT E. CULLEY, Butte, Mont. Filed May 25, 1910. Serial No. 563,369.

1. The method of operating a reverberatory furnace which comprises the step of continuously feeding the charge on the hearth from opposite sides of the furnace toward the center.

2. The method of operating a reverberatory smelting furnace having a smelting hearth which comprises the steps of feeding the charge from the side at forward and rearward parts of the hearth, passing the hot gases on and past the freshly introduced charge on the forward part of the hearth and directing them on the freshly introduced charge on the rearward part of the hearth.



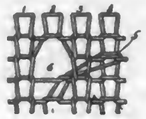
3. The method of operating a reverberatory smelting furnace having a smelting hearth which comprises the steps of feeding the charge during the smelting operation at forward and rearward parts of the hearth, passing the hot gases on and past the freshly introduced charge on the forward part of the hearth and deflecting them on the freshly introduced charge on the rearward part of the hearth.

4. In a reverberatory furnace, the combination with a hearth and a side wall having a feed opening therein at substantially the hearth level, of means back of the mouth of said opening for positively feeding the charge there through and across the hearth.

5. In a reverberatory furnace, the combination with a hearth and side walls having oppositely arranged feed openings therein at substantially the hearth level, of means back of said openings for positively feeding the charge there through and on and across the hearth.

[Claims 6 to 20 not printed in the Gazette.]

978,622. KNITTED FABRIC. ARTHUR S. MUSGROVE, Pittsfield, Mass., assignor, by direct and mesne assignments, to Scott & Williams, Incorporated, Philadelphia, Pa., a Corporation of New Jersey. Filed Aug. 24, 1909. Serial No. 514,335.



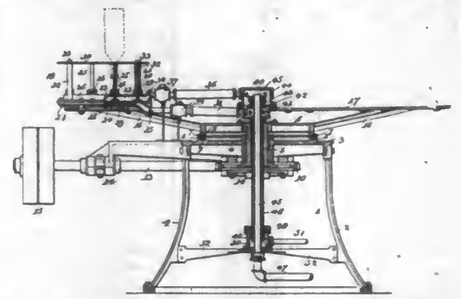
1. A knitted fabric provided in one of its standing wales with an eyelet-aperture formed by a stitch transferred from said standing wale to another standing wale across an intervening standing wale.

2. A knitted ribbed fabric having a standing wale on one face intervening between two standing wales on the other face of the fabric, and provided with an eyelet aperture formed in one of said two wales by a stitch transferred therefrom across said intervening wale to the other of said two wales.

978,623. BOTTLE-WASHING MACHINE. JOSEPH NADER, Waukesha, Wis. Filed Apr. 8, 1909, Serial No. 488,659. Renewed May 23, 1910. Serial No. 562,999.

1. In a machine of the character described, a supporting base, a turntable revolubly mounted thereon, water and air discharging heads carried by said turntable, means whereby water and air are separately supplied to said heads, means whereby the bottles to be washed are supported on said heads, and means whereby streams of water and compressed air are simultaneously injected into said bottles to cleanse and rinse the same.

2. In a machine of the character described, a supporting base, a turntable revolubly mounted thereon, a series of water and air discharging heads carried by said turntable, said heads comprising a water compartment and an air compartment, means whereby water and air are supplied to the respective compartments, discharging tubes arranged on said heads, means to support the bottles on said tubes, and air discharging nipples arranged in said a compartment below each of said tubes, whereby a curre of compressed air is discharged through each of said tube and a stream of water from said water compartment force thereby into said bottles to cleanse and rinse the same.



3. In a bottle washing machine, a series of combine water and air discharging heads, said heads having sep arate water and air compartments, a series of discharg tubes connected with said water compartment and adapte to be inserted into the bottles to be washed, a rack to hol said bottles in position on said tubes, a series of air-inject ing nipples connected with said air compartment an adapted to force currents of compressed air through sai discharge tubes and to thereby force a stream of wate from said water compartment through each of said tube and to forcibly inject said water into the bottles, an means to regulate the supply of water and the pressure o air to said discharge heads.

4. In a machine of the character described, a supportin base, a turntable revolubly mounted on said base, mean whereby said table is revolved, an annular supportin plate arranged on said turntable, a series of combine water and air discharging heads arranged on said plate separate water and air compartments in said heads, wate and air supply pipes arranged through said turntable branch water and air pipes to connect said supply pipe with the water and air compartments in said heads, mean whereby the water is forcibly ejected from said wate compartment by the compressed air from said air com partment, and means whereby said compressed air an water is supplied to the bottles to cleanse the same.

5. In a bottle washing machine, a supporting base, turntable revolubly mounted on said base, means whereb said turntable is revolved, a series of combined water an air discharging heads carried by said turntable, water an air supply pipes arranged in said base and projectin through said turntable, independent water and air com partments on the upper ends of said pipes, valved branch water and air supply pipes connecting said distributin heads with respectively water and air compartments whereby the water and air is kept separated until dis charged, means in said heads whereby the air in said air compartment is caused to forcibly eject the water from said water compartment into the bottles, whereby the lat ter are thoroughly cleansed on their inner sides, and means to support a plurality of bottles in position on said heads to receive the water and air discharged therefrom.

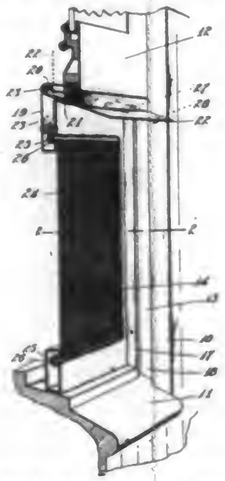
[Claims 6 and 7 not printed in the Gazette.]

978,624. WINDOW-SCREEN. ALFRED H. NEWPHER, Chicago, Ill., assignor to The Adams & Westlake Company, Chicago, Ill., a Corporation of Illinois. Filed June 21, 1909. Serial No. 503,389.

1. In a window screen, in combination, a frame having a hollow top bar, a plate housed within such bar and adapted to slide upward and swing outward.

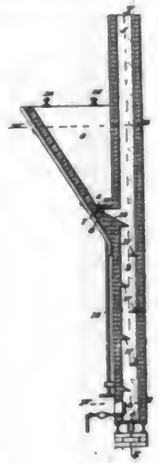
2. In a window screen, in combination, a slidable frame having its top bar open adjacent the top, a swinging guard-plate housed within such opening, and a stop formed on the top bar of the frame for limiting the downward movement of the plate.

3. In a window screen, in combination, a hollow frame formed of sheet metal, the outer and inner walls of the top bar of the frame being of unequal height, the higher



wall being overturned inwardly, and a guard-plate housed within the top bar and having a lip at its inner end engageable with the overturned end of the wall thereof.

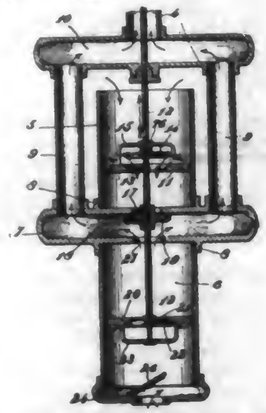
978,625. BONE-BLACK FURNACE. OSSON P. NICHOLS, Warren, Pa. Filed Feb. 4, 1910. Serial No. 542,079.



1. A furnace for burning bone, fullers' earth, and other filtering material, having a series of burning shafts each provided with a burner and an outlet for the burned material at its bottom, and a feed hopper at the side of the furnace having a series of openings corresponding with the number of shafts and adapted to feed the material into the upper portion of said shafts, said shafts being each provided with baffle projections with inclined upper surfaces extending partially across the shafts alternately from opposite sides thereof and with a stack portion above the feed openings.

2. A furnace for burning bone, fullers' earth, and other filtering material, having a series of burning-shafts each provided with a burner and an outlet for the burned material at its bottom, and a feed hopper at the side of the furnace having a series of openings adapted to feed the material into the upper portion of each of the shafts and devices by which the size of said openings may be varied to vary the feed of material to the shafts, said shafts being provided with baffle projections with inclined upper surfaces extending partially across the shaft alternately from opposite sides thereof.

978,626. PUMP. GARL NICHOLLS, McFall, Mo. Filed Mar. 18, 1910. Serial No. 550,099.



A pump comprising alined cylinders submerged in a body of water, the upper cylinder being permanently open at its top and the lower cylinder having a valve controlled opening at its bottom; an element forming a head for the meeting ends of the cylinders and also a common discharge chamber therefor, a port between each cylinder and the chamber of the element; a valve rod extending through the cylinders and element; a piston in each cylinder attached to the rod by a lost-motion connection, a valve rigidly secured to the rod at each piston and adapted to open and close through the movement provided by the lost-motion connections; a single valve disposed in the chamber of the said element and freely movable on the rod for opening the port of one cylinder while closing the port of the other cylinder to permit an alternate discharge from the cylinders; pipes extending along the upper cylinder and having their lower ends connected and communicating with the element; a header connected with the upper end of the pipe, and a discharge pipe connected with the header and through which the piston rod extends, said discharge pipe and header coacting with the first mentioned pipes to form discharge conduits common to both cylinders and to also form a supporting structure for the cylinders.

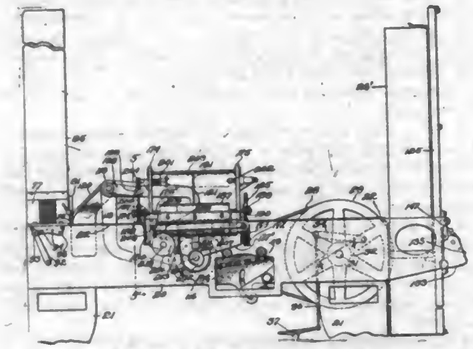
978,627. ADDRESSING-MACHINE. LAURITS M. NIELSEN, Boston, Mass., assignor to Nielsen Mailing Machinery Company, Erie, Pa., a Corporation of Maine. Filed May 29, 1908. Serial No. 435,821.

1. An addressing machine comprising an element adapted to be continuously driven, an impression mechanism driven thereby, power transmitting means continuously driven from said element, inking means, printing form feeding means, driving means for operating said inking means and form feeding means in unison, and means for connecting said driving means with said power transmitting means at times.

2. An addressing machine comprising a fly wheel, a rotatable crank shaft on which said fly wheel is journaled, a clutch for connecting said fly wheel and shaft, inking means operatively connected with said shaft, a crank rotatably mounted in the machine, printing form feeding means operatively connected with said second crank, and means for transmitting motion from the crank shaft to said second crank.

3. An addressing machine comprising a pair of cranks rotatably mounted and furnished with sprockets, a chain

connecting said sprockets, means for rotating one of said cranks, a pivoted lever in operative connection with one of said cranks, a carriage slidably mounted and connected with said lever, an inking roll frame pivotally mounted on said carriage, means for guiding the ink roll, a lever pivotally connected with the second crank, and a printing form feed carriage slidably mounted and pivotally connected with said second lever.

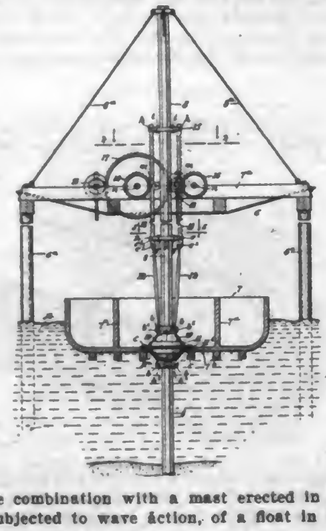


4. An addressing machine comprising longitudinal guides, means for feeding forward printing forms in said guides an intermittently operated impression means above said guides, ways yieldingly mounted below such guides, an ink reservoir having an ink roll, an inclined plate located between said ways, a carriage slidably mounted and having an ink transfer roll, for transferring ink from the roll of the ink reservoir to such inclined plate, a frame pivoted to said carriage and furnished with an inking roll adapted to take ink from said inclined plate and having means adapted to ride upward onto said ways, and means for operating said slidable carriage.

5. An addressing machine comprising a carriage slidably mounted, means for moving said carriage, a spring lifted tongue pivotally mounted on said carriage, a cam, for controlling the lifting of said tongue, rotatably mounted on the carriage, means for effecting the intermittent rotation of said cam, and means for controlling said cam rotating means.

[Claims 6 to 18 not printed in the Gazette.]

978,628. WAVE-MOTOR. THOMAS NIXON, Santa Barbara, Cal. Filed Mar. 4, 1910. Serial No. 547,277.



1. The combination with a mast erected in a body of water subjected to wave action, of a float in the water,

a universal joint connection between the mast and float, rack bars supported from the mast, gearing engaged by the rack bars and receiving motion therefrom, and connections between the rack bars and the universal joint connection.

2. The combination with a mast erected in a body of water subjected to wave action, of a float in the water, and a universal joint connection mounted on the float engaging the mast, said connection being adapted for vertical and lateral movement corresponding with such movements of the float, rack bars, and connections between the rack bars and the universal joint connection.

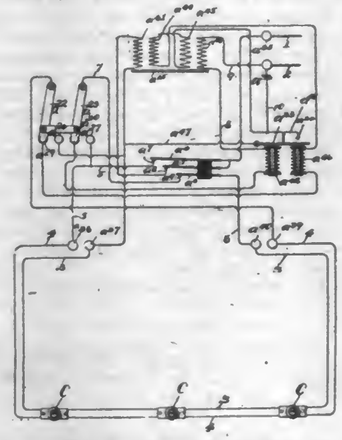
3. The combination with a wharf erected above a body of water that is subjected to wave action, of a float in the water, a mast erected in the water and passing through the float and wharf, and a rockable, slidable connection between the mast and the float, the said connection comprising a ball slidable vertically on the mast, a casing loosely receiving the ball, and a clamp loosely embracing the casing and secured to the float.

4. The combination with a wharf erected above a body of water subjected to wave action, a float in the water, and a mast erected in the water and passing up through the float and wharf, of a slidable, universal joint connection between the float and the mast, connecting rods jointed at their lower ends on the universal joint connection, and rack bars pivoted on the upper ends of said connecting rods and supported in parallel planes from the intervening mast.

5. The combination with a wharf erected above a body of water subjected to wave action, a float in the water, and a mast erected in the water and passing up through the float and wharf, of a universal joint connection rockably secured on the float and slidable on the mast, two connecting rods pivoted at their lower ends on the upper portion of the universal joint connection, two rack bars pivoted at their lower ends on the upper ends of the connecting rods, a cross head secured at its ends on the lower portions of the rack bars and having rollers that contact with the mast, and a similar cross head having the ends thereof secured on the upper ends of the rack bars and carrying rollers that engage the mast.

[Claims 6 to 9 not printed in the Gazette.]

978,629. AUTOMATIC ELECTRICAL SIGNALING SYSTEM. JAMES G. NOLEN, Chicago, Ill. Filed Feb. 26, 1904. Serial No. 195,500.



1. An electrical signaling system comprising a signal receiving instrument and a source of current supply at one station, a line circuit, parallel branches connected with said line and constituting a normally charged supervisory circuit at another station, signal initiating devices in said parallel branches, and a plural impulse signal transmitter adapted and arranged for actuation

by suitable variation in the conditions in said branches, said signal transmitter involving make-and-break devices one included in each branch of the circuit.

2. An electrical signaling system comprising a signal receiving instrument and a source of current supply at one station, a single line circuit extending to another station, a plurality of parallel branches constituting a continuation of said line at said other station, signal initiating devices associated with said parallel branches and arranged for actuation to vary the circuit conditions in said branches, and a plural impulse signal transmitter arranged for actuation by a suitable variation in the circuit conditions in said parallel branches, said plural-impulse transmitter involving a plurality of make and break devices one of which is included in each of the parallel branches.

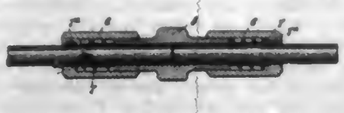
3. An electrical signaling system, comprising a signal-receiving apparatus and a source of current at one station, a master-box and a plurality of thermostats at another station, suitable line connection between the two stations, and two parallel conductors arranged in loop-form for connecting said thermostats with said box, each thermostat having two masses of easily fusible conducting material serving normally to preserve the electrical continuity of the two parallel conductors, and the said box containing a plurality of suitably operated normally closed make-and-break devices constituting the medium of electrical connection between the two parallel conductors and the line, whereby said parallel conductors constitute parallel conducting paths of a normally charged line circuit.

4. An electrical signaling system, comprising a suitable signal-receiving apparatus, a master-box, suitable line connection between the master-box and the signal-receiving apparatus, means for supplying current, a plurality of signal-initiating devices, and a plurality of parallel conductors connecting said signal-initiating devices with said box, the said master-box containing suitably operated and normally closed make-and-break devices connecting the said parallel conductors with the connection between the box and the signal-receiving apparatus, whereby the said parallel conductors constitute parallel conducting paths of a normally charged signaling circuit energized from the same source as the line connectors.

5. An electrical signaling system, comprising suitable signal-receiving apparatus, a master-box, suitable connection between the master-box and the signal-receiving apparatus, means for supplying all necessary current, a plurality of signal-initiating devices, and a plurality of parallel conductors connecting said signal-initiating devices with said box, the said master-box including in its internal equipment normally wound-up clockwork and a releasing magnet, together with normally closed make-and-break devices connecting the parallel conductors with the connection between the master-box and the signal-receiving apparatus, and the said releasing-magnet having differential windings also serving as medium of electrical connection between the said parallel conductors and the connection between the master-box and the signal-receiving apparatus, whereby the said parallel conductors constitute parallel conducting paths of a normally charged signaling circuit.

[Claims 6 to 13 not printed in the Gazette.]

978,630. CONDUCTOR-SPLICER. FREDERICK WILLIAM OETTGEN, New York, N. Y. Filed May 3, 1910. Serial No. 559,088.



1. In a wire splicer, a helically-wound member through which the wires are adapted to pass, and means to wind up the said member to bind it about the wire.

2. In a wire splicer, a helically-wound member through which the wires are adapted to pass, with certain convolutions of the member constructed to present inclined outer faces upon which the adjacent convolutions of the member are adapted to ride when the member is subjected to endwise compression, and means to compress the member and bind the inclined face convolutions about the wire.

3. In a wire splicer, a helically-wound member through which the wires are adapted to pass, having convolutions over which adjacent convolutions are adapted to ride when the member is subjected to endwise compression, and a device into which the conductor is adapted to pass, having screw-threaded parts between which the member is interposed.

4. In a wire splicer, a helically-wound spring member through which the wire is adapted to pass, having the alternate convolutions constructed to pass under the adjacent convolutions when the member is subjected to end compression.

5. In a wire splicer, a helically-wound spring member through which the wire is adapted to pass, with the alternate convolutions of the said member flattened on their inner faces to bear on the wire, and the outer faces thereof constructed to wedge under the adjacent convolutions.

[Claims 6 to 9 not printed in the Gazette.]

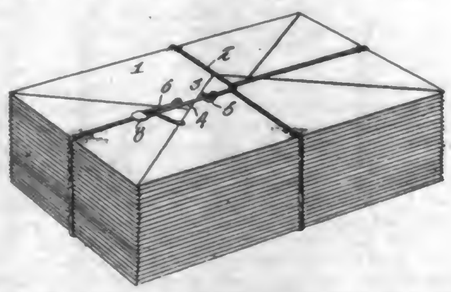
978,631. CURB-SHAPING TOOL. EMIL OLSON, Rockford, Ill. Filed Oct. 10, 1910. Serial No. 586,362.



1. In a curb shaping tool, a top plate provided with a handle and an underneath smoothing surface and having depending side walls formed integral therewith and provided with smoothing surfaces on their inside faces, said top plate and depending walls terminating at their forward and rearward edges in upwardly flaring curved lips, substantially as described.

2. A curb shaping tool comprising a top plate provided with a handle and an underneath smoothing surface, and further provided with depending side walls having smoothing surfaces, the outer of said side walls being deeper than the inner of said walls and inclining downwardly and outwardly, said top plate and said side walls merging at their forward and rearward edges in upwardly flaring curved lips, substantially as described.

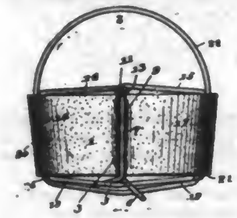
978,632. PACKAGE-BINDER. ISAK OLSON, Bellingham, Wash. Filed Oct. 23, 1909. Serial No. 524,167.



A package binder comprising a cord and a fastening device, said fastening device consisting of a single piece of wire bent on itself to form a long and a short spring

member and providing a wedge opening therebetween, each of said spring members having eyes at their free ends, the cord being secured at one end of the eye of the longer spring member, the wedge opening adapted to receive the free end of the cord, and a cap piece secured to the fastening device at the juncture of the spring members and provided with biting edges adapted to bite into the cord and press said cord against the package.

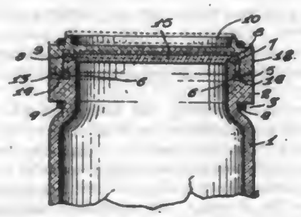
978,633. BOTTLE-STOPPER. JOHN OTTOWITZ, Joliet, Ill. Filed May 7, 1909, Serial No. 494,597. Renewed May 2, 1910. Serial No. 558,910.



1. A device of the class described, comprising a cork having four longitudinal grooves in the periphery thereof, and a single cord wrapped in said grooves and across the top and bottom of said cork with a loop extending from the top of said cork, the free ends of said cord being held in position by a wrapping of said cord lying over them on the bottom of said cork, substantially as described.

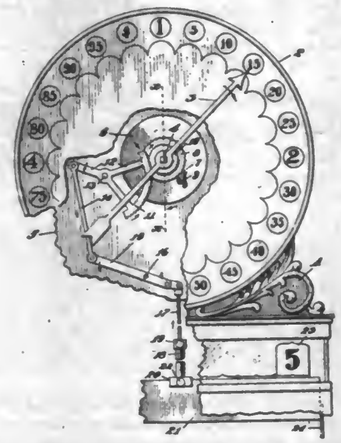
2. A device of the class described comprising a cork having equally spaced longitudinal grooves formed therein adapted to receive an extracting cord provided in the device, two of said grooves which are diametrically opposite being of a sufficient depth to receive two thicknesses of said cord, the end portions of said cord being arranged substantially parallel across the bottom of the cork and extending in opposite directions around the same and meeting in the center of the top thereof, a twisted portion of said cord at said center, portions of said cord extending radially from said twisted portion, portions of said cord extending downwardly from said radially extending portions through said grooves adapted to receive two thicknesses of cord, portions of said cord extending in opposite directions across the bottom of said cork from said downwardly extending portions and thence upwardly through said last named grooves, and a loop formed by said cord extending upwardly from said portions extending upwardly through said last named grooves, said portions which extend in opposite directions across the bottom of said cork being adapted to hold said end portions securely in position, substantially as described.

978,634. GLASS JAR. CHARLES G. OVERMYER, Coffeyville, Kans., assignor of one-half to George F. Collins, Coffeyville, Kans. Filed Mar. 9, 1910. Serial No. 548,170.



In a device of the character described, a jar having its neck formed with a vertical annular portion having its upper edge formed with a beveled biting edge and a horizontal annular flange located at the lower end of said vertical annular portion with a groove in the lower part of said vertical annular portion adjacent to the top of said annular flange in combination with a cover having a depending annular flange having its lower end formed with a beveled biting edge adapted to be located adjacent to the said annular flange and adjacent to said annular groove, a disk beneath said cover and clamped between it and the biting edge of the neck and a gasket ring seated in said annular groove and on said horizontal flange, said biting edge of the cover pressing said gasket ring into said annular groove.

978,635. INDICATING ATTACHMENT FOR CASH-REGISTERS. CRAWFORD W. PAGE, San Francisco, Cal. Filed June 8, 1910. Serial No. 565,715.



1. An indicating attachment for cash registers comprising the combination with a key of a cash register, of a dial, a freely moving pointer adapted to move thereover, a shaft to which the pointer is fixed, a ratchet-wheel loose on said shaft, a momentum member fixed to the shaft, a pinion rigid with the ratchet-wheel, a pawl engaging the ratchet-wheel, a segment engaging the pinion, and connections between the segment and the cash register key.

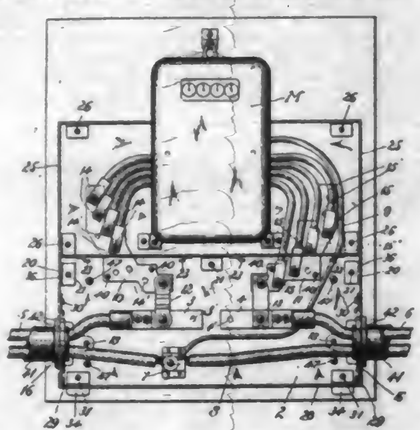
2. An indicating attachment for cash registers comprising the combination with a key, of a dial, a free moving pointer, pawl and ratchet members, one of which is carried by the pointer, the other of which is mounted independent thereof but having a limited movement in unison therewith, a gear carried on said independently mounted member, a segment meshing said gear, and means operated from the key for oscillating the segment, said means comprising a rod connected to the segment, a lever connected to the rod, and pivotally mounted between its ends, a sleeve carried by a movable part of the cash register, and a rod connected to the lever and having its lower end detachably fitted to said sleeve.

3. An indicating attachment for cash registers comprising the combination with a key, of a dial, a free moving pointer, pawl and ratchet members, one of which is carried by the pointer, the other of which is mounted independent thereof but having a limited movement in unison therewith, a gear carried on said independently mounted member, a segment meshing said gear, and means operated from the key for oscillating the segment, said last-named means including a semaphore plate, connections between the key and semaphore plate, and connections between the semaphore plate and said segment.

978,636. METER-CONNECTION BLOCK. GRANVILLE E. PALMER, Winchester, Mass. Filed June 6, 1910. Serial No. 565,200.

1. In an incased meter-connection-block, the combination of an insulating block, a sectional wall secured thereto consisting of top and bottom members, and inlet and outlet members separating said top and bottom members,

each of said members being independently secured to said insulating block, and a cover supported by said wall.



2. In an incased meter-connection-block, the combination of an insulating block, a sectional wall secured thereto consisting of top and bottom members, and inlet and outlet members separating said top and bottom members, each of said members being independently secured to said insulating block, terminal plates secured to said block and extending through said top member, the same being cut away to permit said terminal plates to extend, and a cover supported by said wall.

3. In an incased meter-connection-block, the combination of an insulating block, a sectional wall secured thereto consisting of top and bottom members, and inlet and outlet members separating said top and bottom members, each of said members being independently secured to said insulating block, a removable terminal plate secured to said block and extending through said wall, said top member being cut away to permit said plate to extend, and having means for supporting a slide to close the opening therethrough, and a cover supported by said wall.

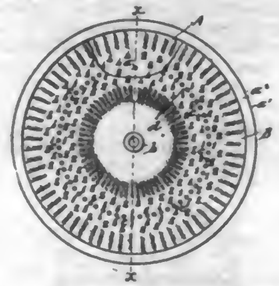
4. In an incased meter-connection-block, the combination of an insulating block, a sectional wall secured thereto consisting of top and bottom members, and inlet and outlet members separating said top and bottom members, each of said members being independently secured to said insulating block, terminal plates secured to said block and extending through said wall, said terminal members having a plurality of sets of screw-holes corresponding to the lengths of conductors on different meters, and a cover supported by said wall.

5. The combination of a backing, an insulating block, circuit terminals secured thereto, circuit conductors leading thereto, removable terminal plates also secured to and extending beyond said insulating block, removable connections between said circuit terminals and said terminal plates, a metallic wall surrounding said block and cut away so as to permit the extension of said terminal plates and the passage of the conductor secured thereto, means for securing said insulating block to the backing, and a cover secured to said wall.

[Claims 6 and 7 not printed in the Gazette.]

978,637. INSTRUMENT FOR COMPUTING FRACTIONS. DAVID M. PARK, Erin, N. Y., assignor of two-thirds to Homer A. Tiffany, Syracuse, N. Y. Filed Jan. 3, 1910. Serial No. 536,071.

1. A computing-instrument comprising a base having a dial presenting a scale of fractions and provided with a stop, a transparent member supported movably on the base and covering the dial, and provided with a series of apertures corresponding to the fractions of the scale, and having an indicating line marked thereon, the said series of apertures being arranged to be brought consecutively to the stop, incident to the movement of the transparent member, and the indicating line disposed to point to the fractions of the scale for the purpose set forth.



2. An instrument for adding and subtracting comprising an annular base provided on one face with a dial presenting an annular series of fractions and marked with "zero", said base having an aperture disposed at "zero", and an annular transparent disk pivoted centrally upon the base and completely covering the dial and provided with an annular series of apertures disposed concentric with the scale, said apertures being designed to receive a device for rotating the disk to bring the apertures consecutively into registry with the aperture in the base incident to the rotation of the disk, the said disk having marked thereon a radial line extending to one of the apertures and serving as an indicator designed to be set at "zero" when rotating the disk in one direction for adding fractions and to be set at the minuend when rotating the disk in the opposite direction for subtracting and serving to point to the sum of the added fractions and to the remainder in the subtraction as set forth and shown.

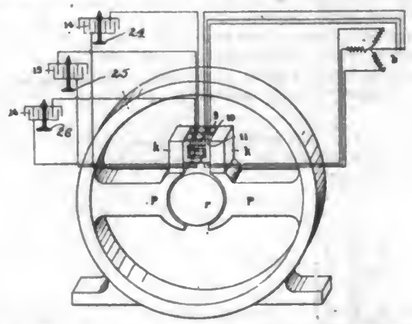
3. An instrument for adding and subtracting comprising a stationary annular base provided on its top face with a dial presenting oppositely graduated annular scales of common fractions arranged concentrically, and also oppositely graduated scales of decimal fractions arranged likewise and including "zero", said base being provided with an aperture disposed at "zero" and serving as a stop, a transparent annular disk mounted rotatably upon the base and completely covering the dial, said disk being provided with an annular series of apertures disposed concentric with the scales and corresponding in number to the fractions thereof, and the said apertures being designed to receive a device operative for rotating the disk to bring its apertures consecutively into registry with the aperture in the base, the said disk having marked thereon a radial line extending to one of the apertures and serving as an indicator designed to be set at "zero" previous to rotating the disk in one direction for adding fractions, and to be set at the minuend previous to rotating the disk in the opposite direction when subtracting and also serving to point to the sum of the added fractions and also to the remainder in the subtraction as set forth and shown.

978,638. REGULATION OF DYNAMO-ELECTRIC MACHINERY. CHARLES ALGERNON PARSONS and ALEXANDER HENRY LAW, Newcastle-upon-Tyne, England; said Law assignor to said Parsons. Filed May 15, 1908. Serial No. 433,126.

1. Means for regulating the voltage of alternating current machines comprising in combination, field magnets having poles, magnetic material connecting said poles, a primary winding on said magnetic material, a circuit including a secondary winding on said magnetic material, and means for varying the electrical constants of said circuit.

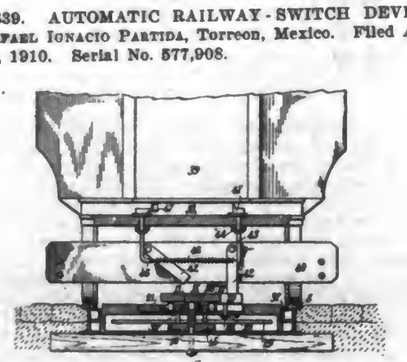
2. Means for regulating the voltage of polyphase alternating current machines, comprising in combination, field magnets having poles, a plurality of paths of magnetic material connecting said poles, windings on said paths of magnetic material, and means for supplying alternating current of different phases to said windings.

3. Means for regulating the voltage of polyphase alternating current machines, comprising in combination, field magnets having poles, a plurality of paths of magnetic material connecting said poles, primary windings on said



paths of magnetic material, circuits including secondary windings on said paths, means for varying the electrical constants of said circuits, and means for supplying alternating current of different phases to said primary windings.

978,639. AUTOMATIC RAILWAY-SWITCH DEVICE. RAFAEL IGNACIO PARTIDA, Torreon, Mexico. Filed Aug. 19, 1910. Serial No. 577,908.



1. In an automatic railway switch device two spindles having fingers respectively, a support for the said spindles, two triggers disposed between and adapted to be operated by the fingers, a spring connecting the fingers, a track having a switch point movable relatively thereto, a shifting bar connected with the switch point, means mounted on the shifting bar adapted to be engaged by a dog to operate the shifting bar, a pivoted member having a dog for engaging the said means, means for operating the pivoted member, and two trip arms mounted on the last-mentioned means adapted to be engaged by the triggers respectively.

2. In an automatic railway switch device, a track having a switch point movable relatively thereto, a shifting bar connected with the switch point, means mounted on the shifting bar, adapted to be engaged by a dog to operate the shifting bar, a pivoted member having a dog, for engaging the said means, a second member adapted to be raised relatively to the body of the first member, the second member having means for rotating the first-mentioned member on the pivot, a trip arm on the second member, adapted to be engaged by a car, a bar movable relatively to the track and adapted to be engaged by a car, and means by which the last-mentioned bar is adapted for raising the second member.

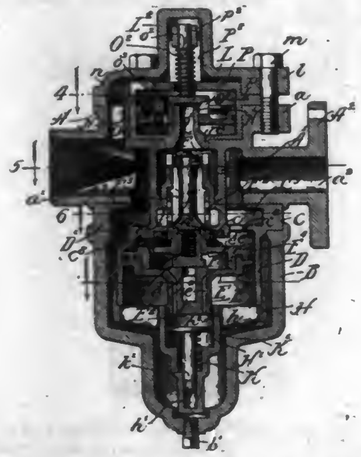
3. In an automatic railway switch device, a track having a switch point movable relatively thereto, a shifting bar connected with the switch point, means mounted on the shifting bar adapted to be engaged by a dog, to operate the shifting bar, a pivoted member having a dog for engaging the said means, and having a stud angular in cross section, a second member having a sleeve which fits the said stud, adapted to be raised relatively to the body of the first member, a trip arm on the second member, adapted to be engaged by a car, and means for raising the second member.

4. In an automatic railway switch device, a track having a switch point movable relatively thereto, a shifting bar connected with the switch point, means mounted on the shifting bar adapted to be engaged by a dog, to operate the shifting bar, a pivoted member having a dog for engaging the said means, a second member adapted to be raised relatively to the body of the first-mentioned member, the second member having means for rotating the first-mentioned member on its pivot, a trip arm on the second-mentioned member, adapted to be engaged by a car, a bar movable relatively to the track, adapted to be engaged by a car, a rock shaft, a member connecting the bar with the rock shaft for operating the latter, and an arm secured to the rock shaft for engaging and raising the second-mentioned member.

5. In an automatic railway switch device, a track having a switch point movable relatively thereto, a shifting bar connected with the switch point, means mounted on the shifting bar adapted to be engaged by a dog, to operate the shifting bar, a pivoted member having a dog for engaging the said means, a second member having lateral projections, adapted to be raised relatively to the body of the first-mentioned member, the second-mentioned member having means for rotating the first-mentioned member, a bar movable relatively to the track, adapted to be engaged by a car, a rock shaft, a member connecting the bar with the rock shaft, for operating the latter, and arms having hooks, secured to the rock shaft, the hooks being adapted to engage the lateral projections on the second-mentioned member.

[Claims 6 to 14 not printed in the Gazette.]

978,640. TRIPLE VALVE. WILLIAM A. PENDRY, Detroit, Mich. Filed Apr. 12, 1909. Serial No. 489,418.



1. In a triple valve, the combination with a casing comprising a main section and a supplemental section, of radially arranged means connecting said main section with the train pipe, the auxiliary reservoir, and the brake cylinder, and valve mechanism located in said casing and removable from the main section thereof upon the detachment of the supplemental section.

2. In a quick action triple valve, the combination with a casing comprising a main section, a supplemental section and a cap, of radially arranged means connecting the main section with the train pipe, the auxiliary reservoir and the brake cylinder, triple valve mechanism located in said casing and removable from the main section thereof upon the detachment of the supplemental section, and

quick action valve mechanism located in said main section and removable therefrom upon the detachment of said cap.

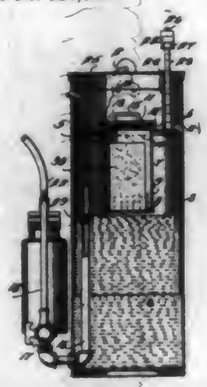
3. In a casing for triple valve mechanism, the combination with a main section having radially arranged chambers therein communicating with the train pipe, the auxiliary reservoir, the brake cylinder, and exhaust port, of a detachable section located at one side of said main section through which the triple valve mechanism is adapted to be removed.

4. In a casing for quick action triple valve mechanism, the combination with a main section having chambers therein communicating with the train pipe, the auxiliary reservoir, the brake cylinder, and exhaust port, of a detachable section located at one side of said main section through which the triple valve mechanism proper is adapted to be removed, and a detachable cap located on the other side of said main section from said detachable section through which the quick action valve mechanism is adapted to be removed.

5. In a triple valve, the combination with a casing comprising a main section having chambers therein communicating with the triple valve, auxiliary reservoir, brake cylinder, and exhaust port, of a supplemental section located on one side of the main section, a piston cylinder located within said supplemental section, a valve cylinder formed integral with said piston cylinder and extending into the main casing section, a piston located in said piston cylinder, and a valve connected to said piston and located in said valve cylinder, said valve and valve cylinder having ports and passages, whereby said valve connects the chamber communicating with the brake cylinder with either of the chambers communicating with the auxiliary reservoir or exhaust port.

[Claims 6 to 8 not printed in the Gazette.]

978,641. GAS-GENERATOR. GEORGE POE, South Norfolk, Va., assignor to Poe Invention Corporation, Norfolk, Va., a Corporation of Virginia. Filed Nov. 18, 1909. Serial No. 528,762.

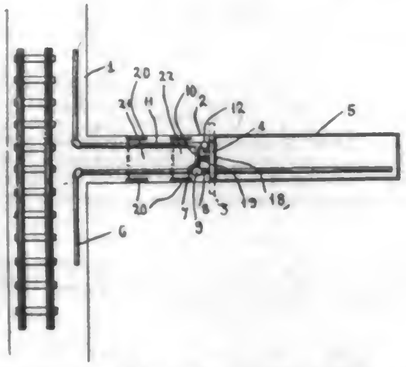


1. A gas generating apparatus including a tank having a removable cover, a vertically movable bell in the tank, a material cage carried by and movable with the bell, and a measuring rod carried by the bell and projecting through the cover, said rod being graduated to register with the surface line of the cover for indicating purposes.

2. A gas generating apparatus including a tank having a removable cover, a vertically movable gasometer mounted in the tank, a material cage arranged within the gasometer, and a measuring rod carried by the gasometer and projecting through and coöperating with the cover for indicating purposes, said rod being provided with removable weights to increase the pressure on the gasometer.

3. An apparatus for the generation of oxygen including a tank, a bell freely movable within the tank, a cage integral with the bell and depending within the same, the top of the bell being formed with an annular flange encircling the opening of the cage through said bell top, and a cover for the cage having threaded connection with the flange, said cage being formed near the lower end with water inlet openings and near the upper end with gas outlet openings, the cage intermediate said two sets of openings being imperforate, whereby when the cage is submerged to cover the water inlet openings the additional pressure of the gas is directed against the top of the bell to render the movement of the bell immediately sensitive and responsive to the generation of the gas.

978,642. AIR-RESERVOIR FOR MINES. PATRICK QUINN, Forbes Road, Pa. Filed July 26, 1910. Serial No. 573,891.

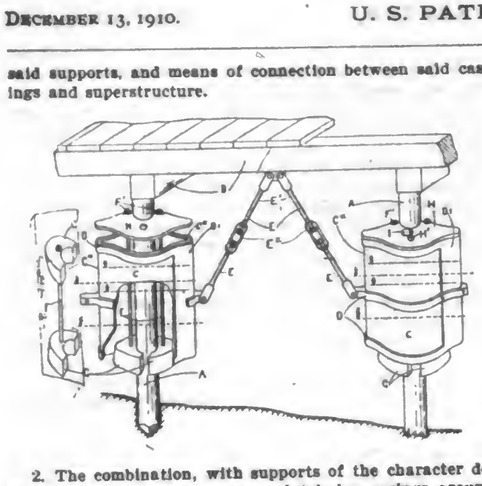


1. In combination in a mine, a room having the side walls and roof cut-away intermediate their ends to provide a pocket, a transversely extending bulk head arranged within said room intermediate the ends thereof and extending in said pocket and forming in connection with the floor, side walls and roof of the room an inclosed space constituting a reservoir, an air and water proof lining mounted upon the floor and arranged against the inner side of the bulk head and further positioned against the walls and the roof of the room, said bulk head provided with a man hole, means for normally closing said man hole, an air supply pipe extending into said reservoir to near the inner end thereof and positioned at the bottom of said reservoir, an air discharge pipe communicating with said reservoir at the front thereof, a valve located upon said pipes exteriorly of the bulk head, a valve pipe connection between said air discharge pipe and said air supply pipe, a drain pipe for the reservoir mounted in said bulk head at the bottom thereof.

2. In combination in a mine, a room having the side walls and roof cut-away intermediate their ends to provide a pocket, a transversely-extending bulk head arranged within said room intermediate the ends thereof and extending in said pocket and forming in connection with the floor, side walls and roof of the room an inclosed space constituting a reservoir, an air and water proof lining mounted upon the floor and arranged against the inner side of the bulk head and further positioned against the walls and the roof of the room, said bulk head provided with a man hole, means for normally closing said man hole, an air supply pipe extending into said reservoir, a discharge pipe communicating with the reservoir at the front thereof, a valve located in each of said pipes exteriorly of the bulk head, a drain pipe for the reservoir, located in the lower end of the bulk head, a valve pipe connection between the supply and discharge pipes, and safety doors arranged in said room exteriorly of said bulk head, said pipes arranged below said doors.

978,643. APPLIANCE FOR OIL PRESERVATION OF PILING IN WATER. OLOF QUIST, San Diego, Cal. Filed Oct. 28, 1908. Serial No. 459,925.

1. The combination, with supports of the character described, and a superstructure of tubular casings around said supports, and means of connection between said casings and superstructure.



2. The combination, with supports of the character described, and a superstructure, of tubular casings around said supports, and adjustable means of connection between said casings and superstructure.

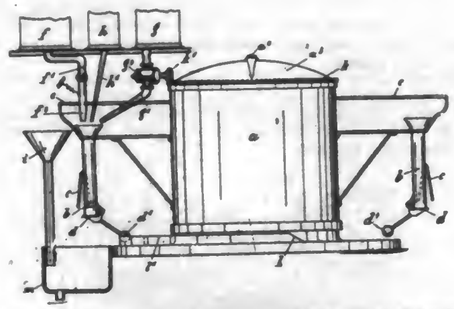
3. The combination, with a support of the character described, of a tubular casing extending well above the water line and partially open at its bottom, a closure at the top of said casing and a preservative fluid on the surface of the water within said casing whereby said fluid is capable of shifting with the tide.

4. The combination, with a support of the character described, of a tubular casing around said support, and tapered blocks clamped between said support and casing for the purpose specified.

5. The combination, with a support of the character described, of a tubular casing around said support, a cover plate for said casing, tapered blocks in the lower end of said casing, and rods connecting said cover plate and blocks for the purposes specified.

[Claims 6 and 7 not printed in the Gazette.]

978,644. AUTOMATIC LIQUID-TESTING APPARATUS. WALTER RAABE, Brunswick, Germany, assignor to Gustav Dietz, Brunswick, Germany. Filed Mar. 15, 1910. Serial No. 549,429.



1. In an apparatus for automatically testing liquids, the combination with a plurality of test tubes, of automatic means to successively supply the liquid to be tested and a reagent to said test tubes, automatic means to successively remove said liquid and reagent from the test tubes, and automatic flushing means for said test tubes.

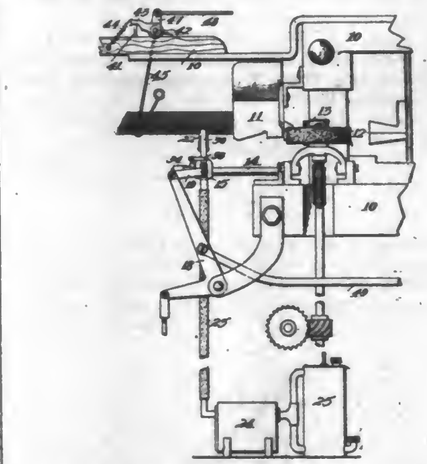
2. In an apparatus for automatically testing liquids, the combination, with a frame adapted to be rotated about its perpendicular axis, and a plurality of test tubes mounted circumferentially on said frame, of automatic means to successively supply the liquid to be tested and a reagent to said test tubes, and automatic means to successively remove said liquid and reagent from the test tubes.

3. In an apparatus for automatically testing liquids, the combination with a frame adapted to be rotated about its perpendicular axis, a plurality of test tubes mounted circumferentially on said frame, each of said test tubes being provided with a siphon adapted to withdraw the liquid to a certain level and a valve at its bottom, receptacles disposed above said test tubes and extending with their discharge ends above the path of the same, automatic means to supply a liquid from each of said receptacles to said test tubes, and automatic means to open the valve provided at the bottom of each of said test tubes, said opening means being disposed at a point away from the discharge ends of said receptacles.

4. In an apparatus for automatically testing liquids, the combination with a frame adapted to be rotated about its perpendicular axis, and a plurality of test tubes disposed circumferentially on said frame, of automatic means to successively supply the liquid to be tested to said tubes, an automatically actuated measuring cock discharging into said test tubes, means to supply a testing liquid to said measuring cock, and automatic means to empty said test tubes.

5. In an apparatus for automatically testing liquids, the combination with a frame adapted to be rotated about its perpendicular axis, and a plurality of test tubes disposed circumferentially on said frame, of automatic means to successively supply the liquid to be tested to said tubes, an automatically actuated measuring cock discharging into said test tubes, said measuring cock being provided with a plurality of measuring chambers, means to supply a testing liquid to each measuring chamber of said measuring cock, and automatic means to empty said test tubes.

978,645. PNEUMATIC SELECTOR FOR SHORT-WEFT LOOMS. HENRY E. RATHBUN, Worcester, Mass. Filed July 12, 1909. Serial No. 507,063.



1. In a loom for weaving short wefts, the combination with a hopper for holding the straws or the like constituting the wefts, and a feed device for taking straws therefrom, of a nozzle movable along the hopper, and means for exhausting air from said nozzle, whereby when the mouth of the nozzle comes into contact with a straw the latter will be pressed against it by atmospheric pressure.

2. In a loom for weaving short wefts, the combination with a hopper for holding short wefts, and a device for inserting the wefts in the shed, of pneumatic means for feeding the wefts from the hopper to the said device.

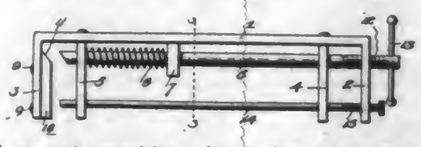
3. In a loom for weaving short wefts, the combination with a hopper for holding short wefts, and a device for inserting the wefts in the shed, of pneumatic means for feeding the wefts from the hopper to said device, said pneumatic means being movable along the hopper toward said device, and means for moving it.

4. In a loom for weaving short wefts, the combination with a hopper for holding short wefts, of a selecting device movable parallel with the length of the hopper, and a pneumatic device carried by said selecting device for moving the wefts longitudinally in the hopper.

5. In a loom for weaving short wefts, the combination with a hopper for holding short wefts, of a guide rod located parallel with the length of the hopper, a selector slide movable on said rod, a nozzle carried by the selector slide and having a mouth thereon adapted to receive a weft, pneumatic means for causing a weft to be carried along with the nozzle when entering said mouth, and means for moving said slide along the guide rod.

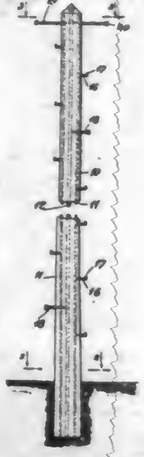
[Claims 6 to 14 not printed in the Gazette.]

978,646. SAW-SET. GUSTAVE REISS, Crete, Nebr. Filed June 13, 1910. Serial No. 566,551.



A saw set comprising a bar having downturned ends, bearing plates secured to said bar near said ends, an anvil detachably secured to one end of the bar, a clamping plunger mounted in the bearing plates, a screw mounted in the end of the bar and bearing against the end of said plunger to project the same toward the anvil to clamp a saw against the anvil, a setting plunger slidably mounted in the bearing plates, an angular projection on the plunger between the bearing plates and engaging the bar, a spring coiled around the plunger between said projection and one of the bearing plates, and a screw mounted in the end of the bar and bearing against the end of the plunger.

978,647. CONCRETE CONSTRUCTION. DR ELBERT A. REYNOLDS, New York, N. Y. Filed June 17, 1908. Serial No. 438,913.

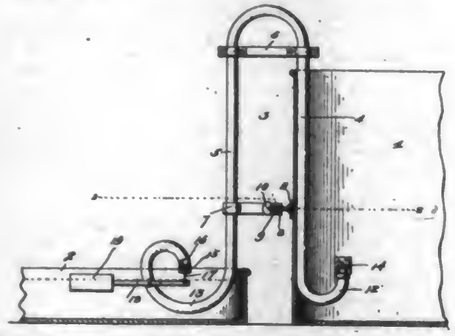


1. A reinforcement for cast concrete poles comprising an expanded metal structure formed from a stamping including a plurality of uprights with arms which lie between them and are connected at their opposite ends with adjacent uprights at points in said adjacent uprights which before the structure is expanded are in staggered relation, the said structure being expanded and formed by drawing the uprights apart and bending the arms so that the said uprights are regularly disposed around a central axis, one of the outer uprights being provided with openings, and the other outer upright having arms on the outside thereof which have free ends, such free ends being adapted to be received in the said openings, substantially as set forth.

2. A reinforcement stamping for cast concrete poles comprising a plurality of uprights 13, arms 14 connecting them, the ends of the said arms connecting with the adjacent uprights at points in staggered relation, one of the outer uprights having openings 15, and the other of the said outer uprights having arms 14ª with free ends, the said uprights also provided with free ended arms 16 connected thereto at points intermediate the points of connection of the said arms 14.

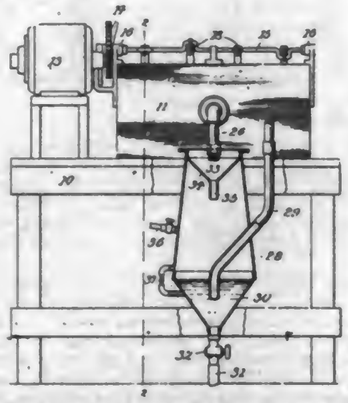
3. A reinforcement stamping for cast concrete poles comprising a plurality of uprights, sets of connecting arms therefor, the arms of each set connected at their opposite ends with adjacent uprights at points in staggered relation, whereby the structure may be expanded, and free ended arms connected to the said uprights longitudinally intermediate the said sets of connecting arms.

978,648. SIPHON FEEDING MECHANISM. EDWIN A. RHOADS, Goodland, Kans. Filed Jan. 3, 1910. Serial No. 535,931.



A device for transferring liquids from one receptacle to another, comprising a siphon having the free end of one leg curved upwardly and the free end of the other leg curved upwardly and then downwardly, a valve seat arranged on said down curved end, a valve arranged on said seat, a lever fulcrumed intermediately of its ends to the upwardly curved portion of said siphon leg provided at one end with a float and connected at its other end to said valve, and means for securing said siphon in operative position.

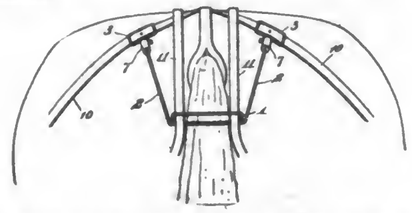
978,649. VACUUM CLEANING APPARATUS. LYMAN R. ROBERTS, Rutherford, N. J. Filed Apr. 20, 1910. Serial No. 558,650.



1. In a device of the character described, an air exhauster combined with a dust-collecting vessel adapted to contain a liquid, a pipe connecting the exhauster with said vessel, a funnel within the vessel below the mouth of said pipe and sloping downwardly from the walls of said vessel, a nipple communicating with the bottom of the funnel, and a suction pipe entering the vessel and opening into the same beneath the liquid level thereof.

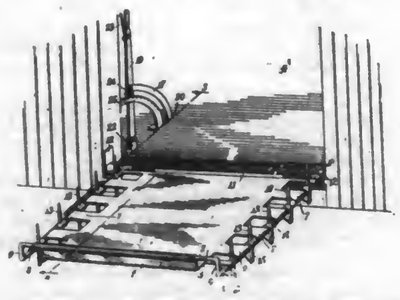
2. A device of the character described, comprising an air exhauster, a coniform downwardly widening dust collecting vessel having a tapering bottom and adapted to contain a liquid, a pipe connecting the exhauster with said vessel, a funnel within the vessel below the mouth of said pipe and sloping downwardly from the walls of said vessel, said funnel being apertured at its lowest point, and a suction pipe opening into the vessel beneath the liquid level thereof.

978,650. REIN-PROTECTOR. SOLOMON P. ROBERTS, Rockport, W. Va. Filed Nov. 28, 1908. Serial No. 464,908.



A rein protector constructed of a single length of material bent to form an elongated loop for the reception of both reins, the material being projected from opposing ends of the loop in the form of rods, and connectors between said protector and the harness strap, each of said connectors including a single member bent into elongated loop form and having one terminal projected within the plane of the loop and turned upwardly at its end to form a stud arranged centrally beyond the plane of the loop, a sleeve connected to the other terminal, and a set screw coöperating with the bore of the sleeve, the sleeve bore being designed to receive one of the rods of the rein protector, and being disposed so that said rod when extended through the sleeve will underlie the loop of the connector, whereby when in place the rod of the rein protector will underlie the harness strap to assist in supporting the rein protector.

978,651. DEVICE FOR DELIVERING MAIL FROM MOVING TRAINS. ERNEST R. ROBINSON, New Castle, Del. Filed Sept. 23, 1910. Serial No. 583,373.



1. A device for delivering mail from moving trains, comprising an extensible shelf-like member mounted in the door opening of a mail car to rest vertically therein; a plurality of yielding vertically disposed guard stakes pivotally mounted upon said shelf-like member and at the side thereof; means for maintaining the vertical adjustment of said guard stakes; and means operable from within the car for rotating the said shelf-like member to extend the same horizontally outward from the said car.

2. A device for delivering mail from moving trains, comprising an extensible shelf-like member pivotally mounted in the door opening of a mail car and adapted to normally rest vertically therein; a plurality of vertically disposed guard stakes pivotally mounted on the edge of said shelf-like member; a plurality of springs to maintain the normal upright position of said guard stakes; a lever pivoted within said car; and a curved connecting rod extended between the said lever and the outside of said shelf-like member to dispose and maintain the said shelf-like member in adjusted position.

3. A device for delivering mail from moving trains, comprising an extensible shelf-like member pivotally mounted in the door opening of a mail car and adapted to normally rest vertically therein; a plurality of vertically disposed guard stakes pivotally mounted on the edge of said shelf-like member; a plurality of springs to maintain the normal upright position of said guard stakes; a lever pivoted within said car; a curved connecting rod extended between the said lever and the outside of said shelf-like member to dispose and maintain the said shelf-like member in adjusted position; a toothed quadrant mounted concentrically with the pivot of said lever; and a latch bolt provided on said lever for engaging said quadrant to hold the said shelf-like member in set position.

4. In combination with a moving car having an extensible shelf-like member adapted to carry in extended position beyond the side of said car a mail pouch for delivery, of a plurality of extracting arms, each disposed at a delivery station in supported relation to the path of said car; and a plurality of yielding rake members mounted on said arms to sweep the upper surface of said shelf-like member.

5. In combination with a moving car having an extensible shelf-like member adapted to carry in extended position beyond the side of said car a mail pouch for delivery, of a plurality of extracting arms each disposed at a mail receiving station; a rake-like member yieldingly mounted on each of said arms adapted to sweep the upper surface of said shelf-like member; and yielding means for maintaining the vertical disposition of said rake-like members.

[Claims 6 to 8 not printed in the Gazette.]

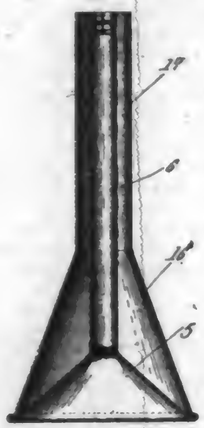
978,652. METHOD OF MAKING HANDLES FOR LADLES. JAMES B. RODGER, Harvey, Ill., assignor to Whiting Foundry Equipment Company, Harvey, Ill., a Corporation of Illinois. Filed Apr. 12, 1909. Serial No. 489,264.



1. The method of making a ladle handle consisting in taking a bar of metal of the required diameter for the central bearing member, heating said bar of metal, placing it in a die which forms the central bearing member and starts to form the handle, then while the metal is under the same heat drawing out the handle from the central portion to the right length and diameter.

2. The method of making a ladle handle consisting in taking a bar of metal of the required diameter for the central bearing member, heating said bar of metal, placing it under a die which forms the central bearing and starts to form the handle, then while the metal is under the same heat bending the ends of the handle into the desired position for the grasping handles for the purposes set forth.

978,653. CHURN-DASHER. LEROY A. SANDOR, Hope, [illegible]rk. Filed Oct. 20, 1910. Serial No. 588,149.

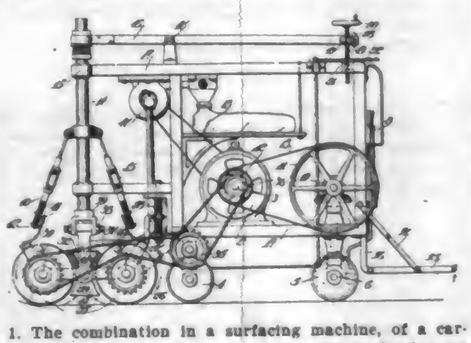


1. A churn dasher including a hollow body, an air tube leading therefrom, and a valve in said tube embodying a plurality of valve disks selectively removable.

2. A churn dasher having a hollow body, and a handle thereon, and a water jacket surrounding the body and handle.

3. A churn dasher including a hollow body, an air tube leading therefrom, and a valve in said tube comprising a foraminous diaphragm, a fixed stem projecting above and below the diaphragm, and valve disks loosely mounted upon the stem one above and the other below the diaphragm, said valve disks being selectively removable.

978,654. FLOOR SURFACING AND POLISHING MACHINE. PETER SASS, San Francisco, Cal. Filed Jan. 24, 1910. Serial No. 539,656.



1. The combination in a surfacing machine, of a carriage, a motor, transmitting and steering mechanism on said carriage, a flexibly mounted frame, a vertically adjustable abrading member independently mounted in said frame, said member being connected with the carriage, and sprockets and a flexible chain transmitting power thereto.

2. The combination in a surfacing machine, of a carriage, a motor, transmitting and steering mechanism on said carriage, a flexibly mounted frame, an independently mounted abrading member, a vertically guided slidable shaft by which said member is carried, said shaft being mounted in said flexible frame, a fulcrumed lever within one end of which said shaft is horizontally turnable, said lever having a nut at its outer end and a turnable screw engaging said nut.

3. The combination in a surfacing machine, of a carriage, a motor, transmitting and steering mechanism on said carriage, a flexibly mounted frame, an independently mounted abrading member, a vertically guided slidable shaft by which said member is carried, said shaft being mounted in said flexible frame, a fulcrum lever within one end of which said shaft is horizontally turnable, said lever having a nut at its outer end and a turnable screw engaging said nut, said screw having the lower end oppositely threaded, and a fixed co-acting nut within which the lower end of the screw is turnable.

4. The combination in a surfacing machine, of a carriage, a motor, transmitting and steering mechanism upon the carriage, a vertically guided, slidable and turnable shaft supported in front of the carriage, means for attaching abrading surfaces to said shaft, means for raising and lowering the shaft and its attachments, and a flexible elastic frame disposed between the shaft and the abrading surfaces.

5. A surfacing machine including a carriage, a motor and propelling mechanism, a vertically guided slidable and turnable shaft, a flexible elastic and adjustable frame, abrading surfaces carried by said frame, connections between the frame and the shaft, and means for raising and lowering the shaft and its attachments.

[Claims 6 to 14 not printed in the Gazette.]

978,655. MOISTURE-PROOF INTERIOR COVERING OR LINING FOR USE IN BUILDINGS. LOUIS SAUERBECK, Gera, Reuss, Germany. Filed Mar. 17, 1910. Serial No. 549,069.

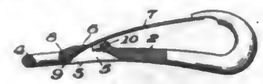


1. In a moisture proof lining for the inside of roofs or other parts of buildings, lining sheets and means for fastening said sheets, said means consisting of blocks each having its inner face formed with a circular groove, a moisture proof compound interposed between the outer faces of the sheets and the inner faces of the blocks, said compound filling said grooves of the blocks, and means engaging the blocks and extending through said lining sheets to hold the latter to the roof or other building parts.

2. In a moisture proof lining for the inside of roofs or other parts of buildings, lining sheets and means for fastening said sheets, said means consisting of rosettes comprising blocks having recesses in their upper faces, bolts having heads received in said recesses and extending through apertures formed in the blocks, said blocks having dove-tail shape channels formed in their upper faces, and wedges slidably received within the said channels.

978,656. SNAP-HOOK. WILLIAM A. SCHLEICHER, Cleveland, Ohio. Filed Sept. 16, 1909. Serial No. 517,998.

1. A snap hook having its shank provided with a recess on its under side, and an opening extending through the shank into the recess, the bottom wall of the recess having a downwardly facing transverse rib at its rear side, and a spring tongue member inserted through said opening into said recess and terminating at its rear end with an upwardly facing transverse groove portion which engages the said rib; substantially as described.

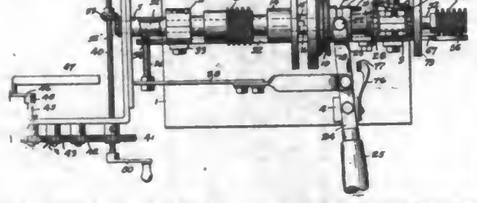


2. A snap hook having its shank provided with a recess on its under side, and an opening extending through the shank into the recess, the bottom wall of the recess having a downwardly facing transverse rib at its rear side, and a spring tongue member inserted through said opening into said recess and terminating at its rear end with an upwardly facing transverse groove portion which engages the said rib, and the shank having other means engaging the spring member to prevent side movement thereof; substantially as described.

3. A snap hook having its shank provided with a recess on its under side, and an opening extending through the shank into the recess, the bottom wall of the recess having a downwardly facing transverse rib at its rear side, and a spring tongue member inserted through said opening into said recess and terminating at [illegible]e rear end with an upwardly facing transverse groov[illegible]tion which engages the said rib, and the side walls of the recess being forced into engagement with the spring member to secure the same; substantially as described.

4. A snap hook having its shank provided with a recess on its under side, and an opening extending through the shank into the recess, the bottom wall of the recess having a downwardly facing transverse rib at its rear side, and a spring tongue member inserted through said opening into said recess and terminating at its rear end with an upwardly facing transverse groove portion which engages the said rib, the forward wall of the recess having a bearing for the spring member; substantially as described.

978,657. BRAID LAPPING OR BOLTING MACHINE. HENRY W. SCHLOSS and HERMAN HAWLEY, New York, N. Y., assignors to Castle Braid Company, a Corporation of New York. Filed May 6, 1910. Serial No. 559,703.



1. In a lapping machine, supports for braid, mechanism for lapping the braid to be wound, around the said supports, means for automatically stopping said mechanism when a predetermined number of turns of braid have been lapped on said supports, and means for rotating the braid loops so formed about an axis substantially perpendicular to the first, for binding said loops into a bolt.

2. In braid bolting mechanism, rotatably mounted supports for the braid, means for rotating said supports about an axis a predetermined number of turns, and means for rotating said supports about an axis substantially at right angles to the first for a predetermined number of turns.

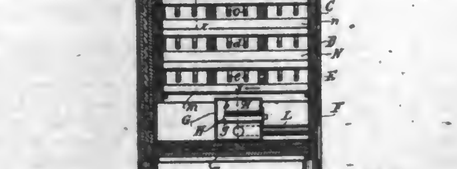
3. In a braid bolting machine, supports for braid, power driven mechanism for rotating said supports about a given axis, means for limiting the rotation of said members to a predetermined number of turns, and power driven mechanism for rotating said supports about an axis substantially at right angles to the first.

4. In a braid bolting machine, supports for braid, power driven mechanism for rotating said supports about a given axis, means for limiting the rotation of said members to a predetermined number of turns, power driven mechanism for rotating said supports about an axis substantially at right angles to the first, and means for automatically stopping the operation of said latter mechanism when a predetermined number of binding turns have been made.

5. In a braid bolting machine, a hollow spindle, a yoke carried thereby, braid supports mounted upon said yoke, means for intermittently driving said hollow spindle comprising a clutch, and mechanism for disengaging said clutch and for positively stopping the rotation of said spindle when a predetermined number of rotations have been made.

[Claims 6 to 15 not printed in the Gazette.]

978,658. BARN-DOOR LATCH. ARWIN SCHNELL, Manitowoc, Wis. Filed Jan. 8, 1910. Serial No. 537,024.



1. A door latch comprising an attaching plate having a kerf at one end, perforated lugs on opposite sides of said kerf, a latch bolt adjustably pivoted between said lugs and projecting through the kerfed end of the plate, means for projecting said bolt into operative position and means for retracting said bolt.

2. A door latch comprising an attaching plate having a kerfed end, an adjustable latch member mounted on the plate and projecting through the kerfed end thereof, said latch member having a shank provided with a plurality of perforations, a pivot bolt adjustably engaging said perforations, a rod having a hook at one end adapted to engage one of the perforations below the pivotal bolt, and means for retracting the rod.

3. In combination with a keeper, a door latch comprising an attaching plate having a kerfed end, an adjustable latch member mounted on the kerfed end of the plate and projecting through the kerf thereof, said latch member having a shank provided with a plurality of perforations, a pivotal bolt adjustably engaging said perforations, a rod having a hook at one end adapted to engage one of the perforations, means for retracting the rod and thereby the lower end of the bolt, a latching pawl on the upper end of the bolt adapted to engage the keeper, and manipulating handles carried by the bolt.

978,659. DYNAMITE-THAWER. SHERIDAN S. SCHOLL, Roanoke, Va. Filed Mar. 26, 1910. Serial No. 551,631.

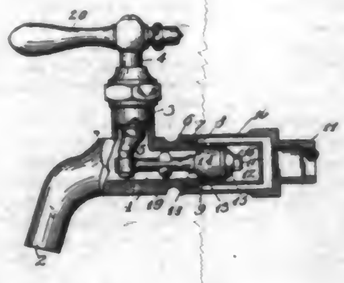
1. In a dynamite thawer, the combination with a cabinet having an upper front door, of a perforated box con

structed to be introduced and withdrawn through said door, a series of skeleton drawers arranged below the said perforated box and having supports for the explosive, a source of heat within the cabinet arranged below the drawers, devices arranged between the source of heat and the lowest drawer and between the drawers and between the upper drawer and said perforated box for breaking up the ascending currents of heated gases, and upper and lower dampers constructed and arranged to control the passage of air into and out of the cabinet.

2. In a dynamite thawer, the combination with a cabinet having an upper front door, of a perforated box constructed to be introduced and withdrawn through said door, a curved plate secured within the cabinet and extending from a lower point at the back of the cabinet to a higher point over said perforated box at the front of the cabinet to direct the ascending gases forwardly, a series of skeleton drawers arranged below the said perforated box and having supports for the explosive, a source of heat within the cabinet arranged below the drawers, and upper and lower dampers constructed and arranged to control the passage of air into and out of the cabinet.

3. In a dynamite thawer, the combination with a cabinet, of a perforated box supported within the cabinet, the cabinet having an opening provided with a closure through which the said perforated box may be reached from the outside, a series of skeleton drawers arranged below the perforated box and having supports for the explosive, a source of heat within the cabinet arranged below the drawers, and upper and lower dampers constructed and arranged to control the passage of air into and out of the cabinet.

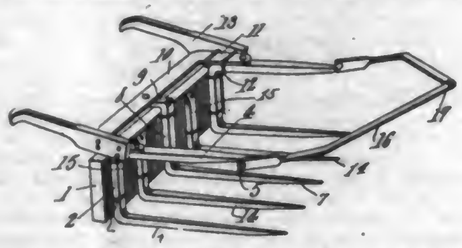
978,660. FAUCET. HENRY F. SCHAOEDDE, Cleveland, Ohio. Filed Mar. 26, 1908. Serial No. 423,405.



1. In a faucet, the combination of a faucet body having its rear or inlet end beveled to form a tapered valve seat and provided outside of such end portion with a thread and having a thread in front of the former thread, a casing fitted to the first thread and provided adjacent to the inlet end of the body with a plurality of ports, said casing being closed at its rear end, a second casing surrounding the former casing and threaded on to the second thread of the body and forming with the former casing a chamber, a valve body of soft rubber mounted in the first mentioned casing and having a tapered surface adapted to engage the tapered seat on the end of the faucet body, a link connected with the valve body, and a faucet shaft connected with said link.

2. In a faucet, the combination of a body having a passageway therein and provided at its rear or inlet end with a beveled seat, a casing projecting rearwardly from said seat and provided adjacent to said seat with a series of apertures, a casing surrounding the first mentioned casing and forming therewith a chamber, a soft rubber valve body mounted in the first mentioned casing and having a tapered surface extending rearwardly of said apertures and adapted to engage the beveled seat, and means for moving said valve body toward and from its seat.

978,661. MANURE-FORK. EDWARD SCHWARTZMAN, Tampa, Kans. Filed July 6, 1910. Serial No. 570,612.

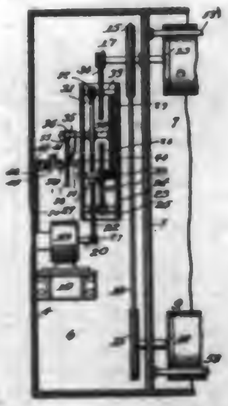


1. A fork including tines having upstanding portions, arms integral with and extending from said upstanding portions and overhanging the tines, a draft device connected to the arms, a detachable connection between the upstanding portions of said tines, and additional tines attached to said connection and carried solely thereby, all of the tines constituting runners.

2. A fork including side tines having integral upstanding portions, arms extending from said upstanding portions and integral therewith, said arms overhanging the tines, a draft device movably engaging the arms, a back board detachably secured to the upstanding portions of the tines, and additional tines having upstanding portions detachably connected to said back board.

3. A fork including side tines having upstanding portions, arms extending from and integral with said upstanding portions and overhanging the tines, said tines and arms being substantially parallel, a draft device pivotally connected to the arms, a connecting strip having forwardly extended terminals bearing upon the arms, handles, means engaging the handles for detachably securing them to the arms and for detachably securing said terminal portions to the arms, a back board detachably secured to the upstanding portions of the tines, and intermediate tines having upstanding portions detachably connected to the back board.

978,662. ADVERTISING DEVICE. PAUL CLARENCE SCOTT, Council Bluffs, Iowa. Filed June 15, 1909. Serial No. 502,213.



1. A device of the class described comprising a pair of spaced rollers, shafts upon which the rollers are secured, and extended at one end beyond the rollers, a flexible strip supported on the rollers, and provided at spaced intervals with display matter, pulleys on the shafts, a belt connecting the pulleys, a pinion on one roller shaft, a shaft, a motor, a train of reducing gears connecting the motor and the shaft, a wheel on the shaft provided with a segment of gear teeth for meshing with the pinion, a pinion on the shaft provided with a single tooth, a gear wheel

for engagement by the tooth, a counter shaft to which the gear wheel is secured, an arm secured on the shaft, a stub shaft, in alinement with the counter shaft, an arm secured on the stub shaft, a spring connecting the arms, an arm rigid with the stub shaft, a reversing mechanism for the motor, a link connecting the arm with said mechanism, and pins for limiting the movement of the first named arm of the stub shaft.

2. A device of the class described comprising a pair of spaced rollers, shafts upon which the rollers are secured, and extended at one end beyond the rollers, a flexible strip supported on the rollers, and provided at spaced intervals with display matter, pulleys on the shafts, a belt connecting the pulleys, a pinion on one roller shaft, a shaft, a motor, a train of reducing gears connecting the motor and the shaft, a wheel on the shaft provided with a segment of gear teeth for meshing with the pinion, a pinion on the shaft provided with a single tooth, a gear wheel for engagement by the tooth, a counter shaft to which the gear wheel is secured, an arm secured to the shaft, reversing mechanism for the motor, and means operated by the arm for operating said mechanism at predetermined intervals.

3. A device of the class described, comprising a pair of spaced rollers, a yielding connection between the rollers, a flexible strip winding on the rollers, a pinion connected with one of the rollers, a motor, a train of reducing gears with one end of which the motor is connected, a wheel provided with a segment of gear teeth connecting the other end with the pinion, a pinion having a single tooth rigidly connected with the wheel, a gear wheel for engagement by the said tooth, an arm rigidly connected with the gear wheel, a reversing mechanism for the motor, an arm for operating the same, and a yielding connection between the arms for the purpose set forth.

4. In a device of the class described, comprising a pair of spaced rollers, a yielding connection between the rollers, a flexible strip winding on the rollers, a pinion connected with one of the rollers, a motor, a train of reducing gears with one end of which the motor is connected, a wheel provided with a segment of gear teeth connecting the other end with the pinion, a pinion having a single tooth rigidly connected with the wheel, a gear wheel for engagement by the said tooth, and means for reversing the motor at predetermined intervals operated by the gear wheel.

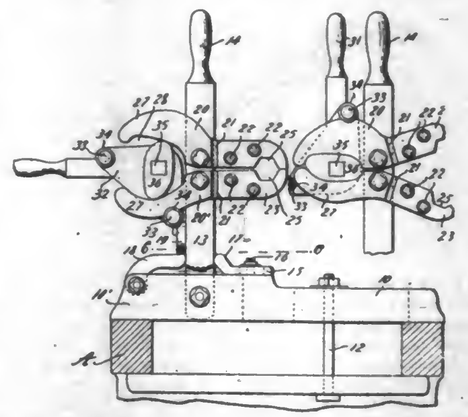
5. In a device of the class described, a means for displaying a series of advertisements or the like and means for operating said means to display the advertisements in sequence and at predetermined intervals, said means comprising a motor for operating said means, a train of reducing gears with one end of which the motor is connected, a pinion having a driving connection with said means, a wheel provided with a segment of gear teeth connecting the other end of said train with the pinion, a pinion having a single tooth rigidly connected with the wheel, a gear wheel for engagement by the said tooth, a reversing mechanism for the motor, an arm operated by the gear wheel, and a connection between the arm and the reversing mechanism for operating the same.

[Claim 6 not printed in the Gazette.]

978,663. BACK-REST FOR LATHES. NATHAN P. SHANKWILER, Longbeach, Cal. Filed June 23, 1910. Serial No. 568,544.

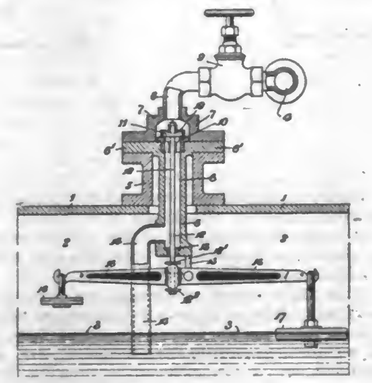
1. A back rest for lathes, comprising a base, an upright secured thereto, pivotally mounted jaws carried by said upright, a cam adapted to converge the work-engaging portion of said jaws, and a plurality of lugs carried by the mounting of said cam adapted to diverge said work-engaging portions, the operated terminals of each jaw being engaged between a portion of said cam and a part of said lugs.

2. In a back rest for lathes, the combination with a base, of a vertical support pivotally connected thereto, a bearing carried by said support, a shaft mounted in said bearing, a pair of work engaging arms pivotally mounted on said support, the rear terminals of said work engaging arms being curved oppositely, a cam mounted on said shaft adapted to coöperate with the inner surfaces of the curved portions of said arms, and means located adjacent said cam adapted to coöperate with the outer surfaces.



3. In a back rest for lathes, the combination with a support of an upright pivotally mounted thereon, a bearing formed on said support, a shaft operating in said bearing, an operating plate carried by said shaft, a cam carried against the outer faces of said plate, outwardly extending pins carried on said plate, and pivotal work engaging arms mounted on said uprights having their rear terminals curved oppositely, said curved terminals being retained between said pins and said cams.

978,664. FEED-WATER REGULATOR FOR STEAM-GENERATORS AND THE LIKE. JOHN EDWARD SHAW, AUSTIN SHAW, WALTER LEES, THOMAS WILLIAM LEES, and ARCHIBALD LEES, Halifax, England. Filed Dec. 24, 1909. Serial No. 534,819.



In a valve for a feed water regulator, the combination with a casing provided with an inlet and an outlet and having also a valve-seat between the inlet and outlet, of a valve provided with a stem and operating to close the outlet, and a cap mounted to slide on the said stem above the valve and inclosing the said valve and provided with passages of collectively less area than the area of the opening through the valve-seat, said cap being raised by contact with the said valve after the said valve is opened and descending automatically onto the said valve seat to reduce the flow of water before the valve is closed.

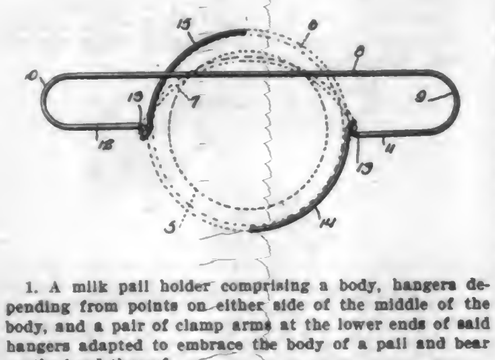
978,665. ATTACHMENT FOR HARROWS. JOHN H. SHERARD, Sherard, Miss. Filed Apr. 14, 1909. Serial No. 489,777.



1. In a harrow of the character described, the combination with a harrow frame, of a leveler device formed of a metal bar bent into V-shape and having the ends of its limbs bent outwardly to form short flanges, three eye bolts engaging the frame at three points, and a loose link connection between each eye bolt and the leveler device, said connections respectively engaging the angular front corner and the flanges at the free rear ends of the V-shaped leveler device.

2. The combination with a triangular shaped harrow frame, of a leveler device formed of a flat bar of metal bent into V-shape and having the ends of its limbs bent outwardly to form flanges, and flexible connections between the harrow frame and leveler device, the connections engaging the angular front end and the flanges of the leveler device.

978,666. PAIL-HOLDER. CHARLES S. SICK, Dushore, Pa. Filed June 3, 1910. Serial No. 564,828.



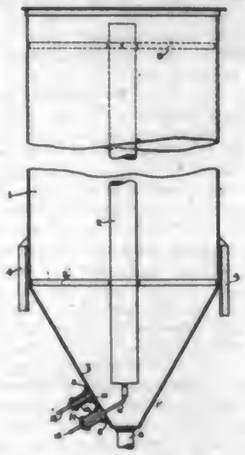
1. A milk pail holder comprising a body, hangers depending from points on either side of the middle of the body, and a pair of clamp arms at the lower ends of said hangers adapted to embrace the body of a pail and bear on the bead thereof.

2. A milk pail holder comprising an oblong body, hangers depending from the body and located at points between the middle and opposite ends of the body, and a pair of resilient quadrantal-shaped clamp arms at the lower ends of the hangers adapted to embrace the body of the pail and bear on the bead thereof.

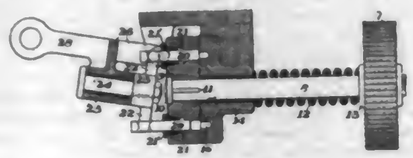
978,667. AGITATOR. LOUIS T. SICKA, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed May 3, 1909. Serial No. 493,651.

1. The combination in an agitator, of a tank, a nozzle applied to said tank, a pocket on said tank at said nozzle, said pocket forming a recess entirely within which the nozzle is located, and a check valve within said pocket and controlling said nozzle.

2. The combination in an agitator, of a tank, a pipe connected to said tank and a check valve in said pipe at its connection to said tank and free from projection within said tank.



978,668. PUMP. EDWIN E. SLICK, Pittsburg, Pa. Filed Dec. 22, 1906. Serial No. 349,010.



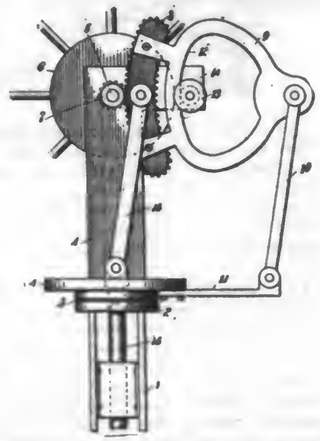
1. In a pump, a rotary carrier having an eccentrically positioned pump element, another member positioned angularly with respect to said carrier and having a co-operating pump element, and connections arranged to change the angularity of the angularly positioned element about an axis which is eccentric to the axis of the rotary carrier; substantially as described.

2. In a pump, a rotary carrier having a plurality of eccentrically positioned pump elements therein, another member positioned angularly with respect to said carrier and having a plurality of pump elements coöperating with the pump elements of the carrier, and connections for changing the angularity of the angularly positioned element about an axis which is eccentric to the axis of the rotary carrier, together with an outlet discharge into which the pump elements are arranged to effect successive alternate discharges and an inlet passage with which the pump elements are successively alternately connected; substantially as described.

3. In pump mechanism, a rotary member having a fuel measuring chamber therein, a piston or plunger working in said chamber, a rotary carrier for the plunger having its axis at an angle to the axis of the member, a relatively fixed but adjustable support for said carrier, said support having its center of adjusting movement in a line which is eccentric to and does not intersect the axis of the rotary member; substantially as described.

4. In pump mechanism, a rotary member having a plurality of fuel measuring chambers therein, plungers or pistons working in said chambers and rotating with said members, a carrier for the plungers or pistons having its axis of rotation at an angle to the axis of rotation of the rotary members, and a pivoted yoke or frame in which the carrier is mounted, the pivotal point of said frame being in a line which is intersected by the longitudinal axis of the plungers at one point in the revolution of each plunger; substantially as described.

978,669. DRIVING MECHANISM FOR PUMPS. THOMAS GILL SMITH, Bloemfontein, Orange River Colony. Filed Sept. 11, 1909. Serial No. 517,223.

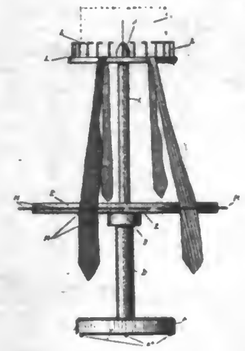


1. The combination with a support, of a link pivoted to said support, a member pivoted to said link at one end, an externally-toothed concavo-convex gear at the opposite end of said member, a link connected to said gear, and a rod connected to said link, adapted to receive the motion of said member, a rotary member on said support, a gear driven by said member and engaging said first-mentioned gear, whereby the rotation of said rotary member is translated into oscillating motion of said member, said member having an internal cavity located intermediate its ends, and a roller engaging said cavity and adapted to maintain said concavo-convex gear in engagement with said first-mentioned gear at all times.

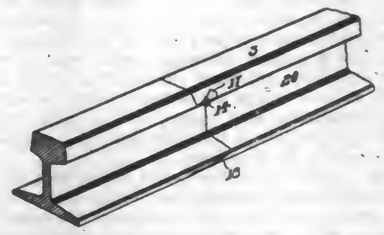
2. The combination with a support, of a link pivotally connected to said support, a member pivotally connected to said link at one end and a concavo-convex gear secured to said member at its other end, the convex and concave sides of said gear being arranged concentric with the pivot point of said member, a pinion engaging said gear, said member having a cut-out portion intermediate its ends, the sides of which have curvatures concentric with the curvatures of said gear, a roller mounted on said support, located within said opening and adapted to maintain said gear in mesh with said pinion, a sliding member on said support, and a link connecting said gear with said sliding member, whereby the rotation of said pinion is translated into reciprocation of said last-mentioned member.

978,670. DISPLAY-RACK FOR NECKWEAR. HARRY SOLOMON, St. Joseph, Mo. Filed Sept. 6, 1910. Serial No. 580,632.

In a neckwear display rack the combination of a base provided with feet and with a threaded central opening, a standard its bottom end threaded to engage rigidly with the threaded opening in said base, a pivot rigid on the flat top end of said standard, a spindle with reduced upper and lower threaded ends, the lower tubular end engaging revolubly on said pivot, a tie retainer with central opening seated around said tubular end up against the bottom of the standard and a threaded hub engaging the lower portion of said tubular end revoluble upon said pivot and contacting with the bottom of said retainer, a tie carrier and the knob lock with slot for card holding the carrier rigid on the upper threaded end of said spindle, the vertical pins on said carrier and the horizontal pins in the periphery of the tie retainer.



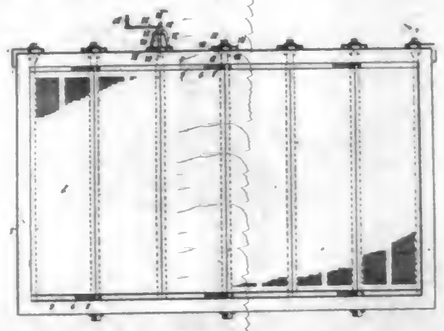
978,671. RAIL-JOINT. GEORGE SOOS, Newark, N. J. Filed Sept. 7, 1910. Serial No. 580,811.



1. The combination with a pair of rails, one of said rails having one end provided with a vertically disposed groove terminating in a longitudinal groove at the base of the rail, said end of said rail further provided in the head with a pocket formed with an inclined and a curved wall, said inclined wall provided with a pocket, said head further having a beveled portion, and the other of said rails having that end which opposes the grooved end of the first mentioned rail provided with a tongue formed with a beveled end and the lower face having a curved and a beveled portion, said beveled end provided with a protuberance, said last mentioned rail further provided at its base with an extension adapted to extend under the base of the other rail and further having an angle-shaped flange adapted to engage in the vertical and longitudinal grooves of the other rail, said tongue and said protuberance adapted to be seated in the pockets of the other rail, and the beveled portion of that rail provided with the tongue adapted to engage the beveled portion of the first mentioned rail.

2. The combination of a pair of rails, one of said rails provided in its head at one end with a pair of pockets and further having its head provided with a vertical and longitudinal groove extending through the head, tread and base of said rail, said rail further having its base at one end cut away on its lower face to provide a shoulder, and the other of said rails provided at one end with a tongue formed with a protuberance and said rail further having an extension and an angle-shaped flange, said protuberance and said tongue adapted to engage in said pockets and said flange adapted to extend in said grooves and said extension adapted to abut against said shoulder.

978,672. PAPER-PULP SCREEN. HERBERT E. SPRING and WALTER H. LOCKWOOD, Fitchburg, Mass; said Spring assignor to said Lockwood. Filed Feb. 11, 1910. Serial No. 543,219.



1. In a paper pulp screen, two plates with tapering grooves disposed thereacross on their under surfaces respectively, the plates being disposed with sides abutting each other, a member having a central web portion disposed under the abutting sides of the plates and two upwardly-extending wedge projections connected thereby, the wedge projections being adapted for traveling in the grooves respectively, and a guide for the member.

2. In a paper pulp screen, two plates with depending shoulders having terminals respectively, disposed side by side, there being grooves in the sides of the shoulders which are farthest from each other respectively, the grooves being tapered from one set of terminals to the other, and a member having a central web portion disposed under the adjoining sides of the plates and upwardly-disposed wedge projections having terminals, the wedge projections being tapered at their inner sides from one set of terminals to the other and being adapted to fit the grooves in the shoulders.

3. In a paper pulp screen, two plates with depending shoulders having terminals respectively, disposed side by side, there being V-shaped grooves in the sides of the shoulders which are farthest from each other respectively, the grooves being tapered from one set of terminals to the other, and a member having a central web portion disposed under the adjoining sides of the plates and upwardly-disposed wedge projections having terminals, the wedge projections being V-shaped in cross section at their inner sides and tapered from one set of terminals to the other, for traveling in the grooves.

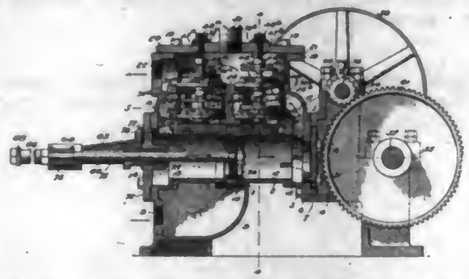
4. In a paper pulp screen, two plates with depending shoulders respectively, disposed side by side, a member having a central web portion and upwardly-disposed projections, the projections being adapted to slide against the shoulders respectively, the member also having lateral guide members, and a second member having guideways in which the lateral guide members on the first member are adapted for traveling.

5. In a paper pulp screen, two plates with depending shoulders respectively, a member having a central web portion and projections at each side for engaging the shoulders respectively, a screw member for engaging the first-mentioned member to move it relatively to the plates, and a second screw member with which the first-mentioned screw member is adapted to mesh.

[Claims 6 to 10 not printed in the Gazette.]

978,673. DOUBLE-ACTING HORIZONTAL POWER-PUMP. JAMES M. STRATTON, Salem, Ohio, assignor to The Deming Company, Salem, Ohio, a Corporation of Ohio. Filed Dec. 2, 1909. Serial No. 530,903.

1. In a valve action for pumps the combination with a suitably ported valve-chamber, of suction and discharge valves and valve-seats within said chamber, a peripheral flange upon each of said seats, and an independent valve-seat-retainer interposed between said flanges whereby they are properly spaced and retained in their relative operative positions, substantially as described.



2. In a valve action for pumps the combination with a suitably ported valve-chamber, of suction and discharge valves and removable valve-seats within said chamber, a peripheral flange at the base of each of said seats, and an independent valve-seat-retainer interposed between said flanges whereby they are properly spaced and retained in their relative operative positions, substantially as described.

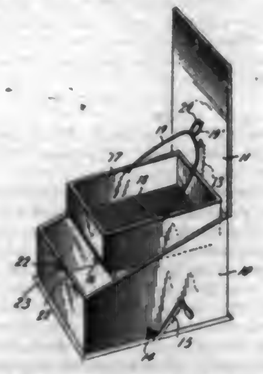
3. In a valve action for pumps the combination with a suitably ported valve-chamber having an interior supporting shoulder, of suction and discharge valves and removable valve seats supported by said shoulder, a peripheral flange at the base of each of said seats, and an independent valve-seat-retainer interposed between said flanges whereby they are properly spaced and retained in their relative operative positions, substantially as described.

4. In a valve action for pumps the combination with a suitably ported valve-chamber, of suction and discharge valves and valve seats within said chamber, a peripheral flange at the base of each of said seats, an upwardly converging body forming part of said valve-seats, a valve stem rising from each seat, and an independent valve-seat-retainer interposed between the said flanges upon the valve seats whereby they are properly spaced and retained in their relatively operative positions, substantially as described.

5. In a valve action for pumps the combination with a suitably ported valve-chamber, of suction and discharge valves and valve seats within said chamber, a peripheral flange at the base of each of said seats, an upwardly converging body forming part of said valve seats, a central hub secured to said body by radial webs, a valve stem rising from each of said hubs, and an independent valve-seat retainer interposed between said flanges whereby they are properly spaced and retained in their relative operative positions, substantially as described.

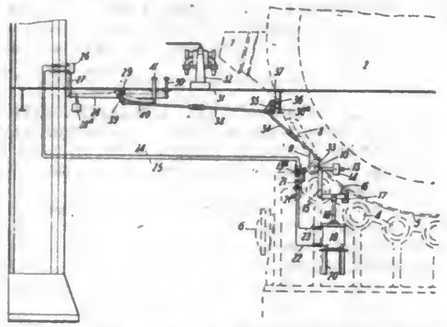
[Claims 6 to 10 not printed in the Gazette.]

978,674. SIEVE. GEORGE W. STUART, Newtown, Conn. Filed Apr. 9, 1910. Serial No. 554,468.



In a device of the class described, the combination with a casing, of a cover for said casing, a hook formed on the interior of said casing, a sieve mounted in said casing, said sieve being provided with a bail adapted to engage the hook on said cover and elevate the sieve upon the raising of said cover, and a hook formed in the forward face of said casing adapted to engage said bail when the cover is lowered, thereby locking said sieve in said casing and forming a pivotal point for the same.

978,675. SAFETY DEVICE FOR METAL-MIXERS. MAX M. SUPPES, Elyria, Ohio. Filed July 27, 1910. Serial No. 574,074.



1. In a tipping vessel for handling molten metal a safety device comprising ratchet teeth on the vessel, a pawl arranged to engage with the ratchet teeth to hold the vessel against tipping movement, means for moving said pawl out of engagement with the teeth and a solenoid connected to said pawl moving means for mechanically moving said pawl into inoperative position.

2. In a tipping vessel for handling molten metal, a safety device comprising ratchet teeth on the vessel, a pawl arranged to engage with the teeth and hold the vessel against tipping, means for moving the pawl out of engagement with said ratchet teeth, and a counterweight for moving said pawl into and holding it in its operative engagement with the ratchet.

3. In a tipping vessel for handling molten metal, a safety device comprising ratchet teeth on the vessel, a pawl arranged to engage with the ratchet teeth and hold the vessel against tipping, means for moving the pawl out of engagement with said ratchet teeth, a counterweight for moving into and holding said pawl in its operative engagement with the ratchet teeth, and a solenoid connected to said pawl moving means for mechanically moving the pawl into inoperative position.

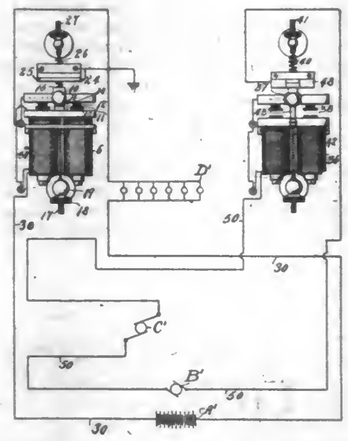
4. In a tipping vessel for handling molten metal, a safety device comprising a ratchet and pawl arranged to hold the vessel stationary, a solenoid operatively connected thereto for moving the pawl out of engagement with the ratchet and a lever mechanism for moving the pawl out of engagement with the ratchet by which the pawl is held in inoperative position.

5. In a tipping vessel for handling molten metal, a safety device comprising a ratchet and pawl arranged to hold the vessel stationary, a solenoid operatively connected thereto for moving the pawl out of engagement with the ratchet, a lever mechanism for moving the pawl out of engagement with the ratchet by which the pawl is held in inoperative position, and a counter-weight on the lever mechanism for moving and holding the pawl into engagement with the ratchet.

[Claims 6 and 7 not printed in the Gazette.]

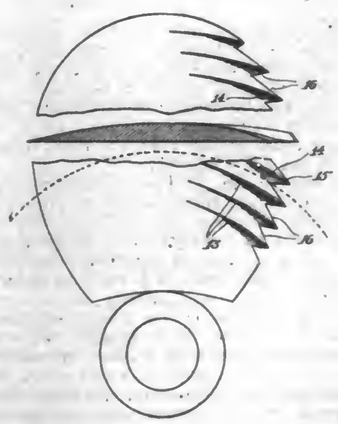
978,676. PROTECTIVE SAFETY DEVICE FOR ELECTRICAL CIRCUITS. WILLIAM F. SWOVELAND, Altoona, Pa. Filed Oct. 16, 1908. Serial No. 458,033.

1. In a device of the class described, a line cut-out and grounding instrument including an electro-magnet having a movably supported spring actuated core, an oscillatory spring actuated armature carrying frame, a contact post intermediate said frame and the electro-magnet, a contact brush carried by the frame and normally engaging the contact post, grounding posts consisting of inverted U-shaped frames having inclined contact faces supported adjacent to the side of the armature carrying frame distant from the electro-magnet, a contact brush carried by the frame and adapted to engage the grounding posts and means for adjusting the tension of the spring whereby the armature carrying frame is impelled in the direction of the grounding posts.



2. The combination of a high tension electric circuit and a low tension electric circuit crossing the first mentioned circuit, of a grounding switch in said low tension circuit operable upon interruption of the circuit, and an over-load circuit breaker in the high tension circuit operable upon the establishment of contact between said high tension circuit and the interrupted low tension circuit.

978,677. SCREW-PROPELLER. DAVID WATSON TAYLOR, U. S. Navy. Filed Sept. 10, 1909. Serial No. 517,179.



1. A rigid propeller blade having in its developed section a substantially straight face and a curved back hav-

ing a hollow formed therein adjacent a leading sharp edge.

2. A rigid propeller blade having in its developed section a substantially straight face and a curved back of decreasing pitch adjacent the leading edge.

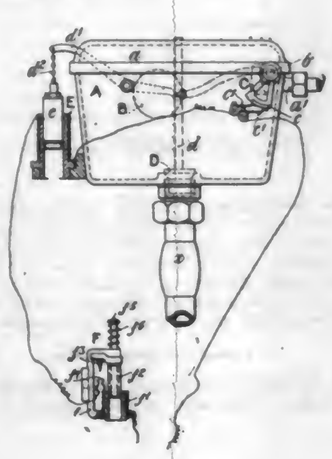
3. A screw propeller blade having the angle between the face and back of the blade at each point of the leading edge substantially equal to the angle of slip and the back of the blade adjacent the leading edge of decreasing pitch.

4. A rigid propeller blade having in its developed section a substantially straight face extending to a sharpened leading edge, and a curved back meeting the bevel on the back of the blade that forms said sharp leading edge.

5. A propeller blade having in its developed section a substantially straight face extending to a sharp leading edge, and a back formed by a compound curve concave to the face in the immediate vicinity of the leading edge, and convex over the major portion of the back.

[Claims 6 to 15 not printed in the Gazette.]

978,678. ELECTRICALLY-OPERATED APPARATUS FOR DISCHARGING LIQUIDS FOR FLUSHING OR OTHER PURPOSES. WILLIAM HENRY THOMPSON and ROBERT THOMPSON, London, England. Filed Feb. 7, 1910. Serial No. 542,492.



1. The combination, with a cistern provided with an outlet, of a valve controlling the said outlet, an electric device for opening the said valve, a switch arranged in circuit with the said electric device, and a make-and-break device also included in the circuit and operated automatically by the rise and fall of the liquid in the cistern, the circuit being broken when the liquid falls, thereby permitting the valve to close.

2. The combination, with an air-tight cistern provided with an outlet and adapted to hold the liquid to be discharged under pneumatic pressure, of a valve controlling the said outlet, an electric device for opening the said valve, a switch arranged in circuit with the said electric device, and a make-and-break device also included in the circuit and operated automatically by the rise and fall of the liquid in the cistern, the circuit being broken when the liquid falls, thereby permitting the valve to close.

3. The combination, with a cistern provided with an outlet, of a valve controlling the said outlet, an electric device for operating the said valve, a switch arranged in circuit with the said electric device, a make-and-break device also included in the circuit, and a float arranged in the cistern and operatively connected with the make-and-break device, the circuit being broken on the descent of the float, thereby permitting the valve to close.

4. The combination, with a cistern provided with an outlet, of a valve controlling the said outlet, a solenoid for operating the said valve, a switch arranged in circuit with the said solenoid, and a make-and-break device also included in the circuit and operated automatically by the rise and fall of the liquid in the cistern, the circuit being broken when the liquid falls, thereby permitting the valve to close.

5. The combination, with a cistern provided with an outlet, of a valve controlling the said outlet, a solenoid, lever mechanism operatively connecting the solenoid with the valve, a switch arranged in circuit with the said solenoid, and a make-and-break device also included in the circuit and operated automatically by the rise and fall of the liquid in the cistern, the circuit being broken when the liquid falls, thereby permitting the valve to close.

978,679. CARBORUNDUM ABRASIVE ARTICLE. FRANK J. TONE, Niagara Falls, N. Y., assignor to The Carborundum Company, Niagara Falls, N. Y., a Corporation of Pennsylvania. Filed Apr. 1, 1908. Serial No. 424,599.

As a new article of manufacture, a molded ceramic body composed of crystalline carborundum and a vitrified binder formed from a mixture of a lime-bearing material, kaolinite and flint.

978,680. [WITHDRAWN.]

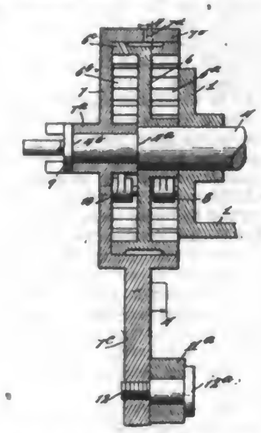
978,681. TRICK DRINKING-MUG. ROBERT WALTHER, Pittsburg, Pa. Filed Aug. 5, 1910. Serial No. 575,631.



1. A trick drinking mug, comprising a receptacle having the walls thereof provided with openings at a point removed from the upper edges of said receptacle, a rim carried by said receptacle and provided with a pair of passages, one of said passages being blind and provided with a plurality of outlets and the other of said passages having a single outlet, and means exteriorly of said receptacle for conveying the contents thereof to that passage having the single outlet, said means serving functionally as a handle or grip for said receptacle.

2. A trick drinking mug, comprising a receptacle, a tubular handle carried thereby and in communication with the lower part of said receptacle, a hollow rim carried by the upper edge of said receptacle and having a series of openings disposed throughout communicating with the interior of the rim, said rim provided with a pair of partitions providing the outlet passage and a blind passage, said outlet passage in communication with said tubular handle and one end of the passage terminating at one of said openings, said handle adjacent to the upper end thereof having a vent opening in communication with the interior of said tubular handle, and the walls of said receptacle adjacent to said rim having openings formed therein.

978,682. DRIVING MECHANISM FOR PUMPS. JOHN S. WARD, Chicago, Ill. Filed Mar. 7, 1910. Serial No. 547,732.



1. In combination, a cover member having a cylindrical recess therein, a cylindrical ring closely fitting into said recess, and having a disk-like partition transverse to its axis and located approximately midway between its edges and ratchet connections between said cover member and said ring located within the ring.

2. In combination, a cover member having a cylindrical recess therein, a cylindrical ring closely fitting into said recess and having internal ratchet teeth, and a dog pivoted to the inside of said cover member and adapted to engage the teeth in said ring, said ring having a disk-like partition within it approximately midway between its edges.

3. In combination, a cover member having a cylindrical recess therein, a cylindrical ring closely fitting into said recess and having internal ratchet teeth, a dog pivoted to the inside of said cover member and adapted to engage the teeth in said ring, said ring having a disk-like partition within it approximately midway between its edges, and a shaft whereon both the cover member and the partition of the ring are mounted.

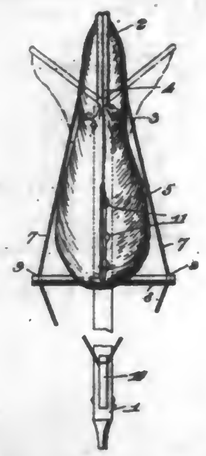
4. In combination, an oscillating cylindrical cover member having a cylindrical recess formed in the side, a shaft whereon said cover member is loosely mounted, a cylindrical ring having ratchet teeth on the inside and fitting into and contacting the inner cylindrical surface of said cover member, said ring being secured to said shaft, and dogs coacting with the teeth on said ring, one dog being pivoted to the inside of the cover member and the other having a stationary pivot.

5. In combination, a shaft, an oscillating cylindrically recessed cover member loosely journaled thereon, a cylindrical ring making contact with the inside of said cover member, and having supporting means located approximately midway between the edges of said ring for securing it to the shaft, internal ratchet teeth formed in said ring on both sides of said supporting means, and dogs coacting with said teeth, one dog being carried on the inside of the cover member and the other having a stationary pivot.

[Claim 6 not printed in the Gazette.]

978,683. FRUIT-PICKER. ALPHERD P. WELLS, East Stone Gap, Va. Filed Mar. 19, 1910. Serial No. 550,318.

1. A fruit picker comprising a handle, a closed-bottom bag into which the handle projects, self-closing jaws at the upper end of the handle and projecting upwardly therefrom, said jaws being mounted to swing outwardly and downwardly to open position about an axis extending transverse to the handle, a cross bar disposed under the bottom of the bag and arranged at right angles to the axis on which the jaws swing, said cross bar having openings in its ends, flexible elements extending through the openings of the cross bar and upwardly therefrom to connect with the said jaws and also extending downwardly from the cross bar, and an operating lever mounted on the handle below the bag and cross bar and connected with the lower ends of the said elements.



2. A fruit picker comprising a handle, a receiving bag through the bottom of which the upper end of the handle extends, self-closing jaws mounted on the handle and connected with the mouth of the bag to close the said mouth and to support the upper portion of the bag, flexible elements connected with the jaws for opening the same, and a single device mounted on the handle at a point below the bag and below the jaws to form guiding means for the said elements and also supporting means for the bottom of the bag.

3. A fruit picker comprising a handle, a bag having an opening at its bottom and a mouth at its top, said handle extending into the bag through the said opening, a cross bar on the handle at a point under the bag to support the bottom of the latter, jaws at the mouth of the bag and supporting the upper part of the bag, and actuating elements connected with the jaws and guided by the cross bar.

4. A fruit picker comprising a handle, a bag having an opening at its bottom and a mouth at its top, said handle extending into the bag through the said opening, a cross bar on the handle at a point under the bag to support the bottom thereof, jaws at the mouth of the bag and supporting the top portion thereof, actuating elements connected with the jaws and guided by the cross bar, and a common actuator mounted on the handle and to which both elements are connected.

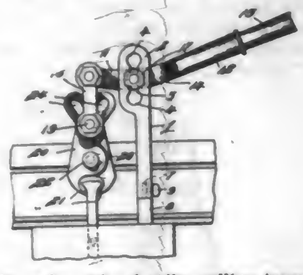
5. A fruit picker comprising a handle, selfclosing jaws mounted thereon, a bag connected with the jaws, a transverse member on the handle forming a bottom support for the bag, flexible elements connected with the jaws and guided by the member, and means for actuating the elements to open the jaws.

[Claims 6 and 7 not printed in the Gazette.]

978,684. SPIKE-PULLER. FRANCIS M. WILLIAMS, Brownsville, Pa. Filed May 5, 1910. Serial No. 559,462.

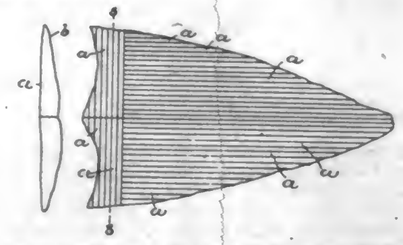
In a spike puller, a fulcrum standard bifurcated at its upper end to form parallel bearing plates having formed therein alined slots and bearing openings in the walls of the slots, a fulcrum bolt having flattened slot engaging portions intermediate its ends whereby the bolt may be adjusted in said slots and turned into operative engagement with the bearing openings formed therein, a turning knob

on one end of said bolt, a securing nut on the opposite end of the bolt, a spike pulling lever pivotally mounted on said



fulcrum bolt, and a pair of spike pulling tongs connected with the lever.

978,685. PACKING FISH. OSCAR ANDREWS, Gloucester, Mass., assignor, by mesne assignments, to Susanna L. Andrews, Gloucester, Mass. Filed Apr. 16, 1909. Serial No. 490,251.



1. The method of making cakes or blocks of salt fish, the same consisting in cutting the edible portions of the body of a fish into relatively thin slices each of substantially uniform thickness, each slice having cut faces on its opposite sides on which are exposed both the fibrous and the albuminous constituents of the fish, assembling the slices in superposed layers with the cut faces of the slices of each layer in contact with the cut faces of contiguous layers, and subjecting the mass to moisture-expelling and cake-forming pressure, the moisture passing outwardly from all portions of the cake to the surface thereof through the body portions and cut faces of the slices, while the albuminous matter exposed on the cut faces causes the subsequent adhesion of the slices to each other, and the exclusion of air from the body portions of the slices.

2. As an article of manufacture, a compressed cake or block composed of relatively thin slices of substantially uniform thickness cut from the edible portions of salt fish assembled in superposed layers with the cut surfaces of each layer in contact with the cut surfaces of contiguous layers, each layer being of substantially uniform thickness.

978,686. SAW-SET. COLUMBUS H. BISHOP, El Reno, Okla., assignor of one-half to Henry A. White, Hinton, Okla. Filed May 14, 1910. Serial No. 561,354.



1. In a tool of the character specified, a pair of opposed gripping jaws, the operative face of one jaw being plane and that of the other being composed of two surfaces, one substantially parallel with the operating face of the other jaw and the other inclining away from said face and meeting the other surface at an angle, a bar having at one end a resilient lug secured to the operative face of the first named jaw and at the other a similar lug having at its opposite end a setting block coöperating with the inclined surface, and a set-screw threaded through the first named jaw and engaging the block.

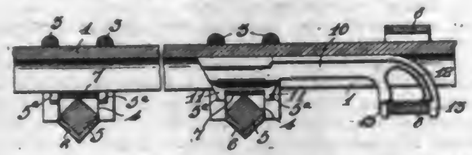
2. In a tool of the character specified, oppositely arranged gripping jaws, a bar having at each end a resilient lug arranged between the jaws, one of said lugs being secured to one of the jaws, a setting block integral with the other lug, and a set-screw passing through the jaw and engaging the block, the other jaw having adjacent to the block a beveled surface inclining away from the other jaw and with which the setting block coöperates.

3. In a tool of the character specified, oppositely arranged gripping jaws, each of said jaws having a gripping face, and one of the jaws having a setting face at one end of the gripping face and inclined with respect to the gripping face, a setting block having a resilient connection with the other jaw for coöperating with the setting face, and means for moving the block away from the jaw to which it is connected.

4. In a tool of the character specified, oppositely arranged gripping jaws, each of said jaws having a gripping face, and one of the jaws having a setting face at one end of the gripping face and inclined with respect to the gripping face, a setting block on the other jaw coöperating with the setting face, means for moving said block away from the jaw, and a yielding connection between the block and the jaw.

5. In a tool of the character specified, oppositely arranged jaws, one of said jaws having a setting face inclined with respect to the face of the other jaw, a setting block on the other jaw coöperating with the setting face, means for moving the said block away from the jaw to which it is connected, and a yielding connection between the block and the jaw.

978,687. HARROW-TOOTH AND TOOTH-BAR FASTENING. GEORGE E. BLAINE, Indianapolis, Ind. Filed May 2, 1910. Serial No. 558,960.



1. In a harrow tooth and tooth bar fastening, the combination with a tooth bar, of a clip fitted thereon and having tooth receiving apertures, lugs formed on the inner side of said clip engaging the rear side of the tooth bar, a spring metal tooth fastening plate inserted between said lugs and between the tooth and the adjacent side of the tooth bar in engagement with the clip, and means to hold said tooth bar against lateral movement.

2. In a harrow tooth and tooth bar fastening, the combination with a tooth bar, of a clip fitted thereon and having tooth receiving apertures, lugs formed on the inner side of said clip engaging the rear side of the tooth bar, and a fastening device inserted between said lugs and between the tooth and the tooth bar to bind the tooth within the clip.

3. In a harrow tooth and tooth bar fastening, the combination with a tooth bar, of a clip fitted thereon and having tooth receiving apertures, a fastening device inserted between the tooth and the tooth bar to bind the tooth within the clip, a connecting bar extending across the tooth bar, a band encircling the tooth bar and having an apertured lug engaging the connecting bar, and a coupling secured in the clip on the tooth bar and having a head embracing said band.

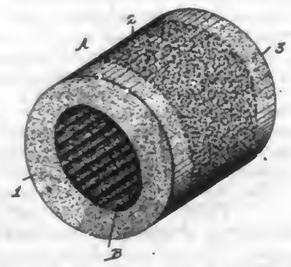
4. In a harrow tooth and tooth bar fastening, the combination with a tooth bar, of a clip fitted thereon and having tooth receiving apertures, lugs formed on the inner side of said clip engaging the rear side of the tooth bar, a spring metal plate inserted between said lugs and between the tooth and the adjacent side of the tooth bar to bind the tooth within the clip, a connecting bar extending across the tooth, a band encircling the tooth bar and having an apertured lug engaging the connecting bar, and a coupling arranged within the tooth bar, and provided with lugs engaging the sides of the spring fastening plate and a head embracing said band.

978,688. WRENCH. EDWARD L. BROWN, Wabuska, Nev. Filed Jan. 29, 1910. Serial No. 540,876.



The improved wrench herein described comprising a handle provided at its inner end with a crank projection to one side and having in said end a socket in alinement with the handle and also a socket alongside the said first socket and in the crank projection of the said handle, a fixed jaw provided with a shank fitting at one end in said first socket, a cross pivot connecting said shank with the handle whereby the handle and shank are rockably connected, a spring actuated readjusting pin operating longitudinally in the inner end of the shank and pressing against the base wall of the socket for said shank, a movable jaw sliding upon the shank of the fixed jaw, an adjusting screw threaded at one end in the movable jaw and having at its other end a rounded head bearing in the socket in the crank projection of the handle and means retaining said head in the said socket, all substantially as and for the purposes set forth.

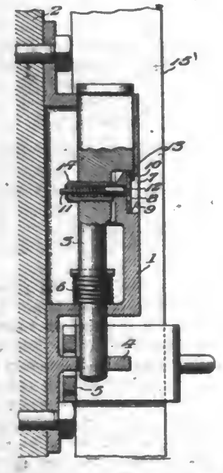
978,689. RESILIENT BLOCK. NAHUM JUDSON BUSBY, Boston, Mass. Filed Dec. 6, 1909. Serial No. 531,623.



1. A resilient block, composed of a mixture of elastic material and comminuted quartz, the proportion of quartz being relatively greater at the center and diminishing toward the edges of the block.

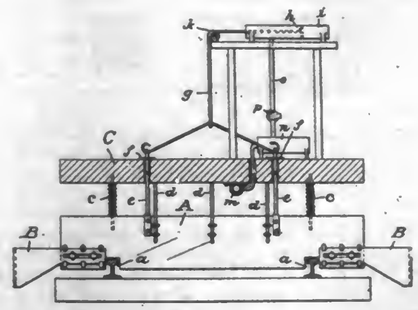
2. A resilient block, composed of a mixture of elastic material and comminuted quartz, the proportion of quartz being relatively greater at the center and diminishing toward the edges thereof, and having its bearing surface formed into a projecting oval surface.

978,690. SEAL-LOCK. FRED C. BUSCHEK, Chicago, Ill. Filed Apr. 27, 1910. Serial No. 557,856.



In a seal lock the combination of a casing provided in a side with a recess for receiving a seal and having a projecting lip extending into the recess to engage an edge portion of the seal, said casing being further provided with openings leading from said recess, a lock bolt slidably mounted within the casing and having a projecting lip to extend through one of the said openings and engage the opposite edge portion of the seal to retain the latter in place, a spring actuated lock device mounted upon the lock bolt and adapted to enter the other opening of said recess and hold the lock bolt when pressed inward, and a spring normally exerting a pressure upon the lock bolt to throw the same outward.

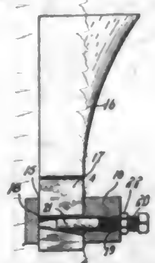
978,691. BALLAST-DRESSER. THERON SAMUEL CAFFERTY, Union, N. Y., and JOHN F. MARKLE, Chanute, Kans. Filed June 2, 1910. Serial No. 564,630.



1. In combination with a dresser bar, a laterally inclined plate secured thereto, substantially as described.

2. In combination with a dresser bar, a laterally inclined plate secured thereto, said plate being reversible substantially as described.

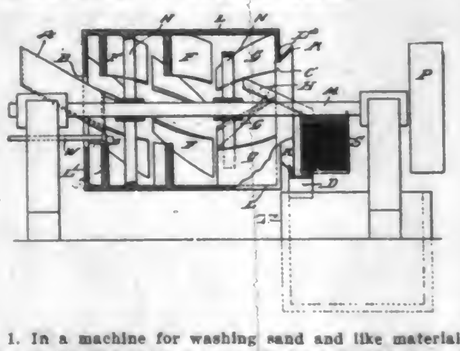
978,692. TOOTHED BAR FOR THRESHING CYLINDERS AND CONCAVES. CHARLES G. CALLAN, Chamberlain, Saskatchewan, Canada. Filed Apr. 22, 1910. Serial No. 557,019.



1. A bar for threshing machine cylinders or concaves having a plurality of transverse sockets with a recess in one of the sides of each socket, and having a threaded aperture in alinement with the longitudinal plane of the socket recess and communicating with the same, a tooth for each of said recesses and engaging respectively in said sockets, each of said teeth having a transverse recess in one side communicating with the recess of the socket and with one side inclined, and a pin having a portion threaded for engaging in the threaded aperture of the bar with the unthreaded portion of the pin extending into the recess of the bar and also into the recess of the tooth and engaging against the inclined side of the same.

2. A bar for threshing machine cylinders or concaves having a plurality of transverse sockets with their sides converging inwardly and with a recess in one of the converging sides of each socket, and having a threaded aperture in alinement with the longitudinal plane of the socket recess and communicating with the same, a tooth for each of said sockets and having a tapered terminal corresponding to and engaging respectively in the same, each of said teeth having a transverse recess in one side communicating with the recess of the socket and with one side inclined, and a pin having a portion threaded for engaging in the threaded aperture of the bar with the unthreaded portion of the pin extending into the recess of the bar and also into the recess of the tooth and engaging against the inclined side of the same.

978,693. APPARATUS FOR WASHING SAND AND LIKE MATERIAL. SETH A. CAPRON, Westfield, Mass. Filed May 19, 1909. Serial No. 496,908.

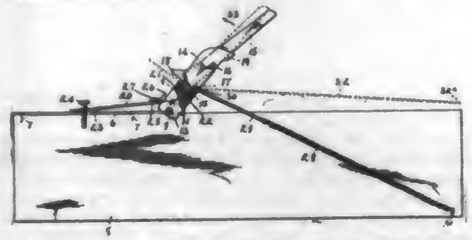


1. In a machine for washing sand and like materials, the combination with a rotatable drum having its ends closed save for central feed and discharge openings; of flanges provided interiorly of said drum, the flanges adjacent the feed opening being inclined forwardly in the direction of rotation of said drum, and the flanges adjacent the discharge opening being inclined oppositely to said first-named flanges, so as to prevent the material being washed from piling up near the corresponding end of the drum and means for constantly conveying material from the drum as it is raised by the flanges adjacent the discharge opening.

2. In a machine for washing sand and like materials, the combination with a rotatable drum having its ends closed save for central feed and discharge openings; of flanges provided on the interior wall of said drum, the flanges adjacent the feed opening being inclined forwardly in the direction of rotation of said drum, and the flanges adjacent the discharge opening being inclined oppositely to the first-named flanges, so as to prevent the material being washed from piling up near the corresponding end of the drum and means for constantly conveying material from the drum as it is raised by the flanges adjacent the discharge opening.

3. In a machine for washing sand and like materials, the combination with a drum rotatable on a horizontal axis, said drum having its ends closed save for central feed and discharge openings; of means for supplying the drum with water and material through the feed opening; flanges provided on the interior wall of the drum, the flanges adjacent the feed opening being inclined forwardly in the direction of rotation of said drum, and the flanges adjacent the discharge opening being inclined oppositely to the first-named flanges, so as to prevent the material being washed from piling up near the corresponding end of the drum; and a discharge chute projecting from said discharge opening and being so disposed as to have material delivered thereto by the internal flanges adjacent the discharge opening and to constantly discharge said material.

978,694. WIRE-BAND STRETCHER AND CUTTER. CARLOS E. CARRIER, Bernalillo, N. Mex. Filed Feb. 8, 1909. Serial No. 476,681.



1. In a tool of the character stated, the combination with a support, of a frame rockable on the support, a lever pivoted on said frame and adapted to engage a member of the frame, a cutter plate hinged at one end to the said frame and having a sliding engagement with the support at the other end, and a cutter on said plate adapted to engage the extremity of said lever when the frame is rocked.

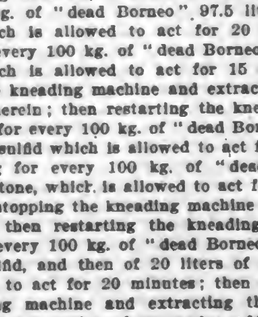
2. In a tool of the class designated, the combination with a base, of a frame rockable on the base, an operating lever pivoted to the frame, a removable cutter adapted to engage the end of said lever when the frame is rocked, and means for automatically restoring the frame and lever to their initial positions.

3. In a tool of the character specified, the combination with a suitable support, of a frame rockable thereon, clamping means coöperating with the frame to form a clutch, a cutter adapted to engage said clamping means, and a spring to restore the frame to its initial position.

4. In a tool for the purpose specified, the combination with a base, and a frame rockable thereon, of a clamping member pivoted to the frame and adapted to coöperate with the frame to form a clutch, a removable cutter adapted to engage said clamping member, a spring for the frame, and a stop to limit the frame movement.

978,695. SIGNALING APPARATUS. GEORGE H. CAUGHRAN, Ketchikan, Alaska, assignor of one-sixth to Addis J. Dunton and one-sixth to Harry T. Dobson, Ketchikan, Alaska. Filed Jan. 3, 1910. Serial No. 536,001.

1. In a signaling apparatus, a plurality of stations, each station being provided with a battery, a receiver, a transmitter normally in the field of the receiver, an induction coil, electrical connections between said parts, said receiver and transmitter being adapted to react on each other for varying the currents in the coil, thereby producing a singing sound, a push button for making and breaking the current through the transmitter, and a switch hook for holding said receiver in its normal position and adapted, when the receiver is removed, to complete a talking circuit between the stations.



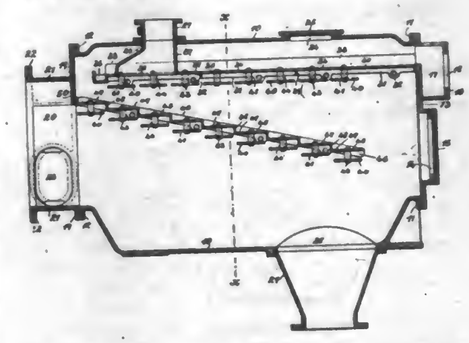
2. In a signaling apparatus, a plurality of stations, each station being provided with a battery, a receiver, a transmitter normally in the field of the receiver, an induction coil, electrical connections between the primary of the coil and the transmitter, electrical connections between the secondary of the coil and the receiver, said receiver and transmitter being adapted to react on each other for varying the currents in the coil, thereby producing a singing sound, a push button for making and breaking the current through the transmitter, and a switch hook for holding said receiver in its normal position and adapted, when the receiver is removed, to complete a talking circuit between the stations.

978,696. PROCESS FOR SEPARATING RUBBER OR RUBBER-LIKE SUBSTANCES AND RESIN FROM MATERIALS CONTAINING THE SAME. LÉON HENRI CHANUT, Aubervilliers, France, assignor, by mesne assignments, to Asia Rubber Company of America, a Corporation of Maine. Filed June 27, 1910. Serial No. 569,212.

1. A process for treating material containing a rubber-like substance, and resin, such as "dead Borneo," for the purpose of separating from each other the said rubber or similar substance and the resin, consisting in placing the material in a kneading machine, adding for every 100 kg. of "dead Borneo" 50 liters of carbon bisulfid, which is allowed to act for five minutes; starting the kneading machine, and simultaneously adding for every 100 kg. of "dead Borneo" 97.5 liters of carbon bisulfid which is allowed to act for 20 minutes, then adding for every 100 kg. of "dead Borneo" 40 liters of acetone which is allowed to act for 15 minutes; then stopping the kneading machine and extracting the liquid contained therein; then restarting the kneading machine and adding for every 100 kg. of "dead Borneo" 40 liters of carbon bisulfid which is allowed to act for 20 minutes, then adding for every 100 kg. of "dead Borneo" 50 liters of acetone, which is allowed to act for 20 minutes; then again stopping the kneading machine and extracting the liquid; then restarting the kneading machine and adding for every 100 kg. of "dead Borneo" 40 liters of carbon bisulfid, and then of 20 liters of acetone, which are allowed to act for 20 minutes; then again stopping the kneading machine and extracting the liquid; and finally making a series of successive additions each of 56 liters of acetone for every 100 kg. of "dead Borneo," the reaction of each of which is allowed to go on for 20 minutes.

2. A process for treating material containing a rubber-like substance, and resin, such as "dead Borneo," for the purpose of separating from each other the said rubber or similar substance and the resin, consisting in placing the material in a kneading machine, adding for every 100 kg. of "dead Borneo" 50 liters of carbon bisulfid, which is allowed to act for five minutes; starting the kneading machine, and simultaneously adding for every 100 kg. of "dead Borneo" 97.5 liters of carbon bisulfid which is allowed to act for 20 minutes, then adding for every 100 kg. of "dead Borneo" 40 liters of acetone which is allowed to act for 15 minutes; then stopping the kneading machine and extracting the liquid contained therein; then restarting the kneading machine and adding for every 100 kg. of "dead Borneo" 40 liters of carbon bisulfid which is allowed to act for 20 minutes, then adding for every 100 kg. of "dead Borneo" 50 liters of acetone, which is allowed to act for 20 minutes; then again stopping the kneading machine and extracting the liquid; then restarting the kneading machine and adding for every 100 kg. of "dead Borneo" 40 liters of carbon bisulfid, and then of 20 liters of acetone, which are allowed to act for 20 minutes; then again stopping the kneading machine and extracting the liquid and finally making a series of four successive additions each of 56 liters of acetone for every 100 kg. of "dead Borneo," the reaction of each of which is allowed to go on for 20 minutes before extracting the liquid, the whole process being carried out in the cold state.

978,697. CONDENSER. EVI W. CHRISTIE, Sewaren, and TOM ROBERTS, Roselle Park, N. J., assignors to Wheeler Condenser and Engineering Company, Carteret, N. J., a Corporation of New Jersey. Filed Sept. 12, 1910. Serial No. 581,722.



1. A condenser comprising a shell, an injection fluid inlet, a vapor inlet, a condensed vapor outlet, a connection for a vacuum creating device, a series of partitions having a plurality of openings therein within the said shell and dividing the same into a passageway of gradually and uniformly diminishing capacity, and means beneath the said openings in the said partitions for breaking up the injection fluid into finely divided particles after the same has passed through the said openings.

2. A condenser comprising a shell, an injection fluid inlet, a vapor inlet, a condensed vapor outlet, a connection for a vacuum creating device, a series of partitions having a plurality of openings therein within the said shell, dividing the same into a passageway of gradually and uniformly diminishing capacity, means whereby the injection fluid is prevented from entering said connection for the vacuum creating device, and means beneath the said openings in the said partitions for breaking up the injection fluid into finely divided particles after the same has passed through the said openings.

3. A condenser comprising a shell, an injection water inlet, a steam inlet, a condensed steam outlet, a connection for a vacuum creating device, a series of partitions having a plurality of openings therein within the said shell, dividing the same into a passageway of gradually and uniformly diminishing capacity, means insuring a flow of injection water to the end of the shell opposite that through which the injection water is admitted, and means beneath the said openings in the said partitions

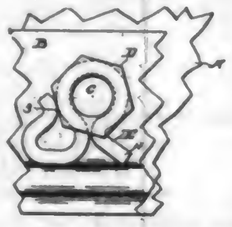
for breaking up the injection water into finely divided particles after the same has passed through the said openings.

4. A condenser comprising a shell, an injection water inlet, a steam inlet, a condensed steam outlet, a connection for a vacuum creating device, a series of partitions having a plurality of openings therein within the said shell, dividing the same into a passageway of gradually and uniformly diminishing capacity, means whereby the injection water is prevented from entering said connection for the vacuum creating device, means insuring a flow of injection water to the end of the shell opposite that through which the injection water is admitted, and means beneath the said openings in the said partitions for breaking up the injection water into finely divided particles after the same has passed through the said openings.

5. A condenser comprising a shell, an injection water inlet, a steam inlet, a condensed steam outlet, a connection for a vacuum creating device, a series of partitions having a plurality of openings therein within the said shell, dividing the same into a passageway of gradually and uniformly diminishing capacity, means whereby the injection water is prevented from entering said connection for the vacuum creating device, means insuring a flow of injection water to the end of the shell opposite that through which the injection water is admitted, spatter plates and means for securing the same in position beneath the said openings in the said partitions for breaking up the injection water into finely divided particles after the same has passed through the said openings.

[Claims 6 to 11 not printed in the Gazette.]

978,698. NUT-LOCK. FRED CLAY, Cincinnati, Ohio, assignor of one-half to George Haehnle, Cincinnati, Ohio. Filed May 2, 1908. Serial No. 430,606.



1. A nut-lock formed of a resilient metallic bar, substantially circular in cross-section, said bar being formed or bent to produce two connected, open, spiral loops, with an arm or finger extending from each loop, the loops being inclined to each other.

2. A nut-lock formed of a resilient metallic bar and comprising two connected, open loops, each terminating in a free end or finger, said loops being of spiral form and both bent outwardly on the same side of the plane in which the connecting portion lies.

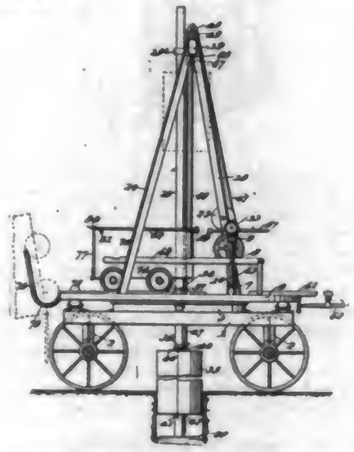
3. A nut-lock comprising a substantially cylindrical, resilient metallic bar bent to form two reversely-curved helical loops, each terminating in a holding finger, the helical curves of the two loops lying on the same side of the plane of the connecting portion.

4. A nut-lock formed of a resilient metallic bar substantially circular in cross-section, said bar being formed or bent to produce connected open spiral loops inclined to each other, with an arm or finger extending from each loop, one of said arms being adapted to engage a flange or other fixed abutment and the other arm bent inwardly to engage a side face of the nut.

5. A nut-lock formed of a resilient metallic bar substantially circular in cross-section, said bar being formed or bent to produce two connected open spiral loops with an arm or finger extending from each loop, one loop being adapted to encircle the bolt and to thereby form a spring washer, the arm extending from said loop bearing upon a flange or other fixed abutment and out of contact with the nut as the same is screwed to place, whereby said arm will be carried or forced inwardly along with the nut and the loop to which the arm is attached, the arm of the other loop adapted to contact with a side face of the nut and to prevent accidental rotation of the nut upon the bolt.

[Claims 6 and 7 not printed in the Gazette.]

978,699. WELL-BORING MACHINE. SAMUEL H. COLEMAN, Villisca, Iowa, assignor of one-half to Leroy B. Penton, Villisca, Iowa. Filed Sept. 2, 1909. Serial No. 515,792.



1. A boring machine comprising a supporting frame, a cutting auger, an operating shaft, a scoop or bucket slidably mounted upon said shaft, means for raising said shaft, gearing under the control of the operator for raising the bucket, an operating mechanism adapted to be engaged by the bucket to throw said gearing out of gear, and a catch to engage and support the bucket when in raised position.

2. A boring machine comprising a supporting frame, a cutting auger, an operating shaft, a scoop or bucket slidably mounted upon said shaft, means for raising said shaft, gearing under the control of the operator for raising the bucket, an operating mechanism adapted to be engaged by the bucket to throw said gearing out of gear, a catch to engage and support the bucket when in raised position, and a dumping car mounted upon the supporting frame to receive the contents of the bucket.

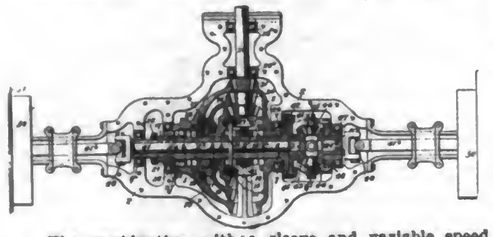
3. A boring machine of the class described, comprising a supporting frame, a cutting auger, an operating shaft, a scoop or bucket slidably mounted upon said shaft, means for raising said shaft, mechanism under the control of the operator for raising the bucket, means adapted to be engaged by the bucket to throw said mechanism out of gear, and means to engage and support the bucket when in raised position.

4. A boring machine comprising a supporting frame, a revolving platform, a cutting auger, an operating shaft, a scoop or bucket slidably mounted upon said shaft, means for raising said shaft, mechanism under the control of the operator for raising the bucket, an operating mechanism adapted to be engaged by the bucket to throw said mechanism out of gear, a catch to engage and support the bucket when in raised position, and means of connection between the operating shaft and platform, whereby the former is constrained to turn the latter.

5. A well boring machine, comprising a supporting frame, a master wheel provided with interior gear teeth mounted thereon, a revolving platform mounted to turn on the master wheel, an operating shaft, a scoop or bucket slidably mounted on said shaft, means for raising said shaft, mechanism under the control of the operator for raising the bucket, an operating mechanism adapted to be engaged by the bucket to throw said mechanism out of gear, a catch to engage and support the bucket when in raised position and a gearing carried by the platform and intermeshing with the teeth of the master wheel for operating said bucket raising mechanism.

[Claims 6 and 7 not printed in the Gazette.]

978,700. SPEED-CHANGING AND TRANSMISSION GEARING. DENNIS P. COLLINS, Pittsburg, Pa., assignor to Collins Axle and Manufacturing Company, Pittsburg, Pa. Filed June 25, 1909. Serial No. 504,336.



1. The combination with a sleeve and variable speed and reverse gears loosely mounted thereon, of a driving shaft, a fixed gear thereon meshing directly with the slow speed and reverse gears on the sleeve, and a fixed gear for each of the other speed gears, a clutch for locking either the fast speed or reverse gear to the sleeve, and a second clutch for locking either of the other speed gears to the sleeve.

2. The combination with a sleeve having cylindrical sections, intermediate angular sections, and a cylindrical section intermediate the angular sections, and variable speed and reverse gears loosely mounted on the cylindrical portions of the sleeve, of a driving shaft, a fixed gear thereon meshing directly with the slow speed and reverse gear wheels, and a fixed gear for each of the other speed gears, a clutch slidingly mounted on an angular section of the sleeve for locking either the fast speed or reverse gear to the sleeve, and a second clutch also mounted on an angular section of the sleeve for locking either of the other speed gears to the sleeve.

3. The combination with an axle driving sleeve and variable speed and reverse gears loosely mounted thereon, of a drive shaft geared directly to each of said speed and reverse gears, and clutches slidingly mounted on the sleeve, one for locking the fast speed or reverse gear to the sleeve, and the other for locking either of the other speed gears to the sleeve.

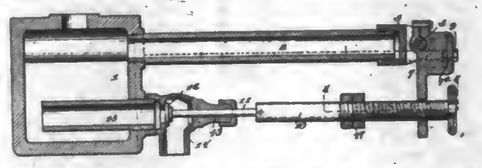
4. The combination with an axle driving sleeve, variable speed and reverse gears loosely mounted thereon, gears, and a fixed gear for each of the other speed gears, intermediate the latter, of a driving shaft, a fixed gear thereon meshing directly with the fast and reverse speed gears, and a fixed gear for each of the other speed gears, and clutches for locking the speed and reverse gears to the sleeve.

5. The combination with variable speed and reverse gears, a driven member on which said gears are mounted, two clutches for locking said gears to said driven member, and a rod for actuating each clutch, of a longitudinally sliding and rotary sleeve having an engaging member for each clutch actuating rod, and a lever fixed to said sleeve and adapted to be moved laterally for moving one of said engaging members into or out of engagement with its respective clutch actuating rod, and also adapted to be moved forwardly or backwardly, whereby the engaging member in engagement with its clutch actuating rod, will shift the latter and actuate the clutch.

[Claims 6 to 9 not printed in the Gazette.]

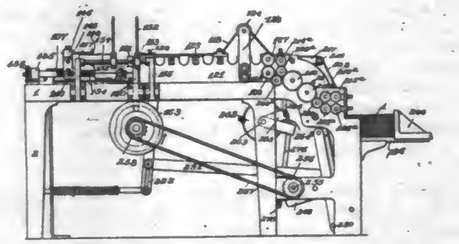
978,701. STEAM-TRAP. VERNON BRADLEY CONVIS, Toronto, Ontario, Canada. Filed Apr. 25, 1910. Serial No. 557,499.

In a steam strap, the combination with a steam receptacle and an extension tube connected therewith, of a pendent lever fulcrumed on the outer end of said tube and having a flange extended rearwardly from the fulcrum, elastic rods rigidly connected with the receptacle and with the aforesaid flange below the lever pivot, a valve closing the water outlet of said receptacle, a screw-threaded rotatable rod connected with the valve stem and



passing through the lower end of the lever, a nut yoke threaded on said rod, and other rods attached thereto and slidably connected with the lever, and spiral springs interposed between the lever and yoke and arranged on opposite sides of the screw-threaded rod, as shown and described.

978,702. BOX-FOLDING MACHINE. ARTHUR B. COWLES, Rochester, N. Y. Filed Apr. 21, 1906. Serial No. 312,957.



1. In a box folding machine, the combination with supports adapted to receive a box blank, a movable conveyer located beneath the supports and means for depressing the blank between the supports, of devices for folding the lateral edges of the blank over its central portion and mechanism for operating the depressing means and folding devices.

2. In a box folding machine, the combination with supports adapted to receive a box blank, a movable conveyer located beneath the supports and means for depressing the blank between the supports, devices for folding the lateral edges of the blank over its central portion and holding the folded blank in engagement with the conveyer and mechanism for operating the depressing means and folding devices.

3. In a box folding machine, the combination with supports adapted to receive a box blank, a movable conveyer located beneath the supports and traveling laterally relatively thereto and arms movable relatively to the conveyer and passing the edges of the supports, of folders located beneath the supports and movable relatively toward each other and mechanism for operating the arms and folders successively.

4. In a box folding machine, the combination with supports adapted to receive a box blank, a movable conveyer located beneath the supports and traveling laterally relatively thereto and arms movable relatively toward and from the conveyer and passing the proximate edges of the supports, of folders operating relatively toward each other into engagement with the conveyer and mechanism for operating the arms and folders.

5. In a box folding machine, the combination with supports adapted to receive a box blank, a conveyer arranged beneath them and traveling laterally relatively to the supports and means for depressing the blank into engagement with the conveyer, of folders pivoted beneath the supports and mechanism for operating the depressing means and rotating the folders relatively toward each other over the conveyer.

[Claims 6 to 23 not printed in the Gazette.]

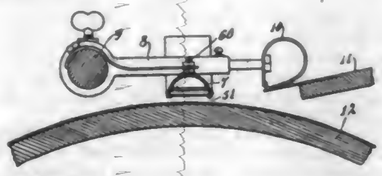
978,703. FINGER-MOISTENER. BERT CURTISS, Ypsilanti, Mich. Filed Jan. 21, 1908. Serial No. 411,963.



1. A finger moistener comprising a body portion having an inwardly extending circumferential flange, said flange being screw-threaded, a mass of compressible absorbent material contained within the body portion, and a compressing member comprising a plate having an opening in the center through which the absorbent material will protrude, said plate at its margin being provided with an inwardly extending flange screw threaded to engage with the flange on the body portion, whereby said compressing member may be adjusted toward or from the body portion to adjustably compress the mass of absorbent material contained therein.

2. A finger moistener comprising a receptacle having an outwardly extending angular marginal flange, a sponge contained within the walls of the receptacle, and a sponge-compressing member having an angular marginal flange mating with the marginal flange of the receptacle, said sponge-compressing member having a central opening through which the sponge projects, and means for holding the compressing member in any desired adjusted position nearer to or farther from the said receptacle.

978,704. ATTACHMENT FOR PRINTING-PRESSES. WILLIAM J. DANINGBURG, New York, N. Y. Filed July 5, 1910. Serial No. 570,374.



1. In a cylinder press, the combination with the cylinder, the feed table and the guides, of a shell extending across the cylinder in close proximity thereto a short distance beyond the guides, electric conductors extending longitudinally in the shell located inside of the bottom plane of the shell, and an insulating plate carried by the shell below the conductors.

2. In a cylinder press, the combination with the cylinder, the feed table and the guides, of a shell extending across the cylinder in close proximity thereto near the guides, electric conductors extending longitudinally in the shell located inside of the bottom plane of the shell, said shell being carried by the guide supports of the press to be raised and lowered therewith.

3. In a cylinder press, the combination with the cylinder, the feed table and the guides, of a shell extending across the cylinder in proximity thereto a short distance beyond the guides, electric conductors extending longitudinally in the shell and located inside of the bottom plane of the shell, and spring members at the end portions of the conductors, the said springs having their connection with the shell insulated therefrom.

4. In a cylinder press, the combination with the cylinder, the feed table and the guides, of a shell extending across the cylinder in proximity thereto a short distance beyond the guides, electric conductors extending longitudinally in the shell and located inside of the bottom plane of the shell, spring members at the end portions of the conductors, the said springs having their connection with the shell insulated therefrom, the device having a terminal at one end connected with the conductors independent of the springs, the other end of the device having a separate terminal for each conductor, and a wire connecting the terminals with each of the said conductors.

5. In a cylinder press, the combination with the cylinder, the feed table and the guides, of a shell extending across the cylinder in close proximity thereto a short distance beyond the guides, electric conductors extending longitudinally in the shell located inside of the bottom plane of the shell, an insulating plate carried by the shell below the conductors, and a strip of metal outside of said insulating strip.

978,705. SAFETY-RAZOR. OLIVER A. DANNACHER, Greensburg, Ind. Filed Dec. 29, 1909. Serial No. 535,459.



1. In a safety razor, the combination of a tubular member having a longitudinal opening at one side, one side of said opening being provided with a razor edge and the other side positioned relatively thereto to constitute a guard therefor, and a holder for said blade, substantially as described.

2. In a safety razor, the combination of a tubular member having a longitudinal opening at one side, one side of said opening being provided with a razor edge and the other side positioned relatively thereto to constitute a guard therefor, and a removable holder adapted to engage both ends of said member, substantially as described.

3. In a safety razor, the combination of a blade, said blade comprising a split tube having one edge off-set slightly outwardly and sharpened whereby the other edge constitutes a guard for said sharpened edge, and a holder for said blade, substantially as described.

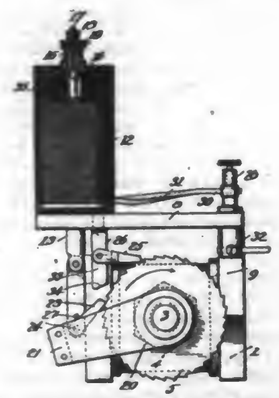
4. In a safety razor, the combination of a blade comprising a longitudinally split tube having one edge disposed tangentially to the body thereof and sharpened whereby the other edge constitutes a guard for said sharpened edge, and a holder for said blade, substantially as described.

5. In a safety razor, the combination of a handle having a resilient yoke at one end, a blade positioned between the arms of said yoke, said blade comprising a longitudinally split tube having one edge off-set slightly outwardly and sharpened, and the other edge forming a guard, positioning means for said blade provided upon the inner surfaces of said arm and means for locking said blade against rotary movement in said yoke, substantially as described.

[Claim 6 not printed in the Gazette.]

978,706. VALVE. JAMES E. DAVIDSON, Butte, Mont. Filed July 23, 1910. Serial No. 573,395.

1. The combination with a valve casing, and a valve rotatable therein of a stem for the valve extending through the casing, a ratchet wheel secured to the stem, a plate secured to the casing and extending above the stem, a solenoid coil on the plate, the core of the coil extending below the plate, a yoke having its arms journaled on the stem, one on each side of the ratchet wheel, a link connecting the yoke with the lower end of the core, a driving pawl pivoted to the link and engaging the ratchet wheel, a pin above the pawl for limiting its upward movement, a bracket depending from the plate, a holding pawl pivoted to the bracket and engaging the ratchet wheel, the bracket depending below the holding pawl into position for engagement by the driving pawl near the end of its upward movement, the upper end of the core being reduced and threaded and extending above the core, a shoulder being formed between the reduced portion and the main portion, a nut threaded onto the reduced portion for limiting the downward movement of the core, and a sleeve connected with the coil through which the core extends for engagement by the shoulder to limit the upward movement of the core.



2. The combination with a valve casing, and a valve rotatable therein of a stem for the valve extending through the casing, a ratchet wheel secured to the stem, a plate secured to the casing and extending above the stem, a solenoid coil on the plate, the core of the coil extending below the plate, a yoke having its arms journaled on the stem, one on each side of the ratchet wheel, a link connecting the yoke with the lower end of the core, a driving pawl pivoted to the link and engaging the ratchet wheel, a pin above the pawl for limiting its upward movement, a bracket depending from the plate, a holding pawl pivoted to the bracket and engaging the ratchet wheel, the bracket depending below the holding pawl into position for engagement by the driving pawl near the end of its upward movement, and means for limiting the movement of the core with respect to the coil.

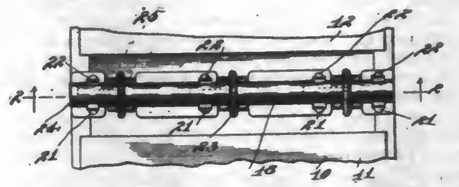
3. The combination with a valve casing, and a valve rotatable therein of a stem for the valve extending through the casing, a ratchet wheel secured to the stem, a plate secured to the casing and extending above the stem, a solenoid coil on the plate, the core of the coil extending below the plate, a yoke having its arms journaled on the stem, one on each side of the ratchet wheel, a link connecting the yoke with the lower end of the core, a driving pawl pivoted to the link and engaging the ratchet wheel, a pin above the pawl for limiting its upward movement, a bracket depending from the plate, and a holding pawl pivoted to the bracket and engaging the ratchet wheel, the bracket depending below the holding pawl into position for engagement by the driving pawl near the end of its upward movement.

4. The combination with a valve casing, and a valve rotatable therein of a stem for the valve extending through the casing, a ratchet wheel secured to the stem, a plate secured to the casing and extending above the stem, a solenoid coil on the plate, the core of the coil extending below the plate, a yoke having its arms journaled on the stem, one on each side of the ratchet wheel, a link connecting the yoke with the lower end of the core, a driving pawl pivoted to the link and engaging the ratchet wheel, a pin above the pawl for limiting its upward movement, a holding pawl for preventing reverse movement of the ratchet wheel, and means for limiting the movement of the core.

5. The combination with a valve casing, and a valve rotatable therein of a stem for the valve extending through the casing, a ratchet wheel secured to the stem, a plate secured to the casing and extending above the stem, a solenoid coil on the plate, the core of the coil extending below the plate, a yoke having its arms journaled on the stem, one on each side of the ratchet wheel, a link connecting the yoke with the lower end of the core, a driving pawl pivoted to the link and engaging the ratchet wheel, a pin above the pawl for limiting its upward movement, and a holding pawl for preventing reverse movement of the ratchet wheel.

[Claim 6 not printed in the Gazette.]

978,707. LOOSE-LEAF BOOK. JAMES C. DAWSON, St. Louis, Mo., assignor to Sieber & Trussell Mnfg. Co., a Corporation of Missouri. Filed Nov. 15, 1906. Serial No. 343,608.



1. In a loose leaf book, in combination, sheet holding mechanism comprising a base plate and a plate superimposed on the base plate and secured thereto, and a cover having its upper and lower edges overturned to form pockets, each end of the base plate fitting into one of the pockets and the overturned edges of the cover being clamped between the base plate and the superimposed plate.

2. In a loose leaf book, in combination, sheet holding mechanism having a base plate, a cover secured to the base plate and having one of its edges overturned to form a pocket, the end of the base plate of the sheet holding mechanism fitting into the pocket, and a clamping member superimposed on the overturned edge of the cover and secured to the base plate.

3. In a loose leaf binder, in combination, sheet-holding mechanism comprising a base plate and a plate superimposed on the base-plate, clamping lugs connecting the plates, and a cover having its upper and lower edges overturned to form pockets, each end of the base-plate fitting into one of the pockets and the overturned edges of the cover being clamped between the base-plate and the superimposed plate and being apertured to receive the clamping lugs.

978,708. SURGICAL DEVICE FOR EXPANDING COLLAPSED LUNGS. JOHN S. DEAN, Wheatland, Iowa. Filed July 21, 1909. Serial No. 508,744.



1. A surgical drainage device comprising a drainage tube having one end thereof adapted for reception in a wound, and a support to which said tube is pivoted, to accommodate itself to the trend of the incision.

2. A surgical drainage device comprising a drainage tube provided at one end with a valve and having its other end adapted for reception in a wound, and a sup-

port to which said tube is pivoted for movement relative to said support in a vertical plane.

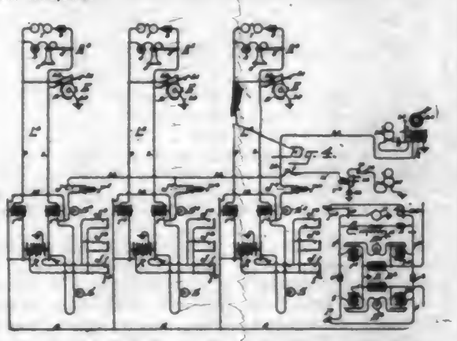
3. A surgical drainage device comprising a support formed with a centering opening, and a drainage tube pivoted to said support for angular adjustment with respect thereto, and having one of its ends projecting through said opening and adapted for insertion in a wound.

4. A surgical device for draining pleural effusions comprising a base member, a drainage tube attached thereto, and a flexible wing connected to said base and extending in front of said tube, to protect the same.

5. In a surgical device for draining pleural effusions, a drainage tube and a support therefor, said support being provided with a member upon which the tube is pivoted and by which it is held against turning, and with an additional member extending in front of said tube for protecting the same.

[Claims 6 to 11 not printed in the Gazette.]

978,709. COMBINED TELEPHONE AND ALARM OR KINDRED SERVICE SYSTEM. WILLIAM W. DEAN, Chicago, Ill., assignor, by mesne assignments, to Consolidated Fire Alarm Company, New York, N. Y., a Corporation of New York. Filed Apr. 30, 1903. Serial No. 154,956.



1. In a telephone exchange, the combination with a telephone line leading from a subscriber's station to a central station; of a telephone set at the substation and telephonic apparatus at the said central station including a line signal, a source of current and an operator's connective outfit, to coöperate with said line and set for conversational purposes; alarm signal transmitting apparatus at an outlying point adapted to transmit distinctive signaling currents over the telephone line, and alarm signal receiving apparatus at the central station including an electro-magnet in each side of the line in the path of current therein, said receiving apparatus being responsive to said distinctive signaling currents through one of said magnets only but unresponsive to the telephone signaling and talking currents flowing from said source through both magnets, substantially as described.

2. In a telephone exchange, the combination with a telephone line leading from a subscriber's station to a central station, of a telephone set at the substation and telephonic apparatus at the said central station to coöperate with said line and set for conversational purposes, alarm signal transmitting apparatus at an outlying point adapted to transmit distinctive signaling currents over the telephone line, and alarm signal receiving apparatus at the central station including an electro-magnet in each side of the line, one of said magnets serving when energized alone to actuate said receiver and the other serving when energized to prevent the operation of said receiver, subtantially as described.

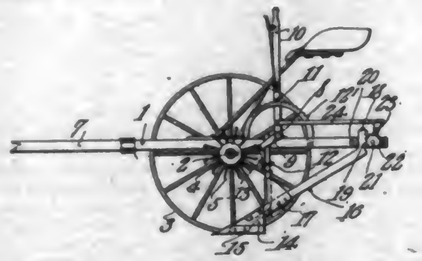
3. In a telephone exchange, the combination with a telephone line leading from a subscriber's station to a central station, of a telephone set at the substation and telephonic apparatus at the said central station to coöperate with said line and set for conversational purposes, alarm signal transmitting apparatus at an outlying point adapted to transmit distinctive signaling currents over the telephone line, alarm signal receiving apparatus at the central station having a magnet in each side of the line, and means whereby when any one of said magnets is energized alone by said signaling currents said receiver is actuated, and when both magnets are deënergized or are both energized as by the telephone currents said receiver is prevented from operation, substantially as described.

4. In a telephone exchange, the combination with a telephone line leading from a subscriber's station to a central station, of a telephone set at the substation and telephonic apparatus at the said central station to coöperate with said line for conversational purposes, alarm signal transmitting apparatus at an outlying point adapted to transmit distinctive signaling currents over the telephone line, alarm signal receiving apparatus at the central station including a magnet in each side of the line and an operating circuit, one of said magnets serving when operated by the said signaling currents to close said operating circuit to actuate the said receiving apparatus, and the other magnet serving when actuated by the telephone currents to prevent the closing of said operating circuit, substantially as described.

5. In a telephone exchange, the combination with a telephone line leading from a subscriber's station to a central station, of a telephone set at the substation and telephonic apparatus at the said central station to coöperate with said line and set for conversational purposes, alarm signal transmitting apparatus at an outlying point adapted to transmit distinctive signaling currents over the telephone line, alarm signal receiving apparatus at the central station including a relay in each side of the line, and an operating circuit controlled by said relays in such manner that the operation of one of said relays alone by the signaling currents serves to actuate the receiver and the operation of the other relay by the telephone currents prevents the actuation of the same, substantially as described.

[Claims 6 to 37 not printed in the Gazette.]

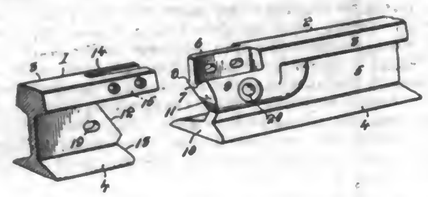
978,710. BEET-HARVESTER. JERRY D. DE CELLE, Fort Collins, Colo. Filed Nov. 30, 1909. Serial No. 530,608.



1. A beet harvester comprising a frame, a yoke carried thereby, digging shares located at the ends of the yoke, standards connected at their lower ends with the shares and having at their upper rear ends gear teeth, means for raising and lowering the yoke and standards while the angle of pitch of the shares remains constant consisting of gear disks journaled upon the frame and meshing with the gear teeth of the standards, a lever mechanism mounted upon the frame, and means for operatively connecting said lever mechanism with said gear disks.

2. A beet harvester comprising a frame, a yoke carried thereby, digging shares located at the ends of the yoke, standards connected at their lower ends with the shares and having at their upper rear ends gear teeth, means for raising and lowering the yoke and standards while the angle of pitch of the shares remains constant consisting of gear disks journaled upon the frame and meshing with the teeth of the standards, a lever mechanism mounted upon the frame, means for operatively connecting said lever mechanism with the yokes, means operatively connecting the said lever mechanism with the gear disks, and rollers journaled upon the frame and bearing against the forward edges of the standards.

978,711. RAIL-JOINT. LESTER DOAK, McMinnville, Tenn. Filed Apr. 25, 1910. Serial No. 557,534.



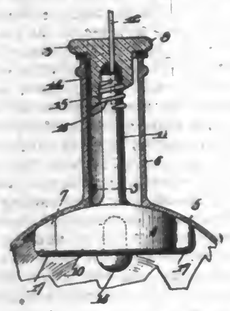
1. The combination of two railway rails, one of said rails having its head provided with a longitudinally extending tongue adjacent its end, the said rail having its web and base flange inclined in opposite directions to provide a pocket, the opposite rail section having its base flange and web inclined to correspond with the pocket of the first rail section, the head of the second rail being extended beyond its web and the said extension being centrally bifurcated to engage the tongue of the first section.

2. The combination of two railway rails, one of said rails having its head provided with a centrally arranged longitudinally extending tongue, the web of the rail being provided with an enlargement having its upper walls communicating with the tongue, the enlargement and the base flange of the rail being inclined inwardly to provide a pocket, the second rail section having its web and base flange inclined to fit within the pocket of the first rail section, the head of the second rail section being projected beyond its web and being bifurcated to engage the tongue and the walls provided by the first rail section.

3. The combination of two railway rails having their tread portions connected by a tongue formed on one rail, the said rail being further provided with a tapering recess, and a tapering tongue projecting from the opposite rail section and adapted to engage the recess of the first rail section, a fish plate for the base flanges and webs of the rails, and transversely arranged securing members for the treads of the rails.

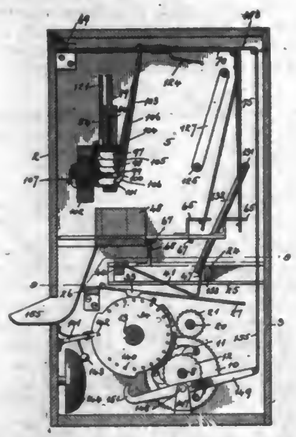
4. The combination of two railway rails, one of said rails having its head provided with a centrally arranged longitudinally extending tongue, the web of said rail having a longitudinally extending enlargement, the upper wall of the enlargement upon one side of the tongue being inclined toward the tongue, the upper wall adjacent the opposite side of the tongue being horizontally straight, the tongue and the enlargement of the rail having openings, the said enlargement and the web and the base flange of the rail being beveled inwardly to provide a V-shaped pocket, the base flange and web of the opposite rail section being beveled to provide a substantially V-shaped tongue adapted to be received within the said pocket, the second rail section having its head portion extending beyond its web a distance corresponding with the length of the tongue of the first section, the beveled head of the second rail section being provided with a central opening extending beyond its web a distance corresponding with the length of the tongue of the first section, the projecting head portion of the second rail being provided with a central longitudinally extending opening, the sides of the head adjacent this opening being provided with transversely arranged perforations, the under faces of one of the sides of the projecting heads being inclined to engage the inclined wall of the enlargement of the first section when the rails are connected, the web of the second section having an opening, connecting members for the transverse openings of the rail sections, an angle fish plate upon one side of the rails and securing elements engaging the openings in the enlargement and in the webs of the rail section for the fish plate.

978,712. BOTTLE-STOPPER. CHARLES F. DRENK, Elkhart, Ind., assignor of one-half to James F. Kline, Elkhart, Ind. Filed Feb. 25, 1910. Serial No. 545,874.



In combination with a bottle having a neck; of a cap having a portion provided with a screw-threaded bore and insertible into the neck, a stopper provided with a base portion of greater diameter than the neck, the said base portion being centrally provided on its lower face with a hemispherical extension, and further provided on the central portion of its upper face with a stem of less diameter than the neck, the upper end of said stem being screw-threaded and insertible into the threaded bore of the cap, a frangible rod carried by the free end of the stem portion and insertible through the cap and serving to hold the upper end of the stem in position to be screwed into the bore.

978,713. CHANGE-DELIVERING MACHINE. JURGEN J. DÜBBELDE, West Philadelphia, Pa. Filed May 5, 1908. Serial No. 430,919.



1. In a machine of the character described the combination with a plurality of coin receptacles, of a cam shaft; a plurality of cams on said shaft; means for turning the shaft to determine the amount to be deducted from a coin deposited; a coin chute to receive all coins entering the machine; coin ejector means for each coin receptacle; means operating between the cams and coin ejectors and means operating between the coin deposited in the chute and coin ejectors to mechanically deliver the proper change without a knowledge of the value of the coin deposited.

2. In a machine of the character described the combination with a plurality of coin receptacles, of a cam shaft; a plurality of cams on said shaft; means for turning the shaft to determine the amount to be deducted from a coin deposited; a coin chute to receive all coins entering the machine; movable coin supports along the chute to sustain the coin deposited therein; coin ejector means for each receptacle; means operating between the movable coin supports and the coin ejectors and means operating between the cams and coin ejectors whereby the turning of the cam shaft will set the devices to operate the ejectors without a knowledge of the value of the coin deposited.

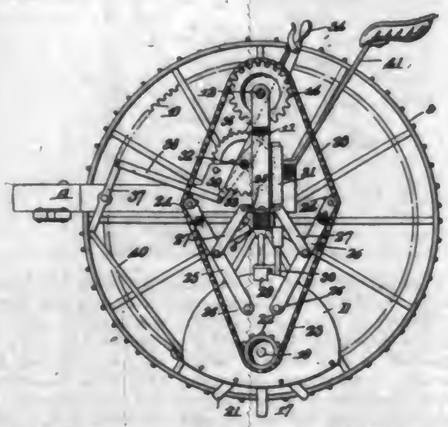
3. In a machine of the character described the combination with a plurality of coin receptacles, of a cam shaft; a plurality of cams on said shaft; means for turning the shaft to determine the amount to be deducted; a coin chute to receive all coins entering the machine; a coin bar in said chute and having stepped portions at one side; movable coin supports at the bottom side thereof of the chute opposite the stepped portions of the coin bars; means operated by the cam shaft for moving the coin bar; coin ejector means for each receptacle; means operating between the movable coin supports and the coin ejectors and means operating between the coins and coin ejectors whereby the turning of the cam shaft will deliver the proper change without the operator having a knowledge of the value of the coin deposited.

4. In a machine of the character described the combination with a cam shaft, of a plurality of cams on said shaft; means for revolving said shaft; a reciprocable carriage; a plurality of coin receptacles over the carriage; a coin ejector for each receptacle; levers operating between the carriage and coin ejectors; means operating between the cams and levers; a coin chute; a plurality of coin traps in said chute and means operating between the coin traps and coin ejectors and coacting between the operating means between the cams and coin ejectors to eject coins from the receptacles.

5. In a machine of the character described the combination with a cam shaft, of a plurality of cams on said shaft; a plurality of coin receptacles; a coin chute; a plurality of coin traps in said chute; a coin ejector for each receptacle; means for operating between the coin traps and the coin ejectors; means for turning the cam shaft to determine the amount to be deducted from a coin deposited in the coin chute and means operated by coin traps to limit the rotation of the cam shaft when it has been turned to indicate values equal to the coin deposited.

[Claims 6 and 7 not printed in the Gazette.]

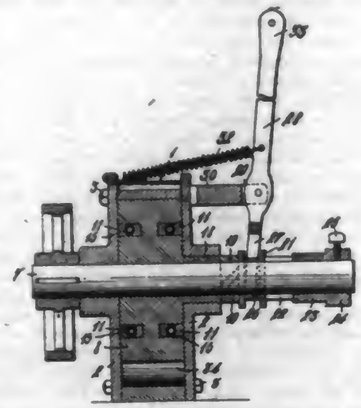
978,714. HARROW AND CLOD-CRUSHER. DANIEL DUHL, Wellston, Ohio, assignor of one-half to Oscar M. Duhl, Glenroy, Ohio. Filed Nov. 13, 1909. Serial No. 527,850.



1. In an implement of the character described, a carrying frame, a drag supported for vertical adjustment, a toothed cylinder supported for rotation upon the drag, and means for rotating the cylinder at various adjustments, said means including sprockets on the frame and cylinder, an endless chain on said sprockets, links pivoted upon the drag and carrying idler sprockets engaging said chain and toggles connecting the links with the carrying frame.

2. In a machine of the character described, an axle having transporting means, a frame connected with the axle, uprights supported upon the axle, sprocket wheels and gear wheels supported for rotation by the uprights, said sprocket and gear wheels being provided with interengaging clutch members, internal gears upon the transporting wheels meshing with the gear wheels, a drag supported for vertical adjustment with reference to the frame and including a rotary cylinder having sprockets connected therewith, chains connecting the cylinder sprockets with the sprockets connected with the gear wheels deriving motion from the transporting wheels, links connected pivotally with the drag and having chain-engaging idlers, and toggles connecting said links with lugs upon the axle.

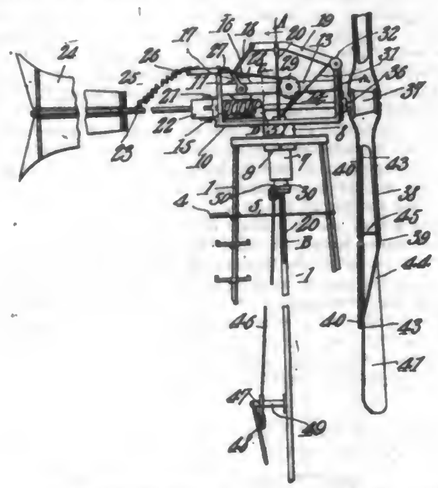
978,715. ROTARY PUMP. MICHAEL E. DURMAN, Detroit, Mich. Filed Dec. 2, 1909. Serial No. 530,982.



An improved rotary pump herein described and shown, comprising a cylindrical casing, a solid piston mounted eccentrically in the casing and having a central tubular projection on one side extending through the side of the casing and having a plurality of teeth on its extremity, the piston being further provided with oppositely extending recesses at opposite sides of its center arranged at an angle to its radius, blades seated in said recesses, springs carried by the piston and bearing against the inner ends of the blades to project them against the inner face of the cylinder wall, a power shaft passing loosely through the piston, a collar rigid with said shaft, teeth projecting from said collar toward the casing, a slidable collar mounted on the shaft between the casing and the rigid collar and provided at one end with teeth in constant engagement with the teeth on the rigid collar and at the opposite end with teeth adapted to engage the teeth on the end of the tubular projection of the piston, a bracket on one side of the casing, a lever fulcrumed on the bracket and engaging the sliding collar, and a spring secured to said lever above its fulcrum and extending over and secured to the casing.

978,716. WINDMILL. JAMES L. DWIGHT, Roanoke, Tex. Filed Apr. 25, 1910. Serial No. 557,483.

1. A windmill including a head mounted for rotation, a wind-wheel carried by the head, a vane mounted for lateral swinging movement relative to the head, an eccentric movably mounted on the head, an elastic connection between the eccentric and vane, and means for actuating said eccentric to transit motion through the elastic connection to the vane.

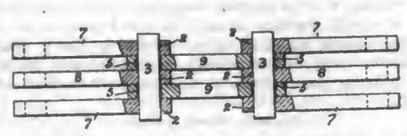


2. A windmill including a head mounted for rotation, a vane mounted for lateral swinging movement upon the head, an eccentric movably mounted on the head, means for rotating the eccentric, and elastic means for transmitting motion from said eccentric to the vane.

3. A windmill including a head mounted for rotation, a shaft journaled thereon, a wheel on the shaft, a spring controlled brake lever normally engaging the shaft to hold the wheel against rotation, a vane mounted for lateral swinging movement, an eccentric, means for simultaneously shifting the lever out of engagement with the shaft and rotating the eccentric, and elastic means for transmitting motion from the eccentric to the vane to shift said vane into a position substantially perpendicular to the plane of the wheel.

4. A windmill including angular standards, a table having angular openings for the reception of the upper ends of the standards, said table having an opening, a tubular member mounted for rotation in the opening, a head secured to and movable with said tubular member, said member having an annular enlargement bearing downwardly on the table, a vane mounted for lateral swinging movement upon the head, a tubular slide within the extension, means for actuating the slide, an eccentric mounted for rotation on the head, means operated by the slide for rotating the eccentric, and elastic means for transmitting motion from the eccentric to the vane.

978,717. METHOD OF MAKING CABLE-CHAINS. FREDERICK EGGE, Bridgeport, Conn., assignor to The Smith & Egge Manufacturing Co., Bridgeport, Conn., a Corporation of Connecticut. Filed Dec. 23, 1909. Serial No. 534,669.



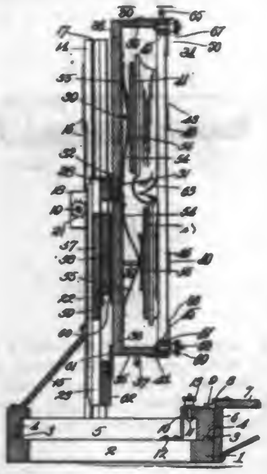
The method of making cable chains, which consists in providing the links some with small piercings and others with large piercings, inserting plain rivets within these piercings and finally upsetting the rivets and causing them to bind firmly within the small piercings and to be loose within the larger piercings.

978,718. AIR-GRATE COVER. EDMUND W. ELLINGTON, Owensboro, Ky. Filed June 3, 1910. Serial No. 564,839.



The combination with a wall having an opening therein and a grate located in the opening, of a closing plate comprising a single sheet of flexible metal centrally bulged and having its edges arranged in a common plane and sharpened, together with a threaded bolt having a hooked end said bolt adapted to pass through the bulged portion and the hooked end adapted to engage the grate, and a winged nut carried by the bolt for adjustably engaging the outer surface of the bulged portion 4 bringing the same toward the grate and expanding the edges into engagement with the walls of the opening.

978,719. COPY-HOLDER. CALVIN J. ELLIS, Kansas City, Mo., assignor to The Cameragraph Company, Kansas City, Mo., a Corporation of Arizona. Filed June 10, 1909. Serial No. 501,290.



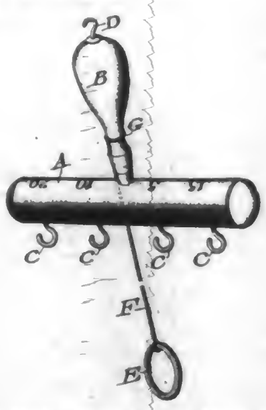
1. A copy holder, comprising a base, a frame laterally-adjustable on the base, standards carried by the frame, a frame vertically-adjustable on said standards, means for securing the last-named frame at the desired altitude, a box hinged to said vertically-adjustable frame and capable when the upper end of the latter attains the level of the top of the standards, of being swung to a horizontal position over the latter, and a break-joint brace connecting the vertically-adjustable frame and said box to automatically brace the box in such horizontal position.

2. A copy holder, comprising a base, a frame laterally-adjustable on the base, standards carried by the frame, a frame vertically adjustable on the standards, means for securing the last-named frame at the desired altitude, a box hinged to said vertically-adjustable frame and capable when the upper end of the latter attains the level of the top of the standards, of being swung to a horizontal position over the latter, means for automatically securing the box in such horizontal position, a hinged door for said box, means to lock the door in its closed position, a plate within the box, and springs bearing against and interposed

between the said plate and the bottom of the box to hold the former pressed yieldingly toward the said door, and a pair of guide and supporting pins carried by the box and extending loosely through said plate.

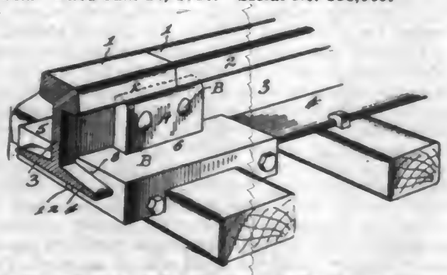
3. In a copy holder, a pair of grooved standards, a vertically-adjustable frame slidably mounted in the grooves of said standards, vertical rack-bars secured to said frame, a transverse shaft bearing a journaled relation to said standards and provided with a crank-handle and with cog-pinions engaging said rack-bars, an arm rigid with said standards, a latch-bar slidably mounted in said arm and adapted to engage one of the rack-bars to hold the slidable frame at the desired elevation, a box hinged to the upper end of the slidable frame and adapted to swing in a vertical plane from a vertical to a horizontal position and vice versa, a stop-plate rigid with the slidable frame to hold the box in a vertical position, means to automatically brace the frame in its horizontal position, a skeleton door for the box, means to lock the door in its closed position, a pair of plates suitably guided and supported within the box, and springs interposed between and bearing against the bottom of the box and said plates and tending to force the plates toward said door.

978,720. COMBINED BUTTON-HOOK HANGER AND TOY. CLARENCE A. EVANS, Chester, Pa. Filed Oct. 28, 1909. Serial No. 525,046.



A combined hanger and toy comprising a handled-head, a hook on the latter projecting therefrom in relation to said handle, a ring and a flexible connection for said ring with a member of the device, said head having a chamber therein and closures for said chamber, either closure being removable.

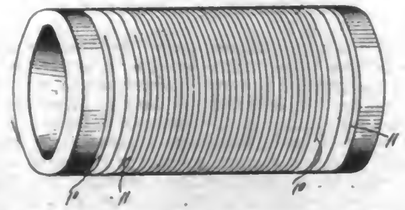
978,721. JOINT-CHAIR. WILLIAM E. EWEN, Newlin, Tex. Filed Jan. 14, 1910. Serial No. 538,069.



1. In a device of the class set forth, the combination with the meeting ends of a pair of rails, said rails having their base flanges centrally provided with substantially V-shaped pockets, a joint chair for the rail, said joint chair comprising a pair of members, each of said members being provided with a longitudinal recess adapted for the reception of the base flanges of the rails, the splice members being also provided with depressions registering with the pockets of the rails, V-shaped locking dogs mounted within the pockets of the rails and adapted to engage the recesses of the splice members, a spacing block between the meeting faces of the splice members, and transversely extending securing elements for the members of the joint chair and the spacing block.

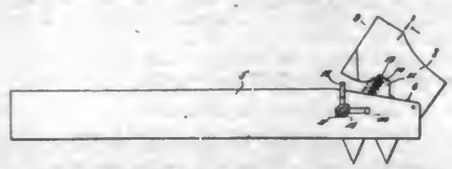
2. In a device of the class set forth, the combination with rail sections, of a joint chair for the rails, said joint chair comprising a pair of members, each having longitudinal cut away portions adapted for the reception of the base flanges of the rails, the members being further provided with vertical offsets adapted to underlie the balls of the rails, means for connecting these offsets with the webs of the rails, the base flanges of the rails being provided with spaced substantially V-shaped pockets, V-shaped blocks carried by the members comprising the joint chair and adapted to engage the pockets of the rail, a spacing block between the said splice members, and means for connecting the splice members below their points of engagement with the base flanges of the rails.

978,722. RECORD. OTTO J. FAJEN, Stover, Mo. Filed July 28, 1910. Serial No. 574,280.



A tubular sound record having thereon a pair of substantially parallel grooves beginning at opposite ends of said record respectively, the termination of one groove being disposed inward and separated from the beginning of the other groove by a plurality of convolutions of the latter and said record also having its bore tapered from each end toward its center whereby the same may be reversibly mounted on a holder in order to seat a style in the starting end of either groove.

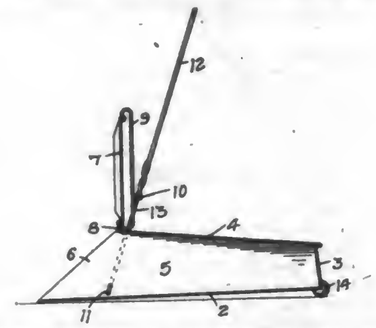
978,723. SAW-SET. WILLIAM S. FITZPATRICK, Bloomfield, Mo. Filed June 18, 1910. Serial No. 567,650.



A saw set comprising an anvil having a beveled surface at one end portion thereof and further provided at the said beveled end portion with a recess, a guide rod inclining upwardly from the said beveled surface, a hammer having a head portion overlying the beveled surface, and a shank portion pivoted in the recess, said shank portion having an opening to receive the guide rod, and a helical compression spring encircling the guide rod and bearing on the shank and beveled surface of the anvil.

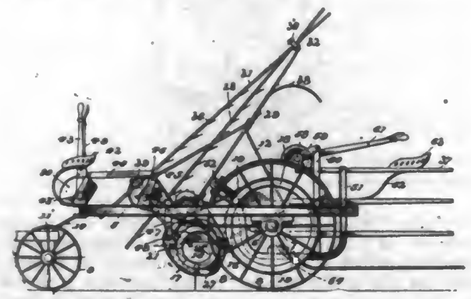
978,724. DUST-PAN. FREDERICK M. FOLSOM and ELMER E. HIGGINS, Minneapolis, Minn.; said Higgins assignor to said Folsom. Filed Mar. 10, 1910. Serial No. 548,497.

1. A dust pan having a pivoted cover, rails 9 mounted thereon and extending transversely of the cover at each end thereof, a bail pivoted on said pan and provided with an operating handle and adapted to swing back and forth over said cover, said bail including parts extending transversely of the pan and terminating in inwardly turned ends pivotally connected with the pan, loops formed on said bail in the angle between said transverse and inwardly turned parts, said loops sliding on said rails and assuming a position near the pivot of said cover when said cover is in its open position, whereby said handle will be locked and limited in its backward movement.



2. A dust pan having a pivoted cover, rails extending transversely of said cover at the ends thereof and along its longitudinal edges and forming a pivot pin for said cover on one edge and a strengthening rail on the other edge, a bail pivoted on said pan and having an operating handle and loops formed on said bail and slidable on said end rails, said loops assuming a position near the pivot of said cover when the cover is raised and limiting thereby the backward movement of said handle.

978,725. COMBINED HAY RAKE AND SHOCKER. EPHRAIM J. FOSTER, Steubenville, Ohio, and FRANK H. GRAFTON, Wheeling, W. Va., assignors of one-fourth to James M. Foster, Steubenville, Ohio, and one-fourth to William S. Grafton, Wheeling, W. Va. Filed Apr. 17, 1909. Serial No. 490,466.



1. A machine of the class described including a main frame, an axle secured to the main frame and provided with traction wheels, an auxiliary frame pivotally mounted on the axle, an inclined table carried by the auxiliary frame, a rake mounted for rotation on said auxiliary frame, a feeding device co-acting with the table, means for transmitting motion from the traction wheels to the rake and feeding device respectively, and means for tilting the auxiliary frame to effect the simultaneous adjustment of the feeding device and rake.

2. A machine of the class described including a main supporting frame, an axle secured to the main frame and provided with traction wheels, an auxiliary frame pivotally mounted on the axle, an upwardly and rearwardly inclined table carried by the auxiliary frame, a rake mounted for rotation beneath the table and movable with the auxiliary frame, stripping devices interposed between the teeth of the rake, a cradle pivotally mounted on the main supporting frame, rake bars co-acting with the table for feeding the material to the cradle, and means for dumping the latter.

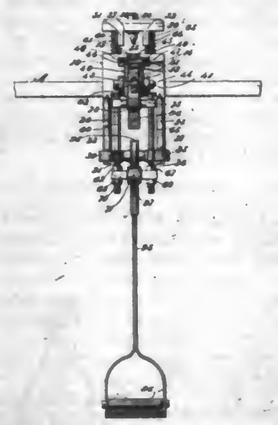
3. A machine of the class described including a main supporting frame, an axle secured to the main frame and provided with traction wheels, an auxiliary frame pivotally mounted on the axle, a table carried by the auxiliary frame, a transverse crank shaft journaled in the auxiliary frame, a rake mounted for rotation beneath the table, a cradle pivotally mounted for tilting movement on the main frame, reciprocating rake bars secured to the crank shaft and spaced from the table for feeding the material deposited on the latter to the cradle, and means for dumping the latter.

4. A machine of the class described including a main supporting frame, an axle secured to the main frame and provided with traction wheels, an auxiliary frame pivotally mounted on the axle, a rearwardly and upwardly inclined table carried by the auxiliary frame, a rake mounted for rotation beneath the table, a dumping cradle, reciprocating rake bars disposed in spaced relation to the table and having their upper ends inclined in the direction of the cradle for feeding material thereto, means for adjusting the rake vertically of the truck, and means for effecting the dumping of the cradle.

5. A machine of the class described including a main supporting frame, an axle secured to the main frame and provided with traction wheels, a transverse shaft mounted on the main frame, a cradle pivotally mounted on the shaft, an auxiliary frame pivotally mounted on the axle, a table carried by the auxiliary frame, a revolving rake disposed beneath the table and movable therewith, stripping devices co-acting with the rake teeth, and a feeding device disposed in spaced relation to the table for delivering the hay to the cradle.

[Claims 6 to 14 not printed in the Gazette.]

978,726. MACHINE FOR MOLDING CANDY PIPES AND OTHER ARTICLES. GEORGE H. FOX, Bangor, Me.; Anna B. Fox administratrix of said George H. Fox, deceased. Filed Mar. 1, 1910. Serial No. 546,659.



1. The combination of a sectional mold closed at one end and open at the other, a plunger smaller in diameter than the interior of the mold and provided with a flange adapted to fit within and close the open end thereof, means for closing said mold and means for inserting said plunger into the open end thereof.

2. The combination of a sectional mold closed at one end and open at the other, a plunger smaller in diameter than the interior of the mold and provided with a flange adapted to fit within and close the open end thereof and having a groove on its under side, means for closing said mold and means for inserting said plunger into the open end thereof.

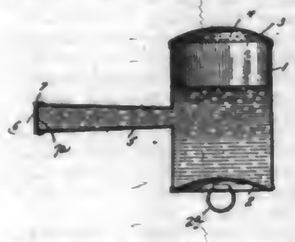
3. The combination of a head having a mold section, a jaw hinged to said head and having, a mold section, a cam arm on said jaw, a slide frame, a plunger carried thereon, means on said slide frame for engaging said cam arm to close the mold and means for actuating said slide frame.

4. The combination of a head having a mold section, a jaw member hinged to said head and having a mold section, a cam arm on said jaw member, a slide member, a plunger carried thereby, one of said members having a beveled face adapted to engage the other member to close the mold, and means for actuating said slide member.

5. The combination of a head having a mold section, a jaw member hinged to said head and having a mold section, a cam arm on said jaw member, a slide member, a plunger carried thereby, said members having meeting beveled faces for engagement to close said mold, and means for actuating said slide member.

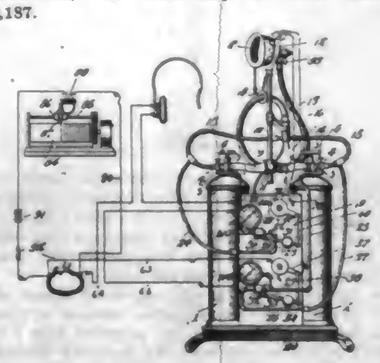
[Claims 6 to 14 not printed in the Gazette.]

978,727. CLOTHES-DAMPENER. REUBEN L. FREE, Leechburg, Pa. Filed Oct. 7, 1909. Serial No. 521,555.



A clothes dampener comprising a cylindrical body-portion, a flanged bottom mounted against and secured to one end of said body-portion, said bottom being concave, a flanged top mounted against and secured to the other end of said body-portion, said top being convex and provided throughout with minute perforations, an eyelet secured to the outer face of the bottom adjacent one edge, a hollow tubular handle formed integral with and opening into said body-portion, said handle disposed at right angles with respect to said body-portion and gradually increasing in diameter from its inner to its outer end, said handle at its outer end provided with peripheral threads, a cap detachably mounted upon the threaded end of said handle for closing it, and a washer interposed between the threaded end of said handle and said cap.

978,728. APPARATUS FOR THE ADMINISTRATION OF GENERAL ANESTHETICS. CARROLL H. FRINK, Jacksonville, Fla. Filed May 25, 1909. Serial No. 498,187.



1. An apparatus for the administration of anesthetics including an anesthetic receptacle, a valve controlling the delivery from said receptacle to the patient, an electrical circuit for controlling the valve, and a circuit closer to control said circuit, said closer including a movable member influenced by the arterial pulsation of the patient.

2. An apparatus for the administration of anesthetics including an anesthetic receptacle, a valve controlling the delivery from said receptacle to the patient, an electrical circuit for controlling the valve, a ring made up of two sections respectively forming the terminals of the electric circuit, one of said sections including a movable member influenced by the arterial pulsation of the patient, whereby to make and break the circuit by the heart beats of the patient.

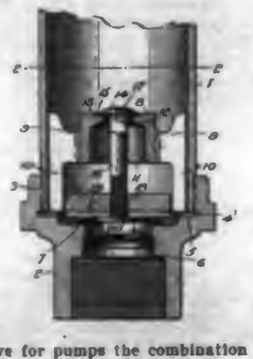
3. An apparatus for the administration of anesthetics including an anesthetic receptacle, a valve controlling the flow from said receptacle, an electric circuit adapted upon energization to operate the valve to permit a delivery from the receptacle, means to energize the circuit by the exhalations of the patient, and means for operating the valve to cut off the delivery from the receptacle upon the cessation of such exhalations.

4. An apparatus for the administration of anesthetics including an anesthetic receptacle, a valve controlling the delivery therefrom, means operated by the exhalation of the patient to open the valve, and means operated upon the cessation of such exhalations to close the valve.

5. An apparatus for the administration of anesthetics including a plurality of anesthetic receptacles, means for controlling the delivery from one receptacle, means for controlling the delivery from the other receptacle, and means governed by the exhalations of the patient for operating both of said controlling means.

[Claims 6 to 12 not printed in the Gazette.]

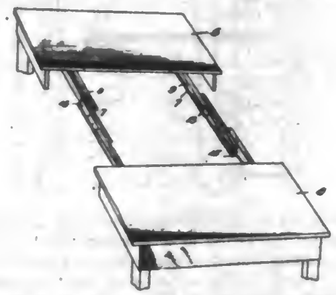
978,729. GRAVITY VALVE-CAGE AND VALVE FOR PUMPS. JESSE B. GARNER, Salem, Ohio, assignor to The Deming Company, Salem, Ohio, a Corporation of Ohio. Filed Jan. 31, 1910. Serial No. 541,149.



In a foot valve for pumps the combination with a cage composed of a hollow boss having guide arms of equal length connected to it the latter paralleling in arrangement the axis of said boss and having their ends in planes at right angles thereto said boss being located between said planes and said guide arms being further formed with outer guiding surfaces extending their entire length and adapted to engage the interior of a pump cylinder, a valve stem of less cross sectional area than the interior of said boss passing through and reciprocable in said boss the said stem having a shoulder engaging the outer surface of the boss, and a valve carried by the valve stem reciprocable within the series of guide arms and adjustable on the stem to a position with its seating surface beyond them.

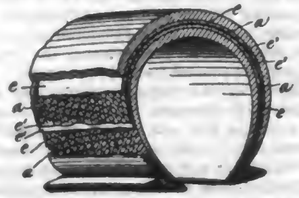
978,730. TABLE-SLIDE. JOHN E. GAUT, Vermontville, Mich. Filed Feb. 3, 1910. Serial No. 541,679.

A table slide consisting of anchoring brackets, a C-shaped guide on one of said brackets, an inverted C-shaped guide on the other bracket, an intermediate slide comprising also the C-shaped member and an inverted C-shaped member lying back to back, one of the intermediate slide members overlying and engaging one of said bracket guides, and the other intermediate slide member underlying and engaging the other bracket guide, means for securing said C-shaped member and said inverted C-shaped member together, a spur struck from the back of each of said mem-



bers, said spurs lying parallel and reinforcing each other and extending into the channel of one of said members and obliquely with respect to the direction of movement of the slides, and a stop-pin extending through an anchoring bracket and a C-shaped member attached thereto and abutting the spur.

978,731. METALLIC FABRIC SUITABLE FOR PNEUMATIC TIRES OF MOTOR-CARS AND OTHER CARRIAGES. CLAUDE MARIE GAUTIER, Lewisham, London, England. Filed Aug. 20, 1906. Serial No. 331,329.



1. A strengthening sheet to be interposed between the inner and outer rubber strips of pneumatic tire casings, comprising a series of chain lengths laid in rows and means to protect the chain lengths from the action of the sulfur in the rubber.

2. A strengthening sheet composed of a series of chain lengths each inclosed in a sheath of textile material and laid in parallel rows between sheets of rubber.

3. A strengthening sheet composed of a series of chain lengths laid in parallel rows between sheets of rubber and disposed obliquely to the lengths of rubber sheets.

4. A strengthening sheet composed of two series of superposed chain lengths laid in parallel rows between sheets of rubber and disposed obliquely to the length of the rubber sheets, the chains of one series crossing those of the other series.

5. A strengthening sheet for pneumatic tires, comprising a plurality of series of flat metal chain lengths, the lengths of one series being in angular relation to those of the adjacent series.

[Claim 6 not printed in the Gazette.]

978,732. FLYING-MACHINE. WILLIAM WALLACE GIBSON, Victoria, British Columbia, Canada, assignor of one-half to David W. Hanbury, Victoria, British Columbia, Canada. Filed Mar. 11, 1910. Serial No. 548,631.

1. In a flying machine, relatively narrow elongated vanes extended in the line of flight one from the forward and one from the after part of a central frame within which the engine is secured said vanes being angled upward from the middle line toward their edges, and means for varying the angle of the forward vane.

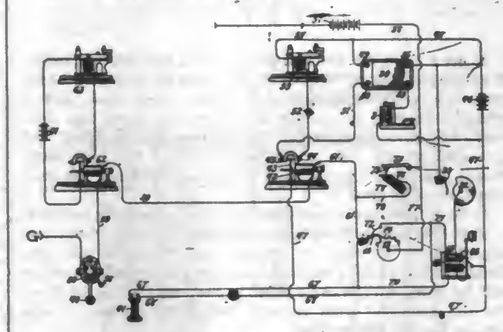
2. In a flying machine, vanes elongated in the line of flight each vane tapered toward each end from its mid-length and angled upward from the middle line toward their edges and means for varying the angle.



3. In a flying machine, the combination with a central frame to which the propelling engine is secured having two propellers one in front of and one behind the central frame, of central vanes projecting in the line of flight one over the forward propeller and one in the same line over the backward propeller said vanes being tapered from their mid-length toward each end and angled upward from the middle line to their edges.

4. In a flying machine, a central frame within which the propelling engine is secured having two propellers one on the front and one on the back end of the engine shaft, elongated narrow vanes extending longitudinally from the central frame one over the forward and one over the backward propeller said vanes being angled upward from the middle line toward their edges, means for securing and staying the frames of these vanes to the central frame and means for varying the angle of the forward vane from the seat of the aviator.

978,733. ANSWER-BACK SIGNAL. EDWIN R. GILL, Yonkers, N. Y., assignor to United States Electric Company, a Corporation of West Virginia. Filed July 27, 1907. Serial No. 385,844.



1. In apparatus of the class described, in combination, an electrically operated answer back signaling means, a local signal, a second answer back signaling means located in inductive relation to the local signal, selecting means for controlling the operation of both of said answer back signaling means and said local signal.

2. In apparatus of the class described, in combination, electrically operated answer back signaling means, a local signal, a second answer back signaling means located in inductive relation to said local signal, selecting means for controlling the operation of said answer back signaling means, and means for producing a number of operations of one of said answer back signaling means while continuing the operation of the local signal.

3. A device of the class described comprising an actuating gear train, a check wheel driven thereby, two pegs thereon on different radii and at different distances from the center of the wheel, a tilting rod adapted to engage successively with said pegs, an operating arm for said rod, a normally bowed spring in operative relation to said arm and an electro-magnet and armature arranged to straighten said spring for operation of said arm, substantially as described.

4. A device of the class described comprising an electrically operated local signal, an electrically actuated answer back, a circuit for the latter a section of which is placed in inductive relation to said signal circuit, a short

circuit across the ends of said inductively placed circuit-section and automatic means for opening and closing said short circuit, substantially as described.

5. A device of the class described comprising an electrically operated local signal, a circuit closer therefor, a second circuit closer, common operating mechanism for both circuit closers, an electrically actuated answer back device, a circuit for the latter a section of which is placed in inductive relation to said signal, and a short circuit across the ends of said inductively placed circuit-section and comprising the second above named circuit closer, substantially as described.

[Claims 6 to 31 not printed in the Gazette.]

978,734. LANTERN-HOOK. SETH GOADON, Chazy, N. Y. Filed Jan. 22, 1910. Serial No. 539,609.



1. In a hook for suspending lanterns and other articles, a support, a prong extending downwardly and forwardly from the support, having a laterally offset end, and a prong extending forwardly and upwardly from the support, having a downwardly and rearwardly-extending end arranged at the side of and spaced from the first mentioned prong and arranged over and spaced from the said laterally offset end.

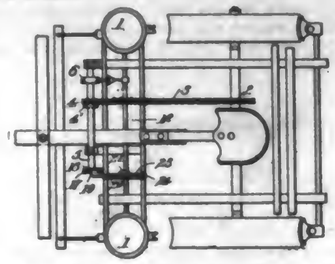
2. In a hook for suspending lanterns and other articles, a wall bracket, and prongs extended outwardly from the opposite end portions of the bracket, with the end portions of the prongs arranged one over the top of the other and having between each other a passage leading in from the top provided with turn at the bottom offset to one side of one of the prongs.

3. In a hook for suspending lanterns and other articles, a wall bracket, a prong inclining downwardly and outwardly from the upper portion of the bracket and having a laterally-turned end, and a prong inclining upwardly and outwardly from the lower portion of the bracket and having a downwardly and inwardly turned end overlying the laterally-turned end of the first-named prong and forming in connection therewith a laterally-extending entrance and exit passage to and from the hook.

4. In a lantern hook, a wall bracket, a prong inclining downwardly and outwardly from the upper portion of the bracket and inclined toward one side of the bracket, with the end of the prong turned laterally toward the opposite side of the bracket, and a prong curved outwardly and upwardly from the lower portion of the bracket and inclined to that side of the bracket from which the first-named prong inclines and having its end downwardly and inwardly inclined and overlying the laterally-turned end of the first prong and forming in connection therewith a laterally-extending passage.

5. In a hook for suspending lanterns and other articles, a wall bracket, a prong extended outwardly and upwardly from the lower portion of the bracket, and a prong extended downwardly and outwardly from the upper portion of the bracket, with the end portions of the prongs shaped and arranged to provide an entrance and exit passage for the article, of approximately L-form.

978,735. CORN-PLANTER. WILLIAM H. GRABB and JAMES BRANT, Fort Gage, Ill. Filed Aug. 6, 1909. Serial No. 511,517.



1. In a device of the character described, a dropper and marker device consisting of a revoluble shaft and means for transmitting motion thereto from the axle of a corn planter; a wheel rigidly mounted on said revoluble shaft and provided with a lateral trip pin and adapted to transmit intermittent motion to the trip arm of the dropper mechanism; a dropper mechanism having a trip arm and coacting members pivotally connected and attached to the seed retaining and discharging device of the hoppers; a wheel mounted on said revoluble shaft provided with an open slot lateral to the rim thereof and adapted to intermittently engage a curved lever pivotally attached to the marker; a curved lever fulcrumed on the frame of a planter, one end thereof pivotally attached to the marking shaft, the other end curved, and at its curvature adapted to intermittently engage the slot in the lateral rim of the wheel on the end of the revoluble shaft; a marking shaft pivotally attached to the said curved lever and actuated thereby; means for retaining said curved lever and marker in operative position, and for throwing the mechanism in and out of gear, all substantially as set forth.

2. In a device of the character described, a revoluble shaft adapted to be mounted on a planter frame in parallel relation to the axle and means for transmitting motion from the axle to the said revoluble shaft; hoppers mounted on the front end of the said frame opposite each other; a wheel rigidly mounted on said revoluble shaft and provided with a lateral trip pin of the hopper mechanism; a dropper mechanism consisting of the engaging trip arm pivotally connected to the coacting members attached to the seed releasing and retaining device of the hopper; a second wheel rigidly mounted on the end of the said revoluble shaft and having an open slot lateral to the rim thereof and adapted to intermittently engage the curved lever pivotally attached to the vertical marking shaft; a curved lever, fulcrumed on the planter frame, and adapted to intermittently engage the slot in the lateral rim of the wheel on the end of the revoluble shaft; a vertically movable marking shaft pivotally attached to the said curved lever and actuated thereby; a resilient spring surrounding said marking shaft, and a like spring attached to the curved lever, and means for operating the same, all substantially as and for the purposes set forth.

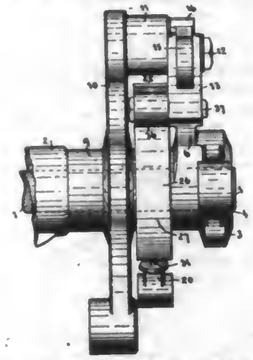
978,736. BOTTLE. JAMES H. GRAHAM, Pittsburg, Pa., assignor of one-half to Edward Kemp, Coal Valley, Pa. Filed Mar. 19, 1910. Serial No. 550,346.



1. A bottle, having its neck flattened on diametrically opposite sides, and countersunk to provide depressions to receive the label, the walls of said depressions serving to protect the edges of the label.

2. A bottle, having its neck flattened on diametrically opposite sides, to provide straight edges at the upper end of the neck, and countersunk to form parallel walls which protect the edges of the label.

978,737. VALVE-GEAR. HIRAM P. GRAVES, Elmira Heights, N. Y. Filed May 16, 1910. Serial No. 561,540.



1. The combination, in a Corliss valve gear, of a valve lever fastened upon a valve stem, a dash pot connection to which said lever is coupled, a rocker arm loosely mounted upon the valve stem, means for oscillating said arm, a cut-off cam loosely mounted on the valve stem by the side of rocker arm, means actuated by a governor for adjusting said cam to different points of cut-off, a gravity latch pivotally mounted upon the rocker arm in position to engage the valve lever, and an outrider projecting laterally from the free end of the latch in engagement with the cut-off cam.

2. The combination, in a Corliss valve gear, of a valve lever fastened upon a valve stem, a dash pot connection to which said lever is coupled, a rocker arm loosely mounted upon the valve stem, means for oscillating said arm, a cut-off cam loosely mounted on the valve stem by the side of rocker arm, said cam having two curved surfaces of different diameters joined by a plane surface tangent to the surface of smaller diameter, means actuated by a governor for adjusting said cam to different points of cut-off, a gravity latch pivotally mounted upon the rocker arm in position to engage the valve lever, and an outrider projecting laterally from the free end of the latch in engagement with the cut-off cam.

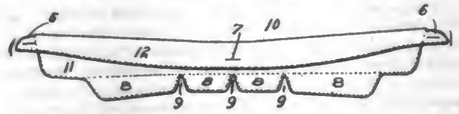
3. The combination, in a Corliss valve gear, of a valve lever fastened upon a valve stem, a dash pot connection to which said lever is coupled, a rocker arm loosely mounted upon the valve stem, means for oscillating said arm, a cut-off cam loosely mounted on the valve stem by the side of rocker arm, means actuated by a governor for adjusting said cam to different points of cut-off, means for adjusting the cam to advance or retard the point of cut-off independent of the governor, a latch mounted upon the rocker arm in position to engage the valve lever, and means actuated by the cam for causing the latch to grip and release the valve lever.

4. The combination, in a Corliss valve gear, of a valve lever fastened upon a valve stem, a dash pot connection to which said lever is coupled, a rocker arm loosely mounted upon the valve stem, means for oscillating said arm, a cut-off cam loosely mounted on the valve stem by the side of rocker arm, means actuated by a governor for adjusting said cam to different points of cut-off, means for adjusting the cam to advance or retard the point of cut-off independent of the governor, said means being operable while the engine is running, a latch mounted upon the rocker arm in position to engage the valve lever, and means actuated by the cam for causing the latch to grip and release the valve lever.

5. In a Corliss valve gear, a cut-off cam of segmental form in two parts, a rim portion carrying the cam surfaces, and a body portion upon which said rim is circumferentially adjustable.

[Claim 6 not printed in the Gazette.]

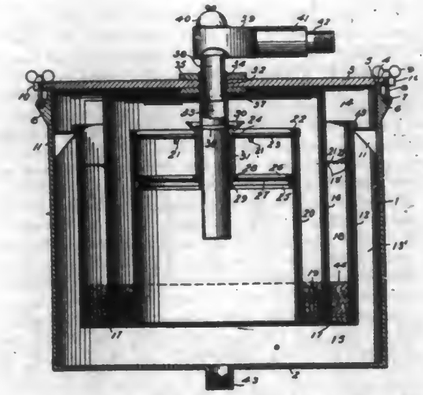
978,738. COLLAR. JOHN G. GRETER, Crestline, Ohio. Filed Aug. 31, 1908. Serial No. 451,011.



1. As a new article of manufacture, a collar comprising a band adapted to be secured to the shirt, an overturned flange at the free edge of said band, and a plurality of tongues on the free edge of said flange adapted to rest upon the shoulder portions of the body and serving to support the collar portion of a vest or the like.

2. As a new article of manufacture, a collar comprising a band adapted to be secured to the shirt, an overturned flange at the free edge of said band, and a plurality of integral tongues on the free edge of said flange adapted to rest upon the shoulder portions of the body and serving to support the collar portion of a vest or the like.

978,739. DUST-COLLECTOR. MILTON O. GRISWOLD and THEODORE BRIDGEL, Rock Island, Ill., assignors to Griswold Manufacturing Company, Rock Island, Ill., a Corporation of Illinois. Filed Feb. 5, 1910. Serial No. 542,223.



1. A device of the character described, comprising a vacuum chamber, a water-receptacle arranged therein, a receptacle arranged within said water-receptacle and provided with perforations below the water-line of said water-receptacle, and a filtering device arranged within said second named receptacle.

2. A device of the character described, a vacuum chamber, a water-receptacle arranged therein, an inverted receptacle arranged within said water-receptacle and perforated below the water-line of the same, a dust-collecting receptacle arranged within said inverted receptacle, a foraminous diaphragm arranged within said dust-collecting receptacle, and means for conducting air into said dust-collecting receptacle.

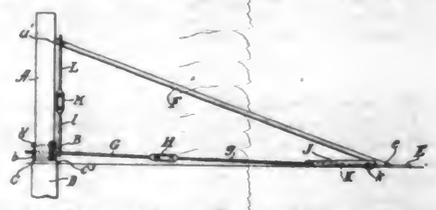
3. In a device of the character described, an outer casing forming a vacuum chamber, a water receptacle arranged within said outer casing, a perforated receptacle arranged within said water receptacle, a dust-collecting receptacle arranged within said perforated receptacle, and a foraminous diaphragm arranged within said dust-collecting receptacle.

4. In a device of the character described, an outer casing forming a vacuum chamber, a water receptacle removably supported within said outer casing, an inverted perforated receptacle arranged within said water receptacle and removable therefrom, a dust-collecting receptacle arranged within said inverted receptacle and removable therefrom, a foraminous diaphragm removably mounted within said dust-collecting receptacle, means for conducting air into said dust-collecting receptacle, and means for conducting air out of the outer casing.

5. In a device of the character described, an outer casing forming a vacuum chamber, a water receptacle arranged within said outer casing, a dust-collecting receptacle arranged within said water receptacle, straining means arranged within said dust-collecting receptacle, means for causing air to travel downwardly and upwardly within said water receptacle when passing from the dust collecting receptacle to within the outer casing, means for directing air into said dust collecting receptacle, and discharge means for said outer casing.

[Claims 6 to 8 not printed in the Gazette.]

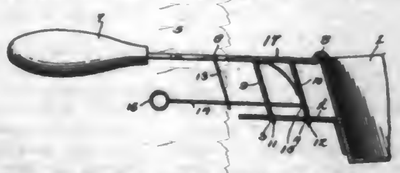
978,740. FENCE-POST BRACE. AUGUSTUS W. HAMILTON and EARNEST L. THOMPSON, Bluffton, Ind. Filed May 26, 1908. Serial No. 435,146.



1. In a fence post brace, the combination with a post, of means for bracing the post comprising the ground plate having a lug, an inclined bar having one end against the lug and the other end against the upper part of the post, and adjustable horizontal rods extending between the said plate and post, a base, the said base and the lower end of the post having mutually engaging devices constructed to receive and guide the end of the post, and means arranged to act upon the said base and post and to move the post bodily sidewise.

2. The combination with a base, of a post, the said post being arranged to stand upon the base, devices attached to the post and to the base and arranged to engage each other and to retain and guide the end of the post upon the base, means arranged to act simultaneously upon the base and the end of the post upon the base to move the post sidewise, and bracing devices including a bar having one end resting against the top of the post, the said bar inclining downwardly to the ground, and adjustable connections joining the lower end of the bar and lower end of the post on the base.

978,741. PAN-HANDLE. ALFRED HANSEN, Gotham, Wis. Filed June 10, 1910. Serial No. 566,230.



1. The combination with a cooking utensil having a stub handle provided with spaced openings, of a detachable handle, said handle having one of its ends provided with a hook adapted to engage the edge of the utensil, and the handle being further provided with members adapted to engage within the openings of the stub handle and to exert a pressure in opposite directions to each other.

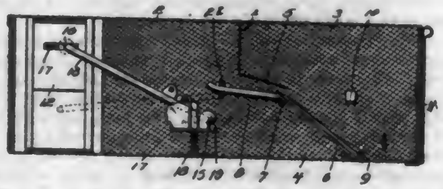
2. In combination with a cooking utensil having a stub handle provided with a pair of spaced openings, a detachable handle, said detachable handle having one of its extremities provided with a hook adapted to engage the edge of the utensil, the handle being further provided with members adapted to engage within the openings of the stub handle and to exert a pressure in opposite directions to each other, and means provided upon the handle and connected with one of the members to draw the said member toward the second member.

3. In combination with a cooking utensil having a stub handle provided with a pair of spaced openings, a removable handle for the utensil, said removable handle having one of its ends provided with a hook adapted to engage the edge of the utensil, the handle being further provided with members adapted to engage within the openings of the stub handle, a spring exerting pressure upon one of the members to force the same away from the second member, the first member being provided with a longitudinally extending rod connected thereto, substantially as and for the purpose set forth.

4. In combination with a cooking utensil having a stub handle, said handle being provided with a pair of spaced openings, of a removable handle for the utensil, said removable handle having one of its ends provided with a hook adapted to engage the edge of the utensil, a catch member secured to the underface of the hook, a spring normally contacting this catch, a depending finger arranged in spaced relation to the catch member and secured to the handle, a guide member upon the handle, an operating rod passing through the guide member and connecting the catch, substantially as and for the purpose set forth.

5. In combination with a utensil having a stub handle positioned adjacent the bottom thereof, said stub handle being provided with a pair of spaced openings, a removable handle for the utensil, said removable handle having one of its ends provided with a hook adapted to engage the upper edge of the utensil, a catch depending from the handle and having its lower extremity provided with a lip, the handle with the lip adapted to engage one of the openings in the stub handle, a finger upon the handle engaging the second opening of the stub handle, a guide upon the handle, an operating rod passing through the guide and connected with the catch, and a spring member for normally forcing the lip of the catch against the lower face of the stub handle.

978,742. ANIMAL-TRAP. BENJAMIN HATCHELL, Crockett, Tex. Filed May 19, 1909, Serial No. 497,034. Renewed May 12, 1910. Serial No. 560,982.



1. In an animal trap comprising a cage having an opening, a door for closing said opening, and a lever having connection with the door to hold the same open, a plate, a spring support for the plate to admit of its having movements in every direction, a hook projected from the plate and adapted to engage the said lever to hold the door open, and a bait holder mounted upon the plate.

2. In an animal trap comprising a cage having openings in opposite sides, doors for closing said openings, pivotally mounted levers having connection with said doors for operating the same, a cross bar connecting corresponding ends of the levers, a trigger adapted to engage said cross bar to hold both doors open, and a guard bar extending transversely of the cage and located immediately above said cross bar to prevent depression thereof by the entrapped animal after the doors have been closed.

3. The herein described trap comprising a cage subdivided to provide a bait chamber and an imprisoning chamber and having a passage between the two chambers, a pivotally mounted door for closing said passage having an arm extending therefrom, doors for closing openings in opposite sides of the cage, levers having engagement with said doors, a cross bar connecting said levers and extended into the path of the arm projecting from the pivotally mounted door, a trigger for engaging said cross bar to hold the doors open, and a guard bar extending transversely of the cage and immediately over the cross bar connecting the said levers.

978,743. ROTARY ENGINE. SAMUEL HAUDENSHIELD, Carnegie, Pa. Filed July 24, 1908. Serial No. 445,221.



1. In a rotary engine, a cylinder having inlet and exhaust ports and a steam space, and a head mounted eccentrically of said cylinder, said head having pistons having a path of movement to retain the outer end of the pistons in contact with the inner circumference of the cylinder, said cylinder having a channel extending from the steam inlet port and terminating at a point intermediate said port and exhaust port and being of less width than the width of the pistons, said channel being in open communication with the interior of the cylinder, and having a gradually increasing depth toward the steam inlet port.

2. In a rotary engine, a cylinder having inlet and exhaust ports and a steam space, and head mounted eccentrically of said cylinder, said head having pistons having a path of movement to retain the outer end of the pistons in contact with the inner circumference of the cylinder, said cylinder having a steam channel extending from the steam inlet port and terminating at a point intermediate said port and exhaust port and being of less width than the width of the pistons, said channel being in open communication with the interior of the cylinder, and having a gradually increasing depth toward the steam inlet port, said channel being inclined relatively to the plane of the sides of the cylinder.

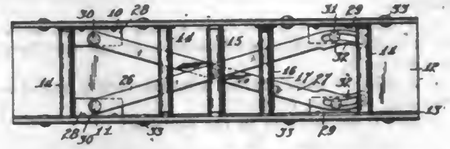
3. In a rotary engine, a cylinder having inlet and exhaust ports and a steam space, and a head mounted eccentrically of said cylinder, said head having pistons having a path of movement to retain the outer end of the pistons in contact with the inner circumference of the cylinder, said cylinder having a steam channel extending from the steam inlet port and terminating at a point intermediate said port and the exhaust port and being of less width than the width of the pistons, said channel being in open communication with the interior of the cylinder, and having a gradually increasing depth toward the steam inlet port, said channel being inclined relatively to the plane of the sides of the cylinder, said channel being of a length greater than the distance between successive pistons.

4. In a rotary engine, a cylinder having inlet and exhaust ports and a steam space, said inlet ports being spaced from each other and located at direct right angles to the axis of the cylinder, and a head mounted eccentrically of said cylinder, said head carrying pistons having a path of movement to retain the outer ends of the pistons in contact with the inner circumference of the cylinder, said cylinder having steam channels extending from the steam inlet ports and terminating at a point intermediate said port and the exhaust port and being of less width than the width of the pistons, said channels being each in open communication with the interior of the cylinder and having a gradually increasing depth toward a steam inlet port, each channel being inclined relatively to the plane of the side of the cylinder, the inclination running in the plane of its inlet port to a point adjacent the opposite side of the cylinder.

5. In a rotary engine, a cylinder having inlet and exhaust ports and a steam space, said inlet ports being spaced from each other and located at direct right angles to the axis of the cylinder, and a head mounted eccentrically of said cylinder, said head carrying pistons having a path of movement to retain the outer ends of the pistons in contact with the inner circumference of the cylinder, said cylinder having steam channels extending from the steam inlet ports and terminating at a point intermediate said port and the exhaust port and being of less width than the width of the pistons, said channels each being in open communication with the interior of the cylinder and having a gradually increasing depth toward a steam inlet port, each channel being inclined relatively to the plane of the side of the cylinder, the inclination running in the plane of its inlet port to a point adjacent the opposite side of the cylinder, each channel being of a length greater than the distance between successive pistons, said channels having a combined length less than the inner circumferential length of the cylinder.

[Claims 6 to 18 not printed in the Gazette.]

978,744. LOOSE-LEAF BINDER. THOMAS E. HEETER, St. Louis, Mo., assignor to Sieber & Trussell Manufacturing Co., a Corporation of Missouri. Filed July 22, 1910. Serial No. 573,316.



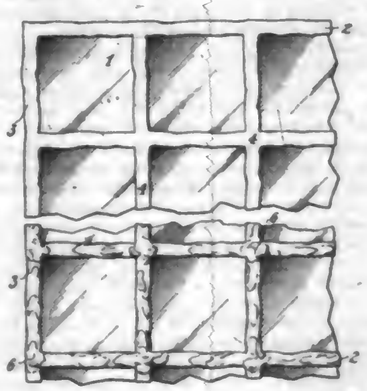
1. In a loose leaf binder, in combination, a pair o oppositely facing clamping plates, one thereof being elas tically flexible, connection between the clamping plate limiting their separation adjacent their ends, and tele scoping threaded members projecting inwardly from th clamping plates intermediate their ends, the combine length of such members being greater than the distanc between the clamping plates at the limit of their sepa ration adjacent their ends.

2. In a loose leaf binder, in combination, a pair of oppo sitely facing clamping plates, an internally threade tubular post section projecting inwardly from each clamp ing plate, the two post sections being in alinement an being oppositely threaded, and one of the clamping plate being apertured in line with the bore of the post section a sleeve telescopically receiving both of the post section and a screw inclosed by the sleeve and secured theret and having oppositely threaded ends engaging the thread of the post sections, that end of the screw adjacent th apertured clamping plate being adapted for the receptio of a rotating tool.

3. In a loose leaf binder, in combination, a pair of o positely facing clamping plates, one thereof being ela tically flexible, connection between the clamping plate limiting their separation adjacent their ends, an inte

nally threaded tubular post section projecting inwardly from each clamping plate intermediate its ends, the two post sections being in alinement and being oppositely threaded and a screw having oppositely threaded ends engaging the post sections, the combined length of the screw and the post sections being greater than the distance between the clamping plates at the limit of their separation adjacent their ends.

978,745. WINDOW-CAME. WILLIAM HENDERSON, New York, N. Y. Filed July 23, 1909, Serial No. 509,170. Renewed Nov. 12, 1910. Serial No. 592,077.



1. A window came having an H-shaped sheet-metal foundation covered by an external coating of lead or lead imitating metal, the outlines of said came being wavy or irregular, as and for the purpose set forth.

2. A sheet-metal H-shaped window came having an irregular or wavy outline.

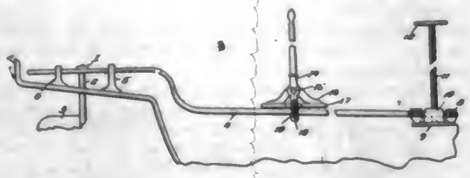
3. A composite window came having irregular outlines and an exposed surface coated with lead or lead imitating material.

4. A composite window came having irregular outlines and a surface artificially roughened, as and for the purpose set forth.

5. A window came having irregular edges and a substantially straight rib.

[Claim 6 not printed in the Gazette.]

978,746. STEERING-GEAR. LUMAN GEO. HEUSTED, Charlotte Harbor, Fla. Filed Sept. 8, 1909. Serial No. 516,652.



A steering mechanism for water craft comprising a rudder, a tiller connected with the rudder and arranged at a right angle thereto and having a longitudinal slot, a rod arranged longitudinally of the craft in a plane about parallel with the plane of the rudder when the latter is set straight ahead, a pin attached to the rod and arranged to operate in the slot of the tiller, guide means for causing the rod to move in a rectilinear line, and means for moving the rod rectilinearly to effect angular movement of the rudder.

978,747. ABRASIVE ARTICLE. FRANCIS W. HIGGINS, Niagara Falls, N. Y., assignor to The Carborundum Company, Niagara Falls, N. Y., a Corporation of Pennsylvania. Filed Feb. 28, 1907. Serial No. 359,934.

1. A carborundum article composed of carborundum and a vitrified binder, one of the constituents of said binder being fluorin.

2. An abrasive article composed of abrasive material and a vitrified binder, one of the constituents of said binder being an alumino-silicate containing fluorin.

3. An abrasive article composed of abrasive material and a vitrified binder, one of the constituents of said binder being an alkaline alumino-silicate containing fluorin.

4. An abrasive article composed of abrasive material and a vitrified binder, one of the constituents of said binder being an alkaline earth alumino-silicate containing fluorin.

5. As a new article of manufacture, an abrasive article composed of abrasive material and a vitrified binder formed from a mixture of ferrous kaolin, calcium fluorid and sodium aluminum fluorid.

978,748. WRENCH. JACOB ALPHEUS OVERLANDER, White Plains, N. Y. Filed Dec. 28, 1909. Serial No. 535,329.

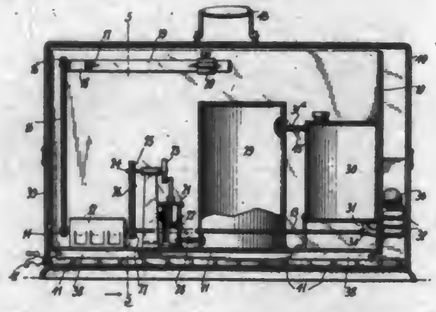


The improved wrench comprising a movable jaw having a slidable threaded shank, a fixed jaw having a shank adapted to receive the shank of the movable jaw and constructed with circular radially projecting collars and having a wooden filling arranged between said collars to adapt this portion of the handle to serve as a grip section, and a rotatable section which is provided with circular radially projecting collars with a wooden filling arranged between them to adapt it to serve as a radial grip section, the inner collar being internally threaded to engage the slidable shank, and a pivot screw passing through the head of the rotatable section and securing it to the shank of the fixed jaw, as shown and described.

978,749. CLEANING-MACHINE. JOHN N. HOLLIS, Macon, Ga. Filed May 9, 1910. Serial No. 560,131.

1. An apparatus of the class described, a casing, a motor supported upon the bottom of the casing, an air storage tank, a fluid receptacle in communication with the tank whereby the contents will be maintained under pressure, a pump communicating with the storage tank for supplying air thereto, a hollow rotatable tool shaft communicating with said fluid receptacle, and driven connections between the motor, pump and shaft whereby the said pump and shaft will be simultaneously operated.

2. An apparatus of the class described, a casing, a motor supported upon the bottom of the casing, an air storage tank, a fluid receptacle in communication with the tank whereby the contents will be maintained under pressure, a pump communicating with the storage tank for supplying air thereto, a hollow rotatable tool shaft communicating with said fluid receptacle, driven connections between the motor, pump and shaft whereby the said pump and shaft will be simultaneously operated, and means controlling the communication between the air storage tank and the fluid receptacle.



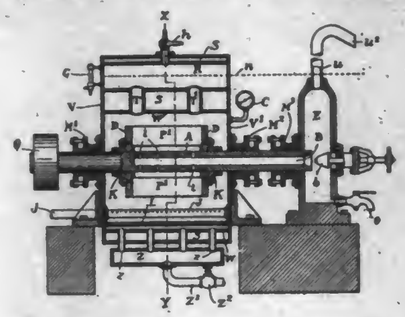
3. An apparatus of the class described, a casing, a motor supported upon the bottom of the casing, an air storage tank, a fluid receptacle in communication with the tank whereby the contents will be maintained under pressure, a pump communicating with the storage tank for supplying air thereto, a hollow rotatable tool shaft communicating with said fluid receptacle, driven connections between the motor, pump and shaft whereby the said pump and shaft will be simultaneously operated, means controlling the communication between the air storage tank and the fluid receptacle, and a valve arranged within the tool shaft.

4. An apparatus of the class described, a casing, a motor supported upon the bottom of the casing, an air storage tank, a fluid receptacle in communication with the tank whereby the contents will be maintained under pressure, a pump communicating with the storage tank for supplying air thereto, a hollow rotatable tool shaft communicating with said fluid receptacle, driven connections between the motor, pump and shaft whereby the said pump and shaft will be simultaneously operated, means controlling the communication between the air storage tank and the fluid receptacle, a valve arranged within the tool shaft and a flexible non-rotatable shaft 2 inclosing said rotatable shaft.

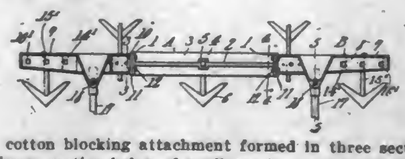
5. An apparatus of the class described, a casing, a motor supported upon the bottom of the casing, an air storage tank, a fluid receptacle in communication with the tank whereby the contents will be maintained under pressure, a pump communicating with the storage tank for supplying air thereto, a hollow rotatable tool shaft communicating with said fluid receptacle, driven connections between the motor, pump and shaft whereby the said pump and shaft will be simultaneously operated, means controlling the communication between the air storage tank and the fluid receptacle, a valve arranged within the tool shaft, a flexible non-rotatable shaft 2 inclosing said rotatable shaft, a bed plate fixed to one side wall of the casing, a stationary stock having a rotatable spindle mounted upon the bed plate an adjustable tail stock movable toward and away from the stationary stock and supported upon the bed plate and driven connection between the motor and the spindle of the stationary stock whereby it may be rotated.

978,750. PROCESS FOR SEPARATING SCUM FROM SUGAR-JUICE. JACOBUS J. HOMANS, Samarang, Java. Original application filed Oct. 12, 1909, Serial No. 522,319. Divided and this application filed Nov. 23, 1909. Serial No. 529,549.

The process of separating scum from sugar-juice, which consists in subjecting the mixture to centrifugal action, thereby separating the scum and sugar-juice, according to their respective specific gravities, into two cylindrical layers, the scum forming an outer layer and the remaining juice forming an inner layer, all while heating and maintaining the material at a temperature not lower than that of the "cracking point" of the defecation process, and removing the scum and the separated juice each separately.

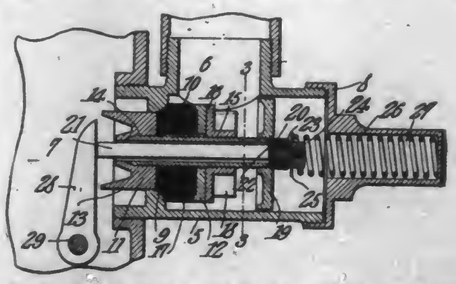


978,751. COTTON-BLOCKING ATTACHMENT. JOHN P. HORNER, Lockhart, Tex. Filed May 14, 1910. Serial No. 561,437.



A cotton blocking attachment formed in three sections, the inner section being of equilateral cross shape in cross section and having end plates, and the outer section having end plates secured to the end plates of the inner section, said inner section having a shank opening and each of said outer sections having a plurality of sets of shank openings.

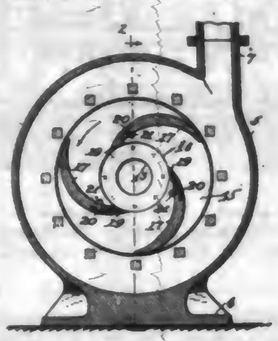
978,752. VALVE. JOSEPH HUEBSCH, Milwaukee, Wis. Filed June 26, 1909. Serial No. 504,485.



A valve comprising a casing, an annular valve seat therein, an externally threaded tubular stem in the casing, a valve engageable with the aforesaid seat, said valve comprising a plug through which the tubular stem passes, a guide for the valve mounted on one end of the tubular stem, and having wings which fit in the valve seat opening, and said guide engaging one side of the valve plug, and having a counter-bored central opening into which the tubular stem screws, a disk mounted on the tubular stem and engaging the other side of the valve plug, means for clamping said disk against the valve plug, said valve plug being held between the disk and the aforesaid guide, a plunger carried by the other end of the tubular stem, the bore of said stem opening behind the plunger, and forming a valve seat, a stem mounted in the bore of the tubular stem, and passing through the central opening of the aforesaid guide, and projecting therefrom, a valve carried

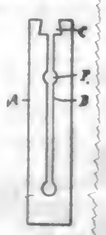
by the second mentioned stem, said valve engaging the second mentioned valve seat, yielding means for normally holding the last mentioned valve seated, and means engageable with the projecting end of the second mentioned stem for unseating the valve carried thereby, and said means thereafter engaging the aforesaid guide to unseat the first mentioned valve.

978,753. CENTRIFUGAL PUMP. JOSEPH HURST, Louisville, Ky. Filed Nov. 23, 1909. Serial No. 529,601.



A centrifugal pump having its blades fitted with removable wear blocks at their ends nearest to the axis of the pump, said blocks forming the tips of the blades, and the main body portion of the blocks having a thickness and shape to form a solid continuation of the blades, the inner ends of the blocks being reduced in thickness, and one side of the blades being similarly reduced to form a recess to receive said reduced ends of the blocks, and fastening means passing through the reduced portions of the blocks and blades.

978,754. MEANS FOR ALINING AND SUPPORTING TYPE. ALBERT GILLETTE HYDE and ROLLS PERCIVAL LINK, London, England, assignors to Uni-Typebar Limited, London, England, a Corporation of Great Britain. Filed Nov. 11, 1909. Serial No. 527,508.

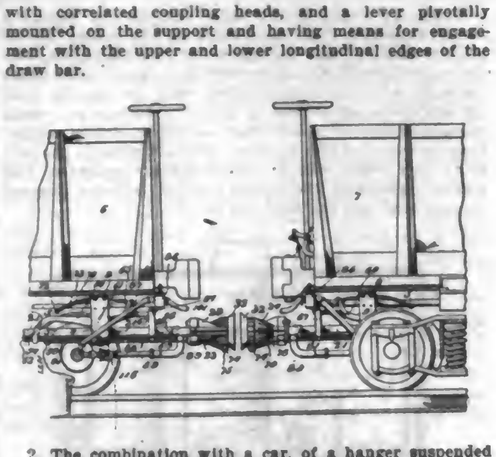


1. A type holder provided with a deep longitudinal channel extending from the top nearly to the bottom thereof, whereby the sides are made resilient, the walls of said channel having recesses in their inner faces to receive the tangs of the types, and having also provision for receiving wedges for springing the walls apart to allow of inserting and removing the types.

2. A type-holder provided with a longitudinal groove and with a deep longitudinal channel extending from said groove in the same direction, and longitudinally extending projections arranged in said groove on opposite sides thereof and at different distances from the outer edges of said groove, substantially as described.

978,755. AIR-BRAKE COUPLING. HOWARD T. INGHRAM, Fairfield, Iowa. Filed Nov. 24, 1909. Serial No. 529,785.

1. The combination with a car, of a hanger suspended from the car, a support mounted for oscillation in the hanger, a draw bar carried by the support and provided with correlated coupling heads, and a lever pivotally mounted on the support and having means for engagement with the upper and lower longitudinal edges of the draw bar.



2. The combination with a car, of a hanger suspended from the car, an oscillating support pivotally mounted in the hanger and having a slot formed therein, one wall of which is inclined or beveled in opposite directions, a draw bar extending through the slot in the support, correlated coupling heads carried by the draw bar, a lever pivotally mounted on the support and having one end thereof bearing against the upper longitudinal edge of the draw bar, and links pivotally mounted with the other end of the lever and provided with a roller bearing against the lower longitudinal edge of the draw bar.

3. The combination with a car, of a hanger suspended from the car, an oscillating support pivotally mounted in the hanger, a draw bar extending through the support, correlated coupling heads carried by the draw bar, a lever operatively connected with the upper and lower longitudinal edges of the draw bar, and a spring operatively connected with one end of the lever for maintaining the latter in normal position.

4. The combination with a car, of a hanger suspended from the car, an oscillating support pivotally mounted in the hanger, a draw bar extending through the support, correlated coupling heads carried by the draw bar, a lever pivotally mounted on the support and having means for engagement with the upper and lower longitudinal edges of the draw bar, a rod connected with one end of the lever, and a coil spring surrounding the rod.

5. The combination with a car, of a hanger suspended from the car, an oscillating support pivotally mounted in the hanger and provided with a vertically disposed slot, a draw bar extending through said slot, correlated coupling heads carried by the draw bar, a lever pivotally mounted in the slot of the support above the draw bar and having means for engagement with the upper and lower longitudinal edges of said draw bar, a rod carried by the draw bar and provided with oppositely disposed stops, and springs surrounding the rod and interposed between the opposite faces of the support and the adjacent stops.

[Claims 6 to 22 not printed in the Gazette.]

978,756. ADJUSTABLE BEARING-CUP. CHARLES L. JENNESS, Chicago, Ill. Filed Jan. 25, 1910. Serial No. 539,979.

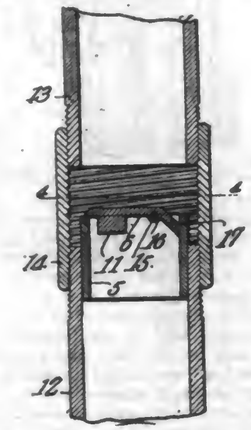


1. In combination with a bearing cup or the like, a bushing on the cup consisting of layers of material, the layers being secured together in a manner to permit of the desired amount being uncoiled and cut away, and the layers being provided with registering elevations and indentations to interlock the parts together.

2. In combination with a bearing cup, or the like, a bushing on the cup in the form of a strip of material, the coils of the strip being secured together in a manner to permit of the desired length of strip being uncoiled and cut away, the cup and strip being provided with registering elevations and indentations to interlock the parts together, substantially as described.

3. In combination with a bearing cup, or the like, a bushing on the cup in the form of a continuous strip of material, the coils of the strip being secured together, in a manner to permit of the desired length of strip being uncoiled and cut away, the cup being provided with a circumferentially extending channel and the strip being formed with a continuously extending bead, with its corresponding channel, the beads and channels of the cup and the coils of the strip being formed to interlock with one another, substantially as described.

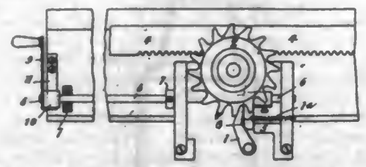
978,757. CHECK-VALVE. JONATHAN JOHNSON, Lowell, Mass. Filed Nov. 5, 1909. Serial No. 526,450.



1. The combination with adjacent pipe sections, and a sleeve coupling the same, the adjacent ends of the sections being spaced from each other, of a sleeve mounted in one of the sections, and projecting therefrom into the coupling sleeve, and a hinged valve mounted on the projecting end of the sleeve, and seating on a portion thereof, that portion of the valve not seating on the sleeve having a downwardly presented portion fitting the interior of the sleeve to complete the closure.

2. The combination of a sleeve, and a valve hinged to seat on a portion of one end thereof, that portion of the valve not seating on said end of the sleeve having a downwardly presented portion fitting the interior of the sleeve to complete the closure.

978,758. CARRIAGE-FEEDING DEVICE FOR TYPE-WRITERS. HERMANN LOUIS WILHELM FRITZ KLEMP, Berlin, Germany. Filed Aug. 12, 1910. Serial No. 576,851.

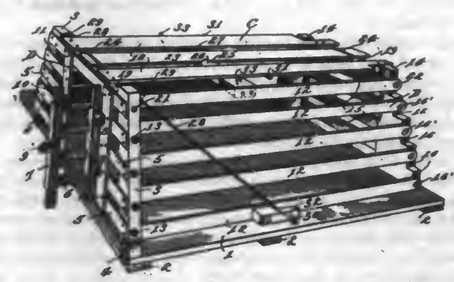


1. In an attachment for typewriter carriages of the class indicated, for producing variation in letter spacing,

the combination with the rack-bar, a pinion, and a escapement wheel, of the pivoted rocking arm or dog adapted to engage said wheel, a spring for retracti said arm, an adjacent abutment 5 on the frame whi serves as a stop for said arm, a rocking shaft arrang parallel with the rack-bar and having an arm or dog secured thereon and projecting at right angles theret the arrangement of parts being as described, whereb when the shaft is rocked, its arm or dog may be throw into or out of the space between the first-named arm a the abutment or stop on the frame, as and for the pu pose specified.

2. The combination with a rack-bar, a meshing pinio an escapement wheel, and a pivoted spring-retracted a or dog adapted to engage said wheel, of a rock shaft ranged parallel to the aforesaid rack-bar and having laterally projecting arm or dog 8 which is adapted, wh the shaft is rotated, to be interposed between the fir named arm and a portion of the frame, the said rock sh having a hub provided with adjacent flat surfaces, and leaf spring which is adapted to bear on such surfaces holding the shaft and its arm locked in either of t positions as required by the spacing to be effected.

978,759. FOLDING CHICKEN-COOP. FREDRICK KOESTERS, St. Louis, Mo. Filed Apr. 15, 1910. Ser No. 555,712.



1. A structure of the class described comprising a b tom, an outwardly and downwardly swinging frame h ing upwardly and inwardly inclined members, an inwar and downwardly swinging end frame having spaced m bers, slats pivoted at their ends to the inner faces of members of the first frame and to the outer faces of members of the second frame, a top frame having its e hingedly connected to the end frames, brace rods hinge connected with one of the end frames and detacha connected with the bottom of the coop, and a de mounted on the bottom slat at one side of the struct and movable into and out of engagement with the br rods for holding the latter connected with said bottom

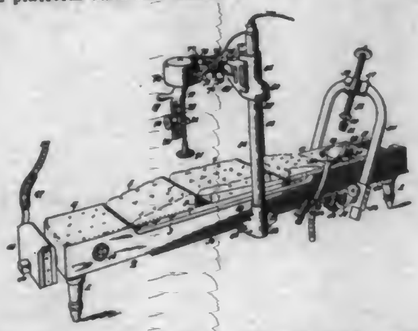
2. A structure of the class described comprising frames having spaced members, slats extending from frame to the other and having their ends engaging outer faces of the members of one frame and the in faces of the other frame, a top frame having its ends in between the upper ends of the said members, and b extending entirely across the structure for hingedly c necting each end of the top frame with the members the end frames.

978,760. SURGICAL TABLE. SOLON M. LANGWORT Cedar Rapids, Iowa. Filed Jan. 3, 1905. Serial 239,534.

1. In a surgical table, the combination of a frame vided with guides for a detachable head platform, a p form adapted to slide thereon, a pawl attached to platform, a slide-bar mounted in guides attached to frame, a ratchet thereon to engage with said pawl, a rack, and a pinion and means for turning the same, stantially as and for the purpose set forth.

2. In a surgical table, the combination of a frame sliding head platform therefor, a rotatable head-

mounted thereon, and means for latching the same in engagement with the platform and for locking it radially, means for holding the feet, and means for moving the head platform back and forth.



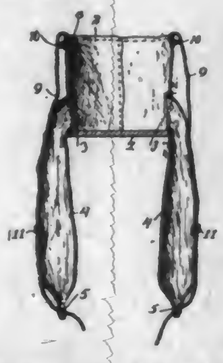
3. In a surgical table, the combination of a sliding platform adapted to be locked at any desired place, a rotatably adjustable head-rest mounted thereon and provided with an upturned horn to engage the patient's occiput, a strap to bind the head thereon, connections for said strap on the platform and head-rest, in combination with means for holding the feet, and means for moving the platform back and forth.

4. A surgical table having an open space or gap between the head and foot, a series of coil springs stretched across it, means for adjusting the tension of said springs, cushions to rest on said springs and support the patient's body, a head supporting platform, means for moving the same back and forth, and means for holding the feet.

5. In a surgical table, the combination of a frame, a head platform adapted to slide thereon, a supplemental support for one end of the platform when drawn down toward the foot, means for automatically detaching the same when the platform is pushed back to normal position, means for holding the head and feet, and means for moving the platform back and forth.

[Claims 6 and 7 not printed in the Gazette.]

978,761. FEED-BAG. CLAYTON LEADBETTER and BERTRAND LEADBETTER, Lestershire, N. Y. Filed June 15, 1910. Serial No. 567,005.

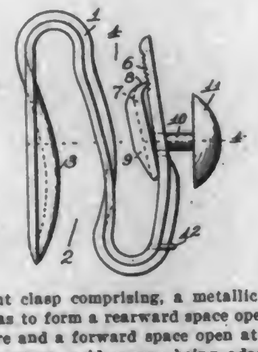


1. A feed bag comprising a nose bag having diametrically opposite pendent pouches provided adjacent to their closed outer ends with eyelets extending through the side walls thereof, and tying members secured adjacent to the upper edge of the nose bag and guided through the eyelets of the pouches.

2. In a feed bag, a nose bag having a rigid bottom and provided with diametrically opposite pendent pouches closed at their outer ends, eyelets extending through the side walls of the pouches, guide members secured adjacent to the upper edge of the nose bag and threaded through the eyelets of the pouches, and eyelet engaging stop members upon the tying members intermediate the ends of the latter.

3. A feed bag comprising a nose bag having a rigid bottom and ventilating openings, pendent pouches connected with the side wall of the nose bag at diametrically opposite sides, eyelets extending through the side walls of the pouches adjacent to their closed outer ends, tying members connected with the nose bag adjacent to its upper edge, said tying members being guided through the eyelets of the pouches, and eyelet engaging pouch supporting stop members upon the tying members intermediate the ends of the latter.

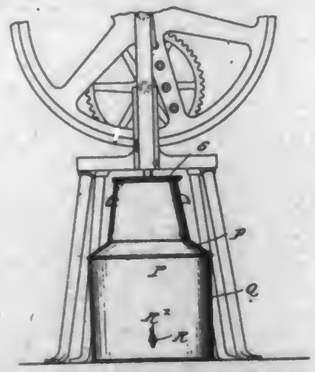
978,762. GARMENT-CLASP. FRANK J. B. LIESNER, Hamilton, Ohio, assignor of one-half to John Mathias, Hamilton, Ohio. Filed Feb. 15, 1909. Serial No. 477,902.



1. A garment clasp comprising, a metallic strip folded upon itself so as to form a rearward space open at one end of the structure and a forward space open at the opposite end of the structure, said spaces being adapted each to receive layers of fabric, transverse corrugations formed upon the inner face of one of the outer members of the clasp, a wedge-piece adapted to slide in the space having said corrugated member for one of its walls, said wedge-piece being provided with an edge adapted to engage selectively with said corrugations, and a shank secured to said wedge-piece and projecting through a slot in said corrugated wall, combined substantially as set forth.

2. In a clasp, the combination of a body strip bent to form two fabric receiving spaces, a wedge movably mounted on a portion of the strip within one of said spaces for clamping fabric inserted therein, and a ratchet formed on a portion of the strip within said space and adapted to be engaged by the wedge to hold the latter in adjusted position.

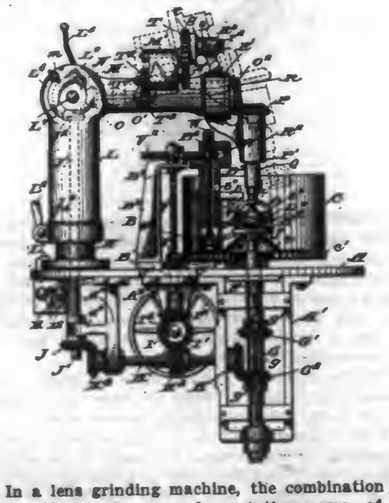
978,763. CHURN-BODY. WILLIAM W. LILES, Mineral Wells, Tex. Original application filed Dec. 31, 1909, Serial No. 535,738. Divided and this application filed Oct. 20, 1910. Serial No. 588,217.



1. A churn device consisting of a truncated cone shaped body portion and a closed annular cylindrical water jacket surrounding the same, said closed annular water jacket being of less extent than the height of the body portion, the bottom of the body portion and the jacket being coincident and co-extensive.

2. A churn device consisting of a truncated cone shaped body portion and an annular cylindrical water jacket surrounding the same from the bottom to a height slightly above the cream line, the upper end of the jacket being connected to the body portion by an air-tight cover, the bottom of the container and the water jacket being coincident and co-extensive, and means for independently drawing off the contents of the container and the water chamber.

978,764. LENS-GRINDING MACHINE. JOSHUA ANTHONY LINCOLN, New Orleans, La., assignor of one-half to Uriah J. Virgin, New Orleans, La. Filed Mar. 9, 1910. Serial No. 548,252.



1. In a lens grinding machine, the combination with a grinding disk and means for rotating same, of a lens holder, means for pressing said lens holder toward said disk, means for rotating said lens holder, and means operated by said rotating means for imparting an oscillatory movement to said lens holder while it is being rotated, substantially as described.

2. In a lens grinding machine, the combination with a grinding disk and means for rotating same in either direction as may be desired, of a lens holder, means for pressing said lens holder toward said disk, means for rotating said lens holder, and means for imparting an oscillatory movement to said lens holder while it is being rotated, substantially as described.

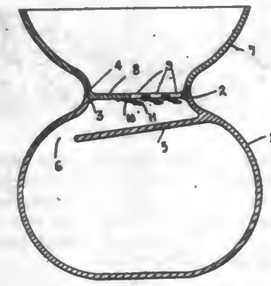
3. In a lens grinding machine, the combination with a grinding disk and means for rotating same, of a lens holder, means for pressing said lens holder toward said disk, automatic means for rotating said lens holder, means for imparting an oscillatory movement to said lens holder while it is being rotated, and means for automatically signaling when the lens has been ground to a predetermined thickness, substantially as described.

4. In a lens grinding machine, the combination with a drive shaft, of a grinding disk, a lens holder, and means operated by said drive shaft for rotating said disk, means also operated by said drive shaft for rotating said lens holder and means operated by said drive shaft for imparting an oscillatory movement to said lens holder while it is being rotated, substantially as described.

5. In a lens grinding machine, the combination with a grinding disk and means for rotating same, of a lens holder, means for pressing said lens holder toward said disk, means for rotating said lens holder, means for imparting an oscillatory movement to said lens holder while it is being rotated, means for varying the extent of said oscillatory movement, and means for automatically signaling when the lens has been ground to a predetermined thickness, substantially as described.

[Claims 6 to 16 not printed in the Gazette.]

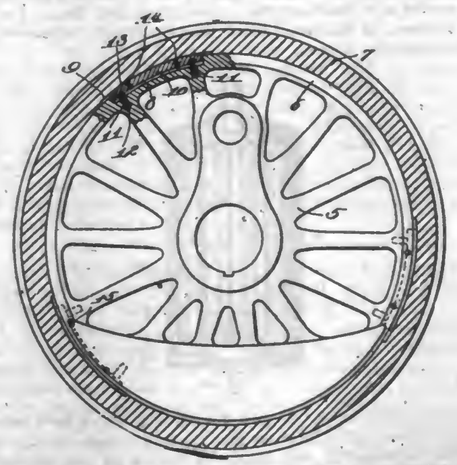
978,765. CUSPIDOR. MASSOND MANSOR, Youngstown, Ohio. Filed June 18, 1910. Serial No. 567,611.



1. A cuspidor embodying a receptacle having an interiorly threaded neck, a flat inclined partition integral with the portion of the inner face of said receptacle below said neck and slanting toward and terminating at a point removed from the opposite portion of the inner face of said receptacle to provide a segment-shaped passage, a funnel shaped mouth-piece detachably mounted in said neck, a plate closing the lower end of said mouth-piece, said plate having a plurality of openings formed therein, and means arranged upon the under side of said plate to close said openings when said cuspidor is tilted.

2. A cuspidor embodying a receptacle having an interiorly threaded neck, a flat inclined partition integral with the portion of the inner face of said receptacle below said neck and slanting toward and terminating at a point removed from the opposite portion of the inner face of said receptacle to provide a segment-shaped passage, a funnel shaped mouth-piece detachably mounted in said neck, a plate closing the lower end of said mouth-piece, said plate having a plurality of openings formed therein, and means arranged upon the under side of said plate to close said openings when said cuspidor is tilted, said means including flap valves arranged to close by gravity.

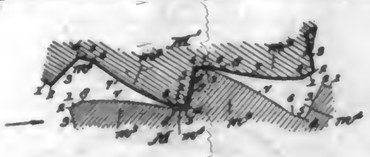
978,766. TIRE-RETAINER. CHARLES MARKEL, Clinton, Iowa. Filed July 27, 1910. Serial No. 574,197.



In a device of the class set forth, the combination with a wheel center having a rim with cavities therein at intervals, retaining blocks movably mounted in said cavities

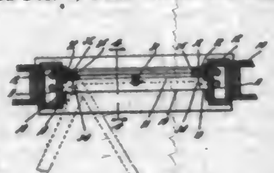
and projectible outwardly beyond the rim, and a tire having cavities in the inner portion thereof coinciding with those of the rim and slightly longer than the said rim cavities.

978,767. CANE-CRUSHER. ALBERT L. MARSHALL, New Orleans, La. Filed May 20, 1909. Serial No. 497,263.



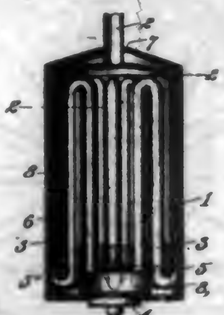
A cane crusher, comprising two rolls provided with a series of annularly-disposed interpenetrating teeth m^1, each tooth having a flat top 1, a cutting edge 2, a flat face 3, terminating at 4, another flat face 5 registering with the flat top 1 of the tooth, and a curved pressing face 7, substantially as described.

978,768. WINDOW. EDMUND MARSHALL, Indianapolis, Ind. Filed Feb. 4, 1910. Serial No. 542,063.



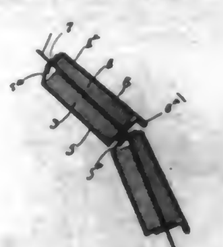
The combination, with a suitable supporting frame having a pair of vertical runways formed therein, of a pair of sliding frames one mounted in each of said runways, and each comprising two vertical members and two cross members, and two swinging glass-carrying members each hinged to a vertical member of one of the sliding frames upon a vertical axis, the lower swinging frame having an upper bar extending over the upper bar of its carrying frame and mating with the lower bar of the swinging frame of the upper carrying frame.

978,769. GENERATOR AND SUPERHEATER. JOHN G. MASSIE, East St. Louis, Ill., assignor to The Massie Generator and Radiator Co., East St. Louis, Ill., a Corporation of Illinois. Filed May 28, 1910. Serial No. 563,860.



In a generator of the class described, a water tank having a steam outlet pipe leading centrally from its top, a jacket surrounding said tank and having its top, bottom and side walls spaced from said tank to provide a heat circulating space between the tank and jacket, the said jacket being provided with an opening in its top of greater diameter than the said steam outlet pipe and receiving the latter, an inturned annular flange formed on the bottom to provide an opening and also serving as a rest for said tank, inverted U-shaped hot air flues disposed radially within said tank, each flue having one end in communication with the opening in the bottom of said jacket and its opposite end being outwardly and upwardly bent to extend into the space between the side walls of the said tank and jacket, and means in communication with the air flues for supplying heated air thereto.

978,770. FLEXIBLE FIRE-RESISTING SHUTTER AND SLAT THEREFOR. EDWARD H. MCCLOUD, Columbus, Ohio. Filed Jan. 31, 1908. Serial No. 413,517.



1. A flexible shutter or curtain made up chiefly of slats each comprising a core of wood or other heat-retarding material of reduced thickness along its upper edge, a metal sheathing for said core fitting its faces closely and provided at one of its lower corners with a water-shedding lip and having its diagonally-opposite corner inclined, and a flexible member for stringing said slats passed substantially midway through them.

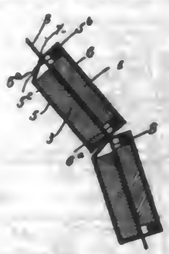
2. A flexible shutter or curtain made up chiefly of slats each comprising a core of wood or other heat-retarding material, a metal sheathing fitting around said core and provided at its lower corner at one side of the slat with a water shedding lip consisting of the metal of the structure folded upon itself, and said slat also having one of its corners at the opposite side of the slat beveled or inclined, said slat being narrower along its upper edge than along its lower edge, and a flexible member for stringing said slats passed through them substantially midway between the sides thereof.

3. A flexible shutter or curtain made up chiefly of slats each including an inclosing sheet metal structure provided at its lower corner at one side of the slats with a water shedding lip consisting of the sheet metal of the structure folded upon itself, and said slat also having one of its corners at the opposite side of the slat beveled or inclined, said slat being narrower along its upper edge than along its lower edge, and a flexible member for stringing said slats passed through them substantially midway between the sides thereof.

4. A flexible shutter or curtain made up chiefly of slats each including an inclosing sheet metal structure provided at its lower corner at one side of the slat with a water shedding lip consisting of the sheet metal of the structure folded upon itself and a flexible member for stringing said slats passed through them substantially midway between the sides therrof.

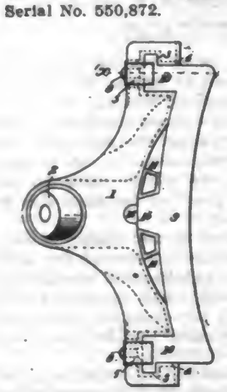
978,771. FLEXIBLE FIRE-RESISTING SHUTTER AND SLAT THEREFOR. EDWARD H. MCCLOUD, Columbus, Ohio. Filed Feb. 10, 1908. Serial No. 415,114.

A slat for the construction of a flexible curtain or shutter comprising a duplex core of a poor conductor of heat, and a metal sheathing for said core composed of two parts one of which is bent across one side of said core and across the space between the parts of the core, and is also formed with an inclined portion 5^c, the two parts of said sheathing being seamed together at opposite corners of the same side of the slat, and openings in that portion of the sheathing where it extends across the space



between the core parts for the passage of a flexible connecting and suspending member or members.

978,772. SELF-LOCKING BRAKE SHOE AND HEAD. JAMES J. MCCONNELL, Wilmington, Del. Filed Mar. 22, 1910. Serial No. 550,872.



1. The combination, with a brake head having two transverse pockets, one near each of its ends, each pocket being provided with an internal extension, of a shoe having tenons adapted to fit said pockets and the extensions thereof, whereby each end of said shoe is secured to the head independently of the other, and means to lock said tenons in said pockets.

2. The combination, with a brake head having two transverse pockets, one near each of its ends, each pocket being closed at one side and open at the other and having an internal extension, of a shoe provided with tenons adapted to fit said pockets and the extensions whereby each end of said shoe is secured to the head independently of the other, and means to lock said tenons in said pockets against being withdrawn from the open sides.

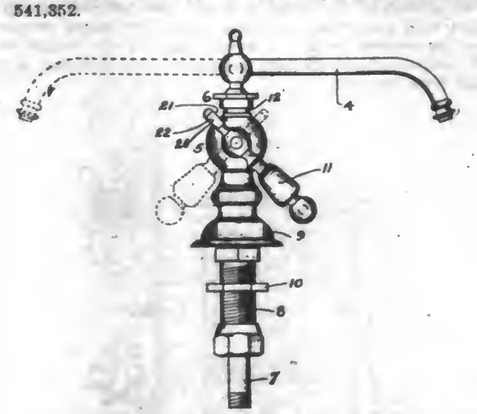
3. The combination, with a brake-head having transverse pockets near its ends, said pockets being provided with internal extensions, of a shoe having tenons adapted to fit said pockets and the extensions thereof, and means to automatically lock said tenons in said pockets.

4. The combination, with a brake-head having transverse pockets near its ends, said pockets being provided with internal extensions, of a shoe having tenons adapted to fit said pockets and the extensions thereof, and means to automatically lock said tenons in said pockets comprising spring catches mounted on said head and projecting into said pockets, and grooves in said shoe to receive said catches.

5. The combination, with a brake-head having transverse pockets near its ends, said pockets being provided with internal extensions, of a shoe having tenons adapted to fit said pockets and the extensions thereof, tenons having grooves therein, ribs arranged across said grooves, and spring catches mounted on the head and adapted to automatically engage said ribs for the purpose specified.

[Claims 6 to 9 not printed in the Gazette.]

978,773. BASIN-COCK. JOHN M. MCDONALD, Dubuque, Iowa, assignor to A. Y. McDonald Mfg. Co., Dubuque, Iowa, a Copartnership. Filed Feb. 1, 1910. Serial No. 541,352.



1. In a device of the class described, the combination of a vertical body portion having formed in its upper part a vertical neck threaded on its outer face, a valve in the body portion, a spout having formed on one end a vertical neck, a collar formed on said vertical neck near the end thereof and adapted to be inserted within the neck formed on the body portion, a cap nut surrounding the vertical neck of the spout and adapted to be threaded onto the neck of the body portion, and packing adapted to be forced into place by the cap nut, substantially as described.

2. A basin cock including a body portion, a swivel spout and a faucet handle on an axis projecting from one side of the body portion, the swivel spout being normally rotatable in service about a vertical axis and normally non-leakable in service whereby said spout may be rotated to one side when the bowl has been filled and where by said spout may be placed in any desirable position with respect to the bowl, and the faucet handle being marked with one character on one side of its axis of rotation and with another character on the other side of its axis of rotation whereby when the body portion has been so adjusted on the bowl that the handle is on the proper side thereof and the spout has been thrown into corresponding working position and the handle placed in working position the proper character on the handle will be displayed to the user of the basin cock, substantially as described.

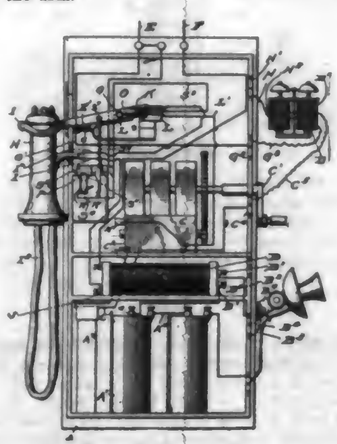
3. A basin cock including a body portion, a spout rotatable about a vertical axis and a handle on an axis projecting from one side of the body portion, the handle being provided with a gripping portion and an index portion, the index portion being marked with one character on one side of the axis of rotation of the handle and with another character on the other side of the axis of rotation of the handle, whereby when the body portion has been properly adjusted to the bowl and the spout being in working position the proper character on the index portion of the handle will be displayed, substantially as described.

978,774. COIN-OPERATED TELEPHONE APPARATUS. DAVID PRATT MEADE, White Post, Va. Filed July 2[illegible] 1910. Serial No. 574,554.

1. In combination with a telephone, a coin circuit clo[illegible] ing attachment comprising a slot box having a movabl[illegible] hinged bottom of electrical conducting material, electrica[illegible] terminals within said box, electrical connections betwee[illegible] said terminals and bottom and the wiring of the telephon[illegible] an arm fixed to said bottom, a bar pivotally connected t[illegible] the receiver holder and adapted to tilt said arm to caus[illegible] said bottom to open to allow the coin to drop from the bo[illegible]

2. In combination with a telephone, a coin circu[illegible] closing attachment comprising a slot box having a movabl[illegible] hinged bottom of electrical conducting material, electrica[illegible]

terminals within said box, electrical connections between said terminals and bottom and the wiring of the telephone, an arm fixed to the pintle of the hinged bottom, a bar pivoted to the receiver holder and adapted to contact with and swing said arm to tilt the hinged bottom as the receiver holder is moved down by the weight of a receiver placed thereon, and means for releasing said bar from the arm.



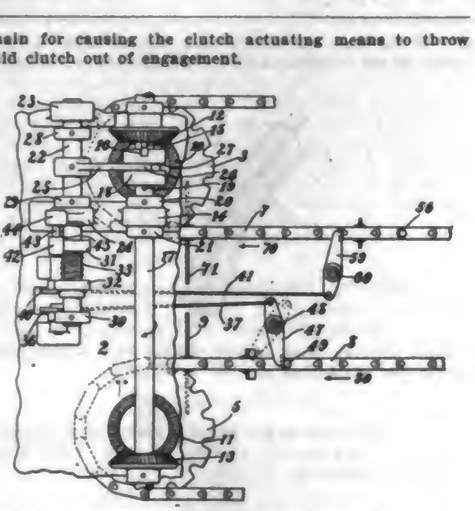
3. In combination with a telephone, a coin circuit closing attachment comprising a slot box having a spring-actuated hinged bottom of electrical conducting material, an arm fixed to the pintle of said bottom, electrical terminals within said box, electrical connections between the terminals and the bottom and the wiring of the telephone, a laterally swinging depending bar pivotally mounted upon the receiver holder, movable through an opening in the slot box and having a cam edge, a spring bearing against said bar and adapted to throw the cam edge of the bar against the marginal edge of said opening, said bar adapted to contact with said arm as the receiver holder is swung downward, thereby causing the hinged bottom to open and allow the coin to fall from the slot box.

4. In combination with a telephone, a coin circuit closing attachment comprising a slot box having a movable hinged bottom of electrical conducting material, electrical terminals fastened to the opposite side walls of the slot box with their free ends extending toward each other, a spring-actuated bottom hinged to the box, a laterally extending arm fixed to the pintle of said hinged bottom, electrical connections between said bottom and terminals and the wiring of the telephone, a depending bar pivotally mounted upon the receiver holder and adapted to contact with said arm to cause the bottom to swing open to allow a coin to drop from the slot box as the receiver is hung upon its holder.

978,775. STARTING AND STOPPING MECHANISM. JOHN H. MICHENER, Jr., New York, N. Y., assignor to Michener Stowage Company, New York, N. Y., a Corporation of New York. Filed July 27, 1909. Serial No. 509,794.

1. The combination of two chains, driving means therefor, means for engaging and means for disengaging the driving means relative to the second chain, means carried by the first chain for liberating said engaging means and means carried by said second chain for liberating said disengaging means.

2. The combination of two chains supported on revolubly mounted sprockets, driving means for a sprocket of each chain, a clutch for connecting the driving means with the driving sprocket of the second chain, means for actuating said clutch, means carried by the first chain for causing the clutch actuating means to throw said clutch into engagement and means carried by the second chain for causing the clutch actuating means to throw said clutch out of engagement.



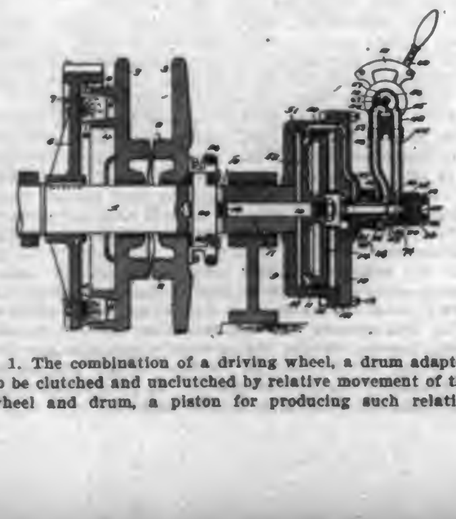
3. The combination of two chains, means for driving the first chain, means for driving the second chain, means for successively throwing into and out of operation the driving means for the second chain, means carried by the first chain for liberating the means for throwing into operation the driving means for the second chain and means carried by the second chain for liberating the means for throwing out of operation the driving means for said second chain.

4. The combination of two chains, means for driving the first chain, means for driving the second chain, a slidable member for engaging and disengaging the driving means for the second chain, means carried by the first chain for liberating the engaging means and means carried by the second chain for liberating the disengaging means.

5. The combination of two chains supported on revolubly mounted sprockets, driving means for a sprocket of each chain, a clutch for connecting the driving means with the driving sprocket of the second chain, a slidable member for actuating said clutch, means for moving said slidable member in either direction, means carried by the first chain for causing the slidable member to move in one direction and means carried by the other chain for subsequently causing the slidable member to move in the opposite direction.

[Claims 6 to 11 not printed in the Gazette.]

978,776. CLUTCH. ORVILLE D. MORGAN, Burke, Wash. Filed Nov. 27, 1909. Serial No. 530,160.



1. The combination of a driving wheel, a drum adapted to be clutched and unclutched by relative movement of the wheel and drum, a piston for producing such relative movement, a cylinder in which the piston is mounted, separate passages for admitting fluid to opposite sides of the piston, a valve for admitting fluid to one passage while exhausting fluid through the other, and a valve movable automatically to control the pressure of the fluid acting on the piston in a direction to hold the drum and wheel clutched.

2. The combination of a driving wheel, a drum adapted to be clutched and unclutched by relative movement of the wheel and drum, a piston for producing such relative movement, a cylinder in which the piston is mounted, separate passages for admitting fluid to opposite sides of the piston, a valve for admitting fluid to one passage while exhausting fluid through the other, a valve movable automatically to control the pressure of the fluid acting on the piston in a direction to hold the drum and wheel clutched, said valve being provided with a port through which fluid passes, one end of the valve being closed to permit pressure of the fluid to act thereon, and an adjustable spring for opposing the movement of the valve under the action of the fluid.

3. The combination of a driving wheel, a drum adapted to be clutched and unclutched by relative movement of the wheel and drum, a piston for producing such relative movement, a cylinder in which the piston is mounted, a tube extending into the cylinder, said tube having ports, a conduit leading into the cylinder at the side of the piston opposite to the tube, a sliding valve in the tube having ports adapted to register with the ports in the latter, means for admitting fluid under pressure through the ports in the tube, means for admitting fluid through the conduit alternately with the first-mentioned means, and an adjustable spring pressing on the said valve, said valve being exposed to the pressure of fluid passing into the cylinder through the said tube for causing the valve to vary the effective area of the ports of the tube.

4. The combination with a driving wheel and a winding drum having a relative sliding movement on the same shaft, of coöperating friction elements on said wheel and drum, a cylinder, a fluid operated piston movable back and forth in said cylinder, and connected with the drum shaft for causing a relative movement between said driving wheel and drum to effect an engagement and disengagement of the friction elements thereof, and an automatic pressure controlled valve for regulating the pressure in said cylinder, said valve having combined therewith an adjustable spring tension.

978,777. MACHINE FOR ROUGHING SHOE-SOLES, &c. FREDERICK J. NASH, Somerville, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed May 31, 1906. Serial No. 319,617.

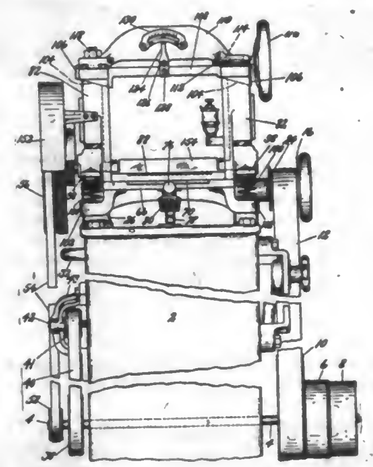
1. In a machine of the class described, the combination with a rotary cutter, of a table along which the stock is fed, feed rolls, and a presser roll for holding the stock in operative relation with said cutter together with means for driving the two feed rolls independently of said presser roll.

2. In a machine of the class described, the combination with a rotary cutter, of a table along which the stock is fed, feed rolls, and a presser roll for holding the stock in operative relation with said cutter, the said feed rolls and presser roll being yieldingly mounted at each of their ends independently of each other.

3. In a machine of the class described, the combination with a rotary cutter, of a table along which the stock is fed, feed rolls, a presser roll for holding the stock in operative relation with said cutter, and means under the control of the operator for adjusting said feed rolls and presser roll with respect to said cutter.

4. In a machine of the class described, the combination with a rotary cutter, of a table along which the stock is fed, feed rolls, a presser roll for holding the stock in operative relation with said cutter, and means for adjusting said feed rolls and presser roll into parallel relation with respect to said cutter.

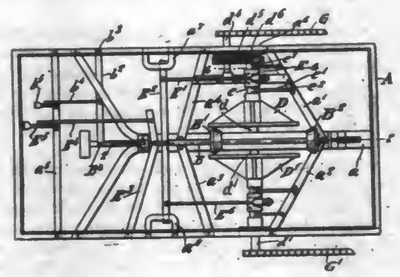
5. In a machine of the class described, the combination with a rotary cutter, of a table along which the stock is fed, feed rolls, a presser roll for holding the stock in operative relation with said cutter, means for putting said



feed rolls and presser roll into parallel relation with respect to said cutter, and means for adjusting them while in this position with respect to said cutter.

[Claims 6 to 14 not printed in the Gazette.]

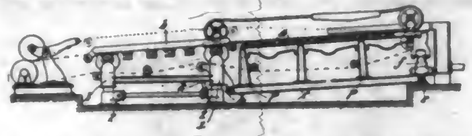
978,778. DEVICE FOR TRANSMISSION OF POWER BY FRICTION. CLARENCE E. PATTON, Cincinnati, Ohio. Filed Feb. 8, 1910. Serial No. 542,729.



1. In a power transmission device the combination of longitudinal driving shaft, transverse driven shafts upon opposite sides of the driving shaft, means for shifting the driving shaft longitudinally, opposed friction disks splined upon the driven shafts, said disks having in them a series of concentric L-shaped grooves, the inner face of each groove being longer than the outer face thereof, a friction pinion upon the driving shaft having a beveled periphery and adapted to contact with the longer faces as to rotate out of contact with the shorter faces of the L-shaped grooves, and means for reciprocating the friction disks toward and from the friction pinion.

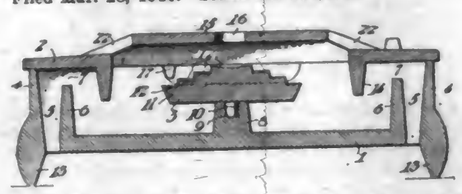
2. In a power transmission device the combination of longitudinal driving shaft, driving pinions secured upon the shaft, transverse driven shafts upon the opposite sides of the driving shaft, friction disks upon the driven shafts, collars mounted upon the driven shafts, sleeves surrounding the collars, and having converging slots, pins in the collars engaging the converging slots, and means for rotating the sleeves to effect the reciprocation of the friction disks upon the driving shafts.

978,779. PAPER-MAKING MACHINE. PAUL PRIEM, Heidenheim-on-the-Brenz, Germany. Filed Oct. 6, 1910. Serial No. 585,632.



In a longitudinal straining cloth paper machine, the combination of a normally inclined suction frame, a normally inclined shake frame, a sub-frame extending from the breast roller end of the shake frame to the front end of the suction frame, said sub-frame being pivotally mounted at the breast roller end of the shake frame, means connecting with the suction frame for raising or lowering the end of the shake frame next to the suction frame, together with the whole suction frame, the plane of the two frames including in no position an angle of less than 180°.

978,780. OIL-BURNER. JOHN R. PRING, Shawnee, Okla. Filed Mar. 28, 1910. Serial No. 551,860.



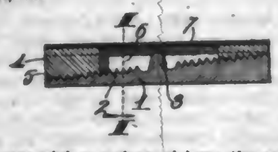
1. An oil burner embodying a pan, air flues located adjacent to and within the flange of the pan, a combined hood and cover supported on the pan covering said flues and centrally offset upwardly forming a deflector hood, an oil-distributing generator arranged within the pan and under the hood, and baffles interposed between said air flues and the generator.

2. An oil burner embodying a pan, air flues located adjacent to and within the flange of the pan, a combined hood and cover supported on the pan covering said flues and centrally offset upwardly forming a deflector hood, and an oil-distributing generator arranged within the pan and under the hood, the hood being provided with an oil feed aperture located above the generator.

3. An oil burner embodying a pan, air flues located adjacent to and within the flange of the pan, a combined hood and cover supported on the pan covering said flues and centrally offset upwardly forming a deflector hood, an oil-distributing generator arranged within the pan and under the hood, and uncovered air flues located at one side of the burner body.

4. An oil burner embodying a pan, air flues located adjacent to and within the flange of the pan, a combined hood and cover supported on the pan covering said flues and centrally offset upwardly forming a deflector hood, an oil-distributing generator arranged within the pan and under the hood, and baffles interposed between said air flues and the generator, the hood being provided with fire escape ports adjacent to the baffles.

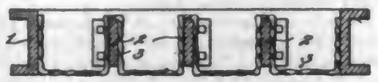
978,781. WINDOW-GLASS-SETTING GAGE. EBBETT S. RHOADS, Kansas City, Mo. Filed Sept. 28, 1910. Serial No. 584,375.



1. A gage, comprising a channel iron, the upper surface of the bottom being inclined and toothed, a wedge fitting down in the channel of the angle iron and provided in its underside with teeth engaging the teeth of the channel iron, and a compressible strip secured on the upper side of the wedge.

2. A gage comprising a channel iron having the upper side of its bottom inclined and toothed and provided at a suitable point between its ends with an upwardly projecting stud, a wedge fitting down in the channel of the angle iron and provided with teeth at its under side engaging the teeth of said channel iron and with a longitudinal slot receiving said stud, and a compressible strip secured to the upper side of the wedge.

978,782. GAGGER OR SAND-ANCHOR. GUY S. RINEBOLT, Franklin, Pa., assignor to Franklin Core Rod and Gagger Co., Franklin, Pa., a Corporation of Pennsylvania. Filed Apr. 18, 1910. Serial No. 556,142.



1. A gagger consisting of a bar section of spirally twisted steel having a substantially flat-sided cross section.

2. A gagger consisting of an L-shaped bar section of spirally twisted steel having a substantially flat-sided cross section.

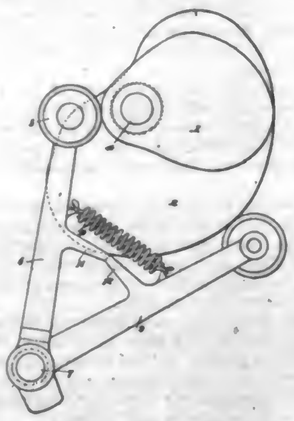
3. A gagger consisting of a bar section of spirally twisted steel having a substantially flat-sided cross section and having more than one lineal dimension.

4. A gagger consisting of a bar section of spirally twisted steel having a substantially flat-sided cross section and having a laterally-turned extension at one end thereof.

5. A gagger consisting of an L-shaped bar section of spirally twisted steel having a substantially flat-sided cross section and having a vertical leg and a horizontal leg, the vertical leg having at its upper end a laterally-turned extension.

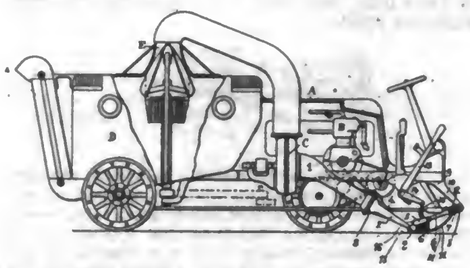
[Claims 6 to 10 not printed in the Gazette.]

978,783. CAM AND LEVER. WILLIAM ROSE, Gainsborough, England. Filed Mar. 18, 1910. Serial No. 550,210.



In a cam operating device the combination with a rotating shaft, of a duplex cam thereon, two rockable lever arms, a spring connecting said lever arms, said lever arms having stops adapted to abut against each other and to relieve the lever arms of the pressure of the spring, all substantially as and for the object specified.

978,784. STREET-SWEEPING MACHINE. ROBERT A. RUTHERFURD, New York, N. Y. Filed Sept. 2, 1908. Serial No. 451,827.



1. In a street sweeper, a pivotally mounted broom and a shoe connected therewith and adapted to engage the surface to be cleaned and, when elevations or obstructions are reached, to automatically lift the broom correspondingly, said shoe comprising a plurality of fingers or prongs which extend in front and beneath the broom.

2. In a street sweeper, a suction element and a sweeping element, severally free to follow inequalities in the surface to be cleaned within defined limits and connected to move together beyond said limits, the connection including a shoe which is disposed in operative relation to said surface and is connected to the suction element and sweeping element.

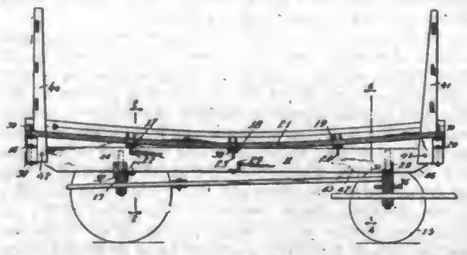
3. In a street sweeper, a suction nozzle and a broom, in combination with a shoe disposed in operative relation with the surface to be cleaned and connected with said nozzle and broom, said shoe comprising bent fingers or prongs which extend from the suction nozzle to a place in front of the broom fibers.

4. In a street sweeper, a suction nozzle and a broom, in combination with a shoe disposed in operative relation with the surface to be cleaned and connected with said nozzle and broom, said shoe comprising bent fingers or prongs which extend from the suction nozzle to a place in front of the broom, and a spring which acts to press the shoe yieldably toward said surface.

5. In a street sweeper, a suction nozzle and a broom, said nozzle having a spring for pressing it toward the surface to be cleaned, and said broom having an arm provided with an elongated slot, a shaft extending into said slot, a shoe which is connected with the shaft and nozzle and is disposed in operative relation with the surface to be cleaned and is adapted to raise the nozzle and broom when inequalities in or obstructions on such surface are reached.

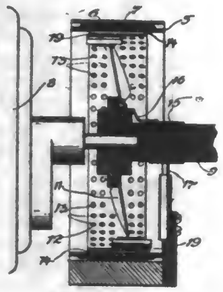
[Claims 6 to 14 not printed in the Gazette.]

978,785. HAY-RACK. WILLIAM SCHLIE, Deerfield, Ill. Filed Apr. 16, 1910. Serial No. 555,875.



In a wagon bottom, in combination, a pair of longitudinal sills spaced apart at their rear ends and converging toward their forward ends, transverse sills mounted on and secured to the longitudinal sills and being inclined upward at their ends, the end transverse sills being mounted at a greater elevation than the intermediate transverse sills, bolster plates secured to and below the longitudinal sills and adapted to rest on and fi between the end stakes of the bolster of a truck, and deck secured to the transverse sills and conforming to th lines of the upper faces thereof.

978,786. OZONIZER. RALPH D. SMALL, Chicago, Ill. assignor to Standard Electro-Utilities Company, Chi cago, Ill., a Corporation of Arizona. Filed Sept. 23 1910. Serial No. 583,413.



1. In an ozonizer the combination of a stationary di electric, a stationary electrode on one side thereof, a ro tating electrode on the other side thereof, and means fo continuously cleaning the dielectric during the operation of the ozonizer, substantially as described.

2. In an ozonizer the combination of a stationary di electric, a stationary electrode on one side thereof, a rotating electrode on the other side thereof, a cleaning device for the dielectric, and means for maintaining the cleaning device in engagement with the dielectric during the operation of the ozonizer and out of engagement with the dielectric when the ozonizer is not in use.

3. In an ozonizer the combination of a stationary di electric, a stationary electrode on one side thereof, a rotating dielectric on the other side thereof, and a cleaning device attached to the rotating dielectric in a manner to be thrown into engagement with the dielectric by centrifugal force during operation of the ozonizer, substantially as described.

4. In an ozonizer the combination of a stationary di electric, a stationary electrode on one side thereof and a continuous rotatable perforated electrode on the other side thereof, substantially as described.

5. In an ozonizer the combination of a stationary di electric, a stationary electrode on one side thereof, a rotating fan electrode on the other side thereof, and a continuous perforated discharge hand attached to the tips of the fan and providing a discharge surface, substantially as described.

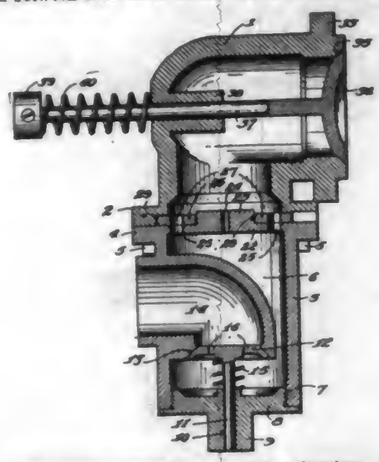
[Claims 6 to 8 not printed in the Gazette.]

978,787. CARBURETER. BERNARD O. SMITH, Stanley, Iowa, assignor of one-half to S. C. Irvine, Stanley, Iowa. Filed Dec. 30, 1909. Serial No. 535,581.

1. A carbureter comprising a lower fuel mixing casing, an upper casing detachably fastened thereto and provided with a discharge outlet, means for controlling the supply of fuel from the lower casing to the upper casing, a guiding gland projecting into said upper casing, a valve stem slidable through said gland and projecting beyond the casing and provided with a head on the outer portion, a valve on said stem for sealing the discharge outlet of said upper casing, and a spring coiled about said stem and bearing against the exterior of the upper casing and said head to yieldably hold said outlet valve in a closed position.

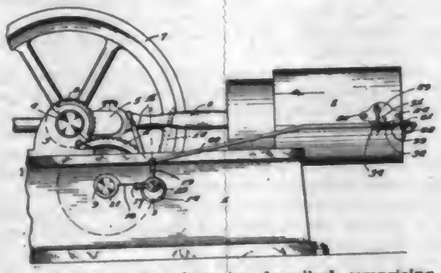
2. A carbureter comprising a lower casing, a detachable bottom closure therefor, an air supply tube communicating with the atmosphere and having its inner end arranged above said closure and provided with a valve seat, a valve stem slidable through said closure, a valve carried thereby, a spring coiled about said stem for yieldably holding said valve to said seat, means for feeding

fuel to said lower casing, an upper casing connected to said lower casing, and means for controlling the communication between said lower casing and said upper casing.



3. A carbureter comprising a mixing chamber, a bottom plug therefor, an air supply tube entering said casing and overhanging said plug, a valve slidably supported by said plug, means for normally holding said valve in sealing engagement with the overhanging ends of said tube, a discharge casing in communication with the mixing casing, means for controlling the communication between said casing, and means for controlling the outlet of said discharge casing.

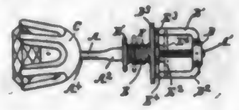
978,788. IGNITER FOR GASOLENE-ENGINES. BERNARD O. SMITH, Stanley, Iowa, assignor of one-half to S. C. Irvine, Stanley, Iowa. Filed Jan. 3, 1910. Serial No. 535,052.



1. A device of the character described comprising an igniter block, a stationary electrode and a movable electrode projecting therethrough, a rocker arm carried by said movable electrode, a sparking rod, spaced apart adjustable abutment blocks on said rod, a spring interposed between said abutments and bearing against said rocker arm to hold the same in contact with one of said abutments, and means for simultaneously throwing said rocker arm rectilinearly and holding the movable electrode separated from the stationary electrode.

2. In a device of the character described, the combination with an engine and its bed, of a cam shaft carried by said bed and operated by the engine, a cam on said shaft, a second shaft extending through said bed having a reduced eccentric projection on its outer terminal, a collar detachably mounted on said projection and having an arm, the latter carrying a tripping finger which is arranged in the path of movement of said cam, a sparking rod actuated by said finger, a stationary electrode, and a movable electrode, and means for simultaneously throwing said finger out of the path of movement of said cam and holding said movable electrode away from said stationary electrode.

978,789. SAFETY SCREW-BACK FOR EAR-RINGS AND BUTTONS. HENRY STERN, New York, N. Y., assignor to Isidor Stern and Henry Stern, composing The Firm of Stern Bros., New York, N. Y. Filed Apr. 18, 1910. Serial No. 556,031.



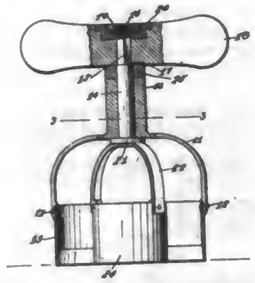
1. In a screw back for an ear-ring or button, the combination of a screw having a portion of its shank of substantially angular cross section, a nut fitted to the screw having fingers projecting therefrom, and a sleeve having a portion of angular cross section to correspond to the angular cross section of the shank, slidably fitted to the angular portion of the screw shank and the finger members of the nut and non-rotatable with reference thereto and being rotatable upon the screw when its engagement with the angular portion of the shank of the screw is released by the proper longitudinal change of position of the sleeve over the screw to allow this result.

2. In a safety device for an ear-ring or button, the combination of a screw having an enlarged angular cross sectional shank portion, a nut fitted to the screw having fingers projecting therefrom, a sleeve having a portion of angular cross section to correspond to the angular cross section of the shank, loosely fitted over the screw and shaped so as to be slidable only when in engagement with the angular portion of the screw shank and being rotatable upon the screw when in non-engagement with the said angular portion of the screw shank and having a slidable connection with the finger members of the nut and non-rotatable with reference thereto, and a spring adapted to hold the sleeve in engagement with the angular portion of the screw shank and consequently in the non-rotatable position upon the screw and thereby holding the nut in a locked position thereon.

3. In a screw back for an ear-ring or button, the combination of a screw having an enlarged shank portion substantially of angular cross section for a portion of its length, a nut fitted to the screw and having fingers projecting therefrom, a washer secured to the free extremities of the fingers of the nut, a sleeve loosely fitted within the washer and over the screw having a locking ring at one end having a portion of angular cross section to correspond to the angular cross section of the shank, adapted to engage with the angular portion of the screw shank and be slidable thereon and having a yoke ring at its other end having a slidable connection with the finger members of the nut and non-rotatable with reference thereto and having an end movement upon the screw sufficiently great to allow the locking ring to clear longitudinally the angular portion of the screw shank and be rotatable upon the screw, and a spring adapted to hold the sleeve normally in the non-rotatable position upon the screw and in engagement with the angular portion of the screw shank and thereby lock the nut upon the screw.

4. In a screw back for an ear-ring or button, the combination of a screw having a threaded portion and an enlarged shank portion angular in cross section for a part of its length, a nut fitted to the threaded portion of the screw and having fingers projecting therefrom, a washer secured to the free extremities of the nut fingers, a sleeve loosely fitted within the washer and over the screw having a locking ring attached at one of its ends and a yoke ring connected to its other end the locking ring having a portion of angular cross section to correspond to the angular cross section of the shank, being fitted to the angular portion of the screw shank so as to make the sleeve slidable only over the screw when the locking ring is in engagement with the said angular portion of the screw shank but allowing the sleeve to be rotatable upon the screw when the locking ring is clear of the said angular portion of the screw shank by being moved away endwise therefrom and the yoke ring being slidably connected with the finger members of the nut and non-rotatable with reference thereto, and a spring upon the sleeve between the locking ring and the washer adapted to automatically force the locking ring over the enlarged angular shank portion of the screw and thereby lock the nut upon the screw so as to prevent possible rotation thereon while in that position.

978,790. FOOD-CHOPPER. NANCY A. THOMAS, Meyers Falls, Wash. Filed Jan. 4, 1910. Serial No. 536,394.



An implement of the class described comprising a sleeve having an outer cutting blade connected thereto, a stem fitting through said sleeve and having an inner cutting blade connected thereto, a handle detachably connected to said stem, and a spacer member carried by said stem.

978,791. FRUIT-PICKER. LUTHER THORSTENBERG, McMinnville, Tenn. Filed May 9, 1910. Serial No. 560,201.



1. In a fruit picker, a handle, a sleeve slidably mounted on said handle, a pair of jaws carried by said sleeve, means for operating the jaws, a sack having its opened end secured to the jaws and the lower end secured to said sleeve, and a loop carried by said handle provided with a slot through which the sack extends.

2. In a fruit picker, a handle, a pair of jaws, a cord and lever for operating the jaws, a sack having its open end secured to the jaws, a loop carried by said handle provided with openings and a slot through which the flexible holder extends, a sleeve slidably mounted on said handle to which the lower end of the sack is secured, a pair of rods secured to said sleeve and arranged to pass through said holder, one of said jaws being integral with said rods and the other of said jaws being pivoted to said rods.

3. In a fruit picker, a main handle provided with an adjustable hand lever, a loop secured at the upper end of said main handle, said loop having a slot and openings, a sleeve slidably mounted on said handle, a pair of rods secured to said sleeve and terminating at their upper ends in an integral jaw, one of said rods being provided with a ring, said rods passing through said openings in said loop, a second jaw pivoted to said rods and provided with an extension, a cord fastened to said adjustable lever on said handle and passing through the eye in the extension on said jaw, thence downwardly through said ring and being secured to said lever, and a flexible bag having its open end secured between said jaws, the body of the bag passing through said slot in said loop and being secured to said sleeve.

978,792. QUININ ESTER. HEINRICH THRON, Frankfort-on-the-Main, Germany, assignor to Vereinigte Chininfabriken Zimmer & Co., G. M. B. H., Frankfort-on-the-Main, Germany, a Society of Germany. Filed Mar. 30, 1910. Serial No. 552,369.

1. The herein described process of making organic acid esters of the hydrohalogenic addition products of quinin consisting in coupling hydrohalogenic acids with the organic acid esters of quinin.

2. The herein described process of making the salicylic acid ester of hydrobromquinin which consists in coupling hydrobromic acid with salicylic acid quinin ester.

3. The herein described organic acid esters of the hydrohalogenic addition products of quinin having the general formula

$$C_{20}H_{24}N_2O_2.x.y.$$

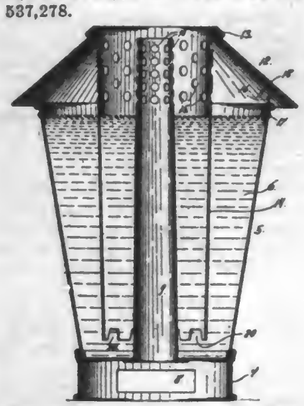
in which x is a halogen and y the radical of an organic acid ester, the said halogen being in such close combination that it is not acted on in the cold by either nitrate of silver or ammonia, said esters being colorless and tasteless bodies easily soluble in benzene, chloroform, aceton, and hot alcohol, and insoluble in petroleum-benzin and water, and when dissolved in diluted acids being precipitated from such solutions by the action of alkalies.

4. The herein described salicylic acid ester of hydrobromquinin having the formula

$$C_{20}H_{24}N_2O_2Br.CO.C_6H_4OH.,$$

being a colorless and tasteless powder easily soluble in benzene, aceton, hot alcohol and chloroform, insoluble in petroleum-benzin and water, and when dissolved in diluted acids being precipitated from such solutions by the action of alkalies.

978,793. ORCHARD-HEATER. PERCIVAL HAMMER TROUTMAN, Canon City, Colo. Filed Jan. 10, 1910. Serial No. 537,278.



1. An orchard heater, comprising a liquid fuel receptacle having a draft opening in the bottom thereof, a centrally located chimney communicating with the said draft opening, a hood supported a suitable distance above the upper edge of the receptacle to form an air opening between the hood and the receptacle, the said hood having an

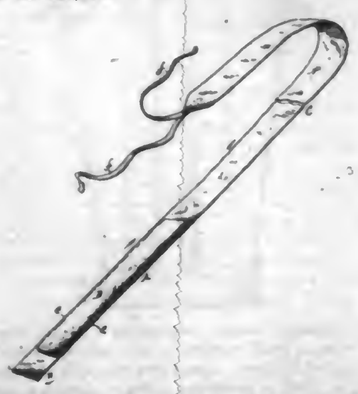
opening therein, a depending member supported by the hood and communicating with the said opening the upper portion of the depending member below the hood being perforated, the said member surrounding the chimney and suitably spaced therefrom to form a combustion chamber between the chimney and the receptacle, substantially as described.

2. An orchard heater comprising a fuel receptacle having a draft opening in the bottom thereof, an open ended chimney communicating with the said opening and extending upwardly through the receptacle, a hood supported over the upper edge of the receptacle, and having a space between the hood and the edge of the receptacle to permit the entrance of air for combustion, the hood having an opening therein, a depending member supported by the hood and in communication with the said opening the upper portion of the depending member below the hood being perforated, the said member surrounding the chimney and suitably spaced therefrom to form a combustion chamber, substantially as described.

3. An orchard heater comprising a liquid fuel receptacle having a draft opening in the bottom thereof, a centrally located open ended chimney in communication with said draft opening, the upper portion of the said chimney being perforated, a hood supported a suitable distance above the upper edge of the receptacle to form an air space between the hood and the receptacle, the said hood having an opening therein, a depending member supported by the hood and in communication with the opening therein the upper portion of the depending member below the hood being perforated, the said member extending downwardly around the chimney into the liquid fuel, and suitably spaced from the chimney to form a combustion chamber, substantially as described.

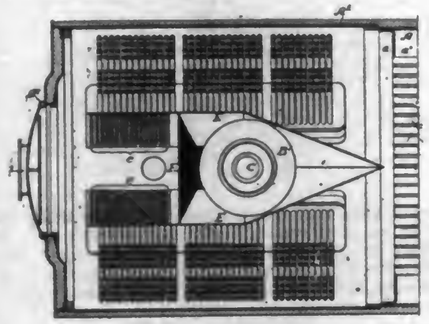
4. An orchard heater comprising a liquid fuel receptacle having a draft opening in the bottom thereof, an open ended chimney in communication with the said draft opening, and extending upwardly through the receptacle, the upper portion of the said chimney being perforated for feeding air to the inner surface of the fuel, a hood supported a suitable distance above the upper edge of the receptacle to form an air space between the hood and the receptacle, the said hood having an opening therein, a depending member supported by the hood and in communication with the opening therein the upper portion of the depending member below the hood being perforated, the said member extending downwardly into the fuel of the receptacle and terminating a suitable distance above the bottom of the receptacle to permit of the entrance of the fuel into the said member, substantially as described.

978,794. BANDAGE. GREENLEAF S. VAN GORDER, Pike, N. Y., assignor to Textile Specialty Company, Pike, N. Y., a Corporation of New York. Filed Apr. 20, 1907. Serial No. 369,237.



A bandage comprising a single strip of woven fabric which is entirely plain or pileless on one of its sides while its opposite side has plain or pileless surfaces or margins along its longitudinal edges, a pile surface between said margins, a short plain or pileless tab at one end and a long plain or pileless surface at its opposite end the width of each pileless margin being equal to the height of the pile on the pile surface.

978,795. DEFLECTOR FOR SMOKE-BOX SUPERHEATERS OR FEED-WATER HEATERS. SAMUEL M. VAUCLAIN, Philadelphia, Pa., assignor, by mesne assignments, to Baldwin Locomotive Works, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Jan. 22, 1908. Serial No. 412,132.



1. The combination with a boiler of a smoke box, a series of tubes within the smoke box and at each side of the center thereof, and vertically arranged deflecting plates within the smoke box placed to cause the products of combustion to pass through the spaces between the tubes, the portions of the said plates distant from the boiler being perforated.

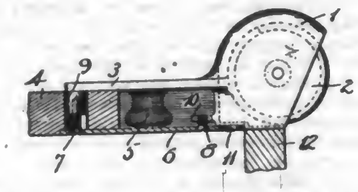
2. The combination of a locomotive boiler having a smoke box, a nozzle extending into the smoke box, tubes mounted at the sides of the smoke box, vertically arranged deflecting plates mounted also in the smoke box at each side of the nozzle, the ends of said plates adjacent to the boiler being inclined toward each other, and the other ends of the plates being perforated, with an inclined screen arranged between the plates.

3. The combination with a tubular steam boiler, of a set of steam headers in the upper portion of the smoke box communicating with the main steam supply pipe of the boiler, a second set of steam headers in the lower portion of the smoke box communicating with branch steam pipes leading to engine cylinders, sets of superheater pipes located at opposite sides of the smoke box and connecting the headers of the two sets, deflecting means extending in the smoke box in front of the tube sheet, with a discharge casing extending longitudinally from the deflecting means to the smoke box front and vertically from the exhaust pipe to the lower opening of the stack, there being lateral draft openings in the discharge casing, and a screen covering said draft openings.

4. The combination with a tubular steam boiler, of a T-head, saturated steam headers in the smoke box on opposite sides of the T-head and communicating therewith, superheated steam headers secured to opposite sides of the smoke box near the lower portion thereof, sets of superheater pipes located on opposite sides of the smoke box and connecting the saturated and superheated steam headers on each side thereof, deflecting means in the smoke box in front of the tube sheet, a discharge casing extending longitudinally from the deflecting means to the smoke box front and vertically from the exhaust pipe to the lower opening of the stack, there being lateral draft openings in the discharge casing, and a screen covering said openings.

5. In a locomotive boiler having a smoke-box which receives heated gases at one end, the combination of means in said smoke-box forming a central discharge chamber closed from communication with the rest of the smoke-box except at its end remote from the point of ingress of the gases thereinto and discharging at its other end through an outlet in the side of the smoke-box, the wall of said chamber at its end remote from the point of ingress of the gases into the smoke-box being foraminous to allow ingress of said gases into said chamber, and superheating means in said smoke-box in the path of the gases as they pass from their point of ingress thereinto to their point of ingress into the discharge chamber.

978,796. SASH-PULLEY. HENRY G. VOIGHT, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Oct. 28, 1910. Serial No. 589,591.



1. In an overhead pulley construction for sash cords, a frame comprising a pulley casing having a laterally extending arm, said casing being arranged to stand above one corner of a window casing, a combined keeper and cover plate arranged to be secured at the exposed side of said window casing, and means to connect said plate to said pulley casing.

2. In an overhead pulley construction for sash cords, a frame comprising a pulley casing having a laterally extending arm, said casing being arranged to stand above one corner of a window casing, a combined keeper and cover plate arranged to be secured at the exposed side of said window casing, means to connect said plate to said pulley casing, and a cord passage through said plate.

3. In an overhead pulley construction for sash cords, a frame comprising a pulley casing having a laterally extending arm, said casing being arranged to stand above one corner of a window casing, a combined keeper and cover plate arranged to be secured at the exposed side of said window casing, and means to connect said plate to said pulley casing, said plate being slightly wider than said frame.

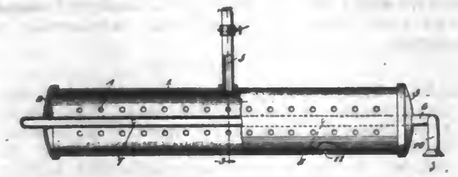
4. In an overhead pulley construction for sash cords, a frame comprising a pulley casing having a laterally extending arm, said casing being arranged to stand above one corner of a window casing, a combined keeper and cover plate arranged to be secured at the exposed side of said window casing, and means to connect said plate to said pulley casing, said means comprising at least one screw.

5. In an overhead pulley construction for sash cords, a frame comprising a pulley casing having a laterally extending arm, said casing being arranged to stand above one corner of a window casing, a combined keeper and cover plate arranged to be secured at the exposed side of said window casing, and means to connect said plate to said pulley casing, said means comprising at least one screw passing through said plate and taking into said arm.

[Claims 6 and 7 not printed in the Gazette.]

978,797. CRUDE-OIL BURNER. EMORY A. WALES, Oklahoma, Okla. Filed Dec. 21, 1909. Serial No. 534,330.

In a crude oil burner, a cylinder provided with perforations in its side walls and having end walls each provided with a central opening, a perforated air pipe disposed centrally of said cylinder and having its ends extending through the openings in said end walls, the ends of said air pipe being open to the atmosphere, and an inlet pipe secured in the top of said cylinder for introducing a fluid fuel, the bottom of said cylinder being provided with an opening for igniting the fuel.



978,798. FASTENER FOR RAILROAD-RAILS. CORNELIUS WEANER, Toledo, Ohio, assignor of one-half to George Henry, Risingsun, Ohio. Filed Sept. 10, 1910. Serial No. 581,432.



1. In a device of the class described, springs adapted to bear against opposite sides of a railroad rail structure, and means for adjusting the tension of the springs.

2. In a device of the class described, springs adapted to bear against opposite sides of a railroad rail structure; and step-by-step mechanism for adjusting the tension of the springs.

3. In a device of the class described, springs adapted to bear against opposite sides of a railroad rail structure; and pawl and ratchet mechanism for adjusting the tension of the springs.

4. In a device of the class described, a rotatable member including a shaft and a ratchet fixed upon the shaft; a rail engaging spring secured radially upon the rotatable member; and a pawl to engage the ratchet.

5. In a device of the class described, tie plates provided with upstanding ears; a rotatable member including a shaft journaled in the ears and shaft carried ratchets engageable by the ears to prevent a longitudinal sliding of the shaft; plate carried pawls to engage the ratchets; and a rail engaging spring secured radially upon the rotatable member.

978,799. AURIN DYE. MAX WEILER, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Apr. 27, 1910. Serial No. 557,950.

1. The herein described new dyestuffs obtainable from methylene oxycarboxylic acids and phenols in which the para position to the hydroxyl group is substituted, which dyestuffs are dark powders soluble in dilute caustic soda lye generally with a red color, dyeing wool from acid baths generally from red to violet shades, which can be chromed after dyeing, substantially as described.

2. The herein described new dyestuff obtainable from methylene-di-ortho-cresotinic acid and para-cresol, which is a reddish-brown powder soluble in caustic soda lye with a red color, dyeing wool red shades, which turn intense blue-violet on chroming, substantially as described.

978,800. AURIN DYESTUFF. MAX WEILER, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Apr. 26, 1910. Serial No. 557,718.

1. The herein described dyestuffs obtainable from methylene-oxycarboxylic acids and phenols in which the para position to the hydroxyl group is unoccupied which dyestuffs are dark powders soluble in dilute caustic soda lye generally with a red color, dyeing wool from acid baths generally from red to violet shades, which can be chromed after dyeing, substantially as described.

2. The herein described new dyestuff obtainable from methylene-di-ortho-cresotinic acid and 2.6-dichlorophenol, which is a reddish-brown powder soluble in dilute caustic soda lye with a red color, dyeing wool scarlet-red shades, which turn intense red on chroming, substantially as described.

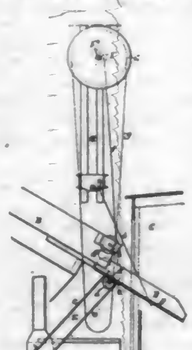
978,801. AURIN DYE. MAX WEILER, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Original application filed Apr. 27, 1910, Serial No. 557,950. Divided and this application filed Aug. 12, 1910. Serial No. 576,836.

The herein described new dyestuff obtainable from methylene-di-ortho-cresotinic acid and 2-naphthol-3.6-disulfonic acid which is a dark red powder soluble in water with an orange-red color, in caustic soda lye with a violet color, dyeing wool blue shades after chroming, substantially as described.

978,802. AURIN DYE. MAX WEILER, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Original application filed Apr. 27, 1910, Serial No. 557,950. Divided and this application filed Aug. 12, 1910. Serial No. 576,837.

The herein described new dyestuff obtainable from methylene-di-ortho-cresotinic acid and para-cresotinic acid which is a red powder soluble in caustic soda lye with a red-violet color, dying wool violet shades after chroming, substantially as described.

978,803. ADJUSTABLE CHUTE FOR CAR-LOADERS. RICHARD W. WETHERILL, Ambler, Pa., assignor to The J. M. Dodge Company, Naugatuck, Conn., a Corporation of Connecticut. Filed June 7, 1909. Serial No. 500,645.

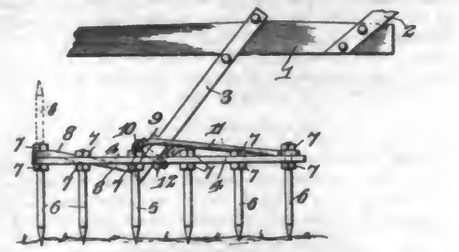


The combination of a supporting structure, a fixed chute, a movable chute, a cord connecting a fixed point on the supporting structure with a fixed point on the movable chute, a fixed guide, a roller on the movable chute and operable on the guide, and a rope connected to the rear of the movable chute for controlling the projection and retraction of the same.

978,804. HARROW. ROBERT DAVID WHITT, McNeil, Ark. Filed Apr. 12, 1910. Serial No. 555,041.

1. The combination of a V-shaped harrow frame, a V-shaped brace having its ends secured to the said frame and its apex provided with means for securing the same to a plow stock, and a rigid connection between the apex of the frame and the said plow stock.

2. In a harrow, the combination of a V-shaped frame, and a V-shaped brace secured to the rear ends of the said frame and having its central portion adapted to be secured to a plow stock.

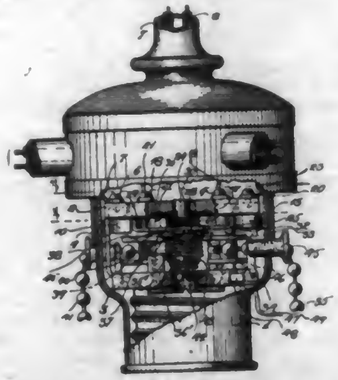


3. In a harrow, the combination of a V-shaped frame, a connecting plate secured to the front point of the said frame and extending rearwardly therefrom and having its rear end formed into a lip adapted to bear against the front side of a plow stock, and a V-shaped brace secured to the rear ends of the frame and having its central portion extending across and lying against the said lip whereby the said brace and lip may be secured to a plow stock.

4. In a harrow, the combination of a V-shaped frame, a V-shaped brace secured to the rear ends of the said frame and having its central portion adapted to be secured to a plow stock, and a connection between the apex of the brace and the apex of the frame.

5. The combination of the harrow frame, a V-shaped brace having its ends secured to the said frame and its apex provided with means for securing the same to a plow stock, the apex of the brace being spaced from the front end of the frame, and a rigid connection between the said frame and the apex of the said brace, said connection being attached also to the plow stock.

978,805. SWITCH MECHANISM. CHARLES D. WIEMER, Los Angeles, Cal. Filed May 9, 1910. Serial No. 560,372.



1. A switch mechanism comprising a plurality of stationary contacts, a movable contact, means to move said movable contact in engagement with said stationary contacts, means to hold movable contact in engagement with said stationary contacts, and a means to disengage said moving means and said holding means from said movable contact to leave said movable contact free to return to normal position and out of engagement with said stationary contacts.

2. A switch mechanism comprising a plurality of stationary contacts, a movable spring-controlled contact normally out of engagement with said stationary contacts, means to move said movable contact in successive engagement with one or all of said stationary contacts, means to hold said movable contact in such engagement, and a means to move said moving means and said holding means out of the path of said movable contact to cause said movable contact to return to normal position.

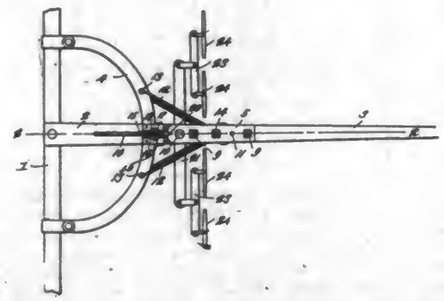
3. A switch mechanism comprising a plurality of stationary contacts adapted to receive the wires for a series or a plurality of series of lamps, an arbor, a contact movable on said arbor, a spring to normally hold said movable contact out of engagement with said stationary contacts, means to move said movable contact in engagement with one or all of said stationary contacts, a stop to hold said movable contact in engagement with said stationary contacts, and means to control said stop to cause a disengagement of said movable contact with one or all of said stationary contacts.

4. A switch mechanism comprising a plurality of stationary contacts arranged to receive the wires for a series or a plurality of series of lamps, an arbor, a spring controlled movable contact on said arbor provided with a ratchet face, a pawl to engage said ratchet face and move said movable contact in successive engagement with one or all of said stationary contacts, a stop to hold said movable contact against the tension of said spring, and a means to move both said pawl and stop out of engagement with said ratchet face to cause a disengagement of said movable contact with one or all of said stationary contacts.

5. In a switch mechanism, the combination with a plurality of spaced plates, and a plurality of stationary contacts to which the wires of a series or a plurality of series of lamps are arranged to be connected, of an arbor carried by said plates, a contact movable on said arbor, and in engagement with said stationary contacts, a spring to hold said movable contact normally out of engagement with said stationary contacts, a pawl to move said movable contact in engagement with one or all of said stationary contacts, a stop to prevent the return of said movable contact to normal position, and a means on said arbor and between said movable contact and pawl, to move said pawl and stop out of engagement with said movable contact to cause a disengagement thereof with one or all of said stationary contacts.

[Claims 6 to 8 not printed in the Gazette.]

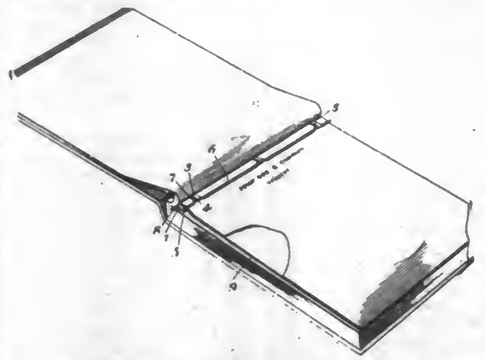
978,806. DRAFT POLE OR TONGUE. HANS ANDERSON, Malcolm, N. D. Filed Sept. 14, 1909. Serial No. 517,636.



A draft tongue comprising a fixed section, a bracing bow connected therewith, upper and lower wear plates upon the outer end of the fixed section, a bolt fastening the same thereto, a movable section, upper and lower wear plates upon said movable section projecting beyond the end of the same and overlapping the plates of the fixed section, said plates pivotally engaging said bolt, and the upper plate having a keeper recess formed therein, bolts engaging the plates with the movable section, one of said bolts having an adjustable engagement with said section, springs connecting said adjustable bolt with the bracing bow, spaced bracket plates upon the fixed section,

a cross pin between said plates, and a locking device pivotally mounted upon said pin between said plates and having an angularly bent end to interlock with said keeper recess.

978,807. CARBON-SHEET HOLDER. CHARLES EDWARD ARCHBALD, New Brunswick, N. J. Filed July 2, 1909. Serial No. 505,711.



1. A carbon sheet holder comprising a base-plate formed with a longitudinally extending bead, brackets secured at one end to the base-plate and extending forwardly nearly to the bead, the forward ends of said brackets being spaced from the upper face of the base-plate, and a clamping rod having cranks journaled in said brackets above the bead, but between the latter and the attached ends of the brackets.

2. A carbon sheet holder comprising a base plate formed with a bead, brackets secured at one end to said base plate and extending from their secured ends toward the bead, the brackets being off-set from the upper face of the base plate for a portion of their length, such off-set portions extending substantially parallel to the upper face of the base plate, and a clamping rod formed with crank portions journaled in the free ends of the brackets and mounted to swing therein past a line drawn perpendicularly from the base plate through said axis to an operative position in engagement with the bead.

978,808. ELECTRIC CIRCULATION WATER-HEATER. JAMES I. AYER, Cambridge, Mass., assignor to Simplex Electric Heating Company, Boston, Mass., a Corporation of Massachusetts. Filed July 7, 1908. Serial No. 442,310.

1. A circulation water heater, comprising means providing a tubular circulation course for the continuous flow of the water to be heated, a heating section and means, including a water pipe, a transverse check plate at the end of said pipe and of said heating section having a small orifice smaller than the cross section of said pipe, for producing a slow flow of the water at said heating section, of less speed than would otherwise be natural to the circulation course.

2. A circulation water heater, comprising means providing a tubular closed-circuit circulation course for the continuous repeated flow of the water to be heated, including a heating section presenting an extended heating area with which the water must come in direct contact as it flows through its course, means at the heater, including a water pipe, a transverse check plate at the end of said pipe and of said heating section having a small orifice smaller than the cross section of said pipe for retarding the water in contact with said heating area, and heating resistance mounted on said section for conducting electric current to maintain said extended area heated.

3. A circulation water heater, having at its opposite ends means for receiving a water supply pipe and wate

discharge pipe respectively, and provided intermediate said ends with a tubular passage for containing the water to be heated, and a choked passage at the outlet end smaller than the discharge pipe and than said tubular passage for retarding the escape of said water from said tubular passage and increasing the interval the water is retained in said tubular passage, and electric heating means surrounding said tubular passage for heating water therein.



4. A circulation water heater, comprising means providing a tubular circulation course for the continuous flow of the water to be heated, including a heating section, containing electric heating means, and means for retaining the water in a comparatively sluggishly flowing condition within said section, including means at the inlet end of the section for retarding the passage of water thereat in either direction, and means at the outlet end of the section for retarding the outward escape of the heated water from said section at a less speed than the otherwise natural flow of the water in its course beyond said section.

5. A circulation water heater, comprising circulation piping, a tube interposed therein, electric resistance medium mounted about said tube for heating the latter, divided into a plurality of sections, switching means for directing the current through a part or through all of said sections as desired, and retarding means independent of said tube and of said piping coöperating with said tube and said heating means for maintaining a slow continuous circulation of water through said tube when the current is turned on, at less speed than would otherwise be natural through said tube and the rest of said circulation piping.

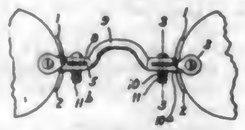
[Claims 6 to 11 not printed in the Gazette.]

978,809. EYEGLASS-MOUNTING. GUSTAV A. BADER, Rochester, N. Y. Filed June 26, 1909. Serial No. 504,567.



An eye-glass mounting comprising a body provided with means for the attachment of a lens and having a transverse recess in its inner surface, a bow of which the end is seated in said recess, a nose-grip having a shank seated upon the inner surface of said body at right angles with the end of the bow, a cap fitting over and embracing said body and the ends of the bow and the nose-grip shank and having openings in its opposite sides to receive the bow and said shank and support them on each side of the cap, and a screw passing through the cap and into the body to secure the parts together.

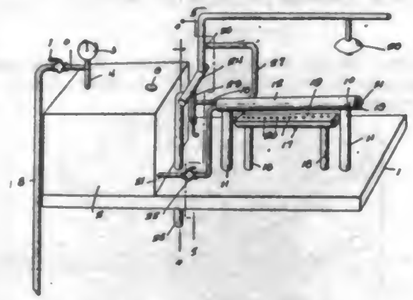
978,810. EYEGLASSES. GUSTAV A. BADER, Rochester, N. Y. Filed Aug. 4, 1909. Serial No. 511,242.



1. A mounting for eyeglasses comprising a lens support, parallel separated members carrying the lens support and having alined perforations, a perforated nose-guard lever lying between said members, a pivot pin passing loosely through the perforations in said members and said lever and having a shoulder adjacent to the lever, and means engaging the lever and operating to hold it in locking engagement with the shoulder on the pivot pin to prevent longitudinal displacement of the pivot pin.

2. A mounting for eyeglasses comprising a lens support, parallel separated members carrying the lens support and having alining perforations, a perforated nose-guard lever lying between said members, a pivot pin passing loosely through the perforations in said members and said lever and having a shoulder adjacent to the lever, and a spring engaging the lever and operating both to swing the lever on the pivot pin and to hold the lever in position to engage the shoulder on the pin, so as to prevent longitudinal displacement of the pin.

978,811. HYDROCARBON LIGHTING SYSTEM. JOHN W. BAKER, Ellsworth, Kans. Filed Apr. 23, 1910. Serial No. 557,257.

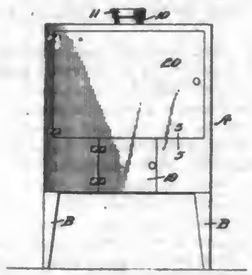


1. In a hydrocarbon lighting system, the combination of a tank for storage of hydrocarbon and air under pressure, a vaporizing burner, a vaporizer comprising a shell and a vaporizing tube extending longitudinally therein and having inlet and exit branches in communication at one end and opening at their opposite ends through one end of the shell, a valved hydrocarbon feed pipe leading from the tank to the inlet branch of the tube, a mixing chamber, an air supply pipe leading thereto, a gas conducting pipe leading from the mixing chamber, a valved vapor feed pipe connecting the mixing chamber with the exit branch of the vaporizing tube, and a gas feed connection leading from said gas conducting pipe to the vaporizing burner.

2. In a hydrocarbon lighting system, a vaporizing device, a vaporizing burner arranged below said vaporizing device and having jet nozzles in its upper wall, and a starting pan inclosing said burner and having a top wall provided with apertures registering with said jet nozzles.

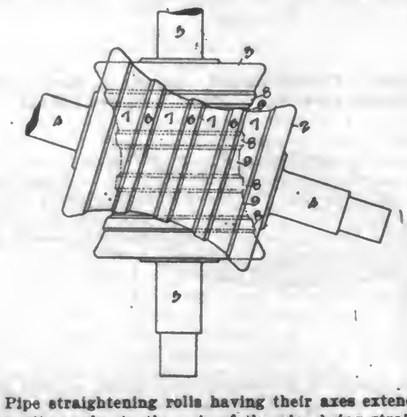
3. In a hydrocarbon lighting system, a vaporizing device comprising a shell having an opening at one end thereof, a vaporizing tube having parallel inlet and exit portions disposed longitudinally within the shell, said portions extending at one end through one end of the shell and having their opposite ends connected by a return portion formed with an opening in line with the said opening in the shell, and a removable closure for said opening.

978,812. SEED-GERMINATOR. EBENEZER B. BALCOM, Milwaukee, Wis., and GEORGE P. BALCOM, Houghton, Mich. Filed Mar. 23, 1910. Serial No. 551,052.



In a device of the character described, a casing having side walls and a top, each composed of an outer sheathing, an inner metallic lining and an intermediate layer of non-conducting material, a horizontal partition consisting of a water tray, cleats upon the inner faces of the side walls above said compartment, seed receptacles supported upon said cleats, said receptacles having apertures surrounded by upstanding flanges, and a heater supported in the compartment below the water tray, the side walls of the casing below said water tray being provided with apertures.

978,813. PIPE-STRAIGHTENING ROLLS. WILLIAM BARR, Elyria, Ohio, assignor to National Tube Company, Pittsburg, Pa., a Corporation of New Jersey. Filed July 31, 1908. Serial No. 446,283.



1. Pipe straightening rolls having their axes extending at opposite angles to the axis of the pipe being straightened, each roll having a plurality of concentric collars forming separated points of contact with the pipe, the points of contact on one roll being opposite the space between the collars on the opposing roll; substantially as described.

2. Pipe straightening rolls having their axes extending at opposite angles to the pipe being straightened and having alternate peripheral projections and depressions in the faces thereof, the projections being arranged to contact with the pipe at points intersecting a spiral line on the surface of the pipe, and the points on one roll contacting with the pipe being straightened being opposite depressions on the surface of the opposing roll; substantially as described.

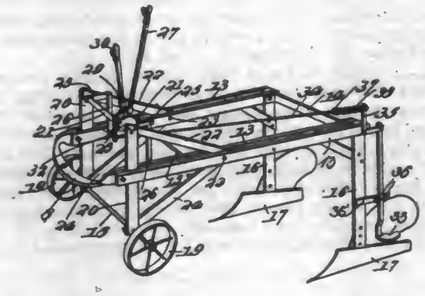
978,814. PROCESS OF EMBALMING. CARL L. BARNES, Chicago, Ill. Filed June 11, 1908. Serial No. 437,810.

1. The process of embalming without cutting or mutilation of the body, consisting in filling only the larger cavities of the body with a solution of formaldehyde, placing the same in an air tight receptacle in the presence of formaldehyde and allowing the body to remain therein until the formaldehyde has thoroughly permeated the body.

2. The process of embalming without cutting or mutilation of the body, consisting in filling only the larger cavities of the body with a solution of formaldehyde, inclosing the body in wrappers saturated with a solution of formaldehyde, and retaining the body thus prepared in an air tight receptacle until thoroughly impregnated with formaldehyde.

3. The process of embalming consisting in filling the larger cavities of the body with an alcoholic solution of formaldehyde, inclosing the body in wrappers saturated with an alcoholic solution of formaldehyde and retaining the body thus prepared in an air tight receptacle until thoroughly impregnated with formaldehyde.

978,815. PLOW. FRANK M. BEYDLER, Ashland, Kans. Filed Dec. 17, 1909. Serial No. 533,566.



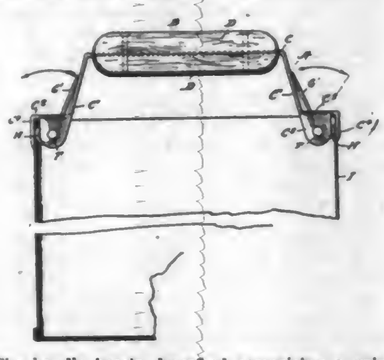
1. A plow comprising a draft beam, a gang frame pivotally connected thereto for vertical and horizontal movement and comprising an axle, a pair of supporting wheels mounted thereon, standards projecting upwardly from said axle, bracing mechanism secured to the standards, plow beams fulcrumed intermediately of their ends upon said bracing means, plows upon the beams, adjustable means for supporting the plows in elevated position and means for raising and lowering the beams at one end.

2. A plow comprising a draft beam, gang frames pivotally connected thereto and composed of a pair of supporting wheels, standards extending therefrom, bracing devices connected to the standards, parallel plow beams fulcrumed upon the bracing devices, means carried by the standards for raising and lowering the forward ends of the beams, means for flexibly supporting the plow beams in raised position, a segmental rack carried by the beam adjusting means, and a lever for adjusting said supporting mechanism which engages said rack.

3. A plow comprising a draft beam, a gang frame pivotally connected thereto and composed of supporting wheels, standards extending upwardly therefrom, braces connected at one end to opposite ends of said standards and pivotally connected together at their other ends, plow beams fulcrumed intermediately of their ends to the pivots which connect said braces and each composed of two parallel bars, said braces being arranged between the members of said beams, the front end of said beams

being slidably engaged with said standards, plows depending from the rear ends of said beams, means for supporting said beams in raised position, and means for holding said supporting means in adjusted position.

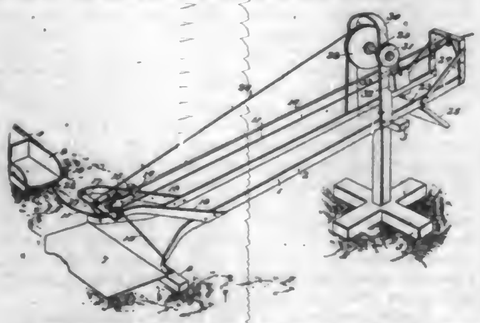
978,816. HANDLE. ERNEST CROSLEY BLACKBURN and JOSEPH MICHAL, Jr., Goldfield, Nev., assignors of one-fourth to William D. Murray, Goldfield, Nev. Filed Mar. 24, 1910. Serial No. 551,263.



1. The handle herein described comprising a grip portion, downwardly projecting outwardly inclined arms at the ends of the grip portion, clamp boxes at the ends of said arms, and having top plates, depending fixed jaws and bearing lugs, the top plates and arms having openings and levers pivoted in the bearing lugs and having cams opposing the fixed jaws the levers also having handle arms operating in the openings of the top plates and inclined arms all substantially as set forth.

2. A handle having a body portion or grip and provided at the ends thereof with downwardly projecting outwardly inclined arms having their ends provided with clamp boxes having the top plates, the outer depending side or jaw plates and the bearing plates or lugs and levers pivoted to said bearing plates or lugs and extending thence upwardly above the top plates of the clamp boxes and having beyond their pivots up-turned portions forming cam-like jaws opposing the fixed jaws of the handle, all substantially as and for the purposes set forth.

978,817. LOADING AND DUMPING APPARATUS. GEORGE W. BOLDREY and GEORGE R. HUSSUNG, Aurora, Ind. Filed Dec. 10, 1909. Serial No. 532,378.



1. A loading and dumping apparatus, comprising a runway, a carriage supporting track mounted in an elevated position above the run-way, a carriage mounted to run on the said track and suspended therefrom, the track being provided with a keeper, a latch secured to the carriage and provided with an arm adapted to engage the keeper and hold the carriage in one position, a scraper, a cable connected to said scraper and adapted to run through the latch and a lug movable with the cable and scraper and adapted to strike the lower arm of the latch whereby to release the same from the keeper.

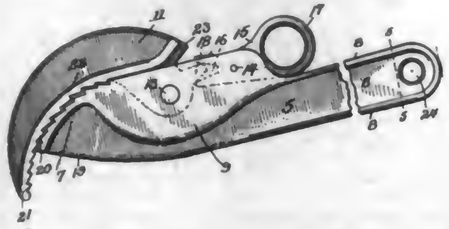
2. A loading and dumping apparatus, comprising a run-way, a carriage supporting rod mounted in an elevated position above the run-way, a carriage suspended from and mounted to run along the rod, the rod being provided at one end with an abutment against which the carriage is adapted to rest in one position of the carriage, the abutment being formed with a forwardly facing shoulder, a bell crank latch carried by the carriage, the upper end of said latch being designed to engage the shoulder of said abutment, and a cable having a running connection with the latch, and a scraper provided with a bail secured to said cable and with a releasing lug adapted to contact with the latch and release the same from the shoulder.

3. A loading and dumping apparatus comprising a run-way, a track mounted in an elevated position above the run-way, a carriage adapted to move on said track and suspended therefrom, a scraper, a cable having a running connection with the carriage, and operatively connected to said scraper to draw the same and the carriage along the track, a returning cable connected to the carriage, a pulley at one end of the run-way and around which said returning cable extends and a counterweight operatively connected to said cable for the purpose specified.

4. A loading and dumping apparatus comprising a run-way, a track mounted in an elevated position above the run-way, a carriage suspended from and movable along the track, a scraper adadpted to move along the run-way, a cable connected to said scraper and having a running connection with the carriage, a returning cable connected to the carriage, a pulley mounted at one end of the run-way and around which the returning cable extends, a wheel on which the returning cable is adapted to wind, a shaft to which said wheel is secured, a frame supporting said shaft, a pulley connected to said shaft and a weighted rope adapted to wind on said last named pulley as and for the purpose set forth.

5. A loading apparatus, comprising a run-way, a carriage supporting track mounted in an elevated position above the run-way, a carriage mounted to run on said track and suspended therefrom, a scraper, a cable connected to the scraper and having a running connection with the carriage, means for holding the carriage at one end of the track, and means for automatically releasing the carriage from the holding means upon the arrival of the scraper at the carriage.

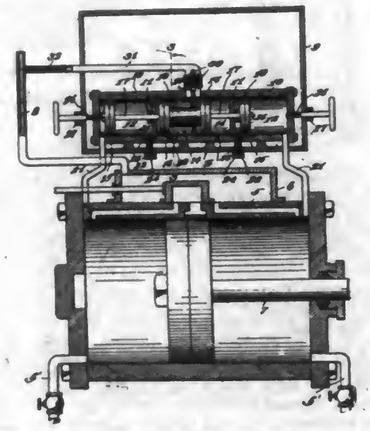
978,818. PIPE-WRENCH. ROBERT A. BOWEN, Colfax, Wash. Filed July 5, 1910. Serial No. 570,416.



1. A wrench including a shank having one end thereof curved laterally and provided with a stationary jaw having a serrated face and its other end reduced to form a handle having oppositely disposed strengthening ribs, there being an opening formed in the handle between said ribs, and an enlargement formed on the shank between the opening and stationary jaw and provided with a socket, a movable jaw having an extension pivotally mounted in said socket and provided with a lug, a lever pivotally mounted in the socket and having one end thereof bifurcated to receive the lug and its other end extending longitudinally beyond the enlargement and formed with a finger loop, and oppositely disposed ribs formed on the movable jaw, and each having one end thereof bent laterally to form a stop shoulder adapted to engage the enlargement for limiting the tilting movement of the movable jaw, there being serrations formed on the face of said movable jaw and inclined in a direction opposite the serrations on the stationary jaw.

2. A wrench including a shank having one end thereof provided with a stationary jaw and its other end reduced to form a handle, an enlargement formed on the shank and provided with a socket, a movable jaw having an extension pivotally mounted in said socket and provided with a lug, a lever pivotally mounted in the socket and having one end thereof bifurcated to receive the lug and its other end extending longitudinally beyond the enlargement and formed with a finger loop, and oppositely disposed ribs formed on the movable jaw and each having one end thereof bent laterally to form a stop shoulder adapted to engage the enlargement for limiting the tilting movement of the movable jaw.

978,819. LUBRICATOR. CARL ROBERTS BRIGGS, Ravenna, Ohio. Filed Oct. 28, 1909. Serial No. 525,082.



1. In a steam actuated lubricating pump, the combination of a cylinder having a plurality of steam chambers and fluid chambers, said cylinder being supported within a reservoir adapted to contain a lubricating fluid, a piston disposed in each of said chambers, said pistons having simultaneous reciprocatory movement in a common direction, means for alternately admitting steam to said steam chambers, means disposed in the opposite ends of said cylinder for regulating the length of stroke of the pistons, discharge pipes communicating with the fluid chambers, each of said pipes having a check valve interposed therein and adapted to alternately receive the fluid from said chambers upon the reciprocatory movement of said pistons, means extending through the bottom of said reservoir and the cylinder wall adapted to admit air to the steam chambers to cushion the pistons therein at the ends of their strokes, the steam in said steam chambers being adapted to retain the lubricating fluid at the proper consistency, and means disposed within said discharge pipes to provide a heated passage for the fluid.

2. In a steam actuated lubricating pump, the combination of a cylinder having a steam chamber in its opposite ends, a head arranged centrally in the cylinder dividing the intermediate portion thereof into two separated fluid containing chambers, said cylinder being mounted within a reservoir adapted to contain the lubricating fluid, inlet openings to said fluid chambers, a piston disposed in each of the steam and fluid chambers, said pistons having simultaneous reciprocatory movement, supply pipes communicating with the outer ends of the steam chambers adapted to supply steam alternately thereto, the steam in said chambers being adapted to heat the cylinder and retain the lubricating fluid at a uniform consistency, discharge pipes extending through the wall of the cylinder and communicating with said chambers on opposite sides of the central head arranged therein, the reciprocatory movement of the pistons being adapted to alternately force the lubricating fluid into said pipes, means disposed through said reservoir and the ends of the cylinder to regulate the length of stroke of the pistons and determine the amount of lubricating fluid discharged, said discharge pipes being connected at their outer ends to form a single conducting pipe extending laterally through said reservoir, a steam supply pipe for said cylinder, said conducting pipe being connected thereto, and a tube disposed concentrically within the conducting pipe exteriorly of the reservoir, the end of said tube extending into said steam pipe, the steam therefrom entering the conducting pipe and circulating around the tube to heat the same and maintain the lubricant in a fluid state.

3. The combination with an engine cylinder and steam chest, said chest having a steam supply pipe communicating therewith, of a reservoir supported above said cylinder, a pump cylinder arranged in said reservoir, a plurality of reciprocating pistons in said cylinder, said cylinder having steam chambers in its opposite ends, the intermediate portion of the cylinder being adapted to receive the lubricating fluid contained in said reservoir, the pistons within said cylinder having simultaneous reciprocatory movement, steam supply pipes communicating with the steam chambers and with the engine cylinder, said pipes being adapted to receive the steam from said cylinder upon the reciprocation of the engine piston and to alternately discharge the same into said steam chambers, a discharge pipe communicating with the fluid chamber, a check valve interposed in said pipe, said pipe extending exteriorly of the reservoir and communicating at its outer end with the steam supply pipe of the steam chest, and means disposed within the exterior portion of said pipe to provide a passage for the lubricating fluid and receive a portion of the steam from said pipe to maintain the lubricant in a fluid state.

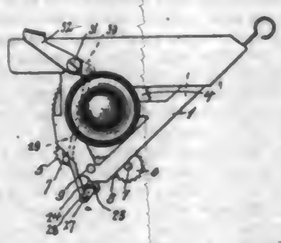
4. The combination with an engine cylinder and valve chest, and a supply pipe communicating with said chest, of a reservoir supported above said cylinder, a pump cylinder arranged within said reservoir, said cylinder having steam chambers in its opposite ends, the intermediate portion of said cylinder having a plurality of fluid chambers formed therein, each provided with an inlet opening to receive the lubricating fluid contained within the reservoir, steam supply pipes communicating with the outer ends of the steam chambers and with the engine cylinder, said pipes being adapted to convey the steam from the engine cylinder and alternately discharge the same into said chambers, a piston disposed in each of said chambers, said pistons being connected for simultaneous reciprocatory movement, means for regulating the length of stroke of the pistons, a discharge pipe communicating with each fluid chamber of said cylinder and adapted to alternately receive the lubricating fluid upon the reciprocation of said pistons, a check valve interposed in each of said pipes, said pipes communicating at their outer ends with a laterally extending conducting pipe, said pipe extending exteriorly of the reservoir and communicating with the steam supply pipe of the valve chest, a tube concentrically arranged in the exterior portion of said pipe adapted to provide a contracted passage for the lubricant, the steam from the supply pipe extending into the conducting pipe about said tube to maintain the lubricant in a fluid state.

5. The combination with an engine cylinder and valve chest, and a steam supply pipe communicating with said valve chest, of a reservoir supported above the cylinder, a pump cylinder arranged within said reservoir, said cylinder having steam chambers in its opposite ends, pipes connecting said steam chambers with the engine cylinder and adapted to alternately discharge steam from said cylinder into said chambers, pistons disposed in said steam chambers, a central head secured in said cylinder dividing the intermediate portion thereof into two fluid chambers,

pistons disposed in each of said chambers, rigid connections between each of said pistons, each of said fluid chambers having an inlet opening through the wall thereof to receive the fluid contained within said reservoir, an air valve disposed through the bottom of the reservoir and through the cylinder wall at the inner end of each of the steam chambers, said valves being adapted to regulate the air supplied to said steam chambers and to exhaust the same therefrom whereby an air cushion is provided for the stroke of said pistons, a discharge pipe communicating with the fluid chambers adjacent to the central head, the outer ends of said pipes being connected to a laterally positioned conveying pipe, means for regulating the stroke of said pistons to determine the quantity of fluid discharged, said conducting pipe extending exteriorly of the reservoir and communicating with the steam supply pipe of the valve chest, said conveying pipe having a contracted passage therein extending into the steam pipe, the steam from said latter pipe circulating about said passage whereby the lubricant will be maintained in a fluid state.

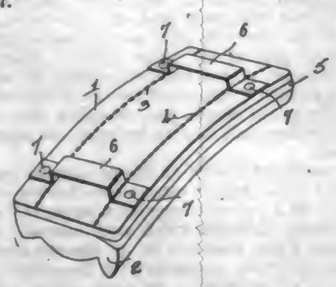
[Claims 6 to 8 not printed in the Gazette.]

978,820. FEED-ROLLER ATTACHMENT FOR TYPEWRITERS. CLARENCE H. BROWN, Pittsburg, Pa. Filed Nov. 3, 1909. Serial No. 526,013.



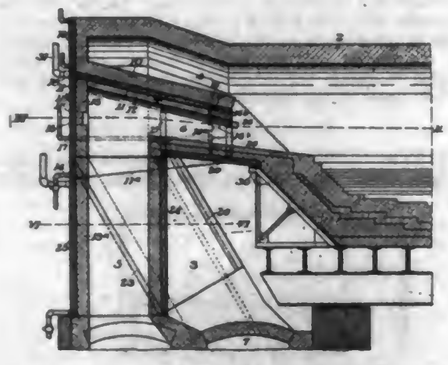
In a feed roller attachment for typewriting machines, the combination of a revoluble platen, feed rollers, a driven shaft for each of said rollers, each of said shafts having a bifurcated end, spring-controlled bearings engaging with each of said shafts for normally maintaining the rollers in engagement with the platen, means for shifting the bearings whereby the rollers are released from the platen, stub-shafts actuated from the platen and each having its inner end bifurcated, the furcations of the driven shafts being disposed at right angles with respect to the furcations of the stub-shafts, and hollow cylindrical sleeves extending over the bifurcated ends of the driven and stub shafts and provided with transversely-extending pins engaging in the furcations of said shafts whereby the shafts are universally connected together.

978,821. SHOULDER RESISTANCE-PAD. DANIEL F. BROWN, South Framingham, and WILLIAM E. CHENERY, Framingham, Mass. Filed June 11, 1910. Serial No. 566,347.



A shoulder resistance pad comprising a top piece or layer of tough, stiff, smooth, capable of being stitched wear-resisting material, a thick facing layer of soft, resilient, frictional, yielding material, a welting strip inserted along one edge between the two layers, whereby the pad is thickened at one edge, a plurality of longitudinal rows of stitching uniting said layers and causing the facing of the pad to present a plurality of longitudinal lines of frictional contact, and means for retaining a strap in place on the top surface.

978,822. REGENERATIVE REVERSING-FURNACE. LUTHER L. KNOX, Avalon, Pa., assignor to Keystone Furnace Construction Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 12, 1910. Serial No. 560,854.



1. In a regenerative reversing furnace, a removable port cooler comprising an upper portion lying within the arch which separates the gas and air ports, side portions which inclose the gas port, and an outer end portion which protects the outer end wall of the gas port and gas uptake, said cooler being tapered and having its lower portion at its outer lower corner, and said outer lower corner being provided with a clean-out connection; substantially as described.

2. In a furnace of the regenerative reversing type, a port cooler comprising an upper member arranged to extend within the arch separating the gas and air ports, said portions inclosing the sides of the gas port and of the upper portion of the gas uptake, and an end portion forming a cooler for the end wall of the upper portion of the uptake, said cooler having skew-backs which support a refractory lining for the upper wall of the gas port, and the cooler being of greater vertical depth at its outer end than at its inner end and having its lowest point at its lower outer corner; substantially as described.

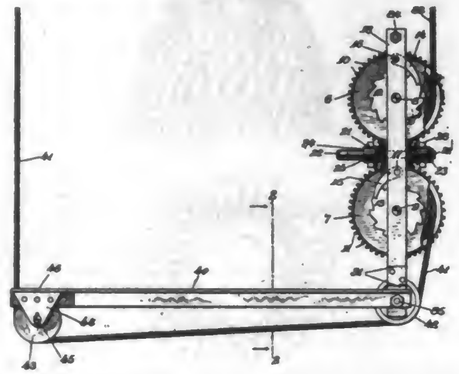
3. In a furnace, cooling means, a port cooler having a portion to extend within the arch between the gas and air ports, and also having portions arranged to extend downwardly at the sides of the gas port, a spray pipe located at the inner portion thereof and arranged to discharge against its inner end wall, and a plurality of supply pipes connected to said spray pipe and extending to the outer end of the cooler; substantially as described.

4. In a regenerative reversing furnace, a port cooler having a portion to extend within the arch between the gas and air ports, and side portions which inclose the gas port, of a spray pipe extending within said cooler near its inner end and arranged to discharge against the inner end wall thereof, said spray pipe extending downwardly within the side portions of the cooler, and connections for supplying water to the spray pipe; substantially as described.

5. In a regenerative reversing furnace, gas and air uptakes having separate refractory walls, and hollow cooling plates surrounding each of said uptakes on all sides thereof, the gas uptake extending centrally between the air uptakes, and the refractory walls of the gas and air uptakes being protected by the adjacent cooling plates of both the gas and air uptakes; substantially as described.

[Claims 6 to 14 not printed in the Gazette.]

978,823. SCAFFOLD-SUPPORT. EUGENE M. CAVANAGH and DANIEL F. CAVANAGH, Brooklyn, N. Y., assignors to New York Scaffolding Co., New York, N. Y., a Corporation of New York. Original application filed Aug. 3, 1908, Serial No. 446,540. Divided and this application filed Sept. 9, 1909. Serial No. 516,850.



1. In a scaffold-support, the combination of a horizontal platform supporting frame, having a pulley wheel located at one end thereof, a drum supporting frame located entirely at the other end of the platform supporting frame, and winding mechanism on said drum-frame.

2. In a scaffold-support, the combination of a horizontal platform supporting frame, a pulley wheel located at one end of the platform supporting frame, a drum supporting frame, located entirely at the opposite end of the platform supporting frame, separately rotatable drums mounted on said drum supporting frame, and means for rotating said drums together.

3. In a scaffold-support, the combination of a horizontal platform-supporting frame, and a vertically disposed drum supporting frame secured therewith, a pair of drums mounted one above the other in the drum supporting frame, means for rotating said drums, and means for guiding a rope to one of said drums.

978,824. MATRIX. MICHAEL A. DROITCOUR, Chicago, Ill., assignor to Miehle Printing Press & Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 9, 1909, Serial No. 488,804. Renewed May 12, 1910. Serial No. 560,984.



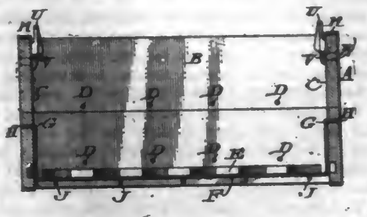
1. A papier mâché matrix blank, comprising a backing of suitable material and a facing composed of a plurality of sheets of tissue paper attached to each other and to the backing by a paste containing silicate of soda whereby the facing is adapted to retain and preserve fine lines and points in the intaglio impression in said facing made by the type surface, and repture of the facing is prevented.

2. A matrix for producing printing surfaces consisting of a backing of suitable material and a facing of tin foil secured to said backing by a paste containing silicate of soda.

3. A matrix for producing printing surfaces consisting of a backing formed of layers of suitable material united by paste, and a facing of tin foil secured to said backing by a paste containing silicate of soda.

4. A matrix for use in making printing surfaces, formed of layers of sheets united by paste containing silicate of soda, and a tin-foil facing united to said layers by paste containing silicate of soda.

978,825. BOTTLE-CARRYING CASE. HARRY A. PETERMAN and HERBERT C. PETERMAN, Philadelphia, Pa. Filed Jan. 13, 1910. Serial No. 537,841.

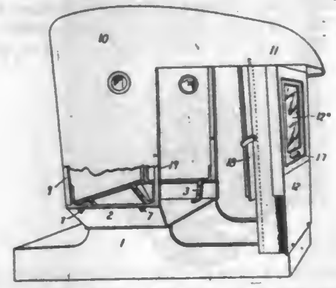


1. A bottle carrying case having a horizontally extending recess in a wall thereof, an upwardly projecting lip, a leg depending from said lip, a shank extending laterally from said leg, and a flange on the outer terminal of said shank, said shank being adapted to occupy said recess and said flange and leg adapted to clamp said shank in said recess to the opposite sides of said wall.

2. A bottle carrying case having horizontally extending kerfs in the walls thereof, bars having vertical portions extended upwardly and bearing against the inner faces of said walls with their upper ends terminating in horizontal outturned limbs fitted in said kerfs in said opposite walls, a false bottom composed of pieces of open work resting loosely upon said bars, and brace rods extending transversely of and beneath said bars and upon which the latter rest.

REISSUES.

13,183. STORM-TOP. WILLIAM A. HUNTER, Terre Haute, Ind., assignor to Fouts & Hunter Carriage Manufacturing Company, Terre Haute, Ind. Filed Jan. 23, 1908. Serial No. 412,280. Original No. 810,151, dated Jan. 16, 1906, Serial No. 252,950.



1. The combination with a vehicle body having a seat portion permanently carried thereby, a top carrying as one body therewith a shifting rail of substantially the same shape as the edge of the permanent seat portion and carrying also as one body therewith a depending front member, means for detachably connecting the shifting rail to the permanent seat portion, and means for detachably connecting the depending front to the body, and vertical roller curtains carried by the depending front and movable horizontally to close the side openings, substantially as described.

2. A storm top for vehicles comprising a top having depending sides and back and a forwardly extending hooded part, with means for detachably holding said top to the permanent seat of the vehicle body, a front member secured at its upper end to the top under the hooded part and depending therefrom with means for detachably connecting it at its lower end to the vehicle body, and means movably connected to a portion of said top for closing the side entrances thereof, said closing means consisting of spring roller curtains supported on said depending front

and movable horizontally, the said top with its depending front and curtains being removable as one body from the permanent seat and body of the vehicle, substantially as described.

3. A detachable storm top for vehicles, comprising an upper cover member with sides depending therefrom and detachably connected with the vehicle body, and having a forwardly projecting hooded portion, a depending front member having its upper end secured to the cover member beneath the hooded front end thereof, said depending sides, depending front and cover member leaving at the sides substantially rectangular unobstructed openings, a pair of spring rollers mounted upon said depending front at opposite sides thereof, and each carrying a flexible curtain adapted to bridge the substantially rectangular side entrance, and means at the free ends of the curtains for storm proof inter-engagement with the vertical rails of the depending side members, substantially as described.

4. The combination with a vehicle body, of a storm top and front carried thereby, spring actuated side curtains for the sides of said top and a V shaped strip carried at the edge of each curtain designed to receive the correspondingly shaped frame member, substantially as described.

5. In combination with a vehicle top having a post, a curtain to close the side opening, a vertically disposed roller for the said curtain, a channel member at the free edge of the curtain interlocking with the post on the top, said interlocking member having its channel facing rearwardly, to make a storm tight joint with the post along the vertical edge of the curtain, substantially as described.

6. In combination with a vehicle top, a depending front and vertically arranged rollers carried by the front and having curtains thereon, said curtains having each an elongated strip at its free edge interlocking by a tongue and channel joint with the vertical post of the top to make a storm tight joint, substantially as described.

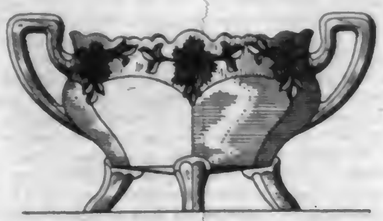
DESIGNS.

41,033. EMBLEM. HAROLD O. BIGNEY, Attleboro, Mass., assignor to Sidney O. Bigney, Attleboro, Mass. Filed Oct. 24, 1910. Serial No. 588,934. Term of patent 7 years.



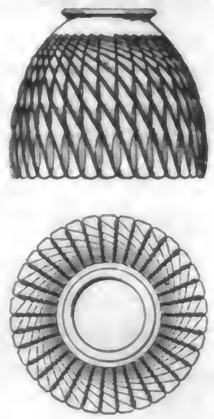
The ornamental design for an emblem, as shown.

41,034. SUGAR-BOWL. REUBEN HALEY, Beaver, Pa., assignor to Westmoreland Specialty Company, Grapeville, Pa., a Corporation of Pennsylvania. Filed Oct. 27, 1910. Serial No. 589,490. Term of patent 14 years.



The ornamental design for a sugar-bowl as shown.

41,035. LAMP-SHADE. HARRY A. SCHNELBACH, Crafton, Pa., assignor to Jefferson Glass Company, Follansbee, W. Va. Filed July 21, 1910. Serial No. 573,153. Term of patent 7 years.



The ornamental design for a lamp shade, as shown.

41,036. SHADE-ROLLER BRACKET. CHARLES S. KEBLE and ROBERT B. WAKELEY, Philadelphia, Pa. Filed May 19, 1910. Serial No. 562,343. Term of patent 7 years.



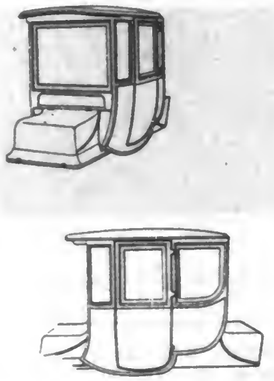
The ornamental design for a shade roller bracket, as shown.

41,037. PEDESTAL FOR LAVATORIES. JAMES H. DANVER, Beaver, Pa., assignor to United States Sanitary Manufacturing Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Oct. 15, 1910. Serial No. 587,352. Term of patent 14 years.



The ornamental design for a pedestal for lavatories as shown.

41,038. VEHICLE-BODY. CHARLES E. J. LANG and MICHAEL W. GAFFNEY, Cleveland, Ohio, assignors to The Rauch & Lang Carriage Company, Cleveland, Ohio, a Corporation of Ohio. Filed Oct. 15, 1910. Serial No. 587,327. Term of patent 7 years.



ıamental design for a vehicle body, as shown.

41,039. RUG. ADOLPH PETZOLD, Philadelphia, Pa., assignor to John H. Bromley and Edward Bromley, Copartners trading as John Bromley & Sons, Philadelphia, Pa. Filed Oct. 27, 1910. Serial No. 589,493. Term of patent 3½ years.



The ornamental design for a rug, as shown.

41,040. RUG. ADOLPH PETZOLD, Philadelphia, Pa., assignor to John H. Bromley and Edward Bromley, Copartners trading as John Bromley & Sons, Philadelphia, Pa. Filed Oct. 27, 1910. Serial No. 589,494. Term of patent 3½ years.



The ornamental design for a rug, as shown.

41,041. RUG. ADOLPH PETZOLD, Philadelphia, Pa., assignor to John H. Bromley and Edward Bromley, Copartners trading as John Bromley & Sons, Philadelphia, Pa. Filed Oct. 27, 1910. Serial No. 589,495. Term of patent 3½ years.



The ornamental design for a rug, as shown.

41,042. RUG. ADOLPH PETZOLD, Philadelphia, Pa., assignor to John H. Bromley and Edward Bromley, Copartners trading as John Bromley & Sons, Philadelphia, Pa. Filed Oct. 27, 1910. Serial No. 589,496. Term of patent 3½ years.



The ornamental design for a rug, as shown.

41,043. RUG. ADOLPH PETZOLD, Philadelphia, Pa., assignor to John H. Bromley and Edward Bromley, Copartners trading as John Bromley & Sons, Philadelphia, Pa. Filed Nov. 1, 1910. Serial No. 590,248. Term of patent 3½ years.



The ornamental design for a rug, as shown.

41,044. RUG. ADOLPH PETZOLD, Philadelphia, Pa., assignor to John H. Bromley and Edward Bromley, Copartners trading as John Bromley & Sons, Philadelphia, Pa. Filed Nov. 1, 1910. Serial No. 590,244. Term of patent 3½ years.



The ornamental design for a rug, as shown.

41,045. RUG. ADOLPH PETZOLD, Philadelphia, Pa., assignor to John H. Bromley and Edward Bromley, Copartners trading as John Bromley & Sons, Philadelphia, Pa. Filed Nov. 1, 1910. Serial No. 590,245. Term of patent 3½ years.



The ornamental design for a rug, as shown.

41,046. RUG. ADOLPH PETZOLD, Philadelphia, Pa., assignor to John H. Bromley and Edward Bromley, Copartners trading as John Bromley & Sons, Philadelphia, Pa. Filed Nov. 1, 1910. Serial No. 590,246. Term of patent 3½ years.



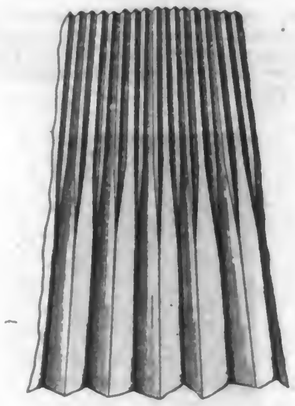
The ornamental design for a rug, as shown.

41,047. PLAITING. EMANUEL M. HACKER, New York, N. Y. Filed Mar. 18, 1910. Serial No. 550,283. Term of patent 14 years.



The ornamental design of plaiting substantially as shown.

41,048. PLAITING. EMANUEL M. HACKER, New York, N. Y. Filed Mar. 28, 1910. Serial No. 552,120. Term of patent 14 years.



The ornamental design of plaiting substantially as shown.

TRADE-MARKS

PUBLISHED DECEMBER 13, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

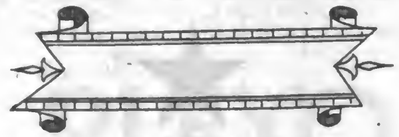
Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 18,872. (CLASS 17. TOBACCO PRODUCTS.) FRANK P. WELLER, Washington, D. C. Filed Apr. 17, 1906.



Particular description of goods.—Cigars.

Ser. No. 31,593. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) CARL JOST, Bombay, India. Filed Dec. 5, 1907.

RADIO

Particular description of goods.—Hot-Air Fans and Parts Thereof.

Ser. No. 37,419. (CLASS 12. CONSTRUCTION MATERIALS.) EMIL PFLEIDERER, Syracuse, N. Y. Filed Sept. 16, 1908.

C O 2

Particular description of goods.—Fire-Tiles Made of Fire-Clay Applicable Particularly for Lining Furnaces and for Fire-Arches, &c.

Ser. No. 43,019. (CLASS 41. CANES, PARASOLS, AND UMBRELLAS.) OTTO MÜLLER & Co., Goerlitz, Germany. Filed June 14, 1909.

Welt=

Particular description of goods.—Whole-Silk Umbrella-Covers.

Ser. No. 43,967. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) FERDINAND HERB, Superior, Wis. Filed Aug. 4, 1909.

F. H. R.

Particular description of goods.—Tooth-Powder.

Ser. No. 44,188. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) AUSTIN NICHOLS & Co., New York, N. Y. Filed Aug. 17, 1909.



Particular description of goods.—Canned Asparagus, Spinach, Tomatoes, Lobster, Sardines, and Cherries; Smoked Beef; Evaporated Apples; Almonds; Dates; Figs; Raisins; Dried Currants, Apricots, Blackberries, Cherries, Peaches, Pears, Plums, and Raspberries; Prunes; Flavoring Extracts; Curry-Powder; Mustard; Pepper; Tomato Catsup; Camembert-Style Cheese; Wheat-Flour; Prepared Flour; Prepared Buckwheat-Flour; Pancake-Flour; Rice-Flour; Barley; Farina; Hominy; Oatmeal; Samp; Tapioca; Cream Mints, and Blended Coffee.

Ser. No. 45,432. (CLASS 37. PAPER AND STATIONERY.) BERTHOLD KAUFMANN, Fuerth, Germany. Filed Oct. 20, 1909.

Stannyn

Particular description of goods.—Metal-Coated Paper.

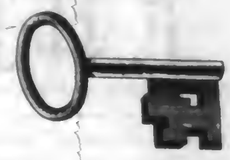
Ser. No. 45,615. (CLASS 15. OILS AND GREASES.) WADHAMS OIL COMPANY, Milwaukee, Wis. Filed Oct. 29, 1909. Used ten years.

Electric Light

Particular description of goods.—Illuminating-Oils.

Ser. No. 45,799. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE GREAT ATLANTIC AND PACIFIC TEA COMPANY, Jersey City, N. J. Filed Nov. 10, 1909.

Silver-Key



Particular description of goods.—Teas.

Ser. No. 46,643. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) NATIONAL ENAMELING & STAMPING CO., Baltimore, Md. Filed Dec. 21, 1909.

NESCO

Particular description of goods.—Cooking Utensils, Kitchen and Table Ware Made of Sheet Metal Whose Surfaces are Either Enameled, Tinned, Galvanized, or Uncoated.

Ser. No. 47,114. (CLASS 32. FURNITURE AND UPHOLSTERY.) THE E. M. HULSE COMPANY, Columbus, Ohio. Filed Jan. 14, 1910.

TRADE HULSCO MARK

Particular description of goods.—Davenport-Beds.

Ser. No. 47,235. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) RIGNEY & COMPANY, New York, N. Y. Filed Jan. 19, 1910.

R&C

Particular description of goods.—Bonbons and Lozenges.

Ser. No. 48,434. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE ROGERS COMPANY, Tacoma, Wash. Filed Mar. 16, 1910.

Auto Club

Particular description of goods.—Spices and Flavoring Compounds.

Ser. No. 49,130. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) JOHN MARION BRABINGTON, Bennettsville, S. C. Filed Apr. 16, 1910.



STAR

Particular description of goods.—Pea and Bean Threshers and Hullers.

Ser. No. 49,150. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE GALO MANUFACTURING COMPANY, Chicago, Ill. Filed Apr. 16, 1910.



Particular description of goods.—A Preserving Composition for Articles of Food.

Ser. No. 49,587. (CLASS 43. THREAD AND YARN.) GUDEBROD BROS. CO., New York, N. Y. Filed May 7, 1910.

MANDARIN

Particular description of goods.—Silk, Cotton, Mercerized, and Machine Sewing-Threads.

Ser. No. 49,951. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE IRVIN, JEWELL & VINSON COMPANY, Dayton, Ohio. Filed May 27, 1910.



Particular description of goods.—Mixed Paints.

Ser. No. 49,970. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) THE GOULDS MANUFACTURING COMPANY, Seneca Falls, N. Y. Filed May 27, 1910.

MISTRY

Particular description of goods.—Hose-Nozzles.

Ser. No. 50,163. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) GENERAL DRUG COMPANY, New York, N. Y. Filed June 7, 1910.

PLEXO

Particular description of goods.—Toilet Creams, Toilet Waters, and Hair-Tonics.

Ser. No. 50,277. (CLASS 39. CLOTHING.) CARSON, PIRIE, SCOTT & CO., Chicago, Ill. Filed June 13, 1910.

Violet

Particular description of goods.—Knit Underwear.

Ser. No. 50,347. (CLASS 3. BAGGAGE, HORSE EQUIPMENTS, PORTFOLIOS, AND POCKET-BOOKS.) THE SHREVEPORT SADDLERY CO., LTD., Shreveport, La. Filed June 17, 1910.

PELICAN BRAND

Particular description of goods.—Saddles, Riding-Bridles, Harness, and Horse-Collars.

Ser. No. 50,359. (CLASS 39. CLOTHING.) ALFRED DAY RICHEY, Chicago, Ill. Filed June 17, 1910.

COUNTESS

Particular description of goods.—Ladies' and Misses' Waists, Blouses, Overskirts, and Dresses and Children's Dresses.

Ser. No. 50,376. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) PHILADELPHIA QUARTZ COMPANY, Philadelphia, Pa. Filed June 17, 1910. Used ten years.

A

Particular description of goods.—Silicate of Soda.

Ser. No. 50,377. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) PHILADELPHIA QUARTZ COMPANY, Philadelphia, Pa. Filed June 17, 1910. Used ten years.

B

Particular description of goods.—Silicate of Soda.

Ser. No. 50,378. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) PHILADELPHIA QUARTZ COMPANY, Philadelphia, Pa. Filed June 17, 1910. Used ten years.

G

Particular description of goods.—Silicate of Soda.

Ser. No. 50,379. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) PHILADELPHIA QUARTZ COMPANY, Philadelphia, Pa. Filed June 17, 1910. Used ten years.

J

Particular description of goods.—Silicate of Soda.

Ser. No. 50,380. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) PHILADELPHIA QUARTZ COMPANY, Philadelphia, Pa. Filed June 17, 1910. Used ten years.

M

Particular description of goods.—Silicate of Soda.

Ser. No. 50,381. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) PHILADELPHIA QUARTZ COMPANY, Philadelphia, Pa. Filed June 17, 1910. Used ten years.

N

Particular description of goods.—Silicate of Soda.

Ser. No. 50,382. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) PHILADELPHIA QUARTZ COMPANY, Philadelphia, Pa. Filed June 17, 1910. Used ten years.

O

Particular description of goods.—Silicate of Soda.

Ser. No. 50,388. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) PHILADELPHIA QUARTZ COMPANY, Philadelphia, Pa. Filed June 17, 1910. Used ten years.

U

Particular description of goods.—Silicate of Soda.

Ser. No. 50,531. (CLASS 12. CONSTRUCTION MATERIALS.) AXEL W. NILSSON, New York, N. Y., assignor to Dreadnought Flooring Company, New York, N. Y., a Corporation of New York. Filed June 23, 1910.

DREADNOUGHT

Particular description of goods.—Interlocking Composition Floor-Tiling.

Ser. No. 50,543. (CLASS 48. MALT EXTRACTS AND LIQUORS.) ASHLAND BREWING CO., Ashland, Wis. Filed June 24, 1910.

R. A. Mollenhauer, with the letters "M. A. B." after same; Thomas B. Culver, with the abbreviation "Treas." after same.

Particular description of goods.—A Malt Tonic.

Ser. No. 50,807. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) GRINNELL WILLIS & CO., New York, N. Y. Filed July 12, 1910.

PATRIOT

Particular description of goods.—Cotton Piece Goods.

Ser. No. 50,819. (CLASS 10. FERTILIZERS.) THE HASBROT CANNERIES COMPANY, Cleveland, Ohio. Filed July 13, 1910.

HORSE HEAD

Particular description of goods.—Fertilizers.

Ser. No. 50,826. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE PETERS-PITKIN COMPANY, Benton Harbor, Mich. Filed July 13, 1910. Used ten years.

PREMIUM



Particular description of goods.—Paints, Varnish-Stain, Enamel, and Colors in Oil.

Ser. No. 50,859. (CLASS 17. TOBACCO PRODUCTS.) WM. B. RICKER & SON COMPANY, New York, N. Y. Filed July 16, 1910.

SIX-O-ONE

Particular description of goods.—Cigars.

Ser. No. 51,035. (CLASS 39. CLOTHING.) H. C. COHN & Co., Rochester, N. Y. Filed July 23, 1910.

SUPERBA

Particular description of goods.—Hosiery and Reefers.

Ser. No. 51,138. (CLASS 19. VEHICLES, NOT INCLUDING ENGINES.) JOHN W. BLACKLEDGE, Chicago, Ill. Filed July 29, 1910.

VELVET

The word "Velvet."

Particular description of goods.—Auxiliary Springs for Vehicles.

Ser. No. 51,189. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) E. A. WHITE LIMITED, Beltring, England. Filed July 30, 1910.

ABOL

Particular description of goods.—Insecticide for Insects and Mildew on Plants and Trees, &c.

Ser. No. 51,307. (CLASS 1. RAW OR PARTLY-PREPARED MATERIALS.) FLORENCE ANDERSON CLARK, Travis, Tex. Filed Aug. 8, 1910.



Particular description of goods.—A Preparation for Starting Fires Consisting of a Loose Mineral Substance Impregnated with Inflammable Material.

Ser. No. 51,312. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) MCFADDEN COFFEE & SPICE CO., Dubuque, Iowa. Filed Aug. 8, 1910.



Particular description of goods.—Blended Coffee.

Ser. No. 51,320. (CLASS 12. CONSTRUCTION MATERIALS.) THE NATIONAL ROOFING COMPANY, Tonawanda, N. Y. Filed Aug. 8, 1910.



Particular description of goods.—Mineralized and Smooth-Surface Asphalt-Roofing Fabrics, Roofing, Siding, and Sheathing Papers, Felts and Textile Fabrics, and Asphalt Cements.

Ser. No. 51,331. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) HEATON-PENINSULAR BUTTON FASTENER CO., Boston, Mass. Filed Aug. 9, 1910. Used ten years.

APEX

Particular description of goods.—Staple-Like Metallic Fasteners for Attaching Buttons to Boots and Shoes and for Securing Pieces of Clothing Together.

Ser. No. 51,418. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) LOUISE C. FINLAY, New York, N. Y. Filed Aug. 16, 1910.



Consisting of the portrait of Salvador Guardias, deceased, and a facsimile of his signature.

Particular description of goods.—An Ointment.

Ser. No. 51,419. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) LOUISE C. FINLAY, New York, N. Y. Filed Aug. 16, 1910.



In which appears a portrait erect of Salvador Guardias deceased.

Particular description of goods.—A Remedy for Disease of the Blood.

Ser. No. 51,562. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) LEXINGTON FLOURING MILLS, Lexington, Mo. Filed Aug. 26, 1910.



Particular description of goods.—Wheat-Flour.

Ser. No. 51,568. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) CHICAGO STOVE & RANGE Co., Chicago, Ill. Filed Aug. 26, 1910.

SOLAR

Particular description of goods.—Malleable Iron and Steel Ranges, Steel Ranges, Cast-Iron Ranges, Steel and Cast-Iron Ranges, Steel Cook-Stoves, Cast-Iron Cook-Stoves, Furnaces, Base-Heating and Base-Burning Stoves, Round-Body Stoves, Commonly Called "Oak-Stoves," Hot-Blast Stoves, Air-Tight Stoves, Laundry-Stoves, Kerosene-Oil Stoves and Heaters, Gasolene-Stoves, Gas-Stoves, and Gas-Heaters.

Ser. No. 51,733. (CLASS 38. PRINTS AND PUBLICATIONS.) DROVERS JOURNAL PUBLISHING Co., Chicago, Ill. Filed Sept. 9, 1910.

Chicago Daily Farmers and Drovers Journal

Particular description of goods.—Daily Newspapers.

Ser. No. 51,786. (CLASS 39. CLOTHING.) BURCH BAILEY & Co., New York, N. Y. Filed Sept. 13, 1910.

LINAIRE

Particular description of goods.—Shirt-Waists, Underskirts, Outer Skirts, Corset-Covers, Undershirts, Negligée Shirts, Drawers, Infants' Slips, Women's Outer Waists, Women's Negligée Gowns, and Aprons.

Ser. No. 51,797. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE FAIRBANKS COMPANY, Jersey City, N. J., and New York, N. Y. Filed Sept. 13, 1910.

VICTOR

F

Particular description of goods.—Two-Cycle Marine Gas-Engines.

Ser. No. 51,798. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE FAIRBANKS COMPANY, Jersey City, N. J., and New York, N. Y. Filed Sept. 13, 1910.

VICTOR

Particular description of goods.—Two-Cycle Marine Gas-Engines.

Ser. No. 51,820. (CLASS 17. TOBACCO PRODUCTS.) T. C. WILLIAMS COMPANY, Richmond, Va. Filed Sept. 14, 1910.

MERMAID

Particular description of goods.—Plug-Tobacco.

Ser. No. 51,837. (CLASS 39. CLOTHING.) HARRIS-LIPSITZ COMPANY, Dallas, Tex., and New York, N. Y. Filed Sept. 15, 1910.

PAYMASTER

Particular description of goods.—Men's and Boys' Overalls, Jumpers, Men's and Boys' Work-Shirts, and Men's and Boys' Work Coats and Trousers.

Ser. No. 51,875. (CLASS 39. CLOTHING.) BARMON BROTHERS, Buffalo, N. Y. Filed Sept. 19, 1910.

Electric

Particular description of goods.—Women's and Children's Dresses, Outer Waists, Outer Skirts, Wrappers, Kimonos, Dressing-Sacks, Outer Coats, and Outer Suits.

Ser. No. 51,892. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) KELLOGG TOASTED CORN FLAKE Co., Battle Creek, Mich. Filed Sept. 20, 1910.

Yours truly

Particular description of goods.—Cereal Breakfast Foods.

Ser. No. 51,896. (CLASS 37. PAPER AND STATIONERY.) BEEKMAN PAPER & CARD COMPANY, New York, N. Y. Filed Sept. 20, 1910.

FIFTY SIX

Particular description of goods.—Writing-Paper.

Ser. No. 51,915. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) ALPHONSE LENOBLE, AÎNÉ, Lisieux, France. Filed Sept. 22, 1910.
The picture being fanciful.



Particular description of goods.—Camembert Cheese.

Ser. No. 51,965. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) ARTHUR HAGEN, West Orange, N. J., and New York, N. Y. Filed Sept. 26, 1910.

PLATO

Particular description of goods.—A Solution of Silver to be Used for Plating and Replating, Polishing, and Cleaning Silverware, White Metal, Brass, Copper, and Nickel.

Ser. No. 51,974. (CLASS 17. TOBACCO PRODUCTS.) JULIUS C. NEWMAN, Cleveland, Ohio. Filed Sept. 26, 1910.

New Mission

Particular description of goods.—Cigars.

Ser. No. 52,007. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) EDWARD E. SCHELL, Wayne City, Ill. Filed Sept. 28, 1910.



Consisting of my portrait and a facsimile of my signature.

Particular description of goods.—A Veterinary Liniment.

Ser. No. 52,015. (CLASS 15. OILS AND GREASES.) OMAHA OIL COMPANY, Omaha, Nebr. Filed Sept. 29, 1910.

BOF BUL

Particular description of goods.—Kerosene, Gasolene, Lubricating-Oils, and Lubricants Containing Grease.

Ser. No. 52,050. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) FEDERAL SUGAR REFINING COMPANY, Yonkers and New York, N. Y. Filed Oct. 1, 1910.

FRUBERRY

Particular description of goods.—Granulated Sugar.

Ser. No. 52,095. (CLASS 37. PAPER AND STATIONERY.) MOUNTAIN MILL PAPER COMPANY, Lee, Mass. Filed Oct. 4, 1910.

SNOWDRIFT

Particular description of goods.—Writing-Paper.

Ser. No. 52,120. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) W. P. SQUIBB & Co., Lawrenceburg, Ind. Filed Oct. 5, 1910. Used ten years.

Gold Leaf

Particular description of goods.—Rye Whisky.

Ser. No. 52,147. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) DUNBARS, LOPEZ & DUKATE Co., New Orleans, La. Filed Oct. 6, 1910.

AIRIO

Particular description of goods.—A Compound of Cane and Corn Syrup.

Ser. No. 52,148. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) DUNBARS, LOPEZ & DUKATE Co., New Orleans, La. Filed Oct. 6, 1910.



Particular description of goods.—A Compound of Cane and Corn Syrup.

Ser. No. 52,149. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) DUNBARS, LOPEZ & DUKATE Co., New Orleans, La. Filed Oct. 6, 1910.

VESMAR

Particular description of goods.—A Compound of Corn-Syrup and Molasses.

Ser. No. 52,152. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) DUNBARS, LOPEZ & DUKATE CO., New Orleans, La. Filed Oct. 6, 1910.



Particular description of goods.—A Compound of Corn-Syrup and Molasses.

Ser. No. 52,160. (CLASS 47. WINES.) UNITED WINE & TRADING CO., New York, N. Y. Filed Oct. 7, 1910.



Particular description of goods.—Sherry and Port Wine.

Ser. No. 52,190. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) HUDSON CONDENSED MILK CO., New York, N. Y. Filed Oct. 10, 1910.



Particular description of goods.—Condensed Milk.

Ser. No. 52,199. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) GENERAL DRUG COMPANY, New York, N. Y. Filed Oct. 10, 1910.

PYRON

Particular description of goods.—Headache Remedies.

Ser. No. 52,221. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) FOSTER, CALDARERA & CO., Fort Smith, Ark. Filed Oct. 12, 1910.

ARKOMA

Particular description of goods.—A Compound of Corn-Syrup with Cane Flavor and Sorghum, and Sauer-Kraut.

Ser. No. 52,244. (CLASS 22. GAMES, TOYS, AND SPORTING GOODS.) HORACE A. WHITTEMORE, Boston, Mass. Filed Oct. 12, 1910.

HAWCO

Particular description of goods.—Hockey-Sticks and Fishing-Tackle, Consisting of Fish Hooks and Lines, Spoon Baits, Trout and Bass Flies, Reels, Rods, Swivels, and Sinkers.

Ser. No. 52,245. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE MARCY COMPANY, Boston, Mass. Filed Oct. 13, 1910.

URILITH

Particular description of goods.—Uric-Acid Solvent and Urinary Antiseptic.

Ser. No. 52,273. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WILLIAM C. BRATE, Albany, N. Y. Filed Oct. 15, 1910.

Uncle Billy's

Particular description of goods.—Tomato Catsup, Mustard, and Flavoring Extracts.

Ser. No. 52,283. (CLASS 15. OILS AND GREASES.) THE TEXAS COMPANY, Houston, Tex., and New York, N. Y. Filed Oct. 15, 1910.

"TEXENTINE"

Particular description of goods.—A Turpentine Substitute Consisting of Benzin.

Ser. No. 52,303. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) HARRY E. WILLIAMS, Westerville, Ohio. Filed Oct. 17, 1910.

LUXO

Particular description of goods.—Silver-Polish.

Ser. No. 52,363. (CLASS 1. RAW OR PARTLY-PREPARED MATERIALS.) THE ANDERSON-SHAFFER COMPANY, Hamilton, Ohio. Filed Oct. 21, 1910.

INVINCIBLE

Particular description of goods.—Coal.

Ser. No. 52,365. (CLASS 1. RAW OR PARTLY-PREPARED MATERIALS.) S. J. SUTHERLAND COMPANY, New Orleans, La. Filed Oct. 21, 1910.



Particular description of goods.—Sawed and Hewed Timber, Logs, and Lumber.

Ser. No. 52,398. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) JOHN CALHOUN DRAGAN, Chicago, Ill. Filed Oct. 24, 1910.

KLYPOSERUS.

Particular description of goods.—Musical Bells.

Ser. No. 52,399. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) JOHN C. DRAGAN, Chicago, Ill. Filed Oct. 24, 1910.

NAGAED

Particular description of goods.—Musical Bells.

Ser. No. 52,484. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) STRAWBRIDGE & CLOTHIER, Philadelphia, Pa. Filed Oct. 28, 1910.

Voiliron

Particular description of goods.—Woolen Dress Goods.

Ser. No. 52,499. (CLASS 17. TOBACCO PRODUCTS.) LANDFIELD & STEELE, Chicago, Ill. Filed Oct. 28, 1910.

Heinegabubeler

Particular description of goods.—Cigars, Cheroots, and Little Cigars.

Ser. No. 52,530. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE SOUTHWESTERN MILLING COMPANY, Jersey City, N. J. Filed Oct. 31, 1910.

GEM
OF THE
VALLEY

Particular description of goods.—Wheat-Flour.

Ser. No. 52,592. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) FORT WAYNE DRUG COMPANY, Fort Wayne, Ind. Filed Nov. 3, 1910.

SOLACE

Particular description of goods.—Olive-Oil.

Ser. No. 52,615. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WALDO MASON WATTLES, Battle Creek, Mich. Filed Nov. 4, 1910.

MERLENE

Particular description of goods.—Molasses to be Used in the Feed of Horses and Cattle.

Ser. No. 52,705. (CLASS 39. CLOTHING.) CENTRAL KNITTING COMPANY, St. Louis, Mo. Filed Nov. 10, 1910.

SECURITY

Particular description of goods.—Hosiery.

Ser. No. 52,712. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) NATIONAL METAL EDGE BOX COMPANY, Philadelphia, Pa. Filed Nov. 10, 1910. Used ten years.

"METAL EDGE"

Particular description of goods.—Metal Stays for Paper Boxes.

Ser. No. 52,719. (CLASS 39. CLOTHING.) SAMUEL WEBER & COMPANY, Providence, R. I. Filed Nov. 1[1], 1910.

W. B.

Particular description of goods.—Men's and Boys' Trousers.

Ser. No. 52,751. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) THOMAS A. HARRIS, New York, N. Y. Filed Nov. 12, 1910.

RUMWORTH

Particular description of goods.—White and Colored Shirtings.

TRADE-MARKS

REGISTERED DECEMBER 13, 1910.

80,336. RAZOR-BLADE SHARPENERS. THOMAS M. AMBLER, St. Louis, Mo.
Filed July 25, 1910. Serial No. 51,045. PUBLISHED OCTOBER 11, 1910.

80,337. SPICES, FLAVORING EXTRACTS, COCOA, TEA, AND BLENDED COFFEE. THE AMERICAN PURE COFFEE & SPICE COMPANY, Dayton, Ohio.
Filed June 2, 1910. Serial No. 50,062. PUBLISHED OCTOBER 11, 1910.

80,338. CERTAIN CHEMICALS. BADISCHE ANILIN & SODA FABRIK, Ludwigshafen-on-the-Rhine, Germany.
Filed April 28, 1910. Serial No. 49,355. PUBLISHED OCTOBER 11, 1910.

80,339. TOBACCO-PIPES. B. BARLING & SONS, London, England.
Filed June 25, 1910. Serial No. 50,575. PUBLISHED OCTOBER 11, 1910.

80,340. REMEDY FOR RHEUMATISM AND BACKACHE. LUCIAN K. BAUMAN, Holyoke, Mass.
Filed September 16, 1910. Serial No. 51,857. PUBLISHED OCTOBER 11, 1910.

80,341. NON-ALCOHOLIC BEVERAGE CONTAINING MALT, HOPS, AND PHOSPHATES. HENRY C. BLAIR, Philadelphia, Pa.
Filed July 14, 1910. Serial No. 50,832. PUBLISHED OCTOBER 11, 1910.

80,342. BOTTLED BEER. THE BROADWAY BREWING & MALTING CO., Buffalo, N. Y.
Filed July 26, 1910. Serial No. 51,058. PUBLISHED OCTOBER 11, 1910.

80,343. MONTHLY MAGAZINES. ADAM BUDGE, New York, N. Y.
Filed August 29, 1910. Serial No. 51,602. PUBLISHED OCTOBER 11, 1910.

80,344. LUBRICATING-OILS AND LUBRICATING-GREASES. CHARLES J. BUSHMEYER, Oklahoma, Okla.
Filed March 25, 1910. Serial No. 48,653. PUBLISHED OCTOBER 11, 1910.

80,345. COMPOUND OF COTTON-SEED OIL, BEEF-FAT, AND OLEO-STEARIN. COLUMBIA COTTON OIL AND PROVISION CORPORATION, Relee, Va.
Filed May 18, 1910. Serial No. 49,795. PUBLISHED OCTOBER 11, 1910.

80,346. ASPHALT. R. F. CONWAY COMPANY, Chicago, Ill.
Filed December 22, 1909. Serial No. 46,686. PUBLISHED OCTOBER 11, 1910.

80,347. WRAPPING-PAPER. CROWN-COLUMBIA PULP AND PAPER CO., San Francisco, Cal.
Filed March 11, 1910. Serial No. 48,339. PUBLISHED OCTOBER 11, 1910.

80,348. REMEDY FOR RHEUMATISM. PATRICK E. DEVINE, New York, N. Y.
Filed September 8, 1910. Serial No. 51,719. PUBLISHED OCTOBER 11, 1910.

80,349. ASEPTIC SOAP. THE DICKINSON DRUG COMPANY, New Britain, Conn.
Filed May 18, 1910. Serial No. 49,788. PUBLISHED OCTOBER 11, 1910.

80,350. SOAP. THE N. K. FAIRBANK COMPANY, Chicago, Ill.
Filed July 19, 1909. Serial No. 43,634. PUBLISHED OCTOBER 11, 1910.

80,351. LENSES FOR EYEGLASSES. THE S. GALESKI OPTICAL CO., Richmond, Va.
Filed July 11, 1910. Serial No. 50,793. PUBLISHED OCTOBER 11, 1910.

80,352. PERIDENT ANESTHETIC. CHARLES E. GILLAM, Lockport, N. Y.
Filed May 19, 1910. Serial No. 49,819. PUBLISHED OCTOBER 11, 1910.

80,353. SOAP. THE GLOBE SOAP COMPANY, Cincinnati, Ohio.
Filed December 20, 1909. Serial No. 46,611. PUBLISHED OCTOBER 11, 1910.

80,354. POWER AND HAND PUMPS. THE GOULDS MANUFACTURING COMPANY, Seneca Falls, N. Y.
Filed June 15, 1910. Serial No. 50,320. PUBLISHED OCTOBER 11, 1910.

80,355. FOOD AND PRESERVATIVE FOR ALL FINISHED OR VARNISHED SURFACES. WILLIAM H. GRIFFIN, Newark, N. Y.
Filed July 5, 1910. Serial No. 50,698. PUBLISHED AUGUST 23, 1910.

80,356. STAPLE-LIKE METALLIC FASTENERS. HEATON-PENINSULAR BUTTON FASTENER CO., Boston, Mass.
Filed August 9, 1910. Serial No. 51,332. PUBLISHED OCTOBER 11, 1910.

80,357. STAPLE-LIKE METALLIC FASTENERS. HEATON-PENINSULAR BUTTON FASTENER CO., Boston, Mass.
Filed August 9, 1910. Serial No. 51,333. PUBLISHED OCTOBER 11, 1910.

80,358. VETERINARY SALVE. ARTHUR L. HENLEY, Greensboro, N. C.
Filed May 28, 1910. Serial No. 49,995. PUBLISHED OCTOBER 4, 1910.

80,359. COMPOSITION FOR DIMINISHING THE NOXIOUS EFFECTS OF NICOTIN. DR. A. HERBRAND G. M. B. H., Berlin, Germany.
Filed July 27, 1910. Serial No. 51,099. PUBLISHED OCTOBER 11, 1910.

80,360. CARD GAME. LAFAYETTE L. HIXSON, Newton, Iowa.
Filed August 29, 1910. Serial No. 51,599. PUBLISHED OCTOBER 11, 1910.

80,361. MEDICINAL TONIC. THE HOFFMANN-LA ROCHE CHEMICAL WORKS, New York, N. Y.
Filed August 13, 1910. Serial No. 51,392. PUBLISHED OCTOBER 11, 1910.

80,362. REMEDY FOR WHOOPING-COUGH. WILLIAM C. JARDEN, Philadelphia, Pa.
Filed September 10, 1910. Serial No. 51,749. PUBLISHED OCTOBER 11, 1910.

80,363. CERTAIN CLOTHING. KAHN & FRANK, New York, N. Y.
Filed July 13, 1910. Serial No. 50,821. PUBLISHED OCTOBER 11, 1910.

80,364. MATCHES. FREDRIK EMIL KREUGER, London, England.
Filed June 22, 1910. Serial No. 50,491. PUBLISHED OCTOBER 11, 1910.

80,365. BROOMS. LEE BROOM & DUSTER COMPANY, Lincoln, Nebr.
Filed August 12, 1910. Serial No. 51,367. PUBLISHED OCTOBER 11, 1910.

80,366. SPRING-BEDS. LEGGETT & PLATT SPRING BED & MFG. CO., Carthage, Mo.
Filed July 25, 1910. Serial No. 51,044. PUBLISHED OCTOBER 11, 1910.

80,367. EMBROIDERY-STAMPING OUTFITS. LEON S. LEON, Chicago, Ill.
Filed March 16, 1910. Serial No. 48,479. PUBLISHED OCTOBER 11, 1910.

80,368. CERTAIN CLOTHING. ABRAHAM I. LEVY, Washington, D. C.
Filed February 17, 1910. Serial No. 47,864. PUBLISHED JULY 12, 1910.

80,369. POWDER-PUFFS. BENJAMIN E. LEVY, New York, N. Y.
Filed July 30, 1910. Serial No. 51,162. PUBLISHED OCTOBER 11, 1910.

80,370. MEDICINAL PREPARATIONS. CHARLES B. LONGWELL, Wheeling, W. Va.
Filed April 6, 1910. Serial No. 48,869. PUBLISHED OCTOBER 11, 1910.

80,371. NERVE TONIC AND STIMULANT. THE MALTBIE CHEMICAL COMPANY, Newark, N. J.
Filed July 26, 1910. Serial No. 51,086. PUBLISHED OCTOBER 11, 1910.

80,372. BLENDED WHISKY. MITCHELL & COMPANY OF BELFAST LIMITED, Belfast, Ireland.
Filed May 7, 1910. Serial No. 49,574. PUBLISHED OCTOBER 11, 1910.

80,373. SAFES. THE MOSLER SAFE COMPANY, New York, N. Y.
Filed April 25, 1910. Serial No. 49,284. PUBLISHED OCTOBER 11, 1910.

80,374. COTTON, WOOLEN, LINEN, AND SILK PIECE GOODS. BEDELL-PARKER, New York, N. Y.
Filed November 30, 1909. Serial No. 46,210. PUBLISHED OCTOBER 11, 1910.

80,375. AXLE-BOXES AND FITTINGS THEREFOR. THE PATENT AXLE-BOX AND FOUNDRY COMPANY LIMITED, Wednesfield, near Wolverhampton, England.
Filed July 8, 1910. Serial No. 50,753. PUBLISHED OCTOBER 11, 1910.

80,376. VISES. PRENTISS VISE COMPANY, New York, N. Y.
Filed March 16, 1910. Serial No. 48,456. PUBLISHED OCTOBER 11, 1910.

80,377. WHEAT-FLOUR. THE REA-PATTERSON MILLING COMPANY, Coffeyville, Kans.
Filed January 7, 1910. Serial No. 46,965. PUBLISHED OCTOBER 11, 1910.

80,378. SOAP AND PASTE USED FOR WASHING AND POLISHING PURPOSES. FRANK C. RUSSELL, Newport News, Va.
Filed June 17, 1910. Serial No. 50,349. PUBLISHED AUGUST 16, 1910.

80,379. CITRUS FRUITS AND PECAN-NUTS. SAMPSON GROVE, Boardman, Fla.
Filed July 30, 1910. Serial No. 51,173. PUBLISHED OCTOBER 11, 1910.

80,380. REMEDY FOR CORNS. GEORGE W. SCHINDLER, Washington, D. C.
Filed September 6, 1910. Serial No. 51,673. PUBLISHED OCTOBER 11, 1910.

80,381. TOILET-PAPER. SCOTT PAPER COMPANY, Philadelphia, Pa.
Filed June 18, 1910. Serial No. 50,424. PUBLISHED OCTOBER 11, 1910.

80,382. STEP-LADDERS. THE SECURITY LADDER COMPANY, Goshen, Ind.
Filed August 23, 1910. Serial No. 51,511. PUBLISHED OCTOBER 11, 1910.

80,383. MOTION-PICTURE FILMS AND PROJECTING-MACHINES THEREFOR. THE SELIG POLYSCOPE COMPANY, Chicago, Ill.
Filed April 5, 1909. Serial No. 41,611. PUBLISHED OCTOBER 4, 1910.

80,384. VEHICLE PARTS AND TRIMMINGS. SHATTUCK-GEORGE IRON CO., Wichita, Kans.
Filed May 3, 1910. Serial No. 49,474. PUBLISHED OCTOBER 4, 1910.

80,385. LUBRICATING-OILS. STANDARD OIL CO. OF NEW YORK, New York, N. Y.
Filed July 20, 1910. Serial No. 50,937. PUBLISHED OCTOBER 11, 1910.

80,386. REFINED PETROLEUM FOR ILLUMINATING, HEATING, AND POWER PURPOSES. STANDARD OIL CO. OF NEW YORK, New York, N. Y.
Filed July 26, 1910. Serial No. 51,067. PUBLISHED OCTOBER 11, 1910.

80,387. WROUGHT-STEEL NARROW BUTTS OR HINGES. THE STANLEY WORKS, New Britain, Conn.
Filed November 17, 1909. Serial No. 45,944. PUBLISHED OCTOBER 11, 1910.

80,388. WOOLEN PIECE GOODS. S. STEIN & CO., New York, N. Y.
Filed June 28, 1910. Serial No. 50,617. PUBLISHED OCTOBER 11, 1910.

80,389. CERTAIN PINS AND NEEDLES. A. STEINHARDT & BRO., New York, N. Y.
Filed June 25, 1910. Serial No. 50,577. PUBLISHED OCTOBER 11, 1910.

80,390. LUBRICATING-OILS. TIDE WATER OIL COMPANY, New York, N. Y.
Filed August 15, 1910. Serial No. 51,402. PUBLISHED OCTOBER 11, 1910.

80,391. CANDY. ARTHUR C. TODD, New York, N. Y.
Filed December 30, 1909. Serial No. 46,808. PUBLISHED OCTOBER 11, 1910.

80,392. SMOKED FAT HERRINGS. TRYGVE VICTOR TOKSTAD, New York, N. Y.
Filed February 17, 1910. Serial No. 47,875. PUBLISHED OCTOBER 11, 1910.

80,393. HORSE AND MULE SHOES. THE TREDEGAR COMPANY, Richmond, Va.
Filed August 6, 1910. Serial No. 51,298. PUBLISHED OCTOBER 11, 1910.

80,394. FIREWORKS. EDWARD H. WAGNER, New York, N. Y.
Filed May 23, 1907. Serial No. 27,609. PUBLISHED OCTOBER 11, 1910.

80,395. BLEMISH-ERADICATOR. THE DUKE H. WATSON CO., Findlay, Ohio.
Filed July 26, 1910. Serial No. 51,083. PUBLISHED OCTOBER 11, 1910.

80,396. WAX FOR LAUNDRY PURPOSES. WHITTEMORE-WRIGHT COMPANY, INCORPORATED, Boston, Mass.
Filed September 14, 1910. Serial No. 51,818. PUBLISHED OCTOBER 11, 1910.

LABELS

REGISTERED DECEMBER 13, 1910.

15,419.—*Title:* "SUNFLOWER BRAND EXTRA FINE GRANULATED SUGAR." (For Granulated Sugar.) UNITED STATES SUGAR AND LAND COMPANY, Garden City, Kans. Filed November 15, 1910.

15,420.—*Title:* "DARLING BRAND CREAM CHEESE." (For Cream-Cheese.) DORMAN BROS., New York, N. Y. Filed October 20, 1910.

15,421.—*Title:* "HAMBY'S HIGH BALL SPLITS." (For Natural Carbonated Spring-Water.) DAWSON SALTS & WATER CO., Dawson Springs, Ky. Filed November 3, 1910.

15,422.—*Title:* "HAMBY'S GENUINE DAWSON SPRINGS WATER." (For Natural Spring-Water.) DAWSON SALTS & WATER CO., Dawson Springs, Ky. Filed November 3, 1910.

15,423.—*Title:* "RIZZO'S DANDRUFF REMEDY." (For Hair and Scalp Tonic.) MICHAEL RIZZO & CO., Boston, Mass. Filed November 18, 1910.

15,424.—*Title:* "THE BUGLE CALL, A GAME OF U. S. SOLDIERS." (For a Game.) BURTON B. BENNETT, Plymouth, Mich. Filed September 17, 1910.

PRINTS

REGISTERED DECEMBER 13, 1910.

2,673.—*Title:* "NEW HOME." (For Sewing-Machines.) THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass. Filed November 16, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

IROQUOIS BREWING COMPANY *v.* AMERICAN BREWING COMPANY.

Decided October 19, 1910.

TRADE-MARKS—SIMILARITY.

A trade-mark which consists of a circular target or shield bearing the head of an Indian woman surrounded by an inscription *Held* to be so similar to another trade-mark consisting of a circular target or shield bearing the head of an Indian woman surrounded by a different inscription as to be likely to cause confusion in the mind of the public, notwithstanding that one of the trade-marks also contains a tomahawk, spear-heads, and peace-pipe, and one of the heads is shown in full profile, while the other is shown in three-quarter side view.

APPEAL from Examiner of Interferences.

TRADE-MARK FOR MALT LIQUORS.

Mr. Howard A. Coombs for Iroquois Brewing Company.

Mr. Wm. J. Baker for American Brewing Company.

MOORE, *Commissioner:*

This is an appeal by the American Brewing Company from the decision of the Examiner of Interferences sustaining the application for cancelation filed by the Iroquois Brewing Company and adjudging that the registration of the American Brewing Company should be canceled.

The trade-mark of the American Brewing Company was registered on August 6, 1907. It consists of a circular target or shield bearing the head of an Indian woman with feather head-dress, surrounded by the inscription "American Brewing Co., Rochester, N. Y.," in white letters on a black background, and having a tomahawk, spear-heads, and peace-pipe projecting on either side thereof. It is applied to beer, ale, and porter.

The Iroquois Brewing Company seeks the cancelation of this mark on the ground that at the time it was registered that company was the owner of a similar mark for beer upon which it had been granted registrations No. 24,171 on February 6, 1894, and No. 55,875 on August 21, 1906, and which have been continuously used by it from 1893 to the present time.

This ownership and use by the Iroquois Company of the mark shown in the registrations mentioned is admitted by the American Brewing Company. It admits also that its own use of the mark shown in its registration of August 6, 1907, extends back only to January, 1907, but contends that the marks are not so similar as to cause confusion or to injure the trade of the Iroquois Brewing Company.

The only question to be determined therefore is whether the two marks are so similar as to be likely to confuse the public as to the origin of the goods upon which they are used. If they are, it follows that the American Brewing Company—

was not entitled to use the mark at the date of its application for registration thereof—

within the meaning of section 13 of the act of February 20, 1905, and the registration should be canceled. (*Familton* v. *The Alonzo O. Bliss Medical Co.*, 135 O. G., 1359.)

The mark of the Iroquois Brewing Company, as shown in the registrations above mentioned, consists of a circular target or shield in the center of which is the head of an Indian woman much resembling that shown on the United States cent and surrounded by the inscription "Iroquois Brewing Co., Buffalo, N. Y.," or "Iroquois, Buffalo." In the registration of August 21, 1906, this inscription is in white letters on a black background surrounding the head. The Iroquois Brewing Company mark lacks the spears, etc., projecting from behind the shield shown in the appellant's mark, and the head is shown in full profile instead of three-quarter side view. Appellant's mark also shows a monogram at the top of the circle, which is lacking in the Iroquois Brewing Company's mark; but the dominating features of each are unquestionably the Indian head and the surrounding circular border, and these features give the marks a striking similarity.

The marks appear to resemble each other fully as much as those under consideration in the case of *The Indian Portland Cement Co.*, (134 O. G., 518; 30 App. D. C., 463,) in which the court said:

The distinguishing feature of the trade-mark, alleged to have been used since July 1, 1906, consists of an Indian's head showing profile with the conventional feather head-dress within a circle. Between this and an outer circle appear the words, "Indian Portland Cement Co., Neodesha, Kansas." The ground of refusal to register was that the trade-mark so closely resembles another as to be apt to deceive purchasers. The reference is to a trade-mark registered by Miller, Mason & Co., on August 2, 1904. That mark is described as "the representation of an Indian's head with a feather head-dress." The drawing and labels used by them on barrels and bags of Portland cement, show a front view of the Indian's head with a feather head-dress. While a com-

parison of the two marks as represented shows difference in details, the feature of each is a conventional Indian head, calculated to make the manufactures on which they are used known to the public as Indian-head cement.

I am clearly of the opinion that the registered mark of the American Brewing Company bears such a resemblance to that previously registered and used by the Iroquois Brewing Company as would tend to cause confusion in the mind of the public and that therefore the right to the mark did not exist in the American Brewing Company at the time of its registration. It is accordingly held that the registration should be canceled.

The decision of the Examiner of Interferences is affirmed.

EX PARTE GALE, SR.

Decided December 2, 1910.

PROSECUTION OF APPLICATION—DECISION OF COMMISSIONER AFFIRMING REJECTION OF CLAIMS—NO FURTHER ACTION BY OFFICE NECESSARY.

Where on appeal the Commissioner affirmed the decision of the Examiners-in-Chief holding certain claims unpatentable, there is no reason for the Examiner to further notify applicant that these claims stand finally rejected, and, unless applicant appeals to the court of appeals, his year in which to take action runs from the date of the decision of the Commissioner.

ON PETITION.

CURRENT-CONTROLLING APPARATUS.

Messrs. Brown, Darby & Hopkins and *Mr. C. M. Nissen* for the applicant.

BILLINGS, *First Assistant Commissioner:*

This is a petition that the above-entitled application be held not abandoned.

On December 14, 1908, the Commissioner affirmed the decision of the Examiners-in-Chief in this case as to claims 31 and 34 and reversed their decision as to certain other claims appealed. No further action was taken by applicant until November 11, 1910, when a letter was written requesting an action on the merits of this case at an early date. On November 17, 1910, the Examiner informed the applicant that the case was abandoned, and the present petition, accompanied by an amendment canceling the two claims held by the Commissioner to be unpatentable, was filed November 23, 1910.

In excuse for the delay the attorney states in the affidavit accompanying the petition that he supposed that action on this case had been suspended in view of an interference involving certain copending applications, and he argues that it was the duty of the Examiner, after the decision of the Commissioner, to notify him that the claims which the Commissioner held unpatentable stood finally rejected.

The Examiner finally rejected certain claims in this case on March 23, 1908. The decision of the Commissioner was an affirmance of the Examiner's action as to the two claims. It was clearly not necessary for the Examiner to take any action in the case after the decision of the Commissioner until the applicant, who had failed to take an appeal to the court of appeals, should have canceled the two claims. The excuses offered by the applicant are clearly insufficient to show that the delay was unavoidable within the meaning of section 4894 of the Revised Statutes.

The petition is denied.

HARRIS v. KENNEDY.

Decided November 25, 1910.

INTERFERENCE—CERTIFIED COPY OF SUBJECT-MATTER—WHAT SHOULD BE INCLUDED.

Where a party to an interference asks, under the provisions of Rule 105, to have a certified copy of that portion of the application relating to the interfering matter substituted for the application, such copy should include not only the original specification and claims, so far as they relate to the invention in issue, but also the actions of the Office upon such invention and the amendatory papers and arguments in behalf of the applicant.

ON PETITION.

COLLAR.

Messrs. Munn & Co. for Harris.

Messrs. Roberts, Roberts & Cushman and *Messrs. Meyers, Cushman & Rea* for Kennedy.

TENNANT, *Assistant Commissioner:*

This is a petition by Kennedy that he be furnished a full copy of the file-wrapper and contents of the Harris application, No. 475,035, and—

that Harris be held to have forfeited all rights which she may have under Rule 105, by reason of failure to comply with the same, and that the Primary Examiner be ordered forthwith to honor your petitioner's request for a full copy of said Harris file-wrapper and contents and for leave to inspect the said file-wrapper and contents.

It is stated in the petition that on August 3, 1910, shortly after the approval of statements in this interference, Kennedy ordered a copy of the file-wrapper and contents of the Harris application, and that on August 19 he renewed his request, but that such copy was not furnished until October 21, to the inconvenience of the party Kennedy. It is urged that the certified copy was incomplete in that it contained only the specification, claims, and drawings filed on January 29, 1909, and did not comprise any file-wrapper memoranda or any copies of Patent Office actions and responses by the applicant or any parts thereof. It is urged that the right of the applicant Harris to conceal any part of her application should be held to be forfeited and that Kennedy should now have access to the entire application.

It does not appear that the delay in furnishing the copy of the application was wholly chargeable to the party Harris or her attorneys, and no sufficient reason appears for holding that Harris has forfeited her right to conceal any patentable invention disclosed in that application, which is not involved in this interference, from the opposing party Kennedy. Kennedy is, however, entitled not only to the original specification and claims relating to the specific invention involved in this interference, but also to the actions of the Office upon such invention, together with the amendatory papers and arguments in behalf of the applicant in relation to the invention set forth as the issue of this interference. (*Reece* v. *Fenwick*, 96 O. G., 643; *Fenwick* v. *Dormandy*, 102 O. G., 228.) In the latter case it was held that—

it is clear that Fenwick is entitled to inspect everything in his opponent's application which has any bearing on the common subject-matter of the two applications in interference, and this includes not only his opponent's original disclosure of said subject-matter and all amendments in connection therewith, but also copies of any Office actions in relation thereto. In short, Fenwick is entitled to see and obtain copies of everything contained in his opponent's application, including the official actions thereon, except what may relate to a separate and independent invention, and by which is meant such an invention as might properly be made in the subject-matter of another application and sent to patent before the termination of the interference proceedings. It is such an invention as cannot be affected in any way by the outcome of the interference.

The Examiner is therefore directed to prepare a copy of such portion of the application as does not relate to an independently-patentable invention from that involved herein.

The petition is granted to the extent indicated.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court of Appeals—Eighth Circuit.

WABREN WEBSTER & CO. *v.* C. A. DUNHAM CO.

Decided September 19, 1910.

[Syllabus by the Court.]

1. PATENTABILITY—NEW USE.

The application of an old machine or combination to a new use is not in itself invention or the subject of a patent. If the relations between the two uses be remote and if the use of the old device produce a new and beneficial result, the application to the new use may involve the exercise of the inventive faculty and be patentable; but it is only when the new use is so recondite or so remote from that to which the old device has been applied or for which it was evidently conceived that its application to the new use would not readily occur to the trained mind of the ordinary mechanic skilled in the art, seeking to devise means to accomplish the desired function, that its conception rises to the dignity of invention.

2. SAME—STEAM-HEATING SYSTEMS.

The combination of thermostatic valves with the return-pipes or the connections between the return-pipes and the radiators of suction or vacuum systems of steam-heating such as are disclosed in Letters Patent No. 256,089 to Williames, issued April 4, 1882, did not rise to the dignity of an invention, in view of the combination of such valves with the return-pipes of pressure steam-heating systems shown in Letters Patent No. 113,434 to John J. Jordan, issued April 4, 1871; and Letters Patent No. 454,964 to W. E. Hall, issued June 30, 1891, was for a double use, and the patent for it is void.

Mr. Ernest Howard Hunter for the appellant.

Mr. Robert W. Hardie (*Mr. Edwin N. Farber, Mr. William L. Read*, and *Mr. Charles A. Munn* on the brief) for the appellee.

Before SANBORN and ADAMS, Circuit Judges, and REED, District Judge.

SANBORN, *Cir. J.:*

This case involves the validity of Letters Patent No. 454,964, issued June 30, 1891, for an improvement in a steam-heating apparatus, the single claim of which reads in this way:

In a steam-heating system, the combination with a steam-pipe leading from the boiler, a radiating system connecting with the steam-pipe, and a return-pipe connecting with the lower part of a radiating system, of a thermostatic steam-trap situated in the connection between the radiating system and the return-pipe, all substantially as and for the purpose specified.

Prior to 1882 the steam in a steam-heating system was forced by the engine or by a loaded exhaust-pipe through the supply-pipe, the radiators or heating-coils, and the return-pipe into the open air or into some suitable receptacle. In such a system a pressure in excess of that of the atmosphere was obviously indispensable to its operation. Where there were many radiators or heating-coils connected with the supply-pipe, the pressure necessary to drive the steam from many of them at the same time caused a choking and back pressure in the return-pipe, which retarded the circulation of the steam and made the heating of the various radiators difficult and expensive. In order to remove this objection Napoleon W. Williames invented a combination with an unobstructed exhaust-pipe and the other elements of this system of a pump or other like means for producing a partial vacuum in the return-pipe and the radiators or heating-coils connected therewith, by means of which the water of condensation, the steam, and air were drawn or sucked out of the return-pipe, and Letters Patent No. 256,089 were issued to him for this invention on April 4, 1882. For the sake of brevity the apparatus system and return-pipe through which the steam is forced will be called the pressure and that in which it is drawn by the partial vacuum the suction apparatus system and return-pipe. The essential distinction between the systems is that the exhaust-pipe is unobstructed, and the pump or other device to form the partial vacuum sucks the steam through the pipes in the latter, while the steam is forced through them in the former. The improvement made by Hall consisted of the combination of a thermostatic steam trap or valve placed in the return-pipe, or in the connection between the radiators and the return-pipe, with the other elements of a suction system. Without this valve the suction system was but partially successful, because the steam was short-circuited; that is, an excess of steam was drawn through the short lines of pipe and an insufficient amount from the long lines, and because it was difficult to regulate or modulate the heat in the respective radiators, and frequent readjustments of their valves were necessary. The use of the thermostatic steam trap or valve remedied these defects. This trap placed in the connection between each radiator and the return-pipe automatically opened and discharged the condensed water and air when it was cool, and when the steam was drawn through it, and it was again heated it closed, and prevented the unnecessary use and escape of the steam, the heat of each radiator was readily and automatically modulated, and the suction system with this improvement became exceptionally successful commercially, and displaced the pressure system very generally in hotels and other buildings, where many radiators were heated from a single supply-pipe.

But thermostatic valves were old, and their combination with the mechanical elements of the

pressure system of steam-heating alternately and automatically to release the water of condensation and to confine the steam had been described in Letters Patent No. 113,434, issued on April 4, 1871, to J. J. Jordan, and was well known to mechanics skilled in the art before Hall made his improvement.

Counsel for the complainant concedes that if the patent to Hall is sufficiently broad to cover the combination of the thermostatic steam-trap with the supply-pipe, radiators, and return-pipe of a pressure system of steam-heating, it is anticipated by previous patents and void; and the counsel for defendant admit that if the patent is valid the defendant has infringed it. So the case presents two questions: Is the true interpretation of the patent that it is limited to the combination of the thermostatic valve with the supply-pipe, the radiators or heating-coils, and the return-pipe in a suction or vacuum system, or that it secures by its terms a monopoly of that combination in a pressure system also, and if its true construction be that it is limited to the protection of this combination in a suction system only, was the application of the thermostatic valve shown in the patented descriptions of the pressure system to the suction system the exercise of inventive genius or the skill of the trained mechanic familiar with the art?

While the patentee did not restrict his monopoly in his claim to the combination of the thermostatic valve with the elements of the suction system, his statements in his specification strongly indicate that this was his intention; and conceding, without discussion, that he accomplished his purpose, let us consider the second question.

The thermostatic valve performed the same function in the suction system as in the pressure system. It automatically discharged the water of condensation, the air, and the steam when it was cool, and confined the steam when it was warm. In 1871 Jordan had patented it, and had described its combination and use with steam-heating pipes to discharge the water of condensation and prevent the escape of steam. A patentee who has plainly described and claimed his machine or combination has the right to every use to which his device can be applied, and to every way in which it can be utilized to perform its function, whether he was aware of these uses or methods of use when he claimed or secured his monopoly or not. (*National Hollow Brake-Beam Co.* v. *Interchangeable Brake-Beam Co.*, 106 Fed., 693, 709; 45 C. C. A., 544, 560; *Roberts* v. *Ryer*, 91 U. S., 150, 157; 23 L. Ed., 267; *Miller* v. *Manufacturing Co.*, 151 U. S., 186, 201; 14 Sup. Ct., 310; 38 L. Ed., 121; *Goshen Sweeper Co.* v. *Bissell Carpet-Sweeper Co.*, 72 Fed., 67; 19 C. C. A., 13; *Frederick R. Stearns & Co.* v. *Russell*, 85 Fed., 218, 226; 29 C. C. A., 121, 129; *Manufacturing Co.* v. *Neal*, C. C., 90 Fed., 725; *Tire Co.* v. *Lozier*, C. C., 90 Fed., 732, 744; 33 C. C. A., 255, 268.)

But counsel argue that the suction system was unknown when Jordan made his invention, and that, while he secured the combination of a thermostatic steam-trap with a pressure return-pipe, Hall secured the new combination of the thermostatic trap with the suction return-pipe in 1882. The answer is that Jordan secured the monopoly of every use of the steam-trap and return-pipe which he disclosed, until Williames in 1882 secured a monopoly of the use of his new combination of the pump or similar device for causing a partial vacuum in the return-pipe with that pipe, the radiators, and supply-pipe, and when the patent of Williames expired in 1899 Jordan and, since his patent had also expired, all others then acquired the right to use the combination of the thermostatic steam-trap with the suction system.

The improvement made by Hall consisted of the application of the thermostatic valve of the return-pipe of the pressure system to the return-pipe of the suction system. Counsel argue that this was an invention, because it did not suggest itself to those skilled in the art for eleven years after Williames made his invention, while the results of the suction system were unsatisfactory, and there was a demand for the improvement wrought by the use of the steam-trap during all this time, because after the application of the steam-trap to the suction system that system became exceptionally successful, and because its application prevented back pressure and short-circuiting, and enabled the manufacturer to modulate automatically and separately the heat of each radiator, results neither attained nor foreseen prior to this improvement. These arguments are persuasive. They have been carefully considered. But the application of an old device or combination to a new use is not in itself an invention, or capable of protection by a patent. If the relation between the two uses is remote, and the old device or combination produced a new result by virtue of its new application, that application may constitute invention. Where a machine or a combination is discovered in a remote art, where it is used to perform a different function, and where it was not designed and was not apparently suitable to accomplish the thing desired, the application of it with proper mechanical adaptation to a new use is often the result of the exercise of the inventive faculty and may be protected by patent. But the thought that an existing machine or combination, discovered in the same art or one nearly analogous to it, designed and suitable to perform a similar function, may be used or adopted to accomplish the desideratum, is not the product of inventive genius, but the result of the application of the skill of the mechanic to the subject under consideration. It is only when the new use is so recondite and remote from that to which the old device and combination has been applied, or for which it was conceived, that its application would not occur to the mind of the ordinary mechanic skilled in the art, seeking to devise means to perform the desired function, with the old machine or combination before him, that its conception may rise to the dignity of invention. (*Potts* v. *Creager*, 155 U. S., 597, 608; 15 Sup. Ct., 194; 39 L. Ed., 275; *Hobbs* v. *Beach*, 180 U. S., 383, 390; 21 Sup. Ct., 409; 45 L. Ed., 586; *Adams Electric Ry. Co.* v. *Lindell Ry. Co.*, 77 Fed., 432, 447; 23 C. C. A., 223, 237; *National Hollow Brake-Beam Co.* v. *Interchangeable Brake-Beam Co.*, 106 Fed., 693, 702; 45 C. C. A., 544, 553.)

The court below was probably of the opinion that a mechanic skilled in the art, with a pressure system of steam-heating with the thermostatic valve of Jordan attached to its return-pipe, as Jordan said—

> for effectually draining from steam-heating and other steam pipes the water of condensation and preventing the escape of steam,

and the patent of Williames, showing the combination of the pump or other device for producing a partial vacuum in the return-pipe with the return-pipe radiators and supply-pipe of a heating system, as Williames said, to—

> perform the double function of heating the building without back pressure to the engine and reducing the normal pressure by creating a partial vacuum in the exhaust-pipe,

before him, would not long fail to think that thermostatic valves in the return-pipes of suction systems, or in the connections between those pipes and the radiators, would be very likely to prevent back pressure and short-circuiting, and to modulate automatically the heat of the radiators; and it is probably for this reason that the court below dismissed the bill. A review of the evidence has failed to convince that it was in error. The thermostatic valve was found in the same art in combination with a pressure return-pipe performing the same function that it performs in combination with the suction return-pipe and producing results similar to those which the suction system demanded. Its application to the latter system failed to rise to the dignity of an invention, and the decree below is affirmed.

ADJUDICATED PATENTS.

The Daugherty patent, No. 481,477, for a typewriter, claims 37 and 38 *Held* void for anticipation. *Union Typewriter Co.* v. *L. C. Smith & Bros. Typewriter Co.*, (C. C. A.,) 181 Fed. Rep., 966.

Disclaimer.

890,220.—*Henry M. Crane*, New York, N. Y. ELECTRO-MAGNETIC SIGNAL-CONTROLLING DEVICE. Patent dated June 9, 1908. Disclaimer filed December 6, 1910, by the assignee, the *Western Electric Company*.

Enters this disclaimer to that part of the claim in said specification which is claim 8 thereof and in the following words, to wit:

"8. The combination with the magnet core, of two armatures movably mounted to form, with each other and with said core, a complete magnetic circuit, said circuit being closed by said armatures in their attracted positions."

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., December 8, 1910.

Ferdon & Berry, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Daland & Company, 198 West Broadway, New York, N. Y., and trade-mark registration No. 34,421, dated April 3, 1900, to Ferdon & Berry, 1–8 and 9 Raleigh Building, Portland, Oreg., and the notice of such declaration sent by registered mail to the said Ferdon & Berry at the address given has been returned by the post-office undelivered.

Notice is therefore hereby given to the said Ferdon & Berry, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner*.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., December 8, 1910.

Marian L. Whitney, her assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Jacob Strohauer & Sons' Co., of village of Caro, Mich., and trade-mark registration No. 17,588, dated May 6, 1910, to Marian L. Whitney, of Stockton, Cal., and the notice of such declaration sent by registered mail to the said Marian L. Whitney at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Marian L. Whitney, her assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner*.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 16, 1910.

Sharpless Bros., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Consolidated Cotton Duck Co., of Continental Trust Building, Baltimore, Md., for registration of a trade-mark and the trade-mark registrations of Minot, Hooper & Co., of 40 Thomas street, borough of Manhattan, New York, N. Y., registered August 29, 1905, No. 45,761; Lindeke, Warner & Schurmeier, of East Four and Sibley streets, St. Paul, Minn., registered April 21, 1897, No. 29,854; Sharpless Bros., of 812–814 Market street, Philadelphia, Pa., registered May 23, 1893, No. 23,072; Denny, Poor & Co., of New York, N. Y., registered December 30, 1890, No. 18,761; John Dunn, of East Orange, N. J., registered June 22, 1886, No. 13,43[illegible] and Stark Mills, of Manchester, N. H., registered November 8, 1881, No. 8,822, and March 13, 1906, No. 50,38[illegible] and the Office actions sent to Sharpless Bros. at their address of record have been returned by the post-office undeliverable.

Notice is therefore hereby given to the said Sharpless Bros., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner*.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 4, 1910.

Samuel A. Richmond, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the applications of the Wehrman Medicine Company, of 1269 Michigan avenue, Columbus, Ohio, and G. H. Mull[illegible] of Guyandotte, W. Va., for registrations of trade-marks and the trade-mark registrations to the Good Samaritan Ointment Company, of 222 Broadway, Camden, N. J., registered August 21, 1906, No. 55,682; Samuel A. Richmond, of Tuscola, Ill., registered May 13, 1890, No. 17,915, and December 16, 1890, No. 18,714, and Charles C. Brooks, of Waverly, N. Y., registered April 4, 1882, No. 9,253, and the notice of such declaration sent by registered mail to the said Samuel A. Richmond at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Samuel A. Richmond, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner*.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 16, 1910.

Steinfeld, Kerngood and Co., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Chas. E. Shedaker & Sons, Eighth and Walnut streets, Philadelphia, Pa., for registration of a trade-mark and trade-mark registration No. 8,568, dated August 16, 1881, to Steinfeld, Kerngood and Co., of Baltimore, Md., and the notice of such declaration sent by registered mail to the said Steinfeld, Kerngood and Co. at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Steinfeld, Kerngood and Co., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 4, 1910.

John Dunn, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Consolidated Cotton Duck Company, of Continental Trust Building, Baltimore, Md., for registration of a trade-mark and the trade-mark registrations to Minot, Hooper & Company, of 40 Thomas street, borough of Manhattan, New York, N. Y., registered August 29, 1905, No. 45,761; Lindeke, Warner & Schurmeier, of East Fourth and Sibley streets, St. Paul, Minn., registered April 20, 1897, No. 29,854; Sharpless Brothers, of 812–814 Market street, Philadelphia, Pa., registered May 23, 1893, No. 23,072; Denny, Poor & Company, of New York, N. Y., registered December 30, 1890, No. 18,761; John Dunn, of East Orange, N. J., registered June 22, 1886, No. 13,436, and Stark Mills, of Manchester, N. H., registered November 8, 1881, No. 8,822, and March 13, 1906, No. 50,391, and the notice of such declaration sent by registered mail to the said John Dunn at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said John Dunn, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., October 27, 1910.

Henry Werner & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Bennett, Hollander & Lewis, of 947 Pennsylvania avenue, Pittsburg, Pa., for registration of a trade-mark and the trade-mark registration to Joseph Bennett & Company, of 713 Pennsylvania avenue, Pittsburg, Pa., registered April 10, 1900, No. 34,453, and Henry Werner & Company, of 366 Gratiot avenue, Detroit, Mich., registered March 26, 1895, No. 26,267, and the notice of such declaration sent by registered mail to the said Henry Werner & Company at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Henry Werner & Company, its assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

Changes in Classification.

(ORDER No. 1,802.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., December 2, 1910.

The following changes in the classification of inventions are hereby directed, to take effect immediately:

In Division XI, class 12, Boot and Shoe Making, establish the following subclass and definition:

83.5. Vamp trimming machines.

83.5. VAMP TRIMMING MACHINES. Machines for trimming off the surplus material at the edges of the vamp and lining of a lasted shoe after the lasting operation, in order to prepare the shoe for the inseam sewing machine.

In Division XV, class 91, Coating, establish the following subclass and definition:

Special machines—
7.5. Electrotype molds.

7.5. SPECIAL MACHINES, ELECTROTYPE MOLDS. For coating molds from which an electrotype is to be made with a thin layer of conductive material, usually graphite, and not falling within the "With-metal" subclasses.

EDWARD B. MOORE,
Commissioner.

ISSUE OF DECEMBER 13, 1910.

Patents	698	No. 978,128 to No. 978,825, inclusive.
Designs	16	No. 41,033 to No. 41,048, inclusive.
Trade-Marks	61	No. 80,336 to No. 80,396, inclusive.
Labels	6	No. 15,419 to No. 15,424, inclusive.
Prints	1	No. 2,573.
Reissues	1	No. 13,183.
Total	783	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	4	.....	North Dakota	6	.....
Arkansas	4	.....	Ohio	43	3
California	30	1	Oklahoma	6	1
Colorado	4	.....	Oregon	2	.....
Connecticut	14	2	Pennsylvania	64	3
Delaware	3	.....	Rhode Island	1	.....
Florida	3	1	South Carolina	1	.....
Georgia	8	.....	South Dakota	1	.....
Idaho		.....	Tennessee	8	.....
Illinois	53	4	Texas	9	.....
Indiana	11	1	Utah		.....
Iowa	14	1	Vermont	3	.....
Kansas	15	3	Virginia	8	4
Kentucky	5	2	Washington	10	.....
Louisiana	8	.....	West Virginia	1	1
Maine	3	.....	Wisconsin	21	.....
Maryland	4	.....	Wyoming	2	.....
Massachusetts	50	6	Alaska, District of	2	.....
Michigan	14	1	Arizona Territory	2	.....
Minnesota	12	.....	District of Columbia	1	2
Mississippi	2	.....	Hawaii Territory	1	.....
Missouri	28	2	New Mexico Ter'ty	2	.....
Montana	3	.....	Panama	1	.....
Nebraska	2	1	U. S. Army		.....
Nevada	2	.....	U. S. Navy	1	.....
New Hampshire	2	.....			
New Jersey	21	1	Total to citizens of the United States	630	62
New York	106	21			
North Carolina	1	1			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentine		.....	Netherlands		.....
Austria-Hungary	2	.....	Newfoundland		.....
Belgium		.....	New South Wales		.....
Brazil		.....	New Zealand		.....
British West Indies		.....	Norway		.....
Canada	14	.....	Orange River Colony	1	.....
Cape Colony		.....	Queensland		.....
Chile		.....	Russia		.....
China		.....	Scotland	3	.....
Colombia	1	.....	South Australia		.....
Cuba		.....	Spain		.....
Denmark	1	.....	Sweden	2	.....
Ecuador		.....	Switzerland	1	.....
England	20	3	Tasmania		.....
France	4	.....	Transvaal, South Africa		.....
Germany	26	2	Victoria		.....
Haiti		.....	Western Australia		.....
Ireland	2	1			
Italy		.....	Total to citizens of foreign countries	83	6
Java	3	.....			
Mexico		.....			

THE
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CONTENTS.

	Page.		Page.
ATTORNEYS	535	COMMISSIONER'S DECISIONS—	
APPLICATIONS UNDER EXAMINATION	536	Victor Talking Machine Co. v. American Graphophone Co.	753
TRADE-MARKS	536	Ex parte McElroy	753
PATENTS GRANTED	537	DECISIONS OF THE U. S. COURTS—	
REISSUES	736	Ransome Concrete Machinery Co. v. United Concrete Machinery Co	754
DESIGNS	737	ADJUDICATED PATENTS	757
TRADE-MARKS—REGISTRATION APPLIED FOR	739	INTERFERENCE NOTICES	757
TRADE-MARKS—REGISTERED	749	ISSUE OF DECEMBER 20, 1910	758
LABELS AND PRINTS	751		

ATTORNEYS.

Department of the Interior,
United States Patent Office,
Washington, December 5, 1910.

Attention is invited to the subjoined order of the Secretary of the Interior, in which it is directed that the order of September 15, 1910, be modified to the extent that the provisions of the same shall not apply to the recognition of attorneys practicing before the United States Patent Office.

The rules governing the recognition of attorneys before this Office in force upon the date of said order are restored.

EDWARD B. MOORE,
Commissioner.

Department of the Interior,
Washington, December 3, 1910.

(Order.)

It is hereby directed that the Patent Office be exempted from the application of the order of the Secretary of the Interior, dated September 15, 1910, providing that:

"* * * hereafter firms of attorneys or agents as such will not be admitted to practice before this Department, or recognized as having the right to appear before it or any Bureau or Office thereof, in any proceeding or matter involving the services of an attorney or agent, and in the presentation of any matter by any such firm it must be represented by one or more duly qualified members thereof in his or their own person,"

and that the practice of the Patent Office in respect to the recognition of attorneys, as provided for by Rules 17 to 22, inclusive, of the Rules of Practice of the United States Patent Office, in force upon the date of that order, be restored.

R. A. BALLINGER,
Secretary.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business December 13, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended.	No. of applications awaiting action.
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Nov. 14	Nov. 8	360
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Nov. 14	Nov. 14	222
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Nov. 14	Nov. 30	194
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Nov. 1	Nov. 2	480
167	5. Bookbinding; Harvesters; Jewelry; Music.	Oct. 27	Oct. 1	444
318	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	Oct. 24	Nov. 3	322
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics; Velocipedes.	Oct. 31	Nov. 14	410
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Nov. 14	Nov. 14	238
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	Nov. 14	Nov. 14	281
235	10. Carriages and Wagons	Oct. 24	Oct. 25	631
154	11. Boot and Shoe Making; Hoots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	Oct. 31	Oct. 20	342
324	12. Elevators; Journal-Boxes; Pulleys, and Shafting; Lubrication; Machine Elements.	Oct. 22	Nov. 3	485
329	13. Arms, Projectiles, and Explosive Charges, Making; Metal-Working, Etc.	Sept. 6	Nov. 8	457
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making, Tools; Wire-Working.	Nov. 14	Nov. 14	316
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Sheets and Fabrics; Liquid Coating Compositions; Paper-Making; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	Nov. 7	Nov. 3	471
109	16. Telegraphy; Telephony	Oct. 24	Oct. 21	217
303	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Nov. 14	Nov. 18	174
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	Nov. 19	Nov. 14	173
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	Nov. 15	Nov. 14	326
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Oct. 31	Nov. 4	181
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving.	Sept. 26	Oct. 4	466
249	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	Sept. 28	Oct. 13	536
379	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	Nov. 12	Nov. 11	285

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. New.	Amended.	No. of applications awaiting action.
144	24. Apparel; Apparel Apparatus; Sewing-Machines.	Sept. 22	Oct. 5	447
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Nov. 25	Nov. 28	106
106	26. Electricity, Generation; Motive Power.	Oct. 11	Oct. 11	321
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Nov. 14	Nov. 14	234
65	28. Internal-Combustion Engines	Oct. 24	Oct. 26	408
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Woodworking; Woodworking-Tools.	Oct. 18	Nov. 14	297
152	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	Nov. 14	Nov. 14	202
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Nov. 14	Nov. 14	243
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Fine Arts; Packaging Liquids; Refrigeration.	Oct. 15	Nov. 14	300
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	Nov. 17	Nov. 14	278
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	Nov. 14	Oct. 5	316
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Nov. 17	Nov. 21	441
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	Oct. 17	Oct. 20	627
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	Oct. 3	Oct. 8	481
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	Nov. 3	Nov. 4	432
321	39. Water Distribution	Oct. 14	Oct. 8	361
280	40. Baggage; Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Nov. 15	Nov. 14	426
125	41. Railway Draft Appliances; Resilient Tires and Wheels.	Sept. 7	Oct. 3	557
279	42. Electric Railways; Electric Signaling; Electricity, Medical and Surgical; Railway Signaling; Signals; Surgery.	Oct. 7	Oct. 3	581
382	43. Baths and Closets; Fire-Extinguishers; Sewerage; Water Purification.	Sept. 20	Oct. 3	585

Oldest new case, Sept. 6; oldest amended, Oct. 1.

Total number of applications awaiting action..... 15,714

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	Nov. 16	Nov. 23	761
	Designs	Nov. 13	Nov. 22	107
	Labels and Prints	Nov. 21	Nov. 22	66

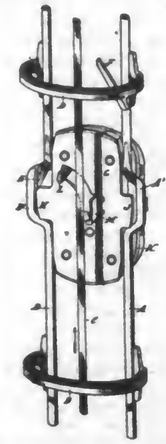
Trade-Marks.

Extra copies of the trade-mark portion of the GAZETTE, which will be sold separately, may be obtained single or in quantities for five cents each. Coupons will be taken in payment thereof.

PATENTS

GRANTED DECEMBER 20, 1910.

978,826. CABLE-CARRIER APPARATUS. GEORGE A. AMSDEN, Littleton, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J., a Corporation of New Jersey. Filed Feb. 13, 1908, Serial No. 415,698. Renewed May 16, 1910. Serial No. 561,720.



1. In a cable carrier apparatus, a track or way, a cable adapted to actuate carriers along said track or way, despatching stations for placing carriers into coöperation with said track and cable, means for ejecting carriers from said stations when inserted for despatch wrong end foremost, and means for causing the engagement of the carriers and cable when the carriers are inserted for despatch right end foremost.

2. In a cable carrier apparatus, a track or way, a cable adapted to actuate carriers along said track or way, despatching stations permitting the insertion of carriers into coöperation with said track and cable, an ejecting device located at each of said despatching stations, and a lip or projection located on said carriers and adapted to engage said device when a carrier is inserted wrong end foremost to prevent the despatching of and eject said carrier.

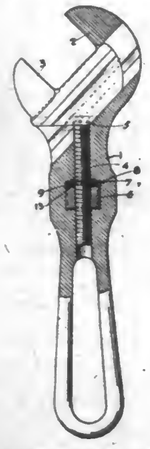
3. In a cable carrier apparatus, a track or way, a cable adapted to actuate carriers along said track or way, despatching stations for placing carriers into coöperation with said track or way and cable, a plate secured to each carrier and provided with projecting lugs of different widths, and means located in the path of the carriers and adapted when engaged by the lug of greater width to prevent the engagement of the carriers and cable.

4. In a cable carrier apparatus, a track or way, a cable adapted to actuate carriers along said track or way, despatching stations for placing carriers into coöperation with said track or way and cable, a plate secured to the bottom of each carrier and provided with projecting lugs of different widths, and means located in the path of the carriers and adapted when engaged by the lug of greater width to prevent the engagement of the carriers and cable.

5. In a cable carrier apparatus, a track or way, a propelling cable for driving carriers along said track, gripping mechanism on the carriers for gripping the cable to propel the carriers, means for operating said gripping mechanism to grip the cable, and means for preventing the engagement of said gripping mechanism and said operating mechanism when the carrier is placed on the track for despatch wrong end foremost.

[Claims 6 to 11 not printed in the Gazette.]

978,827. WRENCH. JOHN F. ANDERSON, San Francisco, Cal. Filed Dec. 8, 1909. Serial No. 531,928.



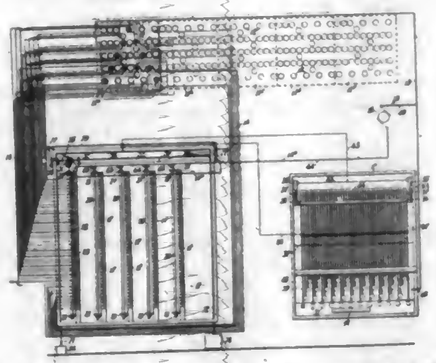
1. A wrench having a handle, a fixed jaw and a movable jaw, a screw and nut for moving the movable jaw, the handle of the wrench having a recess to receive said nut, a washer in said recess around said screw having at a side a raised portion the height of said raised portion being sufficiently small to permit it to be received in said recess in addition to the remaining parts therein, but sufficiently large that, when received therein, said nut is jammed tight and prevented turning, said nut being loose in said recess when the raised portion is parallel to the wide side of the wrench handle, and the end of the nut remote from the washer being adapted to freely contact with the corresponding end of the recess, substantially as described.

2. A wrench having a handle, a fixed jaw and a movable jaw, a screw and nut for moving the movable jaw, the handle of the wrench having a recess to receive said nut, a washer in said recess around said screw having at a side a raised portion the height of said raised portion being sufficiently small to permit it to be received in said recess in addition to the remaining parts therein, but sufficiently large that, when received therein, said nut is jammed tight and prevented turning, said nut being loose in said recess when the raised portion is parallel to the wide side of the wrench handle, and the end of the nut remote from the washer being adapted to freely contact with the corresponding end of the recess, and a spring between the washer and nut, substantially as described.

3. A wrench having a handle, a fixed jaw and a movable jaw, a screw and nut for moving the movable jaw, the handle of the wrench having a recess to receive said nut, a washer in said recess around said screw having at a side a raised portion the height of said raised portion being sufficiently small to permit it to be received in said

recess in addition to the remaining parts therein, but sufficiently large that, when received therein, said nut is jammed tight and prevented turning, said nut being loose in said recess when the raised portion is parallel to the wide side of the wrench handle, and the end of the nut remote from the washer being adapted to freely contact with the corresponding end of the recess, the end of the nut next to the washer being grooved, and a spring in said groove, substantially as described.

978,828. ELECTRICAL ILLUMINATING-SIGN. WILLIAM WARREN ARNOLD, Hamilton, Ohio. Filed Aug. 10, 1909. Serial No. 512,163.



1. An electrical illuminating sign, comprising a sign structure embodying a plurality of monograms; a multiplicity of electric circuits incorporating in each circuit a separate display device mounted on said sign structure; a plurality of board-like members arranged in successive order, said board-like members equaling in number said monograms and arranged to receive the circuit wires of the said monograms of said sign; a series of elongated metal strips mounted on said board like members in parallel arrangement, each of said strips forming the terminal for one of the said circuits incorporating one of the said display devices; movable contactors each adapted to complete a series of said circuits by impinging on a series of said terminals; a series of electromagnets equaling in number the characters to be displayed on the sign and disposed in juxtaposition to the said contactors on one of the said board-like members; a carriage supporting said magnets and movably mounted to convey the said magnets successively over the said board-like members; means for moving the said carriage; electro-responsive means for arresting the movement of said carriage; and circuit closing devices to operate said magnets.

2. An electrical illuminating sign, comprising a sign structure embodying a plurality of monograms; a multiplicity of electric circuits incorporating in each circuit a separate display device mounted on said sign structure; a plurality of board-like members arranged in successive order, said board-like members equaling in number said monograms and arranged to receive the circuit wires of the said monograms of said sign; a series of elongated metal strips mounted on said board-like members in parallel arrangement, each of said strips forming the terminal for one of the said circuits incorporating one of the said display devices; movable contactors each adapted to complete a series of said circuits by impinging on a series of said terminals; a series of electromagnets adapted to cause said contactors to impinge on said terminals, said electromagnets equaling in number the said contactors and disposed in juxtaposition thereto; a carriage to support said magnets, said carriage being mounted on carrying wheels to operate to successively present the said magnets to the successive board-like member; electro-responsive means for arresting the said carriage at each of the said board-like members, to successively place the said magnets in operative position to the contactors of the successive board-like members; circuit closing devices to operate said magnets; and means for maintaining in contacted position the said contactors.

3. An electrical illuminating sign, comprising a sign structure embodying a plurality of monograms; a multiplicity of electric circuits incorporating in each circuit a separate display device mounted on said sign structure; a plurality of board-like members arranged in successive order, said board-like members equaling in number said monograms and arranged to receive the circuit wires of the said monograms of said sign; a series of elongated metal strips mounted on said board-like members in parallel arrangement, each of said strips forming the terminal for one of the said circuits incorporating one of the said display devices; movable contactors each adapted to complete a series of said circuits by impinging on a series of said terminals; a series of electromagnets adapted to cause said contactors to impinge on said terminals, said electromagnets equaling in number the said contactors and disposed in juxtaposition thereto; a carriage to support said magnets, said carriage being mounted on carrying wheels to operate to successively present the said magnets to the successive board-like member; electro-responsive means for arresting the said carriage at each of the said board-like members to successively place the said magnets in operative position to the contactors of the successive board-like member; circuit closing devices to operate said magnets; and means for maintaining in contacted position the said contactors.

4. An electrical illuminating sign, embodying a sign structure embodying a plurality of monograms; a multiplicity of electric circuits incorporating in each circuit a separate display device mounted on said sign structure; a plurality of board-like members arranged in successive order, said board-like members equaling in number said monograms and arranged to receive the circuit wires of the said monograms of said sign; a series of elongated metal strips mounted on said board-like members in parallel arrangement, each of said strips forming the terminal for one of the said circuits incorporating one of the said display devices; movable contactors each adapted to complete a series of said circuits by impinging on a series of said terminals; a series of electromagnets adapted to cause said contactors to impinge on said terminals, said electromagnets equaling in number the said contactors and disposed in juxtaposition thereto; a carriage to support said magnets, said carriage being mounted on carrying wheels to operate to successively present the said magnets to the successive board-like member; electro-responsive means for arresting the said carriage at each of the said board-like members to successively place the said magnets in operative position to the contactors of the successive board-like member; circuit closing devices to operate said magnets; means for maintaining in contacted position the said contactors; and means for releasing the said contactors after the said carriage has presented the said magnets to the contactors of the last of the said board-like members.

5. An electrical illuminating sign, comprising a sign structure embodying a plurality of monograms; a multiplicity of electric circuits incorporating in each circuit a separate display device mounted on said sign structure; a plurality of board-like members arranged in successive order, said board-like members equaling in number said monograms and arranged to receive the circuit wires of the said monograms of said sign; a series of elongated metal strips mounted on said board-like members in parallel arrangement, each of said strips forming the terminal for one of the said circuits incorporating one of the said display devices; movable contactors each adapted to complete a series of said circuits by impinging on a series of said terminals; a series of electromagnets adapted to cause said contactors to impinge on said terminals, said electromagnets equaling in number the said contactors and disposed in juxtaposition thereto; a carriage to support said magnets, said carriage being mounted on carrying wheels to operate to successively present the said magnets to the successive board-like member; electro-responsive means for arresting the said carriage at each of the said board-like members to successively place the said magnets in operative position to the contactors of the successive board-like member; circuit closing devices to operate said magnets; means for maintaining in contacted position the said contactors; means for releasing the said contactors after the said carriage has presented the said magnets to the contactors of the last of the said board-like members; and a cut-out switch operated by said carriage after the last magnets have been presented to the contactors of the last board-like member.

[Claims 6 to 9 not printed in the Gazette.]

978,829. FOUNTAIN-PEN. FRANK M. ASHLEY, New York, N. Y. Filed Dec. 3, 1906. Serial No. 345,980.



1. In combination, a casing, a pen-section having an ink duct, a check valve provided with a tube having a passage therethrough communicating with said ink duct, and means coöperating with said valve for introducing ink into said casing and expelling air therefrom.

2. In combination, a casing, a pen-section, a check valve constructed to swing open and admit ink into said casing and close to trap ink therein, a tube extending from said valve to the rear end of said casing, and means for expelling air from within said casing through said tube to the atmosphere.

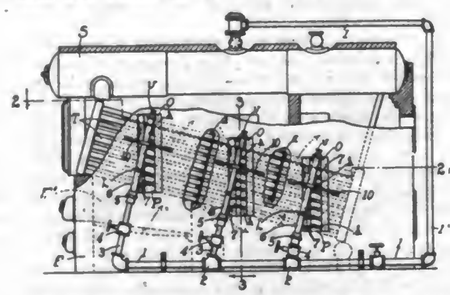
3. In combination, a casing, a pen-section connected therewith, a swing check valve having a tube connected thereto, and means for drawing ink through said valve into said casing and expelling the air therefrom.

4. In combination, a casing, a pen-section, a swing valve having a tube extending therefrom toward the rear end of the casing, and means coöperating with said valve for introducing ink into said casing therethrough.

5. In combination, a casing, a pen-section, a swing check valve having a tube coöperating therewith and extending from said valve toward the rear end of said casing, and means coöperating with said valve for holding same in its closed position.

[Claims 6 to 11 not printed in the Gazette.]

978,830. BOILER-CLEANER. LEO JNO. BAYER, St. Louis, Mo. Filed Apr. 4, 1910. Serial No. 553,411.



1. In combination with a boiler having series of water-tubes disposed in superposed parallel planes, a series of transversely disposed baffle-plates intersecting the tubes and dividing the boiler into independent sections, nozzles located opposite each section for projecting a cleaning fluid into and through the spaces between the tubes, and means for moving the discharge ends of the nozzles in planes parallel to the general planes of disposition of the tubes.

2. In combination with a boiler having series of water-tubes disposed in superposed parallel planes, a series of transversely disposed baffle-plates intersecting the tubes and dividing the boiler into independent sections, nozzles located opposite each section for projecting a cleaning fluid into, through and across the spaces between the tubes, and means for moving the discharge ends of the nozzles in planes parallel to the general planes of disposition of the tubes.

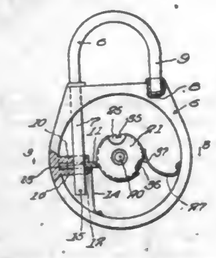
3. In combination with a boiler having series of water-tubes disposed in superposed inclined planes, a furnace inclosing said tubes, the wall of the furnace being provided with vertical side openings, a fluid-supply pipe disposed on the outside of the furnace wall, an axially rotatable header opposite an opening in the wall disposed substantially at right angles to the planes of disposition of the water-tubes, a series of offsets leading from the header, and nozzles extending from said offsets into the boiler furnace and projecting the fluid into and through the spaces between the tubes during the rotation of the henders, the several offsets being apportioned in length to bring the bases of the nozzles in line with the center of the opening in the furnace wall, said center corresponding to the center of the arc of oscillation of the nozzles.

4. In combination with a water-tube boiler, a fluid-ejecting and cleaning nozzle positioned on the side of the tubes and provided with passages projecting the cleaning fluid between the tubes and across the space between the tubes and an independent passage for directing the fluid in the general direction of the line of draft.

5. In combination with a boiler having a series of water-tubes disposed in superposed parallel planes, a series of transverse baffle-plates intersecting the tubes and dividing the boiler into independent sections, a steam-supply pipe, a rotatable header opposite each section carried by said pipe, a series of nozzles leading from each header toward the boiler and projecting the steam into and across the spaces between the tubes, a lever arm projecting in the opposite direction from each header, and a link pivotally coupled to the several lever arms whereby the several headers may be rotated in unison and the several sections of the boiler cleaned simultaneously.

[Claim 6 not printed in the Gazette.]

978,831. PERMUTATION-PADLOCK. FRED E. BENNETT, Los Angeles, Cal., assignor, by direct and mesne assignments, to Phoenix Combination Lock Company, Phoenix, Ariz., a Corporation of Arizona. Filed Jan. 20, 1910. Serial No. 539,036.



1. In a lock of the character described, a longitudinally movable shackle having a V-shaped notch therein, a bolt engaging the notch and constructed to be forced out of engagement therewith by a longitudinal movement of the shackle, and a locking disk having a notch with beveled edges in its periphery adapted for registration with the bolt.

2. In a lock of the character described, a longitudinally movable shackle having a V-shaped notch therein, a bolt engaging the notch and constructed to be forced out of engagement therewith by a longitudinal movement of the shackle, means to keep the bolt in engagement with the shackle, and a locking disk having a notch with beveled edges in its periphery adapted for registration with the bolt.

3. In a lock of the character described, a longitudinally moving shackle having a transversely extending notch therein one wall of the notch being oblique to the line of movement of the shackle, a bolt adapted to enter the notch

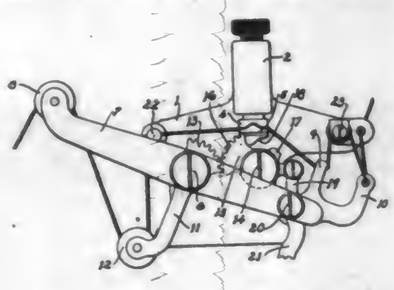
in the shackle and to be removed therefrom by a movement of the shackle, resilient means to hold the bolt in engagement with the shackle, and a locking disk peripherally engaging with the bolt to prevent its movement out of the notch in the shackle the disk being provided with a notch with beveled edges in its periphery into which the bolt is adapted to enter.

4. In a lock of the character described, a case, a shackle adapted to move longitudinally in the case, a bolt engaging surface on the shackle, a bolt adapted to move transversely to the line of movement of the shackle and to engage with the bolt engaging surface, resilient means to hold the bolt in engagement with the shackle, and a locking disk adapted to peripherally engage with the bolt and having a notch with beveled edges into which the bolt is adapted to enter, the bolt engaging surface on the shackle being oblique to the line of movement thereof so that the bolt is forced away from the shackle and into the notch in the disk upon the longitudinal movement of the shackle.

5. In a lock of the character described, a longitudinally movable shackle having a V-shaped notch therein, a bolt engaging the notch and constructed to be forced out of engagement therewith by the longitudinal movement of the shackle, a pair of locking disks having notches in their peripheries adapted for registration with the bolt, and means to force the bolt toward the shackle.

[Claim 6 not printed in the Gazette.]

978,832. THREAD TAKE-UP FOR SEWING-MACHINES. WILLIAM R. BLAIR, St. Louis, Mo., assignor to Landis Machine Company, St. Louis, Mo., a Corporation of Missouri. Filed June 24, 1910. Serial No. 568,732.



1. A take-up device, comprising a thread clamp, a lever with a thread engaging part at each end, means for operating the same, an auxiliary lever, and means connecting the two levers, whereby the auxiliary lever is operated in conjunction with the first lever, and having a portion adapted to operate the thread clamp.

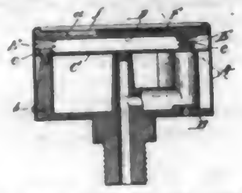
2. A take-up device, comprising a pivoted lever, a second lever mounted on the same pivot as the first lever, and a gear connection between the two levers, whereby both levers may be actuated from the same means.

3. A take-up device, comprising a lever with a thread engaging part, a second lever actuated from the first lever, a tension device, and means connected to the operating means for the second lever, for actuating the tension device.

4. A take-up device comprising a lever with a thread engaging part, a second lever with a thread engaging part having a segmental gear attached, an independently mounted gear meshing with said segmental gear, and a link connecting the latter gear with the first mentioned lever.

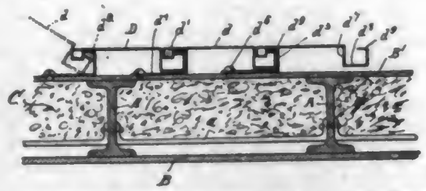
5. A take-up device comprising a lever with a thread engaging part, a second lever with a thread engaging part having a segmental gear attached, an independently mounted gear meshing with said segmental gear, a thread clamp, means for operating said independently mounted gear, having a projection adapted to engage and operate the thread clamp.

978,833. GAGE. FREDERICK C. BLANCHARD, Bridgeport, Conn., assignor to The Ashcroft Manufacturing Company, Bridgeport, Conn., a Corporation of Connecticut. Filed July 13, 1910. Serial No. 571,709.



In a gage in combination a casing comprising a metal jacket having an indicator opening and a seat for a glass plate, said glass plate, and a cushion between said plate and said seat having an opening of the same form as said indicator opening and adapted to register therewith, a dial and a spring mounted on said dial adapted yieldingly to hold said plate against said cushion.

978,834. METALLIC SIDING. WILHELM F. BONNESS, Chicago, Ill. Filed Jan. 30, 1909. Serial No. 475,122.



1. A metallic siding strip comprising a central face portion, a hollow bead on the inner face thereof adjacent one lateral margin, a reinforcing strip extending from one side of said bead parallel and in close contact with the face portion, a spacing web extending inwardly from one margin of said strip, an attaching flange extending from the inner margin of the web outwardly from beneath the bead and providing a recess between the same and said bead, strip and web, a web extending inwardly from the opposite margin of the face portion, a base extending laterally from the inner edge thereof, and a hooked portion extending upwardly from said base and laterally toward the face portion and adapted to fit closely behind the bead on the adjacent strip.

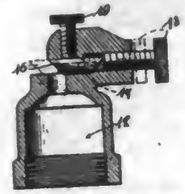
2. A metallic siding strip comprising a sheet of metal folded to provide a central face portion d, a hollow bead d' beneath the margin of said face portion, a reinforcing strip d^2 extending laterally from said bead in close contact to the inner side of said face portion, a spacing web d^3 extending inwardly from the margin of said reinforcing strip, a flange d^4 extending laterally from the inner margin of said spacing web to a point beyond said bead, an inwardly directed web d^5 on the opposite margin of said face portion adapted to abut against the bead on the adjoining strip, a base portion d^6 adapted to lie flat on the flange d^4, and an outwardly and laterally directed tongue d^7 adapted to lie in close contact with the web d^3 and strip d^2 of an adjoining siding strip and abut at its edge against the inner side of the bead on said strip.

978,835. NOZZLE. LEWIS C. BOWERS, Boise, Idaho. Filed Apr. 28, 1910. Serial No. 558,170.

1. A nozzle comprising a body having a transverse slot therein at one end and a longitudinal passage opening through one wall of said slot and the other end of the body, a slidable disk mounted in said slot adapted to open and close said passage, means for sliding said disk, and means for locking said disk against sliding movement.

2. A nozzle comprising a body having a transverse slot therein at one end and a longitudinal passage opening through one wall of said slot and the other end of the

body, a slidable disk mounted in said slot adapted to open and close said passage, a thumb screw mounted in said body adapted when moved inwardly to engage one end of the disk and slide same toward the outer end of the slot, and a second set screw mounted in said body adapted when moved inwardly to engage one side of the disk and force same against the side of the slot through which the passage opens.

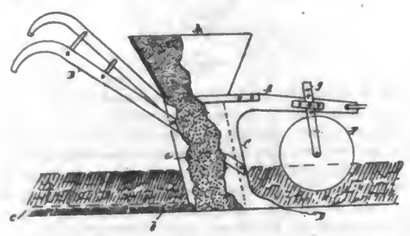


3. A nozzle comprising a body having a transverse slot therein at one end and a longitudinal passage opening through one wall of said slot and the other end of the body, a slidable disk mounted in said slot adapted to open and close said passage, said slidable disk having its sides converging toward the side of the slot through which the passage opens, means for sliding said disk, and means for locking said disk against sliding movement.

4. A nozzle comprising a body having a transverse slot therein at one end and a longitudinal passage opening through one wall of said slot and the other end of the body, guide rails mounted in said slot on opposite sides of the passage, a slidable disk mounted between said guide rails adapted to open and close said passage, means for sliding said disk and means for locking said disk against sliding movement.

5. A nozzle comprising a body having a transverse slot therein at one end and a longitudinal passage opening through one wall of said slot and the other end of the body, a slidable disk mounted in said slot adapted to open and close said passage, the sides of said disk being equal, whereby the position of said sides with relation to said slot may be varied at will, means for sliding said disk, and means for locking said disk against sliding movement.

978,836. SYSTEM FOR LAND-DRAINING. EDWARD WATSON BOWSLAUGH, North Grimsby township, Lincoln county, Ontario, Canada. Filed June 20, 1910. Serial No. 567,772.

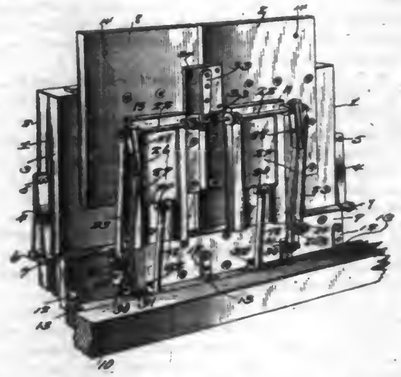


An improved system of draining land without digging or turning up the soil, which consists in pressing the soil apart to form a passage through it and then filling the space thus formed with drainage material.

978,837. PEDAL MECHANISM. GEORGE P. BRAND, New York, N. Y. Filed Apr. 7, 1909. Serial No. 488,343.

1. A folding pedal embodying a foldable leg, means pivotally connected at one end to said leg, a piano base board to which the other ends are pivoted, an exhauster, said means being independent of each other and disconnected from each other, and a pedal pivotally connected with said leg and directly with said exhauster.

2. A folding pedal embodying a foldable leg, means pivotally connected at one end to said leg, a piano base board to which the other ends are pivoted, an exhauster, said means being independent of each other and disconnected from each other, and a pedal pivotally connected with said leg and directly with said exhauster, the connection between the pedal and exhauster being foldable against the pedal.



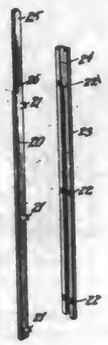
3. A folding pedal, a leg pivoted thereto, a piano base board, an exhauster, arms out of engagement with each other and independently pivoted to said leg and base board, and means pivoted at one end to the pedal and at the other directly to the exhauster at a point below the said base board.

4. A folding pedal, a leg pivoted thereto, a piano base board, an exhauster, arms out of engagement with each other and independently pivoted to said leg and base board, and means pivoted at one end to the pedal and at the other directly to the exhauster at a point below the said base board and to the rear of the pivotal connections of said arms with the base board.

5. In a folding pedal mechanism, a foldable leg, separate means pivotally connected with the leg and disconnected from each other, a fixed support with which said means are also pivotally connected, a pedal formed with a depression upon its under face extending to the end thereof and a link pivotally connecting the pedal support and receivable in said depression.

[Claims 6 to 13 not printed in the Gazette.]

978,838. WINDOW-SCREEN. PAUL R. BREITHER, Chicago, Ill. Filed Mar. 17, 1910. Serial No. 549,880.



1. In a device of the class described, the combinatio with a window frame, of a screen vertically movable with said frame, hollow screen guides mounted on the sides said frame, one of said guides having a removable hing section and a stationary retaining member adapted to r ceive said removable section with locking engagement, su stantially as described.

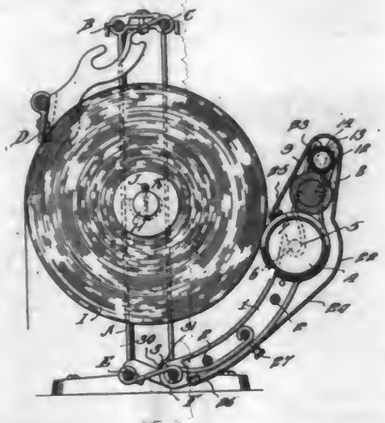
2. In a device of the class described, the combination with a window frame, of a screen vertically movable within said frame, said screen having a longitudinal groove in each side, a tongued screen guide mounted on each side of said frame, one of said screen guides comprising two sections, one of which is removable when the screen is moved to a predetermined position, said removable section having a hinged extension, and a permanent portion of screen guide adapted to receive said removable section, substantially as described.

3. In a device of the class described, the combination with a window frame, of a window screen vertically movable within said frame, said screen provided with a longitudinal groove on each side, and a hollow metallic tongued screen guide mounted on each side of said window frame and engaging the grooves in said screen, one of said screen guides having a tongue which is removable when the screen is moved to a predetermined position, said tongue having projections thereon which are adapted to engage corresponding openings in a retaining portion of the guide and thereby to form an interlocking connection with the same, substantially as described.

4. A screen guide comprising a retaining member having openings therein, and a removable tongue member having projections adapted to pass through the openings in said retaining member and to thereby form interlocking engagement with said retaining member, substantially as described.

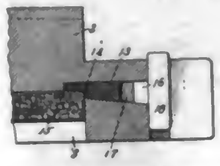
5. A screen guide comprising a retaining member and a tongue member, one portion of said retaining member being provided with openings adapted to receive corresponding projections on a removable section of said tongue member thereby forming inter-locking engagement between the removable section of the tongue member and the retaining member, said removable section having a hinged extension adapted to engage a tongue section which is permanently connected with said retaining member, substantially as described.

978,839. PRINTING DEVICE. RUSSELL H. BREMER, ODEN F. THIRY, and STEPHEN HOLLANDS, Reading, Pa. Filed Apr. 30, 1910. Serial No. 558,582.



In a printing device for paper roll holders, the combination with a roll holder having a pair of horizontally disposed rods which are located beneath the roll, a printing roll, a carrier therefor having pivotal connection with one of the said rods of the roll holder, spring means operatively connecting the other rod with the carrier for holding the printing roll yieldingly engaged with the paper roll, and a stop supported by one of the rods and designed to engage the carrier to limit the movement thereof in one direction.

978,840. OIL-PRESS BOX. NIMROD W. L. BROWN, Marietta, Ga. Filed Mar. 23, 1910. Serial No. 551,186.



1. An oil press box having solid side and end walls, a relatively thin bracing flange surrounding said box, one at least of said box walls having openings therethrough to permit access to the box interior, and means for closing said openings.

2. An oil press box having solid side and end walls, a relatively thin bracing flange surrounding said box, plug seats formed in said surrounding flange and piercing one of the walls of said box to give access to the interior thereof, and closures for said plug seats.

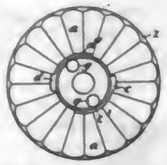
3. An oil press box having solid side and end walls, a relatively thin bracing flange surrounding said box, link engaging lugs projecting from said flange, plug receiving apertures traversing the end flange of said box to permit access to the interior, and wedge-shaped plugs having reduced end portions fitted to said apertures.

4. An oil press box having solid side and end walls, an opening through one of said walls to permit access to the interior, and a plug having a cut-away or notched end fitted in said opening.

5. An oil press box having solid side and end walls, an opening through one of said walls to permit access to the interior, and a plug having a tool receiving recess in its outer end closing said aperture.

[Claims 6 and 7 not printed in the Gazette.]

978,841. COMBINED ELECTRIC-CONNECTION PLUG AND SOCKET AND SWITCH. WILLIAM W. BUCKTON, Lonodn, England. Filed June 1, 1908. Serial No. 436,074.



1. In a combined socket and plug and switch, the combination of a plug, a revoluble portion on said plug having contact pins, sleeves on the revoluble portion into which the contact pins and plugs are inserted, contacts on the revoluble portion of the socket for switching on the current when this portion is partially revolved, a socket cover open above the revoluble portion of the socket and having recesses in its inner edge, vertical projections on the plug extending parallel with the contact pins thereon and so placed as to be opposite the recesses in the edge of the cover when the plug is inserted in the socket when the switch is in the "off" position and whereby the recesses in said projections engage the edges of the socket cover when the switch is turned to the "on" position.

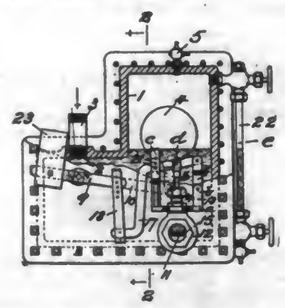
2. A combined plug and socket and switch, comprising a plug, in combination with a socket having a revoluble portion, contacts on the revoluble portion for switching on the current when this portion is partially revolved, means for making detachable electrical contact between the plug and the revoluble portion of the socket, a socket cover, a stepped recessed portion in the edge of the cover, a vertical projection on the plug so placed as to be opposite the recessed portion in the edge of the cover when the plug is inserted in the socket and the switch is in the "off" position said projection having a shoulder with which the edge of the socket cover engages when the switch is turned to the "on" position.

3. A combined plug and socket and switch comprising a plug in combination with a socket having a revoluble portion, contacts on the revoluble portion for switching on the current when this portion is partially revolved, a contact pin and a contact sleeve on the plug, a corresponding contact sleeve and a contact pin on the revoluble portion of the socket for engaging the corresponding parts of the plug, a socket cover, a recessed portion in the edge of the cover, a vertical projection on the plug so placed as to be opposite the recessed portion in the edge of the cover when the plug is inserted in the socket and the switch is in the "off" position, and a recess in said projection with which the edge of the socket cover engages when the switch is turned to the "on" position.

4. In a combined plug and socket and switch, the combination of a plug, a socket having a revoluble portion and provided with contacts, a socket base having contacts adapted to engage with the contacts on the revoluble portion when the latter is partially revolved, means for making electrical contact between the plug and the revoluble portion of the socket, a socket cover having recesses in its edges, projections on the plug so placed as to be opposite the recesses in the edge of the cover when the plug is inserted in the socket and the switch is in the "off" position and said projections having interlocking portions which engage the recesses of the socket cover when the switch is turned to the "on" position and differently shaped in cross section for insuring that the plug can be inserted in the socket in one way only.

5. In a combination plug and socket and switch, the combination of a switch portion having two contacts with a plug portion provided with two contacts respectively engaging the contacts of the switch portion, and interlocking parts for holding the plug portion to the switch portion when the switch is closed and unlocking the said parts when the switch is in its open position, said contacts on the plug and the switch portion maintaining their electrical connection while the interlocking parts are thrown into either the locked or unlocked positions.

978,842. STEAM-TRAP. JOHN M. BURBY, Astoria, N. Y., assignor of one-half to Fritz Muser, Chicago, Ill. Filed July 2, 1910. Serial No. 570,125.



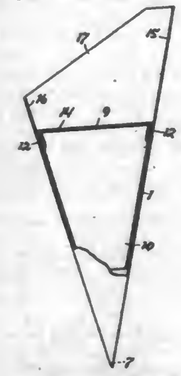
1. A steam trap, comprising a casing, an inlet in the casing, adapted for connection with the steam pipe; one part of the said casing being extended above the level of the inlet; an outlet at the bottom of the casing; an outlet pipe, communicating with the outlet; a valve set in the outlet pipe exteriorly of the steam trap; a rock-shaft set transversely in the casing; a lever rigidly connected to the rock-shaft inside of the casing; a float connected to the free end of the lever; and an adjustable compound lever, operatively connected to the valve and having one member rigidly connected to the rock-shaft; substantially as herein shown and described.

2. A steam trap, comprising a casing, an inlet in the casing, adapted for connection with the steam pipe; one part of the said casing being extended above the level of the inlet; an outlet at the bottom of the casing; an outlet pipe, communicating with the outlet; a valve set in the outlet pipe exteriorly of the steam trap; a gage communicating with the casing at or near the bottom thereof, and at or near the top of the extended part thereof; a rock-shaft set transversely in the casing; a lever rigidly connected to the rock-shaft inside of the casing; a float connected to the free end of the lever; and an adjustable compound lever, operatively connected to the valve and having one member rigidly connected to the rock-shaft; substantially as herein shown and described.

3. A steam trap, comprising a casing, an inlet in the casing, adapted for connection with the steam pipe; one part of the said casing being extended above the level of the inlet; an outlet at the bottom of the casing; an outlet pipe, communicating with the outlet; a valve set in the outlet pipe exteriorly of the steam trap; a rock-shaft set transversely in the casing; a lever rigidly connected to the rock-shaft inside of the casing; a float connected to the free end of the lever; a second lever rigidly connected to the rock-shaft on the outside of the casing; a gear for operating the valve, and a link, adjustably connecting the valve operating gear with the free end of the lever secured to the rock-shaft on the outside of the casing; substantially as herein shown and described.

4. A steam trap, comprising a casing, an inlet in the casing, adapted for connection with the steam pipe; one part of the said casing being extended above the level of the inlet; an outlet at the bottom of the casing; an outlet pipe, communicating with the outlet; a valve set in the outlet pipe exteriorly of the steam trap; a gage communicating with the casing at or near the bottom thereof, and at or near the top of the extended part thereof; a rock-shaft set transversely in the casing; a lever rigidly connected to the rock-shaft inside of the casing; a float connected to the free end of the lever; a second lever rigidly connected to the rock-shaft on the outside of the casing; a gear for operating the valve, and a link, adjustably connecting the valve operating gear with the free end of the lever secured to the rock-shaft on the outside of the casing; substantially as herein shown and described.

978,843. PUFF-BOX. WALTER G. BURNS, Fort Wayne, Ind. Filed July 20, 1905. Serial No. 270,450.



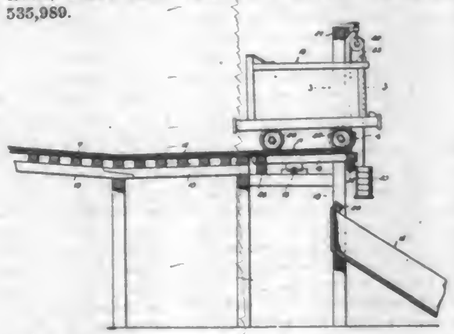
1. A device of the class described, consisting of a paper box the body of which is formed of a paper cone, and a reinforcement formed of a blank the ends and sides of which are folded and which extend toward the apex of the cone when the reinforcement is inserted in place within the cone, the bottom of the reinforcement being rectangular and with an opening therein, the extended portions of the cone forming flaps which are folded and pasted over the bottom of the reinforcement to thereby close the opening and form the bottom of the box.

2. A device of the class described, consisting of a paper box the body of which is formed of a paper cone, and a reinforcement for the box, having a rectangular

bottom and folded ends and sides which extend toward the apex of the cone when the reinforcement is inserted in place within the cone, said ends of the reinforcements conforming with the conical upper portion of the box, and the body fitting about the rectangular bottom of the reinforcement and taking a corresponding form at the point coincident therewith and from thence upward assuming gradually a form more perfectly circular in cross-section toward its apex.

3. In a device of the class described, a hollow body consisting of a paper cone, the apex of which is closed upon the interior thereof by the lap of the blank of which the cone is formed, and a reinforcement within the cone, having a rectangular base, the large end of the cone forming flaps which are folded and secured over the base of the reinforcement and form the exterior of the body at its bottom.

978,844. AUTOMATIC CAR-DUMPER. VAN C. CALHOUN, Paris, Ark. Filed Jan. 3, 1910. Serial No. 535,989.



A car dumping apparatus comprising continuous supporting rails having the major portion thereof inclined in one direction and the minor portion inclined in the opposite direction, a frame supported for tilting with the support located rearwardly of the center of the frame, tracks carried by said tilting frame and normally in alinement with the minor inclined rail portions and with stops at their forward ends, weights connected to said frame at its forward end and operating to maintain said platform yieldably in its upper position, and a car having bearing wheels spaced apart and movable over said rails, the stops of said tilting frame rails being so arranged that when the car is located upon said tilting frame rails the major portion thereof will be disposed in advance of the supporting point of the tilting frame, to cause the car to be automatically dumped and the empty car returned to its upper position to run down the tilting frame track and upon the minor portion of the inclined rails.

978,845. CONCRETE-MOLD. JOHN CARLEN, Havana, N. D. Filed July 2, 1909. Serial No. 505,602.



1. A mold for use in the construction of concrete walls, comprising laterally spaced mold boards, clamping levers, the lower ends of which are detachably engageable with the outer surfaces of said mold boards and capable of lateral and longitudinal adjustments with respect thereto, the inner edges of the upper ends of which are beveled so that they normally diverge upward, links intermediately connecting said levers in pairs, and thrust bars insertible between the beveled upper ends of said levers for holding the latter clamped against said mold boards, substantially as described.

2. In a mold for use in the construction of concrete walls, the combination with laterally spaced mold boards, of clamping levers, the lower ends of which are detachably engageable and longitudinally adjustable with the outer surfaces of said mold boards, links adjustably pivoted to the intermediate portions of said levers and connecting said levers in pairs, said links adapted to rest upon the upper edge of said mold boards for supporting said clamping levers, and thrust bars insertible between the upper ends of said levers for holding the same clamped against said mold boarus, substantially as described.

978,846. METHOD OF MAKING SEAMLESS WIRE. THOMAS F. CARLISLE, Providence, R. I., assignor to The Improved Seamless Wire Company, a Corporation of Rhode Island. Filed Mar. 16, 1910. Serial No. 549,603.

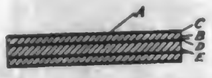


1. A process for forming solder filled wire consisting in inserting into a cylindrical seamless plated body a non-fusible core surrounded by an independent solder tube, and reducing the diameter of the assembled parts.

2. A process for forming solder filled wire consisting in first, plating a base metal tube with a precious metal to form an ingot body, next inserting a solid core and an intermediate tube of solder within the body, and finally reducing the diameter of the assembled parts without fusing of the solder tube.

3. A process for forming solder filled wire, consisting in uniting by fusion a plating shell to a base metal tube, fluxing a base metal core and a solder tube, inserting the core within the solder tube, introducing the core and solder tube into the base metal tube, and reducing the assembled parts to wire without the fusion of the solder tube.

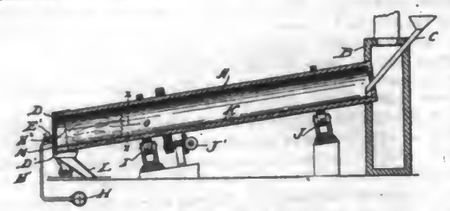
978,847. WIRE FOR ORNAMENTAL CHAINS. THOMAS F. CARLISLE, Providence, R. I., assignor to The Improved Seamless Wire Company, a Corporation of Rhode Island. Filed Mar. 16, 1910. Serial No. 549,604.



A wire comprising a base metal tube, a precious metal shell upon the tube, a disconnected tube of solder within the base metal tube, and a core within the solder tube.

978,848. METHOD OF MAKING PORTLAND CEMENT. JOSEPH MAXWELL CARRAN, Allentown, Pa., assignor to Blanc Stainless Cement Company, Allentown, Pa., a Corporation of New Jersey. Filed Nov. 24, 1908. Serial No. 464,243.

1. In the manufacture of Portland cement, the improvement which consists in subjecting to a relatively low and gradually increasing heat a mix comprising limestone and clay rich in alkalies, driving off substantially all the carbonic acid gas and a portion of the alkalies, thereafter subjecting the mix to a higher and clinkering heat produced by a short intense singeing flame and discharging the resulting clinker substantially as soon as formed, the gradual heating being due to the passage of products of combustion of the short flame through the upper part of the kiln.

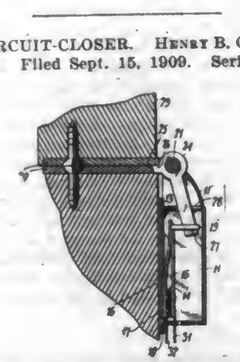


2. In the manufacture of Portland cement, the improvement which consists in passing a mix through a rotary, heating the rotary by burning near its discharge end in the presence of a current of air from a low pressure source fuel atomized by a small volume of fluid under high pressure and producing thereby a short intense singeing flame, passing the products of combustion through the rotary in a direction opposite to the longitudinal movement of the mix, and discharging the resulting clinker substantially as soon as formed.

3. In the manufacture of Portland cement, the improvement which consists in introducing into the kiln near its discharge end a current of air from a low pressure source, and a current of fuel atomized by a small volume of fluid under high pressure and overlying the current of air from the low pressure source, producing thereby a short intense singeing flame, passing the products of combustion through the kiln in one direction, and passing the mix through the kiln in the opposite direction and discharging the resulting clinker substantially as soon as formed.

4. In the manufacture of Portland cement, the improvement which consists in forming a mix containing approximately 76 per cent. of limestone and 24 per cent. of natural alkaline clay, the clay containing about three per cent. of alkali, the mix being substantially free from iron, subjecting said mix to a relatively low and gradually increasing heat, driving off substantially all the carbonic acid gas and a portion of the alkalies, thereafter subjecting the mix to a short intense singeing flame and discharging the resulting clinker substantially as soon as formed, the gradual heating being due to the products of combustion of the short singeing flame.

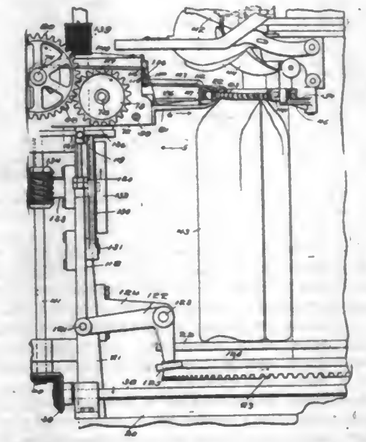
978,849. CIRCUIT-CLOSER. HENRY B. COLLIER, Prairie Grove, Ark. Filed Sept. 15, 1909. Serial No. 517,865.



1. A circuit closer for alarm circuits comprising, in combination with a hinge, a pair of contacts, one of which is movable to position against the other, and a member pivoted upon the pintle of the hinge and formed with a lug which is engageable by one leaf of the hinge when the said leaf is swung to lie against the other leaf, the last mentioned leaf being formed with a recess in which said lug is received when the leaves are folded, said member engaging a portion of said movable contact.

2. A circuit closer for alarm circuits comprising, in combination with a hinge, a pair of contacts, one of which is movable to position against the other, and a member pivoted upon the pintle of the hinge and formed with a lug engageable by one leaf of the hinge upon swinging movement in one direction whereby the said member will be swung upon the pintle, the said movable contact being formed with a yoke in which the member is engaged.

978,850. BAG-SEWING MACHINE. CHARLES D. CROMLEY, Alameda, Cal., assignor to Automatic Packing Company, San Francisco, Cal., a Corporation. Continuation of application Serial No. 345,764, filed Nov. 30, 1906. This application filed June 30, 1909. Serial No. 505,270.



1. In a device of the class described, a rotating table, means carried by the table for engaging a bag, means for rotatably moving the bag engaging means, and a sewing mechanism arranged to operate upon a bag engaged by the bag holding mechanism.

2. In a device of the class described, a frame, a table mounted to rotate upon the frame, bag holding means carried by the table, means for rotating the bag holders, a sewing mechanism carried by the frame, and means to operate the sewing mechanism in conjunction with the bag holding means.

3. In a device of the class described, a frame, a table mounted to rotate upon the frame, hooks carried by the table and proportioned to engage a bag, means for rotating the hooks, a sewing mechanism carried upon the frame and means to operate the sewing mechanism in conjunction with the hooks.

4. In a device of the class described, a frame, a table mounted to rotate upon the frame, hooks carried by the table proportioned to engage a bag, means carried by the table and arranged to rotate the hooks, a cam positioned upon the frame and proportioned to actuate the hook operating mechanism, and a sewing mechanism carried by the frame and in position for operation in conjunction with the hooks.

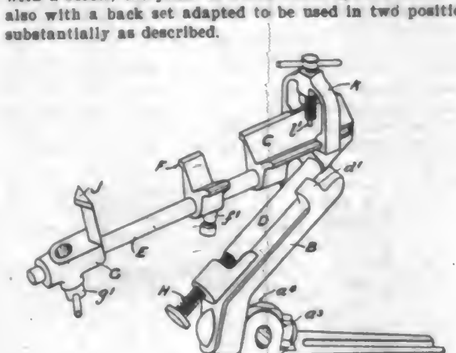
5. In a device of the class described, a frame, a continuously rotating table, means carried by the table for engaging a bag, a casing carried by the frame, an arm carried by the casing and positioned to engage a bag while being carried by the table, a needle carried by the casing and arranged to operate in conjunction with the arm, and means for transmitting motion from the rotating table to the needle.

[Claims 6 to 21 not printed in the Gazette.]

978,851. TWIST-DRILL-GRINDING JIG. WILLIAM EDWARD CROWTHER, New Brighton, England. Filed Nov. 18, 1909. Serial No. 528,818.

1. The combination in a twist drill grinding jig a ba in the form of a clamping fork with a lug at one end,

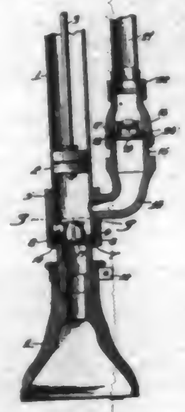
any side of which is locked, at any desired angle, an inclined bracket provided with bearings, and an adjusting or feeding screw, supporting a spindle secured to the drill rest, said rest being fitted with a sliding bridge provided with a screw, the point of which bears upon the drill and also with a back set adapted to be used in two positions, substantially as described.



2. In a twist drill grinding jig, a base with a multilateral support at one end thereof, an inclined bracket, provided with bearings, secured to any selected side of the support, a feeding screw adjustable through one of the said bearings, a drill rest, a spindle secured to the drill rest and supported by the feeding screw, and the other of said bearings, a sliding bridge, and a back set, on the drill rest.

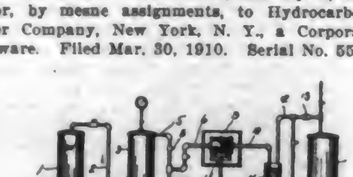
3. In a twist drill grinding jig, a base in the form of a clamping fork having at one end a multilateral support, an inclined bracket, provided with bearings, secured to any selected side of the support, a drill rest, a spindle secured to the drill rest and supported in one of said bearings, a feeding screw adjustable through the other of said bearings and engaging with said spindle, a sliding bridge mounted upon the drill rest provided with a set screw having a pin point and a back set for the drill rest to be used in two positions.

978,852. FORCE-PUMP. JOHN F. CUNNINGHAM, Springfield, Mo. Filed May 3, 1909. Serial No. 493,641.



The improved plumber's pump, comprising the cylinder 1, the piston, the piston-rod, the collar 5 surrounding the lower part of said cylinder and having a reduced threaded-portion at its lower end, the reducer 6 having the inner annular-shoulder 7 and detachably threaded to the threaded lower end of said collar, and also having a space in its reduced-portion for receiving the valve when same is reversed; the detachable valve-seat 8; the spring-actuated valve 13 carried by said detachable valve-seat and adapted to be reversed by reversing said valve-seat, so that the spring-portion of said valve will be located in the said space within said reduced portion of said reducer; packing-rings 9 and 10 arranged on the upper and lower faces of said valve-seat, said ring 9 being in contact with the lower end of said cylinder and the upper face of said valve-seat, and said ring 10 being arranged between the lower face of said valve-seat and the said shoulder 7 of said reducer; a suitable base secured to the reduced-portion of said reducer; an elbow 14 formed integral with said collar 5, projecting at one side thereof and having its outer end reduced and threaded; the reducer 16 threaded upon said threaded-end of said elbow, said elbow and said reducer 16 forming chambers for receiving the portions of a reversible spring check-valve; the valve-seat 19 and packing-rings 20 clamped between said threaded-end of said elbow and the body of said reducer 16; and the valve 19 carried by said valve-seat and adapted to be reversed by disconnecting said reducer from said elbow and reversing said valve-seat 18; all in combination with a suitable flexible-hose, as 21, applied to the reduced-end of said reducer 16.

978,853. METHOD OF AND APPARATUS FOR MAKING GAS. WILLIAM T. CUTTER, East Lyme, Conn., assignor, by mesne assignments, to Hydrocarbon Converter Company, New York, N. Y., a Corporation of Delaware. Filed Mar. 30, 1910. Serial No. 552,406.



1. The method of making a fixed gas which consists in intermixing hydracarbon oil and isolated carbon dioxid under pressure and decomposing the mixture by subjecting the same to a high degree of heat.

2. The method of making a fixed gas which consists in intermixing hydrocarbon oil and isolated carbon dioxid under pressure, decomposing the mixture by subjecting the same to a high degree of heat, and collecting the resultant gas in a receptacle at substantially the initial pressure.

3. The method of making gas which consists in saturating hydrocarbon oil with isolated carbon dioxid, and subjecting the saturated mixture to approximately 1400 degrees F. of heat to decompose the whole into a fixed gas.

4. The method of making a gas which consists in mixing isolated dioxid and hydrocarbon oil under pressure, subjecting the mixture to a high degree of heat to decompose and convert the same into a fixed gas, and collecting this gas still under pressure in a suitable receiver.

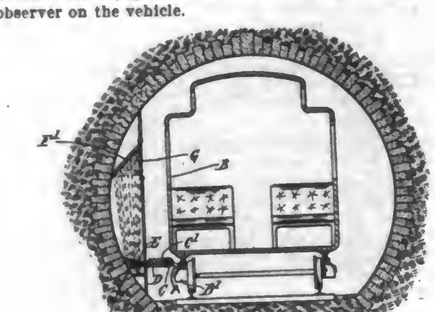
5. The method of making a fixed gas which consists in mixing hydrocarbon oil and isolated carbon dioxid under pressure, decomposing the mixture by passing the same along the face or through the pores of heated porous material, washing the gas, and then collecting the same in a suitable receiver at substantially the initial pressure.

[Claims 6 and 7 not printed in the Gazette.]

978,854. APPARATUS FOR PRODUCING ANIMATED PICTURES BY THE MOVEMENT OF VEHICLES. WACLAW CZERNIEWSKI, London, England. Filed Nov. 29, 1909. Serial No. 530,373.

1. In animated picture apparatus, in combination, a vehicle, a series of progressive pictures, means for successively illuminating the pictures by the movement of the vehicle, and image-producing means coöperative with the pictures for successively presenting images of the pictures to an observer on the vehicle.

2. In animated picture apparatus, in combination, a vehicle, a series of progressive pictures so disposed that they are passed in turn by the vehicle, means for successively illuminating the pictures by the movement of the vehicle, and image-producing means coöperative with the pictures for successively presenting images of the pictures to an observer on the vehicle.



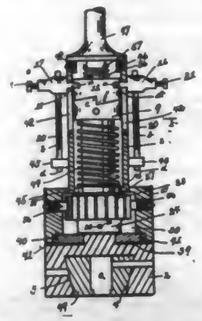
3. In animated picture apparatus, in combination, a vehicle, a series of progressive pictures, means for successively illuminating the pictures by the movement of the vehicle, and magnifying image-producing means coöperative with the pictures for successively presenting images of the pictures to an observer on the vehicle.

4. In animated picture apparatus, the combination of, a vehicle, a series of progressive pictures, means for successively illuminating the pictures by the movement of the vehicle, a screen, and image-producing means coöperative with the pictures for successively projecting images on to the screen.

5. In animated picture apparatus, the combination of, a vehicle, a series of progressive pictures, means for successively illuminating the pictures by the movement of the vehicle, a screen disposed along the side of the track traversed by the vehicle, and image-producing means coöperative with the pictures for successively projecting images on to that part of the screen opposite a given point of the vehicle at the moment of illumination.

[Claims 6 to 20 not printed in the Gazette.]

978,855. TAPPING ATTACHMENT. JOHN B. DADE, Frankfort, N. Y. Filed Dec. 20, 1909. Serial No. 534,063.



1. In a tapping attachment, the combination of a casing adapted to be attached to the spindle of a machine tool, a shank adapted to hold a tap of various styles, said casing having means engaging means on said shank whereby to turn said shank and tap in one direction for boring or tapping, graduated arms adjustably held by said means on said shank and by set screws for stopping said turning at a predetermined time and said casing having other means engaging other means on said shank for turning said shank and tap in the reverse direction adapted to draw said tap out of the work, substantially as described.

2. In a tapping attachment, the combination of a casing adapted to be attached to the spindle of a machine tool, a shank having means adapted to hold a tapping block and tap, said casing having a slot engaging means on said shank for turning said shank in one direction for tapping and said casing having other means engaging other means on said shank for turning said shank in the reverse direction, and graduated arms adjustably held by said means on said shank and by set screws, arranged in an external manner to the device, for automatically stopping the turning of said shank in one direction, substantially as described.

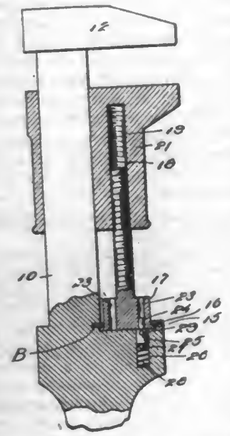
3. In a tapping attachment of the character described, the combination of a casing adapted to be attached to the spindle of a machine tool, a shank having a cylindrical base with a tapering slot, and said casing having means engaging means connected to said shank whereby said shank may be turned in one direction, graduated arms adjustably held in an external position to the device for automatically stopping said shank from turning at a predetermined time, and said casing having plungers adapted to engage with a ratchet wheel on said shank whereby said shank may be turned in the reverse direction.

4. In a device of the character described, the combination of a casing adapted to be attached to the spindle of a machine tool, a shank holding a block adapted to operatively secure taps of different styles, said casing having slots adapted to engage screws mounted in a nut revolubly mounted on said shank whereby to turn said shank in one direction, sleeves holding arms and rigidly secured to said nut whereby to stop the turning of said shank at a predetermined time, and said casing having dogs adapted to engage with a ratchet wheel on said shank whereby said shank may be turned in the reverse direction.

5. In a device of the character described, the combination of a casing having an enlarged cylindrical base portion, a shank holding a tapping block and a tap, a ratchet wheel slidingly mounted upon said shank, and adapted to ride over dogs whereby said tap may be turned into the work and said wheel held stationary by said dogs whereby said shank may be turned in the reverse direction, graduated arms arranged externally to said device and intermediately connected to said shank and adapted to come to rest upon the cylindrical base of said casing whereby said tap may be stopped from turning into said work at a predetermined time, substantially as described.

[Claims 6 to 12 not printed in the Gazette.]

978,856. WRENCH. JACK R. DAVIS, Duson, La. Filed Dec. 7, 1908. Serial No. 466,417.

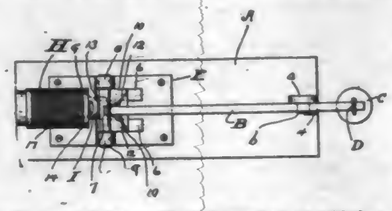


1. In a wrench the combination with a shank having movable and stationary jaws and supporting portions; an adjusting nut revolubly mounted upon the supporting portions, said nut having a circular series of passages formed therethrough, said supporting portions having

socket formed therein beneath the nut, a dog slidably mounted in the socket, a downwardly extending reduced portion carried by the dog, a spring engaged beneath the dog and resting upon the bottom of the socket said spring surrounding the reduced portion, a reduced upwardly extending portion carried by the dog and arranged for engagement in the passages of the nut interchangeably, said supporting portions having a slot therethrough communicating with the socket and a pin carried by the dog and extending outwardly of said slot, said slot having transversely extending notches at each end thereof and adapted to receive said pin, to hold said dog with its upwardly extending reduced portion at either limit of its movement into or out of engagement with the passages.

2. In a wrench, the combination with a stock having a stationary jaw, of an integral handle carried by the lower end of the stock and extending laterally from one side thereof, said laterally extending portion having a recess in its upper face, said recess extending slightly beyond the forward face of the stock, said stock having a notch therein directly above the laterally extended portion of the handle, an adjusting nut having an enlarged flange engaged in the recess, a confining plate disposed around the nut and engaged over the flange to permit rotation thereof, said plate extending into the notch, a sliding jaw upon the wrench, operative connections between the sliding jaw and the nut, said nut having a circular series of passages therethrough, said laterally extending portion having a socket therein beneath the nut, a spring actuated dog seated within the socket and having a reduced upper end for engagement with the passages and a pin carried by the dog and extending laterally through a slot in the handle, said slot having notches at each end to receive said pin and hold the dog at the limit of its movement in either direction.

978,857. PIVOTED LATCH. WILLIAM C. DAY, Cleveland, Ohio. Filed Mar. 25, 1910. Serial No. 551,594



A latch comprising a pivoted member provided a suitable distance from its axis with a surface forming a shoulder which faces in the direction of the said axis and in the normal and operative position of the said pivoted member is arranged to overlap and lock a movable member when the latter is at one extremity of its range of movement, said pivoted member having two surfaces which are spaced longitudinally of and diverge from the aforesaid axis, said surfaces being arranged to overlap opposite sides respectively of the aforesaid member to be overlapped by the aforesaid shoulder in the aforesaid position of the said pivoted member.

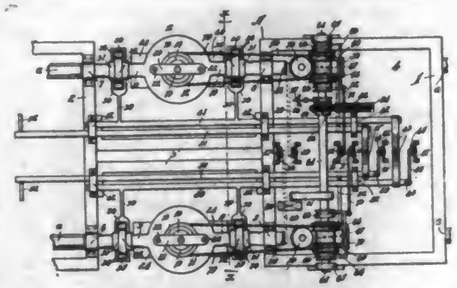
978,858. TRACK-SHIFTING MACHINE. HENRY T. DEVITT, St. Regis, Mont. Filed May 7, 1908. Serial No. 431,532.

1. A track moving machine, comprising a car, means for gripping the rails and means for raising and shifting and lowering both the car, and track simultaneously.

2. A track moving machine, comprising a car, means for gripping the rails, means for actuating said gripping means, and means for shifting the track.

3. A track moving machine, comprising a car, rail gripping means, means for engaging and disengaging said gripping means with the rails, disk shaped elements adapted to engage the inner flange of the rails adjacent the car wheels, means for actuating said elements, and means for shifting the car and track simultaneously.

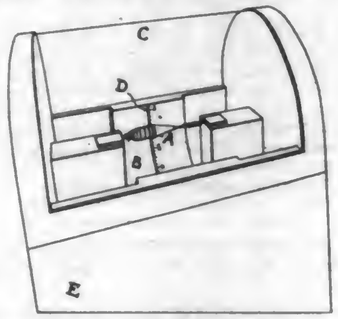
4. A track moving machine, comprising a car, rail gripping means depending therefrom, means for holding the car firmly on the rails, and means for raising, shifting and lowering the car and track simultaneously.



5. In a track moving machine consisting of a wheel supported frame, means for holding the wheels thereof in engagement with the rails forming a part of the track, means intermediate said wheels for gripping said rails and means for raising, shifting and lowering both the wheel supporting frame and track simultaneously.

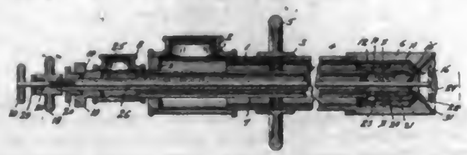
[Claims 6 to 42 not printed in the Gazette.]

978,859. SUN-DIAL GNOMON. FREDERICK J. DICK, Point Loma, Cal., assignor to Katherine Tingley, Point Loma, Cal. Filed July 16, 1908. Serial No. 443,920.



A sundial gnomon permanently fixed and formed with a series of transverse flutings so designed that the sun throws across the hour-line of the sundial a shadow indicating the profiles or outlines of two independent sets of curves of such a nature that the correct clock time can be read on the hour-line, substantially as described.

978,860. HYDROCARBON-BURNER. WILLIAM DIETZ, Cement, Tex. Filed June 23, 1910. Serial No. 568,427.



1. In a hydrocarbon burner, an air supply pipe, a nozzle head adjustably connected with the air pipe, a fuel supply pipe extending through the air pipe, a tip carried by the fuel pipe within the nozzle, a perforated bearing ring provided on the tip and on which the nozzle head is adjustable, a fuel regulating sleeve carried within the tip, a connection extending from the regulating sleeve through the fuel pipe to the rear end thereof, a device attached to the connection for adjusting the regulating sleeve, a rod passing through the fuel pipe and the regulating sleeve, a deflector carried on the forward end of the rod, and a device attached to the rod adjacent the first named device for adjusting the rod and the deflector.

2. In a hydrocarbon burner, an air supply pipe, a nozzle adjustably connected with the air pipe, a fuel pipe extending through the air pipe, a tip connected to the fuel supply pipe and located within the nozzle, a perforated bearing ring provided on the tip and on which the nozzle is adjustable, a fuel regulating sleeve movable within the tip, a tubular member connected at its forward end to the regulating sleeve and extending through the fuel pipe and projecting beyond the rear end thereof, a hand wheel on the rear end of the member, a rod extending through the sleeve and the tubular member and having its ends projecting, a deflector provided on the forward end of the rod adjacent the nozzle, and a hand wheel provided on the rear end of the rod adjacent the first named hand wheel.

3. In a hydrocarbon burner, an air pipe closed at its rear end and having an inlet in its side, a nozzle, an adjustable connection between the air pipe and the nozzle, a fuel supply pipe extending through the closed end of the pipe, a tip within the nozzle connected to the forward end of the fuel pipe, a perforated bearing ring surrounding the tip and fitting the inner walls of the nozzle, a fuel regulating sleeve movable within the tip, a perforated bearing surrounding the sleeve and engaging within the tip, a tubular member connected at its forward end to the sleeve and extending through and beyond the fuel pipe at its rear end, a packing gland at the rear end of the fuel pipe and through which the tubular member extends, a rod extending through the sleeve and the member, a deflector provided on the forward end of the rod, a hand wheel provided on the rear end of the tubular member and through which the rod extends, a packing gland in the hand wheel about the rod, and a second hand wheel secured on the rear end of the rod.

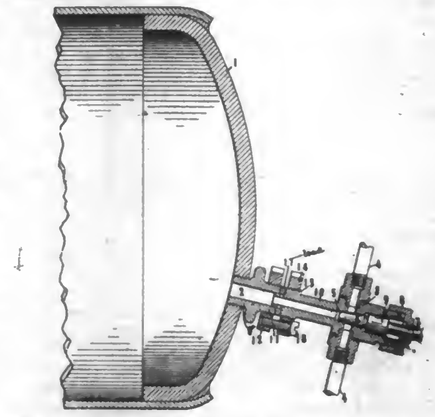
4. In a hydrocarbon burner, a nozzle head having at its mouth a contracted opening provided with walls converging toward and diverging from the opening, a tip within the nozzle head and having its discharge end contracted and adjacent the converging wall of the nozzle head, an air supply pipe communicating with the space between the nozzle and the tip, means for adjusting the nozzle head with relation to the tip, a regulating sleeve within the tip, an angular portion on the sleeve lying within the contracted end of the tip, a fuel supply pipe connected to the tip, means for adjusting the sleeve with relation to the tip, and a deflector adjacent the diverging wall of the nozzle head.

5. In a hydrocarbon burner, a nozzle head having at its mouth a contracted opening and provided with walls converging toward and diverging from the opening, a tip within the nozzle head and having its discharge end contracted and adjacent the converging wall of the nozzle head, an air supply pipe communicating with the space between the nozzle and tip, means for adjusting the nozzle head with relation to the tip, a regulating sleeve within the tip, an angular portion on the sleeve lying within the contracted end of the tip, a fuel supply pipe connected to the tip, means for adjusting the sleeve with relation to the tip, a deflector having its inner side concaved and being disposed in front of the opening of the nozzle head and adjacent the diverging wall thereof, and means for adjusting the deflector with relation to the diverging wall of the nozzle head.

978,861. EMERGENCY SHUT-OFF FOR GAS-HOLDERS. ROBERT M. DIXON, East Orange, N. J., assignor to Safety Car Heating & Lighting Company, a Corporation of New Jersey. Filed Aug. 7, 1907. Serial No. 387,463.

1. In a gas lighting system, in combination, a pressure supply tank, a gas supply conduit leading therefrom, and a valve in said conduit for closing same adapted to be closed by external pressure exerted in a direction parallel to the axis thereof.

2. In a gas lighting system, in combination, a pressure supply tank, a supply conduit leading therefrom, a straight-thrust valve in said conduit adapted to control the passage of gas from said supply tank, and a stem extending from said valve in all positions thereof exteriorly of said conduit and adapted to receive a thrust in a direction parallel to its axis, whereby said valve will be forced against its seat.



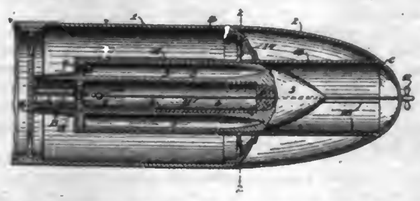
3. In apparatus of the class described, in combination, a pressure supply tank, a gas supply conduit leading therefrom, one or more gas distributing conduits communicating with said supply conduit, a valve seat formed in said supply conduit, a straight thrust plug valve for coöperating with said valve seat, and a stem extending from said valve in all positions thereof without said conduit and adapted to be engaged from a position exterior thereto, whereby said valve may be forced against its seat.

4. In apparatus of the class described, in combination with the gas supply tank and distributing conduits, a sectional conduit connecting said tank with said distributing conduits, and a section of fusible material clamped between the sections of said conduit, said fusible section constituting a section of said conduit.

5. In apparatus of the class described, in combination with the source of gas supply and distributing conduits, a sectional conduit connecting said source of supply with said distributing conduit, means for manually closing the flow of gas from said conduit to the distributing conduit, and automatically operated means clamped between the sections of said conduit for allowing the gas to escape laterally from said conduit to the atmosphere.

[Claims 6 to 9 not printed in the Gazette.]

978,862. AUTOMOBILE TORPEDO. WILLIAM M. DOUGLAS, Galveston, Tex. Filed Dec. 27, 1909. Serial No. 535,228.

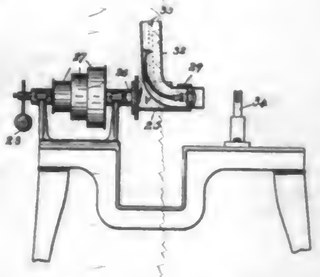


1. In a torpedo, the combination of a shell fitted over a cartridge case within a receiver or frame, the shell having an explosive chamber with a fuse provided for bursting same within a hull after passing through the under water side; the cartridge case to be provided with a fuse and means to fire the same together with a suitable propelling charge; the fixed cartridge case and the shell arranged so as to form an enlarged chamber for expansion of

gas as it moves forward so that under the pressure of the powder gases due velocity may be given the shell before it leaves the cartridge case and the torpedo, as described.

2. In a torpedo, the combination of a fixed cartridge case and propelling charge therein with means for firing said cartridge, a projectile fitted around said cartridge case and provided with a bursting charge and a fuse; the projectile fitted so that upon firing the powder charge in the case the projectile will move forward under impulse of the gases and be guided by the fixed case and an outer frame, the projectile and cartridge case making a chamber for expansion and pressure of gases to an extreme limit exceeding the limit of the cartridge case, so that due velocity may be given the projectile before it leaves the cartridge case and the torpedo, as described.

978,863. MEANS EMPLOYED IN CLOSING THE ENDS OF LEAD L'S BY SPINNING. FREDERICK N. DU BOIS, New York, N. Y. Filed Apr. 25, 1910. Serial No. 557,559.



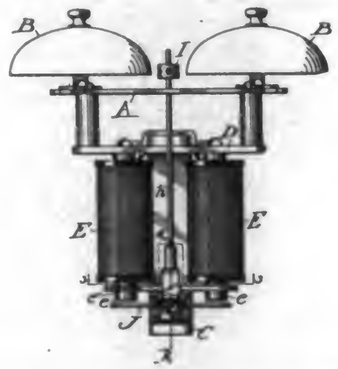
1. A mandrel for use in closing the ends of ells by spinning, comprising a head which is constructed with an exterior forming surface and an interior adjusting member secured to and extending inward therefrom, a plurality of radially movable segments arranged in relation to and movably connected with such surface, a movable cone-shaped flange for coöperating with said segments to force them outward in a radial direction and permit of their retiring in an opposite direction, a second adjusting member for coöperation with the first mentioned adjusting member, and a flexible shaft connected with such second member whereby to operate it to cause this second member to expand said movable segments and permit of their collapse as desired, substantially as described.

2. The combination in a mandrel for use in closing the ends of ells by spinning, with a head having a face plate, a screw projecting rearwardly therefrom, and a plurality of radially movable segments pivotally connected to said plate, of a sleeve engaged with said screw and having a flange provided with a cone-shaped periphery to engage with a portion of each of said segments, and a flexible shaft connected with said sleeve to rotate it, substantially as described.

3. The combination with a rotatable trough-shaped holder, and a clamp to co-act therewith to externally grasp the pipe, of a mandrel having an externally convex forming surface, radially movable segments operatively connected with said surface, means for spreading the segments radially, and a flexible shaft operatively connected with said segment-spreading means.

978,864. HARMONIC PARTY-LINE TELEPHONE-RINGER. CHARLES J. ERICKSON, Chicago, Ill., assignor, by mesne assignments, to First Trust and Savings Bank, trustee, Chicago, Ill. Filed Aug. 11, 1906. Serial No. 330,190.

1. In a bell or ringer, the combination of a support, electro-magnets mounted on said support, gongs carried by said support, a spring, means for mounting the spring at its middle or central portion, a striker or bell-clapper, an armature rigidly connected with said striker or bell-clapper, a permanent magnet, and a U-shaped member by which the striker is connected with and mounted upon the end portions of said spring, for the purpose set forth.



2. In a bell or ringer, a spring, means for supporting said spring between its ends, a striker, means for mounting the striker upon the free end portions of said spring, an armature rigidly connected with said striker, said striker and armature adapted to vibrate in a direction to give the spring a torsional twist, electro-magnetic means for operating said armature, and sound producing means to be engaged by said striker.

3. In a bell or ringer, a pair of electromagnets provided with cores or pole-pieces each having a circumferential groove, a yoke provided with openings adapted to slide over the ends of said cores or pole-pieces and having lateral and outwardly-extending notches leading from said openings, said notches adapted to engage the said grooves on the said cores or pole-pieces, a striker, an armature connected with said striker, and sound producing means to be engaged by said striker.

4. The combination of a torsional spring, an armature having portions thereof secured to and supported by the ends of said spring, means for supporting said spring at a point between its ends, and an electromagnet for vibrating said armature against the torsion of said supporting spring.

5. In a telephone ringer, the combination of an electromagnet frame, an armature therefor, a supporting member held stationary with reference to the electromagnet frame, a reed or spring-plate secured at an intermediate point to said supporting member, the ends of said reed or spring-plate being secured to the armature, a clapper connected with the armature, and bells disposed to be struck by the clapper upon vibration of the armature.

[Claims 6 to 11 not printed in the Gazette.]

978,865. MONOAZO DYE AND PROCESS OF MAKING. OTTO ERNST and HEINRICH EICHWEDE, Höchst-on-the-Main, Germany, assignors to Farbwerke vorm. Meister Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed Apr. 4, 1910. Serial No. 553,425.

1. The herein described process of manufacturing a red monoazo dyestuff suitable for preparing color-lakes, which consists in combining 2.4-dinitrodiazobenzol-6-sulfonic acid with beta-oxynaphthoic acid of melting point 216° C.

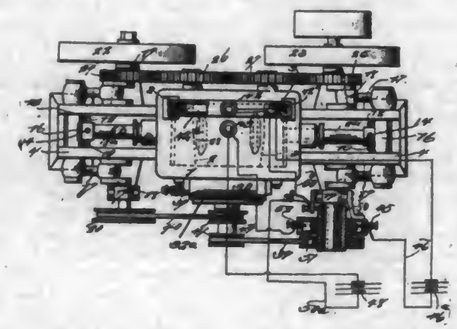
2. As new product, the dyestuff obtained by combining 2.4-dinitrodiazobenzol-6-sulfonic acid with beta-oxynapthoic acid of melting point 216° C., being a dark-red powder, difficultly soluble in water and alcohol, insoluble in benzene, dissolving in concentrated sulfuric acid with a bluish-red color, and separating, on addition of water, as a red precipitate.

978,866. METHOD OF ELIMINATING THE ACTIVE TOXIC AGENT FROM COFFEE. HEINZ EVERS, Zurich, Switzerland, assignor to Gerster & Cie., Clarens-Montreux, Switzerland. Filed Sept. 7, 1909. Serial No. 516,561.

1. The herein described method of eliminating those substances from coffee beans which form the active toxic agents when the beans are made into an infusion, which method consists in subjecting said coffee beans to the combined action of heat and vacuum whereby the cellular walls of the beans are caused to burst and the toxic substances therein are liberated by the heat, thereafter subjecting said beans to the action of superheated steam whereby the steam absorbs the liberated toxic substances, and finally again subjecting the beans to the action of heat and vacuum whereby the steam is caused to carry off in a hot condition the toxic substances with which it is charged.

2. The herein described method of eliminating those substances from coffee beans which form the active toxic agents when the beans are made into an infusion, which method consists in introducing said coffee beans into a closed vessel continuously heated to approximately 160° C., and producing a vacuum in said vessel corresponding to approximately 720 mm. mercury column whereby the cellular walls of said coffee beans are opened and the toxic substances are liberated therefrom, introducing steam at a pressure of approximately 6 atmospheres into said vessel whereby the steam will become saturated with the toxic substances, and finally again producing a vacuum of approximately 720 mm. mercury column in said vessel whereby the steam charged with the toxic substances will quickly pass from the vessel.

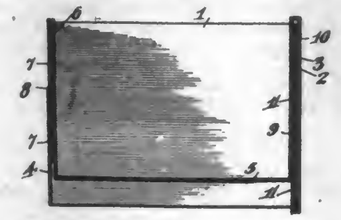
978,867. GASOLENE-ENGINE. GEORGE C. FAIN, Bakersfield, Cal. Filed Feb. 18, 1908. Serial No. 416,440.



1. In a device as set forth, a casing having an explosion chamber, opposing pistons operable in the chamber and provided with rods, said rods having cross-heads carried by their outer ends, wrist pins penetrating the cross heads and having their ends projecting beyond the cross heads said casing having guides in which said cross heads and wrist pins reciprocate, crank shafts mounted in bearings adjacent the guides having link connections with the projecting ends of said wrist pins, and connections between the crank shafts for permitting the pistons to operate in unison.

2. An explosive engine, including a casing having upstanding side portions spaced apart, and provided with registering guide slots; the engine embodying opposing pistons, including rods having cross-heads carried by their outer ends, and adapted to fit the guide slots, so as to be guided thereby; wrist pins penetrating the cross-heads and having their ends projecting beyond the cross-heads and the guide slots upon each side of the upstanding side portions, the cross-heads with the wrist pins having reciprocating motions in the registering guide slots; crank shafts mounted in bearings adjacent one of the ends of the guide slots, and including link connections with the projecting ends of said wrist pins; and connections between the crank shafts for permitting the pistons to operate in unison.

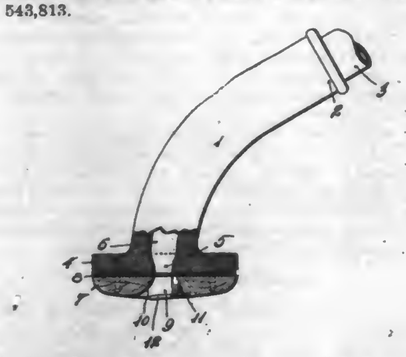
978,868. COLLAPSIBLE VENEER BOX FOR BERRIES, &c. ORIN C. FENLASON, Hoquiam, Wash. Filed June 20, 1908. Serial No. 439,591.



1. A collapsible or knock-down veneer box including a foldable body consisting of a single strip of veneer having its ends overlapped and fitted flat against each other at one side of the body, the latter being provided at the opposite side with a slot, and a bottom provided at one end with a clamp engaging and frictionally holding the overlapped ends of the body strip together, said bottom having an upwardly extending portion at the opposite side of the body and provided with an exterior depending flap passing through the said slot and thereby flexing the material of the body.

2. A collapsible or knock-down veneer box including a foldable body consisting of a single strip of veneer having its ends overlapped at one side of the body, the latter being provided at the opposite side with a slot, and a bottom provided at one end with a clamp engaging and securing the overlapped ends of the body strip together, said bottom having an upwardly extending portion at the opposite side of the body hung from the upper edge of such side and provided with an exterior depending flap passing through the slot and flexing the material, whereby the said flap and the upper portion of the slotted side of the body are clamped.

978,869. VACUUM CLEANING-TOOL. HENRY A. FERGUSSON, St. Louis, Mo. Filed Feb. 14, 1910. Serial No. 543,813.



1. A vacuum cleaning tool comprising a body having an opening through which air and dust is drawn by suction, and a series of teeth occupying a plane substantially at right angles to the direction of the flow of air into the passage way, and which teeth extend partially across the mouth of said opening.

2. The combination with a suction nozzle provided with an inlet opening, of a series of teeth projecting partially across the mouth of said opening.

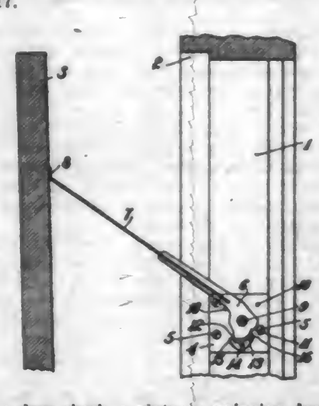
3. A vacuum cleaning tool comprising a hollow body in which is formed an inlet slot, and a comb arranged on the

under side of the tool with the teeth of said comb projecting partially across the mouth of the slot.

4. The combination with a suction nozzle in which is formed an opening, of a slotted plate applied to the under side of the nozzle, and the under side of which slotted plate is convex in cross section, and the slot in which plate coincides with the inlet opening and a series of teeth on the plate which project partially across the slot in said plate.

5. The combination with a suction nozzle in which is formed an inlet opening, of a plate applied to the under side of the nozzle in which plate is formed a slot which coincides with the inlet opening in the nozzle, and a comb applied to the face of the plate, the teeth of which comb project partially across the mouth of the slot in said plate.

978,870. DOOR-CHECK. HOWARD COOLIDGE FLEMING, Watertown, Mass. Filed May 12, 1910. Serial No. 560,817.



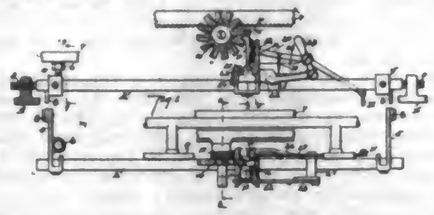
1. In a door check, a plate; a swinging door check pivoted to the plate; a spring member secured to said swinging door check; and means to engage a notch in said swinging door check to momentarily interrupt its inward swinging movement.

2. In a door check, a plate adapted to be secured to the frame of a door; a swinging door check pivoted to said plate; stops secured in said plate to limit the swinging movement of said door check; a spring secured to the outer end of said swinging door check; and means mounted on the plate to coöperate with the swinging door check to momentarily prevent the swinging movement of said swinging door check should the door forcibly contact with the spring member.

3. In a door check, a plate; a swinging door check pivoted to the plate; a spring member secured to said door check; stops to limit the swinging movement of said door check; a notch in the lower end of said door check; and an angular portion on said door check adapted to engage with a pawl to cause the pawl to engage said notch should the door forcibly contact with the spring member.

978,871. ESCAPEMENT MECHANISM FOR TYPEWRITERS. WILLIAM R. FOX, Grand Rapids, Mich. Filed Jan. 21, 1907. Serial No. 353,280.

1. In the escapement mechanism for a typewriter, the combination with the frame of the typewriter of a carriage; a rack on said carriage; an escapement wheel with a pinion meshing with said rack, journaled on the frame of the machine; a rock shaft 2 with suitable means for connecting the same to the spacer bar of a typewriter; a dog block 12 with an arm 26, secured to the rock shaft 2, the same being formed of sheet metal curved upon itself, the plane of which is transverse to the rock shaft; a pair of levers 17 pivoted between the sides of the dog block; a dog 14 pivoted on the fulcrum of the levers; a dog 13 pivoted on the long arms of the levers; a pin 15 between the dogs to retain them properly spaced; a spring 16 for holding the escapement dogs normally toward each other and against the pin 15; an adjusting slide 22, with inclined face, for controlling the levers 17 to control the relative heights of the dogs 13—14; a lever 28 on the arm 26 for controlling the adjustable slide 22; an inclined lug 32 on the dog 14; a lever 29 fulcrumed on the arm 26 and arranged to engage the said inclined lug 32 on the dog 14 for throwing the dog out of engagement with the escapement wheel; and connections to said lever for actuating the same, whereby the escapement mechanism is readily under the control of the operator and can be released, all co-acting substantially as described and for the purpose specified.



2. In the escapement mechanism for a typewriter, the combination with the frame of a typewriter, of a carriage; a rack on said carriage; an escapement wheel with a pinion meshing with said rack, journaled on the frame of the machine; a rock shaft 2 with suitable means for connecting the same to the spacer bar of a typewriter; a dog block 12 secured to the rock shaft 2, the same being formed of sheet metal curved upon itself, the plane of which is transverse to the rock shaft; a pair of levers 17 pivoted between the sides of the dog block; a dog 14 pivoted on the fulcrum of the levers; a dog 13 pivoted on the long arms of the levers; a pin 15 between the dogs to retain them properly spaced; a spring 16 for holding the escapement dogs normally toward each other and against the pin 15; an adjusting slide 22, with inclined face, for controlling the levers 17 to control the relative heights of the dogs 13—14; a lever 28 for controlling the adjustable slide 22, all co-acting substantially as described and for the purpose specified.

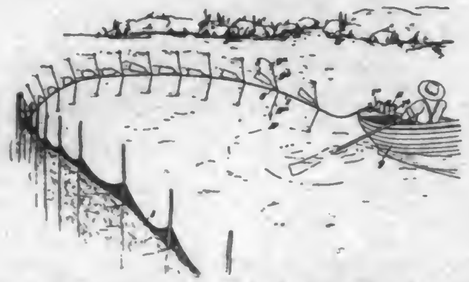
3. In the escapement mechanism for a typewriter, the combination of the frame of the typewriter; a carriage reciprocating thereon; a rack on said carriage; an escapement wheel with a pinion meshing with said rack, journaled upon the said typewriter frame; a rock shaft suitably supported on said typewriter frame, with means for connecting it to the spacer bar; a dog block carried by the said rock shaft; a lever member on said dog block; a dog pivoted to the fulcrum of the said lever member; a second dog pivoted to the said lever member; suitable stop means for the said dogs; and means for adjusting the said lever members to control the relative height of the dogs, co-acting for the purpose specified.

4. In the escapement mechanism for a typewriter, the combination of the frame of the typewriter; a carriage reciprocating thereon; a rack on said carriage; an escapement wheel with a pinion meshing with said rack, journaled upon the said typewriter frame; a rock shaft suitably supported on said typewriter frame, with means for connecting it to the spacer bar; a dog block carried by the said rock shaft; a lever member on said dog block; a dog pivoted to said dog block; a second dog pivoted to the said lever member; suitable stop means for the said dogs; and means for adjusting the said lever member to control the relative height of the dogs, co-acting for the purpose specified.

5. In the escapement mechanism for a typewriter, the combination of the frame of the typewriter; a carriage reciprocating thereon; a rack on said carriage; an escapement wheel with a pinion meshing with said rack, journaled upon the said typewriter frame; a rock shaft suitably supported on said typewriter frame, with means for connecting it to the spacer bar; a dog block carried by the said rock shaft; a lever member on said dog block; a dog pivoted to the fulcrum of the said lever member; a second dog pivoted to the said lever member; suitable stop means for the said dogs; and means for adjusting the said lever members to control the relative height of the dogs, consisting of an adjustable slide with a lever for controlling the same, co-acting for the purpose specified.

[Claims 6 to 17 not printed in the Gazette.]

978,872. DEVICE FOR DRIVING FISHES. CHARLES K. FREER, Sandusky, Ohio. Filed July 20, 1909. Serial No. 508,606.



1. The combination of a buoy made hollow and having substantially an oar shape, supporting bars mounted within said buoy and extending crosewise thereof, said supporting bars being below the center of gravity of said buoy, an electric bell mounted upon said supporting bars, and means for energizing said electric bell while said buoy is afloat.

2. The combination of a longitudinal flexible member, a plurality of floating bodies connected therewith for supporting said flexible member in a substantially horizontal position at a predetermined level below the surface of the water, a plurality of buoys connected with said member and adapted to be dragged through the water, and a plurality of weights connected with said member for preventing the same from rising to the surface of the water.

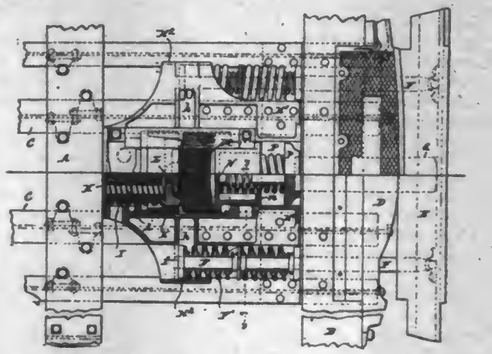
3. A device of the character described, comprising a plurality of floats for resting upon the surface of the water, a line located below said floats and supported by aid of the buoyancy thereof, a plurality of substantially oar-shaped buoys connected with said line and disposed below the level of said floats, weights for preventing said buoys from rising to the surface of the water, a plurality of alarms carried by said buoys, and means controllable at will for energizing said alarms simultaneously.

978,873. MECHANISM FOR YIELDINGLY RESISTING RELATIVE MOVEMENT OF BODIES. RICHARD D. GALLAGHER, Jr., New York, N. Y., assignor to Standard Coupler Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 27, 1909. Serial No. 530,263.

1. In a mechanism for yieldingly resisting relative movement of railway cars, the combination with a series of elastic plates in frictional contact with each other, and followers between, which the plates are flexed to form a yielding resistance member, of a supplemental yieldingly held follower engaging the body of plates in proximity to their ends whereby frictional contact between the plates is maintained and recoil reduced.

2. In a mechanism for yieldingly resisting relative movement of railway cars, the combination with a series of elastic plates in intimate frictional contact with each other, and movable followers between which the plates are flexed, of a supplemental spring pressed follower moved by the flexing of said plates whereby the friction between the plates is increased.

3. The combination with oppositely disposed followers movable different distances in the same direction, a series of elastic plates interposed between said followers and curved to contact centrally with one follower and to contact in proximity to their ends with the other follower, whereby the body of the plates will be flexed by relative movement of the followers, of a supplemental spring pressed follower engaging the convex side of the plates in proximity to their ends whereby flexing of the plates is resisted.

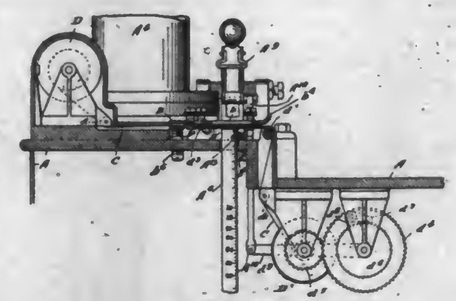


4. The combination with oppositely disposed followers, a series of elastic plates in contact with each other and contacting with said followers in different longitudinal planes whereby movement of the followers toward each other will flex the plates, of a spring pressed supplemental follower engaging said plates on opposite sides of the center and operating to resist the flexing of the plates.

5. The combination with the oppositely disposed main followers movable in the same direction, stops for limiting the movement of one of said followers and a spring pressed supplemental follower having projections extending beyond the face of one of the main followers and adapted when advanced by its spring to move said main follower away from its stops, of a yielding body formed of a plurality of flexible plates interposed between said followers.

[Claims 6 to 9 not printed in the Gazette.]

978,874. AUTOMATIC CAR WEIGHING AND RECORDING SCALE. GEORGE GOETZ, Chicago, Ill., assignor to Streeter-Amet Weighing & Recording Company, Chicago, Ill., a Corporation of Illinois. Filed May 27, 1909. Serial No. 498,777.



1. In an automatic car weighing and recording scale, the combination with the scale beam, printing wheel, rack, and gear, stationary pointer mark type and impression hammer, ink ribbon and ink ribbon feed mechanism, of a way-bill card holder having upper and lower plates with an opening between them at their front edges to receive a way bill card, said upper plate having an opening for the impression hammer to project through, and said lower plate having an opening through which the printing wheel may contact with the card and serving to support the card normally out of contact with the printing wheel, and provided with a spring member movable toward the printing wheel to permit the card to be de-

pressed against the printing wheel by the blow of the impression hammer, substantially as specified.

2. In an automatic car weighing and recording scale, the combination with the scale beam, printing wheel, rack, and gear, stationary pointer mark type and impression hammer, ink ribbon and ink ribbon feed mechanism, of a way-bill card holder having upper and lower plates with an opening between them at their front edges to receive a way bill card, said upper plate having an opening for the impression hammer to project through, and said lower plate having an opening through which the printing wheel may contact with the card and serving to support the card normally out of contact with the printing wheel, and provided with a spring member movable toward the printing wheel to permit the card to be depressed against the printing wheel by the blow of the impression hammer, said card holder being also furnished with side and end guides to gage the card in proper position, substantially as specified.

3. In an automatic car weighing and recording scale, the combination with the scale beam, printing wheel, rack, and gear, stationary pointer mark type and impression hammer, ink ribbon and ink ribbon feed mechanism, of a way-bill card holder having upper and lower plates with an opening between them at their front edges to receive a way bill card, said upper plate having an opening for the impression hammer to project through, and said lower plate having an opening through which the printing wheel may contact with the card and serving to support the card normally out of contact with the printing wheel, and provided with a spring member movable toward the printing wheel to permit the card to be depressed against the printing wheel by the blow of the impression hammer, said card holder being also furnished with side and end guides to gage the card in proper position, and adjustable supports for said card holder, substantially as specified.

4. The combination with a scale beam and a recording wheel actuated thereby, of an impression hammer and a card holder interposed between said impression hammer and recording wheel and having upper and lower plates provided with openings therein to enable the impression hammer and recording wheel to contact with the card held in the holder, substantially as specified.

5. The combination with a scale beam and a recording wheel actuated thereby, of an impression hammer and a card holder interposed between said impression hammer and recording wheel and having upper and lower plates provided with openings therein to enable the impression hammer and recording wheel to contact with the card held in the holder, said lower plate being movable toward the recording wheel under the stroke of the impression hammer, substantially as specified.

[Claims 6 to 13 not printed in the Gazette.]

978,875. WEED, STUBBLE, AND SEED-BURNING MACHINE. LEONARD L. GOHEEN, Sherwood, N. D. Filed Mar. 14, 1910. Serial No. 549,289.



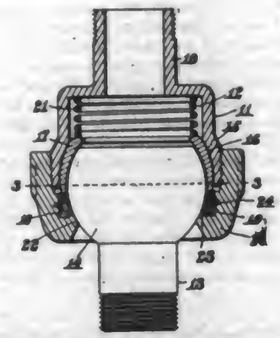
1. In a machine of the kind described, the combination with a casing having a flame discharge passage, said flame discharge passage having a deflecting plate formed on one side thereof, of a fuel-magazine extending the full width of said casing, a grate at the bottom of said fuel magazine, and a fan located between said flame discharge passage and said fuel magazine and with its casing spaced apart from said grate to afford a second flame passage through which said fan may draw the flames onto or over the ground, substantially as described.

2. In a machine of the kind described, the combination with a casing having yielding sides each comprising an upper section and a lower section, the said upper section being connected to said casing with freedom for swinging movements and the said lower section being connected to said upper section with freedom for vertical movements, of a fuel magazine and a fan, substantially as described.

3. In a machine of the kind described, the combination with a casing having yielding sides each comprising an upper section and a lower section, the said upper section being connected to said casing with freedom for swinging movements and said lower section being in the form of a channel shaped shoe which embraces the lower edge of said upper section and connected thereto with freedom for vertical movements, of a fuel magazine, and a fan, substantially as described.

4. In a machine of the kind described, the combination with a casing having a forwardly and upwardly extending flame discharge passage, of a vertically extended fuel magazine open at its bottom except for a grate, and a fan located between said flame discharge passage and said fuel magazine and arranged to produce a forced draft and to draw the flames from said grate onto or over the ground and to discharge the same through said flame discharge passage, substantially as described.

978,876. FLEXIBLE PIPE-JOINT. WARREN A. GREENLAW, Melrose Highlands, Mass., assignor to The Greenlaw Manufacturing Company, Boston, Mass., a Corporation of Maine. Filed Mar. 19, 1910. Serial No. 550,535.



1. In a flexible pipe joint, the combination of a pipe member provided with a cup-shaped end; a second pipe member having a ball-shaped end positioned within said cup-shaped end; a cap threaded to said cup-shaped end; an annular packing ring therein; and a spring-pressed ring having a semispherical surface concentric with said ball-shaped end and a thin edge embedded in said annular packing ring.

2. In a flexible pipe joint, the combination of a pipe member provided with a cup-shaped portion terminating in a flaring end and having a semi-spherical inner wall; a second pipe member having a ball-shaped end positioned within said flaring end; a seat for said ball secured to said cup-shaped end; a packing interposed between said ball and the walls of said cup-shaped end; a ring interposed between said ball and flaring end, said ring extending beyond the inner end of said ball and having a thin edge bearing upon said packing, the outer face of said ring being semi-spherical and eccentric to its inner face; and a spring for forcing the thin edge of said ring into said packing.

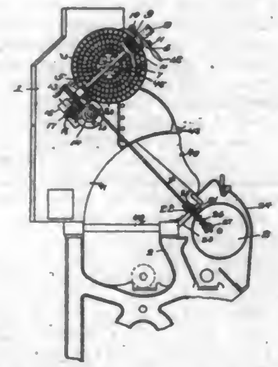
3. In a flexible pipe joint, the combination of a pipe member provided with a cup-shaped end; a second pipe member having a ball-shaped end positioned within said cup-shaped end; a seat for said ball secured to said cup-shaped end; a packing interposed between said ball and the walls of said cup-shaped end; a ring with a thin edge bearing upon said packing, the outer and inner faces of which are semi-spherical and eccentric to each other; and a spring for forcing the thin edge of said ring into said packing.

4. In a flexible pipe joint, the combination of a pipe member provided with a cup-shaped cylindrical portion terminating in an enlarged flaring end having a semi-spherical inner wall; a second pipe member having a ball-shaped end positioned within said cup-shaped end and having its periphery eccentric to said semi-cylindrical wall; a seat for said ball secured to said cup-shaped end; a packing interposed between said ball and the walls of said cup-shaped end; a ring with a thin edge bearing upon said packing and having its outer wall concentric to said semi-spherical wall and its inner wall concentric with the periphery of said ball; and yielding means for forcing said ring outwardly to permit the thin edge thereon to force said packing against the outer face of said ball.

5. In a flexible pipe joint, the combination of a pipe member provided with a cup-shaped end; a second pipe member having a ball-shaped end positioned within said cup-shaped end; a cap threaded to said cup-shaped end provided with a groove in its inner wall and an inwardly extending flange; an annular packing ring therein retained in position by means of said groove and flange; and a spring-pressed ring having a semi-spherical surface concentric with said ball-shaped end and a thin edge embedded in said annular packing ring.

[Claims 6 and 7 not printed in the Gazette.]

978,877. GEAR MECHANISM FOR COTTON-GIN FEEDERS. THADDEUS S. GRIMES, Columbus, Ga., assignor to F. H. Lummus Sons Company, a Corporation of Georgia. Filed Feb. 16, 1909. Serial No. 478,230.



1. In a device of the class described, a shaft arranged to carry a gin feeding roll, a wheel having a plurality of series of teeth mounted on the shaft, a second shaft arranged transversely of the shaft first mentioned, a pinion slidable on the second shaft and arranged to engage the teeth of one of the aforesaid series, and means for shifting the pinion on the second shaft, such means comprising a member carried by the shaft last mentioned and provided with notches on a portion of its outer surface and an enlarged portion connected with the member aforesaid and inclosing the pinion, an operating arm secured to the enlarged portion, and a pivoted arm provided with an aperture for receiving the notched member, the edge of the aperture engaging the notches, and a device for holding the pivoted arm in a given position.

2. In a device of the class described, a shaft arranged to carry a gin feeding roll, a wheel having a plurality of series of teeth mounted on the shaft, a second shaft arranged transversely of the shaft first mentioned, a pinion slidable on the second shaft and arranged to engage the teeth of one of the aforesaid series, and means for shifting the pinion on the second shaft, such means comprising a member carried by the shaft last mentioned and provided with notches on a portion of its outer surface and an enlarged portion connected with the member aforesaid and inclosing the pinion, an operating arm secured to the enlarged portion, and a pivoted arm provided with an aperture for receiving the notched member, the edge of the aperture engaging the notches, a projection on the pivoted arm, and a catch provided with a U-shaped opening arranged to engage the projection and hold the pivoted arm in a position for retaining the notched member, the shaft and pinion, so that the latter will be held against the wheel first mentioned and at times out of contact therewith.

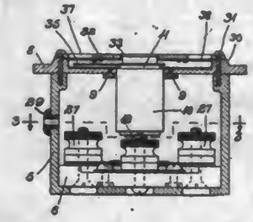
3. In a device of the class described, the combination with a gin feeder, of gear mechanism for driving such feeder, a rotating shaft connected to said gear mechanism for moving the same, a gear connected with said shaft, a worm adapted to mesh with such gear for driving the latter and said shaft, a bearing member for supporting one end of said shaft, a bracket provided with an aperture for supporting the bearing member, such bearing member comprising an enlarged portion provided with a bearing, a shank portion arranged to partly rotate in the apertured bracket and having a limited amount of play therein in a direction at an angle to the direction of rotation, and a securing device on the inner end of the shank portion.

978,878. MANUFACTURE OF ARTIFICIAL SILK. GIUSEPPE GUADAGNI, Pavia, Italy. Filed July 15, 1908. Serial No. 443,655.

1. In the manufacture of artificial silk, the step which comprises blowing air through a cupro-ammonium solvent and subsequently adding thereto cellulose having any water therein rendered alkaline by a gas to prevent the precipitation of the copper of said solution by the water.

2. In the manufacture of artificial silk, the step which comprises blowing air through a cupro-ammonium solvent, causing said air and the ammonia carried thereby to act on moist cellulose, and then mixing the cellulose with said solution.

978,879. ELECTRIC-CIRCUIT-CHANGING MECHANISM. FRANK B. HALL, Wheeling, W. Va. Filed June 30, 1909. Serial No. 505,139.



1. In an electric circuit changing mechanism, in combination, a lock comprising a stationary element and a rotatable element normally locked thereto, a stationary contact in one plane and a stationary contact in another plane, and a contact member carried by said rotatable element, said contact member having a part in each of said planes for engagement with the respective stationary contact, and an indicator carried by said movable element for indicating the position of said rotatable element.

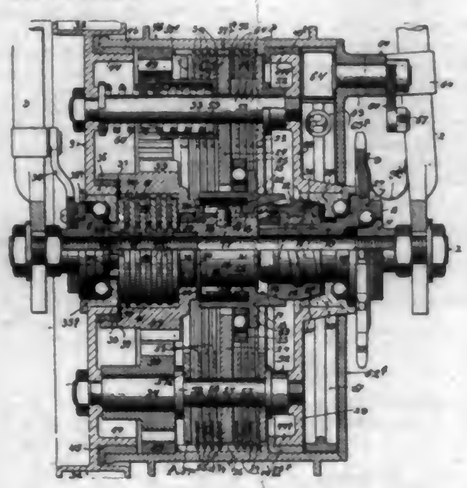
2. In an electric circuit changing mechanism, in combination, a lock comprising a stationary element, a rotatable element normally locked thereto, a stationary contact in one plane and a stationary contact in another plane, and a bridge member carried by said rotatable element, said bridge member having a part in each of said planes to engage the respective stationary contact.

3. In an electric circuit changing mechanism, in combination, a lock comprising a stationary element, a rotatable element normally locked thereto, a switch contact member having a part in each of two planes carried by said rotatable element, two stationary contact members with which one part of said rotatable contact member may engage, and a third stationary contact member with which the other part of said rotatable member may engage simultaneously with the engagement of the first part with either one of the other two.

4. In an electric circuit changing mechanism, in combination, a casing, stationary switch contacts mounted in said casing, a cover for said casing, a lock having a stationary element secured to said cover, a rotatable element for said lock extending through said cover, a contact piece carried by said movable element and arranged for engagement with said stationary contacts, a pointer secured to said movable element above said cover, a dial disposed beneath said pointer, and an auxiliary cover above said pointer having an opening through which a key may be inserted and an opening to disclose said dial.

5. In an electric circuit changing mechanism, in combination, a casing, an insulating base mounted at the bottom of said casing, switch contacts mounted on said base in two different planes, a cover for said casing, a lock having a stationary element secured to said cover, a rotatable element for said lock extending through said cover, and a contact piece having a part in each of said planes carried by said movable element and arranged for engagement with said stationary contacts.

978,880. VARIABLE-SPEED GEARING. WILLIAM S. HARLEY, Milwaukee, Wis. Filed May 17, 1910. Serial No. 561,792.



1. A variable speed gearing comprising a fixed axle, a drive-member having a clutch-face, and a driven-member, each being revolubly mounted about the axle, a threaded sleeve section revolubly mounted about said axle, a longitudinally shiftable nut engaging the sleeve threads, the nut having oppositely disposed clutch-faces, one of which is adapted to engage with the clutch-face of the drive-member when the nut is moved in one direction, a non-rotary slidable block mounted about the axle for engagement with the other clutch-face of the nut when the latter is moved in the opposite direction from that aforesaid, a spring-locked clutch mechanism connecting the drive and driven members, means carried by the slidable block for effecting release of the spring-locked clutch mechanism incidental to engagement of the block with the aforesaid nut, an exteriorly toothed gear-wheel revolubly mounted about the axle, a clutch for the gear-wheel, means carried by said block for actuating the gear-wheel clutch, whereby said gear wheel is held against rotation incidental to a further movement of the aforesaid block after the same has effected its releasing movement with relation to the spring-locked clutch mechanism, an internally toothed gear-wheel carried by the driven member, and a gear train carried by the drive member engageable with the internally and exteriorly toothed gear-wheels.

2. A variable speed gearing comprising a fixed axle, a drive member having a clutch face and a driven member each revolubly mounted about the axle, a threaded sleeve section revolubly mounted about said axle, a manually actuated sprocket-wheel secured thereto, a longitudinally shiftable nut having oppositely disposed friction clutch faces mounted upon the sleeve threads, one of which clutch-faces is adapted to engage the clutch-face of the drive member when the nut is moved in one direction, a non-rotatory slidable block mounted about the axle having a friction clutch face for engagement with the other friction clutch face of the nut when the latter is moved in the opposite direction from that aforesaid, a spring-locked friction clutch mechanism connecting the drive and driven members, releasing means for the spring-locked clutch mechanism carried by the slidable block incidental to movement of said block by the nut, an exteriorly toothed gear-wheel revolubly mounted about the axle, a friction clutch mechanism connecting the toothed gear-wheel and fixed axle, setting means carried by said block for the clutch mechanism between said toothed gear-wheel and axle incidental to a further movement of the aforesaid block after the same has effected its releasing movement of the spring-locked clutch mechanism, an internally toothed gear-wheel carried by the driven member, and a gear train carried by the drive member engageable with the internally and exteriorly toothed gear-wheels.

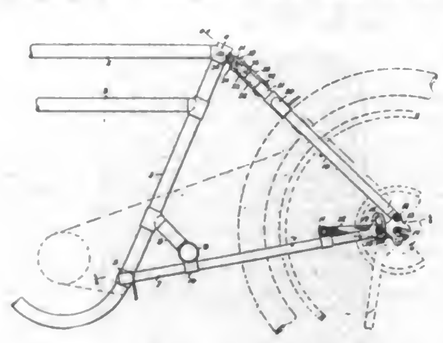
3. A variable speed gearing comprising a fixed axle, a drive-member having a clutch-face, and a driven-member, each revolubly mounted about the axle, a threaded sleeve section revolubly mounted about said axle, a longitudinally shiftable nut in threaded engagement with the sleeve, the nut having oppositely disposed clutch-faces, one of which is adapted to engage the clutch-face of the drive-member when the nut is moved in one direction, a non-rotatory slidable shell carried by the axle, an independently slidable block mounted upon the shell for engagement with the other clutch-face of the nut when the latter is moved in the opposite direction from that aforesaid, a longitudinally expansible spring interposed between one end of the shell and block, means carried by said shell or holding the spring under a predetermined compression, a spring-locked clutch mechanism connecting the drive and driven members, releasing means for the spring-locked clutch carried by the slidable block, an exteriorly toothed gear-wheel revolubly mounted about the axle, clutch mechanism connecting the gear-wheel and axle, means carried by the aforesaid block for setting the clutch mechanism between the toothed gear-wheel and axle, an internally toothed gear-wheel carried by the driven member, and a gear train carried by the drive member engageable with the internally and exteriorly toothed gear wheels.

4. A variable speed gearing comprising a fixed axle, a drive-member having a clutch-face, and a driven-member, each being revolubly mounted about the axle, a threaded sleeve section revolubly mounted about said axle, a longitudinally shiftable nut mounted upon the threaded sleeve, the nut having oppositely disposed friction faces, one of which is adapted to engage the friction face of the drive-member, a non-rotatory slidable shell carried by said axle having block retaining flanges extending therefrom, an independently slidable block mounted upon the shell between the block-retaining flanges, the block being provided with a friction-face adapted to engage the other friction-face of the nut, a longitudinally expansible spring interposed between one of the shell flanges and block, a spring-locked clutch mechanism and a spring released clutch mechanism connecting the drive and driven members, actuating mechanism for the spring-locked and spring-released clutch mechanisms carried by the slidable block, an exteriorly toothed gear-wheel revolubly mounted about the axle, clutch mechanism connecting the exteriorly toothed gear-wheel and axle adapted to be actuated by the aforesaid shell, an internally toothed gear-wheel carried by the driven member, and a gear train carried by the drive member engageable with the internally and exteriorly toothed gear wheels.

5. A variable speed gearing comprising a fixed axle, a drive member and a driven member revolubly mounted about the axle, the drive-member being provided with a clutch-face, a spring-locked clutch mechanism between the drive and driven members, a manually operative threaded sleeve, a shiftable clutch nut carried by the threaded sleeve for effecting locking engagement with the clutch face of the drive member when the sleeve is operated in one direction, a longitudinally movable shell supported by the axle, an exteriorly toothed gear-wheel rotatably mounted about the axle, a clutch mechanism connecting the exteriorly toothed gear-wheel and axle, actuating means for said clutch mechanism carried by the shell, a slidable block mounted upon said shell adapted to be engaged by the nut when the latter is moved by the sleeve in the opposite direction from that aforesaid, a spring interposed between the block and shell, a spring-released clutch mechanism between the drive and driven members, engaging means carried by the aforesaid block for the spring-locked and spring-released clutch mechanisms, an internally toothed gear-wheel carried by the driven member, and a gear train carried by the drive member engageable with the internally and exteriorly toothed gear-wheels.

[Claims 6 and 7 not printed in the Gazette.]

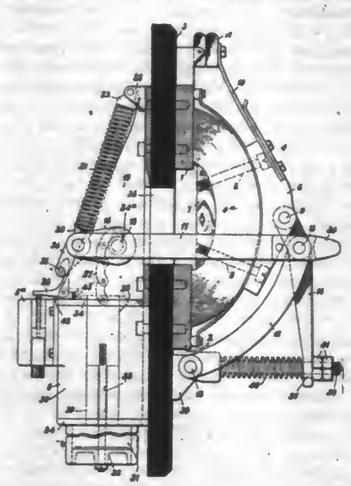
978,881. VEHICLE-FRAME. WILLIAM S. HARLEY, Milwaukee, Wis. Filed May 17, 1910. Serial No. 561,793.



1. In a vehicle frame having a seat mast and rear fork members secured thereto; the combination of links in toggle connection with the forks, back stays secured to the links, a bridge piece connecting the back stays, thimbles carried by the bridge piece, a stay-bolt secured to the seat mast, heads suspended from the stay-bolt, sleeves carried by the heads in telescopic union with the thimbles, coiled springs interposed between the heads and thimble bottoms, a cylinder suspended upon the stay-bolt intermediate of the heads, a piston head reciprocatively mounted within the cylinder, and a piston rod extending from the piston head rigidly secured to the bridge piece.

2. In a vehicle frame having a seat mast, rear fork members secured thereto, and guide ears extending from the rear ends of the fork members, the guide ears being provided with curved slots; the combination of ears projecting from the forks adjacent to their rear ends, links fulcrumed to the fork ears having slotted heads for the reception of an axle, studs extending from the head ends of the links engaging the guide ear slots of said fork members, back stays pivotally secured to the link heads, a bridge piece connecting the back stays, thimbles carried by the bridge piece, a stay-bolt secured to the seat mast, heads suspended from the stay-bolts, sleeves carried by the heads in telescopic union with the thimbles, and coiled springs interposed between the heads and thimble bottoms.

978,882. CIRCUIT-BREAKER. FORD W. HARRIS, W kinsburg, Pa., assignor to Westinghouse Electric Manufacturing Company, a Corporation of Penns vania. Filed Dec. 14, 1908. Serial No. 467,523.



1. A circuit interrupter comprising an insulating sla or plate having an aperture, stationary contact membe secured to one surface of the plate at opposite sides the aperture, movable bridging contact members, opera ing means on the opposite side of the plate from the co tact members, connecting links extending through th aperture in the plate for establishing an operative co nection between the movable contact members and th operating means, and a tension spring for assisting th initial action and for opposing the final action of th operating means in closing the circuit breaker.

2. A circuit interrupter comprising an insulating sla or plate having an aperture, stationary contact membe secured to one surface of the plate at opposite sides the aperture, movable bridging contact members, leve pivotally secured to the plate or slab adjacent to one the stationary contact members, short links interpose between the bridging contact members and the outc ends of the levers, an operating magnet mounted on th opposite side of the plate or slab from the contact mem bers, cranks rotatably mounted above the magnet an links extending through the aperture in the plate an interposed between the outer ends of the levers and th outer ends of the cranks.

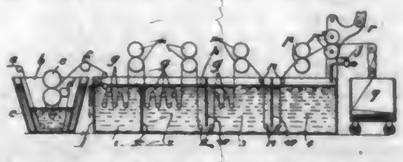
3. A circuit interrupter comprising an insulating sla or plate having an aperture, stationary contact membe secured to one surface of the plate at opposite sides of th aperture, movable bridging contact members, levers piv otally secured to the plate or slab adjacent to one the stationary contact members, bell crank levers pivotall secured to the outer ends of the levers, a stationar bracket secured to the opposite side of the plate from th contact members, an operating magnet secured to th bracket, a crank shaft rotatably mounted above the op erating magnet and having crank projections extendin away from the plate, an operative connection between th magnet and the crank shaft, links extending through th aperture in the plate and interposed between the ends o the crank projections and the fulcrum of the bell cran levers, stops for limiting the rotation of the bell cran levers in one direction and springs tending to hold th bell crank levers against the stops, the movable bridgin members being pivotally secured to the opposite ends o the bell crank levers from the stops.

4. A circuit interrupter comprising an insulating sla or plate having an aperture, stationary contact membe secured to one surface of the plate at opposite sides o the aperture, a plurality of movable bridging contac members, a pair of levers pivotally secured to the plat

or slab adjacent to one of the stationary contact members, a shaft supported at the ends of the levers, bell crank levers pivotally mounted on the shaft, a stationary bracket secured to the opposite side of the plate from the contact members, an operating magnet secured to the bracket, a crank shaft rotatably mounted above the operating magnet and having crank projections extending away from the plate, when the interrupter is closed, an operative connection between the magnet and the crank shaft, links extending through the aperture in the plate and interposed between the ends of the crank projections and the bell crank lever shaft, a tension spring for assisting the initial action of the operating magnet and for opposing the final action thereof, a latch for holding the crank projections in opposition to the spring, a release magnet for the latch secured to the stationary bracket, stops for limiting the rotation of the bell crank levers in one direction and springs tending to hold the bell crank levers against the stops, the movable bridging members being pivotally secured to the opposite ends of the bell crank levers from the stops.

5. A circuit interrupter comprising a slab or plate having an aperture, stationary contact members secured to one surface of the plate, a movable contact member pivotally secured on the same surface of the plate, an operating crank shaft on the opposite side of the plate from the contact members, connecting links extending through the aperture in the plate for establishing an operative connection between the movable contact members and the crank shaft and springs for assisting the initial action of the crank shaft and opposing the final action thereof in opening the circuit breaker.

978,883. APPARATUS FOR MERCERIZING TEXTILE FABRICS. EDUARD HEBERLEIN, Wattwil, Switzerland, assignor to Heberlein & Co., Wattwil, Switzerland, a Firm. Filed Feb. 8, 1910. Serial No. 542,740.

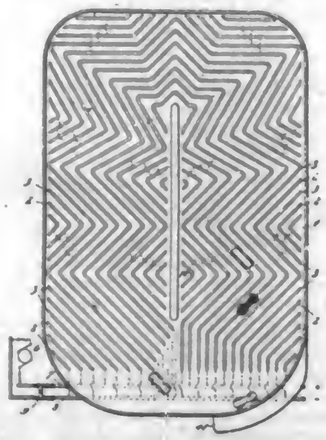


1. In an apparatus for mercerizing textile fabrics, the combination of a tank for containing alkali lye, and of means for passing the fabric through said tank in a transversely unstretched condition with a washing device for washing the fabric after passing through the said tank comprising a tank for containing the washing liquid provided with arched rotatable stretching rollers, arranged within the said tank to be immersed in the washing liquid and consisting of a number of roller elements slipped over an arched shaft and provided with annular ribs of saw tooth section, and with means for causing the fabric to pass over the stretching rollers while passing through the said washing device, for the purpose of causing the fabric passing through the washing device to be pushed without undue strain from the middle of the fabric toward the edges, in consequence of the rotation of the rollers under the pull of the fabric, and of thus stretching the fabric to its original width without the exercise of forcible action.

2. In an apparatus for mercerizing textile fabrics, the combination of a tank for containing alkali lye, and of means for passing the fabric through said tank in a transversely unstretched condition with a washing device for washing the fabric after passing through the said tank, comprising a tank for containing the washing liquid provided with arched rotatable stretching rollers, disposed alternately at different heights and displaced relatively to one another within the said tank to be immersed in the washing liquid and consisting of a number of roller elements slipped over an arched shaft and provided with annular ribs of saw tooth section, with means for causing the fabric to pass over the stretching rollers while passing through the said washing device and with means for causing the washing liquid to flow in the reverse direction of the travel of the fabric, for the purpose of causing the fabric passing through the washing device to be pushed without undue strain from the middle of the fabric toward the edges, in consequence of the rotation of the rollers under the pull of the fabric, and of thus stretching the fabric to its original width without the exercise of forcible action.

3. In an apparatus for mercerizing textile fabrics, the combination of a tank for containing alkali lye, and of means for passing the fabric through said tank in a transversely unstretched condition with a washing device for washing the fabrice after passing through the said tank, comprising a tank divided into compartments provided with arched rotatable stretching rollers, disposed alternately at different heights and displaced relatively to one another and arranged in groups within the different compartments of the tank to be immersed in the washing liquid and consisting of a number of roller elements slipped over an arched shaft and provided with annular ribs of saw tooth section, with means for causing the fabric to pass over the stretching rollers while passing through the said washing device and with means for causing the washing liquid to flow in the reverse direction of the travel of the fabric, for the purpose of causing the fabric passing through the washing device to be pushed without undue strain from the middle of the fabric toward the edges, in consequence of the rotation of the rollers under the pull of the fabric, and of thus stretching the fabric to its original width without the exercise of forcible action.

978,884. AMUSEMENT DEVICE. HARRY HERTZBERG and MAURICE J. WOHL, New York, N. Y. Filed Oct. 30, 1909. Serial No. 525,534.



1. In a device of the character described, in combination, a platform provided with conductors extending in irregular directions and having exposed faces flush with the surface of said platform, and a car provided with an electric motor adapted to receive its operating current from said conductors and to propel the car over said platform.

2. In a device of the character described, in combination, a platform provided with a plurality of pairs of conductors extending in irregular directions and equally spaced thereon and adapted to permit a car to be propelled thereon in any direction, and a car provided with an electric motor adapted to receive its operating current from any of said pairs of conductors and to propel the car over said platform.

3. In a device of the character described, in combination, a platform provided with a plurality of equally spaced conductors extending in irregular directions and alternately connected to the positive and negative side of a supply circuit, a supply circuit, and adapted to permit

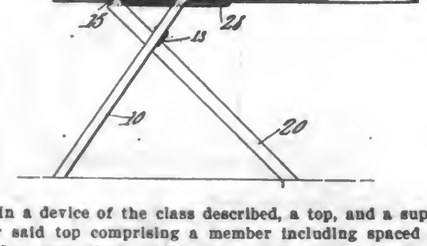
a car to be propelled thereon in any direction, and a car provided with an electric motor adapted to receive its operating current from any two adjacent conductors and to propel the car over said platform.

4. In a device of the character described, in combination, a platform provided with conductors positioned in angularly extending straight lines with sharp turns between the straight portions, and a car provided with an electric motor adapted to receive its operating current from said conductors and to propel the car over said platform.

5. In a device of the character described, in combination, a platform adapted to permit a car to travel in irregular directions thereover and provided with parallel conductors, and a car provided with an electric motor adapted to receive its operating current from said conductors and to propel the car over said platform.

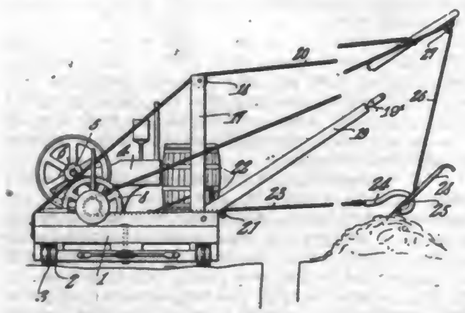
[Claims 6 to 14 not printed in the Gazette.]

978,885. IRONING-TABLE. FRED G. HOFFINE, Kansas City, Mo. Filed May 23, 1910. Serial No. 563,031.



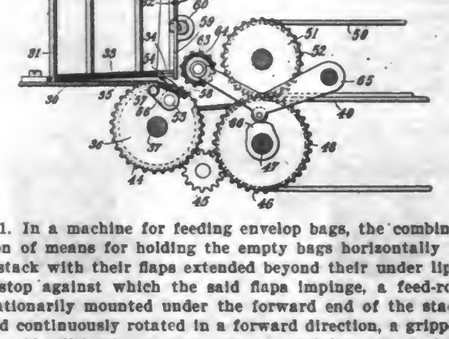
In a device of the class described, a top, and a support for said top comprising a member including spaced legs and a connecting portion, the said connecting portion being pivoted to the under side of the said top and the legs being angularly bent adjacent their point of juncture with the connecting portion, the portions of the legs between the bent portions and the said connecting portion being designed to rest against the under side of the top when the member is swung to assume a predetermined angular position with the top, a notched cross bar extending across between the legs, and a member consisting of a single leg pivoted to the under side of the top and arranged to extend between the legs of the first mentioned member and seat in the notch in the said cross bar when in position to support the top.

978,886. TRENCH-FILLING APPARATUS. WILLIAM G. HOWE, Butler, Ind. Filed Aug. 4, 1909. Serial No. 511,114.



An apparatus as described comprising a wheel mounted platform, an engine located upon the platform, a shaft operatively connected with the engine, winding drums mounted upon the shaft, lever actuated clutch mechanisms mounted upon the shaft for engagement with the winding drums and being located between the adjacent ends of the drums, a boom pivotally attached to the platform and r strained to swing in a vertical plane only between the a jacent ends of the drums, a cable arranged to wind up each drum, one of said cables being guided along the boo and a guide for the other cable located upon the platfor a manually-directible scraper with which both of sa cables connect, a brace attached to the boom and pivotal connected with the platform, said cable guide being locat upon the platform at a point between the end of the sa brace and the end of the said boom.

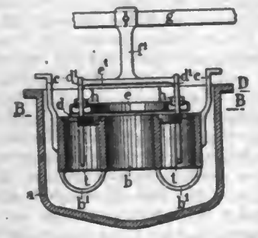
978,887. BAG-FEEDING MECHANISM. GUY L. HOY New York, N. Y., assignor to Robert Gair Compan Brooklyn, N. Y., a Corporation of New York. Origin application filed Nov. 12, 1909, Serial No. 527,724. I vided and this application filed Aug. 8, 1910. Seri No. 576,111.



1. In a machine for feeding envelop bags, the combin tion of means for holding the empty bags horizontally a stack with their flaps extended beyond their under lip a stop against which the said flaps impinge, a feed-ro stationarily mounted under the forward end of the sta and continuously rotated in a forward direction, a gripp on said roll having a movement outward from the perip ery of the roll to separate the flap ply of the lowermo bag from its under lip, a succeeding movement reverse the direction of rotation of said roll to enter the mou of the bag, an inward movement to clamp the lower l of the bag against the roll periphery and draw the ba down below the stop, and a return movement to release t bag, and means for automatically imparting said mov ments to the gripper.

2. In a bag-feeding machine, the combination of mea for supporting the bags horizontally in a stack with the flap sides up, a stop for engaging the advance edges of t flaps, a feeder for grasping the under lip of the lowermo bag to draw it past the stop, and an oscillating kicker f forcing back the remainder of the stack to loosen the b which is being fed.

978,888. APPARATUS FOR CARRYING OUT TH ELECTROLYTIC PRODUCTION OF SODIUM. PA LÉON HULIN, Grenoble, France, assignor to Socié d'Electro-Chimie, Paris, France, and Paul Léon Hul Grenoble, Isère, France. Filed Apr. 4, 1910. Serial N 553,243.



1. In an apparatus for carrying out the electrolytic pr duction of sodium, a circular anode formed by two ele trically connected concentric cylinders and a cathode di posed between the two cylinders.

2. In an apparatus for carrying out the electrolytic production of sodium, a circular anode formed by two electrically connected concentric cylinders, and a cathode disposed between the two cylinders comprising a ring from which are suspended vertical rods.

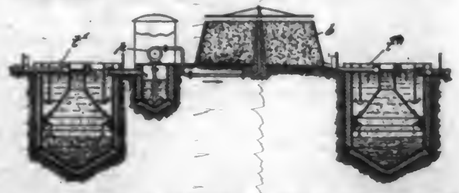
3. In an apparatus for carrying out the electrolytic production of sodium, a circular anode formed by two concentric cylinders and cross-bars arranged between these cylinders and placed at the lower extremity of the same.

4. In an apparatus for carrying out the electrolytic production of sodium, an anode formed by two concentric cylinders, a cathode disposed between the two cylinders, and a collector having the shape of a circular tray arranged above the cathode.

5. In an apparatus for carrying out the electrolytic production of sodium, an anode formed by two concentric cylinders, a cathode disposed between the two cylinders, a collector having the shape of a circular tray arranged above the cathode and sleeves in this collector for the passage of the conductors carrying the cathode.

[Claims 6 and 7 not printed in the Gazette]

978,889. TREATING SEWAGE. KARL IMHOFF, Bredeney, near Essen, Germany. Filed Feb. 19, 1910. Serial No. 544,852.

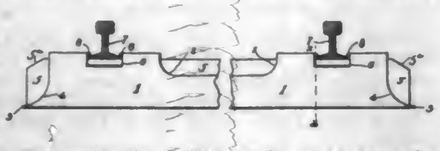


1. The method of treating sewage in successive depositing chambers consisting in reversing the flow in order to obtain a similar sludge mixture in each depositing chamber.

2. The method of treating sewage in successive depositing chambers consisting in periodically reversing the succession.

3. The method of treating sewage consisting in passing it through a sedimentation tank, thence to a biological filter, thence to a further sedimentation tank and periodically changing the direction of movement so that each sedimentation tank is alternately employed as the first and final tank respectively.

978,890. RAILWAY-TIE AND FASTENER. HARRY S. ISHAM, Belmar, N. J. Filed Aug. 27, 1909, Serial No. 514,934. Renewed May 13, 1910. Serial No. 561,175.



1. The combination, with a tubular tie having a slot in its upper face, of a rail seated in said slot, a block arranged within the tie below the slot therein, and a wedge interposed between said block and the top of the tie and projecting out over the foot of the rail for the purpose specified.

2. The combination, with a tubular tie having a slot in its upper face, of a rail seated in said slot, a block arranged within the tie below the slot therein, a wedge interposed between said block and the top of the tie and projecting out over the foot of the rail, and means for locking said wedge in clamping position.

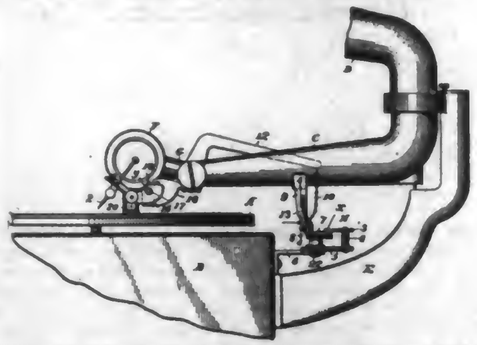
3. The combination, with a tubular tie having a slot in its upper face, of a rail seated in said slot, a block arranged within the tie below the slot therein, a wedge interposed between said block and the top of the tie and projecting out over the foot of the rail, and means for locking said wedge in clamping position comprising a lug on the wedge adapted to engage a slot in said tie.

4. The combination, with a tubular tie having a slot in its upper face, said slot also extending part way down the sides of said tie, of a rail seated in said slot, a block arranged within the tie below the slot therein, the top of said block being arranged below the top of the tie so as to leave a space between them and a wedge arranged in said space with its end projecting out over the foot of the rail for the purpose specified.

5. The combination, with a tubular tie having a slot in its upper face, said slot also extending part way down the sides of said tie, of a rail seated in said slot, a block arranged within the tie below the slot therein, the top of said block being arranged below the top of the tie so as to leave a space between them, and a longitudinally curved wedge arranged in said space and resting upon said block, the thick end of said wedge projecting out over the foot of the rail for the purpose specified.

[Claims 6 to 9 not printed in the Gazette.]

978,891. TALKING-MACHINE. AMI JACCARD, New York, N. Y., assignor to T. Ephrem La Montague, New York, N. Y. Filed Dec. 2, 1908. Serial No. 465,703.



1. The combination with the swinging tone tube of a talking machine, the needle, and the swinging support for the needle, of a lever supported on the tone tube and connected with the needle support, and means for automatically rocking said lever to lift the needle as the tone tube reaches the desired limit of its movement in one direction.

2. The combination with the swinging tone tube of a talking machine, the needle, and the swinging support for the needle, of a lever supported on the tone tube and connected with the needle support, a spring acting on said lever to lift the needle support, and means for automatically rocking the lever against the action of said spring and maintaining it in such adjusted position during a predetermined portion of the swinging movement of said tube in one direction.

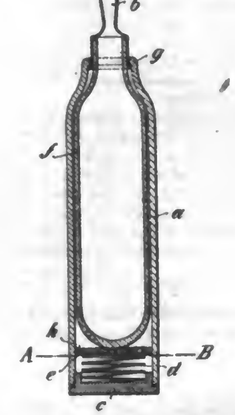
3. The combination of the swinging tone tube and needle and movable support therefor of a talking machine, a lever moving with the tone tube and connected with said support for raising and lowering the latter, and a bearing arranged to make contact with said lever to swing the latter and lower said support as the needle is brought into operating position.

4. The combination with the swinging tone tube of a talking machine, of a needle, a swinging support for the needle, automatic means for moving said support to lift the needle as the tone tube reaches the desired limit of its inward movement, and a detent carried by the tone tube for engaging and holding said support when elevated.

5. The combination with the swinging tone tube of a talking machine, of a needle, a swinging support for the needle, automatic means for moving said support to lift the needle as the tone tube reaches the desired limit of its inward movement, and a detent for engaging and holding said support when elevated, said detent provided with a shoe for engaging the record.

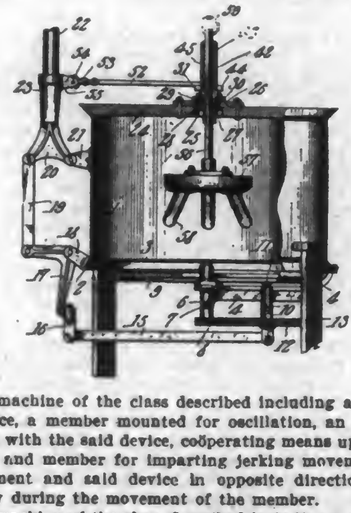
[Claims 6 to 28 not printed in the Gazette.]

978,892. COVER FOR NURSING-BOTTLES. FRIEDRICH OLTMANN JANSSEN, Hemelingen, near Bremen, Germany. Filed Feb. 18, 1907. Serial No. 357,895.



The combination of a nursing bottle and a nipple provided with a rim with a hollow strong cover provided with a rim and surrounding the bottle and having a removable bottom, and with a spring secured to the bottom, the bottle being held in a resilient and tight manner within the cover by the spring and by the rim of the nipple, the last being held upon the neck of the bottle by the rim of the cover as and for the purpose set forth.

978,893. ACTUATING MECHANISM. JAMES B. JARMIN, Spokane, Wash. Filed Feb. 24, 1910. Serial No. 545,574.



1. A machine of the class described including a revoluble device, a member mounted for oscillation, an element movable with the said device, coöperating means upon said element and member for imparting jerking movements to the element and said device in opposite directions successively during the movement of the member.

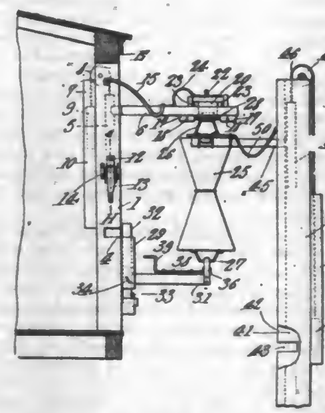
2. A machine of the class described including a supporting structure, a tubular member mounted for rotation thereon, an element slidably connected to said member and revoluble therewith, an arm extending from said member, an oscillating device pivotally mounted upon said member, means for actuating said device and coöperating means upon said device and the arm for producing lost motion during the first portion of the movement of said device in each direction, said device operating to actuate the arm during the completion of each movement of the device.

3. A machine of the class described including a supporting structure, a tubular member mounted for rotation thereon, a device revoluble with said member and slidably connected thereto, an arm extending from said member, an arm mounted for oscillation upon said member, said oscillating arm engaging and having a limited movement relative to the arm on said member, and means for actuating the oscillating arm.

4. A machine of the class described including a supporting structure, a revoluble device, a sleeve mounted for rotation upon the said structure, said device being movable therewith and slidably connected thereto, an arm extending from and movable with said member, an actuating arm mounted to oscillate upon said member and loosely engaging the arm on said member, the two arms coöperating to produce lost motion on each movement of the oscillating arm and to impart an intermittent jerking movement to the said member and the revoluble device.

5. A machine of the class described including a supporting structure, a tubular member mounted for rotation thereon, a device slidably connected thereto and revoluble therewith, an arm radiating from said member, an arm mounted for oscillation upon said member and having a flattened portion loosely engaging the first mentioned arm, and means for actuating the oscillating arm to impart an intermittent movement to the arm engaged thereby and to the revoluble device.

978,894. APPARATUS FOR DELIVERING AND RECEIVING MAIL. JOHN THOMAS JEFFRIES and ROBERT LEE LYNCH, Campbellsburg, Ky. Filed July 25, 1910. Serial No. 573,751.



1. Apparatus of the class described including a vertically slidable counter-balanced arm, means thereon for engaging and holding a mail pouch, and a hinged reinforcing member in the path of and adapted to engage and straddle the arm when said arm is elevated.

2. Apparatus of the class described including a longitudinally slotted upstanding member, an arm mounted for sliding and swinging movement relative to said member, a counter-balance connected to the arm, means upon the arm for engaging and supporting a pouch, and a reinforcing member hingedly connected to said upstanding portion and adapted to straddle and engage the arm when said arm is elevated.

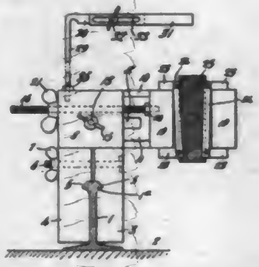
3. Apparatus of the class described including a supporting structure, an arm outstanding therefrom, revoluble pouch supporting elements upon the arm and spring pressed means upon the arm for frictionally engaging the portion of the pouch interposed between said elements.

4. Apparatus of the class described including an arm, revoluble pouch supporting elements mounted thereon, a pouch, a bar thereon having its terminals removably engaging said elements, and spring pressed means upon the arm for frictionally engaging said bar to hold it against accidental displacement relative to said supporting element.

5. Apparatus of the class described including an arm, wheels mounted for rotation thereon, said wheels having peripheral recesses, a pouch, a bar secured thereto, and having its ends detachably seated in recesses within the wheels, a spring pressed block movably mounted on the arm, and an antifriction device carried by the block and adapted to engage the bar while supported by the wheels.

[Claims 6 to 9 not printed in the Gazette.]

978,895. VENEER-SAW LINER AND JOINTER. ROBERT W. JONES, Covington, Ky. Filed Feb. 14, 1910. Serial No. 543,872.



1. In a saw-jointer device, a pedestal clamp-member, a locking clamp-member, a supporting-rail gripped between said clamp-members, a carrier or slidable head having a horizontally-slotted portion therein, means comprising a bolt for adjustably securing said carrier in a guide-way at the upper portion of said pedestal clamp-member, horizontal, suitably spaced arms on said carrier forming a guide-way, a holder bar or block mounted between and supported by said spaced arms and having vertical side-clamps forming a holder guide-way on its fore face, a file or similar grinding means mounted in said side-clamps and a horizontal hand-screw adapted to adjustably hold the file or grinding surface in position to suit different diameters of saws.

2. A circular-saw jointer device comprising a supporting-rail, a pedestal clamp-member, a lock clamp-member, a transverse bolt connecting and gripping said clamp-members on said supporting-rail, a carrier or slidable head having a horizontally-slotted portion engaging a horizontal guideway on said pedestal clamp-member, a transverse bolt adjustably connecting said carrier to said pedestal clamp-member, an adjusting-screw for said carrier, horizontal, suitably spaced arms on said carrier, a vertical file-holder mounted on said spaced arms, a grinding surface or jointer-file detachably mounted on said holder between said spaced arms and a horizontal adjusting-screw for said file-holder.

978,896. SHOE-HEEL. HENRY C. KARPEN, Brooklyn, N. Y. Filed Feb. 15, 1909. Serial No. 477,876.



1. A shoe heel comprising a central body portion provided with a recess at the outer edges thereof, and having a part overhanging the said recess, a yielding flexible member located in the said recess and engaged by the said overhanging part, and a retaining device movably secured at one end to the flexible member upon one side thereof, and removably secured at its opposite end to the other side of the said flexible member, the said retaining device engaging the front portion of the heel intermediate its ends.

2. A shoe heel comprising a main body portion having an undercut recess at the edges thereof, a U-shaped yielding flexible member fitted to the said recess, and a hook pivoted at one end to one of the ends of the said flexible member, and adapted to removably engage the other end of the said flexible member across the front of the heel, substantially as set forth.

3. A shoe heel comprising a main body member having an undercut recess at the edges thereof, and a U-shaped rubber member fitted to the said recess, the said rubber member being provided with pins 21 and 22 at the ends thereof and a hook 20 pivoted upon the pin 21 and adapted to removably engage the pin 22, the intermediate portion being adapted to engage the front of the body portion of the heel, substantially as set forth.

978,897. CURRENT-DEFLECTOR. LAWRENCE KELLEY. Concordia, Kans. Filed July 21, 1909. Serial No. 508,821.



1. A current deflector comprising a chain of logs in the form of a boom anchored at one end and projecting therefrom into a stream in a downstream direction at an angle to the flow of the stream and bracing timbers in substantially floating relation to the stream, said timbers projecting from the shore of the stream in a downstream direction and secured at the off-shore ends to the boom.

2. A current deflector comprising a boom anchored at one end and projecting therefrom into a stream in a downstream direction at an angle to the flow of the stream. bracing timbers projecting from the shore of the stream in a downstream direction and secured at the offshore ends to the boom, and cables extending from the anchorage to the several bracing timbers and secured thereto.

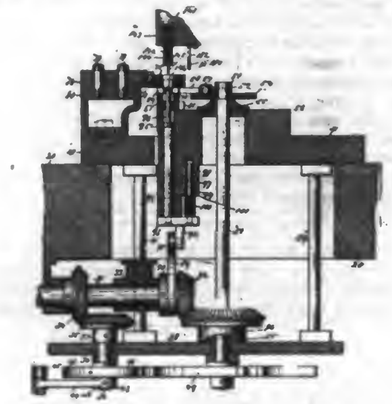
3. A current deflector comprising a boom anchored at one end and projecting therefrom into a stream in a downstream direction at an angle to the flow of the stream, bracing timbers projecting from the shore of the stream in a down stream direction and secured at the off-shore ends to the boom, and flexible connections extending from the anchorage end of the deflector and secured to the several bracing timbers.

4. A current deflector comprising a boom anchored at one end and projecting therefrom into a stream in a down stream direction at an angle to the flow of the stream, bracing timbers projecting from the shore of the stream in a down-stream direction, and secured at the off-shore ends to the boom, flexible connections extending from the anchorage end of the deflector to and secured to the several bracing timbers, and a pervious apron depending from the boom.

5. A current deflector comprising a boom anchored at one end and projecting therefrom into a stream in a direction at an angle to the flow of the stream, bracing timbers projecting from the shore of the stream in a downstream direction and secured at the offshore ends to the boom, cables connected to the anchorage end of the deflector and extending to and secured to the bracing timbers, and a pervious apron depending from the boom.

[Claims 6 and 7 not printed in the Gazette.]

978,898. MACHINE FOR MAKING EYELETS AND SIMILAR ARTICLES. JAMES H. KELLY, Holliston, Mass. Filed Feb. 26, 1908. Serial No. 417,894.



1. In a machine for making eyelets and similar articles, an intermittently rotative and substantially circular gripper-carrier-plate, grippers secured to and extending substantially radially beyond the periphery of said plate, stationary dies arranged in a circle which is substantially concentric with the periphery of the plate, a vertically moving plunger-head provided on its under side with punches arranged to correspond with said dies, mechanism for lowering said plunger-head and thereby causing the punches to treat the blank in connection with the dies during the pauses in the rotation of the gripper-carrier-plate, and mechanism for opening the grippers to receive the blank before the different steps in the operation and closing them upon the blank after said steps, for the purpose set forth.

2. In a machine for making eyelets and similar articles, an intermittently rotative gripper-carrier-plate, a series of pairs of grippers secured at their rear ends to the gripper-carrier-plate and each pair extending radially therefrom beyond the periphery of the plate and constituting pivotal jaws, mechanism for holding each pair normally closed and in a substantially radial position, stationary dies arranged in a circle on a lower level than the pairs of grippers and at points which correspond with said pairs, a vertically moving plunger-head provided on its under side with punches arranged to correspond with said dies, mechanism for lowering said plunger-head and thereby causing the punches to treat the blank in connection with the dies during the pauses in the rotation of the gripper-carrier-plate, and mechanism for opening the grippers to receive the blank before the different steps in the operation and allowing them to close upon the blank after said steps, for the purpose set forth.

3. In a machine for making eyelets and similar articles, an intermittently rotative gripper-carrier-plate, a series of pairs of grippers secured at their rear ends to the gripper-carrier-plate and each pair extending radially therefrom beyond the periphery of the plate and constituting pivotal jaws, mechanism for holding each pair normally closed and in a substantially radial position, stationary dies arranged in a circle on a lower level than the pairs of grippers and at points which correspond with said pairs, a vertically moving plunger-head provided on its under side with punches corresponding to the circle containing the dies, substantially V-shaped spreaders extending downward from the plunger-head above the spaces between the grippers in the different pairs, and mechanism for lowering the plunger-head and thereby causing the punches to treat the blank in connection with the dies during the pauses in the rotation of the gripper-carrier-plate and the V-shaped spreaders to open the pairs of grippers before each step in such treatment.

4. In a machine for making eyelets and similar articles, an intermittently rotative gripper-carrier-plate, a series of pairs of grippers secured at their rear ends to the gripper carrier-plate and each pair extending radially therefro beyond the periphery of the plate and constituting pivot jaws, mechanism for holding each pair normally clos and in a substantially radial position, stationary di arranged in a circle on a lower level than the pairs grippers and at points which correspond with said pai a vertically moving plunger-head provided on its und side with punches corresponding to the circle containi the dies, substantially V-shaped spreaders extendi downward from the plunger-head above the spaces b tween the grippers in the different pairs, bifurcated ce tering plates extending downward from the plunger-he over the pairs of grippers and adapted to straddle ar center said pairs, and mechanism for lowering the plu ger-head and thereby causing the punches to treat t blank in connection with the dies during the pauses the rotation of the gripper-carrier-plate, the V-shap spreaders to open the pairs of grippers before each st in such treatment and the centering device to hold sa pairs in their proper position during said pauses.

978,899. LOCK. PETER W. KINDLESPIRE and JAMES CANNAN, Wapakoneta, Ohio. Filed Aug. 8, 1910. Serial No. 576,106.



1. In a lock, a shank, a head fixed at each end of th shank, locking rings held between the heads for rotatio and formed each with a flange having a series of notche and a master notch, a shackle having an arm passin through one of the heads and formed with notches r ceiving the flanges of the locking rings, means for hol ing the shank against rotation when in normal locke condition, sleeves held upon the shank, and a pawl ca ried by each sleeve and coöperating with the notche flange of its corresponding locking ring.

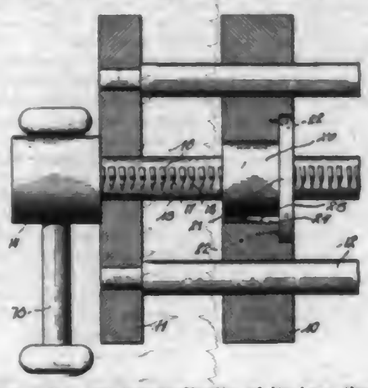
2. In a lock, a shank, a head fixed at each end of th shank, locking rings held between the heads for rotatio and formed each with a flange having a series of notche and a master notch, a shackle having an arm inserte through one of the heads and formed with notches r ceiving the flanges of the locking rings, means for hol ing the shank against rotation when in normal locke condition, sleeves held upon the shank, and a pawl carrie by each sleeve, and coöperating with the notched flang of its corresponding locking ring, the flange of each loc ing ring having a blank portion for the coöperation the with of the corresponding pawl.

3. In a lock, a shank, a head fixed at each end of th shank, locking rings held between the heads for rotatio and formed each with a flange having a series of notche and a master notch, a shackle having an arm passin through one of the heads and formed with notches r ceiving the flanges of the locking rings, means for hol ing the shank against rotation when in normal locke condition, sleeves held upon the shank, and a pawl carrie by each sleeve and coöperating with the notched flange its corresponding locking ring, the shank being forme with longitudinally extending corrugations and eac sleeve being formed interiorly with corrugations matc ing the corrugations of the shank.

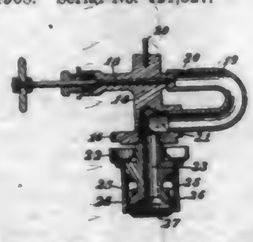
978,900. WORK-BENCH SCREW. WILLIE H. KIRKPA RICK, Celina, Tenn. Filed Apr. 25, 1910. Serial No 557,463.

In combination, an interrupted screw comprising body provided with a single series of longitudinally ac minate thread portions alined side by side along sa

body, each of said thread portions having one end laterally beveled and the other end provided with parallel flanks; and a nut having a single series of alined acuminate notches cut longitudinally of its bore through its threads, said notches being of corresponding size to the thread portions of said screw.



978,901. ALCOHOL-LAMP. FRANK KITZSTEINER, Grand Rapids, Mich., assignor to The Quick Work Stove Company, Cleveland, Ohio, a Corporation of Ohio. Filed Mar. 16, 1908. Serial No. 421,327.



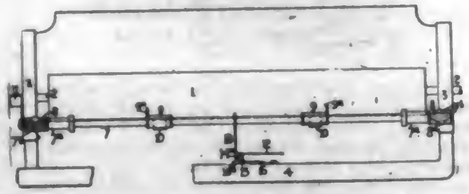
1. In an alcohol lamp, a vaporizer comprising a body attached near its top to a tube and having a passage extending downward within one side of the body and thence partially around its axis and thence upward within the opposite side of the body in the opposite direction, and thence inward to the axis of the body opposite the said tube, a horizontally disposed needle valve communicating with the inner end of said passage, a U-shaped mixing tube communicating with the needle valve, and a downwardly projecting burner communicating with the mixing tube.

2. An alcohol lamp comprising a reservoir to contain alcohol, a pipe extending downward therefrom, a vaporizer attached to the end of the pipe, a passage within one side of the vaporizer extending downward from the pipe and thence partially around the axis of the vaporizer, and thence upward and inward to opposite the pipe, a needle valve extending across the axis and communicating with said passage, a mixing tube communicating with the needle valve, and a burner communicating with the mixing tube and extending donward therefrom.

3. In an alcohol lamp, a vaporizer attached to a tube and having a passage extending downward from the tube within one side and thence partially around the axis of the vaporizer to the other side thereof and thence in an opposite direction within the other side thereof and thence to its axis and opposite the tube, a needle valve extending transversely across the axis and communicating with the end of said passage, a U-shaped mixing tube communicating with the needle valve at one end and having a lateral opening to admit air and also communicating with a chamber below the needle valve at the other end, a burner tube communicating with said chamber and having a truncated conical lower end, and a perforated disk to close the end of said burner tube.

4. In an alcohol lamp, the combination of a vaporizer attached to a tube to supply alcohol thereto, said vaporizer having a passage extending downwardly within one side and thence partially around the axis to a point within the opposite side, and thence oppositely upward in said opposite side, and thence inward to the axis and opposite said tube, a needle valve extending across the axis, a U-shaped mixing tube communicating with said valve at one end, and having a lateral opening near the valve to admit air and also communicating at the other end with a chamber below the needle valve and in the axis of the vaporizer, and a downwardly projecting burner tube communicating with said chamber and having an enlarged end closed by a perforated diaphragm.

978,902. TYPE-WRITING MACHINE. ALFRED G. F. KUNOWSKI, New York, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of Delaware. Filed Apr. 13, 1910. Serial No. 555,274.



1. In a typewriting machine, the combination with a platen and a paper-feeding device including a tensioned rod extending across the machine and carrying pressure rolls to engage the platen, of an arm connected to the machine, and releasably engaging the rod intermediate its ends to support the latter.

2. In a typewriting machine, the combination with a platen and a paper-feeding device including a spring-pressed rod tending to rotate, said rod extending across the machine and carrying pressure rolls adjustable along the rod to engage different widths of paper, of an arm pivotally connected to the machine and releasably engaging the rod to prevent springing thereof and movable to a position of disuse to enable the pressure rolls to be adjusted to either end of the rod.

3. In a typewriting machine, the combination with a shiftable platen frame and platen, and a paper-feeding device including a rod tensioned to rotate, said rod extending across the platen frame and carrying pressure rolls to engage the platen, of an arm relative to which the platen frame shifts, and having an elongated bearing, in which is fitted the rod to accommodate the latter when the platen frame is shifted.

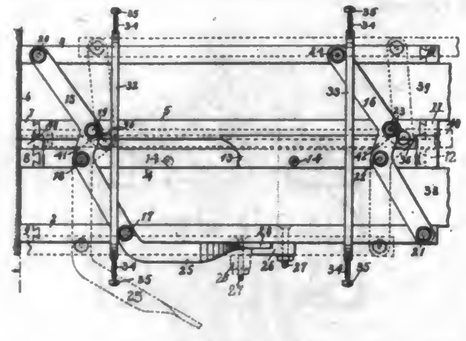
4. In a typewriting machine, the combination with a platen frame and platen, and a paper-feeding device, including a rod tensioned to rotate, said rod extending across the platen frame and carrying the pressure rolls to engage the platen, of an arm pivoted to the machine and having a recess open at one end in which the rod is loosely fitted.

5. In a typewriting machine, the combination with a shiftable platen frame and platen, and a paper-feeding device including a rod tensioned to rotate, said rod extending across the platen frame and carrying pressure rolls to engage the platen, of an arm having an elongated bearing in which the rod is fitted, and a bracket to which the arm is attached, the bracket being secured to the machine independently of the platen frame and having a brace engaging the machine to resist strain imparted by the rod to the arm.

[Claims 6 to 8 not printed in the Gazette.]

978,903. MOLDING APPARATUS. ISRAEL L. LANDIS, Chicago, Ill. Filed Apr. 1, 1905, Serial No. 253,351. Renewed Nov. 17, 1909. Serial No. 528,593.

1. The combination of a pair of mold-boards, with a pair of core-boards, the latter arranged to move toward and from each other and the former arranged to move, respectively, from and toward each other, the levers 15 and 16 having the bent portions 41 and 42, each of said levers pivoted to all of said mold and core boards, one of said levers having a handle normally parallel to said mold-boards, the catch 26 for locking said handle to the mold-board, and the bent yokes 32 and 33 and their adjusting screws for supporting the mold-boards against spreading apart at their lower edges.



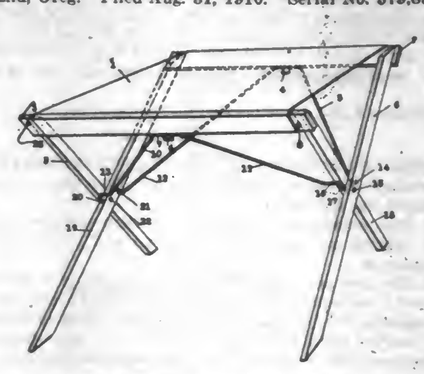
2. The combination of a pair of mold-boards, with a pair of core-boards, the levers 15 and 16 pivoted to all of said boards and arranged to impart expanding movement to said mold-boards and simultaneously contracting movement to said core-boards, or contracting movement to said mold-boards and expanding movement simultaneously to said core-boards, the extensions removably secured to the ends of said core and mold boards to permit longitudinal movement thereof, and means for supporting said mold-boards against spreading movement.

3. The combination of outer mold-boards with inner core-boards, levers 15 and 16 for moving said mold-boards in opposite directions and for moving said core-boards in opposite directions, one of said core-boards provided with the cover or plate 13 overlapping the other core-board and having the hinged portion 37 covering, normally, the removable end extensions of said core-boards, and the removable end extensions of said core-boards and mold-boards.

4. The combination of mold-boards 2 and 3 with core-boards 4 and 5 provided with the cover 13 having hinged portions 37, all of said boards having removable end extensions such as 7 or 8, the levers 15 and 16 pivoted to all of said boards and having pivots for the core-boards arranged out of alinement with the pivots for the mold-boards, said levers serving to yoke the upper edges of the mold and core-boards together and to also move said boards relatively to each other, means for locking at least one of said levers and boards together against relative movement and means for yoking the lower edges of said mold-boards together against spreading movement.

5. The combination of mold-boards 2 and 3, with core-boards 4 and 5, the latter provided with the cover 13 spanning the space between said core-boards, extensions such as 7 and 8 for said core and mold boards, the hinged lids 37 normally covering said extensions, the levers 15 and 16 crossing the tops of all of said mold and core boards and pivoted separately to each thereof, the blocks 29 interposed between the tops of said mold and core-boards, one of said levers provided with an operating handle 25 and one of said mold-boards provided with the catch 26 adapted to engage said handle, the pivots connecting said core-boards and mold-boards arranged to swing the core-boards toward each other and to simultaneously swing the mold-boards away from each other, or to reverse said movements, and separate means for yoking the lower edges of mold-boards together against relative movement away from each other.

978,904. FOLDING STOOL. WILMOT M. LANGLEY, Portland, Oreg. Filed Aug. 31, 1910. Serial No. 579,898.



1. In a folding stool, cross-bars having legs pivotally secured to their ends; a brace pivotally secured to the pair of legs at each side of the stool, the central portion of which is adapted to bear against the cross bar and the legs and braces being so mounted that when the pair of legs at one end of the stool is folded against the lower side of the cross-bars, the other pair will fold against the upper side of said bars, substantially as specified.

2. In a folding stool, cross-bars having crossed legs pivotally secured to their ends; a three-part brace mounted on the pair of legs at each side of the stool, the central portion of which bears against a cross-bar when the stool is set up; and when it is folded, the end portions of the brace will lie on opposite sides of the bars, while the central portion will lie against the end thereof.

3. A folding stool comprising cross-bars having crossed legs pivoted to their ends; a three-part brace supporting the legs at each side of the stool and all so mounted that when the bars are closed, the legs at one end will fold into the space between the bars, at the lower edge and those at the other end will swing around and lie within the space between the bars at the upper edge.

4. A folding stool comprising a pair of bars; a flexible covering therefor; crossed legs pivoted to the ends of the bars; and a brace supporting each lateral pair of legs, the central portion of said brace bearing against its respective cross-bar when the stool is set up; and when it is folded said central portion lying against the end of said cross-bar, substantially as specified.

5. In a folding stool, cross-bars provided with a flexible covering; legs for each end, pivoted together near their middle point, one of which legs at each end being secured to a cross-bar on a straight pivot and the other being secured on a bracketed pivot, both of which pivots being mounted to turn on the same center.

[Claim 6 not printed in the Gazette.]

978,905. METHOD OF MAKING STEEL. HORACE W. LASH, Cleveland, Ohio. Filed Sept. 1, 1908. Serial No. 451,189.

1. The process which comprises subjecting to a smelting heat a charge mixture comprising finely divided iron oxid and carbon with cast iron together with iron having a high carbon and manganese content.

2. The process which comprises subjecting to a smelting heat a charge mixture of finely divided iron oxid, carbon, cast iron and black oxid of manganese together with an iron product high in carbon and manganese.

3. The process which comprises subjecting to a smelting heat a charge mixture containing iron oxid, carbon, cast iron and black oxid of manganese together with an iron product containing substantially 3 to 4 per cent. of combined carbon and substantially 1 per cent. manganese.

4. The process which comprises subjecting to a smelting heat a charge mixture containing finely divided iron

oxid, cast iron and carbon together with iron high in carbon and manganese and relatively low in silicon.

5. The process which comprises subjecting to a smelting heat a charge mixture comprising finely divided iron oxid, cast iron, carbon and manganese oxid together with iron high in manganese and combined carbon and low in silicon.

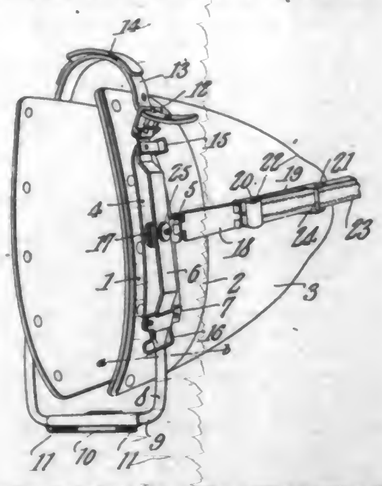
[Claims 6 and 7 not printed in the Gazette.]

978,906. PROCESS OF TREATING CAST-IRON WASTE. HORACE W. LASH, Cleveland, Ohio. Filed Sept. 1, 1908. Serial No. 451,190.

1. The process which comprises fusing a mixture of cast iron borings or turnings with carbon and black oxid of manganese.

2. The process which consists in subjecting a mixture of cast iron borings or turnings, carbon and black oxid of manganese, to the action of a fusing heat and continuing the heating until the molten iron is high in carbon and manganese and low in silicon, phosphorus and sulfur.

978,907. HORSE-COLLAR. MAX LAUTERBACH, Omaha, Nebr. Filed Feb. 23, 1910. Serial No. 545,468.

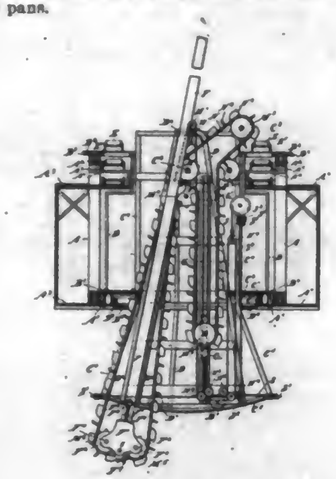


A collar including side strips, strips bearing thereon and spaced therefrom at intermediate points, pivot bolts extending through the strips at each side of the collar, a shoulder plate mounted upon each of said bolts, a draft leather secured to each shoulder plate, a draft iron secured to each draft leather and mounted upon one of the pivot bolts, each draft iron being made up of hingedly connected sections, one of the sections extending between the strips at one side of the collar.

978,908. EXCAVATING APPARATUS. WILLIAM J. LEARY, New York, N. Y., assignor to W. J. Leary Manufacturing Co., Jersey City, N. J., a Corporation of New Jersey. Filed May 22, 1900. Serial No. 407,589.

1. In an apparatus of the character set forth, a pair of girders disposed horizontally and parallel and provided with bottom stringers, a carriage supported by the bottom stringers only of said girders and movable longitudinally thereof in the space between them, a turn table in said carriage, a boom having side bars, a conveyer of the chain and bucket type mounted on said boom, the buckets of which are movable between the side bars of said boom, cars movably supported on the turn table on said carriage, and a swinging frame in which said boom is mounted to slide, said frame being carried by and rotatable with said turn table.

2. In an apparatus of the character set forth, a pair of girders disposed horizontally and parallel to each other, a carriage supported by said girders and arranged to move longitudinally thereof in the space between them, a boom and a swinging frame in said carriage, said frame being mounted on a horizontal axis on the carriage and the boom mounted to slide longitudinally in said frame, an annular series of pans on said carriage and means for moving them, a series of conveyers mounted for movement longitudinally of said girders beneath and tangentially to said series of pans, means for dumping the contents of said pans on said conveyers, and excavating means carried by said boom and arranged to deliver excavated material to said pans.

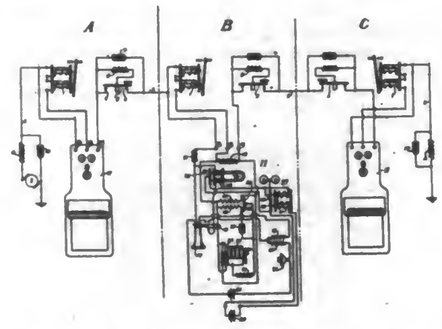


3. In an apparatus of the character set forth, a pair of horizontal parallel girders, a carriage supported by the lower stringers of said girders and arranged to move longitudinally thereof in the space between them, a swinging frame mounted on a horizontal axis on said carriage, a boom in said carriage and mounted to slide longitudinally in said frame, an annular series of pans on said carriage and means for moving them, a series of conveyers arranged to move longitudinally of said girders beneath and tangentially to said series of pans, means for dumping the contents of said pans on said conveyers, excavating means carried by said boom and arranged to deliver excavated material to said pans, an arm supported by said girders, means for swinging said arm vertically, and a chain of carriers carried by said arm to which said conveyers deliver its material.

4. In an apparatus of the character described, a pair or horizontally disposed parallel girders having bottom stringers, a carriage supported by said bottom stringers only, a turn table on said carriage, a swinging frame suspended from said turn table, guideways on said frame, a boom mounted to slide up and down in said ways and having side bars, a conveyer of the chain and bucket type mounted on said boom with the buckets movable between said side bars, a series of pans movably mounted on the top of said carriage, and means for dumping the contents of the pans.

5. In an apparatus of the character set forth, a pair of girders disposed horizontally and parallel and provided with lower stringers, a plurality of carriages supported by the lower stringers only of said girders and arranged to move longitudinally thereof in the space between them, a turn-table mounted on each of said carriages, a frame pivotally mounted on a horizontal axis on said turn-table, a boom mounted to slide longitudinally in said frame, an annular series of pans on each of said carriages, means for moving said pans, two series of conveyers arranged to move longitudinally of said girders beneath and tangential to said series of pans, means for dumping the contents of said pans on said series of conveyers, and excavating means carried by each of said booms and arranged to deliver excavated material each to its series of pans.

978,909. COMPOSITE TELEPHONE AND TELEGRAPH SYSTEM. OSCAR M. LEICH, Genoa, Ill., assignor to Cracraft-Leich Electric Co., Genoa, Ill. Filed June 19, 1908. Serial No. 439,313.



1. A composite telephone and telegraph system comprising telegraph relays and telegraph operating keys, a line circuit for said relays and keys, three or more telephones also associated with said line circuit, said telephones having their talking circuits in bridge of said relays serially with the line circuit, and condensers bridged around the telegraph operating keys to provide bypaths for the telephonic currents.

2. A composite telephone and telegraph system comprising electromagnetic telegraph receiving devices, keys for operating said devices, a line circuit for said keys and devices, three or more telephones also associated with said line circuit, said telephones having their talking circuits in bridge of said devices serially with the line circuit, and means bridged around said keys to conduct the voice currents when the keys are being operated, said means not materially influencing telegraphic communication over said line circuit.

3. A composite telephone and telegraph system comprising electromagnetic telegraph receiving devices, keys for operating said devices, a line circuit for said keys and devices, three or more telephones also associated with said line circuit, said telephones having their talking circuits in bridge of said devices serially with the line circuit, and condensers bridged around said keys to conduct the voice currents when the keys are being operated, said condensers not materially influencing telegraphic communication over said line circuit.

4. A composite telephone and telegraph system comprising electromagnetic telegraph receiving devices, keys for operating same, a line circuit for said keys and said devices, telephones also connected to said line circuit, a back contact for each key, and an inductance bridged around said back contact to decrease the telegraphic disturbance on the telephone talking circuit.

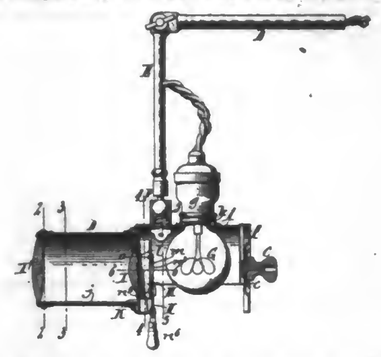
5. A composite telephone and telegraph system comprising electromagnetic telegraph receiving devices, keys for operating same, a line circuit for said keys and said devices, telephones also connected to said line circuit, a back contact for each key, and an impedance coil bridged around said back contact to decrease the telegraphic disturbance on the telephone talking circuit.

[Claims 6 to 9 not printed in the Gazette.]

978,910. MOUTH-ILLUMINATOR. THEODORE G. LEWIS, Buffalo, N. Y., assignor to Buffalo Dental Manufacturing Company, Buffalo, N. Y., a Corporation of New York. Filed June 30, 1910. Serial No. 569,688.

1. An illuminator of the character described, comprising a hood, a lamp arranged therein, a diaphragm arranged in the hood in front of the lamp, a lens carried by said diaphragm, and a shutter mounted on the diaphragm and interposed between said lens and the lamp.

2. An illuminator of the character described, comprising a hood, a lens located at the front end of the hood, a lamp arranged in the hood behind said lens, a bracket arranged between the lens and the lamp and having an aperture in line with the lens, and a shutter applied to said bracket and having a plurality of different-sized openings coöperating with said bracket-aperture.

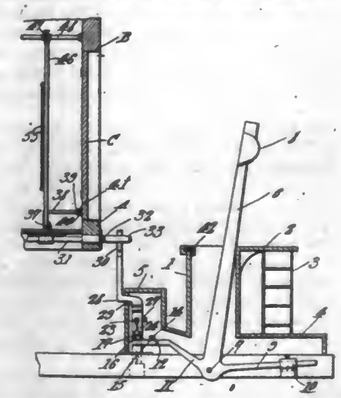


3. An illuminator of the character described, comprising a hood, a lens located at the front end of the hood, a lamp arranged in the hood behind said lens, a bracket arranged between the lens and the lamp and having an aperture in line with the lens, and an oscillating shutter pivoted to said bracket and having a plurality of different-sized openings coöperating with the bracket aperture.

4. An illuminator of the character described, comprising a hood, a lens located at the front end of the hood, a lamp arranged in the hood behind said lens, a bracket arranged between the lens and the lamp and having an aperture in line with the lens, a shutter applied to said bracket and having a plurality of different-sized openings coöperating with said bracket-aperture, and means for retaining the shutter in its several positions.

5. An illuminator of the character described, comprising a hood, a lens located at the front end of the hood, a lamp arranged in the hood behind said lens, a bracket arranged between the lens and the lamp and having an aperture in line with the lens and a locking-pin, and an oscillating shutter pivoted to said bracket and having a plurality of different-sized apertures coöperating with the bracket-aperture and corresponding locking opening adapted to interlock with said pin.

978,911. APPARATUS FOR DELIVERING MAIL TO MOVING CARS. ROGER W. LOMAX, Lynchburg, Va. Filed Oct. 13, 1910. Serial No. 586,952.



1. The combination with a throwing arm mounted for swinging movement, of a car-supported tripping device, means for projecting said device beyond either side of the car, and means operated by the projected device for shifting said arm toward the car.

2. The combination with a throwing element movably mounted, and means for holding it normally in a predetermined position, of a car-supported tripping element, an actuating device projecting into the path of said tripping element, and means mounted for angular adjustment relative thereto and movable therewith for shifting the throwing element toward the car.

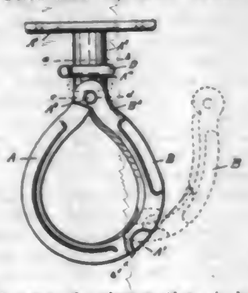
3. The combination with a throwing element, of a car-supported tripping device, operating means projecting into the path of said device, and means movable with and adjustably connected to said operating means and normally engaging the throwing element for shifting the throwing element in the direction of the car when the operating means is actuated.

4. A throwing element, a bearing member movable therewith, an actuating device mounted for swinging movement, means movable therewith and mounted for angular adjustment relative thereto for depressing the bearing member, means for holding the actuating device normally in a predetermined position, and a car-supported tripping device movable against the actuating device.

5. Apparatus of the class described including a throwing element, a bearing device movable therewith, an upwardly extending actuating member including movably connected sections, an arm adjustably connected to said member, and a car-supported tripping device movable against the member to shift the arm and depress the bearing device.

[Claims 6 to 10 not printed in the Gazette.]

978,912. PIPE-HANGER. WILLIAM H. MACK, New York, N. Y. Filed Jan. 27, 1910. Serial No. 540,338.



1. In a pipe hanger, the ring section, A, having the laterally projecting lug, A', and the hook, A^2, at its free end, A^3, in combination with the ring section, B, having the laterally projecting lug, B', and the hook, B^2, at its end, B^3, and which are adapted to engage with the corresponding lug, A', and the hook, A^2, of the section, A, so as to make a locked joint when brought together, and the section, B, having a hole, B^4, in its other end, B^5, which is adapted to engage with a corresponding pin, A^5, in the section, A, thereby securing the sections together, substantially as specified.

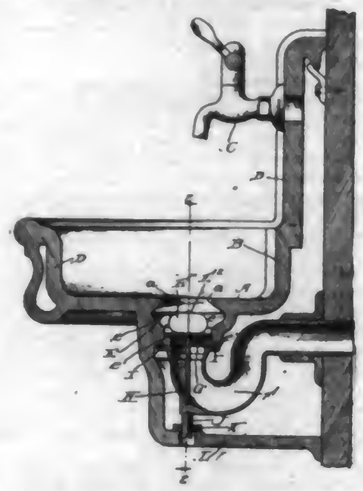
2. In a pipe hanger, the ring section, A, having the laterally projecting lug, A', and the hook, A^2, at its free end, A^3, in combination with the ring section, B, having the laterally projecting lug, B', and the hook B^2, at its end, B^3, and which are adapted to engage with the corresponding lug, A', and the hook A^2, of the section, A, so as to make a locked joint when brought together, and the section, B, having a hole, B^4, in its other end, B^5, which is adapted to engage with a corresponding pin, A^5, in the section, A, thereby securing the sections together, and the ring, D, adapted to pass over the end, B^5, of the section, B, and secure it to the section, A, substantially as specified.

3. In a pipe hanger, the combination of the ring section, A, having the laterally projecting lug, A', and the hook, A^2, and the pin, A^5, the section, B, having the laterally projecting lug, B', and the hook, B^2, at one end and the hole, B^4, at the other end, and a fastening, D, adapted to secure the section, B, to the section, A, substantially as specified.

4. In a pipe hanger, the combination of the ring section, A, having the laterally projecting lug, A', and the hook, A^2, at its free end, A^3, and being provided with a neck, A^4, and the head, A^5, and the section, B, having the laterally projecting lug, B', and the hook, B^2, at one end, B^3, and the other end, B^5, adapted to engage with the section, A, and the neck, A^4, and a fastening, D, adapted to secure the section, B, to the section, A, substantially as specified.

5. In a pipe hanger, the combination of the head, A^5, the extensible connection, A^6, the loosely jointed neck, A^4, the ring section, A, having the pin, A^5, and the laterally projecting lug, A', and the hook, A^2, at its free end, A^3, the section, B, having the laterally projecting lug, B', and the hook, B^2, at one end, B^3, and the hole, B^4, at its other end, B^5, and a ring, D, around the neck, A^5, and adapted to secure the end, B^5, of the section, B, to the section, A, and the lug, B', and the hook, B^2, of the section, B, adapted to engage with the corresponding lug, A', and hook, A^2, of the section, A, and thereby make a locked joint, substantially as specified.

978,913. DRINKING-FOUNTAIN AND OTHER PLUMBING-FIXTURE. PATRICK J. MADDEN, Chicago, Ill. Filed May 24, 1906. Serial No. 318,515.



1. As a new article of manufacture, a plumbing fixture having a slab having an opening through it, and a splash-cup communicating with said opening, said splash-cup having undercut sides, substantially as described.

2. As a new article of manufacture, a plumbing fixture having a slab, having an opening through it, and a splash-cup communicating with said opening, said splash-cup having at top an over-hanging lip, substantially as described.

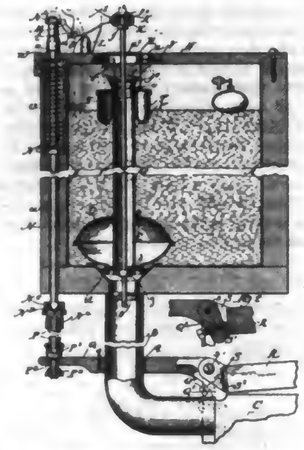
3. As a new article of manufacture, a plumbing fixture having a slab having an opening through it, and a splash-cup communicating with said opening, said splash-cup being integral with the slab and having undercut sides, substantially as described.

4. As a new article of manufacture, a plumbing fixture having a slab, having an opening through it, a splash-cup communicating with said opening, said splash-cup having undercut sides, and having also an outlet opening, and a strainer in said outlet opening, substantially as described.

5. As a new article of manufacture a plumbing fixture having a slab provided with a plurality of openings through its bottom, for the escape of waste water, a pipe with which said openings communicate, said pipe being integral with the slab and located on the under side thereof, so that the slab forms the top side of the pipe while its remaining sides are built up on the under side of the slab, thereby forming ribs for strengthening the slab and a drain pipe with which the pipe first aforesaid communicates.

[Claims 6 to 10 not printed in the Gazette.]

978,914. FLUSHING ATTACHMENT FOR WATER-CLOSETS. PATRICK J. MADDEN, Chicago, Ill. Filed July 27, 1909. Serial No. 509,910.



1. In a flushing attachment, the combination of a tank, a valve, a vertical thrust-rod movable endwise, the rear wall of the tank being provided with a vertical passage located wholly within said wall and between the planes of its inner and outer surfaces through which said thrust-rod passes, a spring arranged in said passage and exerting its pressure downward upon the rod, means for resisting the upward pressure of the spring, a trip connection between the upper end of the thrust-rod and the valve, and means for transmitting movement from the lower end of the thrust-rod to the seat, substantially as set forth.

2. In a flushing attachment, the combination of a tank, a valve, a vertical thrust-rod movable endwise, the tank being provided, within one of its walls, with a passage through which said thrust-rod passes, the upper part of said passage being enlarged, and the thrust-rod being provided with an annular enlargement occupying the enlarged portion of the passage, a coiled spring surrounding the rod within the enlarged portion of the passage and bearing downward upon said annular enlargement, means for resisting the upward pressure of the spring, a connection between the upper end of the thrust-rod and the valve, and means for transmitting movement from the lower end of the thrust-rod to the seat, substantially as set forth.

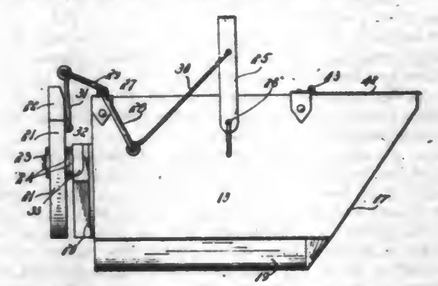
3. In a flushing attachment, the combination of a tank, a valve, a vertical thrust-rod movable endwise, and a trip connection between said rod and the valve, said trip connection having a lever, a latch fulcrumed thereto below the fulcrum of the lever and near the vertical line thereof and a shoulder carried by the rod and adapted to engage the latch, substantially as set forth.

4. In a flushing attachment, the combination of a tank, a valve, a vertical thrust-rod movable endwise and having a shoulder, and a trip-connection between the upper end of said thrust-rod and the valve, said trip-connection having a lever and a latch fulcrumed thereto and adapted to engage the shoulder of the thrust-rod, the fulcrum of the latch being at a point below the horizontal plane of the shoulder when the rod is at the limit of its downward movement, substantially as set forth.

5. In a flushing attachment, the combination of a tank, a valve, a vertical thrust-rod movable endwise and having a shoulder and a trip-connection between the upper end of said thrust-rod and the valve, said trip-connection having a lever and a latch fulcrumed thereto and adapted to engage the shoulder of the thrust-rod, the fulcrum of the latch being so disposed that the radius of the latch is inclined toward the direction of movement of the thrust-rod, substantially as set forth.

[Claims 6 to 11 not printed in the Gazette.]

978,915. FEED-BOX. CASPER O. MASTAUD, Foley, Minn. Filed Mar. 22, 1910. Serial No. 550,903.



1. The combination with a feed box; of a movable latch member mounted on the box, a bail on the box, and an operative connection between the bail and latch member.

2. The combination with a feed box; of a latch member pivoted intermediate its ends to one end of the box to swing in a vertical plane, and means to support said member in spaced relation to the box.

3. The combination with a feed box; of a latch member pivoted intermediate its ends to one end of the box to swing in a vertical plane, means to support said member in spaced relation to the box, a bail pivoted to the box, and an operative connection between the bail and latch member.

4. The combination with a feed box; of a guide block fixed to one end of the box and adapted to fit within a cattle stanchion, and a vertically swinging latch member pivoted intermediate its ends to the guide block and adapted to engage the uprights of said stanchion.

5. The combination with a feed box; of a guide block fixed to one end of the box and adapted to fit within a cattle stanchion, a vertically swinging latch member pivoted intermediate its ends to the guide block and adapted to engage the vertical members of said stanchion, a bail pivoted to the box, and an operative connection between said bail and latch member.

[Claims 6 and 7 not printed in the Gazette.]

978,916. PNEUMATIC CLEANER. FRANK J. MATCHETTE, Milwaukee, Wis. Filed June 1, 1903. Serial No. 159,531.



1. A pneumatic cleaner comprising a base adapted to rest upon the surface to be cleaned and having on its under side an air conducting channel of relatively greater length than width and height and extending transversely to the line of normal movement of the cleaner, the opposite walls of the channel at their lower ends terminating substantially in the same plane so as to cause an air current to traverse the channel in the direction of the length thereof, and a tubular air conducting member in communication with said air channel and having a swiveled connection with the base at the point of such communication substantially as described.

2. A pneumatic cleaner comprising a base having a blast-confining channel in its bearing face, said channel having inflexible walls, its greatest length being in the direction of travel of air therethrough, and transverse to the movement of the cleaner, said base being also formed with air inlet and outlet openings arranged to direct an air blast through said channels lengthwise thereof, transverse to movement of the cleaner, and in contact with the surface to be cleaned, and a tubular bail provided with a nozzle opening into said inlet opening, substantially as described.

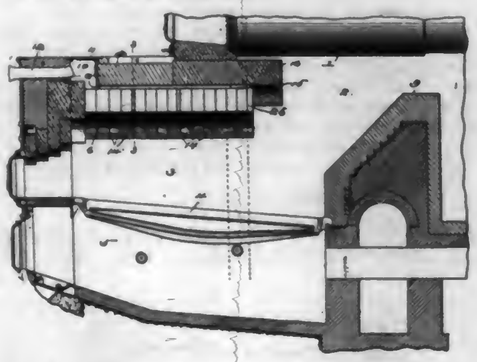
3. A pneumatic cleaner comprising a base having transverse blast-confining channels in its bearing face, and a dust catching chamber communicating with one end of one channel and the opposite end of the other channel, and nozzles opening into said channels and arranged to direct air blasts lengthwise thereof across the surface to be cleaned toward the openings into the dust catching chamber, substantially as described.

4. A pneumatic cleaner comprising a portable base having in its bearing face a blast channel formed with inflexible walls and an intercepting channel arranged alongside thereof and communicating therewith, said blast channel having an outlet opening and an inlet opening arranged to direct a blast of air lengthwise thereof across the surface to be cleaned toward the outlet opening and to draw air from the intercepting channel, and a tubular bail provided with a nozzle which opens into the inlet of said blast channel, substantially as described.

5. A pneumatic cleaner comprising a portable base having in its bearing face a blast channel formed with inflexible walls and intercepting channels surrounding and communicating with said blast channel, which has an outlet opening and an air inlet opening arranged to direct an air blast lengthwise thereof and to draw air from the intercepting channels, substantially as described.

[Claims 6 to 17 not printed in the Gazette.]

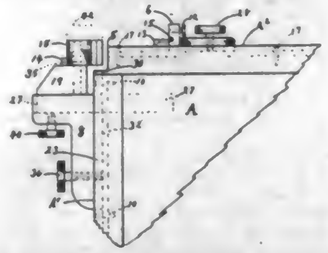
978,917. FURNACE-ARCH. WILLIAM MCCLAVE, Scranton, Pa., assignor to McClave-Brooks Company, Scranton, Pa., a Corporation of Pennsylvania. Filed Feb. 13, 1909. Serial No. 477,756.



1. In a furnace, a fire box, an arch arranged above the fire box formed of a plurality of independent bricks, some of which are provided with chamfered adjacent corners whereby there is defined a plurality of apertures extending from one surface of the arch to the other, a superimposed arch spaced above the first mentioned arch, and together with the first mentioned arch defining an air chamber from which air may escape through said apertures into said fire box, means for supplying air to said air chamber under pressure, which air passes from thence through said first mentioned arch into said fire box in a plurality of jets, and a plurality of blocks formed with beveled sides spaced apart between said arches at their inner ends, but contacting therewith for providing restricted openings, whereby some of the air forced into said air chamber escapes in jets longitudinally for mixing with the products of combustion as the same pass from the fire box, while the remaining air escapes at the same time at right angles to the general direction of the arch and transversely of the draft from the fire box for mixing with the gases before their escape.

2. In a furnace, a fire box, an arch arranged above the fire box formed with a plurality of apertures, a superimposed arch spaced above the first mentioned arch and together with the first mentioned arch defining an air chamber, a metallic plate connected with said upper arch, and together with the front wall of the furnace and said arches defining a preliminary air chamber communicating with the air chamber provided between said arches, means for supplying air to said preliminary chamber from which air passes into the chamber formed by said arches, and from thence through said first mentioned arch into said fire box in a plurality of jets, and a plurality of blocks spaced apart positioned between said arches at the inner end, but contacting therewith for providing restricted openings, whereby some of the air forced into said chamber formed between said arches will escape in jets longitudinally for mixing with the products of combustion as the same pass from the fire box.

978,918. BENCH STOP AND CLAMP. WILLIAM RAYMOND MCCOY, Wayne City, Ill. Filed Dec. 30, 1909. Serial No. 535,689.



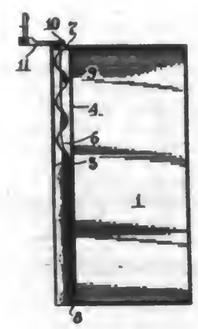
1. In bench stops and clamps, the combination of a vertical bench plate applied to the outer side of the bench and sunk flush therewith, a vertically slidable bracket adjustably connected with said plate, said bracket comprising a horizontal guide and a block, the latter supporting a laterally adjustable clamping member; a horizontal bench plate applied to the top of the bench and sunk flush therewith, and a laterally sliding clamping member adjustably connected with said plate.

2. In bench clamps and stops, the combination of a vertical bench plate applied to the outer side of the bench, sunk flush therewith, provided with a slot and a dovetailed groove, the latter extending full length of said plate; a bracket with a dovetailed rib to fit into said dovetailed groove, allowing the bracket to slide in a perpendicular plane and also to be stationed at any distance down from the top of the bench, along said vertical bench plate and held against vertical movement with a set screw; a horizontal guide adjustably connected with said bracket and projecting through said slot, said guide comprising a block, the latter supporting a pivoted self-adjusting clamping member, a horizontal bench plate applied to the top of the bench and sunk flush therewith, a laterally sliding clamping member having a straight clamping face, adjustably connected with said plate, said pivoted clamping member adapted to co-act with either the side of the bench or the laterally movable clamping member at the top of the bench.

3. In bench clamps and stops the combination of a vertical bench plate applied to the outer side of the bench, and provided with a vertical slot, a vertically movable bracket provided at its horizontal side with a dovetailed groove, a horizontal guide dovetailed to fit into said groove and adapted to slide therein, said guide extending through the vertical slot in said vertical bench plate, a block made integral with the horizontal guide and supporting a pivoted self-adjusting clamping member, which by means of said guide, may be adjusted laterally to any varying distance from the side of the bench along the horizontal guide, and held against lateral movement with a set screw; a horizontal bench plate applied to the top of the bench and sunk flush therewith, a laterally sliding clamping member having a straight clamping face, adjustably connected therewith and regulated by a set screw.

4. In bench clamps and stops the combination of a side bench plate, a vertically movable bracket, a horizontal guide comprising a block supporting a pivoted self-adjusting clamping member, a horizontal bench plate applied to the top of the bench, sunk flush therewith, and provided with a dovetailed groove, a clamping member having a straight clamping face, a dovetailed rib on said clamping member to fit into said dovetailed groove, allowing the clamping member to slide therein and also to be stationed at any varying distance from the side of the bench along said horizontal bench plate and held against lateral movement by a set screw as described; the straight clamping face or perpendicular portion of said clamping member comprising a hinged side, which is adapted to be lowered to a horizontal position for engaging thin material.

978,919. CIGARETTE-MACHINE. PHILIP JACOB MEAHL, Bayonne, N. J. Filed May 18, 1909. Serial No. 496,731.

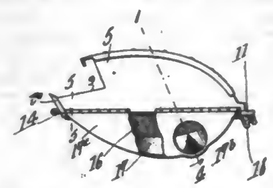


1. The combination with a tobacco-box having an opening in one side, of a tube open at one end and closed at the other end and having a smooth interior surface, which tube is held on the outer surface of said box, the tube having an opening in its side adjacent to the closed end of said tube and communicating by means of said opening and the opening in the side of the box with the interior of the box, a conveyer screw mounted in said tube and means for turning said conveyer screw, substantially as set forth.

2. The combination with a tobacco box, of a tube having a closed end and an open end and having a longitudinal opening in its side for part of its length adjacent to the closed end of the tube, said tube being detachably held on the outer surface of said box, a conveyer screw mounted in the tube, means for turning the screw and means at that part of the tube provided with a longitudinal opening for holding the tube on the exterior of the tobacco box, substantially as set forth.

3. The combination with a tobacco box, having a longitudinal opening in one side and under-cut flanges at said opening, a tube having a closed end and an open end and a slot extending in the direction from the closed end toward the open end of the tube for part of the length of the tube, outwardly extending longitudinal flanges on the tube for engagement with the under-cut flanges of the box, a conveyer screw in the tube and means for turning said conveyer screw axially, substantially as set forth.

978,920. SEPARATOR. JOHN MENSEN, Remsen, Iowa. Filed July 8, 1910. Serial No. 571,016.



In a device of the class described, a casing having an inclined screen, the said casing having at its upper side an inlet opening and at its lower end a discharge opening located at the lower end of the said inclined screen, a slide mounted for movement over the said screen whereby to extend thereover or to expose the same, the casing having a bottom extending entirely beneath its said inclined screen, the floor of the said bottom being curved from side to side and being inclined from side to side and from front to rear, the said bottom including a front wall formed with a discharge opening located at the lowermost portion of the said floor.

978,921. CROSSING-SIGNAL. JAMES MERRYWEATHER, Greencastle, Ind., assignor of one-half to Thomas Brothers, Greencastle, Ind. Filed Sept. 20, 1909. Serial No. 518,546.



1. In combination with a track a signal comprising a stand, a shaft journaled upon the stand and having a depending bracket, a tappet pivotally mounted upon the bracket and having an end portion adapted to engage the shaft, and an end portion adapted to hang pendently above the track, a sounding device suitably supported and means operatively connecting the sounding device with the shaft.

2. In combination with a track a signal comprising a stand, a shaft journaled upon the stand and having a depending bracket, a tappet pivotally mounted upon the bracket and having resilient end portions, one of which is adapted to engage the side of the shaft and the other adapted to hang pendent above the track, a sounding device suitably supported and means operatively connecting the shaft with the sounding device.

3. In combination with a track a signal comprising a series of spaced stands, shafts journaled upon the stands and having crank arms, a rod connecting the crank arms of the series together, a sounding device suitably supported, means operatively connecting the sounding device with said rods, each shaft having a depending bracket, tappets pivotally mounted upon the brackets and having end portions adapted to engage the shafts and the end portions hanging pendent over the track.

978,922. TEMPORARY BINDER OR LOOSE-SHEET HOLDER. CYRUS E. MOSEHOUSE, Milwaukee, Wis., assignor to The Heinn Company, Milwaukee, Wis. Filed Feb. 21, 1910. Serial No. 545,035.

1. In a binder, the combination with the cover members having telescoping back members thereon, of an outer post member having a flat supporting shank on its rear side, said shank being provided with laterally-turned attaching flanges on its rear edge and securing tongues on its lower

end, said post member and said shank and said attaching flanges and tongues being formed integrally of sheet metal folded upon itself and turned laterally to form said attaching flanges, the parts forming the shank being secured together, one of said cover members being provided with slots through which said tongues are arranged, its back member being provided with oppositely-facing flange-engaging tongues; and an inner post member carried by the other cover member and provided with a clutch securing means.



2. In a binder, the combination with the cover members having telescoping back members thereon, of an outer post member having a flat supporting shank on its rear side, said shank being provided with laterally-turned attaching flanges on its rear edge and securing tongues on its lower end, said post member and said shank and said attaching flanges and tongues being formed integrally of sheet metal folded upon itself and turned laterally to form said attaching flanges, one of said cover members being provided with slots through which said tongues are arranged, its back member being provided with oppositely-facing flange-engaging tongues.

3. In a binder, the combination with the cover members having telescoping back members thereon, of an outer post member having a flat supporting shank on its rear side, said shank being provided with laterally-turned attaching flanges on its rear edge and securing tongues on its lower end, the parts forming the shank being secured together, one of said cover members being provided with slots through which said tongues are arranged, its back member being provided with oppositely-facing flange-engaging tongues; and an inner post member carried by the other cover member and provided with a clutch securing means.

4. In a binder, the combination with the cover members having telescoping back members thereon, of an outer post member having a flat supporting shank on its rear side, said shank being provided with laterally-turned attaching flanges on its rear edge and securing tongues on its lower end, one of said cover members being provided with slots through which said tongues are arranged, its back member being provided with oppositely-facing flange-engaging tongues.

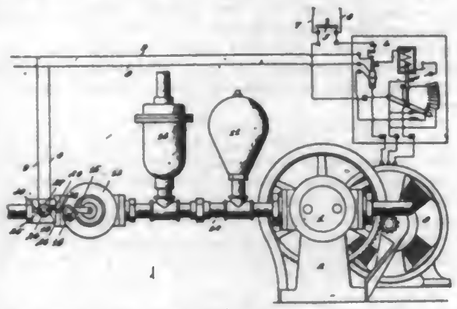
5. In a binder, the combination with the cover members having telescoping back members thereon, of a hollow post, having a flat supporting shank on its rear side secured to one of said back members, said post and shank being formed integrally of sheet metal folded upon itself, the parts forming the shanks being secured together; and a post carried by the other cover member, adapted to telescope within said hollow post, and provided with clamping means.

[Claims 6 to 20 not printed in the Gazette.]

978,923. AUTOMATIC ELECTRIC-PUMP CONTROL. THOMAS F. MULLIGAN, Fort Wayne, Ind., assignor to S. F. Bowser & Company, Incorporated, Fort Wayne, Ind., a Corporation of Indiana. Filed Apr. 27, 1910. Serial No. 558,056.

1. In a device for the purpose described, the combination with a pump provided with electric operating means and an automatic measuring valve, of electric circuit make and break means electrically connected with said operating means, said make and break being operated by said measuring valve.

2. In a device for the purpose described, the combination with a pump, of a motor for said pump, an automatic valve for measuring the discharge from said pump, and means operated by said valve for controlling said motor.



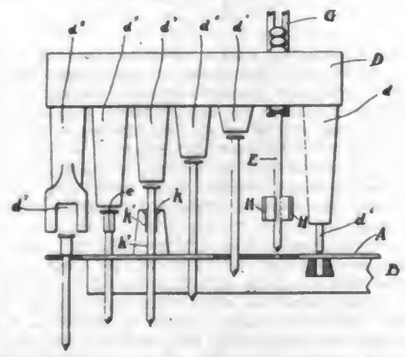
3. In a device for the purpose described, the combination with a pump, of an electric motor for driving said pump, circuit-controlling means for said motor, an automatic valve for measuring the discharge from said pump, and means operatively connected to said valve for operating said circuit-controlling means.

4. In a device for the purpose described, the combination of a pump, an electric motor for driving said pump, a pair of contacts through which said motor is controlled, a device for measuring the fluid discharged by said pump, said device being provided with an automatic valve for shutting off the flow after a predetermined quantity has been discharged, and a member operated by said valve for making and breaking the circuit through said contacts.

5. In a device for the purpose described, the combination of a pump provided with a discharge pipe, an electric motor for driving said pump, a pair of contacts through which said motor is controlled, a valve in said discharge pipe, means operated by the flow in said pipe for closing said valve after a predetermined quantity has passed said valve, and a conductor carried by said valve into and out of contact with said pair of contacts.

[Claims 6 to 8 not printed in the Gazette.]

978,924. PROCESS OF FORMING DOUBLE-HEADED NAILS. FRED A. NEIDER, Augusta, Ky. Filed Aug. 8, 1910. Serial No. 576,082.

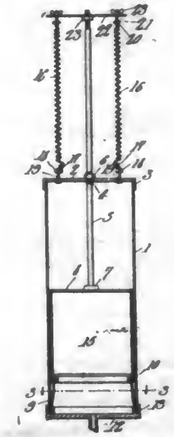


1. A process of making double-headed nails consisting of forming a perforation near one end of a strip of metal, driving a nail which has a shoulder adjacent its head through the perforation and causing the shoulder to seat against the strip, and then severing the end of the strip which contains the nail from the rest of the strip.

2. A process of making double-headed nails consisting of forming a perforation in a strip of metal, setting a nail into the perforation, upsetting a shoulder upon the nail adjacent to the head, driving the nail downward into the strip, so as to cause the shoulder to abut against the strip, and severing the end of the strip containing the nail with the shoulder and thereby forming the completed nail.

3. A process of forming double-headed nails, which consists of the following steps:—1st, perforating the end of a strip of metal; 2nd, inserting a nail in the perforation and simultaneously forming a second perforation; 3rd, upsetting a shoulder upon the nail, inserting a nail in the second perforation, and forming a third perforation; 4th, seating the shoulder of the nail against the strip, forming a shoulder upon the second nail, inserting a third nail into the perforation last formed, and forming a fresh perforation, and 5th, severing the end of the strip containing the first nail, carrying the shoulder of the second nail into contact with the strip, forming a shoulder upon a third nail, driving a fourth nail farther into its perforation, inserting a nail into the perforation last formed, and forming a fresh perforation in the strip.

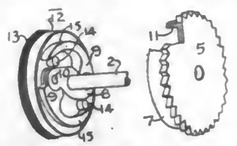
978,925. PRESSURE-REGULATOR. REUBEN C. NELSON, Healdsburg, Cal. Filed May 25, 1910. Serial No. 563,385.



A pressure regulator comprising a tubular casing having a cap threaded on the upper end thereof said cap being formed in its center with an opening, a piston rod extending loosely through said opening and having a nut adjustable thereon to engage the upper surface of said cap to limit the downward movement of said piston rod, a cup shaped piston mounted on the lower end of said rod within said casing and being annularly separated from the walls of said casing, a rubber tube fitted into the lower open end of said cup shaped piston, a ring fitted into said rubber tube for holding it in place in said cup shaped piston, a wedge shaped ring fitted into the lower end of said rubber tube and clamping the same firmly against the interior of the lower ends of said casing, a cap screwed on the lower end of said casing and engaging said wedge shaped ring to hold said rubber tube in place, a pressure pipe extending through said last named cap, a plurality of lateral arms on the upper end of said piston rod, means for adjusting said arms longitudinally on said rod, bolts adjustably mounted on the outer ends of said lateral arms, springs connected at their upper ends with said bolts, and bolts extending through said first mentioned cap and having nuts on the upper ends thereof provided with ears in engagement with the lower ends of said springs.

978,926. TYPE-WRITING MACHINE. LOUIS NEY, Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 5, 1909. Serial No. 487,850.

1. In a typewriting machine, the combination with a revoluble platen having an axle, of a member loose upon the platen axle and consisting of a line-space wheel, a second member also loose upon the platen axle and revoluble thereon manually independently of said line-space wheel, and a third member movable relatively to both the line-space wheel and the platen; said second member having means to enable said third member to arrest the rotation of said second member and simultaneously lock said platen and said first, second and third members together.



2. In a typewriting machine, the combination with a revoluble platen, of a loose line-space wheel, a movable dog between the line-space wheel and the platen to grip a friction surface provided upon one of the platen and wheel elements, a revoluble finger wheel, and, means operated by said wheel to act upon both said dog and said wheel to cam or wedge the dog against said friction surface, and also to cam or wedge said finger-wheel to arrest it and lock it against accidental releasing or backward movement.

3. In a typewriting machine, the combination with a revoluble platen, of a loose line-space wheel, a pivoted dog between the line-space wheel and the platen, to grip a surface provided upon one of the platen and wheel elements, said dog having an arm, and a revoluble finger-wheel provided with a projection to turn said arm to cause the dog to bite said surface, said arm having a cam edge engaged by said projection and slightly inclined to the path of movement of said projection, to coöperate with the latter both to lock the dog against said surface and to arrest and lock said finger-wheel against accidental releasing movement.

4. In a typewriting machine, the combination with a platen and an axle therefor, of a loose line-space wheel, a collar fixed on said axle, a dog pivoted on said collar and having an arm, a drum or ring upon said line-space wheel to inclose said dog, and a revoluble finger-wheel carrying a pin or projection to move said arm to cause the dog to bite the inner periphery of said drum; said arm having a cam edge engaged by said projection, and slightly inclined to the path of movement of said projection, to coöperate with the latter both to lock the dog against said periphery and to arrest and lock said finger-wheel against accidental releasing movement.

5. In a typewriting machine, the combination with a platen and an axle therefor, of a loose line-space wheel, a collar fixed on said axle, a dog pivoted on said collar and having an arm, a drum or ring upon said line-space wheel to inclose said dog, and a revoluble finger-wheel carrying a pin or projection to move said arm to cause the dog to bite the inner periphery of said drum; said arm having a cam edge engaged by said projection, to cooperate with the latter both to lock the dog against said periphery and to arrest and hold said finger-wheel against accidental releasing movement; said finger-wheel having the form of a cap inclosing said drum.

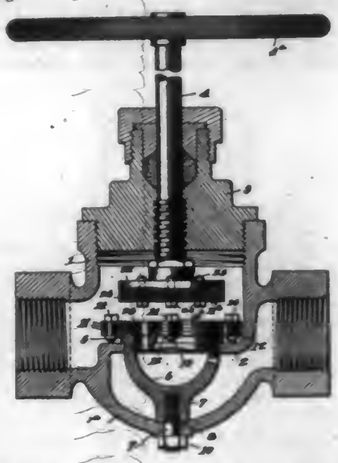
[Claims 6 to 9 not printed in the Gazette.]

978,927. VALVE. EDWARD O'MALLEY, Jackson, Tenn., assignor, by direct and mesne assignments, to O'Malley-Beare Valve Company, Chicago, Ill., a Corporation of Delaware. Filed Apr. 10, 1909. Serial No. 489,202.

1. In a valve, the combination of a casing, an integral bridge, a cap, valve stem and valve head, with a removable seat frame engaging the bridge including a chair supported upon and removably secured to the inner wall of the casing, and a plurality of detachable trued seat plates carried upon the seat frame.

2. In a valve, the combination of a casing, an integral bridge, a cap, valve stem and valve head, with a removable seat frame, a plurality of trued seat plates, means to removably secure the seat plates to the seat frame, and

a supporting and securing means supported on the inner wall of the casing removably secured to the valve seat and casing.



3. In a valve, the combination of a casing, an integral bridge, a cap, valve stem and valve head, with a removable seat frame engaging the bridge including a chair supported upon and removably secured to the inner wall of the casing, and a trued seat plate removably attached to the seat frame, and a plurality of removable head plates detachably secured to the valve head.

4. In a valve, the combination of a casing, an integral bridge, a cap, valve stem and valve head, with a removable seat frame, a plurality of trued seat plates, and means to removably secure the seat plates to the seat frame, a plurality of trued head plates, and means removably attaching said plates to the valve head.

5. In a valve, the combination of a casing, an integral bridge, a cap, valve stem and valve head, with a removable seat frame engaging the bridge including a chair supported upon and removably secured to the inner wall of the casing, and a plurality of detachable trued seat plates carried upon the seat frame, a depending flange on the valve head adapted to engage the upper seat plate, a plurality of removable head plates detachably secured to the valve head, and a supplemental valve seat member carried by the seat frame adapted to engage the lower head plate.

[Claims 6 to 13 not printed in the Gazette.]

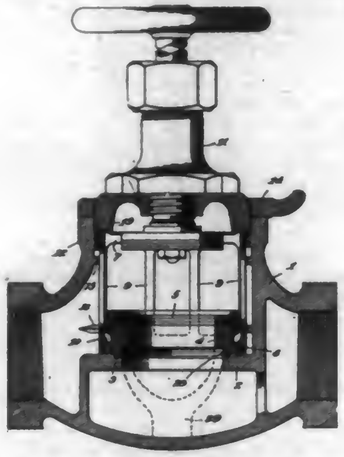
978,928. VALVE. EDWARD O'MALLEY, Jackson, Tenn., assignor, by direct and mesne assignments, to O'Malley-Beare Valve Company, Chicago, Ill., a Corporation of Delaware. Filed May 6, 1909. Serial No. 494,329.

1. In a valve of the character described, a valve cap, a web, a removable seat frame thereon, a plurality of detachable seat plates carried by the frame, and a cage engaging the cap and removably secured to the seat frame.

2. In a valve of the character described, a valve cap, a web, a removable seat frame thereon, a plurality of detachable seat plates carried by the frame, a cage engaging the cap removably secured to the seat frame, and a member upon the cage securing the plates in position upon the frame.

3. In a valve of the character described, a valve cap, a web, a removable seat frame engaging the web, a cage member detachably secured at its lower portion to the frame, an adjusting member carried upon the upper portion of the cage, the under side of the cap provided with a recess to receive the upper portion of the cage and adjusting member.

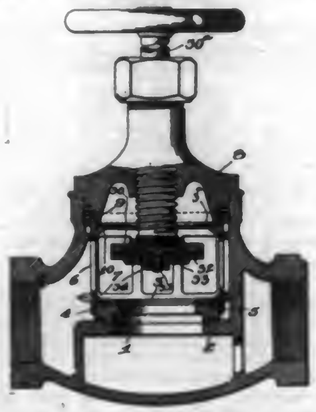
4. In a valve of the character described, a valve cap provided with a depending threaded flange and an outwardly extending flange, the screw threaded flange provided with a recess and an internal annular projection, a web and a removable seat frame carried thereby, a cage detachably engaging the seat frame, an adjusting member carried upon the cage adapted to enter the recessed portion of the cap and be engaged by the annular projection.



5. In a valve of the character described, a valve cap, a web, a removable seat frame, a plurality of detachable trued seat plates thereon, a removable cage secured to the frame and securing the seat plates in position thereon, an adjusting member carried upon the cage engaging the cap adapted to compensate for the removal of the plates.

[Claims 6 to 13 not printed in the Gazette.]

978,929. VALVE. EDWARD O'MALLEY, Jackson, Tenn., assignor, by direct and mesne assignments, to O'Malley-Beare Valve Company, Chicago, Ill., a Corporation of Delaware. Filed Dec. 6, 1909. Serial No. 531,599.



1. In a valve, a valve casing, a plurality of removable trued seat plates, an opening provided in the valve casing for the insertion and removal of the seat plates, a cap closing said opening, a circular projecting member upon the cap extending within the casing, a cage member engaging the seat plates at one end, a portion of the opposite end recessed to receive and support a damaged seat plate, and also receive the projecting member upon the cap in engagement with the damaged seat plate.

2. In a valve, a valve casing, a plurality of removable trued seat plates, an opening provided in the valve casing for the insertion and removal of the seat plates, a cap closing said opening, a cage interposed between the seat plates and cap provided with means to receive and hold seat plates at each end thereof, said cap provided with a member coöperating with the said means upon the adjacent end of the cage to retain one or more seat plates therebetween to compensate for the removal of a seat plate from the opposite end of the cage.

3. In a valve, a valve casing, a plurality of removable trued seat plates, an opening provided in the valve casing for the insertion and removal of the seat plates, a cap closing said opening, a cage provided with a seat plate engaging shoulder at each end thereof, said cap provided with an inwardly projecting member coöperating with the shoulder on the adjacent end of the cage to retain a seat plate therebetween to compensate for the removal of a seat plate from the other end of the cage.

4. In a valve, a valve casing a plurality of removable trued seat plates, an opening provided in the valve casing for the insertion and removal of the seat plates, a cap closing said opening, a cage provided with a seat plate engaging shoulder at each end thereof, said cap provided with an inturned projecting member coöperating with the shoulder on the adjacent end of the cage to retain the cage in position and adapted to receive and retain a seat plate between the cap member and the cage shoulder to compensate for the removal of a seat plate from the other end of the cage.

978,930. VALVE. EDWARD O'MALLEY, Jackson, Tenn., assignor, by direct and mesne assignments, to O'Malley-Beare Valve Company, Chicago, Ill., a Corporation of Delaware. Filed Apr. 25, 1910. Serial No. 557,363.



1. A removable wearing surface plate of hard metal for the contacting parts of valves similar in form to the contacting part and of the thickness of the depth of metal removed in grinding and refacing a worn contacting part corresponding thereto.

2. A removable thin flat wearing surface plate of hard metal for the contacting parts of valves similar in form to the contacting part, and of the thickness of the depth of the metal removed in grinding and refacing a corresponding contacting part worn by continual operation of the valve.

3. In a valve including contacting head and seat members, a thin wearing surface plate and means for removably and rotatably securing the plate upon one of the members.

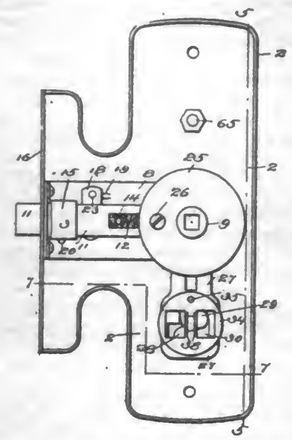
4. Wearing surface plates of hard metal for the contacting parts of valves similar in form to the contacting parts and of the thickness of the depth of metal removed in grinding and refacing a worn contacting part corresponding thereto, in combination with means for removably securing the plates to one of the contacting parts, said means engaging the plate at the edge of the portion of actual contact.

5. In a valve having contacting parts, a wearing surface plate for the contacting parts similar in form thereto and of the thickness of the depth of metal removed in grinding and refacing a worn contacting part corresponding thereto, and means for removably and rotatably securing the plate to one of the contacting parts, said means engaging the plate at an edge of the portion of actual contact.

[Claim 6 not printed in the Gazette.]

978,931. LOCK. LEONARD P. PERCIVAL, Tacoma, Wash., assignor to Alarm Lock Company, a Corporation of Washington. Filed Feb. 16, 1909. Serial No. 478,208.

1. In a lock, a bolt, operating means therefor, engaging members carried by the bolt, a plate provided with a forked device arranged to receive and hold one of the engaging members on the bolt, a rotatable bolt, means for rotating such bolt, and a lever secured to said bolt, such lever comprising a plate guiding arm and a plate operating arm.



2. In a lock, a ratchet bolt, operating means therefor, a slidable plate arranged to lock said bolt, said plate being provided with a recess and with an angular portion projecting into the recess, a rotatable bolt, a member secured to the bolt and provided with key guiding means, and a lever secured to the bolt and having arms projecting on opposite sides of the bolt for engaging the edges of the recess adjacent to the angular portion and moving the plate at right angles to the direction of movement of the ratchet bolt.

3. In a lock, a ratchet bolt, operating means therefor, a slidable plate arranged to lock the ratchet bolt against movement, said plate provided with a recess and with an angular portion projecting into the recess, a rotatable bolt, a member secured to the bolt for operating the latter, and a lever secured to the bolt and having arms projecting on opposite sides of the bolt for engaging the edges of the recess adjacent to the angular portion and moving the plate at right angles to the direction of movement of the ratchet bolt.

978,932. POLE. JENS PETER PETERSEN, Cape Girardeau, Mo. Filed Dec. 15, 1909. Serial No. 533,238.



1. A metal core for posts or poles, comprising a principal frame, a secondary frame surrounding a section of said principal frame, a series of binders spacing the members of said principal frame, and a second and separate series of binders spacing the members of said secondary frame,

certain of said binders of said principal frame prolonged beyond the vertical plane thereof, the portion of said secondary frame adjacent the ground line being flared outwardly while its remaining portion is disposed substantially parallel said members of said principal frame, substantially as and for the purposes described.

2. A metal core for posts or poles, comprising a principal frame of corrugated rods, a secondary frame surrounding a section of said principal frame, a series of binders spacing said rods and seated in the corrugations thereof, and a second and separate series of binders spacing the members of said secondary frame, certain of said binders of said principal frame prolonged beyond the vertical plane thereof, the portion of said secondary frame adjacent the ground line being flared outwardly while its remaining portion is disposed substantially parallel said rods, substantially as and for the purposes described.

3. In a pole or post construction, a combination binder and foot-rest consisting of a length of suitable bar metal whose center portion is engaged with and spaces a plurality of rods and whose free ends are brought together, entwined, and directed between said rods and prolonged, with a loop, beyond the vertical plane thereof, a section of said binder spacing said rods supporting said prolongation, substantially as and for the purposes described.

978,933. SNAP-SWITCH HANDLE ATTACHMENT. JOHANN G. PETERSON, Hartford, Conn., assignor to The Arrow Electric Company, Hartford, Conn., a Corporation of Connecticut. Filed Sept. 3, 1910. Serial No. 580,453.

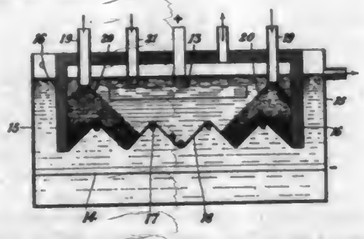


1. The combination with the cap and handle of a rotary snap electric switch, of a washer with spring fingers rotatable with the handle, and a washer with ratchet teeth held from rotation by the cap.

2. The combination with the cap and handle of a rotary snap electric switch, of a washer with lugs extending into the handle and spring fingers projecting from the handle, and a washer with a lug engaging the cap and ratchet teeth projecting from the cap.

3. The combination with the cap and handle of a rotary snap electric switch, of a washer inserted in a recess in the handle, said washer having lugs projecting into notches in the bottom of said recess, and a washer with a lug projecting into a depression in the top of the cap and ratchet teeth extending upward from said washer toward the spring fingers of the first mentioned washer.

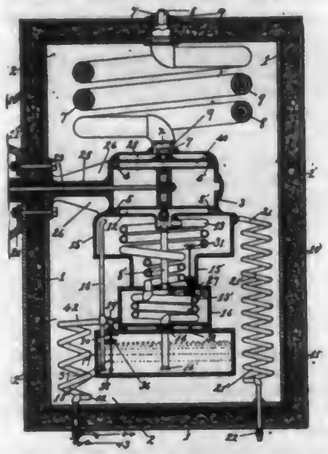
978,934. PROCESS FOR CONTINUOUS ELECTROLYSIS OF AQUEOUS SOLUTIONS. ALBERT PIETZSCH, Triberg, Germany, and EWALD STEINBUCH, Monthey, Switzerland, assignors to Society of Chemical Industry in Basle, Basel, Switzerland. Filed Nov. 17, 1909. Serial No. 528,572.



1. The process of electrolyzing salt solutions which consists in continuously causing an electrolyte to flow through an anode chamber past an anode into a cathode chamber past a cathode; and in causing said electrolyte to pass through a supply of the solid salt to be electrolyzed after leaving said anode and before it reaches said cathode, substantially as described.

2. The process of electrolyzing salt solutions which consists in causing an electrolyte to continuously flow through an anode chamber past an anode into a cathode chamber past a cathode; in causing said electrolyte to pass through a supply of the solid salt to be electrolyzed after leaving said anode and before it reaches said cathode; and in resupplying said solid salt, as fast as it is dissolved by said electrolyte, substantially as described.

978,935. MECHANISM FOR LIQUEFYING AIR AND SEPARATING SAME INTO OXYGEN AND NITROGEN. JAMES F. PLACE, Glen Ridge, N. J., assignor to American Air Liquefying Co., a Corporation of New York. Filed Nov. 17, 1903. Serial No. 181,498.



1. The combination of an air-liquefying reciprocating expansion engine with a liquid-air vaporizing vessel, means for automatically supplying said vessel with intermittent charges of liquid air, and means for liquefying the exhaust air from said engine by the fractional distillation of said automatically delivered intermittent charges of liquid air in said vessel; and a receiver for said liquefied exhaust air, arranged to maintain said exhaust air in heat-interchanging relation with the intermittent charges of liquid air.

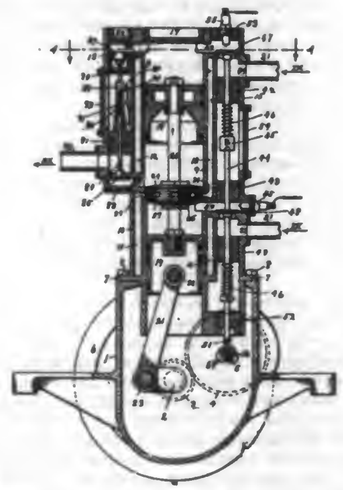
2. The combination of an air-liquefying reciprocating expansion engine with a liquid-air vaporizing vessel, means for automatically supplying said vessel with intermittent charges of liquid air and for liquefying the exhaust air from said engine by the fractional distillation of said automatically delivered intermittent liquid-air charges; a receiver for the liquefied air arranged to maintain said exhaust air in heat-interchanging relation with the intermittent charges of liquefied air, and means for cooling the compressed air supplied to said engine by the products of said distillation.

3. In an apparatus for liquefying air and separating the same, the combination of a liquid-air evaporating vessel, with a reciprocating air-expanding engine, having an exhaust conduit within said evaporating vessel and means for automatically supplying said vessel with intermittent charges of liquid air of less pressure than the expanded air in said exhaust conduit.

4. In an apparatus for liquefying air and separating the same into its constituent gases, the combination of a liquid-air evaporating vessel with a reciprocating air-expanding engine having an exhaust conduit within said evaporating vessel, and means for automatically supplying said vessel with intermittent charges of liquid air previously liquefied as aforesaid in said exhaust conduit.

5. The combination of a low-pressure liquid-air evaporating vessel, with a reciprocating air-expanding engine, means for automatically evaporating by fractional distillation intermittent charges of low-pressure liquid air in said vessel by heat derived from the exhaust air of higher pressure from said engine during the process of liquefaction thereof, and means for automatically delivering intermittent charges to said vessel of low-pressure liquid air previously liquefied as the exhaust air from said engine as aforesaid.

978,936. EXPLOSION-ENGINE. GUY R. PRICE, Detroit, Mich. Filed Feb. 28, 1910. Serial No. 546,281.



1. In an explosion engine, the combination of a cylinder, an upper head for the same, an intermediate head having a central opening, a piston rod slidable through said opening, a piston mounted on the rod on either side of said intermediate head, said cylinder having ports to admit explosive vapor at each side of the intermediate head and adjacent the upper head, and valves to control the admission of said vapor.

2. In an explosion engine, the combination of a cylinder having intake ports, a head at one end of the same, an intermediate head and pistons within said cylinder forming three explosion chambers, and valves to control the passage of the vapor to said chambers.

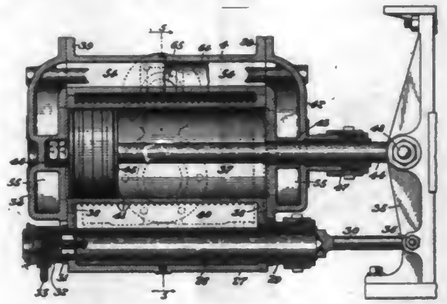
3. In an explosion engine, the combination of a cylinder having a head at one end of the same, an intermediate head and pistons within said cylinder forming three explosion chambers, and means for effecting the explosions in said chambers.

4. In an explosion engine, the combination of a cylinder having exhaust ports, a head at one end of the cylinder, an intermediate head and pistons within said cylinder forming three explosive chambers, a valve to permit the exhaust from the intermediate chamber, and means operable by the pressure in an adjacent chamber to open said valve.

5. In an explosion engine, the combination of a cylinder, an upper head for the same, an intermediate head having a central opening, a piston rod slidable through said opening, a piston mounted on the rod on either side of said intermediate head, said cylinder having ports to admit explosive vapor at each side of the intermediate head and adjacent the upper head and exhaust ports to permit the escape of the vapor, valves to control the admission of said vapor, and a second series of valves to control the escape of the burned gases.

[Claim 6 not printed in the Gazette.]

978,937. COMPRESSOR. GEORGE H. REYNOLDS, Mansfield Depot, Conn., assignor to The Reynolds Ice Machine Company, New York, N. Y., a Corporation of New York. Original application filed Oct. 31, 1906, Serial No. 341,391. Divided and this application filed Mar. 25, 1907. Serial No. 364,513.



1. A compression mechanism including among its essential elements a double-acting compression chamber comprising a cylinder; a water-jacket surrounding the same; inlet and outlet ports arranged at opposite sides of the jacket at the bottom thereof; valve-chambers at opposite ends of the cylinder; inlet and outlet valves connecting the said valve-chambers with the said cylinder; parallel inlet and outlet passages extending along the top of said compression chamber and connecting said valve-chambers; and inlet and outlet ports extending from said passages to the outside of said cylinder at opposite sides thereof and parallel with and above the first-mentioned ports.

2. A compression mechanism comprising a frame supporting a cylinder; a water-jacket surrounding the cylinder; a primer-pump carried by the frame within the water-jacket; air chambers at each end of the cylinder; inlet and outlet valves communicating with said chambers and the cylinder; connections between the primer-pump and one of the chambers; and inlet and outlet passages connecting with the chambers.

3. A compression mechanism comprising a cylinder; a water-jacket surrounding the cylinder; a baffle in the jacket located at the bottom of the cylinder; a water inlet at one side of the jacket near its bottom; and a water outlet at the other side of the jacket near its bottom, whereby water may be caused, by said baffle, to pass entirely around said cylinder.

4. A compression mechanism comprising a cylinder; a water-jacket surrounding the same having a chamber in the bottom thereof; a primer-pump located in the chamber; a water inlet to the jacket; a water outlet from the jacket; and a baffle located in the jacket in the path of the water so as to compel the same to take its course around the cylinder from the inlet to the outlet and so as to create an agitation of the water in the said chamber around the primer-pump.

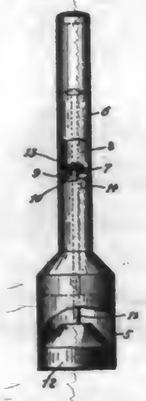
5. A compression mechanism comprising a cylinder; a water-jacket surrounding the cylinder; air chambers at opposite ends of the cylinder; inlet and outlet valves connecting the cylinder with the chambers; a water inlet near the bottom of the cylinder on one side; an air inlet near the top of the cylinder above the said inlet; a water outlet on the opposite side of the cylinder near the bottom of the latter; and an air inlet above the said water outlet.

[Claims 6 and 7 not printed in the Gazette.]

978,938. MOLD. ALPHONSE ROOS, Los Angeles, Cal. Filed Aug. 25, 1909. Serial No. 514,536.

1. In a molding device, in combination, a molding chamber for a plastic substance, an ejecting member mounted loosely in said molding chamber, said device having an air chamber in the rear of said molding chamber, said air chamber having an air vent to the atmos-

phere adapted to be closed to check the outward movement of said ejecting member.



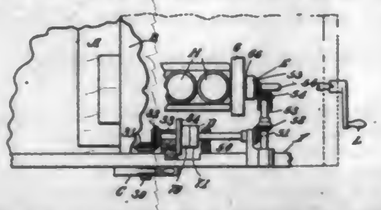
2. In a molding device, in combination, a molding chamber, a block mounted in said molding chamber and adapted to recede into the interior thereof, an air chamber connecting with said molding chamber in the rear of said block, said air chamber having an air vent adapted to be closed to prevent the admission of air on a forward movement of said block in said molding chamber.

3. In a molding device, in combination, a cylindrical molding chamber, an ejecting block adapted to withdraw into the interior of said molding chamber, a tubular handle connected with said molding chamber and forming an air chamber connecting with the interior of said molding chamber, said tubular handle having a vent therein adapted to be closed to prevent the admission of air at the rear of said block when said block moves forwardly.

4. In a molding device, in combination, a cylindrical molding chamber, an ejecting block adapted to withdraw into the interior of said molding chamber, a tubular handle connected with said molding chamber and forming an air chamber connecting with the interior of said molding chamber, said tubular handle having a vent therein adapted to be closed to prevent the admission of air at the rear of said block when said block moves forwardly, and means to limit the forward movement of said block in said chamber.

5. In a molding device, in combination, a cylindrical molding chamber open at its forward end, a tubular handle forming an air chamber attached to and connecting with the rear side of said molding chamber, said tubular handle having a transverse head therein, a block mounted in said molding chamber and adapted to withdraw into the interior thereof, a stem mounted on said block passing through said head, and means on said stem for engaging the said head to limit the outward movement of said block, said tubular handle having a vent adapted to be closed to prevent admission of air to said air chamber when said block moves forwardly.

978,939. AUTOMOBILE-ENGINE-STARTING DEVICE. EDWARD F. RUSSELL and EUGENE E. LAVOIE, Lowell, Mass. Filed July 28, 1909. Serial No. 510,060.



1. In an automobile starting device, a starting lever pivoted to the side of the automobile comprising concentrically curved racks with oppositely pitched teeth, an elastic toothed cog wheel between said racks, a stationary ratchet, a driving shaft rotative with said cog wheel and which passes centrally through the stationary ratchet, a driving drum carried by said driving shaft having a pin hole in its outer face, a spring pressed pin slidable therein, a substantially radial arm pivoted to the curved surface of the driving drum in operative relation with said pin, a spring pressed detent pivoted on the outer end of said arm in operative relation with said ratchet, a driven shaft, a driven drum carried thereby opposite the driving drum, and pin receiving holes in the driven drum opposite the pin in the driving drum, combined with an engine, a main shaft therefor, a hub carried thereby, sector shaped spring pressed arms pivoted to said hub near one of their straight edges and off the shaft center, a clutch drum formed with a head at one end which pivotally fits the main shaft and is formed as a bevel gear on its outside, a gear carried by the driven shaft which meshes therewith, and a cover fastened to the open end of the clutch drum and pivotally carried by the main shaft.

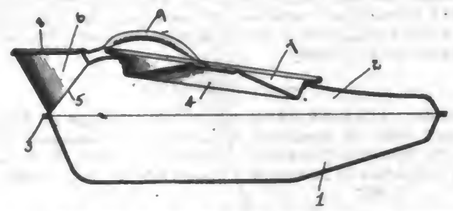
2. In an automobile, an engine, a main shaft therefor, a hub carried thereby, sector shaped spring pressed arms pivoted to said hub near one of their straight edges and off the shaft center, a clutch drum formed with a head at one end which pivotally fits the main shaft and is formed as a bevel gear on its outside, a gear carried by a starting shaft which meshes therewith, a cover fastened to the open end of the clutch drum and pivotally carried by the main shaft, and means for rotating the starting shaft as described.

3. In an automobile starting device, a starting lever pivoted to the side of the automobile comprising concentrically curved racks with oppositely pitched teeth, an elastic toothed cog wheel between said racks, a driving drum rotative with said cog wheel, an engine, a main shaft therefor, pivoted spring actuated arms carried thereby, a clutch drum pivotally supported on said main shaft outside of said arms, a driven drum proximate the driving drum rotative with the clutch drum and having a plurality of pin receiving holes, and a hole in the driving drum opposite the pin receiving holes a pin therein, a spring behind the pin, a pivoted arm operative on said pin, a spring pressed pivoted detent at the end of said arm, and a stationary ratchet adjoining the free end of the detent.

4. In an automobile starting device, a stationary ratchet, a driving shaft passed centrally therethrough, a driving drum carried thereby having a pin hole in its outer face, a pin slidable therein, a spring behind the pin, bearings which project from the curved surface of the drum, a substantially radial arm pivoted therein in operative relation with said pin, a spring pressed detent pivoted on the outer end of said arm in operative relation with said stationary ratchet, combined with a driven shaft rotative by the engine, a driven drum carried thereby opposite the driving drum, and pin receiving holes in the driven drum opposite the pin in the driving drum.

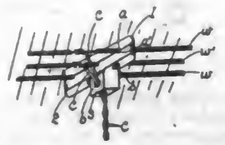
5. In an automobile engine starting device, means for imparting rotary motion to a driving shaft, a stationary ratchet, said driving shaft passed centrally therethrough, a driving drum carried by said driving shaft having a pin hole in its outer face, a spring pressed pin slidable therein, a substantially radial arm pivoted to the curved surface of the driving drum in operative relation with said pin, a spring pressed detent pivoted on the outer end of said arm in operative relation with said ratchet, a driven shaft, a driven drum carried thereby opposite the driving drum, and pin receiving holes in the driven drum opposite the pin in the driving drum, combined with an engine, a main shaft therefor, a hub carried thereby, sector shaped spring pressed arms pivoted to said hub near one of their straight edges and off the shaft center, a clutch drum formed with a head at one end which pivotally fits the main shaft and is formed as a bevel gear on its outside, a gear carried by the driven shaft which meshes therewith, and a cover fastened to the open end of the clutch drum and pivotally carried by the main shaft, as described.

978,940. METALLIC BED-PAN. DAVID SAKS, New York, N. Y. Filed Apr. 21, 1910. Serial No. 556,877.



In a bed pan of the character described, the combination with a seamless lower section, of an upper section united thereto and provided with an opening at approximately its central portion, a short spout in the upper section, and a cover disconnected from the bed pan and comprising a member for closing the spout, a second member for closing said opening and an intermediate handle for uniting said members as a unitary structure.

978,941. COMBINED CLEAT AND ROSETTE. FRANK SCHIMPF, St. Louis, Mo. Filed June 24, 1910. Serial No. 568,665.



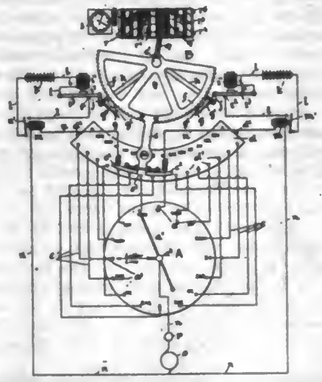
1. A combined cleat and rosette comprising an inner section, an outer section adapted to be secured thereto, the sections being provided with means for receiving the line wires between them, a formation on the outer section provided with a passage removed from the plane of separation of the sections for the insertion of the light wires leading from the line wires.

2. A combined cleat and rosette comprising an inner section provided with grooves for the reception of suitable lines wires, a wire-clamping section provided with registering grooves for receiving said wires, and a boss forming an integral part of the clamping section and provided with a passage removed from the plane of separation of the sections for the shunt wires leading from the line-wires.

3. A combined cleat and rosette comprising an inner section provided with grooves for the reception of the line wires, a wire-clamping section adapted to be coupled to the inner section and provided with registering grooves for the reception of the said wires, a central integral boss projecting from the outer face of the clamping section and provided with a diagonal passage removed from the plane of separation of the sections and opening at the side and terminal walls of said boss for the purpose set forth.

978,942. RECORDING-COMPASS. EDWIN SCHUETTE and NICHOLAS DEDRICK, Manitowoc, Wis.; said Dedrick assignor to said Schuette. Filed June 22, 1908. Serial No. 441,892.

1. A recording-compass comprising, in combination, a compass-needle, a contact-arm turning with said compass-needle, a ring of contact-points concentric with the pivot of said arm and with which points said arm is adapted to successively make contact, an indicating instrument separate from the compass and having a traveling-member (c) indicating by its position the direction of the compass, a plurality of contact-points arranged adjacent to the path of movement of said traveling-member and connected severally with the first-mentioned contact-points, a pair of contact-pieces (c^2) mounted on said traveling-member and each adapted to make contact with said contact-points, said contact-pieces being spaced apart, an electrical circuit including as one pole said contact-arm and divided into two branches connected to the respective contact-pieces, means controlled by one of said branches adapted to move said traveling-member in one direction, and means controlled by the other branch for moving the traveling-member in the other direction.



2. A recording-compass comprising, in combination, a compass-needle, a contact-arm turning with said compass-needle, a ring of contact-points concentric with the pivot of said arm and with which points said arm is adapted to successively make contact, an indicating instrument separate from the compass and having a traveling-member (c) indicating by its position the direction of the compass, a plurality of contact-points arranged adjacent to the path of movement of said traveling-member and connected severally with the first-mentioned contact-points, a pair of contact-pieces (c^2) mounted on said traveling-member and each adapted to make contact with said contact-points, said contact-pieces being spaced apart, an electrical circuit including as one pole said contact-arm and divided into two branches connected to the respective contact-pieces, means controlled by one of said branches adapted to move said traveling-member in one direction, and means controlled by the other branch for moving the traveling-member in the other direction; said second set of contact-points being arranged in a line with points corresponding to opposite rhumbs of the compass at opposite ends of the line and points corresponding to the other rhumbs of the compass arranged intermediately in serial order.

3. A recording-compass comprising, in combination, a compass-needle, a contact-arm turning with said compass-needle, a ring of contact-points concentric with the pivot of said arm and with which points said arm is adapted to successively make contact, an indicating instrument separate from the compass and having a traveling member (c) indicating by its position the direction of the compass, a plurality of contact-points arranged adjacent to the path of movement of said traveling-member and connected severally with the first-mentioned contact-points, a pair of contact-pieces (c^2) mounted on said traveling-member and each adapted to make contact with said contact-points, said contact-pieces being spaced apart, an electrical circuit including as one pole said contact-arm and divided into two branches connected to the respective contact-pieces, means controlled by one of said branches adapted to move said traveling-member in one direction, means controlled by the other branch for moving the traveling-member in the other direction, said second set of contact-points being arranged in a line with points corresponding to opposite rhumbs at opposite ends of the line, and the points corresponding to intermediate rhumbs on opposite sides of the extreme rhumbs arranged in alternate succession, whereby those contact-points corresponding to rhumbs equidistant from an extreme point and on opposite sides thereof are placed adjacent to one another in said line of points.

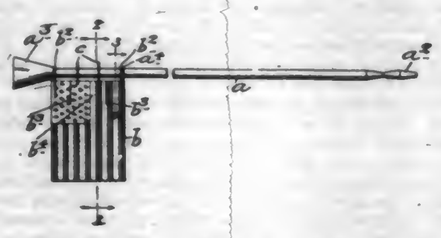
4. A recording-compass comprising, in combination, a compass-needle, a contact-arm turning with said compass-

needle, a ring of contact-points concentric with the pivot of said arm and with which points said arm is adapted to successively make contact, an indicating instrument separate from the compass and having a traveling-member (c) indicating by its position the direction of the compass, a plurality of contact-points arranged adjacent to the path of movement of said traveling-member and connected severally with the first-mentioned contact-points, a pair of contact-pieces (c^2) mounted on said traveling-member and each adapted to make contact with said contact-points, said contact-pieces being spaced apart, an electrical circuit including as one pole said contact-arm and divided into two branches connected to the respective contact-pieces, means controlled by one of said branches adapted to move said traveling-member in one direction, and means controlled by the other branch for moving the traveling-member in the other direction; said second set of contact-points being arranged in a line of which the points corresponding to the north and south points of the compass are at opposite ends, and the succession of points on said line of contact-points in passing from the north end to the south end is as follows: the first point of the compass on one side of north, then the first point of the other side, then the second point on the first side, then the second point on the other side, and so on until the south point is reached.

5. A recording-compass comprising, in combination, a compass-needle, a contact-arm turning with said compass-needle, a ring of contact-points concentric with the pivot of said arm and with which points said arm is adapted to successively make contact, an indicating-instrument separate from the compass and having a swinging contact-arm, a line of contact-points disposed in the arc of a circle concentric with the pivot of said last named contact-arm, a pair of contact-pieces carried by said contact-arm adjacent to said line of contact-points and adapted to make contact therewith and separated by an open space equal to or less than the distance between the two outer of three successive points, a two branched electric circuit having one pole connected to said first-named contact-arm and the two branches connected to the respective contact-pieces aforesaid, motor-mechanism controlled by one branch of said circuit adapted to move said first-named contact-arm in one direction and other motor-mechanism controlled by the other branch of said circuit adapted to move said last-named arm in the other direction, and a plurality of electrical connections leading from the several points of said ring of points respectively to the several points of said line of points.

[Claims 6 to 11 not printed in the Gazette.]

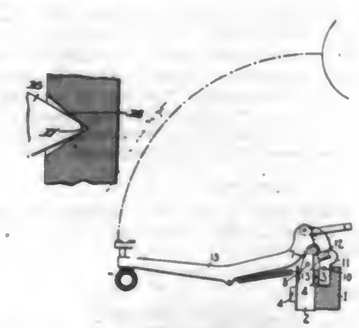
978,943. NOVELTY DEVICE. HERMAN SCHWARTZ, Newark, N. J. Filed Mar. 11, 1910. Serial No. 548,544.



1. A novelty device of the class described, comprising a stick member, a radially arranged sheet of metal, one end of which is rotatably connected with said stick member and provided with a spring tongue, said sheet of metal and said tongue being designed to represent a flag and a ratchet disk connected with said stick, and the teeth of which are adapted to operate in connection with the end of said spring tongue.

2. A device of the class described comprising a horn provided at one end with a mouth piece and the opposite end of which is enlarged, a radially arranged sheet of metal rotatably mounted on the enlarged end portion of said horn and provided with a spring tongue, said sheet of metal and said tongue being designed to represent a flag and a ratchet disk connected with said horn and the teeth of which are adapted to operate in connection with the end of said spring tongue.

978,944. TYPE-WRITING MACHINE. GEORGE A. SEIB and JOHN W. KOERNER, Syracuse, N. Y., assignors to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed June 14, 1907. Serial No. 379,083.



1. In a typewriting machine, the combination of a type bar, a pivotal support therefor having a fixed pivotal axis, the pivot bearing comprising a tapered pivot and a tapered depression against the tapered sides of which said tapered pivot bears and only close to said pivotal axis, the taper of said pivot being sharper than the taper of said depression and the point of the pivot terminating short of the bottom of the tapered depression; and resilient means for pressing said pivot and depression together lengthwise of said axis.

2. In a typewriting machine, the combination of a type bar, a pivotal support therefor having a fixed pivotal axis, the pivot bearing comprising a conical pivot having a small rounded end the rounded surface of which is a smooth continuation of the conical surface, and a tapered depression against the tapering sides of which the rounded end of said conical pivot bears, the taper of said pivot being sharper than the taper of said depression; and resilient means for pressing said pivot and depression together lengthwise of said axis.

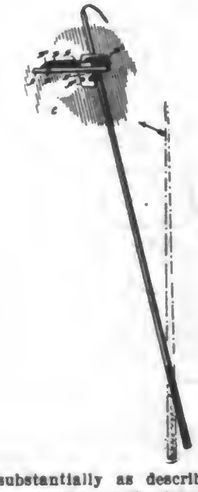
3. In a typewriting machine, the combination of a type bar, a pivotal support therefor having a fixed pivotal axis, the pivotal support comprising a tapered pivot having a small rounded end and a tapered depression against the tapering sides of which said rounded end bears, the taper of said pivot being sharper than the taper of said depression; and resilient means for pressing said pivot and depression together lengthwise of said axis.

4. In a typewriting machine, the combination of a type bar bearing comprising a tapered pivot having its end rounded, and a tapered depression against the tapering sides of which the rounded end of said tapered pivot bears, the taper of said pivot being sharper than the taper of said depression, and resilient means for pressing said tapered pivot and said tapered bearing depression together endwise.

5. In a typewriting machine, the combination of a resilient hanger arm, a type bar, and a pivotal connection between said hanger arm and type bar, said pivotal connection comprising a tapered pivot having a rounded end, and a tapered depression against the tapering sides of which the rounded end of said tapered pivot bears, the taper of said pivot being sharper than the taper of said depression and said resilient hanger arm being under tension to press said tapered pivot and said bearing depression together endwise.

[Claims 6 to 15 not printed in the Gazette.]

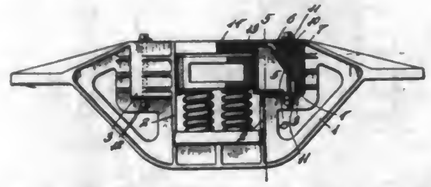
978,945. WHIP-RACK. PETER H. SHAFER, Ingram, Wis. Filed Jan. 14, 1910. Serial No. 538,122.



1. A rack substantially as described, composed of a table plate, a face plate at the inner edge of the table plate at the center of the latter, said table plate having its inner edge on opposite sides of the face plate spaced therefrom and the outer edge of the table plate being returned on its upper side forming a hook like seat having openings spaced apart, and pawl plates inclined at their ends and provided at their outer sides with hooked tongues operating in the openings in the returned outer edge of the table plate as and for the purpose set forth.

2. A rack composed of a table plate having a face plate at a right angle thereto for connection with a support and spaced at its inner edge alongside said face plate to provide a slot for the entrance of the article to be held and a pawl plate connected pivotally at its outer edge to the table plate and projecting at its inner edge inwardly beyond the spaced inner edge of the table plate substantially as set forth.

978,946. ADJUSTABLE COLUMN-GUIDE FOR TRUCK SIDE FRAMES. CHARLES S. SHALLENBERGER, St. Louis, Mo., assignor to Charles McLure Clark, St. Louis, Mo. Filed Apr. 15, 1910. Serial No. 555,575.



1. The combination with a truck side frame having a hollow upper chord, of movable column guides whereby the width of the bolster opening may be varied, portions of which column guides occupy the hollow upper chord.

2. The combination with a truck side frame having a hollow upper chord, of adjustable column guides, portions of which are adapted to project into the bolster opening, and portions of which column guides occupy the hollow upper chord.

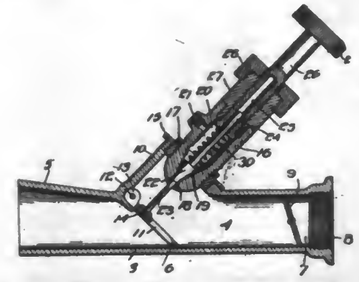
3. The combination with a truck side frame having a hollow upper chord, of adjustable column guides, portions of which column guides occupy the hollow upper chord, and means whereby said column guides are locked after adjustment.

4. The combination with a truck side frame, of adjustable column guides, portions of which are adapted to project into the bolster opening of the side frame, means whereby said column guides are moved forward and backward, and which column guides moving means have an interlocking sliding connection with said column guides.

5. The combination with a truck side frame having pockets formed at the sides of the bolster opening, of blocks arranged to move horizontally in said openings, portions of which blocks are adapted to project into the bolster opening, and vertically moving blocks located within the pockets for adjustably positioning the horizontally moving blocks.

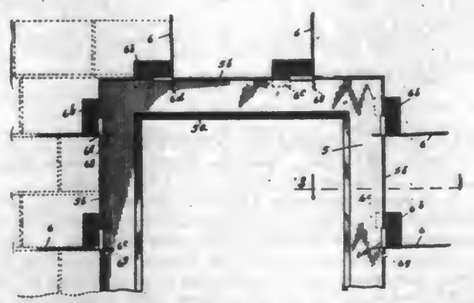
[Claims 6 to 10 not printed in the Gazette.]

978,947. CARBURETER. ROBERT WM. SHAW, New York, N. Y., assignor of one-half to Gavin Rae, New York, N. Y. Filed Sept. 25, 1909. Serial No. 519,601.



In a carbureter of the character described, the combination with a tubular open ended casing, one end portion of which tapers inwardly and terminates in an inclined valve seat, of a pivoted air actuated valve normally resting against the seat, a butterfly controlling valve located in the casing, said casing also having a boss projecting at an inclination from one side and having a bore of sufficient size to permit the removal of the air-actuated valve, a plug threaded into the boss, a fuel supply nipple threaded into the plug and having a valve seat, a fuel controlling valve normally resting against the seat and having a stem that engages the air actuated valve, and means for opposing a variable resistance to the opening of the air actuated and fuel controlling valves.

978,948. WALL-TIE. THOMAS P. SHEAN, Chicago, Ill. Filed Feb. 7, 1910. Serial No. 542,421.



1. A metal tie having a body portion, wings at an angle to said body and clips having parallel walls at an angle to said wings, said body, wings and clips being integrally formed.

2. A metal tie having a body portion, wings at a right angle from opposite edges of said body, and clips formed by cutting and bending portions of the wings.

3. A metal tie formed from a piece of corrugated metal, cut and bent to form a body, wings extending from the side edges of said body, and clips extending outwardly at an angle from said wings.

4. In combination with a hollow metal frame and a tile or brick wall supporting said frame, a tie having integral members adapted to interlock with the said frame, and an integral member adapted to be anchored in the wall supporting said frame.

5. In combination with a hollow metal frame, a tie having integral clips adapted to interlock with the sides of said frame, also having a member adapted to be anchored in a wall, and also having a member fitting between the walls of the frame and adapted to resist the crushing of said walls.

[Claims 6 to 8 not printed in the Gazette.]

978,949. SHOCK-ABSORBER FOR DOORS. THOMAS P. SHEAN, Chicago, Ill. Filed Mar. 7, 1910. Serial No. 547,683.



1. In a shock absorber, the combination with a door, of a weight flexibly mounted adjacent said door, a bar projecting into the path of the door, and adapted to engage and lift said weight when the door is being closed, and means on the door for engaging said bar.

2. In a shock absorber, the combination with a door, of a movable bar, a weight suspended in the path of said bar, and an abutment on said door adapted to push the bar against the weight by the closing of the door.

3. In a shock absorber, the combination with a door, of a weight suspended adjacent the door, a spring urging the weight downward, and means for lifting the weight against gravity and the action of the spring, said means operated by the closing of said door.

4. In a shock absorber, the combination with a door, a casing, a weight, a chain freely supporting said weight in said casing, a curved bar slidably mounted in said casing and adapted to lift said weight, and means on said door for operating said bar by the movement of the door.

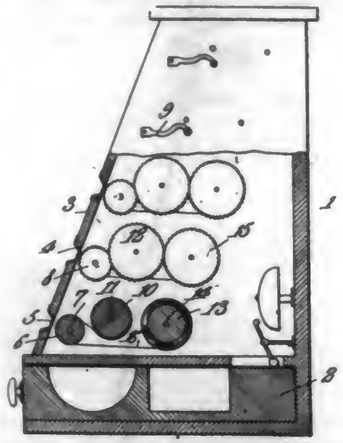
5. The combination with a door and door-frame, of a bar slidably mounted in the door-frame, a weight flexibly suspended in the path of said bar, an abutment on said door adapted to engage the bar, and a buffer attached to said bar.

[Claim 6 not printed in the Gazette.]

978,950. AUTOMATIC COMPUTING DEVICE AND CASH-DRAWER. WALTER SHERWOOD, Canon City, Colo. Filed Jan. 29, 1910. Serial No. 540,891.

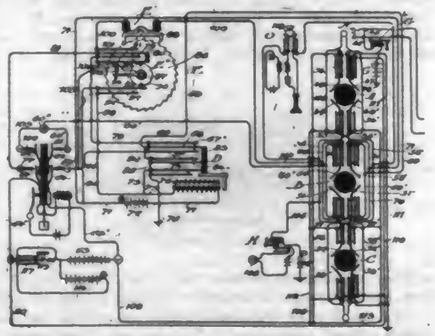
1. A computing device comprising drums positively connected for rotation in opposite directions, a flexible band wound upon and extending from drum to drum, a roller positively connected to the said drums for imparting rotative movement thereto, said roller being traversed by the band, and a casing having orifices each longitudinal to the roller, the band having designations thereon indicating units and prices, any one unit or multiple thereof with the prices therefor being visible through the orifice.

2. An automatic computing device comprising a suitable cabinet having orifices there-through each with a fixed price scale displayed on one wall thereof, and a means for displaying the prices of various units of the larger prices shown at the margins of the orifices, comprising a flexible band containing columns of prices and a column of units, a roller adjacent to the orifice and underlying the band, a drum receiving one end of the band, another drum receiving the other end of the band, and gearing connecting the roller and drums for simultaneous positive rotation.



3. A device of the character described comprising a suitable casing, a money receptacle in the base thereof, said casing having on one face a series of parallel orifices extending across said face and each provided with price indications for large units, a flexible band for each orifice mounted interior to the casing and containing in transverse rows small unit indications and prices per unit based on the larger unit prices, a roller within the casing adjacent to each orifice and traversed by the band, spaced drums for the respective ends of the band and interconnecting gearings between the roller and the band receiving drums, the said band being operable from the exterior of the casing.

978,951. PARTY-LINE TELEPHONE. CYRIL A. SOANS and ALBERT H. GRAVES, Chicago, Ill., assignors, by mesne assignments, to Homer Roberts Telephone Co., a Corporation of West Virginia. Filed Mar. 4, 1907. Serial No. 360,352.



1. In combination, an uninterrupted main line wire extending through a plurality of sub-stations, a companion main line wire likewise extending through said sub-stations, means practically sectionalizing one of said line wires, as regards direct current of normal operating potential, at each sub-station, a bridging loop conductor normally connecting said main wires at each sub-station, a selecting relay at the juncture of the main wires and loop, and a subscriber's telephone set associated with said loop and connected to the main wires solely through the two limbs of said loop.

2. In combination, an uninterrupted main line wire extending through a plurality of sub-stations, a companion main line wire likewise extending through said sub-stations, means practically sectionalizing one of said line wires, as regards direct current of normal operating potential, at each sub-station, a bridging loop conductor normally connecting said main line wires at each sub-station, a selecting relay at the juncture of the main wires and loop and included in said bridging loop conductor, contact devices operated by said selecting relay for building up said sectionalized line wire, as regards direct current of normal operating potential, and a subscriber's telephone set associated with said loop and connected to the main wires solely through the two limbs of said loop.

3. In combination, an uninterrupted main line wire extending through a plurality of sub-stations, a companion main line wire likewise extending through said sub-stations, means practically sectionalizing one of said line wires, as regards direct current of normal operating potential, at each sub-station, a bridging loop conductor normally connecting said main wires at each sub-station, a selecting relay at the juncture of the main wires and loop, and having a winding included in series in said loop, switching contact devices operable by said relay for disabling the direct current circuit through said loop and establishing a direct current circuit from one section of the sectionalized line to the next, a condenser bridge across the winding of said relay included in said bridging loop, and a subscriber's telephone set associated with said loop.

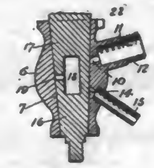
4. In combination, an uninterrupted main line wire extending through a plurality of sub-stations, a companion main line wire likewise extending through said sub-stations, means practically sectionalizing one of said line wires, as regards direct current of normal operating potential, at each sub-station, a bridging loop conductor normally connecting said main wires at each sub-station, a selecting relay at the juncture of said main wires and loop, and having a winding included in series in said loop, switching contact devices operable by said relay for disabling the direct current circuit through said loop and establishing a direct current circuit from one section of the sectionalized line to the next, a condenser bridge across the winding of said relay included in said bridging loop, and a subscriber's telephone set associated with said loop, and means, operable from a central station, for restoring the several selecting relays to normal.

5. In combination, an uninterrupted main line wire extending through a plurality of sub-stations, a companion main line wire likewise extending through said sub-stations, means practically sectionalizing one of said line wires, as regards direct current of normal operating potential, at each sub-station, a bridging loop conductor normally connecting said main wires at each sub-station, a selecting relay at the juncture of the main wires with said bridging loop, having two magnet windings, one of which is included in one of said main line wires and the other included in said bridging loop conductor, contacts operable by said selecting relay for building up said sectionalized main line wire, as regards direct current of normal operating potential, a subscriber's telephone set associated with said bridging loop, and means for establishing a restoring ground to ground circuit from a central station through the windings of the several relays included in said main line to ground at a point beyond said relays.

[Claims 6 to 32 not printed in the Gazette.]

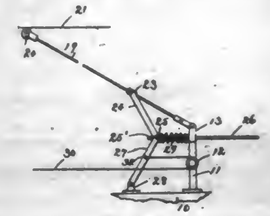
978,952. STOP AND DRAIN COCK. FRANK A. STANLEY, Little Rock, Ark. Filed May 19, 1909. Serial No. 496,874.

A stop and waste cock of the class described, comprising a casing provided in one side with a pair of vertically alined transverse inlet and waste ports, and a revoluble plug having a longitudinal passage and a waste port extending transversely through one wall of said passage, said plug adapted to permit the passage of a fluid in either direction when turned to bring its longitudinal passage into registration with the longitudinal bore of the casing, but adapted to cut off the passage of the fluid when turned to bring its longitudinal passage across or at right angles to said bore of the casing and its waste port in communication with said bore and to permit the waste fluid from one source to pass directly



through the longitudinal passage of the plug to the waste port of the casing and the waste fluid from a second source to pass through the inlet port of the casing and the longitudinal passage of the plug to the waste port of the casing.

978,953. TROLLEY-RETRACTOR. LUCEAN B. STANLEY, Collinwood, Ohio. Filed Mar. 19, 1909. Serial No. 484,561.



1. In a trolley pole structure, a trolley support, a trolley pole swiveled thereto, toggle links pivotally connected to the pole and to a fixed part, suitable means adapted to bear against the joint of the toggles to cause them when in one position to force the trolley toward the wire and upon the release of the trolley to assume another position and cause the trolley to drop upon the car, and means engaging the toggle links for returning them to the initial position for forcing the trolley against the wire.

2. The combination with a car, of a trolley support, a trolley pole swiveled thereto, toggle links connected to the top of the car and directly to the trolley pole intermediate its ends, a rod guided in the support and connected to the joint of said toggle links, and means for forcing the joint of the toggle links in a direction to cause the toggle arms to force the wheel in engagement with the trolley wire and when the wheel leaves such wire to cause the trolley pole to drop upon the top of the car, and means for resetting the trolley.

3. The combination with a car, of a trolley support, a trolley pole swiveled to said support, a trolley wheel carried by said trolley pole, a toggle link secured to said trolley pole intermediate its ends, another toggle link secured to the top of the car, said toggle links being pivoted together, a rod secured to the pivotal point of the toggle links and guided in the trolley support, a spring between the pivotal point of said toggle links and the trolley support and adapted to have a tendency toward shifting said toggle links in a direction to cause the trolley wheel to engage the wire when said toggle links are in one position and upon the trolley wheel leaving the wire to cause said toggle links to move into another position and pull the trolley down toward the top of the car, and means for resetting the trolley.

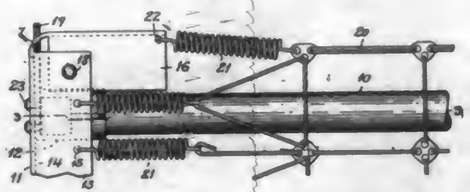
4. The combination with a car, of a trolley support, a trolley pole swiveled to said support, a trolley wheel carried by said trolley pole, toggle links pivoted together and having their ends connected, one with the trolley pole and the other with the top of the car, means normally tending to shift said toggle links in a direction such that when the trolley wheel is upon the wire it

is normally held in such position by such means, but when the trolley pole leaves the wire it normally tends to pull the trolley pole down toward the car, and a suitable motor for resetting said trolley pole.

5. The combination with a car, of a trolley support, a trolley pole swiveled in said support, a trolley wheel carried by said trolley pole, toggle links pivoted together and having their ends connected, one with the trolley pole and the other secured to the top of the car, means normally tending to shift said toggle links in a direction such that when the trolley wheel is upon the wire it is normally held in such position by such means, but when the trolley pole leaves the wire it normally tends to pull the trolley pole down toward the car, and a pneumatic cylinder carried by said support and provided with a piston and piston rod, connections between said rod and said toggle links whereby the trolley may be reset by shifting the toggle links.

[Claim 6 not printed in the Gazette.]

978,954. SPRING-MATTRESS FRAME. GEORGE H. ST. CLAIR, Lynn, Mass., assignor to Merrimac Mattress Manufacturing Company, Boston, Mass., a Corporation of Massachusetts. Filed Mar. 16, 1910. Serial No. 549,643.



1. A frame for a spring mattress comprising end bars each consisting of an outer vertical web having a main transverse portion, inwardly extending end portions, and curved portions connecting said end portions with the main portion, and horizontal webs extending inwardly, one from each of said main and end portions, side bars for spacing said end bars, and connections between said end bars and side bars.

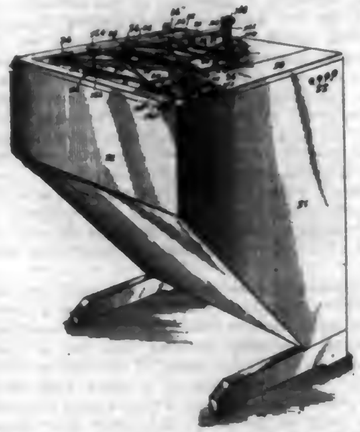
2. A frame for a spring mattress comprising end bars each consisting of a main transverse portion, integral longitudinal end portions, and curved portions connecting said transverse and longitudinal portions, said transverse, longitudinal, and curved portions including a continuous vertical web, and said transverse and longitudinal portions including integral horizontal webs extending inwardly and overlapping slightly, fastening means extending through said overlapping portions, and longitudinal side bars connected to said end bars.

3. A frame for a spring mattress comprising end bars each consisting of a main transverse portion, longitudinal end portions, and integral curved portions connecting said transverse and longitudinal portions; said transverse and longitudinal portions comprising a vertical web including said curved portions, and integral horizontal web portions extending inwardly and overlapping each other; fastening means extending through said overlapping portions; and longitudinal side bars arranged between the longitudinal vertical planes of said curved portions, said side bars being connected to said end bars.

4. A frame for a spring mattress comprising end bars each consisting of a main portion extending transversely, end portions extending longitudinally, and curved portions connecting said main and end portions; said main and end portions being angular in cross section and integral; and longitudinal side bars connected to said end bars.

5. A frame for a spring mattress, comprising end bars for supporting the mattress, side bars connected to the end bars, said end bars each including a main portion extending transversely of the side bars, inwardly turned extremities substantially parallel to the side bars, and curved vertical webs connecting the extremities with the main portion, said main portion and said extremities including vertical web portions integral with said curved connecting webs, and overlapping horizontal webs extending inwardly from said vertical webs, and fastening means connecting the overlapping portions of said horizontal webs.

978,955. PHOTOGRAPHIC-PRINTING MACHINE. FRED PARK STEVENS, Denver, Colo., assignor of one-half to John Arthur Eddy, Denver, Colo. Filed July 16, 1907. Serial No. 383,984.



1. In a printing machine of the character set forth, the combination with negative holding means, of means for admitting light thereto, a mechanism operatively connected with the negative holding means to be automatically set into operation thereby for controlling the light-admitting means and including separate elements both active only during the opening of the light-admitting means and after which only one element operates during the exposure to hold said means open, and adjustable means for determining the period during which the single element operates on the light-admitting means to produce exposures of different lengths.

2. In a printing machine of the character set forth, the combination of negative holding means, means for controlling the admission of light thereto, a motor device including a plurality of elements operating together to open by their combined power the last-mentioned means and one operating longer than the other to hold the light admitting means open during an exposure, and an adjustable retarding device against which only the longer acting element operates during the period of admitting light for each exposure.

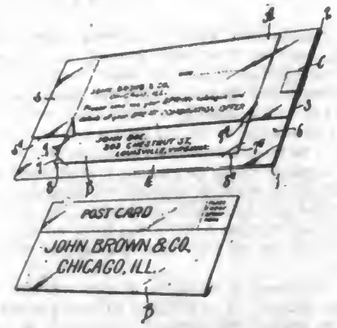
3. In a printing machine of the character set forth, the combination of negative holding means, a light controlling shutter associated therewith, separate motor elements operatively connected with the negative holding means to be simultaneously set thereby and operating together for opening the shutter, means for automatically throwing one of the elements out of operation as soon as the shutter is fully opened, and an adjustable retarding device operating against the other motor element during the period of an exposure.

4. In a printing machine of the character set forth, the combination of a negative-holding means, a light-controlling shutter, an oscillatory device, a member connected with the shutter to coact with the device for opening the shutter during the initial movement of the device and for holding the shutter open thereafter for the whole period of an exposure, and a motor means having greater power at the beginning of its movement to effect the opening of the shutter and less power after the opening of the shutter for maintaining the latter open during an exposure.

5. In a printing machine of the character set forth, the combination of a light-controlling shutter, a negative-holding means, a motor device controlling the shutter, means for setting the motor device by the operation of the negative-holding means, means for automatically reducing the power of the motor device after the latter has opened the shutter, and a controllable retarding mechanism for varying the period of action of the motor device and thereby the length of an exposure.

[Claims 6 to 109 not printed in the Gazette.]

978,956. ADVERTISING DEVICE. HOWARD D. STEWART, Chicago, Ill., assignor of one-half to Fred M. Jacobs, Chicago, Ill. Filed Mar. 26, 1910. Serial No. 551,690.



1. A device of the kind described comprising a foldable sheet having an intermediate portion and end flaps folded one upon the other, and a card arranged between and interlocking with said flaps and having a portion exposed to, and a portion hidden from, view; substantially as described.

2. A device of the kind described comprising a foldable sheet having an intermediate portion and end flaps folded one upon the other, and a card between and interlocking with said end flaps and having a portion exposed to view, whereby said flaps are secured in folded condition and said card is carried by said flaps with a portion thereof exposed to view; substantially as described.

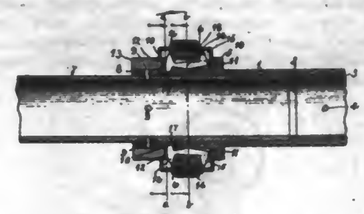
3. A device of the kind described comprising a foldable sheet having an intermediate portion and end flaps, one of said flaps being wider than the other and said flaps being folded one upon the other, and a card between and interlocking with said end flaps and having a portion exposed to view below the free edge of the upper of said folded flaps, whereby said flaps are secured in folded condition and said card is carried by said flaps with a portion thereof exposed to view; substantially as described.

4. A device of the kind described comprising a letter-sheet having an intermediate portion, a top flap, and a lower flap, said flaps being folded one upon the other and said top flap being narrower than said lower flap, and a card bearing the name and address of the person to whom the device is to be sent arranged between and interlocking with said flaps with said name and address exposed to view below the free edge of said top flap, whereby said flaps are secured in folded condition and said card is carried by said flaps with said name and address exposed to view; substantially as described.

5. A device of the kind described comprising a foldable sheet having an intermediate portion and end flaps, said flaps being folded one upon the other and one of said flaps being wider than the other and provided with diagonally-disposed slits, and a card carried by said sheet between said flaps with corners thereof in said slits and a portion thereof exposed to view; substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

978,957. PIPE-COUPLING. WILLIAM S. SUTTON, Rockford, Ill., assignor to Houston Manufacturing Company, Rockford, Ill., a Corporation of Illinois. Filed Sept. 21, 1909. Serial No. 518,862.



1. In a coupling of the character set forth, the combination with coacting members, of a rocking dog mounted on one member and having a detachable interlocking engagement with the other member, said dog being disposed longitudinally of the members and having outstanding cam shoulders, and a dog operating device rotatably mounted on the said member transversely of the dog between the shoulders thereof and having an interfitting engagement with the member to cause its movement longitudinally of said member on its rotation, said device upon its rotation in opposite directions alternately engaging the cam shoulders to effect the rocking of the dog.

2. In a coupling of the character set forth, the combination with coacting members, of a rocking dog mounted on one of the members and having a detachable interlocking engagement with the other member, said dog being disposed longitudinally of the members and having outstanding cam shoulders, and a dog operating ring threaded on the member between the shoulders and having its opposite edges engaging said shoulders to effect the rocking of the dog.

3. In a coupling of the character set forth, the combination with coacting members, one of which has an enlarged portion provided with longitudinal grooves and peripheral threads that intersect the grooves, of a plurality of locking dogs mounted in the grooves and movable into and out of interlocking engagement with the other member, said dogs having outstanding cam shoulders, and a ring screwed upon the threaded portion of the member and having its edges movable into engagement with the dogs to effect the rocking movement thereof.

4. In a coupling of the character set forth, the combination with coacting coupling members, one of which is provided with longitudinal grooves and peripheral threads that intersect the grooves, of rocking dogs located in the grooves and movable into and out of detachable interlocking engagement with the other member, said dogs each having spaced outstanding cam shoulders, and a ring threaded on the member and having edge portions that engage the dogs to rock the same, said ring having extending inturned marginal portions that cover the cam shoulders.

978,958. TELEPHONE DESK-SET APPARATUS AND CIRCUIT. BURTON W. SWEET, Cleveland, Ohio, assignor, by mesne assignments, to Century Telephone Construction Company, Buffalo, N. Y., a Corporation of New York. Filed Apr. 27, 1906. Serial No. 313,930.

1. The combination with a tubular standard mounting the coöperating elements as a substantially unitary structure, comprising a telephone transmitter mounted thereon, a telephone-hook, switch mechanism actuated thereby, a telephone receiver normally hung upon the hook, an induction-coil electrically connected with said receiver and mounted within the tubular standard, whereby all of said parts are united in removable relation, and a supporting-base adapted removably to mount the standard, substantially as set forth.

2. In a telephone instrument, the combination with a tubular standard mounting the coöperating elements as a substantially unitary structure, comprising a telephone

transmitter and receiver supported thereby, a switch-lever pivoted to said standard, switch-springs positioned in the upper part of said standard, and adapted to be actuated by the lever, and an induction-coil positioned within the standard beneath the switch-springs, terminals provided thereon connecting respectively with the external circuit and directly with the switch-springs, and a separable supporting member for said tubular standard, substantially as set forth.



3. In a telephone desk-instrument, the combination with a suitably-supported tubular standard mounting the coöperating elements as a substantially unitary structure, comprising a transmitter and receiver carried from the upper portion thereof, a switch-lever pivoted within the said standard, relatively short switch-springs positioned within the standard adjacent to the switch-lever and actuated thereby, and an induction-coil disposed within the standard and permanently connected with the switch-springs, the transmitter and receiver, terminals provided upon the induction-coil maintaining said connections and the connections with the external circuit, and a separable supporting member for said tubular standard, substantially as set forth.

4. The combination with a telephone desk-instrument having a tubular standard mounting the coöperating elements as a substantially unitary structure, comprising an induction-coil vertically positioned within the standard, comprising insulating-heads, a flanged tubular core-member engaging said heads, a soft iron core disposed therein, disks at either end of said core expanded to engage such insulating-heads, and primary and secondary windings of insulated wire disposed upon the core, and a switch and switch-actuating mechanism mounted upon the standard adjacent to the coil and electrically connected therewith, substantially as set forth.

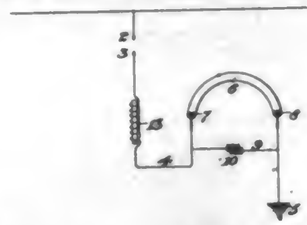
5. In a telephone desk-instrument, the combination with suitable supporting means, of an upright or standard forming a self-contained instrument removable therefrom, comprising a transmitter and receiver mounted thereon, a pivoted switch-lever, short vertically-positioned switch-springs controlled by said lever, an induction-coil disposed within the standard, permanent connections uniting the respective windings of the coil with the transmitter, receiver and switch-springs, and terminals provided upon said coil for maintaining connection with the exterior circuit, whereby the number of required flexible cord-conductors is reduced, substantially as set forth.

[Claims 6 and 7 not printed in the Gazette.]

978,959. LIGHTNING-ARRESTER. PERCY H. THOMAS, Montclair, N. J., assignor to Cooper Hewitt Electric Company, New York, N. Y., a Corporation of New York. Filed June 7, 1905. Serial No. 264,057.

1. The combination of an electric circuit carrying alternating current, a suitable ground, an air gap interposed in the ground circuit, a vapor device in said circuit, and means for causing a rise of potential above the discharge line voltage upon the vapor device as a result of any discharge across the gap.

2. The combination of an electric circuit carrying alternating current, a suitable ground, an air-gap interposed in the ground circuit, a suitable connection between said air-gap and the ground, a branch containing a vapor device, and a transforming device connected in the said connection and so related to the vapor device as to increase the potential applied to the said vapor device above that applied to the air gap.



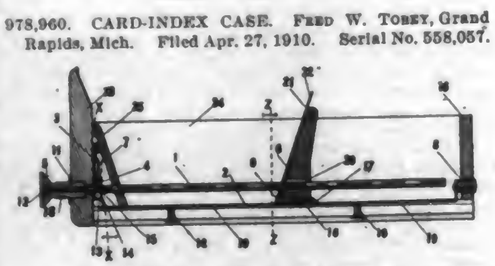
3. The combination with an electric circuit carrying alternating current, a suitable ground, an air-gap interposed in the ground circuit, a vapor device in the said circuit, a choke coil in series with the spark-gap and the vapor device, and a capacity so connected with the choke coil that a discharge in the air-gap causes a surge rise of potential to be impressed upon the vapor device.

4. The combination of an electric circuit carrying alternating current, a suitable ground, an air-gap interposed in the ground circuit, vapor devices in the said circuit, and means for causing a variation between the breaking down points of the several vapor devices individually and collectively.

5. The combination with an electric circuit carrying alternating current, of a suitable ground, an air-gap interposed in the ground circuit, a plurality of vapor devices in said circuit having different electrical characteristics whereby the distribution of potential between them individually and between them and the spark-gap will not be uniform.

[Claim 6 not printed in the Gazette.]

978,960. CARD-INDEX CASE. FRED W. TOBEY, Grand Rapids, Mich. Filed Apr. 27, 1910. Serial No. 558,057.



1. In a device of the character described, the combination of a slidable card-retaining rod, and a lever-arm clamp having a movement in the plane of the rod's axis and adapted in one position to engage and hold the rod from sliding movement and in another position less inclined relatively to the rod to release the rod from such engagement.

2. In a device of the character described, the combination of a slidable card-retaining rod having a shoulder, and a lever-arm clamp having a movement in the plane of the rod's axis and adapted in one position to engage the shoulder to hold the rod from sliding movement and in another position less inclined relatively to the rod to release the shoulder from such engagement.

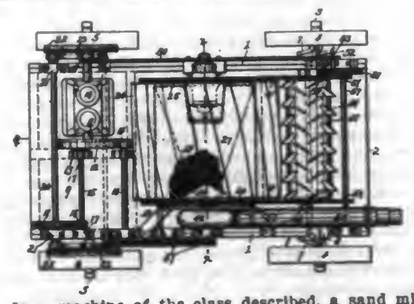
3. In a device of the character described, the combination of a slidable card-retaining rod, and a spring-pressed lever-arm clamp having a movement in the plane of the rod's axis and adapted in its spring-pressed position to engage and hold the rod from sliding movement and in another position less inclined relatively to the rod to release the rod from such engagement.

4. In a device of the character described, the combination of a card-index case, a card-retaining rod slidable therein, a lever-arm clamp having a movement in the plane of the rod's axis, a spring adapted to press the clamp into a position to engage and hold the rod from sliding movement, and a slidable clamp-operating bar extending through the back of the case and engaging with the clamp to move the same against the pressure of the spring and into another position less inclined relatively to the rod.

5. In a device of the character described, the combination of a card-index case, a card-retaining rod slidable therein, a lever-arm clamp having a movement in the plane of the rod's axis, a spring adapted to press the clamp into a position to engage and hold the rod from sliding movement, a slidable clamp-operating bar engaging with the clamp to move the same against the pressure of the spring and into another position less inclined relatively to the bar, and an adjustable card-support having a spur adapted to engage the bar.

[Claim 6 not printed in the Gazette.]

978,961. SAND-TEMPERING MACHINE. JOSEPH J. VALIQUETT and CHARLES F. ROUSH, Toledo, Ohio. Filed June 30, 1910. Serial No. 569,654.



1. In a machine of the class described, a sand mixing member, a rotatable sand elevating member, means within said elevating member for screening sand, and means associated with said screening means for delivering the screened sand to a predetermined point.

2. In a machine of the class described, the combination of a set of rotatable members arranged in tandem and rotatable in opposite directions, one member serving to mix sand over which it passes and the other serving to elevate the mixed sand, a griddle associated with said elevated member for screening the sand elevated thereby, and means for directing and conveying the screened sand to a predetermined point.

3. In an apparatus of the class described, the combination of a frame, supporting wheels for such frame, a sand cutting and mixing drum and a sand elevating member rotatably carried by said frame one in advance of the other, means for rotating said drum and member, and means associated with the elevating wheel for cleaning the sand elevated thereby.

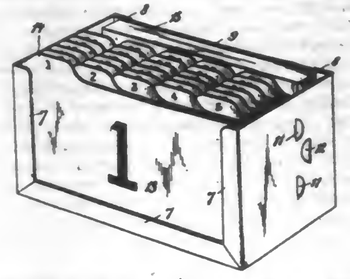
4. In an apparatus of the class described, the combination of a wheel frame, sand mixing means and sand elevating means carried by such frame, sand screening and conveying means associated with said elevating means and mechanism for operating said several means.

5. In an apparatus of the class described, the combination of a wheeled frame, a sand mixing drum carried by said frame, a rotary sand elevating member carried by said frame and adapted to discharge sand within the member at a predetermined point in its elevation, sand screening means disposed within the member, means for conveying the screened sand to a predetermined point, and mechanism for operating the drum member and conveying means.

[Claims 6 to 10 not printed in the Gazette.]

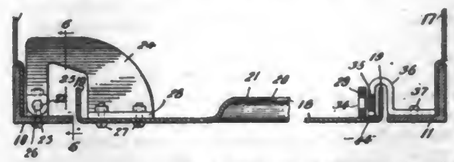
978,962. MEMORANDUM DEVICE. FRANK VAN ANDEN, New York, N. Y. Filed Feb. 26, 1909. Serial No. 480,198.

A tray for a memorandum device of the character described comprising a base, end walls, and front and rear flanges, all struck up from a single blank, the end walls having inwardly projecting portions formed intermediate their side edges whereby to divide the tray into a plurality



of compartments, and a bar for connecting the rear flanges together.

978,963. LOCKER. WALTER N. VANCE, Waukegan, Ill. Filed Nov. 4, 1908. Serial No. 461,104.



1. The combination in a metallic locker, of the sheet metal flanged door, the flat iron bolting bar, the flange of the swing side of the door being embossed at intervals to form bearing points for the flat iron bolting bar, said bolting bar provided at intervals with slots to receive studs, said studs secured to the door flange and passing through the bolting bar, and a knob or means for operating said bolting bar from the outside of the door, substantially as specified.

2. The combination with the door, the door frame and the stops on the latter, of the flat-metal-bar bolt provided with offsets embracing the said stops, and with means within the bolt-offsets for engaging the frame-stops to hold the door from being opened, substantially as specified.

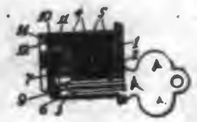
3. The combination with the door frame, the door and its flange, the stops on the frame and the bar, the latter being provided with offsets at the stops, and the door flange being embossed with bearing points for the bar adjacent to the stop offsets on the latter, substantially as specified.

4. The combination of the flanged door, the door stop embracing the flange of the door, and the bolt bar having an offset embracing the said door stop, substantially as set forth.

5. The combination of the bolt bar having offsets therein, bolting pins within the said offsets, and frame stops within the said offsets recessed to receive the said pins, substantially as set forth.

[Claims 6 to 10 not printed in the Gazette.]

978,964. CYLINDER-LOCK. HENRY G. VOIGHT, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed June 18, 1910. Serial No. 567,55



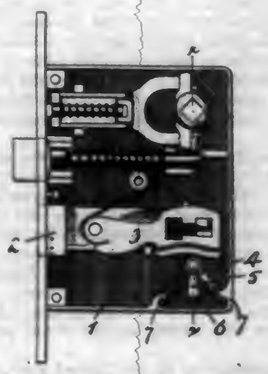
1. In a cylinder lock for bolt mechanisms, a cylinder, key operatable plug eccentrically mounted in the lower portion thereof, tumbler mechanism for locking said plug, said tumbler mechanism being arranged in the cylind

above the plug, a bolt controlling cam-arm rotatably mounted at the inner end of the cylinder above the inner end of the plug, and means of operative connection between said plug and said cam-arm whereby rotation of the former will cause the rotation of the latter.

2. In a cylinder lock for bolt mechanisms, a cylinder, a key operatable plug eccentrically mounted in the lower portion thereof, tumbler mechanism for locking said plug, said tumbler mechanism being arranged in the cylinder above the plug, a bolt controlling cam-arm rotatably mounted at the inner end of the cylinder above the inner end of the plug, and means of operative connection between said plug and said cam-arm whereby rotation of the former will cause the rotation of the latter, the said connection means comprising two intermeshing gears respectively mounted on and rotatable with said plug and cam arm.

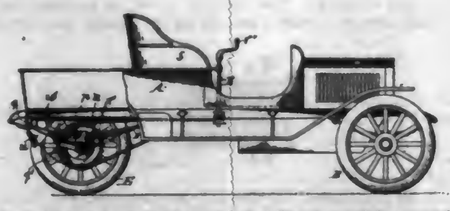
3. A cylinder lock, comprising a lock cylinder, a locking plug eccentrically mounted in the lower portion thereof, tumbler mechanism overstanding said plug, a pinion mounted upon the rear end of said plug, a plate detachably mounted on said cylinder above said plug, a stud rotatably mounted in said plate, a cam arm and pinion carried by said stud, said pinion meshing with the first mentioned pinion whereby said lock may be operatively mounted below the latch bolt with the locking tumblers overstanding said locking plug.

978,965. KEY-HOLDER FOR LOCKS. HENRY G. VOIGHT, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Oct. 8, 1910. Serial No. 585,920.



In a lock, an elongated key-hole passage arranged to receive a key having a laterally offset bit, a spring mounted on its ends below said key-hole, said spring being bent upwardly at two points intermediate its length to form humps on opposite sides of a plane passing through said key-hole, and also bent down at the center sufficiently to permit a key to be inserted into the lock through the key-hole.

978,966. BACK-UP BRAKE FOR VEHICLES. DENNIS T. WALSH, Ansonia, Conn. Filed Apr. 12, 1910. Serial No. 554,920.



1. A back-up brake for automobiles comprising a relatively stationary part and a rotatable part, a bodily movable brake member adapted to move with said rotatable part and to be shifted thereby into engagement with said stationary part, and means for connecting and disconnecting said brake member and said rotatable part.

2. A back-up brake for automobiles comprising a rotatable clutch having a circular groove, a pawl mounted on said clutch and adapted to move with its jaw into and out of the groove thereof, and a brake rod adapted to be engaged by said pawl and to be carried by the same against a relatively stationary part of the automobile.

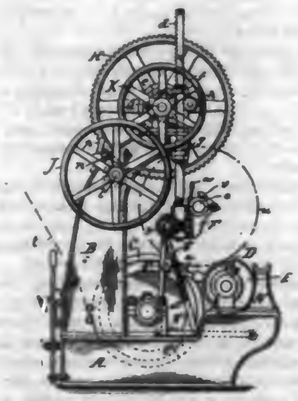
3. A back-up brake for automobiles comprising a rotatable clutch having a circular groove, a pawl mounted on said clutch and adapted to move with its jaw into and out of the groove thereof, and to be rigid backwardly and yielding forwardly, and a brake rod adapted to project, into said groove and to be carried against a stationary part of the automobile by said pawl during the backward movement of the same with the clutch but to deflect said pawl out of said groove during the forward movement of the same with the clutch.

4. A back-up brake for automobiles comprising a rotatable clutch having a circular groove, a pawl pivoted on said clutch and adapted to project into said groove, a stop on said clutch which holds the pawl against backward movement while projecting into said groove, a spring which holds the pawl yieldingly against said stop, and a brake rod adapted to be engaged by said pawl and to be carried by the same against a relatively stationary part of the automobile.

5. A back-up brake for automobiles comprising a rotatable clutch having a large disk provided with an annular flange at its periphery and an annular row of lugs around its center and a small disk having lugs interlocking with those of the large disk and forming an annular groove between the periphery of the small disk and the flange of the large disk, a pawl mounted on said disks and movable into and out of said groove and yielding forwardly but rigid backwardly, and a brake rod adapted to be arranged in said groove and to be carried by the backward movement of the pawl against a stationary part of the automobile and to deflect said pawl out of said groove during the forward movement of said pawl with the clutch.

[Claims 6 to 17 not printed in the Gazette.]

978,967. WINDING-MACHINE. JOHN J. WARREN, Brownville, N. Y. Filed Mar. 2, 1909. Serial No. 480,953.



1. In a machine for winding paper, the combination with a winding shaft upon which the paper roll is to be formed, of winding drums for supporting the winding shaft and the paper roll during the winding operation, rack bars from which the journals are suspended, and pinions meshing with the rack bars and upon which they have a free swinging movement; substantially as described.

2. In a machine for winding paper, the combination with a winding shaft upon which the paper roll is to be formed, of winding drums for supporting the winding shaft and the paper roll during the winding operation, journal boxes for the winding shaft, rack bars connected to the journal boxes, and pinions and a rack bar pinion shaft for actuating the rack bars when it is desired to raise the winding shaft; substantially as described.

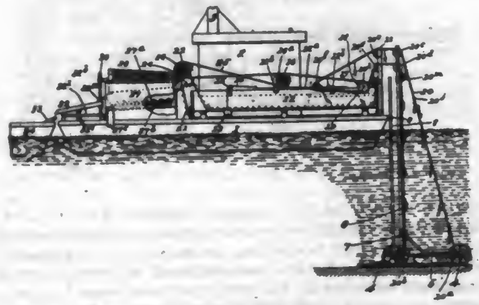
3. In a machine for winding paper, the combination with a winding shaft upon which the paper roll is to be formed, of winding drums for supporting the winding shaft and the paper roll during the winding operation, journal boxes for the winding shaft, rack bars connected to the journal boxes, and pinions and a rack bar pinion shaft for actuating the rack bars when it is desired to raise the winding shaft, one of the journal boxes being connected to its rack bar by worm gearing so as to level the winding shaft; substantially as described.

4. In a machine for winding paper, the combination with a winding shaft upon which the paper roll is to be formed, of winding drums for supporting the winding shaft and the paper roll during the winding operation, journal boxes for the winding shaft, rack bars connected to the journal boxes, and pinions and a rack bar pinion shaft for actuating the rack bars when it is desired to raise the winding shaft, one of the journal boxes being provided with a hand shaft and intermediate gearing for shifting said journal box with respect to its rack bar; substantially as described.

5. In a machine for winding paper, the combination with a winding shaft upon which the paper roll is to be formed, of winding drums for supporting the winding shaft and the paper roll during the winding operation, journal boxes for the winding shaft, rack bars connected to the journal boxes, and pinions and a rack bar pinion shaft for actuating the rack bars when it is desired to raise the winding shaft, one of the journal boxes being provided with a hand shaft and intermediate worm gearing for shifting said journal box with respect to its rack bar; substantially as described.

[Claims 6 to 10 not printed in the Gazette.]

978,968. MUSSEL-DREDGE AND SEPARATING APPARATUS. JOSEPH WEBB, Cincinnati, Ohio, assignor to The Bivalve Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Dec. 12, 1908. Serial No. 467,307.



1. A bivalve elevating and separating apparatus comprising an elevator-trestle, grapple-hooks endless carriers mounted on said elevator-trestle and adapted to carry said grapple-hooks, a barge or float to which said elevator-trestle is coupled, a vat containing a shell-opening solution, one or more carriers circulating through said vat and adapted to convey the open shells forward, a rotary grading-screen, a series of rotary brushes for separating the smaller particles strained by said rotary grader and means for actuating said grapple-hook, elevator, carrier, rotary-grader and brush devices.

2. An apparatus for gathering and separating bivalves, the same comprising a portable upright trestle carrying an elevator-chain armed with grapple-hooks, a barge or float to which said upright trestle is coupled so as to move in vertical as well as horizontal relation, a tank or vat containing a solution adapted to cause the opening of the shells of said bivalves, movable bearings on said tank adapted to carry the upper bights in the trestle elevator-chains and thereby provide for the variations in the depth of the water and the slack in said chains, carrier means in said tank for conveying the open shells with their contents therethrough, rotary grading-screens, rotary wire brushes beneath said grading-screens, fine wire meshes or screens beneath said rotary wire brushes, vibratory shaker-screens at the delivery ends of said rotary screens and means for driving said elevator mechanism, carrier mechanism, rotary grading-screens, rotary wire brushes and vibratory shaker-screens.

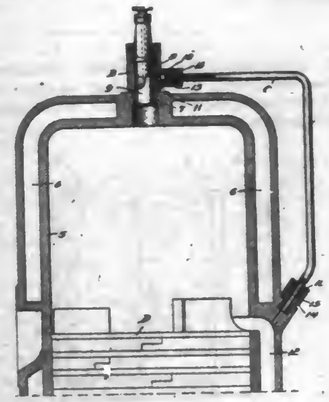
3. In a bivalve gathering and separating apparatus, a barge or float having guide-ways at its rear end, a grappling and elevating trestle having upright rods engaging said guide-ways on the barge or float, wheels on which said trestle is portably mounted, forwardly-advancing carrier devices on said barge or float, shell-opening means arranged in relation to the said forwardly-advancing carrier devices, screening devices arranged on said barge or float in front of the said forwardly-advancing carrier devices and means for transmitting power to said grappling, elevating, carrier and screening devices.

4. In a device of the character described, a grappling and elevating device comprising a pair of endless chains or belts, transverse rods or bars mounted in parallel arrays at suitable distances apart in said chains, rings loosely mounted on said transverse rods or bars, eyes mounted on said rings, short drag-lines attached to said eyes and grappling-hooks carried by said drag-lines.

5. In a device of the character described, a barge or float, a portable grappling and elevating trestle variably coupled to said barge or float at its rear end and provided with upright frame-bars having guide-ways along their inner edges and a vertical series of boards removably mounted in said guide-ways.

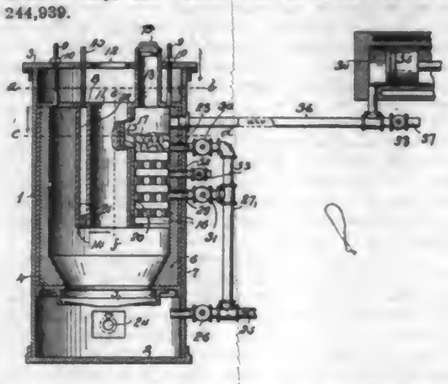
[Claim 6 not printed in the Gazette.]

978,969. INTERNAL-COMBUSTION ENGINE. ARTHUR H. WEBBER, Boston, Mass. Filed Aug. 6, 1909. Serial No. 511,587.



In an internal combustion engine, a cylinder having a transfer passage, a spark plug threaded into the end of the cylinder and having a pocket formed adjacent thereto, a nipple threaded into the spark plug and having a valved passage, a nipple threaded into the cylinder and opening into the transfer passage through which explosive mixture is introduced into the upper end of the cylinder, and a tube connecting the two nipples to convey a portion of each explosive charge to the direct vicinity of the spark plug.

978,970. PROCESS OF PRODUCING GAS. GEORGE J. WEBER, Kansas City, Mo., assignor to Louesa M. Weber, Kansas City, Mo. Filed Feb. 9, 1905. Serial No. 244,939.



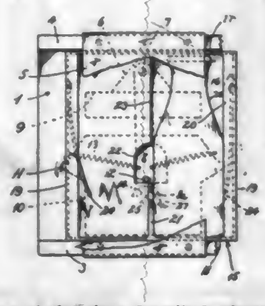
The process consisting in forcing air and steam through burning fuel, then passing the resultant gaseous products into contact with a fresh supply of air and steam, then passing the mixture through burning fuel into which a fresh supply of steam is being simultaneously discharged.

978,971. PROCESS OF TREATING FINE ORES. JAMES N. WHITMAN, Philadelphia, Pa., assignor of one-half to Marcus T. Reynolds, Albany, N. Y. Filed Feb. 16, 1906. Serial No. 301,454.

1. The process of agglomerating fine iron ores or residues, which consists in first moistening the mass and then subjecting the same to a temperature which shall cause the particles thereof, due to the impurities contained therein, to fuse sufficiently to become semiplastic and sticky, and to agitate by rolling the mass when in the semiplastic state.

2. The process of agglomerating fine iron ores or residues which consists in first moistening and then subjecting the same to a temperature which shall cause the particles thereof to fuse sufficiently to become semiplastic and sticky and to agitate by rolling the same when in the semiplastic state.

978,972. MILK-BOTTLE HOLDER. WILLIAM C. WHITTEMORE, Redlands, Cal., assignor of one-third to William John Leith, San Diego, Cal. Filed Mar. 28, 1910. Serial No. 552,014.



1. A device of the class described adapted to hold an article to be delivered and having means adapted to lock said article against delivery, and a member for actuating said locking means controlled by the insertion of a second article of the same kind to release said first article, said member lying in the path of the side of said second article so as to be displaced thereby when said second article is inserted, and means independent of said member for supporting said articles.

2. In a device of the class described, in combination, a fixed frame, a movable frame adapted to be received therein and adapted to carry two milk bottles, a locking member connected with said movable frame and adapted to lock said movable frame against withdrawal, and means for controlling said locking member by the insertion of a second milk bottle in said frame so as to permit the withdrawal of said first bottle.

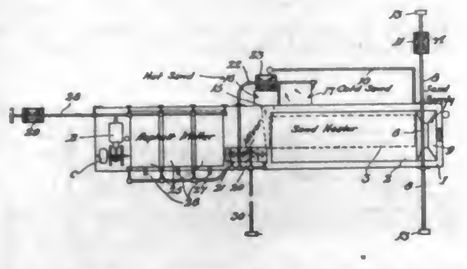
3. In a device of the class described, in combination, a fixed frame, a slide adapted to be received therein and adapted to receive two milk bottles, a locking member having means for engaging said slide which may prevent the withdrawal thereof and having means for engaging the milk bottles, said means holding said locking member out of engagement with said slide when both of said milk bottles are in place.

4. In a device of the class described, in combination, a fixed frame, a slide adapted to be received therein and adapted to receive a pair of milk bottles, a locking member having a projection extending into the space between the milk bottles and adapted to be displaced when said slide is withdrawn while containing two milk bottles, and a projection carried by said slide adapted to engage said locking member when said locking member is unguided by said bottles, and preventing the withdrawal of said slide.

5. In a device of the class described, in combination, a fixed frame, a slide adapted to move into said frame and adapted to carry a pair of milk bottles, a pendulum pivoted on said fixed frame and connected with said slide so as to limit the outward sliding movement thereof, a projection on said slide which may interlock with said pendulum to prevent the withdrawal of said slide, said pendulum having a pin projecting into the space between the milk bottles and adapted to guide said pendulum to prevent the engagement of said projection with said pendulum.

[Claims 6 to 15 not printed in the Gazette.]

978,973. ASPHALT-PAVING PLANT. CHARLES I. WILLIAMS, Utica, N. Y. Filed July 10, 1907. Serial No. 383,128.



1. In a plant of the character described, the combination with an asphalt melter and a mixer, of a sand heating member, the same comprising an automatic feeding supply, a receptacle for the heated output therefrom and a receptacle adjacent to the latter for cold sand, the two latter receptacles having outlets for discharge into a common receptacle whereby the sand may be mixed to supply the mixer with sand of desired temperature, substantially as described.

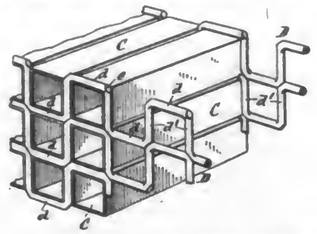
2. In a plant of the character described, the combination with an asphalt melter and a mixer, of a sand heater all arranged on a single portable platform, the sand heater comprising means for the passage of sand therethrough to be heated, with means for opening and closing the supply thereto, and a plurality of bins at the outlet end of said heater, one to receive the discharge therefrom and one to contain a supply of cold sand, the two bins having a common discharge whereby the contents may be proportioned in the mixing of the product to supply sand of a given temperature, substantially as described.

978,974. METHOD OF MAKING STEEL SPRING-WASHERS. JAMES E. WILSON, New York, N. Y., assignor to The National Lock Washer Co., Newark, N. J., a Corporation of New Jersey. Filed Mar. 15, 1910. Serial No. 549,421.



The herein described method of making steel spring washers, which consists in rolling the stock into a suitable shape in cross section and forming convex surfaces at edges thereof, winding such stock into the form of a spiral coil with the convex surfaces at the outer edges of the convolutions of such coil, and finally severing each of said convolutions.

978,975. RADIATOR. JOHN A. WILSON, Jr., Buffalo, N. Y., assignor to Noye Manufacturing Company, Buffalo, N. Y., a Corporation of New York. Filed Oct. 9, 1909. Serial No. 521,809.



1. A radiator comprising a plurality of tubes arranged parallel with each other, and means for separating and supporting said tubes comprising a plurality of wires each of which is crimped or corrugated transversely to the length of the tubes, and the several wires being arranged in the same plane and engaging with each other at intervals forming between them openings which receive the ends of said tubes and holding the latter apart from each other.

2. A radiator comprising a plurality of quadrangular tubes arranged parallel with each other and means for separating and supporting said tubes comprising a plurality of wires each of which is crimped or corrugated transversely to the length of the tubes, to form straight sections which are arranged at right angles to one another, the several wires being arranged in the same plane and engaging with each other at intervals forming openings which receive the ends of said tubes and holding the latter apart from each other.

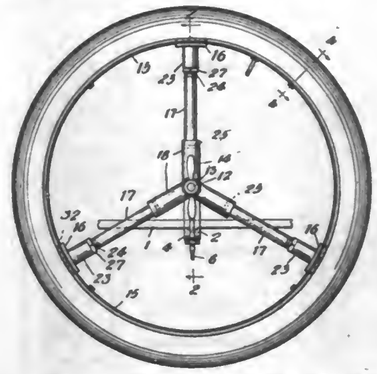
3. A radiator comprising a plurality of quadrangular tubes arranged parallel with each other, and means for separating and supporting said tubes comprising a plurality of wires each of which is crimped or corrugated transversely to the length of the tubes, to form straight sections which are arranged at right angles to one another, the several wires being arranged in the same plane and having beveled faces at the outer sides of their corners which engage with each other forming together openings which receive the ends of said tubes and holding the latter apart from each other.

4. A radiator comprising a plurality of quadrangular tubes arranged parallel with each other, and means for separating and supporting said tubes comprising a plurality of wires each of which is crimped or corrugated transversely to the length of the tubes, to form two parallel rows of straight longitudinal sections which are staggered so that each section in one longitudinal row is opposite a space between two sections in the other longitudinal row, and transverse sections connecting the corresponding ends of the sections in both longitudinal rows, each longitudinal section of one wire extending across the mouth between two longitudinal sections of another wire forming together a plurality of openings which receive the ends of the tubes and holding the latter apart from each other.

5. A radiator comprising a plurality of quadrangular tubes arranged parallel with each other, and means for separating and supporting said tubes comprising a plurality of wires each of which is crimped or corrugated transversely to the length of the tubes, to form two parallel rows of straight longitudinal sections which are staggered so that each section in one longitudinal row is opposite a space between two sections in the other longitudinal row, and transverse sections connecting the corresponding ends of the sections in both longitudinal rows, each longitudinal section of one wire extending across the mouth between two longitudinal sections of another wire forming together a plurality of openings which receive the ends of the tubes and holding the latter apart from each other, the outer corners of each wire being beveled and adapted to engage with the corresponding beveled corners of the adjacent wires.

[Claims 6 and 7 not printed in the Gazette.]

978,976. DEMOUNTABLE-WHEEL-RIM HOLDER. LOUIS WOLFF, Jr., Chicago, Ill. Filed May 31, 1910. Serial No. 564,100.



1. A demountable tire rim holder for automobile wheels, comprising in combination a clamp head having clamp jaws and a clamp screw and a hub to receive a shaft, a shaft fitting in said hub and provided with a cone or wedging portion, a central sleeve fitting on said shaft and having a plurality of hollow radial arms, a plurality of radially expansible tire rim clamps having radial arms slidably engaging the radial arms of said sleeve, substantially as specified.

2. A demountable tire rim holder for automobile wheels, comprising in combination a clamp head having clamp jaws and a clamp screw and a hub to receive a shaft, a shaft fitting in said hub and provided with a cone or wedging portion, a central sleeve fitting on said shaft and having a plurality of hollow radial arms, a plurality of radially expansible tire rim clamps having radial arms slidably engaging the radial arms of said sleeve, the radial arms of said clamps being adjustably connected thereto, substantially as specified.

3. A demountable tire rim holder for automobile wheels, comprising in combination a clamp head having clamp jaws and a clamp screw and a hub to receive a shaft, a shaft fitting in said hub and provided with a cone or wedging portion, a central sleeve fitting on said shaft and having a plurality of hollow radial arms, a plurality of radially expansible tire rim clamps having radial arms slidably engaging the radial arms of said sleeve, the radial arms of said clamps being adjustably connected thereto, and having at their inner ends plugs with inclined faces engaging the conical or wedging portion of said shaft, substantially as specified.

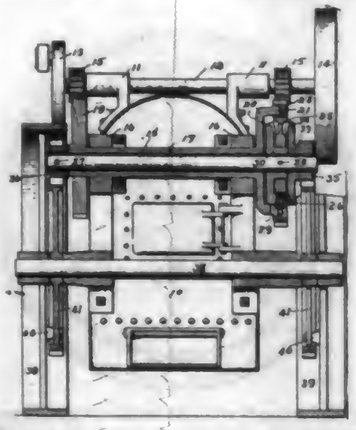
4. A demountable tire rim holder for automobile wheels, comprising in combination a clamp head having clamp

jaws and a clamp screw and a hub to receive a shaft, a shaft fitting in said hub and provided with a cone or wedging portion, a central sleeve fitting on said shaft and having a plurality of hollow radial arms, a plurality of radially expansible tire rim clamps having radial arms slidably engaging the radial arms of said sleeve, the radial arms of said clamps being adjustably connected thereto, and having at their inner ends plugs with inclined faces engaging the conical or wedging portion of said shaft, and interengaging devices on the radial arms of said sleeve and the radial arms of said clamps to prevent the clamp arms from turning in the arms of the sleeve, substantially as specified.

5. A demountable tire rim holder comprising a clamp head furnished with means for removably attaching it to a support and a plurality of radially expansible clamps adapted to engage the inner periphery of the tire rim and hold it in position, substantially as specified.

[Claims 6 to 8 not printed in the Gazette.]

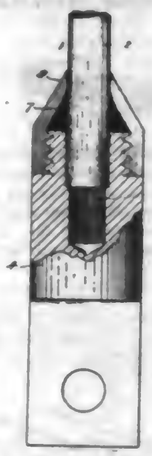
978,977. DRIVING-GEAR FOR TRACTION-ENGINES. FRANZ J. WOOD, Des Moines, Iowa. Filed June 1, 1909. Serial No. 490,302.



1. A gearing device of the class described, comprising a power shaft, two cog wheels fixed to opposite ends thereof, a counter-shaft, a sleeve mounted on the counter-shaft, two gear wheels fixed to opposite ends of the sleeve and in mesh with the aforesaid gear wheels, two traction wheels, a gear wheel connected with each traction wheel, a gear wheel fixed to one end of the counter-shaft and in mesh with one of the gear wheels on the traction wheel, a gear wheel loose on the counter-shaft and in mesh with the other gear wheel of the traction wheel, and a differential gear interposed between the counter-shaft and the loose gear wheel thereon.

2. A gearing device for traction engines, comprising a power shaft mounted on the traction engine boiler, two gear wheels on opposite ends thereof, a counter-shaft, a sleeve on the counter-shaft, bearings on the traction engine boiler to support said sleeve, two gear wheels fixed to opposite ends of the sleeve and in mesh with the gear wheels on the power shaft, a disk within one of said gear wheels on the sleeve, cushioning springs interposed between the said gear wheel and disk, beveled pinions carried by said disk, a beveled gear wheel fixed to the counter-shaft and in mesh with said pinions, a second beveled gear wheel loose on the counter-shaft and in mesh with said pinions, a gear wheel fixed to the latter beveled gear wheel, a gear wheel fixed to the end of the counter-shaft opposite from the loose gear wheel, an axle fixed to the traction engine boiler, traction wheels rotatably mounted on opposite ends thereof, a gear wheel fixed to each traction wheel and in mesh with the gear wheels on the counter-shaft, for the purposes stated.

978,978. CONNECTION FOR STORAGE BATTERIES AND THE LIKE. LEONARD H. WORNE, Philadelphia, Pa. Filed Dec. 15, 1906. Serial No. 347,938.

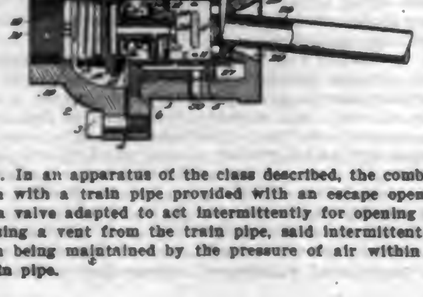


1. In combination an uncovered lug, the body portion of which is electrically conductive, a covered conductor extending therefrom and electrically connected therewith, a continuous annular lip extending from the body portion of the lug around the covered portion of the conductor and constricted at its margin to hold viscous material around the covered conductor, and viscous material.

2. In combination an uncovered lug having a covered conductor affixed to and projecting from the center of its end, the covered conductor being of less diameter than the portion of the lug to which it is affixed, and a lip projecting from the portion of the lug to which the conductor is affixed to form a chamber bounded by the end of the lug and the inner wall of the lip and the exterior of the conductor, and viscous material arranged in said chamber and held by the lip against the cover of the conductor.

3. In combination a lug having a covered conductor of less diameter than the lug affixed to and projecting from the center of the end of the lug leaving a circular portion of the end of the lug around the conductor, a lip projecting in line with the surface of the lug and with the periphery of said circular portion and contracted toward the conductor, and viscous material arranged in the cavity formed by the lip and circular end surface of the lug and held up to the cover of the conductor.

978,979. SAFETY ATTACHMENT FOR CAR-BRAKES. JOHN BUNYAN WRIGHT, Greensboro, N. C. Filed Feb. 11, 1910. Serial No. 543,260.



1. In an apparatus of the class described, the combination with a train pipe provided with an escape opening, of a valve adapted to act intermittently for opening and closing a vent from the train pipe, said intermittent action being maintained by the pressure of air within the train pipe.

2. In an apparatus of the class described, the combination with a train pipe provided with an escape opening, of a valve adapted to act intermittently for opening and closing a vent from the train pipe, and means for actuating said valve by an abnormal movement of the trucks.

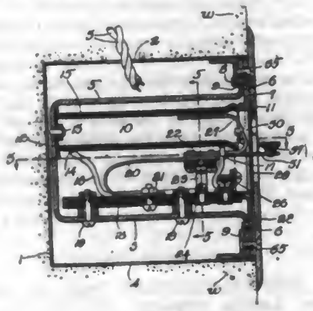
3. In an apparatus of the class described, the combination with a train pipe provided with an escape opening, of a main valve normally closing the opening and an auxiliary valve disposed within said main valve and adapted when the latter is actuated to act intermittently for closing and opening a vent from the train pipe.

4. In an apparatus of the class described, the combination with a train pipe provided with an escape opening, of a main valve normally closing the opening, an auxiliary valve disposed within said main valve and adapted when the latter is actuated to act intermittently for closing and opening a vent from the train pipe, and means actuated by an abnormal movement of the trucks for moving the main valve.

5. In an apparatus of the class described, the combination with a train pipe provided with an escape opening, of a main valve normally closing the opening, an auxiliary valve disposed within said main valve and adapted when the latter is actuated to act intermittently for closing and opening a vent from the train pipe, means actuated by an abnormal movement of the trucks for moving the train valve, and a spring locking member for locking the main valve in its shifted position.

[Claims 6 and 7 not printed in the Gazette.]

978,980. FLUSH CURLING-IRON HEATER. JAMES I. AYER, Cambridge, and HORACE B. GALE, Natick, Mass., assignors to Simplex Electric Heating Company, Cambridge, Mass., a Corporation of Massachusetts. Filed June 3, 1910. Serial No. 564,747.



1. A curling iron heater, comprising a face plate adapted to occupy a position flush with the face of the wall, a wall box inclosing the operative parts of said heater adapted to be set permanently into the wall behind said face plate, said face plate having an opening for the insertion of a curling iron, a tubular electric heater supported behind said face plate within said wall box for receiving said curling iron, a switch also within said box for controlling the current supply to said heater, and a movable gate behind said face plate for normally closing the opening in the face plate.

2. A curling iron heater, comprising a face plate adapted to occupy a position flush with the face of the wall, a wall box inclosing the operative parts of said heater adapted to be set permanently into the wall behind said face plate, said face plate having an opening for the insertion of a curling iron, a tubular electric heater supported behind said face plate within said wall box for receiving said curling iron, a switch also within said box for controlling the current supply to said heater, a movable gate behind said face plate for normally closing the opening in the face plate, and an operating knob for said gate projecting forward from said face plate.

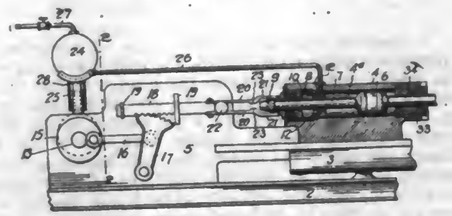
3. A curling iron heater, comprising a face plate removably secured to occupy a position flush with the face of the wall, a wall box adapted to be set permanently into the wall behind said face plate, a frame removably secured within said wall box behind said face plate, a tubular electric heater carried by said frame for receiving a curling iron to be heated, said face plate having an opening for the passage of the curling iron, a switch for controlling the current for said heater, mounted in said frame, and external means for operating said switch, said switch, heater and frame being removable together from said box.

4. A curling iron heater, comprising a face plate having an opening for the curling iron, a wall box secured behind said face plate, having an open front end, a supporting plate for closing said front end provided with an opening in alinement with the face plate opening, a tubular heater mounted at the rear of said supporting plate in alinement with said two openings, a gate removably mounted between said two plates for normally closing the apparatus against the entrance of the curling iron, and a switch mounted in said box at the rear of said supporting plate for controlling the electric heater.

5. A curling iron heater, comprising a wall box adapted to be permanently set in a wall, a frame within said wall box mounted in the wall box, means for removably securing said frame at the front end of the wall box, a tubular electric heater and a controlling switch therefor carried by said frame, said wall box having an opening back from its front end for the entrance of feed wires for the heater.

[Claims 6 to 12 not printed in the Gazette.]

978,981. ROCK-DRILL. GEORGE R. BENNETT, Denver, Colo. Filed July 7, 1909. Serial No. 506,287.



1. The combination, with a housing and a reciprocator element fitted therein, of a reservoir of expansible motiv fluid in continuous communication with the space in sai housing at one side of said reciprocating element, an means for varying the capacity of said reservoir with re lation to the variations in the extent of the space in sai housing due to the movement of said reciprocating el ment, to maintain the fluid in said space at a substan tially constant pressure.

2. The combination, with a housing and a reciprocator element fitted therein, of a reservoir of expansible motiv fluid in continuous communication with the space in sai housing at one side of said reciprocating element, an means for varying the capacity of said reservoir wit relation to the variations in the extent of the space i said housing due to the movement of said reciprocatin element to maintain the fluid in said space at a substa tially constant pressure.

3. The combination with a housing and a reciprocator element fitted therein, of a reservoir of expansible moti fluid in continuous communication with the space in sa housing at one side of said reciprocating element, mean for retracting said reciprocating element against t pressure of the fluid, means for releasing said reciproca ing element at a predetermined point in its stroke, an means for varying the capacity of said reservoir with r lation to the variations in the extent of the space in sa housing due to the movement of said reciprocating el ment to maintain the fluid in said space at a substantial constant pressure.

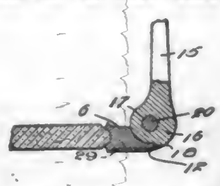
4. The combination, with a housing and a reciprocato element fitted therein, of a reservoir of expansible moti fluid in continuous communication with the space in sa

housing at one side of said reciprocating element, said reservoir having a pocket in communication with its interior, means for retracting said reciprocating element against the pressure of the fluid, means for releasing said reciprocating element at a predetermined point in its stroke, and means for varying the extent of the portion of said pocket in communication with said reservoir with relation to the variations in the extent of the space in said housing due to the movement of said reciprocating element.

5. The combination, with a housing and a reciprocatory element fitted therein, of a reservoir of expansible motive fluid in continuous communication with the space in said housing at one side of said reciprocating element, said reservoir having a pocket in communication with its interior, means for retracting said reciprocating element against the pressure of the fluid, and means for varying the extent of the portion of said pocket in communication with said reservoir with relation to the variations in the extent of the space in said housing due to the movement of said reciprocating element.

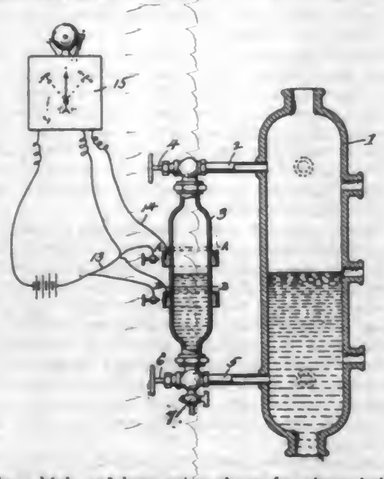
[Claim 6 not printed in the Gazette.]

978,982. SPECTACLES. GEORGE P. BLANCHARD, Athens, Ga. Filed Nov. 22, 1909. Serial No. 529,390.



A spectacle comprising a lens frame, ears forming the terminal meeting ends of same, the upper ear being offset to form a latch socket above the same, a temple the ear of which is confined between the ears of the lens frame, a latch having a lower ear, a pin carried by the latter, said pin freely passing through said ears of the lens frame and ear of the temple, the latch having a free engaging end, and an inwardly extending shield forming a part of the engaging end of said latch and adapted to be snugly received by the latch socket adjacent to the lens frame and out of contact with the pin when the parts are properly brought together.

978,983. HIGH AND LOW WATER ALARM. CHARLES BRENT, Brandon, Manitoba, Canada. Filed Jan. 2, 1907. Serial No. 350,356.



1. In a high and low water alarm for steam boilers, a head in open communication with the boiler and having a steam and water space, a thermostatic bar and contact mounted upon the normal steam portion of said head and adapted to be brought into engagement when the water rises in said steam portion, another thermostatic bar and contact upon the water portion of said head and adapted to be brought into engagement upon the sinking of the water in the head and due to change of temperature caused by the presence of steam in that portion of the head, and an alarm system operated by said contacts.

2. In a high and low water alarm for steam boilers, a head in open communication with the boiler and having a steam and water space therein, a contact mounted on said head above the normal water line, a thermostatic loop secured to the head, surrounding the same, and having its free end out of engagement with said contact when steam is present in that portion of the head, said loop being adapted to engage its contact by a change in temperature due to the presence of water in that portion of the head, another contact carried by said head and below the normal water level line, another thermostatic loop coöperating therewith and secured to the head and having its free end normally out of engagement with but upon movement adapted to engage its contact, such movement being caused by a change in temperature due to the presence of steam in that portion of the head, and an alarm circuit adapted to be completed to sound the alarm by the high and low water contact devices.

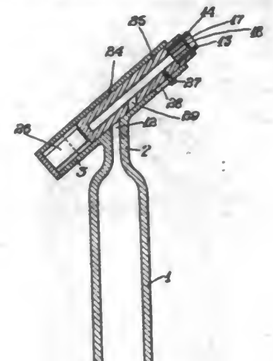
3. In a high and low water alarm for steam boilers, a head in communication with the boiler whereby the water level in the latter is maintained in the former, a contact mounted upon said head, a thermostatic loop coöperating therewith and secured to the head and comprising an outer strip of zinc and an inner strip of steel, said contact and loop being arranged in a manner such that the zinc is acted upon by the heat from steam in that portion of the head so that it contracts the loop and holds the free end thereof out of engagement with its contact, another contact carried by said head below the normal water line, another thermostatic loop coöperating therewith and secured to the head and comprising an outer strip of steel and an inner strip of zinc and arranged in a manner such that when water is present in that portion of the head, the free end of the loop is out of engagement with its contact, but upon the presence of steam in that portion of the head, the zinc is expanded and the free end of such loop is brought into engagement with such contact, and an alarm system adapted to be set into operation by the contacting of all of said loops with their contacts.

978,984. STENCIL-CLEANING DEVICE. CHARLES S. BURDICK, London, England. Filed Mar. 6, 1909. Serial No. 481,774.

1. In a device for cleaning stencils, the combination with a handle part having a passageway extending therethrough, of a casing carried by said handle and having one end thereof open, a hollow sliding valve member in said casing, said valve member having one end thereof open and having a port arranged for connection with said passageway, a wiping member carried adjacent the open end of said valve member, and means tending to hold said valve member so that the port therein will be out of alinement with said passageway.

2. In a device for cleaning stencils, the combination with a handle part having a passageway extending therethrough, of a casing having an open end carried by said handle, a hollow sliding valve member in said casing and extending outside said open end, said valve member having an open end and a port for connection in alinement with said passageway, a wiping member carried adjacent the open end of said valve member, spring means tending to hold said valve member so that the port therein will be out of alinement with said passageway, and means for limiting the movement of said valve member.

3. In a device for cleaning stencils, a supporting frame having a passageway, a valve piece carried by said frame for controlling the continuity of said passageway, said valve piece having an open passageway adapted for communication with said first-named passageway, resilient means tending to move said valve piece to close said first-named passageway, and wiping material carried by said valve piece at the open end of the passageway thereof, said valve piece being moved into position to establish communication between said passageways by pressure applied at said wiping material.

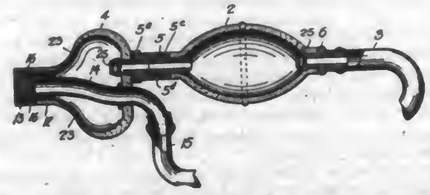


4. In a device for cleaning stencils, a portable supporting frame, a wiping piece carried by the frame, said frame having a passage-way opening adjacent to said piece, and a valve in said passage-way automatically operative to open said passage-way when said wiping piece is applied to the stencil and for automatically closing said passage-way when said wiping piece is removed from the stencil.

5. In a device for cleaning stencils, a supporting frame having a passageway, a valve piece carried by said frame for controlling the continuity of said passageway, said valve piece having a wiping surface and an open passageway thereat adapted for communication with said first-named passageway, and resilient means tending to move said valve piece to close said first-named passageway, said valve piece being movable against the tension of said spring into position to establish communication between said passageways by pressure applied at said wiping surface.

[Claim 6 not printed in the Gazette.]

978,985. SYRINGE. JESSE R. BURDICK and RICHARD T. FULTON, Boulder, Colo., and BENJAMIN F. WILLIAMS, Lincoln, Nebr., assignors to The A-Theuca-Ine Medical & Manufacturing Company, Boulder, Colo., a Corporation of Colorado. Filed Apr. 6, 1909. Serial No. 488,233.

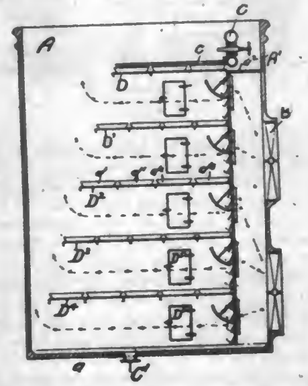


1. In a syringe, a nozzle terminating in a snout and adapted to close the mouth of a vaginal tract into which said snout is inserted, by engagement therewith of its external surface, a conduit opening in said snout and extending through the interior of the nozzle to a point outside the same and terminating in a hollow head inserted in said snout, said head having a plurality of passages connecting its outer face with the interior of the nozzle and an extension detachably secured upon said head and having a plurality of passages opening in its external surface and communicating with the passages in said head, and a channel separate from said passages opening in its external surface, in communication with said conduit.

2. In a syringe, a substantially pear-shaped nozzle having an outlet in its extremity and adapted to imperviously close the mouth of a vaginal tract in which said extremity is inserted, by engaging the external parts thereof, said nozzle having a passage in said extremity separate from said outlet, through which fluid may be discharged from said tract to a point without said nozzle, and an extension adapted to be secured upon said extremity and having channels respectively communicating with said outlet and with said passage.

3. In a syringe, a substantially pear-shaped nozzle terminating at its constricted side in a short open snout, its portion immediately surrounding said snout being expansible and adapted to externally engage the mouth of a vaginal tract into which the said snout is inserted, an open-ended discharge pipe, extending from a point without the nozzle, through its interior and terminating in an annular head fitted within the said snout, an inlet conduit opening in the said nozzle at a point remote from its constricted portion and a check valve for preventing the return flow of liquid through the said conduit, the said head having a plurality of narrow passages connecting its surface exterior of the said nozzle with the interior of the latter, whereby fluid entering the nozzle through the said conduit must first completely fill the same so as to operatively affect its expansible portion, before it is discharged through the said passages.

978,986. COOLING-TOWER. EDWIN BURHORN, Hoboken, N. J. Filed June 11, 1909. Serial No. 501,488.



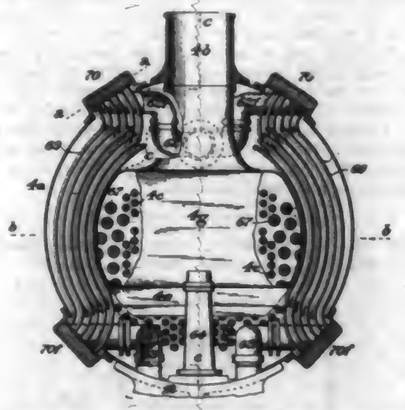
1. In a cooling tower, the combination of a housing ha
ing side walls, a system of superposed water-exposi
agents within said housing, means for supplying at t
housing's upper part the liquid to be cooled whereby
may pass down from agent to agent through the housi
to the lower part, a superposed series of air regulato
disposed in juxtaposition to said system of agents betwe
the latter and the side wall and spaced from said side wa
to form an air pressure chamber therebetween, and a
driving apparatus located in said side wall at a height
rectly opposite one or more of said regulators.

2. In a cooling tower, the combination of a housing ha
ing side walls, a system of superposed water-exposi
agents within said housing, means for supplying at t
housing's upper part the liquid to be cooled whereby
may pass down from agent to agent through the housi
to the lower part, a superposed series of air regulato
disposed in juxtaposition to said system of agents betwe
the latter and the side wall and spaced from said side wa
to form an air pressure chamber therebetween, and a
driving apparatus located in said side wall at a heig
directly opposite one or more of said regulators; said reg

lators consisting of swinging louvers connected in groups and having a plurality of adjusters therefor, each adjuster having connections for all the louvers in one group.

3. In a cooling tower, the combination of a housing having side walls, a system of superposed water-exposing agents within said housing, means for supplying at the housing's upper part the liquid to be cooled whereby it may pass down from agent to agent through the housing to the lower part, a superposed series of air regulators disposed in juxtaposition to said system of agents between the latter and the side wall and spaced from said side wall to form an air pressure chamber therebetween, and air driving apparatus for forcing air into the chamber between said side wall and regulators; said regulators consisting of swinging louvers connected in groups and having a plurality of adjusters therefor, each adjuster having connections for all the louvers in one group.

978,987. STEAM-BOILER SUPERHEATER. FRANCIS J. COLE, New York, N. Y. Filed Mar. 13, 1907. Serial No. 362,106.



1. The combination, with a tubular steam boiler, of saturated steam headers fixed to the upper portion of the smoke box and communicating with the main steam supply pipe of the boiler, superheated steam headers fixed to the lower portion of the smoke box and communicating with branch steam pipes leading to engine cylinders, sets of superheater pipes located on opposite sides of the smoke box and connecting the saturated and superheated steam headers on each side thereof, a deflecting plate extending transversely in the smoke box in front of the flue head, a discharge casing extending longitudinally from the deflecting plate to the smoke box front and vertically from the exhaust pipe to the lower opening of the stack, and grated or perforated plates covering lateral draft openings in the discharge casing.

2. The combination, with a tubular steam boiler, of a T head, saturated steam headers fixed to the smoke box on opposite sides of the T head and communicating therewith, superheated steam headers secured to opposite sides of the smoke box near the lower portion thereof, sets of superheater pipes located on opposite sides of the smoke box and connecting the saturated and superheated steam headers on each side thereof, a deflecting plate extending transversely in the smoke box in front of the flue head, a discharge casing extending longitudinally from the deflecting plate to the smoke box front and vertically from the exhaust pipe to the lower opening of the stack, and grated or perforated plates covering lateral draft openings in the discharge casing.

978,988. MEDICINE-DOSE DROPPER. MALCOLM CUNNINGHAM, Savannah, Ga. Filed Apr. 30, 1910. Serial No. 558,069.

1. In a device of the character described, the combination of a vessel having a measuring chamber formed therein, a valve seat formed in one end of said chamber, a valve member normally disposed in said seat to close the measuring chamber, the tilting of said vessel being adapted to unseat the valve, said valve moving by gravity into its seat when the vessel is returned to an upright position to close the chamber and means for closing the other end of the measuring chamber adapted to be manually operated to release the contents thereof.



2. In a device of the character described, the combination of a vessel having a measuring chamber formed therein provided with an entrance and a discharge opening, a valve seat formed in the entrance opening of the chamber, a valve movable in the vessel above said chamber normally disposed in said seat, the tilting movement of the vessel being adapted to unseat the valve, screws adapted to engage said valve to secure the same in its seated or unseated positions and a closure for the discharge opening of said measuring chamber.

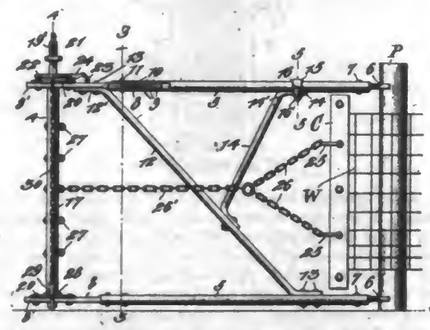
3. In a device of the character described, the combination of a bottle having a measuring chamber formed therein adjacent to its neck, said chamber having an entrance and a discharge opening, said entrance opening being disposed in the neck of the bottle and in eccentric relation thereto, a valve movable in the bottle neck and normally seated in the entrance opening to close the same, means for preventing the rotative movement of the valve in the bottle neck, said valve being unseated by the tilting of the bottle and movable into its seat by gravity, means for locking the valve against movement in its seated or unseated positions and a closure for the discharge opening of the measuring chamber.

4. In a device of the character described, the combination of a bottle having a measuring chamber formed therein adjacent to its neck and extending laterally therefrom, said chamber having a discharge opening at one end extending through the side of the bottle and an entrance opening at its other end disposed eccentrically within the bottle neck, a valve longitudinally movable in the bottle neck, a plurality of radiating arms carried by the valve and extending partially therearound, said arms engaging with the wall of the bottle neck to guide the valve in its movement, said valve being movable into its seat by gravity, the tilting movement of the bottle being adapted to unseat the same and a closure for the discharge opening of the measuring chamber.

5. In a device of the character described, the combination of a bottle having a measuring chamber formed therein adjacent to its neck and extending laterally therefrom, said chamber having a discharge opening at its outer end extending through the side of the bottle, the other end of said chamber having an entrance opening to receive the liquid contents of the bottle, said entrance opening being disposed in eccentric relation to the bottle neck, a weighted valve movable above the entrance opening and normally disposed in the same to close the measuring chamber, means formed on the bottle neck engaging with the valve to prevent its rotative movement, a plurality of arms carried by the valve engaging with the wall of the bottle neck to retain said valve in alinement with the entrance opening to the measuring chamber, means extending through the bottle neck for locking the valve in its seated or unseated positions, and a closure for the discharge opening of said measuring chamber.

[Claims 6 to 9 not printed in the Gazette.]

978,989. WIRE-STRETCHER. AMOS CURREN, Rich Hill, Mo. Filed Aug. 10, 1910. Serial No. 576,437.



1. In a wire stretcher, a frame comprising upper and lower tubular members, bifurcated rods secured in one end of said frame members to engage with a fence post, rods telescopically engaged in the other ends of said frame members having enlarged rectangular portions, said upper frame member being longitudinally adjustable upon the rod therein, a diagonal brace between the upper rod and the lower tubular frame member, a strut secured to said brace intermediate of its ends and adjustably engaged with the upper frame member, and a power device mounted between the flattened end portions of the last named rods.

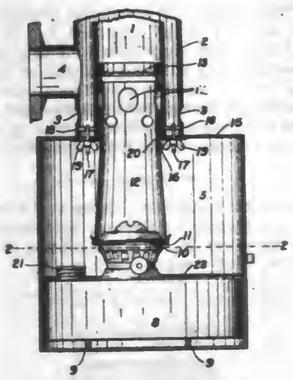
2. In a wire stretcher, a frame comprising upper and lower tubular parallel frame members adapted for engagement at one of their ends with a fence post, rods telescopically engaged in the other ends of said frame members, means for securing said upper frame member adjustably on its rod, a diagonal tubular brace rigidly secured to the lower frame member and to the rod in said upper frame member, a strut angularly disposed between the upper frame member and said brace and rigidly secured to the latter, means for clamping said strut to the upper frame member, a power device arranged between said rods, and transversely disposed anchoring means connected to the ends of said rods.

978,990. HEATER FOR INCUBATORS AND BROODERS. CHARLES A. DAMON, Buffalo, N. Y., assignor to Cyphers Incubator Company, Buffalo, N. Y., a Corporation of New York. Filed Dec. 26, 1908. Serial No. 469,482.

1. A heater having, in combination, a lamp box provided with a lateral lamp receiving opening, a lamp provided with an eccentrically-arranged filling opening, and means for insuring the insertion of the lamp in the lamp box with the filling opening in a position inaccessible through the lamp receiving opening.

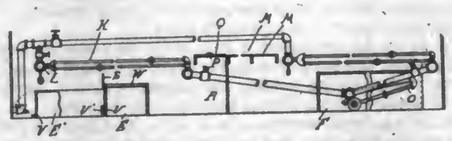
2. A heater having, in combination, a lamp box provided with a chimney opening and a lateral lamp receiving opening, and a lamp provided with a chimney arranged to engage said chimney opening when the lamp is in position in the lamp box, the lamp having a font provided with a filling opening at one side of the chimney and the font being arranged eccentrically with respect to the chimney so that to engage the chimney properly with the chimney opening the font must be turned to a position in which the filling opening is distant from the lamp receiving opening in the lamp box.

3. A heater having, in combination, a lamp box provided with a chimney opening and a lateral lamp receiving opening, a lamp provided with a chimney arranged to engage said chimney opening when the lamp is in position in the lamp box and with a font having a filling opening at one side of the chimney, the font being arranged eccentrically with respect to the chimney so that to engage the chimney properly with the chimney opening the font must be turned to a position in which the filling opening is distant from the lamp receiving opening in the lamp box, and means located in the lamp box for arresting the lamp font in proper position therein.



4. In an incubator heater the combination of a lamp provided with a filling opening, and a lamp casing formed with a lamp receiving opening, said lamp receiving opening affording access to the casing above the lamp, said casing formed to receive the lamp only when the filling opening is in a position which prevents the filling of the lamp while in the casing.

978,991. DRY-KILN. CHARLES H. DINGMAN, Marion, Mich., assignor to Walsh Manufacturing Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 15, 1909. Serial No. 496,311.



1. A dry kiln comprising a housing, through which the material to be dried is fed from one end to the other, means for heating the air within said housing in the end portions thereof with an intermediate zone unprovided with heating means, means for causing a movement of the air bodily through the housing from the exit end toward the inlet to a point at the forward end of said unheated zone, and for there discharging the moisture-laden air from the housing.

2. A dry kiln comprising a housing through which the lumber to be dried is fed from one end to the other, cross flues arranged at the base of said housing near the opposite ends thereof, said flues communicating with the external atmosphere, a flue leading from one of said cross flues to the exit end of the housing a heater in said flue and a fan in the other flue for withdrawing the air therefrom.

3. A dry kiln comprising a housing through which the lumber to be dried is fed from one end to the other, means for maintaining a heated zone within said housing at opposite ends thereof with an intermediate zone therebetween unprovided with heating means, and means for causing the forward movement of the air from the exit end of the

housing from the heated zone adjacent the exit end and the unheated zone, and for maintaining a substantial dead air space over the zone adjacent the inlet end.

4. A dry kiln comprising a housing through which the lumber to be dried is fed from one end to the other, heaters arranged at the base of said housing, at opposite ends thereof, and intermediate floored zones unprovided with heating means, air flues extending across the base of said housing at opposite ends thereof, a flue connecting with one of said air flues and extending to the exit end of said housing, a preheater for the air within the last-mentioned flue, means for causing the withdrawal of the air from the opposite flue.

5. A dry kiln comprising a housing through which the material to be dried is fed from one end to the other, means for heating the air within said housing, an inlet air flue communicating with the exit end of said kiln, an exit air flue at the opposite end of said kiln, a fan for drawing out the air through said exit flue, and a stack operating as an auxiliary to said fan for drawing out the air.

[Claims 6 to 14 not printed in the Gazette.]

978,992. ELECTROMAGNET. BERT G. DUNHAM, Rochester, N. Y., assignor to American Automatic Telephone Company, Rochester, N. Y., a Corporation of New York. Filed June 4, 1906. Serial No. 320,151.



1. In an electromagnet, the combination with a core and a winding therefor, pole pieces secured to the ends of the core, and having ends extending toward each other on one side of the winding and arranged in the same plane, one of said pole pieces having its extremity offset toward the core and an armature resting in the offset and extending beneath the end of the other pole piece.

2. In an electromagnet, the combination with a core and a winding therefor, of pole pieces secured to the ends of the core and extending toward each other on one side of the winding, one of said pole pieces being provided with a depression, and an armature seated in the depression and extending beneath the other pole piece.

3. In an electromagnet, a pole piece, an armature resting against and supported on the upper surface of the pole piece, and a spring holding the armature seated therein while permitting the pivotal movement of the latter.

4. In an electromagnet, a pole piece, an armature resting on the pole piece and provided with a depression, and a spring depending into the depression to hold the armature on the pole piece.

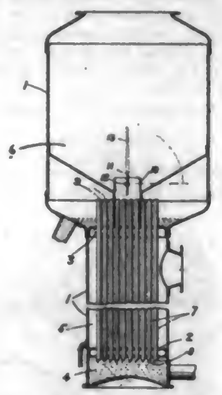
5. In an electromagnet, the combination with a core, of pole pieces at the ends of the core, one of said pieces extending toward the other at one side of the core and provided with a depression, an armature resting in the depression, and a spring secured to the pole piece and having a depending end engaging and holding the armature in the depression to permit a pivotal movement of the armature.

[Claims 6 and 7 not printed in the Gazette.]

978,993. EVAPORATOR. JOSEPH E. DUNN, Philadelphia, Pa., assignor to American Evaporator Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed July 29, 1909. Serial No. 510,265.

1. An evaporator having a liquid chamber, a vapor chamber, tubes connecting said chambers, and means for cutting off the communication between said chambers through a part of said tubes while maintaining the communication through the remainder of said tubes.

2. An evaporator having a set of vertical tubes, means whereby vapor and a liquid are carried through said tubes, and means for varying the number of said tubes in action proportionately to the volume of said vapor.

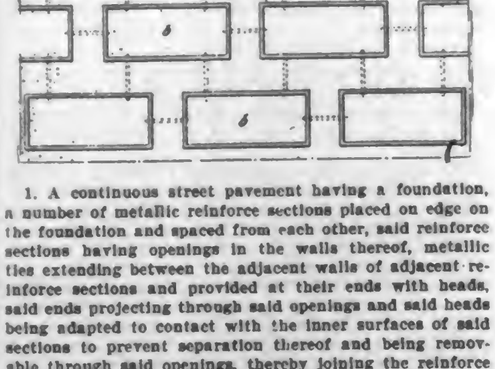


3. An evaporator comprising a shell containing a liquid chamber, a heating chamber above said liquid chamber, and a vapor chamber above said heating chamber, in combination with a set of evaporating tubes passing from said liquid chamber through said heating chamber into said vapor chamber, and means for cutting off the communication between said liquid and vapor chambers through part of said tubes while maintaining the communication through the remainder of said tubes.

4. An evaporator having a liquid chamber, a vapor chamber, tubes connecting said chambers, and a valve for closing the connection between said chambers through several of said tubes without cutting off the communication through the remaining tubes.

5. An evaporator comprising a shell having sheets separating it into a liquid chamber, a heating chamber above said liquid chamber, and an evaporating chamber above said heating chamber, in combination with a box surrounding ends of several of said tubes and a valve for closing said box.

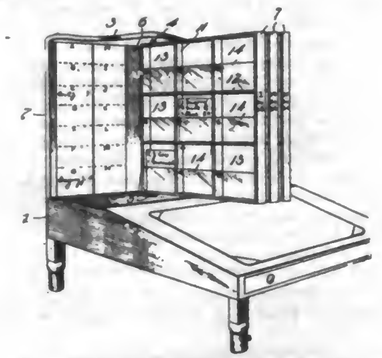
978,994. PAVEMENT. MATTHEW E. DUNN, New York, N. Y. Filed Oct. 26, 1908. Serial No. 459,522.



1. A continuous street pavement having a foundation, a number of metallic reinforce sections placed on edge on the foundation and spaced from each other, said reinforce sections having openings in the walls thereof, metallic ties extending between the adjacent walls of adjacent reinforce sections and provided at their ends with heads, said ends projecting through said openings and said heads being adapted to contact with the inner surfaces of said sections to prevent separation thereof and being removable through said openings, thereby joining the reinforce sections together and permitting any one of them to be removed without disturbing the others, and a sheet of paving material laid on the foundation and between the reinforce sections.

2. A continuous street pavement having a foundation, a number of metallic reinforce sections placed side-by-side, but spaced from each other and placed on edge on the foundation, said reinforce sections having openings therein, short, rigid, one-piece metallic ties extending between the adjacent walls of adjacent reinforce sections and having their ends bent to form hooks, said ends projecting through the openings in the reinforce sections and the hooks engaging the inner surfaces of the sections and being removable through said openings, leaving the interiors of the reinforce sections unobstructed, thereby joining the reinforce sections together and permitting any one of them to be removed without disturbing the others, and a sheet of paving material laid on the foundation and between the reinforce sections, the upper surface of such paving material lying in a plane adjacent to the upper edges of the reinforce sections.

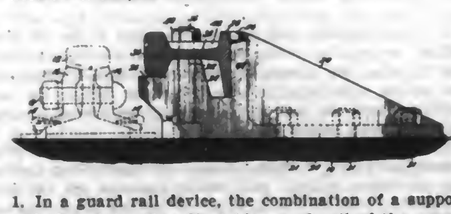
978,995. ACCOUNTING DEVICE. WILLIAM ELLIS, Phoenixville, Pa. Filed Jan. 22, 1908. Serial No. 412,103.



1. A device for keeping accounts, comprising a stationary directory board bearing names arranged in alphabetical order and each having a different number adjacent thereto, and a plurality of leaves or shutters hinged together and pivotally supported on said board, each shutter being provided with pockets bearing numbers corresponding to the numbers opposite the names on the board.

2. The combination with a desk or like support, of a directory board thereon bearing names arranged alphabetically, and numbers opposite said names, a flange projecting from the upper portion of said board, a plurality of leaves or shutters hinged together, and provided with pockets, supporting means projecting from said desk and flange, and brackets projecting from one of said shutters and formed with openings to receive said supporting means.

978,996. ADJUSTABLE GUARD-RAIL CHAIR. BERNARD J. FALLON, Chicago, Ill. Filed Aug. 16, 1909. Serial No. 513,048.



1. In a guard rail device, the combination of a supporting block, a laterally adjustable guard rail of the general shape of an I beam resting with its web in horizontal position upon the block, and means for detachably securing the guard rail to the block in different selected positions.

2. In a guard rail device, the combination of a supporting block adapted to be secured to a tie, a laterally adjustable guard rail of the general shape of an I beam resting with its web in horizontal position upon the block, means for detachably securing the guard rail to the block in selected position and spacing members adapted to be inserted at the side of the guard rail and adjacent to one flange thereof between it and the block for the purposes set forth.

3. In a guard rail device, the combination of a supporting block, a laterally adjustable guard rail resting upon the block in recesses formed therein to permit lateral movement with reference to the block, means for detachably securing the guard rail to the block in different selected positions, spacing members adapted to be inserted at the side of the guard rail between it and the block, projections upon the spacing members adapted to engage the block and other projections upon the block adapted to prevent withdrawal of the spacing members from working position as described.

978,997. ATTACHMENT FOR EDUCATIONAL GLOBES. ALBERT C. FRIES, Grove City, Ohio. Filed Jan. 10, 1910. Serial No. 537,103.



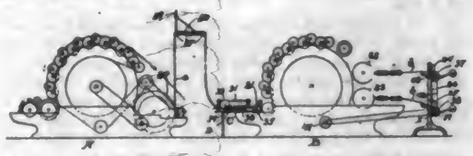
1. In an educational globe and attachment therefor, the combination with a rotatably mounted globe body, a fixed arm extending to a point opposite the center of the height of the globe and an external band carried by the upper end of said arm and encircling the globe at a distance therefrom, said band connected with said arm and having an opening therein as described, of a band carried by the globe and having a base flange, a bar pivoted on said base flange, and a flexible band having its ends pivotally engaging the ends of said bar, said last named band and said external band being of different colors or otherwise treated so as to be readily distinguished one from the other, said flexible band, during one revolution of the globe, being drawn over and partially concealing the external band, and during the succeeding revolution of the globe, being drawn into and concealed by said external band.

2. In an educational globe and attachment therefor, the combination with a rotatably mounted globe body, a fixed arm extending to a point opposite the center of the height of the globe and an external band carried by the upper end of said arm and encircling the globe at a distance therefrom, said band connected with said arm and having an opening therein and having hour indications on its upper portion, of a band carried by the globe and having a base flange, a bar pivoted on said base flange, and a flexible band having its ends pivotally engaging the ends of said bar, said last named band and said external band being of different colors or otherwise treated so as to be readily distinguished one from the other, and means for changing the circumference of the external band and the globe carrying band, said flexible band, during one revolution of the globe, being drawn over and partially concealing the external band, and during the succeeding revolution of the globe, being drawn into and concealed by said external band.

978,998. CARDING MECHANISM. GEORGE F. GEE, Franklin, Mass. Filed Apr. 23, 1904. Serial No. 204,591.

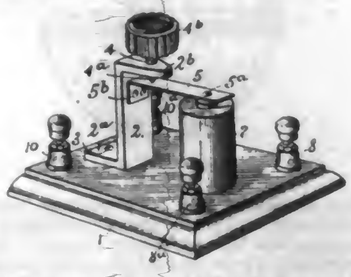
1. In mechanism of the character referred to, a finisher a feeding mechanism therefor having a traveling carriage for delivering a strand of yarn, drums for rotating the

spools which receive the rovings or drawings, independent means for varying the speed of the traveling carriage and independent means for varying the speed of rotation of one of said drums.



2. In carding machinery, the combination with an instrumentality for delivering a drawing or roving, an instrumentality for receiving and taking up said drawing or roving, a belt-driven pulley for actuating said second-mentioned instrumentality, and means for varying the speed of rotation of said pulley to vary the speed of said second-mentioned instrumentality whereby it disposes of the said drawing or roving in proportion as it is delivered by said delivering instrumentality.

978,999. RELAY. HUGO GERNSBACK, New York, N. Y. Filed Mar. 14, 1910. Serial No. 549,193.



1. A relay comprising a base, a standard mounted thereon, an electromagnet having a core also mounted on said base, a resilient member secured to said standard and projected in a horizontal plane, an armature for said magnet carried by said resilient member and held in a horizontal plane, means for adjusting the tension of said resilient member, binding posts on said base electrically connected with the winding of said magnet, another binding post on said base electrically connected with the core of said magnet, and still another binding post on said base connected with said standard.

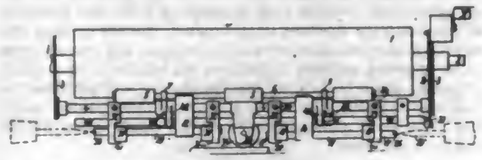
2. A relay comprising a base or support, a standard mounted thereon and having a vertically disposed portion and a horizontal arm projected therefrom, a leaf spring secured to said vertical portion and held substantially in a horizontal plane, an adjusting screw carried by said arm for engaging said spring, an electromagnet having a core, an armature carried by said spring for said magnet and adapted to engage said core and circuit make and break points between said armature and said core, and means for connecting a local circuit with said standard and said core.

979,000. TYPE-WRITING MACHINE. CHARLES GIBBS and JACOB SOKOLOV, New York, N. Y., assignors to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed July 15, 1908. Serial No. 443,581.

1. In a typewriting machine, the combination of paper feed rollers mounted upon a shaft, a spring for regulating the tension of the feed roller on the paper, and an eccentric cam for adjusting the tension of said spring.

2. In a typewriting machine, the combination of paper feed rollers mounted upon a shaft, a spring mounted near each end of said shaft and bearing against the same for regulating the tension of the rollers on the paper, and an independent cam for each of said springs for regulating the tension thereof.

3. In a typewriting machine, the combination of a plurality of paper feed roller shafts having feed rollers mounted thereon, springs bearing against each end of said shafts, and a plurality of eccentric cams connected by a shaft for each of said springs which are adapted to be adjusted by a tool inserted from the end of the platen frame.

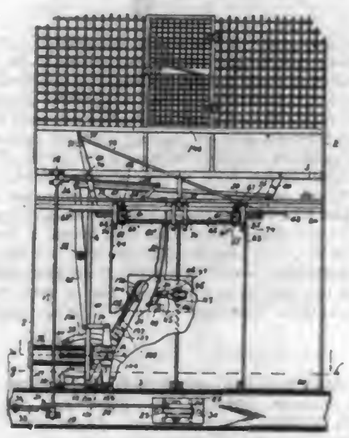


4. In a typewriting machine, the combination of a plurality of paper-feed roller-shafts, a spring pressing against each of said shafts near the ends thereof, a shaft for sustaining and actuating each of said springs, and a cam on each side of each of said springs for regulating the position of the spring carrying shaft for varying the tension of the spring upon the paper-feed roller shafts.

5. In a typewriting machine, the combination of a plurality of paper feed roller carrying shafts, a spring positioned near each end of said shafts for regulating the tension of the paper-feed rollers upon the paper, each of said springs being bent upon itself centrally for forming a seat for receiving a cam shaft, a cam shaft for each of said springs, an eccentric cam for each of said shafts for regulating the position of said shafts, and the tension of the spring upon said paper roller shafts.

[Claims 6 to 18 not printed in the Gazette.]

979,001. ELEVATOR. JOHN M. GOODKNIGHT, Kansas City, Kans. Filed Aug. 10, 1909. Serial No. 512,169.



1. In an elevator, the combination with a car, of gate locking means, car locking means, car controlling means, gate opening and closing means, and means actuated by the car for actuating the car controlling means, the car locking means, the gate locking means and the gate opening and closing means.

2. In an elevator, the combination with a car, of gate locking means, car locking means, car controlling means, gate operating means, and means operated by the car and controllable by the operator of the car for actuating the car controlling, car locking, and gate locking means and the gate operating means.

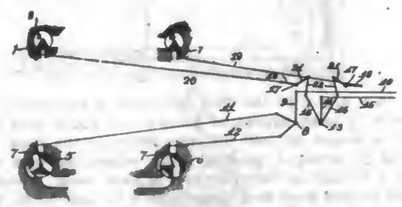
3. In an elevator, the combination with a car, of gate locking means, car locking means, car controlling means, gate opening and closing means, means operated by the car and controlled by the operator for actuating the car controlling, car locking, gate locking and gate opening and closing means, and independent means adapted to be operated by the operator of the car for actuating the car controlling, car locking, gate locking and gate opening and closing means.

4. In an elevator, the combination with a car, of car locking means, means actuated by the car and controlled by the car operator for operating the locking means, and independent means adapted to be operated by the car operator for operating said locking means.

5. In an elevator, the combination with a car, of a lever for engaging the car to lock the same against movement, means actuated by the car and controllable by the car operator for moving the lever to and from the locking position, and independent means adapted to be operated by the car operator for swinging said lever to and from the locking position.

[Claims 6 to 14 not printed in the Gazette.]

979,002. VALVE-GEAR. THOMAS HALL, Ridgway, Pa., assignor to Ridgway Dynamo & Engine Company, Ridgway, Pa. Filed Mar. 21, 1910. Serial No. 550,605.



1. Four-valve engine valve-gear comprising, a main rocker, a rod-connection thereto for oscillating it, a pair of secondary rockers near the main rocker, a pivot carried by each secondary rocker, a link connecting each of said pivots with the main rocker, an additional pivot carried by each secondary rocker, and a link connecting each of the last-mentioned pivots with one of the steam valves, combined substantially as set forth.

2. Four-valve engine valve-gear comprising, one main rocker supported by the engine frame between the cylinder and crank end, a rod-connection thereto for oscillating it, a pair of secondary rockers located on opposite sides of the center of the main rocker, a pivot carried by each secondary rocker, a link connecting each of said pivots with the main rocker, an additional pivot carried by each secondary rocker, and a link connecting each of the last-mentioned pivots with one of the steam valves, combined substantially as set forth.

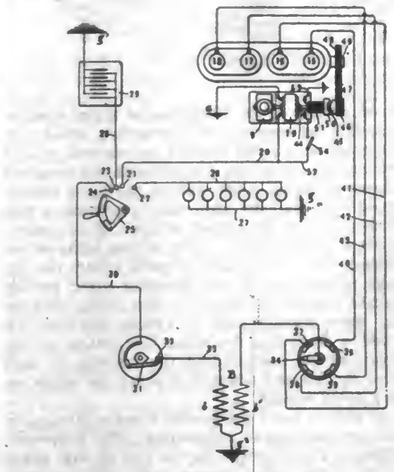
3. Four-valve engine valve-gear comprising, a main rocker, a rod-connection thereto for oscillating it, a pair of secondary rockers near the main rocker, a pivot carried by each secondary rocker, a link connecting each of said pivots with the main rocker, an additional pivot carried by each secondary rocker, a link connecting each of the last-mentioned pivots with one of the steam valves, an exhaust rocker mounted near the main rocker, a rod-connection to the exhaust rocker for oscillating it, a pair of pivots carried by the exhaust-rocker, and a link connecting each of the last-mentioned pivots with one of the exhaust-valves, combined substantially as set forth.

4. Four-valve engine valve-gear comprising, a fixedly supported rocker-box, a main rock-shaft journaled in said box, an arm on the outer end of said shaft, a rod-connection to said arm for oscillating the rock-shaft, a main rocker on the rock-shaft within said box, a pair of secondary rock-shafts journaled in said box, an arm on each secondary rock-shaft within said box, a link connecting each of the last-mentioned arms with the main rocker, an arm on the outer end of each secondary rock-shaft, and a link connecting each of said last-mentioned arms with one of the steam valves, combined substantially as set forth.

5. Four-valve engine valve-gear comprising, a fixedly supported rocker-box, a main rock-shaft journaled in said box, an arm on the outer end of said shaft, a rod-connection to said arm for oscillating the rock-shaft, a main rocker on the rock-shaft within said box, a pair of secondary rock-shafts journaled in said box, an arm on each secondary rock-shaft within said box, a link connecting each of the last-mentioned arms with the main rocker, an arm on the outer end of each secondary rock-shaft, a link connecting each of said last-mentioned arms with one of the steam valves, an outward projection from the box at the bearing of the main rock shaft, an exhaust rock-shaft journaled in said box and projection, an exhaust rocker on said rock-shaft, a rod-connection to said exhaust-rocker for oscillating it, a pair of pivots carried by the exhaust-rocker, and a link connecting each of said last-mentioned pivots with one of the exhaust-valves, combined substantially as set forth.

[Claims 6 to 11 not printed in the Gazette.]

979,003. COMBINED GENERATING AND STARTING APPARATUS FOR GAS-ENGINES. JOHN ALLEN HEANY, York, Pa. Filed Nov. 26, 1909. Serial No. 529,891.



1. A combined generating and starting apparatus for gas engines embodying a unit comprising a prime mover and a dynamo electric machine actuated thereby and forming an isolated unit, an engine shaft, connections intermediate said unit and the engine shaft, and means for controlling the action of the unit with respect to said shaft for actuating and moving the latter.

2. A combined generating and starting apparatus for gas engines embodying a unit comprising a prime mover and dynamo electric machine, means for actuating said dynamo electric machine for starting the prime mover, an engine shaft, connections intermediate the prime mover and engine shaft for actuating and moving the latter, and means for connecting and disconnecting the prime mover and engine shaft.

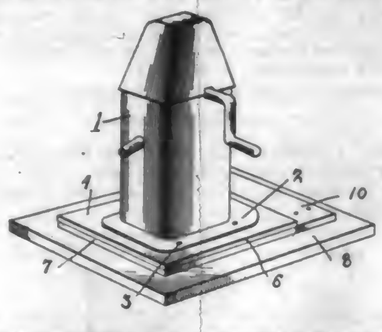
3. A combined generating and starting apparatus for gas engines embodying a unit comprising a prime mover and dynamo electric machine, means for actuating said dynamo electric machine for starting the prime mover, an engine shaft, connections intermediate the prime mover and engine shaft for actuating and moving the latter, and an electrically actuated clutch device for connecting and disconnecting the prime mover and engine shaft.

4. A combined generating and starting apparatus for gas engines embodying a unit comprising a prime mover and dynamo electric machine, means for actuating said dynamo electric machine for starting the prime mover, an engine shaft, connections intermediate the prime mover and engine shaft for actuating and moving the latter, and an electro-mechanical device for connecting and disconnecting the prime mover.

5. A combined generating and starting apparatus for gas engines embodying a unit comprising a prime mover and a dynamo electric machine actuated thereby and forming an isolated unit, an engine shaft, connections intermediate said unit and the engine shaft, an ignition

circuit and a lighting circuit, and controlling devices for controlling said circuits and the action of the connecting device intermediate the prime mover and engine shaft.

979,004. CISTERN-COVER. JAMES E. HEWITT, League City, Tex. Filed Jan. 28, 1910. Serial No. 540,642.



1. A well or cistern cover comprising a lower stationary section having an opening, an upstanding collar surrounding the opening, a plate secured on one end of said cover and having its inner edge formed with an upturned flange, an upper swinging cover section having a central opening formed with its edge upturned to provide a surrounding flange to enter the casing or body of the pump, the outer edges of said swinging cover section being downturned to engage the outer edges of said collar, the depending flange at one end of the swinging cover section being adapted to engage the flange of said plate, whereby the swinging cover section may be swung upwardly on said plate, and a depending flange on the bottom of the swinging cover section surrounding the opening in said swinging cover section and adapted to enter the collar on the stationary cover section.

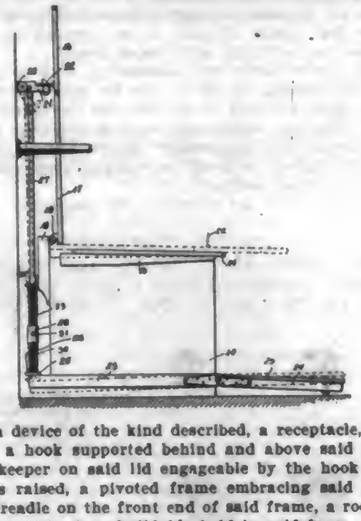
2. A well or cistern cover comprising a lower stationary section having an opening, an upstanding collar surrounding the opening, a plate secured on one end of said cover and having its inner edge formed with an upturned flange, the other edges of said plate being downturned, a pump body or casing having an outwardly extending base flange, a swinging cover section consisting of a plate formed with a central opening having its edge upturned to provide a flange to enter the pump body or casing, the outer edges of the swinging cover section being downturned to engage the outer edges of the collar on the stationary cover section, the flange at one end of said swinging cover section being engaged with the upturned flange of the plate on the stationary cover section, whereby the swinging cover section may be swung upwardly on said plate, a depending flange on the under face of the swinging cover section surrounding the opening therein and adapted to enter the collar on the stationary cover section, and fastenings uniting the last mentioned depending flange, the swinging cover section plate and the flange on the pump body or casing.

979,005. SANITARY RECEPTACLE. FRANK L. HOFFMAN, Denison, Iowa. Filed Jan. 22, 1910. Serial No. 539,460.

1. In a device of the kind described, a receptacle, a lid therefor, means to hold said lid raised, a treadle, and elements connecting the holding means and treadle to release the holding means when the treadle is released from pressure.

2. In a device of the kind described, a receptacle, a lid therefor, a hook supported behind and above said receptacle, a keeper on said lid engageable by the hook when the lid is raised, a pivoted treadle, and means connecting the treadle and hook to move the latter to engaging position when the treadle is depressed.

3. In a device of the kind described, a receptacle, a lid therefor, a hook supported behind and above said receptacle, a keeper on said lid engageable by the hook when the lid is raised, a pivoted treadle, means connecting the treadle and hook to move the hook to engaging position when the lid is raised, and spring actuated means to depress the treadle and release the hook from the keeper.

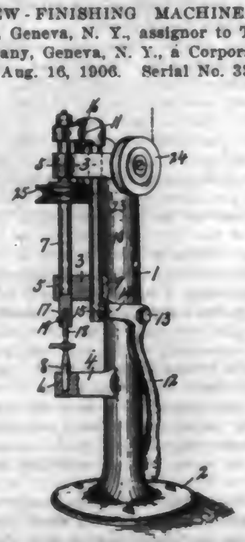


4. In a device of the kind described, a receptacle, a lid therefor, a hook supported behind and above said receptacle, a keeper on said lid engageable by the hook when the lid is raised, a pivoted frame embracing said receptacle, a treadle on the front end of said frame, a rod connected to said hook and slidably held in said frame, a collar on said rod, a spring between said collar and said frame, a bracket surrounding said rod above said collar and secured to a stationary object, a second spring between said bracket and collar, and means to adjust said collar on said rod.

5. In a device of the kind described, a receptacle, an under lid therefor, hinges connecting the under lid and the receptacle and normally tending to raise the under lid, an upper lid for the receptacle, a hinge connecting the upper lid and the receptacle and normally holding the upper lid closed, the last mentioned hinges having strength sufficient to overcome the action of the first mentioned hinges, all of said hinges being spring hinges.

[Claims 6 and 7 not printed in the Gazette.]

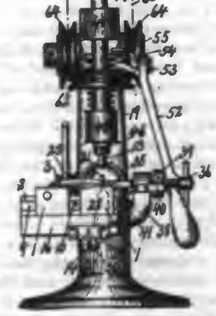
979,006. SCREW-FINISHING MACHINE. CHAUNCEY W. HOWLAND, Geneva, N. Y., assignor to The Standard Optical Company, Geneva, N. Y., a Corporation of New York. Filed Aug. 16, 1906. Serial No. 330,797.



A machine for finishing the threaded ends of the screws of eye-glasses comprising a vertically-disposed standard provided with an upper and an intermediate and a lower

arm, said arms extending laterally with respect to the standard and arranged one over the other, a vertically-movable rod extending through the intermediate and upper of said arms and provided at its lower end with a pin, a lever pivotally connected to said standard and engaging the pin and adapted when shifted in one direction to move the rod upwardly, a vertically-movable and rotatable spindle extending through the upper and intermediate of said arms, a yoke arranged over the upper arm and connected to the top of said rod and spindle whereby the spindle is shifted vertically with said rod, a resilient member interposed between said upper arm and said yoke moving the rod and spindle in a direction opposite to that imparted thereto by said lever, a lens rest carried by the lower of said arms, and a tool carried by the lower end of the spindle and arranged in alinement with respect to the lens rest.

979,007. LENS-DRILLING MACHINE. CHAUNCEY W. HOWLAND, Geneva, N. Y., assignor to The Standard Optical Company, Geneva, N. Y., a Corporation of New York. Filed Aug. 16, 1906. Serial No. 330,798.



1. In a lens drilling machine, a rotary drill-spindle, a bracket adjustable rotarily about an axis at right angles to and intersecting that of the spindle, a lens bearing on the bracket located at the intersection of said axes, means for indicating the degree of such adjustment, a bed piece mounted upon a bracket and adjustable rotarily about an axis wholly at one side of the first named axes, and a lens clamping device mounted upon the bed piece.

2. In a lens drilling machine, a rotary drill-spindle, a rotarily adjustable bracket having its axis intersecting that of the drill-spindle, said bracket being provided with a lens bearing located at the intersection of said axes, and a lens clamping device adjustable rotarily with said bracket and having an independent rotary and sliding adjustment relatively to the lens bearing.

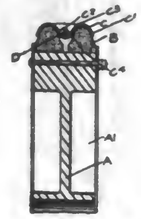
3. In a lens drilling machine, a rotary drill-spindle, a rotarily adjustable bracket having its axis intersecting that of the drill-spindle, said bracket being provided with a lens bearing located at the intersection of said axis, a lens clamping device adjustable rotarily with said bracket and having an independent rotary and sliding adjustment relatively to the lens bearing and a lens-edge stop adjustable transversely of both axes in a plane of their intersection.

4. In a lens drilling machine, a rotary drill-spindle, a support tiltable to different angles, relatively to the axis of the spindle, a rotary element journaled on said support wholly at one side of its axis of movement and means mounted on said element for holding the lens.

5. In a lens drilling machine, a drill spindle the combination with a supporting standard, a bracket having one end journaled on said standard, a bed plate journaled on the other end of the bracket and having its axis wholly at one side of the swinging axis of the bracket, a lens bearing at the intersection of the axis of the spindle and bracket and a lens holder slidable upon said bed plate.

[Claims 6 and 7 not printed in the Gazette.]

979,008. TIRE-TREAD FOR MOTOR-VEHICLES. MICHAEL ALEXANDER KENNEDY, Toronto, Ontario, Canada. Filed Jan. 16, 1909. Serial No. 472,697.



1. A tire for a vehicle wheel embracing in combination a plurality of separate parallel circumferential resilient treads, and a series of encompassing metallic sections extending across the full width of the resilient treads to prevent their contact with the ground, the said sections being provided with transverse retaining lugs projecting inwardly from their tread portions between the resilient treads, and retaining means passing through each of said lugs circumferentially around the wheel to hold the sections in proper position, substantially as described.

2. The combination with a double rubber tire, the two portions of which have a rounded or beaded outer periphery, of a protecting metal tire comprising a series of sections formed with wings corresponding in cross sectional form to the outer periphery of the tire, and each having a connecting bridge reversely curved and end fins having slots elongated from inside to outside, and an encompassing band suitably connected together and passing through the several circumferentially alined slots as and for the purpose specified.

3. In a protecting tire for motor vehicles formed of a serica of sections, a section formed with concave outer wings to conform to the form of the tire, a connecting bridge, and end fins slotted from outside to inside as and for the purpose specified.

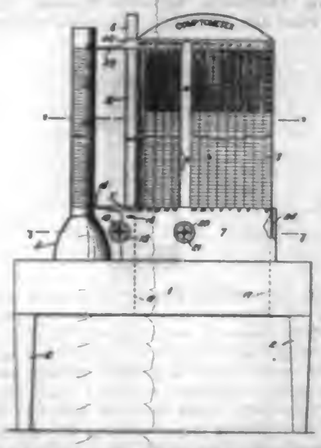
4. A protecting tread for vehicle tires comprising a series of metallic sections, each consisting of a plate formed with a plurality of parallel concave trough-like portions transverse webs forming the end walls of said section and uniting the trough-like parts together, said end walls being provided with vertical closed slots, and an annular retaining band passing through the slots of the various sections between the trough-like parts of the sections to encircle the tire and hold the sections yieldingly together, substantially as described.

979,009. CREAM-TESTING DEVICE. FERDINAND KRATZ, Olivet, S. D. Filed May 6, 1910. Serial No. 559,808.

1. In combination with a standard graduated bottle for receiving the milk to be tested, of an indicator board having a pointer adjustable along the scale portion of the bottle, a graduated scale board also having a pointer adjustable along the graduated portion of the bottle, and means for raising and lowering said scale board, whereby the same is adjustable in relation to the indicator board.

2. In a cream testing device, a suitable support, a guide bar fixed to the same and projecting outwardly therefrom, an indicator board box shaped along its length a pointer forming part of said board, a graduated scale board adjustable upon said guide bar, a pointer forming a part of the scale board, the latter having a slot extending throughout the greater portion of its length, a rack bar fixed to the scale board within the slot, a pinion carried by the indicator board and located within the slot of the scale board and meshing with the rack bar, mean

for rotating said pinion, a second pinion also carried by the indicator board, a rack secured to the guide bar with which the said pinion meshes, and means for operating the last named pinion, said boards being each provided with pointers to be adjusted in a proper position in respect to the scale portion of a testing bottle whereby the floating cream or butter fat may be accurately measured.

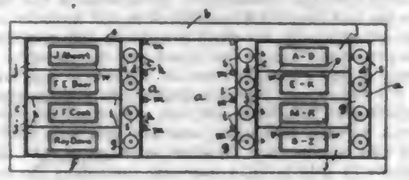


3. In combination with a standard graduated testing bottle; of a base for removably holding the bottle in a vertical position, a supporting guide post fixed to said base and projecting upwardly therefrom, an indicator board provided with a looped portion embracing said post, the remaining portion of the board being box shaped, a casing carried by the indicator board at one end thereof, a shaft journaled in said casing, an operating knob fixed to one end of the shaft, a pinion also fixed to the shaft, a rack bar secured to one end of the post with which the pinion meshes, a binding screw carried by the board the end of which is adapted to be brought in contact with the post, a graduated scale board having graduated lines and figures properly arranged thereon, said figures being accurately calculated, said graduated scale board being provided with a loop extension located adjacent to its upper end and adapted to embrace said post, a flat spring secured to the inner surface of the one end of the housing forming the indicator board, the free end of which spring is in yielding contact with the adjacent edge of the graduated scale board, the latter having a slot extending along its length, a rack bar secured to one edge of the slotted portion of the scale board, a pinion mounted within the housing of the indicator board and meshing with the rack bar of the scale board, a shaft journaled in the opposite side of the indicator board to which the pinion is attached, an operating rod secured to said shaft, and pointers secured to said boards for registry with the graduated portion of the test bottle, said graduated scale board passing freely through the housing of the indicator board and through an elongated opening formed in the base, whereby said boards are adjustable upon the post in relation to one another but in close proximity for properly measuring the cream contained within the bottle and ascertaining its exact percentage as to grade and value.

979,010. FILING-CABINET. JOSEPH J. KUFFEL, Manitowoc, Wis. Filed Apr. 23, 1908. Serial No. 428,790.

1. In a filing-cabinet, the combination of a case having a plurality of pairs of slides, drawers sliding on said slides, and downwardly projecting tabs on the front ends of said slides, said tabs extending within the drawers, and being adapted to engage the rear ends of the latter when the drawers are being pulled out.

2. In a filing cabinet, an integral sheet-metal section comprising sides, top and bottom, a plurality of drawers sliding within said section, each provided with an ejecting spring, and a sliding-door at the back of said section inclosing and forming an abutment for said ejecting springs.



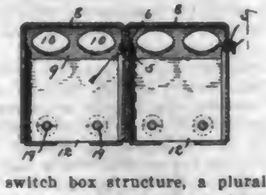
3. In combination in a filing-cabinet, a drawer sliding therein, an ejecting spring secured near one end to a rear corner of said drawer and said end projecting over the edge of said corner, the body of said spring normally standing out from said drawer and being pressed flat against the back of said drawer by the back of the cabinet when said drawer is pushed into place, and a spring pawl secured at one end to the casing with its other end engaging said projecting end of the spring.

4. In combination in a filing-cabinet, a drawer sliding therein, an ejecting spring secured near one end to a rear corner of said drawer and said end projecting over the edge of said corner, the body of said spring normally standing out from said drawer and being pressed flat against the back of said drawer by the back of the cabinet when said drawer is pushed into place, a spring-pawl comprising a hooked strip of resilient material secured at one end to the casing and the hook of which engages the projecting end of said spring, one end of said strip being turned into an eye, and a rod having one end engaging said eye and the other end passing out at the front of said cabinet, whereby to release said pawl.

5. In combination in a filing-cabinet, a drawer sliding therein, means for ejecting said drawer when released, and means for releasably confining said drawer in closed position, comprising, in connection with a projection on the side of said drawer, a spring-pawl having an eye thereon, and a slidable rod at the side of said drawer having one end engaging said eye and the other end protruding from the front of the cabinet.

[Claims 6 to 9 not printed in the Gazette.]

979,011. SWITCH-BOX STRUCTURE. ABRAM D. LEVY, Cleveland, Ohio. Filed Apr. 22, 1910. Serial No. 557,024.



1. In a switch box structure, a plurality of complete switch boxes removably secured together in a gang.

2. In a switch box structure, a plurality of complete individual boxes each provided with locking means cooperating with the next adjacent box.

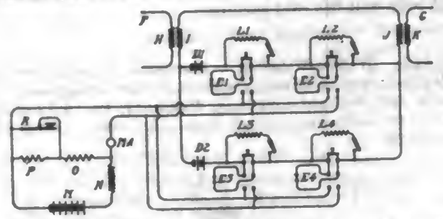
3. In a switch box structure, a plurality of complete individual boxes each provided upon its sides with locking means coöperating with the next adjacent box.

4. In a switch box structure, a plurality of complete individual boxes each provided upon one side with a locking opening and on its opposite side with a pin adapted to lock in the opening of an adjacent box.

5. In a switch box structure, a plurality of complete individual boxes comprising top and bottom portions and back and side portions one of which is provided with a socket and the other of which is provided with a member for engagement in the corresponding socket of the next adjacent box.

[Claims 6 to 12 not printed in the Gazette.]

979,012. TELEPHONE-REPEATER. CHARLES D. LINDRIDGE, Providence, R. I. Filed Feb. 10, 1909. Serial No. 477,091.



1. In a telephone repeater, a source of unidirectional current and a negative resistance element included together in a repeater circuit; means for impressing incoming voice currents on said circuit; means for translating the amplified currents flowing in said circuit on an outgoing circuit; and a non-inductive resistance adapted to be substituted in said circuit for said negative resistance element, substantially as described.

2. In a telephone repeater, a source of unidirectional current and a negative resistance element included together in a repeater circuit; means for impressing incoming voice currents on said circuit; means for translating the amplified currents flowing in said circuit on an outgoing circuit; a non-inductive resistance having approximately the same resistance as the proper working resistance of said negative resistance element; and means for substituting said non-inductive resistance in said circuit in place of said negative resistance element.

3. In a telephone repeater, a source of unidirectional current and a negative resistance element included together in a repeater circuit; means for impressing incoming voice currents on said circuit; means for translating the amplified currents flowing in said circuit on an outgoing circuit; a testing circuit; means for switching said negative resistance element out of said repeater circuit and into said testing circuit; and means for closing said repeater circuit while said negative resistance is switched onto said testing circuit.

4. In a telephone repeater, a source of unidirectional current and a negative resistance element included together in a repeater circuit; means for impressing incoming voice currents on said circuit; means for translating the amplified currents flowing in said circuit on an outgoing circuit; a non-inductive resistance; a testing circuit for said negative resistance element; and means for substituting said non-inductive resistance for said negative resistance element in said repeater circuit when said negative resistance element is connected with said test circuit.

5. In a telephone repeater; a local circuit; translating devices in said local circuit; a plurality of negative resistance elements and a source of direct current connected together in said local circuit; a plurality of non-inductive resistances; and means for substituting one or more of said non-inductive resistances for one or more of said negative resistance elements.

[Claims 6 to 11 not printed in the Gazette.]

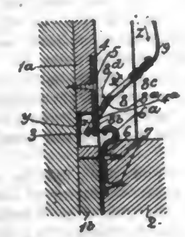
979,013. PROCESS OF MANUFACTURING MASSES FOR USE IN MAKING ARTIFICIAL THREADS AND THE LIKE. RUDOLF LINKMEYER, Bremen, Germany. Filed Mar. 29, 1909. Serial No. 486,572.

1. The process for the manufacture of artificial threads of high gloss and great strength which comprises treating young plant parts containing hemi-cellulose and other carbohydrates with a solution of cupro-ammonium and forming threads from such solution while maintaining therein the hemi-cellulose and other carbohydrates.

2. The process of producing dissolved substances for making artificial threads of high gloss and great strength, which comprises cleaning and bleaching those young parts of plants or vegetable matter which contain in addition to cellulose a large percentage of other carbohydrates and hemi-cellulose while maintaining the carbohydrates, hemi-cellulose and cellulose intact and dissolving the plants or vegetables thus treated in solvents employed as reagents for pure cellulose to obtain a solution containing cellulose, hemi-cellulose and other carbohydrates.

3. The process of producing cellulose solutions which comprises treating vegetable matter containing cellulose, hemi-cellulose and carbohydrates with a weak alkaline solution insufficient to remove the carbohydrates, hemi-cellulose and cellulose, bleaching the product without destroying the carbohydrates, and finally dissolving the product in a cupro-ammonium solvent to obtain a solution containing cellulose, hemi-cellulose and carbohydrates.

979,014. SASH-CORD CONNECTOR. FRANK T. LIPPINCOTT, Newark, Ohio. Original application filed Oct. 22, 1909, Serial No. 524,073. Divided and this application filed Mar. 23, 1910. Serial No. 551,066.



1. In a window having a frame and slidable sashes, the combination with sash cords for sustaining said sashes at each side, of a single means at each side of the window for connecting the respective sash cords with said sashes and simultaneously entering said windows in said frame.

2. In a window construction, a frame and window sashes slidable therein together with sash cords for counterbalancing said sashes, sash cord connectors removably connecting said sash cords with said sashes, said sash cord connectors having provisions in virtue of which the tension of the sash cords will center said sashes in the frame.

3. In a window construction, a window frame having window sash receiving grooves, sashes slidable in said grooves, sash cords under tension for sustaining said sashes, a fixed sash cord holder secured to said window frame at each side of each sash, said holders each having a tongue portion and said frame having a hole adjacent to each tongue portion, a hook member secured to each sash at each side and having the opening of the hook adjacent to the frame, a connecting member carried by each sash cord for engaging the respective hook members and the respective fixed sash cord holding members at times, said connecting members having portions lying in different planes to provide a fulcrum bearing, in virtue of which when said hook members are in alinement with the respective tongues of said fixed holders, said connecting members may be disconnected from said hook members and simultaneously connected with said fixed holding members and vice versa, and when said hook members are out of alinement with the respective holding members said connecting members will be held from disconnecting with said hook members, substantially as shown and described.

4. In a window having a movable sash and having a frame, a sash cord under tension, a fixed holding member secured to the window frame and having a tongue portion projecting into a hole in the window frame, a hook member secured to the side of the sash, and a connecting link member carried by the sash cord and having a body bent transversely to lie in two planes and having an eye portion to engage such hook member and said tongue portion alternately, substantially as shown and described.

5. In a window construction, a window frame having grooves, and sashes slidable in said grooves, and sash cords under tension for sustaining said sashes, a double eye member secured to the end of each sash cord, each

double eye member being bent transversely to lie in two planes and provide a fulcrum, a hook member on each side of each sash to coöperate with the respective double eye members, and a fixed holding member on each side of each window sash to coöperate with said hook members and said double eye members in virtue of which said double eye members may be simultaneously disconnected from said hook members and connected to said fixed members.

979,015. RAIL-JOINT. LOUIS P. LOCKE, Victor, N. Y. Filed May 24, 1909. Serial No. 497,921.



1. The combination of two abutting rails electrically and mechanically connected at their adjacent extremities, said connections including a fish-plate secured to the rails and insulated therefrom at its ends.

2. The combination of two abutting rails electrically and mechanically connected at their adjacent extremities, said connections including a bond and a fish-plate, the fish-plate being secured to the rails and being insulated therefrom at its ends.

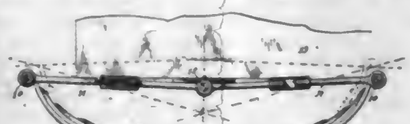
3. The combination of two abutting rails, and a rail joint comprising a short conductor of low resistance connecting the heads of the rails at their adjacent extremities, the rails, except at said points, being electrically disconnected from each other.

4. The combination of two abutting rails, and a rail joint comprising a conductor connecting the heads of the rails and comprising a bond secured to the head of one rail substantially at the extremity thereof, the rails, except at the extremities of their heads, being electrically disconnected from each other.

5. The combination of two abutting rails insulated from each other, and a fish plate secured to the rails, the fish plate being insulated from the rails at its ends and electrically connected with the rails at their adjacent extremities.

[Claims 6 and 7 not printed in the Gazette.]

979,016. SHOCK-ABSORBING VEHICLE-SPRING. NICHOLAS LUXEMBOURGER, Santa Ana, Cal., assignor to Bow Shock Absorbing Spring Company, Los Angeles, Cal., a Corporation of California. Filed May 29, 1909. Serial No. 499,188.



1. In combination, an axle, bow-springs mounted on said axle, a wagon body arranged between said bow-springs and adapted to move into the space between said springs when said body is depressed, radius rods attached to the ends of said springs and pivotally attached to the sides of said body, the point of attachment of said springs to said body being in line with the point of connection between said radius rods and said springs, whereby an upward or downward movement of said body will flex said bow-springs.

2. In combination, an axle, bow-springs supported on said axle, a wagon body mounted between said springs and adapted to move into the space between said springs when said body is depressed, laterally projecting pins mounted on the sides of said body, radius rods pivotally attached to the ends of said springs and pivotally attached to said pins, said pins being normally in line with the pivotal connections between said radius rods and said springs, whereby an upward or downward movement of said body will flex said springs.

979,017. WINDOW-LOCK. FRANKLIN J. MCCLASKEY, Millvale borough, Pa., assignor to The Allegheny Cornice and Skylight Company, Pittsburg, Pa., a Corporation of Delaware. Filed Sept. 10, 1909. Serial No. 517,089.

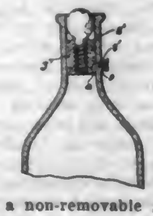


1. The combination of a window frame having a swinging sash therein, a gravity bar on one of said members adapted to engage with a projection on the other of said members to lock the sash in its closed position in said frame, a headed pin extending downward from the frame for holding said bar, and the inner end of said bar adapted to engage with said holding means to limit the downward movement of said bar in the open position of said sash.

2. The combination with a window frame having a swinging sash therein, a gravity swinging stop bar on one of said members adapted to engage with a projection on the other of said members to lock the same in its closed position in said frame, a headed pin extending downward from the frame for holding said bar, and the inner end of said bar adapted to engage with said holding means to limit the downward movement of said bar in the open position of said sash.

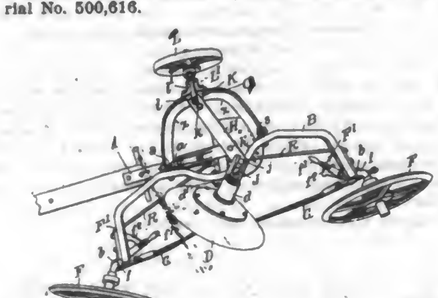
3. The combination with a window frame having a swinging sash therein, a movable stop bar on one of said members adapted to be moved into a seat in the other one of said members and engage with a projection therein to lock said sash in its closed position in said frame, a headed pin extending downward from the frame for holding said bar, and the inner end of said bar adapted to engage with said holding means to limit the downward movement of said bar in the open position of said sash.

979,018. BOTTLE. GEORGE M. MCNALLY, Wellsburg, W. Va. Filed Mar. 11, 1909. Serial No. 482,676.



A bottle having a non-removable glass stopper in the neck thereof, said stopper having a rounded head which projects but slightly above the neck, a supplemental neck carried by the first-mentioned neck near the base thereof, a removable stopper carried by the second neck, a frangible covering on the supplemental neck and overlying the stopper thereof, and a cork stopper in the first-mentioned neck and connected to the lower end of said glass stopper, the last-mentioned cork stopper having a passage leading from its lower end into register with the supplemental neck.

979,019. REVERSIBLE-DISK PLOW. CHARLES H. MELVIN, Moline, Ill., assignor to Deere & Company, Moline, Ill., a Corporation of Illinois. Filed June 7, 1909. Serial No. 500,616.



1. In a disk plow adapted for back-and-forth draft, the combination with a reversible disk, of a tongue adapted to be turned around for reversal, means coöperating with the tongue for imparting an eccentric motion thereto in turning, and operative connections between the tongue and pivot-standard of the disk for reversing the disk by the turning of the tongue.

2. In a disk plow adapted for back-and-forth draft, the combination with a reversible disk, of a disk-reversing lever, a tongue pivoted to said lever and adapted to be turned around for reversing, and means coöperating with said tongue causing it to shift its pivot in turning, thereby shifting said lever to reverse the disk.

3. In a disk plow adapted for back-and-forth draft, the combination with a reversible disk, of a tongue adapted to be turned around for reversal and having a movable pivot, a cam-shaped yoke coöperating with the tongue to shift its pivot as the tongue is turned, and means whereby the turning of the tongue reverses the disk.

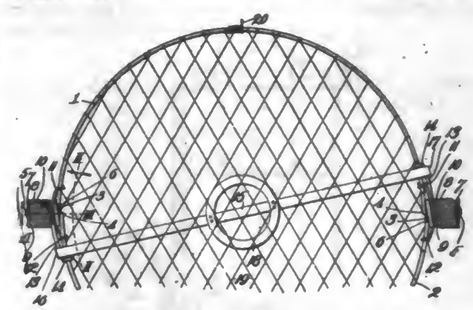
4. In a reversible disk plow, the combination with the pivot-standard of the disk, said standard having a lever-arm extending back from the disk, of a tongue having a movable pivot and adapted to be turned around for reversing, means coöperating with the tongue causing it to shift longitudinally backward on the latter part of its turn in either direction, and operative connecting means between the tongue and said lever-arm, whereby the disk is forced to reversed position by pushing action of the tongue.

5. In a reversible disk plow, the combination with the disk, of a tongue adapted to be turned around for reversal, a yoke constituting a cam with which the tongue coöperates on movement in either direction, and a disk-reversing lever arranged between the legs of the cam to which the tongue is pivoted eccentrically with reference to said cam.

[Claims 6 to 19 not printed in the Gazette.]

979,020. ANIMAL-TRAP. JOHN METER, Ellinwood, Kans. Filed Jan. 31, 1910. Serial No. 541,194.

1. An animal trap, comprising a pair of substantially semicircular rods hinged together at their ends and adapted to be swung together or apart, yielding means tending to cause said rods to swing together, and arms provided with hooks capable of being sprung over the adjacent rods to prevent them from swinging together; said arms each forming a spring terminal for one of said rods and the trip bar to hold said hooks in engagement with the said rods.



2. An animal trap, comprising a pair of substantially semicircular rods arranged with their ends adjacent and each having a convolution at one end and an outwardly-projecting arm at the other, the arm of one extending centrally through the convolution of the other, oppositely-projecting terminal-arms for said convolutions, provided with inturned hooks at their free ends, and diametrically-opposite spring hinges at the outer sides of said rods and encircling the outwardly-projecting arms, with their ends projecting in opposite directions and secured to the adjacent semicircular rods and the trip bar to hold said hooks in engagement with the said rods.

3. An animal trap, comprising a pair of substantially semicircular rods arranged with their ends adjacent and each having a convolution at one end and an outwardly-projecting arm at the other, the arm of one extending centrally through the convolution of the other, spools mounted on said outwardly-projecting arms and fitting at their inner ends in said convolutions, and coiled hinge-springs mounted on said spools outward of said convolutions, the ends of said springs extending in opposite directions and being secured to said semicircular rods to swing the same together when unresisted.

4. An animal trap, comprising a pair of substantially semicircular rods hinged together at their ends and adapted to swing together or apart, yielding means tending to cause said rods to swing together, arms at the outer sides of said rods, provided at their free ends with hooks to overlap adjacent rods, and a trip-bar adapted to bridge the trap and provided with downturned ends to engage the outer sides of said arms and hold them pressed inward with their hook terminals overlying said adjacent rods.

5. An animal trap, comprising a pair of substantially semicircular rods hinged together at their ends and adapted to swing together or apart, yielding means tending to cause said rods to swing together, arms at the outer sides of said rods, provided at their free ends with hooks to overlap adjacent rods, a trip-bar adapted to bridge the trap and provided with downturned ends to engage the outer sides of said arms and hold them pressed inward with their hook terminals overlying said adjacent rods, and a fabric body stretched loosely over said trip bar and secured to said semicircular rods so as to fold or unfold as the rods swing together or apart.

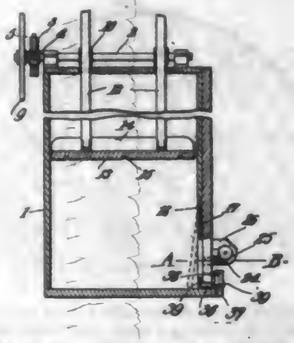
979,021. COMPOSITION OF MATTER. ALFRED MILLS, Superior, Wis. Filed June 13, 1910. Serial No. 566,500.

The herein described composition of matter for removing mud, sediment and scales from iron or steel, and as a water softener for alkali and hard water, consisting of water, molasses, castor oil and creosote.

979,022. BALING-PRESS. RANSOM Y. MITCHELL, Findlay, Ohio. Filed July 25, 1910. Serial No. 573,713.

1. A baling press, a register, means operated by material under pressure, for actuating the register to indicate the number of bales produced, and means for preventing

the actuation of the register except by material under pressure within the press.



2. A baling press, a register, means operated by material under pressure for actuating the register, a door upon the press through which the compressed material is removable, and means under the control of the door for locking said register operating means against movement.

3. A baling press, a door for the bale outlet in the press, compressing means, a register, means operated by material under pressure in the box for actuating the register, and coöperating means upon said operating means and the door for holding the operating means against more than an initial movement prior to the opening of the door.

4. A baling press, a door for the bale outlet in the press, compressing means, a register, a wing operated by material under pressure for actuating the register, and coöperating means upon the wing and door for holding the wing against movement subsequent to the actuation of the register and prior to the opening of the door.

5. A baling press, a door for the bale outlet in the press, compressing means, a register, a shiftable element adapted to be operated by material under pressure for operating the register, coöperating means upon the door and said element for locking the element subsequent to the initial actuation of the register and prior to the opening of the door.

[Claims 6 to 11 not printed in the Gazette.]

979,023. ADJUSTABLE SLEEVE-FORM. THEODOR MOLLBERG, Brooklyn, N. Y. Filed June 14, 1909. Serial No. 502,018.



1. A sleeve-form comprising two substantially flat members designed for registration together in one plane, a plurality of substantially parallel strips projecting from the edge of one member and entering suitable pockets provided therefor in the edge of the other member, and clamping means lying in the same plane adapted to hold said members in their adjusted positions.

2. A sleeve-form comprising two substantially flat members suitably outlined and adapted to register together in one plane edge opposite edge, a central guide therefor located in the same plane, said guide having one end pivoted within the edge of one member and entering a pocket in the opposite edge of the other member, similarly pivoted slides also positioned in said plane and connecting said members at the ends on opposite sides of said guide, said slides lying within the registering edges of the two members at their respective ends, and means for clamping said slides in said single plane to retain the members in their respective positions after adjustment.

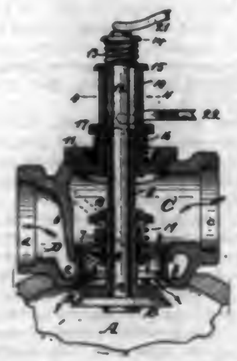
3. A sleeve-form comprising two substantially flat members registering in one plane, and means for interrelatively adjusting said members at either end, including a slide pivotally secured in the edge of one member and entering an open mortise in the opposite edge of the other member, a shield covering said mortise, and means adapted to clamp together said slide and said shield.

4. A sleeve form comprising two members designed to register in one plane, means loosely connecting said members centrally together, and independent adjusting means for the opposite ends of each member, including a slotted slide attached to one member and entering a shield-covered mortise in the other member, a nut under said slide, and a bolt passing through said shield and slidably engaging the slot in said guide and the nut thereunder.

5. A sleeve form comprising members designed to register edge to edge, and means for interrelatively adjusting said members, including a slide secured to one member and entering an open mortise in an opposite member, a flanged shield slidable thereover, the flanges of said shield engaging grooves by the sides of said mortise, and means for clamping said slide and shield and the mortised member together.

[Claim 6 not printed in the Gazette.]

979,024. VALVE MECHANISM FOR EXPLOSIVE-ENGINES. THOMAS L. MOORE, Cincinnati, Ohio. Filed Feb. 25, 1909. Serial No. 480,024.



1. In valve-mechanism for explosive engines, the combination of a cylinder, a valve-housing subdivided to form a charge-space open to the charge-supply and an exhaust-space open to the outside, a port whereby this valve-housing communicates with the cylinder, a valve controlling passage through this port and provided with a stem, an additional valve within the valve-housing provided with a sleeve fitted to the stem mentioned, a neck being laterally slotted projecting outwardly from the valve-housing into which both sleeve and stem extend to be guided, the stem extending beyond the neck, a spring seated upon the upper end of the neck and adapted to engage the stem to hold the valve thereon to a normal position, another spring seated upon the valve housing and adapted to engage the sleeve to hold the valve thereon in normal position, levers adapted to actuate independently each the sleeve and the stem in opposition to the action of the springs, to open the valves and means interposed between the lever for actuating the sleeve and this latter and extending through the slots in the neck mentioned.

2. In valve-mechanism for explosive engines, the combination of a cylinder provided with a port, a subdivided valve-chamber having a charge space open to the charge-supply and an exhaust-space open to the atmosphere, both spaces being adapted to communicate with the cylinder through the port mentioned, a valve which controls passage through this port and is provided with a stem, a compound valve which consists of two parts, one of which

has a hollow stem which is fitted upon the stem of the valve first mentioned, and serves to control communication between the cylinder and the charge space of the valve-chamber, the other part having a sleeve whereby it is seated upon the hollow stem of the valve last mentioned with a spring-yielding fit and serves to close against the exhaust-space while cylinder and charge space are in communication, means acting upon the stem of the valve first mentioned to actuate this valve and means acting upon the hollow stem of the compound valve to actuate the same independent of the other valve and in a manner that both its parts are caused to coact to close the charge-space against the exhaust-space and that one part is caused to control communication between this space and the cylinder.

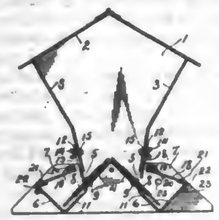
3. In valve-mechanism for explosive engines, the combination of a cylinder provided with a port, a subdivided valve-chamber haing a charge-space open to the charge-supply and an exhaust-space open to the atmosphere, both spaces being adapted to communicate with the cylinder through the port mentioned, a valve which controls passage through this port, a compound valve which consists of two parts, of which one part controls communication between the cylinder and the charge-space of the valve-chamber, while the other serves to close both cylinder and charge-space against the exhaust-space while they are in communication, means for each of these valves to guide them and a device to actuate each valve, one valve independent of the other, operating means for the valve first mentioned and additional operating means for the two parts of the compound valve whereby each valve is caused to perform its particular function entirely independent of the other valve.

979,025. WINDOW-LOCKING DEVICE. JACOB H. MYERS, Cleveland, Ohio. Filed Mar. 23, 1910. Serial No. 551,038.



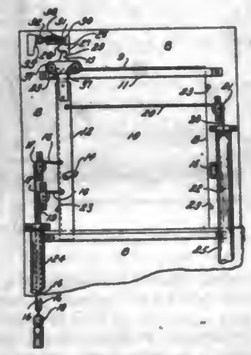
The combination of a window frame of a vehicle, the upper portion of the frame being recessed, and the lower portion of the same having a sash receiving seat, a drop sash arranged for sliding movement in the frame, a plate secured to the top of the sash, and having a semi-circular shaped recess in its top, the bottom of such recess being inclined downwardly, a slotted plate secured at the recess in the upper portion of the frame, and provided with inwardly projecting pivot lugs, a horizontally disposed locking lever arranged in the slot in said plate, said lever having a handle at one end, and an enlarged cam head at its other end, said head being arranged for movement in the recess of said plate on the sash, and having its bottom face inclined to co-act with the inclined bottom of the recess in said sash plate, and a pivot pin passed through the pivot ears on said slotted plate, eccentrically through the head of said lever whereby when the handle end of the lever is swung toward the frame, its cam head will force the sash downwardly against the sash engaging seat, and also laterally against the frame to render the window storm proof and prevent it from rattling.

979,026. FEED-TROUGH. STERLING P. NEWMAN, Edgerton, Mo. Filed Aug. 2, 1909. Serial No. 510,714.



In a feed trough, the combination with a feed receptacle having a bottom inclining downwardly and outwardly under one side of said receptacle, said side having a discharge opening above said inclined bottom, said bottom outside of said receptacle having a portion depressed below the plane of the portion which is within the receptacle, of a stirring device pivoted to the upper side of the bottom within the receptacle and having radial fingers extending through said opening and disposed above and separated from said depressed portion of the bottom.

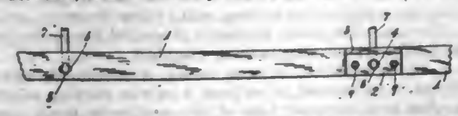
979,027. ELEVATOR-GATE. CHRISTIAN NIELSEN, Chicago, Ill. Filed Feb. 8, 1909. Serial No. 476,806.



1. An elevator-gate, consisting of a vertical bar and horizontal cables attached to said bar, in combination with mountings for said bar and cables; a weight attached to said cables, and means limiting the upward travel of said weight, for the purpose described.

2. An elevator gate, consisting of a vertical bar and horizontal cables attached to said bar, in combination with mountings for said bar and cables; a weight attached to said cables; and a stop-pin limiting the upward travel of said weight; substantially as and for the purpose described.

979,028. SECTIONAL TRACK. GUSTAV A. OLSON, Albert Lea, Minn. Filed Apr. 13, 1910. Serial No. 555,288.



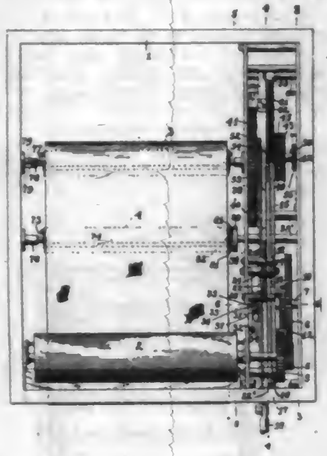
1. A rail bar having elongated perforations, in combination with hanger brackets having headed studs with elongated heads, adapted to be passed through said elongated perforations, only when said hanger brackets are turned

into inoperative positions, and arranged to interlock said rail and hanger brackets, when the latter are turned into operative positions.

2. The combination with a multiplicity of rail bars having overlapped ends and the said overlapped ends with coincident elongated perforations, of hanger brackets having headed studs with elongated heads, adapted to be passed through said coincident perforations, when said brackets are turned into an inoperative position, and to lock the overlapped ends of said rail bars together from, when said hanger brackets are turned into an operative position.

3. The combination with rail bars having overlapped ends formed with coincident elongated perforations, and provided on opposite sides of said perforations with connecting bolts, of a hanger bracket having a headed stud with an elongated head, adapted to be inserted through the said coincident perforations, when said brackets are turned into an inoperative position, substantially as described.

979,029. TOWEL-SUPPLY DEVICE. IRA L. PARK, Fairfax county, Va., assignor of one-half to Carrie B. Morris, Washington, D. C. Filed Apr. 8, 1909. Serial No. 488,777.



1. A towel supply device consisting of a casing, a continuous towel therein to be exposed in sections, ejecting means for making a portion of the towel protrude from the casing, and retracting or withdrawing means operative while the ejecting means is inoperative for restoring the ejected portion of the towel and placing out of service the entire towel, substantially as described.

2. In combination a casing, a continuous towel therein to be exposed in sections, ejecting means for making a portion of the towel protrude from the casing in the form of a loop, and means operative while the ejecting means is inoperative for withdrawing the towel from its point of use and placing out of service the entire towel, substantially as described.

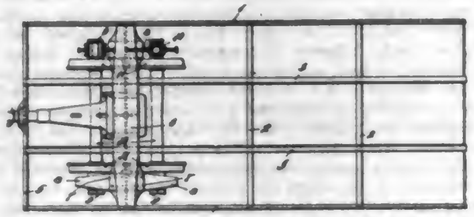
3. In combination a casing, a pair of rollers having the ends of the towel attached thereto, ejecting rollers for making intermediate portions of the towel protrude from the casing, and automatically operating means for turning one of the rollers connected with the end of the towel after the period of use is over, said automatic means being set for operation when the towel is ejected for retracting the said towel, substantially as described.

4. In combination with a casing, a continuous towel therein to be exposed in sections, a pair of ejecting rollers to eject successive portions of the continuous towel from the casing, a storage roller for the towel, and automatically operating means for withdrawing the towel from use while the ejecting rollers remain inoperative, substantially as described.

5. In combination in a towel supply, ejecting means, retracting means, tension means for the retracting means, for operating the same after the towel has been used, said tension means being normally inoperative, means for rendering the said tension means active by the operation of the towel ejecting means, detent means for the retracting means, and releasing means for the detent means whereby the retracting means is placed under the influence of the tension means to retract the towel, substantially as described.

[Claims 6 to 14 not printed in the Gazette.]

979,030. CAR CONSTRUCTION. HARRY M. PYLAGES, St. Louis, Mo. Filed Apr. 26, 1910. Serial No. 557,679.



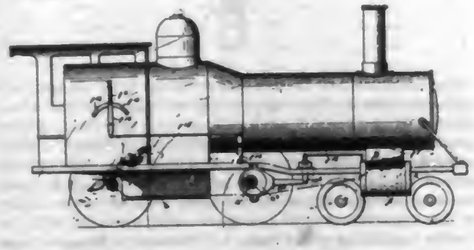
1. In car construction, the combination of an underframe, two pairs of wheels under each end of the car, the wheels at each end being arranged closely together and having narrow wheel bases, and said wheels being mounted so as to be horizontally immovable with respect to the underframe.

2. In car construction, the combination of an under frame, pairs of pedestal guides having a fixed relation to the car-body, the bolster to which said pedestal guides are secured, and pairs of flanged and coned wheels having narrow wheel bases.

3. In car construction, the combination of an underframe, a non-swiveling bolster rigidly connected to said underframe, two or more pairs of pedestal guides extending from each end of said bolster, journal boxes arranged in said pedestal-guides, and pairs of flanged and coned wheels mounted in said journal boxes.

4. In car construction, the combination of an underframe, a non-swiveling bolster rigidly connected to said underfame, two or more pairs of pedestal guides extending from each end of said bolster, journal boxes arranged in said pedestal-guides, pairs of flanged and coned wheels mounted in said journal boxes, and springs arranged above the journal boxes.

979,031. STEAM-ENGINE VALVE-GEAR. JOHN PHILLIPS, Wilkeson, Wash. Filed June 5, 1909. Serial No. 500,418.



1. In a steam engine, an oscillating rotary distributing valve exteriorly bathed with live steam, said valve also being movable to provide open communication with the exhaust steam passageways to permit exhaust steam bathing of the valve simultaneously with the bathing by live steam, said distributing valve having permanent live and exhaust steam cavities arranged alternately in circular succession.

2. In a steam engine, the combination with a valve casing having a bore, of an oscillating distributing valve mounted within said bore, said bore and the periphery of said valve being in open communication with a source of steam supply, exhaust steam cavities formed peripherally of and movable with said valve, said valve having a cross sectional configuration to restrict the live steam to peripheral cavities spaced one from the other and from the exhaust steam cavities, and exhaust steam passageways within said casing, said passageways including portions located annularly with respect to the walls of said bore, and communicating with the exhaust cavities of the valve, whereby the exhaust steam will form a heating agent for preventing condensation of live steam within the bore.

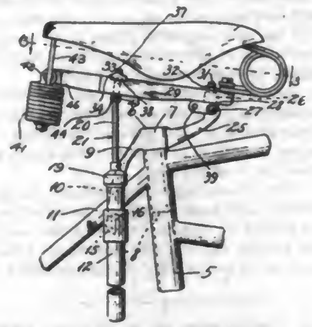
3. In a steam engine, an oscillating distributing valve having its exterior in open communication with the source of steam supply, and permanently bathed with the live steam therefrom, and a throttle valve intermediate the distribution valve and the cylinder, said throttle valve controlling the passage of live steam to and exhaust steam from the cylinder.

4. In a steam engine, an oscillating distributing valve having its exterior in open communication with the source of steam supply and having exhaust steam cavities, and a throttle valve intermediate the distribution valve and the cylinder, said throttle valve controlling the passage of live steam to and exhaust steam from the cylinder the live and exhaust steam passing into contact with the distributing valve, and also having ports positioned to provide communication between the cylinder and the exhaust port of the engine when communication between the distribution valve and the cylinder is cut off.

5. In a steam engine, an oscillating distributing valve having its exterior in open communication with the source of steam supply, and a throttle valve intermediate the distribution valve and the cylinder, said throttle valve controlling the passage of live steam to and exhaust steam from the cylinder the live and exhaust steam passing into contact with the distributing valve, said throttle valve being movable at will to provide communication between the distributing valve and the cylinder at either one of two spaced points, said distributing valve having permanent live and exhaust steam cavities arranged alternately in circular succession.

[Claims 6 to 22 not printed in the Gazette.]

979,032. SHOCK-ABSORBER FOR VEHICLES. WILLIAM J. PIERCE, Los Angeles, Cal. Filed May 31, 1910. Serial No. 564,075.



1. A shock absorber consisting of a bracket having rearwardly extending forks, and having a seat post adapted to be removably attached to a bicycle frame, said seat post and said bracket being rigid with each other and removable as one piece from the bicycle frame, a saddle bar, means for pivotally supporting said saddle bar on said bracket at one point, and means for resiliently supporting said saddle bar on said bracket on said forks.

2. A shock absorber consisting of a bracket having a seat post adapted to be received in the seat mast of a bicycle frame, said bracket having a forwardly extending arm and having a rearwardly extending arm, said arms being rigid with said post, a saddle bar pivotally attached to said forward arm, and means for resiliently supporting the rear portion of said saddle bar on said rear arm.

3. A shock absorber comprising a bracket adapted to be attached to a frame of a motorcycle or bicycle having a forwardly projecting arm and having a rearwardly extending arm terminating in forks, cushion barrels mounted on said forks, rods extending upwardly from said cushion barrels, and a saddle bar pivotally attached to said forward arm, and means for attaching the upper ends of said rods to said saddle bar.

4. A shock absorber comprising a bracket adapted to be attached to the frame of a bicycle having an upwardly projecting arm and having a rearwardly projecting arm forming forks, spring barrels pivotally attached to said forks, rods extending upwardly from said spring barrels, a saddle bar, means for attaching said saddle bar to said forward arm, and means for attaching said rods to said saddle bar.

5. A shock absorber comprising a bracket adapted to be attached to a frame of a bicycle or motorcycle, having a forwardly projecting arm and a rearwardly projecting arm, a knuckle adjustably attached to the forward end of said forward arm, a saddle bar adjustably attached to said knuckle and means for resiliently supporting said saddle bar on said rear arm.

[Claim 6 not printed in the Gazette.]

979,033. EQUALIZER FOR SIX-WHEEL TRUCKS. EDWARD POSSON, Chicago, Ill. Filed Mar. 26, 1910. Serial No. 551,756.



1. In a car truck, the combination with a journal box of a plurality of equalizers having their meeting ends adapted to bear centrally upon said box.

2. In a car truck, the combination with a journal box of a plurality of equalizers having their meeting ends bearing upon said box, each of said ends being lapped and adapted to bear at opposite sides of the center of the top of said box.

3. In a car truck, the combination with a journal box of a plurality of equalizers bearing at their meeting ends upon said box, said ends being stepped and lapped in such manner as to permit them to bear upon said box without tendency to rotate said box.

4. In a car truck, the combination with a journal box of a plurality of equalizers bearing at their meeting ends upon said box, said ends being stepped and lapped to permit said equalizers to be disposed in alinement.

5. In a car truck, the combination with a journal box of a plurality of equalizers bearing at their meeting ends upon said box, said ends being stepped and lapped to permit said equalizers to be disposed in alinement and to permit their ends to bear centrally upon said box.

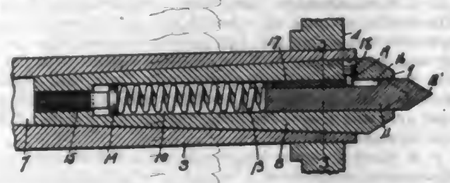
[Claims 6 to 9 not printed in the Gazette.]

979,034. LATHE. FRANK ROWE and JOSEPH W. RAPPENGLUECK, Port Huron, Mich.; said Rappengluck assignor to said Rowe. Filed Nov. 18, 1909. Serial No. 528,695.

1. In a lathe, the combination with a spindle, a center lying within and projecting beyond the end of said spindle having a stop at the outer end thereof, a movable center pin within said center, said center pin having a key way therein, a loose key occupying a portion of said way, a stop projecting into the unoccupied portion of said way at the end of said key, and a spring within the center for pressing the center pin outwardly.

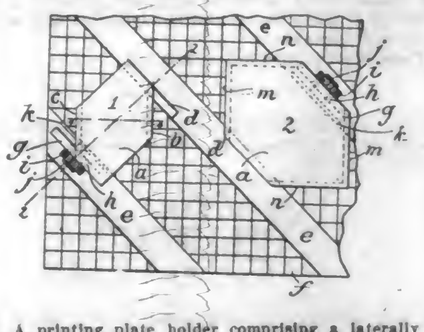
2. In a lathe, the combination with a live spindle, a center fitted therein having a stop at its outer end which

extends beyond the end of the spindle and face plate, a center pin within said center projecting beyond the face of said stop, a spring for pressing said center pin outwardly, means for holding said pin against the outward



pressure of said spring, means for permitting said pin to recede within the center against pressure applied to the outer end thereof, and means for varying the tension upon said spring.

979,035. PLATE-HOLDER FOR PRINTING-PRESSES. KARL M. SCHLUETER and FERDINAND SCHLUETER, New York, N. Y. Filed Apr. 25, 1910. Serial No. 557,619.



1. A printing plate holder comprising a laterally extended beveled-edged plate having depending end members adapted for engagement within grooves of a printing press base, and a laterally movable clamping-member having a horizontal screw, and a nut pivotally engaging one of the said depending members and threaded on said screw, the device adapted to bridge part of a grooved printing press base and be clamped thereto, substantially as shown and described.

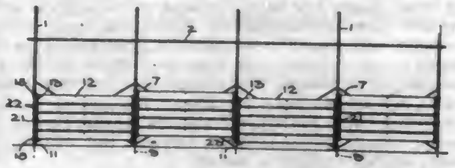
2. A printing plate holder comprising a beveled-edged clamping-plate for engaging the printing plate, said first named plate adapted to be held on a part of the surface of a grooved printing press base and located between grooves thereof and having depending end members, and a clamping-member having a horizontal screw, and a nut engaging said screw and in pivotal engagement with one of the said depending members, the device adapted to be clamped to a portion of a printing press base by direct lateral movement of said screw and its clamping-member, one of said depending members adapted for frictional engagement with a side wall of a groove of a printing press base, and said clamping-member adapted for frictional engagement with a side wall of a parallel groove, substantially as shown and described.

3. In a printing plate holder, the combination, with a bridge comprising a clamping-plate having depending end members, of a nut in pivotal engagement with one of said members, and a laterally movable screw, said screw threaded through said nut and having a clamping-member on the free end thereof, the said clamping-member in conjunction with the depending member located opposite thereto adapted for lateral movement and contraction whereby part of a grooved printing press base located between grooves may be clamped, substantially as shown and described.

4. The combination, with a printing plate holder comprising a clamping-plate having depending members, a nut in pivotal engagement with one of said depending members, and a laterally movable screw threaded through said nut and having a clamping-member on the free end thereof; of a base having parallel grooves, the said clamping-member in conjunction with the depending member of the clamping-plate which is located opposite thereto frictionally engaging side walls of different parallel grooves of the base and clamping a part of said base located between the grooves, and the said clamping-plate bridging the surface of said part whereby said plate is securely held in place, substantially as shown and described.

5. A printing plate holder comprising a clamping-plate having a plurality of beveled edges for directly engaging the printing plate, said clamping-plate having depending end members, and a laterally movable clamping-member having a horizontally extended screw, and a nut pivotally engaging one of the said depending members and threaded on the said screw, the device contractible for clamping engagement on a part of a grooved printing press base, substantially as shown and described.

979,036. SNOW-FENCE. HERMAN J. SCHWEITZER, Putney, S. D. Filed Jan. 20, 1910. Serial No. 539,022.



1. In a snow fence, suitably braced standards, panels slidably mounted on said standards, said panels consisting of a plurality of slats secured in jalousied relation to one another, said standards being provided with a plurality of recesses, hooks on said panels embracing said standards, spring held dogs on said hooks, the heads of said dogs being adapted to be received in said recess.

2. In a snow fence, suitably braced standards, panels slidably mounted on said standards, said panels consisting of a plurality of slats secured in jalousied relation to one another, said standards being bifurcated at their lower extremities, one of said furcations carrying a plate to rest on the ground, the other furcation being adapted to pass into the earth and secure the standards.

3. In a snow fence, suitably braced standards, panels slidably mounted on said standards, said panels consisting of a plurality of slats in jalousied relation to one another, end bars and brace bars securing said slats, hooks on the ends of said end bars adapted to embrace said standards, a bar secured in said end and brace bars parallel to said slats, bifurcations in the ends of said bar, said bifurcations being adapted to embrace said standards.

4. In a snow fence, standards, panels slidably mounted on said standards, recesses in said standards, spring held dogs on extremities of said panels, the heads of said dogs being adapted to engage in said recesses and prevent downward movement of said panels.

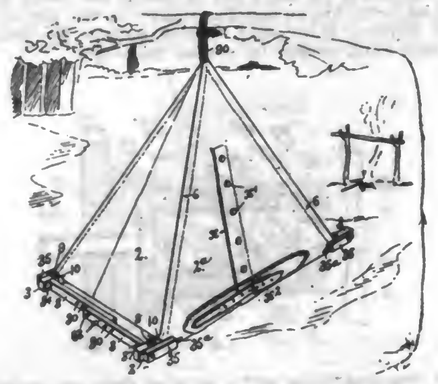
5. In a snow fence, standards, panels mounted within said standards, said panels having end bars, hooks on said end bars adapted to slidably embrace the said standards, said panels having vertical and horizontal brace bars.

[Claims 6 to 11 not printed in the Gazette.]

979,037. SHELTER OR SLEEPING TENT. FRANK SHARLE, Ennis, Mont. Filed Feb. 16, 1910. Serial No. 544,257.

1. A tent having a bottom joined to the lower edge of the tent sides and ends, a bar secured to each of a pair of opposite lower edges of the tent, guy ropes secured to the opposite ends of the bars, said ropes extending through the peak of the tent, and formed into a hanger loop.

2. A tent having a bottom joined to the lower edge of the tent sides and ends, a bar secured to each of a pair of opposite lower edges of the tent, guy ropes secured to the opposite ends of the bars, said ropes extending through the peak of the tent, and formed into a hanger loop, and stretcher devices for engaging the said bars.



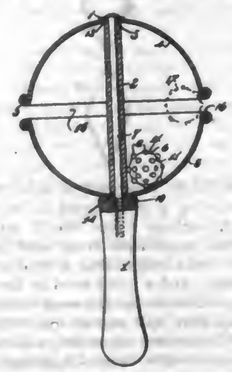
3. In a foldable tent, the combination with the front, back and side members, cross bars mounted in the lower ends of a pair of opposite sides of the tent, the corners of the tent having seams, guy ropes held in the seams, whose lower ends fasten to outer ends of the bars and whose upper ends join and form a hanger loop.

4. In a foldable tent, in combination with the front, back and side members, foldable cross bars removably mounted in the lower ends of a pair of opposite sides of the tent, guy ropes for the four corners of the tent, having their lower ends extended for tying to the outer ends of the bars, and whose upper ends join at the peak of the tent and form a hanger loop.

5. In a foldable tent, in combination with the front, back and side members, the lower ends of a pair of opposite members having loops, cross bars removably held in said loops, guy ropes for the four corners of the tent, fastened to the outer ends of the cross bar and whose other ends join at the peak of the tent and form a hanger loop.

[Claim 6 not printed in the Gazette.]

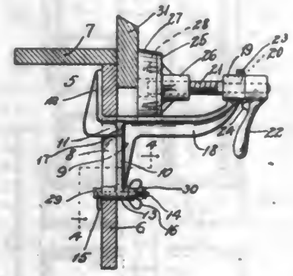
979,038. SOUND-PRODUCING DEVICE. PHILIPP SEILER, Guttenberg, N. J., assignor to Strauss Manufacturing Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 22, 1909. Serial No. 523,945.



1. A sound producing device, comprising, in combination, a substantially spherical resonant chamber, a handle for said chamber, and a thresher loosely contained in said chamber, said thresher consisting of a solid body having a plurality of projections formed on its surface, said projections being spaced and staggered to permit said body to move in said chamber with a plurality of striking movements.

2. A sound producing device, comprising, in combination, a resonant chamber, a handle for said chamber, and a spherical body inclosed in said chamber and provided with a plurality of knobular projections, whereby said body may move in said chamber with successive striking and gliding movements.

979,039. DETACHABLE VISE FOR CARPENTERS' BENCHES. HARVEY E. SHAWVER, Santa Monica, Cal. Filed Apr. 4, 1910. Serial No. 553,212.



1. In combination, a bench provided with an apron having a slot therein, a bracket extending through said slot, said bracket having an upwardly extending toe engaging the inner face of the apron adjacent the slot, said bracket being further provided with a downwardly extending foot having bearing lobes, said lobes bearing against the outer face of the apron adjacent the slot therein, a toe clamp mounted on the lower end of said foot, said toe clamp adapted to pass through the opening formed in the apron to clamp the bracket to said apron, and a movable jaw mounted on said bracket and coöperating with said bench to clamp the work.

2. In combination, a bench having a slot, a bracket passing through said slot and having a shank with a toe beyond said shank engaging the rear face of said bench, a clamping screw carried by said bracket also passing through said slot and having a laterally extending finger projecting over the edge of said slot and engaging the inner face of said apron, a clamping screw carried by said bracket in line with said toe and adapted to clamp the work against said apron.

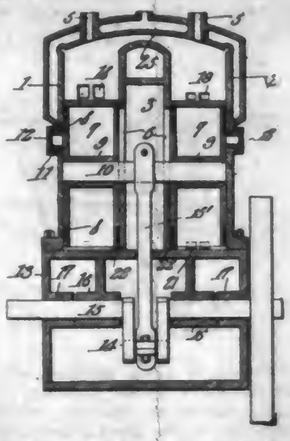
3. A vise having a clamping screw, a movable jaw having a hub engaging the threads of said screw and adapted to advance said jaw when said jaw is rotated, and means connected with said screw for rotating the same to clamp said jaw against the work.

4. A vise having a bracket with a foot adapted to seat upon the forward side of a carpenter's bench, said bracket having a shank extending inwardly from said foot, and having a laterally projecting toe beyond said shank, said foot having a clamping bolt mounted therein, with a laterally projecting finger at the inner end thereof, said bracket further having an outwardly projecting arm, a clamping screw having a plain unthreaded neck rotatably mounted in said arm, a jaw having a hub engaging the threads of said screw and adapted to be advanced by rotating the same on said screw, and means carried by said clamping screw for rotating the same to clamp said jaw against the work.

5. A carpenter's bench having an apron with a slot therein, a bracket having a foot extending longitudinally with said slot, and having lateral extensions engaging the forward side of said apron adjacent to said foot, said bracket having a shank extending inwardly from said foot, and passing through said slot, and having a toe projecting laterally from said shank engaging the rear face of said apron, said foot having a clamping bolt mounted therein adapted to pass inwardly through said slot, and having a laterally projecting finger adapted to engage the inner face of said apron, means for preventing the rotation of said bolt, a clamping nut mounted on said bolt

adapted to draw said finger against said apron, said bracket having an outwardly projecting arm, a clamping screw mounted in said arm, and a jaw carried by said screw coöperating with said apron to clamp the work.

979,040. TWO-CYCLE EXPLOSION-ENGINE. HENRY R. SIEVERKROPP, Davenport, Iowa. Filed Oct. 11, 1909. Serial No. 522,029.



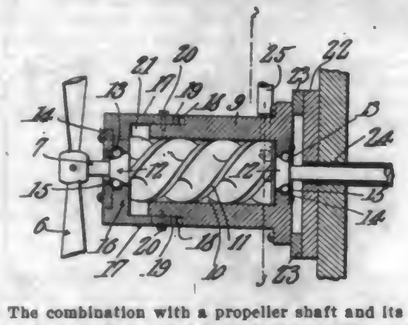
1. An explosion engine having like cylinders in parallel relation, said cylinders being spaced apart and intercommunicating at each end, with both ends of each cylinder normally closed to the atmosphere and the two cylinders at the adjacent walls each having a longitudinal slot matching that of the other cylinder, pistons in the cylinders, a connecting member for the pistons traversing the slots in the cylinders, an inlet port in one cylinder controlled by one end of the piston in the said cylinder, an exhaust port in the same cylinder controlled by the other end of said piston, a port at the power end of the other cylinder controlled by the piston in said other cylinder, the last named port communicating with the end of the same cylinder remote from the power end, a base or support for the cylinders, a crank shaft mounted in said base, and a pitman between the crank shaft and the connecting member for the pistons, the base constituting a closure for the corresponding ends of the cylinders where engaging said cylinder ends.

2. An explosion engine having like cylinders in parallel relation, said cylinders being spaced apart and inter-communicating at each end, with the ends of the cylinders normally closed to the atmosphere, pistons in the cylinders connected for movement simultaneously in the same direction, an inlet port in one cylinder controlled by one end of the piston in said cylinder, an exhaust port in the same cylinder controlled by the other end of said piston, and a port at the power end of the other cylinder controlled by the piston in the said other cylinder, the last named port communicating with the end of the same cylinder remote from the power end.

979,041. EXHAUST-MUFFLER. CHARLES F. SMITH, Miami, Fla. Filed May 31, 1910. Serial No. 564,108.

1. The combination with a propeller shaft and its drive motor, of a muffler casing through which the propeller shaft passes, said casing having an exhaust inlet, and separate exhaust outlets, the inlet being located on one side of the propeller shaft axis, and one of the outlets being located on the opposite side of said axis, and an impelling member on that portion of the propeller shaft which extends through the casing, against which member the exhaust is discharged.

2. The combination with a propeller shaft and its drive motor, of a muffler casing through which the propeller shaft extends, the ends of the casing being provided with bearings for said shaft, and one of said ends being adjustable to take up wear of the bearings, means for carrying the exhaust of the motor into the casing, said casing having an outlet, and an impelling member on that portion of the propeller shaft which extends through the casing, against which member the exhaust discharges.



3. The combination with a propeller shaft and its drive motor, of a muffler casing through which the propeller shaft extends, said casing having end walls provided with bearings for said shaft, one of said end walls being spaced from the casing to provide an outlet therefor, tongues on the last mentioned end wall, said tongues being fastened to the casing to secure said end wall in the aforesaid spaced relation, an impelling member on that portion of the propeller shaft which extends through the casing, and means for carrying the exhaust of the motor into the casing, to discharge against the impelling member.

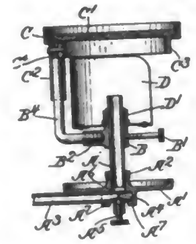
979,042. BED-SPRING. GARY B. SMITH, Minneapolis, Minn. Filed Dec. 28, 1908. Serial No. 469,557.



A bed bottom fabric composed of wire cable formed in sections, each having a plain bend at its center and its arms formed throughout their length with a series of twists alternately separated from and connected with each other, each twist comprising a bend in one direction, a bend in the other, and a third bend in the first direction, the twists in each arm being disposed with their bends alternating so that they will engage the twists in the other arm where said arms are connected, and the ends of the arms having their strands twisted together.

979,043. HEATING DEVICE. THEODORE SMITH, Chicago, Ill., assignor to Theo. Smith Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 29, 1904. Serial No. 230,454.

1. The combination with a burner of a wind shield, adapted to shield the burner, a supporting frame mounted above said burner, a supporting device adjustably mounted on the burner to which said shield and frame are connected so that they can both be adjusted with relation to the burner without changing their relative position, both said frame and said shield rotatably carried by said supporting device the supporting frame and wind shield having separate connections with said supporting device.



2. A burner comprising a gas tube, an adjustable supporting device surrounding said tube comprising a sleeve having an opening through which the tube passes, said sleeve adapted to be moved to various positions on the tube, and means for fastening the sleeve to the tube at any desired point, and an angular piece projecting from said sleeve, an annealing device removably and rotatably mounted upon said angular projecting part and adapted to be moved to one side to leave the space above the burner open.

3. A burner comprising a gas tube, an adjustable supporting device surrounding said tube comprising a sleeve having an opening through which the tube passes, said sleeve adapted to be moved to various positions on the tube, and means for fastening the sleeve to the tube at any desired point, and an angular piece projecting from said sleeve, an annealing device removably and rotatably mounted upon said angular projecting part, a wind shield rotatably mounted upon said supporting sleeve and located between the lower part of the angular projecting part and the annealing device.

4. A burner comprising a tube, a pipe beneath the tube leading to the source of gas supply and provided with a valve controlled opening beneath the tube, an air space between said tube and pipe adapted to be adjusted by adjusting the position of the tube, a lock nut on said tube for holding it in position, an adjustable supporting device on the tube comprising a sleeve with a right-angled projecting part connected therewith, and an annealing device mounted upon said angular projecting part.

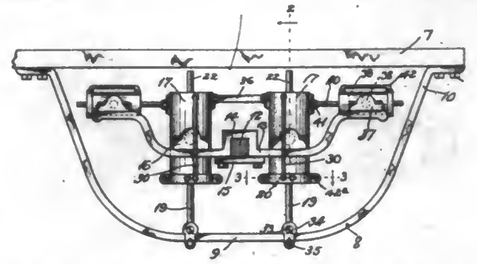
5. A heating device comprising a tube through which the material is conducted to the igniting point, a supporting device supported upon said tube, a laterally projecting part pivotally mounted upon said supporting device and adapted to be moved into position over said tube or out of the way at one side of said tube, said laterally projecting part provided with a hollow sleeve which fits down over the end of the supporting device, said sleeve provided with an obstruction which engages the end of the supporting device and limits its downward movement.

[Claims 6 and . not printed in the Gazette.]

979,044. PNEUMATIC SPRING. IGNATIUS J. STADELMANN, Los Angeles, Cal. Filed Apr. 6, 1910. Serial No. 553,694.

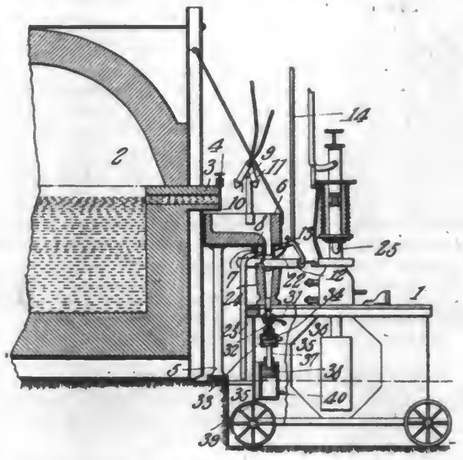
1. In combination, a frame, an axle, a vertically disposed pneumatic dash-pot connected between said frame and said axle and adapted to absorb shocks in a vertical plane, a pneumatic dash-pot arranged in a horizontal plane, connected with said first dash pot and adapted to absorb shocks in a horizontal plane, all of said dash pots being pivotally mounted.

2. In combination, a frame, an axle, cross heads attached to said axle, a pair of pneumatic dash-pots pivotally mounted on said cross heads, piston heads moving in said dash-pots and having pistons connecting with said frame, other dash-pots disposed with their axes in a horizontal plane, and having pistons connecting with said first dash-pots and tending to prevent the swinging movement thereof.



3. In combination, a frame, an axle, a cross head carried by said axle, a pair of pneumatic dash-pots pivotally supported on said cross head, a link connecting said dash-pots, said dash-pots having piston rods extending therefrom connecting with said frame, a second pair of dash-pots arranged respectively at opposite sides of said first dash-pot, mounted to swing on a horizontal axis, connected with said last named dash-pots, and having piston rods connecting with said first dash-pots.

979,045. GLASS-MACHINE. LEWIS STEELMAN, Alexandria, Va. Filed Dec. 24, 1909. Serial No. 534,758.



1. In an apparatus as described a batch conducting means and a knife for cutting the batch having an air passage therethrough.

2. In an apparatus as described, means for conducting the batch, a knife for cutting the batch having an air passage there-through and an air blast nozzle having its outlet located in alinement with said passage.

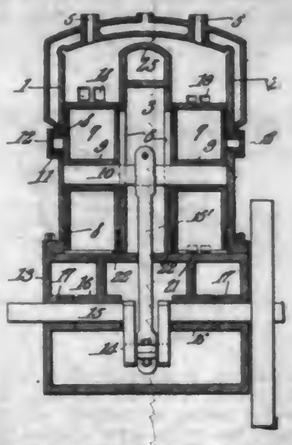
3. In an apparatus as described, means for conducting a batch, coöperating knives located below the discharge outlet of said means each knife having a vertically disposed blade and a horizontally disposed blade, the vertically disposed blade of one knife adapted to shear along the side of the other knife and vice versa and the horizontally disposed blades of the two knives adapted to meet in the same plane.

979,046. PROCESS OF CONCENTRATING COMMINUTED MATERIAL. HENRY M. SUTTON, WALTER L. STEELE, and EDWIN G. STEELE, Dallas, Tex. Filed Aug. 20, 1908. Serial No. 450,918.

1. The process of concentrating from a mass of materials parts thereof having different characteristics consisting in supporting the material upon an unobstructed

adapted to draw said finger against said apron, said bracket having an outwardly projecting arm, a clamping screw mounted in said arm, and a jaw carried by said screw coöperating with said apron to clamp the work.

979,040. TWO-CYCLE EXPLOSION-ENGINE. HENRY R. SIEVERKROPP, Davenport, Iowa. Filed Oct. 11, 1909. Serial No. 522,029.



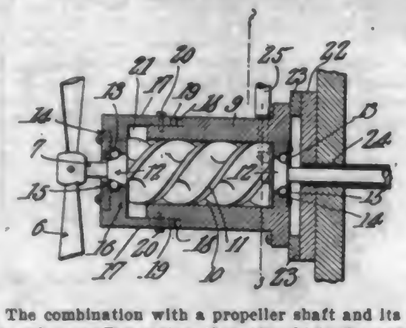
1. An explosion engine having like cylinders in parallel relation, said cylinders being spaced apart and intercommunicating at each end, with both ends of each cylinder normally closed to the atmosphere and the two cylinders at the adjacent walls each having a longitudinal slot matching that of the other cylinder, pistons in the cylinders, a connecting member for the pistons traversing the slots in the cylinders, an inlet port in one cylinder controlled by one end of the piston in the said cylinder, an exhaust port in the same cylinder controlled by the other end of said piston, a port at the power end of the other cylinder controlled by the piston in said other cylinder, the last named port communicating with the end of the same cylinder remote from the power end, a base or support for the cylinders, a crank shaft mounted in said base, and a pitman between the crank shaft and the connecting member for the pistons, the base constituting a closure for the corresponding ends of the cylinders where engaging said cylinder ends.

2. An explosion engine having like cylinders in parallel relation, said cylinders being spaced apart and inter-communicating at each end, with the ends of the cylinders normally closed to the atmosphere, pistons in the cylinders connected for movement simultaneously in the same direction, an inlet port in one cylinder controlled by one end of the piston in said cylinder, an exhaust port in the same cylinder controlled by the other end of said piston, and a port at the power end of the other cylinder controlled by the piston in the said other cylinder, the last named port communicating with the end of the same cylinder remote from the power end.

979,041. EXHAUST-MUFFLER. CHARLES F. SMITH, Miami, Fla. Filed May 31, 1910. Serial No. 564,108.

1. The combination with a propeller shaft and its drive motor, of a muffler casing through which the propeller shaft passes, said casing having an exhaust inlet, and separate exhaust outlets, the inlet being located on one side of the propeller shaft axis, and one of the outlets being located on the opposite side of said axis, and an impelling member on that portion of the propeller shaft which extends through the casing, against which member the exhaust is discharged.

2. The combination with a propeller shaft and its drive motor, of a muffler casing through which the propeller shaft extends, the ends of the casing being provided with bearings for said shaft, and one of said ends being adjustable to take up wear of the bearings, means for carrying the exhaust of the motor into the casing, said casing having an outlet, and an impelling member on that portion of the propeller shaft which extends through the casing, against which member the exhaust discharges.



3. The combination with a propeller shaft and its drive motor, of a muffler casing through which the propeller shaft extends, said casing having end walls provided with bearings for said shaft, one of said end walls being spaced from the casing to provide an outlet therefor, tongues on the last mentioned end wall, said tongues being fastened to the casing to secure said end wall in the aforesaid spaced relation, an impelling member on that portion of the propeller shaft which extends through the casing, and means for carrying the exhaust of the motor into the casing, to discharge against the impelling member.

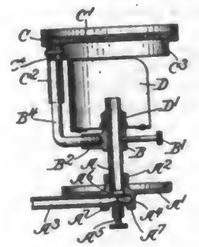
979,042. BED-SPRING. GARY B. SMITH, Minneapolis, Minn. Filed Dec. 28, 1908. Serial No. 469,557.



A bed bottom fabric composed of wire cable formed in sections, each having a plain bend at its center and its arms formed throughout their length with a series of twists alternately separated from and connected with each other, each twist comprising a bend in one direction, a bend in the other, and a third bend in the first direction, the twists in each arm being disposed with their bends alternating so that they will engage the twists in the other arm where said arms are connected, and the ends of the arms having their strands twisted together.

979,043. HEATING DEVICE. THEODORE SMITH, Chicago, Ill., assignor to Theo. Smith Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 29, 1904. Serial No. 230,454.

1. The combination with a burner of a wind shield, adapted to shield the burner, a supporting frame mounted above said burner, a supporting device adjustably mounted on the burner to which said shield and frame are connected so that they can both be adjusted with relation to the burner without changing their relative position, both said frame and said shield rotatably carried by said supporting device the supporting frame and wind shield having separate connections with said supporting device.



2. A burner comprising a gas tube, an adjustable supporting device surrounding said tube comprising a sleeve having an opening through which the tube passes, said sleeve adapted to be moved to various positions on the tube, and means for fastening the sleeve to the tube at any desired point, and an angular piece projecting from said sleeve, an annealing device removably and rotatably mounted upon said angular projecting part and adapted to be moved to one side to leave the space above the burner open.

3. A burner comprising a gas tube, an adjustable supporting device surrounding said tube comprising a sleeve having an opening through which the tube passes, said sleeve adapted to be moved to various positions on the tube, and means for fastening the sleeve to the tube at any desired point, and an angular piece projecting from said sleeve, an annealing device removably and rotatably mounted upon said angular projecting part, a wind shield rotatably mounted upon said supporting sleeve and located between the lower part of the angular projecting part and the annealing device.

4. A burner comprising a tube, a pipe beneath the tube leading to the source of gas supply and provided with a valve controlled opening beneath the tube, an air space between said tube and pipe adapted to be adjusted by adjusting the position of the tube, a lock nut on said tube for holding it in position, an adjustable supporting device on the tube comprising a sleeve with a right-angled projecting part connected therewith, and an annealing device mounted upon said angular projecting part.

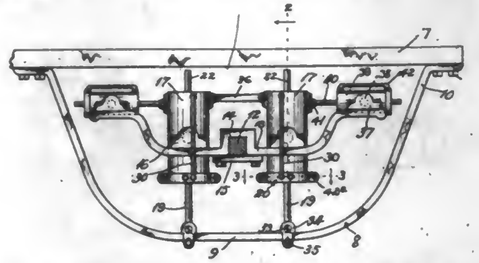
5. A heating device comprising a tube through which the material is conducted to the igniting point, a supporting device supported upon said tube, a laterally projecting part pivotally mounted upon said supporting device and adapted to be moved into position over said tube or out of the way at one side of said tube, said laterally projecting part provided with a hollow sleeve which fits down over the end of the supporting device, said sleeve provided with an obstruction which engages the end of the supporting device and limits its downward movement.

[Claims 6 and 7 not printed in the Gazette.]

979,044. PNEUMATIC SPRING. IGNATIUS J. STADELMANN, Los Angeles, Cal. Filed Apr. 6, 1910. Serial No. 553,694.

1. In combination, a frame, an axle, a vertically disposed pneumatic dash-pot connected between said frame and said axle and adapted to absorb shocks in a vertical plane, a pneumatic dash-pot arranged in a horizontal plane, connected with said first dash pot and adapted to absorb shocks in a horizontal plane, all of said dash pots being pivotally mounted.

2. In combination, a frame, an axle, cross heads attached to said axle, a pair of pneumatic dash-pots pivotally mounted on said cross heads, piston heads moving in said dash-pots and having pistons connecting with said frame, other dash-pots disposed with their axes in a horizontal plane, and having pistons connecting with said first dash-pots and tending to prevent the swinging movement thereof.



3. In combination, a frame, an axle, a cross head carried by said axle, a pair of pneumatic dash-pots pivotally supported on said cross head, a link connecting said dash-pots, said dash-pots having piston rods extending therefrom connecting with said frame, a second pair of dash-pots arranged respectively at opposite sides of said first dash-pot, mounted to swing on a horizontal axis, connected with said last named dash-pots, and having piston rods connecting with said first dash-pots.

979,045. GLASS-MACHINE. LEWIS STEELMAN, Alexandria, Va. Filed Dec. 24, 1909. Serial No. 534,758.

1. In an apparatus as described a batch conducting means and a knife for cutting the batch having an air passage therethrough.

2. In an apparatus as described, means for conducting the batch, a knife for cutting the batch having an air passage there-through and an air blast nozzle having its outlet located in alinement with said passage.

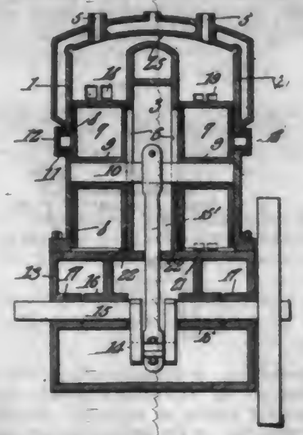
3. In an apparatus as described, means for conducting a batch, coöperating knives located below the discharge outlet of said means each knife having a vertically disposed blade and a horizontally disposed blade, the vertically disposed blade of one knife adapted to shear along the side of the other knife and vice versa and the horizontally disposed blades of the two knives adapted to meet in the same plane.

979,046. PROCESS OF CONCENTRATING COMMINUTED MATERIAL. HENRY M. SUTTON, WALTER L. STEELE, and EDWIN G. STEELE, Dallas, Tex. Filed Aug. 29, 1908. Serial No. 450,918.

1. The process of concentrating from a mass of materials parts thereof having different characteristics consisting in supporting the material upon an unobstructed

adapted to draw said finger against said apron, said bracket having an outwardly projecting arm, a clamping screw mounted in said arm, and a jaw carried by said screw coöperating with said apron to clamp the work.

979,040. TWO-CYCLE EXPLOSION-ENGINE. HENRY R. SIEVERKROPP, Davenport, Iowa. Filed Oct. 11, 1909. Serial No. 522,029.



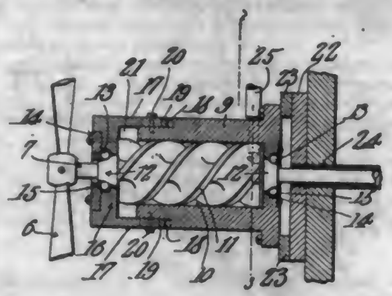
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2. An explosion engine having like cylinders in parallel relation, said cylinders being spaced apart and inter-communicating at each end, with the ends of the cylinders normally closed to the atmosphere, pistons in the cylinders connected for movement simultaneously in the same direction, an inlet port in one cylinder controlled by one end of the piston in said cylinder, an exhaust port in the same cylinder controlled by the other end of said piston, and a port at the power end of the other cylinder controlled by the piston in the said other cylinder, the last named port communicating with the end of the same cylinder remote from the power end.

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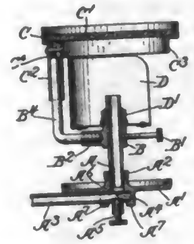
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2. A burner comprising a gas tube, an adjustable supporting device surrounding said tube comprising a sleeve having an opening through which the tube passes, said sleeve adapted to be moved to various positions on the tube, and means for fastening the sleeve to the tube at any desired point, and an angular piece projecting from said sleeve, an annealing device removably and rotatably mounted upon said angular projecting part and adapted to be moved to one side to leave the space above the burner open.

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4. A burner comprising a tube, a pipe beneath the tube leading to the source of gas supply and provided with a valve controlled opening beneath the tube, an air space between said tube and pipe adapted to be adjusted by adjusting the position of the tube, a lock nut on said tube for holding it in position, an adjustable supporting device on the tube comprising a sleeve with a right-angled projecting part connected therewith, and an annealing device mounted upon said angular projecting part.

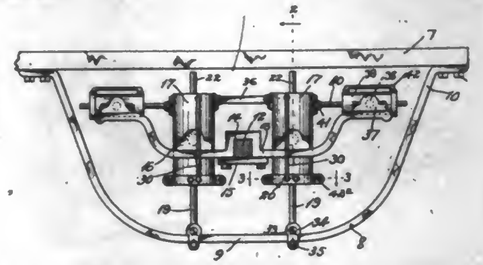
5. A heating device comprising a tube through which the material is conducted to the igniting point, a supporting device supported upon said tube, a laterally projecting part pivotally mounted upon said supporting device and adapted to be moved into position over said tube or out of the way at one side of said tube, said laterally projecting part provided with a hollow sleeve which fits down over the end of the supporting device, said sleeve provided with an obstruction which engages the end of the supporting device and limits its downward movement.

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2. In combination, a frame, an axle, cross heads attached to said axle, a pair of pneumatic dash-pots pivotally mounted on said cross heads, piston heads moving in said dash-pots and having pistons connecting with said frame, other dash-pots disposed with their axes in a horizontal plane, and having pistons connecting with said first dash-pots and tending to prevent the swinging movement thereof.



3. In combination, a frame, an axle, a cross head carried by said axle, a pair of pneumatic dash-pots pivotally supported on said cross head, a link connecting said dash-pots, said dash-pots having piston rods extending therefrom connecting with said frame, a second pair of dash-pots arranged respectively at opposite sides of said first dash-pot, mounted to swing on a horizontal axis, connected with said last named dash-pots, and having piston rods connecting with said first dash-pots.

979,045. GLASS-MACHINE. LEWIS STEELMAN, Alexandria, Va. Filed Dec. 24, 1909. Serial No. 534,758.

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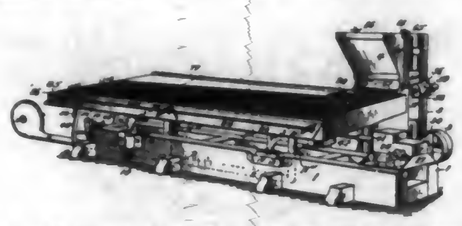
2. In an apparatus as described, means for conducting the batch, a knife for cutting the batch having an air passage there-through and an air blast nozzle having its outlet located in alinement with said passage.

3. In an apparatus as described, means for conducting a batch, coöperating knives located below the discharge outlet of said means each knife having a vertically disposed blade and a horizontally disposed blade, the vertically disposed blade of one knife adapted to shear along the side of the other knife and vice versa and the horizontally disposed blades of the two knives adapted to meet in the same plane.

979,046. PROCESS OF CONCENTRATING COMMINUTED MATERIAL. HENRY M. SUTTON, WALTER L. STEELE, and EDWIN G. STEELE, Dallas, Tex. Filed Aug. 29, 1908. Serial No. 450,918.

1. The process of concentrating from a mass of materials parts thereof having different characteristics consisting in supporting the material upon an unobstructed

surface by a gaseous cushioning medium to permit stratification thereof, feeding said material in one path and simultaneously imparting to a portion of said material a positive movement in a direction crossing said path.



2. The process of concentrating from a mass of materials parts thereof having different characteristics consisting in supporting the material upon an unobstructed surface by a gaseous cushioning medium to permit stratification thereof, feeding said material in one path and causing portions of said material differing in specific gravity to take directions of travel crossing the direction of movement given to the material in said path.

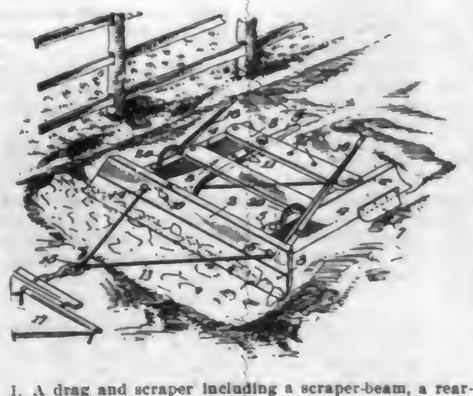
3. The process of concentrating from a mass of materials parts thereof having different characteristics, consisting in feeding the material upon an unobstructed surface, supporting said material by a cushioning air pressure applied in separated parallel areas, and propelling a portion of said material in the direction of such parallelism to separate it from other portions thereof.

4. The process of concentrating from a mass of materials parts thereof having different characteristics, consisting in changing the condition of the surface and shape and consequently the frictional value of some of its particles, supporting the material upon an unobstructed surface by a gaseous cushioning medium to permit stratification thereof, and feeding said material in one path and simultaneously imparting to a portion of said material a positive movement in a direction across said path.

5. The process of concentrating from a mass of material parts thereof having different characteristics consisting in supporting the material upon an unobstructed surface, feeding it in one path by gravity, supporting said material by a cushioning medium applied in separated parallel areas, and imparting to a portion of said material a propelling movement in the direction of such parallelism and crossing the feed by gravity.

[Claims 6 to 12 not printed in the Gazette.]

979,047. ROAD GRADER AND DRAG. THOMAS I. SWAGERTY and ARTHUR L. LOWE, Fontana, Kans. Filed Feb. 24, 1910. Serial No. 545,683.



1. A drag and scraper including a scraper-beam, a rearwardly extending side-piece pivoted to the scraper-beam, means for adjusting the angular relation of the scraper-beam and the side-beam, and a flexible connection attached at one end to the rear end of the side-beam then passing freely through the scraper-beam and attached at its other end to the end of the scraper-beam.

2. A drag and road scraper of the character described, including a scraper beam, parallel rearwardly extending runner supporting beams pivotally connected to the scraper beam, links connecting the runner supporting beams and pivoted thereto, said links being disposed entirely above the bottom edges of the runner supporting beams, and means for adjusting the angle of the runner supporting beams relative to the scraper beam.

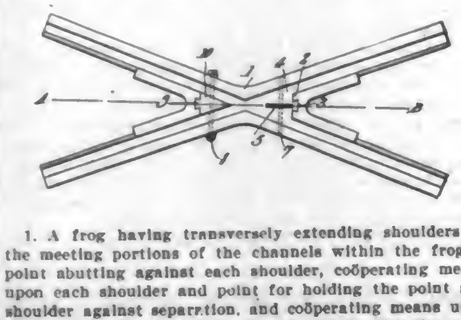
3. A drag and a road scraper of the character described including a scraper-beam, parallel rearwardly extending side-beams, links pivoted to the side-beams and connecting the same, a fixed member extending rearwardly from the scraper-beam, and means for engaging the fixed member with one of said links in any desired adjusted position.

4. A drag and scraper of the character described comprising a transversely extending scraper-beam, parallel rearwardly extending side-beams pivotally connected to the scraper-beam, and links pivoted to the side-beams and connected to a rearwardly extending fixed member attached to the scraper-beam, and means for detachably engaging the fixed member with one of said links to hold the scraper beam in any desired angular relation to the side-beams.

5. A drag and scraper of the character described comprising a transversely extending scraper-beam, parallel rearwardly extending side-beams pivoted at their forward ends to the scraper-beam, links pivotally connecting said side-beams, the rearmost of said links being formed with a plurality of perforations, an arm attached to the scraper-beam and extending rearwardly therefrom and formed with a line of perforations, locking means passed through the perforations of the link and arm respectively, to hold the two in locked engagement with each other, and a flexible draft connection attached at its rear end to the rear end of the side-beam which is opposite to the arm, thence passing through the scraper-beam at a point approximately co-incident with the forward end of the arm, and then attached at its other end to the extremity of the scraper-beam opposite to said last named side-beam.

[Claims 6 to 9 not printed in the Gazette.]

979,048. FROG-POINT. MILLARD M. TAWNEY, Harrisburg, Pa. Filed May 2, 1910. Serial No. 558,870.



1. A frog having transversely extending shoulders at the meeting portions of the channels within the frog, a point abutting against each shoulder, coöperating means upon each shoulder and point for holding the point and shoulder against separation, and coöperating means upon the point and bottom of the frog for reinforcing the point against lateral pressure.

2. A frog having a transversely extending shoulder at the meeting portions of the channels within the frog, said shoulder having a groove extending upwardly therein, a point removably mounted within the frog and abutting the shoulder, said point having an integral portion seated within and engaging the walls of the groove to hold the point against longitudinal displacement relative to the frog and a depending web upon the point and seated within a groove in the frog, said web constituting means for reinforcing the point against lateral strain.

3. A frog having a transversely extending shoulder at the meeting portions of the channels within the frog, said shoulder having a groove extending upwardly therein, a point removably mounted within the frog and abutting the shoulder, said point having an integral portion seated within and engaging the walls of the groove to hold the point against longitudinal displacement relative to the frog and a depending web upon the point and seated within a groove in the frog, said web constituting means for reinforcing the point against lateral strain and a tie bolt extending transversely through the frog and web.

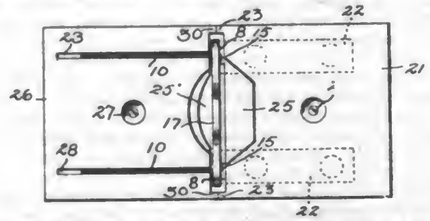
979,049. COUCH. MAITLAND THOMSON, New York, N. Y. Filed Mar. 18, 1910. Serial No. 550,106.



1. The combination with a seat, of an arm pivotally associated therewith, and retaining means for the arm comprising an engaging device on the arm, a dog on the seat adapted to interlock with said engaging device, a trip arranged adjacent to the dog adapted to engage the same to retract it from its interlocking position, said trip having oppositely arranged portions, means pivoting the trip on the seat, and a device movable with the arm for engaging said portions to rock the trip in opposite directions and correspondingly engage and disengage the dog, substantially as described.

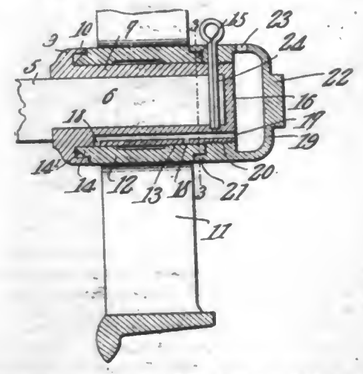
2. The combination with a seat, of an arm pivotally associated therewith, and retaining means for the arm comprising a toothed engaging device secured to the arm, a gravity dog pivoted to the seat adapted to interlock with said engaging device, a trip arranged beneath the dog adapted to lift it from its interlocking position, said trip having oppositely projecting extensions, means pivoting the trip on the seat, and a projection on the arm movable therewith arranged to alternately engage said extensions to rock the trip and correspondingly engage and disengage the dog, substantially as described.

979,050. ELECTRIC SWITCH. JOHN A. WARD, Spokane, Wash. Filed Aug. 21, 1909. Serial No. 513,991.



The combination with a base member, of terminal members carried thereon, parallel switch blades pivoted thereon, terminal members spaced from the first named members and adapted to receive said blades therein, an insulating grip bar carried upon the free ends of said switch blades, said bar having a central recessed enlargement adapted for manual engagement to operate the switch, an insulating cover member engaged over said base member and covering said first named terminal members and having parallel narrow slots therein adapted to allow close movement of the switch blades therein, and stopping adjacent said cross bar, a second cover member disposed oppositely of the cross bar, each of said cover members having extensions meeting at the opposite ends of said cross bar and having opposed finger receiving recesses therein on opposite sides of the cross bar and stopping short of the second named terminal members, said cover members projecting outwardly a spaced distance beyond the outer ends of said second named terminal members, and beyond the central extension of said cross bar to prevent casual engagement and operation of the switch, and to prevent contact of parts of the person with the conducting portions of the switch when closed.

979,051. CAR-WHEEL. SAMUEL WILKINSON, Osceola Mills, Pa. Filed Sept. 18, 1909. Serial No. 518,307.



The combination with an axle spindle angular in section, and a sleeve internally angular throughout its length and fitting said spindle and closed at its outer end over the same, externally cylindrical, and having a longitudinal oil duct in its under side opening at its outer end and branches opening radially outward; of an annular flange at the inner end of the sleeve, a cap screwed on its outer end and having a flange and an internal oil chamber communicating with said duct, and a wheel hub journaled around said sleeve and having end flanges projecting under those on the sleeve and cap.

979,052. STOCK-TROUGH. CHARLES O. ANDERSON, Wichita, Kans. Filed Feb. 8, 1910. Serial No. 542,669.



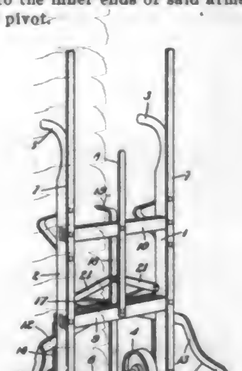
A watering trough comprising a body portion, a vertically disposed inlet tube mounted therein and provided at its upper edge with outlet orifices, a plug adapted to close the upper end of the tube and arranged to extend down therein far enough to close the orifices, a cross bar mounted in the body portion of the trough and a float hinged intermediate of its ends to the cross bar, the plug being suspended from one end of the float and the float being provided at its opposite end with an air chamber.

979,053. HAND-TRUCK. WILLIAM HOLLAN ARCHIBALD, Vernon, British Columbia, Canada, assignor of one-half to Elmer E. Samson, Vernon, Canada. Filed Mar. 21, 1910. Serial No. 550,613.

1. In a hand truck, a frame supported on suitable wheels, a pair of tong shaped arms pivotally connected together, the pivot being rigidly secured to said frame, and means for swinging said arms on their pivot.

2. In a hand truck, a frame supported on suitable wheels, a pair of arms pivotally secured together adjacent to one end and having outwardly and forwardly extending portions adapted to grip the packages to be carried, the

pivot of said arms being rigidly secured to said frame and means connected to the inner ends of said arms for swinging them on their pivot.



3. In a hand truck, a frame supported on suitable wheels, a rigid cross bar extending between the sides of said frame intermediate of their length, a bolt or pin rigidly secured to said cross bar mid-way of its length, a pair of arms pivotally supported intermediate of their length on said bolt or pin, said arms extending angularly outward and forward from their pivot and having extension ends arranged perpendicular to the main portions, said perpendicular ends being adapted to grip the packages, and means connected to the inner ends of said arms for swinging them on their pivots.

4. In a hand truck, a frame having a pair of side arms and cross bars rigidly connecting said side arms, a pair of tong shaped arms pivotally secured to a rigid pivot extending from one of said cross bars adjacent to their inner ends and extending angularly outward and forward and having upturned portions extending substantially parallel with the sides of said frame and portions extending substantially perpendicular to said upturned portions, said perpendicular portions being adapted to grip the packages at their forward ends, and means connected to the inner ends of said arms for swinging them on their pivots.

5. In a hand truck, a frame having a pair of side arms and cross bars connecting the said side arms, a pair of clamp members pivotally secured together and to a rigid pivot pin extending from one of said cross bars, guide strips secured to the under edge of said side arms and extending over said clamp members, and means connected to the inner ends of said clamp members for swinging them on their pivots.

[Claims 6 to 8 not printed in the Gazette.]

979,054. REMEDY FOR SWINE FEVER, PLAGUE, &c. LEOPOLD BADEU, Pillichsdorf, Austria-Hungary. Filed Mar. 17, 1910. Serial No. 549,898.

1. A process for preparing a healing and protecting medicinal compound for use against swine fever, swine plague and the like consisting in mixing cattle gall with hellebore, inclosing the mixture in an air tight receptacle and allowing it to stand.

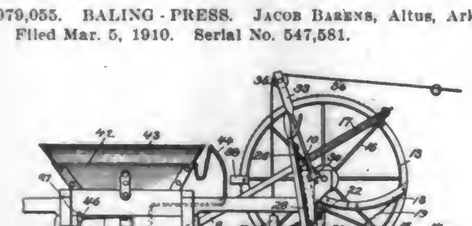
2. A process for preparing a healing and protecting medicinal compound for use against swine fever, swine plague and the like consisting in mixing cattle gall with hellebore, inclosing the mixture in an air tight receptacle the holding capacity of which is greater than that necessitated by the volume of the mixture and allowing the latter to stand.

3. A process for preparing a healing and protecting medicinal compound for use against swine fever, swine plague and the like consisting in mixing cattle gall with hellebore, inclosing the mixture in an air tight receptacle and allowing it to stand in sunlight.

4. A process for preparing a healing and protecting medicinal compound for use against swine fever, swine plague and the like consisting in mixing approximately 250 grams of oxgall with approximately 100 grams of hellebore, inclosing the mixture in an air tight receptacle and allowing it to stand.

5. A process for preparing a healing and protecting medicinal compound for use against swine fever, swine plague and the like, consisting in mixing 250 grams of oxgall with 100 grams of hellebore, inclosing the mixture in an air tight receptacle the holding capacity of which is greater than that necessitated by the volume of the mixture and allowing it to stand in sunlight.

979,055. BALING-PRESS. JACOB BARENS, Altus, Ark. Filed Mar. 5, 1910. Serial No. 547,581.



1. In a baling press, a supporting frame, a bull wheel, a draft device secured to said bull wheel, a plunger operatively connected with the bull wheel, an anchoring member mounted on the supporting frame, and means independent of the draft device for raising and lowering the anchoring member.

2. In a baling press, a supporting frame, a bull wheel, a plunger operatively connected with the bull wheel, and an anchoring member pivotally mounted on the supporting frame and movable to lowered position in engagement with the ground and to elevated position in engagement with said bull wheel.

3. In a baling press, a supporting frame, a bull wheel, a plunger operatively connected with the bull wheel, an anchoring member pivotally mounted on the supporting frame, means for raising and lowering the anchoring member, and means carried by the anchoring member and adapted to engage the bull wheel for preventing rotary movement thereof.

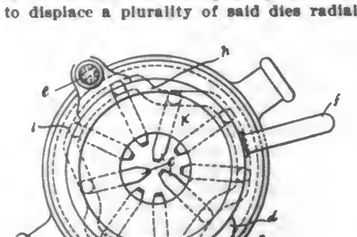
4. In a baling press, a supporting frame, a bull wheel, a plunger operatively connected with the bull wheel, an anchoring member pivotally mounted on the supporting frame and provided with means for limiting the rotary movement of said bull wheel, an alarm, and means carried by the bull wheel and adapted to engage the alarm as the plunger approaches the end of its working stroke.

5. In a baling press, a supporting frame, a bull wheel, a plunger operatively connected with the bull wheel, stop fingers carried by the supporting frame, a signal, and means secured to the periphery of the bull wheel and adapted to successively engage the signal and stop fingers as the plunger approaches the end of its working stroke.

[Claims 6 and 7 not printed in the Gazette.]

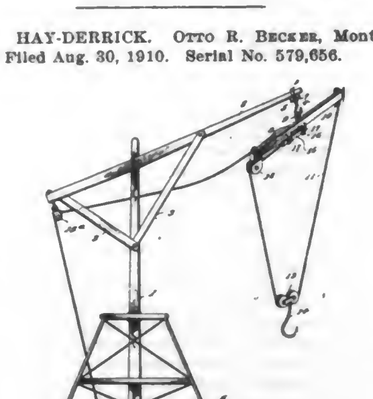
979,056. DIE-STOCK. RUDOLF BARTHOLOMÄUS, Dresden, Germany. Filed Sept. 20, 1909. Serial No. 518,702.

A die stock comprising in combination, a stock carrier, a plurality of sets of dies radially slidable in said carrier, a cam body rotatably secured on said carrier, said body being provided with a groove formed by a plurality of curved grooves, each of said last named grooves extending without angular interruption into the adjacent curves, said dies being provided with guiding members engaging said grooves, means for rotating said body on said carrier, said grooves in coaction with said guiding members being adapted to displace a plurality of said dies radially and



to maintain other dies in their position, when said body is rotated over one third of the periphery of said carrier.

979,057. HAY-DERRICK. OTTO R. BECKER, Montrose, Colo. Filed Aug. 30, 1910. Serial No. 579,656.



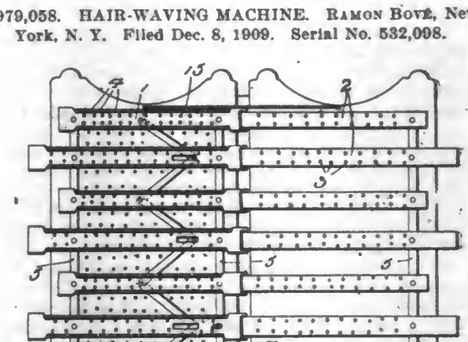
1. In a hay derrick, the combination of a supporting frame, a post mounted upon the supporting frame, a derrick arm carried by the post, a cross bar supported by one end of the derrick arm, the middle portion of the cross bar having a swiveled connection with the derrick arm, a guide member on one end of the cross bar, a cable secured to the opposite end of the cross bar and passing around the guide member, a block upon the cable between the said guide member and the end of the cross bar, and a pulley at the central portion of the cross bar around which the cable extends.

2. In a hay derrick, the combination of a supporting frame, a post mounted upon the supporting frame, a derrick arm secured to the post, a cross bar supported by the derrick arm, the middle portion of the cross bar having a swiveled connection with the derrick arm, a guide member at one end of the cross bar, a cable secured to the opposite end of the cross bar and passing around the guide member, a block upon the cable between the said guide member and the end of the cross bar, and a pulley pivotally connected to the middle portion of the cross bar, the cable being passed around the pulley after engaging the guide member.

3. In a hay derrick, the combination of a supporting frame, a post mounted upon the supporting frame, a derrick arm applied to the post, a cross bar having a swiveled connection at its central portion with one end of the derrick arm, a guide member at one end of the cross bar, a cable secured to the opposite end of the cross bar and passing around the guide member, a block upon the cable between the said guide member and the end of the cross bar, a pair of eyes projecting from the middle portion of the cross bar, and a pulley provided with hooks loosely engaging the eyes, the cable passing around the said pulley for engaging the before mentioned guide member.

4. In a hay derrick, the combination of a supporting frame, a post mounted upon the supporting frame, a derrick arm applied to the post, a block, a clamp securing the block to one end of the derrick arm, a swiveled hook mounted upon the block, a cross bar provided at its middle portion with means for engaging the swiveled hook, and hoisting means upon the cross bar.

979,058. HAIR-WAVING MACHINE. RAMON BOVÉ, New York, N. Y. Filed Dec. 8, 1909. Serial No. 532,008.



1. A hair waving apparatus, comprising two sets of bars containing a plurality of bars in each set, the bars of one set being hingedly connected to the bars of the other set and arranged to be folded one upon the other, and means for automatically moving the bars toward each other in a direction lengthwise of the set upon the folding movement of the bars.

2. A hair waving apparatus, comprising two sets of bars containing a plurality of bars in each set, the bars of one set being hingedly connected to the bars of the other set and arranged to be folded one upon the other, means for automatically moving the bars toward each other in the direction length-wise of the set upon the folding movement of the bars, and means for automatically spreading the bars apart in a direction lengthwise of the set upon the unfolding movement of the bars.

3. A hair waving apparatus, comprising two sets of bars, one set being arranged to fold upon the other set, the bars being formed with perforations, and the bars of one set being provided with flanges between which the other bars are adapted to lie, said flanges being formed with teeth.

4. A hair waving apparatus comprising two sets of bars, the bars of one set being arranged to fold over upon the bars of the other set, cover plates carrying said bars, and springs carried by one of said cover plates and connected to the end bars of one set and arranged to move the folding bars toward each other in a direction lengthwise of the sets.

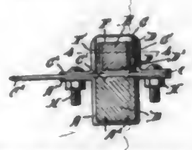
5. A hair waving apparatus comprising two sets of bars, the bars of one set being arranged to fold over upon the bars of the other set, cover plates arranged to support the bars, a toggle link connection between the bars of one set, one end bar of one set being rigidly connected to one cover plate, and expansion springs pressing upon the opposite end bars of the same set, for the purpose specified.

[Claims 6 to 8 not printed in the Gazette.]

979,059. WHIFFLETREE-COUPLING. THOMAS JEFFERSON BULLOCK, Freedom, Ky. Filed Jan. 25, 1910. Serial No. 539,993.

1. A whiffletree coupling, comprising a clip adapted to receive a draft beam, a bar arranged over said beam, a box mounted on said bar adapted to receive a whiffletree, a cap provided with bearings, a cap arranged over said box, and a coupling arranged over said box working in said bea

lings for securing the same on the draft beam and whiffletree.

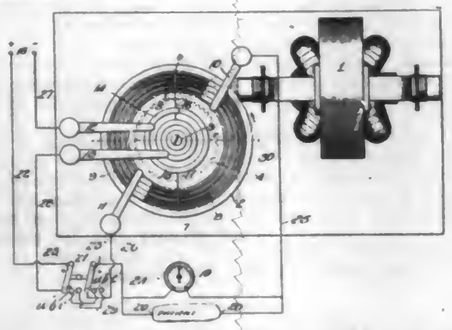


2. A whiffletree coupling comprising a substantially U-shaped clip adapted to receive a draft beam having outwardly projecting apertured ends, a bar arranged over said beam having apertures adapted to register with the apertures of the clip, a box mounted on said bar adapted to receive a whiffletree, a cap arranged over said box provided with shoulders at its ends, and a substantially U-shaped coupling member arranged over said box having feet portions provided with apertures adapted to register with the openings of the bar and through which bolts pass for securing the coupling member in position on the draft beam and whiffletree.

3. A whiffletree coupling comprising a clip adapted to be arranged on a draft beam, a bar arranged over said clip, a box adapted to receive a whiffletree having bearing portions, a cap arranged over said box, and a coupling member having bearing portions coacting with the bearing portions of said box together with means for locking said coupling member, bar and clip over the draft beam and whiffletree.

4. A whiffletree coupling comprising a substantially U-shaped clip having outwardly projecting apertured end portions, said clip being provided with spurs, a draft beam arranged in said clip having said spurs embedded therein, a bar having an apertured end arranged over said beam having apertures registering with the apertures of said outwardly projecting ends, a box mounted on said bar having oppositely disposed bearing portions, said box being provided with spurs, a whiffletree arranged in said box, a cap provided with depending arms arranged over said box, a substantially U-shaped coupling member arranged over said box having rounded leg portions forming bearings coacting with the bearings of the box, said leg portions being provided with feet having openings registering with openings of the bar, and bolts extending through the openings of the respective members for securing the said members over a draft beam and whiffletree.

979,060. SINUSOIDAL-WAVE-CURRENT APPARATUS. FRED CEDERGREN, Hammond, Ind., assignor of one-half to Frank S. Betz, Hammond, Ind. Filed Oct. 7, 1907. Serial No. 396,261.



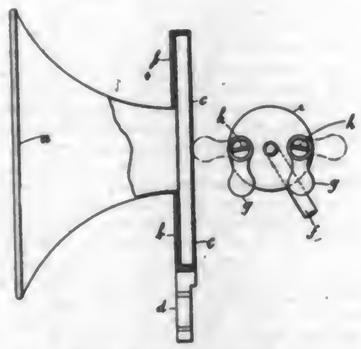
1. A device of the class described, comprising a disk having thereon an annular conductor comprising a strip of resistance material, a pair of brushes bearing on said strip at diametrically opposite points, an electric circuit comprising conductors in circuit with said brushes and having connection separate from said brushes with two diametrically opposite parts of said strip, means for rotating said disk and brushes relatively to each other about the axis of said strip, electrodes for connecting a patient in said circuit, and a switch comprised in said circuit and adapted at will to connect said electrodes either in shunt with a variable part of said strip part of the time, or in series with said strip most of the time.

2. A device of the class described, comprising a disk of insulating material having thereon a continuous annular strip of conducting material comprising alternate segments of relatively high and relatively low resistance arranged symmetrically in diametrically opposed pairs, a pair of brushes bearing on said strip at diametrically opposite points, an electric circuit comprising conductors, including electrodes, in circuit with said brushes and having connection with two diametrically opposed parts of said strip, means for rotating said disk and brushes relatively to each other about the axis of said strip, and switching means adapted to vary the connection between the various parts so as to produce at will currents having sinusoidal changes in voltage and either alternating in direction or flowing continuously in one direction when said disk and brushes are relatively rotated.

3. A device of the class described, comprising a rotatable member having thereon an annular strip of resistance material, a pair of annular conductors insulated from each other and respectively connected to diametrically opposite points of said strip, brushes bearing on said conductors, a pair of fixed brushes bearing upon said resistance strip at diametrically opposite points, an electric circuit including a source of electricity and patient's electrodes, together with said brushes, means for continuously rotating said disk, and a switch controlling said circuit and adapted to connect the patient's electrodes either solely in series most of the time or in parallel part of the time with a variable part of the resistance strip on said member at the will of an operator, said connections being such that the relative movement of said member and the brushes bearing on said resistance strip will cause undulatory changes in the resistance in the patient's circuit for each position of said switch.

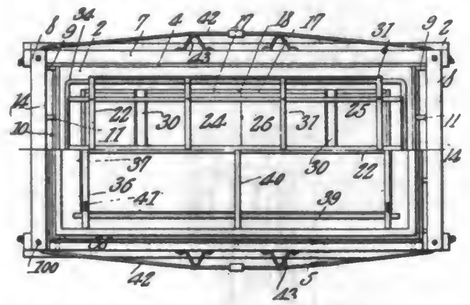
4. The combination of line conductors, service electrodes, rheostat terminals, switching means, a rheostat member rotatably mounted and adapted to vary the potential of one pair of terminals from maximum to minimum in one quarter revolution, and adapted through said switching means to vary the current from maximum to minimum in one half revolution, said rheostat terminals being connected between said line conductors and said service electrodes, and means for maintaining a substantially uniform relative rotation of said rheostat member.

979,061. OPERATION OF SIGNAL-HORNS. MORTIMER ARTHUR CODD, London, England. Filed Apr. 27, 1910. Serial No. 557,963.



In signal horns for automobiles, motor launches and the like of the kind hereinbefore referred to, the combination of a sound amplifier or resonating horn having a diaphragm closed sounding box at its rear and a rapidly rotatable disk or pulley provided with one or more strikers or flails pivoted thereon for striking the said diaphragm, substantially as set forth and for the purpose specified.

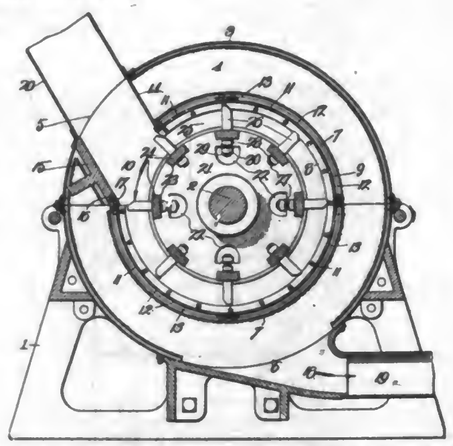
979,062. GRAVE-VAULT MOLD. WILLIAM DENNIS, Pen Argyl, Pa. Filed Apr. 2, 1910. Serial No. 553,022.



1. In a device of the class described, a bottom; an outer shell resting upon the bottom; bars extended transversely of the bottom between the bottom and the shell and provided upon the outside of the shell, with upstanding means for engaging a lifting device; a core resting upon the bottom within the shell; a bead upstanding from the bottom between the core and the shell, there being projections upon the bars forming continuations of the bead; and a frame secured to the bottom and constituting an abutment for said means to aline the projections and the bead.

2. In a device of the class described, a core consisting of collapsible side walls; a lid resting upon the side walls and consisting of a plurality of sections; overlapping cleats secured to the adjacent edges of diagonally disposed sections, transversely of the lid; retaining elements removably connecting the cleats; retaining elements extending through the outer ends of adjacent sections at the ends of the lid; and a securing device connecting the last named retaining elements to hold together those sections through which the last named retaining elements extend.

979,063. ALFALFA-GRINDING MACHINE. HARRY C. EDWARDS, Kansas City, Mo. Filed Oct. 11, 1909. Serial No. 522,118.

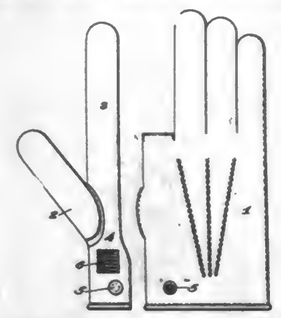


An alfalfa grinding machine, comprising a cylindrical casing having a feed opening, and an exit opening in its periphery, a perforated casing within the first-named casing provided with a slot opposite said feed opening, the said perforated casing being of gradually increasing radius from one side of said slot to the other, a plate extending from the side of said slot where the perforated casing is of least diameter to the corresponding side of said feed opening of the first-named casing, a bar extending from the other side of said slot to the other side of said feed opening and provided at its inner edge with a notch, a shredder bar fitting in said notch, and a rotatable toothed cylinder arranged within the perforated casing and concentrically with respect to the first-named casing.

979,064. ELECTRICAL ELEMENT. AXEL THEODOR KONSTANTIN ESTELLE and KARL WILHELM HENRIK EVENS, Fliseryd, Sweden, assignors to Nya Ackumulator Aktiebolaget Jungner, Fliseryd, Sweden, a Company. Filed May 12, 1909. Serial No. 495,561.

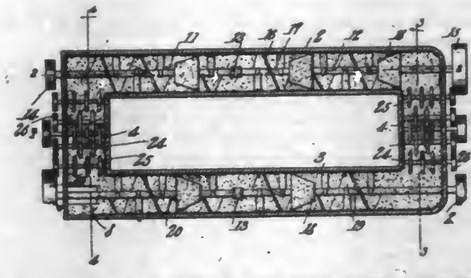
Active mass for negative electrodes of alkaline accumulators consisting of a mixture of metallic iron and metallic cadmium both in finely divided state and mixed in such proportions that the discharge of the iron takes place according to a single curve of potential, the high-potential curve, thus avoiding the formation of ferric-compounds.

979,065. GLOVE. JACOB W. FENNEL, Newburgh, N. Y. Filed Feb. 7, 1910. Serial No. 542,510.



A glove comprising a main section covering the back and palm of the hand and some of the fingers and fitting around the wrist but arranged to leave the thumb exposed, a removable section having a thumb piece and a finger piece and having a body portion fitting around the main section between the wrist and finger ends thereof, and means for fastening the sections together at the wrist.

979,066. COTTON-SEED DELINTER. PHILLIP AYLETT FITZHUGH, Gulfport, Miss. Filed Oct. 30, 1909. Serial No. 525,589.



1. A cotton seed delinter comprising inclined troughs arranged so as to communicate at both ends one with the other, a feeding device located over the lower end portion of one trough, a discharging device located under the upper end portion of the other trough, and means located in the troughs for passing cotton seed along the same and subjecting the seed to abrading action.

2. A cotton seed delinter comprising an inclined trough, shaft sections journaled for rotation in the trough and alined with each other, means to rotate the alined shaft sections at different rates of speed, conveying means carried by the shaft sections, and seed abraders located upon the shaft sections.

3. A cotton seed delinter comprising troughs inclined in opposite directions and communicating with each other, seed conveying means located in the troughs and adapted to submit the seed to abrading action, a hood located over the troughs, a suction pipe connected with the hood, said hood having an inlet opening, a casing located over said opening and communicating with the interior of the hood through the opening, a hopper located at one end of the casing, the other end of the casing being reduced in transverse dimension, a worm auger located in said casing and adapted to convey material from the hopper to the inlet opening of the hood, one of said troughs having an outlet opening, a casing located under said outlet opening, a worm auger journaled for rotation in the last said casing and adapted to transmit seed from the outlet opening and fans journaled for rotation in the troughs above the seed conveying means.

979,067. HARNESS ATTACHMENT. EDWARD A. GAMBLE, Hastings, Nebr. Filed Apr. 27, 1910. Serial No. 557,854.



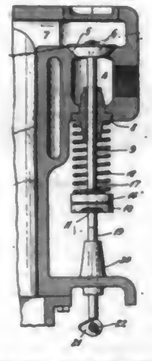
1. In a harness attachment of the character described, a shaft supporting hook adapted to be connected to the harness and to be engaged with the shafts whereby the latter are supported, a shaft holding member pivotally and slidably mounted with relation to said supporting hook and adapted to coöperate with said hook, to hold the shafts in position, a detachable slotted bolt connection between the supporting hook and shaft holding member, and means whereby said shaft holding member may be connected to the harness.

2. In a harness attachment a shaft supporting hook adapted to be connected to the harness saddle, a pair of shaft holding hooks, means to pivotally and slidably connect said hooks with the supporting hook, means to connect said shaft holding hooks with the belly band of the harness and means to connect the breeching strap of the harness with said attachment.

3. In an attachment of the character described, a shaft supporting hook having formed on its upper end a buckle whereby the same is detachably secured to the saddle strap of the harness, a bearing eye formed on the lower end of said supporting hook, a pivot bolt loosely mounted in said eye, said bolt having formed therein transverse slots, a pair of shaft holding hooks slidably mounted in the slots of said bolt and adapted to coact with said supporting hook to hold the shafts in position, a slotted cross plate to secure the lower end of said hooks together, said slotted plate being adapted to receive the belly band strap whereby the attachment is secured to the band and a strap loop secured to one end of said bolt and adapted to receive the breeching strap of the harness whereby said strap is secured to the attachment.

4. In a harness attachment of the character described, a shaft supporting hook, means to secure said hook to the harness saddle, a bearing eye formed on the lower end of said hook, a pivot bolt having a loose engagement with said eye, said bolt being formed in separable sections one of which is notched to provide slots through said bolt, nuts arranged on the opposite ends of said bolt to secure said sections together, a strap engaging loop formed on one of said nuts, and shaft holding hooks having sliding engagement with the slots in said bolt whereby said hooks are adapted to be engaged with the shafts to hold the latter in position in said supporting hook.

979,068. VALVE-SEATING ATTACHMENT. JAMES M. GIBBS, Santa Ana, Cal., assignor of one-half to George E. Powell, Santa Ana, Cal. Filed Mar. 26, 1910. Serial No. 551,662.

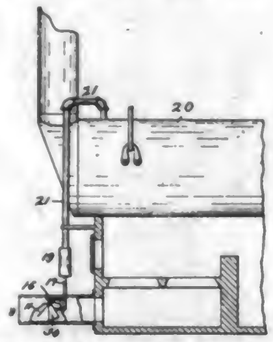


1. In a device of the class described, a valve chamber having a valve seat, a disk closing upon said seat, a spring tending to force said disk upon said seat, and an antifriction device in connection with said spring tending to increase the facility of rotation of said disk.

2. In a device of the class described, in combination, a valve chamber having a seat, a valve having a disk closing upon said seat, a stem extending from said disk, means for guiding said stem, a spring tending to force said disk toward said seat, an antifriction device between said spring and said stem through which the pressure of said spring is exerted.

3. In a device of the class described, a valve chamber having a seat, a disk closing upon said seat, a stem extending from said disk, means for guiding said stem, a collar carried by said stem, a second collar having a ball bearing connection with said first collar, and a spring seating on said second collar and forcing said valve disk toward said seat.

979,069. DRAFT-REGULATOR. FRANK M. HEATH, Portland, Oreg. Filed Sept. 1, 1908. Serial No. 451,196.



1. In a draft regulator, the combination of two dampers coöperating with the same flue or passage, one being movable toward and from the other to vary the size of the

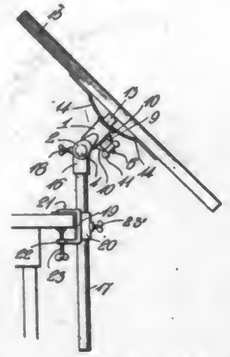
draft passage, automatic heat-operated means for causing movement of one of said dampers to a predetermined position with reference to the flue or passage, and a device actuated by said heat-operated means adapted for controlling the movements of the other damper subsequently.

2. In a draft regulator, the combination of a damper, means for latching the damper in an open position, automatic heat-controlled means for releasing the damper, means to arrest the damper before it reaches a fully closed position, and automatic means to vary the size of the draft opening formed by the damper in its arrested position.

3. In a draft regulator, the combination of a damper, a latch for holding it in an open position, a second damper coöperating with the first to regulate the size of the draft opening, and automatic heat-operated means for releasing the latch lever and moving the second damper.

4. In combination with a stove or the like having a draft inlet, a pair of dampers mounted in said inlet, means for latching one of said dampers in an open position, and automatic heat-controlled means for unlatching said damper and for moving the other damper.

979,070. ADJUSTABLE SUPPORT FOR DRAWING-BOARDS. ADOLPH HOFFMAN, Columbus, Ohio. Filed Sept. 1, 1910. Serial No. 580,015.

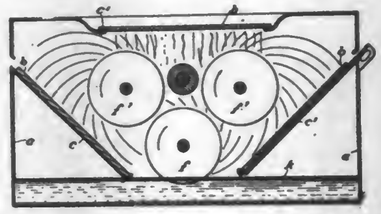


The combination of a socket-member having diametrically opposite depending apertured ears at its lower end and provided in its upper portion with transverse openings communicating with its bore and having a screw formed thereon and projecting radially outward between said openings, a post fitted in the socket member and provided at its upper end with a spider adapted to be secured to a board and having an annular flange below the spider to rest on the upper end of the socket member, a clamping member fitted on the bolt projecting from the socket member and having lugs entering the openings in said member, a nut mounted on the bolt and bearing upon said clamping member, a pivot bolt secured in and extending between the ears at the lower end of the socket member, a coupling member mounted loosely on said pivot bolt between said ears and having a depending hollow arm, and a standard fitted in said arm.

979,071. ETCHING APPARATUS. AXEL HOLMSTRÖM, Gefle, Sweden. Filed Oct. 15, 1909. Serial No. 522,846.

1. An apparatus for etching metal plates and the like, composed of a receptacle adapted to contain an etching bath, a primary spraying device arranged in the receptacle to dip into the etching bath, and means arranged in juxtaposition to the primary spraying device to intercept the etching fluid as it leaves the primary spraying device and to cause the fluid to become finely divided and to direct same to contact with the plates.

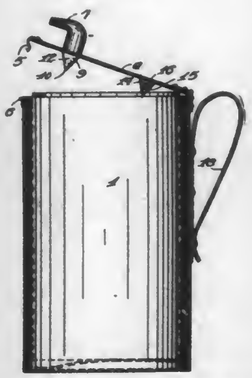
2. An apparatus for etching metal and similar plates, composed of a receptacle for containing an etching bath, a primary spraying device to dip into the bath, means for supporting a plate in the receptacle, and means for intercepting the fluid as it leaves said primary spraying device to deflect same onto said plate.



3. An apparatus for etching metal and similar plates, composed of a receptacle for containing an etching bath, a primary spraying device to dip into the bath, a grooved element in the receptacle to receive and support one end of the plate, and a cover for the receptacle to intercept the fluid after it leaves said device and to direct said fluid onto the plate.

4. An apparatus for etching metal and similar plates, composed of a receptacle for containing an etching bath, a primary spraying device to dip into the bath, a step in the receptacle to receive and support one end of the plate, a cover for the receptacle to intercept the fluid after it leaves said device and to direct the fluid onto the plate, and a further spraying device in the receptacle disposed between the primary spraying device and the cover.

979,072. COMBINED CAN CONTAINER AND PERFORATOR. HARRY A. JAVINS, Burlingame, Cal. Filed Mar. 5, 1910. Serial No. 547,594.



1. A can container and perforator comprising a body, a cover hinged thereto, said cover provided with an air inlet and discharge opening, a spout projecting from the cover and surrounding one end of the discharge opening, a valve casing depending from said cover and surrounding the other end of said discharge opening, said casing provided with a penetrating point and also with an opening, a valve in said casing normally sealing said opening, a valve casing depending from said cover and surrounding said air opening, said valve casing provided with a penetrating end and with an air opening, and a valve in said last-mentioned casing normally sealing said air opening.

2. A can container and perforator comprising a body, a cover therefor provided with can perforating means also adapted to permit the discharge of the contents of a can when said cover is closed, and means carried by said body for projecting a can above the upper edge thereof when said cover is opened.

3. A can container and perforator comprising a body, a cover therefor, means carried by said cover for perforating a can within said body when said cover is closed, and a spring carried by the bottom of said body for projecting a

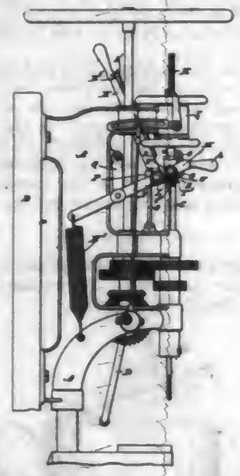
can above the upper edge of said body when said cover is opened.

4. A device of the character described comprising a body, a cover therefor, an air supplying valve casing, a discharge valve casing carried by the under surface of said cover, said valve casings having pointed ends adapted to penetrate a can in said body, and a pouring spout communicating with said discharge casing.

5. A device of the character described comprising a body, a cover hinged thereto, a pair of inverted cone shaped can-penetrating valve casings depending therefrom, and a discharge spout carried by said cover and communicating with one of said casings.

[Claim 6 not printed in the Gazette.]

979,073. DRILLING-MACHINE. HENRY BRINSER KEIPER, Lancaster, Pa. Filed Dec. 17, 1909. Serial No. 533,712.



1. In combination with a rotary and longitudinally movable drill-spindle and suitable driving mechanism therefor, means for quickly returning the drill to normal or initial starting position at the end of a boring operation including a spring-actuated lever having a suitable connection with said spindle for raising and lowering the same while permitting rotary movement, a pinion fixed on an arbor journaled in said lever, a pivoted rack-bar engaging said pinion, a hand-lever loose on said arbor, and means for locking said hand-lever to said arbor, whereby great pressure may be exerted in feeding the drill by means of said hand-lever operating on said first-named lever through said rack-bar and pinion.

2. In a drilling machine, a rotatable, longitudinally movable drill-spindle and suitable driving mechanism therefor, in combination with a lever having a suitable connection with said spindle for raising and lowering the same while permitting rotary movement, a shaft journaled on said lever having a pinion thereon, a rack-bar pivoted at one end and engaging said pinion, a hand-lever loose on said shaft, and means for locking said hand-lever to said shaft for feeding by means of said hand-lever operating through said first-named lever and said rack-bar and pinion.

3. In a drilling-machine, a rotatable, longitudinally movable drill-spindle and suitable driving mechanism, in combination with means for feeding, comprising a lever fulcrumed on the machine frame, a shaft journaled on said lever, a pinion on said shaft, an oscillatory rack-bar engaging said pinion for transmitting motion to said lever, a second lever normally loose on said shaft, and means for locking said second lever to said shaft.

4. In combination with the feed-screw and drill-spindle coupled thereto, means for rotating said spindle and moving it longitudinally with said feed-screw, means for feeding by hand, and an auxiliary hand-feeding device comprising a compound lever movement of which said first named hand-feeding device forms a part, the latter device being adapted to operate independently of and interchangeably with said auxiliary hand-feeding device.

5. In a drilling-machine, a rotatable, longitudinally movable drill-spindle, and suitable driving mechanism and means for feeding, including a lever fulcrumed on the machine frame and means acting on said lever for effecting a quick return movement, said lever being adapted to be utilized for feeding by hand with slight pressure, in combination with an auxiliary hand-feeding device operating through said lever for increasing the pressure, said auxiliary device comprising a shaft revolubly supported on said lever, a pinion on said shaft, an oscillatory rack-bar engaging said pinion, a hand-lever normally loose on said shaft, and means for locking said hand-lever to said shaft.

[Claims 6 to 10 not printed in the Gazette.]

979,074. TELESCOPING MUD-GUARD. ROBERT EMMETT KELLY, Cocoanut Grove, Fla. Filed Aug. 4, 1910. Serial No. 575,485.

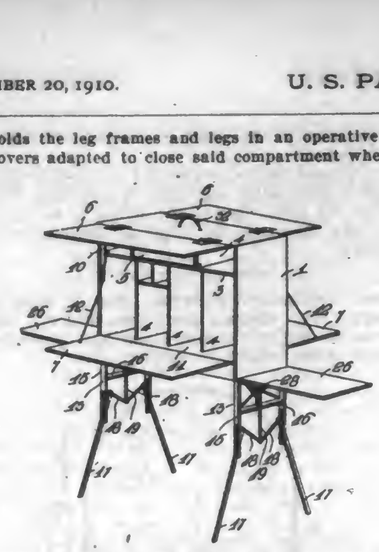


A mud guard comprising a fixed casing provided with longitudinal internal channels at its side edges and having an opening near its outer end, an intermediate member having openings near its ends adapted to register with the opening in the casing and provided in its side edges with internal channels and with external beads slidably engaging the channels of the casing, an inner member provided with an opening near its inner end and having heads on its side edges slidably engaging the channels in the intermediate member, a spring disposed longitudinally of said inner member and secured to the inner face thereof at one end and provided at its free end with a knob projecting through the opening in said member and adapted to engage the registering opening in the intermediate member, and a longitudinally disposed spring secured at one end to the outer face of the casing and provided near its free end with a knob adapted to project through the opening therein and engage the opening in the intermediate member.

979,075. FOLDING CARRYING CASE AND STAND. GEORGE L. KOHN, Grover Hill, Ohio. Filed Mar. 3, 1910. Serial No. 547,102.

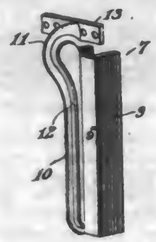
A carrying case having formed in its lower side a compartment, supporting frames pivotally mounted at their upper ends in said compartment, and adapted to be folded therein to an inoperative position, pairs of supporting legs pivotally mounted in the lower ends of said frames, a pair of leg operating rods slidably connected with said frames, a pair of links to connect the lower ends of said rods with the upper ends of said legs whereby, when the frames are folded into said compartment, the legs will be retracted to permit the same to enter the compartment, and when said frames are swung outwardly to an operative position, said legs will be expanded to form firm supports for the case, a frame operating lever pivoted to the bottom of the case and in said compartment, links to loosely connect the opposite ends of said lever with said frames whereby the movement of one frame will be simultaneously imparted to the other, a stop to limit the movement of said lever in one direction, a spring catch adapted to automatically engage the lever whereby the same is locked and

thus holds the leg frames and legs in an operative position, covers adapted to close said compartment when the



leg frames and legs are folded therein, and means to support said covers in an open position to form shelves.

979,076. GRAIN-CAR DOOR. JULIUS KROHN, Menomonie, Wis., assignor of one-half to Carl G. Tilleson, Menomonie, Wis. Filed Aug. 6, 1909. Serial No. 511,604.

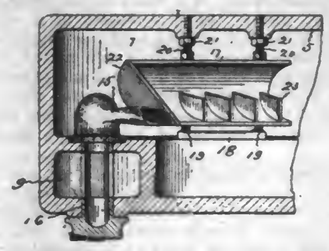


The herein described guide member for the trunnion of a grain car door and for application to one of the door posts, the said guide member comprising a channeled portion to receive one of the door posts and providing webs or walls to bear against opposite sides of and also against the inner side of the post, a tubular portion disposed at the inner corner of said guide member at the angle between two of the walls thereof, said tubular portion forming a reinforce for the channeled portion, being provided at its upper end with a goose-neck and being further provided with a guide slot extending from near the lower end thereof to the upper end of the goose-neck, that portion of the said slot in the goose-neck conforming to the curvature thereof, and a securing plate formed with said channeled portion and said tubular member, said securing plate having its central portion united to the upper end of the goose-neck and extending beyond opposite sides thereof and for application to the car beam at the upper end of the post.

979,077. STEAM-TURBINE. HENRY B. LEE, Hartford, Conn. Filed Aug. 16, 1910. Serial No. 577,461.

1. A steam turbine having a wheel with a plural number of semi-cylindrical buckets around its periphery, a casing inclosing the wheel, a nozzle communicating with the supply of live steam and arranged to direct the steam substantially tangentially into the bucket, a steam guiding chamber extending over a number of said buckets, said chamber being semi-circular in cross section and having its outer wall parallel with the periphery of the wheel, and guide plates arranged to extend forwardly in the chamber on the injecting side only, whereby the said chamber is unobstructed on one side from the live steam inlet nozzle to the final exhaust outlet.

2. A steam turbine having a wheel with a plural number of curved buckets arranged around its periphery, a casing inclosing the wheel, a live steam passage extending around the interior of the casing, nozzles communicating with said live steam passage and projecting toward the periphery of the wheel on one side of the buckets, steam guiding chambers located adjacent to the nozzles, said chambers being semi-circular in cross section and covering several of the buckets, and forwardly inclined guide-plates on the injecting side only of said chambers.



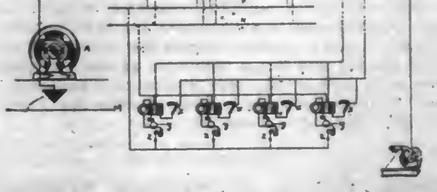
3. In a steam turbine, the combination with a wheel having a plural number of buckets in its periphery, a casing surrounding said wheel, a nozzle connected with the supply of live steam and projecting toward the buckets, of a steam guiding chamber that is closed at the end adjacent to the nozzle and open at the other end said chamber being semi-cylindrical and provided with inclined guide plates on the interior of its injecting side only.

4. A steam guiding chamber for a turbine which is semi-circular in cross section and has its outer wall extending on a circle that is concentric with the wheel with which it is to be used, the intake end of said chamber being closed by an inclined plate and the exhaust end being open, said chamber being provided in its interior on the injecting side with inclined guide plates, said plates extending from the injecting side into the chamber and obstructing only a portion of the passage in the chamber, leaving the passage in the chamber on the return side open from end to end.

5. In a steam turbine, the combination of a wheel with a plural number of buckets in its periphery, a casing surrounding the wheel, a live steam passage extending around the interior of the casing, nozzles seated on the inner wall of the steam passage and communicating therewith and steam guiding chambers fixed about the periphery of the wheel and covering the buckets.

[Claim 6 not printed in the Gazette.]

979,078. ELECTRIC-MOTOR CONTROL. HARRY WARD LEONARD, Bronxville, N. Y. Filed Apr. 24, 1903, Serial No. 154,089. Renewed Aug. 16, 1904. Serial No. 220,90[illegible].



1. The method of varying the speed of an electrical driven device, which consists in arranging in differe operative relationship to each other two electromoti force producing windings which are electrically connect with the counter electromotive force producing windin of a plurality of driving motors, and varying the electr

motive force of one or both of said first-named windings and thereby supplying the joint energy of the two windings at different voltages to the said motor windings.

2. The combination of a plurality of independent sources of electromotive force, the electromotive force of each source being independently variable and reversible, and means for connecting the said sources in series or in parallel with each other.

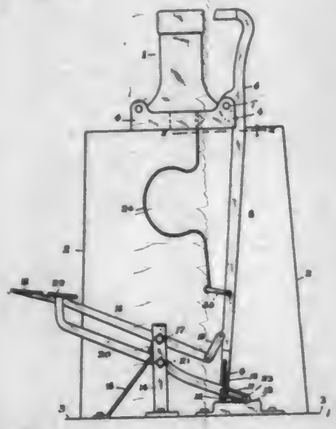
3. The combination of a plurality of electric motors, a source of electric energy composed of a plurality of electromotive force producing windings supplying energy to at least one element of each of said motors, and means for coupling said windings in series and otherwise with reference to said motors and for varying the electromotive force of the energy supplied by at least one of said windings for the purpose of varying the speed of the motors.

4. The combination of an electric motor, a plurality of independent sources of unidirectional electric energy, means for varying the electromotive force of each of said sources of energy between certain limits, and means for coupling said sources in series or in parallel for the purpose of controlling the said motor.

5. The combination of four dynamo electric machines each having a separately excited field, an electric motor connected therewith, and means for connecting the armatures of the four dynamos in multiple, in multiple-series, and in series with each other for the purpose of varying the speed and torque of the electric motor.

[Claims 6 to 129 not printed in the Gazette.]

979,079. ANVIL WITH VISE ATTACHMENT. JOHN MCKENNEY, Danbury, Conn. Filed May 14, 1910. Serial No. 561,448.



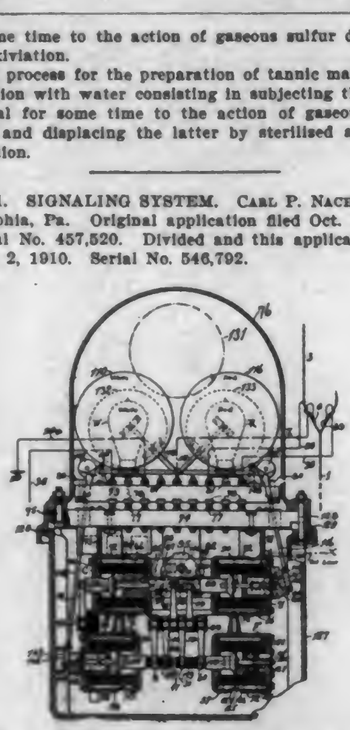
In a vise attachment for anvils, the combination with the anvil and the block which supports it and which is mounted on any suitable base, of a movable jaw pivoted to said anvil and having a depending tail extension, a spring projected catch in the lower end of said extension, a stationary ratchet normally engaged by said catch, a foot lever pivoted to a stationary part and suitably connected to said extension whereby the latter may be operated to close said jaw, a spring for normally keeping said jaw open, and a trip lever pivoted to a stationary part and connected with said catch whereby the latter may be lifted clear of said ratchet.

979,080. PROCESS OF PREPARING TANNIFEROUS MATERIAL FOR EXTRACTION. HERMANN MECHLENBURG, Köpenick, near Berlin, Germany, assignor to Nitritfabrik Aktiengesellschaft, Köpenick, near Berlin, Germany. Filed July 19, 1910. Serial No. 572,739.

1. A process for the preparation of tannic material for extraction, consisting in subjecting the tannic material for some time to the action of gaseous sulfur dioxid before lixiviation.

2. A process for the preparation of tannic material for extraction with water consisting in subjecting the tannic material for some time to the action of gaseous sulfur dioxid and displacing the latter by sterilized air before lixiviation.

979,081. SIGNALING SYSTEM. CARL P. NACHOD, Philadelphia, Pa. Original application filed Oct. 13, 1908, Serial No. 457,520. Divided and this application filed Mar. 2, 1910. Serial No. 546,792.



1. The combination with the supply and return conductors of an electric railway system subject to great fluctuations of voltage, of signaling apparatus, said signaling apparatus comprising an electro-magnet having a winding for sufficiently energising said magnet at a fluctuation of voltage upon said system far below normal, and a bath of oil for said magnet winding, whereby at normal or highest voltages upon said system said winding is preserved against excessive heating.

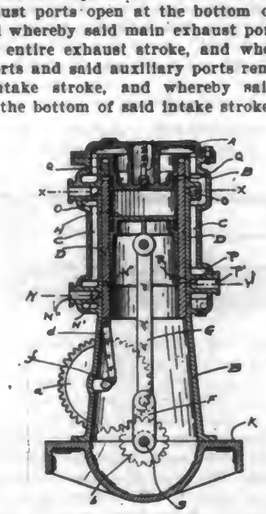
2. The combination with the supply and return conductors of an electric railway system subject to great fluctuations of voltage, of signaling apparatus comprising a signal and electro-magnetic controlling means therefor, said electro-magnetic means being subjected to the effects of voltage fluctuations on said line, and a bath of oil submerging said electro-magnetic controlling means.

3. In an electric railway system subjected to great fluctuations of voltage, signaling apparatus comprising the combination with a signal, of a casing inclosing the same, electro-magnetic signal controlling apparatus suspended from the bottom of said casing, said electro-magnetic apparatus being subjected to great fluctuations of voltage, a tank secured to said casing and surrounding said controlling apparatus, and oil in said tank submerging said controlling apparatus.

4. In signaling apparatus, the combination with a signal, of a casing inclosing the same, signal controlling apparatus assembled as a unit and secured to said casing, a tank secured to said casing and surrounding said signal controlling apparatus, and oil in said tank submerging said signal controlling apparatus.

979,082. FOUR-CYCLE INTERNAL-COMBUSTION ENGINE. ROBERT MILLER, New York, N. Y. Filed Mar. 1, 1910. Serial No. 546,714.

1. In four cycle internal combustion engines, in combination, a piston; a main crank shaft; a connecting rod connecting said piston and said crank shaft; a cylinder having main exhaust ports in its upper portion, having auxiliary exhaust ports in its lower portion, and having intake ports slightly above said auxiliary exhaust ports; a sleeve fitting closely within said cylinder and outside of said piston, and free to move to a limited extent up and down with relation to said cylinder, said sleeve having main exhaust ports in its upper portion (said ports registering in plan with said main exhaust ports in said cylinder), and having auxiliary exhaust ports in its lower portion (said ports registering in plan with said auxiliary exhaust ports in said cylinder), and having intake ports slightly above said auxiliary exhaust ports (said intake ports registering in plan with said intake ports in said cylinder); a gear wheel; a gear connecting rod connecting said gear wheel to said sleeve; a pinion of one half the diameter of said gear wheel, and meshed into said gear wheel, said pinion being fixed to and concentric with said main crank shaft; said crank shaft, pinion, gear wheel, gear connecting rod, sleeve, piston and connecting rod all coöperating whereby all of said ports are closed during the compression stroke and until almost the bottom of the explosion stroke, and whereby said auxiliary exhaust ports open at the bottom of the explosion stroke, and whereby said main exhaust ports remain open during the entire exhaust stroke, and whereby said main exhaust ports and said auxiliary ports remain closed during the intake stroke, and whereby said intake ports open near the bottom of said intake stroke.

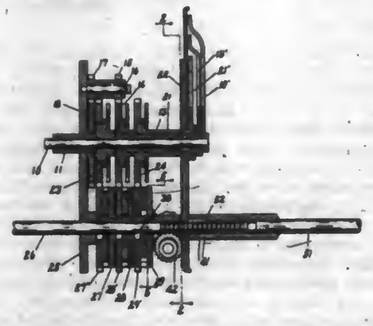


2. In four cycle internal combustion engines, in combination, a piston; a main crank shaft; a connecting rod connecting said piston and said crank shaft; a cylinder having main exhaust ports in its upper portion, having auxiliary exhaust ports in its lower portion, and having intake ports slightly above said auxiliary exhaust ports; a sleeve fitting closely within said cylinder and outside of said piston, and free to move to a limited extent up and down with relation to said cylinder, said sleeve having main exhaust ports in its upper portion (said ports registering in plan with said main exhaust ports in said cylinder), and having auxiliary exhaust ports in its lower portion (said ports registering in plan with said auxiliary exhaust ports in said cylinder), and having intake ports slightly above said auxiliary exhaust ports (said intake ports registering in plan with said intake ports in said cylinder); means for moving said sleeve to a limited degree up and down in said cylinder; said crank shaft, sleeve, moving means, piston and connecting rod all coöperating whereby all of said ports are closed during the compression stroke and until almost the bottom of the explosion stroke, and whereby said auxiliary exhaust ports open at the bottom of the explosion stroke, and whereby said main exhaust ports remain open during the entire exhaust stroke, and whereby said main exhaust ports and said auxiliary exhaust ports remain closed during the intake stroke, and whereby said intake ports open near the bottom of said intake stroke.

3. In four cycle internal combustion engines, in combination, a piston; a main crank shaft; a connecting rod connecting said piston and said crank shaft; a cylinder having exhaust ports in its upper portion, and having intake ports in its lower portion; a sleeve fitting closely within said cylinder and outside of said piston, and free to move to a limited extent up and down with relation to said cylinder, said sleeve having exhaust ports in its upper portion (said ports registering in plan with said exhaust ports in said cylinder), and having intake ports in its lower portion (said intake ports registering in plan with said intake ports in said cylinder); a gear wheel; a gear connecting rod connecting said gear wheel to said sleeve; a pinion of one half the diameter of said gear wheel, and meshed into said gear wheel, said pinion being fixed to and concentric with said main crank shaft; said crank shaft, pinion, gear wheel, gear connecting rod, sleeve, piston and connecting rod all coöperating whereby all of said ports are closed during the compression stroke and until almost the bottom of the explosion stroke, and whereby said exhaust ports remain closed during the intake stroke, and whereby said intake ports open near the bottom of said intake stroke.

4. In four cycle internal combustion engines, in combination, a piston; a main crank shaft; a connecting rod connecting said piston and said crank shaft; a cylinder having exhaust ports in its upper portion, and having intake ports in its lower portion; a sleeve fitting closely within said cylinder and outside of said piston, and free to move to a limited extent up and down with relation to said cylinder, said sleeve having exhaust ports in its upper portion (said ports registering in plan with said exhaust ports in said cylinder), and having intake ports in its lower portion (said intake ports registering in plan with said intake ports in said cylinder); means for moving said sleeve to a limited degree up and down in said cylinder; said crank shaft, sleeve, moving means, piston and connecting rod all coöperating whereby all of said ports are closed during the compression stroke and until almost the bottom of the explosion stroke, and whereby said exhaust ports remain open during the entire exhaust stroke, and whereby said exhaust ports remain closed during the intake stroke, and whereby said intake ports open near the bottom of said intake stroke.

979,083. INDICATOR-OPERATOR FOR FARE-REGISTERS. OTTO N. MOORE, Indianapolis, Ind., assignor to John W. Moore, Rushville, Ind., and Otto N. Moore, Indianapolis, Ind., cotrustees. Filed Nov. 11, 1909. Serial No. 527,524.



1. A setting mechanism comprising a plurality of members to be shifted, a plurality of shifting members engaging the first mentioned members, a pair of rotatable shafts the first of which is rotatable independent of the second, means for connecting any one of the shifting members with the first of said shafts, and intermediate connections between said means and the second shaft for controlling said means.

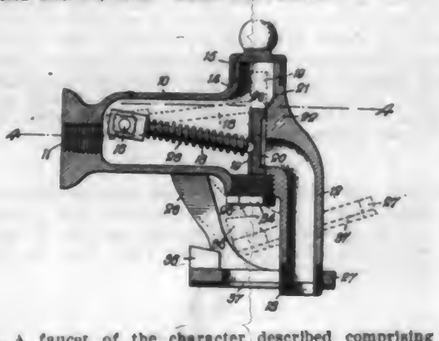
2. In a setting mechanism, the combination with a plurality of members to be set, of a pair of rotatable shafts the first of which is rotatable independent of the second, intermediate disconnectible driving connections between the first of the shafts and the members to be set, and intermediate connections between the second shaft and said driving connections for controlling the driving connections between the first shaft and the members to be set.

3. A setting mechanism comprising a pair of operating shafts the first of which is rotatable independent of the second, a plurality of members to be set, separable driving connections between said members and the first shaft whereby rotation of the shaft may produce movement of said members, a member for controlling the said separable connections, and a connection between the second shaft and the said last mentioned member.

4. A setting device comprising a plurality of members to be set, a plurality of gears individually geared to said members, an operative shaft, a plurality of clutches between said gears and shaft, a controlling member for said clutches, a second controlling shaft, and driving connections between the said second controlling shaft and the clutch controlling member.

5. In a setting mechanism, the combination of a setting pinion a pair of controlling shafts, a clutch controlling shaft splined to one of said shafts and axially movable relative thereto, said last mentioned shaft having a plurality of circumferential notches adapted to receive said setting pinion, the said setting pinion, a plurality of clutch gears mounted upon said clutch controlling shaft, each of said gears having a clutch member coöperating with the clutch controlling shaft, a second operating shaft, and rotative connections between said second operating shaft and the said pinion, substantially as set forth.

979,084. FAUCET. EVERETT MULDER, New York, N. Y. Filed Dec. 11, 1909. Serial No. 532,564.



1. A faucet of the character described comprising a body, a valve within said body, an operating frame to open and close said valve automatically, actuated by the vessel to be filled, said frame comprising two rigidly connected arms, one being adapted to open said valve simultaneously with the lifting of said frame by the vessel to be filled, and the other to close said valve simultaneously with the removal of said vessel from underneath the operating-frame, substantially as described.

2. A faucet of the character described comprising a body, embodying a head and a discharge spout, said head having a removable cover, a valve seat within the body, a valve also within said body and working against said seat and closing the discharge opening of the spout, a stem carrying said valve, a spring disposed around said stem, and adapted to hold the valve firmly against its seat and means to operate said valve, substantially as described and for the purpose set forth.

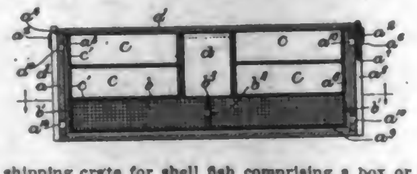
3. A faucet of the character described comprising a body portion embodying a head and a discharge spout, a valve within said body, an operating-frame to open and close said valve automatically, said frame consisting of a pair of rigidly connected arms, one of said arms being adapted to open said valve simultaneously with the lifting of the frame by a vessel to be filled, and the other to close said valve simultaneously with the removal of said vessel from underneath said frame, substantially as described and for the purpose set forth.

4. A faucet of the character described comprising a body, an operating-frame composed of two arms and a connecting loop for the lower ends of both arms, a horizontal shaft journaled in a recess of one of the inner side walls of said body, extending through the opposite wall, and a tightening cap and nut secured in a sleeve of said wall, carrying the upper end of one of said arms firmly connected thereto, a valve-stem keyed upon the inner end of said shaft, a valve carried by the free end of said stem following its up and down stroke and a spring interposed between the bub of said stem and said valve firmly pressing the same against its seat substantially as described and for the purpose set forth.

5. A faucet of the character described comprising a body, a valve within said body, an operating frame composed of two arms, a loop connecting the lower ends of said arms, one of the arms being pivotally connected to a horizontal shaft in the proximity of the rear end of said body portion, the other being pivotally connected to a projection at the outer side of the opposite wall of said body, a spring disposed around said projection and having one end embedded in the upper bent part of said arm and being adapted to hold said arm in depressed condition, substantially as described and for the purpose set forth.

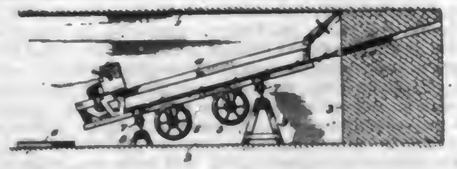
[Claims 6 to 8 not printed in the Gazette.]

979,085. SHIPPING-CRATE. JOSEPH L. NEWTON, Winthrop, Mass. Filed Aug. 5, 1907. Serial No. 387,048.



A shipping crate for shell fish comprising a box or casing provided with ventilating holes in the top and the bottom of the end walls, vertical cleats secured to said end walls to form ventilating passages between them, bottom cleats arranged to form passages along the bottom of the casing communicating with said vertical passages, a bottom tray formed with reticulated vertical walls and a reticulated bottom, intersecting cleats vertically disposed inside said tray to divide it into partitions, a refrigerating chest arranged above the middle portion of said bottom tray and resting upon the said cleats, end trays superimposed above the bottom tray between the refrigerating chest and the end walls of the casing, a cover and means for detachably locking the said cover to the casing, substantially as described.

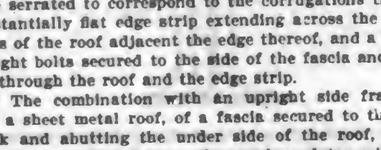
979,086. METHOD OF MINING COAL. THOMAS NICHOL, Glen Jean, W. Va. Filed July 29, 1909. Serial No. 510,305.



The method herein described of mining coal which consists in cutting a kerf in the body of the coal, adjacent to the roof of the mine, and at an acute angle to the roof, whereby the body of the coal above the kerf shall be heavier at the front than at the rear and will settle down and break away from the roof.

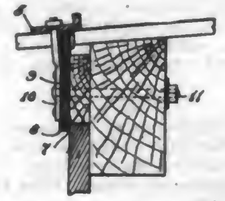
979,087. LOOSE-LEAF BINDER. ROBERT J. NICHOLSON, Chicago, Ill. Filed May 14, 1909. Serial No. 495,958.

1. A loose leaf binder including cover portions between which loose leaves may be disposed, a post carried by one cover portion, acting as a binding member, a complemental binding member carried by the other cover portion and adapted to be engaged with and separated from the aforesaid binding member, and a folded plate for holding the complemental binding member in position with respect to the cover portion carrying the same, the outermost layer of said folded plate being apertured or recessed to permit of access therethrough to said complemental member.



2. A loose leaf binder including cover portions between which loose leaves may be disposed, a post carried by one cover portion, acting as a binding member, a binding screw in threaded engagement with said post and carried by the other cover portion, and a folded plate for holding the complemental binding member in position with respect to the cover portion carrying the same, the outermost layer of said folded plate being apertured or recessed to permit of access therethrough to said complemental member.

979,088. CAR CONSTRUCTION. LE GRAND PARISH and ROSCOE B. KENDIG, Cleveland, Ohio. Filed Aug. 13, 1909. Serial No. 512,643.



1. The combination with an upright side frame work, and a corrugated sheet metal roof overlapping the upper edge thereof, of a metal fascia secured to the frame work abutting the under side of the roof and having its upper edge serrated to correspond to the corrugations thereof and provided with packing fitting the said corrugation, and a series of upright bolts having their lower ends secured to the side of the fascia and their upper ends extending through the roof.

2. The combination with an upright side frame work, and a corrugated sheet metal roof overlapping the upper edge thereof, of a metal fascia secured to the frame work abutting the under side of the roof and having its upper edge serrated to correspond to the corrugations thereof, a substantially flat edge strip extending across the corrugations of the roof adjacent the edge thereof, and a series of upright bolts secured to the side of the fascia and extending through the roof and the edge strip.

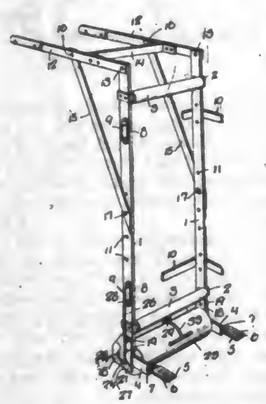
3. The combination with an upright side frame-work and a sheet metal roof, of a fascia secured to the frame-work and abutting the under side of the roof, the said fascia comprising a pair of opposing plates with interposed packing projecting above the plates and engaging the lower surface of the roof, and a series of bolts secured to the fascia and extending through the roof.

4. The combination with an upright side frame-work and a sheet metal roof, of a fascia secured to the frame-work and abutting the under side of the roof, the said fascia comprising a pair of opposing plates with interposed packing projecting above the plates and engaging the lower surface of the roof, and means for clamping the roof down against the packing.

5. The combination with an upright side frame work and a sheet metal roof overlapping the upper edge thereof, of a metal plate fascia extending along the upper edge of the frame-work and abutting the under side of the roof, fastening members for securing the fascia rigidly to the side frame, spaced bolts having their lower ends extending along the outer face of the fascia and their upper ends extended through the roof and provided with means for clamping the roof down against the fascia, and securing members independent of the said fastening members for rigidly securing the lower ends of the said bolts to the side of the fascia.

[Claims 6 to 11 not printed in the Gazette.]

979,089. PIANO-TRUCK. GEORGE A. PERRY, Lodi, Wis. Filed Dec. 11, 1909. Serial No. 532,697.



1. A truck of the class described, comprising a supporting frame, a floor engaging roller movably mounted on the frame, and a bifurcated lever mounted on the frame and having its bifurcated members normally free from the roller and disposed respectively in front and in rear of the same, said members straddling the roller from above to engage opposite sides thereof, and including foot operated means to tilt the lever in either direction for shifting the position of the roller.

2. A truck of the class described, comprising a supporting frame, a floor engaging roller movably mounted on the frame, a bifurcated lever mounted on the frame and having its bifurcated members astride the roller to engage opposite sides thereof and including foot operated means to tilt the lever in either direction for shifting the position of the roller, and yielding means acting on the roller to hold the same in either position to which it is moved by the lever.

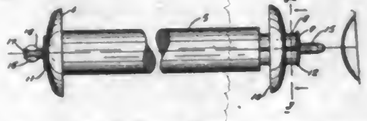
3. A truck of the class described, comprising a supporting frame having arcuate slots, the ends of which form seats, a roller having journals disposed in the slots and shiftable from one seat to the other of the latter, springs for holding the roller with its journals seated in either end of the slots, and a foot actuated device normally disengaged from the roller and mounted to be moved into engagement with either side of the latter to exert pressure on the roller to shift the same against the tension of the springs from one position to another.

4. A truck of the class described, comprising a supporting frame having arcuate slots, the ends of which form seats, a roller having journals disposed in the slots and shiftable from one seat to the other of the latter, springs for holding the roller with its journals seated in either end of the slots, a foot actuated device normally disengaged from the roller and mounted to be moved into engagement with either side of the latter to exert a pressure on the roller to shift the same against the tension of the springs from one position to another, a cushion carrying bar mounted on the frame above and parallel with the roller, and means for supporting the said device centrally on the bar to centrally engage the said roller.

5. A truck of the class described, comprising a frame, a roller shiftably mounted on the lower end of the frame, a device pivoted on the frame at a point above the roller and having separate members extending one in front of the roller and the other behind the same, and a pedal

one of the members for actuating the device by the foot in either direction to engage either member with the roller for laterally shifting the same to raise or lower the frame.

979,090. SPOOL FOR PERFORATED MUSIC-SHEETS. CHARLES H. PHILLIPS, Buffalo, N. Y. Filed Jan. 7, 1909. Serial No. 471,173.



1. A spool for perforated music sheets comprising a barrel, studs for rotatably supporting the spool, a fixed flange secured on one end of said barrel, a sleeve secured on the opposite end of said barrel, a flange movably disposed on said sleeve and means whereby said movable flange is permitted to move in a straight longitudinal direction only.

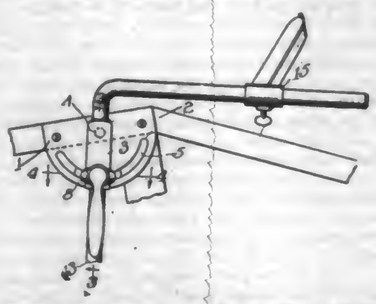
2. A spool for perforated music sheets comprising a barrel, studs for rotatably supporting the spool, a fixed flange secured on one end of said barrel, a sleeve secured on the opposite end of said barrel, longitudinal ribs integral with said sleeve and a flange provided with keyways and longitudinally movable over said ribs and said sleeve whereby said movable flange can not be rotated about said sleeve but will always move in a straight line and longitudinally therewith.

3. A spool for perforated music sheets comprising a barrel, studs for rotatably supporting the spool, a fixed flange secured on one end of said barrel, a sleeve secured on the opposite end of said barrel, longitudinal ribs integral with said sleeve, a flange movably disposed over said sleeve and said ribs and movable in a longitudinal direction only and a washer secured at each end of said barrel, whereby the ends of said barrel are protected against wear.

4. A spool for perforated music sheets comprising a barrel, studs for rotatably supporting the spool, a fixed flange secured on one end of said barrel, a sleeve secured on the opposite end of said barrel, a flange longitudinally movable on said sleeve and a washer secured at the end of said sleeve whereby the longitudinal movement of said flange is limited.

5. A spool for perforated music sheets comprising a barrel formed at one end with a reduced portion, a fixed flange secured on the opposite end of said barrel, a sleeve secured on the reduced end of said barrel, a flange movably disposed on said sleeve and means whereby said movable flange is permitted to move in a straight longitudinal direction only.

979,091. JOINT FOR LEG-RESTS. EMIL PICKART, Hammond, Ind., assignor to Frank S. Betz, Hammond, Ind. Filed Mar. 28, 1910. Serial No. 552,086.



1. The combination of a member having a slotted arc, a compressible sleeve pivoted thereto, a rod extending through said sleeve and slidable and rotatable therein, a yoke embracing said sleeve and slidably engaging said member at said slotted arc, and a locking element carried by said yoke and arranged to hold all of said parts against relative movement.

2. The combination of a member having a slotted arc, a compressible sleeve pivoted at the center of said arc, a rod slidable and rotatable in said sleeve, a yoke embracing said sleeve and extending through said slotted arc, and a locking element carried by said yoke for compressing said sleeve upon said rod and locking said sleeve to said first named member.

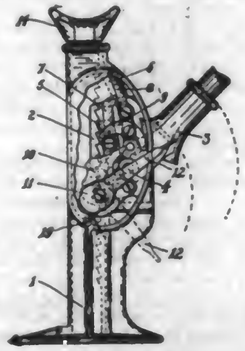
3. The combination of a member, a sleeve pivotally mounted on said member, a yoke embracing said sleeve and slidably connected to said member, a rod rotatable in said sleeve and axially slidable therein, and means acting between said yoke and sleeve to simultaneously lock said parts to prevent relative movement of said rod and member.

4. The combination of a member, a split sleeve pivotally mounted on said member, a yoke embracing said sleeve and slidably connected to said member, a rod rotatable in said sleeve and axially slidable therein, and means acting between said yoke and sleeve to simultaneously lock said parts to prevent relative movement of said rod and member.

5. The combination of a stationary member having a slotted arc, a split sleeve pivoted at the center of said arc, a rod slidable and rotatable in said sleeve, a member movable in said arc and having a part embracing said sleeve, and locking means carried by said member and arranged to compress said sleeve and secure the same to said stationary member at said slotted arc.

[Claims 6 and 7 not printed in the Gazette.]

979,092. LIFTING-JACK. FREDERICK E. PLACE, Chicago, and MERRILL L. JENKINS, Harvey, Ill., assignors to Buda Foundry & Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed June 1, 1908. Serial No. 436,181.



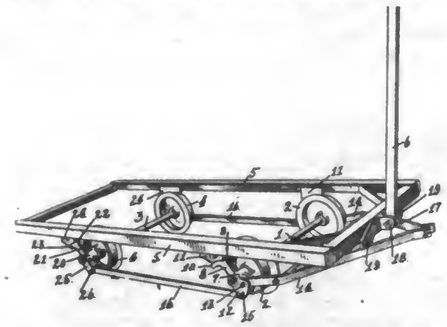
1. The combination with a lifting jack comprising a rack, an operating handle, lifting and holding pawls, and reversing means including a recessed block 10 whereby the pawls may be moved from lifting to lowering position, of a shifting means for operating the reversing means comprising an eccentric 11 fitting in the recess in the block 10 and provided with a handle projecting from the front of the jack casing.

2. In a jack, the combination with the jack casing open at one side and provided with an inwardly projecting lug at one edge of the opening, of a cover plate adapted to cover the open side and provided at one end with an inwardly projecting lug adapted to fit under the other lug and at the opposite edge with a holding screw.

3. In a jack, the combination with the jack casing open at one side and provided with an inwardly projecting lug at one edge of the opening, of a cover plate adapted to cover the open side and provided at one end with an inwardly projecting lug adapted to fit under the other lug and at the opposite edge with a holding screw, and other means projecting inwardly from the cover plate for engaging the sides of the opening and preventing lateral movement of the cover plate.

4. In a jack, the combination with the jack casing open at one side and provided with an inwardly projecting lug at one edge of the opening, having its inner face inclined, of a cover plate adapted to cover the open side and provided at one end with an inwardly projecting lug having an inclined face adapted to coact with the inclined face on the other lug, and positive securing means for the opposite end of the plate.

979,093. ADJUSTABLE TRUCK. JAMES PORTEOUS, Fresno, Cal. Filed Aug. 9, 1910. Serial No. 576,334.



1. An adjustable truck consisting of forward and rear wheeled axles; a body; crank-levers pivoted on the axles, and pivotally connected by their upper arms to the body, said upper arms being formed with a forward stop and a rear stop coacting with the body; connecting bars pivotally connecting the lower arms of the forward and rear crank levers on each side to effect their operation in unison; a handle for the truck having a crank-end pivoted to the front of the body; and a yoke pivoted at its forward end to the crank end of the handle and at its rear ends pivotally connected to the lower arms of the crank-levers of the front axle.

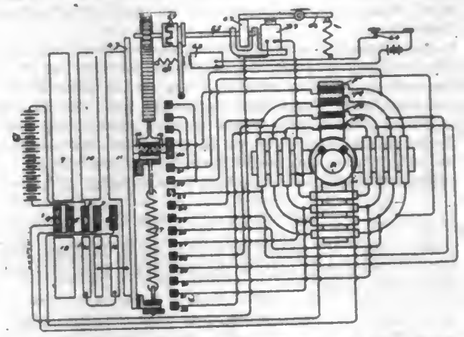
2. An adjustable truck consisting of forward and rear wheeled axles; a body; crank-levers pivoted on the projecting ends of the axles outside of the wheels, and pivotally connected by their upper arms to the body; connecting bars pivotally connecting the lower arms of the forward and rear crank-levers outside the wheels on each side to effect their operation in unison; a handle for the truck having a crank end pivoted to the front of the body; and a yoke pivoted at its forward end to the crank-end of the handle and at its rear ends pivotally connected outside the wheels to the lower arms of the crank levers of the front axle.

979,094. ELECTRIC MOTOR AND CONTROLLING SYSTEM. FRANK B. RAE, Detroit, Mich., assignor, by mesne assignments, to Rae Electric Company, a Corporation of Michigan. Filed June 25, 1907. Serial No. 380,733.

1. The combination with a series motor having its field winding composed of a plurality of groups of coils, each group being composed of a different number of turns having a predetermined ohmic resistance, of a controlling switch and connections whereby the coils forming each group are successively cut out and the groups thus successively and progressively cut out to diminish the total ohmic resistance and magnetization and increase the current flow.

2. The combination with a series motor provided with a field winding composed of a plurality of groups of coils proportioned to have a maximum ohmic resistance and magnetizing effect when connected in series, of a controlling switch and connections whereby the coils forming each group are successively cut out and the groups are thus progressively cut out to diminish the total ohmic resistance and magnetization and increase the current flow.

3. The combination with a series motor, having its field winding composed of a plurality of groups of coils, each group being composed of a different number of turns wound to have each a predetermined ohmic resistance, of a controlling switch and connections whereby the groups are successively and progressively cut out to diminish the total ohmic resistance and magnetization and increase the current flow.

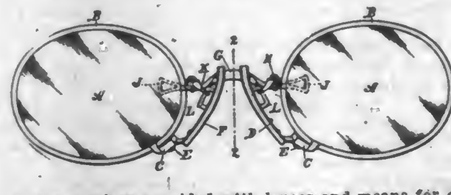


4. In combination with a series motor having its field winding composed of a plurality of groups of coils connected in series, said coils comprising differing numbers of turns of predetermined ohmic resistances, of a starting switch having connections with said groups of coils whereby in starting the motor the current is maintained within a predetermined amount while said group of coils are successively and progressively cut out to simultaneously diminish the ohmic resistance and magnetization and increase the current flow.

5. In combination with a storage battery, of a series motor having its field winding composed of a plurality of groups of coils connected in series, said coils comprising differing numbers of turns of predetermined ohmic resistances, and a starting switch having connections with said groups of coils whereby in starting the motor the current is maintained within definite values while said group of coils are successively and progressively cut out.

[Claims 6 and 7 not printed in the Gazette.]

979,095. EYEGLASSES. JOSEPH RENO, Southbridge, Mass., assignor to American Optical Company, Southbridge, Mass., a Corporation of Massachusetts. Filed June 3, 1909. Serial No. 499,935.



1. An eyeglass provided with lenses and means for connecting them, spring-pressed nose guards having their lower ends connected with the lenses and provided with loops between said connections and the upper free ends of said guards, and finger pieces pivoted independently to said nose guards and having a sliding engagement with said loops.

2. An eyeglass provided with lenses and means for connecting them, spring pressed nose guards attached at points adjacent to the lower portions of the lenses, and finger pieces pivoted at points above the attached portions of the nose guards and loosely connected with said guards between the aforesaid attaching points and the upper free ends of the guards.

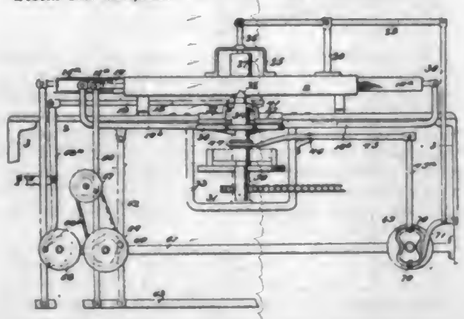
3. An eyeglass provided with lenses and means for connecting them, movable nose guards attached at points adjacent to the lower portions of the lenses, and finger pieces supported movably at points between the attaching points and the upper free ends of the nose guards and loosely connected with said guards.

4. An eyeglass provided with lenses, a bridge connecting them, finger pieces carried by the bridge to swing about vertical pivots adjacent to the lenses, and movable nose guards attached to the lens rims at points below said pivots and loosely connected with said finger pieces at points between said attaching points and the upper free ends of said guards.

5. An eyeglass provided with lenses and means for connecting them, nose guards pivotally mounted at their lower ends to move in planes oblique to the plane of the lenses and finger pieces each connected with one of said nose guards loosely at a point between said pivotal connection and the upper free end of said guard and mounted to move in a plane perpendicular to that of the lenses.

[Claims 6 and 7 not printed in the Gazette.]

979,096. CAN-FILLING APPARATUS. CHARLES ROBERTSON, South Bellingham, Wash. Filed Sept. 16, 1909. Serial No. 518,095.



1. In can filling apparatus, a compressing chamber, opposed relatively movable compressing members, means for moving said compressing members toward one another, means for forcing the compressed material from between said compressing members, and means for shifting both of said compressing members with their compressed charge to said second named means.

2. In can filling apparatus, a compressing chamber, movably supported compressing means including an independently movable compressing member, means for operating said compressing means to effect compression of the material, means for shifting said compressing means with its compressed charge, and means arranged for ejecting the compressed material from said compressing means after it has been shifted by said last named means.

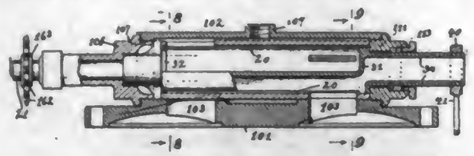
3. In canning apparatus, the combination with a hopper, of a compression chamber into which the hopper opens, relatively movable compressing members arranged to compress between them the material received from said hopper, said members being supported for movement toward and from one another and for movement both in the same direction, means for operating said members to effect a compressing operation and a subsequent shifting thereof with the compressed material, and an ejecting means at one side of the discharge from said hopper for ejecting the compressed material from between said compressing members.

4. In can-filling apparatus, a compressing chamber having an inlet and a discharge opening, opposed relatively movable compressing members adapted to compress between them the material to be canned, means for moving the compressing members toward each other, means for shifting both of the compressing members in the same direction into registry with the discharge opening in the compression chamber, and means operating through the discharge opening to force out the cylindes of compressed material.

5. In can-filling apparatus, a compression chamber having an intake opening and a discharge opening located out of registry with each other, opposed relatively movable compressing members adapted to compress between them the material to be canned, means for moving the compressing members into alinement with the walls of the intake opening, means for holding the compressing members with the compressed material between and moving both of said members together in one direction to bring the compressed material into registry with the discharge opening, and a transversely operating plunger passing through the compressing chamber and adapted to force the cylinder of compressed material out of the discharge opening.

[Claims 6 to 28 not printed in the Gazette.]

979,097. ENGINE-VALVE. JOSEPH ROTHCHILD, New York, N. Y. Filed May 1, 1909. Serial No. 493,264.



1. A valve mechanism for a steam engine adapted to govern the entrance and exit of the steam from conduits leading to a plurality of adjacent steam cylinders, comprising a casing, having an opening in its periphery to receive live steam, a hollow rotary valve cylinder, having a plurality of longitudinal ports adapted to admit live steam from the casing into the interior of the valve cylinder and from thence to the steam cylinder conduits when the cylinder is in one position and to admit exhaust steam from the steam cylinders into its interior and thence out of the end of the casing when in another position, the ports for each conduit being arranged in a series and spaced equidistant from each other around the valve cylinder.

2. A valve mechanism for a steam engine adapted to govern the entrance and exit of the steam from conduits leading to a plurality of adjacent steam cylinders, comprising a casing having an opening in its periphery to receive live steam, a hollow rotary valve cylinder having a plurality of longitudinal ports adapted to admit live steam from the casing into the interior of the valve cylinder and from thence to the steam cylinder conduits when the cylinder is in one position and to admit exhaust steam from the steam cylinders into its interior and thence out of the end of the casing when in another position, the ports for one conduit being staggered with respect to those of each adjacent conduit.

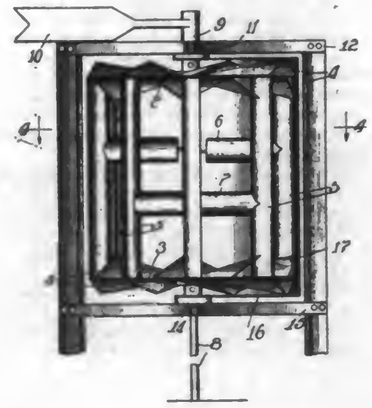
3. A valve mechanism for a steam engine adapted to govern the entrance and exit of the steam from conduits leading to a plurality of adjacent steam cylinders, comprising a casing having an opening in its periphery to receive live steam, a hollow rotary valve cylinder having a plurality of longitudinal ports adapted to admit live steam from the casing into the interior of the valve cylinder and from thence to the steam cylinder conduits when the cylinder is in one position and to admit exhaust steam from the steam cylinders into its interior and thence out of the end of the casing when in another position, the ports for each conduit being arranged in a series and spaced equidistant from each other around the valve cylinder, and the ports for one conduit being staggered with respect to those of each adjacent conduit.

4. A valve mechanism for a steam engine adapted to govern the entrance and exit of the steam from conduits leading to a plurality of adjacent steam cylinders, comprising a casing having an opening in its periphery to receive live steam, a hollow rotary valve cylinder, having a plurality of longitudinal ports adapted to admit live steam from the casing into the interior of the valve cylinder and from thence to the steam cylinder conduits when the cylinder is in one position and to admit exhaust steam from the steam cylinders into its interior and thence out of the end of the casing when in another position, in combination with an internal controller adapted to throttle the ports on the inside of the valve cylinder.

5. A valve mechanism for a steam engine adapted to govern the entrance and exit of the steam from conduits leading to a plurality of adjacent steam cylinders, comprising a casing, having an opening in its periphery to receive live steam, a hollow rotary valve cylinder having a plurality of longitudinal ports adapted to admit live steam from the casing into the interior of the valve cylinder and from thence to the steam cylinder conduits when the cylinder is in one position and to admit exhaust steam from the steam cylinders into its interior and thence out of the end of the casing when in another position, the ports for each conduit being arranged in a series and spaced equidistant from each other around the valve cylinder, in combination with an internal controller adapted to throttle the ports on the inside of the valve cylinder.

[Claims 6 to 76 not printed in the Gazette.]

979,098. WIND-MOTOR. JOHN SCHEUBECK, Chicago, Ill. Filed Feb. 14, 1910. Serial No. 543,842.



1. In a wind-motor, a substantially cylindrical windwheel adapted to rotate on a vertical axis and comprising a shaft, a pair of circular plates carried thereby at different elevations, a plurality of trough-shaped wind-pressure members secured at their ends to said respective plates adjacent the peripheries thereof, the concave face of each opposing the convex face of the next adjacent of said members, and a trough-shaped spoke connecting each of said members between its ends with the said shaft.

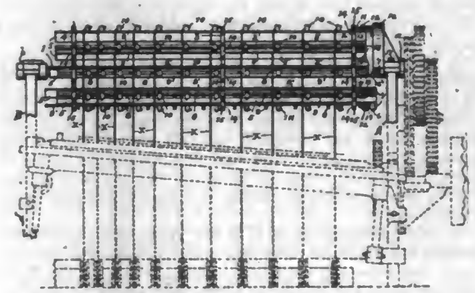
2. In a wind-motor, a substantially cylindrical windwheel adapted to rotate on a vertical axis and comprising a shaft, a pair of circular plates carried thereby at different elevations, a plurality of trough-shaped wind-pressure members secured at their ends to said respective plates adjacent the peripheries thereof, the concave face of each opposing the convex face of the next adjacent of said members, a trough-shaped spoke connecting each of said members between its ends with the said shaft, said spokes connecting alternate members being disposed at respectively different elevations.

3. In a wind-motor, a substantially cylindrical windwheel adapted to rotate on a vertical axis and comprising a shaft, a pair of circular plates carried thereby at different elevations, a plurality of trough-shaped wind-pressure members secured at their ends to said respective plates adjacent the peripheries thereof, the concave face of each opposing the convex face of the next adjacent of said members, a trough-shaped spoke connecting each of said members between its ends with the said shaft, said spokes connecting alternate members being disposed at respectively different elevations, a segmental guard plate partly inclosing said wheel and rotatable relatively thereto on the same axis, and a vane rigidly connected with said plate and controlling the same.

4. In a wind-motor, a substantially cylindrical windwheel adapted to rotate on a vertical axis and comprising a shaft, a pair of circular plates carried thereby at different elevations, a plurality of trough-shaped wind-pressure members secured at their ends to said respective plates adjacent the peripheries thereof, the concave face of each opposing the convex face of the next adjacent of said members, a trough-shaped spoke connecting each of said members between its ends with the said shaft, said spokes connecting alternate members being disposed at respectively different elevations, and triangular plates secured on one edge to each of said circular plates and angularly disposed relatively to the planes thereof, the free edges thereof disposed in the direction of the concave faces of said members and forming wind-pressure pockets between the opposing faces of said circular and triangular plates.

5. In a wind-motor, a substantially cylindrical windwheel adapted to rotate on a vertical axis and comprising a shaft, a pair of circular plates carried thereby at different elevations, a plurality of trough-shaped wind-pressure members secured at their ends to said respective plates adjacent the peripheries thereof, the concave face of each opposing the convex face of the next adjacent of said members, a trough-shaped spoke connecting each of said members between its ends with the said shaft, said spokes connecting alternate members being disposed at respectively different elevations, triangular plates secured on one edge to each of said circular plates and angularly disposed relatively to the planes thereof, the free edges thereof disposed in the direction of the concave faces of said members and forming wind-pressure pockets between the opposing faces of said circular and triangular plates, a segmental guard plate partly inclosing said wheel and rotatable relatively thereto on the same axis, and a vane rigidly connected with said plate and controlling the same.

979,099. BULLDOZER. RICHARD H. SCHWEITZER, Knightstown, Ind. Filed July 25, 1910. Serial No. 573,789.



1. The combination with a wire-fence machine carrying a plurality of line-wires, of a bulldozer mounted on said machine and including a main-shaft adapted to be rotated by the machine, a plurality of disks secured on said shaft, a plurality of bars mounted around in the peripheries of said disks, said bars being slidable endwise in an axial direction, pins carried by said bars, each bar having a pin properly spaced for each line wire, a pair of strips slidable on the face of each of said bars, said strips being spaced apart on each side of said pins, blocks connecting said strips, the underside of said blocks being hollowed out in order to allow said pins to pass therethrough, and means for sliding said strips endwise simultaneously with and opposite to said bars, all substantially as shown and described.

2. In combination with a wire-fence machine carrying a plurality of line-wires, a bulldozer mounted on the machine and comprising in combination, a main-shaft adapted to be rotated by the machine, a plurality of disks secured on said shaft, a plurality of angle-bars adapted to slide endwise in the peripheries of said disks, a pin for each line-wire carried by each of said bars, a rack slidably mounted on top of each of said bars, the members of said rack being spaced apart by said pins, a plurality of blocks connecting the members of each rack, there being one of said blocks for each of said pins, the central portion of the underside of each of said blocks being hollowed out to allow the pin with a line-wire thereon to pass thereunder in order to grip the line-wires and form lateral crimps therein, all substantially as shown and described.

3. In a bulldozer comprising a drum, a plurality of bars mounted to slide in an axial direction in the periphery of the drum, a rack slidably mounted on said bar and adapted to operate parallel therewith but in directions opposite thereto, a plurality of means carried by said bar and said rack for gripping and crimping line-wires, and means for automatically revolving the bulldozer and operating said bars and rack at right angles to the direction of rotation, all substantially as shown and described.

979,100. SAFETY-RAZOR. ROMAN SCHWENZFEIER, Springfield, Mass. Filed Dec. 24, 1909. Serial No. 534,778.



1. The combination, in a safety razor, of two blade-holding plates connected at one terminal and provided with nut-receiving stems at the opposite terminal, means to retain said plates in parallelism, an elongated nut mounted on said stems, and means mounted on said plates engaging said nut, thereby preventing it from turning.

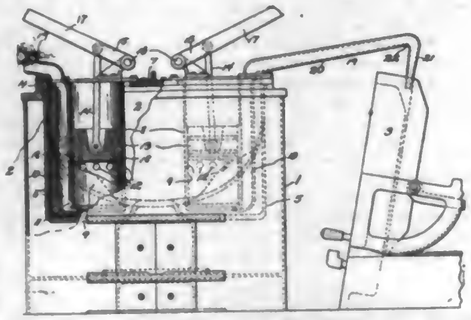
2. The combination, in a safety razor, with two blade-holding plates connected at one terminal and provided with nut-receiving stems at the opposite terminal, and means to retain said plates in parallelism, of an elongated nut mounted on said stems, and a clip mounted on said plates and said nut to lock the latter in place, the nut being long enough to be engaged by said clip when in place on the plates.

3. The combination, in a safety razor, with a suitable guard plate and a suitable face plate connected at one terminal and provided with nut-receiving stems at the opposite terminal, and means to retain said plates in parallelism, of a nut mounted on said stems, and a clip mounted on said plates and said nut to lock the latter in place, the outer faces or sides of the plates and nut having alining engaging means for the longitudinal edges of said clip.

4. The combination, in a safety razor, with a suitable guard plate and a suitable face plate connected at one terminal and provided with nut-receiving stems at the opposite terminal, and means to retain said plates in parallelism, such means comprising a lug on one of such plates and an opening to receive said lug in the other of such plates, of a blade receivable between said plates and engaging said lug, a nut mounted on said stems, and a clip mounted on said plates and said nut to lock the latter in place, the outer faces or sides of the plates and nut having alining engaging means for the longitudinal edges of said clip.

979,101. METAL-MELTING FURNACE. ISABELLA SCOTT and DAVID J. SCOTT, Plainfield, N. J., executors of Walter Scott, deceased. Filed Jan. 25, 1908. Serial No. 412,570.

1. In a metal melting furnace, a melting pot having a pocket extending below its normal bottom wall, a spout at the upper end of the furnace, a pump cylinder having an upwardly extending conduit on its exterior wall, said conduit communicating with the spout and cylinder, and said cylinder being in line with the pocket so as to extend into the same and suspended so as to be free from contact with the walls of the melting pot and pocket, and a piston operating in said cylinder.



2. In a metal melting furnace, a melting pot supported at the upper end of the furnace by means of a circumferential flange, a cross piece extending over the top of the melting pot and resting on the flange thereof, a member forming a pump cylinder and an exterior and vertically extending conduit communicating with the lower end of the said cylinder, said member being secured to the flange of the melting pot and to the cross piece aforesaid, a spout in line with the vertically extending conduit supported by the member aforesaid, and a piston operating in the said pump cylinder.

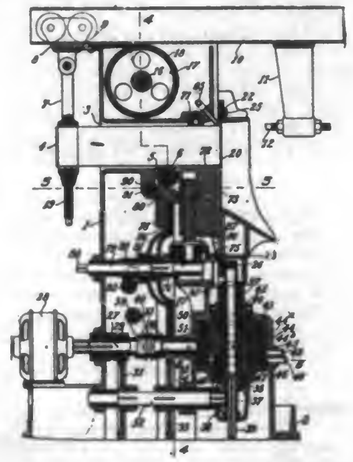
3. In combination with a melting furnace, a semi-spherical melting pot, a portion of the annular wall of the pot being continued straight downward and the bottom wall of the pot being continued downward below the normal bottom, so as to form in combination with the straight portion of the wall, a cylindrical pocket of a lower level than the normal bottom of the pot, and a cylindrical pump suspended so as to hang in the cylindrical pocket of the pot, said pump having a vertically extending conduit arranged parallel to the vertical portion of the wall of the pot, and a spout in communication with said conduit.

4. In a metal melting furnace, a semi-spherical melting pot having oppositely disposed cylindrical pockets in the bottom thereof, a cross piece extending across the pot, pumps on opposite sides of the cross piece suspended between said cross piece and the rim of the pot, so as to hang in the cylindrical pockets aforesaid, said pumps having each a vertically extending conduit, and spouts in communication with the conduits of the pumps.

5. In a metal melting furnace, a semi-spherical melting pot, a cross piece extending across and resting upon the rim of the pot, portions of the annular wall of the pot, on opposite sides of the cross piece, being continued straight downward and the bottom wall of the pot being lowered below the normal bottom so as to form in combination with the straight portions of the wall, cylindrical pockets located on opposite sides of the cross piece and of a lower level than the normal bottom of the pot, pumps on opposite sides of the cross piece suspended between said cross piece and the rim of the pot so as to hang in the cylindrical pockets aforesaid, said pumps each having a vertically extending conduit on the exterior wall thereof located parallel and closely adjacent to the straight portions of the side walls of the pot, and spouts on top of the cylinders in communication with the conduits of the pumps.

979,102. AUTOMATIC SAWING-MACHINE. ERNEST BURCHARD SELLEW, Pawtucket, R. I. Filed Mar. 18, 1908. Serial No. 421,866.

1. A machine for sawing off pieces from metal bars, comprising a work-holder constructed to clamp the work in fixed position, a saw, a holder in which said saw is rotatably mounted and guided to travel in a path transverse to the axis of the saw, a tubular feed screw connected with said holder for giving feed movements thereto, a shaft contained rotatably within said screw and geared to said saw for rotating the same, and a screw- and shaft-operating member surrounding the screw and keyed to the shaft, whereby a positive connection, insuring rotation of the saw whenever the holder is fed, is secured.



2. A machine for sawing off pieces from metal bars, comprising a work-holder constructed to clamp the work in fixed position, a saw, a holder in which said saw is rotatably mounted and guided to travel in a path transverse to the axis of the saw, a tubular feed screw connected with said holder for giving feed movement thereto, a shaft contained rotatably within said screw and geared to said saw for rotating the same, a nut surrounding said screw and held against axial movement, and a driving sleeve connected to operate said nut and having a positive rotation-transmitting connection with said shaft.

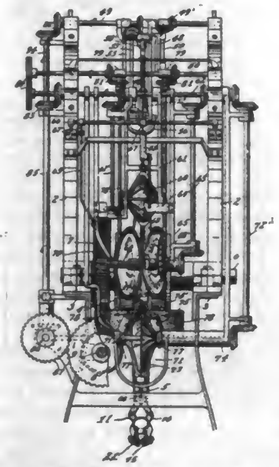
3. An automatic sawing-off machine, comprising a saw-holder, a saw carried thereby, mechanism for driving said saw, means for moving said saw-holder to feed the saw through the work, an automatic reversing mechanism for returning the saw when a piece has been severed from the work, means constantly tending to feed the work forward, a clamp for gripping the work and holding it stationary while being operated upon by the saw, a screw for closing and opening said clamp, gearing for operating said screw, a clutch consisting of a member connected to said gearing and a complemental member driven by said saw-feeding mechanism, and connections controlled by the position of said saw-holder for connecting and disconnecting the members of said clutch, and thereby causing the clamp to be released from and reëngaged with the work at the proper times.

4. In a machine for automatically sawing off sections of bars, the combination of a saw, a saw carrier, a single driving element, connections from said driving element to said saw and saw carrier for imparting cutting and feeding movements thereto respectively, means included in said connections for reversing the direction of feed of the saw-carrier and affecting the speed thereof, a work clamp, and a connection from said driving element to said work clamp for actuating the same automatically to release and permit feeding of the work, and to again clamp the work.

5. A sawing-off machine comprising a saw, a saw carrier mounted to travel transversely to the line of action of the saw, and feeding mechanism for giving a slow feed and a quick return movement to said carrier, said means consisting of interengaging screw and nut elements, one of which elements is secured to the carrier and the other of which is mounted to rotate and is held against axial movement, a rotating eccentric driving member, a planetary gear loosely mounted upon said member, means restraining said planetary gear from rotation with the driving member in the feed movement of the saw, a clutch carried by said driving member and arranged to grip and rotate said gear upon reversal of said driving member, and differential gearing between said planetary gear and that one of the screw and nut elements which is mounted to rotate.

[Claims 6 to 14 not printed in the Gazette.]

979,103. FISH-DRESSING MACHINE. EDMUND AUGUSTINE SMITH, Seattle, Wash., assignor to Smith Cannery Machines Company, Seattle, Wash., a Corporation of Washington. Filed Sept. 20, 1906. Serial No. 335,517.



1. In a fish dressing machine, the combination of a carrier supported for movement, means for conveying the fish bodies to said carrier, means on which said first means is supported for sliding movement, means on said carrier for removing the fish bodies from said first means and holding the same to movement with the carrier, means for connecting said first means for movement by said carrier in a direction toward the same, and spring means for returning said first means to its normal position.

2. In a fish dressing machine, a carrier supported for movement, means supported for movement for conveying a body toward said carrier, means on said carrier for removing a body from said first means, and mechanism for operating said first means controlled by a body arranged thereon to be fed.

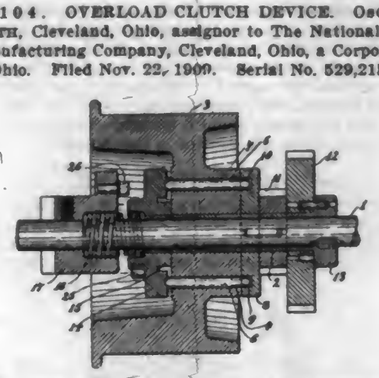
3. In a fish dressing machine, a carrier supported for movement, a body feeding means mounted for movement toward and from said carrier, means on the carrier for removing a body from said feeding means, and mechanism for operating said feeding means set to operate by a body to be fed.

4. In a fish dressing machine, a carrier supported for movement, a feeding means mounted for movement toward and from said carrier, means on the carrier for removing a body from said feeding means, normally inactive mechanism for operating said feeding means in one direction, means controlled by a fish body arranged on the feeding means for setting said mechanism so that it will operate, and means for returning said carrier to its normal position.

5. In a fish dressing machine, a carrier supported for movement, a feeding device supported for movement toward and from said carrier, means on the carrier for removing a body from said feeding means, normally inactive mechanism for operating said device, and means for setting said mechanism so that it will operate including a member arranged to be engaged by a body being inserted into said device.

[Claims 6 to 59 not printed in the Gazette.]

979,104. OVERLOAD CLUTCH DEVICE. OSCAR A. SMITH, Cleveland, Ohio, assignor to The National-Acme Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 22, 1909. Serial No. 529,215.



1. The combination of a shaft, a driving member loose on the shaft and having longitudinal passages, a pin slidable in each of the passages of the member, a clutch member connected with the shaft and having socket portions to receive the pins when advanced in the said passages in the driving member, and cause the driving member to drive the clutch member, resilient means for normally holding the pins in said driving position whereby the pins can recede into the clutch member upon overload and release the clutch member, and means for disengaging the pins from said resilient means upon disengagement of the clutch member from the driving member and the relative advance rotatively of one of such members.

2. The combination of a shaft, a driving member loose on the shaft and having longitudinal passages, a pin slidable in each of the passages of the member, a clutch member connected with the shaft and having socket portions to receive the pins when advanced in the said passages in the driving member, and cause the driving member to drive the clutch member, resilient means for normally holding the pins in said driving position whereby the pins can recede into the clutch member upon overload and release the clutch member, means for disengaging the pins from said resilient means upon disengagement of the clutch member with the driving member and the relative advance rotatively of one of such members, the clutch member and pins being constructed with one of their engaging faces inclined to the direction of motion to facilitate recession of the pins for disengagement with the clutch.

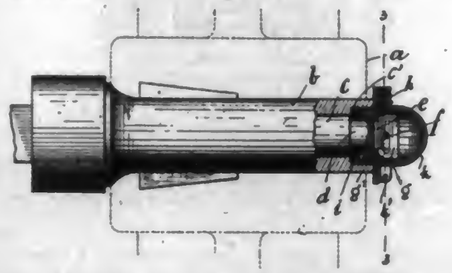
3. The combination of a shaft, a driving member loose on the shaft and having longitudinal passages, a pin slidable in each of the passages, a clutch member having socket portions arranged to receive the pins when advanced and cause the driving member to actuate the clutch member, a resilient member slidable to engage the ends of the pins and advance them in the driving member to engage the clutch member in the normal position of the resilient member, and means for shifting the resilient member upon disengagement of the clutch member by the pins whereby the resilient member will be out of engaging position to advance the pins.

4. The combination of a shaft, a driving member loose on the shaft and having longitudinal passages, a pin slidable in each of the passages, a clutch member having socket portions arranged to receive the pins when advanced and cause the driving member to actuate the clutch member, a resilient member slidable to engage the ends of the pins and advance them in the driving member to engage the clutch member in the normal position of the resilient member, means for shifting the resilient member upon disengagement of the clutch member by the pins whereby the resilient member will be out of engaging position to advance the pins, the clutch member and pins being constructed with one of their engaging faces inclined to the direction of motion to facilitate recession of the pins for disengagement with the clutch.

5. The combination of a shaft, a driving pulley loose on the shaft and having a number of longitudinal passages, a pin slidable in each of said passages of the pulley, a clutch member connected with the shaft to drive it and having socket portions arranged to receive the pins when advanced in the pulley passages and cause the pulley to drive the clutch member, a lock plate slidable on the shaft in position to engage the ends of the pins not engaged by the clutch member, the lock plate having lugs on its face in position to engage the said pins, a spring engaging the lock plate causing it to press the pins when engaged by the lugs into the socket in the clutch member, connecting means causing the shaft to be driven from the clutch plate, a head fast on the shaft and arranged to engage the lock plate when advanced by the pins against the pressure of the spring to cause the lock plate to shift and move the lugs away from engagement with the pins thereby permitting the lock plate to be advanced by the spring without forcing the pins into the sockets in the clutch plate.

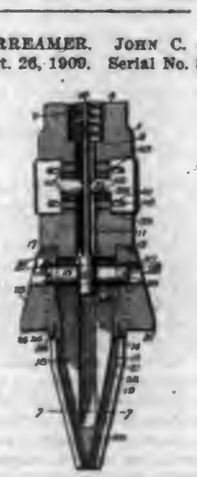
[Claims 6 to 9 not printed in the Gazette.]

979,105. HUB-ATTACHING DEVICE. ERNST JULIUS SPAHR, New York, N. Y., assignor of one-half to Otto Semler and Emil Bohrmann, New York, N. Y. Original application filed Nov. 2, 1908, Serial No. 460,730. Divided and this application filed Sept. 2, 1909. Serial No. 515,871.



The combination with an axle box, of an axle, the journal of which is split or slotted at its outer end, a recessed plate or key pivotally and slidably secured in said slotted journal, a recessed bushing in said axle box adapted to loosely fit over the split end of the journal and to engage the plate when turned crosswise to the axle of the journal, an outer bushing screwing into the outer end of the axle box and a lid hinged to said outer bushing and adapted to close around the free end of the journal and to be locked in closed position.

979,106. UNDERREAMER. JOHN C. SWAN, Marietta, Ohio. Filed Oct. 26, 1909. Serial No. 524,731.



1. In an under-reamer the combination of a reamer body having a wedge shaped portion adapted to receive

and support reaming bits, the upper and lower portions of the surfaces of the wedge being at different angles to the longitudinal axis of the wedge, guide ribs formed in the reamer body adjacent the upper portions of the surfaces of the wedge, and extending below said upper portions, reaming bits provided with means for engaging said guide ribs, and means for moving the reaming bits from one portion of the wedge to the other portion.

2. In an under-reamer the combination of a reamer body having a wedge shaped portion adapted to receive and support reaming bits, the upper and lower portions of the surfaces of the wedge being at different angles to the longitudinal axis of the wedge, guide ribs formed in the reamer body adjacent and parallel to the upper portions of the surfaces of the wedge, and extending below said upper portions, reaming bits provided with means for engaging said guide ribs, and means for moving the reaming bits from one portion of the wedge to the other portion.

3. In an under-reamer the combination of a reamer body having a wedge shaped portion adapted to receive and support reaming bits, the lower portion of the surfaces of the wedge being at a greater angle to the longitudinal axis of the wedge than the upper portions, guide ribs formed in the reamer body adjacent the upper portions of the surfaces of the wedge, and extending below said upper portions, reaming bits provided with means for engaging said guide ribs, and means for moving the reaming bits from one portion of the wedge to the other portion.

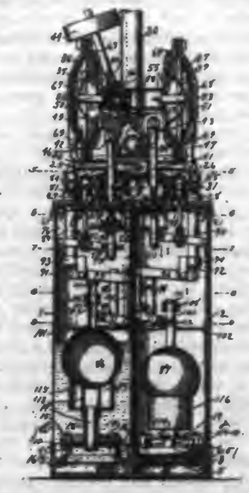
4. In an under-reamer the combination of a reamer body having a wedge shaped portion adapted to receive and support reaming bits, the lower portions of the surfaces of the wedge being at a greater angle to the longitudinal axis of the wedge than the upper portions, guide ribs formed in the reamer body adjacent and parallel to the upper portions of the surfaces of the wedge, and extending below said upper portions, reaming bits provided with means for engaging said guide ribs, and means for moving the reaming bits from one portion of the wedge to the other portion.

5. In an under-reamer the combination of a reamer body having a wedge shaped portion adapted to receive and support reaming bits, the lower portions of the surfaces of the wedge being at a greater angle to the longitudinal axis of the wedge than the upper portions, guide ribs formed in the reamer body adjacent and parallel to the upper portions of the surfaces of the wedge, and extending below said upper portions adjacent to the lower portions of the surfaces, the spaces between said guide ribs and the lower portions of the surfaces being wider at the upper ends of said spaces than at their lower ends, reaming bits provided with means for engaging said guide ribs, and means for moving the reaming bits from one portion of the wedge to the other portion.

[Claims 6 to 8 not printed in the Gazette.]

979,107. DEVICE FOR RAISING WATER. JOHN M. SWANSTROM, Chicago, Ill. Filed Sept. 24, 1909. Serial No. 519,397.

1. In a device of the class described, two water chambers; a valve controlled inlet passage for each chamber and through which water may enter thereinto; a valve controlled outlet passage for each chamber and through which water is discharged therefrom; a supply passage for air under pressure leading into each water chamber; an exhaust passage leading from each water chamber; a supply and an exhaust valve for each water chamber and adapted to control the flow of air thereto and therefrom; valve operating mechanism for operating the supply and exhaust valves of both of said chambers and comprising two diaphragm chambers each having a flexible diaphragm adapted to be operated by air under pressure, a vertically arranged oscillating lever pivoted at its lower end and having a weight at its upper end, a spring carried by said lever and through which movements of said diaphragm are communicated to said lever, and means whereby movement of said lever is transmitted to said supply and exhaust valves; a conduit leading from with in each water chamber and adapted to conduct air unde pressure from the interior of the chamber from which leads to one of said diaphragm chambers and which con duits constitute the sole connecting means through whic fluid may flow with which said chambers are provided; valve for each of said conduits and adapted to contro the flow of air therethrough; a float within each wate chamber; and lever mechanism interposed between eac of said floats and one of said controlling valves an through which said valve is operated.



2. In a device of the class described, two water cha bers; a valve controlled inlet passage for each chamb and through which water may enter thereinto; a val controlled outlet passage for each chamber and throu which water is discharged therefrom; a supply passa for air under pressure leading into each water chambe an exhaust passage leading from each water chamber; supply and an exhaust valve for each water chamber a adapted to control the flow of air thereto and therefro valve operating mechanism for operating the supply a exhaust valves of both of said chambers and compris two diaphragm chambers each having a flexible diaphra adapted to be operated by air under pressure, an oscill ing lever, a sleeve movable with and adapted to oper said lever, a guide for said sleeve, a spring located wi in said sleeve, bushings within said sleeve and in cont with the ends of said spring, a stem for each of s diaphragms and adapted to be operated thereby and engage said bushings and transmit motion of said d phragms to said lever through said spring, and mea whereby movement of said oscillating lever is transmitt to said supply and exhaust valves; a conduit leading fr within each water chamber and adapted to conduct under pressure from the interior of the chamber fr which it leads to one of said diaphragm chambers; a va for each of said conduits and adapted to control flow of air therethrough; a float within each water cha ber; and lever mechanism interposed between each of s floats and one of said controlling valves and throu which said valve is operated.

3. In a device of the class described, two water cha bers; a valve controlled inlet passage for each cham and through which water may enter thereinto; a va controlled outlet passage for each chamber and throu which water is discharged therefrom; a supply passa for air under pressure leading into each water chamb an exhaust passage leading from each water chamber supply and an exhaust valve for each water chamber a adapted to control the flow of air thereto and therefro valve operating mechanism for operating the supply a exhaust valves of both of said chambers and compris

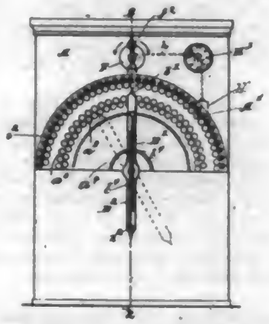
two diaphragm chambers each having a flexible diaphragm adapted to be operated by air under pressure, a vertically arranged oscillating lever pivoted at its lower end and having a weight at its upper end, means whereby movement of said lever is transmitted to said supply and exhaust valves, a stem for each of said diaphragms and adapted to be operated thereby and to operate said oscillating lever, and a spring carried by and movable with said oscillating lever and through which movement of said stems is transmitted to said lever; a conduit leading from within each water chamber and adapted to conduct air under pressure from the interior of the chamber from which it leads to one of said diaphragm chambers; a valve for each of said conduits and adapted to control the flow of air therethrough; a float within each water chamber; and lever mechanism interposed between each of said floats and one of said controlling valves and through which said valve is operated.

4. In a device of the class described, two water chambers; a valve controlled inlet passage for each chamber and through which water may enter thereinto; a valve controlled outlet passage for each chamber and through which water is discharged therefrom; a supply passage for air under pressure leading into each water chamber; an exhaust passage leading from each water chamber; a supply and an exhaust valve for each water chamber and adapted to control the flow of air thereto and therefrom; valve operating mechanism for operating the supply and exhaust valves of both of said chambers and comprising two diaphragm chambers each having a flexible diaphragm adapted to be operated by air under pressure, an oscillating lever, a sleeve movable with and adapted to operate said lever, a guide for said sleeve, a spring located within said sleeve, bushings within said sleeve and in contact with the ends of said spring, a stem for each of said diaphragms and adapted to be operated thereby and to engage said bushings and transmit motion of said diaphragms to said lever through said spring, means whereby movement of said oscillating lever is transmitted to said supply and exhaust valves; and a spring carried by each of said diaphragm chambers and in operative engagement with the diaphragm thereof and adapted to yield as the diaphragm is moved by air under pressure and to return the diaphragm to its initial position; a conduit leading from within each water chamber and adapted to conduct air under pressure from the interior of the chamber from which it leads to one of said diaphragm chambers; a valve for each of said conduits and adapted to control the flow of air therethrough; a float within each water chamber; and lever mechanism interposed between each of said floats and one of said controlling valves and through which said valve is operated.

5. In a device of the class described, two water chambers; a valve controlled inlet passage for each chamber and through which water may enter thereinto; a valve controlled outlet passage for each chamber and through which water is discharged therefrom; a supply passage for air under pressure leading into each water chamber; an exhaust passage leading from each water chamber; a supply and an exhaust valve for each water chamber and adapted to control the flow of air thereto and therefrom; valve operating mechanism for operating the supply and exhaust valves of both of said chambers and comprising two diaphragm chambers each having a flexible diaphragm adapted to be operated by air under pressure, a vertically arranged oscillating lever pivoted at its lower end and having a weight at its upper end, means whereby movement of said lever is transmitted to said supply and exhaust valves, a stem for each of said diaphragms and adapted to be operated thereby and to operate said oscillating lever, a spring carried by and movable with said oscillating lever and through which movement of said stems is transmitted to said lever; and a spring carried by each of said diaphragm chambers and in operative engagement with the diaphrgam thereof and adapted to yield as the diaphragm is moved by air under pressure and to return the diaphragm to its initial position; a conduit leading from within each water chamber and adapted to conduct air under pressure from the interior of the chamber from which it leads to one of said diaphragm chambers; a valve for each of said conduits and adapted to control the flow of air therethrough; a float within each water chamber; and lever mechanism interposed between each of said floats and one of said controlling valves and through which said valve is operated.

[Claims 6 to 16 not printed in the Gazette.]

979,108. WORKMAN'S TIME-RECORDER. FRANK J. TRAN and FRANK CAIS, Cleveland, Ohio. Filed Oct. 7, 1908. Serial No. 456,644.



1. In a time recorder, the combination with a platen and a time-printing device, the one being movable relatively to the other; of means for effecting such movement; time-controlled means for regulating such movement; manually operable means adapted to move said platen and device relatively to each other independently of aforesaid means, said platen and device remaining where placed by said last-named means until said device is actuated to print; and means for automatically restoring said platen and device to the relative position given them by said time-controlled means after actuation of said device to print.

2. In a time recorder, the combination with a platen and a time-printing device, the one being movable relatively to the other; of means tending to effect such movement; time-controlled means for regulating such movement; manually operable means adapted to shift said platen and device relatively to each other from the position given them by aforesaid means a predetermined amount; and means adapted to restore said platen and device to such position upon actuation of said device to print.

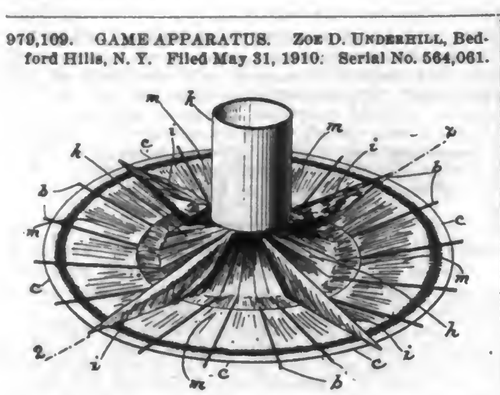
3. In a time recorder, the combination with a platen and a time-printing device, the one being movable relatively to the other; of means tending to effect such movement; time-controlled means for regulating such movement; manually operable means adapted to shift said platen and device relatively to each other from the position given them by aforesaid means a predetermined amount in either direction; and means adapted to restore said platen and device to such position upon actuation of said device to print.

4. In a time recorder, the combination of a platen, a time-printing device movable across said platen, means tending thus to move said device, time controlled means for regulating such movement, and manually operable means adapted to shift said device from the position given it by aforesaid means a predetermined amount in either direction from such position.

5. In a time recorder, the combination of a platen, a time-printing device movable across said platen, means tending thus to move said device, time-controlled means for regulating such movement, and other means for independently moving said device, said device remaining where placed by said last-named means until actuated to print.

[Claims 6 to 22 not printed in the Gazette.]

979,109. GAME APPARATUS. ZOE D. UNDERHILL, Bedford Hills, N. Y. Filed May 31, 1910. Serial No. 564,061.



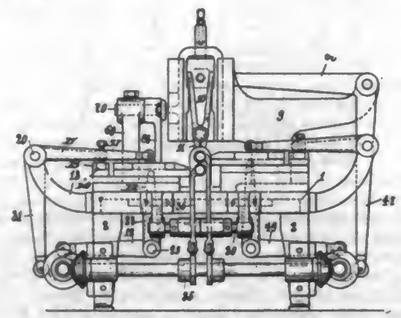
1. A game apparatus comprising a device constructed in the similitude of an umbrella or parasol and provided with radial partitions extending from the outer part thereof toward the central part, and a receptacle arranged centrally of the device and above the radial partitions.

2. A game apparatus comprising an upright stick, a base of inverted cone shape surrounding the stick, a cover of upright cone shape surrounding the stick and overlying the base, and partitions connected with the cover and base and forming therewith a series of receptacles, and a receptacle surrounding the upper end of the stick.

3. A game apparatus comprising an upright stick, a series of ribs radiating from the lower end thereof and inclined somewhat upward, a series of ribs radiating from the stick above its lower end and inclined downward and connected with the first named ribs, a covering applied to the first series of ribs, a covering applied to the second series of ribs, and a series of partitions connected to both covers and forming a series of receptacles.

4. A game apparatus comprising an upright stick, a series of ribs radiating from the lower end thereof and inclined somewhat upward, a series of ribs radiating from the stick above its lower end and inclined downward and connected with the first named ribs, a covering applied to the first series of ribs, a covering applied to the second series of ribs, a series of triangular shaped partitions whose lower edges are secured to the first named covering and whose inner edges are secured to the second named covering, a central receptacle surrounding the upper end of the stick, and means for sustaining the apparatus in level position.

979,110. MACHINE FOR MANUFACTURING METAL CORDS. KARL FRIEDRICH UNGERER and EMIL BECKER, Pforzheim, Germany. Filed Mar. 27, 1908. Serial No. 423,568.



1. In a machine for manufacturing metal cords from split wire rings as specified, the combination with tongs (11) for hanging the rings into the finished cord, of tongs (82) for carrying the finished cord, an inner tube to receive said tongs (82), means to shift said tongs (82) directly beneath said tongs (11), a slide to receive said inner tube and to shift the same in horizontal direction, levers to actuate said slide, and means to shift the cord into the mouth of said tongs, for the purpose set forth.

2. In a machine for manufacturing metal cords from split wire rings as specified, the combination with tongs for carrying the finished cord, of means to turn said tongs for the reception of fresh rings consisting of a star wheel having as many teeth as the number of rings for one whole spiral winding of the cord amounts to, and spring pawls to operate said star wheel, for the purpose set forth.

3. In a machine for manufacturing metal cords, the combination of a pair of alternately acting wire feeding mechanisms; a mechanism associated with each feeding mechanism for coiling the fed wire; a cutting mechanism associated with each coiling mechanism for severing the coils of wire into rings; means for supporting a finished cord; and a single mechanism associated with both of said cutting mechanisms for linking the severed rings to said cord.

4. In a machine for manufacturing metal cords, the combination of a pair of alternately acting ring forming mechanisms; means for supporting a finished cord; and mechanism for linking the rings to said cord.

5. In a machine for manufacturing metal cords, the combination of a pair of alternately acting wire feeding mechanisms; a pair of ring forming mechanisms associated with said feeding mechanisms; a pair of tongs for carrying a finished cord; a pair of tongs arranged above the first named tongs for linking the rings into said cord and supporting means for operating said tongs.

[Claims 6 to 11 not printed in the Gazette.]

979,111. PRINTING-SURFACE AND METHOD OF PRODUCING THE SAME. BURT F. UPHAM, Boston, Mass., assignor to C. B. Cottrell and Sons Company, Jersey City, N. J., and Westerly, R. I., a Corporation of New Jersey. Filed Jan. 22, 1901. Serial No. 44,308.



1. The hereindescribed process of producing printing surfaces which consists in first forming a relief printing surface in a thin metallic plate, supporting the same upon a yielding backing, and finally forcing into the face thereof a comparatively unyielding surface varying in profile in direct proportion to the lightness of the shades to be printed by the different sections of the printing surface substantially as described.

2. The process of "making ready" the printing surface of a printing block, which consists in applying to one side of the printing block, a "relief" form having parts of its printing surface raised said raised parts corresponding with certain parts of the subject to be printed, covering the other side of the printing block with yielding material, and then subjecting the printing block and the said "relief" form while in contact with one another to pressure, thereby altering the level of parts of the printing surface of the printing block so as to obtain a correctly shaded impression in a single printing operation.

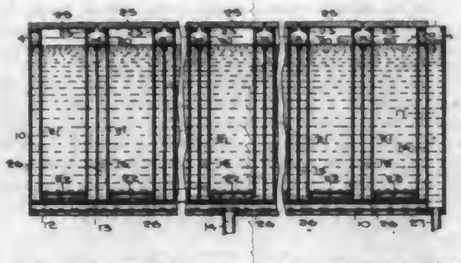
3. The process of making ready the printing surface of a printing block, which consists in applying to the face of the printing block a "relief" form having raised parts corresponding to the light shaded parts of the subject to be printed, covering the back of the printing block with yielding material, and then subjecting the printing block and said "relief" form to pressure, thereby setting back the level of those parts of the printing surface of the block which corresponds to the lightly shaded parts of the subject to be printed below the level of those parts of the printing surface of the printing block which correspond to the darkly shaded parts of the subject to be printed, so as to obtain a correctly shaded impression in a single printing operation.

4. The herein described process of producing printing surfaces varying in profile in accordance with the shades to be printed, which consists in subjecting a printing block or plate to the direct action of a relief form under pressure, thereby altering the level of parts of the printing surface of the printing block or plate so as to obtain a shaded impression in a single printing operation.

5. The herein described process of producing printing surfaces varying in profile, which consists in first forming a relief form varying in profile in accordance with the variations in profile to be produced in the printing surface, then superposing the relief form and the printing surface, and then subjecting the two directly to pressure so as to produce at one operation in the printing surface substantially the variations in the relief form.

[Claims 6 to 16 not printed in the Gazette.]

979,112. ICE-MAKING SYSTEM. GEORGE L. VAIL, Denver, Colo. Filed Dec. 21, 1908. Serial No. 468,510.



1. In an ice-making system, a tank containing a horizontal partition dividing its interior into two compartments and a plurality of vertical partitions dividing the upper compartment into a plurality of brine-receptacles which are individually in communication with the bottom compartment, cans mounted within the said receptacles in spaced relation to their walls, and means for introducing heat-absorbing liquid into the bottom compartment.

2. In an ice-making system, a tank containing a horizontal partition dividing its interior into two compartments and a plurality of vertical partitions dividing the upper compartment into a plurality of brine-receptacles which are individually in communication with the bottom compartment, cans mounted within the said receptacles in spaced relation to their walls, means for introducing heat-absorbing liquid into the bottom compartment, and means to exhaust said liquid from said tank after it has reached a predetermined level.

3. In an ice-making system, a tank containing a horizontal partition dividing its interior into two compartments and a plurality of vertical partitions dividing the upper compartment into a plurality of brine-receptacles, cans mounted within the said receptacles in spaced relation to their walls and means for introducing heat-absorbing liquid into the bottom compartment, the said horizontal partition having openings which establish communication between each of the said receptacles and the bottom compartment.

4. In an ice-making system, a tank containing a horizontal partition dividing its interior into two compartments and a plurality of vertical partitions dividing the upper compartment into a plurality of brine-receptacles and an overflow chamber adjoining the said receptacles, means to discharge liquid from the said chamber, cans mounted within the said receptacles in spaced relation to their walls, and means for introducing heat-absorbing liquid into the bottom compartment, the said horizontal partition having openings which establish communication between each of the said receptacles and the bottom compartment.

5. In an ice-making system, a plurality of tanks each containing a horizontal partition dividing its interior into two compartments and a plurality of vertical partitions dividing the upper compartment into a plurality of brine-receptacles which are individually in communication with the bottom-compartment, cans mounted within the said receptacles in spaced relation to their walls, a main conduit separately connected with the bottom compartment of each of the said tanks, and a means to supply heat-absorbing liquid to the said conduit.

[Claim 6 not printed in the Gazette.]

979,113. HEAT TREATMENT OF STEEL. SAMUEL S. WALES, Munhall, Pa., assignor to Carnegie Steel Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Apr. 21, 1908. Serial No. 428,307.

1. The method of treating steel containing metalloids in different proportions in different parts thereof, consisting in heating the plate and raising one part of the portion to be treated to a different temperature from that of another portion at the same depth.

2. The method of heat-treating steel, consisting in heating the plate or portion to be treated and varying the heat of the different parts according to the proportion of metalloids contained therein.

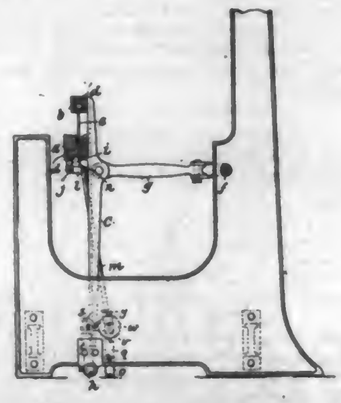
3. The method of heat-treating steel having different proportions of metalloids in different parts thereof, consisting in heating the plate and raising those portions containing a greater proportion of metalloids to a higher heat than those portions containing a lower proportion of metalloids.

4. The method of treating steel, consisting in heating a plate to a hardening temperature, then quenching it, and then un-uniformly heating the length of the plate to temperatures between 500 and 700 degrees centigrade, and then cooling the same.

5. The method of treating steel, consisting in heating a plate to a hardening temperature, then quenching it, then heating it to different temperatures at different portions of the plates with relation to the difference in composition caused by segregation.

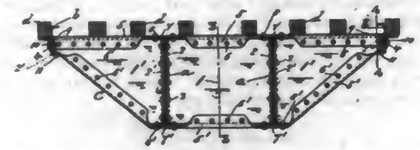
[Claims 6 to 9 not printed in the Gazette.]

979,114. LOOM. JOHN WARBURTON and ARTHUR GARDINER, Paterson, N. J. Filed Apr. 12, 1910. Serial No. 554,958.



The combination, with the batten structure, of a reed movable in the same, a stationary bracket, a lever fulcrumed in the bracket, another bracket carried by the batten structure, a ratchet and cam fixed together and journaled in the second bracket, said lever having pivotal connection with the second bracket concentrically with the cam and ratchet, a pawl carried by the lever and engaging the ratchet, and mechanism engaging the cam, for transmitting motion from the latter to the reed, substantially as described.

979,115. CAR-UNDERFRAME. CHARLES T. WESTLAKE and CHARLES F. FREDE, St. Louis, Mo., assignors to Commonwealth Steel Company, St. Louis, Mo., a Corporation of New Jersey. Filed July 10, 1909. Serial No. 506,964.



1. In a car underframe of the class described, a needle-beam comprising an upright member made in sections, a top and bottom member respectively L-shaped and flat in cross section alternately, and means for fixing the said web and members to the said frame, substantially as described.

2. In a car underframe of the class described, a needle beam comprising an upright web, and a top member, alternately L-shaped and flat in cross section, and having at each end a bent portion adapted to be connected to the side sills of the said frame.

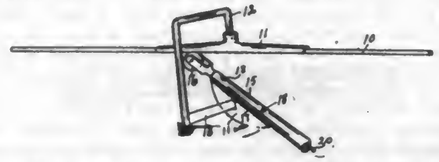
3. In a car underframe of the class described, a needle beam comprising an upright web, and a bottom member, alternately L-shaped and flat in cross section, and adapted at its ends to be connected to the side sills of the said frame.

4. In a car underframe of the class described, a needle beam comprising an upright web and a top and bottom member respectively, L-shaped and flat in cross section alternately, and adapted at their ends to be connected to the side sills of the said frame, substantially as described.

5. In a car underframe of the class described, a needle beam comprising an upright web made in sections, and a bottom member, alternately L-shaped and flat in cross section and adapted at its ends to be connected to the side sills of the said frame, substantially as described.

[Claim 6 not printed in the Gazette.]

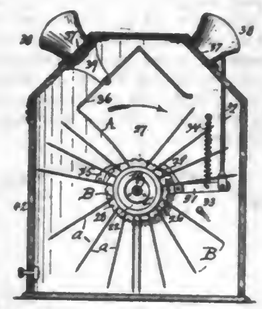
979,116. TROLLEY CIRCUIT CONNECTION. CHARLES W. WHALEY, Indianapolis, Ind. Filed July 29, 1909. Serial No. 510,208.



1. The combination of a trolley pole, a trolley wire, and an electrical contact secured thereto with a portion on a lower level than the trolley wire supported at one side of and extending horizontally toward the trolley pole, a vertically disposed contact plate mounted in connection with the trolley pole so as to be engaged by said horizontal portion of the electrical contact connected with the trolley wire, a conductor extending from said contact plate through the trolley pole, and a laterally extending guard flange extending along said contact plate for preventing said contact plate from coming in contact with the trolley wire when the trolley pole escapes therefrom.

2. The combination of a trolley pole, a trolley wire, and an electrical contact secured thereto with a spring portion on a lower level than the trolley wire supported at one side of and extending horizontally toward the trolley pole, a vertically disposed block formed of non-conducting material secured to the trolley pole, a contact plate secured to the side of said block in position to be engaged by the spring portion of said electrical contact which is mounted in connection with the trolley wire, an electrical connection from said contact plate extending through said block and the trolley pole, and a flange on said block extending laterally beyond said contact plate, substantially as and for the purpose set forth.

979,117. CARD-EXHIBITING DEVICE. RICHARD WHITING, Norwood, Ohio. Filed Nov. 22, 1909. Se No. 529,201.



1. In a view-exhibiting apparatus, the combination set of equal sized view moving arms of stamped metal provided with internal trunnion-journals, a hub to w these arms closely spaced are pivotally connected by m of these journals and a rotatable shaft on which this is mounted.

2. In a view-exhibiting apparatus, the combination set of elastic view-moving arms, a hub on which they endwise seated, means engaging this end at opposite e to hold the arms to the hub, and a rotatable shaft which this hub is mounted.

3. In a view-exhibiting apparatus, the combination set of view-moving arms, notched in opposite edges at of the ends to produce trunnion-journals at one en those notches and stops at their other end, a hub to w these arms are held by means of these journals and w is provided with means adapted to interact with the mentioned to limit the movement of the arms on the and a rotatable shaft upon which this hub is mounted.

4. In a view-exhibiting apparatus, the combination set of view-moving arms of elastic material having nion-journals on their opposite edges and shoulders be these journals, a rotatable shaft on which these arms pivotally mounted, a stop located in the path of the ends of these arms, means to rotate the shaft sufficie carry the ends of the arms, one after the other agains stop mentioned in a manner to set up a spring-resiste tardation in each arm, while at the same time releasi previously engaged arm to permit the same to sw spring-impelled, on its pivotal connection independen the motion received from the shaft, and means adapte be engaged by the shoulders on the arms to limit this pendent motion.

5. In a view-exhibiting apparatus, the combination case provided with a view-glass having two lenses, supported inside of the case opposite this view-glass, of elastic material for moving these views in positio posite the view-glass, means to actuate these arms fo purpose and a stop adapted to temporarily engage arms one at a time to hold them in position for vie said stop being so formed and located as to serve also septum for the lenses of the view-glass.

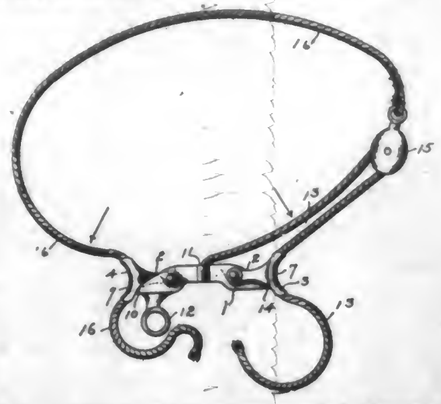
[Claim 6 not printed in the Gazette.]

979,118. SHOCK-COMPRESSOR. CHARLES K. and FRED MCCLAIN, near Xenia, Ohio. Filed No 1909. Serial No. 526,515.

1. In a device of the character described, a main having beveled ends, forming impinging noses, swi clevises independently pivoted to the main bar in pr ity to the inclined ends, said clevises having elon arcuate bases, formed substantially semi-circular in section, and an encircling band having a fixed end e ing the bar intermediate the clevises engaging in the ises and adjustably held therein by being automati impinged therein by the inclined ends of the bar.

2. In a device of the character described, a main porting bar, swinging clevises independently pivoted bar adjacent to the ends thereof, an encircling band

prising two sections, one of the sections being attached to the supporting bar intermediate the clevises, the said section being bent outward upon itself to form a bight, the free end thereof being passed through one of the clevises and located outermost and away from the shock, a pulley block carried by the second section of the band, the pulley block being engaged in the bight of the first sections, the free end of the second section of the band being passed through the other clevis, the free portions being automatically clamped within the clevises in adjusted position by the ends of the bar.



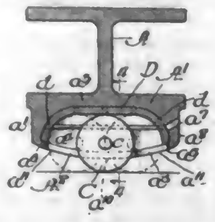
3. In a device of the character described, a main supporting bar forming a link in the shock encircling structure, swinging clevises independently pivoted to the bar adjacent to the ends thereof also forming links in the shock encircling structure, the bases of said clevises being elongated and formed arcuate in a plane common with the plane of movement of the pivoted clevis, one of the clevises being double armed or U-shaped, the other clevis being formed hook shaped, a bight of binding rope permanently attached to the supporting bar intermediate the clevises, the free end thereof being passed through the U-shaped clevis and adapted to be automatically impinged therein by the extremity of the supporting bar, a pulley block carried in said bight of binding rope, a length of binding rope attached to the pulley block its free end being adapted to be engaged in the hook shaped clevis, by the opposite extremity of the bar.

4. In a device of the character described, a main supporting bar forming a link in the shock encircling structure, swinging clevises independently pivoted to the bar adjacent to the ends thereof also forming links in the shock encircling structure, an opening through said bar extending in a plane common with the plane of movement of the swinging clevises, and located intermediate said clevises, a length of binding rope engaged in said opening in the bar the free end of said length being bent outward upon itself and automatically clamped in one of the clevises by the end of the bar, thereby forming a bight adapted to lie in a plane common with the plane of movement of the clevises, the operating or most rapidly moving strand or bight being outermost and away from the shock, a second length of binding rope engaged at one end in the bight and having its free end automatically clamped in the other clevis, by the opposite end of the bar.

979,119. ANTIFRICTION-BEARING FOR RAILWAY CARS. EDWIN S. WOODS, Chicago, Ill. Filed May 8, 1907. Serial No. 372,479.

1. In a roller bearing, a casing formed to provide a chamber open at one side and provided on its side walls with tracks, an antifriction element in said chamber arranged to extend through the open side thereof and provided with end bearings or trunnions adapted to engage said tracks, and a resilient wear plate in said chamber arranged to provide a tread for said antifriction element and to be locked in said casing by its resiliency.

2. In a roller bearing, a casing formed to provide an elongated roller chamber open at one side and provided on its side walls with track flanges, a roller mounted in said chamber and provided with trunnions adapted to engage said track flanges, a resilient wear-plate mounted in said chamber for contact with said roller, and engaging at its ends fixed shoulders on the casing, said shoulders being spaced a distance apart less than the distance between the ends of the wear-plate whereby said wear-plate, when inserted into the casing, springs behind one of said shoulders and is held in place thereby.



3. In a roller bearing, a casing formed to provide an elongated roller chamber open at one side and provided on its side walls with track flanges, a roller mounted in said chamber provided with trunnions adapted to engage said flanges, a wear-plate removably fitted in the chamber and constructed and arranged to confine the roller in the chamber, and engaging at its ends fixed shoulders on the casing, said wear-plate being resilient and held in place against said shoulders by its resiliency.

4. In a roller bearing, a casing formed to provide an elongated roller chamber open at one side and provided on its side walls with track flanges, a roller mounted in said chamber and provided with trunnions adapted to engage said track flanges, a resilient wear-plate in said chamber for contact with said roller and provided with curved ends to constitute stops for the roller and arranged to confine the roller in the casing, the ends of said wear plate engaging fixed shoulders on the casing to hold the wear plate in place, said shoulders being so arranged that the plate, when inserted into the casing, springs behind one of the shoulders to lock the plate in place.

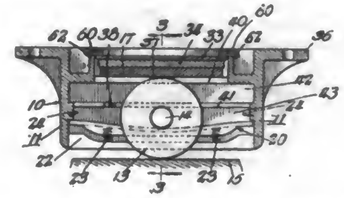
5. In a roller bearing, a casing provided with an elongated roller chamber open at its lower side and provided on its side walls with longitudinal track flanges, a roller removably mounted in, and projecting through the open side of, the chamber and provided with trunnions adapted to engage said track flanges, said track flanges being provided with notches through which said trunnions pass when the roller is inserted into and removed from the chamber, a resilient wear-plate removably fitted within the chamber and adapted to be inserted thereinto through said open side thereof and arranged to confine the roller in the chamber, said wear-plate being curved downwardly at its ends to constitute end stops for the roller, and said ends of the wear plate engaging fixed shoulders on the end walls of the casing to hold the wear plate in place, the parts being so arranged that when the wear-plate is inserted in place one end thereof springs behind its associated shoulder to lock the same in place.

[Claims 6 and 7 not printed in the Gazette.]

979,120. ANTIFRICTION-BEARING. EDWIN S. WOODS, Chicago, Ill. Filed Dec. 10, 1908. Serial No. 466,751.

1. An antifriction bearing comprising upper and lower bearing members, an interposed element through the body of which the load is carried and provided with end bearings or trunnions, and resilient means which act on said trunnions to yieldingly hold the antifriction element engaged with one of the bearing members when it is free from the other bearing member.

2. An antifriction bearing comprising upper and lower bearing members, and an interposed antifriction element arranged to roll along said bearing member and having end bearings or trunnions, the upper bearing member being provided with yielding tracks arranged to engage said trunnions and to yieldingly hold the antifriction element engaged with the upper bearing member when it is free from the lower bearing member.



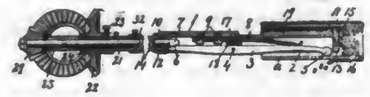
3. An antifriction bearing comprising upper and lower bearing members, and an interposed antifriction element, one of said members having resilient means to yieldingly hold the antifriction element against one of the bearing members when it is free from the other bearing member, said resilient means tending to automatically return said antifriction element to a predetermined position when free from said other bearing member.

4. An antifriction bearing comprising a carrier provided with a downwardly facing bearing member, an antifriction element in said carrier adapted to roll along said bearing member and provided with end bearings or trunnions, and tracks yieldingly mounted in the carrier along which the trunnions roll, said tracks being arranged to act on said trunnions to yieldingly hold said antifriction element in engagement with said bearing member of the carrier.

5. An antifriction bearing comprising a carrier provided with an elongated downwardly facing bearing member, an antifriction roller in said carrier adapted to roll along said bearing member, and resilient means carried by said carrier and acting upon the ends of said roller to yieldingly hold it engaged with said bearing member.

[Claims 6 to 27 not printed in the Gazette.]

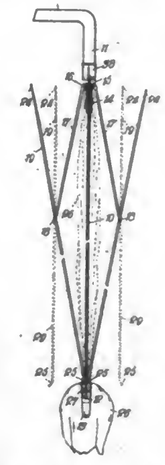
979,121. HAMMER FLUE-CLEANER. WILLIAM J. BAKER, Oswego, N. Y., assignor of one-half to Lewis G. Gridley, Oswego, N. Y. Filed May 12, 1910. Serial No. 560,867.



1. In a flue cleaner, a tubular frame having an opening in one side and provided with opposite end heads, a transversely-disposed partition arranged in said frame, a hammer lever fulcrumed in said frame below said partition and movable in said opening, a laminated spring arranged between said partition and the inner face of the frame and engaging the hammer end of the lever for forcing the latter outwardly through said opening, means for securing one end of said laminated spring to the inner face of said frame to one side of said partition, a rotary cam for operating the lever against the action of the spring, a tubular extension secured to the rear end head of said frame, a rotary shaft passing through said extension and operatively connected to the cam, and means for rotating the shaft.

2. A flue cleaner comprising a tubular frame having an opening in one side, a transversely disposed partition arranged in said frame, a lever fulcrumed in said frame and arranged below the partition, a laminated spring arranged above the partition and having one end engaging the hammer end of the lever for forcing the latter outwardly through said opening, hold-fast devices for securing one end of the spring to the inner face of the frame, actuating means for operating said lever against the action of said spring, and operating means for said actuating means.

979,122. CONVERTIBLE CANE-UMBRELLA. MART BEARMAN, New York, N. Y. Filed June 22, 1910. Serial No. 568,413.



1. In a convertible cane-umbrella, the combination o runner-rod having a handle connected upon one end the of; a cap held upon the opposite end of the runner-rod plurality of ribs each having one end curved and a taper opposite end, both ends of which are disconnected fr the runner-rod; a stay pivotally held to each of the ri means to pivotally hold the stays slidably upon the runn rod; a detachable cover having a central opening provid with a ring to hold the cover around the runner-rod wit the cap; and a number of tips corresponding to the nu ber of ribs, each of said tips having an apertured pl whereby the tip may be fastened to the cover and ea having a tubular body for reception of the tapered end each rib.

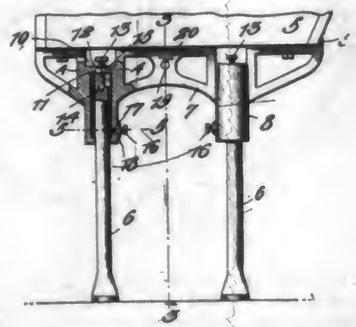
2. A cane in a device of the character described, combination of a runner-rod having a handle connec upon one end thereof; a sleeve slidably held upon runner-rod and having a head; a plurality of ribs e having a cutaway part forming an arm and a body p tion of twice the width of the arm; an equal number stays, each of the same width as the arm of each rib having one end pivotally held to the arm; means to p otally hold the opposite end of each of the stays to head of said sleeve; a curved part formed upon the end each rib; a cap to hold said curved parts and held up the runner-rod at the end opposite to said handle; means provided upon the handle to hold the opposite e of the ribs when in assembled arrangement around rod.

3. In a convertible cane-umbrella, the combination w a runner-rod and a sleeve slidably held thereon and hav a head; of ribs, each having one end curved and a taper opposite end, both ends of which are disconnected fr the runner-rod, a cutaway part forming an arm and a bo portion of twice the width of the arm so as to form shoulder thereon; an equal number of stays, each of same width as the arm of each rib and having one end p otally held to the arm and the opposite end pivotally h to the head of said sleeve.

4. In a convertible cane-umbrella, the combination o runner-rod having a handle connected upon one end the of; a cap held upon the opposite end of the runner-rod sleeve slidably held upon the runner-rod and having head; a plurality of ribs having an arm with a taper end and a body portion with a curved end and a shoulde a stay of the same width as the arm of each rib and havi one end thereof pivotally held to the arm so that the e of the stay will rest against said shoulder; means to p otally hold the opposite ends of the stay in an annular rangement to the head of the slidable sleeve; a cover h ing a central opening provided with a ring to hold

cover around the runner-rod within said cap; a number of tips corresponding to the number of ribs, each of said tips having an apertured plate whereby the tips may be fastened to the cover, and each having a tubular body for reception of the tapered end of the arms of the ribs; and flexible means engaging each of the tips to hold said tips in an adjusted position, for the purpose set forth.

979,123. WASHTUB-SUPPORT. RICHARD EDWARD BOHRER, Rochester, N. Y. Filed Apr. 30, 1910. Serial No. 558,670.



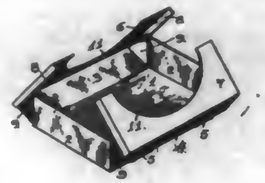
1. In a support of the character described, the combination of a leg or standard, a casting having a tubular extension formed thereon open at one end to receive said standard, means arranged in the other end of the extension for adjusting the casting upon the standard, and means for rigidly securing the casting in its adjusted position.

2. In a support of the character described, the combination of a supporting leg or standard, a casting adapted to be secured to the bottom of a laundry tub or the like, said casting having a depending tubular extension open at one end to receive said standard, an adjusting screw movable through the other end of said extension engaged with said standard and adapted to support the tub thereon, and a set screw disposed through said extension adjacent to its lower end adapted to secure the tub in its adjusted position on the standard.

3. In a support of the character described, the combination of a pair of supporting legs or standards adapted to be arranged beneath each end of a laundry tub or the like, a casting transversely arranged beneath and secured to the tub, depending tubular extensions formed on the casting and adapted to receive the upper ends of said standards, said tubular extensions being closed at their upper ends, and each provided with a polygonal recess and a circular opening therein, an adjusting screw movable through said opening and recess, a nut disposed in the recess, said screw being threaded through said nut, the lower end of the screw having engagement in the upper end of the supporting standard, and means carried by each of said tubular extensions engaged with the standards to rigidly secure the tub in its adjusted position.

4. In a support of the character described, the combination of a pair of supporting legs or standards adapted to be arranged between each end of a laundry tub or the like, a casting transversely disposed beneath said tub and secured thereto, depending tubular extensions formed in said casting having their lower ends open to receive the standards and the upper ends of said extensions being closed, adjusting screws movable through the upper ends of said extensions and adapted to raise and lower the tub on the standards, the lower ends of said screws being conically formed, said standards having conical bearing seats formed in their end to receive the screws, and a set screw movably disposed through one side of each extension adjacent to its lower end adapted for binding engagement upon the standard to secure the tub in its adjusted position.

979,124. MATCH-BOX. BERNHARD J. L. BOLT, San Francisco, Cal. Filed Nov. 23, 1909. Serial No. 529,604.



1. A pocket match box, the same comprising a bottom and integral end walls stamped from a single sheet of material, a plurality of lid or cover plates each being provided with an integral side wall, hinged connections between each of the side walls and the outer edge of the bottom of the box, springs for holding upwardly the side walls, and cut outs in the lid or cover plates to form a finger opening when the said plates are closed to form the top wall of the box.

2. A pocket match box, the same comprising a bottom and integral end walls, side walls for the box, a spring held lid or cover plate secured to each of the side walls, the said plates being provided with cut outs to form a finger opening when the same are closed, and flanges depending from each of the lid or cover plates for embracing the end walls of the box.

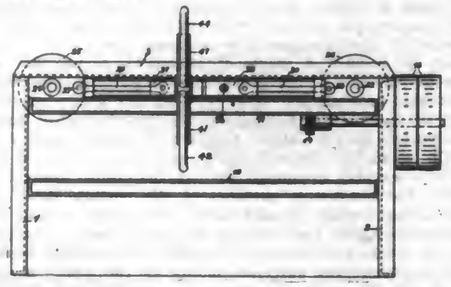
3. A pocket match box, the same comprising a bottom and integral end walls stamped from a single sheet of material, side walls hinged to the outer edge of the bottom of the box, springs acting against said side walls for normally holding the same upwardly, shoulders projecting from the side walls to bear against the inner face of the end walls, a lid or cover plate carried by each side wall, the said plates being provided with cut outs to form a finger opening when the same are closed, and flanges depending from the lid or cover plates for embracing the end walls.

4. A match safe comprising a substantially flat bottom having secured thereto ends; oppositely disposed sides extending from end to end of the safe and hingedly connected at their lower end to the edges of said bottom whereby they may swing from an upright position in contact with said ends to a substantially horizontal position in substantial alinement with the bottom, top sections, one for each side, projecting at an angle to the sides and secured thereto for movement therewith and adapted to overlie the top of said ends, said top sections having registering openings for the passage of the finger of the operator to withdraw a match, and means for normally retaining said sides and top section in closed position, said means being yieldable under the pressure of the fingers against the wall of the finger openings.

5. A match safe comprising a substantially flat bottom having secured thereto ends; oppositely disposed sides extending from end to end of the safe and hingedly connected at their lower end to the edges of said bottom whereby they may swing from an upright position in contact with said ends to a substantially horizontal position in substantial alinement with the bottom, lugs or projections on said sides arranged to movably engage the inner surface of said ends, top sections, one for each side, projecting at an angle to the sides and secured thereto for movement therewith and adapted to overlie the top of said ends, and lugs or projections carried by said top section and arranged to engage over the outer surface of the ends when said top sections are closed, said top sections having registering openings for the passage of the finger of the operator to withdraw a match, and means for normally retaining said sides and top section in closed position, said means being yieldable under the pressure of the fingers against the wall of the finger openings.

[Claim 6 not printed in the Gazette.]

979,125. CANDY-PULLING MACHINE. HENRY S. BREWINGTON, Baltimore, Md. Filed Aug. 18, 1910. Serial No. 577,857.



1. In a machine of the character described, the combination of two slidable pulling bars, and a pair of pulling arms carried by one of the said bars, means for revolving the said pulling arms, and means for reciprocating the said pulling bars.

2. In a machine of the character described, the combination of two slidable pulling bars, and a pair of pulling arms carried by one of the said bars, means for revolving the pulling arms, and means for reciprocating the pulling bars toward and from each other.

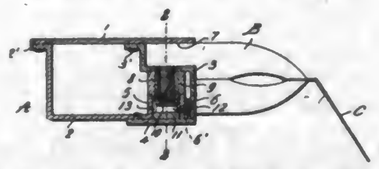
3. In a machine of the character described, the combination of two slidable pulling bars, and a pair of pulling arms carried by one of the said bars, means for revolving the pulling arms, and means for reciprocating the remaining pulling bar into and out of the circle of revolution of the said pulling arms.

4. In a machine of the character described, the combination of two slidable pulling bars, and a pair of pulling arms carried by one of the said pulling bars, means for revolving the pulling arms, and means for reciprocating the remaining pulling bar across the path of movement of the said pulling arms.

5. In a machine of the character described, the combination of two slidable pulling bars, and a pair of pulling arms carried by one of the said bars, means for revolving the said pulling arms, and means for reciprocating the remaining pulling bar in a path in line with that of the other pulling bar.

[Claims 6 to 41 not printed in the Gazette.]

979,126. PEN-BEAM. CHARLES BURROWS, Weehawken, N. J. Filed Apr. 26, 1910. Serial No. 557,771.



1. A pen beam for ruling machines comprising a top plate, angle plates secured thereto, one angle plate having its vertical portion connected with the rear edge portion of the top plate and being provided at its front portion with an outwardly extending U-shaped web, the outermost portion of which is attached to the other angle plate, the second angle plate comprising vertical portions and an intermediate horizontal portion arranged in spaced relation to the front edge portion of the top plate forming a recess to receive a pen clamp.

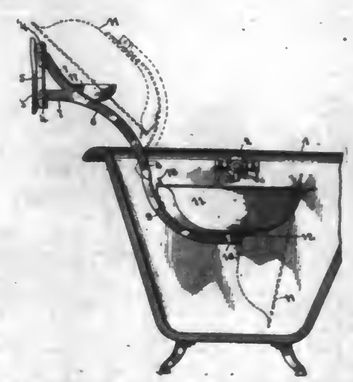
2. A metal pen beam consisting of the top plate 1, the angle plates 2 and 3 secured at their uppermost portions to the top plate 1, the plate 3 having a horizontal portion, the plate 2 having a U-shaped web 5 arranged in spaced relation to the horizontal portion of the plate 3, pen clamp locking means mounted on the web 5, and a clamp having its rear portion disposed between the top plate 1 and the horizontal portion of the plate 3.

3. In combination, a pen beam for ruling machines comprising the top plate 1, the angle plates 2 and 3, said plate 2 having the web 5 of U-shape located near its front portion, the plate 3 comprising a horizontal portion spaced from the front portion of the plate 1, a closure plate closing the space between the sides of the web 5, a pen clamp having a portion entering the space between the top plate 1 and the horizontal portion of the plate 3, and locking means for retaining said clamp and held in position by the closure plate aforesaid.

4. In combination, a pen beam for ruling machines comprising the top plate 1, the angle plates 2 and 3, the plate 2 having the web 5 of U-shape the top portion of which is spaced from the portion of the plate 3, bushings removably mounted in openings in the plate 3 and web 5, locking members in said bushings, and devices for actuating said members and operating in the space between the sides of the web, the plate 3 having a horizontal portion spaced from the top plate 1 and forming a clamp recess, and a clamp having a portion received in said recess.

5. A pen beam for ruling machines comprising the top plate 1, the angle plates 2 and 3, fastenings connecting the lower portions of said angle plates, fastenings connecting the upper portions of said angle plates with the top plate, the plate 3 having a horizontal portion spaced from the top plate and forming a recess, a clamp a portion of which is received in said recess, and locking means for preventing displacement of said clamp from the beam.

979,127. DEVICE FOR SUPPORTING WASHBASINS. DAVID R. BYRON, Philadelphia, Pa. Filed May 27, 1903. Serial No. 158,910.



1. In a device for supporting wash bowls, the combination of an arm reversely curved, substantially convex for the upper portion and concave for the lower portion of its length, a pivot at the upper end of said arm upon which said arm swings horizontally, an elbow joint located between said convex and concave portions for doubling said portions upon each other, and a basin attached to the lower end of said arm and inverted over said pivot and over said convex upper portion by the turning of the lower portion of said arm upon said elbow joint.

2. A device for supporting a wash basin, comprising an arm, a pivot at the upper end of said arm to allow said arm to swing horizontally, said arm being bowed upwardly and extending outwardly and downwardly at its upper portion, and being bowed downwardly at its lower portion, and being provided with a joint intermediate its ends and between said upwardly and downwardly bowed portions, whereby said arm may be doubled upon itself to invert the basin over and to cover said pivot and the upper portion of said arm when said basin is not in use.

3. A device for supporting wash-basins, comprising a downwardly and outwardly extending arm, a receptacle

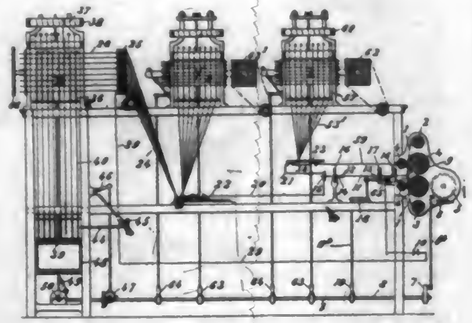
for water carried at the lower end of said arm, a block for supporting the upper end of said arm, said block being provided with hooked lugs, a weighted pawl attached to said block, and a vertical guide having an outer retaining plate which carries ratchet teeth on its under side which are adapted to engage the end of said pivoted pawl.

4. A device for supporting wash-basins, comprising a bracket, an outwardly and downwardly extending arm journaled at its upper end to swing horisontally on said bracket, and having a basin pivoted at its lower end, the said arm having its upper portion curved so as to present a convex upper edge and its lower portion curved so as to present a concave upper edge, and being jointed between said curved portions, so that its lower portion is constrained to swing in a vertical plane, to invert the basin when the said lower portion is folded back over the upper portion over and to cover said upper portion and said bracket, and means for detachably holding said basin from swinging on its pivot.

5. A device for supporting wash-basins, comprising a support, an arm pivoted to swing horizontally at its upper end on said support, the said arm having its upper portion curved so as to present a convex upper edge and its lower portion curved so as to present a concave upper edge, a wash-basin pivoted on the free end of the lower portion, a joint located intermediate of said curved portions to permit the lower portion to be substantially doubled back over its upper portion and to invert the basin over and to cover said support and said upper portion of said arm.

[Claims 6 to 10 not printed in the Gazette.]

979,128. MACHINE FOR THE PRODUCTION OF JACQUARD-CARDS. RAMÓN TURNÉ CARBONELL, Barcelona, Spain. Filed Mar. 13, 1909. Serial No. 483,278.



1. In a machine for punching jacquard cards, the combination of a pattern sheet provided with conductive and insulated surfaces, a series of needles disposed in a horizontal plane, means for imparting longitudinal reciprocating movement to said needles, to move certain of same in contact with the insulated surfaces and others in contact with the conductive surfaces of said pattern, a series of electro-magnets, connections between the latter and the needles, a source of electricity, connections between one pole of the latter and the pattern sheet, connections between the other pole of the source of electricity and the electro-magnets, a series of punches, hooks connected to the latter, means operated by the electro-magnets in connection with the needles in contact with the conductive surfaces of the pattern sheet for displacing certain of said hooks, means for raising the displaced hooks and punches connected thereto, a support for the cards and means for moving said support whereby the card thereon is perforated by the unraised punches.

2. In a machine for punching jacquard cards the combination of a pattern sheet provided with conductive and insulated surfaces, a series of needles disposed in a horizontal plane, means for imparting longtiudinal reciprocating movement to said needles, to move certain of same in contact with the insulated surfaces and others in contact with the conductive surfaces of said pattern, a series of electro-magnets, connections between the latter and the needles, a source of electricity, connections between one pole of the latter and the pattern sheet, connections between the other pole of the source of electricity and the electro-magnets, a series of punches, hooks connected to the latter, provided at their upper ends with upwardly directed points, means operated by the electro-magnets in connection with the needles contacting with the conductive surfaces of the pattern sheet for displacing certain of said hooks, means for raising the displaced hooks and punches connected thereto comprising a frame, and reversible blades carried thereby adapted to engage the aforesaid points on the hooks, a support for the card and means for moving said support whereby the unraised punches are caused to perforate said cards.

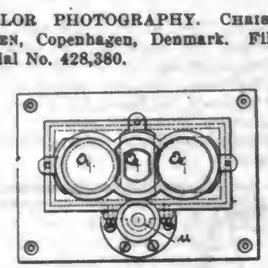
3. In a machine for punching jacquard cards the combination of a pattern sheet provided with conductive and insulated surfaces, a series of needles, means for imparting longitudinal reciprocating movement to said needles to move same against and away from the surfaces of said sheet, a series of electro-magnets, a source of electricity, connections between one pole of the latter and the pattern sheet, connections between the other pole of the source of electricty and the electro-magnets, connections between the needles and said electro-magnets, a series of punches, means operated by the electro-magnets for raising certain of said punches, a support for the cards, means for moving said support whereby the card thereon is perforated by the unmoved punches, an auxiliary jacquard mechanism comprising hooks, means for displacing said hooks, means for raising the displaced hooks, and a series of normally open contacts connected to said hooks said contacts being disposed in the connections between the needles and electro-magnets aforesaid.

4. In a machine for punching jacquard cards the combination of a pattern sheet provided with conductive and insulated surfaces, a series of needles, means for imparting longitudinal reciprocating movement to said needles to move same against and away from the surfaces of said sheet, a series of electro-magnets, a source of electricity, connections between one pole of the latter and the pattern sheet, connections between the other pole of the source of electricity and the electro-magnets, connections between the needles and said electro-magnets, a series of punches, means operated by the electro-magnets for raising certain of said punches, a support for the cards, means for moving said support whereby the card thereon is perforated by the unmoved punches, an auxiliary jacquard mechanism comprising hooks, means for displacing said hooks, means for raising the displaced hooks and a series of normally open contacts connected to said hooks said contacts being disposed in the connections between the needles and electro-magnets aforesaid, a second auxiliary jacquard mechanism comprising hooks, means for displacing the latter, means for raising the displaced hooks, and a series of normally closed contacts connected to said hooks, said latter contacts being disposed in the connections between the needles and electro-magnets aforesaid.

5. In a machine for punching jacquard cards, the combination of a pattern sheet provided with conductive and insulated surfaces, a series of needles, means for imparting longitudinal reciprocating movement to said needles to move same against and away from the surfaces of said sheet, a series of card punches, a jacquard mechanism having hooks connected to said punches, a series of electromagnets controlling said hooks, electric connections between the electromagnets and the aforesaid needles, secondary jacquard mechanisms, hooks for the latter, switches in the aforesaid electric connections, and connections between said switches and the hooks of the secondary jacquard mechanisms, substantially as described.

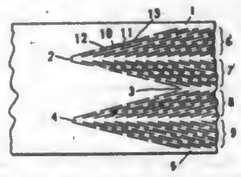
[Claims 6 to 9 not printed in the Gazette.]

979,129. COLOR PHOTOGRAPHY. CHRISTIAN PETER CHRISTENSEN, Copenhagen, Denmark. Filed Apr. 21, 1908. Serial No. 428,380.



Objective-sets for color-kinematography characterized by one or more of the objectives of the set being provided with incisions, in which the adjacent objective or objectives project, thereby allowing of placing the axes of the objectives very near each other and still letting one or more of the objectives keep its or their full power and round shape, substantially as described.

979,130. EXPANDED-METAL MANUFACTURE. NORRIS ELMORE CLARK, Plainville, Conn. Filed Apr. 11, 1908. Serial No. 426,557.



1. The method of forming reticulated metal fabric which consists in slitting a sheet so that it is composed of a plurality of extensible sections and tension members, each section having a plurality of parallel strips connecting two tension members and inclined relative thereto and connected to each other at a plurality of points, the strips of one section being inclined relative to the strips of the adjacent section, and then drawing apart the tension members so as to bend the strips into zig-zag form and open the slits.

2. The method of forming an expanded metal fabric which includes slitting the stock in staggered arrangement inclined relative to the edges and leaving longitudinal tension members, flattening the slitted area so as to open the slits slightly and then drawing apart the tension members and opening the slits to form the meshes.

3. The method of forming an expanded metal fabric which includes slitting the stock so as to produce longitudinal members united by an extensible body composed of narrow strips and then drawing apart the longitudinal members and subjecting alternate members to relatively opposite longitudinal tension to bend the strips and form the meshes.

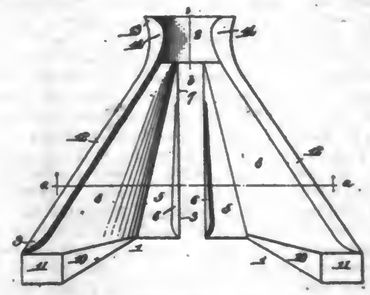
4. The method of forming an expanded metal fabric which includes, slitting stock in staggered arrangement inclined relative to the direction of the edges of the stock, rolling the slitted portions flat and then expanding the slitted portions and allowing the strands to turn edgewise.

5. The method of forming an expanded metal fabric which includes slitting stock so that it is composed of longitudinal tension members united by a laterally extensible body, flattening said body after slitting and then expanding said body by drawing said tension members apart.

[Claims 6 to 8 not printed in the Gazette.]

979,131. CAR AND ENGINE REPLACER. LOUIS L. COATS, Bingham, Utah. Filed Nov. 30, 1909. Serial No. 530,638.

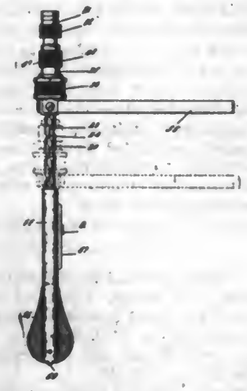
1. A car replacer having a depressed longitudinally inclined run surface on each side of the rail and narrowing toward its upper end, a longitudinally and laterally inclined sluing surface on the outer side of the said run surface and also narrowing toward its upper end, a bridge piece at the upper ends of said run surface and sluing surface and adapted to bear on the head of a rail, and a guard flange at the outer side of said sluing surface and extending longitudinally on one side of said bridge piece



2. A car replacer comprising a pair of wings to be on opposite sides of a track rail and each having a de pressed longitudinally inclined run surface on the rai side narrowing toward its upper end, and a longitudinall and laterally inclined sluing surface on the outer side o the said run surface and also narrowing toward its uppe end, and a bridge piece connecting said wings at the up per ends of said run and sluing surfaces and extendin across and bearing upon the head of the rail.

3. A car replacer comprising a pair of wings to bea on opposite sides of a track rail and each having a de pressed longitudinally inclined run surface on the ra side narrowing toward its upper end, and a longitudinall and laterally inclined sluing surface on the outer side o the said run surface and also narrowing toward its uppe end, and a bridge piece connecting said wings at the up per ends of said run and sluing surfaces and adapted t extend across and bear upon the head of the rail, an guard flanges at the outer sides of said sluing surface and extending rearwardly along the sides of the sai bridge piece.

979,132. SPIRAL TOOL-DRIVER. FRANK E. DAVIS, In dianapolis, Ind. Filed Jan. 24, 1910. Serial No. 539,81



1. A tool handle comprising a central stem having tool-receiving portion and also having a spiral thre formed therein and a plurality of longitudinally exten ing key ways in the threaded portion, of a handle membe journaled upon said stem, a ratchet shell sleeved upo the threaded portion of the stem, a pair of ratchet dog carried by said sleeve and adapted to engage in the lo gitudinal key ways in opposite directions, means for r tracting either of said dogs from operative position,

ratchet nut threaded upon the threaded portion of the stem and mounted within the ratchet sleeve, and separable clutch connections carried by said nut and sleeve.

2. A tool handle comprising a central stem having a tool-receiving portion and also having a spiral thread formed therein and a plurality of longitudinally extending key ways in the threaded portion, of a handle member journaled upon said stem, means for longitudinally adjusting said handle upon the stem, a ratchet shell sleeved upon the threaded portion of the stem, a pair of ratchet dogs carried by said sleeve and adapted to engage in the longitudinal key ways in opposite directions, means for retracting either of said dogs from operative position, a ratchet nut threaded upon the threaded portion of the stem and mounted within the ratchet sleeve, and separable clutch connections carried by said nut and sleeve.

3. A tool handle comprising a central stem having a tool-receiving portion and also having a spiral thread formed therein and a plurality of longitudinally extending key ways in the threaded portion, of a handle member journaled upon said stem, a ratchet shell sleeved upon the threaded portion of the stem, a pair of ratchet dogs carried by said sleeve and adapted to engage in the longitudinal key ways in opposite directions, means for retracting either of said dogs from operative position, a ratchet nut threaded upon the threaded portion of the stem and mounted within the ratchet sleeve, separable clutch connections carried by said nut and sleeve, and means for restraining said nut from coöperative action with the sleeve.

4. A tool handle comprising a central stem having a tool-receiving portion and also having a spiral thread formed therein and a plurality of longitudinally extending key ways in the threaded portion, of a handle member journaled upon said stem, means for longitudinally adjusting said handle upon the stem, a ratchet shell sleeved upon the threaded portion of the stem, a pair of ratchet dogs carried by said sleeve and adapted to engage in the longitudinal key ways in opposite directions, means for retracting either of said dogs drom operative position, a ratchet nut threaded upon the threaded portion of the stem and mounted within the ratchet sleeve, separable clutch connections carried by said nut and sleeve, and means for restraining said nut from coöperative action with the sleeve.

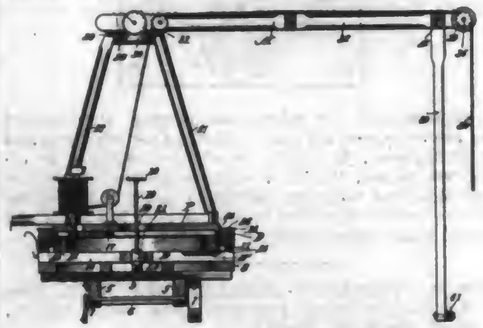
5. A tool handle comprising a central stem having a tool-receiving portion and also having a spiral thread formed therein and a plurality of longitudinally extending key ways in the threaded portion, of a handle member journaled upon said stem, a ratchet shell sleeved upon the threaded portion of the stem, a pair of ratchet dogs carried by said sleeve and adapted to engage in the longitudinal key ways in opposite directions, means for retracting either of said dogs from operative position, a ratchet nut threaded upon the threaded portion of the stem and mounted within the ratchet sleeve, separable clutch connections carried by said nut and sleeve, and a lever pivotally mounted upon the ratchet shell and movable into and out of alinement with the handle member, substantially as set forth.

[Claims 6 to 8 not printed in the Gazette.]

979,133. WELL-DRILLING DERRICK. WILLIAM D. DESCHAMP, Fort Smith, Ark., and GEORGE C. JONES, McAlester, Okla.; said Deschamp assignor to said Jones. Original application filed Mar. 11, 1909, Serial No. 482,811. Divided and this application filed Sept. 27, 1909. Serial No. 519,850.

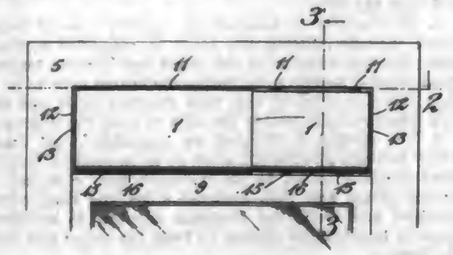
1. In a machine of the character described, a derrick frame supported for rotation and comprising a plurality of inclined upwardly converging beams or uprights, a relatively stationary derrick-arm having a ring, a flanged collar at the upper end of the derrick frame affording a bearing for the ring, and supporting means at the outer end or extremity of the derrick frame.

2. In a machine of the character described, a platform supported for rotation in an approximately horizontal plane, a derrick frame supported upon the platform, and having a flanged collar at its upper end, a derrick-arm having a flanged ring engaging the flanged collar the latter affording a bearing for the ring, inclined uprights connected detachably with the derrick-arm adjacent to the outer extremity of the latter and supporting the same in an approximately horizontal position, and a cross-bar pivotally connected with the lower extremities of the inclined uprights.



3. In a machine of the character described, a platform supported for rotation in an approximately horizontal plane, a derrick frame mounted upon the platform and comprising a plurality of inclined upwardly converging uprights, a collar secured upon the upper ends of the uprights and having a horizontal annular flange engaging the upper extremities of said uprights, a drill arm comprising a pair of suitably connected spaced beams, an annular flanged ring supported upon the under sides of the beams constituting the derrick arm, the flanged collar of the derrick frame affording a bearing for the ring, and means for supporting the outer extremity of the derrick arm to hold the latter stationary in an approximately horizontal position.

979,134. VENTILATOR. HENRY A. DIEKES, New York, N. Y. Filed Feb. 19, 1910. Serial No. 544,730.



1. A ventilating device comprising an elongated body portion, adapted to be extended across the upper part of a window, and having means for supporting it upon the window casing, and means for producing, when so positioned, an elongated narrow opening between one edge of the body portion of the ventilator and the window casing to provide a port adapted for the discharge of air from the room.

2. A ventilating device comprising an elongated body portion adapted to be extended across the upper part of a window, and having means for supporting it upon the window casing, and means for producing, when so positioned, an elongated narrow opening between one longitudinal edge of the body portion of the ventilator and the window casing to provide a port adapted for the discharge of air from the room.

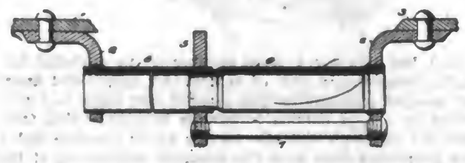
3. A ventilating device comprising an elongated strip the upper edge portion of which is directed inwardly from the central portion of the strip and is adapted to be extended along the upper end of a window opening or the like, said central portion being adapted, when the device is in position, to be extended across the outer side of the window opening at the upper part thereof, said strip being also provided with a lower edge portion directed inwardly from said central portion and adapted to be located adjacent to but spaced from the upper sash rail to produce a narrow elongated opening for the discharge of air from said chamber.

4. A ventilating device comprising an elongated strip the upper edge portion of which is adapted to be extended along the upper end of a window opening or the like, and the central part of which is inclined downwardly and outwardly from the window, the lower part of said strip being a deflecting portion extended inwardly from said central portion and adapted to be spaced apart from the sash rail to produce an elongated opening for the discharge of air.

5. A ventilating device comprising an elongated strip the upper edge portion of which is adapted to be extended along the upper end of a window opening or the like, and the central part of which is inclined downwardly and outwardly from the window, the lower part of said strip being a deflecting portion extended inwardly from said central portion and adapted to be spaced apart form the sash rail to produce an elongated opening for the discharge of air and shields extended outwardly at opposite ends of the lower portion of said elongated strips and adapted to prevent the entry of air at the ends of said opening between said lower portion of the strip and the window sash.

[Claims 6 to 9 not printed in the Gazette.]

979,135. STEAM-BOILER. JOHN A. DOARNBERGER, Roanoke, Va. Filed Mar. 19, 1908, Serial No. 422,098. Renewed Oct. 24, 1910. Serial No. 588,899.



A locomotive boiler having front and back flue sheets; and a supplementary flue sheet in fixed parallel relation with the back flue sheet; tubes or flues consisting of two sections; the main section in fixed relation with the front and supplementary flue sheets and the second section located within and in water tight relation with the main section, and secured at its rear end in proper relation with the back flue sheet as hereinbefore set forth.

979,136. PAINT OR VARNISH REMOVER. CARLETON ELLIS, Larchmont, N. Y., assignor to Chadeloid Chemical Company, New York, N. Y., a Corporation of West Virginia. Filed Jan. 26, 1907. Serial No. 354,165.

1. The paint or varnish remover comprising approximately methyl acetate 45 gallons, monochlor methyl acetate 15 gallons, benzol 30 gallons, benzin 20 gallons, turpentine 5 gallons, carbonate of magnesia 100 pounds and wax 15 pounds.

2. The paint or varnish remover comprising approximately methyl acetic ester 3 parts, monochlor methyl acetate 1 part, benzol and similar wax solvents 3 parts, and stiffening material including a waxy body.

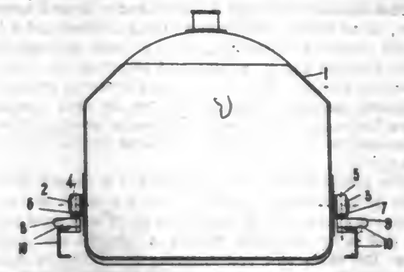
3. The paint or varnish remover comprising methyl acetate, monochlor methyl acetate, a wax solvent, and stiffening material, including a waxy body.

4. The paint or varnish remover comprising methyl acetate, monochlor methyl acetate and evaporation retarding material.

5. The paint or varnish remover comprising methyl acetate and monochlor methyl acetate.

[Claims 6 to 19 not printed in the Gazette.]

979,137. RADIATOR FOR AUTOMOBILES. GIOVANNI ENRICO, Turin, Italy, assignor, by mesne assignments, to F. I. A. T., Poughkeepsie, N. Y., a Corporation of New York. Filed Apr. 21, 1906. Serial No. 313,090.



1. The combination of an automobile body or the like, a radiator, and means for pivoting said radiator at each of its sides to said automobile body, so that it may tilt relatively thereto, each of said means comprising two parts, one of which is movable relatively to the other in a direction transverse to said body.

2. The combination of an automobile body or the like, a radiator, and means for pivoting said radiator to the sides of said body, said means comprising collars fixed to one of said parts and pivots fixed to the other of said parts, said collars and pivots being movable relatively in a direction transverse to said body, whereby they are adapted to permit a lateral movement of said radiator in said frame.

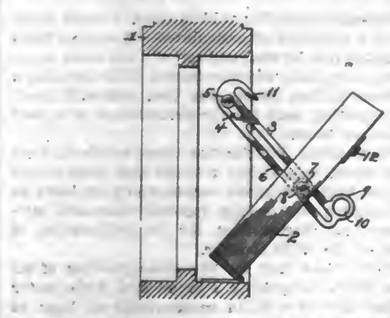
3. The combination of an automobile body or the like, a radiator, and means for pivoting said radiator to the sides of said body, said means comprising collars fixed to one of said parts and pivots fixed to the other of said parts, said collars and pivots being adapted to permit a lateral movement of said radiator in said frame, and said pivots being formed with curved faces which engage said collars.

4. The combination of an automobile body or the like, a radiator and means for pivoting said radiator to the sides of said body comprising collars 4, 5 fixed to said body, and pivots 2, 3 fixed to said radiator, said pivots having curved faces contacting with said collars and said parts being formed to permit lateral movement of the sides of said frame toward and from each other.

5. The combination with an automobile frame and a radiator, of a radiator supporting saddle having longitudinally movable universal trunnion bearing connections with the frame.

[Claims 6 to 9 not printed in the Gazette.]

979,138. TRANSOM SUPPORT AND FASTENER. CHARLES JOS. ERICSON, Salt Lake City, Utah. Filed Sept. 26, 1910. Serial No. 583,812.



1. The combination with a frame and a hinged member therein, of a slotted member disposed between one end of the hinged member and one end of the frame and having pivotal and sliding connection with both, said slotted

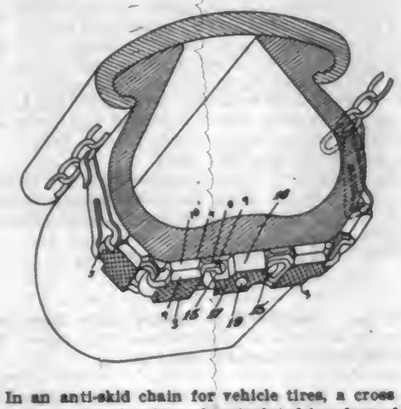
member provided at one end with a hook, and means projecting from one end of the hinged member to be engaged by said hook on the slotted member when the latter is moved longitudinally, to lock the hinged member in closed position.

2. The combination with a frame and a hinged member therein, of an elongated member having a short and a long slot and provided at one end with a hook, a headed pin passing through the short slot and entering the frame, a pin passing through the long slot and entering one end of the hinged member, engaging means on said elongated member for operating the same, and a lug or projection on the transom to be engaged by the hook on the elongated member.

3. The combination with a frame and a hinged member therein, of an elongated member having a short slot and a long slot and provided at one end with a hook and at the other end with engaging means, a headed pin passing through the short slot and entering the frame, a headed pin passing through the long slot of said elongated member and entering one end of the hinged member, a friction member between the head of said last mentioned pin and the elongated member, and a lug or projection on the hinged member to be engaged by the hook on the elongated member for locking said hinged member in closed position.

4. The combination with a frame and a pivoted member therein, of a supporting and locking member having sliding and pivotal connection with the frame and having sliding and pivotal connection with the transom, said locking and supporting member provided with a hook and a lug or projection on the hinged member to be engaged by said hook.

979,139. ANTISKID DEVICE OR CHAIN. ROBERT N. EVANS, New York, N. Y., assignor to Atlas Chain Company, New York, N Y., a Corporation of New York. Filed Feb. 23, 1910. Serial No. 545,483.



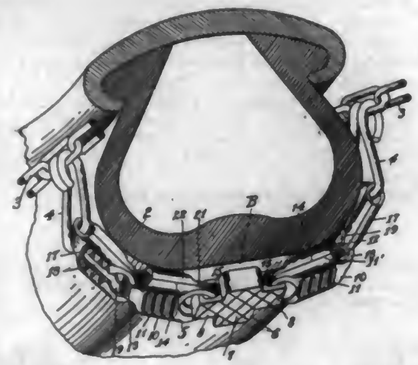
1. In an anti-skid chain for vehicle tires, a cross member made up of a plurality of articulated box-formed links and a block center link located midway of such cross member, said block center link and box formed links forming a continuous tread surface across the tire, and said block link having projecting ears for the articulation of a pair of said box formed links.

2. A cruciform block link for the cross member of an anti-skid tire chain, comprising a broad and wide center or body portion having a width substantially at least as great as its breadth and having opposed extensions provided with openings therethrough for the articulation of adjacent links of the cross member.

3. A cruciform block link for the cross member of an anti-skid tire chain, comprising a broad and wide center or body portion having a width substantially at least as great as its breadth having opposed extensions provided with openings therethrough for the attachment of adjacent links, said body portion having a centrally located opening and a roughened tread surface.

4. In an anti-skid chain for vehicle tires, a cross member made up of a plurality of box-formed links, each comprising a pair of flat parallel tread portions spaced and maintained apart and integrally connected at one end by a bent portion forming a loop and having at the other end an integrally formed loop offset and within the plane of such flat portions, and a block center link located midway of such cross member and of substantially the same depth or thickness as the tread portions of the box-formed links and having extensions articulated with the offset loops of the box-formed links, said extensions having substantially the same depth or thickness as such tread portions of the box-formed links.

979,140. ANTISKID DEVICE FOR TIRES. ROBERT N. EVANS and PHILLIP T. HAMM, New York, N. Y., assignors to Atlas Chain Company, Brooklyn, N. Y., a Corporation of New York. Filed June 4, 1910. Serial No. 564,951.



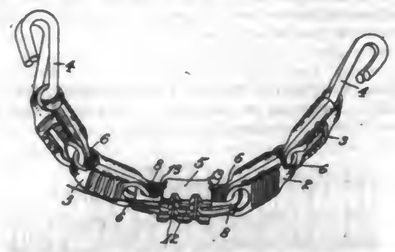
1. A box link for a cross member of an anti-skid tire chain, comprising a pair of spaced and maintained apart flat parallel members having parallel side edges and connected by a bent portion forming a loop projecting from such flat members and also having at its opposite end a loop projecting from such flat members and having at the juncture points thereof with the body portion the same width as such body portion, whereby the outer side edges of the body portion and the juncture points of the loop at the outer sides thereof are flush.

2. A box link for a cross member of an anti-skid tire chain, comprising a pair of spaced and maintained apart flat parallel body portions connected by a bent portion and having a loop projecting from such flat body portions the outer sides of which are flush with the outer sides of the body portions and also having a longitudinal slot opening into such loop.

3. A cross member for an anti-skid tire chain, comprising a centrally located block-link having at each side thereof a plurality of box links, each of said box links having integral loops disposed transversely to each other and each terminal box link being similarly formed to its companion box links, but having a longitudinal slot opening into one of its loops whereby the box links may be articulated without cutting the loops of such box links, said block link being articulated by integral loops with the box links at each side thereof.

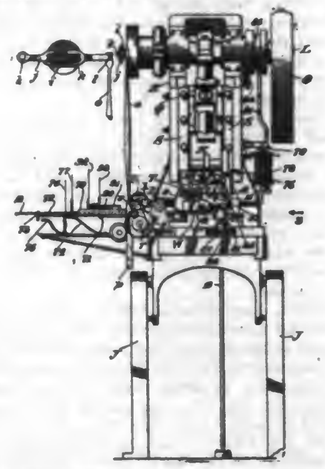
979,141. ANTISKID-CHAIN. ROBERT N. EVANS, New York, N. Y., assignor to Atlas Chain Company, Brooklyn, N. Y., a Corporation of New York. Filed June 28, 1910. Serial No. 569,310.

A cross member for an anti-skid tire chain, comprising a plurality of articulated box links, each having an integrally formed unbroken or unsevered loop and an intermediate block link comprising a body provided with opposed laterally projecting bent extensions, each adapted for insertion into the unbroken loops of adjacent links, with the end of each extension so united with the body of



the block link that it forms therewith substantially an integral structure.

979,142. METAL-BENDING MACHINE. ERNEST B. FAHNESTOCK, New York, N. Y., assignor to The Fahnestock Electric Company, a Corporation of West Virginia. Filed Aug. 24, 1906. Serial No. 331,833.



1. In a metal bending machine, the combination of a rotary support or holder, a longitudinally movable shaft passing through the axis thereof, a second longitudinally movable shaft in said holder, means for projecting and retracting said shafts, and means for rotating said support or holder.

2. In a metal bending machine, the combination of a rotary support or holder, a longitudinally movable shaft passing through the axis thereof, a second longitudinally movable shaft in said holder, means for projecting and retracting said shafts, and means for rotating said support or holder in either direction.

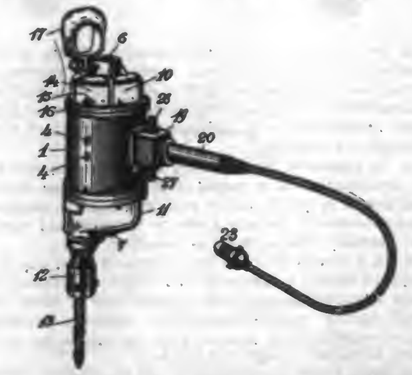
3. In a metal bending machine, the combination of a rotary support or holder, axial and eccentrically arranged longitudinally movable shafts therein, and means for rotating said holder in either direction.

4. In a metal bending machine, the combination of a support, central and outer longitudinally movable studs adapted to receive the metal ribbon to be bent between them, means for projecting said studs beyond the support into receiving position, means for rotating the outer stud about the other to wrap the ribbon around the central stud, thereby clamping said studs against longitudinal movement due to the frictional contact pressure between the ribbon and the studs, and means for retracting the studs when the said contact pressure is released.

5. In a metal bending machine, the combination of a support, central and outer longitudinally movable studs adapted to receive the metal ribbon between them, means for rotating the outer stud about the central stud in one direction, and at the same time projecting said studs into receiving position, and means for rotating said outer stud in the opposite direction to wrap the ribbon partially around the central stud, thereby clamping said studs against longitudinal movement due to frictional pressure between the ribbon and the studs, and means for retracting the studs when said pressure is released.

[Claims 6 to 16 not printed in the Gazette.]

979,143. CONTROLLING DEVICE FOR ELECTRICAL APPARATUS. ELIE F. G. H. FAURE, Erie, Pa., assignor to Burke Electric Company, a Corporation of Pennsylvania. Filed Jan. 31, 1910. Serial No. 540,983.



1. The combination of a portable electric device having an electromagnetic field element, a handle for said device, a movable switch element disposed in said handle, a fixed contact on said device coöperating with said movable switch element, and means controlled by said electromagnetic field element for maintaining said movable switch element in closed position.

2. The combination with a rotary electric motor, of a switch for controlling the same, the contacts of said switch being arranged in proximity to said motor so that arcs formed at said contacts will be blown out by magnetism of said motor.

3. The combination with a rotary electric motor of a switch for controlling the same, said switch being controlled by the magnetism of said motor and the contacts of said switch being arranged so that arcs formed at said contacts will be blown out by magnetism of said motor.

4. The combination of a portable electric device having an electromagnetic field element, a handle for said device, a movable switch element disposed in said handle, fixed contact terminals connected to the field circuit of said device and disposed on said device adjacent said handle, means actuated by the field of said electric device for maintaining said movable switch element in closed position, and manually operated means for moving said switch element to closed and open positions.

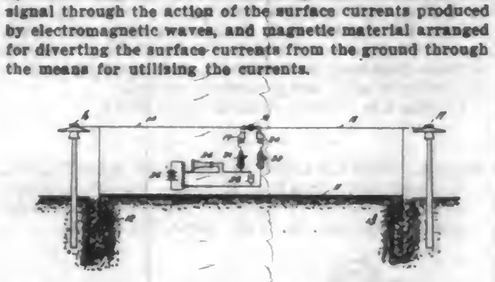
5. The combination with an electric motor of a switch for controlling the same and a magnetic armature extending within an interpolar space of said motor said armature controlling said switch and being within the influence of magnetism of said motor, the contacts of said switch being within an interpolar space of said motor and in such proximity thereto that arcs formed at said contacts will be blown out by magnetism of said motor.

[Claims 6 to 22 not printed in the Gazette.]

979,144. TRANSMISSION AND RECEIPT OF ELECTRICAL ENERGY. REGINALD A. FESSENDEN, Brant Rock, Mass. Filed Oct. 31, 1907. Serial No. 400,131.

1. In a system for the transmission of energy by electromagnetic waves, a receiver and means for diverting and utilizing in said receiver the energy of the surface currents produced by electromagnetic waves.

2. In a system for the electrical transmission of energy by electromagnetic waves means operative to produce a signal through the action of the surface currents produced by electromagnetic waves, and magnetic material arranged for diverting the surface currents from the ground through the means for utilising the currents.



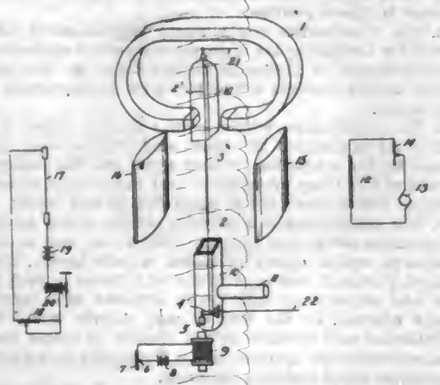
3. In a system for the transmission of energy by electromagnetic waves, a horizontal conductor, a receiver operatively connected thereto and a sheet of material having comparatively high magnetic permeability placed substantially parallel with the conductor to divert earth currents through the receiver.

4. In apparatus for signaling by electromagnetic waves, the combination of a looped conductor and an indicating instrument in circuit, and a body of magnetic material arranged to divert surface currents through said conductor and receiver, substantially as described.

5. In a system for the transmission of energy by electromagnetic waves, a horizontal conductor, a signaling instrument operatively connected thereto and a sheet of material having comparatively high magnetic permeability placed substantially parallel with the conductor to divert earth currents through the receiver.

[Claims 6 to 9 not printed in the Gazette.]

979,145. ELECTRICAL SIGNALING. REGINALD A. FESSENDEN, Brant Rock, Mass. Filed Dec. 23, 1907. Serial No. 407,748.



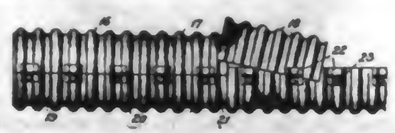
1. In a system of signaling, a galvanometer, adapted to produce a motion on receipt of the signals to be detected, a source of radiant heat, a bolometer circuit, and means for focusing the radiant heat so that the movement of the galvanometer determines the amount of said radiant heat falling on the bolometer.

2. In apparatus for signaling, the combination of a galvanometer adapted to produce a motion on receipt of the signals to be detected, a source of radiant heat, a bolometer circuit comprising a wire whose resistance alters on being exposed to radiant heat, and means for focusing the radiant heat so that the shadow of the moving part of the galvanometer is thrown on or off from the bolometer on the receipt of the signals to be detected.

3. An electrical indicating instrument comprising a galvanometer whose movable part is in the form of a string and means to maintain the string in vecuo.

4. An indicating instrument comprising a galvanometer having its movable part in the form of a string, devices for giving the string a pronounced natural period of vibration, and electromagnetic means for adjusting said natural period of vibration.

979,146. CORRUGATED SECTIONAL NESTABLE CULVERT. CHARLES A. FOSTER, Portland, Oreg. Filed June 8, 1908. Serial No. 437,214.



1. An improved culvert, comprising upper and lower semi-circular sections, each formed of sheet metal corrugated throughout its length along lines substantially at right angles to its longitudinal axis, a number of retaining plates fixed to one side of one of said semicircular sections, said plates being spaced apart from each other and being firmly fixed at one end to the adjacent semicircular section and each having its body portion slightly spaced apart from the adjacent portion of the section to which it is attached to admit the edge of the other semicircular section between the plates and the section to which they are attached.

2. A culvert, comprising a lower semicircular culvert section and an upper semicircular culvert section, each being formed of sheet metal and being provided with corrugations throughout its entire length, said corrugations being substantially at right angles to the longitudinal axis thereof, and two retaining plates, one on each side of the lower culvert section and designed to receive the edges of the upper culvert section between them and the adjacent surfaces of the lower culvert section to which they are attached.

3. A culvert, comprising a lower semicircular culvert section and an upper semicircular culvert section, each being formed of sheet metal and being provided with corrugations throughout its entire length, said corrugations being substantially at right angles to the longitudinal axis thereof and two retaining plates, one on each side of the lower culvert section and designed to receive the edges of the upper culvert section between them and the adjacent surfaces of the lower culvert section to which they are attached, said plates having their inner surfaces shaped to conform to the corrugated surfaces of the lower culvert section to which they are attached.

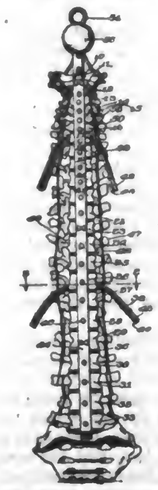
4. A culvert, comprising a number of semicircular lower culvert sections and a number of semicircular upper culvert sections, each culvert section being provided with corrugations throughout its entire length of uniform size, said corrugations being extended substantially at right angles to the longitudinal axis thereof so that a number of lower sections may be fitted together end to end and a number of upper sections may be placed thereon with their side edges overlapping the side edges of the lower sections and with their end portions arranged between the end portions of the lower culvert sections upon which they are placed, and a series of retaining plates fixed to the outer surfaces of the lower culvert sections near the upper edges thereof, said retaining plates being corrugated to conform to the surfaces of the culvert to which they are attached and being slightly spaced apart therefrom at their upper portions, said parts being so shaped and arranged that an upper section may be applied to the lower sections by first placing the side edges of one end of the upper section between the said retaining plates and the upper edges of the lower section and then forcing the remainder of the upper section downwardly into the spaces between the plates and the sides of the lower section until said upper section stands in position substantially parallel with the lower sections.

5. A culvert comprising a series of lower semicircular culvert sections and a series of upper semicircular culvert

sections, each culvert section being provided with uniform corrugations throughout its entire length substantially at right angles to its longitudinal axis so that the lower sections may be placed together with their ends in overlapping positions and the upper sections may be placed on the lower sections with their ends adjacent to the central portions of the lower sections and a number of retaining plates on each side of each lower section, said retaining plates being spaced apart from the ends of the lower section and also from the central portion of each lower section and said retaining plates being designed to receive the side edges of the upper sections between them and the adjacent portions of the lower sections.

[Claim 6 not printed in the Gazette.]

979,147. ARTICULATED MOUNTING FOR BONES OF A BODY. HARRISON H. FRYETTE, Chicago, Ill. Filed Sept. 3, 1909. Serial No. 516,018.



1. A mounting for bones of a body comprising two adjacent bones, disks of cushion material between said bones, and elastic connections for the bones representing natural ligaments.

2. A mounting for bones of a body comprising two adjacent bones, disks of rubber between said bones, and elastic connections for the bones representing natural ligaments.

3. A mounting for bones of a body comprising two adjacent bones, disks of sponge rubber between said bones, and elastic connections for the bones representing natural ligaments.

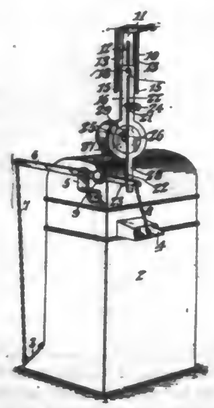
4. An articulated mounting for a spinal column comprising a plurality of successive vertebræ, an imitation spinal cord of flexible material therein, flexible members representing blood vessels and nerves, intervertebral disks of cushion material between the successive vertebræ, and elastic connections between the vertebræ representing natural ligaments.

5. An articulated mounting for a spinal column comprising a plurality of successive vertebræ, an imitation spinal cord of flexible material therein, flexible members representing blood vessels and nerves, intervertebral disks of rubber between the successive vertebræ, and elastic connections between the vertebræ representing natural ligaments.

[Claim 6 not printed in the Gazette.]

979,148. TIME-CONTROLLED DAMPER-ACTUATING MECHANISM. EDWARD FRANKLIN GARDNER, Scranton, Pa. Filed Feb. 11, 1909. Serial No. 477,333.

1. The combination with a furnace including a draft door, and means for opening and closing the same, of a controlling mechanism for the said means comprising a support, a clock mounted on the support and including a winding key, a member releasably engaging the said means and arranged to be released by the said winding key, a bearing piece pivotally mounted on the support and having an aperture through which the said member extends for longitudinal adjustment, and a clamping device on the bearing piece for engaging the member for holding the same against longitudinal movement while permitting the member to swing on the bearing piece as a center.



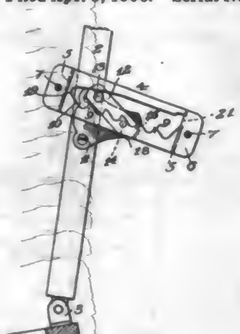
2. A time-controlled draft regulator comprising a fix bracket member, a clock-supporting member overlappi the first member, there being a slot in one of the me bers, a bolt on the other member passing through the sl for clamping the members together, guiding means on o of the members engaging the other to provide for relati longitudinal movement and for preventing the clock-su porting member from moving laterally on the bolt as pivot, a clock mounted on the second member and pr vided with a winding key, a swinging damper-engagi element extending across the rear of the clock to be e gaged by the said winding key, and means for pivoti the damper-engaging element to swing in a plane paral with the rear of the clock to be released from the damp by the turning of the key.

3. A time controlled draft regulator comprising a fix bracket member in the form of a vertical frame havi parallel ribs, a clock-supporting member having its upp portion disposed flat against the bracket member a slidably engaged between the said ribs, one of the me bers having a slot, a fastening on the other member pa ing through the slot for adjustably connecting the me bers together, said supporting member having a ring, clock disposed in the ring and provided with a windi key, a pivoted device secured to the second member at point between its upper end and the ring and having opening extending transversely to the pivot of the devi a damper-holding element slidable in the opening in t device and extending across the ring in proximity to t winding key of the clock to be actuated by the key, a means on the device for clamping the element in differe positions of adjustment therein.

4. In a mechanism of the class described, the combi tion with a furnace and opposed draft doors, of a le pivotally mounted on the furnace and weighted at o end, connections between the opposite ends of the le and the opposed draft doors whereby when one is clos the other shall be opened, a longitudinally slotted s porting plate having opposed parallel ribs, a supporti member whose upper end is received between said r and having a bolt passing into the slot of the supporti plate, an annular portion formed in said member adapt to receive the rear end of a clock, brackets on the me ber for supporting said clock, a pivotally mounted he projecting from the face of the supporting member, latching rod adjustably secured in said head and havi

a bent end portion adapted to engage beneath and support one end of the weighted lever, and a clock carried in the annular portion of the supporting member and having a winding key operable at any predetermined time, said winding key adapted in its rotation to engage with the latching rod to force it out of engagement with the lever.

979,149. FURNITURE ATTACHMENT. EDGAR A. GAY, Rochester, N. Y. Filed Apr. 5, 1906. Serial No. 310,061.



1. In an adjusting device the combination with two relatively movable members, of a rack on one of said members, a plate pivoted to the other member having a sliding movement thereon, a laterally extending stud on said plate engaging the rack, a detent on the plate to coöperate with the member by which the plate is carried to lock the stud out of the path of the rack, and a device located at one end of the path of movement of the plate and engaging the stud to effect the interlocking of the detent on the stud carrying plate with the member on which the latter is pivoted.

2. In an adjusting device, the combination with a member, a pawl pivotally connected thereto provided with shoulders on opposite sides, the pivotal connection being formed by a straight slot in one and a pivot point on the other working in the slot, a detent on said member having a pair of shoulders each adapted to coöperate with one of the shoulders on the pawl, of a second member carrying a rack adapted to coöperate with the pawl, and means located at both limits of movement of the pawl for coöperating with the latter to move it into and out of coöperative engagement with the detent.

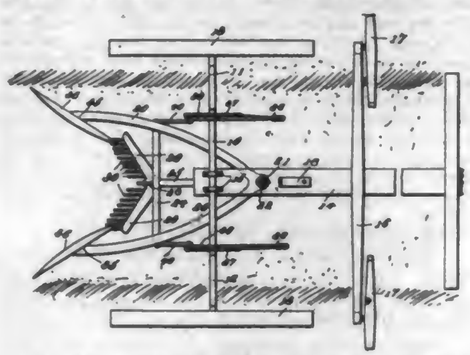
3. In an adjusting device, the combination with two relatively movable members, of a rack on one of them, a detent on the other, a pawl for coöperation with the rack pivoted on the detent carrying member and also slidable thereon, said pawl lying out of engagement with the detent when the pawl is slid to one position and into such engagement when the pawl is slid to another position, means arranged at one end of the rack for slidably moving the pawl into engagement with the detent, and means at the other end of the rack for slidably moving the pawl out of engagement with the detent.

4. In an adjusting device, the combination with two relatively movable members and a pawl carried by one of them, of a rack on the other with which said pawl is adapted to engage embodying a bracket having offset portions at its ends provided with a longitudinal slot one of the edges of which is serrated to form teeth and having a cut away portion in the offset portion at the end thereof by means of which the pawl is entered into the slot to lie in the plane of the teeth.

5. A chair back adjusting device comprising a ratchet plate adapted to be secured to a fixed part of the chair and formed with front and rear stop arms, a pawl plate movably secured to the chair back and having a stud adapted for engagement with the teeth of the ratchet plate, and means whereby engagement of said stud with one of the stop arms of the ratchet plate will normally lock said stud arm beyond the normal operative path.

[Claims 6 to 8 not printed in the Gazette.]

979,150. CULTIVATOR. GEORGE GILBERTSON, Bloomfield, Nebr. Filed Apr. 21, 1910. Serial No. 556,771.



1. A skim cultivator including a frame adapted to straddle the two rows of growing plants, a hinged frame carried upon said main frame to travel between the rows of growing plants, a flat share depending from the hinged frame, and a pair of disks carried by the hinged frame and rearwardly of the ends of said flat share.

2. A skim cultivator including a frame adapted to straddle rows of growing plants, an adjustable frame hinged to said main frame to travel between the rows of growing plants, a standard depending from the hinged frame midway of its ends and having a forward cutting edge, a flat share carried upon the lower end of said standard and having rearwardly diverging blades, a plurality of spaced fingers rearwardly extending from the share, and a pair of spaced disks upon the rear end of said hinged frame.

3. A cultivator including a main frame, a tongue carried by the frame, an eye bolt depending from the rear extremity of the tongue, a pair of curved bars hinged at their forward ends upon the lower end of the eye bolt a cross brace carried by the curved bars midway of their ends, a longitudinal brace positioned between the forward ends of the curved bars and the central portion of said cross brace, a flat share depending from the central portion of said cross brace, a colter depending from said longitudinal brace and forwardly of the share, and a pair of spaced disks diagonally arranged upon the rear ends of the said curved bars.

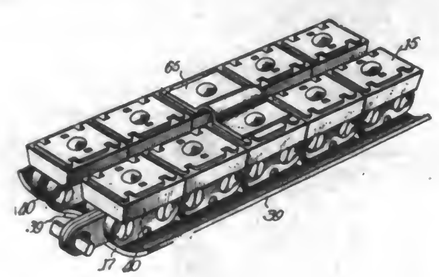
4. A cultivator including a main frame, a hinged frame adjustably mounted upon said frame, a flat share depending from said hinged frame, a colter carried centrally upon the hinged frame and forwardly of the share and a pair of spaced disks carried upon the rear extremity of said hinged frame.

5. A cultivator including a double arched bar, wheels carried on the ends of said bar for supporting the same, a tongue mounted centrally upon the bar, an eye bolt depending from the rear end of the tongue, a pair of curved bars hinged upon the eye bolt for vertical movement and diverging rearwardly therefrom, segments carried upon the arched bar at the opposite sides of the tongue, hand levers pivoted upon the segments, arms extending from the lower ends of the hand levers, links carried by the arms and pivotally connected to said bars to vertically adjust the same, a cross brace carried by the curved bars midway of their ends, a longitudinal brace disposed between the forward ends of said curved bars and the central portion of said cross brace, a flat share depending from the central portion of said cross brace, a colter arranged upon the longitudinal brace forwardly of said share and a pair of spaced disks carried upon the extremities of said curved bars.

[Claims 6 and 7 not printed in the Gazette.]

979,151. TRANSMISSION-BELT. ALPHONS H. GITS, Chicago, Ill. Filed Nov. 24, 1909. Serial No. 529,760.

1. In a chain having successive primary and secondary links, the combination of a secondary link, a pair of bars of a primary link adjacent thereto, there being holes registering with each other through each of said parts, a pin through the bars and link rigidly secured to the end of the link, and a second detachable pin passing through said holes in said bars and link, there being means formed by the last mentioned pin and the bars of the primary link locking said pin in position, and curved faces upon said pins contacting with each other to provide rolling contact as the secondary link is rocked with reference to the primary link.



2. In a link chain having successive primary and secondary links, the combination of a pair of secondary links in line with each other, a pair of bars of a primary link embracing the two adjacent ends of the secondary links, pivotal connections between each pair of bars and the intermediate adjacent secondary links, a detachable plate in contact with the bars of the primary link bridging the secondary links, and means for securing said plate in contact with said bars whereby the primary link is formed and the secondary links are retained in position between the bars thereof.

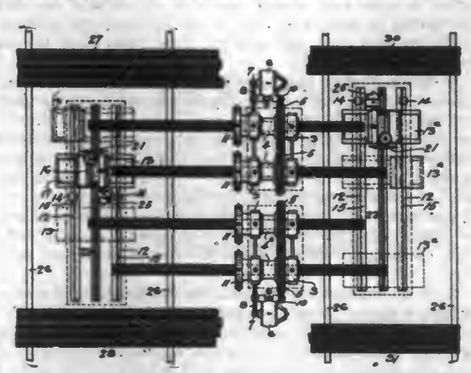
3. In a transmission belt for power machinery, usable in connection with pulleys having parallel V shaped grooves, the combination of a plurality of chains each made up of a plurality of suitably connected V shaped links of substantially the same length adapted to work parallel to each other in the V shaped grooves of said pulleys and connectors between adjacent links of the two chains, adapted to bridge the flanges between said adjacent V shaped grooves of said pulleys and adapted to force said chains to travel in unison.

4. In a chain, a pair of secondary links in line with each other, two bars of a primary link on opposite sides of the secondary links, pivotal connection between the primary and secondary links, means connecting the bars, and a rivet passing through said connecting means and between said bars for the purposes set forth.

5. In a link chain having primary and secondary links, the combination of a secondary link member having alined pivot members projecting from opposite sides thereof, the faces of said members toward the center of the secondary link being curved, another pivot member passing through a hole in the secondary member adjacent to said pivot members which are upon the secondary link, said second pivot member having a curved face adapted for rolling engagement upon the curved faces of the pivot members upon the secondary link and a primary link comprising a pair of bars, and means for securing them together, there being holes in said bars adapted to receive and contain both the pivot members upon the secondary link and the second mentioned pivot member, said second mentioned pivot member being recessed in these parts which normally lie wholly within the bars of the primary link so as to form shoulders adjacent to the secondary link against which the bars of the primary link bear, whereby extraction of the second mentioned pivotal member is impossible without taking the primary link apart, and said second mentioned pivotal member is prevented from rotating with reference to the bars of the primary link.

[Claims 6 and 7 not printed in the Gazette.]

979,152. THREADING-MACHINE. HARRY E. GROSS, Knoxville, Pa., assignor of one-half to Walter H. Arras, Pittsburg, Pa. Filed Apr. 18, 1910. Serial No. 556,236.



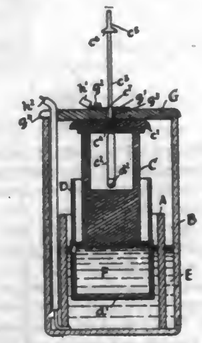
1. In threading-machines, the combination of a plurality of rotary-holders, means for rotating same, and a transversely movable threading device at one end of each of said holders.

2. In threading-machines, the combination of a plurality of rotary holders, means for rotating said holders in opposite directions, and a transversely movable threading device at one end of each of said holders.

3. In threading-machines, the combination of a plurality of rotary-holders, means for rotating same, transversely movable carriages at one end of each of said holders, and movable threading devices carried thereby.

4. In threading-machines, the combination of a plurality of rotary-holders, gears on said holders meshing with each other, means for driving one of said holders, and a transversely movable threading device at one end of each of said holders.

979,153. ELECTRIC-BATTERY CELL. JULIUS H. GUGLER, Milwaukee, Wis. Filed June 21, 1909. Serial No. 503,277.



1. In an electric battery-cell, the combination of a porous cup having its lower portion nonporous, a battery element forming a variable displacing means within said cup, and means for raising said battery-element a distance sufficient to bring the level of the liquid therein below the porous portion of said cup.

2. In a battery-cell, the combination of a porous cup having its lower portion nonporous, a cathode-element within said cup, means for raising said cathode-element until the level of the liquid therein is below the porous portion of said cup, and a depolarizing liquid within said cup which is displaced by said cathode in descending so as to raise its level within said cup.

3. In an electric battery-cell, the combination of a container, a quantity of liquid therein, a porous cup the

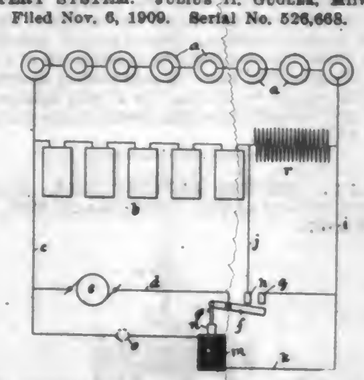
lower portion of which is rendered nonporous, displacing said liquid, a second liquid within said cup, a battery-element within said cup displacing said liquid, and means acting to raise said element partially out of said cup and thereafter to raise said cup, so as to lower the level of liquid in said cup and also to lower the level of the liquid outside said cup.

4. In an electric battery-cell, the combination of a container containing a working-liquid and an anode, a porous cup displacing said liquid and containing a depolarizing liquid, the lower portion of said cup being rendered nonporous, a cathode-element within said cup, and means acting to raise said cup a distance sufficient to bring the level of the working-liquid below the porous portion thereof and also to raise said cathode a further distance, thereby lowering the surface of said depolarizing liquid a sufficient distance to bring it below the porous portion of said cup.

5. In an electric battery-cell, the combination of a container, a liquid therein, a porous cup within said container and displacing said liquid, the lower portion of said cup being rendered nonporous, a second liquid within said cup, means for displacing said second liquid, means for raising said cup a sufficient distance to lower the surface-level of said first-named liquid below the edge of said nonporous portion, and means for raising said displacing-means a still further distance thereby lowering the level of the liquid within said cup.

[Claims 6 to 9 not printed in the Gazette.]

979,154. COMBINED PRIMARY AND SECONDARY BATTERY SYSTEM. JULIUS H. GUGLER, Milwaukee, Wis. Filed Nov. 6, 1909. Serial No. 526,668.



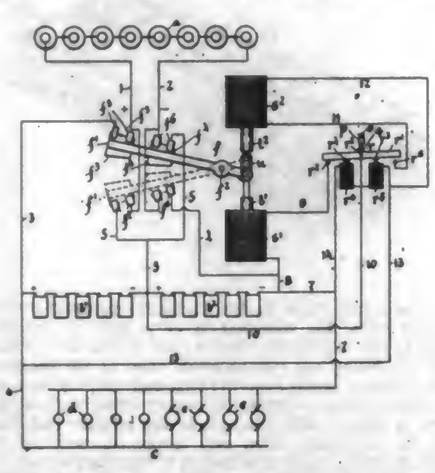
1. The combination of a primary battery, a secondary battery and a service-circuit all connected together at one pole of each, a switch adapted to connect together the other poles of said three elements, and a resistance connecting the last-named poles of the two batteries.

2. The combination of a primary battery, a secondary battery, and a service-circuit, one pole of each of said three elements being disconnected from the other two except as hereinafter stated, a device adapted to connect said three poles together, and a resistance permanently connecting said disconnected pole of the primary battery with said disconnected pole of the secondary battery; the other pole of said primary and secondary battery being permanently connected and the other pole of said service-circuit being connected thereto when said first-named poles are connected together.

3. The combination of a primary battery, a secondary battery one pole of which is permanently connected to the corresponding pole of said primary battery, a resistance permanently connecting the other poles of the two batteries, a service-circuit, and a device adapted to connect said service-circuit in circuit with said batteries and simultaneously short-circuit said resistance.

4. The combination of a primary battery, a secondary battery one pole of which is permanently connected to the corresponding pole of said primary battery, a resistance permanently connecting the other poles of the two batteries, a service-circuit, and a device adapted to connect said service-circuit in circuit with said batteries and simultaneously short-circuit said resistance; in conjunction with an electromagnetic device adapted to operate said first-named device, a branch-circuit connected with said batteries and including said electromagnetic device, and a switch in said branch-circuit.

979,155. COMBINED PRIMARY AND SECONDARY BATTERY SYSTEM. JULIUS H. GUGLER, Milwaukee, Wis. Filed Nov. 26, 1909. Serial No. 529,994.



1. A combined primary and secondary battery-system comprising, in combination, a secondary battery divided into equal halves, a primary battery having a potential proper to charge one of said halves, a service-circuit connected in series with said secondary battery, a change-over-switch adapted to connect each half of said secondary battery alternately in circuit with said primary battery, and a device operated by the difference in potential of the two halves of the secondary battery for shifting said switch.

2. A combined primary and secondary battery-system comprising, in combination, a secondary battery divided into equal halves, a primary battery having a potential proper to charge one of said halves, a service-circuit connected in series with said secondary battery, a changeover-switch adapted to connect each half of said secondary battery alternately in circuit with said primary battery, a device adapted to throw over said switch from one side to the other alternately, and means actuated by a predetermined difference in potential between the two halves of the secondary battery for operating said device.

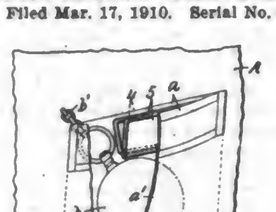
3. A combined primary and secondary battery-system comprising, in combination, a secondary battery divided into equal halves, a primary battery having a potential proper to charge one of said halves, a service-circuit connected in series with said secondary battery, a change-over-switch adapted to connect each half of said secondary battery alternately in circuit with said primary battery, and electromagnetic means for shifting said switch alternately from one side to the other and responsive to the electrical condition of the two halves of said secondary battery.

4. A combined primary and secondary battery-system comprising, in combination, a secondary battery divided into equal halves, a primary battery having a potential proper to charge one of said halves, a service-circuit connected in series with said secondary battery, a pair of electrical devices connected to said switch and adapted one to throw it in one direction and the other in the other direction, and means actuated by the difference of potential between the two halves of said secondary battery for energizing each of said electrical devices alternately.

5. A combined primary and secondary battery-system comprising, in combination, a secondary battery divided into equal halves, a primary battery having a potential proper to charge one of said halves, a service-circuit connected in series with said secondary battery, a pair of electrical devices connected to said switch and adapted one to throw it in one direction and the other in the other direction, means actuated by the difference of potential between the two halves of said secondary battery for energizing each of said electrical devices alternately, and a relay-device adapted to energize each of said electrical devices alternately and having two relay-magnets, one of which is connected with one half of said secondary battery and the other with the other half.

[Claims 6 to 9 not printed in the Gazette.]

979,156. POCKET-FASTENER. ROLLIE E. HALL, Liverpool, N. Y. Filed Mar. 17, 1910. Serial No. 550,038.



1. In combination with a pocket, a pocket fastener comprising opposite flaps stitched along their upper edges to opposite sides of the pocket and having their lower edges spring pressed against each other, one of the flaps being shorter vertically and longitudinally than the other flap.

2. In combination with a pocket, a pocket fastener comprising elongated flaps stitched along their upper edges to opposite sides of the pocket and having their lower edges spring pressed against each other, one end of said flaps being spaced apart from the corresponding end of the pocket.

3. A pocket fastener comprising opposite spring arms having one end provided with upward extensions united by a spring coil and their opposite ends provided with similar upward extensions having inwardly projecting offsets and fabric sheaths inclosing said arms and extensions.

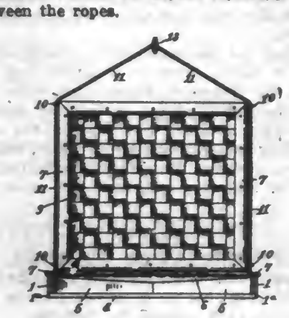
4. In a pocket fastener, spring arms having one end provided with upwardly projecting extensions united by a spring coil and their opposite ends provided with similar upward extensions having inwardly projecting lateral offsets, said arms being spring tensioned toward each other.

5. In a pocket fastener, spring arms having one end provided with upwardly projecting extensions united by a spring coil and their opposite ends provided with similar upward extensions having inwardly projecting lateral offsets, said arms being spring tensioned toward each other, and sheaths inclosing the arms and extensions and having their upper edges stitched to the inner faces of opposite sides of the pocket near the open side thereof.

[Claim 6 not printed in the Gazette.]

979,157. SWINGING BED OR HAMMOCK. ARTHUR T. HALLOCK, Grand Rapids, Mich., assignor, by mesne assignments, to Anne Lay Hallock, Muskegon, Mich. Filed Aug. 14, 1909. Serial No. 512,833.

1. A hammock, comprising a rigid bottom frame, two rigid end frames, suspension ropes attached to the respective corners of the bottom frame and extending upward along the opposite edges of the end frames and on the outside of the same, and eyes in the end frames through which the ropes extend to adjustably support the end frames between the ropes.



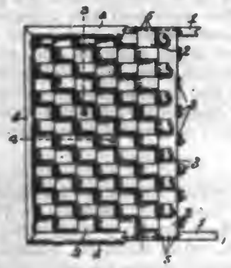
2. In a hammock, a bottom frame comprising side rails and end rails connected at the corners, corner blocks within the same and rabbeted to receive suspension ropes, suspension ropes in the rabbets and corner blocks and extending upward therefrom, and end frames adjustably supported by the suspension ropes.

3. In a hammock, a bottom frame comprising side rails and end rails secured to each other at the corners, slats connecting the side rails, and vertically disposed braces mounted on the slats and engaging the side rails, said braces being reduced in width at the middle, and a fabric secured to the top of the frame above the braces and spaced apart therefrom.

4. In a hammock, a bottom frame consisting of side rails and end rails, corner blocks rabbeted in one corner and secured to said rails, slats connecting the side rails, braces mounted on the slats and supporting the side rails, suspension ropes inserted in the rabbets of the blocks and extending upward therefrom at the respective corners of the frame, and end frames supported by the suspension ropes.

5. In a hammock, a bottom frame comprising end rails and side rails attached at the corners and rabbeted at the inner lower edge, corner blocks connecting said rails and rabbeted to receive suspension ropes, slats secured at their ends in the rabbets in the side rails and connecting the same, braces mounted on the slats and engaging the inner surface of the side rails, said braces being reduced in width at the middle, diagonal corner braces also secured within the rabbets, and suspension ropes in the corner blocks.

979,158. BOTTOM FOR HAMMOCKS. ARTHUR T. HALLOCK, Grand Rapids, Mich., assignor, by mesne assignments, to Anne Lay Hallock, Muskegon, Mich. Filed Jan. 11, 1910. Serial No. 537,430.



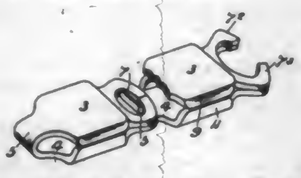
1. A bottom for hammocks, beds, chairs, and the like comprising a frame, interwoven longitudinal and transverse strips, the transverse strips being thicker and stronger than the longitudinal strips and adapted to carry the principal part of the load, and means for securing the said strips to the frame.

2. A bottom for hammocks, beds, chairs, and the like comprising a frame, interwoven longitudinal and tran

verse strips, the transverse strips being wider and stronger than the longitudinal strips and adapted to carry the principal part of the load, and means for securing said strips to the frame.

3. A bottom for hammocks, beds, chairs, and the like, comprising a frame, interwoven longitudinal and transverse strips, the transverse strips being wider and thicker than the longitudinal strips, rectangular staples having their connecting members embedded in the ends of the strips and their ends driven into the frame, and a rabbeted finishing strip covering the ends of the bottom strips and the fastenings and extending upon the outer face of the frame.

979,159. ANTISKID DEVICE FOR TIRES. PHILIP T. HAMM, New York, N. Y., assignor to Atlas Chain Company, New York, N. Y., a Corporation of New York. Filed Feb. 21, 1910. Serial No. 545,024.



1. In an anti-skid device for tires, a link formed from an integral blank, and comprising two offset parallel portions connected by a bent portion, the parallel portions having their side edges bent into engagement to support such portions offset.

2. In an anti-skid device for tires, a link formed from an integral blank, and comprising two offset parallel portions connected by a bent portion, the parallel portions having their side edges bent into engagement to support such portions offset, the links having integral articulating portions.

3. In an anti-skid device for tires, a link formed from an integral blank, and comprising two offset parallel portions connected by a bent portion, the parallel portions having their side edges bent into engagement to support such portions offset, and eye portions at the opposite end of the members from the said bent portions through which passes the bent portion of the adjacent link.

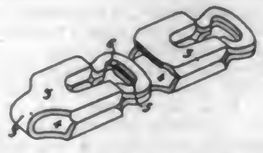
4. In an anti-skid device for tires, a link formed from an integral blank, and comprising two offset parallel portions connected by a bent portion, the parallel portions having their side edges bent into engagement to support such portions offset, and double eye portions at the opposite end of the members from the said bent portions through which passes the bent portion of the adjacent link.

5. In an anti-skid device for tires, a link formed from an integral blank, and comprising two offset parallel portions connected by a bent portion, the parallel portions having their side edges bent into engagement to support such parallel portions offset, and double eye portions at the opposite end of the members from the said bent portions through which passes the bent portion of the adjacent link, the eye portions being contiguous and offset from the outer faces of the parallel portions.

[Claims 6 and 7 not printed in the Gazette.]

979,160. ANTISKID DEVICE FOR TIRES. PHILIP T. HAMM, New York, N. Y., assignor to Atlas Chain Company, New York, N. Y., a Corporation of New York. Filed Feb. 21, 1910. Serial No. 545,025.

1. In an anti-skid device for tires, a link formed from an integral blank, and comprising two offset parallel portions connected by a bent narrower portion, the parallel portions having their side edges bent into engagement to support such parallel portions offset, and eye portions at the opposite end of the members from the said bent portion through which passes the bent portion of the adjacent link, said parallel portions each having a longitudinal slot extending from the said eye portion permitting admission of the adjacent link member whereby to articulate the links.



2. In an anti-skid device for tires, a link formed from an integral blank, and comprising two offset parallel portions connected by a bent narrower portion, the parallel portions having their side edges bent into engagement to support such parallel portions offset, and eye portions at the opposite end of the members from the said bent portion through which passes the bent portion of the adjacent link, said parallel portions each having a longitudinal slot extending from the said eye portion permitting admission of the adjacent link member whereby to articulate the links, said parallel faces having portions bent inwardly into engagement at the margins of said slots.

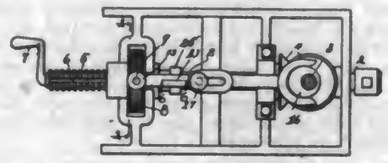
3. In an anti-skid device for tires, a link formed from an integral blank, and comprising two offset parallel portions connected by a bent narrower portion, the parallel portions having their side edges bent into engagement to support such portions offset, each parallel portion having an eye portion at the opposite end from the said bent portion through which passes the bent portion of the adjacent link, the eye portion being contiguous and offset from the parallel portions, said parallel portions each having a longitudinal slot extending from the said eye portion permitting admission of the adjacent link member whereby to articulate the links, said parallel faces having portions bent inwardly into engagement at the margins of said slots.

4. In an anti-skid device for tires, a link formed from an integral blank and comprising two offset or spaced apart parallel portions having their side edges bent into engagement to support such parallel portions spaced apart, said link having an eye-portion through which passes the bent portion of an adjacent link, said link also having a longitudinal slot opening into the eye-portion to permit the admission of an adjacent link, thereby to articulate the links.

5. In an anti-skid device for tires, a link formed from an integral blank and comprising two offset or spaced apart parallel portions having means for holding such parallel portions spaced apart, said link having an eye-portion and a longitudinal slot opening into and of less width than such eye-portion for the entrance of an adjacent link thereby to articulate the links.

[Claims 6 to 9 not printed in the Gazette.]

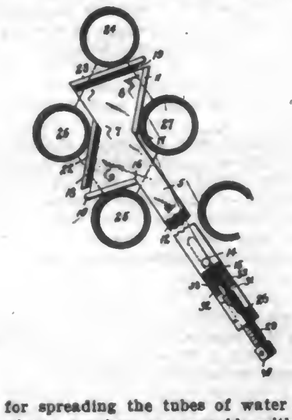
979,161. DRILLING-MACHINE. THOMAS HARGIE, Kalamazoo, Mich., assignor, by mesne assignments, to Eugene Cook, Kalamazoo, Mich. Filed Aug. 24, 1906. Serial No. 331,884.



1. In a drilling machine, the combination of a tool holder; a feed screw therefor; a swivel connection for said tool holder and feed screw; a fixed bearing nut for said feed screw, arranged to receive the thrust thereof; a feed wheel splined upon said feed screw and secured against longitudinal movement thereon; driving connections for said feed wheel and tool holder whereby the said feed wheel may be driven in either direction as desired, said driving connection being adapted to be disconnected from said feed wheel; and a crank on said screw for manipulating the same independently of said driving connections, for the purpose specified.

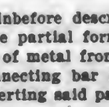
2. In a drilling machine, the combination of a tool holder; a feed screw therefor; a swivel connection for said tool holder and feed screw; a fixed bearing nut for said feed screw, arranged to receive the thrust thereof; a feed wheel splined upon said feed screw and secured against longitudinal movement thereon; driving connections for said feed wheel and tool holder, said driving connections being adapted to be disconnected from said feed wheel; and a crank on said screw for manipulating the same independently of said driving connections, for the purpose specified.

979,162. TOOL FOR SPREADING TUBES OF WATER-TUBE BOILERS. PATRICK HEELY, Brooklyn, N. Y. Filed May 10, 1909. Serial No. 495,051.



A tool for spreading the tubes of water-tube boilers, composed of two members one movable within the other, each member terminating at its upper end in an enlarged head, said head provided with sets of angular spreading faces, plates provided for each of the working faces, one set of said plates forming bearings or guides, for the movable member and operating upon one set of tubes while the movable member operates on a companion set of tubes, with means for holding the two sets of plates toward or away from each other.

979,163. METHOD OF FORMING CUFF-BUTTONS. JOSEPH L. HERZOG, New York, N. Y. Filed Aug. 3, 1910. Serial No. 575,302.

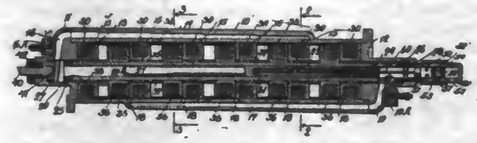


1. The method hereinbefore described of forming cuff buttons, comprising the partial formation from a ribbed blank of the two disks of metal from the thin portions of said blank, and a connecting bar from the rib of said blank, and finally converting said partially formed button into its finished shape.

2. The method hereinbefore described of forming cuff-buttons from a single continuous piece of metal and comprising the formation of two disks of comparatively thin metal with a connecting portion of thicker metal from a ribbed blank, the two disks being formed from the thin portions of said blank, and the connecting portion from the rib of said blank, secondly, completing the formation of said disks, and then bending said disks at an angle to each other.

3. The method hereinbefore described of forming cuff buttons from a single continuous piece of metal, consisting in first cutting from a ribbed blank the partially formed button, the thinner portions of said blank forming the disks, and the rib of said blank forming the connecting metal between said disks, secondly, completing the formation of the thickened connecting bar between said disks and also the shape of the comparatively thin disks while in the same plane, and finally converting the article into its finished shape.

979,164. ELECTROPNEUMATIC TOOL. JOHN TEN EYCK HILLHOUSE, New York, N. Y. Filed July 25, 1908. Serial No. 445,347.



1. A plurality of magnets, an inclosing casing closely fitted about said magnets, circuits arranged to effect the energization of the magnets to cause adjacent magnets to be moved toward and from each other to thereby cause a difference of fluid pressure within the casing, and a piston within the casing arranged to be actuated by said fluid pressure.

2. An inclosing casing, a plurality of fixed electromagnets therein, a magnetic member arranged to be moved back and forth within the casing between the electromagnets by said fixed magnets, to thereby create a difference of fluid pressure, a piston within the casing arranged to be actuated by said fluid pressure, and means actuated by the piston for controlling said electromagnets.

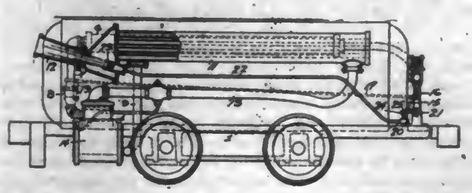
3. An inclosing casing, a plurality of fixed electromagnets therein, a magnetic member arranged to be driven back and forth within the casing between the fixed electromagnets by said magnets to thereby create a difference of fluid pressure, a piston within the casing arranged to be actuated by said fluid pressure, and means actuated by the piston for controlling said electromagnets.

4. An inclosing casing, a set of fixed electromagnets therein, a set of movable magnets arranged to be driven back and forth within the casing between the fixed electromagnets to thereby create a difference of fluid pressure, a piston within the casing arranged to be actuated by said fluid pressure, and a pole changer for one of the sets of said magnets.

5. An inclosing casing, a plurality of fixed electromagnets therein, a plurality of movable magnets arranged to be driven back and forth within the casing between the fixed electromagnets to thereby create a difference of fluid pressure, a piston within the casing arranged to be actuated by said fluid pressure, means for energizing the electromagnets, a pole changer for the fixed electromagnets and a mechanical connection between the piston and the pole changer.

[Claims 6 and 7 not printed in the Gazette.]

979,165. COMPOUND COMPRESSED-AIR ENGINE. CHARLES B. HODGES, Pittsburg, Pa., assignor to H. K. Porter Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed June 11, 1909. Serial No. 501,639.



1. In compound compressed air engines, the combination of a high pressure engine, a low pressure engine and an inter-heater between them, a main throttle valve, means for inducing a current over the exposed surface

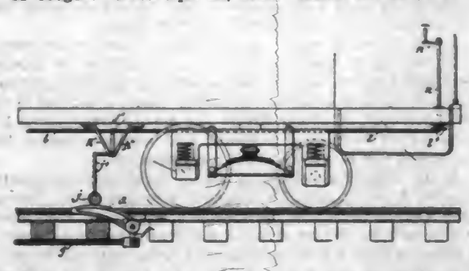
of the inter-heater, a valve controlling the same and a lever controlling both the main throttle valve and the current inducing valve.

2. In compound compressed air engines, the combination of a high pressure engine, a low pressure engine, and an inter-heater between them, a main throttle valve, an air jet nozzle for inducing a current over the exposed surfaces of the inter-heater, an air jet valve for feeding air under pressure to said nozzle, and a lever controlling both the throttle valve and the air jet valve.

3. In compound compressed air engines, the combination of a high pressure engine, a low pressure engine, and an inter-heater between them, a throttle valve and a throttle lever controlling the same, means operated by air under pressure for inducing a current over the exposed surfaces of the inter-heater, and a valve controlling the current inducing means located close to the throttle lever and operated thereby.

4. In compound compressed air engines, the combination of a high pressure engine, a low pressure engine, and an inter-heater between them, means operated by air under pressure for inducing a current over the exposed surfaces of the inter-heater, and a valve controlling said inducing means, a throttle valve, and a throttle lever connected to the throttle valve and having an auxiliary arm controlling the current inducing valve.

979,166. AUTOMATIC RAILWAY-SWITCH. EMMETT HOWARD, Eugene, Oreg., assignor to The Howard Automatic Railway Switch Co., Eugene, Oreg., a Corporation of Oregon. Filed Apr. 26, 1910. Serial No. 557,670.



1. In an automatic railway switch, the combination of, a cross-shaft extending transversely of the track below the track-rails, blocks supported on the cross-ties, bearings for said cross-shaft supported on said blocks, curved cam-levers extending laterally and approximately horizontally from the cross-shaft in opposite directions to each other, hangers projecting downwardly from the bottom of the car and provided with bearings, angular roller bars fulcrumed in said bearings, a roller at the bottom of each bar and adapted to engage said cam-levers respectively, upright operating shafts at the ends of the car, a transverse bar at the lower end of each upright shaft, and longitudinal connecting rods connecting each end of each transverse bar with the upper end of one of the angular bars respectively.

2. In an automatic railway switch, the combination of, a cross-shaft extending transversely of the track below the track-rails, blocks supported on the cross-ties between the rails, bearings for said cross-shaft supported on the lower face of said blocks, curved cam-levers extending laterally and approximately horizontally from the cross-shaft in opposite directions to each other and adjacent to and parallel to the inside face of each rail respectively, hangers projecting downwardly from the bottom of the car and provided with bearings, angular roller bars fulcrumed intermediately of their ends in said bearings, a roller at the bottom of each bar and adapted each to engage one of said cam-levers respectively, upright operating shafts at the ends of the car, a transverse bar at the lower end of each upright shaft, and longitudinal connecting rods connecting each end of each transverse bar with the upper end of one of the angular bars respectively.

979,167. DOOR-SECURER. RALEIGH E. HUTCHINSON, Portland, Oreg., assignor of one-half to Raleigh E. Hutchinson, one-sixth to William A. Ely, and one-sixth to Alfred K. Slocum, Portland, Oreg., and one-sixth to Erwin M. Young, Rainier, Oreg. Filed Apr. 6, 1910. Serial No. 553,715.

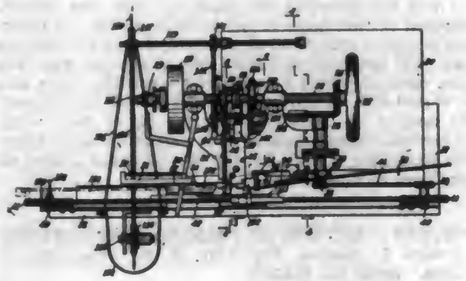


1. The combination with a shank having an aperture therein, of a locking member, a hollow trunnion on said locking member, adapted to extend through said aperture, a flange on said trunnion, said flange having a depression therein, and a spring lock on said shank adapted to engage said depression to secure said locking member against accidental movement relative to said shank.

2. The combination with a member adapted to engage the jamb of a door, of a locking member, a trunnion pivotally connecting said members together, said trunnion having a depression therein, and a spring on one of said members adapted to engage said depression, whereby said members may be locked together against accidental movement.

3. The combination with a member adapted to engage the jamb of a door, of a locking member, a trunnion pivotally connecting said members together, said trunnion having a plurality of depressions therein, and a spring on one of said members adapted to engage said depressions, whereby said members may be locked together in any one of a plurality of adjusted positions.

979,168. LACE-TIPPING MACHINE. WILLIAM HARRY JOSLIN and MANFRED HENRY BENNETT, Scituate, R. I., assignors to William E. Joslin, Scituate, R. I. Filed July 15, 1909. Serial No. 507,729.



1. The combination in a lace-tipping machine, of an endless lace carrier having means for drawing a length of lacing through the machine, means for applying a blank about the lacing at intervals and severing it to form two tips, an endless chain carrier arranged to receive the finished laces, and means for advancing the last-named carrier a step after each completion of a definite number of laces.

2. The combination in a lace-tipping machine, of an endless flexible lace carrier having means for drawing a length of lacing through the machine, means for applying a blank about the lacing at intervals and severing it to form two tips, an endless flexible carrier arranged to receive the finished laces, having pockets, and means for advancing the last-named carrier step by step as a definite number of lacings are deposited in each pocket.

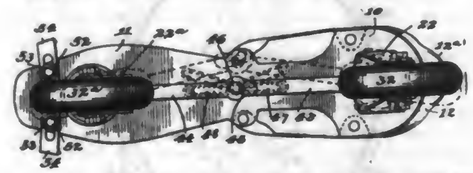
3. The combination in a lace-tipping machine, of a lace tip-applying mechanism having cutters to sever the blank applied to form two tips, means for intermittently feeding a continuous length of lacing past the tip-applying mechanism, and means for lifting the lacings with the applied tip to the cutters.

4. The combination in a lace-tipping machine, of an endless lace carrier, a tip-applying mechanism having cutters to sever an applied blank to the lacing to form two tips, grippers to draw a continuous length of lacing through the machine past the tip-applying mechanism, carried by the carrier, each gripper having a base member and a finger, and grippers arranged at opposite sides of the tip-applying mechanism to raise the lacing into the cutters.

5. The combination in a lace-tipping machine, of an endless lace carrier, a tip-applying mechanism having cutters, grippers arranged at each side of the tip-applying mechanism to elevate the lacing to the cutters and having gripping fingers, a gripper for drawing a continuous length of lacing through the machine past the tip-applying mechanism, carried by the carrier, each gripper having a base-plate and a gripping finger, with the base-plate and finger movable past one of the first-named grippers at opposite sides of the fingers thereof.

[Claims 6 to 32 not printed in the Gazette.]

979,169. SKATE. ANDREW J. KENNEDY, Chicago, Ill. Filed Jan. 16, 1909. Serial No. 472,735.



1. In a roller skate, the combination with a foot-supporting plate, of a front roller and a truck in which the same is rotatably mounted, said truck being swiveled to and beneath the toe portion of said plate on an axis vertically above the axis of rotation of said roller, a rear roller and a truck in which the same is rotatably mounted, said last-named truck being swiveled to and beneath the heel portion of said plate on an axis in front of the axis of said rear roller, and a connection between said trucks whereby an angular movement of the rear truck effects an angular movement of the front truck in an opposite direction, substantially as described.

2. In a roller skate, the combination with a foot-supporting plate, of a front roller and a truck in which the same is rotatably mounted, said truck being swiveled to and beneath the toe portion of said plate on an axis vertically above the axis of rotation of said roller, a rear roller and a truck in which the same is rotatably mounted, said last-named truck being swiveled to and beneath the heel portion of said plate on an axis in front of the axis of said rear roller, a connection between said trucks whereby an angular movement of the rear truck effects an angular movement of the front truck in an opposite direction, and means normally maintaining both rollers in a common plane coincident with the vertical plane of the longitudinal median line of said plate, substantially as described.

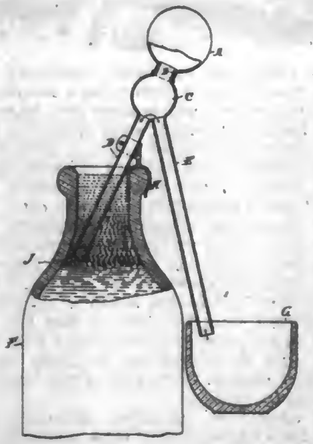
3. In a roller skate, the combination with a roller truck, and a foot-supporting plate, of an antifriction bearing whereby the former is swiveled to the latter, comprising an annular bearing member secured to the under side of said plate and formed with a channeled inner periphery, a circular bearing member secured to said truck and lying within said annular bearing member and formed with a channeled periphery, and a series of balls in the registering channels of said bearing members, substantially as described.

4. In a roller skate, the combination with a roller truck, and an apertured foot-supporting plate, of an antifriction bearing whereby the former is swiveled to the latter comprising an annular bearing member secured to the under side of said plate and formed with a channeled inner periphery having a notch in the upper wall of the channel directly beneath the aperture of said plate, a circular bearing member secured to said truck and adapted to lie within said annular bearing member and formed with a channeled periphery having a notch in the upper wall thereof, and a series of balls in the registering channels of said bearing members, substantially as described.

5. In a roller skate, the combination of a roller, a yoke in which said roller is rotatably mounted, a foot-supporting plate, and means for rotatably mounting said yoke on the under side of said plate comprising an annular bearing member secured to the under side of said plate and formed with a channeled inner periphery of a diameter greater than the length of the roller hub, and a circular bearing member secured to said yoke and lying within said annular bearing member and formed with a channeled periphery, and a series of balls in the registering channels of said bearing members and locking the latter together, substantially as described.

[Claim 6 not printed in the Gazette.]

979,170. SIPHON. ROKURO KOHARU, New York, N. Y. Filed Mar. 22, 1910. Serial No. 550,891.



1. A siphon comprising an enlarged chamber having straight legs each communicating independently therewith and extending therefrom but formed in one piece therewith, and a compressible bulb associated with said chamber.

2. A siphon comprising an enlarged chamber having a neck and straight legs each communicating independently with the chamber and extending therefrom in angular relation to each other, said chamber, neck and legs being formed in one piece, and a compressible bulb fitted to said neck.

3. A siphon comprising an enlarged chamber having a neck and straight legs all formed in one piece said legs communicating independently of each other with said chamber, and a compressible bulb fitted to said chamber neck, the combined volume of said chamber and legs corresponding to the volume of said bulb.

4. A siphon comprising an enlarged chamber having a neck and straight legs all formed in one piece each communicating independently of each other with said chamber, a compressible bulb fitted to the chamber neck, and a yielding flap applied directly to the open end of one of said legs.

979,171. AMUSEMENT APPARATUS. ERNEST KOHLER, Alameda, Cal., assignor of one-half to John Allemann, Alameda, Cal. Filed Aug. 17, 1910. Serial No. 577,596.

1. An amusement apparatus, comprising an inclined box-like chute having vertical sides, a plurality of sections inclined transversely and sections level transversely, said sections being interspersed; a car cylindrical in shape and having vertically arranged sides; a plurality of short fender plates extended inward from said sides to impinge upon the passing car to gyrate the same; and carrying devices for said car.

2. An amusement apparatus, comprising an inclined box-like chute having vertical sides, a plurality of sections inclined transversely and sections level transversely, said sections being interspersed; a car cylindrical in shape and having vertically arranged sides; a plurality of fender rings extended from the sides of said car; and carrying devices for said car.



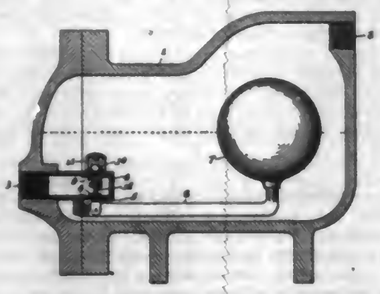
3. An amusement apparatus, comprising an inclined box-like chute having vertical sides, a plurality of sections inclined transversely and sections level transversely, said sections being interspersed; a car cylindrical in shape and having vertically arranged sides; a plurality of fender rings mounted on said car and extended from the side thereof, certain of said rings being loosely mounted on said car; and carrying devices for said car.

4. An amusement apparatus, comprising an inclined box-like chute having vertical sides, a plurality of sections inclined transversely and sections level transversely, said sections being interspersed; a car cylindrical in shape and having vertically arranged sides; a plurality of fender rings extended from the sides of said car; a plurality of short fender plates extended inward from said sides to impinge upon the passing car to gyrate the same, said plates being disposed in the path of said rings; and carrying devices for said car.

5. An amusement apparatus, comprising an inclined box-like chute having vertical sides, a plurality of sections inclined transversely and sections level transversely, said sections being interspersed; a car cylindrical in shape and having vertically arranged sides; a plurality of fender rings extended from the sides of said car; a plurality of short fender plates extended inward from said sides to impinge upon the passing car to gyrate the same, said plates being disposed in the path of said rings; and a plurality of caster carrying wheels mounted on said car adapted to follow the motion of said car independent of the track of travel.

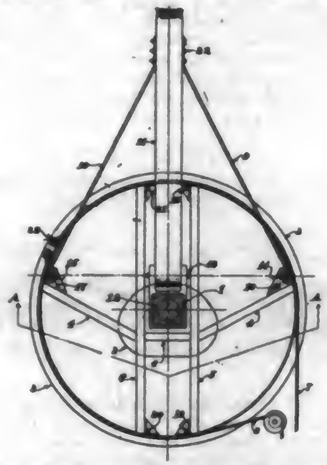
[Claims 6 to 9 not printed in the Gazette.]

979,172. STEAM-TRAP. MATTHEW J. KONOLD, Pittsburg, Pa. Filed May 8, 1909. Serial No. 494,861.



In a steam trap, the combination of a casing provided with an inlet port and with two outlet ports, a ball valve seated in the direction of flow normally closing one of said outlet ports, a second valve in the other of said outlet ports, a float in said casing, operative connection between said float and said second valve effecting the opening and closing of said second valve alone under normal conditions of service, a tappet stem carried by said second valve and extending adjacent to said ball valve and operative to unseat said ball valve upon abnormal rise of said float within said chamber, and a retaining cage for said ball valve, substantially as described.

979,173. DERRICK BULL-WHEEL. ALBERT M. KRUGER, Duluth, Minn. Filed Aug. 2, 1910. Serial No. 575,114.



1. In a derrick bull wheel, a system of rigid vertical girders, extending from approximately diametrically opposite sides of the bull wheel, with one end of each girder at a point in the rim of the bull wheel where there is a vertical force tending to raise or lower said rim.

2. In a derrick bull wheel, a system of braces running in pairs from points near the center of the wheel, to points on the rim of the wheel approximately diametrically opposite, said braces forming a system of girders rigidly bracing the rim of the wheel in horizontal and vertical directions, said self contained rigidity of the wheel being due to the rigidity of the girders without the aid of connections to the mast or other stiff members, substantially as described.

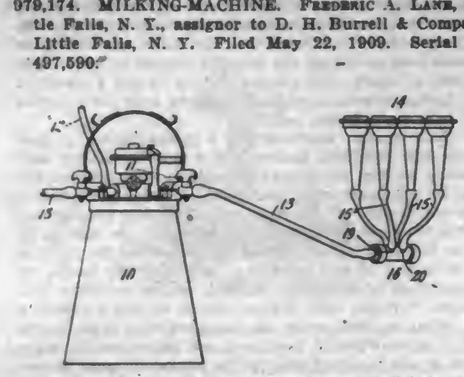
3. In a derrick bull wheel, the combination of a rim 3, a girder 4, 4, 4, 4, said girder approximately at right angles to the center line of the boom and with its ends at approximately diametrically opposite sides of the bull wheel, means for fastening the ends of said girder to the rim, and means for fastening said girder to the mast against horizontal displacement in respect to the center line of the mast.

4. In a derrick bull wheel, the combination of a rim 3, a girder 4, 4, 4, 4, said girder approximately at right angles to the center line of the boom and with its ends at approximately diametrically opposite sides of the bull wheel, means for fastening said girder to the rim, means for fastening said girder to the mast against horizontal displacement, but said fastening to the mast not preventing the rim at the ends of the girder 4, 4, 4, 4, from raising and lowering.

5. In a derrick bull wheel, the combination of a rim 3, a girder 4, 4, 4, 4, said girder approximately at right angles to the center line of the boom and with its ends at approximately diametrically opposite sides of the bull wheel, other girders, 5, 6, means for fastening the ends of said girders to the rim, means for fastening the girders to each other, and means for fastening the bull wheel on the mast against horizontal displacement in respect to the center line of the mast but said fastening to the mast not preventing the bull wheel from tipping so as to raise or lower at the rim.

[Claims 6 to 10 not printed in the Gazette.]

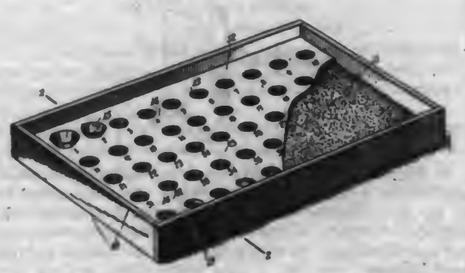
979,174. MILKING-MACHINE. FREDERIC A. LANE, Little Falls, N. Y., assignor to D. H. Burrell & Company, Little Falls, N. Y. Filed May 22, 1909. Serial No. 497,590.



1. A connector for milking machines, comprising a main suction passage at one end, a flow space for the milk contracted rearwardly from said passage, and teat cup nipples opening into said flow space at different distances from said passage, the front nipples opening into a portion of the cavity which has a larger area of cross section than the portion into which the rear nipples open, substantially as set forth.

2. A connector for milking machines, comprising a body portion having a rearwardly contracted flow space open at its front end and having a filter chamber formed in its rear portion and communicating by an air passage with the small rear end of said space, a main suction nipple provided with a flange at its rear end, a screw collar by which said nipple is secured to the front end of said body, and a cap covering the rear end of said filter chamber, substantially as set forth.

979,175. SEED-TESTER. HERBERT LINCOLN LAPHAM, Caledonia, Minn. Filed Apr. 16, 1910. Serial No. 555,955.



1. A seed tester, comprising a tray, a moisture retaining layer in said tray, a removable cover over said layer and having a plurality of openings through it, said cover having indicated thereon marks of identification for said openings, and separate pieces of permeable material each located in one of said openings, and extending through the same to said layer, said pieces being adapted to receive the seeds to be tested.

2. A seed tester, comprising a tray, a moisture retaining layer in said tray, a cover upon said tray and having openings through it, each having a mark of identification associated therewith, and fabric pieces located in said openings and forced partly through the same, to said layer, to form cup-like seed holders.

979,176. CIGAR-CASE. CHARLES L'ENFANT, New York, N. Y. Filed June 29, 1900, Serial No. 504,986. Renewed May 20, 1910. Serial No. 562,522.

1. A cigar- or cigarette-case comprising side-walls connected at the side-edges by collapsible gussets, a transverse collapsible tubular partition between said side-walls dividing the case into compartments, means at the bottom of the case for lifting articles therefrom, and a slide-piece in said tubular partition and attached to said means.

2. A cigar- or cigarette-case having a lining secured all the way around the inner upper part of the case and extending to the bottom thereof, a transverse slide-piece connected with the bottom-part of the lining, and a transverse tubular partition at the upper part of the case for guiding the slide-piece.

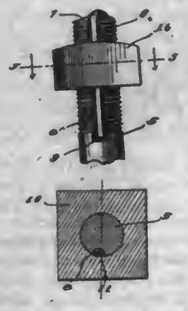


3. The combination, with a flexible cigar-case open at the top and closed at the bottom, of a double partition extending transversely across the upper portion of the case, a slide-piece in said double partition, a trough-shaped lifting device at the lower part of the case, and means connected with the slide-piece and guided in the partition for raising or lowering the lifting device.

4. The combination, with a case open at the top and closed at the bottom, of a double transverse partition in the upper portion of the case, a lifting device located at the lower interior portion of the case, and a sleeve-shaped slide-piece attached to the bottom of the lifting device and provided with longitudinal reinforcing stripe.

5. A cigar- or cigarette-case open at the top and closed at the bottom, comprising broader sides adapted to lie against each other, collapsible narrower gussets, a tubular partition disposed transversely to said broader sides and adapted to collapse when said broader sides lie against each other, a trough-shaped portion in the lower part of the case, a flexible lining attached to the upper part of said trough-shaped portion and to the inner part of the case, and a collapsible tubular slide-piece vertically movable in said tubular partition and connected to said trough-shaped portion.

979,177. NUT-LOCK. ERNEST L. LIBBY and GREEN B. DAVIS, Linn Creek, Mo. Filed July 6, 1910. Serial No. 570,629.

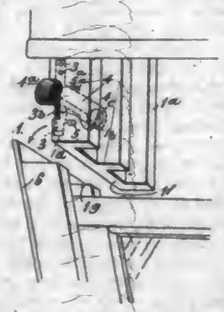


1. In a nut lock, the combination with a bolt having a cone-shaped end and a longitudinal groove terminating at its inner end in a socket, and a nut threadable onto the bolt; of a locking key having a shank portion insertible into the groove and provided with a sharpened edge, said shank being oblong in cross section, the length of such cross section being greater than the depth but approximately the same as the width of said groove, said locking

key being provided at one end with an extension receivable by the socket, and further provided at its opposite end with a resilient keeper adapted when moved in one direction over the outermost point of the cone-shaped end to rock the edge of the locking pin into engagement with the threads of the nut.

2. In a nut lock, the combination with a bolt having a cone-shaped end and a longitudinal groove terminating at its inner end in a socket, and a nut threadable onto the bolt; of a locking key having a shank portion insertible into the groove and provided with a sharpened edge, said shank being pyriform in cross section, the length of such cross section being greater than the depth or approximately the same as the width of said groove, said locking key being provided at one end with a lateral extension to loosely fit within the socket, and provided at its opposite end with a curved resilient keeper adapted when moved in one direction over the outermost point of the cone-shaped end to rock said shank portion to such position that the sharpened edge thereof will engage with the thread of the nut.

979,178. LATCH. FRANK T. LIPPINCOTT, Newark, Ohio. Original application filed Oct. 22, 1909, Serial No. 524,073. Divided and this application filed Mar. 23, 1910. Serial No. 551,065.



1. In a window having a casing provided with a fixed groove frame section and a movable groove frame section for receiving the sashes; means for securing said frame sections in alinement with one another, which means comprises a latch bar pivoted to the window casing between the casing and the fixed frame section to be partly inclosed by the fixed frame section, said latch bar having a head to lap over the ends of the movable frame section to retain it in place.

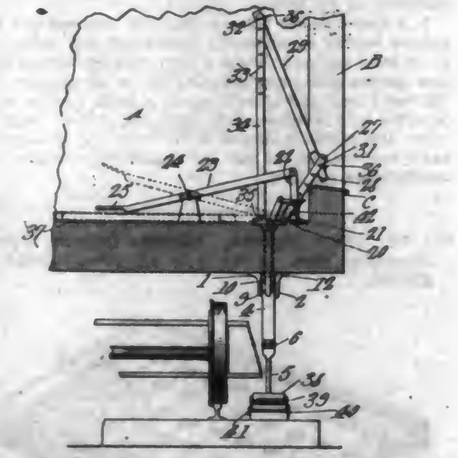
2. In a window having a casing provided with a fixed groove frame section and a movable groove frame section for receiving the sashes; means for securing said frame sections in alinement with one another, which means comprises a latch bar pivoted to the window casing between the casing and the fixed frame section to be partly inclosed by the fixed frame sections, said latch bar having a head to lap over the ends of the movable frame section to retain it in place, and a leaf spring carried by the window casing for engaging the latch bar and retaining it in its different positions.

3. In a window having a casing provided with a fixed groove frame section and a movable groove frame section for receiving the sashes; means for securing said frame sections in alinement with one another, which means comprises a latch bar pivoted to the window casing between the casing and the fixed frame sections, said latch bar having a head to lap over the ends of the movable frame section to retain it in place, a leaf spring carried by the window casing for engaging the latch bar and retaining it in its different positions, and a means for limiting the movement of said latch bar.

4. In a window construction, a casing having a fixed groove sash receiving section and a movable groove sash receiving section, of means for retaining said grooved sections in alinement with one another, which comprises a latch bar pivoted to the window casing, said fixed groove section being cut away to receive said latch bar and partly inclose the same, stops carried by the casing for limiting the movement of said latch bar, said latch bar having an exposed head to engage the movable section to retain it in position at times, said window casing having a recess, a leaf spring in said recess for engaging said latch bar to hold it in its different positions.

5. In a window construction, a casing having a fixed groove sash receiving section and a movable groove sash receiving section, of means for retaining said grooved sections in alinement with one another, which comprises a latch bar pivoted to the window casing, said fixed groove section being cut away to receive said latch bar and partly inclose the same, stops carried by the casing for limiting the movement of said latch bar, said latch bar having an exposed head to engage the movable section to retain it in position at times, said window casing having a recess, a leaf spring in said recess for engaging said latch bar to hold it in its different positions, said latch bar having a recess in one face and said spring having a hump or projection to enter said recess when said latch bar is in engagement with said movable section.

979,179. APPARATUS FOR DELIVERING MAIL FROM MOVING CARS. ROGER W. LOMAX, Lynchburg, Va. Filed Oct. 13, 1910. Serial No. 586,951.



1. Mechanism of the class described including a pouch-supporting member, supporting arms pivotally connected to the end portions of said member, said member being adjustable relative to the arms, and trip operated means for simultaneously swinging the arms to elevate and tilt said member.

2. Apparatus of the class described including a supporting member, arms adjustably connected thereto, and foldable trip operated means for simultaneously actuating the arms to elevate and tilt said member.

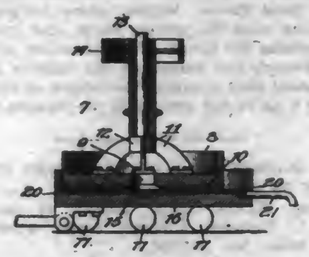
3. Mechanism of the class described including a supporting member, pivoted arms adjustably connected to opposite end portions of said member, trip actuated means for simultaneously swinging the arms to elevate and tilt the member, and means for disengaging said arms from the trip actuated means.

4. Apparatus of the class described including a supporting member, pivoted arms adjustably connected thereto, trip operated means for simultaneously swinging the arms to elevate and tilt the supporting member, and coupling means for detachably connecting the trip operated means to the arms.

5. Apparatus of the class described including supporting means, pivoted arms adjustably connected thereto, a rock shaft connected to and movable with one of the arms, and trip operated means for actuating said shaft to elevate and tilt the supporting means.

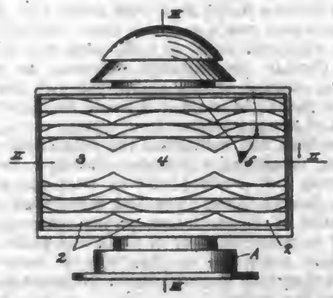
[Claims 6 to 11 not printed in the Gazette.]

979,180. METHOD OF TREATING ORE. THOMAS J. LOVETT, Chicago, Ill. Filed June 8, 1910. Serial No. 564,731.



The method of treating finely divided ore, containing ductile metal in flaky condition and gangue in pulverized condition, which consists in subjecting such ore under direct pressure from opposite sides between practically smooth surfaces to a torsional rubbing action to twist the flakes into lumps of slug, pellet or analogous shape, and then separating said lumps from the gangue.

979,181. LIGHTING DEVICE. GEORGE A. MACBETH, Pittsburg, Pa. Filed Jan. 15, 1910. Serial No. 538,326.



1. A curved lens provided with a plurality of horizontal ridges having such ridges divided vertically into sets, the sections of each set of the ridges being convex horizontally.

2. An echelon lens having a plurality of substantially horizontal parallel ridges, each separated into sections thickest at the centers of the sections and tapering inwardly to the ends, corresponding sections of different ridges being in substantially vertical alinement.

3. A lens having on its face a plurality of vertical rows of convex refracting ridges, the refracting ridges in adjacent vertical rows being end to end and in substantially horizontal alinement.

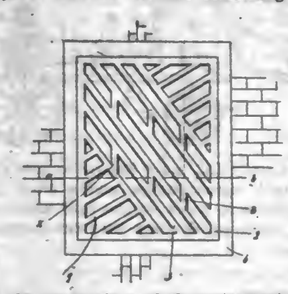
4. A lens having on its face a plurality of horizontal rows of elongated convex refracting portions arranged in series one above the other, each row comprising a plurality of portions placed end to end and the corresponding portions in the various rows being in vertical alinement.

5. In combination in a lamp having a source of illumination, a parti-cylindrical lens having a substantially plane rear face and a front face having a central refracting portion, and side refracting means each comprising a series of horizontal ridges in substantially vertical alinement and having the thickest portions at the center and decreasing in thickness from the center to the ends.

[Claim 6 not printed in the Gazette.]

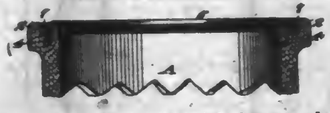
979,182. CATCH-BASIN COVER. JAMES H. MACDONALD, New Haven, Conn. Filed Jan. 11, 1909. Serial No. 471,787.

In a catch-basin cover, the combination with an open oblong rectangular frame having an inwardly extending bearing-flange, of a grille transversely bowed on its longitudinal axis so as to present a concave upper surface and consisting of a rim adapted in form and size to be set into the said open frame and having a main group of long parallel bars extending diagonally between opposite corners of the said rim and reinforced by short bars arranged parallel with each other and with the sides of the said rim and at an angle to the said long bars, and the triangular spaces between the two remaining corners of



the rim and the outer edges of the outermost of the said long bars being respectively filled by groups of parallel bars differentiated in length and joining the sides and ends of the rim at an acute angle and the said outermost bars at substantially a right angle, the open spaces produced in the grille by the described construction and arrangement of bars being large and yet disposed so as to prevent a wheel-rim from entering them and getting caught.

979,183. JAR-CLOSURE. FRANCIS J. MACKIN, San Francisco, Cal., assignor to Benjamin Schloss, San Francisco, Cal. Filed Feb. 1, 1910. Serial No. 541,230.



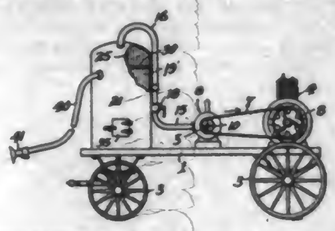
1. A container having concentric inner and outer lips spaced from each other to form an intermediate groove or channel, said inner lip being of less height than the outer lip; a cap or cover, and a gasket resting upon the inner lip and in the groove or channel between the same and the outer lip and having its edges lying within the outer lip, said inner lip and the portion of the gasket thereover forming the hermetic joint between the container and cap or cover.

2. A glass container having concentric inner and outer lips spaced from each other to form an intermediate groove, said inner lip being of less height than the outer lip; a cap or cover having concentric downwardly projecting concentric ribs and an intermediate groove, said groove adapted to receive the inner lips of the container and the groove in the container adapted to register with and receive the outer lip of the cover; and a gasket extending over the inner lip of the container and into the groove of said container and having its outer edge lying within the outer lip of the container.

979,184. COTTON-PICKER. CONRAD S. MATTHIESSEN, Philadelphia, Pa., assignor of one-fourth to Charles J. Hepburn and Ward F. Sprenkel, Philadelphia, Pa. Filed Jan. 26, 1910. Serial No. 540,207.

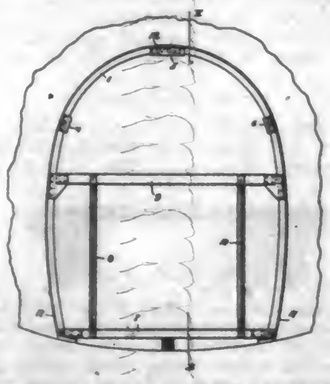
In a cotton picking machine, the combination of a unitary receptacle divided longitudinally into air tight compartments and the said compartments each having a transversely extending perforated baffle plate located therein near one end thereof, a vacuum pump, a pipe communicating with the ends of said compartments adjacent to and above said baffle plates and also having connection and communication with the said pump, means for closing

the passage-way to either of the said compartments and at the same time opening the passage-way to the other of said compartments, tubes connected to said receptacle and communicating with said compartments, means for operating said pump to create a partial vacuum in the



said compartments and cause the air to flow through said tubes into said compartments, and a truck upon which all of the aforesaid parts of the said machine are supported and upon which they may be transported from place to place.

979,185. TUNNEL-FORM. CHARLES D. MCARTHUR, Pittsburg, Pa., assignor to Blaw Collapsible Steel Centering Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Feb. 4, 1910. Serial No. 542,065.



1. In combination in a tunnel form, a series of spaced ribs comprising channels having inwardly directed flanges, bearing stripe of less width than the channels secured to the outer faces thereof, lagging plates having their end edges resting upon the bearing stripe; and means for securing the plates detachably to the flanges of the channels.

2. In combination in a tunnel form, a series of spaced ribs comprising channels having inwardly directed flanges, bearing stripe of less width than the channels secured to the outer faces thereof, sheet metal lagging plates having their end edges in opposition behind the bearing stripe, stiffening plates secured to the end edges of the lagging plates and bearing upon the bearing stripe, and means for securing the lagging plates detachably to the flanges of the channels.

3. In combination in a tunnel form, a series of spaced ribs comprising channels having inwardly directed flanges, bearing stripe of less width than the channels secured to the outer faces thereof; lagging plates having their end edges resting upon the bearing stripe, and angle clips and bolts for securing the plates detachably to the flanges of the channels.

4. In combination in a tunnel form, a series of spaced ribs comprising channels having inwardly directed flanges, lagging plates having inwardly extending flanges abutting the flanges of the channels, bolts extending through the flanges on the lagging plates and provided on their inner ends with hooks engaging the flanges of the channels and on their outer ends with screw threads, and nuts threaded on such screw threaded ends.

5. In combination in a tunnel form, a series of spaced ribs comprising channels having inwardly directed flanges; bearing stripe of less width than the channels secured to the outer faces thereof, lagging plates having their end edges resting upon the bearing stripe, and provided with flanges abutting the flanges of the channels, and bolts extending through the flanges on the lagging plates, and having hooked ends engaging the flanges of the channels.

[Claims 6 to 15 not printed in the Gazette.]

979,186. MACHINE FOR FACILITATING THE SEPARATION OF GARLIC FROM WHEAT. JOHN WILLIAM MCGEHEE, Martin, Tenn., assignor of two-thirds to Jennie L. McGehee, Jackson, Tenn. Filed Feb. 18, 1910. Serial No. 544,590.



1. A machine for facilitating the separation of garlic from grain, comprising a container having a smooth interior surface and provided with an inlet and an outlet, said container being closed between the inlet and outlet, means for moving mixed grain and garlic from the inlet toward the outlet, and a normally closed yielding gate cooperating with said outlet to sufficiently retard the flow of grain through the container to cause the garlic to be torn by contact of the grain therewith during the passage of the mixed grain and garlic from the inlet to the outlet of the container.

2. A machine for facilitating the separation of garlic from grain, comprising a container having a smooth interior surface and provided with an inlet and an outlet, means for forcing mixed grain and garlic from the inlet to the outlet of the container, means coöperating with the outlet to retard the flow of grain and garlic through the container, and means movable with the forcing means and spaced therefrom in proximity to the outlet to prevent clogging at the outlet.

3. A machine for facilitating the separation of garlic from grain, comprising a container having a smooth interior surface and provided with an inlet and an outlet, a yielding valve or gate normally closing the outlet, means within the container for forcing mixed grain and garlic toward the outlet, and an imperforate abutment located adjacent to the outlet and movable with said forcing means but spaced from the adjacent end thereof.

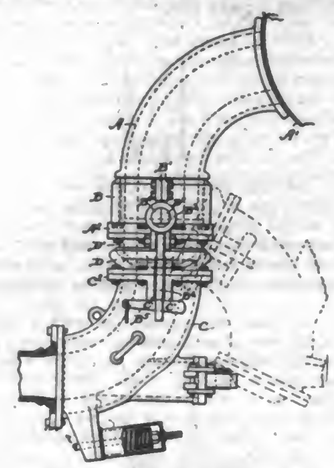
4. A machine for facilitating the separation of garlic from grain, comprising a container having a smooth interior surface and provided with an inlet and an outlet, a yielding valve or gate normally closing the outlet of the container, a shaft passing through the container, a conveyer fixed to said shaft and extending from the inlet of the container to force a mass of mingled grain and garlic toward the outlet, and an imperforate abutment fixed to said shaft and spaced from the conveyer and forming a chamber communicating with said outlet.

5. A machine for facilitating the separation of garlic from grain, comprising a container having a smooth interior surface and provided with an inlet and an outlet, means within the chamber for forcing material from the inlet to the outlet, a yielding valve or gate normally closing said outlet, means for adjusting the tension of said yielding gate, and an imperforate abutment movable with and spaced from the adjacent end of the forcing means near the outlet of the container.

[Claim 6 not printed in the Gazette.]

979,187. TWYER-STOCK. ARTHUR G. MCKEE, Cleveland, Ohio. Filed Dec. 5, 1907. Serial No. 405,282.

1. In a furnace twyer, the combination of a fixed supply neck, a collar rotatably supported on the neck, a twyer stock and removable ball-and-socket members between the twyer stock and said collar.



2. In a furnace twyer, the combination of a fixed supply neck, a collar rotatably supported on the neck, a twyer stock with links supporting it from said collar, and removable ball-and-socket members between the twyer stock and the zone of attachment of the links to the collar.

3. In combination, a supply pipe and a twyer stock, a separable ball and socket connection between the same, and means for suspending the stock from the supply pipe adapted to permit the lowering of the stock a sufficient distance for the removal and replacement of the ball and socket members.

4. In combination a supply pipe and a twyer stock, a split supporting collar on the supply pipe having a portion of a bearing stud on each side of the split joint, said sections when mated together forming a bearing, and suspending means for the stock on said bearing holding said stud sections together.

5. In combination, a supply pipe and a twyer stock, removable ball and socket members between the same and means for suspending the twyer stock from the supply pipe, adapted to permit the removal of the ball and socket members without disconnecting the twyer stock from the supply pipe.

979,188. SPARE-TIRE HOLDER AND TRUNK-SUPPORT. LEO P. MCKINNEY, Boston, Mass., assignor of one-half to John L. Snow, Boston, Mass. Filed Nov. 27, 1909. Serial No. 530,088.



1. A spare-tire holder and trunk support comprising a head provided with a transverse opening for the reception of a strap, a laterally-extending arm adapted to be secured to the back of a trunk, and a forwardly-extending arm adapted to be secured to the side of the trunk.

2. A spare-tire holder and trunk support comprising a stem, a head removably secured to the stem, means for connecting a trunk with the head adapted to secure the trunk at the side of the head, and means for securing a spare tire to the front of the head.

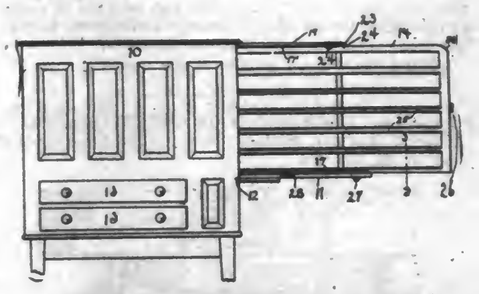
3. In combination with a circular trunk, a support therefor comprising two arms secured, respectively, to the back and the side of the trunk, a head connected with the arms and provided with a transverse openings to receive a strap, and a stem upon which the head is mounted.

4. In combination with a trunk, a support therefor comprising a head provided with a transverse opening to receive a strap, a lateral extension from the head rigidly secured to the trunk, and a stem adapted to support the head upon an automobile.

5. A spare-tire holder and trunk support comprising a head, means for securing the head to a vehicle, and a lateral extension from the head adapted to be secured to a trunk, the head being provided with a transverse opening for the reception of a strap to secure a tire.

[Claim 6 not printed in the Gazette.]

979,189. PHOTOGRAPHIC CABINET. GEORGE SYLVANUS MOLER, Ithaca, N. Y. Filed July 5, 1910. Serial No. 570,510.



1. A photographic cabinet comprising a rectangular casing, sliding frames mounted within said casing adapted to hold photographic plates, said casing provided with an open end and having a hinged closure door therefor, a sliding guide member within said casing, and means for moving said guide outwardly of the casing upon the opening of the door.

2. A device of the class described comprising a rectangular casing having an open end, a plurality of lantern slide holding frames slidably mounted within said casing, a hinged door closure for the open end of said casing, said door adapted to support said frames upon the opening of said door and the partial withdrawal of the frames from said casing, a guide member positioned within said casing, spaced alining cleats upon the bottom of said guide and upon the inside of said door, and said frames positioned between said cleats when said frames are positioned outwardly of the casing.

3. A device of the class described comprising a rectangular casing having an opened end, a plurality of lantern slide holding frames slidably mounted within said casing, a hinged door closure for the opened end of said casing, said door adapted to support said frames upon the opening of said door and the partial withdrawal of the frames from said casing, a guide member slidably positioned within said casing, spaced alining cleats upon the bottom of said guide and upon the inside of said door, spaced cleats upon the bottom of said casing and alining with those of the door and the guide member, said frames positioned between said cleats when said frames are positioned outwardly of the casing, and means for horizontally sliding said guide member upon any movement of the door.

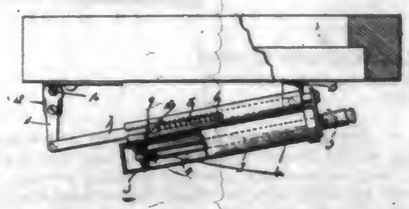
4. A photographic plate holding cabinet consisting of a casing having an open end, a top and bottom for said casing and a door closure for the open end of the casing, said door being pivoted in alinement with the casing bottom, an off-set extension provided upon the bottom of said door and adapted to engage the casing bottom for positioning said door in horizontal alinement with the casing bottom upon the complete opening of the door, and glass plate holding frames slidably mounted within said casing upon the bottom thereof, a slidable guide member positioned within the casing adjacent the top thereof and parallel to the casing bottom, and means for sliding the guide out-

wardly of the casing upon opening the door and inwardly thereof upon closing the door.

5. A photographic plate holding cabinet consisting of a casing having an open end, sides, a top and a bottom for said casing and a door closure for the open end of the casing, said door being pivoted in alinement with the casing bottom, an extension provided upon the bottom of said door and adapted to engage the casing bottom for positioning said door in horizontal alinement with the casing bottom upon the complete opening of the door, glass plate holding frames slidably mounted within said casing upon the bottom thereof, strips secured to the inner faces of the casing sides and equally spaced from the casing top, a guide member positioned within said casing upon said strips and adjacent the top thereof, a link connection between the guide member and the door whereby said guide is adapted to slide horizontally in and out of the casing upon the closing and opening of the door, a swinging bail upon the outer end of said guide and adapted to engage notches upon the holding frames for limiting the outward movement of said frames from the casing.

[Claims 6 and 7 not printed in the Gazette.]

979,190. COMBINED DOOR CHECK AND SPRING. BARNEY MURPHY, Milford, Conn. Filed Feb. 10, 1910. Serial No. 543,019.



1. A combined door check and spring comprising a cylinder, piston and piston rod, and a spring-operated rod arranged parallel with, and connected with said piston rod, a lever pivotally mounted on a bracket and connected at its outer end with said rod whereby the fulcrum of the rod is changed at a predetermined point, and means to limit the movement of said lever.

2. A combined door spring and check comprising a cylinder, a piston and a piston rod, a spring-actuated rod arranged parallel with, and connected with said piston rod, a bracket adapted to be secured to the door casing, a lever pivoted to the outer end of said bracket and pivotally connected with said rod, said lever adapted to turn on its pivot whereby the fulcrum of the rod is changed after the door is opened to a predetermined extent, and means to limit the movement of said lever.

979,191. BOTTLE-WASHER. DANIEL NEILLY, Bradford, Pa. Filed Jan. 28, 1910. Serial No. 540,508.



A bottle washer comprising a rotary brush; a supporting frame for said brush having bearings therein; a shield adapted to cover said brush slidably mounted in said frame; and springs for disposing said shield to infold said brush, said springs being adapted to yield to the hand pressure of the operator when the bottle to be cleaned is introduced within said shield.

979,192. EGG-CRATE FILLER. ANDREW NELSON, Grace, Wash. Filed Mar. 23, 1910. Serial No. 551,213.

1. In a cell case, a plurality of binding strips, partitions interposed between said binding strips, and a protecting strip carried by each end binding strip, said protecting strip being provided with a plurality of flaps adapted to engage the end binding strip.



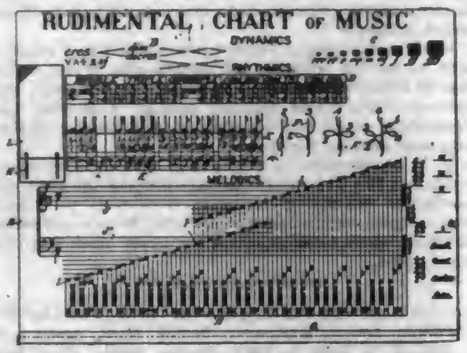
2. In a cell case, the combination with a plurality of binding strips, one of said binding strips being placed at an angle to the coöperating strip, partitions interposed between each pair of binding strips, said partitions being formed from one of said binding strips, and means whereby the terminals of each pair of binding strips are doubly secured.

3. In a cell case, the combination with a plurality of binding strips, one of said binding strips being placed at an angle to the coöperating strip, partitions interposed between each pair of binding strips, said partitions being formed from one of said binding strips, and double partitions formed from one of said binding strips at the extremities of said strips, leaving a single opening.

4. In a cell case, a filler comprising in combination a plurality of binding strips, a series of flaps formed from the body of one of said binding strips, adapted to engage the body of the opposite binding strip in an interlocking engagement.

979,193. MUSIC-TEACHING DEVICE. OTTO NELSON, Axtell, Nebr. Filed June 8, 1909. Serial No. 500,938.

1. In a music teaching device, a chart comprising the representation of a key board, a note scale and the staff



lines, the notes of the note scale being alined with the corresponding keys of the said key board and the staff lines being at right angles to the length of each of said keys, a holder comprising parallel staples secured at their ends to the said chart, signature cards provided with apertures through which pass the said staples, so that the cards can be swung up or down on the holder to bring each signature card into alinement with the said note scale, and a slide movable relative to the said key board and bearing characters denoting the intervals of the gamut or diatonic scale.

2. In a music teaching device, a chart comprising the representation of a key board, a note scale and staff lines, the note scale being alined with the corresponding keys of the said key board, a holder secured to the chart and having upper and lower members, signature cards mounted at one end on the holder and adapted to be swung up or down on the respective members of the holder to move the cards either into non-displaying position or into displaying position and in alinement with the staff lines, a slide movable on the chart relative to the key board and bearing gamut characters, and representations on the said chart indicating the volume and force of the tones, the different times, the various notes and rests and their values, and the several beats.

3. In a music teaching device, a chart comprising the representation of a key board, and note scale, the notes of the note scale being alined with the corresponding keys of the said key board, a guideway at the lower part of the chart, a slide movable in said guideway relative to the key board and bearing characters denoting the intervals of the gamut, a holder comprising parallel staples secured to the said chart, and signature cards mounted on the staples and adapted to be swung upward on the upper limbs of the staples into non-displaying position, or swung downward on the lower limbs of the staples with the staff lines of the card in register with the staff lines of the note scale.

979,194. PRIMING-CUP. WILLIAM OSTERHOM, Chicago, Ill., assignor to Acorn Brass Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed June 2, 1910. Serial No. 564,709.



1. A valved priming-cup provided with a spring-pressed cover movable from closed to open condition by turning the valve, and means on said cover coöperating with the edges of said cup for preventing lateral displacement of the cover.

2. A valved priming-cup, provided with a spring-pressed cover movable from closed to open condition by turning the valve, and means on said cover extending through the plane of the edge of the cup and coöperating therewith for preventing lateral displacement of the cover.

3. A valved priming-cup provided with a spring-pressed cover movable from closed to open condition by turning the valve, and means on said cover extending into the cup and coöperating with the edges thereof, for the purpose set forth.

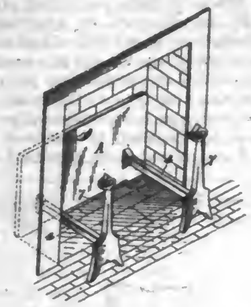
4. A valved priming-cup provided with a spring-pressed cover movable from closed to open condition by turning the valve, and a boss on said cover extending into said cup and coöperating with the edges thereof, for the purpose set forth.

5. A valved priming-cup provided with a spring-pressed cover movable from closed to open condition by turning the valve, and a beveled projection on said cover extending into said cup, for the purpose set forth.

[Claims 6 to 12 not printed in the Gazette.]

979,195. FIREBACK AND ANDIRONS FOR FIRE-PLACES. CHARLES H. PARRISH, Statesboro, Ga. Filed Apr. 16, 1908. Serial No. 427,383.

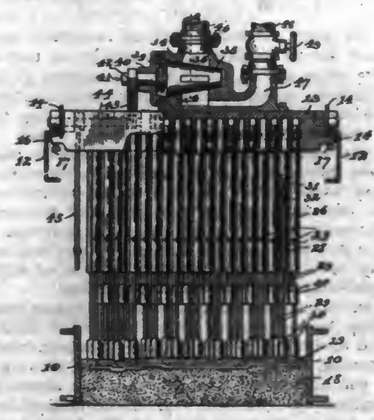
The combination with a fire back and standards, each of which is provided with mortises, one end of each mortise constricted and dove-tailed, of bars provided with dove-tailed tenons adapted to enter, fit and be secured in said mortises, the ends of the bars at the bases of the tenon enlarged whereby to completely cover the mortises, whe



the parts are assembled so that extraneous material, suc as dust and ashes, is prevented from entering the mortise

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979,196. MULTIPLE POWER-RAMMER. HAROLD PLAISTED, Granite City, Ill. Filed Sept. 13, 1909. Serial No. 517,442.



1. In a rammer of the character described, the combin tion of a plurality of ramming members, and pneuma means adapted to act successively upon the various me bers and on one end only of the members and in conju tion with the atmospheric pressure to alternately exte and retract said members, substantially as described.

2. In a rammer of the character described, the combi tion of a plurality of groups of ramming members, a pneumatic means to successively extend and retract ea group, substantially as described.

3. In a multiple power rammer of the character scribed, the combination of a plurality of chambers, a p rality of groups of rammers, a plurality of pistons c nected to and actuating said rammers and slidable in s chambers, and pneumatic means acting on one side only said pistons to extend and retract the groups of ramm successively, substantially as described.

4. In a multiple power rammer of the character scribed, the combination of a plurality of chambers, a p rality of rammers, a plurality of pistons connected to a actuating said rammers and slidable in said chambers, a means to force said pistons and rammers in one directi by applying a pressure greater than atmospheric to side of said pistons and to move said pistons and ramm in the opposite direction by making the pressure on same side of said pistons less than atmospheric, the op site side of said pistons being subjected to the pressure the atmosphere, substantially as described.

5. In a multiple power rammer of the character scribed, the combination of a pair of sets of chambers

pair of groups of rammers, a pair of groups of pistons connected to and actuating said rammers and slidable in said chambers, and means to force one group of said pistons and rammers in one direction by applying a pressure greater than atmospheric to one side of said pistons and to move the other groups of pistons and rammers in the opposite direction by making the pressure on the corresponding sides of their pistons less than atmospheric, the opposite sides of all of said pistons being subjected to the pressure of the atmosphere, substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

979,197. MOLDING-RECEPTACLE. CLARENCE D. PLATT, Bridgeport, Conn. Filed Nov. 27, 1909. Serial No. 530,177.



1. A one piece insulating molding receptacle comprising a base having longitudinal grooves in its under face to receive wires and an integral socket portion extending from said base, said grooves gradually deepening as they approach the middle of the base, openings being formed in said base between said grooves and said socket.

2. A one piece insulating molding receptacle comprising a base having longitudinal grooves in its under face to receive wires and an integral socket portion extending from said base, said grooves gradually deepening as they approach the middle of the base, openings being formed in said base between said grooves and said socket, additional openings being formed in the sides of said base and intersecting the first mentioned openings.

3. A one piece insulating molding receptacle comprising a base having grooves in its under face to receive wires and an integral socket portion extending from said base, openings being formed in said base between said grooves and said socket, said grooves being separated by a longitudinal wall provided with lateral projections, and contacts leading from said grooves to the interior of said socket portion said lateral projections extending beneath and beyond said contacts to protect the latter during handling.

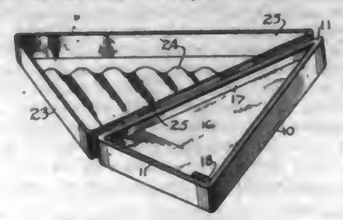
4. A one piece insulating molding receptacle comprising a base having grooves in its under face to receive wires and an integral socket portion extending from said base, openings being formed in said base between said grooves and said socket, said grooves being separated by a longitudinal wall provided with lateral projections, lateral openings being formed in the sides of said base and intersecting the first mentioned openings, contacts leading from said grooves to the interior of said socket portion, and binding screws located within said lateral openings and engaging said contacts.

5. A one piece insulating molding receptacle comprising a base having longitudinal grooves in its under face to receive wires and an integral socket portion extending from said base, said grooves gradually deepening as they approach the middle of the base, lateral openings being formed in said base and leading to said grooves, contacts carried by said base, and binding screws for said contacts located in said lateral openings.

[Claims 6 and 7 not printed in the Gazette.]

979,198. SAD-IRON CLEANER AND POLISHER. NATHANIEL E. PLATT, Jersey City, N. J. Filed Sept. 14, 1909. Serial No. 517,675.

1. In an iron cleaner and polisher, the combination with a box having a perforated bottom, of a layer of fabric beneath the bottom and a second layer of fabric upon the bottom and held there by a frame.

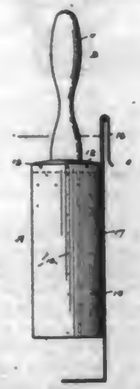


2. In an iron cleaner and polisher, the combination with a box adapted to receive the iron having a perforated bottom, of a layer of fabric adapted to be saturated with oil and secured beneath the bottom, and a layer of fabric to receive the iron and located on the upper side of the bottom and clamped in the box.

3. In an iron cleaner and polisher, the combination with a box, of a perforated bottom therefor dividing the box into separate compartments, a layer of felt beneath the bottom, rods adapted to secure the same within the box, a layer of cloth on the upper side of the bottom, and means for retaining the same.

4. In an iron cleaner and polisher, the combination with a triangular box, of a perforated bottom dividing the box into upper and lower compartments, a layer of felt within the lower compartment, a layer of cloth for the upper side of the bottom, a hinged frame to secure the cloth in place, and a cover hinged to the box and having an interior corrugated plate.

979,199. SPRINKLER. ERNEST PRICE, East Norwalk, Conn. Filed May 17, 1900. Serial No. 496,628.



A self filling sprinkler comprising a cylinder having its entire periphery perforated, and an integral perforated bottom wall, a separate head permanently secured in the open end of said cylinder to form a closure therefor, a handle secured to said head, and a suspending hook secured to one end of said cylinder whereby the same may be suspended in a body of liquid to fill the sprinkler.

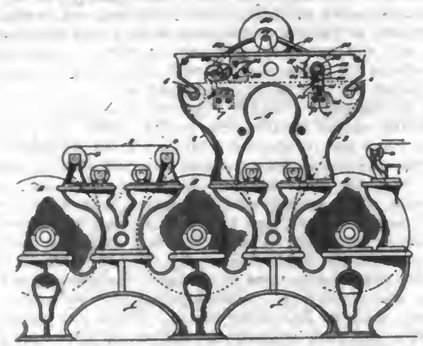
979,200. CONVEYER-BELT. CHARLES S. PROSSER, New York, N. Y., assignor to Peerless Rubber Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Feb. 4, 1905. Serial No. 244,158.



1. A conveyer belt having on its carrying face ribs separated by grooves or depressions that decrease gradually in depth from the middle portion of the belt toward its edges, said ribs extending at an angle to the transverse width of the belt.

2. A conveyer belt having on its carrying face ribs separated by grooves or depressions that decrease gradually in depth from the middle portion of the belt toward its edges, said ribs extending at an angle to the transverse width of the belt and consisting of symmetrical parts forming an angle with each other on each side of the central portion of the belt.

979,201. PAPER-GROOVING MACHINE. WILLIAM E. RAMAGE and HENRY D. SHAW, Adams, Mass., assignors to Berkshire Hills Paper Company, Adams, Mass. Filed Jan. 14, 1908. Serial No. 410,747.



1. In a paper grooving machine, the combination with cutters, of brushes for cleaning the grooved portions of waste fiber.

2. In a paper grooving machine, the combination with means for grooving the paper, of brushes for cleaning and smoothing the grooved portions.

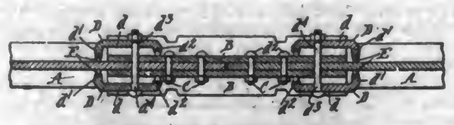
3. The combination with a paper making machine, of means for grooving the paper, and brushes for cleaning and smoothing the grooved portions of the paper.

4. The combination with a paper making machine, of means for grooving the paper, and brushes for cleaning the paper and imparting a smooth finish to the grooved portions of the paper.

5. The combination with a paper making machine, of means for grooving the paper, and brushes for cleaning the paper and smoothing the grooved portions.

[Claims 6 to 21 not printed in the Gazette.]

979,202. RAIL-BOND. WILLIAM J. RANDOLPH, Sr., and WILLIAM J. RANDOLPH, Jr., Moscow, N. Y. Filed July 1, 1910. Serial No. 569,926.



1. The combination with a rail and fish plate, of a rail bond for electrically connecting said rail to said fish plate comprising a connecting body portion extending substantially parallel with said rail and spaced therefrom, said body portion being provided at its ends with contact portions which are adapted to engage the sides of said rail and said fish plate, and means engaging said body portion between said contact portions for securing said rail bond to said rail and said fish plate, substantially as set forth.

2. The combination with a rail and fish plate, of a rail bond for electrically connecting said rail and said fish plate, having offset contact portions at its opposite ends which are adapted to engage the sides of said rail and said fish plate, and means common to said rail and said fish plate for securing said rail bond in position on said rail and clamping said fish plate between said rail bond and said rail, substantially as set forth.

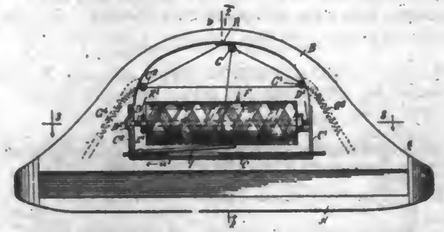
3. The combination with a rail and fish plate, of a rail bond for electrically connecting said rail and said fish plate comprising a connecting body portion extending substantially parallel with said rail and provided at its opposite ends with contact portions which project inwardly therefrom and are adapted to engage the sides of said rail and said fish plate, and means for securing said rail bond to said rail and said fish plate, substantially as set forth.

4. The combination with a rail and fish plate, of a rail bond for electrically connecting said rail and said fish plate, comprising a connecting body portion extending substantially parallel with said rail and provided at its ends with offset contact portions which are adapted to engage the sides of said rail and fish plates, and a bolt extending through said rail and fish plate for securing said rail bond in position thereon, substantially as set forth.

5. The combination with a rail and fish plate, of a rail bond for electrically connecting said rail and said fish plate, comprising a connecting body portion having offset end portions provided with detachable contact points which are adapted to engage said rail and said fish plate, and means for securing said rail bond to said rail and fish plate, substantially as set forth.

[Claim 6 not printed in the Gazette.]

979,203. SHUTTLE. WELLINGTON N. REIFF and JAMES A. KRAUSS, East Greenville, Pa. Filed Jan. 25, 1910. Serial No. 540,063.



1. A shuttle for looms provided with a locking device normally held in an inactive position, and adapted to be released by obstructions in the shed, to engage and lock the quill against rotation and thus tear the filling thread.

2. A shuttle for looms, provided with a spring-pressed locking bar for locking the quill, the locking bar having a projecting portion for engagement by obstructions in the shed, and a stop for normally holding the locking bar in an inactive position and under the tension of its spring.

3. A shuttle for looms, provided with a quill spindle, having one end provided with an angular arm, a metal plate secured to the shuttle and bearings for the ends of the spindle extending angularly from the said plate, the bearing for the angular arm end being free and resilient and provided with a recess for the reception of the said angular arm, the other bearing being fixed and provided with a recess for the other end of the spindle to rest in.

4. A shuttle for looms, provided with a spindle having recessed ends, a locking bar having a locking arm for engaging one of the recessed ends of the said spindle, the said locking arm having a projecting portion for engagement by obstructions in the open shed, a stop for one end of the said locking bar to abut against, and a spring connected with the said locking bar.

5. A shuttle for looms provided with a spring-pressed locking bar for engaging and locking the quill, bearings in which the locking bar is mounted to slide, one of said bearings being elongated to permit up and down swinging movement of the locking bar, the said locking bar having a projecting portion for engagement by obstructions in the shed, and a stop for normally holding the locking bar in an inactive position and under the tension of its spring.

[Claim 6 not printed in the Gazette.]

979,204. PROCESS OF EXPELLING GASES FROM METALS. WALTER S. ROCKEY and HILLIARY ELDRIDGE, New York, N. Y. Filed Mar. 21, 1910. Serial No. 550,720.

1. The process of making copper or its alloys free of gases consisting in first heating a suitable flux containing boron trioxid to a molten state, then heating the metal being treated above its melting point beneath the said flux and then cooling said metal to a predetermined degree to cause the gases contained therein to be expelled therefrom into said flux.

2. The process of making metals or metal alloys free of gases consisting in repeatedly heating the metal above its melting point beneath the surface of a suitable flux and then cooling said metal to a predetermined degree to cause the gases contained therein to be expelled therefrom into said flux.

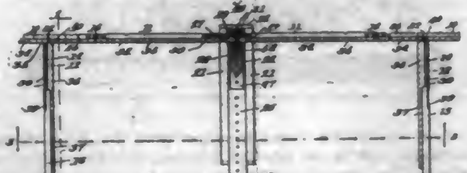
3. The process of making metals or metal alloys free of gases consisting in repeatedly heating the metal above its melting point beneath the surface of a suitable flux, and then cooling said metal to approximately its melting point to cause the gases contained therein to be expelled therefrom into and through said flux.

4. The process of making metals or metal alloys free of gases consisting in repeatedly heating the metal above its melting point beneath the surface of a suitable flux, and then cooling said metal to a solid condition to cause the gases contained therein to be expelled therefrom into and through said flux.

5. The process of making metals or metal alloys free of gases consisting in first removing the oxids or foreign matter from the metal and then fusing the metal beneath the surface of a suitable flux, then cooling said metal to a predetermined degree, to cause the gases held therein to be expelled from said metal into and through said flux.

[Claims 6 to 9 not printed in the Gazette.]

979,205. CURTAIN-STRETCHER. STANLEY ROKOSZ, Plains, Pa. Filed Aug. 10, 1910. Serial No. 576,447.

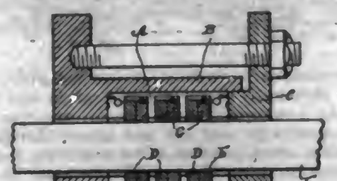


1. A curtain stretcher comprising a brace having an extensible section slidably connected therewith, side bars including inner and outer sections, pivots connecting the adjacent ends of the inner sections of the side bars to the brace and its extensible section, respectively, whereby the said side bars may swing inwardly in alinement with the brace, hinges connecting the outer sections to the inner sections of the side bars, whereby the said outer sections may be swung inwardly onto the inner sections of the said side bars, extensible end bars adapted for connection with the side bars, headed lugs mounted in and spaced from the ends of the said end bars, the said outer sections of the side bars being provided with spaced notches in their outer longitudinal edges, the said end bars being provided with notches in their ends adapted to register with the notches in the outer sections of the side bars, and U-shaped members embracing the outer sections of the side bars and the ends of the end bars and engaging in the notches, each member being formed with a hook end adapted for detachable engagement with any one of the said lugs.

2. A curtain stretcher comprising a brace having an extensible section slidably connected therewith, side bars including inner and outer sections, pivots connecting the adjacent ends of the inner sections of the side bars to the brace and its extensible section, respectively, whereby the said side bars may swing inwardly in alinement with the brace, hinges connecting the outer sections to the inner sections of the side bars, whereby the said outer sections may be swung inwardly onto the inner sections of the said side bars, extensible end bars adapted for connection with the side bars, headed lugs mounted in and spaced from the ends of the said end bars, the said outer sections of the side bars being provided with spaced notches in their outer longitudinal edges, the said end bars being provided with notches in their ends adapted to register with the notches in the outer sections of the side bars, and U-shaped members embracing the outer sections of the side bars and the ends of the end bars and engaging in the notches, each member being formed with a hook end adapted for detachable engagement with any one of the said lugs, slidable bolt members carried by the side bars and adapted to be moved into locked position across the adjacent ends of the inner and outer sections of said side bars, an extensible leg hinged to the brace, curtain attaching pins mounted in the side and end bars in spaced relation to each other contiguous the inner edges thereof, and means locking the extensible end bars in adjusted position.

3. A collapsible curtain stretcher comprising a brace including spaced parallel bars having guide ribs at their inner edges and coextensive with each other, an extensible section mounted between the said bars and slidably engaging the guide ribs, side bars including inner and outer sections, pivots connecting the adjacent ends of the inner sections of the side bars to the brace and its extensible section, respectively, whereby the said side bars may be swung inwardly in alinement with the brace, hinges connecting the outer sections to the inner sections of the side bars, whereby the said outer sections may be swung inwardly onto the said inner sections of the side bars, extensible end bars adapted for connection with the side bars, headed lugs mounted on and spaced from the ends of the said end bars of the end sections, the said outer sections of the side bars being provided with spaced notches in their outer longitudinal edges, the said end bars being provided with notches in their ends adapted to register with the notches in the outer sections of the side bars, U-shaped members embracing the outer sections of the side bars and the ends of the end bars and engaging in the notches, each member being formed with a hook end adapted for detachable engagement with any one of the said lugs, means carried by the side bars and adapted to be moved into locked position across the adjacent ends of the inner and outer sections of the said side bars, an extensible leg locked to the brace and including inner and outer sections, the inner section being provided with a longitudinal groove having guide ribs projecting inwardly from the side walls of the groove, the outer section being provided with grooves in its longitudinal edges for engagement with the guide ribs, and means passed through the inner and outer sections for locking the same in adjusted relation to each other.

979,206. METALLIC PACKING FOR PISTON-RODS AND THE LIKE. GEORGE D. ROLLINS, Philadelphia, Pa. Filed Apr. 30, 1909. Serial No. 493,070.



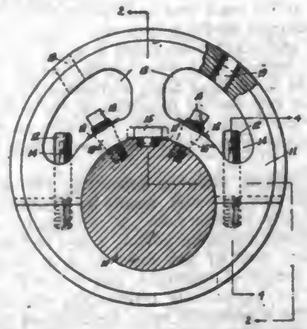
1. In combination with a casing, a compressible ring and a non-compressible ring placed face to face and located in a groove formed in said casing, for the purpose specified.

2. In combination with the casing of a metallic packing, a pair of rings fitted in a groove formed in said casing, one of said rings being compressible and the other non-compressible, as specified.

3. In combination with a grooved casing, a compressible ring and a non-compressible ring arranged in pairs and fitted in the grooves of said casing, the non-compressible ring being located on the pressure side, as and for the purpose set forth.

4. In combination with a grooved casing, a compressible ring composed of three sections divided on tangential lines and adapted to follow the piston rod to compensate for wear, and a non-compressible ring made in two sections and bolted together so as not to follow the rod or compensate for wear, said rings being arranged in pairs and fitted in the grooves of said casing, the compressible ring being located on the pressure side, as and for the purpose set forth.

979,207. ECCENTRIC-FASTENING. FRANK P. SABAMAN, West Pittston, Pa. Filed Jan. 7, 1910. Serial No. 536,828.



1. The combination of a shaft, an eccentric arranged on the shaft, and a key having the inner portion fitted into a longitudinal key-way in the shaft, with the outer portion of the key enlarged near the center and tapering toward each end and fitted into a key-way in the eccentric.

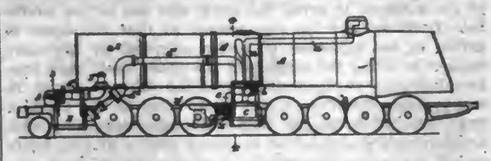
2. The combination of a shaft, an eccentric arranged on the shaft, and a key having the inner portion fitted into a longitudinal key-way in the shaft, with the outer portion of the key enlarged near the center and tapering toward each end and fitted into a key-way in the eccentric, with the under side of the outer portion of the key presenting shoulders seating on the shaft.

3. The combination of a shaft, a member arranged on the shaft, and a key having the inner portion fitted into a longitudinal key-way in the shaft, with the outer portion of the key fitting into a key-way in the member and relatively wide at an intermediate point and tapering toward each end.

4. The combination of a shaft, a member arranged on the shaft, and a key having the inner portion fitted into a longitudinal key-way in the shaft, with the outer portion of the key fitting into a key-way in the member and relatively wider at an intermediate point than at the ends.

979,208. LOCOMOTIVE. HARRY SCHEIB, Philadelphia, and WILLIAM A. AUSTIN, Wayne, Pa., assignors to Baldwin Locomotive Works, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 11, 1910. Serial No. 543,338.

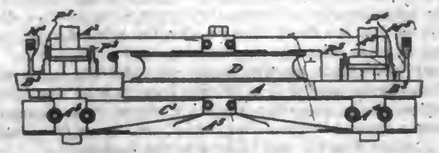
1. The combination in a locomotive, of a low pressure cylinder arranged on each side of the locomotive at one end, with a high pressure cylinder and an intermediate cylinder located at a point midway between the ends of the locomotive, the piping forming communication between the several cylinders whereby the steam passes from the high to the intermediate cylinder and from the intermediate to the low pressure cylinders.



2. The combination in a locomotive of the articulated type of two frames connected together, a set of low pressure cylinders mounted on the forward frame of the locomotive, two cylinders mounted on the rear frame of the locomotive, one of said cylinders being a high pressure cylinder and located on one side of the locomotive, an intermediate cylinder mounted on the other side of the locomotive, with piping connecting the several cylinders forming a triple expansion locomotive.

3. The combination in a locomotive having two sets of cylinders, one at the forward end of the locomotive and the other intermediate the ends thereof, the forward cylinders being low pressure cylinders, one of the other cylinders being a high pressure cylinder and the other an intermediate cylinder, a boiler, a pipe leading from the boiler to the high pressure cylinder, pipes leading from the high pressure cylinder to the intermediate cylinder, a longitudinally arranged pipe leading from the intermediate cylinder to the low pressure cylinders, and pipes connecting the low pressure cylinder with the exhaust nozzle in the smoke box of the locomotive.

979,209. SCENE-SHIFTING APPARATUS. FREDERICK WILLIAM SCOTT, London, England. Filed Apr. 19, 1909. Serial No. 490,814.



1. An apparatus for raising and lowering scenes or the like, comprising two oppositely driven parallel shafts, a series of hoisting drums having their axes parallel with and intermediate of the shafts, electrically operated means adapted to bring any one of the drums into frictional driving engagement at one period with one of the shafts, so that the drum is driven in one direction, and at another period with the second shaft so that the drum is driven in the opposite direction and braking means fitted to each drum and adapted to become inoperative simultaneously with the respective driving engagement of the drums with a shaft and to become automatically operative when the drums respectively disengage from a shaft, substantially as described.

2. An apparatus for raising and lowering theater scenes or the like, comprising two oppositely driven parallel shafts, a driving friction pulley mounted on each of the shafts, a third shaft habitually parallel with and intermediate of the driven shafts, a hoisting drum and a friction pulley carried by the third shaft, a pair of electromagnets, means adapted when operated by one of the magnets to shift one of the said pulleys in a direction to effect driving engagement between the drum pulley and one of the driving pulleys and when operated by the other magnet to shift one of the said pulleys in a direction to effect driving engagement between the drum pulley and the other driving pulley and braking means correlated with each hoisting drum and adapted to become inoperative simultaneously with the respective driving engagement of the drum pulleys with a driving pulley and to become automatically operative when the drum pulleys respectively disengage from a driving pulley, substantially as described.

3. An apparatus for raising and lowering theater scenes or the like, comprising two oppositely driven parallel driv

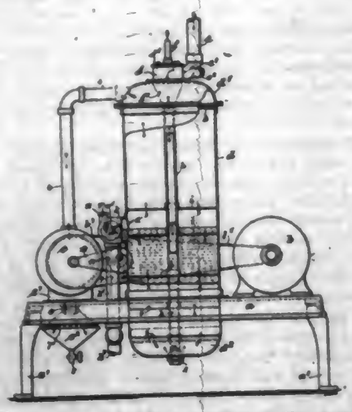
ing shafts, a hoisting drum in proximity therewith, a pair of electromagnets, means adapted when operated by one of the magnets to bring the drum and one of the shafts into frictional driving engagement so that the drum is driven in one direction, and when operated by the other magnet to bring the drum and the other shaft into frictional driving engagement so that the drum is driven in the opposite direction, and a brake fitted to the hoisting drum adapted to become inoperative simultaneously with the driving engagement of the drum with a driving shaft and to become automatically operative when the drum disengages from a driving shaft, substantially as described.

4. An apparatus for raising and lowering theater scenes or the like, comprising two oppositely driven parallel shafts, a driving friction cone mounted on each of the shafts, an axle suitably mounted in proximity with the shafts, a hoisting drum and a friction cone carried by the axle, a pair of electromagnets, means adapted when operated by one of the magnets to effect driving engagement between the drum friction cone and one of the driving friction cones and when operated by the other magnet to effect driving engagement between the drum cone and the other driving cone, and a brake fitted to the hoisting drum adapted to become inoperative simultaneously with driving engagement of the drum cone with a driving friction cone and become automatically operative when the drum cone disengages from a driving friction cone, substantially as described.

5. An apparatus for raising and lowering theater scenes or the like, comprising a frame, two oppositely driven parallel shafts mounted on the frame, a driving friction cone fixed on each of the shafts, an axle mounted in slidable bearings carried by the frame, a hoisting drum and a friction cone mounted on the axle, a pair of electromagnets, means adapted when operated by one of the magnets to move the bearings in one direction so that the drum cone engages one of the driving cones, and when operated by the other magnet to move the bearings in another direction so that the drum cone engages the other driving cone, and a brake fitted to the hoisting drum adapted to become inoperative simultaneously with driving engagement of the drum cone with a driving friction cone and become automatically operative when the drum cone disengages from a driving friction cone, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

979,210. VACUUM CLEANING APPARATUS. LEMUEL WILLIAM SERRELL, Plainfield, N. J., assignor to The Vacuna Company, East Orange, N. J., a Corporation of New Jersey. Filed Nov. 30, 1908. Serial No. 465,313.



1. In a vacuum cleaning apparatus the combination with a liquid holding vessel and a pipe for air extending axially therein, of a mixing chamber at the upper end of said vessel connecting with said pipe, means providing for the entrance of dust-laden air into said mixing chamber tangentially to the same whereby a circular motion is imparted to said dust-laden air and means providing for the entrance of water also into said mixing chamber and for comminuting the same into a spray to moisten the entering dust of the dust laden air.

2. In a vacuum cleaning apparatus the combination with a liquid holding vessel and a pipe for air extending axially therein, of a tubular body mixing chamber at the upper end of said vessel connecting with said pipe, a pipe for the dust-laden air, a neck formed with said mixing chamber and to which said pipe is connected, said neck providing a tangentially disposed inlet from said pipe into said tubular body, and means providing for the entrance of water and for comminuting the same into a spray within said tubular body to moisten the dust of the dust-laden air.

3. In a vacuum cleaning apparatus the combination with a liquid holding vessel and a central pipe therein, of a mixing chamber at the upper end of said vessel connecting with said pipe, a pipe for the dust-laden air, a neck formed with said mixing chamber and to which said pipe is connected, said neck providing a tangentially disposed inlet from said pipe into said mixing chamber, whereby said opening in said neck is high and narrow and the opening in the chamber rectangular and in height of greatest extent, a water inlet device formed by a sleeve *l* contracted at its lower end and provided with an orifice, and a regulatable device within said sleeve comprising a screw-head and conical valve and a spiral groove formed around the conical valve and terminating in the conical part, and the screw head being perforated for the passage of the water, said devices imparting to the entering water a swift rotary motion so that the water as it emerges from the orifice at the end of the sleeve *l* is reduced to a spray.

4. In a vacuum cleaning apparatus, the combination with a liquid holding vessel, means for exhausting the air from said liquid holding vessel, a valve and a valve case therefor outside the liquid holding vessel and located at a predetermined level of the water in said liquid holding vessel and connected therewith, and means for actuating said valve for periodically discharging the overflow of water into the atmosphere while maintaining the vacuum in said liquid holding vessel.

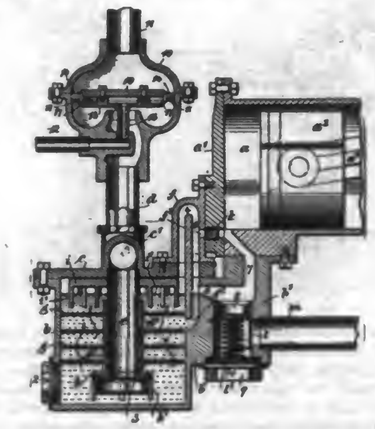
5. In a vacuum cleaning apparatus, the combination with a liquid holding vessel, means associated therewith and providing for the simultaneous entrance into said liquid holding vessel of the dust laden air, and water in the form of a spray, a suitably located casing comprising a mixing chamber in which the water and the dust of the air are commingled and the dust particles thoroughly moistened, a pipe conveying the air and moistened dust down through the liquid holding vessel and discharging the same into the liquid at the bottom of the vessel, a valve and valve case connected with said liquid holding vessel at a predetermined level of the water therein and means for actuating the valve for discharging the accumulation or surplus of dirty water into the atmosphere while maintaining the vacuum in said liquid holding vessel.

[Claims 6 to 10 not printed in the Gazette.]

979,211. DUST-SEPARATING OR VACUUM CLEANING APPARATUS. LEMUEL WILLIAM SERRELL, Plainfield, N. J., assignor to The Vacuna Company, East Orange, N. J., a Corporation of New Jersey. Filed Sept. 16, 1907, Serial No. 392,980. Renewed May 21, 1910. Serial No. 562,768.

1. In a pneumatic cleaning apparatus and in combination, a liquid-holding vessel, a pipe for the dust-laden air, the lower end of which extends toward the bottom of said vessel, a float valve for automatically closing the lower end of the pipe and alternately opening the same to allow the passage of the air while effecting a working vacuum, and a series of perforated submerged plates within the vessel and surrounding said pipe.

2. In a pneumatic cleaning apparatus and in combination, a liquid holding vessel, a pipe for the dust laden air, the lower end of which extends toward the bottom of the said vessel, a valve for closing the lower end of the pipe, a series of perforated submerged plates within the vessel and surrounding the said pipe, and a top plate to said vessel having depending concentric segmental flanges dipping into the liquid.



3. In a pneumatic cleaning apparatus and in combination, a vacuum producing device, a liquid-holding vessel, a pipe for the dust-laden air, an inlet for water in the length of said pipe for dampening the dust in the air before it passes into the liquid-holding vessel, means located in the liquid-holding vessel for periodically and alternately permitting the passage of the air while effecting a working vacuum and automatically admitting the dampened dust, air and water, and other means for separating the air therefrom as it passes through the water into said vessel.

4. In a pneumatic cleaning apparatus and in combination, a vacuum producing device, a liquid-holding vessel, a pipe for the dust-laden air, an inlet for water in the length of said pipe for dampening the dust in the air before it passes into the liquid-holding vessel, means located in the liquid-holding vessel for periodically and alternately permitting the passage of the air while effecting a working vacuum and automatically admitting the dampened air, dust and water, and other means for separating the air therefrom as it passes through the water, and an annular chamber in the top of said liquid-holding vessel receiving air and from which the same is drawn off.

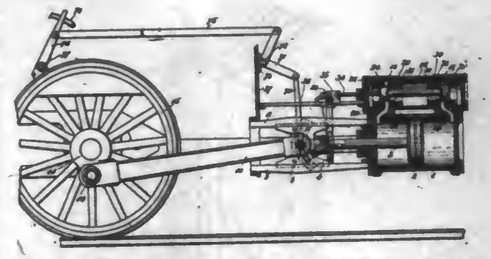
5. In a penumatic cleaning apparatus, the combination with a liquid holding vessel and a vacuum producing device, of a vertical inlet pipe for discharging dust laden air below the water or liquid level in said vessel, means spaced apart within said liquid holding vessel and surrounding the vertical inlet pipe for breaking up the air entering said vessel and a top plate to said vessel having depending concentric segmental flanges and which top plate is of less diameter than the interior diameter of said liquid holding vessel, thus producing around said plate and its flanges an air chamber within said vessel and a port opening therefrom and extending to the suction or vacuum producing device.

[Claim 6 not printed in the Gazette.]

979,212. VALVE-GEAR. HENRY F. SHAW, Boston, Mass. Filed Oct. 7, 1910. Serial No. 585,740.

1. In a variable cut-off valve gear for engines, the combination with a valve, a cross-head and a main rod connected to the cross-head; of a link carried by the cross-head and oscillated by the main rod, a link-block slidably mounted on the link, connections between the link-block and the valve, and a reversing lever operatively connected to the link-block.

2. In a variable cut-off valve gear for engines, a valve, a cross-head and a main rod, in combination with a link carried by the cross-head and oscillated by the main rod, a link-block slidably mounted on the link, a lap lever operatively connected to the cross-head, a port lever pivotally mounted on the lap lever and operatively connected to the valve and to the link-block, and a reversing lever operatively connected to the link-block.



3. In a variable cut-off valve gear for engines, the combination with a valve, a cross-head and a main rod, of a link carried by the cross-head and oscillated by the main rod, a link-block slidably mounted on the link, a bar pivotally connected at one end to the cross-head, a lap lever pivotally connected to the bar and fulcrumed at a fixed point, a lifting bar pivotally connected to the link-block, a port lever pivotally connected to said lifting bar and fulcrumed on said lap lever, connections between the valve and the port lever, and a reversing lever operatively connected with the link-block.

4. In a variable cut-off valve gear for engines, the combination with a valve, a cross-head and a main rod, of a link carried by the cross-head and oscillated by the main rod, a link-block slidably mounted on the link, a bar pivotally connected at one end to the cross-head, a lap lever pivotally connected to the bar and fulcrumed at a fixed point, a lifting bar pivotally connected to the link-block, a port lever pivotally connected to said lifting bar and fulcrumed on said lap lever, connections between the valve and the port lever, and a reversing lever operatively connected to the lifting bar.

5. In a variable cut-off valve gear for engines, the combination with a valve, a cross-head and a main rod, of a link carried by the cross-head and oscillated by the main rod, a link-block slidably mounted on the link, a bar pivotally mounted on one end and moving with the cross-head, a lifting bar connected to the link-block, a rocker shaft journaled in said first mentioned bar, a reversing lever operatively connected to said rocker shaft, operative connections between said rocker shaft and said lifting bar, a lap lever pivotally connected to said first mentioned bar, a port lever fulcrumed on the lap lever and pivotally connected to said lifting bar, and connections between the port lever and the valve.

[Claim 6 not printed in the Gazette.]

979,213. EXPANSIVE FILE. HUGH E. SHEDD, Minneapolis, Minn. Filed Sept. 20, 1910. Serial No. 582,945.

1. A file of the character described, comprising a plaited binder, and a plurality of expansible envelops having folding gussets, the plaits of the binder being secured to the folds of the gussets on one edge of the envelops.

2. A file of the character described, comprising a plaited binder, and a plurality of expansible envelops having inwardly folding gussets, the inwardly folding plaits of the binder being secured to the inward folds of the gussets on one edge of the envelops.

3. A file of the character described, comprising a plaited binder, and a plurality of expansible envelops, having inwardly folding gussets corresponding to the width of the plaits of the binder, the outer surfaces of the inwardly folding gussets on one edge of the envelops being secured to the surfaces of the plaits throughout their entire width.

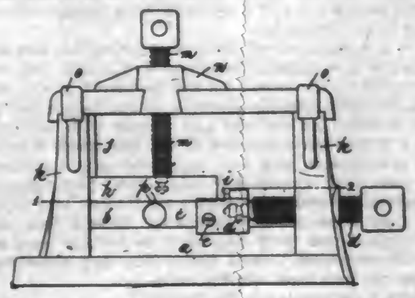
4. A file of the character described, comprising a plaited binder, a plurality of envelops having inwardly folding gussets, the folds of the gussets receiving the plaits of the binder and being secured thereto, and a series of

compartments secured at their edge portions, each to one side portion of a different plait of said binder.



5. A file of the character described, comprising a plaited binder, a plurality of compartments formed with infolding gussets, a reinforcement for each end of the gussets and means for securing the plaits or infolds of the binder to the reinforcements in the gussets and to the surfaces of the gussets throughout the entire meeting surfaces.

979,214. MEANS FOR ENABLING DRIVING AND OTHER ROPES TO BE JOINED TOGETHER. WILLIAM SHUFFLEBOTTOM and THOMAS KENWORTHY, Ashton-under-Lyne, England. Filed Apr. 25, 1910. Serial No. 557,589.

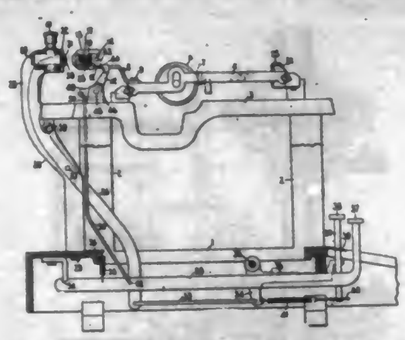


1. In a press for compressing a rope, the combination, with a supporting frame, of a pair of dies mounted in the frame and provided with grooves for engaging with the rope in their adjacent faces, operating devices for causing said dies to compress that portion of the rope inserted between them, and a movable block which overlaps the said dies and holds them against the said frame.

2. In a press for compressing a rope, the combination, with a supporting frame, of a pair of dies mounted in the frame and provided with grooves for engaging with the rope in their adjacent faces, operating devices for causing said dies to compress that portion of the rope inserted between them, and a movable block which overlaps the said dies and holds them against the said frame, said dies being also provided with narrow cross-grooves for binding wires in their adjacent faces and in their surfaces which are adjacent to the said movable block.

979,215. TYPE-WRITING MACHINE. CHARLES E. SMITH, New York, N. Y., assignor to Union Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed Aug. 26, 1910. Serial No. 579,132.

1. In a typewriting machine and tabulating mechanism, the combination of a series of column stops movable individually into and out of operative position and spring-pressed to operative position, means for locking said stops in the inoperative position, and means for releasing said locking means.



2. In a typewriting machine and tabulating mechanism, the combination of a series of column stops movable individually into and out of operative position and spring-pressed to operative position, individual locking means for each of said stops for locking the stops in the inoperative position, and releasing means coöperative with the locking means of but one stop at a time to enable any desired stop to be moved by its spring to operative position.

3. In a typewriting machine and tabulating mechanism, the combination of a series of column stops movable individually into and out of operative position and spring-pressed to operative position, means for locking said stops in the inoperative position, means for releasing said locking means, and means for moving said locking means and releasing means relatively to each other to render the releasing means effective to release different stops of the series.

4. In a typewriting machine and tabulating mechanism, the combination of a frame of the machine, a carriage, a series of column stops carried by one of said parts and movable into and out of operative position and spring-pressed to operative position, individual locking means coöperative with said stops, and a releasing device carried by the other of said frame and carriage parts and coöperative with said individual locking means one at a time to release the stops one at a time and enable them to be projected to operative position.

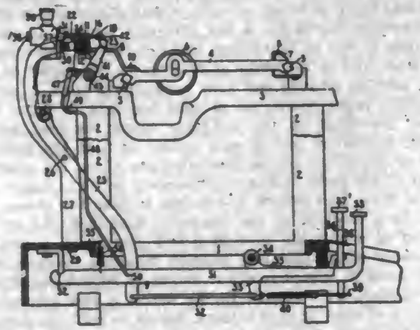
5. In a typewriting machine and tabulating mechanism, the combination of a series of column stops movable into and out of operative position and spring-pressed to operative position, means for holding said stops against the spring pressure thereon, and means for releasing said stops one at a time.

[Claims 6 to 25 not printed in the Gazette.]

979,216. TYPE-WRITING MACHINE. CHARLES E. SMITH, New York, N. Y., assignor to Union Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed Aug. 26, 1910. Serial No. 579,133.

1. In a typewriting machine and tabulating mechanism, the combination of a carriage; a frame of the machine; a series of column stops carried by one of said parts and mounted for adjustment thereon in the direction of the travel of the carriage; and means for so adjusting the stops and for retaining them in their adjusted positions, said means comprising a controlling device carried by the other of said frame and carriage parts and with which the different stops are adapted to be brought into coöperative relation by the travel of the carriage.

2. In a typewriting machine and tabulating mechanism, the combination of a carriage; a frame of the machine; a series of column stops carried by one of said parts and mounted for adjustment thereon in the direction of the travel of the carriage; and means for so adjusting the stops and for retaining them in their adjusted positions, said means comprising means for arresting any of said stops at a given point, and means at said point for locking the arrested stop to the part which carries it.



3. In a typewriting machine and tabulating mechanism, the combination of a carriage; a frame of the machine; a series of column stops carried by one of said parts and mounted for adjustment thereon in the direction of the travel of the carriage; and means for so adjusting the stops and for retaining them in their adjusted positions, said means comprising key controlled means operable at will and coöperative with any of said column stops to arrest it at a point corresponding to the printing point, and key controlled controlling means for locking each stop to the part which carries it and with which each stop registers when it is arrested by said arresting means.

4. In a typewriting machine and tabulating mechanism, the combination of a carriage; a column stop bar carried by the carriage; a series of column stops mounted on said column stop bar for adjustment thereon in the direction of the travel of the carriage; and means for so adjusting said stops and for locking them to the column stop bar in their adjusted positions, said means comprising a device carried by the frame of the machine for arresting each stop at a given point, and a device carried by the frame of the machine and coöperative only at said point with each of the stops to lock the stops to the column stop bar.

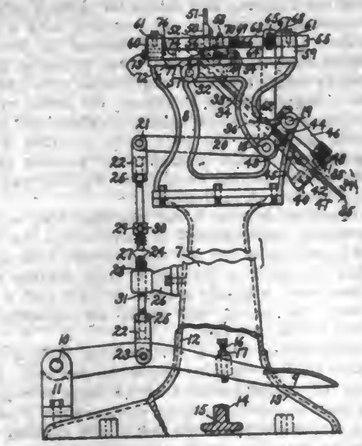
5. In a typewriting machine and tabulating mechanism, the combination of a carriage; a column stop bar carried by the carriage; a series of column stops mounted on said column stop bar for relative adjustment thereon in the direction of the travel of the carriage; and means for so adjusting said stops and for locking them to the column stop bar in their adjusted positions, said means comprising a key controlled tabulator stop carried by the frame of the machine and movable into and out of coöperative relation with said column stops and operative to arrest any column stop at a point corresponding to the printing point, and key controlled controlling means carried by the frame of the machine and in coöperative relation with any column stop engaged by said tabulator stop to lock said engaged column stop to the column stop bar.

[Claims 6 to 27 not printed in the Gazette.]

979,217. TAG-SETTING MACHINE. CHARLES F. SMITH, Bridgeport, Conn., assignor to McCallum Hosiery Company, Northampton, Mass., a Corporation of Massachusetts. Filed Oct. 9, 1909. Serial No. 521,868.

1. The combination, in a tag-setting machine, of tag-closing members, both being movable, a suitable table between said members, gravity-feed guides, stationary positioning means for a tag relative to said members, such means including adjacent parts of said guides and table, and operative mechanism for such tag-closing members.

2. The combination, in a tag-setting machine, of a suitable table, stationary positioning means for a tag relative to said table, means at a higher elevation than and remote from the table to feed tags to such positioning means, tag-closing members in operative relation to such positioning means above and below the same, and mechanism to operate said tag-closing members, both of said members being movable.



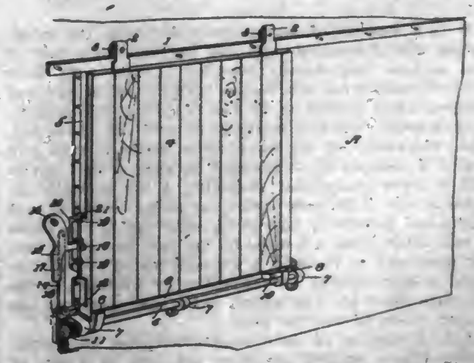
3. The combination, in a tag-setting machine, with suitable tag-positioning means and suitable tag-closing mechanism, of a tag-supply guide, a tag-carrier adapted to receive a tag thereon and to transfer such tag while on the carrier from said guide to retaining means for said tag, mechanism to actuate said carrier, and tag-retaining means capable of engaging the tag on the carrier at the end of the rearward travel of the carrier and of preventing said tag from going with the carrier when the latter moves forward.

4. The combination, in a tag-setting machine, with a feeding station and a setting station at different levels or elevations, said setting station being stationary, of means to deliver a tag from the first to the second of such stations, and means to close the tag at said setting station.

5. The combination, in a tag-setting machine, with a feeding station and a setting station at different levels or elevations, said setting station being stationary, of reciprocating means to cause a tag to be delivered from the first to the second of such stations, oscillating means movable toward the tag from opposite directions to close said tag at said setting station, and means to actuate simultaneously said reciprocating and oscillating means.

[Claims 6 to 14 not printed in the Gazette.]

979,218. DOOR-FASTENER. MAX F. STADTMULLER, Pierre, S. D. Filed June 4, 1910. Serial No. 565,101.



1. The combination with a car provided with a door-way, of a door arranged to be moved across the door-way and suspended so as to swing outwardly therefrom at its

lower edge, a rod journaled on the car and provided with a finger engageable with the door to prevent its lower edge from moving outwardly and the door as a whole from moving away from the door-way in a plane parallel to the plane of the door-way and means for turning said rod.

2. The combination with a car provided with a door-way, of a door arranged to be moved across the door-way and suspended from its upper edge, a rod journaled on the car to partially rotate about its longitudinal axis, and provided with a finger adapted to engage the lower edge of the door to prevent it from swinging outwardly, and means for operating said rods, the door being provided with a keeper lug for engagement by said finger whereby to prevent the door from moving away from the door-way in a plane parallel to the plane thereof.

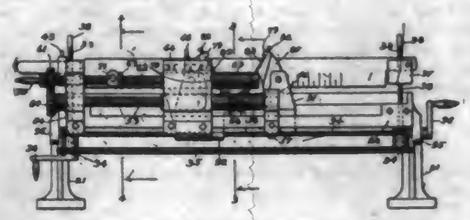
3. The combination with a car provided with a door-way, of a sliding door adapted to move across the door-way, a rod journaled on the car and provided with means for engaging the door to prevent it from moving away from the door-way, a pinion secured to said rod, a rack meshing with said pinion, and means for operating the rack whereby to turn the rod.

4. The combination with a car provided with a door-way, the door adapted to move across the door-way, a rod journaled on the car and provided with a finger arranged to engage the door to prevent it from moving away from the door-way, a pinion secured to the rod, a rack meshing with said pinion, an operating lever fulcrumed on the car, and a link connection between the lever and the rack.

5. The combination with a car provided with a door-way, a door adapted to move across the door-way, a rod journaled on the car and provided with means for engagement with the door to prevent it from moving away from the door-way, a pinion secured to the rod, a rack meshing with said pinion, a support for the rack, a lever fulcrumed on the car and operatively connected with the rack, the lever being provided with a lug, and a bolt carried by the car and arranged to engage the lug whereby to hold the bolt in one position.

[Claim 6 not printed in the Gazette.]

979,219. LEATHER STRIPPING AND TRIMMING MACHINE. PETER STEIN, Chicago, Ill. Filed Jan. 10, 1910. Serial No. 537,291.



1. In a machine of the character described, the combination with a suitably supported bed-plate, of a pair of tool holders transversally mounted thereon with their faces in opposed relation, means to adjust one of said tool holders, a tool secured on the face of each of said holders, a screw-shaft vertically journaled at each end of the bed-plate rearwardly of the tool-holders, means to turn said shafts, a recessed block mounted on each of said shafts and in screw-engagement therewith, a bar pivotally secured at one of its ends within the recess of one of said blocks and detachably held at its other end in the recess of said other block, a bracket on the rear portion of said bar near each of its ends, a spring-actuated roller journaled in said brackets, a force feed roller journaled on the bed-plate below the first named roller, and means on one of said rollers to turn the same.

2. In a machine of the character described, the combination with a suitably supported bed-plate, of a pair of tool holders transversally mounted thereon with their faces in opposed relation, means to adjust one of said tool holders with respect to the other, a tool adjustably secured on the face of each of said holders, a screw shaft vertically journaled at each end of the bed-plate rearwardly of the tool holders, means to turn said shafts, a recessed block mounted on each of said shafts and in screw engagement therewith, a bar pivotally secured at one of its ends to one of said blocks and detachably connected at its other end to the other of said blocks, a bracket on the rear portion of said bar near each of its ends, a spring adjusted roller journaled in said brackets, a force feed roller journaled on the bed-plate below the first named roller, means on one of said rollers to turn the same, a pair of draw feed rollers journaled one above the other in front of the tools, means to adjustably hold the upper one of the draw feed rollers, and means to turn the same.

3. In a machine of the character described, the combination of a suitably supported bed-plate, with a pair of angularly adjustable tool holders mounted thereon with their faces in oposed relation, means to adjust one of said tool holders with respect to the other, a tool secured on the face of each of said holders, means to hold the strip of material on the bed-plate, and means to cause the strip of material to be passed between the tools.

4. In a machine of the character described, the combination with a suitably supported bed-plate, of a pair of tool holders mounted thereon with their faces in opposed relation, means to adjust one of said tool holders angularly and with respect to the other, a tool adjustably secured on the face of each of said holders, a pair of guides adjustably and transversally mounted on the bed-plate, and a pair of force feed rollers journaled longitudinally on the bed-plate at the rear of the tools to force the strip of material against the tools.

5. In a machine of the character described, the combination of a suitably supported bed-plate, with a pair of adjustable tool holders mounted thereon, means to adjust one of said tool holders angularly and with respect to the other, a tool secured on the face of each of said holders and transversally with respect to the bed-plate, a pair of guides adjustably and transversally secured on the bed-plate, a pair of force feed rollers journaled longitudinally on the bed plate at the rear of the tools, and a pair of draw feed rollers journaled longitudinally on the bed-plate at the front end of the tools.

[Claim 6 not printed in the Gazette.]

979,220. COMBINED PAPERING BOARD AND SCAFFOLD. CHARLES HEWELL TABER, Woodlawn, Pa. Filed June 4, 1910. Serial No. 564,972.

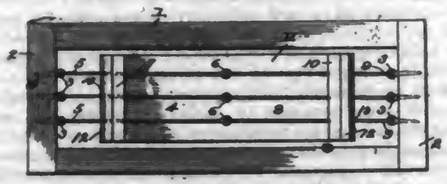


1. In a combined papering board and scaffold, an extensible platform, extensible legs hinged to the platform, extensible braces hinged to the extensible legs, means adapted for securing the extensible braces to the extensible platform, an extensible ladder hinged to the extensible platform, supports hinged to the extensible platform, and a table mounted on the supports.

2. In a combined papering board and scaffold, an extensible platform, extensible legs hinged to the platform, extensible braces hinged to the extensible legs, means adapted for securing the extensible braces to the extensible platform, an extensible ladder hinged to the extensible platform, supports hinged to the extensible platform, a table mounted on the supports, a rack disposed below the table, and means supporting the rack, secured to the table.

3. In a combined papering board and scaffold, an extensible platform, consisting of a main member, two auxiliary members and supporting means connecting the main member with the auxiliary members, which permits the auxiliary members to be slid longitudinally relatively to the main member, extensible legs hinged to the auxiliary members on transverse axes, extensible braces hinged to the legs on transverse axes, means for connecting the extesible braces with the auxiliary members, means for holding the members of the extensible legs and braces in adjusted position, a ladder hinged to one of the auxiliary members, supports hinged to the main member on transverse axes, additional supports hinged to two of the first-mentioned supports respectively, a table, means for supporting the table on two of the first-mentioned and on the additional supports, braces hinged to two of the first-mentioned supports, and means for securing the terminals of the last-mentioned braces to the extensible platform.

979,221. SIGN. JOHN P. TABB, Jingo, Tenn. Filed Aug. 29, 1910. Serial No. 579,441.



1. A sign of the class described comprising a frame, wires each having one end secured to the inner face of an end of the frame and the opposite ends of the wires adapted to be inter-engaged, and means on said wires for engagement with the ends of the sign.

2. A sign of the class described comprising a frame, wires each having one end secured to the inner face of an end of the frame and the opposite ends adapted to be inter-engaged, blocks rounded on one edge, giving substantial support for the curved ends of said sign, and slidably mounted on said wires.

979,222. ADJUSTABLE HAND TYPE-MOLD. ARTHUR S. TAYLOR, Nanuet, N. Y. Filed Apr. 4, 1910. Serial No. 553,173.



1. A mold, provided with connected compartments each having a pouring end, one of said compartments for receiving the original to cast a matrix therefrom in the other compartment, the first mentioned compartment on removal of the original serving for casting a duplicate from the said matrix.

2. A mold, provided with connected registering compartments of different sizes, the larger compartment being open at its outer end, the smaller compartment having a pouring funnel and being adapted to accommodate the original, to permit of casting a matrix of the original in the larger compartment, the said smaller compartment on removal of the original permitting to cast a duplicate therein of the said matrix.

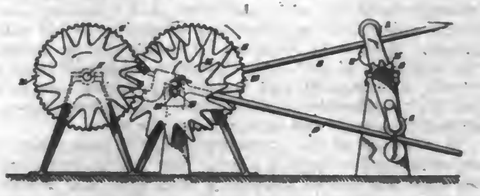
3. A mold, comprising two members having sliding movement one relative to the other, and forming between them a pouring funnel, adjacent mold sides, extending at right angles one to the other, attached to the said members and moving bodily with the same, and mold sides adjustable on the said attached mold sides, the upper edges of the said mold sides being beveled forming a pouring funnel.

4. A mold, comprising two plates having their adjacent sides beveled to form between them a pouring funnel, mold sides attached to the said plates and standing at a right angle one to the other, and adjustable mold sides slidable on the said attached mold sides and standing at right angles thereto, the inner faces of the said mold sides having offset portions to form registering small and large compartments, of which the small compartment opens into the said funnel.

5. A mold, comprising two plates having their adjacent sides beveled to form between them a pouring funnel, mold sides attached to the said plates and standing at a right angle one to the other, adjustable mold sides slidable on the said attached mold sides and standing at right angles thereto, the inner faces of the said mold sides having offset portions to form registering small and large compartments, of which the small compartment opens into the said funnel, and manually-controlled means for fastening the adjustable mold sides to the attached mold sides.

[Claim 6 not printed in the Gazette.]

979,223. DRIVING MECHANISM. ANTON EDWARD HENRY JULIUS THOELLDEN, New Haven, Conn. Filed Dec. 13, 1909. Serial No. 532,720.



1. The combination of a power shaft having ratchet wheels, a crank shaft, levers operatively connected to the crank shaft and having means to engage the teeth of the ratchet wheels and drive the power shaft, and a pawl and ratchet mechanism to prevent the power shaft from turning faster than it is driven through the ratchet wheels by the lever.

2. The combination of a power shaft, an auxiliary shaft operatively connected to the power shaft, ratchet wheels carried by one of said shafts, levers having means to operatively engage the ratchet wheels and drive the shaft carrying the ratchet wheels, a ratchet wheel operatively connected to the first mentioned ratchet wheel, and a pawl and lever mechanism carried by one of said levers, arranged to engage the last-named ratchet wheel and prevent the rotation of the lever-actuating shaft faster than it is driven through the ratchet wheels which it carries.

3. The combination of a shaft, a ratchet wheel attached to the shaft, an oscillatory lever having means to operatively engage the ratchet wheel and drive the shaft in one direction, a ratchet wheel operatively connected with the first-named ratchet wheel, and a pawl and lever mechanism carried by said lever and arranged to engage the last-named ratchet wheel and prevent the rotation thereof faster than it is driven by the lever.

4. The combination of a shaft, a ratchet wheel carried by the shaft, a shaft geared with the first mentioned shaft, a ratchet wheel secured to the second shaft, a lever fulcrumed on the second shaft and having means to engage and drive the first ratchet wheel in one direction, and means carried by the lever and arranged to engage the second ratchet wheel and prevent the rotation faster in the said direction than it is actuated by the lever.

5. The combination of a shaft, a ratchet wheel secured to the shaft, a ratchet wheel geared to the shaft, a lever fulcrumed concentrically to the second-named ratchet

wheel and having means to operatively engage the first-named ratchet wheel and drive the shaft in one direction, a pawl carried by the lever and arranged to engage the second ratchet wheel, a lever carried by the first-named lever arranged to engage the pawl and lock it in engagement with the teeth of the ratchet wheel when the first-named lever is in a certain position, and a fixed member arranged to engage the locking lever and swing it to a position to release the pawl when the first-named lever is in another position.

[Claims 6 to 9 not printed in the Gazette.]

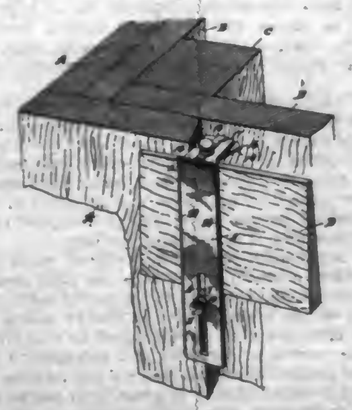
979,224. PHOTOGRAPHIC APPARATUS. CLARK R. THOMPSON, St. Louis, Mo. Filed Apr. 1, 1910. Serial No. 552,916.



1. A device of the character described comprising a separable and collapsible powder-tray and an apparatus for exploding powder disposed in said tray, said powder exploding apparatus composed of a frame, a plunger supported by said frame, means for actuating said plunger, an air bulb, a clamping device, a portion of the latter resiliently connected with said frame, and a member normally compressing said bulb and adapted to retain said plunger against the resistance of said actuating means, the expansion of said bulb releasing said plunger from a cocked position, and said powder-tray having apertures for the introduction of an extremity of said powder-exploding apparatus and said clamping device.

2. A device of the character described comprising a separable and collapsible powder-tray and an apparatus for exploding powder disposed in said tray, said powder-exploding apparatus composed of a frame, a plunger supported by said frame, a spring actuating said plunger, an air bulb, a clamping device, a portion of the latter resiliently connected with said frame, and a member normally compressing said bulb and adapted to retain said plunger against the resistance of said spring, the expansion of said bulb releasing said plunger from a cocked position, and said powder-tray having apertures for the introduction of an extremity of said powder-exploding apparatus and said clamping device.

979,225. SIDING-TOOL. HENRY E. THOMPSON, Wisdom, Mont. Filed June 25, 1910. Serial No. 568,835.



1. A siding tool, comprising an elongated body portion having a slot formed longitudinally therein; a fixed bracket secured on said body portion and extended from the under side thereof; a movable bracket having a sliding block mounted in said slot in said body portion and extended from the said body portion in parallel relation with the said fixed bracket; a plurality of gage plates mounted on said brackets, said gage plates having lateral converged extensions adapted to impinge upon surfaces perpendicular to said body portion; and means for holding the said gage plates on said brackets.

2. A siding tool, comprising an elongated body portion having a slot formed longitudinally therein; a fixed bracket secured to said body portion and extended from the under side thereof, said bracket being provided with an outwardly opening elongated slot; a movable bracket slidingly mounted in said slot in said body portion, and having an outwardly opening elongated slot, said movable bracket being arranged in parallel disposition to said fixed bracket; means for securing said movable bracket in fixed adjusted position in said slot in said body portion; a plurality of gage plates slidably mounted in said brackets, said plates having converged lateral extensions to impinge upon surfaces perpendicular to said body portion; and a plurality of holding devices for fixing said gage plates in adjusted position.

3. A siding tool, comprising an elongated body portion having a slot formed longitudinally therein; a fixed bracket secured to said body portion and extended from the under side thereof, said bracket being provided with an outwardly opening elongated slot; a movable bracket slidingly mounted in said slot in said body portion, and having an outwardly opening elongated slot, said movable bracket being arranged in parallel disposition to said fixed bracket; means for securing said movable bracket in fixed adjusted position in said slot in said body portion; a plurality of gage plates slidably mounted in said brackets, said plates having converged lateral extensions to impinge upon surfaces perpendicular to said body portion and end surfaces to limit the extension of said plates, said plates being varied in the extent of the separation of said end surfaces and said lateral extensions; and a plurality of holding devices for fixing said gage plates in adjusted position.

4. A siding tool, comprising an elongated body portion having a slot formed longitudinally therein; a fixed bracket secured to said body portion and extended from the under side thereof, said bracket being provided with an outwardly opening elongated slot; a movable bracket slidingly mounted in said slot in said body portion, and having an outwardly opening elongated slot, said movable bracket being arranged in parallel disposition to said fixed bracket; means for securing said movable bracket in fixed adjusted position in said slot in said body portion; a plurality of gage plates slidably mounted in said brackets, said plates having converged lateral extensions to impinge upon surfaces perpendicular to said body portion and end surfaces to limit the extension of said plates, the converged extension of one of said plates being removed from the forward edge thereof a distance equal to the sine of the angle of the pitch of clapboarding; and a plurality of holding devices for fixing said gage plates in adjusted position.

5. A siding tool, comprising an elongated body portion having a slot formed longitudinally therein; a fixed bracket secured to said body portion and extended from the underside thereof, said bracket being provided with an outwardly opening elongated slot; a movable bracket slidingly mounted in said slot in said body portion, and having an outwardly opening elongated slot, said movable bracket being arranged in parallel disposition to said fixed bracket; means for securing said movable bracket in fixed adjusted position in said slot in said body portion; a plurality of gage plates slidably mounted in said brackets, said plates having converged lateral extensions to impinge upon surfaces perpendicular to said body portion and end surfaces to limit the extension of said plates, the converged extension in one of said plates being removed from the forward edge thereof a distance equal to the thickness of the narrow edge of the corner board, and the converged extension of the other of said plates being removed from the forward edge thereof a distance equal to one-half the thickness of the corner board minus the thickness of the thin edge of the underlying siding board at the line of the lower edge of the overlapping siding board; and a plurality of holding devices for fixing said gage plates in adjusted position.

[Claim 6 not printed in the Gazette.]

979,226. MEANS FOR LOOSENING THE LIDS OF CANS. OSWALD H. THOMPSON, Philadelphia, Pa. Filed Dec. 31, 1908. Serial No. 470,263.



1. The combination of a can having an internal flange, a cap adapted to enter the top of the can and having an external flange provided with bearings, and an opening device in the form of a lever having trunnions mounted in the bearings of the cap, the ends of the lever being bent to form arms capable of engaging the internal flange of the can.

2. The combination of a can having an internal flange, a cap having an external flange, said cap being adapted to be inserted in the can, part of the flange of the cap being turned up and perforated to form bearings, a lever made of wire bent to form the body portion conforming to the shape of the can, and two trunnions adapted to the bearings in the cap, the ends of the wire being bent to form arms to rest against the internal flange of the body portion.

3. The combination with a receptacle having an interior ledge and a depending seat, of a friction cover having a depending member engaging the said seat, a bail journaled in the depending member, the journal extremities of the bail occupying a position above the ledge, when the cover is in place, one of the journals having a bent end serving as a cam to act on the ledge, when the bail is raised, for the purpose set forth.

4. The combination with a receptacle having an interior ledge, of a cover having a depending part engaging the inner edge of the ledge, a bail whose extremities pass through openings formed in the depending part of the cover and occupying positions above the ledge when the cover is in place, one of the pivoted ends having a bent portion lying in the plane of the body of the bail, and adapted to serve as a cam when the bail is raised for opening purposes, substantially as described.

979,227. FOLDABLE MATTRESS-FRAME. FRANCIS M. TINKHAM, Springfield, Mass. Filed May 12, 1910. Serial No. 560,882.



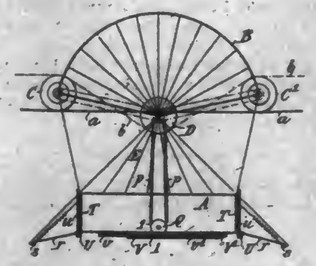
1. In a foldable mattress construction, the combination with the side bars thereof, of end-rails of angle-iron secured thereto and to the horizontal web of which the mattress fabric is attached, a plate of angle-iron nested within and below the horizontal webs of the meeting ends of the end-rails, and to which the end-rails are pivotally connected, whereby when a weight is placed upon the fabric the frame is prevented from folding.

2. In a foldable spring-mattress construction having in combination with the angle-iron end-rails thereof a plate of angle-iron and to which the end-rails are pivotally secured, and side-bars attached to the end-rails, a plate secured to the side-bars for supporting the foldable mattress in a bedstead construction, a fabric being secured to the horizontal web of the end-rails whereby when the end-rails are folded, the mattress will fold around the end-rails as described.

3. A foldable mattress frame construction having in combination with the end-rails thereof, a fabric secured thereto, of a plate for pivotally connecting said rails together, the horizontal web of said plate being adapted to support the adjacent ends of the end-rails when in an open position, and the fabric lying on the outside of the end-rails when in a folded position.

4. In a foldable mattress construction, the combination with the side-bars thereof, of end-rails of angle-iron secured thereto and to the horizontal web of which the mattress fabric is attached, plates of angle-iron nested within and below the horizontal webs of the meeting ends of the end-rails, and to which the end-rails are pivotally connected, whereby when a weight is placed upon the fabric the frame is prevented from folding, and a brace-bar connecting the plates of angle-iron.

979,228. FUNICULAR-RAILWAY SYSTEM AND CAR OR VEHICLE THEREFOR. LEONARDO TORRES Y QUEVEDO, Madrid, Spain. Filed May 16, 1910. Serial No. 561,750.



1. In a funicular railway system, the combination of a series of supporting ropes one of which is moving, of a vehicle free to move forward under the forces of gravity and momentum, and means connecting said vehicle and said moving rope upon decrease of the speed of the vehicle.

2. In a funicular railway system, the combination of a series of supporting ropes one of which is moving, of a vehicle free to move forward under the forces of gravity and momentum, two wheels over which said moving rope passes and a third wheel under which it passes, said wheels being free to turn while the vehicle moves forward with greater speed than said moving rope, and means locking one of said wheels against movement upon equalization of the speed of the vehicle and moving rope, whereby said moving rope pulls upon said vehicle through said wheels.

3. In a funicular railway system, the combination of a series of supporting ropes one of which is moving, of a vehicle free to move forward under the forces of gravity and momentum, two wheels over which said moving rope passes and a third wheel under which it passes, said wheels being free to turn while the vehicle moves forward, and a pawl engaging said third wheel to lock the same against movement upon equalization of the speed of the vehicle and moving rope, whereby said moving rope pulls upon said vehicle through said wheels.

4. In a funicular railway system, the combination of a series of supporting ropes one of which is moving, of a vehicle free to move forward under the forces of gravity and momentum, two wheels over which said moving rope passes and a third wheel under which it passes, said wheels being free to turn while the vehicle moves forward with

greater speed than said moving rope, and means locking one of said wheels against movement upon equalization of the speed of the vehicle and moving rope, whereby said moving rope pulls upon said vehicle through said wheels, and means reversing the direction in which said locking means operate on said wheels.

5. In a funicular railway system, the combination of a series of supporting cables, a vehicle free to move forward under the forces of gravity and momentum, means for advancing said vehicle, and means causing said advancing means to operate to advance said vehicle upon a decrease in the speed of said vehicle.

[Claims 6 to 10 not printed in the Gazette.]

979,229. GRAB HAT-PIN. JOSEPH VALIND, Gladstone, Mich., assignor of one-half to Gaspard Rouleau, Gladstone, Mich. Filed Aug. 5, 1910. Serial No. 575,722.



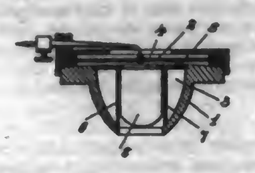
In a device for the purpose set forth, a substantially rectangular frame, gripping hooks pivotally connected with the frame, said hooks each having their engaging ends disposed toward each other, links pivotally connected with each of the hook members, a push bar pivotally connected with the links, said push bar having its upper portion formed with a threaded bore, and a threaded headed extension engaging the bore, substantially as and for the purpose set forth.

979,230. RAIL BRACE OR CLAMP. OSCAR J. VAN BIBBER, Oswego, Kans. Filed Aug. 5, 1910. Serial No. 575,674.



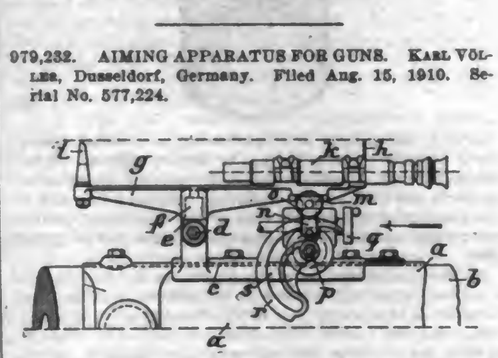
In a device for the purpose set forth, a brace for railway rails comprising a reduced longitudinally extending body portion and an enlarged rectangular end portion integrally formed with the body portion, the outer edge of the said enlarged portion being bent upon itself to provide a flange adapted to overlie the base flange of the rail, the said overlying flange being integrally formed with a vertical projection, the body of the brace adjacent the enlargement thereof being provided with a recess, a clamp for the enlarged portion of the brace, said clamp being centrally provided with a tongue adapted to engage the recess of the body, said clamp being further provided with a horizontal longitudinally extending offset portion adapted to engage the base flange upon this side of the rail, the said overlying portion being further provided with a vertical portion, means for connecting the vertical portions of the clamp and brace to the webs of the rails, and means for connecting the clamp to the enlarged portion of the rails adjacent the reduced or body portion thereof.

979,231. SOUND-BOX FOR TALKING-MACHINES. JOHANN VEIT, Hanau, Germany. Filed Sept. 26, 1910. Serial No. 583,931.



A wooden sounding box for a talking machine consisting of a hollowed out portion provided with an apertured diaphragm, a pair of parallel strips attached both to the diaphragm and to the walls of the cavity, and a tongue attached only to the diaphragm so that it may have a spring-like action, substantially as described.

979,232. AIMING APPARATUS FOR GUNS. KARL VÖLLER, Dusseldorf, Germany. Filed Aug. 15, 1910. Serial No. 577,224.



1. In an aiming apparatus for guns, the combination with a sighting device, a carrier for supporting the latter having a horizontal pivot bearing and a vertical pivot bearing, a bifurcated element depending from said carrier at one end thereof, a rotary disk having cam surfaces at right angles to each other for engaging said element for raising and lowering the carrier on its horizontal bearing and for shifting it laterally on its vertical bearing.

2. In an aiming apparatus for guns, the combination with a sighting device, a carrier for supporting the latter having a horizontal pivot bearing and a vertical pivot bearing, a bifurcated element depending from said carrier at one end thereof, a rotary disk of cam formation engaging said element for raising and lowering the carrier on its horizontal bearing, said disk being curved at right angles to its axis of rotation for moving said carrier on its vertical bearing.

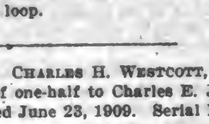
3. In an aiming apparatus for guns, the combination with a sighting device, a carrier for supporting the latter having a horizontal pivot bearing and a vertical pivot bearing, a muzzle sight at one end of the carrier, a sighting device mounted on the other end of the carrier, a bifurcated element depending from one end of the carrier, a rotary cam disk fitted between the members of said bifurcated element, and means for rotating said disk, which rotation is designed to effect the raising or lowering of the carrier and the lateral shifting thereof, said disk being curved at right angles to its axis of rotation.

979,233. CLOSURE FOR BOTTLES. LUTHER WALTON, Norristown, Pa. Filed Nov. 10, 1908. Serial No. 461,886.

The combination of a stopper including a sealing plug, a yoke connected to the plug, an operating member connected to the yoke and pivotally connected to the bottle, an attachment for operating the yoke including a loop to loosely engage the operating member adjacent the pivotal connection and bear against the yoke adjacent its pivotal connection with the operating member, and a handle projecting from the loop and normally pendent below the operating member, said handle being projected at approximately right angles to the loop.

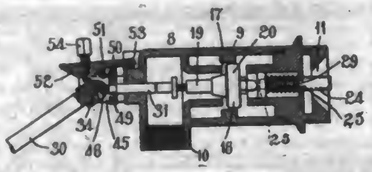


979,234. RULER. CHARLES H. WESTCOTT, Seneca Falls, N. Y., assignor of one-half to Charles E. Jewell, Seneca Falls, N. Y. Filed June 23, 1909. Serial No. 503,903.



A ruler comprising a wood body having a beveled edge, a metal straight edge inserted in the beveled edge of the wood body, and flat metal end plates secured to the ends of the wood body, said end plates having slots therein to receive the ends of the metal straight edge, and the ends of the straight edge terminating flush with the face of the end plates and being firmly secured in the slots in said end plates.

979,235. BALL-COCK. CHARLES B. WHITNEY, Hyde Park, Mass. Filed Oct. 25, 1909. Serial No. 524,317.



1. A ball cock having, in combination, a casing having a valve seat therein, a valve adapted to be normally held against said seat by pressure, a pivoted float lever adapted in falling to move said valve away from said seat and in rising to allow said valve to be carried toward said seat by the pressure, and means to stop said valve near the end of its closing movement, said float lever being adapted to subsequently actuate said means to allow said valve to become seated unrestrained by said float lever.

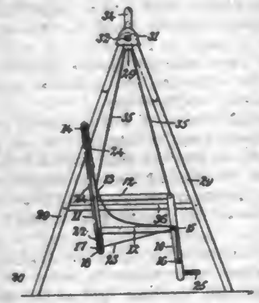
2. A ball cock having, in combination, a casing having a valve seat therein, a valve adapted to be normally held against said seat by pressure, a pivoted float lever adapted in falling to move said valve away from said seat and in rising to allow said valve to be carried toward said seat by the pressure, and a latch adapted to stop said valve near the end of its closing movement, said float lever being adapted to subsequently render said latch inoperative thereby to allow said valve to become seated unrestrained by said float lever.

3. A ball cock having, in combination, a casing having a valve seat therein, a valve adapted to be normally held against said seat by pressure, a pivoted float lever adapted in falling to move said valve away from said seat and in rising to allow said valve to be carried toward said seat by the pressure, means acting on said valve and projecting outwardly from said casing, a latch, and a roll journaled on said latch and adapted to engage said means to stop said valve near the end of its closing movement, said float lever being adapted to subsequently render said latch inoperative thereby to allow said valve to become seated unrestrained by said float lever.

4. A ball cock having, in combination, a casing having a valve seat therein, a valve adapted to be normally held against said seat by pressure, a pivoted float lever adapted in falling to move said valve away from said seat and in rising to allow said valve to be carried toward said seat by the pressure, a pin acting on said valve and projecting outwardly from said casing, a roll journaled on said pin, a latch, and a roll journaled on said latch and adapted to engage the first-mentioned roll to stop said valve near the end of its closing movement, said float lever being adapted to subsequently trip said latch thereby to allow said valve to become seated unrestrained by said float lever.

5. A ball cock having, in combination, a casing having a valve seat therein, a valve adapted to be normally held against said seat by pressure, a pivoted float lever adapted in falling to move said valve away from said seat and in rising to allow said valve to be carried toward said seat by the pressure, a pin acting on said valve, and projecting outwardly from said casing, a roll journaled on said lever and adapted to engage said pin, a roll journaled on said pin, a latch, and a roll journaled on said latch and adapted to engage the second-mentioned roll to stop said valve near the end of its closing movement whereby the third-mentioned roll passes out of engagement with said pin, and said valve is allowed to become seated unrestrained by said float lever.

979,236. SWINGING CHAIR. JOHN THOMAS WILLIAMS, Reno, Nev. Filed Dec. 2, 1908. Serial No. 465,644.



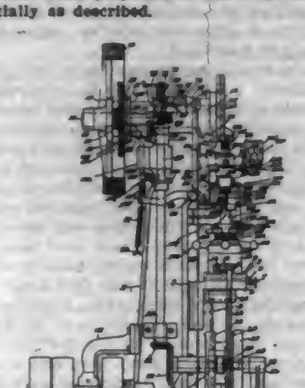
1. In a swinging chair, a support comprising head keys, downwardly-diverging legs at opposite sides engaging over the heads of said keys, bell-caps fitting over the upper ends of the legs and the keys, each having an upwardly-projecting stud, a cross-bar passing through the bell-caps and keys, connecting the opposite sides of the support together, and a tubular brace having downwardly turned ends engaging over the studs of the bell-caps.

2. A swinging chair having front bars and back bars connected together to move in unison to different inclinations, a flexible member extending between the upper portions of said bars, constituting a seat and back for the chair and tending under the weight of an occupant to swing the upper portions of the back bars forwardly, and means operatively connected to said bars which will swing the upper portions of the back bars rearwardly when the weight upon the seat is relaxed.

979,237. HEEL-NAILING MACHINE. ERASTUS WINKLEY, Lynn, Mass. Filed Aug. 12, 1899. Serial No. 726,999.

1. The combination with a shoe supporting jack and heel attaching devices comprising a templet, of a carrier pivotally secured thereto, a heel holder and a top piece holder mounted on said carrier and arranged to be alternately positioned beneath and projected in front of the templet, and means for moving said holders into a lo

ing position when projected to the front of the templet, substantially as described.



2. The combination with heel attaching devices and a shoe supporting jack, relatively movable into and out of alinement with each other, of means acting automatically to relatively actuate said devices and jack to bring the jack in alinement with the heel attaching devices, means for moving the jack toward the heel-attaching devices to contact the heel and shoe, and connected mechanism to thereafter actuate the heel attaching devices to compress and attach the heel, substantially as described.

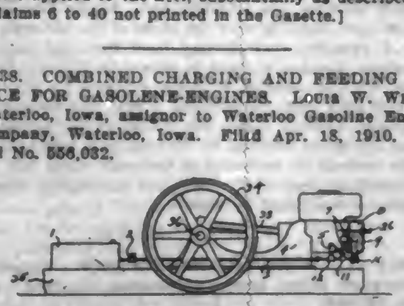
3. The combination with a shoe supporting jack, and a pressure applying templet, means for actuating said templet to apply pressure to the heel of a shoe supported on the jack, and automatic mechanism actuated by the templet carrier for adjusting the pressure applying mechanism, substantially as described.

4. The combination with a shoe supporting jack, of a pressure applying templet arranged to be positioned by the contact of the shoe on said jack with the heel supported beneath the templet, and automatic mechanism actuated by the movement of the templet for regulating the pressure applied to the heel by said templet, substantially as described.

5. The combination with a pressure applying templet, of a shoe supporting jack, means to move the jack toward the templet to bring the heel seat of the shoe supported thereon in contact with the heel to be attached, a plunger for actuating the templet to apply pressure to the heel, an adjusting wedge arranged to slide over the templet carrier and interposed between the plunger and said carrier, and means controlled by the movement of the templet carrier for automatically moving said wedge to adjust the pressure applied to the heel, substantially as described.

[Claims 6 to 40 not printed in the Gazette.]

979,238. COMBINED CHARGING AND FEEDING DEVICE FOR GASOLENE-ENGINES. LOUIS W. WITBY, Waterloo, Iowa, assignor to Waterloo Gasoline Engine Company, Waterloo, Iowa. Filed Apr. 18, 1910. Serial No. 556,032.

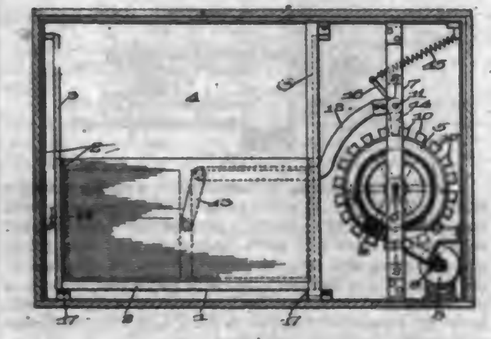


1. A combined charging and feeding device for a gasolene engine, composed in combination with a cylinder and a movable piston therein, said cylinder having an inlet-port and retractile means for closing the latter, of a mixing-chamber discharging into said port, a receptacle open to the atmosphere, a tube communicating between said receptacle and said mixing-chamber, means for varying the distance of said receptacle from the lower open end of said tube, a vessel containing a fluid hydrocarbon under a desired amount of head, means of communication between said vessel and said mixing-chamber, and between said vessel and said first-mentioned receptacle, and means for regulating the level of the hydrocarbon in said receptacle.

2. A combined charging and feeding device for a gasolene engine, composed in combination with a cylinder and a movable piston therein, said cylinder having an inlet-port and retractile means for closing the latter, of a mixing-chamber discharging into said port, a receptacle open to the atmosphere, a tube communicating between said receptacle and said mixing-chamber, means for varying the distance of said receptacle from the lower open end of said tube, a vessel containing a fluid hydrocarbon under a desired amount of head, means of communication between said vessel and said mixing-chamber provided with means for the regulation of the passage of the hydrocarbon therethrough, and means of communication between said vessel and said receptacle.

3. A combined charging and feeding device for a gasolene engine, composed in combination with a cylinder and a movable piston therein, said cylinder having an inlet-port and retractile means for closing the latter, of a mixing-chamber discharging into said port, a receptacle open to the atmosphere, a tube communicating between said receptacle and said mixing-chamber, means for varying the distance of said receptacle from the open end of said tube, said tube having its open end adapted to dip below the level of the contents of said receptacle, a vessel containing a fluid hydrocarbon under a desired amount of head, means of communication between said vessel and said mixing-chamber, and means of communication between said vessel and said receptacle.

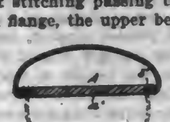
979,239. EXHIBITOR. ROBERT ALBERTSON, FRANK M. WOODWARD, and AMOS W. WOODWARD, Rockford, Ill., assignors of three-fourths to said Albertson and one-fourth to said Frank M. Woodward. Filed Feb. 12, 1908. Serial No. 415,511.



In an exhibitor, in combination, a rotatable drum carrying peripheral studs; a shaft extending parallel with said drum; a plurality of levers mounted on said shaft; a finger on each of said levers arranged to be engaged by one of said studs; a plurality of card holders each connected with one of said levers; a pin fixed to each of said levers; and springs attached to said pins for cushioning the fall of said card holders when said studs are rotated out of engagement with said fingers.

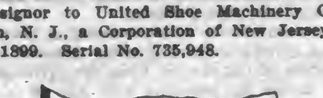
979,240. SOFT-SOLE SHOE. THOMAS J. ALDRIDGE, Rochester, N. Y., assignor of one-half to Matthew A. Reilly, Rochester, N. Y. Filed Nov. 4, 1909. Serial No. 526,239.

An article of manufacture comprising a shoe sole having a right angular channel formed in its under side about the edge of the tread thereof, said channel being of sufficient depth to contain twice the thickness of an upper, an upper having its edge seated against the flange formed by said channel, straight stitching passing through the edge of the upper and said flange, the upper being turned after



said stitching is inserted and completely covering the under side of the stitching, the edge of said upper being contained entirely within said channel, the sole and flanges being flexible but remaining normally horizontal.

979,241. HEEL. FREDERICK L. ALLEY, San Francisco, Cal., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Nov. 6, 1899. Serial No. 735,948.



1. A heel for boots or shoes, having, in combination, three layers below the sole of the boot or shoe, of which the central one is composed of compressible material, and compressible means passing through the three layers along their marginal portions and securing them together independent of the sole of the shoe, with the central layer in uncompressed condition throughout its entire area, substantially as described.

2. A heel for boots or shoes, having, in combination, an elastic cushion layer, a relatively incompressible attaching layer on one side of the cushion layer adapted to be nailed or secured to a boot or shoe, and a relatively incompressible facing layer on the opposite side of the cushion layer, adapted not only to protect the cushion layer, but also to serve as a base of attachment of a top-lift, the said layers being connected by flexible stitches which are engaged with the attaching and facing layers and pass through the cushion layer, the flexibility of the stitches enabling them to slacken and permit the compression of the cushion layer, and the stitches being adapted to be returned to normal condition by the elasticity of the cushion layer after being compressed in use, substantially as described.

3. A heel for boots or shoes, having, in combination, an elastic cushion layer, relatively incompressible layers on either side thereof, and connecting means passing through the cushion layers and fixed in both incompressible layers, the said connecting means being of compressible but inextensible nature, substantially as described.

4. A heel for boots or shoes, having, in combination, an elastic cushion layer, relatively incompressible layers on either side thereof, connecting means passing through the cushion layers and fixed in both incompressible layers, the said connecting means being of compressible but inextensible nature, means engaging only the upper incompressible layer for securing the heel to a shoe, and means engaging only the lower incompressible layer for securing thereto the top lift, substantially as described.

5. A heel for boots or shoes, having, in combination, an elastic cushion layer, relatively incompressible layers on either side thereof, and connecting means passing through the cushion layer and fixed to both incompressible layers, the said means securing the three layers together substantially without compression on the elastic layer and consisting of compressible but inextensible material, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

979,242. SPARK-PLUG. JAMES C. ANDERSON, Washington, D. C. Filed Sept. 23, 1909. Serial No. 519,283.



1. In a spark plug, in combination with a shell or ca ing and a longitudinally disposed electrode within sa shell, a body of insulation between the electrode and th shell terminating in coincidence with the inner end the shell or casing; a secondary electrode connected wit the shell, said secondary electrode at the locality of axi alinement with the longitudinally disposed electrod formed with a funnel-shaped extension, the inner co stricted extremity of which is within sparking distanc from the terminus of the longitudinally disposed electrod

2. In a spark plug such as described, in the combinatio with a shell or casing and a longitudinally disposed ele trode therein and terminating in reduced area, and body of insulating material between such electrode an the shell and terminating with the inner end of th latter; a secondary electrode connected with the shell casing and terminating at the axial alinement with th longitudinally disposed electrode, in a funnel-shaped pr jection in sparking distance from the longitudinally di posed electrode, the constricted terminus of said proje tion having a greater area than the area of the terminu of the longitudinally disposed electrode, whereby th sparks produced will travel in a path oblique to the ax of the electrode.

3. In a spark plug such as described and embodying its organization a shell or casing; a longitudinally di posed electrode; a body of insulating material betwee the shell and the electrode and terminating with th inner end of the shell or casing; a secondary electrod connected with the shell and formed in axial alinemen with the longitudinally disposed electrode, with a funne shaped extension having its inner extremity in sparki distance from the longitudinally disposed electrode; skin or lining within the funnel-shaped extension in th secondary electrode, said skin or lining of less condu tivity than the body of the secondary electrode, wherel the heat produced by the spark is intensified, substa tially as and for the purpose set forth.

4. In a spark plug such as described, in combinati with a shell or casing and a longitudinally dispos electrode therein insulated from the casing or shell, secondary electrode connected with the shell or casi and terminating in axial alinement with the longitu nally disposed electrode in a funnel-shaped extension p vided with a lining of highly resisting material secur in position by the return of the same upon the outer su face of the constricted terminus of said funnel-shaped e tension, substantially as hereinbefore set forth.

5. In a spark plug such as described, and embodying shell or casing and a longitudinally disposed electro within the same, and a body of glass welded with the el trode and shell or casing and terminating in substanti coincidence with the outer extremity of the shell or c ing; a body of mica surrounding and embracing the out extremity of the electrode and confined in fixed and i movable relation with the outer extremity of the body glass and in contact only with said glass, whereby t electrode is confined within a continuous and immova insulation from one extremity to the other.

979,243. APPARATUS FOR FACILITATING WAL ING. WILLIAM W. ANDERSON, Holly Springs, Mi Filed Mar. 29, 1910. Serial No. 552,148.

1. A leg attachment to facilitate walking, comprisi parts adapted to be secured to the thigh and foot of t

wearer, and an intermediate connection including a spring lever, substantially as described.



2. The improved apparatus for the purpose specified, comprising devices adapted to be secured to the thigh and foot of the wearer, and an intermediate connection including a spring formed of rods arranged on each side of the leg, substantially as described.

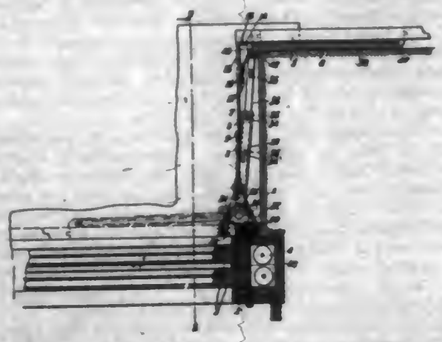
3. The improved apparatus for the purpose specified, comprising a thigh-band and an attachment for the shoe of the wearer, and an intermediate connection between the two which includes spring rods arranged on each side of the leg and adapted to be flexed when pressure is applied in the manner described.

4. The improved apparatus for the purpose specified, comprising a leg-band and an attachment for the shoe of the wearer, and intermediate connections comprising rods connected with the shoe and an upper spring whose lower portion is curved between its point of attachment to the leg-band and its jointed connection with the rods, substantially as described.

5. The improved apparatus for the purpose specified, comprising a thigh-band, and an attachment for the shoe of the wearer, and intermediate connections consisting of two springs which are jointed together at a point adjacent to the knee of the wearer, substantially as described.

[Claims 6 to 9 not printed in the Gazette.]

979,244. SHUTTER OR FIRE-SHIELD WORKER. DANIEL ANTHONY, Greenwich, Conn. Filed July 28, 1909. Serial No. 509,994.



1. A worker for shutters, fire shields and the like, comprising an arm attached to the window casing and adapted to swing substantially in a horizontal plane, and a guide cleat attached to the outer surface of the shutter and connected to one end of said arm, said arm extending substantially at right angles to said shutter when the latter is in open position, and substantially parallel thereto when the shutter is in closed position, and means for swinging said arm to swing the shutter.

2. A worker for shutters and the like, comprising an arm pivotally supported at one end, a guide attached to the outer surface of the shutter and extending substantially horizontally and attached to the outer end of said arm, and means for swinging said arm to cause the outer end thereof to travel along said guide toward the hinged edge of the shutter to force the latter to open position.

3. In combination, a window casing, a hinged shutter, an arm, a pivotal support therefor disposed beyond the outer surface of the shutter when the latter is in closed position, means for swinging said arm in a horizontal plane about said pivotal support, and sliding connections between the outer surface of said shutter and the outer end of said arm, the length of said arm being substantially equal to the distance between the plane of the shutter when the latter is in open position and the plane of the shutter when the latter is in closed position.

4. In combination, a window casing, a hinged shutter, an arm, a pivotal support therefor disposed beyond the outer surface of the shutter when the latter is in closed position, means for swinging said arm in a horizontal plane about said pivotal support, and sliding connections between the outer surface of said shutter and the outer end of said arm, said arm being disposed substantially parallel to said shutter when the latter is in closed position and substantially at right angles thereto when said shutter is in open position.

5. In combination, a window casing, a hinged shutter, an arm, a pivotal support therefor disposed beyond the outer surface of the shutter when the latter is in closed position, means for swinging said arm in a horizontal plane about said pivotal support, and sliding connections between the outer surface of said shutter and the outer end of said arm, said sliding connections being movable toward the hinged edge of the shutter during the opening movement of the latter.

[Claims 6 to 8 not printed in the Gazette.]

979,245. MECHANICAL HORN. OSCAR C. ARLITZ, New York, N. Y. Filed June 4, 1910. Serial No. 564,907.



1. A mechanical horn embodying therein a plurality of parallel diaphragms, a rotary impact member arranged between, and adapted to vibrate both of, said diaphragms, a casing having a chamber upon the outside of each said diaphragm and a sound outlet common to both of said chambers, and an amplifier communicating with the said sound outlet.

2. A mechanical horn embodying therein a drum the ends of which are inclosed by a plurality of parallel diaphragms, whereby an inert column of air is formed between said diaphragms, a rotary impact member, arranged between, and adapted to vibrate both of, said diaphragms, a casing having a chamber upon the outside of each said diaphragm and a sound outlet common to both of said chambers, and an amplifier communicating with the said sound outlet.

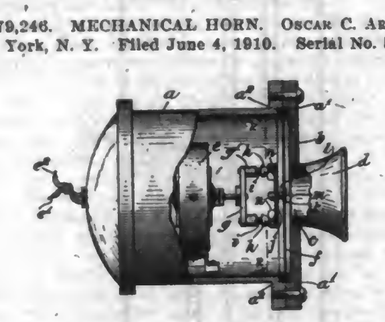
3. A mechanical horn embodying therein a plurality of parallel diaphragms, a rotary impact member arranged between, and adapted to vibrate both of, said diaphragms, a casing having a sound outlet, a large chamber adjacent to said outlet and branch chambers extending from said last mentioned chamber forwardly of each of said diaphragms whereby a single column of air is formed which is simultaneously displaced by both of said diaphragms, and said sound waves will be collected and simultaneously discharged through said sound outlet, and an amplifier communicating with the said sound outlet.

4. A mechanical horn embodying therein a plurality of parallel diaphragms, a rotary impact member arranged between, and adapted to vibrate both of, said diaphragms, said impact member comprising a rotary stem and a hammer head capable of movement relative to said stem and normally projecting beyond the planes of said diaphragms, whereby said head is adapted to recede with either of said diaphragms upon an engagement of these parts upon the reflex action of the latter, a casing having a chamber upon the outside of each of said diaphragms and a sound outlet common to both of said chambers, and an amplifier communicating with the said sound outlet.

5. A mechanical horn embodying therein a plurality of parallel diaphragms, a rotary impact member arranged between, and adapted to vibrate both of, said diaphragms, said impact member comprising a plurality of rotary stems each said stem carrying a hammer head capable of movement relative to said stem, and normally projecting beyond the planes of said diaphragms, whereby said head is adapted to recede with either of said diaphragms upon an engagement of these parts upon the reflex action of the latter, a casing having a chamber upon the outside of each of said diaphragms and a sound outlet common to both of said chambers, and an amplifier communicating with the said sound outlet.

[Claims 6 to 14 not printed in the Gazette.]

979,246. MECHANICAL HORN. OSCAR C. ARLITZ, New York, N. Y. Filed June 4, 1910. Serial No. 564,908.



1. A mechanical horn embodying therein a flexible diaphragm, a hammer member adapted to engage and flex said diaphragm, and means imparting a rotary movement to said hammer on a plane parallel to said diaphragm, said hammer being capable of movement under a force exerted axially on said diaphragm, whereby the rotation of said hammer will flex said diaphragm, but the reflex action of said diaphragm will cause said hammer to recede with the diaphragm.

2. A mechanical horn embodying therein a flexible diaphragm carrying an impact member and a rotary member carrying a hammer head adapted to engage said impact member and flex said diaphragm, said head being capable of movement axially of said diaphragm whereby interference between the diaphragm and the hammer is avoided.

3. A mechanical horn embodying therein a flexible diaphragm carying a plurality of impact members concentric with the axis of and carried by said diaphragm and a rotary member carrying a hammer head adapted to successively engage said impact members and flex said diaphragm, said heads being capable of movement axially of said diaphragm whereby interference between the diaphragm and the hammer is avoided.

4. A mechanical horn embodying therein a flexible diaphragm, a plate carried by said diaphragm centrally thereof, spaced away thetrefrom, and movable therewith, said plate having a plurality of impact members arranged in a circle concentric with the axis of said diaphragm, and a rotary member adapted to engage said impact members successively.

5. A mechanical horn embodying therein a flexible diaphragm, a plate carried by said diaphragm centrally thereof, spaced away therefrom, and movable therewith, said plate having a plurality of impact members arranged in a circle concentric with the axis of said diaphragm, and a rotary member carrying a hammer head adapted to engage said impact members successively and flex said diaphragm through said plate, said head being capable of movement axially of said plate to avoid interference between the diaphragm and the hammer mechanism.

[Claims 6 to 11 not printed in the Gazette.]

979,247. PROCESS OF OXIDIZING BORNEOL TO CAMPHOR. GÉZA AUSTERWEIL, Neuilly, near Paris, France. Filed Dec. 8, 1908. Serial No. 466,562.

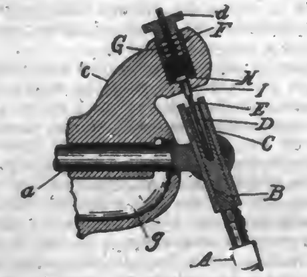
The process of converting borneols and isoborneols into camphor which consists in oxidising them by treatment with a reagent comprising vanadic acid in presence of nitric acid and blowing oxygen through the mass.

979,248. DEVICE FOR DETERMINING DIAMETERS. JOSEPH GERRISH AYERS, Jr., Steelton, Pa. Filed Dec. 3, 1909. Serial No. 531,238.



A device for determining dismeters, comprising a ba adapted to lie within a chord of a cylinder and havin straight edges at its ends for engaging with elements o the cylindrical surface, and a second bar carried by th first-mentioned bar at right angles thereto and intermedi ate its ends, said second-mentioned bar being longitudi nally movable and having one end presenting a straigh edge for engagement with the cylindrical surface along third element thereof, and being calibrated to indicate th diameter of the cylinder when the three edges are in en gagement with the cylindrical surface, and means for lock ing said bars against relative movement.

979,249. MACHINE HAVING A VIBRATING TOOL EM PLOYED IN THE MANUFACTURE OF BOOTS AN SHOES. ARTHUR BATES, Leicester, England, assigno to United Shoe Machinery Company, Paterson, N. J., Corporation of New Jersey. Filed Apr. 4, 1908. Se rial No. 309,764.



1. A machine of the class described comprising, in com bination, a rock-shaft, a tool arranged for yielding mov ment, means for supporting said tool from said shaft fo to and fro movement thereby and cushioning means a ranged to apply a yielding pressure to said supportin means at a point which is substantially stationary excep for its yielding movement.

2. A machine of the class described comprising, in com bination, a rock-shaft, a tool operated thereby, a devic movable relative to said shaft on which the tool is d tachably mounted, the axis of said shaft passing throug the body of said device, and means arranged to apply yielding pressure to said device at a point substantial in said axis.

3. A machine of the class described comprising, in com bination, a yielding tool, a plunger supporting the too means operating through the plunger to vibrate the to

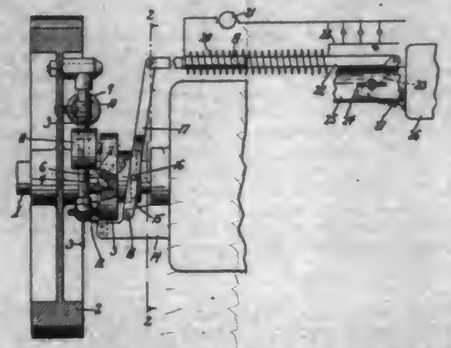
said plunger having an abutment positioned at substantially the center of vibration of the tool, cushioning means for acting against said abutment and a stationary abutment for said cushioning means.

4. A machine of the class described comprising, in combination, a yielding tool, a plunger for the tool, means for vibrating said tool and plunger, a strut arranged to abut against said plunger at substantially its center of vibration, a washer arranged to engage said strut, cushioning means acting on said washer and an abutment cooperating with said washer to limit its movement.

5. In a machine of the class described, the combination of a yielding tool, a plunger for the tool having a longitudinal recess, a sleeve encircling said plunger, the latter being axially movable in the sleeve, a strut projecting into the plunger recess and arranged for abutting against the floor thereof, means for cushioning said strut and a stop for limiting the movement of the plunger in one direction.

[Claims 6 to 14 not printed in the Gazette.]

979,250. MOTOR-CONTROLLER. GUSTAVUS A. BAUER, Chicago, Ill. Filed Nov. 19, 1908. Serial No. 463,357.



1. A controlling device for internal combustion engines comprising a device for automatically controlling the point with relation to the piston of the engine at which the spark occurs responsive to variations in speed of the engine, and a device for automatically controlling the amount of material fed to the cylinder responsive to variation in the load of the engine.

2. A device for controlling internal combustion engines comprising a part connected with the engine shaft so as to be rotated thereby, an electrical contact associated with said part and connected with the circuit containing the spark coil, a stationary contact connected with the circuit containing the spark coil and adapted to be connected to and disconnected from said moving contact as said part rotates, two means for controlling the position of said part, one responsive to the speed of the engine, and the other responsive to the load of the engine.

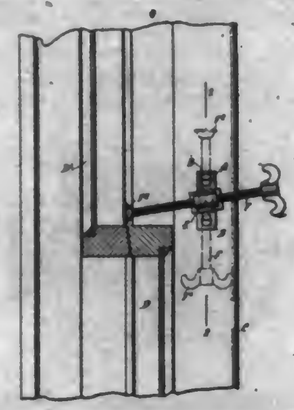
3. A controlling device for internal combustion engines comprising means for varying the point in the stroke of the piston at which the spark in the cylinder of the engine is formed, and two devices for controlling said means, one responsive to the speed of the engine and the other responsive to the load of the engine.

4. A controlling device for internal combustion engines comprising means for varying the point in the stroke of the piston at which the spark in the cylinder of the engine is formed, two devices for controlling said means, one responsive to the speed of the engine and the other responsive to the load of the engine, and a connection between said latter device and the valve which controls material supplied to the engine.

5. A controlling device for internal combustion engines comprising a disk mounted upon a shaft driven by the engine and free to move longitudinally thereon, an electrical contact associated with said disk and connected in circuit with the spark coil of the engine, a coöperating contact also connected in circuit with the spark coil of the engine and adapted to make contact with the contact on the disk at each rotation of the disk, an inclined engaging face associated with said disk, an inclined engaging face connected with the shaft of the engine so as to rotate therewith and engage the inclined face on the disk, a controlling part connected with said disk and adapted to move it laterally so as to move said inclined engaging faces relatively and cause the disk to be rocked, said controlling part responsive to variations in the load of the engine.

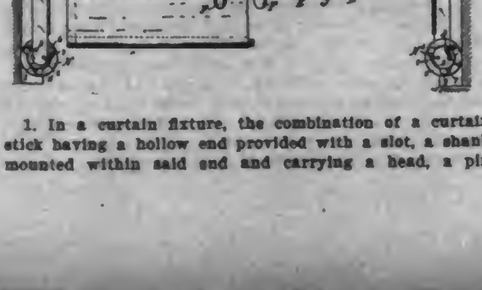
[Claims 6 to 10 not printed in the Gazette.]

979,251. WINDOW-FASTENER. CHARLES M. BERRY, New York, N. Y., assignor of one-half to Bernard Rosenberg, New York, N. Y. Filed Feb. 9, 1910. Serial No. 542,851.



A window fastener, comprising a bearing plate, a nut having a pivot engaging the said bearing plate, and a screw rod screwing in the said nut and provided at one end with a handle and at the other end with a movable head, the threads of the screw rod extending the entire length of the rod to permit of engaging the said head with either the upper or the lower sash, the said bearing plate being arranged for attachment to the window casing at a point above the top of the lower sash at the time the latter is in a closed position, to permit of extending the screw rod in a downwardly-inclined direction across the top of the lower sash to engage the full face of the screw rod head with the upper sash, the screw rod when completely retracted clearing the lower sash to allow opening thereof and to engage the head of the screw rod with the lower sash to lock the latter in a raised position.

979,252. CURTAIN-FIXTURE. DOUGLAS E. BONNER, Chicago, Ill. Filed Nov. 30, 1907. Serial No. 404,503.



1. In a curtain fixture, the combination of a curtain stick having a hollow end provided with a slot, a shank mounted within said end and carrying a head, a pin

mounted upon said shank and extending through said slot, a sleeve mounted upon said hollow end and adapted to limit the outward movement of said pin, and a spring adapted to press said shank outwardly, substantially as and for the purpose described.

2. In a curtain fixture, the combination of a curtain stick having a hollow end provided with a slot, a shank mounted within said end and carrying a head, a pin mounted upon said shank and extending through said slot, a sleeve adjustably mounted upon said hollow end, to limit variably the outward movement of said pin and an adjustable spring adapted to press said shank outwardly, substantially as and for the purpose described.

3. In a curtain fixture, the combination of a curtain stick having a hollow end provided with a slot, a shank mounted within said end and carrying a head, a pin mounted upon said shank and extending through said slot, a sleeve mounted upon said hollow end and provided with a notch adapted to receive said pin, and an adjustable spring adapted to press said shank outwardly, substantially as and for the purpose described.

4. In a curtain fixture, the combination of a curtain stick, a head slidably mounted within one end of said stick and having an outwardly thrusting spring, a guide wheel mounted at the top of the head and so arranged as normally to be out of contact with the window frame, a brake wheel mounted at the lower end of the head and adapted to turn continuously in one direction and means for preventing the rotation of said wheel in the other direction, substantially as and for the purpose described.

5. In combination with a curtain stick, a member pivotally mounted upon said stick, means for limiting the movement of said member about its pivot, a brake wheel mounted on said member and adapted to turn in one direction, means for preventing its rotation in the other direction, said wheel and said member being so mounted that their respective axes of rotation do not lie in the same line, substantially as and for the purpose described.

[Claims 6 to 8 not printed in the Gazette.]

979,253. OPERATING MECHANISM FOR ORE-JIGS. WILLIAM ALMA BRADLEY, Spokane, Wash. Filed Dec. 28, 1909. Serial No. 535,277.



A device of the character described, comprising a pair of rocking shafts disposed parallel with each other, tappets mounted rigidly upon one of said shafts and extending therefrom in a particular direction, tappets mounted rigidly upon the other shaft extending in a direction opposite the particular direction first mentioned, so that the free ends of said tappets are brought into approximate alinement, means for applying power to one of said rocking shafts, cranks mounted upon the respective rocking shafts and extending therefrom at an angle to the general plane occupied by said tappets, and a pitman connected with each of said cranks for transmitting power across from one crank to another.

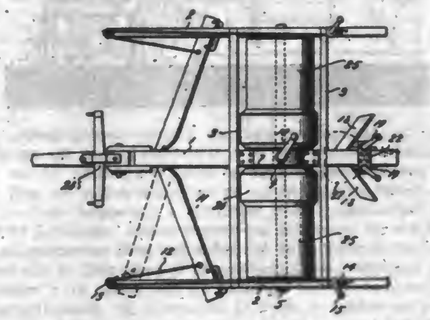
979,254. HOSE-SUPPORTER. RICHARD H. BROWN, Sheepshead Bay, and ROBERT J. BROWN, Brooklyn, N. Y. Filed Dec. 18, 1909. Serial No. 533,758.

In a device of the kind described, a flexible member having an opening, a stiff member coöperating with said flexible member having a head in line with the body and adapted to pass through the opening in said flexible member, and shoulders projecting from said stiff member just above the head limiting the distance the said head can enter the opening in the flexible member and also acting to bind



the fabric between said shoulders and the flexible member substantially as described.

979,255. SNOW PLOW AND ROLLER. WILLIAM C. BROWN, Lake Pleasant, N. Y. Filed May 18, 1910. Serial No. 562,087.



1. In a machine of the class described, a frame composed of a pair of spaced sides, cross bars connecting the same, a runner arranged between said spaced sides, an axle connecting the spaced sides, rollers mounted on said axle and arranged on opposite sides of the intermediate runner, said rollers being provided with annular enlargements at their peripheral portion for the purpose described.

2. In a machine of the class described, a frame composed of a pair of spaced sides, cross bars connecting the same, a runner arranged between said spaced sides, an axle connecting the spaced sides, rollers mounted on said axle and arranged on opposite sides of the intermediate runner, the intermediate runner being provided with slots receiving the cross bars connecting the spaced sides, and means operatively connected with the intermediate runner and the axle aforesaid to raise the intermediate runner with respect to the spaced sides of the frame.

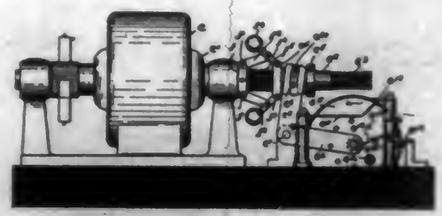
3. In a machine of the class described, a frame composed of a pair of spaced sides, cross bars connecting the same, a runner arranged between said spaced sides, an axle connecting the spaced sides, rollers mounted on said axle and arranged on opposite sides of the intermediate runner, a plate attached to the intermediate runner, said intermediate runner having a slot beneath said plate and through which the axle passes, and a screw swivelly connected with said plate and operatively connected with the axle whereby on the turning of said screw, the intermediate runner will be raised with respect to the spaced sides

4. In a machine of the class described, a frame composed of a pair of spaced sides, cross bars connecting th

same, a runner arranged between said spaced sides, an axle connecting the spaced sides, rollers mounted on said axle and arranged on opposite sides of the intermediate runner, said rollers being provided with annular enlargements at their peripheral portion for the purpose described, and plows mounted on the intermediate runner for vertical adjustment.

5. In a machine of the class described, a frame composed of a pair of spaced sides, cross bars connecting the same, a runner arranged between said spaced sides, an axle connecting the spaced sides, rollers mounted on said axle and arranged on opposite sides of the intermediate runner, said rollers being provided with annular enlargements at their peripheral portion for the purpose described, scrapers pivotally attached at corresponding inner ends to opposite sides of the intermediate runner, and connections for moving the outer ends of said scrapers forwardly and rearwardly for the purpose described.

979,256. TIME-LIMIT DEVICE FOR ELECTRIC SWITCHES. GEORGE A. BURNHAM, Saugus, Mass., assignor to S. B. Condit, Jr., Boston, Mass. Filed Feb. 3, 1910. Serial No. 541,721.



1. In combination with an electric-circuit having an overload-current relay, of a time-limit device for an electric-switch consisting of a circuit-controlling device for the circuit of said switch, an operating device for said circuit-controlling device requiring a prolonged interval of time for its operation, an electric-motor controlled by the overload-current relay for actuating said operating-device at a variable speed according to the strength of the overload-current, means operated by the motor at a variable speed according to speed of the motor for connecting said operating-device with the motor and means to automatically reset said operating-device to normal when said motor ceases to operate, substantially as described.

2. In combination with an electric-circuit having an overload-current relay, of a time-limit device for an electric-switch consisting of a circuit-controlling device for the circuit of said switch, an operating-device for said circuit-controlling device requiring a prolonged interval of time for its operation, an actuating-member into and out of engagement with which said operating-device is movable, an electric-motor controlled by said overload-current relay for moving said actuating-member at a variable speed according to the strength of the overload-current, and means also operated by said motor at a variable speed according to the speed of the motor for controlling the engagement of said operating-device with said actuating-member, whereby said operating-device is actuated at a variable speed, and means to automatically reset said operating-device when the motor ceases to operate, substantially as described.

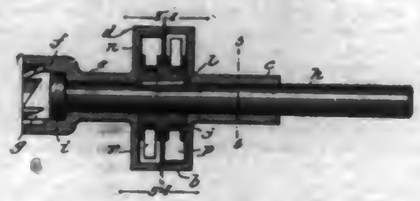
3. A time-limit device for electric-switches consisting of a circuit-controlling device for controlling the circuit of the electric-switch, an operating-device for said circuit-controlling device, an actuating-member into and out of engagement with which said operating-device is movable, means operated by the actuating-member for moving said operating-device into engagement with it, and a motor for operating said actuating-member, substantially as described.

4. A time-limit device for electric-switches consisting of a circuit-controlling device for controlling the circuit of the electric-switch, an operating-device for said circuit-controlling device, an actuating-member into and out of engagement with which said operating-device is movable, means operated by the actuating-member for moving said operating-device into engagement with it, means for resetting said operating-device when disengaged from the actuating-member, and a motor for operating said actuating-member, substantially as described.

5. A time-limit device for electric-switches consisting of a circuit-controlling device for controlling the circuit of the electric-switch, an operating-device for said circuit-controlling device, an actuating-member into and out of engagement with which said operating-device is movable, an electric-motor arranged to operate said actuating-member at a variable speed, whereby the operating-device is correspondingly operated at a variable speed when in engagement therewith, and means operated by said motor at a variable speed according to the speed of the motor for moving said operating-device into and out of engagement with said actuating-member, substantially as described.

[Claims 6 to 17 not printed in the Gazette.]

979,257. MECHANICAL STARTING DEVICE. JAMES A. BURNS, Washington, D. C., assignor of fifty-one one-hundredths to George D. Horning, Washington, D. C. Filed June 3, 1910. Serial No. 564,801.



1. A mechanical starting device for internal combustion engines, comprising a shaft having an enlargement at its inner end, an inner casing section smooth interiorly and having an outer open end and also having an inwardly extending sleeve loose on the shaft and which terminates at its inner end in an enlargement that extends beyond the shaft and is provided with an interior clutch member, an outer casing section smooth interiorly and movable outward and inward with the inner casing section and having an inner open end opposed to the outer open end of the inner section and also having an outwardly extending sleeve that loosely receives the shaft and is exteriorly of angular form in cross-section, fixed means receiving said sleeve and adapted to permit endwise movement while preventing rotation thereof, a crank on the shaft for rotating the same, a plurality of swinging pawls connected and rotatable with the shaft and adapted to transmit rotary motion in one direction from the shaft to the inner casing section and permit of backward rotation of the inner casing section independently of the shaft, and a greater number of reversely arranged swinging pawls connected and rotatable with the shaft and adapted, on backward rotation of the inner casing section, to coöperate with the outer casing section and prevent backward rotation of the shaft.

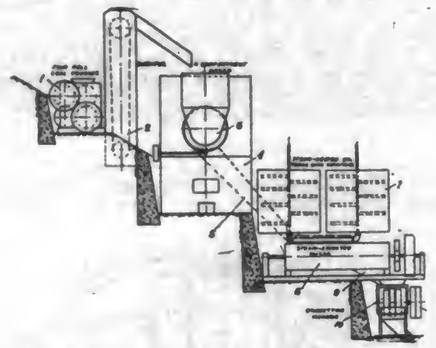
2. A mechanical starting device for internal combustion engines, comprising a shaft, an inner revoluble smooth-bore casing surrounding the shaft and having an inwardly extending sleeve loose on the shaft, an outer smooth-bore casing sourrounding the shaft and held against rotation, a plurality of swinging pawls connected and rotatable with the shaft and adapted to transmit rotary motion in one direction from the shaft to the inner casing and permit of rotation of the inner casing backward or forward independently of the shaft, and a greater number of reversely-arranged swinging pawls connected and rotatable with the shaft and adapted, on backward rotation of the inner casing, to coöperate with the outer casing and prevent backward rotation of the shaft.

3. A mechanical starting device for internal combustion engines, comprising a shaft, a revoluble member loose with respect to the shaft, a member that is non-rotatable, a pawl connection, between the shaft and the revoluble member, adapted to transmit rotary motion in one direction from the shaft to the revoluble member and permit of rotation of said member backward or forward independently of the shaft, and a reversely-arranged pawl connection between the shaft and the non-rotatable member, stronger than the first-named pawl connection, and adapted to prevent backward rotation of the shaft and also adapted to prevent forward rotation of the shaft by the said revoluble member and the pawl connection between the same and the shaft.

4. A starting device for internal combustion engines comprising a shaft, a slip connection adapted to transmit rotary motion in one direction from the shaft to an engine shaft and permit rotation of the engine shaft in either direction independently of the shaft, non-rotatable means, and means intermediate the shaft and said non-rotatable means, stronger than the said slip connection, and adapted to prevent rotation of the shaft in one direction and to permit of manual rotation of the shaft in the other direction and also adapted to prevent the said slip-connection from rotating the shaft in the last-named direction.

5. A starting device for internal combustion engines comprising a shaft, a slip connection adapted to transmit rotary motion in one direction from the shaft to an engine shaft and permit rotation of the engine shaft in either direction independently of the shaft, non-rotatable means, and a reversely-arranged slip-connection intermediate the first-named shaft and said non-rotatable means, stronger than the first-named slip connection, and adapted to prevent rotation of the shaft in one direction and to permit of manual rotation of the shaft in the other direction, and also adapted to prevent the first-named slip-connection from rotating the shaft in the last-named direction.

979,258. BRIQUET AND PROCESS OF MAKING THE SAME. EDWARD J. CALLAHAN, Salt Lake City, Utah. Filed Feb. 19, 1909. Serial No. 478,906.



1. The process of producing briquets from coal dust, which consists in heating the coal dust, adding to it while hot a hot liquid compound containing mineral oil and a substance which forms with said oil a compound capable of solidifying on cooling, and forming the mixture into briquets while hot.

2. The process of producing briquets from coal dust, which consists in heating the coal dust, adding to it while hot a liquid compound containing mineral oil and a substance which forms with said oil a compound capable of solidifying on cooling, adding soot to the mixture, and forming the mixture into briquets while hot.

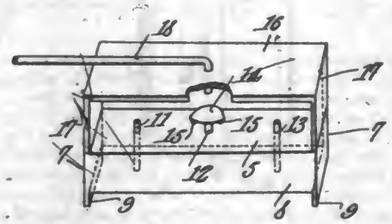
3. The process of producing briquets from coal dust, which consists in heating the coal dust, forming a solidifying compound of mineral oil, resin, caustic alkali, and soap stock and boiling the compound, mixing the heated coal dust with the hot compound, and forming the mixture into briquets while hot.

4. The process of producing briquets from coal dust, which consists in heating the coal dust, forming a solidifying compound of mineral oil, resin, caustic alkali, and soap stock and boiling the compound, adding soot, mixing the heated coal dust with the hot compound, and forming the mixture into briquets while hot.

5. A briquet composed of coal dust from which moisture has been eliminated and a solidifying compound composed of mineral oil, rosin, lye, and soap stock boiled together.

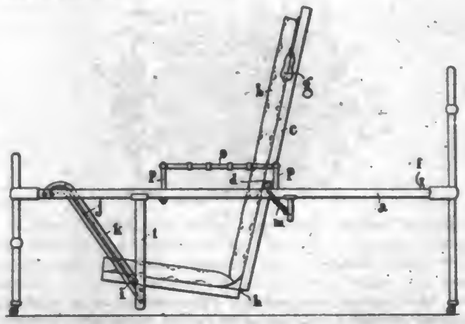
[Claims 6 to 8 not printed in the Gazette.]

979,259. CRUDE-OIL BURNER. ARCHIE CHAPMAN, Pleasantville, Ohio. Filed Jan. 21, 1910. Serial No. 539,214.



A liquid fuel burner comprising a plate, an air supply pipe passing therethrough, and having its discharge end fitted with a cap provided with discharge nozzles extending in a direction to discharge downwardly toward the plate, additional air supply pipes opening through the plate, and discharging upwardly, and an oil supply pipe discharging on the cap.

979,260. INVALID AND LIKE BED. HORACE STANSFIELD COLLIER, London, England. Filed Feb. 7, 1910. Serial No. 542,538.



1. In combination, a bedstead frame, a mattress fram comprising a main section pivotally connected to sai bedstead frame and a supplemental section hinged to th main section, inclined guides carried by the bedstea frame, and sliding connections between the supplementa section and said inclined guides, substantially as de scribed.

2. In combination a bedstead frame, a mattress fram comprising a main section pivotally connected to sai bedstead frame and a supplemental section hinged to th main section, inclined guides carried by the bedstea frame and having downwardly extending portions at the upper ends, and sliding connections between said supple mental section and said guides, substantially as describe

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979,261. DUMMY ADVERTISING-PACKAGE. GEORG B. COMPTON, St. Louis, Mo. Filed Apr. 29, 1910. Serial No. 558,420.

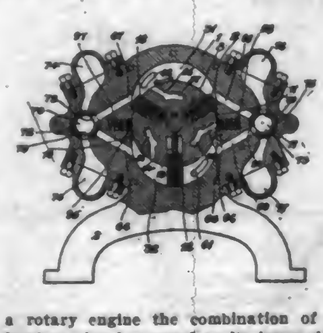
A dummy paper package comprising a cylindrical bod made of a sheet of paper having pairs of slits adjacent i ends and inwardly bent webs between said slits, an means for holding the edges of said sheet of paper t

gether, said means including a pair of circular paper heads inserted into opposite ends of the cylindrical body, the inwardly bent webs forming stops adapted to engage said heads, each of said heads having a circular row of



tongues which extend toward the middle of the body, pass through said pairs of slits, and bear at their free ends against the interior of the body and at their inner ends against the exterior of said webs.

979,262. ROTARY ENGINE. DANIEL E. COTA, Boston, Mass., assignor of one-half to Jacob Fischer, Boston, Mass. Filed Aug. 11, 1909. Serial No. 512,340.



1. In a rotary engine the combination of a working chamber having a head recessed on its inner side, a shaft, a rotor in said chamber mounted on the shaft, a valve disk mounted at one end of said rotor and on the shaft and contained within said recess, fitting closely at its periphery within the latter, and having an annular recess in its outer side, a complemental valve contained within said recess and fitting closely therein at its periphery, the said valve and disk having complemental longitudinal ports arranged to open into the chamber for driving the rotor in one direction and having complemental radial ports for driving the rotor in the opposite direction, radially expansible annular packings peripherally surrounding said valve and disk on opposite sides of said radial ports, and means external to said valve and disk for directing the working fluid exclusively to either the longitudinal or radial ports.

2. In a rotary engine a casing, a rotor therein, a shaft passing through said casing and supporting said rotor, and complemental valves, one of said valves being secured at one end of said rotor and surrounded by a part of the casing and having an annular recess on its outer side concentric with said shaft, the other valve consisting of a sleeve surrounding said shaft, a web transverse to the shaft and a flange concentric with the shaft and contained in said annular recess, the said valves having complemental axially extending ports or passages communicating with a passage and ports in the rotor and having radially extending passages in their overlapping flange portions communicating with the interior of the casing externally of the rotor, and means on the sleeve portions of said second-named valve for adjusting the latter to vary the time of admission and cut-off of the working fluid.

3. In a rotary engine a casing, a rotor in said casing, a valve chamber in one of the heads of said casing, a cylindrical reversing valve mounted in said valve chamber, so as to turn about its axis, said valve having a zigzag passage opening in ports at opposite sides of the valve, and out of line with each other, and having a transverse admission passage intersecting such zigzag passage intermediate the ports thereof, said head having a plurality of passages leading from the valve chamber to ports in the inner surface of the head, and arranged respectively in the planes of the valve ports and on opposite sides of said valve, and a cut-off valve between the rotor and the inner wall of the head adapted to register with the ports in the head.

4. In a rotary engine complemental valve disks, one of which constitutes a cut-off valve and travels with the rotor of the engine and the other of which is normally stationary and constitutes a reversing valve, said valves having each an axially extending port adapted to register periodically in the travel of the rotor, and the first-named valve having an axially extending flange embracing a portion of the second valve, said flange being provided with a radial port and the second valve having a radial port in that part thereof which is surrounded by said flange.

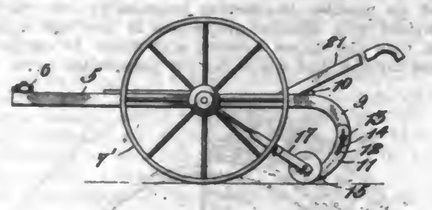
5. A rotary engine comprising a casing, a rotor therein, a piston carried by said rotor, and an abutment formed in the side of said casing, exhaust passages leading from the casing on each side of said abutment, exhaust valves having ports and movable to open either of the exhaust passages and close the other, admission ports, a reversing valve rotatably mounted and movable into different positions to open either admission port and close the other, an arm on each of said valves and a link pivotally connected with said arms and having a lost-motion connection with one of them, whereby shifting of the reverse valve to open either admission port may shift the exhaust valves to open the corresponding exhaust ports, said lost-motion connection permitting one of the valves to be rotated through a greater angle than the other.

979,263. NON-CLOGGING SALT-SHAKER. JACOB CULY, Drain, Oreg. Filed May 2, 1910. Serial No. 558,035.



In a condiment holder the combination with a barrel provided at one terminal with internal screwthreads, of a sifter top detachably secured thereto, an agitator centrally secured to said top and extending downward into the barrel, a removable base having upwardly extending scrapers secured thereto adapted to engage the inner surface of the barrel, said base being provided with external screw threads to coöperate with the threaded portion of the barrel for retaining the base to the barrel and also imparting rotary, longitudinal, shearing action to said scrapers.

979,264. COTTON-CHOPPER. ROBERT L. DARDEN, Juliette, Ga. Filed June 21, 1910. Serial No. 568,219.



1. The combination of a wheel supported frame, a plurality of rearwardly and downwardly extending bars arranged in said frame, a curved foot member longitudinally adjustable on the rear end of each of said bars, means for securing said foot members in their adjusted positions, a cutting blade secured to the lower end of each of the foot members and extending upon opposite sides thereof, arms rigidly secured to the frame, a bar pivoted upon the end of each of said arms, said bars each having spaced disks rotatably mounted on their rear ends and disposed between the opposed ends of adjacent cutting blades, said bars being adapted to be adjusted on the ends of the arms to swing the disks and maintain them in the same transverse plane with the cutting blades, and means for clamping said bars upon the arms to secure the disks in their adjusted positions.

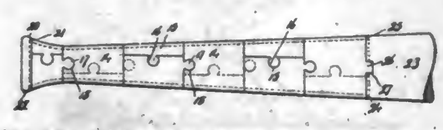
2. The combination of a wheel supported frame, a plurality of rearwardly and downwardly extending bars arranged in said frame, a curved foot member on the end of each of said bars, said foot member being longitudinally slotted, a threaded stud carried by each of the bars to extend through the slot in said foot member, a wing nut threaded on said stud for clamping engagement with the foot member to secure the same in its adjusted position, a cutting blade secured to the lower end of each of the foot members, said blades being disposed in the same plane, arms secured to the frame and extending rearwardly thereof, a bar adjustable upon the end of each of said arms, spaced fender disks arranged on the end of each of said bars, said disks being disposed between the ends of adjacent cutting blades and movable with the bars in substantially the same plane as said foot members, and means for rigidly securing said pivoted bars on the ends of the arms.

979,265. RESILIENT WHEEL. LEWIS L. DAUM, Canton, Ohio. Filed Mar. 9, 1910. Serial No. 548,270.



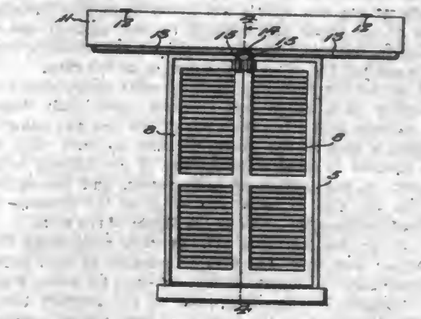
A wheel of the character described comprising a wheel body consisting of a hub, spokes, a wooden felly, and an annular metal band covering the felly and formed at intervals with openings, an annular tread member of flexible material, an annular series of tangentially arranged overlapping springs, each of the latter having a thick central portion, and tapered ends, said springs having their intermediate portions formed with openings, their inner ends curved longitudinally and engaged with the annular band, for rocking movement, and also formed with openings to register with the openings in said band, and the outer tapered ends of said springs being arranged in overlapping relation, and formed with slots to register with the openings in the intermediate portions of the springs, a flexible casing arranged between the tread member and the overlapping outer ends of the springs, fastenings passing through the tread member, the casing, the slots in the outer ends of the springs, and the openings in the intermediate portions of the same, fastenings passed through the registering openings in the inner ends of the springs and said band, and into the felly of the wheel body, hems on the edges of said flexible casing, and contractible hoops arranged in said hems, to draw the casing close to the felly of the wheel body.

979,266. BASE-BALL BAT. JOHN R. DEAN, Hartford, Conn. Filed Aug. 31, 1910. Serial No. 579,837.



As a new article of manufacture, a base-ball bat having its tapering handle-end reduced in diameter and provided with a cork sheath merging into the full diameter of the body of the bat, the said cork sheath being sectional in form and having its edges provided with coupling-lugs and complementary coupling-notches, whereby the said edges are interlocked, and the ends of the sheath formed by the cork being beveled to enter circumferential grooves respectively formed in a bead at the extremity of the handle-end of the bat and at the point where the opposite end of the sheath merges into the full diameter of the bat.

979,267. WINDOW ATTACHMENT. CHARLES BENTON DIX, New York, N. Y. Filed Sept. 17, 1910. Serial No. 582,474.



1. The combination with a window having swinging shutters, of a blind comprising inner and outer hinged foldable sections, the innermost section of the blind being suitably secured above the head of the window, and connections between the outer section of the blind and the shutters whereby on partially opening the latter the said sections of the blind will be unfolded.

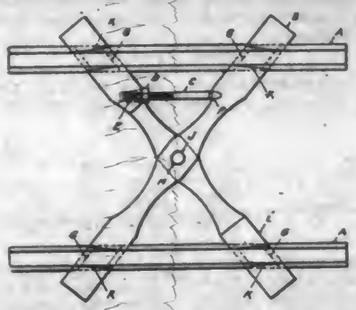
2. A blind for shutters comprising inner and outer hinged sections, the innermost section being suitably hinged above the head of a window, guide rods fixed to the free longitudinal edge of the outermost section of the blind, and eyes slidably connected with the said guide rods and swiveled to the upper edges of the shutters whereby on the opening of the latter the sections of the blind will be unfolded and also on the closing of such shutters the sections of the blind will be folded.

3. The combination with swinging shutters, of a blind comprising a plurality of hingedly connected sections and means connecting the blind to the shutters whereby on partially opening of the latter the blind will be unfolded and also on the closing or full opening of such shutters the said blind will be folded.

979,268. RAILROAD CROSS-TIE. WILLIAM H. J. DOWNEY, Wilmington, Del. Filed July 13, 1910. Serial No. 571,856.

1. A device for fastening railway rails comprising ties intersecting each other and pivoted together, said ties be-

ing recessed to receive the flanges of railway rails, and means for holding the marginal edges of the recesses of the ties frictionally against the flanges of the rails.



2. A device for fastening railway rails comprising ties intersecting each other and pivoted together, said ties being recessed to receive the flanges of railway rails, cushions mounted in boxes formed in the bottoms of said recesses upon which the rails are adapted to rest, and means for holding the marginal edges of the recesses frictionally against the flange of the rail.

3. A device for fastening railway rails comprising ties intersecting each other and pivoted together, said ties being recessed to receive the flanges of railway rails, cushions mounted in boxes formed in the bottoms of said recesses upon which the rails are adapted to rest, a screw engaging indentures in the adjacent edges of corresponding ends of the ties, and a nut fitted upon the threaded portion of the screw and adapted to bear against one of said ties to hold the opposite walls of the recesses frictionally against the edges of the flanges of the rails.

4. A device for fastening railway rails comprising ties intersecting each other and recessed upon their upper edges, a pintle projecting from one of the ties and adapted to engage a hole in the other, forming a pivot, said recesses adapted to receive the flanges of the railway rails, a cushion in the bottom of each recess, and means for spreading the ties to cause the walls of the recesses to frictionally engage the edges of the flange of the rails.

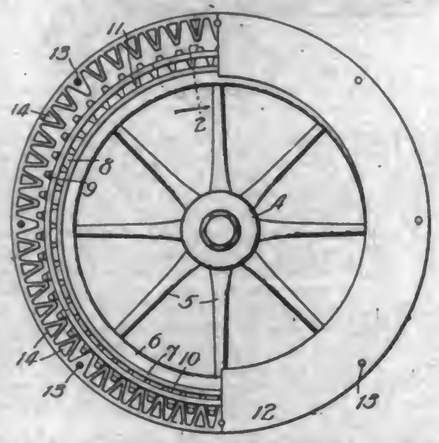
5. A device for fastening railway rails comprising ties intersecting each other and pivoted together at their point of intersection, the upper surface of each tie being diagonally recessed, the opposite walls of the recesses being undercut, a cushion in the bottom of each recess, a screw engaging indentures in the adjacent edges of corresponding ends of the ties, a nut upon the threaded portion of the screw bearing against one of the ties and adapted to spread the ties to cause the undercut edges of the recesses to frictionally engage the opposite edges of the flange of the rail.

979,269. VEHICLE-WHEEL. WILLIAM H. FARAVEY, Chicago, Ill. Filed Aug. 20, 1910. Serial No. 578,117.

1. In an elastic vehicle-wheel, the combination with the wheel-center, of a rim, a tire surrounding the rim to form therewith an interposed annular space and provided with internal projections, and springs confined by expansion in said space but unsupported against inward compression and coöperating with said projections to elastically support the tire.

2. In an elastic vehicle-wheel, the combination with the wheel-center, of a rim provided with spaced projections, a spring-band confined by expansion against said projections about the rim in spaced relation thereto but unsupported throughout its length against inward compression, and an annular tire-portion surrounding the rim and provided with internal projections at intervals registering with the spaces between the projections on the rim to engage the band through said spaces, for the purpose set forth.

3. In an elastic vehicle-wheel the combination with the wheel-center, of a rim provided with headed spaced projections, a split spring-band extending about the rim under the heads of the projections to be confined by expansion against them in spaced relation to the rim but unsupported throughout its length against inward compression, and an annular tire-portion surrounding the rim and provided with internal projections at intervals registering with the spaces between said heads to engage the band through said spaces, for the purpose set forth.



4. In an elastic vehicle-wheel, the combination with the wheel-center, of a rim provided with radially-extending spaced T-shaped projections, split spring-bands extending about the rim under the heads of said projections at opposite sides of their stems to be confined in spaced relation to the rim, and an annular tire-portion surrounding the rim and provided with internal teeth registering with the spaces between said heads to engage the bands through said spaces, for the purpose set forth.

979,270. BRIDGE-GATE. CASPER FAUST, Oshkosh, Wis. Filed May 26, 1910. Serial No. 563,553.



1. In a bridge gate the combination of two laterally spaced revolubly mounted posts, gate members fixed at one end to said posts and extending laterally therefrom, laterally spaced pinions arranged in a plane below said gate members, cam disks fixed to said pinions, links connecting said cam disks with said posts, a longitudinally movable member having a toothed head arranged to mesh with said pinions, an upwardly projecting member carried by the front end of said rack bar and a laterally swinging member provided with means for reciprocating said rack bar.

2. The combination with a gate, a slidable rack bar, means connecting said gate with said rack bar, a swinging member having means for reciprocating said rack bar, locking means for said rack bar comprising a slidably mounted member having a bifurcated end for engaging said rack bar when said bar is in projected position to hold the gate in closed position.

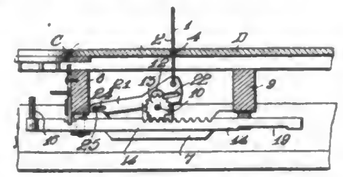
3. The combination with a gate, a slidable rack bar, means connecting said gate with said rack bar, a swinging member having means for reciprocating said rack bar, said bar having a recess in one face thereof and a vertically movable locking member operable by said swinging member and having means for engaging the recess in said rack bar for holding the gate in operative position.

4. The combination with a gate, a slidable rack bar, means connecting said gate with said rack bar, a swinging member having means for reciprocating said rack bar, said rack bar having a recess in one face, and a vertically slidable locking member having a bifurcated end for engaging the recess in said bar to lock the gate in operative position.

5. The combination with a gate, a slidable rack bar, means connecting said gate with said rack bar, a swinging member having means for reciprocating said rack bar, said rack bar having a recess in one face, and a vertically slidable locking member having a bifurcated end for engaging the recess in said bar to lock the gate in operative position, and means carried by said swinging member to release said locking member from said rack bar on the movement of the swinging member in one direction.

[Claim 6 not printed in the Gazette.]

979,271. BRIDGE-GATE. CASPER FAUST, Oshkosh, Wis. Filed May 12, 1910. Serial No. 560,948.



1. The combination of a movable gate, a sliding rack bar, a rotatably mounted rod, a pinion fixed on said rod meshing with the rack bar, a movable connection between each end of said rod and the gate, a pivotally mounted element and means carried by said element to reciprocate the rack bar and move the gate.

2. The combination of a movable gate, a reciprocatory bar, a pair of link bars movably mounted at one end, means connecting said links at their other ends with the reciprocating bar, said links being loosely connected with the gate, a pivotally mounted element, and means carried by the reciprocating bar engaging said element whereby the bar is reciprocated and the gate moved to its open or closed position.

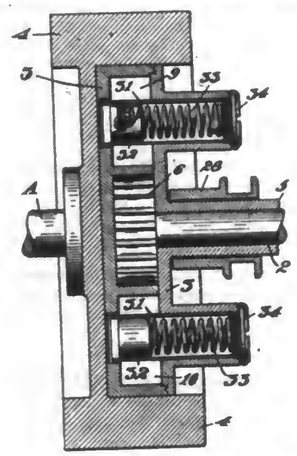
3. The combination of a movable gate, a reciprocatory rack bar, a rotatably mounted rod, a pinion fixed thereon meshing with the rack bar, a crank on each end of said rod, links longitudinally slotted at one of their ends for movable connection with said cranks, said slotted ends of the links being connected to the gate, a movable element, a projection on one end of the bar, and means carried by said movable element engaging said projection to reciprocate the bar and move the gate to open or closed position.

4. The combination of a vertically movable gate, a rack bar mounted to slide in a plane at right angles to the plane of movement of said gate, a pinion meshing with said rack bar, a revolubly mounted rod fixed to said pinion, a crank arm connected with said rod, a link loosely connected with said crank arm and with said gate and means for reciprocating said rack bar to open and close the gate.

5. The combination of a vertically movable gate, a rack bar, mounted to slide in a plane at right angles to the plane of movement of said gate, a pinion meshing with said rack bar, a revolubly mounted rod fixed to said pinion, a crank arm connected with said rod, a link loosely connected with said crank arm and with said gate, an upwardly projecting member carried by said rack bar at one end thereof, and a movable member provided with means for engaging said upwardly projecting member for reciprocating said rack bar to open and close the gate.

979,272. COMBINED CLUTCH AND MULTIPLE TRANSMISSION. ADOLPH F. FELLER, Berkeley, Cal., assignor of one-fourth to Ernest J. Broberg and one-fourth to Hans C. Hansen, Oakland, Cal. Filed Dec. 2, 1909. Serial No. 531,042.

1. In a transmission, the combination of a casing and revoluble support therefor, said casing inclosing fluid reservoirs, a fluid clutch mechanism contained within the casing, and an expansion cylinder for each reservoir, said cylinder opening into the reservoir and being arranged substantially parallel with the axis of the casing, and a spring-pressed plunger in each expansion cylinder.



2. In a transmission, the combination of a casing, a revoluble support therefor, said casing inclosing fluid reservoirs, a fluid clutch mechanism within the casing intermediate of said reservoir, an expansion cylinder for each reservoir opening thereinto, said cylinder having its axis parallel with the axis of the revoluble support, and a spring-pressed plunger in each cylinder.

3. In a transmission, the combination of a casing, a revoluble support upon which the same is mounted, said casing inclosing fluid reservoirs, a fluid clutch mechanism in the casing between the reservoirs, said clutch comprising gears adapted to pump the fluid back and forth between the reservoirs, an expansion cylinder for each reservoir opening into the reservoir and arranged substantially parallel with the axes of the pumping gears, and a spring-pressed plunger in each cylinder.

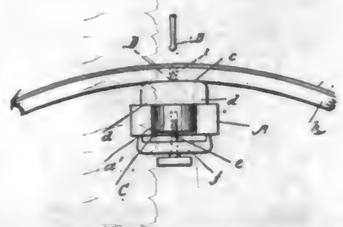
4. The combination with a fly-wheel forming a revoluble support, of a fluid clutch comprising a casing with a cover plate, and intermeshing pumping gears, one of said gears being concentric with the axis of the fly-wheel and between the other gears, said casing having a stud projecting inwardly from the center of its rear face and said central gear having a socket to receive said stud, about which stud the gear is revoluble, screws passing through the cover plate and through said other gears and into the back of the casing, said screws serving to hold the cover plate to the casing and also serving as axes about which said other gears are turnable.

5. The combination with a fly-wheel having a recess in one end concentric with the axis of rotation of the fly-wheel, of a casing removably fitting in said recess and concentric therewith and secured to the fly-wheel, said casing comprising a back plate with a rim flange and a cover plate fitting on said rim flange, means for securing the cover plate to the back plate, partitions in the casing forming reservoirs at each side thereof, said partitions having openings communicating with the reservoirs, a fluid clutch between said partitions adapted to pump the fluid back and forth between the reservoirs, an expansion cylinder for each of the reservoirs, each of said cylinders having a spring-pressed plunger and having an opening into a reservoir and standing approximately parallel with the axis of said fly-wheel and casing whereby the centrifugal action of the fluid in the reservoirs on said plungers is minimized.

979,273. GUIDE FOR DRILLING-MACHINES. JAMES A. FERRIES, Chili, N. Y. Filed Sept. 13, 1909. Serial No. 517,477.

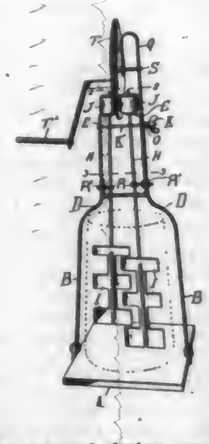
The combination, with an arm having means for connecting it with the pillar of a drilling machine, said arm

being also provided with a slot, of an oblong block which is slidable in the said slot, said block having a projecting portion which rests on the said arm and is adapted to



support a wheel-rim, and a centering device which projects from the middle part of the said projecting portion and which is adapted to engage with a hole in the wheel rim.

979,274. FRICTION-OPERATED DASHER FOR CHURNS. CICERO ALEXANDER FEWELL, Glenwood, Ark. Filed Oct. 26, 1910. Serial No. 589,164.



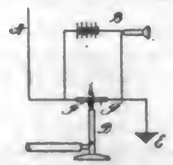
1. A friction actuated dasher apparatus for churns comprising an upright frame, dasher shafts journaled therein, friction rollers fixed to said shafts, a rotatable friction disk movable between the friction wheels, means for adjusting the latter, and means for moving the dashers upon the shafts toward or away from each other.

2. A friction actuated dasher apparatus for churns comprising upright bars, their inner ends forming bearings, eye bolts carried by said bars, dasher shafts having bearings in apertures in said bars and said eye bolts, the latter being adjustable, friction rollers fixed to said shafts, a friction disk rotatable between the friction rollers, and means for adjusting said rollers to increase or diminish the friction intermediate the rollers and disk.

3. A friction actuated dasher apparatus for churns comprising upright bars, their inner ends forming bearings, eye bolts carried by said bars, dasher shafts having bearings in apertures in said bars and said eye bolts, the latter being adjustable, friction rollers fixed to said shafts, a friction disk rotatable between the friction rollers, a bolt passing through upright portions of the frame, a threaded nut upon the same, a spring interposed between the nut and frame and serving to regulate the friction rollers.

4. A friction actuated dasher apparatus for churns comprising upright bars and base to which they are hinged, the upper ends of the bars turned toward each other and apertured, eye bolts in said bars, dasher shafts journaled in the eyes of said bolts and the apertures in the inwardly turned ends of the bars, friction rollers fixed one to each shaft, a bar having a bowed portion and an axle journaled in the latter, friction disks fixed to said axle, and a crank for rotating the disk.

979,275. OSCILLATION-RESPONSIVE DEVICE. LEE DE FOREST, New York, N. Y., assignor, by mesne assignments, to De Forest Radio Telephone Co., a Corporation of New York. Filed Feb. 2, 1905. Serial No. 243,913.



1. In a wireless telegraph system, the combination with separated electrodes connected to a wave intercepting means and to a local circuit, said electrodes being separated by a dielectric; of means coöperating with the received electrical oscillations for causing abnormal molecular activity in the intervening dielectric.

2. In a wireless telegraph system, the combination with separated electrodes connected to wave intercepting means and to a local circuit, said electrodes being separated by a dielectric; of means other than the received electrical oscillations, for heating the intervening dielectric.

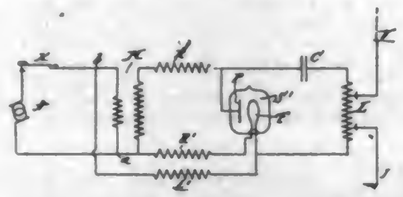
3. In a wireless telegraph system, the combination with separated electrodes connected to a wave intercepting means and to a local circuit, said electrodes being separated by a dielectric; of a flame in the intervening dielectric.

4. In a wireless telegraph system, the combination with separated electrodes connected to a wave intercepting means and to a local circuit, said electrodes being separated by a dielectric; of means other than the received electric oscillations for changing the insulating quality of the intervening dielectric for the current of the local circuit.

5. In a wireless telegraph system, the combination with separated electrodes connected to a wave intercepting means and to a local circuit, said electrodes being separated by a dielectric; of means other than the received electrical oscillations, for changing the conductivity for the current of the local circuit, of the intervening dielectric.

[Claims 6 to 41 not printed in the Gazette.]

979,276. SPACE TELEGRAPHY. LEE DE FOREST, New York, N. Y., assignor, by mesne assignments, to De Forest Radio Telephone Co., a Corporation of New York. Filed Jan. 29, 1907. Serial No. 354,664.



1. In an electromagnetic wave radiating system, a circuit including in series an inductance, a condenser and two separated arc-electrodes, an antenna associated with said circuit, and a generator of vibratory electromotive force operatively connected with said arc-electrodes, the separation of said arc-electrodes being such that the voltage across the gap will rise abruptly to its maximum before the condenser begins to discharge thereacross.

2. In an electromagnetic wave radiating system, a circuit including in series an inductance, a condenser and two separated arc-electrodes, an antenna associated with said circuit and a generator of vibratory electromotive force, operatively connected with said arc electrodes, and so arranged that the variation of current amplitude with time is practically zero throughout the greater portion of the continuance of a half-cycle.

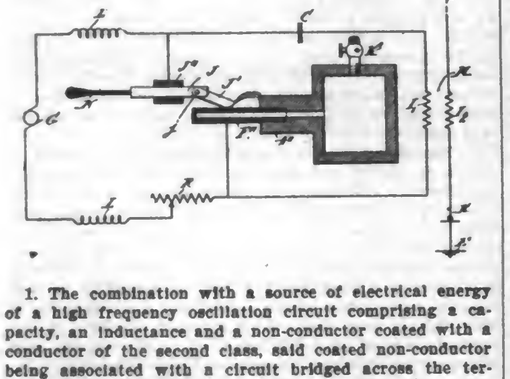
3. In an electromagnetic wave radiating system, a circuit including in series an inductance, a condenser and two separated arc-electrodes, an antenna associated with said circuit, a source of vibratory electromotive force and connections having large impedance between said source of electromotive force and said arc-electrodes, the separation of said arc-electrodes being such that the voltage across the gap will rise abruptly to its maximum before the condenser begins to discharge thereacross, at each half cycle of operation.

4. A circuit including in series an inductance, a condenser and two separated arc-electrodes, in combination with a generator of vibratory electromotive force operatively connected with said arc-electrodes, the separation of said arc-electrodes being such that the current amplitude across the gap rises abruptly to its full maximum before the condenser begins its discharge.

5. A circuit including in series an inductance, a condenser and two separated arc-electrodes in combination with a generator of vibratory electromotive force, whereof the variation of amplitude with time is practically zero throughout the greater portion of the continuance of a half cycle, operatively connected with said arc-electrodes.

[Claim 6 not printed in the Gazette.]

979,277. HIGH-FREQUENCY ELECTRICAL-OSCILLATION GENERATOR. LEE DE FOREST, New York, N. Y. Filed Feb. 8, 1908. Serial No. 414,976.



1. The combination with a source of electrical energy of a high frequency oscillation circuit comprising a capacity, an inductance and a non-conductor coated with a conductor of the second class, said coated non-conductor being associated with a circuit bridged across the terminals of the energy source and the capacity.

2. The combination with a source of electrical energy of a high frequency oscillation circuit comprising a capacity, an inductance and a non-conductor coated with a conductor of the second class, said coated non-conductor being associated with a circuit bridged across the terminals of the energy source and the capacity and means for heating the latter.

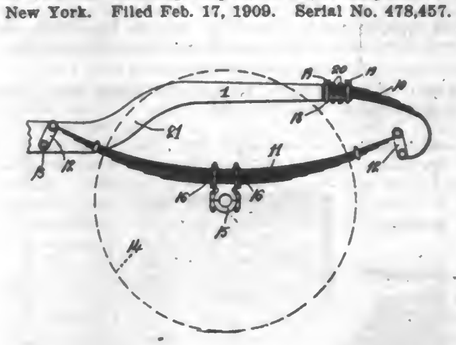
3. The combination with a source of electrical energy of a high frequency oscillation circuit comprising a capacity, an inductance and a non-conductor coated with an oxid of the zirconium group, said coated non-conductor being associated with a circuit bridged across the terminals of the energy source and the capacity.

4. The combination with a source of electrical energy of a high frequency oscillation circuit comprising a capacity, an inductance and a non-conductor coated with an oxid of the zirconium group, said coated non-conductor being associated with a circuit bridged across the terminals of the energy source and the capacity and means for heating the latter.

5. The combination with a source of electrical energy of a high frequency oscillation circuit comprising a capacity, an inductance and a non-conductor coated with an oxid of thorium, said coated non-conductor being associated with a circuit bridged across the terminals of the energy source and the capacity.

[Claims 6 to 12 not printed in the Gazette.]

979,278. VEHICLE-FRAME SUSPENSION. GUIDO FORNACA, Turin, Italy, assignor, by mesne assignments, to F. I. A. T., Poughkeepsie, N. Y., a Corporation of New York. Filed Feb. 17, 1909. Serial No. 478,457.



1. In a vehicle frame suspension, a channeled side member and a channeled cross member secured to each other, one of said members being reduced at the end on both sides to pass between the flanges of the other member, the flanges of said latter member having integral extensions projecting longitudinally of the other member and embracing the reduced portion thereof to form a flush overlapped joint, and a spring attached to said frame parallel to said side member.

2. In a vehicle frame construction, a channeled side member and a channeled end member, the side member being reduced at the end to pass between the flanges of the end member and against the web, flange extensions on the end member extending laterally outside the side member, fastening means, and a spring held between said extensions and extending longitudinally of the side frame.

3. In a vehicle frame construction, a channeled side member, a channeled end member, the side member being reduced at the end to pass between the flanges and against the web of the end member, said end member being riveted to the side member, and having extensions projecting beyond the side member, and a three-quarter elliptic spring clamped at the end between said extensions by bolts carried thereby and secured at the front to the side member.

4. In automobile frame construction, a side member, an end member secured thereto and extending beyond the side member and a side spring attached to the extension of the end member and to the side member.

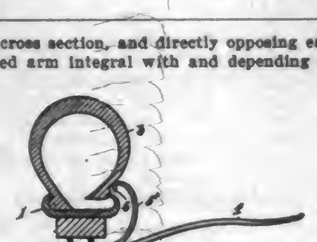
5. In automobile frame construction, a side member having its end higher than the intermediate portion, an end member secured to the end of said side member and extending beyond the side member, and a side spring attached at one point to the extension of the end member and at another point to the intermediate portion of said side frame.

[Claims 6 to 8 not printed in the Gazette.]

979,279. VEHICLE-TIRE TOOL. CHARLES H. FRAZIER, South Bend, Ind. Filed June 17, 1907. Serial No. 379,415.

A tire tool formed of a single piece of metal stock comprising a shank portion curved slightly intermediate its ends, one end formed with laterally extending projections

circular in cross section, and directly opposing each other and a curved arm integral with and depending from the



shank portion intermediate the ends of the latter, the curved arm being provided at its free end with a hook.

979,280. TILE. JOSEPH-FREUND, St. Louis, Mo. Filed Aug. 30, 1909. Serial No. 515,223.



1. As a new article of manufacture, a tile having an opening therein, a reinforcing bead surrounding said opening, a plate of translucent material secured therein, angular strengthening rods or wires in the tile adjacent to the opening for the translucent plate, each of said wires being adjacent to two sides of the opening; substantially as described.

2. As a new article of manufacture, a tile having an opening, a plate of translucent material secured therein, angular strengthening rods or wires in the tile adjacent to the opening for the translucent plate, each of said rods being adjacent to two sides of the opening, and a second set of strengthening rods adjacent to the first set of rods, each of the last set of rods overlapping the ends of two of the other rods; substantially as described.

3. A roofing tile having an opening therein, a reinforcing bead surrounding said opening, a plate of translucent material secured therein, angular strengthening rods or wires in the tile, the ends of each of said rods being adjacent to two sides of the opening, and a second set of strengthening rods, each of said rods of the second set lying adjacent to one side of the opening, and overlapping the ends of two of the first set of rods; substantially as described.

979,281. FOLDING BED. JOHN G. FRIEDEL, Jr., Van Nest, N. Y. Filed Nov. 1, 1909. Serial No. 525,734.



1. A bed comprising a head and a foot, auxiliary supports for said head and foot, a mattress frame having one end pivotally connected to the head support, a bar carried by the foot support and serving as a rest for the free end of said mattress frame, and pivotal link connections between said bar and the intermediate portion of said frame.

2. A bed comprising a head, arms for supporting the same in vertical position, a foot, arms carried thereby for supporting the same in vertical position, a mattress frame having one end pivotally mounted between the head supporting arms, a bar connecting the foot supporting arms and serving as a rest for the free end of said mattress frame, and links having one end pivotally mounted on said bar and their other end pivotally connected to intermediate portions of the sides of said mattress frame.

3. A folding bed comprising a head, a foot, a right angular support at each lower corner of said head and foot, a bar connecting the supports for said foot, a mattress frame one end of said frame pivoted to the head supports, the other end resting upon said bar, link arms having one end pivotally mounted upon said bar and their other end pivotally connected to said frame.

979,282. THREAD-CUTTING SHUTTLE. THEODORE J. GARSIO, Allentown, Pa. Filed Oct. 26, 1909. Serial No. 524,652.



1. The combination of a shuttle, a bobbin mounted thereupon for carrying a thread, a blade carried by said shuttle, and mechanism controllable by the tension of said thread for forcing said thread against said blade.

2. The combination of a shuttle, a blade fixed relatively thereto, and a slide mounted upon said shuttle and movable relatively to said blade, said slide being provided with an eye through which said thread extends in order to enable the tension of said thread to actuate said slide.

3. The combination of a shuttle, a bobbin carried thereby and adapted to hold a thread to be paid out by said shuttle, mechanism carried by said shuttle for pressing gently upon said thread in order to prevent the same from being paid out too easily from said shuttle, a blade carried by said shuttle, and means controllable by the tension of said thread as paid out, for forcing said thread against said blade.

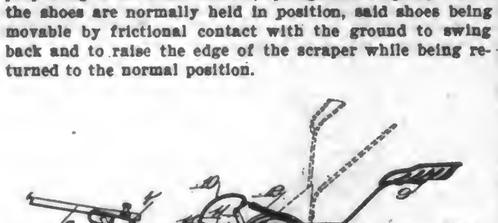
4. The combination of a shuttle provided with a slot, a bobbin carried by said shuttle and adapted to carry a filling thread, a slide mounted within said slot and movable relatively to said shuttle, a member for inclosing said slide, said member being fixed relatively to said shuttle, a spring connected with said slide and with said member inclosing the same, for the purpose of normally maintaining said slide in a predetermined position relatively to said shuttle, and a blade having a fixed position relatively to said shuttle, said blade being disposed adjacent to the path of travel of said slide relatively to said shuttle, said filling thread extending through said slide at a point adjacent to said blade in order to move said slide toward said blade and thereby cut said filling thread.

5. The combination of a shuttle, a bobbin carried thereby for supplying a filling thread, a slide mounted upon said shuttle and movable relatively to the same, a spring for normally holding said slide in a predetermined position relatively to said shuttle, and means controllable by the tension of said filling thread for moving said slide relatively to said blade in order to cut said thread.

979,283. EARTH-SCRAPER. GEORGE W. GARRISON, Hanford, Cal. Filed May 31, 1910. Serial No. 564,050.

1. The combination with a wheel scraper including a containing box and a cutting front edge, of convex shoes pivoted to the box and capable of swinging so as to support the edge of the box above the surface of the ground when being returned to the normal position.

2. The combination with a scraper and the receiving box thereof, of convex shoes pivoted to the scraper and projecting to the front thereof, springs and stops by which the shoes are normally held in position, said shoes being movable by frictional contact with the ground to swing back and to raise the edge of the scraper while being returned to the normal position.



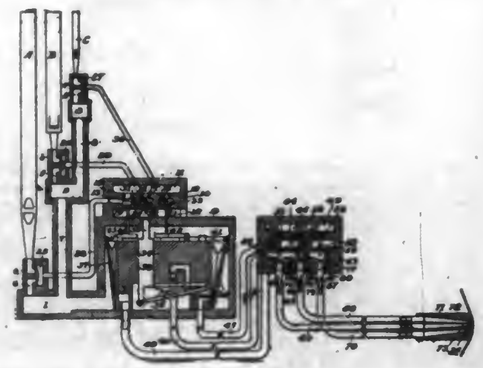
3. The combination with a scraper and the receiving box thereof, of convex shoes pivoted to the scraper and projecting to the front thereof, springs and stops by which the shoes are normally held in position, said shoes being movable by frictional contact with the ground to swing back and to raise the edge of the scraper while being returned, and latches by which the shoes are retained in said rearward position.

4. The combination with a scraper and the receiving box thereof, of convex shoes pivoted to the scraper and projecting to the front thereof, springs and stops by which the shoes are normally held in position, said shoes being movable by frictional contact with the ground to swing back and to raise the edge of the scraper while being returned, latches by which the shoes are retained in said rearward position, and draft rods pivoted to the sides of the scraper box adapted to disengage the latches and allow the shoes to return to their normal position.

5. A wheel scraper including an excavating and receiving box, wheels, to the shafts of which the box is fulcrumed, draft rods pivoted to the sides of the box, a draft bar with which the forward ends of said rods are connected, wheels by which said draft bar is supported, and an inclined brake-shoe fixed between said wheels to drag upon the ground.

[Claim 6 not printed in the Gazette.]

979,284. MECHANICAL PLAYER FOR ORGANS. WILLIAM EDWIN GIBBS, Pittsburg, Pa. Filed Oct. 5, 1908. Serial No. 456,199.



1. In a mechanical player for organs, the combination of pouches of different degrees of sensitiveness; a tracker board provided with openings separately connected with said pouches, said openings being alined in the direction of travel of the music-sheet across the tracker board; and a perforated music sheet provided with pilot-holes of less width than the note-sounding perforations and in advance thereof.

2. In a mechanical player for organs, the combination of pouches of different degrees of sensitiveness; a tracker bar provided with transversely alined openings connected separately with said pouches; and a music-sheet passing transversely across said tracker-bar, said sheet being provided with note-sounding perforations and pilot-holes of less width in advance of some of said note-sounding perforations.

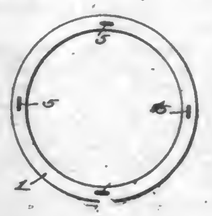
3. In a mechanical player for organs, the combination of a tracker-bar having transversely alined openings for each note of the musical scale; a less sensitive pouch connected with the opening first traversed by the music-sheet; more sensitive pouches connected separately with the other openings; and a music-sheet traversing said tracker bar transversely, said sheet being provided with note-sounding perforations and pilot-holes of less width in advance of the note-sounding perforations.

4. In a mechanical player for organs, the combination of a more sensitive pouch and a less sensitive pouch, a tracker-bar with two transversely alined holes the first hole traversed by the music-sheet being connected with the less sensitive pouch and the other hole being connected with the more sensitive pouch, and a music-sheet traversing the tracker-bar, said sheet being provided with a note-sounding perforation and a pilot-hole in advance of the note-sounding perforation and of less area than any of the holes in the tracker-bar.

5. The combination with a tracker bar having two transversely alined holes for each note of the musical scale, of a less sensitive pouch connected with the hole first traversed by the music-sheet and a more sensitive pouch connected with the other of said holes, and a music sheet provided with note-sounding and pilot hole perforations arranged in a line in the direction of travel of said sheet, said pilot holes being of such a size as to admit only enough air to actuate the more sensitive pouch.

[Claims 6 to 11 not printed in the Gazette.]

979,285. REINFORCED CONCRETE CONSTRUCTION. JOHN GILLIGAN, Nebraska City, Nebr. Filed Mar. 1, 1910. Serial No. 548,724.



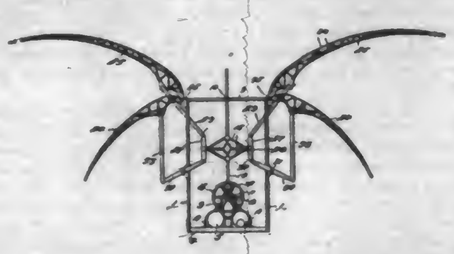
1. A reinforcing draw-bar for concrete blocks having a loop at one end thereof, and a pair of spaced superposed eyes at the other end.

2. A reinforcing draw-bar for concrete blocks comprising a rod doubled upon itself to provide a loop at one end of the finished bar, the terminals of said rod being re-bent to provide a pair of spaced superposed eyes at the other end of the finished bar.

3. A concrete block having embedded therein a longitudinally arranged reinforcing bar formed at one end with a loop, and at the other end with a pair of spaced eyes disposed directly adjacent to each other and occupying different planes, one end of said bar projecting beyond the corresponding end wall of the block, and the other end terminating short of the opposite end wall.

4. A concrete block having embedded therein a longitudinally arranged reinforcing bar comprising a rod doubled upon itself to provide a loop at one end of the finished bar, the terminals of said rod being re-bent to provide a pair of spaced superposed eyes at the other end of the finished bar, said loop projecting beyond the corresponding end wall of the block, and said eyes terminating short of the opposite end wall.

979,286. AERIAL NAVIGATOR. ROSCOE C. GOSS, Tecumseh, Nebr. Filed Dec. 29, 1908. Serial No. 469,870.



1. In an aerial navigator, the combination of beating planes, each plane comprising a pivotally supported rectangular frame, a series of rotatably secured tie rods extending across said frame parallel to the free edge of the latter, the spaces between said tie rods gradually increasing toward the free edge of said frame, shutters secured to said rotatable tie rods and constructed to underlap the next succeeding tie rod of the series when swung to closed position, and means for operating said beating planes, substantially as described.

2. The combination in a device of the character described, of a rectangular frame including two upper bars held in parallel spaced relation, a motor carried by said frame, vertically disposed slide bars carried by said frame and actuated by said motor, a horizontal shaft carried by said frame and actuated by said motor, a propeller secured to the rear end of said shaft, a plurality of curved horizontally disposed beating planes pivotally secured to said upper bars, comprising two oppositely positioned medial beating planes and two front and two rear planes, said medial planes having a lifting power equal to that of said front and rear planes, a cross head carried by said slide bars, a rock link secured to each end of said cross head, a connecting bar extending from the upper end of each rock link and secured to said medial planes, rock levers carried by said frame and secured to the lower ends of said rock links, and hangers extending from said front and rear beating planes and secured to the outer ends of said rock levers.

3. An aerial navigator, the combination of beating planes, each plane comprising a pivotally supported frame, shutters movably secured to said supported frame the width of said shutters gradually increasing toward the free edge of said frame and constructed to underlap one another when swung to closed position, and means for operating said beating planes substantially as and for the purpose described.

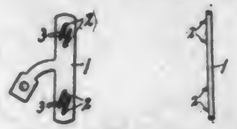
979,287. MACHINE FOR STRINGING TOBACCO-LEAVES. OTTO GRAF and ALFRED GRAF, Messkirch, Germany. Filed Apr. 13, 1910. Serial No. 555,179.



1. In a machine for stringing tobacco leaves, a pin-plate, and an elastic plate arranged over the same and forming a yielding support for the tobacco leaves, in combination, with a pivoted strip arranged to be folded down on the leaves, and to serve to hold said leaves against the yielding support.

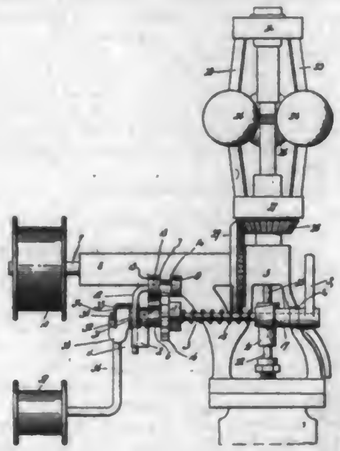
2. In a machine for stringing tobacco leaves, a removable pin-plate, and an elastic plate arranged over the same and forming a yielding support for the tobacco leaves, in combination, with a pivoted strip arranged to be folded down on the leaves, and to serve to hold said leaves against the yielding support.

979,288. NOSE-GUARD. HOBART H. GRAY, Geneva, N. Y., assignor to The Standard Optical Company, Geneva, N. Y., a Corporation of New York. Filed June 17, 1908. Serial No. 439,020.



A nose guard for eye-glasses comprising an imperforate metallic back piece, pointed integral spurs chiseled-up from opposite directions from one face of said back piece, chiseled-out V-shaped channels arranged in pairs upon said face and extending diagonally thereof and terminated at opposite ends by said spurs, a non-metallic facing blade adapted to receive said spurs therethrough, said spurs being of greater length than the thickness of the blade and the pointed ends of said spurs overturned overlying and in the direction of their respective diagonal channels and toward each other and engaging the blade and said channels being positioned between the blade and back piece when the parts are assembled.

979,289. SELF-LOCKING AUTOMATIC STOP FOR GOVERNORS. STEPHEN S. HALL, Portland, Conn., assignor to The Pickering Governor Co., Portland, Conn., a Corporation. Filed June 4, 1910. Serial No. 565,126.

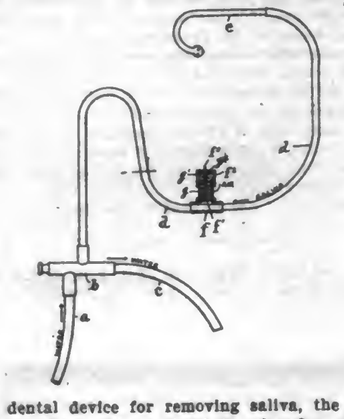


1. In a ball-governor, the combination with the balls and valve-rod thereof, of an idler which permits the valve of the governor to close when the idler falls by gravity, a spring-actuated tripping-device operated by the fall of the idler, and a lock interposed between the idler and the tripping-device for holding the valve upon its seat.

2. In a ball-governor, the combination with the balls and valve-rod thereof, of an idler, a spring-actuated tripping-device operated by the idler, and a cam-lock co-acting with the tripping-device and the idler for holding the valve upon its seat.

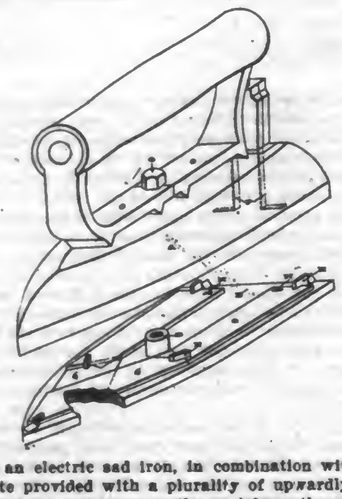
3. In a governor, the combination with the balls and valve-rod thereof, of an idler, a spring-shaft connected with the valve-rod, a ratchet, a pawl, a spring placed under tension by the said ratchet and pawl, a tripping-arm connected with the pawl, a cam operated by the idler and co-acting with the tripping-arm, and a locking-lever connected with the spring-shaft and also co-acting with the said tripping-arm which is held between the locking-lever and the cam when the idler falls by gravity.

979,290. SALIVA-TUBE FOR DENTISTS' USE. HARRY F. HAMILTON, Boston, Mass. Filed Mar. 17, 1910. Serial No. 550,003.



In a dental device for removing saliva, the combination of a saliva tube, an inlet tip therefor, means for producing a vacuum in said tube to draw the saliva through said tip and an inward opening relief valve in the line of said tube and located between the tip and the means for producing the vacuum.

979,291. ELECTRIC SAD-IRON. ARTHUR H. HAPPE, Detroit, Mich., assignor of one-half to Samuel C. Mumford, Detroit, Mich. Filed June 30, 1910. Serial No. 569,717.

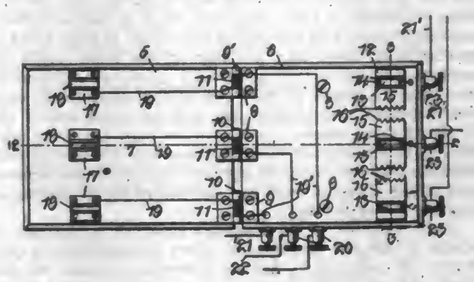


1. In an electric sad iron, in combination with a bottom plate provided with a plurality of upwardly extending shoulder members near the periphery thereof, a top casing piece adapted to fit thereover, a series of independently removable heating units interposed between said bottom plate and top casing piece, and in engagement with said shoulder members, whereby they are held in place on said bottom plate, each unit comprising a pair of inclosing insulating plates, a central non-conducting core, and a resistance element wound thereabout with its ends projecting outside said insulating plates for contact with the corresponding parts of adjacent units, and a pair of terminal parts insulated at their outer ends extending through the walls of said casing into contact with the exposed ends of the resistance elements of the end units of the series, substantially as described.

2. In an electric sad iron, in combination with a bottom plate provided with upwardly projecting shoulder portions, a plurality of independently removable laminated heating units adapted to fit about said shoulder portions and to be held thereby in position adjacent the edge of the bottom plate, each of said units comprising a non-conducting core, a resistance element wound thereabout, and a pair of insulating plates arranged over the sides thereof, the ends of the resistance element projecting outside of said insulating plates so as to contact the corresponding terminals of other individual elements when arranged upon said bottom plate, substantially as described.

3. In an electric sad iron, the combination of a separable casing and polishing plate member having anchorage shoulders projecting from the upper face of the polishing plate portion and correspondingly recessed parts in the under surface of the casing, a pair of contact clips insulated at their outer ends engaging through the wall of the casing, and a series of independently removable heating units arranged in electrical contact with one another and against said anchorage shoulders, and with their end members in contact with said clips on the peripheral portion of the top surface of the polishing plate member, each element comprising a pair of external insulating plates, a central core member, and a resistance element wound thereabout and protected except as to its projecting ends by said insulating plates, substantially as described.

979,292. TELEPHONE CUT-OUT. PHILIP H. HARNER, Dooms, Va. Filed Apr. 23, 1910. Serial No. 557,194.

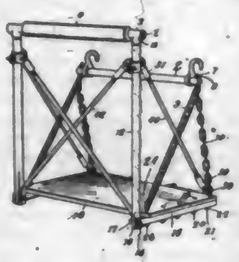


1. In a cut-out, the combination of a stationary base section and a movable base section, hinges connecting said sections, a plurality of contacts secured to the stationary section each having a channel formed between its ends, the extremities of said contacts being arranged adjacent to each other, a ground wire connected to one of said contacts and line wires connected to the contacts arranged adjacent thereto, a plurality of contact members carried by the movable base section each having a centrally formed tongue adapted to engage in the channel of the first named contacts, electrical connections between the contacts of said movable base section and the hinges and the electrical apparatus, whereby when said movable base section is disposed upon the stationary section and the contacts engaged, the electrical circuit is connected through the ground wires and the hinges connecting said base sections to the electrical apparatus and from said apparatus through the ground wires and the contacts to the ground.

2. In a cut-out, the combination of a stationary base section and a movable base section, a plurality of contacts secured to the stationary section, said contacts each being formed with a central U-shaped channel, to provide oppositely extending arms, fastening devices extending through the base of the channel portion and into the base section to secure the contacts thereto, said contacts being arranged transversely on the base section and having their arms disposed in the same plane, the extremities of the arms of adjacent contacts being disposed in juxtaposition to each other, a ground wire connected to one of said contacts and line wires connected to the contacts arranged adjacent thereto, a plurality of

contact members carried by the movable base section each having a centrally formed U-shaped tongue adapted to engage in the U-shaped channel of the first named contacts, and electrical connections between the contacts of said movable base section and the electrical apparatus, substantially as and for the purpose specified.

979,293. LUMBER-PILER. HAROLD E. HARPER, Atwood, Kans. Filed Apr. 12, 1910. Serial No. 555,019.



1. A device of the character specified, comprising spaced cross bars, plates connecting the cross bars and arranged with their edges abutting, a shaft arranged transversely of the cross bars at each end and above the said bars, hooks mounted for sliding movement on one of the shafts, an eye bolt near each end of each cross bar, an eye bolt near each end of the last named shaft, a chain connecting each of the last named eye bolts with the eye bolts of the adjacent cross bar, a roller on the other shaft, an upright secured to the end of each cross bar adjacent to the roller, a sleeve on each end of the roller shaft, each sleeve having a depending lug, and the upper end of the uprights being recessed to receive the lugs, a bearing near the upper end of each upright, brace rods connecting each bearing with the opposite upright, and with the opposite end of the adjacent cross bar, and means for expanding or contracting said rods.

2. In a device of the character specified, a platform, a shaft at one side thereof and above the platform, a plurality of hooks, each having a bearing slidable on the shaft, a flexible connection between each end of the shaft, and each side of the adjacent end of the platform, an upright at each end of the platform on the opposite side from the hooks, a bearing near the upper end of each upright, brace rods connecting each bearing with the opposite upright and with the opposite side of the platform, means for permitting said rods to be lengthened or shortened, a roller supported between the uprights, means for adjusting said roller vertically, and a pair of bars connected with the side of the platform adjacent to the hooks, said bars being adjustable toward and from each other, and each having an outwardly extending angular portion at the inner end, and a roller journaled between the uprights.

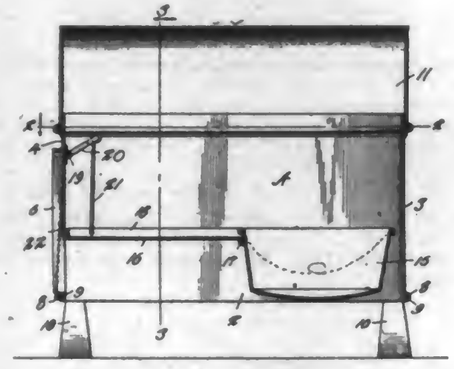
3. In a device of the character specified, a platform, a shaft at one side thereof and above the platform, a plurality of hooks, each having a bearing slidable on the shaft, a flexible connection between each end of the shaft, and each side of the adjacent end of the platform, an upright at each end of the platform on the opposite side from the hooks, brace rods connecting the upper end of each upright with the lower end of the opposite upright, and with the opposite side of the adjacent end of the platform, and a pair of bars adjustably connected with the edge of the platform adjacent to the hooks, each bar having an angular outwardly extending inner end.

4. In a device of the character specified, a platform, a shaft at one side thereof and above the platform, a plurality of hooks, each having a bearing slidable on the shaft, a flexible connection between each end of the shaft, and each side of the adjacent end of the platform, an upright at each end of the platform on the opposite side from the hooks, a roller journaled between the uprights, means for permitting said roller to be adjusted vertically, brace rods connecting the upper end of each upright with the lower end of the opposite upright and with the opposite side of the adjacent end of the platform, and bars adjustably connected with the edge of the platform adjacent to the hooks, each bar having an angular inner end.

5. In a device of the character specified, a platform, a shaft at one side thereof and above the platform, a plurality of hooks, each having a bearing slidable on the shaft, a flexible connection between each end of the shaft, and each side of the adjacent end of the platform, an upright at each end of the platform on the opposite side from the hooks, a roller journaled between the upper ends of the uprights, and means for permitting said roller to be adjusted vertically.

[Claims 6 to 11 not printed in the Gazette.]

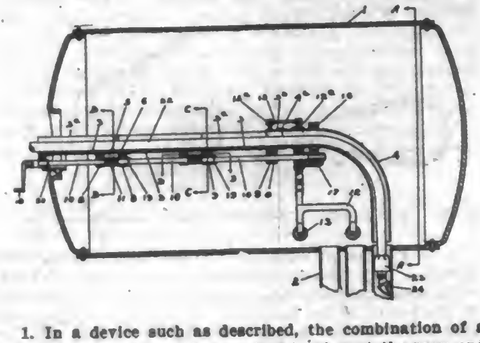
979,294. SAFETY-NEST. SAMUEL J. HARRELL, Minden, La. Filed Dec. 4, 1909. Serial No. 531,331.



1. In a device of the character described, a rectangular sheet metal frame having a front wall provided with a door opening and with flanges adjacent to the side and top edges of said opening, a nest having a forwardly extending flanged foot board supported pivotally upon a rod extending between the side walls of the frame, a rock shaft supported adjacent to the upper edge of the door opening and having radially extending arms, a link connecting one of said arms with the flanged foot board, a lug extending laterally from the other arm, a catch member pivoted upon and spaced from the inner face of one of the side walls and having a terminal hook adapted to engage the lug extending from one arm of the rock shaft, and a door connected with the rock shaft and abutting when open upon the flange adjacent to the upper edge of the door opening; said frame being provided with a hingedly supported lid.

2. In a device of the character described, a rectangular sheet metal frame having a front wall provided with a door opening and with flanges adjacent to the side and top edges of said opening, a nest having a forwardly extending flanged foot board supported pivotally upon a rod extending between the side walls of the frame, a rock shaft supported adjacent to the upper edge of the door opening and having radially extending arms, a link connecting one of said arms with the flanged foot board, a lug extending laterally from the outer arm, a catch member pivoted upon and spaced from the inner face of one of the side walls and having a terminal hook adapted to engage the lug extending from one arm of the rock shaft, and a door connected with the rock shaft and abutting when open upon the flange adjacent to the upper edge of the door opening, said frame being provided with a hingedly supported lid; the catch member and the arm engaged thereby being of such relative dimensions that the arm may be engaged by the catch to sustain the door in an open as well as a closed position.

979,295. TUBE-CLEANING APPARATUS. ELMER E. HAUER, Springfield, Ohio, assignor to The Lagonda Manufacturing Company, Springfield, Ohio, a Corporation of Ohio. Filed Oct. 24, 1910. Serial No. 588,624.



1. In a device such as described, the combination of a channel-iron and a guide pipe terminating at the open end of a boiler tube, a gear on said guide pipe, a support in which said guide pipe is journaled, a shaft having a gear thereon adapted to mesh with the gear on said guide pipe, and means whereby said shaft can be rotated, substantially as described.

2. In a device such as described, the combination of a channel-iron and a shaft, said channel-iron and shaft each being divided longitudinally into sections jointed at their adjacent ends and means common to said channel-iron and shaft to secure the respective sections together, substantially as described.

3. The combination of a flexible member having a tube cleaner thereon and a channel-iron, guide and support for same, extending into the drum of a boiler, the guide terminating at the open end of a tube, a shaft geared to said guide and manipulated outside said drum to position said guide at the open end of any one of a transverse row of tubes, substantially as described.

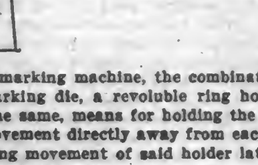
4. The combination of a flexible member having a tube cleaner thereon and a channel-iron, guide and support for same, extending longitudinally into the drum of a boiler, said guide also being adapted to turn transversely to the longitudinally extending channel-iron and terminating at the open end of a tube, a shaft geared to said guide and manipulated from outside the drum to cause said transverse movement and position said guide at the open end of any one of a transverse row of tubes, substantially as described.

5. The combination of a flexible member having a tube cleaner thereon and a channel-iron, guide and support adapted to be inserted in the drum of a boiler with means located outside said drum to shift said member and cleaner and the channel-iron, guide and support longitudinally in the drum, the longitudinal movement of the member and cleaner being independent of the longitudinal movement of the channel-iron, guide and support, said guide being adapted to open into a tube and further arranged to turn on said support transversely to the line of its longitudinal advancement and carry said member and cleaner therewith, means, including a shaft and gears on said shaft and guide, manipulated from outside said drum and adapted to cause said transverse movement to position said guide and direct said member and cleaner into any one of a plurality of tubes, substantially as described.

979,296. SAFETY-RAZOR. JOHN HEISSENBERGER, New York, N. Y., assignor to Frank A. Stirrup and Charles H. Stirrup, New York, N. Y. Filed May 28, 1910. Serial No. 563,854.

1. In a safety razor, a plate having a guard formed on one edge and having its rear portion provided with slits, thereby forming a tongue, a cam carried by said plate, means on said cam in engagement with said tongue for holding said cam in operative position.

2. In a safety razor, a plate having a guard formed on one edge, and having its rear portion provided with a plurality of slits, thereby forming tongues, a cam, means on said cam in engagement with said tongues for holding said cam in operative position.



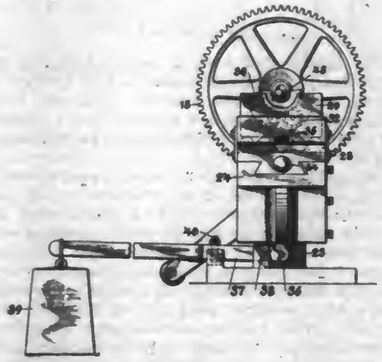
3. In a safety razor, a plate, a guard formed integral with said plate, the center portion of said plate being depressed, means for supporting a blade upon the plate, the depressed portion of said plate being provided with a series of slits resulting in projecting tongues, and a cam in engagement with the outer end of said tongues and adapted to force the blade into operative relation with said plate.

4. A safety razor, having a plate, a guard, means for securing a razor blade upon said plate, and a moistener pivotally secured to said frame adjacent to and coöperating with the cutting edge of said blade, as specified.

5. In a safety razor, a plate provided with brackets integral with said plate, a guard formed integral with said plate, means for holding a razor blade in operable position on said plate, a moistener supported by said brackets and coöperating with the cutting edge of the blade, and a spring secured to the under side of said plate and adjacent to said brackets and coöperating with said moistener, as specified.

[Claim 6 not printed in the Gazette.]

979,297. MACHINE FOR MARKING FINGER-RINGS. HENRY HENRICH, New York, N. Y. Filed Mar. 12, 1910. Serial No. 548,819.



1. In a ring-marking machine, the combination of a rotatable ring-marking die, a revoluble ring holder, rollers for receiving the same, means for holding the die and the holder from movement directly away from each other, and means permitting movement of said holder laterally, relative to the line of pressure.

2. In a ring-marking machine, the combination of a partially cylindrical die, a rotatable ring-holder, rollers for receiving the same, means for holding the die and the holder from escape from each other in the line of pressure, and means permitting relative lateral movement of said parts transverse to the line of pressure.

3. In a machine for marking rings, the combination of a ring-marking die having a marking portion comprising a partially cylindrical portion and an eccentric portion at one end of said cylindrical portion, and a rotatable ring-holder adapted to hold the ring against movement away from the axis of said die.

4. In a machine for marking rings, the combination of a ring-marking die having a marking portion comprising a partially cylindrical portion and an eccentric portion at one end of said cylindrical portion, a rotatable ring-holder adapted to hold the ring against movement away from the axis of said die, and means permitting the movement of said ring-holder laterally relative to the line of pressure.

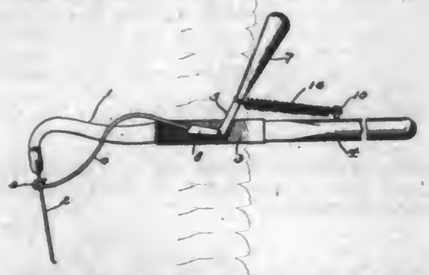
5. In a ring-marking machine, the combination of a rotatable die, a slide movable under and away from said die along the axis of said die, a slide movable transversely to the axis of said die, one of said slides being supported upon the other of said slides, and a ring-holder rotatably supported upon one of said slides.

[Claims 6 to 8 not printed in the Gazette.]

979,298. PROCESS OF MANUFACTURING IMITATION FUR. AUGUSTIN HENTSCHEL, Berlin, Germany. Filed Apr. 19, 1910. Serial No. 556,460.

The hereindescribed process of manufacturing imitation fur of piled goods which consists in moistening the pile facing with a dressing-mass, then stroking it smooth, and then crisping the pile by pushing it back the wrong way a piece at a time by means of a flat-edged implement, and finally steaming the material.

979,299. HOE. BENNIE I. HERMANSON, Arendahl, Minn. Filed June 7, 1910. Serial No. 565,433.



1. The combination with a hoe, of a spring actuated yoke pivoted upon the handle and having forward extending arms, resilient limbs connected with said arms and having terminal loops, and a scraping device engaging the blade and having terminally disposed pivot members engaging the loops.

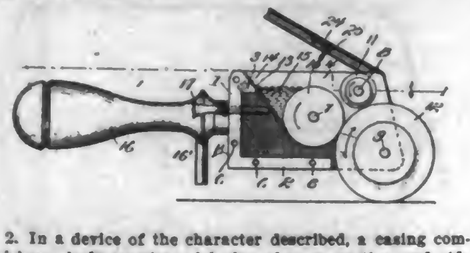
2. The combination with a hoe, of a yoke pivotally supported upon the handle of said hoe and having rearward extending members provided with terminal loops, a scraping device slidably engaging the blade provided with terminally disposed pivot members engaging the loops, and a handle whereby the yoke may be actuated.

3. A hoe having a handle and a blade, a pivotally supported spring actuated yoke having forward extending members provided with terminal loops, a scraping device slidably engaging the blade and having terminally disposed pivot members engaging the loop, and a handle extending upwardly from the yoke.

4. A hoe including a handle and a blade, a pivotally supported spring actuated yoke having resilient limbs provided with terminal loops disposed adjacent to the sides of the blade, a scraping device including two scrapers, grooved heads connecting the same and slidably engaging the side edges of the hoe blade, and pivot members extending from the heads and engaging the loops of the resilient members.

979,300. INKING-ROLLERS. WILLIAM W. HILL, Sharpsburg, Ky. Filed June 11, 1910. Serial No. 566,441.

1. In a device of the character described, a frame member of L-shaped cross section having a ledge with an inclined face, side walls secured upon said frame member, shafts supported for rotation in the side walls and carrying, respectively, a fountain roller, a distributing roller and an inking roller, a resilient plate secured upon the inclined ledge in engagement with the fountain roller and combining with the latter and with the side walls of the casing to form an ink fountain, and a lid hingedly connected with the casing and having a flange adapted to engage the inking roller.



2. In a device of the character described, a casing comprising a body member of L-shaped cross section and side walls connected therewith, a resilient plate connected with the back wall of the L-shaped body member, a roller supported for rotation in the casing and combining with the side walls and with the resilient plate to constitute an ink receptacle, means for forcing the free edge of the resilient plate in the direction of the roller, a lid hingedly connected with the casing, and a flange secured upon the underside of the lid and adapted to contact with the inking roller to scrape the latter when reversely rotated.

3. In a device of the character described, a casing including a body of L-shaped cross section and side walls upon the same, shafts supported for rotation in the side walls and carrying respectively a fountain roller, a distributing roller and an inking roller, said fountain roller and distributing roller being in contact with the face of the inking roller, a resilient plate secured upon the back wall of the casing, means for forcing the free edge of said plate in the direction of the fountain roller, and means for transmitting motion from the inking roller to the fountain roller and the distributing roller.

979,301. EVAPORATING BRINE APPARATUS. JAMES HODGKINSON, Pendleton, Manchester, England. Filed Mar. 1, 1909. Serial No. 480,606.



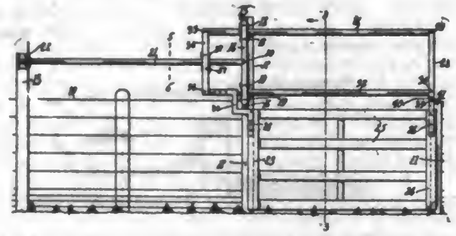
1. In an apparatus for evaporating brine, and in combination, a covered pan adapted to contain the brine, and a regulated heat generating apparatus arranged in the described relation to the pan and adapted to maintain the pan and its contents at a uniform and high temperature, and a second pan arranged to be heated by the products of combustion of the heat generating apparatus, all substantially as described.

2. In an apparatus for evaporating brine, and in combination, a covered pan adapted to contain the brine, a regulated heat generating apparatus arranged in the described relation to said pan and adapted to maintain the pan and its contents at a uniform high temperature and a second pan adapted to be heated by the products of combustion of the heat generating apparatus and arranged also to receive the steam from the first pan, substantially as described.

3. In an apparatus for evaporating brine, and in combination, a plurality of covered pans adapted to contain brine and arranged in order, one after the other, a regulated heat generating apparatus adapted to maintain the first pan and its contents at a uniform high temperature, flues arranged to conduct the hot gases or products of combustion to the pans in succession, a chamber underneath the pans following the first, and steam pipes from the preceding covered pans leading into said chamber or chambers, all substantially as described.

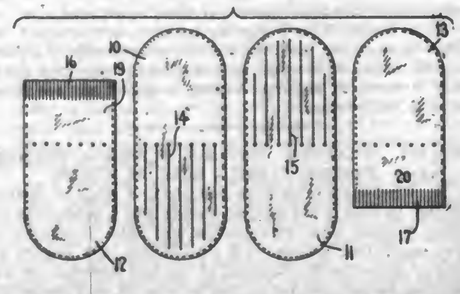
4. In an apparatus for evaporating brine, and in combination a plurality of covered pans adapted to contain brine and arranged in order, one after the other, a regulated heat generating apparatus adapted to maintain the first pan and its contents at a uniform high temperature, flues arranged to conduct the hot gases or products of combustion to the pans in succession, a chamber underneath the pans following the first, and steam pipes from the preceding covered pans leading into said chamber or chambers, and an open pan following the plurality of covered pans, said open pan having the chamber underneath it and a pipe leading from the last covered pan to the chamber last specified, all substantially as described.

979,302. GATE. JOHN HORNER, Friend, Nebr. Filed Feb. 12, 1910. Serial No. 543,468.



In a gate, a plurality of posts spaced apart from each other, two of said posts being located on opposite sides of a gateway, the intermediate post being extended above the normal fence line, a bracket mounted on the upper end of the intermediate post, rollers mounted between said bracket and the upper end of said intermediate post at vertically spaced points, a gate adapted to occupy a position when closed between the posts on opposite sides of the gateway, a vertical support on one end of said gate, a tubular rod secured at one end to said vertical support and movable between the lower set of the rollers carried by the intermediate post, said vertical support being extended above said tubular rod, a tubular rod mounted at one end on said vertical support and movable between the upper set of rollers carried by said intermediate post, bars connecting the remaining ends of the tubular bars, rollers journaled between the bars last named, an L-shaped bracket connecting the lower tubular bar and one end of the gate, a tubular rod secured at one end to the intermediate post and disposed in a plane intermediate of the planes of the upper and lower tubular bars and extending away from said tubular bars and secured to one of the posts distantly of the intermediate post.

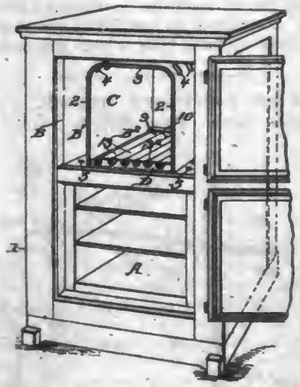
979,303. PUZZLE-PURSE. AARON HORSFALL, St. Joseph, Mo. Filed Feb. 18, 1910. Serial No. 544,581.



1. A puzzle purse comprising two sections, each section being provided with a pocket and having a long side wall and a short side wall, the long side wall being provided with transversely spaced longitudinally extending slits the longer side wall of each section being disposed between the side walls of the other section and secured to the outer end of said section and stitching extending through the side walls of the pocket sections and the slits whereby the longer side walls can be moved relative to the shorter side walls.

2. A puzzle purse comprising independently and oppositely arranged pocket sections, each pocket section having one of its side walls disposed between the side walls of the other pocket, and secured to the end of said pocket said side wall being formed with longitudinal transversely spaced slits, the remaining side walls of the pocket sections being disposed outwardly of the slitted side walls and terminating in free portions, the side walls of each section being stitched together and stitching extending through the side walls of the pocket sections and the slits of the inner and slitted side wall sections whereby said slitted side wall sections are slidably held between the outer side wall sections and two independent pockets are formed.

979,304. REFRIGERATOR. EDWIN F. HULBERT, South Norwalk, Conn., assignor to Sealshipt Oyster System, Inc., South Norwalk, Conn. Filed Apr. 23, 1910. Serial No. 557,251.



1. A refrigerator embodying a food chamber and cooling chamber theresbove, an ice receiving casing mounted in the cooling chamber and separated from the walls thereof, the refrigerator being provided with openings leading from the interior of the food chamber to the cooling chamber exterior of the ice receiving casing, the latter being provided in its top with openings establishing communication between its exterior and interior, an air chamber embodied in the refrigerator and having communication with the food chamber, the said air chamber being separate and distinct from the interior of the ice receiving casing, and the ice receiving casing being provided in its bottom with air passages which open at one end in the said air chamber and at their opposite ends within the casing.

2. A refrigerator, embodying a food chamber, and a cooling chamber thereabove, an ice receiving casing in the cooling chamber and separated from the walls thereof, the refrigerator being provided with openings establishing communication between the cooling chamber and the food chamber exterior of said casing, the casing being provided in its top with openings establishing communication between its exterior and interior, tubes extending across the bottom of the casing, the tubes at one end opening into the interior of the casing, and said tubes opening at their other ends at points exterior to the casing, and the refrigerator being formed with openings establishing direct communication between the last-named ends of the tubes and the food chamber.

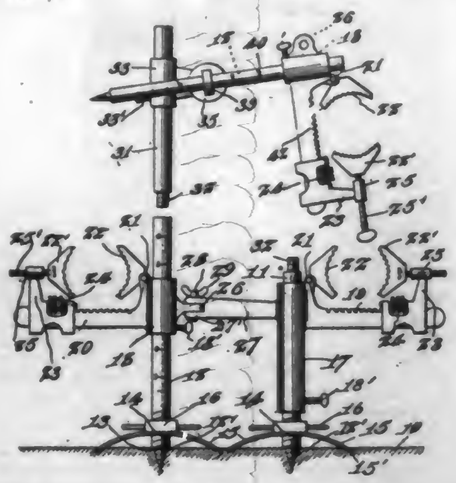
3. A refrigerator, embodying a food chamber, an ice receiving casing above said food chamber, a tray with

the ice receiving casing and embodying a plurality of tubes and a body portion holding said tubes, the body portion being formed with a flange underneath which the tubes project from the body portion, the flange and the adjacent side of the body portion of the tray forming an air chamber distinct from the interior of the casing and communicating with the interior of the food chamber, the refrigerator being provided with openings establishing communication between the food chamber and the exterior of the casing, and the casing being formed with openings establishing communication between its exterior and interior.

4. In a refrigerator of the character described, a tray provided in its front side with recesses and at its rear side with openings, tubes held in said recesses and projecting through said openings, the tray being formed above said protruding ends with a flange, for the purpose specified.

5. A refrigerator embodying a food chamber and a cooling chamber, an ice receiving casing mounted in the cooling chamber and separated from the walls thereof, the refrigerator being provided with openings leading from the interior of the food chamber to the cooling chamber exterior of the ice receiving casing, the latter being provided with openings establishing communication between its exterior and interior, an air chamber embodied in the refrigerator and having communication with the food chamber, and the ice receiving casing being provided with air passages which open at one end in the said air chamber and at their opposite ends within the casing.

979,305. WIPE-JOINT PIPE-HOLDER. CHARLIE D. HUNT, Paola, Kans. Filed May 6, 1910. Serial No. 559,712.

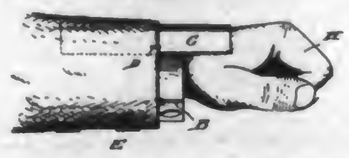


1. A device of the class described comprising two standard members having their lower ends threaded and also provided with screw tenons adapted for engagement in wood and the like, resilient spider members slidable over the threaded portion and a nut engaged inwardly of the spiders for impingement against the spiders to force them against material engaged by the tenons, and pipe clamping devices carried slidably upon the standards.

2. A device of the class described comprising standard members adapted to be secured upon a support, slidable pipe clamping devices carried thereon, sleeve slidably mounted on said standards, each of said sleeves having a lateral projection provided with a rosette boss extending at right angles thereto, said boss being centrally and circularly apertured, a rosette block having an oblong passage therethrough restricted to circular form and adapted to register with the first named aperture, said block being disposed in engagement with said boss, a threaded bolt projecting through the said block and boss, a thumb nut engaged with the bolt, said bolt being enlarged outwardly and oppositely of the nut to fill said oblong opening, said enlargement having a transverse passage therethrough, said passage being adapted to receive one of said standards slidably therethrough to be clamped adjustably at any angle and against revolution.

3. A device of the class described comprising a plurality of standards, sleeve members slidable thereon and carrying pipe engaging jaws centrally pivoted and having their opposite portions extended obliquely with respect to each other, said sleeves having laterally extending rack arms, sliding members thereon, means for adjusting the members longitudinally of the arms, and second pipe engaging jaws opposed respectively to those first named, and means for adjusting said jaws relatively toward and away from each other.

979,306. CUFF ATTACHMENT. FRANK HUSTACE and JEROME J. SMIDDY, Honolulu, Hawaii. Filed Aug. 3, 1910. Serial No. 575,267.



1. A device of the character specified, comprising a thin case of light material open at one end and curved transversely to fit a cuff and adapted to be inserted between the cuff and the sleeve, with the open end outward, a hook on each side edge near the open end, each hook comprising a strip of resilient material secured at one end to the case, bent outwardly and backwardly upon itself to engage the outer surface of a sleeve, and a sheet of material fitting loosely in the case and having a surface capable of receiving an impression and permitting its erasure without damage to the sheet, the case having a notch in its open end intermediate the side edges to permit the sheet to be grasped.

2. A device of the character specified, comprising a thin case open at one end and curved transversely to fit over a cuff, a hook at each side edge of the case for engaging the edge of a sleeve, and a sheet of material in the case having a surface capable of receiving writing and permitting its erasure, the case having a notch in its side walls at the open end for permitting the sheet to be grasped.

3. A device of the character specified, comprising a thin case open at one end and curved transversely to fit over a cuff, a hook at each side edge of the case for engaging the edge of a sleeve, and a sheet of material having a glazed surface fitting loosely in the case.

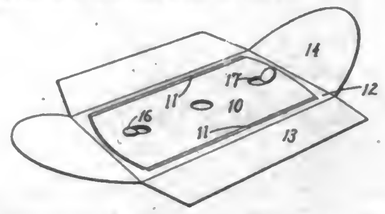
4. A device of the character specified, comprising a thin case open at one end and curved transversely to fit over a cuff, means on the case for engaging the edge of a sleeve, and a sheet of material having a glazed surface fitting loosely in the case, the case having its side walls notched at the open end to permit the sheet to be grasped.

5. A device of the character specified, comprising a thin case open at one end and curved transversely to fit over a cuff, means on the case for engaging the edge of a sleeve, and a sheet of material having a glazed surface fitting loosely in the case.

979,307. WRAPPER. GEORGE S. HUTCHINGS, Cambridge, Mass. Filed May 7, 1907. Serial No. 372,326.

1. A razor blade package comprising a sheet of material folded to form a supporting section and a protecting section, a razor blade mounted on and held in position on the supporting section with its cutting edge toward but out of contact with the bend of the fold between the supporting section and the protecting section, and positioning means for holding the blade in position on the supporting section by engagement with a part of the blade removed from its cutting edge.

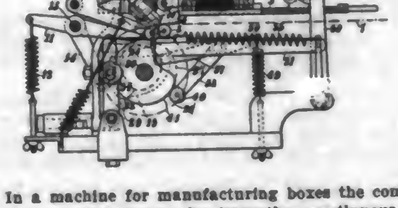
2. A razor blade package comprising a support of sheet material of a width greater than the width of the razor blade, a two-edged razor blade mounted on and held in position on the support with the edges of the support extending beyond and protecting the cutting edges of the blade, positioning means for holding the blade in position on the support by engagement with a part of the blade removed from its cutting edges, and a protecting sheet to lie against and cover the blade on the support.



3. A razor blade package comprising a support of sheet material, a razor blade mounted on the support in position with an edge of the support extending beyond the cutting edge of the blade to protect the cutting edge, positioning means for holding the blade in position on the support by engagement with a part of the blade removed from its cutting edge, and a protecting sheet arranged to lie against and cover the blade on the support.

4. A razor blade package comprising a support of sheet material, a razor blade mounted on the support in position with an edge of the support extending beyond the cutting edge of the blade to protect the same, and positioning means formed by lugs carried by the support and arranged to extend through an opening in the blade whereby the blade is secured to and held in position on the support with its cutting edge out of engagement with the positioning means.

979,308. MACHINE FOR MANUFACTURING MATCH-BOXES. KARL AUGUST JOHANSSON, Tidaholm, Sweden, assignor to Jönköpings och Vulcans Tändsticksfabriks-aktieboiag, Jönköping, Sweden. Filed Nov. 13, 1908. Serial No. 462,465.

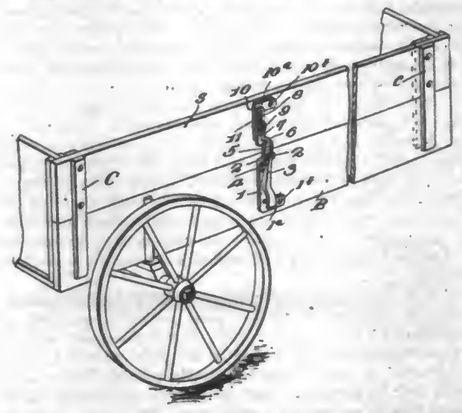


1. In a machine for manufacturing boxes the combination of a mandrel, means for imparting continuous rotation to the said mandrel, means for attaching blanks thereto during its rotation, means for applying a strip coated with an adhesive to the outer side of the blank, means for smoothing the said strip onto the blank while the latter is wound around the mandrel, means for sliding the ready boxes along the mandrel, and means for smoothing the strip in the second position of the box on the mandrel before it is pushed off.

2. In a machine for manufacturing boxes the combination of a mandrel, means for imparting continuous rotation to the said mandrel, a gripper for attaching blanks thereto during its rotation, means for applying a strip coated with an adhesive to the outer side of the blank, a roller for smoothing the said strip onto the blank while the latter is wound around the mandrel, means for sliding the ready boxes along the mandrel, and a second roller for smoothing the strip, in the second position of the box on the mandrel, before it is pushed off.

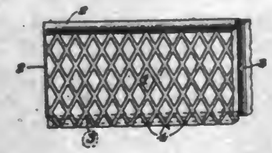
3. In a machine for manufacturing boxes open at the ends, the combination of a mandrel, means for imparting continuous rotation to the said mandrel, means for attaching blanks thereto during its rotation, means for applying a strip coated with an adhesive to the outer side of the blank, means for smoothing the said strip onto the blank while the latter is wound around the mandrel, means for sliding the blank wound around the mandrel, with the strip attached to its outer side, into a second position on the said mandrel before the latter has made two whole revolutions, and means for finishing the box in its second position on the said mandrel while a new blank is wound around the mandrel at the part thereof just left by the ready-wound blank.

979,309. SIDE-BOARD CLAMP. THOMAS C. JOHNSTON, Monticello, Ill. Filed Dec. 30, 1908. Serial No. 469,940.



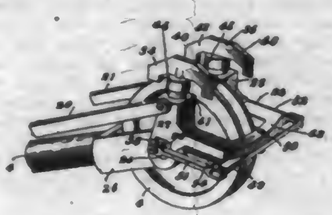
A clamp comprising upper and lower plates for attachment to a side board and wagon box respectively, the upper plate being serrated and the lower plate provided with spaced laterally extending ears, a serrated auxiliary plate engaging the upper plate and having its intermediate portion provided with a vertically disposed slot and its lower end provided with an eye, a link suspended from said eye and embracing the ears, a fastening device extending through the sideboard and slot in the auxiliary plate and engaging the upper plate for holding the auxiliary plate in adjusted position, and an operating lever pivotally mounted between the ears and having its intermediate portion provided with an enlargement adapted to bear against the lower plate and its free end offset to form a terminal handle, the pivoted end of the operating lever being provided with an upwardly inclined recess opening through that side of the lever next to the wagon box and defining an overhanging hook adapted to engage the adjacent end of the link, the lower plate forming a closure for the recess in the lever when the latter is operated to draw the upper and lower plates together.

979,310. INSULATION-SLAB. WILLIAM C. KAMMERER, St. Louis, Mo. Filed Mar. 13, 1909. Serial No. 483,25[illegible].



As a new article of manufacture, a portable slab un[illegible] for use in the formation of insulating wall linings em[illegible]bodying a block composed of disintegrated cork in the form of chips and shavings coated with melted resin and pressed into a single integral component mass.

979,311. TROLLEY-WHEEL GUARD. EUGENE E. KELLEY, Greensburg, Pa. Filed June 7, 1910. Serial No. 565,541.



1. In a device of the character described, the combination of a pedestal, a trolley pole pivotally mounted upon said pedestal, a trolley wheel carried by said trolley pole, a guard frame pivotally mounted upon said trolley pole, guard arms mounted in said guard frame, means for normally maintaining said guard arms parallel to the length of said trolley pole, and means for maintaining the axes of said guard arms in a vertical plane.

2. In a device of the character described, the combination of a pedestal, a trolley pole pivotally mounted in said pedestal, a flat faced trolley wheel carried by said trolley pole, a guard frame pivotally mounted to rotate about the axis of the trolley wheel, guard arms pivotally mounted in the guard frame, guard wheels mounted to rotate about the axes of the guard arms, means for causing said guard arms to move simultaneously, and means for maintaining the axes of said guard arms in a vertical plane.

3. In a device of the character described, the combination of a pedestal, a trolley pole pivotally mounted in said pedestal, said trolley pole being provided with a fork, a trolley wheel mounted in the fork carried by said trolley pole, a guard frame pivotally mounted upon said trolley pole to vibrate around the axis of the trolley wheel, longitudinally extending guard arms rotatively mounted in said guard frame, cylindricallyfaced guard wheels mounted to rotate about the axes of the guard arms and means for maintaining the axes of said guard arms in substantially a vertical plane.

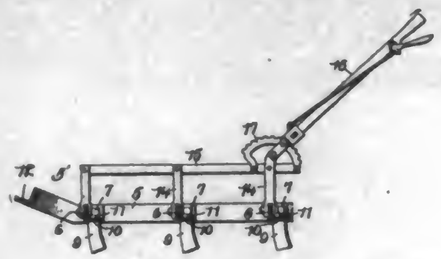
4. In a device of the character described, the combination of a pedestal, a trolley pole pivoted upon said pedestal, a trolley wheel mounted upon said trolley pole, crank arms fixedly mounted upon said pedestal, a guard frame mounted to rotate upon the axis of the trolley wheel, guard wheels carried by said guard frame, guard arms constructed to pivot about the axes of the guard wheels, operative means connecting said crank arms and said guard frame in such manner as to maintain the axes of the guard arms in substantially vertical relationship.

5. In a device of the character described, the combination of a pedestal, a trolley pole pivotally mounted upon said pedestal, a trolley wheel carried by said trolley pole, a guard frame pivotally mounted to rotate about the axis of said trolley wheel, guard wheels carried by said guard frame, beveled ended guard arms pivotally mounted in said guard frame, means for causing said guard arms to rotate simultaneously, and means for counterbalancing the rotation of said guard arms.

[Claim 6 not printed in the Gazette.]

979,312. HARROW. ALBERT S. KENDEL, French township, Adams county, Ind. Filed June 16, 1910. Serial No. 567,310.

In a harrow, the combination of a substantially U-shaped frame, a plurality of transverse angular tooth-carrying bars arranged between the parallel portions of the frame, said bars each having a vertical and a horizontal web portion, pivot bolts extending through the ends of the bars and the frame to pivotally support said bars therein, a vertical arm bifurcated at one end to receive the vertical web of the bar and adapted to be secured thereon, a longitudinally movable bar pivoted to the upper ends of the vertical arms, a rack secured to the rear end of said bar, and a lever secured to the upper end of the rear vertical arm and disposed rearwardly and at an



angle with relation to the same, said lever carrying a spring-controlled dog for engagement with the teeth of the rack to lock the longitudinal bar against movement.

979,313. LIFTING DEVICE. JAMES KING and HERBERT C. KIMPTON, Montclair, N. J. Filed Mar. 12, 1910. Serial No. 548,803.



1. A golf marker comprising an upright for insertion in the hole of a putting green, and means carried by said upright and movable independently thereof for extracting a golf ball from said hole.

2. A golf marker comprising an upright for insertion in the hole of a putting green, and means carried by said upright and movable independently thereof for extracting a golf ball from said hole and for shifting same laterally thereof.

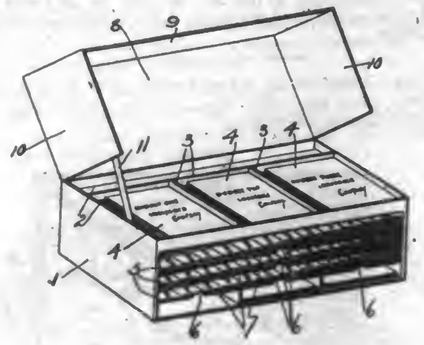
3. A golf marker comprising an upright for insertion in the hole of a putting green, a member slidably mounted on said upright and means carried by said member for extracting a golf ball from said hole by the upward movement of said member.

4. A golf marker comprising an upright, for insertion in the hole of a putting green, a member slidably mounted on said upright, a flange on said member adapted to be disposed across the transverse area of said hole, whereby balls entering therein may be extracted therefrom by the upward movement of said member.

5. A golf marker comprising an upright for insertion in the hole of a putting green, a member slidably mounted on said upright, a downwardly inclined flange on said member adapted to be disposed across the transverse area of said hole, whereby balls entering said hole may be extracted therefrom and shifted laterally thereof by the upward movement of said member.

[Claims 6 and 7 not printed in the Gazette.]

979,314. POLICY-FILE. THOMAS F. KING, Jr., Pawtucket, and DANA G. HALL, Cranston, R. I.; said Hall assignor to said King, Jr. Filed Sept. 23, 1910. Serial No. 583,892.



1. A filing box comprising a body having an open top and an open front, horizontal partitions dividing the same into a plurality of compartments substantially the full horizontal area of the box, the upper compartment being sub-divided into smaller compartments, and means for closing all of said compartments, said means comprising a cover having both a top and front portion to simultaneously expose or close the top of the lower compartments.

2. A filing box comprising a body having separate compartments which are open at the top and front of said body, monthly index cards or sheets located in compartments which open at the front of the body, and a cover for simultaneously exposing or closing all of said compartments.

979,315. FRICTION-GEARING. LOUIS N. LACOMBE, New York, N. Y. Filed Jan. 27, 1910. Serial No. 540,399.



1. In combination two opposed gear members in axial alinement, a pinion intermediate said gear members, a frame supporting said pinion and normally tending to move said pinion out of engagement with one of said gear members, and means for moving the other gear member into engagement with the pinion.

2. In combination two opposed gear members, a pinion intermediate said gear members, a sliding frame carrying said pinion, a spring normally tending to move said frame to bring the pinion out of engagement with one of said gear members, and means for moving the other gear member into engagement with the pinion to bring the pinion into engagement with the first-mentioned gear member.

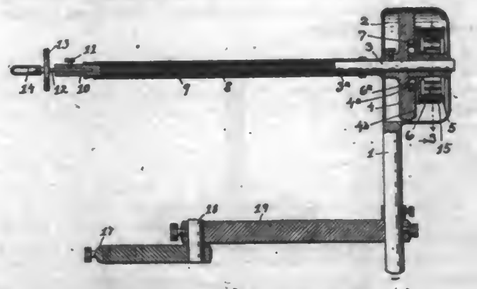
3. In combination two opposed gear members in axial alinement and each presenting a beveled face with concentric corrugations, a pinion intermediate said gear members and having a series of concentric corrugations adapted to intermesh with the corrugations of the gear members, a sliding frame carrying said pinion, and yielding means normally tending to move said frame in one direction to bring the pinion out of engagement with one of said gear members.

4. In combination a base, a driving shaft mounted thereon, a driven shaft mounted upon said base and in axial alinement with said driving shaft, gear members carried by said shafts, a frame intermediate said gear members and slidably mounted upon said base, a pinion carried by said frame and disposed between said gear members, rods secured to said base, and springs encircling said rods and having engagement with said frame, for normally tending to move the frame in one direction, to bring the pinion out of engagement with one of said gear members.

5. In combination a base, a driving shaft mounted thereon, a driven shaft mounted on said base and in axial alinement with said driving shaft, gear members carried by said shafts, a frame intermediate said gear members and slidably mounted upon said base, a pinion carried by said frame and disposed between said gear members, rods secured to said base, springs encircling said rods and having engagement with said frame, for normally tending to move the frame in one direction, to bring the pinion out of engagement with one of said gear members, and means for moving the other gear member toward said pinions.

[Claims 6 to 12 not printed in the Gazette.]

979,316. ERASER FOR TYPE-WRITING MACHINES. DON M. LEMON, Boston, Mass., assignor of one-half to Ernest V. Page, Boston, Mass. Filed Jan. 29, 1910. Serial No. 540,874.



1. An erasing attachment for typewriting machines comprising a clamp for connection with the typewriter frame, an upright vertically adjustable arm carried by said clamp and having a casing at its upper end, a rotary shaft having journal bearings in said casing and an extension carrying an eraser wheel, and means for rotating said shaft and eraser wheel including a hollow grooved wheel in said casing upon said shaft, a flexible strap having attachment at one end thereof to and wound upon said grooved wheel, and spring means within said hollow grooved wheel for rewinding the strap after operation thereof.

2. An erasing attachment for typewriting machines comprising a clamp adapted for connection with the typewriter frame, a horizontal swinging arm having a pivoted connection with said clamp, an upright arm having connection with said horizontal arm and having a casing at its upper end, a rotary shaft having journal bearings in said casing and an extension carrying an eraser wheel and means in said casing for rotating said shaft and eraser wheel.

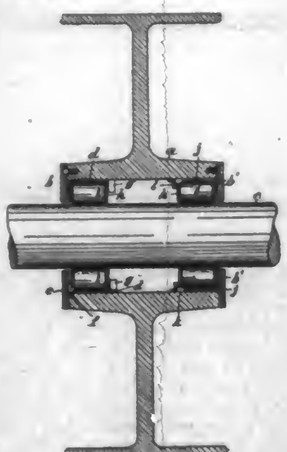
3. An erasing attachment for typewriting machines comprising a clamp for connection with the typewriter frame, an upright arm carried by said clamp and having a casing at its upper end, a rotary shaft having journal bearings in said casing and an extension provided with a socket end portion, an eraser wheel having a shaft extension at one side thereof having detachable engagement with said socket end portion and a shaft extension at the opposite side thereof having an operating handle connection, and means in said casing for rotating said shaft and eraser wheel.

4. An erasing attachment for typewriting machines, comprising a clamp adapted for connection with the typewriter frame, an upright arm carried by said clamp and having a casing at its upper end, a rotary shaft having journal bearings in said casing and an extension carrying an eraser wheel, and means located in said casing for rotating said shaft and eraser wheel, including a hollow grooved wheel upon said shaft, a wheel at one side thereof having an internal series of ratchet teeth, a pivoted pawl device upon the side of said grooved wheel having engagement with said ratchet teeth, a flexible strap having attachment at one end to and wound upon said grooved wheel, and spring means within said grooved wheel for rewinding the strap after operation thereof.

5. An attachment for typewriting machines, having in combination with a rotary shaft having a flexible extension carrying an eraser wheel, means for rotating said shaft and eraser wheel including a grooved wheel and a flexible strap having attachment at one end to and wound upon said grooved wheel, and means for automatically rewinding the strap after operation thereof, push rod machanism having a seat for the end of the flexible shaft adjacent to the eraser wheel, and provided with a retracting spring.

[Claim 6 not printed in the Gazette.]

979,317. SLEEVE TO GUIDE THE CAGES IN ROLLER-BEARINGS. CHARLES S. LOCKWOOD, Newark, N. J., assignor to Hyatt Roller Bearing Company, Harrison, N. J., a Corporation of New Jersey. Filed June 7, 1909. Serial No. 500,520.

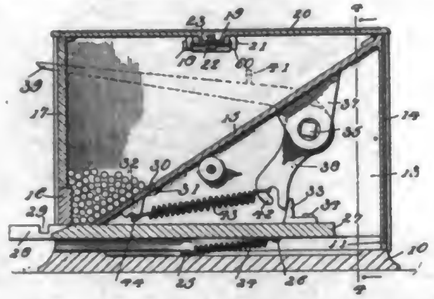


1. In a roller bearing, the combination, with a casing and a shaft journal, of an integral cylindrical sleeve, an undivided cage of circular form with a series of rolls therein and adapted to slip endwise upon the sleeve, the sleeve having slots near its ends and tongues having parallel edges separated from the substance of the sleeve at the side of such slots and adapted to be bent inwardly by a hand-tool at the end of said slot at right angles to the periphery of the sleeve, to retain and guide the cage upon the sleeve in its rotations within the casing.

2. In a roller bearing, the combination, with a casing and a shaft-journal, of a sleeve fitted to the casing and secured from end movement therein, a head upon the casing adjacent to the outer end of the sleeve, a cage with rolls fitted to the sleeve between the journal and casing and tongues formed upon the inner end of the sleeve and bent at right angles thereto adjacent to the inner end of the cage, whereby the tongues and the casing-head form guides for the rotation of the cage.

3. In a roller bearing for loose pulleys, the combination, with the pulley-hub forming the casing of the bearing, of heads upon the opposite ends of such hub projected toward the shaft, separate sleeves fitted within the hub at opposite ends adjacent the said heads and having tongues at their inner ends bent at right angles to their periphery, and a cage with a set of rolls fitted within the sleeve in each end of the hub between the head and the said tongues and guided thereby in their rotations around the shaft.

979,318. COMBINED MATCH-BOX AND CIGAR-CUTTER. HAL MARRIOTT, Newark, Ohio. Filed Jan. 25, 1910. Serial No. 540,081.



1. A match box including a receptacle, an inclined bottom located in said receptacle and having a depending finger at its lower end and upon its under side, a slide arranged in the receptacle to convey matches singly therefrom, a spring disposed in the receptacle and having connection with the slide to normally extend the same, an abutment disposed across the rear end of the slide, a transverse shaft arranged in alinement above the rear end of the slide, an arm mounted rigidly upon said shaft for engagement against the abutment to retract the slide upon the rotation of the shaft, and a spring disposed between the finger and the arm for retracting the same when the shaft is released.

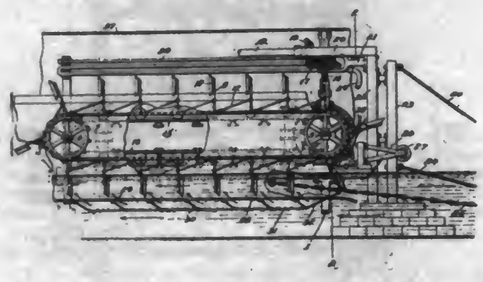
2. A match box including a receptacle having an inclined bottom with a depending finger at its forward end, a depending bearing at its upper end, a slide arranged within the receptacle above the bottom, a spring carried within the receptacle and having connection at its opposite ends with the bottom and the slide to normally extend the latter, a transverse shaft journaled within the receptacle and the depending bearing, an arm carried upon the shaft and extending downwardly for engagement with the slide, a lever carried upon the outer end of the shaft against the side of the receptacle to rotate the shaft, and a spring secured at its opposite ends, respectively, upon the finger and the arm to hold the arm normally in a forward position from engagement with the slide.

979,319. MINING STARTER-BIT. GEORGE G. MAYER and REESE ASHTON, South Bethlehem, Pa. Filed Jan. 15, 1900. Serial No. 472,511.



A mining starter bit comprising a bit holding shank having a single tapering socket in one end thereof, said socket being of substantially diamond or parallelogrammic shape in cross section, the minor axis of said socket being extended diagonally across the major axis thereof, a tapered pin or key passing through oppositely arranged holes coincident with opposite angles in the socket, and in line with the minor axis of the socket, and cutting bits having shanks of triangular shape in cross section adapted to fit into the socket on opposite sides of the pin or key whereby said pin or key operates to wedge apart the shanks of the cutting bits and jam the same into binding engagement with the opposite V-shaped portions of the socket, substantially as described.

979,320. CURRENT-MOTOR. HERBERT S. MCKAGUE and AXLE ROBERT JOHNSON, Altoona, Pa. Filed Aug. 10, 1909. Serial No. 512,288.



1. In a current motor, the combination of a float, a housing mounted upon the float and comprising vertical walls, an endless power chain mounted upon the float, rods provided at intervals in the length of the power chain and extending through slots formed in the vertical walls of the housing, arms extended from the rods and provided at their outer ends with buckets, wheels mounted upon the outer ends of the rods beyond the vertical walls of the housing, and upper and lower tracks exterior to the housing and supported thereby and adapted to have the wheels at the outer ends of the rods travel thereon.

2. In a current motor, the combination of a float, a housing mounted upon the float and comprising a bottom and vertical walls, the bottom having openings at intervals in its length, an endless power chain mounted upon the float and provided at intervals in its length with buckets, the latter adapted to operate between the vertical walls of the housing and close to the bottom thereof, deflectors pivotally connected to the bottom of the housing in the rear of the openings formed therein, and means for adjusting the deflectors to any relative angular position.

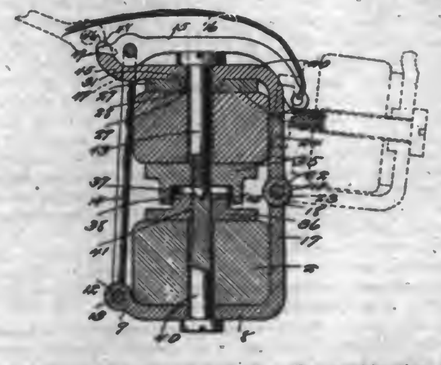
3. In a current motor, the combination of a float, a housing mounted upon the float and comprising a bottom and vertical walls, the bottom having openings at intervals in its length, an endless power chain mounted upon the float and provided at intervals in its length with buckets, the latter adapted to operate between the vertical walls of the housing and close to the bottom thereof, deflectors pivotally connected to the bottom of the housing in the rear of the openings formed therein, a rod adapted to engage the deflectors so as to move the same in series, and independent means for moving the deflectors whereby any one of the series may be adjusted separately and independently of the others.

979,321. COLLAR OR HAME FASTENER. ADAM O. MCNATTON, Columbus Junction, Iowa. Filed Apr. 8, 1910. Serial No. 554,214.



In a fastener, a base plate, said base plate having its body of an arcuate formation and having its longitudinal edges provided with walls, the offset walls adjacent one of the ends of the plate being extended upwardly and formed with hooks, a lever plate having its body of an arcuate formation and its longitudinal edges also provided with walls, these walls being provided with ears adjacent one of the ends of the plates, knobs upon the ears adapted to be engaged by the hooks, a coupling member pivotally connected with the lever plate, and a flexible hand-hold for the lever plate.

979,322. HORSE-RELEASING DEVICE. JOHN L. MILLER, Cobb, Fla. Filed Nov. 18, 1909. Serial No. 528,769.



1. In a horse releasing device, the combination of a pair of shafts having a cross bar and a swingletree, of a separable coupling comprising two inter-engaging plates, a clevis member comprising two hinged parts, one engaging over the swingletree and the other engaging under the cross bar, the part engaging over the swingletree having curved slots, a plate secured to the upper portion of the swingletree beneath the part having the slots and provided with pins extending into the slots, screws penetrating the bar and the swingletree having threaded portions threaded into the plates forming the coupling, one of said screws having a conical recess, while the other screw is provided with a conical shaped point to seat in said recess to form a drill bearing, means for locking the two parts together, and means for releasing said locking means.

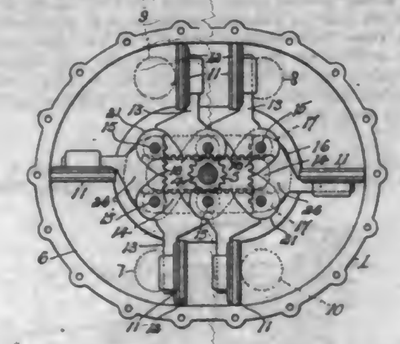
2. In a horse releasing device, a pair of shafts having a cross bar, a swingletree positioned thereabove, a clevis member comprising two hinged parts for hingedly mounting the swingletree with regard to the cross bar, inter-engaging plates carried by the adjacent faces of the cross bar and the swingletree, screw bolts penetrating the cross bar and the swingletree and the said two parts of the clevis member and provided with threaded connections with the inter-engaging plates, one of said screws having a conical recess, while the other screw is provided with a conical point to engage the recess to form a pivotal connection bearing for the swingletree, and a loop for connecting the free portions of the two hinged parts.

979,323. PRIME MOVER. FRANK J. MINER, Detroit, Mich., assignor to Miner Engineering Company, Detroit, Mich., a Corporation of Michigan. Filed Mar. 12, 1910. Serial No. 548,914.

1. In a prime mover, a casing, and members therein articulated together in an endless series revoluble in the casing with which they form pockets, the members being adapted to move differentially to successively expand each pocket, and being propelled by the expansion of the pockets under pressure of fluid admitted thereto.

2. In a prime mover, a casing having ports, revoluble members therein articulated in an endless revoluble series to form a plurality of pockets successively communicating with the ports and adapted to move differentially to expand each pocket as it is in register with one port and to contract it as it reaches the succeeding port, the members being propelled by the successive expansion of the pockets

resulting from the pressure of fluid admitted thereto through the ports.



3. In a prime mover, a casing having ports, members therein articulated together in an endless revoluble series to form a plurality of pockets successively communicating with the ports, and means adapted to cause the members to move differentially to expand each pocket as it is in register with one port and to contract it as it reaches the succeeding port, the members being propelled by the successive expansion of the pockets from the pressure of fluid entering them from the ports.

4. In a prime mover, a casing having ports, members therein articulated together in an endless revoluble series that form a plurality of pockets successively communicating with the ports and adapted to move differentially to expand each pocket as it is in register with one port and to contract it as it reaches the succeeding port, and means adapted to connect the ports severally with a source of supply of fluid under pressure, the members being propelled by the successive expansion of the pockets due to the pressure of their contents.

5. In a prime mover, a casing having ports, and members therein articulated together in an endless revoluble series that form a plurality of pockets successively communicating with one of the ports, and adapted to move differentially to expand each pocket as it is in register with said port, and to contract it as it reaches the succeeding port, the ports being adapted to admit expansible fluid to each contracted pocket at a point where the pressure of the fluid expands the pocket and propels the members toward said succeeding port.

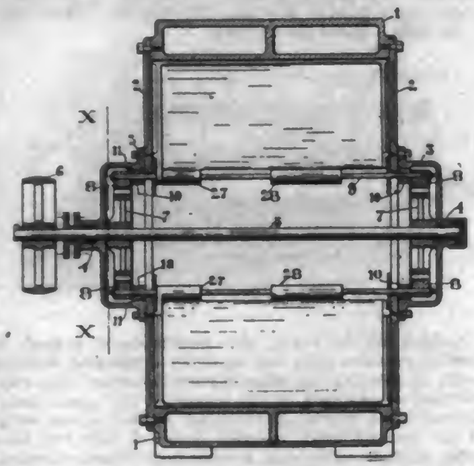
[Claims 6 to 19 not printed in the Gazette.]

979,324. BLOWER OR PUMP. FRANK J. MINER, Detroit, Mich., assignor to Miner Engineering Company, Detroit, Mich., a Corporation of Michigan. Filed Feb. 26, 1909, Serial No. 480,227. Renewed June 29, 1910. Serial No. 569,579.

1. The combination with a casing having inlet and outlet ports, of a series of revoluble blades arranged within said casing and maintained in substantially parallel relation transverse to the casing to form a plurality of pockets successively communicating with said inlet and outlet ports, means for rotating said blades differentially to expand and contract said pockets when respectively in communication with said inlet and outlet ports, and means in the casing engaging the blades adapted to define the motion thereof when operated by the rotating means.

2. The combination with a casing having inlet and outlet ports of revoluble blades articulated together and maintained in planes parallel to the axis of revolution within said casing to form a series of pockets successively communicating with said inlet and outlet ports, rotatable driving means adapted to revolve the blades in the casing, and means in the casing engaging the blades and coacting with the driving means to move the blades differentially whereby the said pockets are expanded and contracted when respectively in communication with said inlet and outlet ports.

3. The combination with a casing having inlet and outlet ports of revoluble blades articulated together and maintained in planes parallel to the axis of revolution within said casing to form a series of pockets successively communicating with said inlet and outlet ports and adapted to travel in a cam path in the casing whereby the said pockets are successively expanded and contracted when respectively in communication with said inlet and outlet ports, and a rotatable member engaging the blades adapted to move them around the cam path.



4. The combination with a casing having inlet and outlet ports of revoluble blades having rigid bases articulated in an endless chain within the casing whereby the blades form a series of pockets successively communicating with said inlet and outlet ports and adapted to travel in a cam path in the casing whereby said pockets are successively expanded and contracted when respectively in communication with said inlet and outlet ports and a rotatable member adapted to successively engage and move the blade bases along the path, the blades being maintained in planes parallel to the axis of revolution.

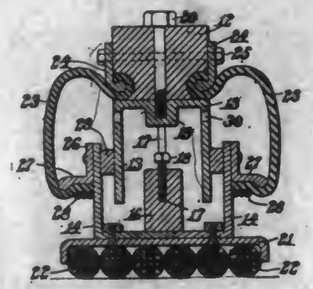
5. The combination with a casing having inlet and outlet ports, of revoluble blades having rigid bases articulated in an endless chain within the casing whereby the blades form a series of pockets successively communicating with said inlet and outlet ports, a flange defining the motion of the bases and a rotatable member adapted to engage and drive the bases along the flange, the flange and member coacting to successively expand and contract the pockets as they are respectively in communication with said inlet and outlet ports, the blades being maintained in planes parallel to the axis of revolution.

[Claims 6 to 14 not printed in the Gazette.]

979,325. TIRE. HENRY EDWARD MORRIS, Boston, Mass., assignor to Howard W. Brown, trustee, Brookline, Mass. Filed Sept. 1, 1909. Serial No. 515,720.

1. In combination with a wheel, a tire formed in two parts movable relative to each other, one of said parts being secured to the felly of the wheel; flexible annular sheets hermetically clamped at one edge to the movable part of said tire and at the other edge to a fixed part of the wheel; means for forcing compressed air into the space between said two parts; and means secured to both of said parts for causing them to rotate in unison.

2. In combination with a wheel, a tire formed in two parts movable relative to each other, one of said parts being secured to the felly of the wheel; flexible annular sheets hermetically clamped at one edge to the movable part of said tire and at the other edge to a fixed part of the wheel; means for forcing compressed air into the space between said two parts; and a flexible member secured to both of said parts for causing them to rotate in unison.



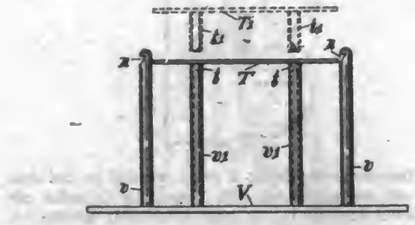
3. In combination with a wheel, a U-shaped annular member secured to the felly thereof; a similar U-shaped annular member fitting over the same; flexible connecting sheets forming annular pockets communicating with the space between said members; and means for forcing compressed air into the space between the two U-shaped members.

4. In combination with a wheel, a U-shaped annular member secured to the felly thereof; a similar U-shaped annular member fitting over the same; flexible annular sheets clamped at their outer edges to the outer of said annular members and at their inner edges to a fixed part of said wheel; lipped flanges projecting from one of said members; and a plurality of members wound over the edges of said sheets to retain them in position upon said lipped flanges.

5. In combination with a wheel, a U-shaped annular member secured to the felly thereof; a similar U-shaped annular member fitting over the same; flexible annular sheets clamped at their outer edges to one of said annular members and at their inner edges to a fixed part of the wheel; lipped flanges projecting from one of said members; a plurality of members wound over one of the edges of each of said sheets to retain it in position upon said lipped flange; a clamping ring for securing the other edge of each of said sheets to a fixed part of the wheel; and means for forcing compressed air into the space formed by said annular members and sheets.

[Claims 6 and 7 not printed in the Gazette.]

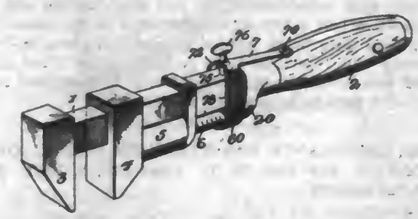
979,326. LOOSE-LEAF BINDER. GAIUS C. MOORE, Rochester, N. Y., assignor to John C. Moore Corporation, Rochester, N. Y., a Corporation of New York. Filed Nov. 29, 1909. Serial No. 530,308.



1. In a loose leaf binder, in combination with the cover having a base member and impaling posts carried thereby and means for releasably engaging the free ends of the posts for holding the binder closed, a removable plate carrying two tubular posts and means independent of the leaves in the binder or such first named impaling posts for holding such plate and tubular posts carried thereby properly alined comprising rods engaging within such tubular posts, such rods extending upwardly from the base member carrying such first named impaling posts and parallel therewith, such cover adapted, when the binder is opened, and such rods and such tubular posts engaging thereover spaced apart, to permit the engagement between such rods and between such tubular posts of the leaves at their back edges by the hand or fingers of the operator in removing a portion of the leaves from the binder together with such plate and tubular posts carried thereby.

2. In a loose leaf binder, in combination with the cover having a base member and impaling posts carried thereby and means for releasably engaging the free ends of the posts for holding the binder closed, a removable plate carrying two tubular posts and means independent of the leaves in the binder or such first named impaling posts for holding such plate and tubular posts carried thereby properly alined comprising rods engaging within such tubular posts, such rods extending upwardly from the base member carrying such first named impaling posts and parallel therewith, such cover adapted, when the binder is opened, and such rods and such tubular posts engaging thereover spaced apart, to permit the engagement between such rods and between such tubular posts of the leaves at their back edges by the hand or fingers of the operator in removing a portion of the leaves from the binder together with such plate and tubular posts carried thereby and leaves having openings therein adapted to receive such impaling posts and such tubular posts.

979,327. WRENCH. HENRY A. MORRILL, Strafford, Vt. Filed Mar. 10, 1910. Serial No. 548,333.



1. A device for the purpose substantially as described comprising a spring arm provided with a U-shaped head having depending ends terminating in gripping edges, and means whereby said head can be held raised against the tension of said arm in combination with a monkey wrench, substantially as described.

2. A device for the purpose substantially as described consisting of a pair of approximately parallel members terminating in gripping edges and connected by an arch provided with a spring arm extending laterally from said arch, and a turn plug carried by said arch and provided with a lifting cam in combination with a monkey wrench, substantially as described.

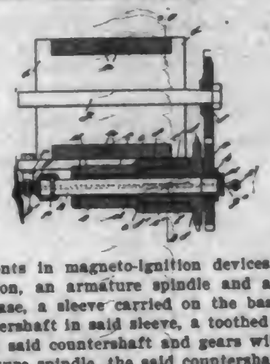
3. A monkey wrench provided with an adjusting screw lock comprising connected members movable to and from gripping engagement with the adjusting screw and arranged at the opposite side faces of the wrench bar and provided with means yieldingly holding the same in locking position, and with manually controlled means for lifting and holding the same from locking position.

4. A monkey wrench provided with an adjusting screw lock comprising a U-shaped locking head straddling the wrench bar and provided with transverse locking edges movable to and from locking position with respect to said screw, a spring device yieldingly holding said head in locking position, and means carried by said head for holding the same from locking position.

5. A monkey wrench comprising an adjusting screw lock embodying a spring arm arranged exteriorly and longitudinally of the wrench bar and at one end secured thereto and at its free end provided with a locking head having a member traversing a side face of the wrench bar and terminating in a transverse gripping edge adapted for gripping engagement with the adjusting screw finger wheel, said head provided with a turn plug having a lifting cam to coöperate with said head in locking and releasing the adjusting screw.

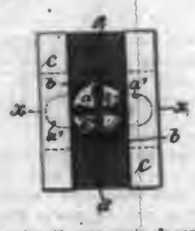
[Claim 6 not printed in the Gazette.]

979,328. MAGNETO-IGNITION DEVICE FOR USE IN CONNECTION WITH INTERNAL-COMBUSTION ENGINES. WILLIAM MULHOLLAND, Belfast, Ireland. Filed Nov. 11, 1909. Serial No. 527,481.



Improvements in magneto-ignition devices, comprising in combination, an armature spindle and a gear wheel thereon, a base, a sleeve carried on the base, a slotted, hollow countershaft in said sleeve, a toothed wheel which is carried by said countershaft and gears with the wheel on the armature spindle, the said countershaft also being slotted, a collar on said countershaft, a driving pinion carried on the latter, a slotted boss integral with said pinion, a longitudinally movable shaft (*k*) arranged inside said hollow countershaft, a pin carried at the end of the shaft and adapted to project through the slots in said boss and said countershaft, an end piece at the end of said shaft, a bell crank lever fulcrumed to the base, one arm of said lever being pivoted to said end piece, and an advancing and retarding lever secured to the other arm of said bell crank lever, substantially as described and shown, and for the purpose set forth.

979,329. APPLIANCE FOR REMOVING CORNS. OTTO P. MÜLLER, New York, N. Y. Filed Feb. 1, 1910. Serial No. 541,369.



1. An appliance for the purpose described, comprising a concavo-convex or dome-shaped shell of suitable material having therein crossing perforations, oppositely disposed projections adapted to support the same, a lining to the said shell and its projections of a gauze fabric and means for securing the shell and its fabric member in position.

2. An appliance for the purpose described, comprising a concavo-convex or dome-shaped shell of suitable material having therein crossing perforations, oppositely disposed projections adapted to support the same, a lining of gauze fabric to the shell and its oppositely disposed projections and adhesive material straps extending over and across said projections adhering thereto and to the gauze fabric lining and extending beyond to adhere to the flesh and connect the shell and its projections in position.

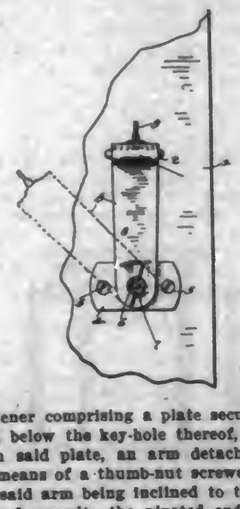
3. An appliance for the purpose described, comprising a concavo-convex or dome-shaped shell of suitable material having therein crossing perforations, oppositely disposed projections adapted to support the same, a lining of gauze fabric to the shell and its oppositely disposed projections and adhesive material straps extending over and across said projections adhering thereto and to the gauze fabric lining and extending beyond to adhere to the flesh and connect the shell and its projections in position and a gauze fabric protective lining underlying the aforesaid parts and the ends of the adhesive straps and initially serving to prevent the adhesive straps attaching themselves to articles prior to using.

979,330. WRENCH. JOSEPH CHARLES NOLL, Fort Wayne, Ind. Filed May 25, 1910. Serial No. 563,310.



In a tool of the class described, the combination with a shank having a serrated surface and terminating at one end in a jaw member, a second jaw member slidingly fitted on the shank and provided with a lateral recess; of a shaft arranged parallel with the shank and having its end portions journaled in opposite sides of said recess, the medial portion of said shaft being semi-circular in cross section, a dog loosely fitted in the recess of the sliding jaw member and provided at its opposite ends with bails to embrace the semi-circular portion of the shaft, and a substantially elliptical-shaped head arranged on the central portion of the shaft to engage the dog, for the purpose described.

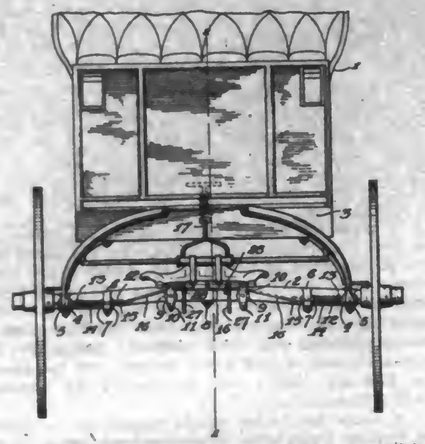
979,331. KEY-FASTENER. FRANK S. ODENZ, Chicago, Ill. Filed Mar. 30, 1910. Serial No. 552,378.



A key fastener comprising a plate secured to the door adjacent and below the key-hole thereof, a threaded pin integral with said plate, an arm detachably pivoted to said pin by means of a thumb-nut screwed on the latter, the body of said arm being inclined to the door and the portion thereof opposite the pivoted end being provided with a U-shaped loop having top and bottom members, and a thumb screw mounted in the top member of said loop, substantially as described.

979,332. HORSE-RELEASER. JAMES S. PITTS, Garvin, Okla. Filed Jan. 22, 1910. Serial No. 539,450.

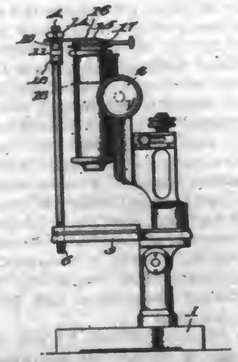
1. In a device of the character described, the combination with a pair of axle clips provided with guiding eyes, of a thill locking pins slidable in each set of eyes, a cable connecting said pins, and a foot plunger having a forked bent end for straddling a portion of the running gear of a vehicle and surrounding the front axle thereof, said plunger terminatingin end eyes for engagement with said cable.



2. A horse releasing device for vehicles, comprising a pair of thill pins adapted to be slidably mounted upon the front axle of a vehicle, a connecting cable for said pins, an operating plunger mounted in a vehicle, said plunger comprising a vertical rod terminating in a rearwardly-extending portion, and a U-shaped reach straddling member carried by said rod, the lower end of said member bent forwardly and upwardly to pass beneath said axle and terminating in eyes to receive said cable.

3. An operating plunger for a horse releasing mechanism, comprising a body portion, one end of said body portion bent at an angle to the major portion, a foot piece at the other end of said body portion, a substantially U-shaped member carried by said bent end, the arms of said U-shaped member adapted to straddle the reach of a vehicle and being bent forwardly at substantially right angles to said arms to pass beneath the front axle, and said forwardly-extending portion terminating in upstanding end portions provided with eyes.

979,333. MICROTOME ATTACHMENT FOR MICROSCOPES. JAMES G. POE, Dallas, Tex., assignor of one-half to R. E. L. Saner, Dallas, Tex. Filed May 12, 1910. Serial No. 560,999.

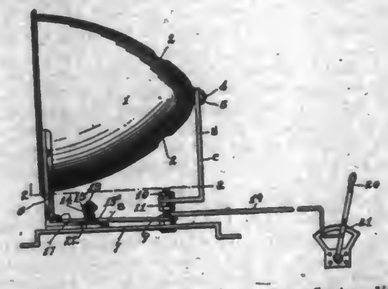


1. The combination of a microscope and a microtome attachment removably attached thereto, said attachment being provided with means for securing it to the stage of the microscope, and including a holder adapted to be placed in the barrel of the microscope and adjusted by the movement of said barrel, and a movable knife adapted to be swung into position over said barrel and to be drawn across said holder, substantially as described.

2. The combination of a microscope and a microtome attachment, said attachment being provided with means for securing it to the stage of said microscope, and including a holder adapted to be placed in the barrel of the microscope after the removal of the eye piece, said attachment also including a sliding knife adapted to be swung away from the barrel of the microscope, when desired, and to be drawn over the top of said holder to cut thin plates, substantially as described.

3. The combination of a microscope, including a stage and a barrel, with a microtome attachment including a bar having a forked end secured to said stage, said bar having thereon a swinging sleeve provided with a movable guide, a set screw for fastening said sleeve to said bar, a block carrying a knife adapted to slide on said guide, and an object clamp adapted to be dropped into the barrel of a microscope and held thereby after the removal of the eye piece, substantially as described.

979,334. HEADLIGHT-REFLECTOR. JAMES R. PRATT, Denison, Tex. Filed Aug. 26, 1910. Serial No. 579,009.



1. The combination of a base plate, a reflector disposed over the same, separate brackets for supporting the reflector on the base plate and permitting the latter to be adjusted about a vertical axis, means for frictionally holding one of the brackets against the base plate, and means for turning the reflector about said axis.

2. The combination of a reflector, of means for movably supporting the front of the reflector, means for movably supporting the rear portion of the reflector, a lever under the reflector and having its fulcrum disposed in a line passing vertically through the focal center of the reflector, and means connecting the lever with the first-mentioned means for shifting the reflector.

3. The combination of a base plate, a reflector disposed above the same, front and rear brackets, a pivot connecting the rear bracket with the base plate, means for yieldingly holding the front bracket against the base plate, an operating lever mounted on the pivot and connected with the front bracket for shifting the reflector to throw the rays of light in different directions.

4. The combination of a support, a reflector, separate brackets on which the reflector is mounted, separate means for movably mounting the brackets on the support, means for frictionally holding one of the brackets against the support, and an operating means connected with the bracket frictionally held against the support and arranged to adjust the reflector about a vertical axis passing through the focal center thereof.

5. The combination of a base plate, a reflector disposed above the same, a bracket connected with the rear portion of the reflector, a pivot on the base plate on which the reflector is mounted, a bell crank lever fulcrumed on the pivot, a bracket supporting the front of the reflector and having a horizontal plate bearing on the base plate, means for yieldingly pressing the plate of the bracket against the base plate and permitting the said bracket to move with the reflector, and means for connecting the lever with the front bracket.

[Claims 6 and 7 not printed in the Gazette.]

979,335. BURNER FOR GAS-LAMPS. WILLIAM H. REID, Brooklyn, N. Y. Filed Sept. 8, 1910. Serial No. 580,994.



1. A burner device provided with a pair of forked burner members each having a pair of jet orifices convergent to meet and produce a flat flame in the same place in the same plane relative to the device, the plane of the jets of one burner being inclined to the plane of the jets of the other burner to intersect above the device.

2. A burner device provided with a pair of forked burner members each having a pair of jet orifices convergent to meet and produce a flat flame in the same place in the same plane relative to the device, the plane of the jets of one burner being inclined to the plane of the jets of the other burner to intersect above the device, a gas supply pipe, and means for shunting the gas from the pipe to the burners alternately.

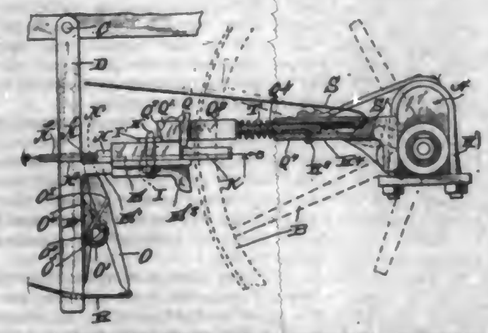
3. A burner device provided with a pair of forked burner members each having a pair of jet orifices, of different capacity convergent to meet and produce a flat flame in the same place in the same plane relative to the device, the plane of the jets of one burner being inclined to the plane of the jets of the other burner to intersect above the device.

4. A burner device provided with a pair of forked burner members each having jet orifices convergent to produce a flat flame, the burner members being inclined with the planes of the forks convergent to intersect in a horizontal line a short distance above the burners.

5. A burner device provided with a pair of forked burner members each having jet orifices convergent to produce a flat flame, the burner members being inclined with the planes of the forks convergent to intersect on a horizontal line a short distance above the device, a gas supply pipe connected with the device, and a valve operative to divert the gas to either burner member at will.

[Claims 6 and 7 not printed in the Gazette.]

979,336. SAFETY-BRAKE. HEINRICH MAX REITER, Asheville, N. C. Filed Jan. 28, 1910. Serial No. 540,659.



1. A brake for vehicle wheels comprising, in combination with the frame of the vehicle, axle and wheel thereon, a sliding plate supported by the frame of the vehicle, clencher jaws pivotally connected to said plate, a member adapted to actuate said clencher jaws to grip the rim of a wheel, and a brake shoe fixed to said plate.

2. A brake for vehicle wheels comprising, in combination with the frame of the vehicle, axle and wheel thereon, a sliding plate supported by the frame of the vehicle, clencher jaws pivotally connected to said plate, the inner edges of the shank portions of said jaws being inclined, a bar with opposite inclined edges movable intermediate said inclined edges of the jaws and adapted to tilt the jaws as the bar is moved longitudinally, and a spring-pressed lever mounted upon an attachment of the frame and pivotally connected to said bar and adapted to move the same longitudinally to cause the jaws to open and close.

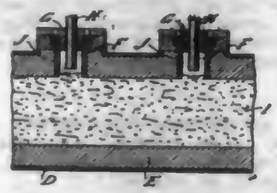
3. A brake for vehicle wheels comprising, in combination with the frame of the vehicle, axle and wheel thereon, a sliding plate supported by the frame of the vehicle, clencher jaws pivotally connected to said plate, a brake shoe fixed to said plate, a spring-pressed arm fastened to said brake shoe, and means for moving the latter toward the vehicle wheel.

4. A brake for vehicle wheels comprising, in combination with the frame of the vehicle, axle and wheel thereon, a sliding plate supported by the frame of the vehicle, clencher jaws pivotally connected to said plate, a brake shoe fixed to said plate, a socket member fixed to the axle, a plate fixed to said brake shoe and having an arm telescoping within said socket member, a spring interposed between the end of said socket member and the shoulder upon said arm, and a rope fastened to the telescoping end of said arm.

5. A brake for vehicle wheels comprising, in combination with the frame of the vehicle, axle and wheel thereon, a sliding plate supported by the frame of the vehicle, clencher jaws pivotally connected to said plate, a brake shoe fixed to said plate, a socket member fixed to the axle, a plate fixed to said brake shoe and having an arm telescoping within said socket member, a rope fastened to the telescoping end of said arm, and a pin passing through the wall of said socket member and engaging a slot in the telescoping portion of said arm.

[Claims 6 and 7 not printed in the Gazette.]

979,337. MANUFACTURE OF STEEL. ALLEYNE REYNOLDS, London, England. Filed Nov. 29, 1907. Serial No. 404,432.



1. The herein described process for the manufacture of steel of predetermined composition which consists in producing a melted charge of iron, transferring the charge free from slag into a suitable dead melting furnace, adding a reducing agent, teeming the dead melted iron into a ladle, and adding known proportions of dead melted ferro-silicon and ferro-manganese, substantially as described.

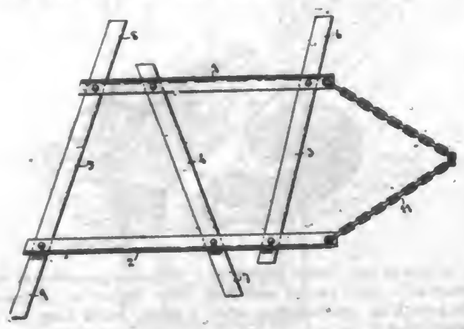
2. The herein described process for the manufacture of steel of predetermined composition which consists in producing a molten charge of iron containing small amounts of iron oxid, transferring the charge free from slag into a suitable dead melting furnace, adding a reducing agent slightly in excess of the amount necessary to reduce the iron oxid, teeming the resultant dead melted nearly pure iron into a ladle, and adding known proportions of dead melted ferro-silicon and ferro-manganese, substantially as described.

3. The herein described process for the manufacture of steel of predetermined composition which consists in producing a melted charge of iron containing small amounts of iron oxid, transferring the charge free from slag into a suitable dead melting furnace, adding a reducing agent slightly in excess of the amount necessary to reduce the iron oxid, teeming the resultant dead melted nearly pure iron into a ladle, adding known proportions of dead melted ferro-silicon, ferro-manganese and a quantity of suitable flux, substantially as described.

4. The herein described process for the manufacture of steel of predetermined composition consisting in producing a melted charge of iron containing iron oxid in a furnace, teeming and freeing said charge of slag, refining by reduction the slagless charge in a second furnace, teeming the refined charge and adding thereto melted alloys heated in separate furnaces, and casting the charge into a mold.

5. The herein described process for the manufacture of steel of predetermined composition consisting in producing a melted charge of iron containing iron oxid in a furnace, teeming and freeing said charge of slag, refining by reduction the slagless charge in a second furnace, teeming the refined charge and adding thereto melted alloys and a suitable flux heated in separate furnaces, and casting the charge into a mold.

979,338. ROAD-SCRAPER. GEORGE DANA RHODES, Groton, N. Y., assignor to Fay Justice Lewis, Chicago, Ill. Filed Aug. 20, 1909. Serial No. 513,800.



1. A scraper comprising two frame members and three scraper blades fastened thereto, said blades being each set at an angle to the direction of draft and at reverse angles to one another, with the forward ends of the rearward blades projecting beyond the rearward end of the next preceding blade.

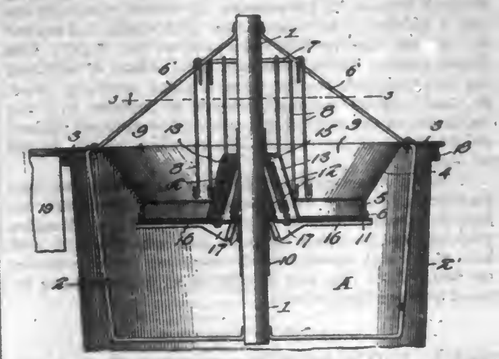
2. A scraper comprising two frame members and three scraper blades fastened thereto, said blades being each set at an angle to the direction of draft and at reverse angles to one another, with the forward ends of the rearward blades projecting beyond the rearward end of the next preceding blade, and the rearward blade having its edge cut upwardly at an angle at its rearward end.

3. A scraper comprising two angle bars placed parallel to the line of draft and three angle bars fastened to the undersides of said bars, said three bars constituting the scraping blades, being set with their depending sides forward and at an angle to the line of draft and at reverse angles to one another, the forward ends of each rearward blade being carried out beyond the rearward end of the next preceding blade, and a draft chain attached to the forward ends of the parallel bars.

4. A scraper comprising horizontal frame members and three scraper blades fastened thereto, one in front of another in a single line, said blades being set at an angle to the direction of draft and at reverse angles to one another, the angle at which the central blade is set being such that the skidding action produced by the set of the other two blades will be counteracted thereby.

979,339. ANIMAL-TRAP. WILLIAM ROLOFF, Fond du Lac, Wis. Filed Apr. 20, 1910. Serial No. 556,478.

1. A trap of the character specified comprising a substantially bowl-like structure having a series of yieldingly supported platforms arranged in a circular series at the bottom of the bowl, a standard supported by the structure, and stops on the platforms adapted to be engaged with the standard to limit the movements of the platforms in one direction.

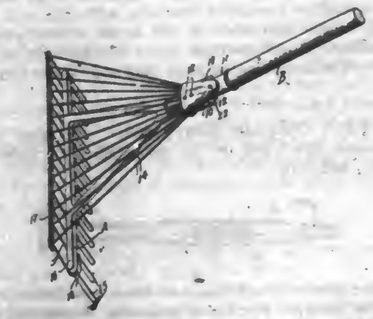


2. A trap of the character described comprising a bowl-like structure having a series of yieldingly supported platforms arranged in a circular series at the bottom of the structure, a standard supported by the said bowl-like structure, stops on the platforms adapted to be engaged by the standard to limit the movements of the platforms in one direction, a ring suspended above the bowl, and a series of hooks supported by the ring and extending into the bowl and immediately above the said platforms.

3. A trap of the character specified comprising a bowl-like structure provided at its bottom with a pivoted platform, a buffer supported by the said bowl-like structure, a spring for holding the platform yieldingly against the buffer, a standard extending upwardly through the said bowl-like structure, and supporting feet connected with the standard and with the said bowl-like structure.

4. A trap comprising a bowl-like structure having a circular runway, a depending flange extending from the said runway, a plurality of pivoted platforms closing the bottom of the bowl, springs for yieldingly supporting the platforms, a standard extending vertically through the said bowl-like structure, stops formed on the said platforms and adapted to be engaged by the standard so as to limit the movements of the platforms in one direction and a series of bait supports carried by the standard and extending directly into the bowl-like structure.

979,340. RAKE-TOOTH CLEANER. HAROLD B. ROSS, Etiwanda, Cal. Filed Mar. 15, 1910. Serial No. 549,548.

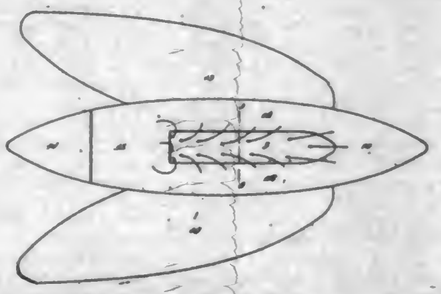


1. An attachment of the class described comprising a attaching plate, centrally disposed rivets secured to sa attaching plate, a cap carried by the rearmost rivet, plurality of fingers engaged between one of said rivets a the cap, a clamping plate secured on said rivets, a b spacing the forward terminals of the fingers, said finge passing through said bar, the free terminals thereof b ing retained vertically thereby, said forward termina adapted to conform with the formation of the teeth of t rake.

2. An attachment of the class described, comprising an attaching plate, centrally disposed rivets secured to said attaching plate, a cap carried by the rearmost rivet, a plurality of fingers engaged between one of said rivets and the cap, a clamping plate secured on said rivets, a U-shaped bar spacing the forward terminals of the fingers, said fingers passing through one arm and the base of said bar, the free terminals thereof being retained vertically thereby, said forward terminals adapted to conform with the formation of the teeth of the rake and be retained against the back bar of the rake by the resiliency of the fingers aforesaid.

3. In an attachment of the class described, the combination with a base clamping plate of a semi-circular attaching member formed on said base plate, a clamping plate adapted to engage said rake and coöperate with said base plate, and simultaneously operating means whereby the teeth of the rake may be cleaned, said means being secured between the plates.

979,341. FLYING-MACHINE. MORTIMER W. SARGEANT, East Orange, N. J. Filed July 15, 1909. Serial No. 507,849.



1. In a flying machine, an air chute of approximately circular cross section and having a downwardly and rearwardly curved bottom, said air chute being open at the top and at the rear end, planes extending laterally from the upper edges of the chute, and a propeller wheel supported for rotation adjacent to the open rear end of the chute.

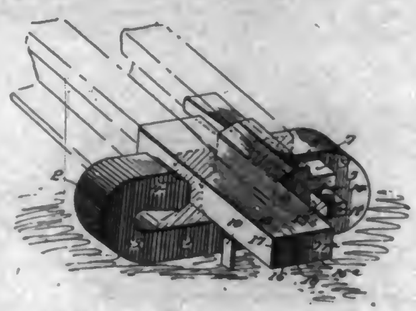
2. In a flying machine, an air chute of approximately circular cross section and having a downwardly and rearwardly curved bottom, said air chute being open at the top and at the rear end, front, rear and side planes connected with and extending laterally from the upper edges of the chute, lateral extensions connected with the side planes, a rudder connected hingedly with the rear plane adjacent to the rear edge of the latter, and a propeller wheel supported for rotation upon a longitudinally disposed shaft adjacent to the open rear end of the chute.

979,342. COLLAR-FASTENER. CHARLES B. A. SCHAEFER, New York, N. Y. Filed Mar. 11, 1908. Serial No. 420,410.



A collar fastener including two telescopic tubes, one of said tubes having a portion of gradually decreasing diameter toward one end and a portion of uniform diameter, the portion of reduced diameter terminating substantially in a point to permit the passage of the device through a collar button opening, the second tube being slidably mounted in the portion of uniform diameter of the first mentioned tube, that end of the second tube remote from its connection with the first tube having a bell shaped mouth, a plunger fixed at one end in the pointed end of the first tube and extending loosely through and within the second tube, said plunger being within the second tube divided to provide opposite jaws having their terminal ends bent to fit within the curvature of the bell mouth and having a length approximately equal to the longitudinal extent of the bell mouth, the free end of the terminal of each jaw being inwardly bent to provide a hook end, and a spring housed within the first mentioned tube and operating to force the tubes apart to cause the bell mouth of the second tube to practically inclose the curved terminals of the jaws and force their hook ends together, the curvature of the jaws being on a less radius than that of the bell mouth and said jaws having such a longitudinal length that when housed within the bell mouth their free longitudinal ends will be arranged wholly within the plane of curvature of the outer surface of the bell mouth, whereby the edges of the collar button opening in passing over the bell mouth will avoid contact with the jaws.

979,343. GUARD-RAIL CLAMP. EDWARD C. SCRUGGS, Nashville, Tenn. Filed July 26, 1910. Serial No 573,097.



A guard rail clamp including a yoke bar provided at its ends with jaws, one of said jaws being formed at its inner face with an overhanging ledge, a filling block adapted to bear against the side of one of the rails and fitting under the overhanging ledge, the filling block being provided in its outer face below the ledge with a longitudinal groove extending in the direction of the length of the rails, and a wedge-shaped key inserted in the groove and interposed between the filling block and the inner face of the adjacent jaw to press the filling block firmly against the rail.

979,344. GAGE-COCK. EDWARD FRANCIS SHALLOW, Philadelphia, Pa. Filed Oct. 18, 1910. Serial No. 587,771.



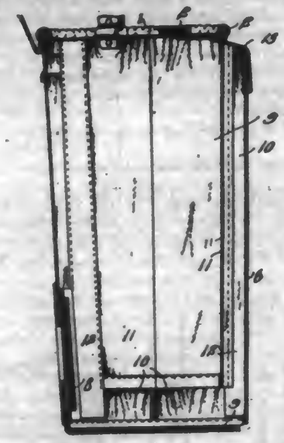
1. In a gage cock, the combination, with a hollow case provided with an interiorly-located valve seat, and with an exteriorly-located arm formed with a lateral projection; of a valve rotatably fitted in said seat; a handle lever secured to said valve and provided with a stud; and a torsion spring located exteriorly of said case and having one end thereof engaged with said projection, and the other arm with said stud.

2. In a gage cock, the combination, with a hollow case provided with an interiorly-located valve seat, and with an exteriorly-located arm formed with a pair of lateral pins; of a valve rotatably fitted in said seat; a handle lever secured to said valve and provided with a stud; and a torsion spring located exteriorly of said case and formed with a coiled central portion embracing one of said

pins, said spring having one end thereof engaged with the other pin, and the other end with said stud.

3. In a gage cock, the combination, with a hollow case provided with an interiorly-located valve seat, and with a spout having its bore opening directly through one wall of said seat; of a valve rotatably fitted in said seat and formed with steep spiral threads; a tubular member provided upon said case and formed with internal threads co-acting with the first named threads, for causing a quick endwise movement of said valve when rotated; a handle lever secured to said valve; and an exteriorly-located torsion spring connected at one end with said case, and at the other end to said lever, for normally holding said valve in closed position.

979,345. FEED-BAG. HERBERT C. SHAW, Chicago, Ill. Filed Aug. 10, 1909. Serial No. 512,198.



1. A feed bag having a series of vertically disposed feed containing pockets ranged about its sides, flaps forming parts of the inner walls of said pockets and adapted to close the upper ends of the pockets, and a contractile device fitted in the fold or tuck formed between said flaps and the inner walls of the pockets.

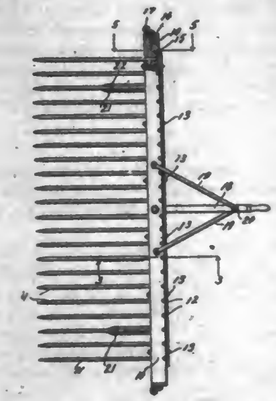
2. A feed bag comprising a plurality of sections having their lower ends tapered, bent inward and secured to form a bottom, and having their vertical edges stitched together, corresponding inner sections having their lower ends spaced from the bottom of the bag and having their vertical edges brought together and stitched, and having their upper end portions extended to form closing flaps, vertical partitions secured between the inner and outer sections and forming therewith a series of feed containing pockets about the sides of the bag, a contractile device fitted to the upper portion of the bag for gathering the same about the jaws of the animal, and means applied to the bag for securing the same to the head of the animal.

979,346. PUSH-RAKE. INGVALD SKJELDRUP, Fergus Falls, Minn. Filed June 27, 1910. Serial No. 569,213.

1. In a device of the class described, the combination with a main beam, of a plurality of tines supported horizontally thereby, vertical retaining members formed from said tines, runners carried by a portion of said tines and said main beam, a handle centrally carried by said beam, and means whereby said tines are retained in said beam said means permitting any one thereof to be independently removed.

2. In a device of the class described, the combination with a main supporting beam, of tines extending therethrough, having their rear terminals bent vertically, a plurality of eyes carried in spaced relation by said beam, and a locking rod adapted to reciprocate in said eyes and retain said tines in said beam.

3. In a device of the class described, the combination with a main supporting beam, of tines extending therethrough, having their terminals bent vertically, a plurality of eyes carried in spaced relation by said beam, a locking rod adapted to reciprocate in said eyes and retain said tines in said beam, and means whereby said rod is self-locking.



4. In a device of the class described, the combination with a main supporting beam, of tines extending there through, having their terminals bent vertically, a plurality of eyes carried in spaced relation by said beam, a locking rod adapted to reciprocate in said eyes and retain said tines in said beam, and a spring locking member carried at one terminal of said rod adapted to engage said beam and lock said rod in position.

979,347. SAFETY-HOOK. CHARLES D. SMITH, Paris, Ill. Filed Apr. 20, 1910. Serial No. 556,487.



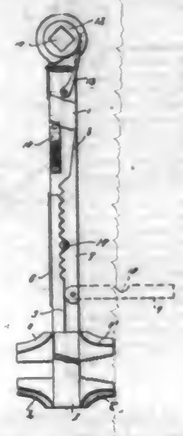
A securing device of the character described, consisting of a hook-shaped member having unequal arms, there being transverse keepers upon the arms and a triangular opening in the longer arm, adjacent the end thereof, a portion of the constituent material of the device being struck from one apex of the triangular opening to form a strap-engaging projection, there being a slot in the end of the long arm, communicating with triangular opening, the axis of which slot is disposed at an angle to the longer dimension of the device.

979,348. WRENCH. HENRY D. SMITH, Brownsboro, Tex. Filed Aug. 1, 1910. Serial No. 574,807.

1. In a wrench, a main shank provided with a slot and having a jaw at one terminal, a jaw slidably mounted in said slotted portion and having a shank provided with a toothed portion, a member pivotally mounted on said main shank and provided with a toothed portion adapted to engage the toothed portion of said shank, and a member rotatably mounted in said handle adapted to retain said slidable jaw in fixed relation to the main shank, for the purposes herein set forth.

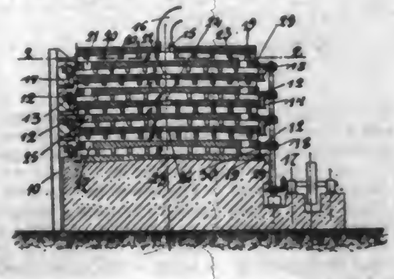
2. In a wrench, a main shank provided with a slot and having a jaw at one terminal, a slidable jaw mounted in said slotted portion and having a shank provided with

toothed portion, a member pivotally mounted in said slot and provided with a toothed portion adapted to engage the toothed portion of said shank and a member provided with a recess, said member being rotatably mounted in said handle and adapted to be rotated into and out of engagement with the toothed portion of the shank of said slidable jaw, for the purposes herein set forth.



3. In a wrench, a main shank provided with a slot and having a jaw at one terminal, a slidable jaw mounted in said slotted portion and having a shank provided with a toothed portion, a member pivoted in said slot and provided with an approximately semi-circular recess, said member being adapted to engage the toothed portion of said shank, and a member rotatably mounted in said handle and having a portion adapted to be rotated into and out of engagement with said toothed portion of the shank of said slidable member.

979,349. FURNACE FOR ROASTING ORES. XAVIER DE SPIRLET, Brussels, Belgium. Filed Apr. 30, 1910. Serial No. 558,657.



1. An ore roaster comprising in combination, a series of superposed plates of refractory material spaced apart from each other to form intervening chambers, said plates having openings for successive delivery of one plate to the next lowermost plate, said plates having means for moving the material toward said openings, means for moving certain of said plates with respect to the remaining plates, and means forming closed joints at the outer margins of said plates.

2. An ore roaster comprising in combination, a series of superposed plates of refractory material spaced apart from each other to form intervening chambers, said plates having openings for successively delivery of one plate to the next lowermost plate with the openings of adjacent plates out of alinement, teeth for said plates for moving the material toward said openings, means for rotating certain of said plates with respect to the remaining plates, and annular interfitting joint members closing the openings between said plates at the outer margins thereof.

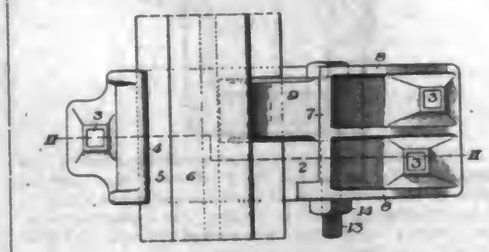
3. An ore roaster comprising in combination, a housing, a series of superposed plates therein spaced apart from each other to form intervening chambers, means for moving certain of said plates with respect to other plates, and means carried by the plates and disposed wholly within said housing for moving the material on said plates toward a discharging position.

4. An ore roaster comprising in combination, a series of superposed plates spaced apart from each other to form intervening chambers, certain of said plates being stationary, means for moving some of said plates, and means carried by said stationary plates for causing the material to move toward a discharging position upon movement of the movable plates.

5. An ore roaster comprising in combination, a series of superposed plates spaced apart from each other to form intervening chambers, certain of said plates being stationary, means for moving other of said plates with respect to the stationary plates, and means carried by the stationary and movable plates for causing the material to advance toward a discharging position upon actuation of the movable plates.

[Claims 6 to 8 not printed in the Gazette.]

979,350. COMBINED RAIL-BRACE AND TIE-PLATE. JOHN W. STEPHENSON, Toledo, Ohio, assignor to The National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Filed Dec. 7, 1909. Serial No. 531,782.

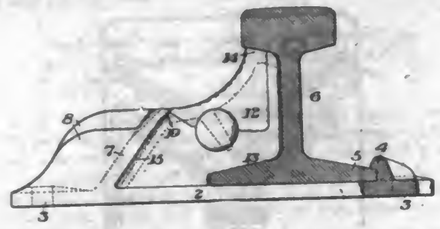


1. In a combined rail brace and tie plate, a tie plate member having a transversely extending upward projection at one side of the rail, said projection having an inner face which is inclined downwardly and outwardly and also transversely, and a brace member seated between the said projection and the rail and extending upwardly underneath the head of the rail, together with a securing bolt passing through the brace member and having a bearing at one end in said projection, the bolt-bearing portion of said projection also forming a tie between the inner side of the projection at one end and the base portion of the tie plate to prevent spreading of said projection when the brace member is driven to its seat; substantially as described.

2. In a combined rail brace and tie plate, a tie plate member in the form of a casting having a base portion to extend underneath the rail and formed at one side of the rail with an upwardly extending inclined projection, and a plurality of webs or ribs extending from the rear side of said projection toward the adjacent end of the plate and reinforcing and bracing the projection, one of said webs or ribs being extended beyond the end of the projection to form a tie between the inner side thereof and the base of the plate; substantially as described.

3. In a rail brace, a seating member having an upward projection formed with an inner face inclined downwardly and outwardly and also transversely, and a web or flange connecting the inner side of said projection at one end with the base portion of said member, said flange also having an opening therein for a securing device; substantially as described.

979,351. COMBINED RAIL-BRACE AND TIE-PLATE. JOHN W. STEPHENSON, Toledo, Ohio, assignor to The National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Filed Aug. 12, 1910. Serial No. 576,015.



1. In a combined rail brace and tie plate, a tie plate member having a transversely extending upward projection at one side of the rail, said projection having an inner face which is inclined downwardly and outwardly and also transversely, a brace member seated between the said projection and the rail, and bearing against the doubly inclined face of the projection, and means on the projection for securing the brace member in place; substantially as described.

2. In a combined rail brace and tie plate, a tie plate member having a transversely extending upward projection at one side of the rail, said projection having an inner face which is inclined downwardly and outwardly and also transversely, a brace member seated between the said projection and the rail and having a recessed face bearing against the doubly inclined face of the projection, the recess in said face being adapted to receive a crimped portion of the projection to secure the brace member against displacement; substantially as described.

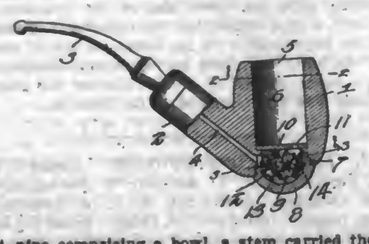
3. In a combined rail brace and tie plate, a tie plate member having a transversely extending upward projection at one side of the rail, said projection having an inner face which is inclined downwardly and outwardly and also transversely, a brace member seated between the said projection and the rail and bearing against the doubly inclined face of the projection, and means for securing the brace against displacement by a crimped engagement between the brace and tie plate; substantially as described.

4. A combined rail brace and tie plate, comprising a tie plate member having an upward projection at one side of the rail, the inner face of said projection being inclined downwardly and outwardly, and also having a double transverse bevel, two brace members driven between said inclined face and the rail, and means for securing the braces against displacement by a crimped engagement between the braces and tie plate; substantially as described.

5. In a rail brace, a brace member, and a seating member therefor, the brace member having a recess at its outer side, and the seating member having a projection fitting the outer side of the rail brace and adapted to be forced into engagement with said recess; substantially as described.

[Claim 6 not printed in the Gazette.]

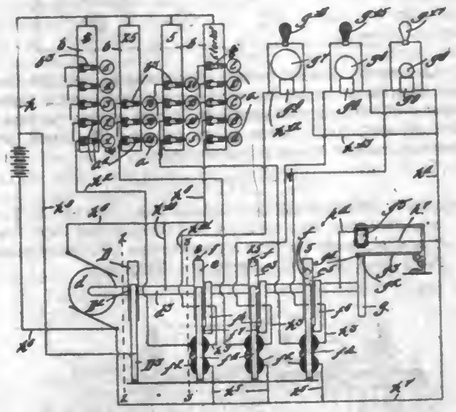
979,352. TOBACCO-PIPE. PATRICK P. SULLIVAN, Rochester, N. Y. Filed June 7, 1910. Serial No. 565,485.



1. A pipe comprising a bowl, a stem carried thereby, a removable bottom on the bowl independent of the stem, a false bottom removably held in the bowl above the stem and forming with the bowl a smoke chamber, an absorbent material mounted in the removable bottom, and means carried by the removable bottom for removing the absorbent material when said bottom is removed from the bowl.

2. A pipe comprising a bowl, a bottom removably secured thereto, an apertured false bottom removably secured in the bowl, the aperture in the bottom being arranged adjacent the front side of the bowl, an apertured stem connected to the rear side of the bowl, an absorbent material arranged between the false bottom and the removable bottom, and a series of projections carried by the removable bottom for causing the retention of the absorbent material when the bottom is removed.

979,353. ELECTRICAL ANNOUNCING ATTACHMENT FOR CASH-REGISTERS. THOMAS J. SULLIVAN, New York, N. Y. Filed Dec. 30, 1907. Serial No. 408,553.



1. A signaling attachment for cash registers comprising keys, contacts actuated by said keys, signal devices controlled by said key contacts, a motor and circuit therefor with means for closing its circuit, and means for maintaining the motor circuit closed for a predetermined period independently of its closing means.

2. A signaling attachment for cash registers having in combination a plurality of keys and contacts controlled thereby, signals operated in accordance with said contacts, a motor and a normally operating circuit therefor, means for closing said motor circuit, and means for maintaining said motor circuit closed for a predetermined period, said maintaining means comprising a contact device controlled by said motor and a brush coöperating with said contact device.

3. An attachment for cash register machines, comprising signals, a motor, a shaft connected therewith, disks connected with said shaft and provided with electrodes, magnets placed adjacent to said disks and provided with armatures adapted to operate in connection with the electrodes on said disks to actuate said signals, a group of keys, and circuits including said magnets and closed by said keys, and means for maintaining the magnet circuits in a closed condition for a predetermined period.

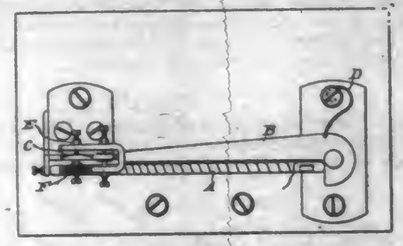
4. An attachment for cash register machines, comprising signals, a motor, a shaft connected therewith, disks connected with said shaft and provided with electrodes, magnets placed adjacent to said disks and provided with armatures adapted to operate in connection with the electrodes on said disks to actuate said signals, a group of keys, and circuits including said magnets and closed by said keys, and means for maintaining the magnet circuits in a closed condition for a predetermined period, said means comprising supplemental armatures carried by the armatures of the magnets.

5. A signaling attachment for cash registers comprising signals, with circuits therefor, contact means fo

closing said circuits, a motor for driving said contact means, a circuit for said motor, means for closing said motor circuit, and devices operated by said motor for maintaining the circuit closed independently of its closing means.

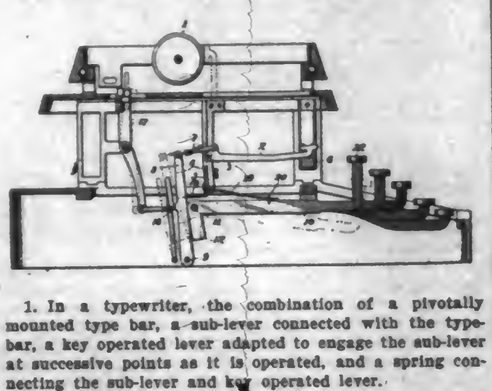
[Claims 6 to 20 not printed in the Gazette.]

979,354. ELECTRIC SWITCH. GEORGE SWEETSER, London, England. Filed Nov. 30, 1909. Serial No. 530,682.



An electric thermal switch comprising an electric thermal expansion device, a bowed contact plate and a forked lever oscillated by said expansion device having its forked end straddling the plate so as to snap the same, and contacts carried by said forked lever.

979,355. TYPE-WRITING MACHINE. FRANK J. TANNER, Scranton, Pa., assignor to International Text Book Company, Scranton, Pa., a Corporation of Pennsylvania. Filed June 25, 1907. Serial No. 380,659.



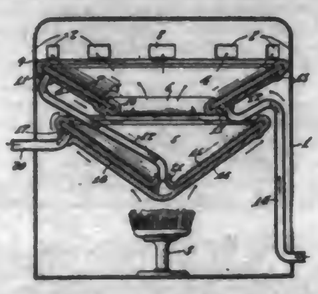
1. In a typewriter, the combination of a pivotally mounted type bar, a sub-lever connected with the type-bar, a key operated lever adapted to engage the sub-lever at successive points as it is operated, and a spring connecting the sub-lever and key operated lever.

2. In a typewriter, the combination of a platen, a pivotally mounted type-bar, a sub-lever operating about a fixed pivotal point and connected to the type bar, a lever arranged to actuate the sub-lever, and a key mounted independently of and connected with the last said lever.

3. In a typewriter, the combination of a platen, a pivotally mounted type bar, a sub-lever connected to the type-bar, a key operated lever having at its inner end an elongated bearing surface adapted to engage a vertical edge of the sub lever at successive points as it is actuated, and a key mounted upon a stem pivotally supported independentiy of said levers and having a pivotal connection with the aforesaid key operated lever.

979,356. STEAM-GENERATOR. HERBERT L. THOMPSON, Elgin, Ill. Filed Jan. 31, 1910. Serial No. 541,031.

1. A steam generator comprising a casing, an upper generating chamber substantially conical in form with a central aperture and arranged with its apex directed downwardly, a lower generating chamber similar in shape to said upper chamber but without a central aperture, said lower chamber being positioned in said casing to leave a space between its outer edges and said casing, means for preventing the passage of gases around the edges of said upper chamber, water and steam connections for and between said chambers, and a burner located under said lower chamber, substantially as described.



2. A steam generator comprising a casing, an upper generating chamber substantially conical in form with a central aperture and located with its apex directed downwardly, a lower generating chamber similar in shape to said upper chamber but without a central aperture, said lower chamber being positioned in said casing to leave a space between its outer edges and said casing, means for preventing the passage of gases around the edges of said upper chamber, a water supply connection with the lower portion of said upper chamber, a connection between the upper portion of said upper chamber and the lower portion of said lower chamber, and a burner located under said lower chamber, substantially as described.

3. A steam generator comprising a casing provided with discharge openings in the upper portion of its walls, an upper generating chamber substantially conical in form with a central aperture, snugly fitting said casing and arranged with its apex directed downwardly, a lower generating chamber similar in shape to said upper chamber but without a central aperture, said lower chamber being positioned in said casing to leave a space between its outer edges and said casing, water and steam connections for and between said chambers, and a burner located under said lower chamber, substantially as described.

4. A steam generator comprising a casing provided with discharge openings in the upper portion of its walls thereof, an upper generating chamber substantially conical in form with a central aperture, snugly fitting said casing and arranged with its apex directed downwardly, a lower generating chamber similar in shape to said upper chamber but without a central aperture, said lower chamber being positioned in said casing to leave a space between its outer edges and said casing, a water supply connection with the lower portion of said upper chamber, a connection between the upper portion of said upper chamber and the lower portion of said lower chamber, a steam connection with the upper portion of said lower chamber, and a burner located under said lower chamber, substantially as described.

5. In a steam generator, the combination with a casing, of two steam generating units of conical form located one above the other and providing conical chambers, the upper unit having a central opening, an inlet pipe communicating with the lower end of the chamber of the upper unit, a pipe connecting the upper end of the chamber in the upper unit with the lower portion of the chamber in the lower unit, and an outlet pipe communicating with the upper portion of the chamber of the lower unit.

[Claims 6 to 8 not printed in the Gazette.]

979,357. LOCKER CONSTRUCTION. ALBERT J. THORNLEY, Pawtucket, R. I., assignor to Narragansett Machine Company, Pawtucket, R. I., a Corporation of Rhode Island. Filed Oct. 22, 1909. Serial No. 524,027.

1. In locker construction, a pair of back plates having lips at their sides, two of said lips being adapted to abut one another, a pair of end plates each formed with a fold at one side thereof, said folds being adapted to receive the lips at the outer sides of the back plates, and a central partition having a fold adapted to receive both of said abutting lips of the back plates.



2. In locker construction, a pair of back plates formed with bent sides, the adjacent bent sides of the back plates being adapted to abut each other, end plates and a central partition, said end plates and partition being formed with integral means to receive the outer of said bent sides of the back plates and the abutting bent sides thereof respectively.

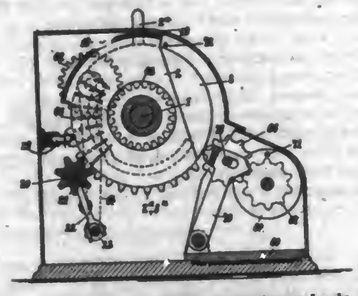
3. In locker construction, back plates having lips at their sides, the adjacent lips of the plates being in abutting engagement, end plates and a central partition, said partition being formed with a U-shaped portion which engages over the abutting lips, and said end plates being formed with a like U-shaped portion which receives the lips at the outer sides of the back plates.

4. In locker construction, back plates having lips at their sides, the adjacent lips being adapted to abut, and plates to receive said lips, each of said plates being formed with a portion which is turned over on same and which is continued to form a U-shaped portion to receive the lips.

5. In locker construction, back plates formed with lips, adjacent lips being adapted to abut, plates to form the end walls of the lockers and partitions therefor, each of said plates being formed with a U-shaped portion which extends in a direction opposite to the direction in which the lips extend and being adapted to receive said lips, said lips and U-shaped portions being formed with alining apertures and bolts passed through said apertures to lock the parts.

[Claim 6 not printed in the Gazette.]

979,358. CALCULATING-MACHINE. FRANZ TRINKS, Brunswick, Germany. Filed Nov. 26, 1906. Serial No. 345,214.



1. In a calculating machine, operating wheels having adjustable teeth, in combination with means for varying the number of teeth projecting from said wheels, actuating means pivotally mounted coaxially with the operating wheels, means for coupling the said varying means with the actuating means, and a main shaft having means for rotating the same.

2. In a calculating machine, of the class set forth, the combination with operating wheels having adjustable teeth, of means for varying the number of teeth projecting from said wheels, actuating means pivotally mounted co-axially with said wheels, means whereby said actuating means and varying means may be coupled, and a main shaft having means for rotating the same.

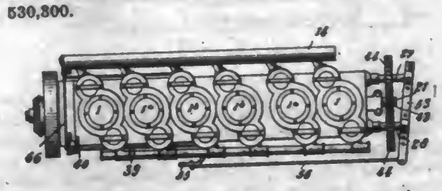
3. In a calculating machine of the class specified, the combination with operating wheels, of disks for varying the number of teeth projecting from said operating wheels, a series of disk levers serving as actuating means, the said disks and disk levers having corresponding teeth, means for coupling the disks and disk levers, a main shaft having an operating means, and means for moving said toothed wheels in and out of coupling position.

4. In a calculating machine of the class specified, the combination with operating wheels having adjustable teeth, of disks for varying the number of teeth projecting from said wheels, a series of disk levers serving as actuating means, the disks and disk levers having corresponding teeth, means for coupling the disks and disk levers, a shaft on which said coupling is mounted, an operating means for the shaft, means carried by the said shaft operating means for shifting the shaft and causing the coupling means to be displaced from coupling position, and spring means for effecting the return of said shaft to normal position.

5. In a calculating machine of the class specified, the combination with toothed operating wheels having adjustable teeth, of disks to vary the number of teeth projecting from said wheels, a series of disk levers serving as actuating means for the disks, a series of rings, said wheels, disks and rings being co-axially arranged, the disks having recesses and the rings provided with projections, a main shaft on which the said parts are mounted, and shifting means for bringing the projections of each ring into engagement with the recesses in the adjacent disks and disk levers, whereby the said disks and levers are coupled for united movement.

[Claims 6 to 12 not printed in the Gazette.]

979,359. INTERNAL-COMBUSTION ENGINE. JAMES A. VIELE, Warren, Pa. Filed Nov. 29, 1909. Serial No. 530,300.



1. An internal combustion engine including at lea six cylinders, intake valves and exhaust valves for th several cylinders, a main shaft common to all the cyli ders, counter-shafts geared to the main shaft and ha ing actuating cams thereon adapted to open the valv for a four-cycle operation of the engine, means for sup plying compressed air to at least three of the cylinde for a two-cycle operation thereof, means independent the cam shafts for rendering inoperative the intake-val actuating cams of the three cylinders, and means f opening the exhaust-valves of the three cylinders for t two-cycle operation, all for operating the engine in eith direction.

2. An internal combustion engine including at lea six cylinders, intake valves and exhaust valves for t several cylinders, a main shaft common to all the cyl ders, counter-shafts geared to the main shaft and ha ing actuating cams thereon adapted to open the valv for a four-cycle operation of the engine, means for su plying compressed air to at least three of the cylinde for a two-cycle operation thereof, means independent the cam shafts for rendering inoperative the intake-val actuating cams of the three cylinders, and means opening the exhaust valves of the three cylinders for two-cycle operation.

3. An internal combustion engine including at le three cylinders, intake valves and exhaust valves for several cylinders, a main shaft common to all the cy ders, counter-shafts geared to the main shaft and h ing actuating cams thereon adapted to open the val for a four-cycle operation, means for supplying c pressed air to the cylinders for a two-cycle operati means independent of the cam shafts for rendering

operative the intake-valve actuating cams, and means for opening the exhaust-valves of the cylinders for the two-cycle operation, all for operating the engine in either direction.

4. An internal combustion engine including at least three cylinders, intake valves and exhaust valves for the several cylinders, a main shaft common to all the cylinders, counter-shafts geared to the main shaft and having actuating cams thereon adapted to open the valves for a four-cycle operation, means for supplying compressed air to the cylinders for a two-cycle operation, means independent of the cam shafts for rendering inoperative the intake-valve actuating cams, and means for opening the exhaust-valves of the cylinders for the two-cycle operation.

5. An internal combustion engine including at least six cylinders, intake valves and exhaust valves for the several cylinders, mechanism to directly open the intake and exhaust valves for a four-cycle operation of the engine, means independent of the cam shafts for rendering inoperative the intake-valve opening mechanism of at least three cylinders, means for opening the exhaust valves for a two-cycle operation of the three cylinders, and valve-controlled compressed air inlets for a two-cycle operation of the three cylinders, all adapted to operate the engine in either direction.

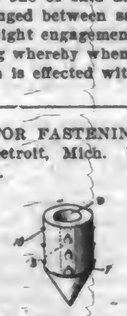
[Claims 6 to 19 not printed in the Gazette.]

979,360. FOUNTAIN-PEN. JOSEPH ANTHONY VOOHLMANN, Brooklyn, N. Y. Filed Mar. 10, 1910. Serial No. 548,454.



A fountain pen, comprising a pen-holding section having an ink reservoir therein and an aperture in its rear end communicating with said reservoir, a raised portion at the forward end of said section, annular shoulders adjacent the rear extremity of said section, a casing loosely surrounding a portion of the pen-holding section and slidable thereon, said casing having an air vent adjacent its rear extremity, means carried by the rear end of the slidable casing for closing the opening in the rear end of the pen-holding section, circularly-spaced studs extending inwardly from the casing and contacting with the periphery of the pen-holding section between the raised forward portion and one of said annular shoulders, and a packing ring arranged between said annular shoulders and forming an air-tight engagement with the inner wall of the slidable casing whereby when said casing is moved rearwardly a suction is effected within the ink reservoir.

979,361. MEANS FOR FASTENING RUBBER HEELS. IOV VULPESCU, Detroit, Mich. Filed Jan. 14, 1910. Serial No. 538,117.



A fastening device of the character described comprising a female member having a cone-shaped end, and a barbed outer surface, and further having an axial threaded opening flared at its outer end, and a male member having a threaded shank to be screwed into the opening of the female member, said male member further having at one end of the shank an enlarged head cooperating with the flared end of the opening of the female member for the purpose described.

979,362. APPARATUS FOR MAKING EXTRACTS. WILHELM WIRSAND, Merseburg, Germany, assignor to Richard Rieder, Frankfort-on-the-Main, Germany. Original application filed Feb. 17, 1908, Serial No. 416,399. Divided and this application filed July 15, 1909. Serial No. 507,857.



In an apparatus for the drawing of extractive matter from different materials the combination of a long horizontally arranged trough shaped wooden receptacle, a horizontal rotatable shaft within said long receptacle and provided with alternating helical segments and stigring arms, a chute and a liquor outlet at a high point near one end of said receptacle, a water inlet pipe and a discharge device for the solid material at the other end, said discharge device consisting of rollers with spikes arranged near the top of said latter end of the receptacle before a corresponding opening and behind a vertical partition pendent from the top into the long receptacle.

979,363. CHEMICAL PROCESS. WILLIAM C. ARSEM, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Original application filed July 2, 1906, Serial No. 324,408. Divided and this application filed Sept. 16, 1907. Serial No. 393,227.

1. The process which consists in reducing a metal compound in a vacuum by heat treatment while in contact with graphitized lamp black.

2. The process which consists in mechanically mixing a finely divided refractory metallic oxid with carbon deposited from a volatile compound and subsequently fired, and heating said mixture to cause a reduction of said metal compound.

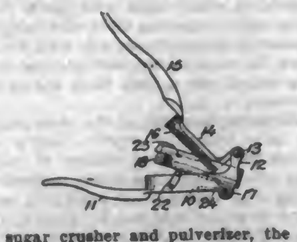
3. The process which consists in producing a carbonaceous deposit from a volatile carbon compound, heating said deposit to produce pure graphite in a finely divided condition, mixing said graphite with a reducible compound, and heating said mixture in a vacuum to effect reduction.

4. The process which consists in mixing an oxid of tungsten with a dry powdered reducing agent and then heating said mixture in a vacuum by radiant heat to cause reduction of said oxid.

5. The process which consists in forming an intimate mixture of a powdered reducing agent and a refractory metal oxid, and heating said mixture to a reducing temperature in a vacuum by means of a resistance conductor insulated from said mixture.

[Claims 6 and 7 not printed in the Gazette.]

979,364. SUGAR CRUSHER AND PULVERIZER. LUDOVIC BANDEMENT and WILHELM HÄRING, Paris, France. Filed Sept. 28, 1909. Serial No. 520,028.



1. In a sugar crusher and pulverizer, the combination of upper, lower and intermediate hinged members, of a spring adapted to hold the members apart, handles, and means for locking two of the members together.

2. In a sugar crusher and pulverizer, the combination with upper and lower hinged members having handles, of an intermediate hinged member, a spring pressing the intermediate member upward, and means for locking the intermediate member to the lower member.

3. In a sugar crusher and pulverizer, the combination with upper and lower hinged members, of a handle on the lower member, an intermediate receptacle for the sugar to be pulverized, a spring adapted to separate it from the lower member, a handle on the upper member and adapted to cover the front end of the intermediate member, and a latch carried by the lower member to retain the intermediate member in an inoperated position.

4. In a sugar crusher and pulverizer, the combination with a lower frame having upward extensions and a handle, an upper crushing member with a serrated lower face hinged to the lower frame, a perforated box hinged to the frame, a spring adapted to throw the box upward, an overhanging handle on the crushing member, and a latch carried by the frame and adapted to engage the box to hold it in an inoperated position.

979,365. HORSESHOE. RICHARD BARCLAY, Youngstown, Ohio. Filed Aug. 11, 1910. Serial No. 576,681.



1. A horse shoe comprising a metallic frame which has a tread flange of narrow cross section and of ordinary horse shoe shape, and which also has a horizontal attachment flange projecting outwardly from the tread flange and a rubber member concentrically fitted within the tread flange and of less depth than said flange, the rubber member having a horizontal flange which overlies the horizontal flange of the frame.

2. A horse shoe comprising a metallic frame which has a tread flange of narrow cross section and of ordinary horse shoe shape and which also has a horizontal attachment flange projecting outwardly from the tread flange and a rubber frog-plate concentrically fitted within the tread flange and of less depth than said flange, the frog-plate having a horizontal flange which overlies the horizontal flange of the frame and having also recesses in its upper face and an upstanding rib separating the recesses.

3. A horse shoe comprising a metallic frame having a split heel portion and being of L-shaped cross section whereby a depending tread flange and an outwardly projecting horizontal flange are provided, a rubber member concentrically associated with the tread flange and a fastending part for binding together the ends of the split heel portion, the fastening part being of L-shaped cross section and having a tread flange which is of greater depth than the tread flange first named.

979,366. ADJUSTING MECHANISM FOR PLOW-BEAMS. WILLIAM L. BRALL, Albion, Mich., assignor to Gale Manufacturing Company, Albion, Mich. Filed Aug. 21, 1909. Serial No. 513,988.



1. In combination with the furrow forming parts of a plow, of a metallic beam secured to one of the furrow forming parts in rear of the main body of said parts, and a metallic device movably mounted adjacent to said beam and adapted to be moved into and out of position to vary the angle of the beam to the part of the plow to which it is attached.

2. In combination with the earth engaging parts of a plow, of a metallic beam secured in the hollow in rear of the said earth engaging parts against the metal forming one side of said hollow and a metallic device movably mounted adjacent to said beam and adapted to be moved into and out of position to vary the angle of the beam to the part to which it is attached.

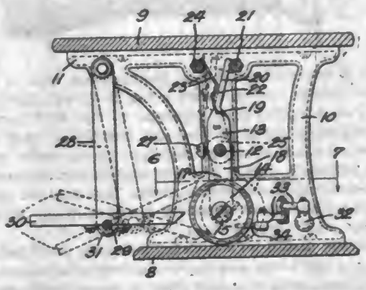
3. In a plow, the combination with the furrow forming parts and a frog to which they are secured, of a metallic beam secured to said frog in rear of the earth engaging surfaces of the furrow forming parts and a metallic device movably mounted on one of said parts and adapted to be moved into and out of position to adjust the angular portion of the beam to vary the position of the plow in respect to the point of draft.

4. In a plow, the combination with the furrow forming devices and a frog to which they are secured, of a metallic beam secured to said frog and a metallic device movably mounted on one of said parts and adapted to be moved into and out of position between an edge of the beam and an adjacent part to vary the position of the plow in respect to the point of draft.

5. In a plow, the combination with the furrow forming parts and frog, of a metallic beam secured to said frog and a metallic device movably mounted on said frog having wedging portions adapted to be moved into and out of position between an edge of the beam and the said frog.

[Claims 6 to 8 not printed in the Gazette.]

979,367. TOOLING-MACHINE FOR BOOKBINDING. THOMAS VINCENT BELL, Outremont, Quebec, Canada. Filed Apr. 20, 1908. Serial No. 428,286.



1. A tooling machine comprising a series of yieldably mounted tooling disks, and means for heating said disks.

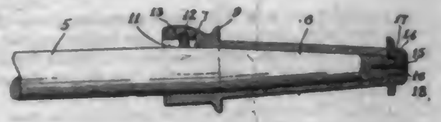
2. A tooling machine comprising a series of yieldably mounted tooling disks, means for heating said disks, and a pivoted table movable to and from said disks.

3. A tooling machine comprising a series of revolubl tooling disks, a rod parallel with the axis of said disks, a series of disk carrying levers longitudinally movable on said rod, and means for heating said disks.

4. A tooling machine comprising a rod, a series of disks carrying levers longitudinally movable thereon, disks revolubly mounted on said levers, means for locking said levers at any point on said rod, means for limiting the movement of said levers, means for heating the disks, and a pivoted table movable to and from said disks.

5. A tooling machine comprising a casing, a rod mounted therein, a series of levers pivotally and slidably mounted thereon, means for locking said levers at any point on said rod against longitudinal movement, a series of disks revolubly mounted on said levers, resilient members attached to said levers, a stop bar normally engaging said levers, a second stop bar normally engaging said resilient members, a fuel main, a series of flexible pipes for directing a flame against said disks, a pair of straps pivoted at one extremity to the casing, and a table pivoted to the opposite extremity of said straps.

979,368. AXLE-SKEIN. ANDREW H. BEVIL and CHARLES W. BEVIL, Warren, Tex. Filed Mar. 12, 1910. Serial No. 548,926.



1. In combination, an axle provided with a key, a skein to receive the axle and having a keyway to receive the key and further provided with a transverse opening to aline with the outer end of the key, and a pin insertible through the transverse opening of the skein to bear on one end of the key, whereby outward movement of the skein will be prevented.

2. In combination, a tapered spindle provided at its inner end with a key, a skein to receive the spindle having adjacent to its inner end an angular shoulder, a web extending from the annular shoulder to the inner end of the skein and having a keyway to receive the rib, said web being further provided with a transverse opening to aline with the inner side of the key, and a pin passable through the said opening to bind on the inner end of the key whereby outward movement of the skein upon the spindle will be prevented.

979,369. TRACE-FASTENER. CHARLES F. BLOOM, Brady, Nebr. Filed Apr. 12, 1910. Serial No. 555,007.



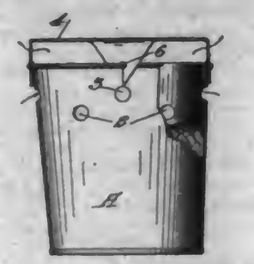
1. In a trace fastener the combination with a whiffletree provided at one end with a tug hook and further provided with a radial stud adjacent to the said hook, of a sleeve slidingly fitted on one end portion of said whiffletree having trace openings adjacent to its outer end and further provided with a bayonet slot to receive said stud, said bayonet slot coöperating with the stud to lock the sleeve in such position that the trace openings will be in alinement with the tug hook.

2. A trace fastener comprising a ferrule provided at one end with a tug hook, and further provided adjacent to the said tug hook with a radial stud, a sleeve slidingly fitted on the ferrule and closed at its outer end and provided adjacent to said closed outer end with trace openings, said sleeve being further provided with a bayonet slot to receive said stud, said slot and stud operating to lock the trace openings in alinement with the tug hook and the closed end of said sleeve bearing on said tug hook.

3. A trace fastener comprising a ferrule terminating at one end in a tug hook having an elongated shank provided with an oblong head, and further provided with a radial stud adjacent to said tug hook, a sleeve slidingly fitted on said ferrule having a closed end and further provided adjacent said closed end with trace receiving openings, said sleeve being further provided with a bayonet slot to receive said stud, one portion of said slot extending longitudinally of the sleeve and permitting the closed end of the latter to be moved into and out of engagement with the head of said tug hook, the other portion of said bayonet slot extending transverse the sleeve and coöperating with the stud to clamp the closed end of the sleeve on the head of the hook.

4. In a trace fastener the combination with a ferrule provided at one end with a tug hook, and further provided adjacent said tug hook with a radial stud; of a sleeve to receive said ferrule having one end closed and provided with a trace opening, a cushion on the inner face of the closed end of the sleeve, said sleeve being further provided with a transverse slot to receive the stud, said slot having curved sides to engage with the stud and operating to move the said cushion into binding engagement with the said tug hook.

979,370. FROST-PREVENTING APPARATUS. JOSEPH P. BOLTON, Fresno, Cal., assignor to The Frost Prevention Company, Fresno, Cal., a Corporation of California. Filed May 12, 1909. Serial No. 495,405.

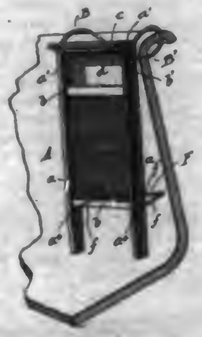


1. A frost preventing device comprising a liquid fuel containing receptacle having a double set of perforations at different elevations above its center, the lower set of said perforations forming carbureting passages and the upper set forming auxiliary draft passages, and an adjustable cover for the receptacle.

2. A frost preventing device comprising a liquid fuel-containing receptacle having a plurality of rows of perforations arranged at different elevations above the level of the fuel, the perforations of one series adapted to admit air for admixture with the vapor from the fuel, and the other series of perforations adapted to form auxiliary draft passages, and a combined cowl and cover for the receptacle, said cover having down-turned legs vertically slitted and adapted to embrace the upper edge of the receptacle, thereby supporting the cover above the top of said receptacle.

3. A frost preventing device comprising the combination of a fuel containing receptacle and a cover therefor, said cover having bendable legs engageable with the edges of the receptacle to support the cover cowl-fashion thereover.

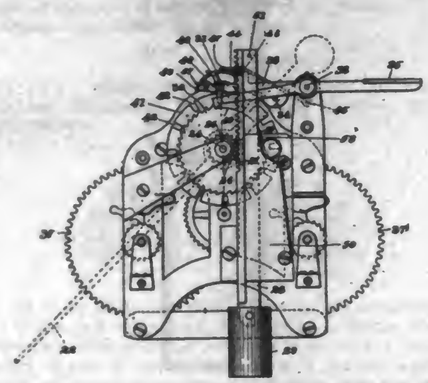
979,371. WASHBOARD. NATHAN O. BOND, Hyannis, Mass., assignor to Bernard F. Macy, Roslindale, Mass. Filed Mar. 14, 1910. Serial No. 549,368.



1. The combination with a washboard, of a pivoted bail mounted at the upper end thereof and adapted to engage and hold the same upon the edge of a bath-tub, and a pivoted brace secured to the lower end thereof adapted to bear against the inner side of the tub and retain the board in operative position.

2. The combination with a washboard of a pivoted bail detachably secured to the upper end thereof and comprising a curved central portion adapted by its configuration to engage the edge of a bath-tub, and ears adapted to engage in holes in the upper ends of said board, and a pivoted brace mounted in holes in the side bars of said board near the lower cross bar and adapted to bear against said bar and against the side of the tub in such manner as to hold the board in operative relation to said tub, substantially as described.

979,372. COIN-CONTROLLED WEIGHING-MACHINE. GEORGE W. BOWERS, Somerville, Mass., assignor to Charles S. Marsh, Winchester, Mass. Filed Apr. 7, 1909. Serial No. 488,500.



1. A weighing machine comprising a pointer-carrying shaft, a vertically movable pointer-operating member geared to the shaft, means for normally locking the shaft and its operating member to prevent forward rotation of the pointer, coin-actuated means for releasing the shaft and permitting its forward rotation by the operating member, and a clock mechanism having on its fourth wheel shaft a member which coöperates with the said coin-actuated releasing means in simultaneously locking the pointer shaft, its operating member, and the clock mechanism, and in prolonging the operative period of the pointer-operating member after the insertion of a coin.

2. A weighing machine comprising a pointer-carrying shaft, a vertically movable pointer-operating member geared to the shaft, means for normally locking the shaft and its operating member to prevent forward rotation of the pointer, coin-actuated means for releasing the shaft and permitting its forward rotation by the operating member, a clock mechanism having on its fourth wheel shaft a member which coöperates with the said coin-actuated releasing means in simultaneously locking the pointer shaft, its operating member, and the clock mechanism, and in prolonging the operative period of the pointer-operating member after the insertion of a coin, said clock mechanism having a balance wheel, and a balance detent operated by the coin-actuated releasing means to alternately stop and release the balance wheel.

3. A weighing machine comprising a pointer-carrying shaft, a pinion and a ratchet affixed thereto, a vertically movable plunger provided with a rack engaged with the said pinion, a pawl which normally engages the ratchet and prevents the descent of the plunger and the forward rotation of the pointer shaft thereby, coin-actuated means for tripping the pawl to release the pointer shaft and plunger, and clock mechanism having a notched disk affixed to the fourth wheel shaft of said mechanism, and adapted to coöperate with the said coin-actuated means in holding the pawl in its tripped position for a predetermined period and thereafter in locking the clock mechanism, the pointer shaft and the plunger.

4. A weighing machine comprising a pointer-carrying shaft, a pinion and a ratchet affixed thereto, a vertically movable plunger provided with a rack engaged with the said pinion, a pawl normally engaging the ratchet to prevent the descent of the plunger and the forward rotation of the pointer shaft thereby, coin controlled means for tripping the pawl, said means including a lever engaged with the pawl and having a locking tooth, and a clock mechanism having on its fourth wheel shaft a disk, the periphery of which is interrupted by notches adapted to receive said tooth and permit the depression of the lever and the engagement of the ratchet by the pawl, the periphery of the disk between the notches being adapted to support the lever and pawl for a predetermined period in a raised position with the pawl disengaged from the ratchet, the clock mechanism being locked by the engagement of the lever tooth with a notch in the disk.

5. A weighing machine comprising a pointer-carrying shaft, a pinion and a ratchet affixed to said shaft, a vertically movable plunger provided with a rack engaged with said pinion, a pawl which normally engages the ratchet to prevent a downward movement of the plunger, and a forward rotation of the pointer shaft thereby, a clock mechanism having a notched locking disk on its fourth wheel shaft, a spring balance wheel having projecting pins on its periphery, a pivoted coin-controlled locking lever having a tooth arranged to bear on the periphery of the locking disk, (said periphery supporting the lever in a raised position), and to enter a notch in the disk to simultaneously cause the depression of the lever and the locking of the clock mechanism, and a detent arm which normally engages a pin on the balance to arrest the movement of the latter while its spring is under tension, the said pawl and detent arm being engaged with the locking lever and simultaneously movable thereby out of and into engagement with the ratchet and balance respectively.

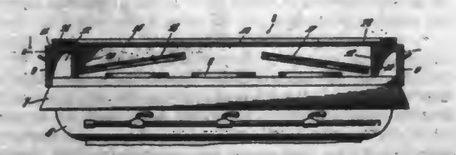
[Claims 6 to 9 not printed in the Gazette.]

979,373. EGG-NEST OR FILLER. LEON BRASSEUR, Brooklyn, N. Y. Filed Feb. 17, 1910. Serial No. 544,424.



A nest or filler for boxes or containers formed of a blank of oblong shape having a series of cuts and crease lines midway of its longitudinal edges, the cuts alternating with the crease lines and in the same straight line therewith, said blank having a series of transverse crease lines arranged at the extremities and intermediate of the extremities of the several cuts, the blank being folded longitudinally in line with the longitudinal cuts and crease lines and having the portions opposite the cuts formed into laterally extending V-folds.

979,374. ATTACHMENT FOR STOVES. ALFRED J. BROOKS, Quincy, Mass., assignor of one-fifth to William H. Brooks, Quincy, Mass. Filed Mar. 19, 1910. Serial No. 550,319.



1. The combination with a stove, of a cooking attachment therefor including in its construction a supporting frame having an inner side wall to extend around the top and bear adjacent the edge thereof, an outer side to bear on the entire outer side of the top, and a cross piece sealing the space between the upper ends of said side walls whereby a pocket is provided to prevent the too rapid radiation of heat from the inner side wall, and a cover secured to the cross piece to form a closure for the open space of the said frame.

2. The combination with a stove, of a cooking attachment therefor including a channeled supporting frame to bear on the top of the stove, a metallic cover sealing the open space of said frame, and a pair of spaced deflectors arranged in planes oblique to each other and oblique to the plane of the supporting frame said deflectors being secured to the frame with their adjacent ends spaced from the lower face of the cover for the purpose specified.

3. The combination with a stove, of a cooking attachment therefor including a channeled supporting frame having side walls of different widths to bear on the outer side of the top of the stove, a metallic supporting plate sealing the open space of said frame, and a pair of spaced deflectors arranged in planes oblique to the horizontal plane of the supporting plate with their outer ends spaced from the lower face of the supporting plate and fixedly secured to the frame for the purpose specified.

979,375. METHOD OF FORMING COILS FOR ARMATURE-WINDINGS. JAMES BURKE, Erie, Pa., assignor to Burke Electric Company, a Corporation of Pennsylvania. Filed Dec. 29, 1906. Serial No. 349,940.

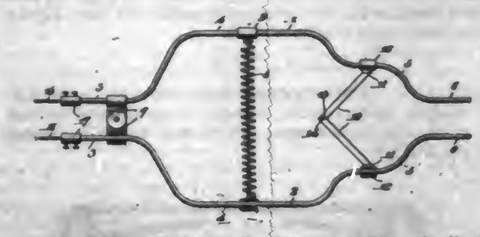


1. The method of making a formed coil for dynamo-electric machines, which consists in forming a flat coil, bending both ends out of the plane of the main portion and to the same side thereof, and then forming offsets in the ends.

2. The method of making a formed coil for dynamo-electric machines, which consists in forming a flat coil, bending the ends at approximately right angles to the main portion, and then forming offsets in the ends.

3. The method of making a coil of certain predetermined dimensions and form for dynamo electric machines, which comprises forming a flat coil with the main parts of predetermined distances apart, then while maintaining said predetermined distances, bending the end portions to the predetermined form desired in one direction and then bending the end portions in a different direction.

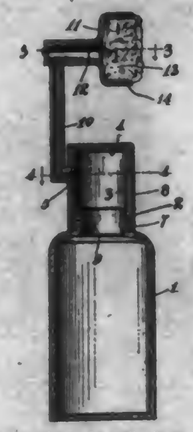
979,376. AUTOMATIC FIRE-ALARM. LEROY CAIN, Caledonia, Mich. Filed Mar. 1, 1910. Serial No. 546,680.



1. A thermostatic circuit closer including duplicate members forming the terminals of the circuit, a hinge connecting said members, a spring tensioned to normally force the similar parts of said members into contact to close the circuit, and means for maintaining said members spaced against the tension of the spring, said means including angularly related bars maintained in their angular relation by a fusible substance.

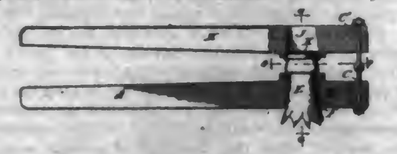
2. A thermostatic circuit closer including duplicate members forming the terminals of the circuit, a hinge connecting said members, a spring tensioned to normally force the similar parts of said members into contact to close the circuit, and means for maintaining said members spaced against the tension of the spring, said means including duplicate bars loosely engaging the respective members at their outer ends and connected in angular relation at their inner ends by a fusible material, the angular relation of the bars being such that the tension of the spring tends to disturb such relation on the melting of the fusible material.

979,377. SHOE-POLISH BOTTLE. WILLIAM R. CAMPBELL, Charleston, S. C. Filed Apr. 9, 1910. Serial No. 554,454.



In a device of the class described, the combination with a bottle having a threaded neck, of an apertured cap threaded thereon, a limiting lug projecting upward from said cap, a valve sleeve having a notch in its bottom to receive the limiting lug, said valve sleeve being rotatably mounted upon the stopper cap, and limited in its movement by the walls of the notch, a fluid tube carried by the sleeve of the valve member, a casing removably secured to the outer end of the tube, and an absorbent dispensing member carried in the casing and adapted to receive the liquid from the tube.

979,378. BOTTLE-CAPPING DEVICE. CHARLES W. CAREY, Chicago, Ill., assignor to Carey Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 30, 1909. Serial No. 515,125.



1. A bottle-capping device consisting of three arms hinged together and movable with respect to each other, two of said arms being arranged to engage and hold the neck of a bottle and the third arm being arranged to force a cap upon the bottle by causing the head of the bottle to pass into an opening therein while the same is being held by the first mentioned arms.

2. In a bottle-capping device, a pair of hinged arms for grasping and holding the neck of a bottle, and a third arm hinged to said pair of arms, said third arm being provided with an opening adapted to receive a cap and to force the same into position on the head of the bottle held by said pair of arms.

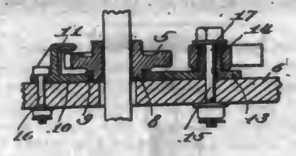
3. In a bottle-capping device, a pair of arms hinged together and provided with recesses adapted to engage the neck of a bottle and to firmly hold such bottle when the free ends of the arms are brought together, a third arm hinged to the previously mentioned arms and provided with an opening for receiving the head of a bottle when the free end of the last mentioned arm is moved toward the free ends of the arms grasping the neck of the bottle.

4. In a bottle-capping device, devices for engaging and holding the neck of a bottle, a cap forcing arm hinged to said devices, and means by which the hinged connection between said devices and said arm may be adjusted so as to bring said arm nearer to or move it farther from said devices.

5. In a bottle-capping device, a pair of hinged arms for grasping and holding the neck of a bottle beneath the head and against longitudinal movement thereof, and a third arm movable to and from the first mentioned arms, said third arm having an opening therein with which the head of the bottle may pass and by means of which a cap is forced upon and around the head of the bottle.

[Claim 6 not printed in the Gazette.]

979,379. HAND BRAKE MECHANISM. JAMES R. CARMER, Wilmington, Del. Filed Aug. 11, 1910. Serial No. 576,680.



1. In brake mechanism for railway cars, the combination of a brake staff of angular cross-section, a ratchet wheel coöperative therewith and having a locking pawl, and a bracket having a bearing to receive a journal portion formed separately from and surrounding said staff and having a part coöperative with the ratchet wheel to retain the same in operative relation to said pawl.

2. In brake mechanism for railway cars, the combination of a brake staff, a ratchet wheel turnable with the brake staff, a locking pawl, and a bracket having a bearing to receive a journal portion surrounding said staff, a part coöperative with the ratchet wheel to retain the same in operative relation with said pawl and having a trunnion formed thereon which constitutes a pivot or fulcrum for said pawl.

3. In brake mechanism for railway cars, the combination of a brake staff, a ratchet wheel turnable with said staff, a locking pawl for the ratchet wheel, and a combined bearing and spacing bracket, said bracket having a bearing to receive a journal portion surrounding the brake staff, a portion thereon coöperative with the ratchet wheel to retain the latter in operative relation to said pawl and having a trunnion formed integrally therewith and constituting a pivot or fulcrum for the locking pawl.

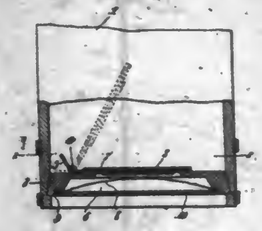
4. In brake mechanism for railway cars, the combination of a brake staff having an angular cross section, a ratchet wheel applied to said staff and turnable therewith, the ratchet wheel having a journal portion, and a bracket having a bearing to receive the journal portion on the ratchet wheel and having a guard coöperative with the ratchet wheel to retain the latter in coöperative relation with the bracket.

5. In bracket mechanism for railway cars, the combination of a brake staff having an angular cross section, a ratchet wheel applied to the staff and having a correspondingly shaped angular opening, the ratchet wheel also having a hub forming a journal, and a bracket having a bearing to receive the journal portion of the ratchet wheel to form a bearing for the angular staff and also having a guard which overhangs the ratchet wheel and serves to retain the journal portion of the latter in coöperative relation with the bearing portion of the bracket.

[Claim 6 not printed in the Gazette.]

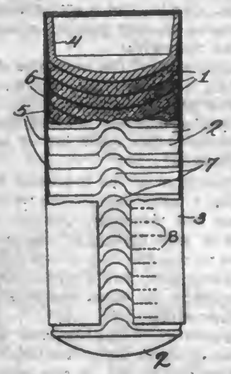
979,380. WELL-BUCKET STRAINER. WILLIM F. CLAY, Willis, Tex. Filed Apr. 19, 1910. Serial No. 556,315.

A well bucket comprising a body, a disk-shaped bottom of tapering form fitted in the body, said bottom having a chamber extending from the under to the upper side, the wall of the chamber being formed with an annular shoulder adjacent the under face of the said bottom, an upwardly-dished strainer disposed in the chamber and having its peripheral edge bearing against the shoulder, a retaining ring of substantially the same diameter as the strainer and engaging the under side thereof at the periphery, fastenings passing through the ring and strainer



and entering the said bottom for securing the strainer in place wholly on the bottom, a valve mounted on the bottom and adapted to seat on the top surface thereof to permit water to pass upwardly in the bucket during the down-stroke thereof and to close on the up-stroke.

979,381. SOAP ARTICLE. ARTHUR F. CONERY, Jr., Newark, N. J. Filed Feb. 18, 1907, Serial No. 357,929. Renewed May 11, 1910. Serial No. 560,732.



1. A soap article comprising a series of waferlike bodies of soap, a series of separators between, covering and separating adjacent surfaces of said waferlike bodies and in contact therewith, said separators and waferlike bodies fitting together to form a sticklike body, and an enveloping covering closely adhering to the exposed edges of the separators, sealing in the waferlike bodies and uniting the assembled objects into a unitary mass.

2. A soap article comprising a series of waferlike bodies of soap, a series of separators therebetween, and an enveloping coating of impervious sealing material closely adhering to the exposed edges of the assembled objects and uniting said assembled objects into a unitary mass.

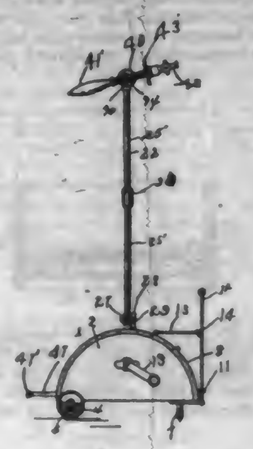
3. A soap article comprising a series of waferlike bodies of soap, a series of separators therebetween, an enveloping coating of impervious sealing material closely adhering to exposed edges and uniting the assembled objects into a unitary mass, and an outer wrapping.

4. A soap article comprising a series of waferlike bodies of soap, a series of separators therebetween, a covering of plastic material adhering to exposed edges and uniting the assembled objects into a unitary mass, and an outer wrapping.

5. A soap article comprising a series of waferlike bodies of soap, a series of separators therebetween, a covering of paraffin closely adhering to exposed edges and uniting the assembled objects into a unitary mass, and an outer wrapping.

[Claims 6 to 20 not printed in the Gazette.]

979,382. SPRINKLER. LESTER I. COONRADT, Oakland, Cal. Filed July 1, 1910. Serial No. 569,965.



1. In an apparatus of the character described, a transportable body, a water pipe projecting upward from the top of said body and connecting at its lower end by a universal joint thereto, and a water discharge nozzle connected to the top of said pipe by a universal joint and communicating therewith.

2. In an apparatus of the character described, a transportable casing, a pipe having its lower end mounted in said casing and projecting upward therefrom, a hose reel mounted in said casing, and a water discharge nozzle adjustably swiveled to the upper end of said pipe and communicating therewith.

3. In an apparatus of the character described, a transportable casing, a water pipe having its lower end mounted in said casing and projecting upward therefrom, a hose reel mounted in said casing, a hose wound on said reel and connected at one end by a swivel joint with the lower end of said water pipe, and a water discharge nozzle adjustably swiveled to the upper end of said pipe, and communicating therewith.

4. In an apparatus of the character described, a transportable casing, a water pipe mounted in said casing and projecting through the top of the same, an elbow pipe mounted on the lower end of said pipe, a hose reel mounted in said casing, a hose wound upon said reel and having one end connected with said elbow pipe joint by means of a swivel joint, a vertical water pipe having its lower end connected with the upper end of said pipe in the casing by means of a universal joint, means for adjustably tightening said joint, a water discharge nozzle connected at the upper end of said pipe by a universal joint, and means for adjusting said discharge nozzle.

5. In an apparatus of the character described, a casing mounted on wheels at one end and having a support at its other end adapted to penetrate the ground, a water pipe projecting upward from said casing and having its lower end mounted thereon, a hose reel mounted in said casing, a hose wound upon said reel and having one end connected with the lower end of said water pipe and the other end projecting out of said casing, a water discharge nozzle connected to the upper end of said pipe by a universal joint and communicating therewith, and means for adjusting said nozzle at different angles.

[Claims 6 to 9 not printed in the Gazette.]

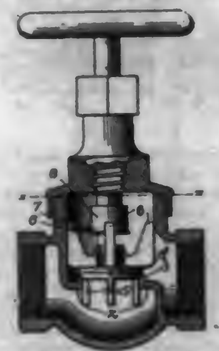
979,383. MOTOR-BOAT. JOHN L. CRAWFORD, Emory Gap, Tenn. Filed Mar. 22, 1910. Serial No. 550,878.

A boat comprising buoyancy members, cross bars uniting the buoyancy members in spaced parallel relation to each other, a propeller shaft, brackets fixed to the cross bars forming bearings for the propeller shaft, rudders arranged at the bow and stern ends of the buoyancy members, braces fixed to the cross bars forming bearings for the rudders, a platform superimposed upon the cross bars, means supported by the platform for driving the propeller



shaft, and separate means operative upon the rudders to independently shift the same at either the bow or stern ends of the buoyancy members.

979,384. COMBINATION-VALVE. WALTER B. DAVIS, Aurora, Ill. Filed Mar. 22, 1910. Serial No. 550,870.

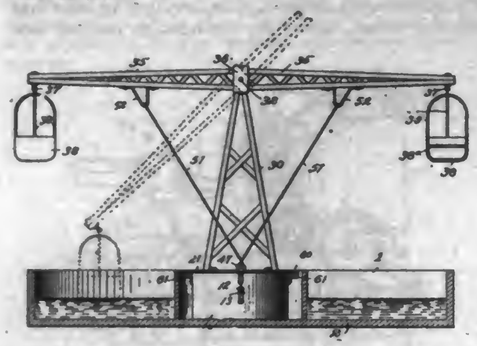


1. The combination, with a valve casing having a partition therein provided with the valve opening, of a valve stem having screw connection with the casing and adapted to move longitudinally in line with said valve opening, a valve made separate from said valve stem and arranged in said opening, said valve being free to act as a check valve when the valve stem is screwed outward, but also acting as a stop valve when said valve stem is screwed inward so as to hold said valve firmly in its opening, fingers arranged on said valve and extending along the lower end of said valve stem, and a radial projection on said valve stem arranged between said fingers on the valve for the purpose specified.

2. The combination, with a valve casing having a partition therein provided with the valve opening, of a valve stem having screw connection with the casing and adapted to move longitudinally in line with said valve opening, a separate valve arranged in said opening, said valve being free to act as a check valve when the valve stem is screwed outward but also acting as a stop valve when said valve stem is screwed inward so as to hold said valve firmly in its opening, guide fingers arranged at intervals around the periphery of said valve and extending upwardly around the lower end of said valve stem, and a radial projection on said valve stem arranged between two of said upwardly extending fingers on the valve for the purpose specified.

3. The combination, with a valve casing having a partition therein provided with the valve opening, of a valve stem having screw connection with the casing and adapted to move longitudinally in line with said valve opening, a separate valve arranged in said opening, said valve being free to act as a check valve when the valve stem is screwed outward but also acting as a stop valve when said valve stem is screwed inward so as to hold said valve firmly in its opening, downwardly extending guide fingers on said valve, guide fingers arranged at intervals around the periphery of said valve and extending upwardly around the lower end of said valve stem, and a radial projection on said valve stem arranged between two of said upwardly extending fingers on the valve for the purpose specified.

979,385. AMUSEMENT APPARATUS. MICHAEL J. DORAN, Brooklyn, N. Y. Filed Apr. 4, 1910. Serial No. 553,297.



1. In an apparatus of the character described, the combination of a rotatable upright tower with two see-saw beams or levers horizontally pivoted upon the top of said tower, passenger carrying cars upon the ends of said beams or levers, and means for simultaneously rotating said tower and rocking said beams or levers in opposite directions.

2. In an apparatus of the character described, the combination of a rotary upright tower, a see-saw beam or lever pivoted at the top of said tower, passenger carrying cars upon the ends of said beam or lever, a circular water tank or moat surrounding the base of said tower, and means for rotating said tower and rocking said beam or lever to alternately raise said cars and dip them into the water of said tank or moat.

3. In an apparatus of the character described, the combination of a suitable base, a platform rotatably mounted upon said base, means for rotating said platform, a tower-like structure mounted upon said platform, a see-saw beam or lever pivoted at the top of said tower-like structure, passenger carrying cars upon the ends of said beam or lever, and means for rocking said beam or lever as the platform rotates.

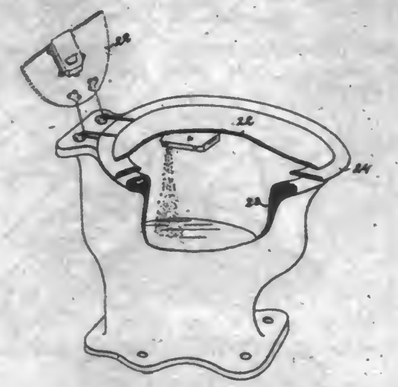
4. In an apparatus of the character described, the combination of an upright rotatable tower, a pair of see-saw beams or levers centrally pivoted upon the top of said tower, the adjacent arms of said beams or levers being spread apart at their ends, passenger carrying cars upon the ends of said beams or levers, and means for rotating said tower and rocking said beams or levers.

5. In an apparatus of the character described, the combination of a rotatable platform, a tower mounted upon said platform, a see-saw beam or lever pivoted at the top of said tower, passenger carrying cars upon the ends of said beam or lever, a horizontal shaft journaled upon said platform, a pulley or drum carried by said shaft, a rope or cable wound upon said pulley or drum and having its ends attached to opposite arms of said beam or lever, means for rotating said platform, and means for rotating said horizontal shaft first in one direction and then in the opposite direction for imparting a rocking motion to said beam or lever.

[Claims 6 and 7 not printed in the Gazette.]

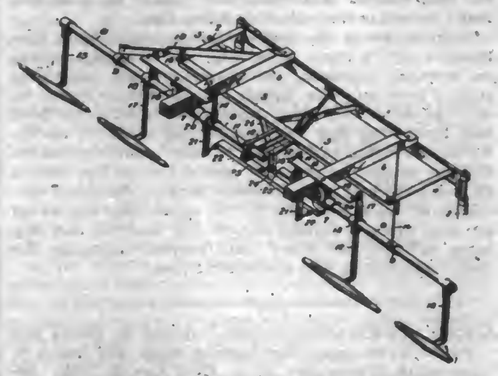
979,386. DISINFECTOR. THEODOR DAUZBACH, Hoboken, N. J., assignor of one-half to George E. Foerster, Brooklyn, N. Y. Filed July 16, 1909. Serial No. 507,901.

In a disinfecting apparatus, the combination of a casing having a chamber therein, the lower end of the front wall of said casing having a portion thereof depressed, two converging side pieces mounted in the lower end of said chamber forming with said depressed portion of said front wall a funnel shaped configuration, a pocket formed at the lower end of said funnel shaped configuration by means of the two converging side pieces, the depressed portion of the front wall of said casing and an end piece mounted in the lower end of said chamber and adjacent to the lower ends of said two converging sides, said pocket being adapted to receive and discharge disinfecting material, pockets located on each side of said funnel shaped configuration adapted to receive and retain disinfecting material, an opening located in the upper end



of said casing for supplying disinfecting material to said chamber and pockets, and a guard secured to the upper end of said casing adjacent to said opening adapted to prevent the disinfecting material from escaping from the chamber when the disinfecting apparatus is in a horizontal position.

979,387. DRAFT-EQUALIZER. WILLIAM ELLIOTT, ROBERT H. SCHLACHTER, and ABRAHAM LINCOLN TOLLES, Beatrice, Nebr., assignors to Dempster Mill Manufacturing Company, Beatrice, Nebr. Filed May 14, 1910. Serial No. 561,477.

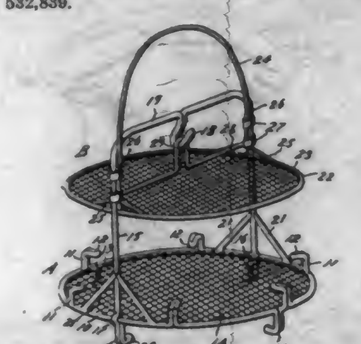


1. In a four horse equalizer for implements or vehicles, the combination of a main frame, a rotatable shaft mounted transversely on each side of the implement, a loose sleeve on each shaft, a bracket extending outward from each sleeve, an equalizer-bar pivoted to each bracket, means attached to said shafts and connected with said equalizer-bars for equalizing the draft of the two horses on each side, a rigid arm extending outward from each sleeve, an evener pivoted centrally to the frame, and flexible connections between said arms and said evener.

2. In a wheeled cultivator or other agricultural implement, or vehicle, in combination with a main frame, a draft equalizer comprising rotatable shafts or draw-bars mounted transversely on each side of the implement, a pendent draft-bar and an extending radial arm, both rigidly secured to each of said shafts, a draft-lever between the draft-bar and radial arm on each shaft, mounted to rock on said shaft, a loose sleeve on each shaft, between the radial arm and draft-lever, an extending bracket

rigid with each of said sleeves, an equalizer-bar pivoted on each bracket, flexible connections between the ends of said equalizer-bars and said radial arms and draft-levers, pendent arms carried by said sleeves, an evener pivoted centrally to the frame, and flexible connections between said pendent arms and the ends of said evener.

979,388. DOUGHNUT-DIPPER. THORSTEN ERIC ERICSON, Cambridge, Mass. Filed Dec. 13, 1909. Serial No. 532,839.



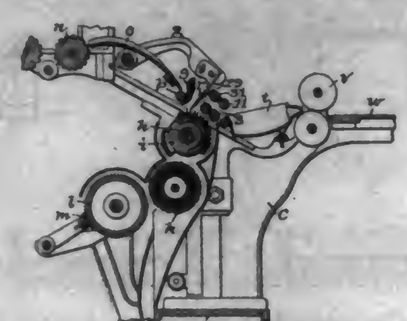
1. An article of the class described, comprising in combination with a lower supporting ring carrying a screen, an upwardly extending bail carried by said supporting ring, a hook centrally formed in said bail projecting on one side thereof, an upper ring adapted to be spaced from said lower ring and likewise carrying a screen, an upwardly extending bail carried by said upper ring, bands slidably connecting said last named bail to the bail of the lower ring, and means carried by the bail of the upper ring adapted to automatically engage the hook centrally formed in the bail of the lower ring.

2. An article of the class described, comprising in combination with a lower supporting ring carrying a screen, an upwardly extending bail carried by said supporting ring, a hook centrally formed in said bail projecting on one side thereof, an upper ring adapted to be spaced from said lower ring and likewise carrying a screen, an upwardly extending bail carried by said upper ring, bands slidably connecting said last named bail to the bail of the lower ring, a rod interposed between the lower terminals of the bail carried by the upper ring, and an off set loop centrally formed in said rod, said rod and loop being resilient, the latter being adapted to engage the hook formed in the bail of the lower ring.

979,389. COMBING-MACHINE. ALFRED B. EVANS and FRANK MARCAURELE, New Bedford, Mass., and FRANK R. LANGLOIS, Woonsocket, R. I. Filed Dec. 9, 1908. Serial No. 466,615.

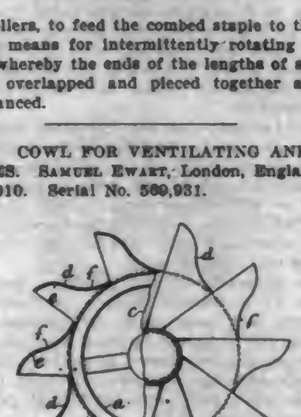
1. In a combing machine, the combination with lap feeding means, and a combing cylinder and comb associated therewith for separating the staple from the lap; of a pair of frictionally-engaged detaching rollers located adjacent said comb and cylinder; a pair of frictionally-engaged piecing rollers located adjacent said detaching rollers, means for continuously rotating said detaching rollers, to feed the combed staple to the piecing rollers; and means for intermittently rotating said piecing rollers, whereby the ends of the lengths of staples fed thereto are overlapped and pieced together and subsequently advanced.

2. In a combing machine, the combination of a lap feed roller, a rigidly mounted feed plate arranged in close proximity to said feed roller and having a portion thereof curved rearwardly beneath the same; means for intermittently rotating said feed roller; a combing cylinder and an associated comb at one side of which said plate and feed roller are arranged, for separating the staple from the lap; a pair of frictionally-engaged detaching rollers located at the opposite side of the cylinder, for receiving the lengths of staple fed thereto by said cylinder; a pair of frictionally-engaged piecing rollers located adjacent said detaching rollers, means for continuously rotating said



detaching rollers, to feed the combed staple to the piecing rollers; and means for intermittently rotating said piecing rollers, whereby the ends of the lengths of staples fed thereto are overlapped and pieced together and subsequently advanced.

979,390. COWL FOR VENTILATING AND OTHER PURPOSES. SAMUEL EWART, London, England. Filed July 1, 1910. Serial No. 569,931.

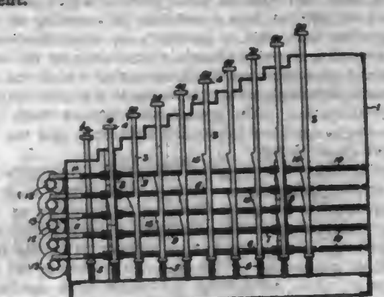


1. A cowl of the class described, comprising blades of approximately ogee shape in horizontal cross section, a cone and a ring, the main portion of said blades extending vertically and set substantially in a tangential position with their lower ends secured to said ring, and their upper portions extending inwardly over and upon the said cone and secured to the upper end thereof, substantially as described.

2. A cowl of the class described, comprising blades of approximately ogee shape in transverse section, a cone and a ring, the main part of said blades extending vertically and set substantially in a tangential position with their lower ends secured to said ring and their upper portions extending inwardly over and upon the said cone and secured to the upper end thereof, the inner edges of said blades having a concavity on the rear face of the same opposing a concavity on the front face of the next adjacent blade, substantially as described.

979,391. CALCULATING OR COMPUTING MACHINE. HENRY R. GRIFFEN, Phoenixville, Pa.; Catherine S. Griffen administratrix of said Henry R. Griffen, deceased. Filed Mar. 8, 1906, Serial No. 304,969. Renewed May 20, 1910. Serial No. 562,527.

1. In a calculating machine, the combination of a plurality of selective manipulative elements marked to represent any combination of numbers within the capacity of the machine, and a plurality of unit registers or accumulators each for indicating the units of the stated numbers in denominations of money, each of said selective manipulative elements being operable to cause an accumulation of units upon one or more of said unit registers or accumulators and automatically dividing and selecting the denominations and the quantity of pieces of money in the sum represented by the operated selective manipulative element.



2. In a calculating machine, the combination of a plurality of selective manipulative elements marked to represent any combination of numbers within the capacity of the machine, a plurality of unit registers or accumulators each for indicating separate portions of the stated numbers in denominations of money, and coacting operative mechanism between the selective manipulative elements and the unit registers, each of said selective manipulative elements when operated causing an accumulation of units upon one or more of said unit registers or accumulators and automatically dividing and selecting the denominations and the quantity of pieces of money in the sum represented by the operated selective manipulative element.

3. A calculating machine comprising indicators, selective manipulative means marked to represent any combination of numbers within the capacity of said machine, and connections between the latter and said indicators whereby upon the operation of the manipulative means to indicate any amount within the capacity of the machine they will automatically select and operate the proper indicators to show the denominations and the number of coins it will take to make up said amount.

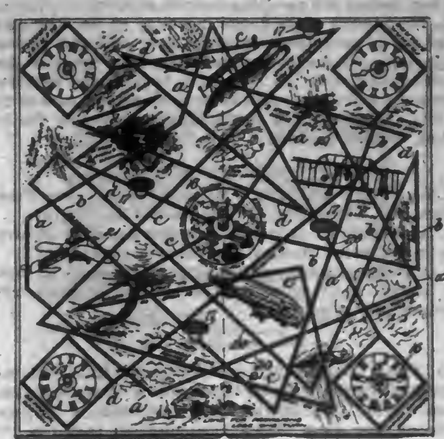
4. A calculating or computing machine, comprising a series of independent and independently cumulative registers or recorders, a slidable selective member, pinions carried by said registers or recorders, and actuating means for said pinions controlled by said slidable member to effect the operation of the registers or recorders, said slidable member being apertured to form a selective element.

5. A calculating or computing machine, comprising a series of independent and independently cumulative registers or recorders, a series of slidable selective members, pinions carried by said registers or recorders, racks carried by said slidable members for engagement with said pinions to effect the operation of the registers or recorders, said slidable members having apertures, vertically moving rods passing through said apertures, and cams carried by said rods for engagement with the walls of said apertures whereby said slidable members may be moved by depressing said rods.

[Claims 6 to 9 not printed in the Gazette.]

979,392. GAME APPARATUS. HARRIET B. MUNRO, Bristol, R. I. Filed Sept. 20, 1909. Serial No. 518,600.

1. A game apparatus comprising a single objective space and a plurality of stepped routes leading thereto from different starting points, and having various zig-zag directions, the zig-zag stretches of each route being of different lengths and angle from the zig-zag stretches of the other routes, all of said routes crossing each other at various points, adventure points being provided for each route and located adjacent the point where said route crosses other routes, advance and retreat directions for each group of adventure points thus provided, whereby each route is subjected to the same advance and retarding conditions.



2. A game apparatus comprising a rectangular board having a central objective space, and a plurality of sockets, one at each corner, a plurality of stepped routes having portions inclosing said sockets to form starting points, all of said routes being of the same length and having various zig-zag directions and leading to said objective point, the zig-zag stretches of each route being of different lengths and angle from the zig-zag stretches of the other routes, all of said routes crossing each other at various points, adventure points being provided for each route and located adjacent the point where said route crosses the other routes, advance and retreat directions for each group of adventure points thus provided, whereby each route is subjected to the same advance and retarding conditions, movable counters for said routes, and chance controlled devices provided with plugs adapted to fit said sockets.

979,393. ALLOY OF ZINC AND TITANIUM AND PROCESS FOR THEIR PRODUCTION. AUGUSTE J. ROSSI, Niagara Falls, N. Y., assignor to The Titanium Alloy Manufacturing Company, New York, N. Y., a Corporation of Maine. Original application filed Mar. 22, 1907, Serial No. 363,959. Divided and this application filed May 4, 1909. Serial No. 493,856.

1. As a new article an alloy of zinc and titanium.

2. The process of producing an alloy of zinc with titanium which comprises bringing titanic acid into the presence of zinc and aluminium while molten together, subjecting the mass to a temperature sufficient to insure reduction of said titanic acid by said aluminium, and withdrawing and cooling the resulting metallic product.

3. The process of producing an alloy of zinc with titanium which comprises bringing titanic acid and oxid of zinc into the presence of zinc and aluminium while molten together, subjecting the mass to a temperature sufficient to insure reduction of said titanic acid and said oxid of zinc by said aluminium, and withdrawing and cooling the resulting metallic product.

979,394. PROCESS FOR THE PRODUCTION OF ALLOYS OF TIN AND TITANIUM. AUGUSTE J. ROSSI, Niagara Falls, N. Y., assignor to The Titanium Alloy Manufacturing Company, New York, N. Y., a Corporation of Maine. Original application filed Mar. 22, 1907, Serial No. 363,959. Divided and this application filed May 4, 1909. Serial No. 493,858.

1. The process of producing an allow of tin with titanium which comprises bringing titanic acid into the presence of tin and aluminium while molten together, subject

ing the mass to a temperature sufficient to insure reduction of said titanic acid by said aluminium, and withdrawing and cooling the resulting metallic product.

2. The process of producing an alloy of tin with titanium which comprises bringing titanic acid and oxid of tin into the presence of tin and aluminium while molten together, subjecting the mass to a temperature sufficient to insure reduction of said titanic acid and said oxid of tin by said aluminium, and withdrawing and cooling the resulting metallic product.

979,395. PILE REMEDY. MICHAEL STRAUS, San Francisco, Cal. Filed Apr. 8, 1910. Serial No. 554,147.

1. A composition of matter comprising essence of caraway leaves, water, glycerin, and vaseline, as set forth.

2. A composition of matter comprising essence of caraway leaves, water, glycerin, vaseline and beeswax intimately mixed, as set forth.

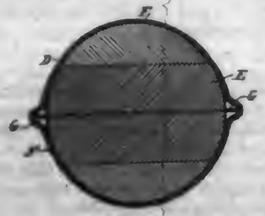
979,396. THREE-WIRE SYSTEM OF ELECTRICAL DISTRIBUTION. PERCY H. THOMAS, Pittsburg, Pa., assignor to Cooper Hewitt Electric Company, a Corporation of New York. Original application filed Jan. 21, 1903, Serial No. 139,957. Divided and this application filed May 6, 1903. Serial No. 155,922.



1. The combination with a source of alternating electric currents, of a three-wire direct current consumption circuit, having its neutral wire connected to an intermediate point in the source, and having its main conductors connected to the outer terminals of the source, current rectifiers interposed in the last named connections, the current rectifiers being so adjusted as to permit the flow of current from the terminals to the mains in one direction and to oppose to the flow of current in the opposite direction a prohibitive resistance.

2. The combination with a source of alternating electric currents, of a three-wire direct current consumption circuit, having its neutral wire connected to an intermediate point in the source, and having its main conductors connected to the outer terminals of the source, current rectifiers adapted to permit the passage of current in one direction and to oppose a prohibitive resistance to the passage in the opposite direction, such current rectifiers being connected in pairs and in opposite senses between each terminal and the two main conductors.

979,397. ART OF MANUFACTURING BILLIARD OR POOL BALLS. ALONZO BURT, Albany, N. Y., assignor of one-half to Vincent R. Hubbell, New York, N. Y. Filed Aug. 26, 1909. Serial No. 514,806. (Specimens.)



1. The described process of providing a composition billiard or pool ball with a non-abrasive surface, consisting in compressing, at a minimum pressure of about 2000 pounds per square inch, a relatively thin coating or shell of celluloid around a basic ball having celluloid as one of its elements, and in simultaneously applying sufficient heat thereto until said coating and the ball are united at all points.

2. The described process of providing a composition billiard or pool ball with an outer surface which shall not abrade or tarnish in use, consisting in covering or surrounding such ball with a plurality of curvilinear cups constructed of a substance having substantially the same coefficient of expansion as the material of which the ball is composed; then subjecting the same to a minimum pressure approximating 2000 pounds per square inch, and simultaneously applying heat until such cups and the ball are united at all points.

3. The described process of providing a composition billiard or pool-ball with an outer surface which shall not abrade or tarnish in use, consisting in covering or surrounding such ball with a plurality of curvilinear cups constructed of a substance having substantially the same coefficient of expansion as the material of which the ball is composed; then subjecting the same to a minimum pressure approximating 2000 pounds per square inch, and simultaneously applying heat until such cups and the ball are united at all points, and finally in turning or truing the ball at those points where the cups are united.

4. As an article of manufacture a compressible hemispherical shaped cup of celluloid adapted to fit with exact accuracy upon or about the surface of a ball to which it is to be attached, said cup having an outwardly turned rim or flange at its equatorial edge.

5. Means for use in compressing billiard or pool balls embracing a plurality of flexible cups having each a prolonged tapering edge and adapted together to overlap the ball when in place therearound.

979,398. NAIL-FILE. ALEXANDER DOW, New York, N. Y. Filed Sept. 29, 1910. Serial No. 584,552.



1. A manicure file provided with a concave abrasive surface, the curve of said surface tapering from one end to the other of said file.

2. A manicure file having a concave abrading surface, said concave surface tapering from one end to the other of the length of the file.

3. A manicure file provided with a concave abrasive surface, the radial cross section of which decreases from one end to the other of said file.

4. A manicure file formed from a thin sheet of metal bent to form a concaved inner surface, and a convex outer surface, the radial cross section of which decreases from one end to the other thereof, the convex surface being smooth and having an abrasive surface formed on the concaved surface.

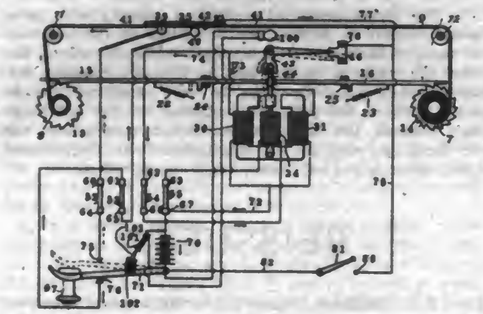
5. A manicure file formed at one end into a flat handle portion, one surface of the metal beyond the handle having an abrading surface thereon, and said metal beyond the handle being concaved with the radial cross section of said concave portion decreasing from the handle to the point.

[Claims 6 and 7 not printed in the Gazette.]

979,399. ADVERTISING DEVICE. ELIAS ATHERTON LYON, Yonkers, N. Y. Filed June 2, 1906. Serial No. 319,950.

1. In an advertising device, the combination of a band having advertisements thereon, a roller to which one end of said band is attached, a ratchet-wheel connected with said roller, a retaining tooth or pawl adapted to prevent retrograde movement of said ratchet-wheel, and means operated by the unwinding of the band for releasing said retaining pawl when the band has been unwound.

2. In an advertising device, the combination of a band having advertisements thereon, means for winding up each end of said band, and a controlling mechanism for controlling the operations for each of said means, said controlling mechanism comprising a series of springs in electrical connection with said actuating mechanism, a cylinder in contact with said springs, and insulated conductors laid in the surface of said cylinder and adapted to connect the various springs to cause the winding mechanism to be actuated in one or the other direction, said conductors consisting of bars extending transversely of the cylinder, and blocks between said bars, said blocks being connected under said bars.



3. In an advertising device, the combination of a band having advertisements thereon, a roller for each end of the band, a ratchet-wheel for each roller, means for actuating said ratchet-wheels to wind up said band, pivoted retaining pawls to prevent said band from unwinding, an electric mechanism for actuating said mechanism for winding up said band, a controlling mechanism for said actuating mechanism, said controlling mechanism consisting of a series of springs in electric connection with said actuating mechanism, and of a cylinder having insulated conductors thereon for making proper connections between said springs, levers adapted to release said retaining pawls, and cam surface formed on said cylinder adapted to operate said levers, and mechanism for turning said cylinder at each end of the travel of the band.

4. In an advertising device, the combination of a band having advertisements thereon, pawl and ratchet mechanisms for winding up each end of the band, a controlling mechanism for said pawl and ratchet mechanisms, pivoted retaining pawls for said pawl and ratchet mechanisms, levers adapted to release said retaining pawls, a controlling mechanism for said pawl mechanisms, and a cam surface carried by said controlling mechanism and adapted to move said levers.

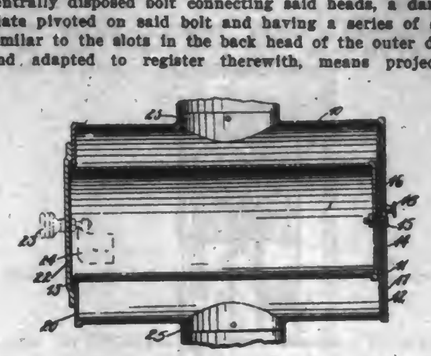
5. In an advertising device, the combination of a band having advertisements thereon, mechanism for winding up each end of the band, a polarized armature for actuating one or the other of said mechanisms, and a forked circuit breaker interposed in the circuit of said armature, said armature having a pin that is adapted to enter said fork, said fork being wider than said pin.

[Claims 6 to 11 not printed in the Gazette.]

979,400. STOVEPIPE-DRUM. JOHN B. PASCHE, Snyder, Tex., assignor to C. M. Mitchell, Snyder, Tex. Filed May 12, 1910. Serial No. 560,895.

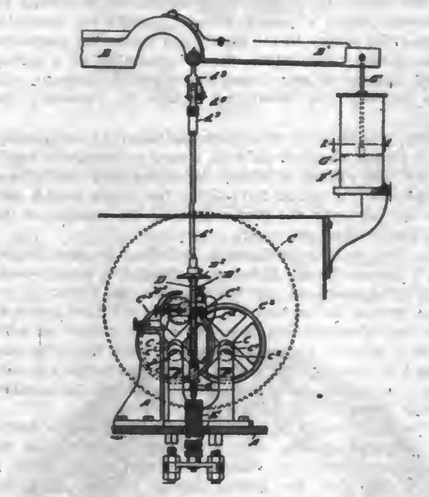
1. In a device of the kind described, an outer drum having a fixed back head provided with a series of slots adjacent its periphery, an inner drum having a back head slightly spaced from the back head of the outer drum, a centrally disposed bolt connecting said heads, a damper plate pivoted on said bolt and having a series of slots similar to the slots in the back head of the outer drum and adapted to register therewith, and means projecting through the outer drum to rotate said damper on its pivot.

2. In a device of the kind described, an outer drum having a fixed back head provided with a series of slots adjacent its periphery, an inner drum having a back head slightly spaced from the back head of the outer drum, a centrally disposed bolt connecting said heads, a damper plate pivoted on said bolt and having a series of slots similar to the slots in the back head of the outer drum and adapted to register therewith, means projecting



through the outer drum to rotate said damper on its pivot a permanent annular closure between the front ends of said drums, a swinging door for the front end of the inner drum, and stove pipe connections oppositely disposed intermediate the ends of said outer drum.

979,401. RECORDING CAR-SCALE. GEORGE GOETT Chicago, Ill., assignor to Streeter Amet Weighing & Recording Company, Chicago, Ill., a Corporation of Illinois. Filed May 12, 1905. Serial No. 260,117.

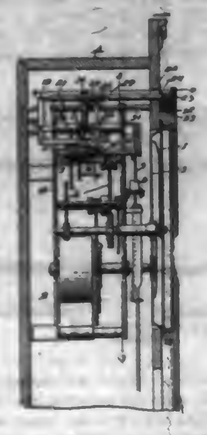


1. In a weight recording car scale, the combination wit the scale beam, counterbalance spring, type wheel, typ wheel shaft and gear, of a movable rack holder connecte at one end to the counterbalance spring and at its othe end to the scale beam, and a separate piece rack mounte on said holder and meshing with said gear on the typ wheel shaft, substantially as specified.

2. In a recording car scale, the combination with th scale beam, counterbalance spring, type wheel, type whee shaft and gear, of a rack holder connecting the scale bear and counterbalance spring, and a rack mounted on sai rack holder, substantially as specified.

3. The combination with a scale beam, of a counte balance spring and type wheel, type wheel shaft and gea an aluminum rack holder connecting said counterbalanc spring, a scale beam and a rack mounted on said rac holder and meshing with said gear on said type whee shaft, substantially as specified.

979,402. CLOCK-SETTING DEVICE. FRANK LIVINGSTON, New Boston, Ill. Filed July 8, 1910. Serial No. 570,903.



1. The combination of a clock mechanism including an escapement shaft, a pinion mounted on the shaft, a gear permanently meshing with the pinion, means for clutching and unclutching the pinion to and from the shaft, means for yieldingly holding the pinion clutched to the shaft, a device for moving the pinion to unclutched position, said device consisting of a push rod, a lever mounted on the clock frame and connected with the rod, and means between the lever and pinion for shifting the latter.

2. The combination of a clock mechanism including an escapement shaft, a pinion thereon, means for normally clutching the pinion to the shaft, and means for unclutching the pinion, said latter means consisting of a spring pressed element, a lever connected with the element, and means between the lever and pinion for releasing the latter.

3. The combination of a clock including an escapement shaft, a pinion mounted thereon, a gear permanently meshing with the pinion, a clutch for connecting the pinion with the shaft, a spring for holding the clutch closed, and means for releasing the pinion against the tension of the spring for opening the clutch.

4. A clock-setting mechanism including an escapement shaft, a pinion slidably mounted on the shaft, a gear meshing with the pinion, means for clutching the pinion to the shaft, a spring for holding the pinion in clutched position, a push rod extending into the case, a lever connected with the rod, a member hingedly connected with the lever and arranged to unclutch the pinion by acting against the tension of the spring, and a link connected with the member and with the said rod.

5. The combination of a clock case, a clock works mechanism mounted therein, said mechanism including an escapement shaft, a pinion slidably mounted on the shaft, a gear meshing with the pinion, means for clutching the pinion to the shaft, a spring for holding the pinion in clutched position, a push rod extending into the case, a lever connected with the rod, a member hingedly connected with the lever and arranged to release the pinion by operating against the tension of the spring, a link connected with the member and with the said rod, a push button on the outer end of the rod, and a spring interposed between the button and clock case for operating through the rod for holding the said member released from the pinion.

[Claims 6 to 18 not printed in the Gazette.]

979,403. METHOD OF MAKING SOLID MAST-BANDS. WILLIAM WENSLEY, Seattle, Wash. Filed Sept. 15, 1909. Serial No. 517,891.

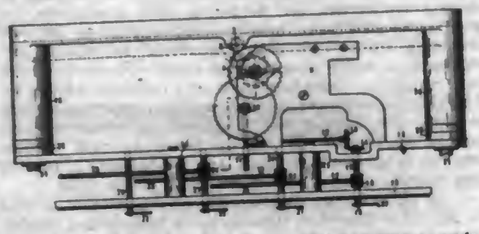
1. The herein described method of making solid mast bands consists in the following steps, namely, forming niches near opposite ends of a bar of steel of suitable dimension, then engaging niches in the bar by a tool to form rounded terminals, then punching holes in said terminals and also at a distance removed therefrom, then slitting the bar between the innermost holes, then cutting into the bar from one side thereof to said slit, and finally shaping the bar into semi-annular contour.



2. The herein described method of making solid mast bands consists in niching opposite sides of the bar near its ends, engaging said niches by a suitable tool to displace the material of the bar for forming rounded terminals, then punching holes in said terminals and at points between the same, then slitting the bar longitudinally between the innermost hole, then cutting into the bar from one side to the longitudinal slit therein and finally shaping the bar, substantially as described.

REISSUES.

13,184. METER. ROBERT LEE RICKMAN, Vancouver, British Columbia, Canada, assignor of one-half to Samuel Kenrick Champion, Vancouver, British Columbia, Canada. Filed Oct. 27, 1910. Serial No. 589,623. Original No. 964,695, dated July 19, 1910, Serial No. 469,830.



1. In a meter, in combination, a driven member, registering means bodily movable with respect thereto, an intermediate mechanism for transmitting motion from said driven member to said registering means, said mechanism comprising a member adapted to be removed and to be replaced by a member of different size, and means for varying the position of said registering means with respect to said driven member.

2. In a meter, in combination, a driven member, registering means bodily movable with respect thereto, a train of intermeshing gears intermediate said member and said means, means adapted to permit one of said gears to be removed and a gear of different diameter inserted in its place, and means for varying the position of said registering means with respect to said driven member.

3. In a meter, in combination, a driven member, registering means bodily movable with respect thereto, a support therefor, a plurality of gears intermediate said driven member and said means, means adapted to permit one of said gears to be removed and a gear of different diameter inserted in its place, and adjustable means adapted to coact with said registering means and said support to vary the position of the former with respect to the latter whereby to compensate for the difference in diameter of said inserted gear with respect to the replaced gear.

4. In a meter, in combination, a driven member, registering means bodily movable with respect thereto, a plurality of intermeshing gears intermediate said driven member and said registering means and adapted to be moved toward or away from said member, bearings operatively associated with one of said gears, one of said bearings being movable to permit said gear to be removed and a gear of different diameter inserted in its place, and means for varying the position of said registering means and said plurality of gears with respect to said driven member.

5. In a meter, in combination, a driven member, registering means bodily movable with respect thereto, a plurality of intermeshing gears intermediate said driven member and said registering means and adapted to be moved toward or away from said member, bearings operatively associated with one of said gears, said bearings being movable to permit said gear to be removed and a gear of different diameter inserted in its place, and means for varying the position of said registering means and said plurality of gears with respect to said driven member.

6. In a meter, in combination, a driven member, registering means bodily movable with respect thereto, a plurality of intermeshing gears intermediate said member and said means and adapted to be moved toward or away from said member, one of said gears being provided with an arbor having a recess in one of its ends, a bearing engaging said recess, said bearing being movable to permit said gear to be removed and a gear of different diameter and provided with a similar arbor to be inserted in its place, and means for varying the position of said registering means and said plurality of gears with respect to said driven member.

7. In a meter, in combination, a driven member, registering means bodily movable with respect thereto, a plurality of intermeshing gears intermediate said member and said means and adapted to be moved toward or away from said member, one of said gears being provided with an arbor having recesses in its ends, bearings engaging said recesses, said bearings being movable to permit said gear to be removed and a gear of different diameter and provided with a similar arbor to be inserted in its place, and means for varying the position of said registering means and said plurality of gears with respect to said driven member.

8. In a meter, in combination, a driven member, registering means bodily movable with respect thereto, a support therefor, a plurality of gears intermediate said driven member and said means, means adapted to permit one of said gears to be removed and a gear of different diameter inserted in its place, and adjustable spacing members adapted to be placed between said support and said registering means to vary the position of the former with respect to the latter, whereby to compensate for the difference in diameter of said inserted gear with respect to the replaced gear.

9. In a meter, in combination, a driven member, registering means, a plate upon which said means are mounted, a support for said plate, a plurality of gears intermediate said driven member and said registering means, means adapted to permit one of said gears to be removed and a gear of different diameter inserted in its place, and adjustable spacing members adapted to be interposed between said plate and said support to vary the position of the former with respect to the latter, whereby to compensate for the difference in diameter of said inserted gear with respect to the replaced gear.

10. In a meter, in combination, a driven member, registering means bodily movable with respect thereto, intermediate mechanism for transmitting motion from said driven member to said registering means, said mechanism being bodily movable with respect to said driven member, said mechanism comprising a member adapted to be removed and to be replaced by a member of different size, and means for varying the position of said registering means and said mechanism with respect to said driven member.

11. In a meter, in combination, a base, a driven member supported thereby, registering means mounted upon said base, an intermediate mechanism for transmitting motion from said driven member to said registering means, said mechanism comprising a member adapted to be removed and to be replaced by a member of a different size, and means for varying the position of said registering means with respect to said base, whereby to compensate for the difference in diameter of said inserted gear with respect to the replaced gear.

DESIGNS.

41,049. BADGE OR JEWEL. GEORGE E. NEENEY, Attleboro, Mass. Filed Oct. 20, 1910. Serial No. 588,220. Term of patent 7 years.



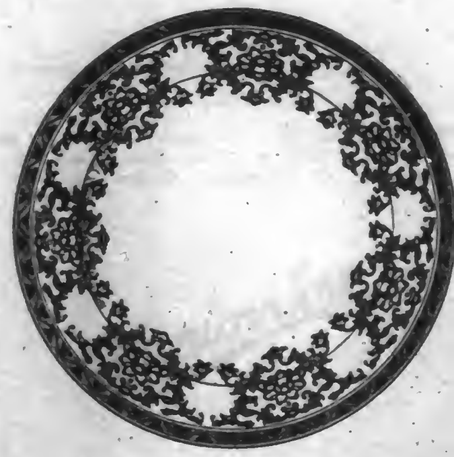
The ornamental design for a badge or jewel as shown.

41,050. STATUETTE. CAROLINE W. DIEHL, Washington, D. C. Filed Oct. 19, 1910. Serial No. 588,001. Term of patent 7 years.



The ornamental design for a statuette as shown.

41,051. PLATE OR SIMILAR ARTICLE. JOHN WILLIAM WADSWORTH, Stoke-upon-Trent, England, assignor to Meakin & Ridgway, New York, N. Y., a firm. Filed Sept. 27, 1910. Serial No. 584,133. Term of patent 7 years.



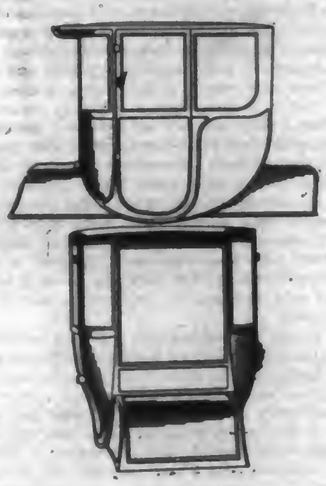
The ornamental design for a plate or similar article shown.

41,052. HEADLIGHT. RICHARD H. WELLER, Kenosha, Wis., assignor to The Badger Brass Manufacturing Company, Kenosha, Wis., a Corporation of Wisconsin. Filed May 4, 1910. Serial No. 559,418. Term of patent 7 years.



The ornamental design for a headlight as shown and described.

41,053. VEHICLE-BODY. OLIVER PARKER FRITCHLE, Denver, Colo., assignor to Fritchle Automobile & Battery Company, Denver, Colo., a Corporation of Colorado. Filed Sept. 10, 1910. Serial No. 581,454. Term of patent 14 years.



The ornamental design for a vehicle-body, as shown.

TRADE-MARKS

PUBLISHED DECEMBER 20, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

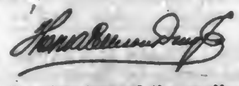
"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 28,111. (CLASS 35. BELTING, HOSE, MACHINERY PACKING, AND NON-METALLIC TIRES.) THE B. F. GOODRICH COMPANY, Akron, Ohio. Filed June 14, 1907.



Particular description of goods.—Hose Made Wholly or Partly of Rubber or Having Rubber Incorporated Therewith.

Ser. No. 32,151. (CLASS 6. CHEMICALS MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THE M. A. ELLISON DRUG CO., Dothan, Ala. Filed Jan. 9, 1908.



Consisting of the signature of the applicant as written by M. A. Ellison, the president of the company.

Particular description of goods.—Eye-Water and Eye-Salves.

Ser. No. 37,157. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) THE RUDOLPH WURLITZER CO., Cincinnati, Ohio. Filed Sept. 3, 1908. Used ten years.



Particular description of goods.—Mandolins.

Ser. No. 37,439. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WILLIAM MCMURRAY, St. Paul, Minn. Filed Sept. 17, 1908. Used ten years.



Particular description of goods.—Teas.

Ser. No. 42,325. (CLASS 28. CUTLERY, MACHINERY AND TOOLS, AND PARTS THEREOF.) THE CHARLES E. HIRES COMPANY, Philadelphia, Pa. Filed May 1909.



Particular description of goods.—Liquid-Dispensing Apparatus.

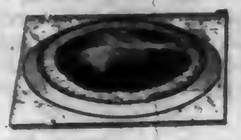
Ser. No. 42,473. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE KELLOW ROCK DRILL SYNDICATE, LIMITED, Croesor, Penrhyndeudraeth, Wales. Filed May 17, 1909.

KELDRIL

Consists of the word "Keldril."

Particular description of goods.—Rock-Drills and Channelers, Cutters, and Cutter-Holders; Channeling-Bars; Columns, Supports, and Stays of Metal for Drilling Machinery; Steam, Air, Water, and other Fluid-Pressure Motor-Engines; Power-Pumps, and Hydraulic Accumulators.

Ser. No. 42,606. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) JOHN W. HASBURG COMPANY, Chicago, Ill. Filed May 22, 1909.



Particular description of goods.—Ceramic Gold.

Ser. No. 43,226. (CLASS 32. FURNITURE AND UPHOLSTERY.) HIRSCH & SPITZ MFG. CO., Atlanta, Ga. Filed June 24, 1909.



Particular description of goods.—Mattresses and Beds.

Ser. No. 43,978. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) JAMES W. DOUTHITT, Bedford, Ind. Filed Aug. 5, 1909.



Particular description of goods.—A Remedy for Dyspepsia, Catarrh, Constipation, Rheumatism, Kidney and Bladder Troubles, Scrofula, and All Blood Diseases, Chills, Fever, Ague, Nervousness, and a Remedy for Coughs, Colds, Croup, Influenza, Hoarseness, Sore Throat, Whooping-Cough, and Bronchitis.

Ser. No. 44,769. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) LOUIS BURK, Philadelphia, Pa. Filed Sept. 18, 1909.



Consisting of diagonal stripes having thereon the words "Burk's Boiled Ham," which words are not claimed.

Particular description of goods.—Boiled Ham.

Ser. No. 44,770. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) LOUIS BURK, Philadelphia, Pa. Filed Sept. 18, 1909.



Consisting of diagonal stripes having thereon the words "Burk's Lunch Roll Boiled Ham and Shoulder," which words are not claimed.

Particular description of goods.—Prepared Meats Comprising Hams and Shoulders.

Ser. No. 45,378. (CLASS 37. PAPER AND STATIONERY.) THE AMERICAN PAPER GOODS COMPANY, Kensington, Conn. Filed Oct. 18, 1909.



Particular description of goods.—Paper in Rolls, Sheets, and Blanks, Folded or Unfolded, Envelops and Photograph-Inclosures, and Holders and Mailers for Photographs, Negatives, and Films.

Ser. No. 45,445. (CLASS 14. METALS AND METAL CASTINGS AND FORGINGS.) HOMER F. LIVERMORE, Boston, Mass. Filed Oct. 21, 1909.

NORWAH

Particular description of goods.—Metal Castings.

Ser. No. 45,542. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS, NOT INCLUDING ELECTRICAL APPARATUS.) JOHN GEORGE EMRICH, Columbus, Ohio. Filed Oct. 25, 1909. Used ten years.



The picture shown being fanciful.

Particular description of goods.—Heating and Cooking Stoves and Ranges.

Ser. No. 46,242. (CLASS 15. OILS AND GREASES.) UNION PETROLEUM COMPANY, Wilmington, Del., and Philadelphia, Pa. Filed Dec. 2, 1909.



Particular description of goods.—An Oil Compound for Use in the Cutting and Shaping of Metals and as a Rust-Preventive.

Ser. No. 46,539. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THE CALDWELL MILLING & ELEVATOR COMPANY, Caldwell, Idaho. Filed Dec. 15, 1909.



Which consists of the representation of a flower known as the "Syringa."

Particular description of goods.—Wheat-Flour.

Ser. No. 46,618. (CLASS 4. ABRASIVE, DETERGENT AND POLISHING MATERIALS.) THE GLOBE SOAP COMPANY, Cincinnati, Ohio. Filed Dec. 20, 1909.

CHIC

Particular description of goods.—Soap.

Ser. No. 46,619. (CLASS 4. ABRASIVE, DETERGENT AND POLISHING MATERIALS.) THE GLOBE SOAP COMPANY, Cincinnati, Ohio. Filed Dec. 20, 1909.



Particular description of goods.—Soap.

Ser. No. 47,072. (CLASS 6. CHEMICALS, MEDICINE AND PHARMACEUTICAL PREPARATIONS.) THE ... MO-CHEMICALS COMPANY, New York, N. Y. Filed Ja... 12, 1910.



Particular description of goods.—An Anhydrous Hy... thermic Poultice to be Applied Externally in the Tre... ment of All Inflammatory, Congestive, and Similar Co... tions.

Ser. No. 47,323. (CLASS 46. FOODS AND INGRE... ENTS OF FOODS.) M. P. BEWLEY, deceased, F... Worth, Tex.; Hallie C. Bewley and E. E. Bewley, exe... tors of said M. P. Bewley. Filed Jan. 22, 1910. U... ten years.



Particular description of goods.—Wheat-Flour.

Ser. No. 48,107. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) VICTOR H. AND BERNARD L. BAUN, Baltimore, Md. Filed Mar. 1, 1910. Used ten years.

FAGRET

Particular description of goods.—Hair Tonic and Pomatum.

Ser. No. 48,117. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) WILLIAM JESSOP & SONS, LIMITED, Sheffield, England. Filed Mar. 2, 1910.



Particular description of goods.—Twist, Mining, Rock-Boring, and Wood-Boring Drills, Milling, Slotting, Shaping, Turning Wood, Bone, Wheel, Dividing, Fluting, and Grooving Cutters, Machine-Knives and Machine-Tools, Adzes, Axes, Augers, Awls, Braces, Bevels, Bits, Saw-Clamps, Chisels, Bolt-Clippers, Meat-Choppers, Files and Rasps, Hammers, Hatchets, Mattocks, Machetes, Planes, Pliers, Punches, Reamers, Rivet-Sets, Shears, Scythes, Sickles, Saws, Spoke-Shaves, Spanners, Stocks and Dies, Tobacco-Knives, Trowels, Vises, Wrenches.

Ser. No. 48,396. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) F. B. WARHBURN & Co., Brockton, Mass. Filed Mar. 14, 1910.

WALECO

Particular description of goods.—Candy.

Ser. No. 48,463. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) TWOHY-EIMON MERCANTILE COMPANY, Superior, Wis. Filed Mar. 16, 1910.

TEMCO

Particular description of goods.—Tea; Maple-Sap Syrup; Tomato Catsup; Vinegar; and Canned Fruits, Vegetables, Fish, Oysters, Hominy, Sauer-Kraut, and Pork and Beans.

Ser. No. 48,552. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) NICKEL PLATE STOVE POLISH CO., Chicago, Ill. Filed Mar. 19, 1910.

HAND WITCH

Particular description of goods.—A Compound for Cleaning and Scouring the Hands and for Removing Dirt, Grease, Oils, Inks, Stains, Paints, and Acids from the Hands and other Objects.

Ser. No. 49,017. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) E. W. BENNETT & COMPANY, San Francisco, Cal. Filed Apr. 11, 1910.



Particular description of goods.—A Scouring Compound for Metals, Glass, Crockery, and Wood.

Ser. No. 49,236. (CLASS 9. EXPLOSIVES, FIREARMS, EQUIPMENTS, AND PROJECTILES.) SOMMERS BROTHERS MATCH COMPANY, Saginaw, Mich. Filed Apr. 21, 1910.



The inner rectangle being blue, the outer rectangular border and the outlines of the letters in the words "King Que" and the outer outline of the letter "Q" surrounding the representation of the head of the king and the inner oval background being red, the figure of the king being partly in red and partly in blue, and the king's crown being partly in blue.

Particular description of goods.—Matches.

Ser. No. 49,352. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) RESCUE MEDICINE CO., Shelbyville, Tenn. Filed Apr. 28, 1910.



Particular description of goods.—Medicine for the Treatment of Diseases of the Lungs.

Ser. No. 49,610. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) WILLIAM V. R. HECKMAN, Independence, Kans. Filed May 9, 1910.



Particular description of goods.—A Washing Compound.

Ser. No. 49,649. (CLASS 39. CLOTHING.) ROBERTS, JOHNSON & RAND SHOE COMPANY, St. Louis, Mo. Filed May 11, 1910.



The pictures being fanciful.

Particular description of goods.—Shoes Made Wholly or in Part of Leather.

Ser. No. 50,077. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) CEDAR RAPIDS CANDY COMPANY, Cedar Rapids, Iowa. Filed June 3, 1910.

Quadro

Particular description of goods.—Candy.

Ser. No. 50,350. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) ARTHUR HOROWITZ, Berlin, Germany. Filed June 17, 1910.

Gelonid

Particular description of goods.—Medicinal Pills, Tablets, and Capsules.

Ser. No. 50,480. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) JOHN G. HIGGINS, Chattanooga, Tenn. Filed June 21, 1910.

EUREKA

Particular description of goods.—Toilet-Combs of Base Metal.

Ser. No. 50,645. (CLASS 39. CLOTHING.) DENT, ALLCROFT & Co., London E. C., England. Filed June 30, 1910.



Particular description of goods.—Gloves.

Ser. No. 50,696. (CLASS 12. CONSTRUCTION MATERIALS.) WILLIAM LABAN, Grand Rapids, Mich., assignor to The Apex Concrete Roofing Tile Company, Grand Rapids, Mich. Filed July 5, 1910.

THE APEX

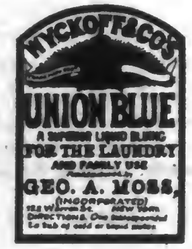
Particular description of goods.—Concrete Roofing Tile.

Ser. No. 50,759. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) BAUER & CIE., Berlin, Germany. Filed July 8, 1910.



Particular description of goods.—Dietetic Preparations in Powder Form, Consisting of Albumen and the Salt of an Organic Acid, (Casein and Sodium Glycerophosphate.)

Ser. No. 50,955. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) GEORGE A. MOSS, INCORPORATED, New York, N. Y. Filed July 21, 1910. Used ten years.



No claim being made to the words "Trademark reg'd. A superior liquid bluing for the laundry and family use. Manufactured by Geo. A. Moss, (Incorporated,) 122 Warren St. New York. Directions. One tablespoonful to tub of cold or tepid water."

Particular description of goods.—Liquid Bluing for Laundry and Family Use.

Ser. No. 51,438. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) THE VALENTINE & BENTLEY SILK CO., Newton, N. J., and New York, N. Y. Filed Aug. 17, 1910. Used ten years.



Particular description of goods.—Silk Goods in the Piece.

Ser. No. 51,472. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) ARGUIMBAU & RAMÉE, New York, N. Y. Filed Aug. 20, 1910.



The picture being fanciful.

Particular description of goods.—Olives.

Ser. No. 51,487. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) GEO. E. KOPLIN, Winter Haven, Fla. Filed Aug. 22, 1910.

K

Particular description of goods.—Oranges, Lemons, Grape-Fruit, Tangerines, and Limes.

Ser. No. 51,560. (CLASS 39. CLOTHING.) PAUL BROTHERS, Philadelphia, Pa. Filed Aug. 26, 1910.

TOT TOT

Particular description of goods.—Infants' and Children's Boots and Shoes Made Wholly or in Part of Leather.

Ser. No. 51,748. (CLASS 39. CLOTHING.) WALLACE, SCOTT & CO., LIMITED, Glasgow, Scotland. Filed Sept. 10, 1910.

DEXTER

Particular description of goods.—Rainproof Coats, Capes, Jackets, Breeches, Hats, Caps, and Leggings.

Ser. No. 51,809. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) MARIANNA M. BISHOP, Baltimore, Md. Filed Sept. 14, 1910.



Particular description of goods.—Food for Fish.

Ser. No. 51,817. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) INTERSTATE FARMERS EXCHANGE, Pocomoke City, Md. Filed Sept. 14, 1910.



The entire mark being printed in red.

Particular description of goods.—Fresh Fruits and Vegetables.

Ser. No. 51,855. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) NATIONAL MUSICAL STRING CO., New Brunswick, N. J. Filed Sept. 16, 1910.

BELL BRAND

Particular description of goods.—Strings for Musical Instruments.

Ser. No. 51,957. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) FOX TYPEWRITER CO., Grand Rapids, Mich. Filed Sept. 26, 1910.



Particular description of goods.—Type-Writers.

Ser. No. 51,977. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE DIAMOND RUBBER CO., Akron, Ohio. Filed Sept. 27, 1910.

"8338"

Particular description of goods.—Insulated Wires and Cables.

Ser. No. 52,028. (CLASS 15. OILS AND GREASES.) GEORGE P. DIXON COMPANY, Providence, R. I. Filed Sept. 30, 1910.

GPDCo.

Particular description of goods.—Lubricating-Oils and Lubricating-Greases.

Ser. No. 52,114. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) DWIGHT MAJOR BALDWIN, Jr., Minneapolis, Graceville, and Moorhead, Minn. Filed Oct. 5, 1910. Used ten years.

DWIGHT'S FLOUR

The exclusive right to the word "Flour" being disclaimed.

Particular description of goods.—Wheat-Flour, Wheat-Grits, Graham Flour, Rye Flour and Meal, Cornmeal, and Buckwheat-Flour.

Ser. No. 52,142. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) THEODOR TEICHGRAEBER, Berlin, Germany. Filed Oct. 6, 1910.

Vasotonin

Particular description of goods.—Preparations for the Treatment of Arteriosclerosis and Angina Pectoris.

Ser. No. 52,174. (CLASS 37. PAPER AND STATIONERY.) RITCHIE & EASON, Manchester, England. Filed Oct. 8, 1910. Used ten years.



Particular description of goods.—Tracing-Cloth.

Ser. No. 52,184. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) RIDENOUR-BAKER GROCERY COMPANY, Kansas City, Mo. Filed Oct. 10, 1910.



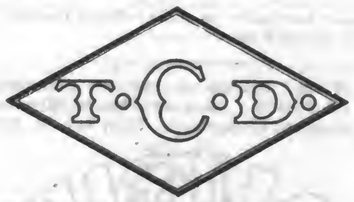
Particular description of goods.—Pepper Sauce and Tomato Catsup.

Ser. No. 52,189. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) DAVID MEYER, New York, N. Y. Filed Oct. 10, 1910.

Creation

Particular description of goods.—A Preparation for Softening the Skin and Clearing the Complexion.

Ser. No. 52,203. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) THEODORE CHARLES DUSENBERG, Philadelphia, Pa. Filed Oct. 11, 1910.



Particular description of goods.—Candy.

Ser. No. 52,227. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) IMPERIAL OIL & GAS PRODUCTS CO., Harrisville, W. Va. Filed Oct. 12, 1910.

KOH-I-NOOR

Particular description of goods.—Carbon Gas-Black.

Ser. No. 52,254. (CLASS 12. CONSTRUCTION MATERIALS.) WASHINGTON STANDARD SLATE COMPANY, Slatington, Pa. Filed Oct. 13, 1910.

CLIMAX

Particular description of goods.—Roofing-Slate.

Ser. No. 52,336. (CLASS 15. OILS AND GREASES.) HUDSON & THURBER CO., Minneapolis, Minn. Filed Oct. 19, 1910.

HERMIL

Particular description of goods.—Hard Lubricating-Oil.

Ser. No. 52,339. (CLASS 39. CLOTHING.) CHARLES SCHROEDER, Brooklyn, N. Y. Filed Oct. 20, 1910.

ONYX

Particular description of goods.—Shoes Made of Leather and Canvas.

Ser. No. 52,352. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE NOISELESS TYPEWRITER COMPANY, Middletown, Conn. Filed Oct. 21, 1910.



Particular description of goods.—Type-Writing Machines.

Ser. No. 52,375. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) SHANE BROS. & WILSON CO., Philadelphia, Pa. Filed Oct. 22, 1910. Used ten years.

YELLOW-STONE

Particular description of goods.—Wheat-Flour.

Ser. No. 52,381. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) OSCAR FUNK, Chalfont, Pa. Filed Oct. 22, 1910.

Oscar Funk

Consisting of a facsimile of my signature.
Particular description of goods.—Horse-Liniment.

Ser. No. 52,414. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Mich. Filed Oct. 24, 1910. Used ten years.

LADIES CHOICE

Particular description of goods.—Carpet-Sweepers.

Ser. No. 52,415. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Mich. Filed Oct. 24, 1910.

WELCOME

Particular description of goods.—Carpet-Sweepers.

Ser. No. 52,416. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Mich. Filed Oct. 24, 1910. Used ten years.

PRIZE.

Particular description of goods.—Carpet-Sweepers.

Ser. No. 52,417. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Mich. Filed Oct. 24, 1910. Used ten years.

Gold Medal

Particular description of goods.—Carpet-Sweepers.

Ser. No. 52,418. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Mich. Filed Oct. 24, 1910. Used ten years.

FURNITURE PROTECTOR

Particular description of goods.—Carpet-Sweepers.

Ser. No. 52,419. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Mich. Filed Oct. 24, 1910. Used ten years.

Perfection

Particular description of goods.—Carpet-Sweepers.

Ser. No. 52,420. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Mich. Filed Oct. 24, 1910. Used ten years.

Superior

Particular description of goods.—Carpet-Sweepers.

Ser. No. 52,475. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) AMERICAN LACING HOOK CO., Waltham, Mass. Filed Oct. 27, 1910.

MISSION

Particular description of goods.—Lacing-Hooks for Clothing.

Ser. No. 52,517. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) JOS. ZIMMERMANN, Aachen, Germany. Filed Oct. 29, 1910.

„Condor"

Particular description of goods.—Needles for Talking-Machines.

Ser. No. 52,540. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) PROFESSIONAL DENTIFRICE COMPANY, Philadelphia, Pa. Filed Oct. 31, 1910.

PRODENTCO

Particular description of goods.—Tooth-Powder, Tooth-Paste, and Mouth-Wash.

Ser. No. 52,685. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) MAMMOTH SPRING MILLING COMPANY, Mammoth Springs, Ark. Filed Nov. 10, 1910.

COURIER



Particular description of goods.—Wheat-Flour.

Ser. No. 52,713. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) NATIONAL METAL EDGE BOX COMPANY, Philadelphia, Pa. Filed Nov. 10, 1910. Used ten years.

"METAL EDGE"

Particular description of goods.—Machines for Making Metal Stays and Machines for Applying Metal Stays to Paper Boxes.

Ser. No. 52,783. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) WILLIAM F. JOBBINS, INCORPORATED, Aurora, Ill. Filed Nov. 15, 1910.

EXCELSIOR

Particular description of goods.—A Bleach for Grease, Tallow, Oils, Glycerin, and other Similar Materials.

Ser. No. 52,813. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 16, 1910. Used ten years.

NEW BLOOMLESS OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 52,815. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 16, 1910. Used ten years.

MANCHESTER SPINDLE OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 52,817. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 16, 1910. Used ten years.

HEAVY DARK N CYLINDER OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 52,818. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 16, 1910. Used ten years.

WINTER DARK MACHINERY OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 52,819. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 16, 1910. Used ten years.

SUMMER DARK MACHINERY OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 52,820. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 16, 1910. Used ten years.

STEAM REFINED CONTINENTAL CYLINDER OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 52,849. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) SALEM IRON WORKS, Winston Salem, N. C. Filed Nov. 18, 1910.

HUSTLER

Particular description of goods.—Sawmills; Swing-Saw Frames; Side-Edgers; Set-Works for Sawmills, and Top Saw Frames.

Ser. No. 52,880. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 21, 1910. Used ten years.

PALE 875 OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 52,881. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 21, 1910. Used ten years.

PALE 885 OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 52,882. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 21, 1910. Used ten years.

PALE 865 OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 52,883. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 21, 1910. Used ten years.

RED QUEEN'S SPINDLE OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 52,884. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 21, 1910. Used ten years.

LIGURIAN MACHINERY OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 52,885. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 21, 1910. Used ten years.

EXTRA 885 SPINDLE OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 52,886. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 21, 1910. Used ten years.

QUEEN'S SPINDLE OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 52,887. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 21, 1910. Used ten years.

900-907 PALE MACHINERY OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 52,934. (CLASS 1. RAW OR PARTLY-PREPARED MATERIALS.) BEAVER POND COAL COMPANY, Prestonburg, Ky. Filed Nov. 25, 1910.



Particular description of goods.—Coal.

TRADE-MARKS

REGISTERED DECEMBER 20, 1910.

80,397. CHILDREN'S CARRIAGES, GO-CARTS, SLEDS, AND PERAMBULATORS. ALWIN MANUFACTURING COMPANY, Chicago, Ill.
Filed October 1, 1908. Serial No. 37,727. PUBLISHED OCTOBER 18, 1910.

80,398. AUTOMOBILE PEDAL-COVERS. THE AMERICAN PEDAL CO., New York, N. Y.
Filed July 29, 1910. Serial No. 51,147. PUBLISHED OCTOBER 18, 1910.

80,399. REFINED PETROLEUM. THE ATLANTIC REFINING COMPANY, Philadelphia, Pa.
Filed July 8, 1910. Serial No. 50,752. PUBLISHED OCTOBER 18, 1910.

80,400. VARNISH PAINT. THE AULT & WIBORG CO., Cincinnati, Ohio.
Filed July 5, 1910. Serial No. 50,717. PUBLISHED OCTOBER 18, 1910.

80,401. LEATHER SHOES. SAMUEL BEARMAN, St. Louis, Mo.
Filed August 19, 1910. Serial No. 51,454. PUBLISHED OCTOBER 18, 1910.

80,402. ANGELICA WINE AND TOKAY WINE AND SHERRY. GEO. BENZ & SONS, St. Paul, Minn.
Filed September 6, 1910. Serial No. 51,683. PUBLISHED OCTOBER 18, 1910.

80,403. CARPETS, MATTINGS, RUGS, AND CURTAINS. N. E. BOOMHOWER CO., New York, N. Y.
Filed August 15, 1910. Serial No. 51,406. PUBLISHED OCTOBER 18, 1910.

80,404. INDURATED-FIBER ARTICLES. CHARLES D. BROWN & COMPANY, Boston, Mass.
Filed July 15, 1910. Serial No. 50,847. PUBLISHED OCTOBER 18, 1910.

80,405. COFFEE. CHARLES E. BROWN & CO., Springfield, Mass.
Filed July 2, 1910. Serial No. 50,683. PUBLISHED OCTOBER 18, 1910.

80,406. WINE-BRANDY IMPORTED FROM PALESTINE. CARMEL WINE COMPANY, New York, N. Y.
Filed July 2, 1910. Serial No. 50,675. PUBLISHED OCTOBER 18, 1910.

80,407. COIN-CONTROLLED HOLDERS AND VENDING-MACHINES. FERMIN CESTERO, Habana, Cuba, and New York, N. Y.
Filed August 2, 1910. Serial No. 51,236. PUBLISHED OCTOBER 18, 1910.

80,408. STRAIGHT WHISKY. CHICAGO DISTILLING CO., Chicago, Ill.
Filed July 11, 1905. Serial No. 10,047. PUBLISHED OCTOBER 18, 1910.

80,409. CERTAIN NON-ALCOHOLIC BEVERAGES. STANLEY CLAGUE, Chicago, Ill.
Filed July 23, 1910. Serial No. 51,020. PUBLISHED OCTOBER 18, 1910.

80,410. CERTAIN CLOTHING. STANLEY CLAGUE, Chicago, Ill.
Filed July 23, 1910. Serial No. 51,023. PUBLISHED OCTOBER 18, 1910.

80,411. PREPARATION FOR MAKING A BEVERAGE. WILLIAM CLUFF COMPANY, San Francisco, Cal.
Filed December 1, 1909. Serial No. 46,222. PUBLISHED OCTOBER 18, 1910.

80,412. LARD, SUGAR-CURED MEATS, AND COTTON-SEED OIL. COLUMBIA COTTON OIL & PROVISION CORPORATION, Relee, Va.
Filed October 14, 1909. Serial No. 45,329. PUBLISHED OCTOBER 18, 1910.

80,413. LARD, SUGAR-CURED MEATS, AND COTTON-SEED OIL COLUMBIA COTTON OIL AND PROVISION CORPORATION, Relee, Va.
Filed November 27, 1909. Serial No. 46,148. PUBLISHED OCTOBER 18, 1910.

80,414. COMPOUND OF COTTON-SEED OIL, BEEF-FAT, AND OLEO-STEARIN. COLUMBIA COTTON OIL AND PROVISION CORPORATION, Relee, Va.
Filed December 29, 1909. Serial No. 46,777. PUBLISHED OCTOBER 18, 1910.

80,415. RAGOUT OF EGG-PLANT. A. CUSIMANO & CO., New Orleans, La.
Filed July 28, 1910. Serial No. 51,114. PUBLISHED OCTOBER 18, 1910.

80,416. CIGARS. ANTONIO DE MARCO, New York, N. Y.
Filed September 2, 1910. Serial No. 51,658. PUBLISHED OCTOBER 18, 1910.

80,417. GAMES. WILLIAM L. DEMING, Salem, Ohio.
Filed May 31, 1910. Serial No. 50,001. PUBLISHED OCTOBER 18, 1910.

80,418. SADDLERY AND HARNESS HARDWARE. JOHN DEWSBURY & SON, Walsall, England.
Filed June 28, 1910. Serial No. 50,613. PUBLISHED OCTOBER 18, 1910.

80,419. SOAP. THE GLOBE SOAP COMPANY, Cincinnati, Ohio.
Filed December 20, 1909. Serial No. 46,612. PUBLISHED OCTOBER 18, 1910.

80,420. SOAP. THE GLOBE SOAP COMPANY, Cincinnati, Ohio.
Filed December 20, 1909. Serial No. 46,613. PUBLISHED OCTOBER 18, 1910.

80,421. ADVERTISING-SIGNS. ROBERT R. HAMMER, Roslindale, Mass.
Filed May 21, 1910. Serial No. 49,861. PUBLISHED OCTOBER 18, 1910.

80,422. CHERRY CORDIAL. PETER F. HEERING, Copenhagen, Denmark.
Filed November 27, 1908. Serial No. 38,918. PUBLISHED OCTOBER 18, 1910.

80,423. CHEMICAL COMPOUND FOR FINISHING FABRIC. SEYMOUR M. HERMANN, New York, N. Y.
Filed July 8, 1910. Serial No. 50,757. PUBLISHED OCTOBER 18, 1910.

80,424. REMEDY FOR CUTANEOUS DISEASES. THE HOFFMANN-LA ROCHE CHEMICAL WORKS, New York, N. Y.
Filed August 13, 1910. Serial No. 51,393. PUBLISHED OCTOBER 18, 1910.

80,425. METAL AND SHOE POLISHES AND POLISHING-MITTENS. WILLIAM R. HOLLINGSHEAD, Buffalo, N. Y.
Filed June 7, 1910. Serial No. 50,178. PUBLISHED OCTOBER 18, 1910.

80,426. PREPARATION FOR POLISHING BRASS AND OTHER METALS. FRANK P. IANNARONE, Los Angeles, Cal.
Filed October 1, 1909. Serial No. 45,049. PUBLISHED OCTOBER 18, 1910.

80,427. DISKS CONTAINING DIRECTIONS FOR FOLLOWING A GIVEN ROUTE. JOSEPH W. JONES, New York, N. Y.
Filed April 12, 1910. Serial No. 49,041. PUBLISHED OCTOBER 18, 1910.

80,428. CERTAIN CLOTHING. R. KIRSHBAUM & SON, Indianapolis, Ind.
Filed May 3, 1910. Serial No. 49,473. PUBLISHED OCTOBER 18, 1910.

80,429. CERTAIN FOODS. KOTHE, WELLS & BAUER COMPANY, Indianapolis, Ind.
Filed September 17, 1908. Serial No. 37,433. PUBLISHED APRIL 27, 1909.

80,430. BROOMS. THE JOSEPH LAY COMPANY, Ridgeville, Ind.
Filed March 21, 1910. Serial No. 48,580. PUBLISHED MAY 31, 1910.

80,431. BROOMS. THE JOSEPH LAY COMPANY, Ridgeville, Ind.
Filed March 21, 1910. Serial No. 48,582. PUBLISHED MAY 31, 1910.

80,432. CIGARS. F. LOZANO, SON & CO., New York, N. Y.
Filed August 27, 1910. Serial No. 51,584. PUBLISHED OCTOBER 18, 1910.

80,433. CIGARS, CIGARETTES, AND SMOKING AND CHEWING TOBACCO. MARKT & HAMMACHER COMPANY, New York, N. Y.
Filed August 20, 1910. Serial No. 51,470. PUBLISHED OCTOBER 18, 1910.

80,434. BUTTERMILK. MIDDLETOWN FARMS, INC., Middletown, Del.
Filed May 18, 1910. Serial No. 49,799. PUBLISHED OCTOBER 18, 1910.

80,435. MEASURING AND SCIENTIFIC INSTRUMENTS AND MACHINES. ADOLPH MOLT, Newark, N. J.
Filed January 6, 1910. Serial No. 46,927. PUBLISHED OCTOBER 11, 1910.

80,436. CHEMICAL COMBINATION FOR PREVENTING FREEZING. THE NORTHWESTERN CHEMICAL CO., Marietta, Ohio.
Filed August 18, 1910. Serial No. 51,447. PUBLISHED OCTOBER 18, 1910.

80,437. BIT-BRACES, CHUCKS, AND CHUCK-JAWS. THE PECK, STOW & WILCOX CO., Southington, Conn.
Filed May 10, 1910. Serial No. 49,640. PUBLISHED JULY 12, 1910.

80,438. HOVERS. PRAIRIE STATE INCUBATOR COMPANY, Homer City, Pa.
Filed January 13, 1910. Serial No. 47,106. PUBLISHED OCTOBER 18, 1910.

80,439. WHEAT-FLOUR. THE REA-PATTERSON MILLING COMPANY, Coffeyville, Kans.
Filed May 13, 1910. Serial No. 49,681. PUBLISHED JULY 26, 1910.

80,440. OVERCOATS, COATS, VESTS, AND TROUSERS. SAMUEL E. REINHARD, Baltimore, Md.
Filed March 10, 1910. Serial No. 48,324. PUBLISHED OCTOBER 18, 1910.

80,441. HATS, OVERCOATS, COATS, WAISTCOATS, AND TROUSERS. SAMUEL ROSENTHAL, Washington, D. C.
Filed August 6, 1910. Serial No. 51,301. PUBLISHED OCTOBER 18, 1910.

80,442. NECK-YOKES, NECK-YOKE AND POLE-STRAP CONNECTIONS, AND NECK-YOKE CENTERS. CHARLES B. SCHLEICHER, Brady, Nebr.
Filed November 22, 1909. Serial No. 46,071. PUBLISHED OCTOBER 18, 1910.

80,443. BOTTLED BEER. A. SCHREIBER BREWING COMPANY, Buffalo, N. Y.
Filed August 8, 1910. Serial No. 51,316. PUBLISHED OCTOBER 18, 1910.

80,444. CURED AND SALTED MEATS. SCHWARZSCHILD & SULZBERGER COMPANY, Kansas City, Kans.; Chicago, Ill., and New York, N. Y.
Filed November 20, 1909. Serial No. 46,023. PUBLISHED OCTOBER 18, 1910.

80,445. CERTAIN FOODS. JOHN HENRY SMITH, Detroit, Mich.
Filed April 11, 1910. Serial No. 49,007. PUBLISHED OCTOBER 18, 1910.

80,446. DRILLS AND SCREW-DRIVERS. STAR EXPANSION BOLT COMPANY, New York, N. Y.
Filed August 18, 1910. Serial No. 51,442. PUBLISHED OCTOBER 18, 1910.

80,447. WATERPROOF TULLE NETS AND CHIFFON. L. & E. STIEN, New York, N. Y.
Filed August 26, 1910. Serial No. 51,575. PUBLISHED OCTOBER 18, 1910.

80,448. THREADS AND YARNS. SUPERIOR THREAD & YARN CO., Wilmington, Del., and New York, N. Y.
Filed April 28, 1910. Serial No. 49,344. PUBLISHED OCTOBER 18, 1910.

80,449. CIGARETTES, CIGARS, SMOKING-TOBACCO, AND CHEWING-TOBACCO. TEOFANI & CO., LIMITED, London, England.
Filed September 10, 1910. Serial No. 51,754. PUBLISHED OCTOBER 18, 1910.

80,450. VACUUM CLEANING APPARATUS. UNITED STATES VACUUM CLEANER COMPANY, Bradford, Pa.
Filed April 6, 1910. Serial No. 48,881. PUBLISHED OCTOBER 18, 1910.

80,451. STOVES, RANGES, FURNACES, AND HEATERS. THE WHITE-WARNER CO., Taunton, Mass.
Filed November 11, 1905. Serial No. 14,493. PUBLISHED OCTOBER 18, 1910.

80,452. WOOD-REFINISHING OILS AND GREASES. HERMAN WILKENS, Flushing, N. Y.
Filed March 12, 1910. Serial No. 48,369. PUBLISHED OCTOBER 18, 1910.

LABELS

REGISTERED DECEMBER 20, 1910.

15,425.—*Title:* "CHERRY-KO." (For a Carbonated Tonic Beverage.) OTTO F. EISENHUT, Brooklyn, N. Y. Filed July 2, 1910.

15,426.—*Title:* "WERRBACH'S SAMARITAN REMEDY." (For a Medicine.) CHARLES F. WERRBACH, Philadelphia, Pa. Filed December 5, 1910.

15,427.—*Title:* "ANTI-TAN." (For Massage and Face Lotion.) JOSEPH FERGUSON, Chicago, Ill. Filed June 20, 1910.

15,428.—*Title:* "SPECIAL METALOID PROCESS RAZOR STROPS." (For Razor-Strops.) JAMES S. TORRENCE, San Francisco, Cal. Filed December 6, 1910.

15,429.—*Title:* "PRYM'S SEE ITS SPRING." (For Dress-Fasteners.) WILLIAM PRYM GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, Stolberg, Germany. Filed December 5, 1910.

15,430.—*Title:* "THE COMET." (For Invisible Hooks and Loops.) WILLIAM PRYM GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, Stolberg, Germany. Filed December 5, 1910.

PRINTS

REGISTERED DECEMBER 20, 1910.

2,674.—*Title:* "(I-WANT-A) BOYS AND GIRLS ROMPERS AND UNION SUITS." (For Rompers, Union Suits, Pajamas, Nighties, Blouses, and Play-Suits.) LEE NEWHOFF, New York, N. Y. Filed October 29, 1910.

2,675.—*Title:* "THE PULSOMETER STEAM PUMP." (For Steam-Pumps.) PULSOMETER STEAM PUMP CO., New York, N. Y. Filed November 19, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

VICTOR TALKING MACHINE CO. *v.* AMERICAN GRAPHOPHONE CO.

Decided December 6, 1910.

INTERFERENCE—EXTENDING TIME FOR TAKING TESTIMONY.

It is well settled that the setting of times for taking testimony is a matter peculiarly within the discretion of the Examiner of Interferences.

ON PETITION.

TRADE-MARK FOR TALKING-MACHINES AND PARTS THEREOF.

Mr. Horace Pettit for Victor Talking Machine Co.

Messrs. Mauro, Cameron, Lewis & Massie for American Graphophone Co.

MOORE, *Commissioner:*

This is a petition by the American Graphophone Co. for the exercise of the Commissioner's supervisory authority to set aside a decision of the Examiner of Interferences granting the Victor Talking Machine Co. an additional time of eight days for the taking of testimony.

It is well settled that the setting of times for taking testimony is a matter peculiarly within the discretion of the Examiner of Interferences. (*Goodfellow* v. *Jolly*, 115 O. G., 1064; *Christensen* v. *McKenzie*, 117 O. G., 277; *Dalton* v. *Hopkins* v. *Newman*, 121 O. G., 2666.)

The rule is well established that the supervisory authority of the Commissioner will be exercised only to correct a palpable abuse of discretion. No such abuse is found in this case.

The petition is denied.

EX PARTE MCELROY.

Decided November 30, 1909.

PATENTABILITY — COMMON KNOWLEDGE — IMMATERIAL CHANGES IN THE PRIOR ART.

The combination of a high non-inductive resistance, a magnetic interrupting trembler-bell, and a circuit-closer in series across a high-power circuit *Held* so elementary in character as to be a matter of common knowledge and on its face unpatentable and also unpatentable over a reference showing substantially the same arrangement with an additional adjustable resistance in shunt to the bell.

APPEAL from Examiners-in-Chief.

ELECTRIC SIGNAL SYSTEM FOR HIGH-POWER CIRCUITS.

Mr. Robert M. Pierson for the applicant.

BILLINGS, *Acting Commissioner*, (*now First Assistant Commissioner:*)

This is an appeal from the decision of the Examiners-in-Chief affirming the action of the Primary Examiner in rejecting the following claims:

1. The combination with high-power direct-current mains such as those of a trolley-circuit, of a high-value substantially non-inductive resistance, a circuit-closer and a signal having an electromagnetic interrupter device, all in series in a principal circuit across said mains.

2. An electric signaling system comprising, in combination with high-power direct-current mains such as those of a trolley-car-operating circuit, a conductor across said mains including a switch, a suitably-wound circuit-interrupting trembler-signal, and a non-inductive high resistance of such value as to substantially suppress the arc of rupture, said elements being in series in the principal circuit so that the entire current-flow of said conductor passes through the signal.

3. The combination with high-power direct-current mains, of a principal circuit across said mains including the following instrumentalities in series, to wit: a high-value resistance adapted to pass an actuating-current of negligible heating and inductive effect, a circuit-closer and a signal having an electromagnetic interrupter device whose winding is multiplied in inverse ratio to the value of said actuating-current.

The references cited are: Mather, August 10, 1886, No. 347,120; Hunter, July 16, 1889, No. 407,210; McDonnell, August 30, 1904, No. 768,616; McDonnell, September 26, 1905, No. 800,315; McDonnell, December 4, 1906, No. 837,635. British, Jolin, No. 3,529 of 1885; *Elementary Lessons in Electricity and Magnetism*, (Thompson, p. 417, par. 414, McMillan & Co., New York, 1899.)

The alleged invention is a system for using a relatively high voltage current for ringing bells such as those in common use on street-cars for signaling the motorman. The system includes, besides the bell and the usual push button or buttons, a high non-inductive resistance. The three elements are connected in series across the high-voltage circuit, the resistance serving to reduce the voltage applied to the bell to the desired amount.

The Examiners-in-Chief were of the opinion that the arrangement was so elementary in its nature as to be obviously unpatentable, even though no references were cited, as appears from the following paragraph from their decision:

It would appear from a mere inspection of applicant's system that he has done only what is obvious to those skilled in the art. Having a circuit of high voltage from which to derive energy to operate a device requiring but a small current and low voltage, the natural solution was to insert a suitable resistance and since the circuit is to be opened and closed the resistance should be non-inductive in order to avoid sparking which, as is well known, results from the use of an inductive resistance.

They also held the claims unpatentable over McDonnell, No. 837,635.

The use of resistance to reduce a voltage to the desired amount is undoubtedly an expedient so common as to be familiar to almost every one, whether especially versed in electrical matters or not. The practice of making the resistance non-inductive to avoid sparking where the circuit is to be opened and closed often is almost as old and well known. It is not understood that applicant denies these facts

He points out, however, that in his system it is intended to reduce the line voltage to an amount not low enough to accommodate a bell designed for use with the ordinary bell-ringing batteries, but to a voltage higher than that, and to wind the magnets of the bells to have the proper resistance and ampere turns for this higher voltage. Such an arrangement is claimed to be advantageous in reducing the sparking, and it is here, it seems, that the invention is supposed to reside.

The selection of a voltage value or a current value for the operation of electric bells could hardly be held to require invention in the present state of the art, and the selection having been made the proportions of the bell-windings is a matter that may be determined mathematically by any designer of electrical apparatus. The claims are believed, therefore, to cover a combination so elementary as to be a matter of common knowledge and on its face unpatentable.

Furthermore, the patent to McDonnell, No. 837,635, shows a bell, push-button, and non-inductive resistance connected across a high-voltage circuit in series and is found to fully meet the claims. Applicant objects to this reference because there is also shown a resistance in shunt to the bell-terminals and because it is not stated that a voltage higher than the ordinary is to be applied to the bell. The presence of the additional resistance in shunt to the bell-terminals does not destroy the pertinency of the patent, for applicant has exercised no invention in simply omitting this element and at the same time dispensing with its function. The function of the remaining parts is unchanged by this omission, and their action is the same as in applicant's system. The actual voltage used on the bell by McDonnell is considered unimportant. He suggests, by way of illustration, however, that twenty volts may be used for the ringing pressure, which is much higher than that usually used on bells supplied from batteries. Other voltages are also contemplated, as is indicated by the specification, page 1, lines 17 to 26 and 59 to 70, and by the fact that the resistances are shown as adjustable. Applicant's assumption that McDonnell never intended to use any bell except one adapted for such voltage as would be derived from an ordinary bell-battery is therefore unwarranted. I consider this patent a full anticipation of the claims.

Appellant has filed affidavits tending to show that his system has been extensively used, whereas heretofore such bells have been rung only by the old battery system. It is well settled, however, that such evidence cannot be accepted as showing that a device involves invention except in doubtful cases. (*Durham* v. *Seymour*, 71 O. G., 610; 6 App. D. C., 78, 92; *in re Garrett*, 122 O. G., 1047; 27 App. D. C., 19.) In the present case there is no doubt entertained. I am clearly of the opinion that the claims present nothing patentable, for the reasons above given.

The decision of the Examiners-in-Chief is affirmed.

DECISIONS OF THE U. S. COURTS.

U. S. Circuit Court of Appeals—Second Circuit.

RANSOME CONCRETE MACHINERY CO. *v.* UNITED CONCRETE MACHINERY CO.

Decided March 7, 1910.

PATENTABILITY—INVENTION—CONCRETE-MIXER.

The Ransome patent, No. 814,803, for a concrete-mixing machine consisting of a batch-mixing drum, in view of the prior Burns patent, No. 661,847, for an apparatus for mixing tea "and other material," even conceding that the Burns patent applies only to mixers of dry and non-solidifying materials, is void for lack of patentable invention, being a mere adaptation to a double use, requiring only mechanical skill.

Mr. Stephen J. Cox for the appellant.

Mr. Edward S. Beach for the appellee.

Before LACOMBE, WARD, and NOYES, Circuit Judges.

NOYES, *Cir. J.*:

This is a suit to restrain the alleged infringement of Letters Patent No. 814,803, issued to Ernest Leslie Ransome on March 13, 1906, for an improvement in concrete-mixing machines, and assigned to the complainant.

The patentee states at the commencement of his specifications:

My invention relates to that type of mixers known as "batch-mixers," in which the material to be mixed is placed into the mixer a batch or charge at a time, and is in like manner discharged when mixed.

"Batch-mixers" are to be distinguished from "continuous mixers." The latter are long cylindrical devices which receive materials and discharge them when mixed as a continuous operation. They are said to be less effective than "batch-mixers" in mixing the material and to be subject to other objections.

Broadly speaking, the structure of the patent consists of a revoluble drum with openings at both ends, blades or flanges within the drum secured to its inside periphery, and a discharging-chute. The materials for making concrete—cement, sand, stones, and water—are put into the drum through the inlet or charging opening. The drum is then rotated. The flanges both mix and elevate the material, and at the same time move it toward the discharge end. When the mixing operation is completed, the materials are discharged through the chute.

The especial feature of the patent is undoubtedly the construction and arrangement of the flanges. One set of flanges is set diagonally across the inside of the drum, so as to form lifting-pockets at the discharge end. Another set runs across the first set in the opposite direction. By this arrangement the material is moved back and forth—lifted and thrown back—from one end of the drum to the other, and finally is elevated and dumped into the chute, which is adjusted to receive and discharge it at the outlet-opening of the drum. The patentee in the patent says of this arrangement of flanges and their operation:

To the inner surface of the drum, A, is fastened a plurality of shelves or flanges, B, the distinguishing feature of which is that they are placed athwart the width of the mixer in such a manner as not only to cause the mixing of material that comes within their sphere of influence when the mixer is revolving, but to move such material toward the discharge end of the mixer, and also to carry said material up and discharge it at such a height that when the chute, C, is placed in the required position, the mixture to be discharged from the machine falls therein. These shelves or flanges may be of any desired number or size.

And later he further says:

When the mixer is fully charged and the drum is in motion, the material is given a constant movement over and down the inner surface of the drum, and down from the heights to which some of said material is carried by the shelves or flanges, and in addition to the described movements the material is moved by the plurality of shelves or flanges back and forth the width of the mixer, whereby the material is moved in a number of directions to obtain movements which are of great advantage in securing an intimate commingling of the materials.

The claims of the patent which it is contended that the defendant infringes are Nos. 2, 3, 5, and 7, which read as follows:

2. A mixer having a revoluble drum adapted to receive material at one end and discharge it at the other, the drum having a centrally-orificed head at the discharge end, a shelf secured within the drum and extending along the inner side thereof diagonally with respect to the axis of the drum, the discharge end of the shelf extending to the head at the discharge end of the drum and forming a pocket in connection therewith, an additional shelf secured within the drum and extending diagonally of the axis thereof across the first-named shelf, and a means extending through the said orifice in the discharge-head of the drum, for carrying off the material from the drum.

3. A mixing apparatus having a revoluble drum, adapted to receive the material at one end and discharge it at the other end, a lifting-shelf secured to the drum against the inner side thereof, the shelf extending diagonally with respect to the axis of the drum for the major portion of the length of the shelf, and said major portion of the length of the shelf being relatively straight, and the shelf terminating at the discharge end of the drum in an offset portion, the concave side of which faces the direction of the revolution of the drum, whereby to form a lifting-pocket.

5. A mixing apparatus having a revoluble drum adapted to receive the material at one end and discharge it at the other end, a shelf secured in the drum against the inner side thereof, the shelf extending diagonally with respect to the axis of the drum for the major portion of the length of the shelf, and the shelf terminating at the discharge end of the drum in an offset portion, the concave side of which faces the direction of revolution of the drum, whereby to form a pocket, and an additional shelf secured in the drum and extending diagonally of the axis thereof across the first-named shelf.

7. A machine of the class described, having a revoluble hollow member provided at its discharge end with a head, a plurality of shelves secured to the inside of the member and having offset ends disposed relatively to said head to form a series of lifting-pockets adjacent to the discharge end of the revoluble member, and other shelves extending across the first-named shelves.

The defenses are:

(1) Invalidity.

(2) Non-infringement.

At the outset it is desirable to simplify the issues. Consideration of the question of infringement may be postponed until after the determination of validity. If the patent is invalid, other questions are immaterial. So, while prior patents and uses are set up to negative novelty, we may well consider them in the first place as showing the state of the prior art. It will not be worth while to carefully differentiate between structures, if the differences claimed to exist involve no invention. As want of invention in view of a prior device may defeat a patent which is not anticipated by it, the question of invention should receive primary consideration. Similarly we should select at the outset the defendant's best reference in the prior art. It is unnecessary to go over the whole field, if one patent advances more than all others toward the patent in suit.

Now it is unquestionable that the patent granted to Robert Burns on November 13, 1900, (No. 661,847,) for an "improvement in apparatus for mixing tea and other material," if for an analogous purpose, is the nearest approach to the present patent. Before examining it in detail, however, we must consider the preliminary inquiry whether the apparatus covered by it is for a purpose analogous to that of the Ransome device.

The objection of non-analogy proceeds upon the assumption that the Burns patent is for a tea-mixer and the Ransome patent for a concrete-mixer. As the complainant well points out, tea and concrete are widely-different materials to be operated upon by mixing apparatus. Tea is dry, light, and non-adhesive. Its component granules are of uniform size and weight and of the same nature. A tea mixture is still tea. Time is not an element in tea-mixing. Delays are immaterial. Concrete, on the other hand, is a mixture of different materials constantly tending to solidify into a stone-like substance. It is wet, heavy, and adhesive. The length of time required to mix it is most material. Indeed the operation of mixing concrete is to some extent a race against its tendency to solidify.

If, then, the assumption be well founded that the Burns mixer is exclusively for tea and the Ransome mixer exclusively for concrete, the marked differences in the material operated upon may possibly afford ground for the contention that, if Ransome employs the Burns apparatus, he uses it for a new and non-analogous purpose. But the assumption is not well founded. The Burns patent, as we have seen, is for apparatus for mixing tea "and other material." And in the body of his specification Burns speaks of the use of the mixer upon other materials than tea:

In working such tender material as tea-leaves, it has been found advisable to have a less twist than can be employed for coffee or like material.

Moreover, the testimony is that Burns mixers—upon which his last patent was really an improvement—had been employed for mixing many materials other than tea and coffee, including sand. Similarly, while the patentee in the patent in suit says at the beginning that he has invented an improvement in "concrete-mixing machines," the word "concrete" does not again appear in the patent. "Material" only is spoken of. In view of the language of the patent, we cannot say that the Burns apparatus is exclusively a tea-mixer. Nor are we certain that the patent in suit should be treated as exclusively for a concrete-mixer. Both devices are mixers. Their purpose is to mix materials. Changing materials does not change their purpose.

If, then, we treat the Burns patent as being broad enough to cover apparatus for mixing *any* materials, the question of analogous use does not arise. The mixer of that patent would be used for the purposes covered by it as well when employed to mix concrete as when used to mix tea. The only questions then arising would be whether the Ransome apparatus *is* the same as the Burns apparatus and, if differences exist, whether they are of a nature involving invention.

But, while we are inclined to think that the Burns patent is broad enough to cover the use of

the apparatus described in it for mixing all materials, including concrete, it is unnecessary for the purposes of this case that we should so rule. While, in view of the language of the patent, we cannot assume that it covers tea-mixers alone, we shall assume, for the purposes of this discussion, that it applies only to mixers designed to commingle dry and non-solidifying materials. The question, then, is whether its use for mixing wet and solidifying materials is for a new and non-analogous purpose. And this resolves itself into the inquiry whether, in case the Burns mixer were used for mixing concrete, it would operate in substantially the same manner to accomplish substantially the same results as when used upon dry material. We think that it would. Notwithstanding the difficulties involved in mixing concrete, we are satisfied that the Burns mixer would act upon the required materials in the same way as upon other materials. The apparatus shown in the Burns patent, with all its appendages, is undoubtedly better adapted to mix a light, dry material than concrete; but we have no doubt that it would mix and discharge the one in the same manner that it would mix and discharge the other, and with quite similar results.

For these reasons we think the use of the Burns apparatus for the purpose of mixing concrete at the utmost only a double use, not involving invention. It is rather a case of changing the materials to be operated upon than of changing the method of operation. Indeed, it seems about as clear a case of double use as is shown in the well-known illustrations given by the Supreme Court in *Potts* v. *Creager*, (155 U. S., 597, 608; 15 Sup. Ct., 194, 198; 39 L. Ed., 275:)

If, for example, a person were to take a coffee-mill and patent it as a mill for grinding spices, the double use would be too manifest for serious argument. So, too, this Court has denied invention to one who applied the principles of the ice-cream freezer to the preservation of fish. (*Brown* v. *Piper*, 91 U. S., 37; 23 L. Ed., 200.)

See, also, *Mast* v. *Stover*, (177 U. S., 485; 20 Sup. Ct., 708; 44 L. Ed., 856.)

We come now to the more difficult question whether Ransome has in fact used the Burns apparatus. In examining this question it is only necessary to compare the essential features of the apparatus. This may be done as follows:

Patent in suit.	*Burns patent.*
(1) Revolvible drum.	(1) Revolvible drum.
(2) Inlet. (3) Outlet. Separate; one on each side of drum.	(2) (3) Inlet and outlet; opening on one side of drum only.
(4) Discharge-chute.	(4) Discharge-chute; also used for charging.
(5) Lifting-flanges and cross-flanges.	(5) Lifting-flanges and cross-flanges.
(6) Flanges may be of any desired number or size.	(6) Flanges can be given any suitable twist or pitch.
(7) Flanges so placed as not only to cause mixing of material, but to move it toward discharge end of mixer and into discharge-chute.	(7) An incline leading from flanges to discharge-chute.
(8) Discharge-chute can be adjusted to act as practical closure for outlet end to prevent splashing out. Doors at both ends for same purpose.	(8) Chute can be adjusted to act as closure for opening to prevent escape of materials.
	(9) Roof-shaped spreader.

It is evident from this comparison that the apparatus of the patent in suit contains most of the broad features of the Burns structure. Indeed, this is not seriously disputed by the complainant; the only difference which it points out being the following:

(1) The Burns drum is not open at both ends, as is the apparatus of the patent.

(2) The interior of the Burns drum is provided with a roof-shaped spreader. The structure of the patent has no spreader.

(3) It is contended that the flanges shown in the Burns patent are so arranged as to form "neutral zones," which fail to properly commingle the material. The apparatus of the patent in suit is said to possess no such "neutral zones."

The difference between the openings of the two mixers constitutes, in our opinion, the most important distinction between them. In the Burns mixer, as already pointed out, the inlet and outlet are at the same end of the drum, and a single chute serves for charging and discharging. The materials to be mixed are fed into the drum through the chute. The chute is then adjusted to close the opening, and the mixing operation goes on. When the materials are mixed, the chute is swung inside the drum, and receives and discharges the materials. In the Ransome mixer, as we have also seen, the drum has openings in both ends. The materials are put in through the inlet or charging opening. The openings in the drum are closed; the chute at the discharging end being swung to so as to practically accomplish such closure at that end. The mixing operation then goes on. When it is completed, the discharge-chute is swung inside the drum, and receives and discharges the mixed materials.

But, while this difference in the construction and operation of the two mixers thus exists, it is by no means clear that it required invention to modify the Burns mixer, so that it could be charged and discharged at opposite ends of the drum. The only thing necessary to be done was to take off the plate at the rear end of the drum, which was either bolted in place or connected with a flue, and feed the mixer through the opening thus obtained. Mechanical skill would seem to have been quite sufficient to accomplish this result. Moreover, it can hardly be said that invention would have been required to make an entirely new opening in the rear end of the drum. Mixers which received the materials at one end and discharged them mixed at the opposite end were old in the art at the time when the Burns patent was granted. Indeed, that form of construction seems to have been much more commonly used than the Burns form.

The advantage of an opening at each end of the drum is rapidity in operation. There is nothing in the testimony to show that there is any functional advantage, or that—assuming equal rapidity and the elimination of the shed and "neutral zones" to which we have referred—the Burns mixer would not mix concrete as well as the Ransome mixer. We present, then, to a skilled mechanic the problem of increasing the rapidity of the operation of the Burns mixer, so as to mix concrete materials in the face of their tendency to solidify. He knows that old concrete-mixers received the materials at one end and discharged at the opposite end. He appreciates the delay caused by adjusting a single chute to both receive and discharge materials. While we recognize the difficulty of drawing a line between mechanical skill and invention, we think that the former should have been sufficient to teach this person skilled in the art to eliminate the double use of the one chute and to duplicate it at the opposite end—to go back to the old method of having separate inlet and outlet.

The next difference between the Burns mixer and that of the patent in suit which the complainant points out is the roof-shaped spreader, which appears in the former, but not in the latter. Burns says this of the spreader in his patent:

In the drum is shown a stationary flange, or, as it might be called, a "roof-shaped spreader," *s*. This flange, *s*, is serviceable, since it tends to spread or scatter material falling from the upper part of the drum, whereby the mixing or blending is aided. This flange, *s*, also breaks the fall of material between the upper and lower portions of the drum. Such breaking of the fall is of advantage, for example, in the blending of tea-leaves, since it is desirous to have the leaves injured or broken as little as possible.

It is clear from the testimony that the spreader is especially designed to break the fall of delicate materials like tea. It might also cause a more thorough mixture of certain other materials. But it is not useful in mixing concrete as the different kinds of material in spreading would tend to segregate. The spreader, however, is merely an adjunct or appendage to the mixer, and only mechanical skill would be required to omit it. Indeed, the testimony shows that Burns himself did not include the spreader when making mixers for certain materials.

The final difference which the complainant contends exists between the Burns apparatus and that of the patent in suit lies in the creation of certain "neutral zones" in the former. These zones are said to be created by the following construction: In the drawings of the Burns patent each pair of flanges which extend convergingly from the rear end of the drum toward the front end after meeting extend to the front plate in lines parallel to the axis of the drum and make lifting-pockets. These pockets are said to constitute "neutral zones" and to be objectionable. The patentee says in his testimony:

Owing to the fact that the lifting-pockets are parallel to the axis of the drum, an internal zone is created for a portion of the way across the drum that is not affected directly by the commingling-blades. As a consequence, in mixing the material is carried by these lifting-pockets and dropped, falls again upon the zone of the pockets, and is not, in my judgment, properly commingled with the matter in the other parts of the drum.

It may well be doubted whether the difficulty which the patentee points out would arise to any considerable extent in the actual operation of the Burns mixer, even if constructed precisely in accordance with the drawings of the patent. It would seem that, when the material falls from the lifting-pockets, it would strike other material at the bottom and tend to move toward the rear of the drum. But, however that may be, there is nothing in the Burns patent to confine it to the precise arrangement of the crossover-blades shown in the drawings. And, if it were confined to such particular arrangement, a rearrangement of them to obviate the defect of "neutral zones" would require no more than mechanical skill. Furthermore, it is by no means clear that the structure shown in the drawings of the Ransome patent is wholly free from "neutral zones." It does not appear that all the lifting-pockets shown are affected directly by the commingling-blades.

Therefore, while we appreciate the usefulness of that which the patentee has accomplished, we are constrained to hold that the differences between the apparatus of the patent in suit and that of the Burns patent do not involve invention, and, consequently, that the former patent is invalid.

The decree of the circuit court is reversed, with costs, and the cause remanded, with instructions to dismiss the bill with costs.

ADJUDICATED PATENTS.

The Pettit patent, No. 619,693, for a fruit-seeding machine, *Held* infringed. *Kings County Raisin & Fruit Co.* v. *United States Consol. Seeded Raisin Co.*, (C. C. A.,) 182 Fed. Rep., 59.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., December 8, 1910.

Ferdon & Berry, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Daland & Company, 198 West Broadway, New York, N. Y., and trade-mark registration No. 34,421, dated April 3, 1900, to Ferdon & Berry, 1–8 and 9 Raleigh Building, Portland, Oreg., and the notice of such declaration sent by registered mail to the said Ferdon & Berry at the address given has been returned by the post-office undelivered.

Notice is therefore hereby given to the said Ferdon & Berry, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., December 8, 1910.

Marian L. Whitney, her assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Jacob Strobauer & Sons' Co., of village of Caro, Mich., and trade-mark registration No. 17,886, dated May 6, 1910, to Marian L. Whitney, of Stockton, Cal., and the notice of such declaration sent by registered mail to the said Marian L. Whitney at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Marian L. Whitney, her assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 16, 1910.

Sharpless Bros., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Consolidated Cotton Duck Co., of Continental Trust Building, Baltimore, Md., for registra-

tion of a trade-mark and the trade-mark registrations to Minot, Hooper & Co., of 40 Thomas street, borough of Manhattan, New York, N. Y., registered August 29, 1905, No. 45,761; Lindeke, Warner & Schurmeier, of East Fourth and Sibley streets, St. Paul, Minn., registered April 20, 1897, No. 29,854; Sharpless Bros., of 812–814 Market street, Philadelphia, Pa., registered May 23, 1893, No. 23,072; Denny, Poor & Co., of New York, N. Y., registered December 30, 1890, No. 18,761; John Dunn, of East Orange, N. J., registered June 22, 1886, No. 13,436, and Stark Mills, of Manchester, N. H., registered November 8, 1881, No. 8,822, and March 13, 1906, No. 50,391, and the Office actions sent to Sharpless Bros. at their address of record have been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Sharpless Bros., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 16, 1910.

Steinfeld, Kerngood and Co., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Chas. E. Shedaker & Sons, Eighth and Walnut streets, Philadelphia, Pa., for registration of a trade-mark and trade-mark registration No. 8,568, dated August 16, 1881, to Steinfeld, Kerngood and Co., of Baltimore, Md., and the notice of such declaration sent by registered mail to the said Steinfeld, Kerngood and Co. at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Steinfeld, Kerngood and Co., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 4, 1910.

Samuel A. Richmond, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the applications of the Wehrman Medicine Company, of 1269 Michigan avenue, Columbus, Ohio, and G. H. Mullen, of Guyandotte, W. Va., for registrations of trade-marks and the trade-mark registrations to the Good Samaritan Ointment Company, of 222 Broadway, Camden, N. J., registered August 21, 1906, No. 55,682; Samuel A. Richmond, of Tuscola, Ill., registered May 13, 1890, No. 17,915, and December 16, 1890, No. 18,714, and Charles C. Brooks, of Waverly, N. Y., registered April 4, 1882, No. 9,253, and the notice of such declaration sent by registered mail to the said Samuel A. Richmond at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Samuel A. Richmond, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 4, 1910.

John Dunn, his assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Consolidated Cotton Duck Company, of Continental Trust Building, Baltimore, Md., for registration of a trade-mark and the trade-mark registrations to Minot, Hooper & Company, of 40 Thomas street, borough of Manhattan, New York, N. Y., registered August 29, 1905, No. 45,761; Lindeke, Warner & Schurmeier, of East Fourth and Sibley streets, St. Paul, Minn., registered April 20, 1897, No. 29,854; Sharpless Brothers, of 812–814 Market street, Philadelphia, Pa., registered May 23, 1893, No. 23,072; Denny, Poor & Company, of New York, N. Y., registered December 30, 1890, No. 18,761; John Dunn, of East Orange, N. J., registered June 22, 1886, No. 13,436, and Stark Mills, of Manchester, N. H., registered November 8, 1881, No. 8,822, and March 13, 1906, No. 50,391, and the notice of such declaration sent by registered mail to the said John Dunn at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said John Dunn, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

ISSUE OF DECEMBER 20, 1910.

Patents	578	No. 978,826 to No. 979,403, inclusive.
Designs	5	No. 41,049 to No. 41,053, inclusive.
Trade-Marks	56	No. 80,397 to No. 80,452, inclusive.
Labels	6	No. 15,425 to No. 15,430, inclusive.
Prints	2	No. 2,674 to No. 2,675, inclusive.
Reissues	1	No. 13,184.
Total	648	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama			Ohio	34	5
Arkansas	6		Oklahoma	1	
California	25	3	Oregon	6	
Colorado	7		Pennsylvania	47	4
Connecticut	21	1	Rhode Island	8	
Delaware	2	2	South Carolina	1	
Florida	3		South Dakota	3	
Georgia	6		Tennessee	9	
Idaho	1		Texas	10	
Illinois	46	5	Utah	3	
Indiana	13	4	Vermont	1	
Iowa	6		Virginia	6	3
Kansas	3	2	Washington	10	
Kentucky	5		West Virginia	2	
Louisiana	2	1	Wisconsin	17	
Maine			Wyoming		
Maryland	1	1			
Massachusetts	33	4	Alaska, District of		
Michigan	18	1	Arizona Territory		
Minnesota	8	1	District of Columbia	3	1
Mississippi	2		Hawaii Territory	1	
Missouri	20	1	New Mexico Ter'ty		
Montana	3		Panama		
Nebraska	9	1	Philippine Islands		
Nevada	1		U. S. Army		
New Hampshire			U. S. Navy		
New Jersey	19	1			
New York	101	18	Total to citizens of the United States	533	59
North Carolina	2				
North Dakota	2				

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina			Netherlands		
Austria-Hungary	1		Newfoundland		
Belgium	1		New South Wales		
Brazil			New Zealand		
British West Indies			Norway		
Canada	5		Persia		
Cape Colony			Queensland		
Chile			Russia		
China			Scotland		
Costa Rica			South Australia		
Cuba			Spain	2	
Denmark	1	1	Sweden	3	
Ecuador			Switzerland	2	
England	14	2	Tasmania		
France	3		Transvaal, South Africa		
Germany	14	2	Victoria		
Haiti			Western Australia		
Ireland	1				
Italy	3		Total to citizens of foreign countries	50	5
Japan					
Mexico					

THE
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OF THE
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Printed copies of patents are furnished by the Patent Office at 5 cents each. For the latter, address the Commissioner of Patents, Washington, D. C.

CONTENTS.

	Page.
ISSUE OF DECEMBER 27, 1910	759
REGULATIONS IN RELATION TO MAIL-MATTER	759
RENEWAL OF FORFEITED CASES	759
APPLICATIONS UNDER EXAMINATION	760
PATENTS GRANTED	761
REISSUES	1022
DESIGNS	1028
TRADE-MARKS—REGISTRATION APPLIED FOR	1031
TRADE-MARKS—REGISTERED	1039
LABELS AND PRINTS	1041
COMMISSIONER'S DECISIONS—	
Rietzel v. Harmatta	1043
Ex parte Merritt, Black, and Morris	1043
Barnes v. Swartwout	1045
Ex parte The Saint Anthony Milling & Elevator Company	1047
ADJUDICATED PATENTS	1048
INTERFERENCE NOTICES	1048

ISSUE OF DECEMBER 27, 1910.

Patents	774	No. 979,404 to No. 980,177, inclusive.
Designs	9	No. 41,054 to No. 41,062, inclusive.
Trade-Marks	53	No. 80,453 to No. 80,505, inclusive.
Labels	13	No. 15,431 to No. 15,443, inclusive.
Prints	1	No. 2,676.
Reissues	4	No. 13,185 to No. 13,188, inclusive.
Total	854	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	4		North Dakota	2	
Arkansas	6		Ohio	37	2
California	20	5	Oklahoma	6	
Colorado	4		Oregon	5	
Connecticut	24		Pennsylvania	72	4
Delaware	1	1	Rhode Island	5	
Florida		1	South Carolina	1	
Georgia	2		South Dakota	4	
Idaho	2		Tennessee	7	
Illinois	84	4	Texas	22	1
Indiana	14		Utah	6	
Iowa	7	1	Vermont	3	
Kansas	11	1	Virginia	5	3
Kentucky	6		Washington	7	1
Louisiana	4		West Virginia	5	
Maine	7		Wisconsin	15	1
Maryland	2	2	Wyoming		
Massachusetts	53	3			
Michigan	22	5	Alaska, District of		
Minnesota	15		Arizona Territory	2	
Mississippi			District of Columbia	4	
Missouri	29	5	Hawaii Territory		
Montana			New Mexico Ter'ty		
Nebraska	7		Panama		
Nevada	2		U. S. Army		
New Hampshire	3		U. S. Navy		
New Jersey	38	2			
New York	114	17	Total to citizens of the United States	661	59
North Carolina	3				

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks.	Countries.	Patents and Designs.	Trade-Marks.
Argentina			Netherlands		1
Austria-Hungary			Newfoundland		
Belgium			New South Wales	2	
Brazil			New Zealand		
British West Indies			Norway	1	
Canada	11		Orange River Colony		
Cape Colony			Queensland		
Chile			Russia	1	
China			Scotland	4	
Colombia			South Australia		
Cuba			Spain		
Denmark			Sweden	2	
Ecuador			Switzerland	2	
England	26	2	Tasmania		
France	4	1	Transvaal, South Africa	1	
Germany	34	3	Victoria	1	
Haiti			Western Australia		
Ireland					
Italy			Total to citizens of foreign countries	90	7
Java					
Natal	1				

Regulations in Relation to Mail-Matter.

In order to insure the ready identification of the division from which mail-matter emanating from this Office was sent, and the prepayment of any foreign postage thereon, as well as to prevent the retention for general delivery in the post-office of the city of any wrongly-addressed letter when this Office could supply a fuller or more accurate address, it is directed that the following regulations be observed with reference to all mail-matter forwarded from this Office:

Each envelop forwarded from any division will be stamped or marked in the upper left-hand corner with the division number or letter, as the case may be.

Each envelop addressed to a foreign country must be forwarded to the mail-room and the proper stamps affixed thereto before mailing.

Such mail as is to be delivered in this city shall be directed "Washington, D. C." If a letter addressed to a person in this city and not marked for general delivery be returned to this Office, it will be promptly remailed with an accurate and full local address supplied, if possible. In remailing, the envelop should be marked or stamped "Hold in General Delivery," but no envelop should be thus marked until the address thereon is as full and accurate as the Office can supply. A letter to a person in this city will not be filed "Undelivered" until it is returned to this Office in an envelop thus addressed and marked.

Renewal of Forfeited Cases.

A petition for the renewal of a forfeited application need not be signed by the inventor or assignee, but may be signed by the attorney.

A power of attorney in the original application authorizing an attorney to transact all business in the Patent Office in connection with the application construed to be of sufficient scope to include the signing of a petition for renewal and the subsequent prosecution of the application. (*Ex parte Agee*, 101, O. G., 1609.)

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business December 20, 1910.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		New.	Amended	
313	1. Fences; Harrows and Diggers; Plows; Seeders and Planters; Trees, Plants, and Flowers.	Nov. 21	Nov. 21	347
128	2. Bee Culture; Dairy; Label Pasting and Paper Hanging; Paper Files and Binders; Pneumatic Despatch; Pneumatics; Presses; Store-Service; Tobacco.	Nov. 21	Nov. 21	249
173	3. Annealing and Tempering; Electric Heating and Rheostats; Electrochemistry; Metal-Founding; Metallurgy; Shaping Fluid Metal.	Nov. 21	Dec. 5	131
232	4. Bridges; Conveyers; Cranes and Derricks; Excavating; Hoisting; Hydraulic Engineering; Loading and Unloading; Metallic Building Structures.	Nov. 7	Nov. 9	469
167	5. Bookbinding; Harvesters; Jewelry; Music.	Nov. 8	Oct. 1	427
318	6. Bleaching and Dyeing; Chemicals; Explosives; Fertilizers; Medicines; Preserving; Sugar and Salt.	Oct. 31	Nov. 10	324
312	7. Educational Appliances; Clutches; Games and Toys; Mechanical Motors; Nut and Bolt Locks; Optics, Velocipedes.	Nov. 5	Nov. 17	426
131	8. Beds; Chairs; Furniture; Kitchen and Table Articles; Store Furniture; Supports.	Nov. 21	Nov. 21	258
142	9. Air and Gas Pumps; Fluid-Pressure Regulators; Hydraulic Motors; Pumps; Wind-Wheels.	Nov. 25	Nov. 21	273
275	10. Carriages and Wagons	Nov. 5	Nov. 3	600
154	11. Boot and Shoe Making; Boots, Shoes, and Leggings; Button, Eyelet, and Rivet Setting; Harness; Leather Manufactures; Nailing and Stapling; Whips and Whip Apparatus.	Nov. 2	Oct. 27	303
324	12. Elevators; Journal-Boxes, Pulleys, and Shafting; Lubrication; Machine Elements.	Nov. 12	Nov. 16	452
329	13. Arms, Projectiles, and Explosive Charges, Making; Bolt, Nail, Nut, Rivet, and Screw Making; Boring and Drilling; Button Making; Chain, Staple, and Horseshoe Making; Driven, Headed, and Screw-Threaded Fastenings; Gear Cutting, Milling, and Planing; Metal Drawing; Metal Forging and Welding; Metal Rolling; Metal Tools and Implements, Making; Metal Working; Needle and Pin Making; Turning.	Sept. 16	Nov. 7	462
307	14. Compound Tools; Cutting and Punching Sheets and Bars; Farriery; Metal-Bending; Metal-Ornamenting; Sheet-Metal Ware, Making; Tools; Wire Fabrics and Structure; Wire-Working.	Nov. 21	Nov. 21	311
308	15. Bread, Pastry, and Confection Making; Coating; Fuel; Glass; Laminated Fabrics and Analogous Manufactures; Liquid Coating Compositions; Paper Making and Fiber Liberation; Plastic Block and Earthenware Apparatus; Plastic Compositions; Plastics.	Nov. 19	Nov. 18	420
109	16. Telegraphy; Telephony	Nov. 21	Oct. 21	215
303	17. Matrix-Making; Paper Manufactures; Printing; Type-Bar Making.	Nov. 21	Nov. 21	173
327	18. Injectors and Ejectors; Miscellaneous Heat-Engine Plants; Steam and Vacuum Pumps; Steam-Boilers; Steam-Engines; Steam-Engine Valves.	Nov. 22	Nov. 21	165
236	19. Dampers, Automatic; Furnaces; Heat-Distributing Systems; Stoves and Furnaces.	Nov. 15	Nov. 21	342
179	20. Artificial Limbs; Builders' Hardware; Dentistry; Locks and Latches; Safes; Undertaking.	Nov. 21	Nov. 21	182
112	21. Brakes and Gins; Carding; Cloth-Finishing; Cordage; Felt and Fur; Knitting and Netting; Silk; Spinning; Weaving; Winding and Reeling.	Oct. 5	Oct. 4	494

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		New	Amended	
240	22. Aeronautics; Air-Guns, Catapults, and Targets; Ammunition and Explosive Devices; Boats and Buoys; Firearms; Marine Propulsion; Ordnance; Ships.	Oct. 4	Oct. 28	545
379	23. Acoustics; Coin-Handling; Horology; Recorders; Registers; Time-Controlling Mechanism.	Nov. 21	Nov. 21	272
144	24. Apparel; Apparel Apparatus; Sewing-Machines.	Sept. 26	Oct. 5	423
315	25. Butchering; Mills; Threshing; Vegetable Cutters and Crushers.	Nov. 30	Dec. 3	139
100	26. Electricity, Generation; Motive Power.	Oct. 27	Oct. 24	295
372	27. Brushing and Scrubbing; Grinding and Polishing; Laundry; Washing Apparatus.	Nov. 21	Nov. 21	263
65	28. Internal-Combustion Engines	Oct. 27	Nov. 17	453
147	29. Coopering; Fire-Escapes; Ladders; Roofs; Wheelwright-Machines; Wooden Buildings; Wood-Sawing; Wood-Turning; Woodworking; Woodworking-Tools.	Nov. 7	Nov. 21	277
182	30. Illuminating-Burners; Illumination; Liquid and Gaseous Fuel Burners; Type-Writing Machines.	Nov. 21	Nov. 22	243
172	31. Alcohol; Ammonia, Water, and Wood Distillation; Charcoal and Coke; Gas, Heating and Illuminating; Hides, Skins, and Leather; Hydraulic Cement and Lime; Mineral Oils; Oils, Fats, and Glue.	Nov. 21	Nov. 21	259
278	32. Carbonating Beverages; Curtains, Shades, and Screens; Dispensing Beverages; Dispensing-Cans; Ornamentation; Packaging Liquids; Refrigeration.	Oct. 15	Nov. 15	282
71	33. Cutlery; Domestic Cooking Vessels; Masonry and Concrete Structures; Paving; Tents, Canopies, Umbrellas, and Canes.	Nov. 18	Nov. 14	244
304	34. Railways; Railway-Brakes; Railway Rails and Joints; Railway Rolling-Stock; Railway Ties and Fasteners.	Nov. 22	Oct. 10	311
244	35. Buckles, Buttons, Clasps, Etc.; Card, Picture, and Sign Exhibiting; Garment-Supporters; Toilet.	Nov. 24	Nov. 26	447
264	36. Drafting; Driers; Engraving; Measuring Instruments; Photography.	Oct. 27	Oct. 26	637
107	37. Electric Lighting; Electricity, Conductors; Electricity, Conduits; Electricity, General Applications.	Oct. 4	Oct. 8	471
378	38. Artesian and Oil Wells; Care of Live Stock; Fishing and Trapping; Stationery; Stone-Working.	Nov. 8	Nov. 8	383
321	39. Water Distribution	Oct. 24	Oct. 10	341
280	40. Baggage; Bottles and Jars; Check-Controlled Apparatus; Cloth, Leather, and Rubber Receptacles; Deposit and Collection Receptacles; Metallic Shipping and Storing Vessels; Package and Article Carriers; Paper Receptacles; Special Receptacles and Packages; Wooden Receptacles.	Nov. 21	Nov. 21	395
125	41. Railway Draft Appliances; Resilient Tire, and Wheels.	Sept. 14	Oct. 7	574
279	42. Electric Railways; Electric Signaling; Railway Signaling; Signals.	Oct. 10	Oct. 22	579
382	43. Baths and Closets; Electricity, Medical and Surgical; Fire-Extinguishers; Sewerage; Surgery; Water Purification.	Oct. 4	Oct. 5	863

Oldest new case, Sept. 14; oldest amended, Oct. 1.

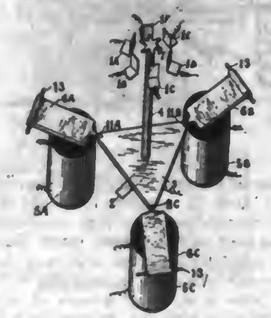
Total number of applications awaiting action..... 15,468

161	TRADE-MARKS, DESIGNS, LABELS AND PRINTS:			
	Trade-Marks	Nov. 21	Dec. 3	719
	Designs	Nov. 25	Dec. 6	104
	Labels and Prints	Dec. 9	Dec. 12	89

PATENTS

GRANTED DECEMBER 27, 1910.

979,404. SELECTING DEVICE. FRANS G. AGRELL, Stockholm, Sweden. Filed Feb. 27, 1907. Serial No. 359,661.



1. In a selecting device, in combination, a group of members each adapted to be rendered operative by another member, a member pivotally mounted upon the armatures of electro-magnets and adapted to swing about said pivots, a plurality of electro-magnets each provided with an armature forming a pivotal support for said member, any one of said electro-magnets being adapted to operate its armature and to swing said member about the pivotal support of another armature causing said member to render any of the members of said group operative.

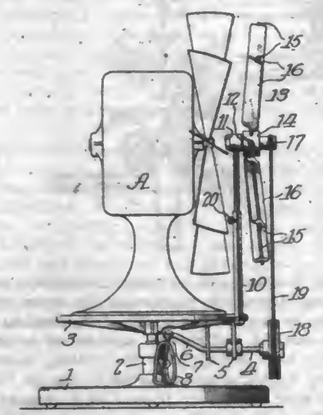
2. In a selecting device, in combination, a plurality of contacts, a member pivotally mounted upon the armatures of electro-magnets and adapted to turn about said pivots, a plurality of electro-magnets each provided with an armature forming a pivotal support for said member, any one of said electro-magnets being adapted to operate its armature and to turn said member about the pivotal support of another armature causing said member to engage one of said contacts, and means for operating said device.

3. In a selecting device, in combination, a number of electro-magnets, armatures operated by said electro-magnets, three of said armatures being so positioned that corresponding points upon said armatures form a triangle, a member attached to said armatures so that it may swing about any one of several axes passing through said points, said members being adapted to engage a contact when swung about an axis, and contacts adapted to be engaged by said member.

4. In a selecting device, in combination, four electro-magnets, armatures operated by said electro-magnets, armatures of three of said electro-magnets being so positioned that corresponding points upon said armatures form a triangle, a member attached to said armatures so that it may swing about any one of several axes passing through said points, a contact making member mounted so as to take several different positions with relation to said first named member, a plurality of sets of contacts each set adapted to be engaged by said contact making member in each of its said positions, and a fourth electro-magnet having an armature adapted to change the relative positions of said members when operated.

5. In a selecting device, in combination, a number of electro-magnets, armatures operated by said electro-magnets, a member supported at three points so that it may swing around any one of several axes passing through said points of support by the movement of said armatures, a contact making member attached to said first named member so that it may take several positions with relation to a number of groups of contacts, a number of groups of contacts, each contact in a group being adapted to be engaged by the contact making member when the first named member is swung around a certain axis, and an electro-magnet adapted to change the relative positions of the contact making member when the first named member is swung around a certain axis and an electro-magnet adapted to change the relative positions of the contact making member and the group of contacts.

979,405. FAN-SUPPORT. FRANK ANDRUS, Chicago, Ill., assignor of one-half to Montezuma Scott, Chicago, Ill. Filed Dec. 13, 1909. Serial No. 532,951.



1. In a fan support, in combination, a rotatable table; a shaft rotatably carried by said table; a crank on one end of said shaft; means for holding the free end of said crank against horizontal movement; a wheel rotatably carried by said table and adapted to be rotated by the current of air from the fan; and a connection between said wheel and said shaft for rotating said shaft.

2. In a fan support, in combination, a base; a table rotatably mounted on said base; a shaft rotatably carried by said table; a crank on one end of said shaft; a yielding member fixed on said base; a link connecting said yielding member with the free end of said crank and preventing horizontal movement of said free end; and means for rotating said shaft.

3. In a fan support, in combination, a rotatable table; a bracket secured to the under side of said table; a shaft rotatably mounted in said bracket, the outer end of said shaft extending beyond the edge of the table; a crank on the inner end of said shaft; means for holding the free end of said crank against horizontal movement; a wind wheel rotatably carried by said table and arranged to be rotated by the air current from the fan; a pulley rigid with respect to said wind wheel; a pulley on the outer end of said shaft; and a belt connecting said pulleys.

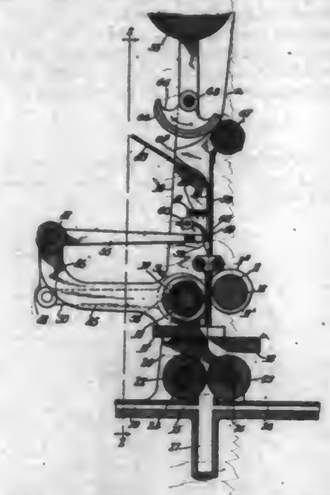
4. In a fan support, in combination, a rotatable table adapted to carry a fan; a standard rising from one edge of said table; a wind wheel rotatably carried by the upper end of said standard, said wheel comprising a plurality of radial vanes which are adjustable to vary their

degree of inclination with respect to the air current from the fan; and means beneath said table arranged to be driven by said wind wheel for rotating said table.

5. In a fan support, in combination, a rotatable table; a shaft rotatably carried by said table; means for rotating said shaft; a crank on one end of said shaft; and yielding means for holding the free end of said crank against horizontal movement and for stopping the rotation of said table at the limits of its movement.

[Claims 6 to 8 not printed in the Gazette.]

979,406. MECHANISM FOR CUTTING WRAPPERS FROM STRIPS. HARRY YARRINGTON ARMSTRONG, Elgin, Ill. Filed Nov. 10, 1909. Serial No. 527,193.



1. A strip feeding and cutting mechanism provided with a jogging device for registering the strip relatively to the cutting means independently of the feeding means.

2. A strip feeding and cutting mechanism arranged to intermittently feed the strip to the cutting means, and intermittently acting means adapted to act on the strip after the advance movement thereof in a manner to advance the strip to the cutting means independently of the feeding means for the purpose of registering the strip with respect to the cutting means.

3. In a machine for the purpose set forth, the combination with cutting means and intermittently acting feeding means, of a jogging device acting on the strip in rear of the feeding means for registering the strip relatively to the cutting means.

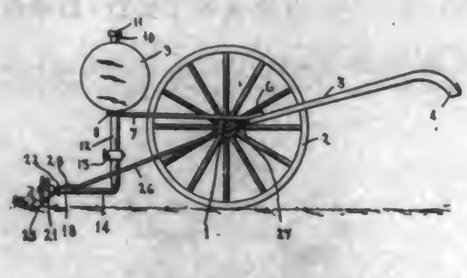
4. In a machine for the purpose set forth, the combination with cutting means and intermittently acting feeding means, of a jogging device acting on the strip for registering the strip to the cutting means, and means for maintaining under tension the part of the strip acted upon by the jogging device.

5. In a machine for the purpose set forth, the combination with cutting means and intermittently acting feeding means, of a jogging device having a projection arranged to enter slits in the strip, after the advance movement of the strip under the action of the feeding means, for further advancing the strip to register the strip relatively to the cutting means.

[Claims 6 to 23 not printed in the Gazette.]

979,407. WEEDING-MACHINE. JAMES H. ATKINS, Cambridge, Ohio. Filed Sept. 23, 1910. Serial No. 583,365.

1. A machine of the type described comprising an axle, a wheel revolubly mounted upon said axle, handle bars carried by said axle, supports carried by said handle bars, a gasolene supply tank carried by said supports, burner heads arranged in advance of said wheel, pipes connecting said burner heads with said tank, valves for controlling the supply of gasolene to said burner heads, and a deflector bar connecting said burner heads and provided with openings communicating with the interior of the burner heads, substantially as described.



2. A machine of the type described comprising a hydrocarbon supply tank, a portable support therefor, two pairs of valve burner heads, a pipe communicating with and connecting each pair of burner heads together, means for supplying hydrocarbon from said tank to said pipes, and a deflector bar connected to the pairs of burner heads and provided with a series of groups of openings, each group communicating with the interior of a burner head.

979,408. HOSE CONSTRUCTION. CASSIUS M. CLAY BAIRD, Evanston, Ill. Filed Jan. 6, 1910. Serial No. 536,674.



1. A hose, comprising a flexible casing adapted to be creased at opposite sides so as to lie flat when empty, a flexible lining secured within said casing, said lining comprising segments of rubber at the parts which are adjacent to the creases in the casing, and segments of less elastic material interposed between said first named segments.

2. A hose comprising a flexible casing and a rubber lining, said casing being adapted to be creased at opposite sides so as to lie flat when empty, and said lining comprising elastic segments covering and extending substantially throughout the creased parts of the casing and segments of less elasticity between said first named segments.

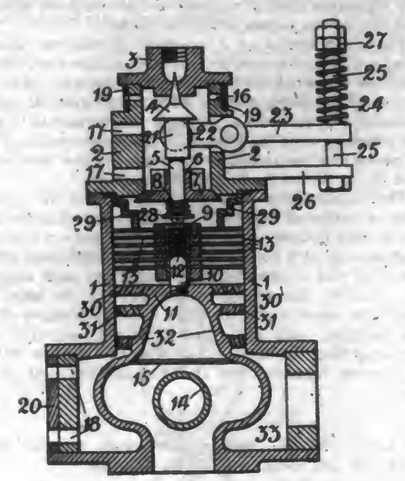
3. A hose, comprising a flexible casing adapted to be creased at opposite sides so as to lie flat when empty, a flexible lining secured within said casing, said lining being formed of a plurality of grades of rubber, the better grade being located at the creases of the casing.

4. A hose, comprising a flexible casing adapted to be creased at opposite sides so as to lie flat when empty, a flexible lining secured within said casing, said lining being of composite construction and comprising parts at the creases of the casing which are more elastic than the parts between the creases.

979,409. CARBURETER FOR INTERNAL-COMBUSTION ENGINES OR MOTORS. ARTHUR BARKER, London, England, assignor to George Thomas Hine, Westminster, England. Filed Aug. 19, 1908. Serial No. 449,358.

1. In a vaporizer or carbureter, the combination of a casing, atomizing means therein including a screen, a yielding support for said means, an oil valve, a mixture valve arranged to be operated by suction of the engine,

and mechanism whereby movement of said mixture valve serves to operate said oil valve and actuate said means in opposition to its yielding support.



2. In a vaporizer or carbureter, the combination of a casing, atomizing means therein including a screen, a yielding support for said means, an oil valve having a stem engaging said means, a mixture valve arranged to be operated by suction of the engine, and mechanism operatively connecting said mixture valve with said stem whereby said stem and said means are operated upon movement of said mixture valve.

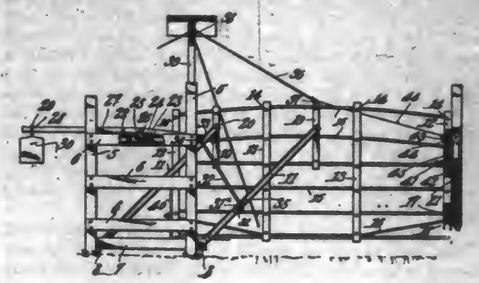
3. In a vaporizer or carbureter, the combination with a casing, of a plurality of superposed screens for atomizing the oil delivered thereto, a member carrying said screens and provided with a recess in its lower end and closed at its upper end, a post projecting into said recess, a spring interposed between the end of said post and the closed upper end of said recess, means separate from and engaging said member and operated by suction of the engine to act in opposition to said spring to vibrate said screens, and means for feeding oil to the uppermost screens.

4. In a vaporizer or carbureter, the combination with a casing, a plurality of superposed screens for atomizing the oil, a member carrying said screens and provided with a recess in its lower end and closed at its upper end, a post projecting into said recess, a spring in said recess engaging the end of said post and the closed upper end of said member, a valve spindle engaging said member, means connected with said spindle and operated by a suction of the engine to act in opposition to said spring to vibrate said screens, and a valve on said spindle for admitting oil to the uppermost screens.

5. In a vaporizer or carbureter, the combination with a casing provided with a valve chamber and oil and air inlets delivering thereto, said casing also having a vaporizing chamber communicating with the engine, a plurality of superposed screens disposed in said vaporizing chamber to receive the oil from said valve chamber, a member supporting said screens, a spring acting on said member, a valve spindle engaging said member and provided with an oil valve closure regulating the passage of the oil through said oil inlet, a mixture valve slidably mounted on said spindle for regulating admission from the valve chamber to the vaporizing chamber and arranged to be operated by suction of the engine, and means interposed between said mixture valve and spindle for normally maintaining said mixture valve seated and serving when said valve is open to engage said spindle with said member in opposition to said spring to vibrate said screens.

[Claims 6 to 13 not printed in the Gazette.]

979,410. GATE. IRVING BARKER, Springfield, Ill. Filed Sept. 13, 1909. Serial No. 517,382.

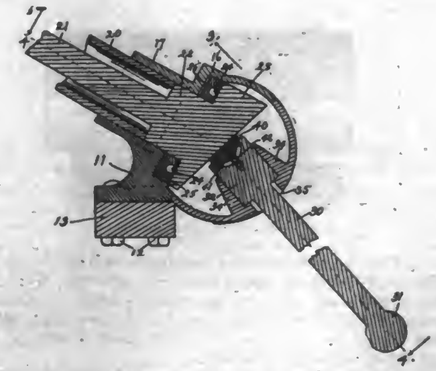


1. In a structure of the class described, a supporting structure, a gate, arms mounted upon the structure and supporting the gate for movement between its open and closed positions, a weighted lever mounted upon the supporting structure, a rod connected to one of the arms, and two flexible elements connecting the end of the rod and the said lever.

2. In a structure of the class described, a supporting structure, a gate, arms mounted upon the structure and supporting the gate for movement between its open and closed positions, a weighted lever mounted upon the supporting structure, a rod connected to one of the arms and two flexible elements connecting the end of the rod and the said lever, the point of connection of one of the flexible elements with the lever being inwardly of the point of connection of the other flexible element therewith.

3. In a structure of the class described, a supporting structure, a gate, arms mounted upon the structure and supporting the gate for movement between its open and closed positions, a weighted lever adjustably mounted upon the supporting structure, a rod adjustably connected to one of the arms, and two flexible elements connecting the end of the rod and the said lever, the point of connection of one flexible element with the lever being located inwardly of the point of connection of the other flexible element therewith.

979,411. STEERING DEVICE. HARRY E. BAYLY, Indianapolis, Ind., assignor of one-third to Raymond C. Burlingame and one-third to Harry M. McCormack, Indianapolis, Ind. Filed Dec. 17, 1909. Serial No. 533,653.



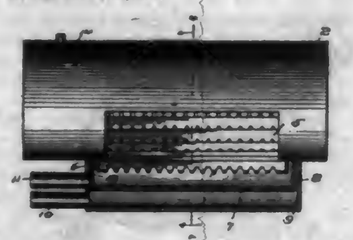
1. A steering apparatus including a steering shaft with a cam head having an oblique surface on the extreme end thereof, a casing surrounding said cam head, a lever with one end oscillatably mounted in said casing, and a transversely rocking bearing member intermediate said end of the lever and the cam head on the steering shaft.

2. A steering apparatus including a steering shaft with a cam head having an oblique surface on the extreme end thereof, a spherically disposed casing surrounding said cam head with a slot in the portion remote from said cam head, and a bearing portion projecting inwardly toward said head which bearing portion has a concave recess, a lever with one end projecting through said slot in said casing and with its inner end enlarged and convex so as to fit and rock in the recess in said bearing portion of the casing and with a semi-cylindrical socket in the extreme inner surface of said lever, an intermediate semi-cylindrical member with the convex surface thereof fitting loosely in said socket and with a flat surface bearing against said oblique surface of the cam head.

3. A steering apparatus including a steering shaft with a cam head having an oblique surface on the extreme end thereof, a spherically disposed casing surrounding said cam head with a slot in the portion remote from said cam head, and a bearing portion projecting inwardly toward said head which bearing portion has a concave recess, a lever with one end projecting through said slot in said casing and with its inner end enlarged and convex so as to fit and rock in the recess in said bearing portion of the casing and with a semi-cylindrical socket in the extreme inner surface of said lever, an intermediate semi-cylindrical member with the convex surface thereof fitting loosely in said socket and with a flat surface bearing against said oblique surface of the cam head, and means coöperating with the upper portion of the casing for holding the parts in snug engagement with each other.

4. A steering apparatus including a steering shaft with a cam head having an oblique surface on the extreme end thereof, a spherically disposed casing surrounding said cam head with a slot in the portion remote from said cam head, and a bearing portion projecting inwardly toward said head which bearing portion has a concave recess, a lever with one end projecting through said slot in said casing and with its inner end enlarged and convex so as to fit and rock in the recess in said bearing portion of the casing and with a semi-cylindrical socket in the extreme inner surface of said lever, an intermediate semi-cylindrical member with the convex surface thereof fitting loosely in said socket and with a flat surface bearing against said oblique surface of the cam head and having a transverse slot in the underside thereof, and a pin in the inner end of the lever which projects into said slot so as to permit transverse movement of said intermediate member.

979,412. ATTACHMENT FOR PNEUMATIC STACKERS. DANIEL BERGSMAN, Adams, N. D. Filed July 2, 1910. Serial No. 570,035.



1. The combination of a conveyer having an opening therein, a series of separable screen members fitted over the opening, the said screen members being received one within the other and being formed with telescoping flanges, and means for engaging the telescoping flanges to hold the screen sections in position.

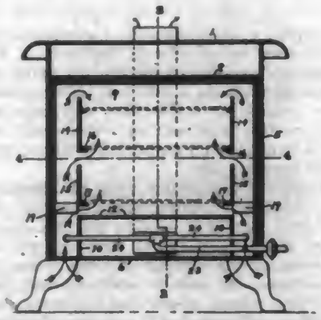
2. The combination of a conveyer having an opening therein, a series of separable screen members received one within the other and fitted over the opening, the said screen members being formed with telescoping flanges, ears projecting from the conveyer, and bolts connecting the ears and also engaging the telescoping flanges to hold the screen sections removably in position.

3. The combination of a conveyer having an opening therein, a series of separable screen members received one within the other and fitted over the opening, the said screen members being formed with telescoping flanges, and a separable casing applied to the conveyer and receiving the screen members within the same.

4. The combination of a conveyer having an opening therein, a series of separable screen members received one within the other and fitted over the opening, the said screen members being formed with telescoping flanges, a casing receiving the screen members and formed with ends which telescope over the flanges of the screen sections, and bolts carried by the conveyer for engaging the telescoping flanges of the screen sections and the casing.

5. The combination of a conveyer having an opening therein, a series of separable screen members formed at opposite ends thereof with flanges which have a telescoping connection with each other and are of different widths to admit of the screens being spaced from each other, a casing receiving the screen sections within the same and formed with ends which telescope over the flanges of the screen sections, ears projecting from the conveyer, and bolts connecting the ears and passing through the flanges of the screen members and also through the ends of the casing.

979,413. OVEN. WILLIAM J. BEST, Detroit, Mich. Filed Dec. 15, 1909. Serial No. 533,159.



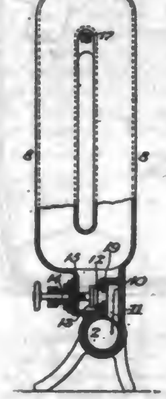
1. The combination of a casing, an oven within the casing and spaced therefrom, said oven having perforations in its bottom near each end, a door forming the front of the oven, the sides of the oven having longitudinal openings to admit the products of combustion, burners at the lower edges of the sides of the oven, deflector plates positioned over the burners to cause a portion of the products of combustion to enter the oven at the bottoms of its sides, and a pipe extending to the middle of the bottom of the oven to carry away the products of combustion which escape from the oven through the holes in its bottom.

2. The combination of a casing, an oven within the casing and spaced therefrom, said oven having openings in its bottom near each end and longitudinal openings in its sides, burners at the lower edges of the sides of the oven, deflectors for causing a portion of the products of combustion to enter the oven near the bottom, and a pipe extending into the space below the oven wherethrough the products of combustion, after entering the oven through the sides and passing out through the bottom, may escape.

3. The combination of a casing, an oven within the same and spaced therefrom at its sides, burners at the bottom of the spaces between the sides of the oven and casing, the sides of the oven having openings near the bottom and top, and deflector plates mounted above the openings near the bottom of the oven and having downturned edges to compel a portion of the products of combustion to enter the oven near its botton.

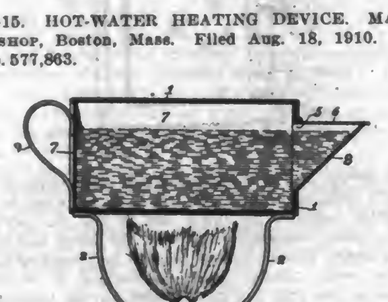
4. The combination of a casing, an oven within the casing and spaced therefrom at its sides, burners at the bottom of the spaces between the sides of the oven and casing, the sides of the oven having openings at the bottom of the oven and above the same, deflector plates of less length than said oven extending between the sides of the oven and the casing just above the lower openings to compel a portion of the products of combustion to enter the oven at the bottom and permitting the remainder to ascend and enter through the upper openings.

979,414. RADIATOR. FRANK C. BIRCH, Philadelphia, Pa. Filed Dec. 24, 1909. Serial No. 534,822.



In a radiator, a base chamber, a hollow section, a neck connecting said chamber and section and having a longitudinal partition wall through it formed with an opening and an opposed opening in the side wall of larger diameter than the opening in the longitudinal partition, a valve seat removably secured in the opening in the partition wall, a stuffing box removably secured in the opening in the side wall, and a valve seating upon the valve-seat and having its stem passing through the stuffing-box, said valve and valve seat being removable through the opening in the side wall.

979,415. HOT-WATER HEATING DEVICE. MARY F. BISHOP, Boston, Mass. Filed Aug. 18, 1910. Serial No. 577,863.



1. A hot water heating device, comprising, in combination with a drum having one end completely open and its opposite end partially open, a gravity door closing said last named opening, and a water drawer having a spout at one end, said spout having an open top, said drawer being insertible in said drum and said spout being insertible through said partially open end of the drum, whereby when the drawer is being inserted in normal position within the drum said spout will move said door from its normal vertical position to a horizontal position, in which latter position it covers said opening at the top of the spout.

2. In a hot water heating device, a hollow drum having open ends, means for closing one of said ends and a water containing member having one end thereof adapted to extend through one of the open ends of the drum, said end of said water containing member being open at its top and when moved into normal position within the drum moving said closing means from its normal position in which it closes one end of the drum to a position in which it closes said open end of said water containing member.

3. In a hot water heating device, a drum having open ends, a pivoted door at one end of said drum, said door normally occupying a vertical position and being capable of being swung to a position on the outside of the drum and a water containing element having one end thereof extended and formed with an opening so as to be disposed on the outside of the drum when said element occupies its normal position on the interior of the drum and when moved to said normal position said end engaging said door and moving same to a position on the outside of the drum to cover said opening of said extended end.

979,416. MENTHYLATED OIL OF WINTERGREEN. GUSTAV BLIEBERGER, New York, N. Y. Filed Apr. 27, 1910. Serial No. 557,866.

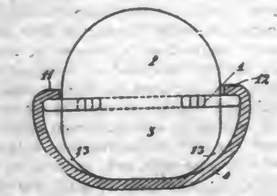
1. The process of producing menthylated oil of wintergreen consisting in coupling menthol and oil of wintergreen by heating them in an atmosphere of carbon dioxid under pressure, and distilling the resulting product.

2. The process of producing menthylated oil of wintergreen consisting in coupling menthol and oil of wintergreen by heating same for a relatively long time in an atmosphere of carbon dioxid under pressure at a temperature slightly below the boiling point of the oil of wintergreen, and distilling the resulting product in a partial vacuum.

3. The process of producing menthylated oil of wintergreen consisting in coupling menthol and oil of wintergreen by heating same in an atmosphere of carbon dioxid under pressure to a temperature slightly below the boiling of the oil of wintergreen, distilling the resulting product in a partial vacuum, purifying the distillate by placing in contact with solid caustic soda, and filtering same.

4. As a novel medicinal compound menthylated oil of wintergreen derived from menthol and oil of wintergreen existing in form of an oily, clear, transparent liquid of light yellow color, soluble in concentrated alcohol, ether, chloroform and fatty oils and assuming a red color upon addition of chlorid of iron.

979,417. ELASTIC TIRE FOR VEHICLES. ARNO BOERNER, Briessnitz, near Dresden, Germany. Filed Nov. 24, 1908. Serial No. 464,241.

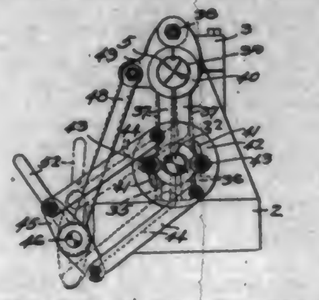


An elastic tire for vehicles, comprising elastic tire units of which each is composed of two hemispherical members integrally connected with each other, a cross-shaped holding plate arranged between said hemispherical members, and inturned flanges on the wheel-rim arranged to grasp over the ends of all plates to compress the inner hemispherical members on the circumferential face of said wheel-rim and to provide free spaces in the rim of the vehicle-wheel for the free lateral expansion of the inner hemispherical members as each tire-unit is compressed by the load.

979,418. BORING, REAMING, AND TAPPING MACHINE. THADDEUS M. BOGGS, Monongahela, Pa. Filed Jan. 11, 1909. Serial No. 471,737.

1. In boring and like machines, the combination of a rotary and longitudinally movable spindle, a feed-screw parallel thereto, driving connections between said spindle and screw, a feeding device carried by said spindle at the outer

end thereof, a longitudinally extending rod, and connections between said rod and said feeding device, whereby said feeding device may be thrown into and out of engagement with said feed-screw.



2. In boring and like machines, the combination of a rotary and longitudinally movable spindle, a feed-screw parallel to said spindle, driving connections between said spindle and screw, a split-nut carried by the spindle, a longitudinally extending operating rod, and connections between said rod and said split nut, whereby said nut may be thrown into and out of engagement with said feed-screw.

3. In boring and like machines, the combination of a rotary and longitudinally movable spindle, a feed-screw parallel thereto, driving connections between said spindle and screw, a split nut carried by the spindle, a longitudinally movable rotatable rod, and connections between said rod and said split-nut, whereby said nut may be thrown into and out of engagement with said feed-screw.

4. In boring and like machines, the combination of a rotary and longitudinally movable spindle, a feed screw parallel thereto, driving connections between said spindle and screw, arms pivotally connected together and embracing said spindle to move longitudinally therewith, means for holding said arms against independent longitudinal movement on said spindle, nut sections carried by said arms, a disk connected with and slidable along said screw and provided with a pair of oppositely arranged cam slots, studs carried by the nut sections and projecting into said slots, a longitudinally movable rod and connections between said rod and said disk, whereby said split nut may be thrown into and out of engagement with said feed screw.

5. In boring and like machines, the combination of a rotary and longitudinally movable spindle, a feed screw parallel thereto, driving connections between said spindle and screw, arms pivotally connected and embracing said spindle to move longitudinally therewith, means for holding said arms against independent longitudinal movement on said spindle, nut sections carried by said arms, a disk connected with and slidable along said screw and provided with a pair of oppositely arranged cam slots, studs carried by the nut sections and projecting into said slots, a longitudinally movable rotatable rod, an arm on said rod and links connecting opposite ends of said arm to said disk at opposite sides of the center thereof, whereby said nut may be thrown into and out of engagement with said feed screw.

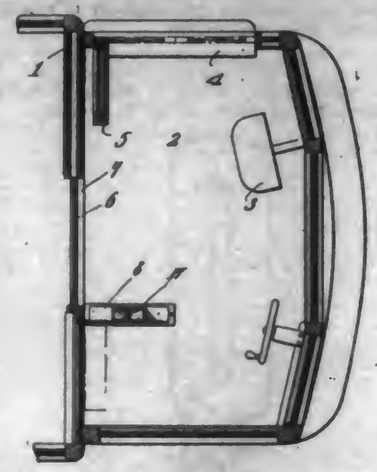
[Claims 6 to 8 not printed in the Gazette.]

979,419. MEANS FOR COLLECTING FARES. JOHN L. BONE and CHARLES H. WOODS, Decatur, Ill. Filed June 28, 1910. Serial No. 569,356.

1. In a car structure, a fare box, and a pivot support therefor on the platform of the car, on which the fare box is movable to different positions about an axis substantially perpendicular to the platform.

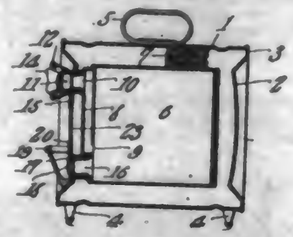
2. In a car structure, a fare box and a support therefor at one side of the entrance to the body of the car, said fare box being movable into position substantially perpendicular to the end of the car body and also to a position substantially parallel with the end of the car body.

3. In a car structure, a fare box located on the side of the entrance to the body of the car remote from the passenger entrance to the platform of the car, said fare box being mounted for movement to a position perpendicular to the end of the car body or to a position substantially parallel therewith.



4. A means for converting a small-platform car into a pay-as-you-enter car, comprising a fare box rising to a suitable height above the platform, and connections between the fare box and car about which the fare box is movable into and out of position relative to the side of the entrance to the car body remote from the passenger entrance to the platform.

979,420. POULTRY-FOUNTAIN. HARRY E. BRYAN, Cadiz, Ohio. Filed Oct. 20, 1909. Serial No. 523,609.

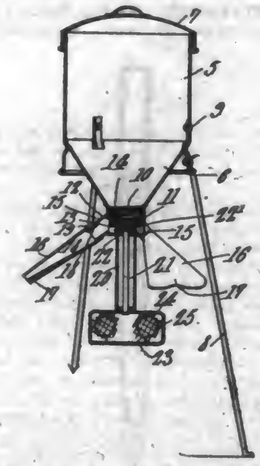


1. A device of the class described comprising a tank having a pipe upon its outer wall, there being a communication between the lower end of the pipe and the tank; a nozzle communicating with the other end of the pipe; a nozzle located below the pipe and communicating with the tank; tubular members arranged to be removably connected with the nozzles and having elements to engage a tank-inclosing case to hold the tank in position therein; one of the tubular members terminating in a funnel, and the other tubular member carrying a drinking cup into which the last named tubular member is arranged to discharge; and means insertible into the funnel to close the funnel-carrying tubular member.

2. A device of the class described comprising a tank; a pipe disposed upon the exterior of the tank, there being a communication between the lower end of the pipe and the tank; a case arranged to inclose the tank and spaced therefrom; a tubular member positioned to discharge into the upper end of the pipe and carrying, at its outer end, a funnel extended through the case; means insertible into the funnel to close said tubular member; a tubular member positioned to discharge into the tank below the pipe, and having its outer end extended through the case; a drinking cup carried by the outer end of the last named tubular member, into which said tubular member is arranged to discharge.

3. A device of the class described comprising a case; a tank located within the case and spaced therefrom; an upright pipe mounted upon the exterior of the tank, there being an opening at the lower end of the pipe communicating with the tank; a nozzle at the upper end of the pipe arranged to discharge into the pipe; a tubular member removably connected with the nozzle and terminating in a funnel arranged to extend through the case; means insertible into the funnel for closing the last named tubular member; a laterally extending plate surrounding the funnel and arranged to bear against the exterior of the case; a nozzle located in the tank below the pipe and arranged to discharge into the tank; a tubular member arranged to be removably mounted upon the last named nozzle and to extend through the case; a plate carried by the outer end of the last named tubular member and arranged to bear against the exterior of the case; a drinking cup assembled with the last named plate, into which cup the last named tubular member is arranged to discharge.

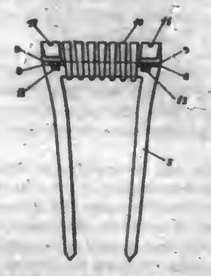
979,421. POULTRY-FEEDER. HARRY E. BRYAN, Cadiz, Ohio. Filed Aug. 9, 1910. Serial No. 576,271.



1. In a device of the class described, a container having an outlet, a shaft journaled below the outlet, a grain box carried by the shaft, one end of the shaft being located directly below the outlet, and a stirrer carried by the said end of the shaft, the container having outlets laterally opposite the stirrer.

2. In a device of the class described, a container having an outlet, a head removably fitted upon the container at its outlet, spouts leading radially from the head, a shaft journaled with its upper end projecting into the head, a stirrer carried by the shaft at its said end, and a grain box carried at the lower end of the shaft.

979,422. HAIR-PIN. ALFRED BURKE, Leominster, Mass. Filed Feb. 24, 1910. Serial No. 545,662.



1. An article of personal wear comprising a pin having a head with recesses therein, a clasp comprising a cross bar having lugs in the recesses, pivotal pins for connecting the lugs to the pin, and curved teeth carried by the cross bar, two of said teeth at each end of the cross bar having integral ends.

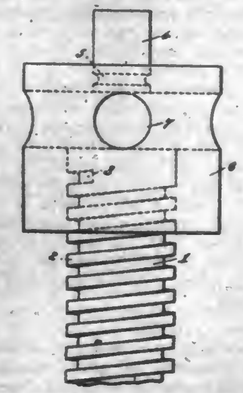
2. An article of personal wear comprising a pin having a head with recesses therein, a clasp comprising a cross bar having lugs in the recesses, pivotal pins for connecting the lugs to the pin, and curved teeth carried by the cross bar, two of said teeth at each end of the cross bar having integral ends, and being reduced in length as compared with the intermediate teeth, the said integral teeth being in such relation to the prongs of the pin as to coact therewith.

979,423. WINDOW-SASH. ADAM PERCIVAL BURKHART, Buffalo, N. Y. Filed Nov. 9, 1908. Serial No. 461,743.



In window construction, the combination with a main sash frame, of a removable sash mounted therein, the main frame having a recess formed in the outer face of each of its stiles and in the adjacent portion of the rails, a vertically disposed plate mounted in the recesses in the stiles and projecting inward to engage the supplemental sash to prevent it from passing through the main sash frame, said plate having a laterally extending lug near each end which is adapted to be engaged in the recess in the adjacent rail, the lug projecting from the rail to engage the supplemental sash, the ends of the plate being bent around the ends of the stiles and secured to the same.

979,424. JACK-SCREW. EDWARD M. BURNEY, Chicago, Ill. Filed June 1, 1909. Serial No. 499,382.



1. A jack screw comprising a screw having a thread extending almost to its upper end and terminating in a shoulder, and a head cast upon the upper end of said

screw extending several threads downwardly thereon, and provided with lever bar openings, substantially as described.

2. In a jack screw a head and a cylindrical cap pivot having a peripheral annular groove adjacent its lower end, said lower end including said groove being embedded within said head when the latter is cast, substantially as described.

979,425. ANNEALING-FURNACE. JAMES L. BUTLER, Alliance, Ohio. Filed Aug. 25, 1909. Serial No. 514,473.



1. The combination of an annealing furnace having a plurality of tracks on the floor of the annealing chamber of the furnace, of a car having track members corresponding to the tracks of the furnace, and anti-friction balls interposed between corresponding track members, the track members of the furnace being grooved to receive the balls, at least one of the track members of the car being grooved to fit the balls and prevent side movement of the car, the remaining track members of the car having bearing faces exceeding in width the width of the bearing upon the balls to permit expansion and contraction of the car bottom without binding upon the balls.

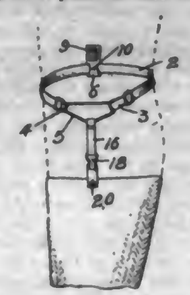
2. The combination of an annealing furnace having a plurality of grooved track members on the floor of the annealing chamber, of a car having track members corresponding to the track members of the furnace, and anti-friction balls interposed between the track members of the furnace and the car, one of the track members of the car being located at the longitudinal center of its bottom and grooved to fit the adjacent balls, the other track members of the car having flat bearing surfaces.

3. The combination of an annealing furnace, a car, and sets of anti-friction devices supporting the car upon the floor of the annealing chamber of the furnace, said devices being held against bodily movement transversely of the car, and the car having a track member grooved to fit one set of anti-friction devices to prevent lateral movement of the car.

4. The combination of an annealing furnace having a plurality of grooved track members on the floor of the annealing chamber, balls adapted to travel in the grooves of such tracks, a car supported by and adapted to roll on said balls, and tracks carried by the underside of the car and bearing on the balls of the respective tracks on the floor of the furnace, one or more of the car tracks being flat to permit expansion and contraction of the car without interfering with its operation, the other car tracks being grooved to partially receive the balls and maintain the car in proper relation with such balls, substantially as described.

979,426. GARTER. HENRY L. CARPENTER, Minneapolis, Minn. Filed Sept. 30, 1907. Serial No. 395,099.

A hose supporter consisting of a band adapted to loosely encircle the leg to prevent folds in a drawers leg slipping below the band, a fastening device extending below and supported from the band and adapted to engage the hose below the band to support the hose from the band, and a gripping device attached to the band and adapted to grip the drawers leg at a point in line with supporting ten-



sion on the drawers leg above the band to support the leg encircling band from the drawers leg, substantially as described.

979,427. FOUNTAIN-PEN. GEORGE HEBER CARTER, New York, N. Y. Filed Oct. 22, 1909. Serial No. 523,963.



1. A fountain pen comprising a perforated, removable cap, a barrel provided with a bore at its rear end, means for causing a tight fit between the cap and the rear end of the barrel, a loose check-valve and a seat therefor at the outer end of said bore, and means for holding the same to its seat after the barrel is filled which means are withdrawn from operative position while the barrel is being filled.

2. A fountain pen comprising a perforated, removable cap, a barrel provided with a bore at its rear end, means for causing a tight fit between the cap and the rear end of the barrel, a float-valve and a seat therefor at the inner end of said bore, a check-valve and a seat therefor at the outer end of said bore, and means for holding same to its seat after the barrel is filled which means are withdrawn from operative position while the barrel is being filled, substantially as described.

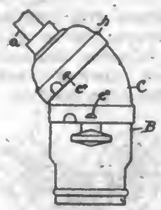
3. A fountain pen comprising a removable perforated cap, a barrel provided with a bore at its rear end, a peripheral packing on the rear end of said barrel, a loose, removable check-valve and a seat therefor in said bore, and means for holding same to its seat when the barrel is filled.

4. A fountain pen comprising a removable perforated cap, a barrel provided with a bore at its rear end, a peripheral packing on the rear end of said barrel, a float-valve and a seat therefor at the inner end of said bore, a loose check valve and a seat therefor in said bore, said valve automatically opening to permit the filling of said barrel by suction at the rear end, and automatically closing the bore when the suction ceases, and means for holding same to its seat when the barrel is filled.

5. A fountain pen comprising a removable perforated cap, a barrel provided with a bore at its rear end having a reduced inner portion and an enlarged, threaded outer portion, a peripheral packing on the rear end of said barrel adapted to fit said cap, a float-valve and a seat therefor in said bore, a loose check-valve and a seat therefor at the outer end of said bore, a set-valve and a seat therefor at the end of said barrel, and a threaded, perforated stem therefor adapted to seat said check-valve when the set valve is closed.

[Claims 6 to 8 not printed in the Gazette.]

979,428. ELECTRIC-LAMP SOCKET. HOWARD B. CHANDLER and JAMES A. FLEET, Portland, Me. Filed Aug. 28, 1908, Serial No. 450,635. Renewed Sept. 8, 1910. Serial No. 581,094.

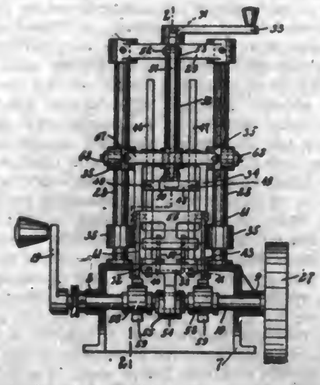


1. The herein described electric lamp socket of the class specified having an angle piece inserted between the two parts of the socket and adapted to be detachably secured to each part.

2. The herein described electric light socket consisting of the socket proper, a hollow cap therefor adapted to be secured to the end of the fixture and a hollow angle piece adapted to be inserted between the socket proper and the cap and to be detachably secured to each part.

3. The herein described electric lamp socket including a cylindrical shell inclosing the lamp connections, a hollow cap adapted to engage the end of the fixture and to fit the end of said shell and to be detachably secured thereto and a hollow elbow or angle piece the ends of which are adapted to fit the cap and the cylindrical shell respectively and to be detachably secured thereto.

979,429. FILM-PERFORATING MACHINE. AUGUST CHRONIK and LOUIS CHRONIK, New York, N. Y. Filed Mar. 15, 1910. Serial No. 549,524.



1. In a perforating machine, the combination with the base, of vertical standards attached thereto, a bridge connecting the upper ends of said standards, a frame pivoted to said bridge, a female member of a punch fixedly attached to said frame, a male member of a punch reciprocatably mounted upon said frame, means for alternating said male member relatively to said female member, and means for oscillating said frame around its pivot when said male and female members of said punch are in engagement with each other so as to bring the material to be perforated in position for the next perforation.

2. In a perforating machine, the combination with the base, of vertical standards attached thereto, a bridge connecting the upper ends of said standards, a frame pivoted to said bridge, a female member of a punch fixedly attached to said frame, a male member of a punch reciprocatably mounted upon said frame, means for alternating said male member relatively to said female member, means for oscillating said frame around its pivot when said male and female members of said punch are in engagement with each other so as to bring the material to be perforated in position for the next perforation, and means shiftably arranged upon said standards in engagement with said frame for varying the amplitude of oscillation thereof.

3. In a perforating machine, the combination with the base, of vertical standards attached thereto, a bridge connecting the upper ends of said standards, a frame pivoted to said bridge, a female member of a punch fixedly attached to said frame, a male member of a punch reciprocatably mounted upon said frame, presser feet adapted to engage the material to be perforated, means for alternating said male member relatively to said female member and for disengaging said presser feet from the material to be perforated, and means for oscillating said frame around its pivot when said male and female members of said punch are in engagement with each other so as to bring the material to be perforated in position for the next perforation.

4. In a perforating machine, the combination with the base, of vertical standards attached thereto, a bridge connecting the upper ends of said standards, a frame pivoted to said bridge, a female member of a punch fixedly attached to said frame, a male member of a punch reciprocatably mounted upon said frame, presser feet adapted to engage the material to be perforated, means for alternating said male member relatively to said female member and for disengaging said presser feet from the material to be perforated, means for oscillating said frame around its pivot when said male and female members of said punch are in engagement with each other so as to bring the material to be perforated in position for the next perforation, and means shiftably arranged upon said standards in engagement with said frame for varying the amplitude of oscillation thereof.

979,430. WINDOW-BEAD FASTENER AND THE LIKE. HERBERT E. CHURCH and WALTER V. COWDEN, Afton, N. Y. Filed Oct. 22, 1910. Serial No. 588,420.



1. A fastener of the character described comprising a screw threaded shank having a plate formed with a fixed half cover, and a movable half cover hinged to the fixed half cover so as to provide a folding handle for turning the shank.

2. A fastener of the character described comprising a screw threaded shank having a base plate formed with a circumferential flange and a fixed half cover, and a movable half cover hinged to the fixed half cover so as to provide a folding handle for turning the shank.

3. A fastener of the character described comprising a screw threaded shank having a base plate formed with a circumferential flange, with a radial outturned flange and with a fixed half cover and a movable half cover hinged to the fixed half cover so as to provide a folding handle for turning the shank.

4. A fastener of the character described comprising a socket having an interiorly screw-threaded hole, a screw-threaded shank adjustable in the hole of the socket, and having a base plate formed with a circumferential flange and with a fixed half cover, and a movable half cover hinged to the fixed half cover so as to provide a folding handle for turning the shank.

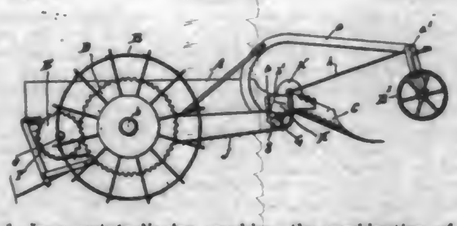
5. A fastener of the character described comprising a socket having an interiorly screw-threaded eccentric hole, a screw-threaded shank, adjustable in the hole of the socket, and having a base plate formed with a circumferential flange, and with a fixed half cover, and a movable half cover hinged to the fixed half cover so as to provide a folding handle for turning the shank.

979,431. NITROCELLULOSE GUNPOWDER. CONRAD HUBERT HEINRICH CLAESSEN, Berlin, Germany, assignor to E. I. du Pont de Nemours Powder Company, Wilmington, Del., a Corporation of New Jersey. Filed June 7, 1910. Serial No. 565,615.

1. A new composition of matter containing an intimate mixture of nitrocellulose gunpowder with fenchone.

2. A new composition of matter containing an intimate mixture of nitrocellulose and nitroglycerin gunpowder with fenchone.

979,432. POTATO-DIGGING MACHINE. OTTO H. CLAFLIN, Berea, Ohio. Filed Nov. 20, 1909. Serial No. 529,059.



1. In a potato-digging machine, the combination of a frame, a conveyer mounted for movement thereon, and a roller suspended from said frame and gravitationally resting upon the front edge of said conveyer to accomplish the ascent of material.

2. In a potato-digging machine, the combination of a frame, a shovel fixed to the forward end of said frame, a conveyer mounted for movement adjacent said shovel, and a roller gravitationally resting upon the front edge of said conveyer to accomplish the ascent of material.

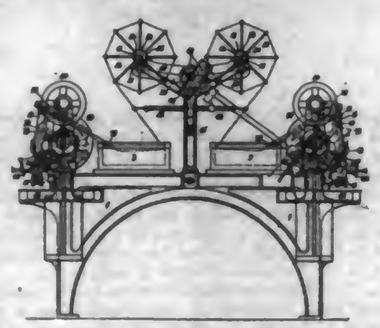
3. In a potato digging machine, the combination of a frame, a shovel fixed to the forward end of said frame, a conveyer mounted for movement above said shovel, adjustable means for raising and lowering the forward end of said conveyer with relation to the shovel, and a roller pivotally suspended in advance of and normally resting upon the forward end of said conveyer, for the purpose specified.

979,433. GASKET FOR HOSE-COUPLINGS. CASSIUS M. CLAY, Mexico, Mo. Filed Apr. 17, 1907. Serial No. 368,774.



The combination with the tubular members of a hose coupling, one of which is provided with a flange and the other provided with a groove to receive said flange for locking said members together, and one of which members is provided in its flanged portion with an undercut groove, the walls of said groove being formed at an angle less than a right angle to each other, one of the walls terminating flush with the opening through said member and the other wall terminating away from said opening, of a gasket in the form of an elastic ring seated in said groove having its outside periphery formed at an acute angle relative to one of its faces and its opposite face parallel to said first mentioned face, the said gasket having formed on its inner periphery and centrally of the gasket a V-shaped groove, the inner edges of said groove terminating flush with the opening through the coupling, the walls of which when acted on by the expansive pressure of a fluid within the coupling will force said walls against the walls of the undercut groove in one member and against the opposing face of the opposite member.

979,434. APPARATUS FOR USE IN THE MANUFACTURE OF ARTIFICIAL-SILK AND LIKE THREADS. JAMES CLAYTON, Coventry, England, assignor to Samuel Courtauld and Co., Limited, London, England. Filed June 7, 1909. Serial No. 500,762.



1. In apparatus for the purpose described, a frame having a pivoted upright channeled to convey the solution of viscose or the like, a hollow stem carried by said frame, a perforated bearing piece opening into said hollow stem through a coned end bearing, a carrier for said bearing piece mounted on said frame and through which said bearing piece is threaded and having a channel communicating with said upright at one end and with the passage through said bearing piece at the other end, in combination with means for rapidly rotating said stem, the operation of said means being determined by the position of said pivoted frame, substantially as described.

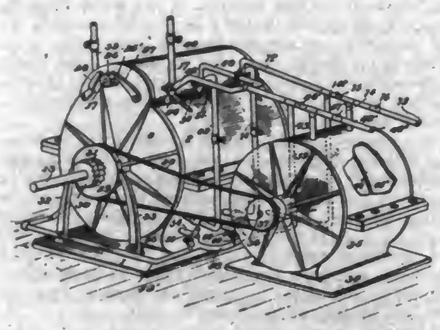
2. In apparatus for use in the manufacture of artificial silk and like threads by projecting matter through perforations in a rotatable nozzle carried by a hollow stem, or spindle, provided with means whereby it is driven at some portions of its length between its ends, and means for introducing the said matter at the end of the said stem, or spindle, opposite to that at which the nozzle is fixed, mounting the rotatable hollow stem, or spindle, on a swinging frame and arranging the gearing by which the stem, or spindle, is rotated, so that the nozzle can be swung into position for use, or into convenient position for inspection, or other purpose, while at the same time the said gearing is engaged and disengaged by the movement of the swinging frame, in combination with a pump driven by gear in connection with the gear which drives the rotatable hollow stem, or spindle, of the nozzle, the said pump being mounted on centers within the frame carrying the said rotatable hollow stem, or spindle, and coincident with the centers on which the said frame turns, and the gearing being arranged so that the said frame can be swung to bring the stem, or spindle, into and out of connection with the driving gear independently of the pump, substantially as hereinbefore described.

3. In apparatus for the purpose described for use in the manufacture of artificial silk and like threads by projecting matter through perforations in a rotatable nozzle carried by a hollow stem, or spindle, provided with means whereby it is driven at some portions of its length between its ends, and means for introducing the said matter at the end of the said stem, or spindle, opposite to that at which the nozzle, is fixed, mounting the rotatable hollow stem, or spindle, on a swinging frame and arranging the gearing by which the stem or spindle is rotated, so that the nozzle can be swung into position for use, or into convenient position for inspection, or other purpose, while at the same time the said gearing is engaged and disengaged by the movement of the swinging frame, in combination with a pump carried by said frame for supplying viscose to said hollow stem and means for driving the said pump.

4. For the aforesaid purpose, the combination of a hollow stem, or spindle, mounted on a swinging frame, gearing, by which the said stem, or spindle, is rotated, so arranged that the said gear is put into and out of operating connection by turning the swinging frame on its axis, a pump driven by gear in connection with the gear which drives the aforesaid hollow stem, or spindle, so that the frame can be turned to put the stem, or spindle, out of, and into, driving engagement independently of the pump, and a winding reel, or the equivalent, and means for driving it at a speed in proper relation to the speed of the stem, or spindle, and pump, and for stopping it when required, substantially as hereinbefore described.

5. For the aforesaid purpose, the combination of a precipitating vessel, or precipitating vessels, series of swinging frames and driving means running along in proximity thereto, each frame carrying a rotatable stem, or spindle, provided with gear and arranged so that it can be engaged with, and disengaged from, the driving means by swinging the said frame, a pump carried on the same center line as that of each swinging frame and provided with gear arranged so that the stems, or spindles, and pumps can be swung into and out of gear with the driving means independently of each other, and series of reels arranged in double line and driven in pairs by gear which will drive the reels at the proper speed relatively to the speeds of the stems, or spindles, and pumps, and allow of the driving of either reel being discontinued when desired, all substantially as hereinbefore described.

979,435. VACUUM STEAM-ENGINE. CHARLES COMSTOCK, West Stockbridge, Mass. Filed Jan. 2, 1907, Serial No. 350,383. Renewed May 16, 1910. Serial No. 561,722.



1. A vacuum engine comprising a cylinder, a piston therein, the cylinder having a steam inlet port located at one side of the piston, a vacuum port located at the opposite side of the piston, a vacuum pump directly connected with said vacuum port, and an exhaust port independent of said vacuum pump.

2. The combination with a steam engine comprising a cylinder having inlet and exhaust ports and a piston therein, of a vacuum pump independent of said ports and directly connected with the cylinder to form a vacuum therein at one side of the piston.

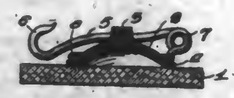
3. A vacuum engine comprising a cylinder having inlet and exhaust ports, a piston therein, and a pump in direct communication with the cylinder independent of said ports, for creating a vacuum within the cylinder in front and in rear of the piston.

4. The combination with a steam engine comprising a cylinder having inlet and exhaust ports and a piston therein, of a vacuum pump independent of said ports and directly connected with the cylinder and adapted to create a vacuum therein after the usual exhaust of the steam therefrom.

5. The combination with a steam engine comprising a cylinder having inlet and exhaust ports and a piston, of a vacuum pump driven by the engine and directly connected with the engine cylinder independent of said ports to create a vacuum therein at one side of the piston.

[Claims 6 to 41 not printed in the Gazette.]

979,436. VACUUM SUPPORTING DEVICE. JULIAN E. CORBIN, Alameda, Cal. Filed Apr. 5, 1910. Serial No. 553,676.

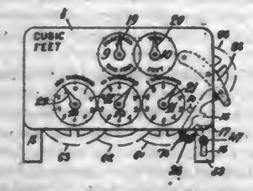


1. In a device of the character described, the combination with a vacuum cup, of resilient means carried thereby and exerting a pressure on the edge thereof to hold said cup in contact with a supporting surface.

2. In a device of the character described the combination with a vacuum cup provided with a head and with a sealing edge, of a supporting arm carried by said head, a loop seated on said edge, and a spring connecting said arm and loop and exerting a pressure tending to force said arm and loop in opposite directions.

3. As a new article of manufacture, a vacuum cup provided with a head and a sealing edge, a supporting arm carried by said head, a loop seated on said edge, and a spring connecting said arm and loop, said arm, spring and loop formed of a single length of resilient metal.

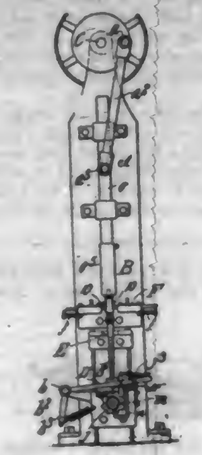
979,437. INDEX. MARSHALL CORNINE, New York, N. Y. Filed June 21, 1909. Serial No. 503,363.



1. In an index, the combination with a frame, of a train of gears carrying indicators, some of high speed and others of low speed, a gear interposed between parts of the train of different speeds, means for disengaging said intermediate gear from another of the complete train, and means for again engaging it with said other gear of the train, said means being adapted to be operated by a key, an aperture in the device permitting the insertion of a key to operate said means, but provided with a stop adapted to restrain the withdrawal of the key, when turned from its position as inserted, all substantially as set forth.

2. In an index, the combination with a frame of a train of gears carrying indicators, some of high speed and others of low speed, of a gear interposed between the high speed and the low speed parts of the train, a swinging frame supporting said intermediate gear, an aperture in the main part adapted to permit the insertion of a key, an extension on the swinging frame, which registers with the aperture in the main frame, adapted to be engaged by the key, and walls to the keyhole, adapted to restrain the withdrawal of the key, when turned from its position as inserted, all substantially as set forth.

979,438. MACHINE FOR APPLYING SPLIT RINGS ON THE BUTTS OF BOBBINS. DANA S. COURTNEY, Chicopee, Mass. Filed Nov. 27, 1909. Serial No. 530,193.



1. In a bobbin ringing machine, the combination with a reciprocatory plunger, of a vertically movable base for a bobbin, relatively to which the plunger moves, and means for successively variably limiting the descending movements of said base.

2. In a bobbin ringing machine, the combination with a vertically reciprocatory plunger having its lower end constructed to embrace the extremity of the bobbin, of a vertically movable base on which to rest a bobbin, and relatively to which the plunger moves, and means for successively variably limiting the descending movements of the base.

3. In a bobbin ringing machine, the combination with a reciprocatory plunger, of a base on which to rest a bobbin, and relatively to which the plunger moves, which base is mounted for up and down swinging movements, and a movable member under said base having series of variably prominent stops adapted to correspondingly limit the downward movements of said base, and means for moving said member whereby its different stops will be successively positioned in their limiting relations to the said base.

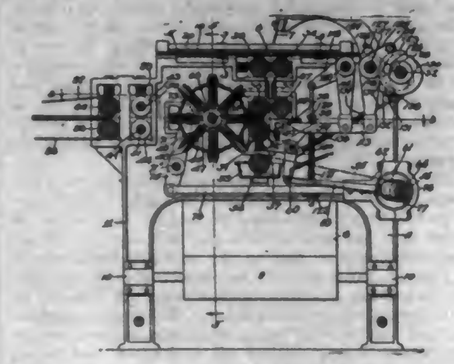
4. In a bobbin ringing machine, the combination with a reciprocatory plunger, of a base on which to rest a bobbin, and relatively to which the plunger moves, which base is mounted for up and down swinging movements, and a movable member under said base having series of variably prominent stops adapted to correspondingly limit the downward movements of said base, actuated by the swinging base, and means for moving said member whereby its different stops will be successively positioned in their limiting relations to the said base.

5. In a bobbin ringing machine, the combination with a vertically movable plunger, of a vertically movable base for a bobbin below the plunger and relatively to which the latter moves, means for successively variably limiting the downward movements of the base, and a gage between the base and the plunger for insuring a positioning of the bobbin sustained on the base truly vertically.

[Claims 6 to 11 not printed in the Gazette.]

979,439. FOLDING AND WRAPPING MACHINE. SANFORD C. COX, Edison Park, Ill., assignor to Cox Multi-Mailer Company, Augusta, Me., a Corporation of Maine. Filed May 5, 1906. Serial No. 315,389.

1. In a machine for the purpose described, the combination of a rotatable bodily shiftable holder, having a paper pocket, means for partially folding the paper and guiding it into said pocket, said pocket and guiding means being intermeshed when they are in the position of their closest relation, means for first producing a relative withdrawing movement between the pocket and said guiding means for taking them out of mesh, and means for thereafter rotating the holder to carry the pocket away from said guiding means.



2. In a machine for the purpose described, the combination of a rotatable bodily shiftable paper holder having a plurality of pockets for receiving the papers and wrappers, the outer ends of said pockets being provided with projections, rolls for partially folding the paper and wrapper and guiding the same into said pockets, said rolls having grooves for receiving said projections, rolls for receiving the paper and wrapper from said pockets and sealing the wrapper, also having grooves for the reception of said projections, and means for shifting and intermittently rotating said holder.

3. In a machine for the purpose described, the combination of a bodily shiftable rotatable holder for the papers, having a paper pocket, means for partially folding a paper and introducing the same with the wrapper into said pocket, said pocket having a projecting end, sealing rolls for receiving the paper and wrapper from said pocket and sealing the wrapper, having grooves for receiving said projecting end of the pocket, the edges of said grooves being beveled to avoid rupturing or wrinkling the lap of the wrapper, and means for bodily shifting and intermittently rotating said holder.

4. In a machine for the purpose described, the combination of a rotatable bodily shiftable holder having a paper pocket for the paper and wrapper, of less width than the wrapper, the paste roll having a groove for receiving the end of the pocket, and adapted to apply paste to the wrapper while in the pocket, means for withdrawing the holder from the paste roll and imparting a rotary motion thereto, and means for withdrawing the paper and wrapper from the pocket and sealing the wrapper.

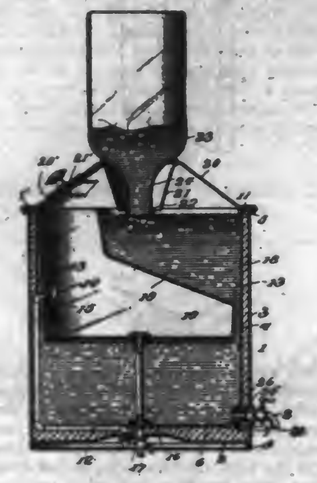
5. In a machine for the purpose described, the combination of a bodily shiftable rotatable holder embodying two coincident series of paper pockets, means for introducing the partially folded paper and wrapper into said pockets, embodying a paste device having its surface interrupted opposite the ends of the pockets, whereby the paste will not be applied at these points, means for bodily shifting the holder to withdraw the pockets from the paste device, and means for extracting the paper and wrapper from the pockets and sealing the lap of the wrapper.

[Claims 6 to 14 not printed in the Gazette.]

979,440. WATER-COOLER. ALONZO W. CRAM and WILLIAM A. CLARIDGE, Haverhill, Mass. Filed Mar. 8, 1910. Serial No. 548,106.

1. A cooler of the character described, comprising a receptacle, an ice tank within the upper end and spaced from the bottom and walls of the receptacle, an inverted bottle supported by the receptacle, a passage communicating with the neck of the bottle and extending across the tank and communicating with the water space surrounding the tank.

2. A cooler of the character described, comprising a receptacle, an ice tank within the upper end and spaced from the bottom of the walls of the receptacle, an inverted bottle supported by the receptacle and having its neck extending into the center of the tank below the level of the upper end of the receptacle, and a passage extending from the neck of the bottle across the tank and communicating with the space surrounding the ice tank.



3. A cooler of the character described, comprising a receptacle, an ice tank within the upper end of the receptacle and spaced a distance from the walls of the receptacle, and having a passage extending from the upper end obliquely through the tank and communicating with the receptacle, and a bottle having its neck within the passage whereby the liquid is conveyed from the bottle to the receptacle.

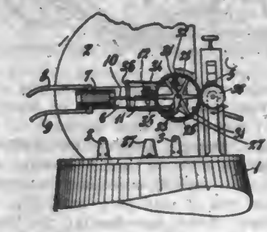
4. A cooler of the character described, comprising a receptacle, a faucet connected to the lower end of the receptacle, an ice tank within the upper end of the receptacle and spaced a distance from the walls of the receptacle, and having an oblique passage extending from the center thereof and communicating with the space between the tank and walls of the receptacle, an overflow pipe connected to the ice tank and extending down through the bottom of the receptacle, a cover for said receptacle having a central opening above said passage, and a bottle supported by the cover and having the neck thereof passing through the opening therein and entering said passage whereby the liquid from the bottle passes to the receptacle, substantially as described.

5. A cooler of the character described, comprising a receptacle, a faucet connected to the lower end thereof, an ice tank removably supported within the upper end of the receptacle and spaced a distance from the walls of the receptacle and having an oblique passage extending from the center thereof and communicating with the receptacle above the bottom of the ice tank, an overflow pipe connected to the ice tank and extending down through the receptacle and through the bottom thereof, a drain pipe connected to the bottom of the ice tank, a cover for said receptacle having a central opening above said passage, and a bottle supported by the said cover and having the neck thereof passing through the opening therein, and entering said passage whereby the liquid from the bottle is conveyed to the receptacle, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

979,441. DRIVING MECHANISM. CHARLES W. CRAWFORD, Cincinnati, Ohio. Filed June 19, 1909. Serial No. 503,108.

1. In a driving mechanism, the combination of a base, a motor support hinged thereto, an element to be operated mounted thereon, a standard supported on said base, and another element to be operated mounted on said standard, a motor mounted on said support, connecting mechanism between said motor and said first named element when said support is in one position, and connecting mechanism between said motor and said second named element when said support is in another position, with means for shifting the motor support and connection therefor to disconnect the first named element from its connecting mechanism when the support is shifted to its second position.



2. In a driving mechanism, the combination of a base, a motor support hinged thereto, an element to be operated mounted thereon, a standard supported on said base, and another element to be operated mounted on said standard, a motor mounted on said support, a train of gearing intermediate said motor and said first named element when said support is in one position, and a train of gearing intermediate said motor and said second named element when the support is in another position, and means for shifting the motor support and connection therefor to disconnect the first named element from its train of gearing when the support is shifted to its second position.

3. In a driving mechanism, the combination of a base, a standard supported on said base, and an element to be operated mounted thereon, a motor support hinged to the base, a shaft and pinion to be operated mounted on said support, and a motor mounted thereon, with gearing intermediate the motor and shaft for operating same in one position of the support, and gearing intermediate said motor and said base supported element for operating the same when the support is in another position, with means for shifting the motor support and connection therefor to disconnect said pinion from said gearing when the motor support is shifted to its last named position.

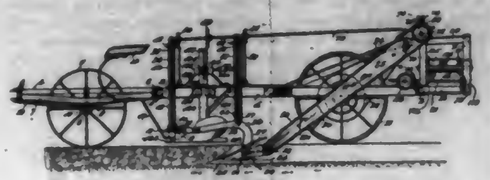
4. A driving mechanism comprising a base, a motor support hinged thereto, a shaft mounted on and passing through the support and having an external handle, a pinion slidingly mounted on said shaft, a motor and connecting mechanism mounted on said support to operate the pinion, and a sleeve on the shaft to disconnect the pinion when the motor support is moved into another position.

5. A driving mechanism comprising a base, a motor support hinged thereto, a shaft mounted on and passing through the support and having an external handle, a pinion slidingly mounted on said shaft, a motor and connecting mechanism mounted on said support to operate the pinion, and a sleeve on the shaft to disconnect the pinion when the motor support is moved into another position, a standard for another element to be operated, supported on said base, and connecting mechanism between said motor and said element when said support is in such other position.

979,442. DITCHING-MACHINE. JOHN LOUIS CRISMON, Eagle, Colo. Filed July 12, 1909. Serial No. 507,218.

1. In a ditching machine, the combination with a frame mounted on front and rear wheels, of horizontally disposed vertically adjustable bars mounted on said frame; a plow connected at its opposite ends to said bars; an inclined conveyer secured at its lower end to said plow in position to receive earth therefrom; means for adjusting said plow laterally upon said bars, and said inclined conveyer simultaneously therewith; a laterally adjustable horizontally disposed conveyer on said frame adapted to receive the discharge from the inclined conveyer; means

for changing the direction of travel of said horizontally disposed conveyer; and vertically adjustable plows on said frame in front of said rear wheels, having their mold boards facing each other.



2. In a ditching machine, the combination with a frame mounted on front and rear wheels, of horizontally disposed vertically adjustable bars mounted on said frame, the forward bar having a longitudinal guideway formed on its rear edge; a slide in said guideway; a plow connected at its forward end to said slide, and means for connecting the rear end of said plow in sliding engagement with the rear bar; means for effecting the lateral adjustment of said plow; means for receiving excavated earth from said plow and for conveying the same beyond either side of the ditch; and vertically adjustable plows on said frame in line with the rear wheels, having their mold boards facing each other.

3. In a ditching machine, the combination with a frame mounted upon front and rear wheels, of vertical front and rear guides upon said frame; bars supported upon said guides and means for raising and lowering said bars, a guideway being formed in the forward bar; a slide in said guideway; a plow connected at its forward end to said slide; links connecting the rear end of said plow in sliding engagement with said rear bar; and means for effecting the lateral adjustment of said plow; conveyers adapted to receive the excavated earth from said plow and convey it beyond either side of the machine; plows on the side of said frame in front of the rear wheels thereof; and means for raising said plows to an inoperative position.

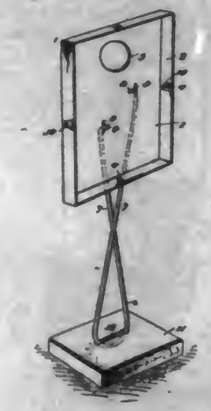
4. In a ditching machine, the combination with a wheeled frame, having transverse supports, of shafts mounted upon said supports; flexible connections secured at their upper ends to said shafts; a plow supported at its front and rear ends by said connections; means for turning said shafts to wind said connections thereon; means for preventing backward rotation of said shafts; an inclined conveyer secured to said plow so as to receive the excavated earth therefrom; means for effecting the lateral adjustment of said plow and conveyer simultaneously; a conveyer for receiving the discharge from the inclined conveyer and depositing it on either side of the ditch; means for operating said conveyers; and vertically adjustable plows secured to the sides of the frame adapted to cooperate with said first plow.

5. In a ditching machine, the combination with a wheeled frame, having transverse supports, of shafts mounted upon said supports and means for turning them; ratchet wheels on said shafts; pawls for engaging said ratchet wheels; means for operating said pawls; flexible connections attached to said shafts; bars supported by said connections, one of which has a slideway thereon; a slide in said slideway; a plow attached at its forward end to said slide; links connecting the rear end of the plow in sliding engagement with the other bar; vertical guideways for said bars; a conveyer in operative engagement with the plow; means for effecting the lateral movement of said plow and conveyer simultaneously; a conveyer adapted to receive the discharge from the first conveyer and deposit it beyond either side of the machine; means for operating said conveyers; and vertically adjustable plows upon the sides of the frame which coöperate with the first plow.

[Claims 6 to 12 not printed in the Gazette.]

979,443. FLY-CATCHER. JOHN L. DAVIDSON, Barnet, Vt. Filed Mar. 18, 1910. Serial No. 550,289.

1. A fly catcher including a plate, a marginal rim outstanding from one side of the plate, and a plurality of lugs projecting inwardly from the rim and arranged to engage over a sheet of sticky paper to hold the same against the plate, the lugs being struck from the rim to provide air outlet openings therein for the purpose specified.

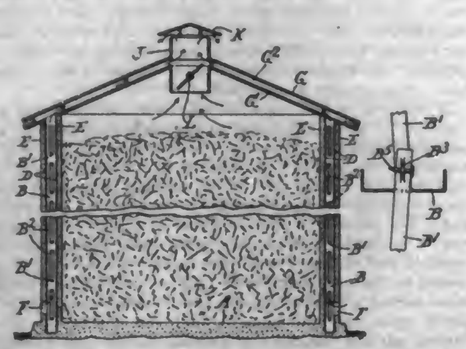


2. As a new article of manufacture, a fly catcher comprising a handle, and a tray secured to the handle and consisting of a bottom, an upstanding rim, and a plurality of lugs projecting inwardly from the rim and arranged to engage over a sheet of sticky paper lying against the bottom of the tray, the lugs being struck from the rim and providing outlet openings therein to prevent the formation of an air cushion within the tray.

3. As a new article of manufacture, a fly catcher comprising a tray adapted to hold a sheet of sticky paper, and a handle having a pair of arms engaged terminally with the tray, one of said arms being longer than the other to prevent the handle from turning relative to the tray.

4. As a new article of manufacture, a fly catcher comprising a tray for holding a sheet of sticky paper, and a handle including a pair of spring arms connected together at one end and crossed intermediate of their ends with their free terminals detachably engaged with the tray.

979,444. SILO. ALBERT E. DE ARMOND, Chicago, Ill. Filed Oct. 4, 1909. Serial No. 520,891.

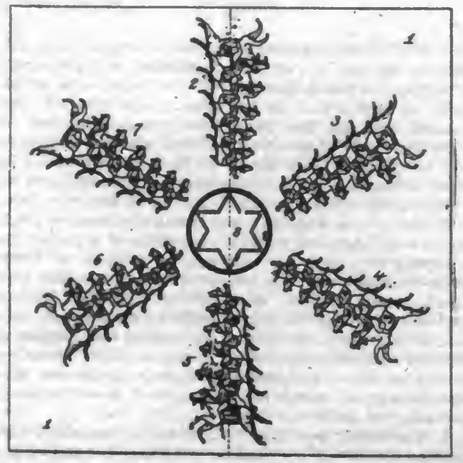


1. A building comprising a hollow wall perforated about the outside near its bottom, a hollow roof supported upon said wall in communication with the interior thereof, a tube projecting through said roof, in communication intermediate its ends with the interior of the roof, and in communication at one end with the interior of the building, within the wall and roof and at the other end in communication with the outside of the building.

2. A building comprising a hollow wall perforated about the outside near its bottom, a hollow roof supported upon said wall in communication with the interior thereof, a tube projecting through said roof, in communication intermediate its ends with the interior of the roof, and in communication at one end with the interior of the building, within the wall and roof and at the other end in communication with the outside of the building, a damper within said tube intermediate its communication with the interior of the hollow roof, and the interior of the building.

3. A building comprising hollow walls perforated about the outside near the bottom and a hollow roof in communication therewith, a ventilating tube within the roof leading from the interior of the building to the outside, a communication in the wall of said tube intermediate its ends with the interior of the hollow roof, a damper within said tube, intermediate its communication with the interior of the hollow roof, and the interior of the building.

979,445. GAME-BOARD. FOSE DE ROCHER, Chicago, Ill. Filed July 2, 1910. Serial No. 570,174.



A game board adapted for use in connection with a cubical casting die, and provided with a center field, and radial rows of figures, each row comprising a series of the same figures arranged so that the same figure will occur but once in a path concentric with the center of the field.

979,446. BRAIDING-MACHINE. GUSTAV DINGENDAHL, Wyomissing, Pa., assignor to Textile Machine Works, Wyomissing, Pa., a Corporation of Pennsylvania. Filed Mar. 20, 1909. Serial No. 484,610.



1. A braiding machine having a carrier course comprising separated series of like drive-gears having equally spaced carrier-engaging horns, and a similar connecting drive-gear having one of its horns removed to form a carrier clearance-way whereby the grouping of the carriers is varied in passing them from one series to the other to change the weave.

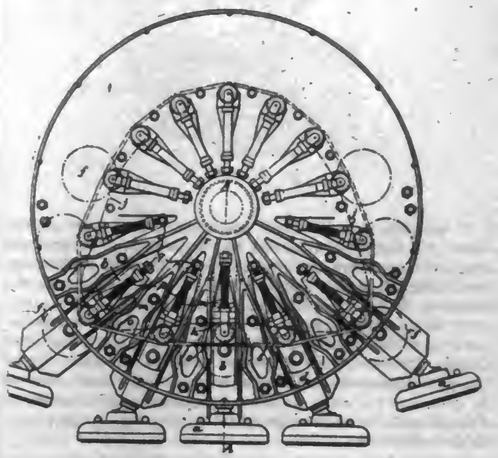
2. A braiding machine having a carrier course comprising separated series of like drive-gears having four equally spaced carrier-engaging horns, and a similar connecting drive-gear having one of its horns removed to form a carrier clearance-way whereby the grouping of the carriers is varied in passing them from one series to the other to change the weave.

3. A braiding machine drive-gear having a carrier-engaging rim equally divided into horn sections one of which is shaped to form a carrier-clearance-way adapted to disengage and set back certain of the passing carriers.

4. A braiding machine drive-gear having a carrier-engaging rim provided with carrier-engaging horns on each of three quarter-sections thereof and with a carrier clearance-way on the remaining quarter-section adapted to correspondingly set-back a passing carrier at each rotation of the gear.

5. A braiding machine drive-gear having a carrier-engaging rim equally divided into horn sections one of which is shaped to form a carrier-clearance-way adapted to disengage and set back certain of the passing carriers, and a separate rim portion adapted to be removably-secured in said clearance-way.

979,447. MEANS FOR SUPPORTING VEHICLES. BRAMAH JOSEPH DIPLOCK, Westminster, England. Filed Nov. 21, 1908. Serial No. 463,852.



1. Means for supporting vehicles of the kind referred to comprising feet which are adapted to be placed successively on the ground, movable spokes carrying said feet, railway rollers mounted in said spokes, rails connected to the vehicle and adapted to rest upon said railway rollers and flexible connectors adapted to keep railway rollers in contact with the rails.

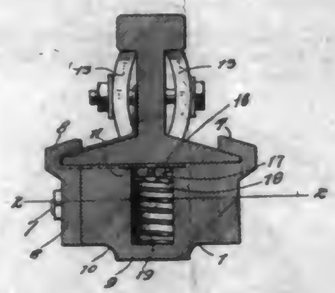
2. Means for supporting vehicles of the kind referred to comprising feet which are adapted to be placed successively on the ground, movable spokes carrying said feet, railway rollers mounted in said spokes, rails connected to the vehicle and adapted to rest upon said railway rollers and flexible connectors which so connect the several rollers that as some spokes are thrust outward, others are retracted.

3. Means for supporting vehicles of the kind referred to comprising feet which are adapted to be placed successively on the ground, movable spokes carrying said feet, railway rollers mounted in said spokes, rails connected to the vehicle and adapted to rest upon said railway rollers and flexible connectors adapted to keep railway rollers in contact with the rails and springs adapted to offer yielding resistance to outward movement of the railway rollers and spokes.

4. Means for supporting vehicles of the kind referred to comprising feet which are adapted to be placed successively on the ground, movable spokes carrying said feet, railway rollers mounted in said spokes, rails connected to the vehicle and adapted to rest upon said railway rollers and flexible connectors adapted to keep the railway rollers in contact with the rails and other rollers carried by the several spokes and embraced by said connectors.

5. Means for supporting vehicles of the kind referred to comprising feet which are adapted to be placed successively on the ground, movable spokes carrying said feet, railway rollers mounted in said spokes, rails connected to the vehicle and adapted to rest upon said railway rollers and flexible connectors adapted to keep the railway rollers in contact with the rails and other rollers carried by the several spokes and embraced by said connectors other rollers carried by the several spokes and embraced by said connectors and springs offering yielding resistance to outward movement of the railway rollers and spokes.

979,448. RAIL-BOND. ROBERT L. DUNIVANT, Fort Worth, Tex. Filed Feb. 7, 1910. Serial No. 542,427.



1. In an electric railway, the combination with conductors, of a bond, disks carried by the ends of said bond and adapted to engage the under surface of said conductors, and yieldable means engaging said disks for holding the same in engagement with said conductors.

2. In an electric railway, the combination with conductors, of a bond, clamps carried by said conductors, each clamp provided with a socket formed therein, spring means positioned within each socket, said bond adapted to overhang the sockets, and said spring means adapted to engage said bond for holding the same in engagement with said conductors.

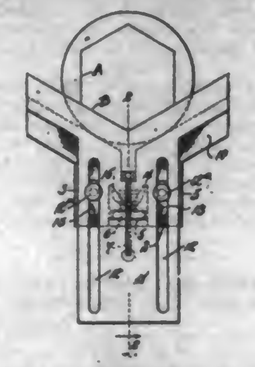
3. In a device of the class described, the combination with a plurality of rails, of clamps engaging said rails, each clamp provided with a socket, a ledge formed around the upper end of said socket, a bond provided with enlarged ends, a washer carried by each enlarged end, a coil spring carried within said socket and adapted to engage said enlarged end for holding the same in engagement with said rails.

4. In a device of the class described the combination with a plurality of rails, of clamps secured to said rails, each clamp provided with a centrally located socket, said socket terminating at its upper end in an additional socket constituting a ledge, the upper surface of said clamp provided with a notch extending from the outside thereof to said additional socket constituting a ledge, a bond, said bond provided with enlarged ends, said enlarged ends adapted to be seated in said additional socket and adapted to extend through said notch, and means carried by said clamp and engaging said rails for securing the same in engagement with said rails.

5. A clamp of the class described, comprising a body portion provided with a bulged portion, said body portion provided upon one end with a transversely extending portion, said transversely extending portion provided with a bulged portion near its upper end adapted to engage the base of a rail, a transversely extending portion secured to the other side of said clamp, and a plate adapted to engage said last-mentioned transversely extending portion, means passing through said plate for securing the same to said last-mentioned transversely extending portion, and said plate provided with a bulged portion adapted to engage the base of a rail for securing the clamp firmly in engagement with said rail.

[Claim 6 not printed in the Gazette.]

979,449. POLYGON-INSCRIBER. BERNARD DWORSKY, New York, N. Y., assignor of one-half to Samuel C. Newman, New York, N. Y. Filed Dec. 17, 1909. Serial No. 533,542.

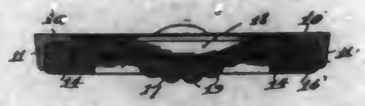


1. The herein described instrument for inscribing polygons on the end of a cylinder consisting of a gaging jaw, a sliding jaw, each jaw having two sides at a definite angle to each other, the left hand side of one jaw being parallel with the left hand side of the other jaw, the right hand side of one being parallel with the right hand side of the other, and means for guiding and sliding the same so that the apices of the angles of the two jaws will always be on a line bisecting the angle of the two jaws.

2. The herein described instrument for inscribing polygons on the end of a cylinder consisting of a gaging jaw, a sliding jaw, each jaw having two sides at a definite angle to each other, the left hand side of one jaw being parallel with the left hand side of the other jaw, the right hand side of one being parallel with the right hand side of the other, and means for guiding and sliding the same so that the apices of the angles of the two jaws will always be on a line bisecting the angle of the two jaws, and mechanical means for holding such movable jaw in the adjusted position.

3. The herein described instrument for inscribing polygons on the end of a cylinder consisting of a gaging jaw, a sliding jaw, each jaw having two sides at a definite angle to each other, the left hand side of one jaw being parallel with the left hand side of the other jaw, the right hand side of one being parallel with the right hand side of the other, and means for guiding and sliding the same so that the apices of the angles of the two jaws will be always on a line bisecting the angle of the two jaws, and a scale being provided on one jaw and a coöperating pointer on the other jaw.

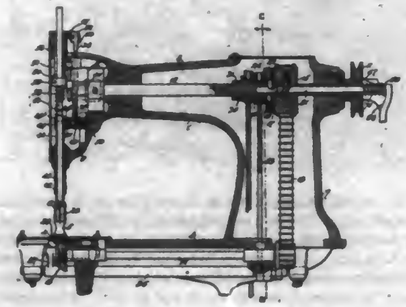
979,450. HORSESHOE. ORION E. DYSON, Chicago, Ill. Filed Apr. 11, 1908. Serial No. 426,540.



1. In a horseshoe, the combination of a metallic shoe having a horizontal plate portion and a downwardly-extended outer marginal rim or flange, and a cushion secured to the under surface of said shoe inside of said rim thereby being kept out of contact with the hoof and comprising a continuous soft tread having a downwardly-bowed central portion extending below the margin of said tread, substantially as described.

2. In a horseshoe, the combination of a metallic shoe having a downwardly extending rim, and a resilient cushion anchored to said shoe within the rim, said cushion comprising a marginal tread portion normally extending below said rim, and a convex central portion extending below said tread portion and made integral therewith at a point below the lower edge of the same, said cushion lying entirely below the shoe, substantially as described.

979,451. SEWING-MACHINE. GEORGE M. EAMES, Bridgeport, Conn., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Dec. 22, 1908. Serial No. 468,713.



1. In a sewing machine, the combination of stitch-forming mechanism including a needle-bar, an actuating mechanism therefor and an adjustable connection for determining the action and inaction of said needle-bar relatively to its actuating mechanism; cloth-feeding mechanism including adjustable coacting members for determining the action and inaction of the feeding mechanism relatively to its cloth-feeding movements; and controlling mechanism comprising a prime member operatively connected with the needle-bar and the cloth-feeding mechanism for determining the aforesaid actions and inactions of the needle-bar and feeding mechanisms, the adjustment of said prime member determining the time and extent of the seam formation, substantially as described.

2. In a sewing machine, the combination of stitch-forming mechanism comprising a needle-bar, a main driver, and connections for operatively connecting said needle-bar with said driver, said connections including coacting parts adjustable into and out of power transmitting relationship with each other during the stitch-forming movements of said driver; cloth-feeding mechanism comprising a feed-cam, a feed-dog and connections for operatively connecting said cam with said dog, said feed connections comprising coacting members adjustable relatively to each other for determining the action and inaction of said feed-dog relatively to its feed movements; and controlling mechanism comprising a prime member operatively connected with both the needle-bar and cloth-feeding mechanisms, the adjustment of said prime member determining the time and extent of seam formation, substantially as described.

3. In a sewing machine, the combination of an actuating shaft, needle actuating and feed actuating members upon said shaft, stitch-forming members including a needle operatively connected with the needle actuating member of said shaft, and feeding mechanism operatively connected with said feed-actuating member, and controlling means acting simultaneously upon said stitch-forming and feeding mechanism operated independently of said shaft whereby the stitch-formation and feed are simultaneously suspended without arresting the movement of said shaft.

4. A sewing machine comprising a main-driver, a needle-bar, connections for operatively connecting said bar with said driver including coacting members adjustable into and out of power transmitting relationship with each other, a feeding mechanism and a stitch-forming and feed-controlling mechanism; said feeding mechanism comprising a feed-cam, a feed-dog and connections for operatively connecting said cam with said dog including a feed rock-shaft adjustable into and out of driving relationship with said main-driver; and said controlling mechanism comprising a prime member for controlling the action and inaction of both the needle-bar and the feeding-mechanism; the adjustment of said prime member thus determining the extent of the seam formation.

5. A sewing machine comprising a main driver, a needle-bar, connections for operatively connecting said bar with said driver including coacting parts adjustable into and out of power transmitting relationship with each other, a loop-taker, a loop-taker carrier operated from said driver, a feed-cam carried by said driver and adjustable in a direction transverse to the axis of said driver, a feed-dog operatively connected with said feed-cam, a rock-shaft operatively connected with both the needle-bar and the feed-cam, the adjustment of said rock-shaft in one direction causing the needle-bar to be positioned at rest and the axis of said cam to be positioned in line with the axis of said main driver, thus discontinuing the stitch-formation and feed actuation during the continued operation of the main driver, substantially as described.

[Claims 6 to 8 not printed in the Gazette.]

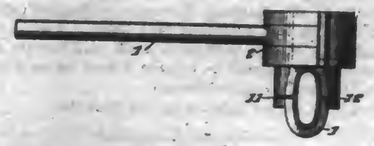
979,452. FREIGHT-CAR SEAL. GEORGE B. EDGAR, Sr., Iola, Kans., assignor of one-third to Luther C. Beatty, Iola, Kans. Filed June 10, 1909. Serial No. 501,284.



1. A car seal consisting of a metal strip adapted to be passed through an opening in the member to be sealed, said strip comprising a body section and oppositely bent terminal sections both disposed in overlapping relation to the body section and to each other and both extending across the member to be sealed, the said strip being transversely weakened at the bend between the outermost terminal section and body section to insure breaking of the said terminal section by bending the same back to initial position in opening of the seal.

2. A car seal consisting of a metal strip adapted to be passed through the member to be sealed, said strip comprising a central body portion and imperforate terminal sections arranged in overlapping relation by being bent backwardly over the body portion and around the member to be sealed, there being a transverse notch in one of the flat sides of the strip extending from one side edge to the other for weakening the material at the bend between the body portion and the outermost terminal section of the seal.

979,453. BICYCLE-LOCK. EDMUND E. EGGLESTON, Wichita, Kans. Filed Feb. 5, 1910. Serial No. 542,258.

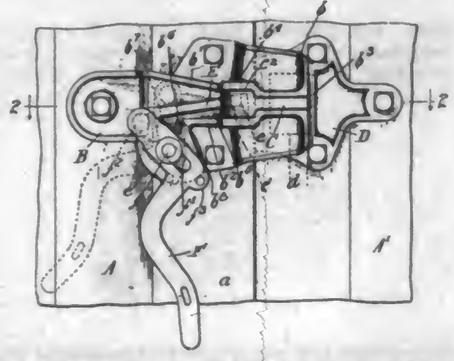


1. A lock comprising a case made in sections, spring-actuated pawls pivotally connected thereto, a bolt, and a locking member connected to the bolt and rotatably supported within the case and provided with two varieties of internal notches adapted to be automatically engaged by the pawls, one variety of notches being adapted to co-act with the pawls to lock the bolt in position, and the other variety of notches being constructed each with an inclined wall, whereby when said notches are engaged by the pawls, the bolt will be yieldingly held in position.

2. A lock comprising a case having an upper and lower section, a clamp connected to the lower section, means connecting the two sections together, spring-actuated

pawls pivotally mounted within the case, a bolt, and a locking member connected to the bolt, and rotatably supported within the case and provided with two varieties of internal notches adapted to be automatically engaged by the pawls, one variety of notches being adapted to co-act with the pawls to lock the bolt in position, and the other variety of notches being constructed with an inclined wall, whereby when said notches are engaged by the pawls, the bolt will be yieldingly held in position.

979,454. SLIDING-DOOR FASTENER. CHARLES EVTALIS, Chicago, Ill. Filed Apr. 6, 1908. Serial No. 425,385.



1. In a device of the class described the combination with a latch hook of means pivotally supporting the same, and a locking bolt adapted to engage said hook with one end and said supporting means with its other end and hold the hook in closed position.

2. In a device of the class described the combination with a pivotally supported latch hook having a finger thereon, of a supporting member therefor, and a locking bolt slidably engaged in said member and adapted when moved to locking position to engage said finger and throw the latch to closed position.

3. In a device of the class described the combination with a bracket of a latch hook pivoted thereon and a locking bolt movable longitudinally of the hook and adapted when in locking position to engage over said hook with one end and with the other end to engage a part on said bracket and hold the latch hook from movement.

4. In a device of the class described the combination with a bracket having a projection thereon, of a latch hook pivoted on said bracket, and a locking bolt movable longitudinally of said hook and adapted when in locking position to engage said projection and said hook and hold the latter from movement.

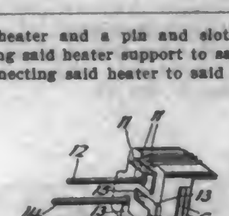
5. In a device of the class described the combination with a bracket of a laterally swinging latch hook pivotally engaged therein, and a locking bolt having a head on one end adapted to engage said latch hook, and having a hook on the other end adapted to engage a part on said bracket and lock the hook from movement.

[Claims 6 to 18 not printed in the Gazette.]

979,455. HEATER AND GLOWER RENEWAL FOR SECOND-CLASS-CONDUCTOR LAMPS. OTTO FOELL, ANTON KUSSBACH, and ROY NECKERMAN, Pittsburg, Pa., assignors, by mesne assignments, to Nernst Lamp Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Nov. 11, 1908. Serial No. 462,121.

1. In combination with a lamp glower, a base therefor provided with terminals, a heater, a non-conducting support for said heater and means for removably securing said heater support to said base and for electrically connecting said heater to said terminals.

2. In combination with a lamp glower, a base therefor provided with terminals, a heater, a non-conducting support for said heater and a pin and slot device for removably securing said heater support to said base and for electrically connecting said heater to said terminals.



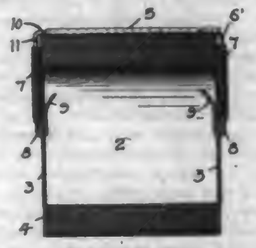
3. In combination with a lamp glower, a base therefor provided with terminals, a heater, a non-conducting support for said heater and a sliding connection for removably securing said heater support to said base and for electrically connecting said heater to said terminals.

4. In combination with a lamp glower, a support base therefor, electrical terminals located on said base, a heater, a support for said heater, prongs for removably securing said heater support to said base and for electrically connecting said heater to said terminals.

5. In combination with a lamp glower, a support base therefor provided with electrical terminals, a non-conducting heater support, a heater carried thereby, metallic prongs provided on said base for removably securing said heater support thereto and for electrically connecting said heater to said terminals.

[Claim 6 not printed in the Gazette.]

979,456. RIBBON-HOLDING DEVICE. MABEL LAWRENCE FOAD, Pequot, Minn. Filed Apr. 6, 1910. Serial No. 553,788.

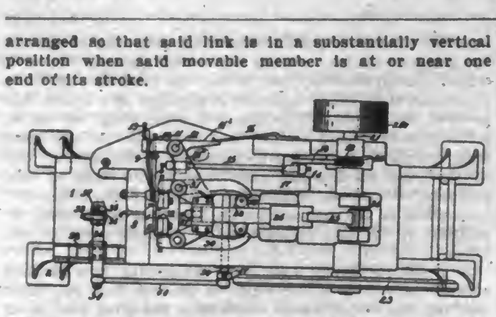


1. A ribbon holder comprising two telescoping members, the inner surface of one member being in frictional contact with the outer surface of the other member, said frictional contact preventing the accidental movement of one member upon the other but permitting them to be pushed together or pulled apart, and yielding means attached to the ends of said members and adapted to engage the heads of a ribbon spool, for the purpose specified.

2. A ribbon holder comprising a tube having an inwardly turned end, a rod also having an inwardly turned end and slidable within said tube and in frictional engagement therewith, and yielding means attached to the inwardly turned ends of said tube and rod and having means for connection with the heads of a ribbon spool.

979,457. WIRE-NAIL MACHINE. JOHN H. FRANCIS, Cleveland, Ohio, assignor to The Kilby Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Apr. 15, 1908. Serial No. 427,177.

1. In a machine of the character set forth, the combination of a feed block, a shaft, a member connected with said shaft and movable thereby toward and from said feed block, a rock shaft having a pair of arms, a connection between one of the arms of said rock shaft and the feed block, and a link connecting the movable member with the other arm of said rock shaft, the parts being arranged so that said link is in a substantially vertical position when said movable member is at or near one end of its stroke.



2. In a machine of the character set forth, the combination of a shaft, a feed device, and connections between said shaft and said device, said connections comprising a member connected to the shaft to be reciprocated thereby, a bell crank lever having one arm extending substantially parallel with the direction of movement of said member and having its other arm extending at substantially right angles to the other arm, a link connecting the other arm to said member, and a link connecting the latter arm to the feed device.

3. In a machine of the character set forth, the combination of an anvil block, a shaft, a feed block, and connections between said shaft and said feed block, said connections comprising a member connected with the shaft and reciprocable toward and from the anvil block, a rock shaft having thereon a pair of arms arranged at substantially right angles to each other, one of said arms being substantially parallel with the direction of movement of said member, a link connected with the latter arm and with the movable member and arranged to be in a position at substantially right angles to the direction of movement of said member when said member is in its most remote position from the anvil block, and a connection between the other arm of said lever and the feed block.

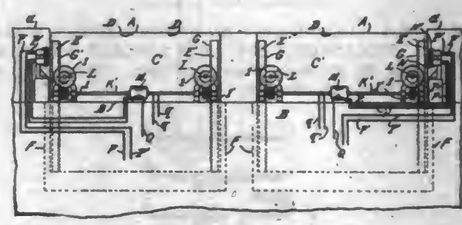
4. In a machine of the character set forth, the combination of an anvil block, a feed block on one side of said anvil block, a shaft on the other side of said anvil block, a member connected with said shaft and reciprocable thereby in a horizontal direction toward and from the anvil block, a rock shaft having a pair of arms connected thereto and extending at substantially right angles therefrom, one of said arms projecting rearwardly from said shaft and being substantially parallel with the direction of movement of said member and the other arm extending in a vertical direction from said shaft, a link connecting the former arm to the movable member and arranged to be brought to a vertical position at a material period of time before the member is at its most remote position from the anvil block, and a connection between the other arm and the feed block.

5. In a machine of the character set forth, the combination of an anvil block, a feed block on one side of said anvil block, a crank shaft on the other side of said anvil block, a member connected with said crank-shaft and reciprocable in a horizontal direction toward and from the anvil block, a rock shaft having a pair of arms connected thereto and extending at substantially right angles therefrom, one of said arms projecting rearwardly from said shaft and being substantially parallel with the direction of movement of said member and the other arm extending in a vertical direction from said shaft, a link connecting the former arm to the movable member and arranged to be brought to a vertical position at a material period of time before the crank shaft passes the center remote from said anvil block, and a vertically adjustable connection between the vertical arm and the feed block.

[Claims 6 to 8 not printed in the Gazette.]

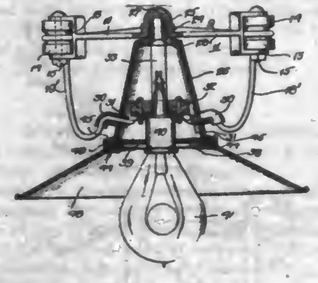
979,458. SAFETY-GATE. GEORGE R. FREAK, Chicago, Ill., assignor of one-half to John Roberts, Chicago, Ill. Filed Nov. 22, 1909. Serial No. 529,388.

1. A movable gate, an electric motor, switches, electric conductors from the motor to said switches, connections between the motor and the gate arranged so that revol tion of the armature of the motor in a given directi produces movement of the gate in a determined dire tion, a plurality of tracks of electric conducting materi on said gates, one of said tracks extending beyond t other in one direction and said other track extending b yond the first named one in the other direction, electr terminals registering with said tracks, and said trac movable on said terminals, a plurality of electric co ductors respectively connected to said terminals, to mot circuits and to switch terminals, so that when two said terminals are in electric connection with one of sa tracks and a corresponding switch is closed, a motor ci cuit is closed.



2. A vertically movable gate, geared racks connected the gate to move therewith, rotatably mounted gear pinions meshing with said racks, an electric motor co nected to said pinions to rotate the pinions in a directi corresponding with the direction of rotation of the sha of the motor, switches, electric conductors from the mot to said switches, a plurality of electric conductors said gates, one of said conductors extending upward b yond the other, and said other conductor extending dow ward beyond the first named one, electric terminals regi tering with and on which said conductors move, a pl rality of additional electric conductors respectively co nected to said terminals, to motor circuits and to switc terminals so that when two of said terminals are in ele tric connection with one of said conductors on said ga and a corresponding switch is closed, a motor circuit closed.

979,459. ELECTRIC STREET-LIGHTING. CARL HEN FROELICH, St. Louis, Mo. Filed July 5, 1910. Seri No. 570,326.



1. In electric street lighting, the combination of a su pension-member having three arms, flexible supporti elements respectively connected to said arms, a lam holder secured to said member, and an electric-light sock supported by said holder.

2. In electric street-lighting, the combination of a su pension-member having three arms, flexible supporti elements respectively connected to said arms, an insulat at the outer end of each arm, a lamp-holder secured said member, and an electric socket supported by sa holder.

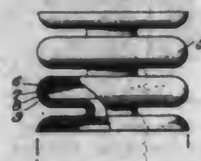
3. In electric street-lighting, the combination of a su pension-member having three arms, flexible supporting el ments respectively connected to said arms, each of sa arms having its outer end bifurcated, a lamp-holder s cured to said member, and an electric light socket su ported by said holder.

4. In electric street lighting, the combination of a suspension-member having three arms, flexible supporting elements respectively connected to said arms, each of said arms having its outer end bifurcated, insulators in the bifurcated end of each arm, a lamp-holder secured to said member, and an electric light socket supported by said holder.

5. In electric street lighting, the combination of a suspension member, flexible supporting elements connected to said member, a shell secured to said member, an electric lamp-socket in the shell, a plate for closing the bottom of said shell, said shell having openings in its side for the leading-in wires, and means for protecting said openings.

[Claims 6 and 7 not printed in the Gazette.]

979,460. FLEXIBLE CORRUGATED-METAL WALL FOR COLLAPSIBLE AND EXPANSIBLE VESSELS. WESTON M. FULTON, Knoxville, Tenn. Filed May 5, 1909. Serial No. 494,202.



1. A collapsible and extensible corrugated wall composed of superimposed layers of sheet metal.

2. A collapsible and extensible corrugated tubular wall composed of superimposed layers of sheet metal.

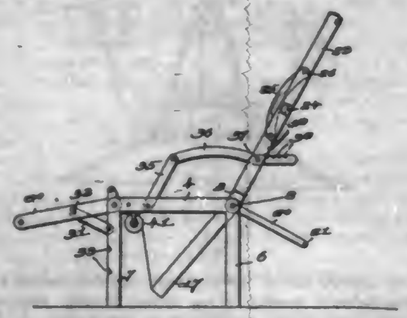
3. A collapsible and extensible corrugated tubular wall composed of superimposed layers of sheet metal and lubricating material between the layers.

4. A collapsible and extensible corrugated tubular wall composed of superimposed layers of sheet metal one of which layers differs from the other in its chemical properties.

5. A flexible corrugated wall composed of a plurality of thin layers having a film of lubricant between said layers.

[Claims 6 to 9 not printed in the Gazette.]

979,461. COMBINED BED AND CHAIR. FRANCIS G. GALE, Waterville, Quebec, Canada. Filed Aug. 3, 1907. Serial No. 386,976.



1. A combined bed and chair comprising two sections pivoted together, one of which is shorter than the other and the shorter of which constitutes the head section of the bed and the seat section of a chair, and the longer of which constitutes the foot section of the bed and when tipped up at an angle constitutes the back of a chair, legs secured to the shorter section for supporting the device when it is converted into a chair, and a wire fabric extending from the outer end of the foot section to the opposite end of the head section and suspended at its ends to said sections.

2. A combined bed and chair comprising two sections pivoted together, one of which is shorter than the other and the shorter of which constitutes the head section of the bed and the seat section of a chair, and the longer of which constitutes the foot section of the bed and when tipped up at an angle constitutes the back of a chair, legs secured to the shorter section for supporting the device when it is converted into a chair, a wire fabric extending from the outer end of the foot section to the opposite end of the head section and suspended at its ends to said sections, and means to hold the portion of the fabric corresponding to the foot section in fixed relation thereto regardless of the relative positions of the head and foot sections.

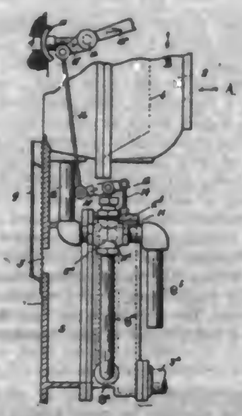
3. A combined bed and chair comprising two sections pivoted together, one of which is shorter than the other and the shorter of which constitutes the head section of the bed and the seat section of a chair, and the longer of which constitutes the foot section of the bed and when tipped up at an angle constitutes the back of a chair, legs secured to the shorter section for supporting the device when it is converted into a chair, a wire fabric extending from the outer end of the foot section to the opposite end of the head section and suspended at its ends to said sections, and means to maintain a proper tension on the wire fabric in all adjusted positions of the foot section.

4. A combined bed and chair comprising two sections pivoted together, one of which is shorter than the other and the shorter of which constitutes the head section of the bed and the seat section of a chair, and the longer of which constitutes the foot section of the bed and when tipped up at an angle constitutes the back of a chair, legs secured to the shorter section for supporting the device when it is converted into a chair, a wire fabric extending from the outer end of the foot section to the opposite end of the head section and suspended at its ends to said sections, and a member pivoted to the head section and constituting either a foot rest or a portion of the head frame of the bed according to its position.

5. In a combined bed and chair, the combination with a frame presenting a head section having means to firmly support it on the floor, and a foot section pivoted to the head section, of a wire fabric sustained by the frame, said foot section having arms 20 extending therefrom adjacent the point of pivotal connection with the head section, and tensioning means carried by the arms and arranged to hold the foot portion of the fabric in proper position in any adjusted position of the foot section of the frame.

[Claim 6 not printed in the Gazette.]

979,462. FEED-WATER HEATER AND SEPARATOR. JOSEPH WILLARD GAMBLE, Philadelphia, Pa., assignor to Joseph S. Lovering Wharton, William S. Hallowell, and John C. Jones, doing business under the firm-name of Harrison Safety Boiler Works, Philadelphia, Pa. Filed Jan. 18, 1910. Serial No. 538,733.



1. In a combined heater and separator, a drip for said separator; a valve intermediate the heater and separator; a valve in said drip, and connecting means for coöperatively moving said valves.

2. The combination of a heater having an overflow; a separator; a valve intermediate the heater and separator; a drip connection from said separator having one outlet connected to the overflow, and another outlet exterior thereof; another valve connected with said first mentioned valve and situated intermediate and controlling the two outlets; and means for operating both valves coöperatively.

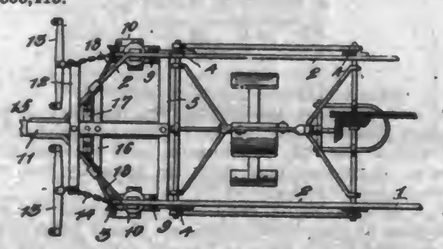
3. The combination of a heater having a water sealed overflow chamber; a separator; a valve intermediate the heater and separator; an auxiliary outlet from said separator; a drip connection from said separator connecting it with the overflow chamber; an auxiliary outlet for said drip connection; and means for alternately cutting out the separator from communication with the overflow chamber, and with the auxiliary drip outlet.

4. The combination of a heater having a water sealed overflow chamber; a separator; an auxiliary outlet from said separator; a valve intermediate the heater and separator; a drip connection from said separator connected to said overflow chamber, and means for interrupting the connection between the separator and the overflow chamber when the valve intermediate the heater and separator is closed.

5. In a combined heater and separator provided with an overflow chamber; a drip connection from said separator provided with two outlets; a valve intermediate the heater and separator and controlling the flow of exhaust steam therethrough; a valve in the separator drip connection for successively controlling the drip discharge through said outlets; and means for coöperatively moving said valves.

[Claims 6 to 8 not printed in the Gazette.]

979,463. COTTON-CHOPPER. JAMES WILLIAM GARRETT, Elk City, Okla. Filed Dec. 29, 1909. Serial No. 535,415.



1. In a cotton chopper, a main frame comprising upper and lower pairs of longitudinal bars, a stub tongue rigidly secured between the forward ends of the upper bars, a transverse guide member secured to said bars, a pivoted tongue transversely movable on said guide member, a caster secured to the forward end of each of the lower longitudinal bars, and link rods connecting said casters to said pivoted tongue for simultaneous pivotal movement.

2. In a cotton chopper, a main frame comprising upper and lower longitudinal bars, transverse bars connecting the upper longitudinal bars, a draft tongue pivoted to one of said transverse bars, means for supporting said tongue, a caster secured to the forward end of each of the lower longitudinal bars, and a link rod connecting each of said casters to said pivoted tongue for simultaneous pivotal movement.

3. In a cotton chopper, a wheel supported frame, a forwardly extending stub tongue secured to said frame, a transverse guide carried by said frame, a pivoted draft tongue arranged beneath said stub tongue and movable in said guide, an inverted U-shaped bar transversely disposed and pivoted to the under side of said draft tongue, casters secured to the forward end of said wheel supported frame, a laterally extending arm secured to each of said casters, and link rods connecting the ends of said pivoted U-shaped bar to said arms.

979,464. LIGHTNING-ARRESTER. WILLIAM B. GARTON, Chicago, Ill., assignor to Charles J. Griffin, Montezuma, Iowa. Filed Nov. 11, 1907. Serial No. 401,573.



1. A lightning arrester, comprising terminals in separated relation, and an equalizing body having the qualities of absorbing moisture from humid air and giving off moisture to drier air, interposed between said terminals.

2. In a lightning arrester, separated terminals, and an interposed equalizing body of material having qualities of absorbing moisture from humid air and giving off moisture to drier air, contacting with one terminal and electrically insulated from the other terminal.

3. In a lightning arrester, separated terminals, an interposed equalizing body of material of hygroscopic character, contacting with one terminal and electrically insulated from the other terminal, and an envelop of material absorbent by capillary action surrounding said equalizing body.

4. In a lightning arrester, separated nonoxidizing terminals, an interposed comminuted, hygroscopic, equalizing body, and an asbestos casing surrounding and giving form to said comminuted body.

5. In a lightning arrester, separated carbon terminals, an interposed body of comminuted, hygroscopic substance, contacting with one terminal and insulated from the other, and a casing surrounding the said body.

[Claims 6 to 18 not printed in the Gazette.]

979,465. METHOD OF TREATING CARBON ELECTRODES. WALTER GASTON, New York, N. Y. Filed Mar. 9, 1910. Serial No. 548,162.

1. The process of treating carbon electrodes, which consists in immersing the finished carbon electrode in a boiling solution of liquid hydrocarbon, allowing the electrode to remain in the solution until it becomes thoroughly impregnated therewith, the liquid hydrocarbon being retained therein as such.

2. The method of preventing cracking in electric carbons while in use which consists in subjecting the hot electrode as it comes from the baking furnace to the action of a hot solution of boiling tar and pitch allowing the electrode to become thoroughly saturated with said solution, which is retained therein as such.

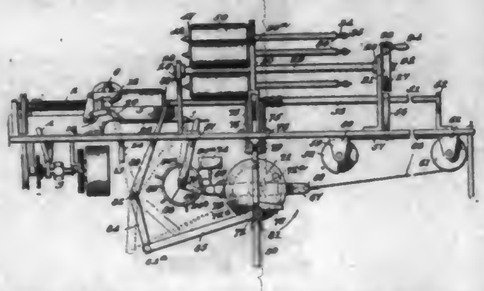
3. The process of providing a finished carbon electrode with a second binder, which consists in immersing the hot electrode as it comes from the baking furnace in a boiling solution of pitch and tar, allowing the cracks and pores of the electrode to become filled with the solution, the same being retained therein as such.

4. The method of automatically preventing cracking in large carbon electrodes, which consists in saturating the hot electrode as it comes from the baking furnace with a

thick hydrocarbon solution which is retained as such in the electrode.

5. As an article of manufacture, a carbon electrode which has been baked in the regular baking furnace and whose cracks and pores have been saturated with a thick boiling hydrocarbon liquid and which is retained in there as such.

979,466. MULTIPLE-RECORD GRAPHOPHONE. ALPHONSE J. K. GENELLA, New Orleans, La., assignor, by mesne assignments, to George H. Underhill, Boston, Mass. Filed July 31, 1905. Serial No. 271,939.



1. The combination with a stylus and feeding means therefor, of a rotary disk, a plurality of reciprocating spindles mounted on said disk, records carried by said spindles, means for reciprocating said spindles, means for intermittently rotating said disk, means for returning said stylus to its initial position, and power controlled mechanism operatively associated with said respective means.

2. The combination with a stylus and feeding means therefor, of a rotary disk, a plurality of reciprocating spindles carried by said disk, an interlocking plunger rod for said spindles, means for operating said plunger rod, means for intermittently rotating said disk, means for returning said stylus to its initial position, and power controlled mechanism operatively associated with said respective means.

3. The combination with a stylus and feeding means therefor, of a rotary disk, a plurality of reciprocating spindles carried by said disk adapted to support the records, a plunger rod, spring fingers on said plunger rod forming an interlocking means between same and said spindle, means for reciprocating said plunger rod, means for intermittently rotating said disk, means for returning said stylus to its initial position, and power controlled mechanism operatively associated with said respective means.

4. The combination with a stylus and feeding means therefor, of a rotary disk, a plurality of reciprocating spindles carried by said disk adapted to support the records, a stop for limiting the reciprocation of said spindles, heads formed on one end of said spindles, a plunger rod, spring clips having depressed portions carried by said plunger rod, adapted to spring over said headed portion of the spindles and form a detachable interlocking means between one of said spindles and said plunger rod, means for reciprocating said plunger rod, means for intermittently rotating said disk, means for returning said stylus to its initial position, and power controlled means operatively associated with said respective means.

5. The combination with a stylus and feeding means therefor, of a rotary disk provided with ratchet teeth on its peripheral edge, a plurality of reciprocating spindles carried by said disk and adapted to support the records, means for reciprocating said spindles, means for intermittently rotating said disk, comprising a reciprocating spring controlled pivoted pawl engaging said disk, and composed of spaced side bars and a lateral top plate forming an engaging tooth, means for returning said stylus to its initial position, and power controlled mechanism operatively associated with said controlling means.

[Claims 6 to 8 not printed in the Gazette.]

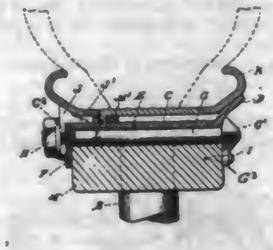
979,467. TELEPHONE-MOUTHPIECE. GEORGE WILLIAM GIBBERD and OWEN AUBREY ELIAS, London, England. Filed May 28, 1909. Serial No. 499,048.



1. Means for disinfecting telephone mouthpieces comprising a sleeve threaded at one end to fit into the telephone transmitter and threaded at the opposite end to receive the telephone mouthpiece, said sleeve having radial openings therethrough, and a disinfectant container surrounding said sleeve and supported entirely thereby.

2. In means for disinfecting telephone mouthpieces from the rear, the combination with the mouthpiece, of a screwed sleeve between the mouth-piece and the transmitter, radial perforations in said sleeve, and a refillable antiseptic container fitted on said sleeve, as set forth.

979,468. AUTOMOBILE-WHEEL. JOSEPH M. GILBERT, Mount Vernon, N. Y. Filed Aug. 3, 1909. Serial No. 511,025.



1. A demountable tire-carrying rim composed of two annular members contacting in a plane perpendicular to the axis of the rim, each member being provided with a series of inter-engaging rigid lugs extending from the members toward said axis of the rim.

2. A demountable rim comprising two annular members contacting at their lateral edges, one of said members being provided with a series of inwardly extending lugs, the other member being provided with a corresponding series of lugs which extend inwardly, then laterally beyond said edge and then circumferentially to engage with the rear surfaces of the lugs of the first mentioned member.

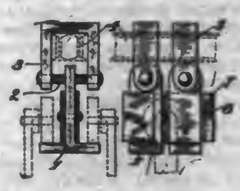
3. A demountable wheel rim comprising two annular members provided with inwardly extending interengaging lugs near their abutting edges and a locking member extending between two of said lugs to prevent circumferential movement of one annular member with respect to the other.

4. A demountable tire-carrying rim comprising two annular abutting members provided with rigidly attached lugs near their abutting surfaces, the lugs of one member extending inwardly, the lugs of the other member extending first inwardly, then laterally toward the first mentioned member and between the lugs of said first mentioned member and then circumferentially behind the lugs of said first mentioned member.

5. A demountable rim composed of two sections placed edge to edge and forming when so placed a substantially continuous even outer surface for the tire, each section being provided with rigid lugs extending radially from the side edges of each section and forming a continuation thereof and adapted to interlock within the inner circumference of the rim.

[Claims 6 and 7 not printed in the Gazette.]

979,469. TRANSPORTER-RAIL. FREDERICK JOSEPH GILMAN, Montreal, Quebec, Canada, assignor of one-fourth to Hugh Andrew Allan, Montreal, Canada. Filed Mar. 1, 1909. Serial No. 480,759.



1. A flexible rail section comprising a plurality of blocks, a suspension beam, and means for suspending the blocks from said beam.

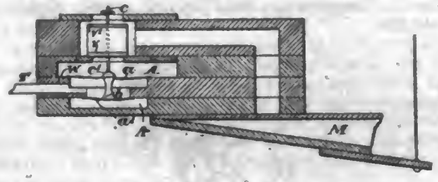
2. A flexible rail section comprising a plurality of blocks, a suspension beam, and means for suspending the blocks from said beam, said means being adapted to allow slight independent lateral movement of the separate blocks.

3. A flexible rail section comprising a plurality of blocks, a suspension beam, means for suspending said blocks from said suspension beam, and means for forming said blocks into a continuous curve.

4. A flexible rail section comprising a plurality of blocks, a suspension beam provided with a hinge joint, and means for suspending said blocks from said suspension beam.

5. A flexible rail section comprising a plurality of blocks, a suspension beam provided with a hinge joint, means for suspending said blocks from said beam, and means for forming said blocks into a continuous curve.

979,470. AUTOMATIC PIANO-PLAYER. CHARLES EDWARD GITTINS, Twickenham, England. Filed Dec. 3, 1909. Serial No. 531,240.



1. In an automatic piano player, the combination of a pneumatic, a tracker board, a pipe communicating therewith, a valve for controlling said pneumatic, and a valve controlling device, comprising two members of different sizes acting in opposition to each other, one side of each member being in communication with the tracker board through said pipe.

2. In an automatic piano player, the combination of a pneumatic, a tracker board, a pipe communicating therewith, a valve for controlling said pneumatic, and a valve controlling device, comprising two members of different sizes acting in opposition to each other, one side of both members being acted upon by the same pressure while the other side of each member is in communication with the tracker board through said pipe.

3. In an automatic piano player, the combination of a pneumatic, a tracker board, a pipe communicating therewith, a valve for controlling said pneumatic, an operating chamber, and a valve controlling device located within said chamber, comprising two members of different sizes acting in opposition to each other, one side of each member being in communication with the tracker board through said pipe.

979,471. BARRETTE. EARL C. GLINES, Leominster, Mass., assignor of two-thirds to Ida E. Glines and one-third to J. Winn Bond, Providence, R. I. Filed June 14, 1909. Serial No. 501,932.

1. An article of the character described comprising a body portion provided with toothed end portions formed integral with said body portion, said toothed end portions being folded back upon the back of said body portion.

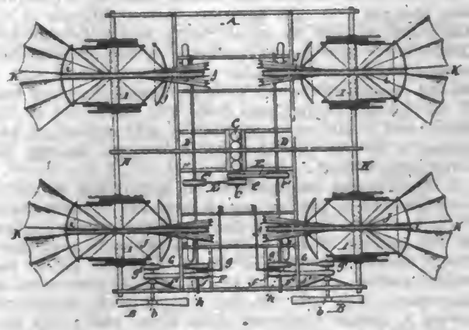


2. An article of the character described comprising a body portion provided with toothed end portions folded back upon the back of said body portion, the teeth of said end portions being slanted away from the center of said body portion.

3. An article of the character described comprising a body portion provided with toothed end portions folded back upon the back of said body portion, the free ends of the teeth of said end portions being bent transversely away from the back of said body portion.

4. An article of the character described comprising an elongated curved body portion provided with toothed end portions formed integral with said body portion and folded back upon the back of said body portion, the teeth of said end portions being arranged to slant longitudinally away from the center of said body portion, and the free ends of said teeth being bent transversely away from the back of said body portion.

979,472. FLYING-MACHINE. FRED GOEHNER, Buffalo, N. Y. Filed Sept. 27, 1909. Serial No. 519,744.



1. A flying machine comprising a lifting device having a vertically rotatable support, wings mounted on said support and each having arms pivoted on said support and webs connecting said arms, and operating means for separating said arms for unfolding the wings on the descending side of said support and gathering said arms for folding the wings on the ascending side of said support, said operating means comprising a stationary cam, radially movable slides engaging with said cams, and links connecting said slides with some of said arms.

2. A flying machine comprising a lifting device having a vertically rotatable support, wings mounted on said support and each having arms pivoted on said support and webs connecting said arms, and operating means for separating said arms for unfolding the wings on the descending side of said support and gathering said arms for folding the wings on the ascending side of said support, said operating means comprising a stationary cam, radially movable slides engaging with said cams, links connecting said slides with some of said arms and radial rods which are mounted on said support and on which said slides are guided.

3. A flying machine comprising a lifting device having a vertically rotatable wheel, a plurality of wings mounted on said wheel and each composed of sections arranged on opposite sides of the wheel and having an inner arm fixed on said wheel, intermediate and outer arms pivoted on the wheel, and webs connecting said arms, the arms of each

wing being successively one above the other so that the underside of the wing inclines upwardly from its front edge toward its rear edge, and means for folding and unfolding said wings.

4. A flying machine comprising a vertically rotatable support, wings arranged on said support and adapted to be unfolded on the descending side of said support and folded on the ascending side of said support, the underside of said wings being inclined from their front edges upwardly toward their rear edges.

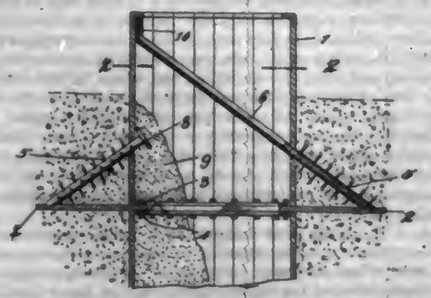
979,473. INKSTAND. FRIEDRICH LEO GOHL, Arlen, near Singen, Germany. Filed Jan. 16, 1909. Serial No. 472,757.



1. An inkstand comprising an ink reservoir, a vertically disposed tubular portion having an outwardly extending flange which seats on the upper end of the reservoir, said tubular portion being spaced from the adjacent walls of the reservoir, a centrally perforated elastic diaphragm stretched across the bottom end of said tubular portion and having its bounding edges turned upwardly to engage with the outer sides of the tubular portion, a clamping ring engaged over said upwardly turned portions of the diaphragm to hold the latter rigidly to the tubular portion, a cover having a part seating on the outwardly extending flange of the tubular portion and formed with a conical shaped wall which extends beyond the inner face of the tubular portion and below the upper end of the latter, and a dip cup supported by said diaphragm and having a tubular extension which projects through the perforation thereof.

2. An inkstand embodying an ink reservoir, a vertically arranged tubular portion spaced from the adjacent walls of the reservoir, means for supporting the tubular portion on the interior of the reservoir, a centrally perforated elastic diaphragm stretched across the lower end of the tubular portion, a clamping ring to hold the diaphragm in engagement with the tubular portion, said diaphragm having a normal horizontal disposition, and a dip cup supported by the diaphragm and having a tubular extension which projects through the aperture thereof.

979,474. APPARATUS FOR THE CONSTRUCTION OF SUPPORTS FOR BUILDINGS AND OTHER STRUCTURES. JOHN BYRON GOLDSBOROUGH, Croton, N. Y., assignor to The Underpinning Company, New York, N. Y., a Corporation of New York. Original application filed Mar. 19, 1909, Serial No. 484,499. Divided and this application filed Apr. 9, 1910. Serial No. 554,419.



1. A support, for a hollow structure composed of connected sections, comprising extensions therefrom projecting laterally into the adjoining soil or material, and secured to such structure by having their inner ends inserted between the joints of adjacent sections, and permanently and rigidly held in such position by being attached to such structure.

2. A support for a building or other structure, comprising a hollow foundation element and extended supports therefor projected laterally into the soil from within said foundation at a point or points intermediate of the top and bottom of said foundation, and means for rigidly and permanently securing said extended supports in place.

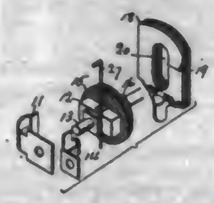
3. A support for a building or other structure, comprising a hollow foundation element, and extended supports therefor projected laterally into the soil from within said foundation at a point or points intermediate of the top and bottom of said foundation, and braces for rigidly and permanently holding said extended supports in position.

4. A support for a building or other structure, comprising a hollow foundation element, and extended supports therefor consisting of plates projected laterally into the soil from within said foundation at a point or points intermediate of the top and bottom of said foundation, and means for rigidly and permanently holding said extended supports in place.

5. A support for a building or other structure, comprising a hollow foundation element, and extended supports therefor consisting of plates projected laterally into the soil from within said foundation at a point or points intermediate of the said top and bottom of said foundation, and braces for rigidly and permanently holding said plates in position, engaging said plates outside the foundation, and anchorages for said braces at their inner ends.

[Claims 6 to 11 not printed in the Gazette.]

979,475. PULL-SOCKET FOR ELECTRIC LAMPS. GILBERT W. GOODRIDGE, Bridgeport, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a Corporation of Connecticut. Filed July 30, 1908. Serial No. 446,200.



1. A pull socket, having lamp-receiving terminals, a switch block and spindle, in combination with a ratchet disk on the spindle, a transverse pawl slide to engage the ratchet teeth, a return spring for the slide and two spring contacts coöperating with the switch block with a double break.

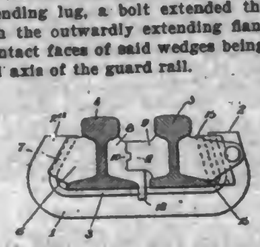
2. A pull socket having a switch block, and operating spindle in combination with a ratchet disk secured to the spindle with an insulating face adjacent to the switch block and a transverse slotted pawl slide guided by the spindle to coöperate with the ratchet, substantially as described.

979,476. EXPLOSIVE. CHARLES E. GRIFFING, Salt Lake City, Utah. Filed Aug. 24, 1910. Serial No. 578,770.

An explosive consisting of a granulated mixture of chlorate of potash 40%, and sugar 35%, mixed with comminuted coal 10%, black oxid of manganese 10%, and sugar of milk 5%.

979,477. GUARD-RAIL CLAMP. GEORGE L. HALL, New York, N. Y. Filed June 11, 1910. Serial No. 566,351.

1. A guard rail clamp comprising a yoke formed of a T-beam section having its web on the inner side of the yoke, a filler block, a pair of spacing blocks, a pair of clamping wedges one of said wedges being formed with side flanges adapted to engage the web on the inner side of one of the yoke arms, the other wedge being formed with an outwardly extending lug, a bolt extended through said lug and through the outwardly extending flange of the yoke arm, the contact faces of said wedges being oblique to the longitudinal axis of the guard rail.



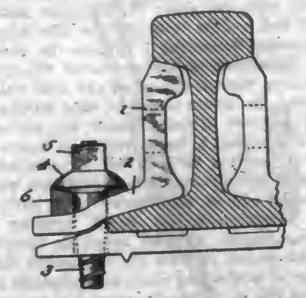
2. A guard rail clamp comprising a yoke formed on a T-beam section the arms of said yoke inclining inwardly and upwardly, the web of the T-beam being on the inner side of the yoke, a filler block, a pair of spacing blocks, a pair of clamping wedges, one of said wedges being formed with a side flange to engage the web of one of the yoke arms, the other wedge being formed with an outwardly extended lug at its larger end, and a bolt passing through said lug and through the flange of the yoke arm.

3. A guard rail clamp comprising a yoke formed of a T-beam section, a filler block, a pair of spacing blocks, a pair of clamping wedges, one of said wedges being rigidly secured to the inner side of one of the yoke arms, the other wedge being arranged between the rigid wedge and the guard rail, and a bolt connecting this latter wedge with the rigid wedge, and adapted to move said latter wedge longitudinally.

4. A guard rail clamp comprising a yoke, a filler block, a spacing means, and a pair of clamping wedges, each of said wedges being formed with lugs, and a clamping bolt extending through said lugs and through the yoke and adapted to draw said wedges toward each other, whereby said wedges will be clamped between the yoke and the guard rail.

5. A guard rail clamp comprising a yoke, a filler block, a spacing means, and a pair of clamping wedges, one of said wedges being formed with side flanges adapted to engage one of the arms of the yoke to hold said wedge stationary, the other wedge being arranged between the stationary wedge and the guard rail, and a bolt connecting the movable wedge with the yoke, whereby said wedge may be moved longitudinally.

979,478. RAIL-JOINT. GEORGE L. HALL, New York, N. Y. Filed June 11, 1910. Serial No. 566,352.

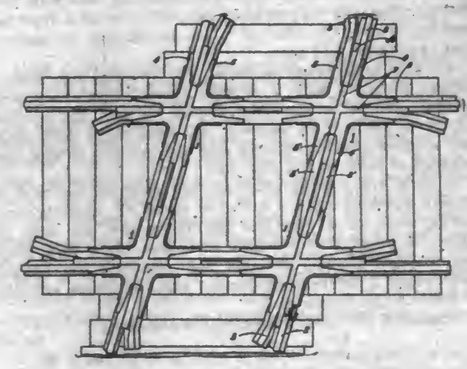


1. A rail joint comprising a splice-bar formed with a base flange provided with an aperture, a screw spike passing through said aperture and formed with a head, and a washer interposed between said screw spike head and the upper surface of the splice-bar base flange, the upper surface of said washer being shaped to conform to the under side of the screw spike head and adapted to hold said head against an outward lateral shifting movement, the under surface of said washer being shaped to conform to the upper surface of the base flange of the splice-bar.

2. A rail joint comprising a splice-bar formed with a base flange provided with an aperture, a screw spike passing through said aperture and formed with a head, said head being downwardly and inwardly inclined on its under surface, a washer interposed between said head and the upper surface of the splice-bar base flange, the upper surface of said washer being downwardly and inwardly inclined to correspond with the inclination of the under side of the screw spike head, the under surface of said washer being shaped to conform to the downwardly and outwardly inclined upper surface of the said base flange, whereby said washer will be higher on its outer side and will serve to hold the screw spike in a vertical position and to prevent an outward lateral shifting movement of the spike head.

3. A rail joint comprising a splice-bar formed with a base flange provided with an aperture, a screw spike passing through said aperture and formed with a head, said head being downwardly and inwardly inclined on its under surface, a washer interposed between said head and the upper surface of the splice-bar base flange, the upper surface of said washer being downwardly and inwardly inclined to correspond with the inclination of the under side of the screw spike head, the under surface of said washer being shaped to conform to the downwardly and outwardly inclined upper surface of the said base flange, whereby said washer will be higher on its outer side and will serve to hold the screw spike in a vertical position and to prevent an outward lateral shifting movement of the spike head, and a depending tie plate engaging lug formed on the under side of the washer and adapted to engage the upper surface of the tie plate.

979,479. RAILWAY-CROSSING. HENRY G. ELFBORG Chicago, Ill. Filed July 27, 1909. Serial No. 509,842



1. An intersection having intersecting grooves in t upper surface, two extensions at the end of each of t arms of said intersection, and a traffic rail and a gua rail fitted between and secured to the extensions of ea of said arms.

2. A reversible intersection having intersecting groov in its upper surface, traffic rails and guard rails, the fr end of each arm of said intersections being formed fit against the adjoining traffic and guard rails, the fitti ends of alining arms being of the same form.

3. A reversible intersection having intersecting groo in its upper surface, traffic rails and guard rails, the fr end of each arm of said intersection being formed to against the adjoining traffic and guard rails, the fitti ends of all of said arms being of the same form.

4. An intersection having flange grooves and elevat sections, said elevated sections being extended at t ends of the arms of said intersection beyond the ma body thereof and tapered.

5. In combination, an intersection having flange groo and elevated sections, said elevated sections being tended at the ends of the arms of said intersection yond the main body thereof, a traffic rail and a gu

rail between the extensions at the end of each arm, the ends of said traffic rails and extensions being tapered to form diagonal joints.

[Claims 6 to 13 not printed in the Gazette.]

979,480. TYPE-WRITING MACHINE. HENRY M. HAMILTON, Scranton, Pa., assignor to International Text Book Company, Scranton, Pa., a Corporation of Pennsylvania. Filed July 12, 1907. Serial No. 383,485.



1. In a typewriting machine, the combination of a type bar hanger and a type bar mounted thereon, one of said parts having a circular series of laterally projecting pins each supported at one end only and the other part having an eye to receive said pins, the type bar being adapted to turn about said pins.

2. In a typewriting machine, the combination of a type bar hanger and a type bar mounted thereon, one of said parts having a circular series of laterally projecting pins and the other part having an eye to receive said pins, the type bar being adapted to turn about said pins, and a screw passing through said eye and into the part carrying the pins, for the purpose set forth.

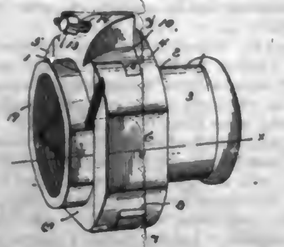
3. In a typewriting machine, the combination with a hanger provided with a circular series of laterally projecting pins each supported at one end only, of a type bar having an eye, the wall of which is adapted to encircle and bear upon said pins.

4. In a typewriting machine, the combination with a hanger provided with a circular series of laterally projecting pins, of a type bar having an eye, the wall of which is adapted to encircle and bear upon said pins, and a screw passing through said eye into the hanger and adapted to bear on the type bar.

5. In a typewriting machine, the combination with a hanger provided with a circular series of laterally projecting pins, of a type bar having an eye, the wall of which is adapted to encircle and bear upon said pins, and a screw passing through said eye into the hanger and having a laterally projecting annular flange adapted to bear on the type bar.

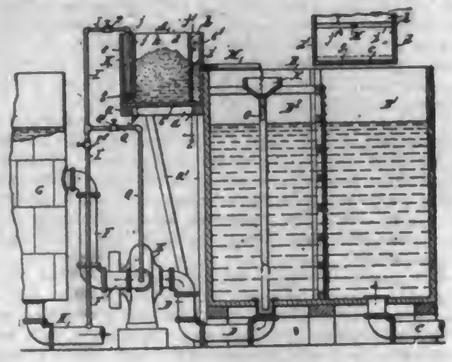
[Claims 6 to 8 not printed in the Gazette.]

979,481. HOSE-COUPLING. ED J. HANNOLD, Mexico, Mo., assignor, by mesne assignments, to C. M. Clay. Filed Aug. 7, 1905. Serial No. 273,126.



A coupling, comprising two interlocking members having enlarged abutting surfaces, vertically disposed wedge-shaped projections on one of the members, flanges on the opposite member in which are formed vertically disposed wedge-shaped recesses, there being centrally disposed openings formed through the members, one of which is internally threaded to receive an injector pipe and the other member being arranged to receive a flexible hose, there being a groove formed in the face of one of the members, an elastic gasket seated in said groove and normally projecting beyond the face of said member, a conical strainer having a laterally bent edge arranged to be held between the abutting faces of said members, a lug formed integral with the top of one of the members having a diagonally disposed internally threaded opening therethrough and a screw seated in said opening arranged to engage the opposite coupling member, said screw being arranged to force downwardly one member and hold the coupling members against leakage.

979,482. APPARATUS FOR PROVIDING ALUM SOLUTION FOR PAPER-MAKERS' USE. SAMUEL HARDMAN, Holyoke, Mass. Filed Jan. 27, 1909. Serial No. 474,614.



1. In an apparatus of the character described, a receptacle comprising an intermediate compartment for alum, a compartment at one side thereof for receiving water and having at the lower portion thereof communication with the intermediate compartment extending the full width of said intermediate compartment, and another compartment at the opposite side of the alum compartment and having a communication extending the entire width of the alum compartment above the bottom thereof, a filter, a reservoir for unfiltered water, a conduit leading from the reservoir to the filter, a pipe for delivering the water into the water receiving compartment having a connection with both the filter and the reservoir and filter connecting conduit and means for closing the communication respectively between said pipe and filter and between said pipe and the conduit and a pipe leading from the alum solution compartment and delivering it within the reservoir.

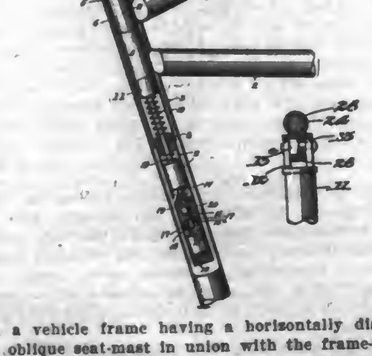
2. In an apparatus of the character described, a rectangular mixing tank provided at one side with a partition extending the entire width of said mixing tank and terminating a short distance above the bottom of the mixing tank, forming a water receiving compartment in one side of the mixing tank having a communication the entire width of the mixing tank, a partition wall secured in the opposite end of the mixing tank having a communication intermediate its depth forming an alum solution compartment, a water receiving receptacle having a suitable screen secured therein, means for drawing the water out of said water receiving receptacle and means for supplying the water to the receiving compartment of the mixing tank with water and means for discharging the alum solution at the mouth of the withdrawing means of the water receiving receptacle.

3. In an apparatus of the character described, a receptacle comprising an intermediate compartment for alum, a water receiving compartment at one side thereof having at its lower portion communication extending the full width of said compartment with the alum compartment and an alum solution compartment at the opposite side of the alum compartment having communication extending transversely the entire width of said compartment intermediate the top and bottom thereof, a filter, a reservoir for filtered water, a conduit leading from the reservoir to the filter, a pipe for delivering the water into the water receiving compartment having connection with the filter, a funnel provided with a downwardly disposed pipe secured in the reservoir, said downwardly disposed pipe terminating in the conduit leading from the reservoir to the filter whereby said alum solution is delivered into said conduit.

4. In an apparatus of the character described, a receptacle comprising an intermediate compartment for alum, a water receiving compartment at one side thereof having at its lower portion thereof communication extending transversely the entire width of said compartment with said alum compartment and an alum solution compartment at the opposite side of the alum compartment having communication extending transversely the entire width of said compartment intermediate the top and bottom thereof, a filter, a reservoir for filtered water, a conduit leading from the reservoir to the filter, a pipe for delivering the water into the water receiving compartment having connection with the filter, a funnel provided with a downwardly disposed pipe secured in the reservoir, said downwardly disposed pipe terminating in the conduit leading from the reservoir to the filter whereby said alum solution is delivered into said conduit.

5. In an apparatus of the character described, a receptacle comprising a compartment for alum, a water receiving compartment at one side thereof having at its lower portion communication with said alum compartment extending transversely the width of said alum compartment and an alum solution compartment at the opposite side of the one for alum, having a communication extending transversely the said alum solution compartment above the bottom thereof, a reservoir, a filter, a conduit leading from said reservoir to said filter, means for supplying water to the water receiving compartment, and means for delivering the alum solution at the mouth of the conduit leading from said reservoir to the filter, comprising a funnel having a downwardly disposed pipe suitably secured in said reservoir and terminating within the mouth of the conduit.

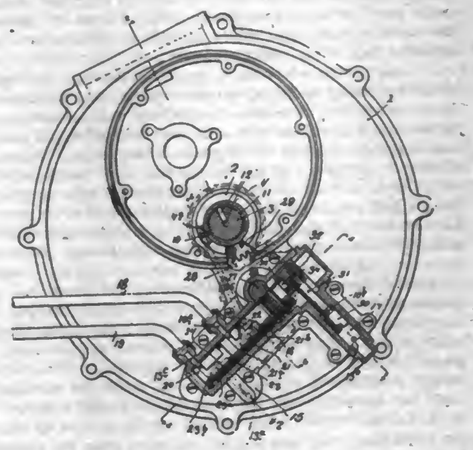
979,483. SPRING-SEAT POST. WILLIAM S. HARLEY, Milwaukee, Wis. Filed Apr. 30, 1910. Serial No. 558,598.



1. In a vehicle frame having a horizontally disposed bar, an oblique seat-mast in union with the frame-bar, a spring-controlled sleeve-post in telescopic connection with the seat-mast, and a seat-bar pivotally secured to said frame-bar; the combination of a head extending from the sleeve-post, a pin carried by the head, a bearing-block loosely mounted upon the pin, and a bracket secured to the seat-bar having a depending slotted ear, within which slot the bearing-block is fitted and adapted to have play.

2. In a vehicle frame having a horizontally disposed bar, an oblique seat-mast in union with the frame-bar, a spring-controlled sleeve-post in telescopic connection with the seat-mast, and a seat-bar pivotally secured to said frame-bar; the combination of a head secured to the sleeve-post, ears extending from the head, a pin carried by the ears, a bearing-block loosely mounted upon the pin between the ears, and a bracket secured to the seat-bar having a depending slotted ear, within which slot the bearing-block is fitted and adapted to have play.

979,484. LUBRICATOR SYSTEM. WILLIAM S. HARLEY, Milwaukee, Wis. Filed June 14, 1910. Serial No. 566,787.



1. In a lubricator system having an oil reservoir, a filter, and a pump mechanism; the combination of a housing, a rotatory plug seated within the housing, the plug and housing constituting valve members, two sets of oil grooves in one of the members, each set consisting of a circular and a semicircular transverse groove disposed upon different planes and connected by a longitudinal groove, an oil receiving and an oil discharge duct adapted to have alternate communication with the semicircular grooves of each set, the oil receiving duct of one set being in communication with the oil reservoir, and the oil discharge duct of the other set being in communication with the filter and oil reservoir, and an oil duct in constant communication with each circular groove and pump mechanism.

2. In a lubricator system, a double acting pump, a rotatory plug, a housing for the plug, the housing and plug constituting valve members, two sets of oil grooves in one of the members, each set consisting of a circular and a semicircular groove disposed upon different planes and connected by a longitudinal groove, an oil receiving and an oil discharge duct arranged to have alternate communication with the semicircular groove of each set, and an oil duct in constant communication with each circular groove and opposite ends of the pump cylinder.

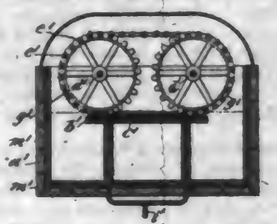
3. In a lubricator system for engines having incased crank shafts comprising an oil reservoir, a filter in communication with the reservoir and a double acting pump mechanism, a housing, a rotatory plug seated within the housing, an actuating gear connection between the pump and plug, two sets of transversely disposed oil grooves in the plug, each set consisting of a circular and a semicircular groove disposed upon different planes and connected by a longitudinal groove, an oil receiving and an oil discharge duct adapted to have alternate communication with the semicircular grooves of each set, the oil receiving duct of one set being in communication with the oil reservoir and the oil discharge duct being in communication with the engine crank shaft, the oil receiving duct of the secon

set being in communication with the crank casing and the oil discharge duct being in communication with the filter, and an oil duct in constant communication with each circular groove and opposite ends of the pump cylinder.

4. In a lubricator system, a rotatory plug, a housing for the plug, two sets of transversely disposed oil grooves in the periphery of the rotatory plug, each set consisting of a circular and an approximately semicircular groove disposed upon different planes and connected by a longitudinal groove, an oil receiving and an oil discharge duct arranged to have alternate communication with the semicircular groove of each set, a pump cylinder, a piston head reciprocatively mounted within the cylinder, a piston extending from the head, a cross-grooved block carried by the piston, a crank pin extending from the plug for engagement with the cross-groove of the block, and an oil duct in constant communication with each circular groove and opposite end of the pump cylinder.

5. In an engine having a crank casing and its crank shaft revolubly mounted in bearings of the casing; the combination of a lubricator comprising a housing secured to the crank casing, a valve plug revolubly mounted within the housing, two sets of oil grooves transversely disposed about the periphery of the valve plug, each set consisting of a circular and a semicircular groove upon different planes and connected by a longitudinal groove, oil receiving and oil discharge ducts in the housing arranged to have alternate communication with the semicircular groove of each set, a worm-wheel carried by said valve plug, a worm extending through the housing and crank casing for engagement with the worm-wheel, a gear-wheel secured to the worm, a second gear-wheel secured to the engine crank shaft in mesh with the gear-wheel carried by the worm, a pump cylinder extending from the housing, a piston head mounted within the pump cylinder, a piston extending from the head through one end of the pump cylinder, a block having a cross-head carried by the piston, a crank pin extending from one end of the valve plug for engagement with the cross-groove of the head, and an oil duct in constant communication with each circular groove and opposite ends of the pump cylinder.

979,485. ELECTROLYTIC CELL. DERICK S. HARTSHORN, Boston, and ALAN A. CLAFLIN, Medford, Mass. Filed Sept. 27, 1910. Serial No. 584,067.



1. In an electrolytic cell, two electrodes of opposite electric polarity, one of which is composed of a series of constituent members and is provided with means whereby these members, in continuous succession, are made to dip into the liquid electrolyte from above its level, to travel through the liquid electrolyte only just beneath the surface thereof with a velocity tending to agitate such surface, and thence to pass directly out of the liquid electrolyte; while the other electrode is located farther below the surface of the liquid electrolyte, opposite and in suitable proximity to the traveling electrode where the latter occupies its immersed position.

2. In an electrolytic cell, a movable electrode composed of a series of constituent members and provided with means whereby these members, in continuous succession, are made to dip into the liquid electrolyte from above its level, to travel through the liquid electrolyte only just beneath the surface thereof with a velocity tending to agitate such surface, and thence to pass directly out of the liquid electrolyte, in combination with a stationary electrode of opposite electric polarity, located farther below the surface of the liquid electrolyte in a position opposed and in suitable proximity to an immersed portion of the movable electrode.

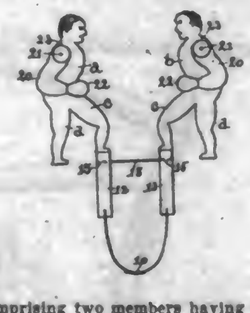
3. In an electrolytic cell, a movable electrode composed of a series of constituent members and provided with means whereby these members, in continuous succession, are made to dip into the liquid electrolyte from above its level, to travel through the liquid electrolyte only just beneath the surface thereof with a velocity tending to agitate such surface, and thence to pass directly out of the liquid electrolyte, in combination with a stationary electrode plate of opposite electric polarity, located farther below the surface of the liquid electrolyte, in a position parallel to the path of the immersed portion of the movable electrode and in suitable proximity thereto.

4. In an electrolytic cell, a movable electrode composed of a cyclic series of interconnected parallel bars supported partly above and partly below the level of the liquid electrolyte and provided with rotative means whereby they are made to travel in continuous succession in an endless course transverse to their length into and out of the liquid electrolyte, but only to become immersed therein just beneath its surface and to move through the same with a velocity tending to agitate such surface, in combination with a stationary electrode plate of opposite electric polarity located farther below the surface of the liquid electrolyte in a position parallel to the path of the immersed portion of the movable electrode and in suitable proximity thereto.

5. In an electrolytic cell, an electrode consisting of a rotary cylinder mounted on a horizontal axis, with its circumferential periphery mostly above, but having a lower segment dipping into and only just below the surface of the liquid electrolyte, in combination with a stationary electrode concentric to the segment of the rotary cylindrical electrode thus immersed, and located opposite and in suitable proximity thereto beneath the surface of the liquid electrolyte.

[Claims 6 to 8 not printed in the Gazette.]

979,486. TOY. FRANK E. HAYES, Boston, Mass., assignor of one-half to Edward S. McPherson, Boston, Mass. Filed Jan. 24, 1910. Serial No. 539,661.



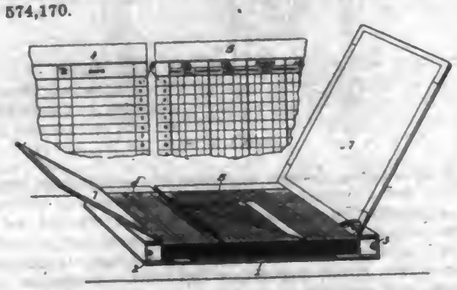
1. A toy comprising two members having the outline of men with one leg advanced, and provided with pivoted arms, said members being arranged in line with each other, supports to which the advanced legs of said members are secured, a substantially U-shaped spring having its free ends secured to said supports, and a flexible device connecting said supports to limit the expanding movement of said spring.

2. A toy comprising two members normally separated from each other and bodily movable toward each other, said members having the outline of men and each provided with arms bent at the elbow and pivoted at the shoulder to turn with the shoulder pivot as a center, a spring operatively connected with said members, and a stop to limit the rotary movement of said arms, substantially as described.

3. A toy comprising two members having the outline of men and provided with pivoted arms, supports for said members movable toward and from each other, and a spring connected with said supports to effect movement of the same away from each other.

4. A toy comprising two members having the outline of men and arranged facing each other, said members having rigid arms bent at the elbow and pivoted at the shoulder, the arm of one member being disconnected from the arms of the other member, and a bent spring having its free ends operatively connected with said members, substantially as described.

979,487. DUPLEX ACCOUNT-BOOK. KIDDER V. HAYMAKER, Defiance, Ohio. Filed July 27, 1910. Serial No. 574,170.



1. An account book having a plurality of sets of account sheets arranged side by side in contiguous relation, one at least of such sets being removably bound in the book and being capable of removal therefrom without disturbing the sheets of the other set.

2. An account book having a plurality of sets of account sheets arranged side by side in contiguous relation and ruled in registering order, and separate means for binding the sets together in registering position and permitting a removal of at least one set.

3. An account book comprising a base portion, leaf binding means at opposite ends of such portion, and a set of account sheets bound together by each of such means with their free ends projecting adjacent to each other, one at least of such sets being removably bound in the book.

4. A device of the class described comprising a base member having loose leaf binding means at opposite side edges thereof, a set of loose account sheets bound by each of such means, said sets of sheets projecting inwardly from such means with their free ends terminating in contiguous relation, said sets of sheets being ruled to register with each other at their inner ends.

5. In a device of the class described, a holder having loose leaf binding means at opposite ends thereof, a set of loose leaves secured together by one of said means and adapted for receiving data of a permanent nature and a set of loose leaves secured together by the other of said means and adapted for receiving data of a temporary nature, said sheets having their inner edges projecting in contiguous relation and having horizontal rulings which register at their contiguous ends.

[Claims 6 and 7 not printed in the Gazette.]

979,488. DUMPING-WAGON. JOHN HEBERLING, Rochester, N. Y. Filed July 13, 1907. Serial No. 383,604.



1. The combination with a wagon box and bottom sections thereon, of flexible connections for the sections, means for drawing the connections to close the sections, and means for equalizing the tension on the connections embodying two connected supports movable in opposite directions over which the connections travel.

2. The combination with a wagon box and bottom sections thereon, of flexible connections for the sections, means for drawing the connections to close the sections, means for equalizing the tension on the connections, comprising two vertically movable supporting devices over which the connections travel and connection between said devices causing one to move upwardly when the other moves downwardly, and means causing said equalizing means to effect the closing of one section in advance of the other.

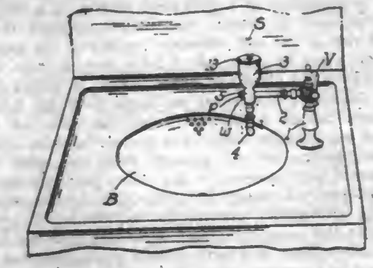
3. The combination with a wagon box and bottom sections thereon, of flexible connections for the sections, means for drawing the connections to close the sections, and equalizing means embodying two vertically movable pulleys arranged to turn about axes transverse to the longitudinal axis of the wagon box, over which the flexible connections are passed and a connection between said pulleys causing them to move in opposite directions.

4. The combination with a wagon box and bottom sections thereon, flexible connections secured at the rear of the box and engaging the sections and a shaft for winding the connections arranged in front of the box, of equalizing means embodying two guides supporting the flexible connections between the shaft and the box and a connection between said guides for moving them in opposite directions.

5. The combination with a wagon box and bottom sections thereon, of flexible connections for operating the sections, means for drawing the connections to close the sections and an equalizing means comprising an oscillatory lever and pulleys at the ends thereof on which the connections are supported, said pulleys rotating on axes extending transversely to the longitudinal axis of the box.

[Claims 6 to 17 not printed in the Gazette.]

979,489. DRINKING-FAUCET. JOSEPH P. HENNEY, East St. Louis, Ill., assignor to M. H. Foundry and Manufacturing Company, Belleville, Ill., a Corporation of Illinois. Filed Aug. 1, 1910. Serial No. 574,940.



1. In combination, with a conduit leading from a sour of water supply flowing under pressure, a cup coupled said conduit and communicating therewith, said cup ha ing a main discharge opening of relatively large cross-se tional area, and supplemental smaller ports located ad cent to, and surrounding the main opening, the axes the ports being disposed so as to direct the streams the from in substantial parallelism to the stream from t main opening and thereby preserve the integrity there and prevent the same from spreading.

2. In combination with a conduit leading from a sou of water supply flowing under pressure, a cup coupled said conduit and communicating therewith, said cup ha ing a main discharge opening of relatively large cross-s tional area, and supplemental smaller ports located ad cent to, and surrounding the main opening, the axes of ports being disposed so as to direct the streams therefr in substantial parallelism to the stream from the m opening, and thereby preserve the integrity thereof prevent the same from spreading, and means within

cup for regulating the height of the stream issuing from the cup.

3. A drinking faucet comprising a hollow member having an intake opening, a valve-casing in the hollow member communicating with said opening and provided with ports discharging the water from the point of intake into the chamber of the hollow member, a valve in said casing for regulating the flow through the ports aforesaid, the walls of the hollow member being provided with discharge openings for the purpose set forth.

4. A drinking faucet comprising a hollow cup having a bottom intake opening for the water, a hollow post secured in the cup around said opening and provided with an outer formation leaving an annular clearance between it and the inner walls of the cup, the post being provided with ports below said formation, a reciprocating valve-piece mounted in the post and having one end operating across the plane in which the ports aforesaid are disposed, means for adjusting said valve-piece from a point within the cup, and a removable top for the cup above the post and valve-piece, said top being provided with a main, and supplemental encompassing discharge ports for the purpose set forth.

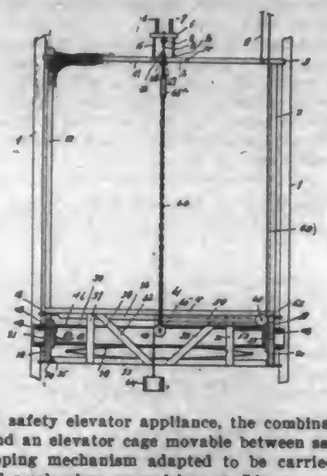
979,490. BACK-BAND BUCKLE. JAMES A. HENSON, Aubrey, Tex. Filed Oct. 18, 1909. Serial No. 523,290.



The combination in a backband buckle, of a base plate flat throughout its length, ears turned up from the plate at each side of one end, the opposite end of the base plate being cut away at each side, a hook formed from the cut away end of the plate and bent thereon, a spring locking tongue extending inward at an angle from the hook, the base plate having a transverse opening with one curved side and one straight side, teeth projecting from the plate into the opening on the straight side, the teeth having their points bent upward, a flat clamp plate having trunnions at one end engaging in the ears, the clamp plate having a transverse opening out of alinement with the opening of the base plate, teeth extending into the opening of the clamp plate, and having their points directed downward and in staggered relation to the teeth of the clamp plate, and a stop bent from the clamp plate at right angles and provided with a roughened face engaged by the spring locking tongue.

979,491. SAFETY APPLIANCE FOR ELEVATORS. PETER HINKEL, Youngstown, Ohio. Filed Dec. 9, 1909. Serial No. 532,230.

1. In a safety elevator appliance, the combination with guides, an elevator cage slidably mounted between said guides, and hoisting cables for elevating the cage, of a gripping mechanism adapted to be carried by said cage, said gripping mechanism comprising pivoted cam shaped members adapted to engage said guides, means adapted to normally maintain said members out of engagement with said guides, means adapted to release the first mentioned means due to an excessive speed of said cage, said means including a chain for retaining said cam shaped members in an inactive position, arms for holding said chain, speed levers for releasing the chain from said arms and means actuated on the breaking of a hoisting cable for actuating the speed levers.



2. In a safety elevator appliance, the combination with guides, and an elevator cage movable between said guides, of a gripping mechanism adapted to be carried by said cage, said mechanism comprising an I-beam, cam shaped members adapted to be moved by said I-beam to engage said guides, means engaging said I-beam and adapted to retain said members in an inactive position, and means actuated by an excessive speed of said cage for releasing the first mentioned means.

3. In a safety elevator appliance, the combination with guides, an elevator cage movable between said guides, and hoisting cables for elevating the cage, of a gripping mechanism adapted to be carried by said cage, said mechanism comprising an I-beam, cam shaped members adapted to be moved by said I-beam to engage said guides, means engaging said I-beam and adapted to retain said members in an inactive position, means actuated by an excessive speed of said cage for releasing the first mentioned means, said means including a chain, arms adapted to hold said chain, and shiftable speed levers actuated on the breakage of a hoisting cable for releasing the chain from said arms.

4. In a safety elevator appliance, the combination with guides, and an elevator cage movable between said guides, of a gripping mechanism adapted to be carried by said cage, said mechanism comprising an I-beam, pivoted cam gripping arms adapted to engage said guide, means carried by the ends of said I-beam and adapted to move said members into engagement with said guides, means carried by said cage and adapted to raise said I-beam and place said members in engagement with said guides, and means actuated by an excessive speed of said elevator cage for releasing the first mentioned means and placing said members in engagement with said guides, said means including a pivoted arm connecting with said I-beam, a chain connecting with said arm, arms adapted to normally hold said chain, and speed levers adapted to be moved to release said arms and the chain connected thereto.

979,492. SKIRT-GAGE. CHARLES WALTER HOGAN, Detroit, Mich., and STANLEY MURRAY MCCORMICK, Chatham, Ontario, Canada. Filed Oct. 7, 1909. Serial No. 521,635.

1. In a skirt gage, a base plate, a standard secured thereto, a slidable member mounted on said standard, means for securing the slidable member to the standard at any desired altitude, and a pair of horizontal gage bars secured to said slidable member adapted to be adjusted with reference to each other.

2. In a skirt gage, a base plate, a standard secured thereto, a slidable member mounted on said standard, means for securing the slidable member to the standard at any desired altitude, a pair of horizontal gage bars adjustable with reference to each other over which the skirt fabric may be folded to form a complete hem, and means for securing said gage bars when adjusted.



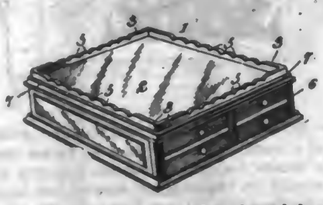
3. In a skirt gage, a base plate, a graduated standard secured thereto, a slidable member mounted on said graduated standard, means for securing the slidable member to the standard at any desired altitude, a pair of horizontal bars carried by said slidable member, one of which is fixedly secured thereto, the other being adjustable with reference to the first named bar, and means for securing said adjustable bar in the slidable member.

4. In a skirt gage, a base plate, a graduated standard rising therefrom, a slidable member forked to receive the graduated standard, a clamping screw adapted to secure the slidable member to the standard, a pair of horizontal bars carried by the slidable member, one of said horizontal bars being rigidly secured to the slidable member and the other adapted for adjustment with reference to the first named bar, and means for fixedly securing the adjustable bar in the slidable member.

5. In a skirt gage, a base plate, a graduated standard rising therefrom, a slidable member forked to receive the standard, a clamping screw adapted to engage the tines of the fork to secure the slidable member to the standard, and a pair of horizontal bars carried by the slidable member, the engaging end of each of the bars being off-set whereby the bars may stand in spaced relation to the standard.

[Claim 6 not printed in the Gazette.]

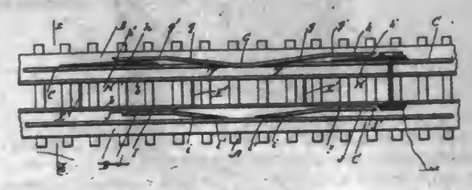
979,493. SANITARY DENTAL BRACKET-TABLE. GUSTAV HOLTZ, Gouldsboro, Pa. Original application filed Mar. 26, 1900, Serial No. 485,928. Divided and this aplication filed Mar. 9, 1910. Serial No. 548,231.



The combination with a wooden dental bracket table provided at the top with upwardly extending marginal flanges having vertical inner faces, of a shallow sanitary tray of a size to fit snugly within the marginal flanges of the table and consisting of a flat bottom and marginal walls having vertical outer faces to fit the inner faces of the marginal flanges, said marginal walls being extended above the marginal flanges of the table and provided with scalloped upper edges exposed above the said marginal flanges and forming instrument-receiving notches.

979,494. SAFETY-TRACK FOR RAILROADS. CHARLES R. HOWARD, Rosendale, N. Y. Filed Aug. 12, 1910. Serial No. 576,925.
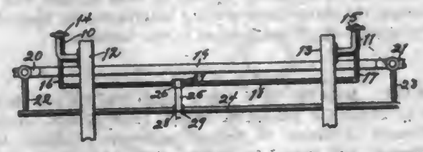
1. In a rail road, the combination, with two base plates provided with guard rails, of a continuous track rail secured to one base plate, a sectional track rail secured to the other base plate and forming a gap, and guide rails provided with inclined portions and secured to the said base plates, one of the said guide rails having a portion of its length arranged in the said gap of the sectional track rail.



2. In a rail road, the combination, with two base plates arranged parallel to each other and having guard rails, of track rails secured to the middle parts of the base plates, one of the said track rails being formed in sections and having a gap between its sections, a guide rail having a main portion arranged parallel to one track rail section and having a portion arranged in the said gap and having also an inclined portion, and a second guide rail having its main portion arranged adjacent to the continuous track rail and having an inclined portion arranged parallel to the inclined portions of the first said guide rail, said guide rails being secured to the said base plates and being adapted to return a derailed car to the track rails.

3. In a rail road, the combination, with two base plates arranged parallel to each other and having guard rails, of track rails secured to the middle parts of the base plates, one of the said track rails being formed in sections and having a gap between its sections, a guide rail having a main portion arranged parallel to one track rail section and having a portion arranged in the said gap and having also an inclined portion, a second guide rail having its main portion arranged adjacent to the continuous track rail and having an inclined portion arranged parallel to the inclined portion of the first said guide rail, and a short guide rail shaped like a double wedge and having one side flat and arranged adjacent to one track rail section beyond one end of the first said guide rail, said guide rails being secured to the said base plates and being adapted to return a derailed car to the track rails.

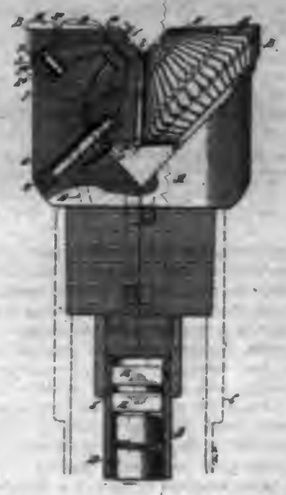
979,495. LAMP SUPPORTING AND TURNING MECHANISM. CHESTER A. HOWELL, Des Moines, Iowa. Filed Mar. 18, 1909. Serial No. 484,824.



1. A lamp supporting and turning mechanism, comprising lamp forks mounted for oscillation on vertical axes, arms on said forks, a rod extended between and pivoted to its ends to extremities of the arms, a bar pivoted at one end to said rod between said arms, a steering bar, collars on said steering bar, and a pin connecting said collars and arranged parallel with said steering bar, one end portion of said pivoted bar extending loosely through the space between said collars and between the pin and steering bar whereby said bar has a movement transversely of the steering bar to compensate for vertical oscillation of the rod relative to said steering bar.

2. A lamp supporting and turning mechanism, comprising lamp forks mounted for oscillation on vertical axes, arms on said forks, a rod extended between and pivoted to its ends to extremities of the arms, a bar pivoted at one end to and for oscillation on said rod between said arms, collars fixed to said rod on opposite sides of and adjacent to said pivoted bar, a steering bar, and sliding connection between said steering bar and the first bar.

979,496. ROLLER BORING-DRILL. HOWARD ROBERT HUGHES, Houston, Tex. Filed May 26, 1910. Serial No. 563,640.



1. A roller boring drill, comprising a head provided with an approximately conical-shaped spindle, and an approximately conical-shaped cutting roller mounted on said spindle.

2. A roller boring drill, comprising a head provided with a spindle having an approximately frusto-conical-shaped outer surface, and a roller mounted on said spindle and provided with an approximately frusto-conical-shaped cutting surface.

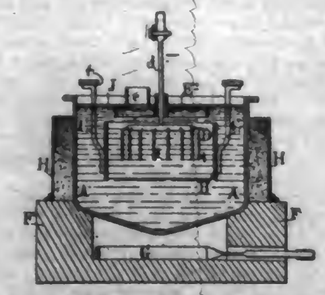
3. A roller boring drill, comprising a head provided with a tapered spindle, and a cutting roller mounted on said spindle and covering the end of same.

4. A roller boring drill, comprising a head provided with a tapered spindle having a reduced portion, a cutting roller mounted on said spindle and covering the end of same, and a device on said roller that projects into the reduced portion of said spindle so as to prevent the roller from moving longitudinally of the spindle.

5. A roller boring drill, comprising a head provided with a tapered spindle having a reduced portion, an approximately frusto-conical-shaped cutting roller rotatably mounted on said spindle, and a projection on said roller that fits in the reduced portion of said spindle and thus prevents the roller from moving longitudinally thereof.

[Claims 6 to 21 not printed in the Gazette.]

979,497. MEANS FOR THE ELECTROLYTIC MANUFACTURE OF SODIUM. PAUL LÉON HULIN, Grenoble, France, assignor to Société d'Electro-Chimie, Paris, France, and Paul Léon Hulin, Grenoble, France. Filed Oct. 27, 1908. Serial No. 459,728.



1. In an apparatus for the manufacture of sodium by the electrolysis of caustic soda, a cathode consisting of spaced vertical rods hanging from and below a common carrier, said carrier being detachably secured to a fixed support and an anode external to said cathode.

2. In an apparatus for the electrolytic manufacture of sodium, a cathode consisting of separated rods hanging below a circular carrier secured detachably to a fixed support, and a cylindrical anode surrounding said cathode.

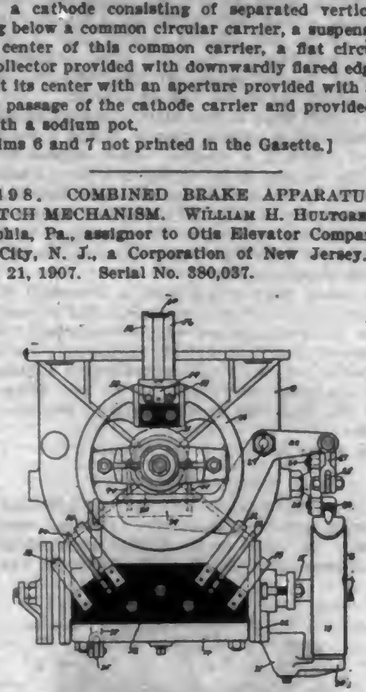
3. In an apparatus for the electrolytic manufacture of sodium a cathode consisting of vertically disposed separated rods hanging below a common carrier, and a flat collecting dish provided with downwardly flared edges and provided with a sodium pot on its side.

4. In an apparatus for the electrolytic manufacture of sodium a cathode consisting of separated vertical rods hanging below a common carrier, a suspension rod at the center of this common carrier, a flat sodium collector provided with downwardly flared edges provided at its center with an aperture provided with a sleeve for the passage of the cathode carrier and provided on its side with a sodium pot.

5. In an apparatus for the electrolytic manufacture of sodium a cathode consisting of separated vertical rods hanging below a common circular carrier, a suspension rod at the center of this common carrier, a flat circular sodium collector provided with downwardly flared edges, provided at its center with an aperture provided with a sleeve for the passage of the cathode carrier and provided on its side with a sodium pot.

[Claims 6 and 7 not printed in the Gazette.]

979,498. COMBINED BRAKE APPARATUS AND SWITCH MECHANISM. WILLIAM H. HULTGREN, Philadelphia, Pa., assignor to Otis Elevator Company, Jersey City, N. J., a Corporation of New Jersey. Filed June 21, 1907. Serial No. 380,037.



1. In an elevator system, the combination with a hoisting drum, of a motor, a shipper sheave, means operated by the shipper sheave for controlling the hoisting drum, and means connected to the shipper sheave and operated by gravity for holding the shipper sheave in its operated position in either direction.

2. In an elevator system, the combination with a hoisting drum, of operating means therefor, a shipper sheave for controlling the operating means, and means carried by the shipper sheave for yieldingly holding it in its operated position, and means for limiting the movement of said sheave in either direction.

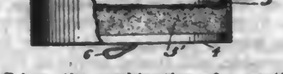
3. In an elevator, the combination with a shipper sheave, of operating means therefor, brake apparatus controlled by said sheave and means movable with the sheave for holding it yieldingly in its operated position with the brake released.

4. In an elevator, the combination of a shipper sheave operable in either direction, a brake controlled by said sheave, and a gravity operated device carried thereby for holding the sheave yieldingly in its operated position in either direction with the brake released.

5. In an elevator, the combination with a shipper sheave movable from a central position in either direction about its axis, of stops carried by the sheave, fixed stops in the path of movement of the first-named stops, to limit the movement of the sheave in either direction, and a weight carried by the sheave and movable into position to hold the sheave yieldingly at its limit of movement in either direction.

[Claims 6 to 14 not printed in the Gazette.]

979,499. TRICK SNUFF-BOX. THEODORE HUMMEL, New York, N. Y., assignor of one-third to Ernst E. L. Montelius and one-third to John B. Paulson, New York, N. Y. Filed Apr. 2, 1910. Serial No. 553,162.

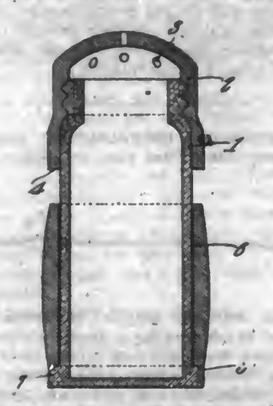


1. In a snuff box, the combination of a partition dividing the interior of said box into two compartments, removable closures for said compartments and means fixed in one of said compartments and simulating the appearance and feeling of snuff.

2. In a snuff box, the combination of a partition dividing the interior of said box into two compartments, removable closures for said compartments and a brush secured in one compartment and simulating the appearance and feeling of snuff.

3. In a snuff box, the combination of a partition dividing the interior of said box into two similar compartments, similar removable closures for said compartments and a brush of camel's hair secured in one compartment and simulating the appearance and feeling of snuff.

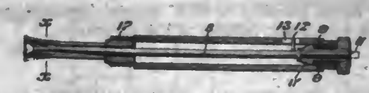
979,500. SALT-SHAKER. STERLING P. ISBELL, Ukiah, Cal. Filed Apr. 13, 1910. Serial No. 555,244.



A shaker comprising a cylindrical container having a basal offset annular shoulder, a cap detachably applied to the smaller end of the container and having a depending shoulder spaced from the first mentioned shoulder, and an annular movable hand hold surrounding the container between the basal shoulder and the cap shoulder and being less in length than the distance between said shoulders.

979,501. DENTAL INSTRUMENT FOR CROWN OR CAP HOLDING. JAMES W. IVORY, Philadelphia, Pa. Filed Feb. 5, 1909. Serial No. 476,210.

1. In a device of the character stated, a handle, an expansible jaw at one end thereof adapted to fit into a tooth cap, a rod mounted in said handle and longitudinally movable therein, the end of said rod being adapted for engagement with said expansible jaw, and a separate member rotatably mounted on said handle and in engagement with said rod to longitudinally move said rod when said member is rotated.



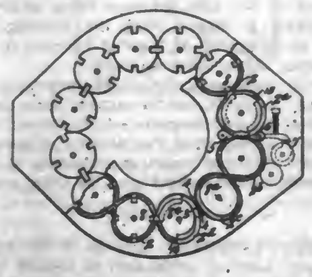
2. In a device of the character described, a handle, an expansible jaw at one end thereof adapted to fit into a tooth cap, a rod mounted in said handle and longitudinally movable therein, a head on said rod and a thumb screw on the opposite end of said handle adapted to move said rod to force said head into engagement with said jaw.

3. In a device of the character described, a handle, an expansible jaw carried thereby, an auxiliary expansible member for engagement with said jaw and fit into a tooth cap and means to expand said jaw and auxiliary member.

4. In a device of the character described, a handle, an expansible jaw carried thereby, an auxiliary expansible member detachable on said jaw and adapted to fit into a tooth cap, a rod mounted in said handle, means to shift said rod, and means on said rod to expand said jaw and auxiliary member.

5. In a device of the character stated, a handle, an expansible jaw at one end thereof, a rod mounted in said handle, and longitudinally movable therein, the end of said rod being adapted for engagement with said expansible jaw, a member rotatably mounted on said handle and in engagement with said rod to longitudinally move said rod when said member is rotated, and an auxiliary expansible member adapted for engagement with said device and adapted to receive said expansible jaw, whereby said expansible member is expanded by said expansible jaw.

979,502. BRAIDING-MACHINE. HENRY JANSSEN and ROBERT CARL RAHM, Wyomissing borough, Pa., assignors to Textile Machine Works, Wyomissing, Pa., a Corporation of Pennsylvania. Filed Feb. 14, 1910. Serial No. 543,743.



1. A braiding machine having a series of intersecting equal-sized race-circles, and intermeshing equal-sized drive-gears therefor the intermediate gears of which are four-horned and the end gears of which have alternate horns removed and serve as terminals.

2. A braiding machine having a carrier course comprising a series of four-horn drive-gears, and an intermeshing terminal drive-gear of like diameter having two opposite horns only and intervening carrier clearance-ways whereby it is adapted to serve as a terminal drive-gear substantially as set forth.

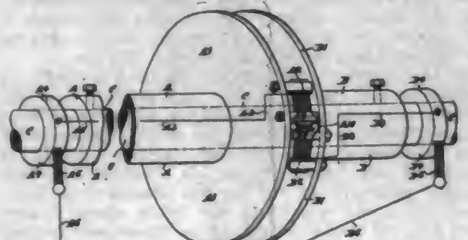
3. A braiding machine drive-gear having a pivotally mounted carrier-engaging horn and means for locking the same in operative or inoperative positions.

4. A braiding machine terminal drive-gear having a series of fixed carrier-engaging horns and intermediate pivotally mounted horns with means for locking the same in operative or inoperative positions.

5. A braiding machine having a race-way formed by connected race-circles, means for separating certain of said race-circles to form terminal circles, a series of full-horned carrier drive-gears for the connecting race-circles, and intermeshing terminal drive-gears of the same diameter for said terminal circles having alternate carrier-engaging horns removed to form carrier clearance-ways.

[Claims 6 to 8 not printed in the Gazette.]

979,503. ELECTRICAL TORSIOMETER. CHARLES HENRY JOHNSON, Dumbarton, Scotland. Filed Dec. 4, 1909. Serial No. 531,418.



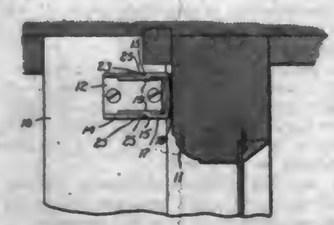
1. An electric torsiometer comprising relatively moving measuring parts mounted upon a rotor, electromagnets upon the parts, the pole faces of the said magnets being adjacent, an electric generator in circuit with the winding of one magnet, and an indicator of induced current in circuit with the winding of the other magnet.

2. An electric torsiometer for shafts comprising sleeves and disks upon the shaft, electromagnetic coils carried adjacently upon the opposed disks, means for causing in one coil a flux having an inductive effect on the other coil, and means for measuring that inductive effect.

3. An electric torsiometer for shafts comprising sleeves and disks upon the shaft, electromagnets upon the disks, the pole faces of the said magnets being adjacent, an electric generator in circuit with the winding of one magnet and an indicator of induced current in circuit with the winding of the other magnet.

4. An electric torsiometer for shafts comprising sleeves and disks upon the shaft, electromagnets upon the disks, the pole faces of the said magnets being adjacent, an electric generator in circuit with the winding of one magnet and driven from the shaft, and an indicator of induced current in circuit with the winding of the other magnet.

979,504. SASH-FASTENER. GUSTAF I. D. JOHNSON, Malden, Mass., assignor of one-half to himself, and one-half to Harry Blumenthal, Dorchester, Mass. Filed Sept. 20, 1909. Serial No. 518,622.



1. A sash fastener of the character described comprising, in combination, a segmental sash holding member including pivotal and wedging means, a base member having means thereon to secure the same to a window sash, and wedging means on said base member to coact with the wedging means on said segmental member to cause the same to grip a window sash.

2. A sash fastener of the character described comprising, in combination, a segmental sash holding member including pivotal and wedging means, a base member including means to secure the same to a window sash, wedging means on said base member coacting with said wedging means on said segmental member to cause the latter to grip the window sash when the window is moved in one direction and to allow free movement of the window in the opposite direction, and elongated pivotal means on said base member to engage the pivotal means on said segmental member.

3. A sash fastener of the charatcer described comprising, in combination, a segmental sash holding member including pivotal and wedging means, a base member including means to secure the same to a window sash, wedging means on said base member to coact with said wedging means on said segmental member to cause the latter to grip the window sash when the window is moved in one direction and to allow free movement of the window in the opposite direction, and pivotal means on said base member to engage the pivotal means on said segmental member, said pivotal means on the former being elongated and parallel to the relatively coacting wedging means on said base and segmental members.

4. A sash fastener of the character described comprising, in combination, a segmental sash holding member with laterally projecting ears, pivotal and wedging means on said ears, a U shaped base member including wedging means coacting with the wedging means on said ears, elongated pivotal means on said base member parallel to the wedging means thereon, said pivotal means being adapted to engage with the pivotal means on the segmental member.

5. A sash fastener of the character described, comprising, in combination, a sash holding member including wedging means thereon, a base member including wedging means thereon to coact with the wedging means on said sash holding member to cause the latter to grip the window sash when the window is moved in one direction and to allow free movement of the window in the opposite direction, and integral pivotal mechanism on one of said members coacting with slotted pivotal means on the other member to permit said sash holding member to be withdrawn from wedging engagement with the window sash.

[Claim 6 not printed in the Gazette.]

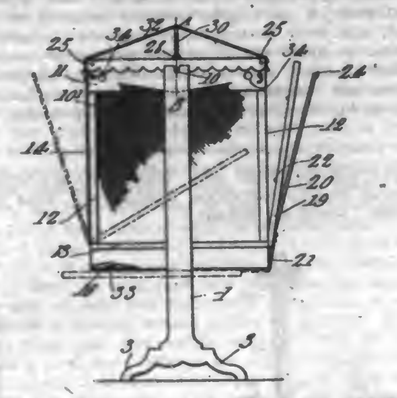
979,505. SURGICAL INSTRUMENT. HENRY JOHNSON, Woodford, Wis. Filed Feb. 14, 1910. Serial No. 543,667.



1. The herein described surgical instrument comprising a cylindrical shank forming a handle portion, a longitudinally extending concavo-convex cutting blade formed on nally extending concavo-convex cutting blade formed on the shank, the cutting edges of said blade being disposed in line with the shank, said edges converging at their ends and merging into the shank whereby a shallow trough is formed, the end of said shank adjacent to the blade being tapered to form a blunt point, substantially as and for the purpose set forth.

2. The herein described instrument comprising a cylindrical shank, a concavo-convex blade substantially elliptical in form, the edges of said blade being sharpened and gradually merging into the shank at their converging ends, said blade forming a shallow trough extending upon one side of the shank, said shank being disposed in the same plane beyond the opposite ends of the blade, one end of said shank being pointed, substantially as and for the purpose set forth.

979,506. SCREEN-BED. ANNIE O. S. JONES, Shreveport, La. Filed Sept. 10, 1910. Serial No. 582,700.



1. The combination with a bed body, of a flexible cover stretched thereover and detachably secured thereto, a supplemental cover detachably secured to opposite portions of the bed and extending over the first mentioned cover, and means movably mounted upon the bed body for stretching and supporting the middle portion of the supplemental cover.

2. A bed body including a bottom frame, end screens hingedly connected thereto and foldable thereon, said screens constituting end walls, side frames hingedly connected to the bottom frame, means for securing the side frames to the end panels, and screen doors hingedly connected to the side frames.

3. A bed body including a bottom frame, screens hingedly connected to and foldable on the bottom frame, said screens constituting end panels, means for supporting said end panels, side frames hingedly connected to the bottom frame and foldable thereon, means for detachably securing the frames and end panels together, and a screen door movably connected to each side frame.

4. A bed body including a bottom frame having inwardly directed supporting flanges, end screens hingedly connected to the frame and constituting end panels, means for supporting said end panels, side frames hingedly connected to the bottom frame, screen doors mounted within the side frames, and a flexible cover detachably engaging the end panels and side frames, said cover including spaced upper and lower flexible portions.

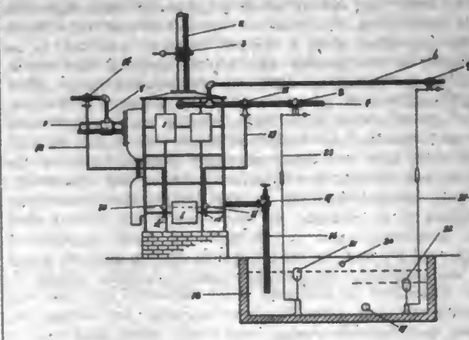
5. The combination with a foldable support including standards, of a collapsible bed body including a bottom frame, end screens hingedly connected thereto and constituting end panels, means upon said screens for engaging the standards, side panels hingedly connected to the bottom frame, means for detachably securing the side and end panels together, and a cover detachably mounted upon the panels.

[Claim 6 not printed in the Gazette.]

979,507. SYSTEM OF HOT-WATER STORAGE. ROBERT V. JONES, Kansas City, Mo., assignor to Joseph S. Lovering Wharton, William S. Hallowell, and John C. Jones, doing business under the firm name of Harrison Safety Boiler Works, Philadelphia, Pa. Filed Apr. 7, 1908. Serial No. 425,651.

1. In a feed water heater, the combination of a thermostatically controlled raw water supply; an exhaust steam supply; a storage tank connected with said heater, and a supplementary float-controlled raw water supply for said heater, governed by the water level within the storage tank.

2. In a feed water heater, the combination of a thermostatically controlled raw water supply; an exhaust steam supply; a supplementary thermostatically controlled live steam supply; a storage tank connected with said heater, and a float-controlled raw water supply, governed by the water level within said storage tank.



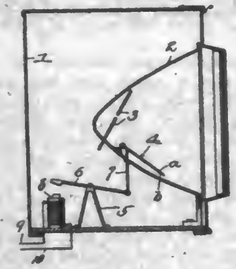
3. In a feed water heater, the combination of a float-controlled raw water supply; a steam supply; temperature controlled means connected with the raw water supply and operating to govern the temperature of the water issuing from said heater.

4. The combination of a heater; a float-controlled raw water supply; a diaphragm valve in said raw water supply; a steam supply; and means operated by the temperature of the water within the heater for controlling said diaphragm valve.

5. The combination of a feed water heater; a valve controlled raw water supply; a steam supply; a thermostatic device within said heater connected with and governing said valve controlled raw water supply.

[Claims 6 to 17 not printed in the Gazette.]

979,508. HEADLIGHT-SCREEN. SAMUEL JONES, Fremont, Ohio. Filed Feb. 14, 1910. Serial No. 543,713.



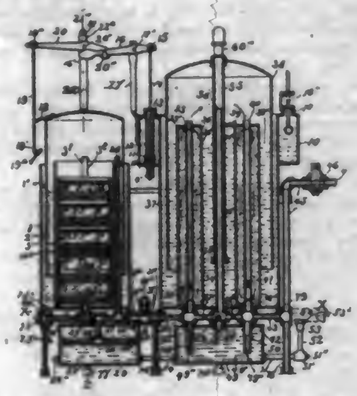
1. The combination with a headlight, of a screen having a reflecting surface, and hinged below the light and normally swinging forwardly and downwardly and reflecting portions of the light rays forwardly, and means for elevating said screen.

2. The combination with a reflector, of a plate hinged the lower portion of said reflector, said plate being in vance of a light also arranged within the reflector, said plate normally lying in a downwardly and forward inclined position and in said position forming a portion the reflecting surface, and means operable from a car lifting said screen.

979,509. ACETYLENE-GAS MACHINE. EDWARD KAPUS, St. Joseph, Mo. Filed June 7, 1910. Serial No. 565,591.

1. In a machine of the character described, a generator bell adapted to be raised by pressure of gas the in and to be lowered by the gravity thereof; a generat compartment in communication with said bell; carbid holding means, adapted to hold calcium carbid in s compartment; a feed water tank; water conducti means, adapted to feed water from said tank in said compartment and onto said carbid; a valve adapt to close said water conducting means, said valve be

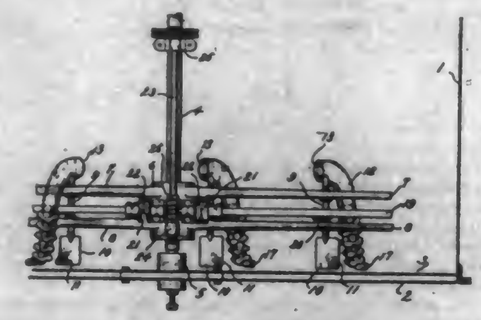
provided with a water strainer and with a stem therefor, projecting upward therefrom; a pivotally mounted valve lever, one end of which is pivotally connected with said valve stem, the other or free end of said valve lever being provided with a weight thereon, adapted to be lowered by the gravity thereof, for opening said valve, and to be lifted by said bell for closing said valve, when said bell is raised; a pivotally mounted pull lever, one end of which is provided with a pull rod pivotally secured thereto and depending therefrom at one side of said bell, said rod being provided with a hook on the lower end thereof having a deflector formed therewith; a pull bracket secured to said bell, said hook being adapted to be engaged by said bracket for pulling said rod downward, and to be deflected from engagement with said bracket, by said deflector during upward travel of said bracket; and disengageable engaging means on the other end of said pull lever, whereby the free end portion of said valve lever is engaged, for lifting the same and thereby closing said valve when said bell is fully lowered.



2. In an acetylene gas machine, in combination, a scrubber box and a water seal box, said boxes being adapted to hold water therein and being provided with communicating means connected therewith near the bottom thereof; a fill tube, connected with said water seal box, near the bottom thereof, and extending upward therefrom to a point above the level of the top of said water seal box; gas spraying means in said scrubber box, near the central portion thereof; an acetylene gas generator above said scrubber box; generator conducting means connected with said spraying means and adapted to conduct gas into the same from said generator; a relief pipe adapted to exhaust gas from the upper portion of said water seal box said relief pipe being connected with exhaust pipes opening into the open air; a plurality of water seal pipes, extending downward through the top of said water seal box, to points therein near the bottom thereof; gas storing means above said water seal box; gas storage conducting means, whereby gas is normally conducted from the upper portion of said scrubber box, into the upper ends of said water seal tubes and into said storing means; a gas directing cock in said storage conducting means, and by-pass exhausting means connected with said exhaust pipes adapted to conduct gas from said storage conducting means upon a one half rotation of said cock.

3. In an acetylene gas machine in combination, a generator provided with a bell therefor adapted to be raised by generation of gas in said generator; a feed water tank adapted to have water fed therefrom into said generator by the gravity of said water; water feeding means adapted to feed water therethrough as stated; a valve in said tank, adapted to close said water feeding means; a stem for said valve projecting upward therefrom; a strainer around said valve and the lower end portion of said valve stem and extending upward from said valve through the top of said tank; an apertured cap on the top of said strainer, said cap having said valve stem passed therethrough and extending upward therefrom; pivot supporting means mounted on said tank adjacent to said stem; a valve lever pivotally mounted on said support, said lever having one of its ends pivotally secured to the upper end of said stem, and its other or free end provided with a weight thereon, adapted to gravitate and thereby open said valve, and be lifted by the previously mentioned generator bell for closing said valve.

979,510. DEFLECTOR FOR MASHING-MACHINES. ANDREAS REINHARD KELLER, Chicago, Ill. Filed Sept. 9, 1909. Serial No. 516,841.



1. The combination with a drive shaft, of arms thereon, and downwardly and rearwardly directed tubular deflectors pivotally mounted on said arms.

2. The combination with a tub, of rotative arms mounted therein, and a plurality of downwardly and rearwardly directed, tubular deflectors pivotally mounted on said arms and adapted to convey material from the upper portion to the lower portion of the tub.

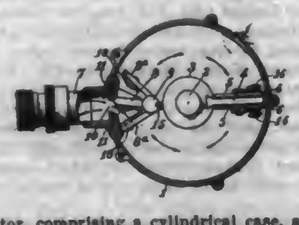
3. The combination with a tub, of horizontally rotative arms mounted therein, and a plurality of tubes carried on said arms, each of said tubes extending from a point above the arms downwardly and near the bottom of the tub, and adapted to convey material from the upper to the lower portion of the tub.

4. The combination with a tub of rotative arms mounted therein, deflector shafts journaled in said arms, a tubular deflector on each shaft adapted to deflect material from the top of the tub to the bottom thereof, and a plurality of inclined webs on each tube.

5. The combination with a tub of rotative arms mounted therein, vertical shafts journaled in said arms, means connecting said shafts and adapted to simultaneously turn them a partial revolution in either direction, a tubular deflector on each shaft extending from above the arm to the bottom of the tub, and an agitator blade on the lower end of each shaft.

[Claims 6 to 8 not printed in the Gazette.]

979,511. HYDRAULIC MOTOR. WALLACE C. KELLY, Hastings, Mich. Filed Sept. 12, 1910. Serial No. 581,596.



1. A motor, comprising a cylindrical case, a shaft journaled in the axis of the case, a piston carried by the shaft and traversing the interior of the case, an inlet port and an exhaust chamber at one side of the case, said chamber having opposing exhaust ports, a deflector shiftable from side to side of the inlet port, valves adapted to alternately close the exhaust ports, and means for shifting the valves and deflector by movement of the piston.

2. A motor, comprising a cylindrical case, a main shaft journaled in the axis of the case, a piston extending radially from the shaft and traversing the interior of the case, an inlet port and an exhaust chamber at one side of the case, said chamber having exhaust ports in its opposite sides, a rock shaft between the said chamber and the main shaft, a deflector and oppositely acting exhaust valves extending rigidly from the rock shaft, the deflector shiftable from side to side of the inlet port, and the valves alternately closing the exhaust ports.

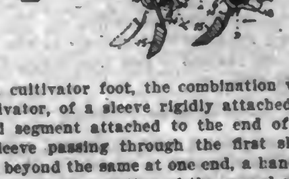
3. A motor, comprising a cylindrical case, a main shaft journaled in the axis of the case, a piston extending radially from the said shaft and traversing the interior of the case, an inlet port in the side of the case, an exhaust chamber projecting inward within the case and below the inlet port, and also having exhaust ports in opposite sides, a rock shaft between the exhaust chamber and the main shaft, a deflector projecting radially from the rock shaft and closing the space between the same and the walls of the port and oscillating between the walls, and valves projecting from the rock shaft and alternately closing the exhaust ports.

4. A motor, comprising a cylindrical case, a main shaft in the axis of the case, a piston projecting radially from the shaft and traversing the interior of the case, packing projecting from the margins of the piston, a rock shaft journaled in the case parallel with the main shaft and near the same, packing between the shafts, an inlet port in the case opposite the rock shaft, and exhaust chamber beneath the inlet port and extending to near the rock shaft, packing between the said chamber and the rock shaft, a deflector projecting from the rock shaft and closing the space between the wall of the port and the shaft, and also shiftable from side to side of the inlet port, and exhaust valves projecting from the rock shaft and alternately engaging the sides of the exhaust chamber to close ports therein.

5. A motor, comprising a case having an inlet port in its side, a rock shaft journaled in the case opposite the said port and spaced apart therefrom, a deflector extending radially from the said shaft and shiftable from side to side of the port, an exhaust chamber below the deflector and having its vertical walls radial to the rock shaft, and provided with exhaust ports and valves extending rigidly from the rock shaft embracing the exhaust chamber and spaced apart to alternately engage the said chamber and alternately close the exhaust ports.

[Claims 6 and 7 not printed in the Gazette.]

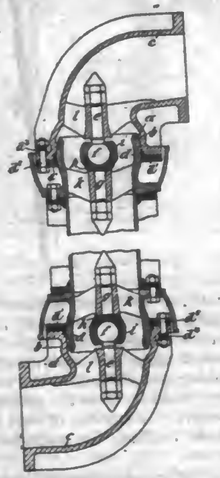
979,512. CULTIVATOR-TOOTH ADJUSTER. CARROL D. KIRK, Mertens, Tex. Filed Apr. 5, 1910. Serial No. 553,529.



1. In a cultivator foot, the combination with the beam of a cultivator, of a sleeve rigidly attached to the beam, a toothed segment attached to the end of the sleeve, a second sleeve passing through the first sleeve and terminating beyond the same at one end, a hand lever mounted on the projecting portion of the second sleeve and having a plunger engaging the segment, a projection extending from the hand lever, a stud extending from the projection, the second sleeve having a squared portion extending beyond the hand lever, a trip arm fixed on the squared portion of the second sleeve and provided with a slot receiving the stud, and a cultivator supported by the second sleeve and in fixed relation to the second sleeve.

2. A cultivator provided with a plow beam, a plow, a sleeve adjustably secured to the plow beam and provided with a notched segment, a hand lever having a sleeve mounted to turn in the first sleeve, a stud supported by the hand lever, a trip arm connected to the second sleeve and having a slot receiving the stud, a plunger on the hand lever engaging the segment, and an eye bolt held in the second sleeve and engaging the shank of the plow for clamping the shank against the second sleeve and the trip arm.

979,513. FLEXIBLE PIPE-JOINT. JOHANN KOENIG, Riga, Russia. Filed Mar. 24, 1909. Serial No. 485,436.



1. A flexible pipe joint comprising two pipes making a ball and socket joint with each other, and, located within the pipes and connecting them, a second ball and socket joint whose center point coincides with that of the said first joint, and which consists of a ball member connected to the one pipe and engaging a bearing cup connected to the other pipe and having a cap by means of which the ball member is confined in the bearing cup, so that the inner ball and socket joint is adapted to take off the outer joint the pressure in either longitudinal direction.

2. A flexible pipe joint comprising two pipes making ball and socket joint with each other, a second inner ball and socket joint whose center point coincides with that of the first joint, and ribs in the interior of each pipe for connecting the inner ball and socket joint members thereto and the one inner joint member consisting of a ball and the other of a socket part which is made in parts and surroundings or incloses the ball member in such manner that the inner joint takes off the outer joint the pressure in either longitudinal direction.

979,514. PORTABLE WIRING DEVICE. JOHN A. KRA... Lancaster, Pa. Filed Feb. 7, 1910. Serial No. 542,89...

1. In a device of the class described, a telescopi... standard formed with a lower gripping end, a head ... cured upon the upper end of said standard, a wedg... shaped top formed upon said head, pulleys mounted up... the opposite sides of said head, frictional gripping ar... mounted upon said head adjacent to said pulley a... adapted to coöperate with said pulleys for gripping ... wire.

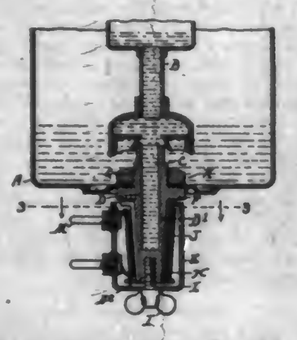
2. In a wiring device of the class described, comprisi... a telescoping standard, a gripping surface formed up... the lower end thereof, and a wedge-shaped surface ...

cured upon the upper end thereof, grooved pulleys rotatably mounted near the upper end thereof, a double armed lever mounted adjacent to said pulley, a gripping dog formed upon one of said arms and adapted to form a gripping contact within the groove of said pulley, and a wire guide eye formed upon the other arm and adapted to guide the wire and control the gripping and releasing of said dog.



3. In a device of the class described, in combination with a telescoping support, of a head formed with a beveled top and secured upon said support, grooved wheels rotatably mounted upon the opposite sides of said head, combined gripping and guiding levers mounted upon said head in proper relation to said wheels and adapted to press a wire within the grooves of said wheels and retain said wheels from rotating by frictional contact for the purpose set forth.

979,515. ELECTRICAL HEATER. FRANK KUHN, Detroit, Mich., assignor to American Electrical Heater Company, Detroit, Mich., a Corporation of Michigan. Filed Aug. 19, 1909. Serial No. 513,629.



1. In an electrical heater the combination with a heating unit and a member to be heated thereby, one of said members being provided with a tapering pin and the other with a socket detachably engaging said pin, said pin and socket being in heat conducting cantact and clamping means for holding said members in engagement.

2. In an electrical heater the combination of a member to be heated and a heating unit, one of said members having a tapering pin and the other being provided with a longitudinally slotted tapering socket engaging said pin, and interclamping means for forcing said tapering pin into said socket.

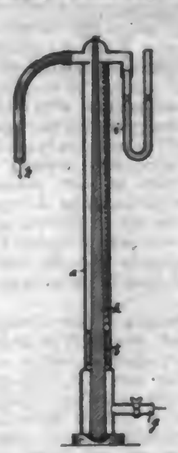
3. In an electrical heater the combination of a member to be heated and a heating unit, one of said members being provided with a pin and the other of said members being provided with a socket detachably engaging said pin, said socket member being resilient and expanded by engagement of said pin.

4. In an electrical heater, a member to be heated provided with a projection of smaller cross-sectional area than said member, a heating unit comprising a sleeve or spool adapted to engage the projection, a resistance conductor wound upon said spool and insulated therefrom, a casing surrounding the spool, and insulated contact members secured to said casing and connected with the ends of said resistance conductor.

5. In an electrical heater, a heating unit, comprising a split sleeve, a resistance conductor wound about said sleeve and insulated therefrom, a casing surrounding said sleeve and resistance conductor, insulated terminal contacts mounted on said casing and connected with the resistance conductor, and a member to be heated insertible in said sleeve into contact therewith.

[Claims 6 to 9 not printed in the Gazette.]

979,516. FLOW-INDICATOR. CHARLES KÜPPERS, Aix-la-Chapelle, Germany. Filed Aug. 30, 1909. Serial No. 515,325.



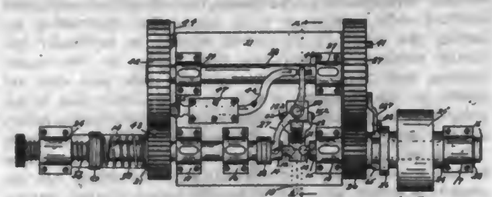
1. An instantaneous flow indicator comprising a tube having an interior fluid capacity of a constantly increasing effective, cross sectional area from one end to the other, a float arranged therein and having separated disks, one of which is provided with channels set obliquely to the radii.

2. An instantaneous flow indicator comprising a tube having an interior fluid capacity of a constantly increasing effective, cross sectional area from one end to the other, a float arranged therein and having separated disks, the disk nearest one end of which is provided with channels set obliquely to the radii, and an inlet pipe disposed beyond the opposite end of said float.

3. An instantaneous flow indicator comprising a tube having a constantly increasing effective, cross sectional area from one end to the other, a cone arranged within said tube, a tubular float surrounding the cone and having a disk with channels set obliquely to the radii, and an inlet pipe near the end of said tube having the smaller cross sectional area.

979,517. MACHINE FOR FORMING HEEL-IRONS FOR VEHICLE-SHAFTS. GEORGE A. LAMBERT, Anderson, Ind. Filed Nov. 5, 1909. Serial No. 526,414.

1. A machine for forming heel irons for vehicle shafts including a pair of oppositely located revoluble heads adapted to grasp a heel iron on its side edges near one end, a yielding plate for supporting the heel iron while being coiled, means for actuating said revolving heads, and means for stopping said actuating means automatically after a certain extent of the operation thereof.



2. A machine for forming heel irons for vehicle shafts including a pair of oppositely located revoluble heads adapted to grasp a heel iron on its side edges near one end, a yielding abutment against which the inner end of the heel iron is projected when first put in place, means for actuating said revolving heads, and means for stopping said actuating means automatically after a certain extent of the operation thereof.

3. A machine for forming heel irons for vehicle shafts including a pair of oppositely located revoluble heads provided with opposing slots similarly formed with one side of each slot extending parallel with the axis of said heads, a yielding plate for supporting the heel iron while being coiled, means for actuating said revolving heads, and means for stopping said actuating means automatically after a certain extent of the operation thereof.

4. A machine for forming heel irons for vehicle shafts including a pair of oppositely located revoluble heads provided with opposing slots similarly formed with one side of each slot extending parallel with the axis of said heads, a yielding plate for supporting the heel iron while being coiled, a yielding abutment mounted on the inner end of said yielding supporting plate and adapted to stop the inner end of the heel plate when first put in place in the machine, means for actuating said revolving heads, and means for stopping said actuating means automatically after a certain extent of the operation thereof.

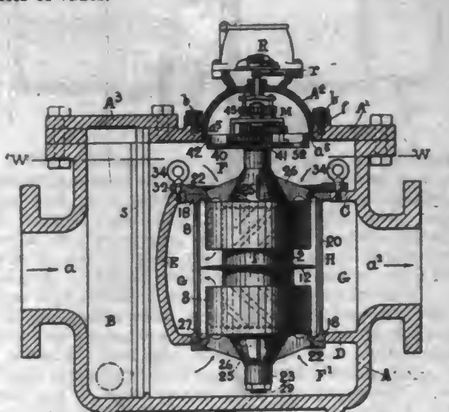
5. A machine for forming heel irons for vehicle shafts including a pair of oppositely located revoluble heads adapted to grasp a heel iron on its side edges near one end, one of said heads being mounted so as to yield longitudinally of its axis, a spring for holding said head in its grasping position, a yielding plate for supporting the heel iron while being coiled, means for actuating said revolving heads, means for stopping said actuating means automatically after a certain extent of the operation thereof, and means for causing one of said heads to yield laterally at the end of each operation of the machine, whereby the heel iron can be removed.

[Claims 6 to 9 not printed in the Gazette.]

979,518. WATER-METER. WILLIAM H. LARRABEE, Worcester, Mass., assignor to Union Water Meter Company, Worcester, Mass., a Corporation of Massachusetts. Filed Nov. 11, 1908. Serial No. 462,022.

1. In a water meter, a meter-wheel or propeller, consisting of a cylindrical body having near its respective ends similar oppositely disposed series of projecting helical vanes with water-ways between, each series surrounded by an outer cylindrical shell attached thereto, and a circumferential projecting flange around the cylindrical body midway between the respective series of vanes; in combination with wheel-supporting means having guide passages for directing currents of water downward and upward onto the respective series of vanes, at the upper and lower ends of the wheel.

2. In a water-meter, a meter-wheel or propeller, comprising an internally chambered body cylinder having a central hub and axle shaft, and provided externally with an upper and lower series of projecting oppositely inclined helical vanes, and water ways, each series of vanes surrounded by a cylindrical shell attached thereto and terminating with a projecting circular rim at the ends of the wheel, and a circumferential deflector around said body cylinder intermediate the series of vanes; in combination with the meter casing, an inner open-sided cage provided with supporting heads having bearings for the axis-shaft, and vortex guides that direct uniform downward and upward water currents to the respective outer ends of the series of vanes.



3. In a water meter, the combination with the main casing having the united upper and lower horizontal partitions, with circular openings therethrough; of the wheel-supporting cage consisting of upper and lower rings united by upright bars, and having the wheel bearing heads secured thereto, said rings fitting in the openings of the respective partitions with tapered joint surfaces, and means for securing said parts within the meter casing.

4. In a current water meter, the combination with a main meter-casing having inlet and outlet spuds thereon, and internal upper and lower partitions with circular openings and cage-supporting seats therein, and a revoluble meter-wheel, of a supporting cage or inner casing for said meter-wheel, removably seated in the openings in said partitions within the main meter-casing, and provided at its respective ends with bearings for the meter-wheel axle, an intermediate gear train, and means for supporting said gear-train connected with said supporting cage but unattached to the main meter-casing; said meter-wheel, its supporting cage and the gear-train mechanism being together assembled as a unitary structure, and together removable from said main casing.

5. In a meter of the class described, the meter-wheel composed of two similar dimensioned oppositely arranged helically vaned sections of hard rubber or non-metallic substance, a metal axis-shaft whereon said sections are assembled, a peripherally projecting disk or plate interposed between said sections, and nuts threaded upon the shaft at the opposite ends of the wheel sections and confining said parts firmly together; the ends of the shaft projecting as journals.

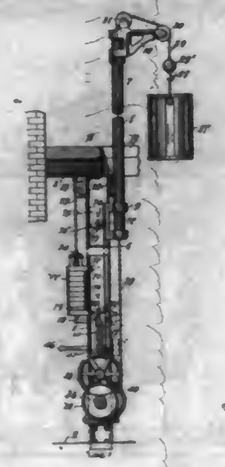
[Claims 6 to 22 not printed in the Gazette.]

979,519. ASH-HOIST. DAVID LARSON, Yonkers, N. Y., assignor to Otis Elevator Company, Jersey City, N. J., a Corporation of New Jersey. Filed Sept. 4, 1907. Serial No. 391,893.

1. In a hoisting device, the combination with a guide rail, of a tube, a bracket carried thereby and having a sliding connection with the guide rail, an arm carried by the tube, sheaves journaled in said arm, a flexible hoisting member engaging the sheaves and extending through the tube, and means for driving the hoisting member.

2. In a hoisting device, the combination with a vertical I-beam, of a frame slidably mounted thereon, a flexible hoisting member engaging the frame, and means carried by the I-beam for driving the hoisting member.

3. In a hoisting device, the combination with a vertical I-beam, of a frame movable longitudinally thereof, sheaves journaled in the frame, a motor supported on said I-beam, a hoisting chain engaging the sheaves, and driving connections between the motor and chain.

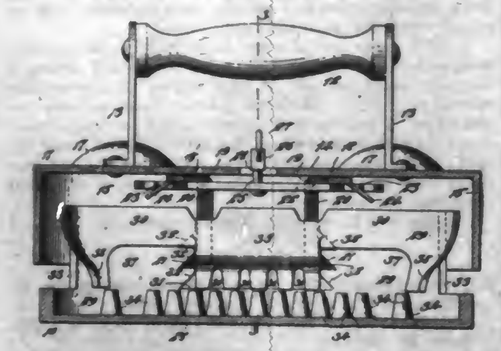


4. In a hoisting device, the combination of a vertical supporting member, guides extending longitudinally thereof, a frame having a sliding connection with one of the guides only, direction sheaves carried by the frame, a drive sheave on the supporting member, a counterweight connected to the other guide only, and a hoisting chain or cable associated with the direction sheaves, drive sheave and counterweight.

5. In a hoisting device, the combination of a vertical I-beam, a frame and a counterweight having a sliding connection respectively with the flanges of the I-beam, means for holding the frame in an adjusted position, a drive sheave mounted on the I-beam, and a hoisting chain or cable associated with the frame, drive sheave and counterweight.

[Claims 6 to 16 not printed in the Gazette.]

979,520. SAD-IRON. WALTER W. LIND, East Orange, N. J. Filed Jan. 28, 1910. Serial No. 540,545.



1. A sad-iron comprising a hollow lower shell section having a bottom 28 and vertical sides 29 which are recessed to admit air, and a hollow upper section having a top 14 and a downwardly encompassing edge-flange 15 to telescope over said vertical sides, combined with means for detachably securing the upper to the lower section in vertically adjusted relation so that the said flange on the upper section may more or less cover the inlet for air to the chamber within the iron, said upper section having a flue outlet; substantially as set forth.

2. A sad-iron comprising a hollow lower shell section having a bottom 28 and vertical sides 29 which are recessed at the ends and sides of the iron to admit air, and a hollow upper section having a top 14 and a downwardly encompassing edge-flange 15 to telescope over said vertical sides, combined with means for detachably securing the upper to the lower section in vertically adjusted relation so that the said flange on the upper section may more or less cover the side and end air inlets to the chamber within the iron, the iron being pointed at both ends, and said upper section having outlet flues at both sides of each end; substantially as set forth.

3. A sad-iron comprising a hollow lower shell section having a bottom 28 and vertical sides 29 which are recessed to admit air, and a hollow upper section having a top 14 and a downwardly encompassing edge-flange 15 to telescope over said vertical sides, combined with means for detachably securing the upper to the lower section in vertically adjusted relation so that the said flange on the upper section may more or less cover the inlet for air to the chamber within the iron, said upper section having a flue outlet, and said lower section having on the upper surface of its bottom and integral therewith a series of fuel supporting lugs 34; substantially as set forth.

4. A sad-iron comprising a hollow lower section having draft recesses at its sides and ends, and a hollow upper section having outlet flues, combined with means for detachably securing the upper to the lower section in adjusted relation so as to vary the exposure of said draft recesses; substantially as set forth.

5. A sad-iron comprising a hollow lower shell section having a bottom 28 and vertical sides 29 which are recessed at the ends and sides of the iron to admit air, a hollow upper section having outlet flues and a downwardly encompassing edge flange 15 to telescope over said vertical sides, and an inner shell 30 within said lower section and recessed in line with and affording shields for the air inlets, combined with means for detachably securing the upper to the lower section in vertically adjusted relation so that said flange 15 may more or less cover the side and end air inlets in the lower section; substantially as set forth.

[Claims 6 to 9 not printed in the Gazette.]

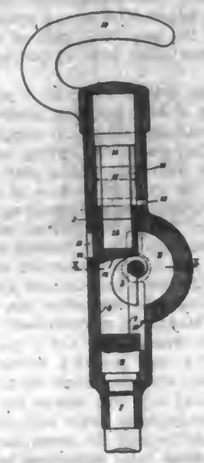
979,521. NECKTIE. FRED W. LYON, Newark, N. J. Filed June 1, 1910. Serial No. 564,364.



A necktie consisting of a neck-band and tying ends, and a strip of elastic material secured at its ends to the tie at the juncture of the neck-band and a tying end, the elastic strip when stretched straightening out the portion of the tie covering it, the material of the tie so stretched being adapted to be "gathered" to form a protuberance on the tie when the tension on one end of the elastic strip is relaxed.

979,522. POWER-HAMMER. ABEL MALAUSIN, Paris, France. Filed Mar. 23, 1910. Serial No. 551,150.

1. In a device of the character described, the combination with a casing, of a piston reciprocable therein and being adapted to compress a resilient medium when the piston is retracted in the casing, means for retracting the piston in the casing, and means to vary the position of the piston in relation to the retracting means, whereby the force of the piston stroke, due to the expansion of said resilient medium, may be varied.



2. In a device of the character described, the combination with a casing, of a piston reciprocable therein, a stationary piston between which and the reciprocable piston a resilient medium is adapted to be compressed when the reciprocable piston is retracted in the casing, means for retracting the reciprocable piston in the casing, and means to vary the position of said last named piston in relation to the retracting means, whereby the force of the piston stroke, due to the expansion of said resilient medium, may be varied.

3. In a device of the character described, the combination with a casing, of a sleeve therein, a piston reciprocable in said sleeve, a stationary piston carried by said sleeve, means for retracting the reciprocable piston in the sleeve, and means for moving the sleeve whereby the position of the reciprocable piston in relation to said retracting means may be varied.

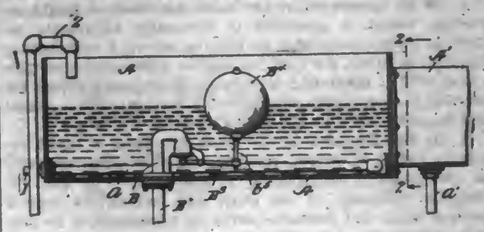
4. In a device of the character described, the combination with a casing, of a sleeve longitudinally adjustable therein, a piston reciprocable in said sleeve and having a recess formed therein, a cam adapted to work in said recess and retract the piston in said sleeve, means for actuating said cam, and means for moving said sleeve in the casing to vary the position of the piston relatively to the cam.

5. In a device of the character described, the combination with a casing, of a sleeve longitudinally adjustable therein, a stationary piston integral with the sleeve, a reciprocable piston in the sleeve, there being a bore between one face of the stationary piston and one face of the reciprocable piston wherein a resilient medium may be compressed when the reciprocable piston is retracted in the sleeve, means for retracting the reciprocable piston, and means for adjusting the sleeve in the casing to vary the position of the reciprocable piston in relation to the retracting means.

[Claim 6 not printed in the Gazette.]

979,523. SKIMMING-REGULATOR FOR ICE-MAKING APPARATUS. WILLIAM H. MANNS, Waynesboro, Pa. Filed July 10, 1907. Serial No. 383,109.

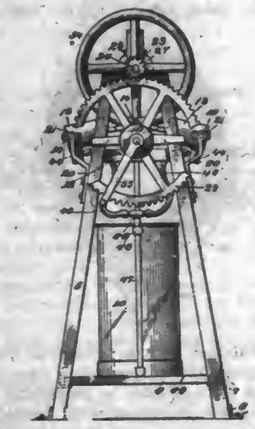
1. In an automatic skimming regulator for ice making apparatus, the combination, with the boil-tank provided with skim-holes at a certain level, of a goose-neck secured in the bottom thereof over the opening in the discharge pipe, a valve-seat being formed at its inner end, a valve mounted in said inner end of the goose-neck on the inner end of a pivoted lever, and a float connected with the outer end of said pivoted lever to normally rest at substantially the normal water level when said valve is closed, substantially as set forth.



2. The combination, with the boil-tank of an ice-making apparatus formed with a skimming arrangement at a certain level, of a goose-neck mounted over the opening in the purified water discharge pipe, a valve in the inner end of said goose-neck, and a float for controlling said valve to open the same when the water rises in said tank above the skimming level and close it when the water falls below said skimming level, substantially as set forth.

3. The combination, with a boil-tank provided with a skimming arrangement at a certain level, of a discharge pipe leading from said tank, a goose-neck secured inside of said tank over the opening to said discharge pipe, the inner end of which is arranged near the bottom of said tank and below the bend in said goose-neck, a valve mounted in said inner end, and a float mounted in said tank and connected with said valve by means of a pivoted lever, said float and said lever being adjustably secured together, substantially as set forth.

979,524. APPARATUS FOR PRODUCING BUTTER. RUSSELL A. MARSHALL, Somerset, Pa. Filed Mar. 17, 1910. Serial No. 549,937.



1. In an apparatus of the class described, a liquid re
ceiving vessel, a concavo-convex distributing membe
mounted for rotation within the vessel and having it
central portion solid and provided with an air chambe
and its outer portion provided with perforations graduall
decreasing in size from the outer edge of said member t
the solid portion thereof, and means for forcing air up
wardly through the perforations in said distributin
member.

2. In an apparatus of the class described, a liquid re
ceiving vessel, a distributing member mounted for rotatio
within the vessel and having its intermediate portio
solid and of concavo-convex formation to produce an a
chamber and its outer portion perforated, a perforate
flange depending from the solid concavo-convex portion
the distributing member, and means for forcing air u

wardly within the chamber and laterally through the perforations in the flange and outer edge of the distributing member.

3. In an apparatus of the class described, a liquid receiving vessel, a plurality of vertically adjustable retarding blades suspended within the vessel, a distributing member mounted for rotation within said vessel and provided with a depending perforated flange, and means for forcing air upwardly through the bottom of the vessel and laterally through the perforations in the flange.

4. In an apparatus of the class described, a liquid receiving vessel, a vertical shaft mounted for rotation within the vessel, a distributing member carried by and adjustable vertically of the shaft and having its central portion solid and concavo-convex in cross-section to produce an air chamber and its outer edge provided with an annular perforated flange, a perforated flange depending from the solid portion of the distributing member at said chamber, means for forcing air through the bottom of the vessel into said chamber and thence through the perforations in said flanges, and means for holding the distributing member in adjusted position on the shaft.

5. In an apparatus of the class described, a liquid receiving vessel, a vertical shaft mounted for rotation within the liquid receiving vessel, an air distributing member secured to the vertical shaft, a driving shaft, means for transmitting motion from the driving shaft to the vertical shaft, co-acting pumps operatively connected with and actuated by the driving shaft, flexible conductors connected with the pumps, a T-coupling forming a connection between the flexible conductors, a pipe having one end thereof provided with a vertical extension and its other end communicating with the interior of the liquid vessel for forcing air upwardly through the bottom of the vessel to the distributing member, and means for connecting the T-coupling to said extension.

[Claims 6 to 10 not printed in the Gazette.]

979,525. TIRE-PATCHING DEVICE. GUSTAVE J. MARTEL, Chicago, Ill. Filed June 29, 1910. Serial No. 569,448.



1. The combination with a pneumatic tire and a rim, of a tire patching device comprising two pivotally connected clamping arms adapted to clampingly embrace said rim, a plate adapted for arrangement against the exterior surface of said tire, one of said arms engaging said plate for securely holding the same in position upon said tire, and means in said arm for forcing said plate into close engagement with said tire, substantially as described.

2. The combination with a pneumatic tire and a rim, of a tire patching device comprising two pivoted clamping arms adapted to clampingly embrace said rim, means for forcing said arms into clamping engagement with said rim, a plate adapted for arrangement against the exterior surface of said tire adjacent said rim, one of said arms engaging said plate for holding the same in position upon said tire, and a set screw threaded into said arm for forcing said plate into close engagement with said tire, substantially as described.

3. The combination with a pneumatic tire and a rim, of a tire patching device comprising two pivotally connected clamping arms adapted to clampingly embrace said rim, means for forcing said arms into clamping engagement with said rim, a plate adapted for arrangement against the exterior surface of said tire adjacent said rim, one of said arms engaging said plate for holding the same in position upon said tire, means in said arm for forcing said plate into close engagement with said tire, and a flexible band adapted to extend around the outer portion of said tire, the respective ends of said band being connected with the outer ends of said arms, substantially as described.

4. The combination with a rim and a pneumatic tire mounted thereon, of a tire patching device comprising two pivotally connected clamping arms adapted to clampingly embrace said rim, means for forcing said arms into clamping engagement with said rim, a plate adapted for arrangement against the exterior surface of said tire, one of said arms engaging said plate for holding the same in position upon said tire, means for forcing said plate into close engagement with said tire, a flexible band adapted to encircle said tire, and means connecting the respective ends of said band to the outer ends of said arms for tightening said band around said tire after the clamp is secured in position substantially as described.

5. The combination with a rim and a pneumatic tire mounted thereon, of a tire patching device comprising two pivotally connected clamping arms adapted to clampingly embrace the rim of said tire, means for forcing said arms into clamping engagement with said rim, a flexible band adapted to extend around the tread portion of said tire, one end of said band being connected to one of said clamping arms, and adjustable means connecting the other end of said band and the other end of said arms whereby said band may be drawn tightly around said tire, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

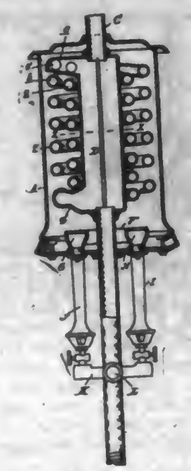
979,526. INDICATOR FOR VEHICLES. MARGARET A. MARTIN, Chicago, Ill., assignor of one-fourth to Edwin Wappler, Chicago, Ill. Filed Mar. 8, 1909, Serial No. 482,108. Renewed Apr. 20, 1910. Serial No. 556,620.



1. In an indicator of the class described, the combination of a body; two burners within the body; a front wall for said body having openings indicative of the license number of a vehicle; a danger signal opening in said front wall adjacent the aforesaid openings; translucent plates mounted behind said openings; end walls for said body having danger signal openings; translucent plates behind said last mentioned openings; and substantially semi-cylindrical reflectors behind said burners, having openings in their sides behind said openings in said end walls, substantially as described.

2. In an indicator of the class described, the combination of a body; a hinged door having license number openings and a circular signal opening therein; top, bottom and side flanges on the inside of said door; ground and colored glass plates secured in said flanges; end walls having circular openings therein; flanges on the insides of said end walls; glass plates secured in said end wall flanges; burners in the body; and semi-cylindrical reflectors having openings in their sides and mounted behind said burners, substantially as described.

979,527. HEATER. JOHN S. MCCARTHY, Detroit, Mich., assignor to Ideal Manufacturing Company, Detroit, Mich., a Corporation of Michigan. Filed Nov. 11, 1909. Serial No. 527,526.



1. In a water heater, the combination with a deflector forming a portion of the water conduit and provided with a longitudinally extending rib, of a coil of pipe encircling said deflector and having its opposite ends communicating with the latter, and a burner, said longitudinal rib being so constructed and arranged as to permit hot gases from the burner to impinge upon said deflector and the encircling coil.

2. In a water heater, the combination with a hollow deflector forming a portion of the water conduit, having a plurality of spaced longitudinally-extending ribs, of headers at the opposite ends of the deflector communicating with the interior thereof, a coil of pipe encircling said deflector and having its opposite ends communicating with the headers, and a burner, said longitudinal ribs being so constructed and arranged as to permit the hot gases from the burner to impinge upon said deflector and the encircling coil.

3. In a water heater, the combination with a hollow deflector forming a portion of the water conduit, having a plurality of spaced longitudinally-extending ribs, of hollow headers at the opposite ends of said deflector communicating with the interior of and projecting laterally from the deflector, a coil of pipe encircling the deflector and having its opposite ends connected to the headers, and a burner, said longitudinal ribs being so constructed and arranged as to permit the got gases from the burner to impinge upon said deflector and the encircling coil.

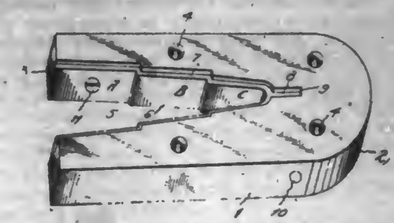
4. In a water heater, the combination with a hollow deflector forming a portion of the water conduit, having a plurality of spaced longitudinally-extending ribs, the portion of the walls of the deflector between said ribs being inwardly concave, of headers at the opposite ends of the deflector communicating with the interior of and projecting laterally from the same, a coil of pipe encircling the deflector having its opposite ends connected with the headers, and a burner, said longitudinal ribs being so arranged as to permit the hot gases from the burner to impinge upon said deflector and the encircling coil.

5. In a water heater, the combination with a casing, of a hollow deflector within the casing, hollow headers at the opposite ends of the deflector extending laterally therefrom, each of said headers being provided with a pipe-engaging bearing face, the bearing face of one header projecting in a direction opposite from that of the other header, a coil of pipe encircling the deflector and having its opposite ends connected respectively to said bearing faces and a burner operatively associated with the deflector and the pipe coil.

[Claim 6 not printed in the Gazette.]

979,528. BENCH-DOG. TERRILL W. MCCORMICK, Denton, Tex. Filed Apr. 1, 1910. Serial No. 552,760.

1. In a bench dog, a body member having a stepped V shaped crotch.



2. In a bench dog, a body member having a V shaped crotch, the crotch having stepped portions and the walls of one stepped portion being disposed at a different angle to the walls of the other stepped portions.

3. In a bench dog, a body member having a V shaped crotch, and a V shaped lining fitting in the crotch of the body member and having its upper surface terminating below the upper surface of the body member.

979,529. REINFORCED-CONCRETE PILE. ELIJAH D. MCDONALD, Los Angeles, Cal. Filed Jan. 13, 1910. Serial No. 537,923.



1. A concrete pile comprising a concrete body, a depending flange projecting from the lower end of said body, and means for introducing a jetting stream along the body into the space inclosed by said flange.

2. A concrete pile comprising a concrete body, a depending flange projecting from the lower end of said body forming an inclosure, and means for introducing a jetting stream through the body into the space inclosed by said flange, and means for removing material as it accumulates within said flange.

3. A pile comprising a concrete body with a hollow inclosure at its lower end, and means for directing a jetting stream into said inclosure whereby the action of said jetting stream is confined to the end of the area of the inclosure.

4. A pile comprising a concrete body with a hollow inclosure at its lower end, an inlet pipe for the introduction of water under pressure extending into said inclosure at one side thereof, and an outlet pipe for the removal of material extending into said inclosure at the other side thereof.

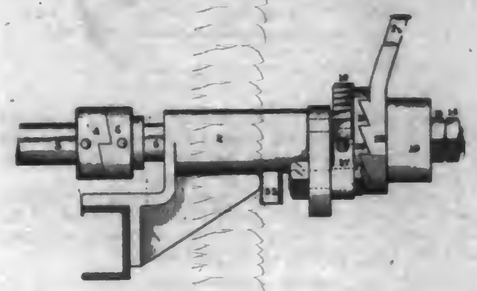
5. A pile comprising a concrete body with reinforcements extending longitudinally and laterally thereof, a metallic depending flange at its lower end forming an inclosure, an inlet pipe extending through said body and communicating with said inclosure, and an outlet pipe extending along said body and communicating with said inclosure.

[Claims 6 to 9 not printed in the Gazette.]

979,530. STARTING MECHANISM FOR EXPLOSIVE ENGINES. ROBERT MCKEE, Philadelphia, Pa. Filed July 6, 1909. Serial No. 506,015.

1. In a starting device for explosive engines, the combination of a rotatable shaft, a friction disk sleeved

upon the shaft and having annular friction surfaces, friction devices in annular form for clamping the opposite annular surfaces of the friction disk and frictionally holding it to the shaft whereby they may be rotated together, means to prevent the friction disk rotating in one direction while permitting it to rotate freely in the other direction, and hand operated means independent of the friction disk for rotating it in one direction but free to rotate relatively to the disk in the other direction at all times.



2. In a starting device for explosive engines, the combination of a rotatable shaft having an annular flange, an annular friction disk loosely sleeved upon the shaft and coacting with the annular flange thereof, friction devices in the form of an annular disk adjustable lengthwise upon the shaft and adjusting means therefor for clamping the friction disk to the annular flange of the shaft whereby they may be rotated together, means to prevent the friction disk rotating in one direction while permitting it to rotate freely in the other direction, and hand operated means for rotating the friction disk consisting of a lever and mechanical devices between the said lever and friction disk for rotating the friction disk in one direction while permitting it to rotate freely in the other direction without rotating the lever.

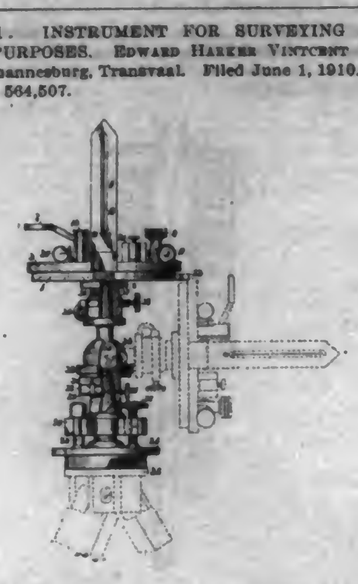
3. In a starting device for explosive engines, the combination of a rotatable shaft, a friction disk sleeved upon the shaft, friction devices for clamping the friction disk to the shaft whereby they may be rotated together, means to prevent the friction disk rotating in one direction while permitting it to rotate freely in the other direction, and hand operated means for rotating the friction disk consisting of a lever, pawl and ratchet means between the friction disk and lever and a spring device for maintaining said pawl and ratchet devices in normal engagement.

4. In a starting device for explosive engines, the combination of a rotatable shaft, a friction disk sleeved upon the shaft and providing an annular surface transversely to the shaft, friction devices rotating with the shaft and having annular surfaces for clamping the friction disk to the shaft whereby they may be rotated together, means to prevent the friction disk rotating in one direction while permitting it to rotate freely in the other direction consisting of ratchet teeth on the friction disk, a pawl device for preventing the ratchet teeth and friction disk from rotating in one direction only, and hand operated means for rotating the friction disk.

5. In a starting device for explosive engines, the combination of a rotatable shaft, a friction disk sleeved upon the shaft, friction devices for clamping the friction disk to the shaft whereby they may be rotated together, means to prevent the friction disk rotating in one direction while permitting it to rotate freely in the other direction, hand operated means for rotating the friction disk, a bearing for the shaft in which it may rotate and reciprocate longitudinally, the detent mechanism for holding the said shaft in either of two longitudinal adjustments while permitting free rotation, whereby the clutch on the shaft may engage the engine shaft or be held out of engagement therewith.

[Claims 6 to 14 not printed in the Gazette.]

979,531. INSTRUMENT FOR SURVEYING AND LIKE PURPOSES. EDWARD HARKER VINTCENT MELVILL, Johannesburg, Transvaal. Filed June 1, 1910. Serial No. 564,507.



1. In a surveying instrument, the combination of a limb, a support therefor including universal jointing means whereby the limb may be adjusted in a multiplicity of planar positions including both horizontal and vertical planes, an alidade mounted for rotation upon the limb, and sighting means upon the alidade.

2. In a surveying instrument, the combination of a limb, a support therefor including universal jointing means whereby the limb may be adjusted in a multiplicity of planar positions including both horizontal and vertical planes, an alidade mounted for rotation upon the limb, sighting means upon the alidade, and level means for setting the limb and alidade in both vertical and horizontal planes.

3. In a surveying instrument, the combination of a limb, a support therefor including universal jointing means whereby the limb may be adjusted in a multiplicity of planar positions including both horizontal and vertical planes, an alidade mounted for rotation upon the limb, sighting means upon the alidade and means for indicating datum positions of the limb.

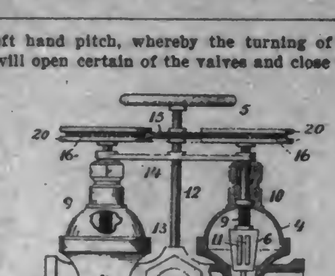
4. In a surveying instrument, the combination of a limb, a support therefor including universal jointing means whereby the limb may be adjusted in a multiplicity of planar positions including both horizontal and vertical planes, an alidade mounted for rotation upon the limb, sighting means upon the alidade, and a magnetic compass for orienting the zero of the limb.

5. In a surveying instrument, the combination of a limb, a support therefor including universal jointing means whereby the limb may be adjusted in a multiplicity of planar positions including both horizontal and vertical planes, an alidade mounted for rotation upon the limb, sighting means upon the alidade, and a bubble tube for setting the limb to a datum position in vertical planes.

[Claims 6 to 11 not printed in the Gazette.]

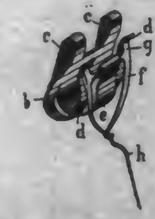
979,532. VALVE. FRANK A. MERRILL, Malden, and JOHN S. C. NICHOLLS, Boston, Mass., assignors of one-third to William G. Merrill, Malden, Mass. Filed May 25, 1910. Serial No. 563,807.

1. A body containing a plurality of valves, a hand-wheel, a toothed wheel connected with said hand wheel to rotate rigidly therewith, a toothed wheel for each of said valves meshing with the first named gear wheel, and a screw connected with each of the last-named gears to operate therewith and operate its associated valve; certain of said screws being of a right hand pitch and others of a left hand pitch, whereby the turning of said hand wheel will open certain of the valves and close the others.



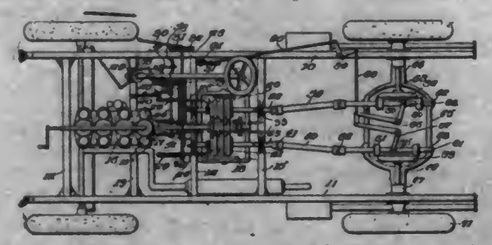
2. A body containing two valve chambers each having a valve-gate therein, a right handed screw engaging one of said gates and a left handed screw engaging the other gate, both screws having stems projecting to the exterior of the valve-chambers, a spur gear fixed on the outer end of each of said stems, a spindle located midway between and parallel with said screws, a spur gear fixed on said spindle and meshing with the first-named gears, a hand-wheel fixed on said spindle, and a cross bar having its ends held by said screw-stems and having a bearing at its midlength for said spindle, said body being formed with a boss rotatably receiving the inner end of said spindle.

979,533. DEVICE FOR PREVENTING THE DISPLACEMENT OF NECKTIES. KARL AUGUST MEYER, Strassburg, Germany. Filed Feb. 20, 1909. Serial No. 479,177.



A device of the class described comprising a U-shaped spring material clip having slits therein forming a metal strip, a loop pivoted to the clip by said strip and having rearwardly projecting portions engaging with a portion of the spring clip, and a forwardly extending portion adapted to carry the necktie, said rearwardly projecting portions adapted to operate the clip to clamp the same upon the collar when the forwardly extending portion is lowered into position to hold the necktie in place.

979,534. POWER-TRANSMISSION MECHANISM. JOSEPH O. MICHAUD, Fort Kent, Me. Filed Aug. 20, 1909. Serial No. 513,829.



1. A transmission mechanism including a power shaft, a plurality of disks rigidly carried upon said power shaft and varying in diameter, a pair of jack shafts disposed upon the opposite sides of said power shaft, pluralities of disks mounted upon said jack shafts and varying in diameter for engaging with said disks on said power shaft, slide rods connected to said disks on said jack shaft for sliding the same, and reach rods connected to said jack shafts for vibrating the same with respect to said power shaft.

2. In combination, a casing, a power shaft centrally located in said casing, jack shafts loosely mounted in the opposite ends of said casing, guide ways located upon the opposite sides of said casing, bearings slidably positioned on the said guide ways, levers connected to said bearings to reciprocate the same in pairs, said bearings being provided for the reception of the opposite ends of said jack shafts, and drums mounted on said power shaft and said jack shafts for engagement with one another to transmit motion between said shafts.

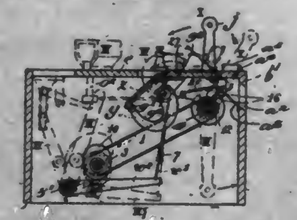
3. In combination a casing, a power shaft centrally located in said casing, jack shafts slidably disposed through said casing upon the opposite sides of said power shaft, pluralities of disks mounted on said shafts for coöperative engagement with one another and brake shoes formed in the inner ends of said casing for engagement with the disks on said jack shafts upon the outward movement of the same.

4. In a transmission mechanism, the combination with a power shaft, and jack shafts, of drums carried by said shafts for engagement with one another, springs connected to said jack shafts for normally holding said drums out of engagement with one another, levers connected to said drums on said jack shafts to slide the same longitudinally with respect to the drum on said power shaft, and rods connected to said jack shafts for moving the same outwardly from said power shaft.

5. A transmission mechanism including a power shaft, a drum carried on the shaft, spaced jack shafts arranged at the opposite sides of said power shaft, drums keyed to said jack shafts for longitudinal movement, rods connected to said jack shafts for moving the same inwardly to contact the drums with one another, and levers connected to said jack shafts for independently releasing the drums thereon from the drum on said power shaft.

[Claim 6 not printed in the Gazette.]

979,535. ENVELOP-CLOSING MACHINE. ISAC MICHEL, Frankfort-on-the-Main, Germany, assignor to Michelin & G. M. B. H., Frankfort-on-the-Main, Germany. Filed Nov. 2, 1908. Serial No. 460,657.



1. An envelop sealing machine comprising, in combination, a casing provided with a horizontal top portion arranged to support the body of the envelop, a support for the envelop flap lying flush with said top portion and slidably mounted to move horizontally toward and away from said top portion, a moistening device on said support and means for engaging said device with the gummed portions of the flap and retracting said support to wipe the moistener across said gummed portion.

2. An envelop sealing machine comprising in combination, a casing provided with a horizontal top portion arranged to support the body of the envelop, a support for the envelop flap lying flush with said top portion and slidably mounted to move horizontally toward and away from said top portion, a gravity acting moistening device on said support, and means for permitting said moistening device to lower by gravity into engagement with the gummed portions of the flap and clamp the same between

said moistener and said support, said means also retracting the support to cause the moistener to wipe across the gummed surface of the flap.

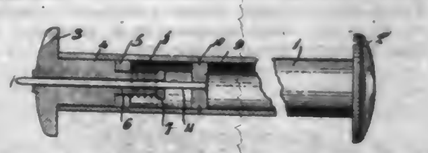
3. An envelop sealing machine comprising in combination, a casing provided with a horizontal top portion arranged to support the body of the envelop, a support for the envelop flap lying flush with said top portion and slidably mounted to move horizontally toward and away from said top portion, a moistening device on said support having angular portions corresponding to the contour of the gummed surface of the flap, and means for engaging said device with the gummed portion of the flap and retracting said support to wipe the moistener across said gummed surface.

4. An envelop sealing machine comprising in combination, a casing provided with a horizontal top portion arranged to support the body of an envelop, a support for the flap of the envelop lying flush with said top portion and slidably mounted to move horizontally toward and away from said top portion, a moistening device on said support, means for opening the flap of the envelop and causing the gummed surface to lie below said moistener and means for engaging said device with the gummed surface of the flap and retracting said support to wipe the moistener across said gummed surface.

5. An envelop sealing machine comprising in combination, a casing provided with a top portion arranged to support the body of the envelop, a support for the flap of the envelop lying flush with said top portion and slidably mounted to move toward and away from said top portion, a moistening device on said support, a spring actuated swinging arm for opening the flap of the envelop and causing the gummed portion to lie below said moistener, and means for engaging said moistening device with the gummed portion of the flap and retracting said support to wipe the moistener across said gummed surface.

[Claims 6 to 16 not printed in the Gazette.]

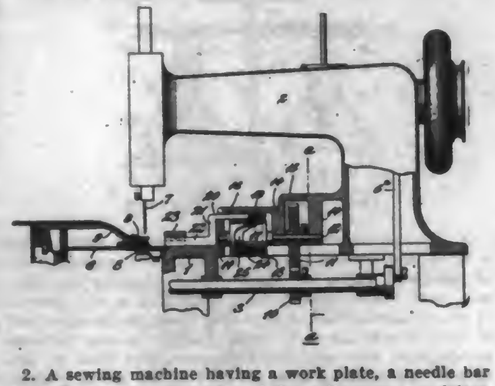
979,536. AUTOMATIC ADJUSTABLE SPOOL FOR MUSIC-SHEETS FOR MECHANICAL PIANO-PLAYERS. HARRY G. MILLER, Cincinnati, Ohio, assignor to The Vocalstyle Music Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Aug. 8, 1910. Serial No. 576,060.



A spool for music rolls comprising a shank, an adjustable flange on the end thereof having a stem extending inside of said shank, a shoulder on said stem, a friction disk on the inside of said shank, a spring adapted to be placed between said shoulder and said friction disk and a stationary member fastened on the inside of said shank having a shaft fastened thereto and extending into said stem, substantially as described.

979,537. SEWING-MACHINE. JEHU C. MOORE, New York, N. Y. Filed Apr. 28, 1909. Serial No. 492,663.

1. A sewing machine having work feeding means, means for pressing the work to said feeding means, a needle bar movable toward and from the feeding means, a driven shaft extended in the same plane with the needle bar but at right angles to the path thereof, a shifting bar engageable with the work to move the same out of the path of the needle carried by the needle bar, and means for imparting movement to the shifting bar comprising a shaft parallel with the driven shaft and also extended in the same plane with the needle bar, means whereby the second shaft is rotated by the driven shaft at one half the axial velocity thereof and means on the second shaft for imparting movement to the shifting member positively in opposite directions, in a plane parallel with the second shaft, and in the same plane with said first-named driven shaft and with the needle bar.



2. A sewing machine having a work plate, a needle bar vertically movable toward and from the same, a driven horizontal shuttle shaft below the work plate and in the same vertical plane with the path of the needle bar, a second shaft in the same vertical plane with the path of the needle bar, gearing for continuously driving said second shaft from the shuttle shaft at one half the axial velocity of the shuttle shaft, a shifting member alined with said second shaft and engageable with the work to move the same out of line with the needle carried by the needle bar, and means carried by said second shaft for reciprocating the shifting bar at each rotation of said second shaft.

979,538. NUT-LOCK. OTIS E. MOORE, Chisholm, Minn. Filed June 29, 1910. Serial No 569,620.



1. In a nut lock, the combination with a bolt having in its threaded end a diametrical slit, a nut on the bolt, a staple-shaped key having one leg adapted to be driven into the said slit, its other leg being springy and provided with a hook adapted to engage and hold the nut against accidental unscrewing.

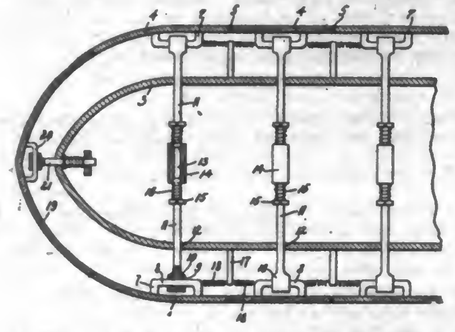
2. In a nut lock, the combination with a bolt having in its threaded end a diametrical slit, a nut on the bolt, a staple-shaped key having one leg adapted to be driven into the said slit, its other leg being springy and provided with a hook adapted to engage and hold the nut against accidental unscrewing; said driven leg having sharp ribs adapted to engage in the sides of the slit.

3. In a nut lock, the combination with a bolt having in its threaded end a diametrical slit, a nut on the bolt, a staple-shaped key having one leg adapted to be driven into the said slit, its other leg being springy and provided with a hook adapted to engage and hold the nut against accidental unscrewing; said slit being burred to prevent the driven leg from slipping toward the end of the bolt.

979,539. FENDER FOR VESSELS. MATTIAS MORIOSZKY, New York, N. Y. Filed Aug. 31, 1910. Serial No. 579,799.

1. The combination with the hull of a vessel, of a plurality of fender plates surrounding the same, supporting bars slidably arranged in said hull and projecting through

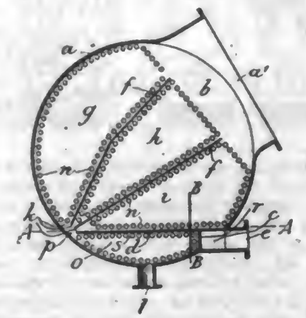
the sides and bows thereof toward said fender plates, means engaging said fender plates and said supporting bars and allowing of a relative movement of the same in the direction of the longitudinal axis of the vessel and of a movement in the direction of the longitudinal axes of said bars, and springs engaging said supporting rods and some stationary part of said hull.



2. The combination with the hull of a vessel, of a plurality of fender plates surrounding the same, supporting rods slidably arranged in said hull and projecting through the sides and bows thereof toward said fender plates, means engaging said fender plates and said supporting bars and allowing of a relative movement of the same in the direction of the longitudinal axis of the vessel and of a movement in the direction of the longitudinal axes of said bars, springs engaging said supporting rods and some stationary part of said hull, and springs for keeping said plates in their central positions relative to said supporting bars.

3. The combination with the hull of a vessel, of a plurality of fender plates surrounding the same, supporting bars slidably arranged in said hull and projecting through the sides and bows thereof toward said fender plates, U-shaped members fastened to said fender plates and engaging slidably said supporting bars and allowing a movement of said plates in the direction of the longitudinal axis of the vessel, springs engaging said supporting rods and some stationary part of said hull, and springs for keeping said plates in their central positions relative to said supporting bars.

979,540. APPARATUS FOR CONDENSING STEAM. DONALD BARNS MORISON, Hartlepool, England. Filed Mar. 19, 1910. Serial No. 550,336.



1. In steam condensing apparatus, a steam condensing compartment having guide plates arranged to form therein a plurality of condensing sections arranged in parallel and through which steam admitted to the compartment will simultaneously flow toward the outlet of said compartment.

2. In steam condensing apparatus, a steam condensing compartment having therein a series of condensing sections arranged in parallel and of decreasing cross sectional area toward the outlet thereof.

3. In steam condensing apparatus, a steam condensing compartment having therein a plurality of wedge shaped condensing sections arranged in parallel.

4. In steam condensing apparatus, a steam condensing compartment having therein a plurality of guide plates arranged to divide the cross section of said compartment into a plurality of parallel condensing sections the outlet portions of which are of decreasing cross sectional area

5. In steam condensing apparatus, a steam condensing compartment having therein a plurality of guide plates arranged to divide the cross section of said compartment into a plurality of wedge shaped condensing sections arranged in parallel and the narrowest ends of which are nearest the outlet from the compartment.

[Claims 6 to 20 not printed in the Gazette.]

979,541. METALLURGICAL PROCESS. JOSEPH CHARLES MORRIS, Findlay, Ohio. Filed Sept. 6, 1910. Serial No. 580,513.

1. That metallurgical process which consists in compounding and fusing iron, steel, aluminum, magnesium and silica, as and for the purpose specified.

2. That metallurgical process which consists in fusing iron and steel in a suitable container, adding aluminum magnesium and silica while said iron and steel are in a fused condition and casting the compound thus formed in a mold.

3. That metallurgical process which consists in fusing equal parts, by weight, of iron and steel, adding a quantity of aluminum, magnesium and silica, and pouring the compound, while in a fused condition, into molds.

4. That metallurgical process which consists in fusing fifty pounds of broken iron castings or "common cast iron" and fifty pounds of steel clippings and, when at the point of fusing, adding one ounce of aluminum, one ounce of magnesium and one pound of silica, and casting the same in a mold.

979,542. TRANSFER-INK AND PROCESS OF PRODUCING THE SAME. CHARLES F. MORSE, New York, N. Y. Filed July 13, 1908. Serial No. 443,179.

1. A transfer ink comprising a coloring material, a vehicle therefor comprising glucose and corn syrup, and glycerin sufficient to give the required consistency.

2. A transfer ink comprising a vehicle for coloring material, composed of glucose and corn syrup in the proportion of one part of the former to two parts of the latter, coloring material of the required quantity and shade, and a sufficient quantity of glycerin to reduce the product to the required consistency.

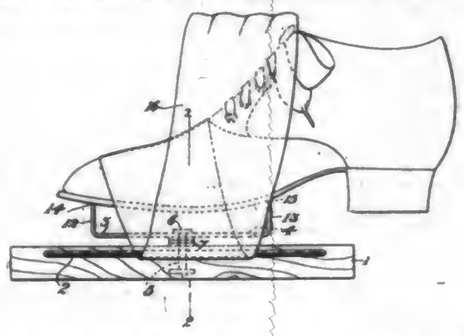
3. A transfer ink comprising a vehicle for coloring matter composed of glucose and commercial corn syrup in the proportion of one part of the former to two parts of the latter, mineral coloring material of the required quantity and shade, and glycerin to an amount about equal to the glucose and the corn syrup.

4. The process of producing a transfer ink which consists in first thinning glucose by the gentle application of heat, then mixing commercial corn syrup therewith in about the proportion of two parts of the syrup to one part of the glucose, and then adding a coloring material and sufficient glycerin to reduce the product to the required consistency.

979,543. SHOE-POLISHING STAND. FRANK H. MORSE, Cambridge, Mass. Filed Nov. 23, 1909. Serial No. 529,593.

1. In a shoe polishing stand, the combination of a block, two parallel rods located on opposite sides of the said block, a body secured to the said block between the rods and movable in a direction substantially parallel to said rods and adapted to support the shoe to be polished whereby the said body may be moved substantially parallel to the said rods by the shoe.

2. In a shoe polishing stand the combination of a base, parallel bars located on opposite sides of the said base, a body attached to the said base and adapted to move longitudinally and angularly relative to said base.



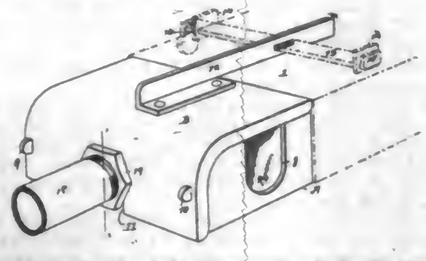
3. In a shoe polishing stand the combination of a base, a pair of parallel rods attached to said base, and a slotted plate, a bolt passing through the said slot and adapted to secure the said plate to the said base, the said plate having up-turned ends, the said ends having concave edges.

4. In a shoe polishing stand the combination of a base, a pair of parallel rods attached thereto and a slotted plate secured to the said base, the said plate having upturned ends, the said ends having concave edges, a bolt extending through the said slot and secured to the said base, a plurality of washers located between the said plate and said base.

5. In a shoe polishing stand, the combination of a base, a body for supporting the shoe to be polished a bolt for loosely connecting the said supporting body to the said base and washers located between the said body and the said base and around the said bolt, the said body adapted to be tilted on said bolt and washers in any direction.

[Claim 6 not printed in the Gazette.]

979,544. SHIELD FOR CIRCUIT-CONDUCTORS. THOMAS E. MURRAY, New York, N. Y. Filed Feb. 2, 1910. Serial No. 541,446.



1. In combination with a support and circuit conductors entering the same, a shield for said conductors in box form having a removable cover and front wall, the said front wall having a recess in its lower edge and the end walls having recesses in their upper edge, a pipe inclosing said conductors, means for securing said pipe in any one of said recesses, and means for closing the remaining recesses.

2. In combination with a support and circuit conductors entering the same, a pipe inclosing said conductors, a shield for said conductors comprising a base portion having a bottom plate and end walls, the said walls having recesses in their upper edges, a cover closing one side and the top of said base portion, the said cover having a recess in its lower front edge, means for securing said shield to said support, means for securing said pipe in any one of said recesses, and means within said shield for closing the remaining recesses.

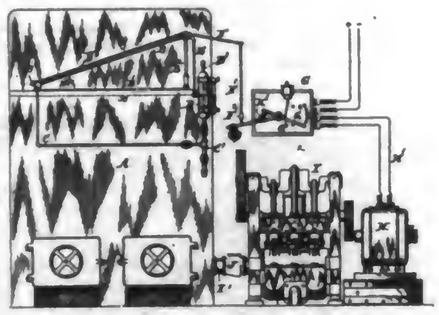
3. In combination with a support and circuit conductors entering the same, a shield for said conductors comprising a base portion having a bottom plate and end walls and openings in said walls, a cover closing one side and the top of said base portion, and having its inner edge bearing on said support, means for detachably securing said cover to said support and to said base portion, a pipe inclosing said circuit conductors, and means for securing said pipe in any one of said openings.

979,545. NUT-LOCK. OLOF A. NORLUND, Williamsport, Pa. Filed Mar. 16, 1910. Serial No. 549,620.



A nut lock, comprising the combination with a bolt, adapted to be introduced through an opening in an object and a nut adapted to be turned on to said bolt, of a washer having an opening therethrough and a slit extending from the opening to the outer edge of the washer, said slit being at a tangent to the contour of the opening through the washer, said washer having integral teeth on one face thereof, which teeth are conical and substantially V shaped in cross section, the base of said teeth being positioned at the edge of the opening in the washer, whereby they will engage the object at the edge of the opening therethrough and means upon one end of the washer adapted to hold the nut against casual rotation.

979,546. AUTOMATIC FEED-WATER DEVICE FOR STEAM-BOILERS. EARL E. NORMAN, Philadelphia, Pa., assignor, by mesne assignments, to Northern Equipment Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 20, 1908. Serial No. 449,391.



1. In means for supplying water to steam boilers, the combination of the boiler, a boiler feed pump, an electromotor for operating the pump, an electric controller for controlling the electro-motor, and means controlled by the level of the water in the boiler for automatically operating the controller to energize the electro-motor when the water level is below the normal and to put the motor out of operation when the normal water level is reached, said means consisting of an expansion tube having one end connected with the boiler below the water level and the other end with the boiler at the normal water level, and devices directly operated by the expansion tube for controlling the operation of the electric controller consisting of a weight to put the controller out of operation, a lever operated by the expansive tube, and a connection from the lever to the weight for lifting the same.

2. In means for supplying water to steam boilers, the combination of the boiler, a boiler feed pump, an electromotor for operating the pump, an electric controller for controlling the electro-motor and comprising self-contained spring actuated means for delivering electric current to and cutting it off from the electro-motor with rapidity and a lever for operating the spring actuated means, and thermostatically operated means controlled by the level of the water in the boiler for automatically bringing the controller lever to a condition whereby spring actuated means of the controller operates rapidly of itself to energize the electro-motor when the water level is below the normal, and means such as a weight controlled by the thermostatically operated means to bring the controller lever to the condition whereby the spring actuated means operates rapidly of itself to put the motor out of operation when the normal water level is reached.

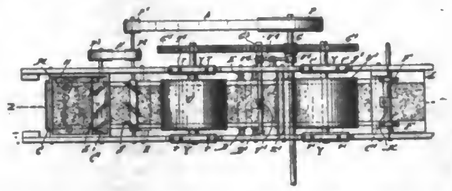
3. In means for supplying water to steam boilers, the combination of a plurality of boilers, a high pressure feed water main, a power driven pump for forcing water into said main under pressure greater than the boiler pressures, an electro-motor to drive the pump, an electric controller for starting and stopping the electro-motor, means independent of the water pressure for operating the electric controller to start the electro-motor, means controlled by the pressure of water in the high pressure feed water main to operate the electric controller to stop the electro-motor, branch feed water pipes from the high pressure feed water main to each boiler, a valve in each branch pipe normally free to open by the pressure in the high pressure feed water main, power devices for each of the valves for normally holding them closed, and means for each boiler controlled by the level of the water in the boiler for removing the action of the power devices upon the valves whenever the level of the water falls materially below the normal level.

4. In means for supplying water to steam boilers, the combination of a plurality of boilers, a high pressure feed water main, a power driven pump for forcing water into said main under pressure greater than the boiler pressures, an electro-motor to drive the pump, an electric controller for starting and stopping the electro-motor, means for operating the electric controller to start the electro-motor, means controlled by the pressure of water in the high pressure feed water main to operate the electric controller to stop the electro-motor, branch feed water pipes from the high pressure feed water main to each boiler, a valve in each branch pipe normally free to open by the pressure in the high pressure feed water main, power devices for each of the valves for normally holding them closed, and means for each boiler controlled by the level of the water in the boiler for removing the action of the power devices upon the valves whenever the level of the water falls materially below the normal level, said means each comprising an expansion member subjected to the action of steam when the water is below the normal level and to water when it reaches the normal level or thereabout, and connecting devices between the expansion member and the power devices whereby the latter can only become effective when the level of the water in the boiler is at or above the normal level.

5. In means for supplying water to steam boilers, the combination of a plurality of boilers, a high pressure feed water main, a power driven pump for forcing water into said main under pressure greater than the boiler pressures, an electro-motor to drive the pump, an electric controller for starting and stopping the electro-motor, means consisting of a weighted device and a steam actuated device acting continuously for operating the electric controller to start the electro-motor, means controlled by the pressure of water in the high pressure feed water main to operate the electric controller to stop the electro-motor, branch feed water pipes from the high pressure feed water main to each boiler, a valve in each branch pipe normally free to open by the pressure in the high pressure feed water main, power devices for each of the valves for normally holding them closed, and means for each boiler controlled by the level of the water in the boiler for removing the action of the power devices upon the valves whenever the level of the water falls materially below the normal level.

[Claims 6 to 10 not printed in the Gazette.]

979,547. PROCESS FOR FORMING FIBROUS SHEETS. CHARLES LADD NORTON, Hudson, N. H. Filed Jan. 29, 1910. Serial No. 540,730.



1. The process of forming sheets of fiber and cementitious material, which consists in first making a layer of the fibers and comminuted cementitious material, dry and intermixed, then compacting the said layer, while still dry, then applying a liquid appropriate to the cementitious material, and thereafter further compacting the wet layer.

2. The process of forming sheets of fiber-concrete which consists in first making a layer of fiber and comminuted hydraulic cement, dry and intermixed, then compacting the said layer, while still dry, then applying a setting liquid to the dry-compacted layer, and thereafter further compacting the wet layer.

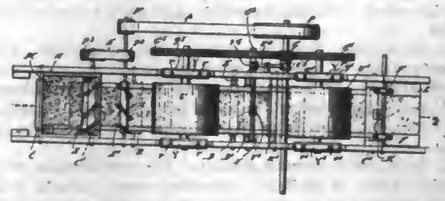
3. The process of forming sheets of fiber concrete, which consists in first forming a layer of dry thoroughly intermixed fiber and comminuted cement, then conveying said layer as a continuous band, subjecting said band, while dry, to compacting pressure which travels along the band, then wetting the dry-compressed band with a setting liquid, and thereafter subjecting the wet band to further traveling pressure.

4. The process of forming sheets of fiber-concrete, which consists in first forming a layer of dry thoroughly intermixed asbestos fiber and hydraulic cement, then compacting said layer while still dry, to about half its original thickness, then applying a setting liquid to the dry-compacted layer, and thereafter compacting the layer to about one fourth of its original thickness.

5. The process of forming sheets of fiber-concrete, which consists in first forming a layer of dry thoroughly intermixed asbestos fiber and hydraulic cement, then conveying said layer as a continuous band, subjecting said band while dry to compacting pressure which travels along the band, thereby reducing it to about one half its original thickness, then wetting the dry-compacted band with a setting liquid, and thereafter further compacting the band to about one fourth of its original thickness.

[Claims 6 to 12 not printed in the Gazette.]

979,548. MACHINE FOR FORMING FIBROUS SHEETS. CHARLES LADD NORTON, Hudson, N. H. Filed Jan. 20, 1910. Serial No. 540,731.



1. In a machine for making fibrous plates, the combination of two progressively movable material-carrying mech-

anisms, two sets of pressure devices to compact material lying on the two material-carriers, respectively, in succession, and means to apply setting liquid to the material on the material-carrier whereon the second pressure is applied to the material, the first carrying mechanism being isolated from the second in respect to the moisture on said second carrier.

2. In a machine for making fibrous plates, the combination of two endless progressively movable material-carriers, placed end to end, two sets of pressure devices to compact material lying on the two carriers, respectively, in succession, and means to apply setting liquid to material on the carrier whereon the second pressure is applied to the material.

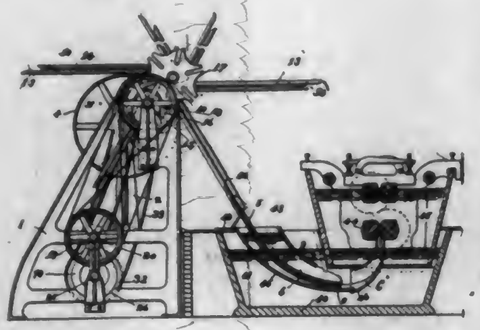
3. In a machine for making fibrous plates, the combination of two supporting tables placed end to end, two endless progressively movable material-carriers, each passing over one of said tables, two sets of pressure devices to compact material lying on the two carriers respectively, in succession, and means to apply setting liquid to material on the carrier whereon the second pressure is applied to the material.

4. In a machine for making fibrous plates, the combination of two endless progressively movable material carriers placed end to end, a bridge between the carriers to support material passing from one carrier to the other, two sets of pressure devices to compact material lying on the two carriers, respectively, in succession, and means to apply setting liquid to material on the carrier whereon the second pressure is applied to the material.

5. In a machine for making fibrous plates, the combination of two endless progressively movable material-carriers, placed end to end, two sets of pressure devices to compact material lying on the two carriers, respectively, in succession, and means to apply setting liquid to material in transit between the two sets of pressure devices.

[Claims 6 to 18 not printed in the Gazette.]

979,549. SHEET-FEEDING MECHANISM. EDWIN NORTON and EDWIN KENNETH NORTON, New York, N. Y. Filed Dec. 30, 1909. Serial No. 535,629.



1. In a machine of the character described, the combination with a suitable socket for receiving each sheet, of a curved guide therefrom and a flexible pusher for advancing the sheet through the socket and thence through the guide.

2. In a plate tinning machine, the combination with tinning rolls, of radially extending arms suitably journaled and spaced for receiving the sheets between them, and means for rotating the arms intermittently, combined with means for delivering the sheets from the arms to the rolls.

3. In a plate tinning machine, the combination with tinning rolls, of radially extending arms suitably journaled and spaced to form sockets for receiving the sheets, retaining springs on said arms for engaging the sheets in the sockets, means for operating the arms intermittently to bring the sheets into delivery position and means for advancing the sheets from the arms to the rolls.

4. In a plate tinning machine the combination with tinning rolls, of radially extending arms suitably journaled, said arms being arranged in pairs and spaced to form sockets for receiving the sheets, means for operating the arms intermittently to bring the sheets into position of delivery, and means for advancing the sheets from the arms to the rolls.

5. In a machine of the character described the combination with tinning rolls and with a pot for molten tin and for a flux bath, of a suitable standard, a series of sockets journaled on the standard for receiving plates in succession, means for rotating the sockets intermittently, a guide from the end of the sockets in delivery position through the flux bath and the molten tin to the rolls, pushers, and means for reciprocating the pushers first to push the sheets forward to the bite of the rolls and then to retract the pushers to engage with a new sheet.

[Claims 6 to 15 not printed in the Gazette.]

979,550. LANTERN-HOLDER. LESLIE OLIAN, St. Louis, Mo. Filed Aug. 9, 1909. Serial No. 512,006.



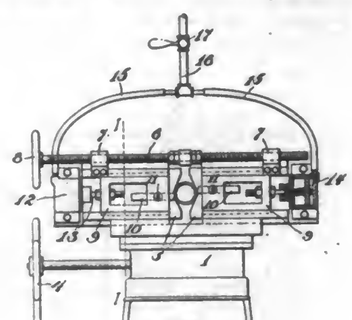
1. A lantern-holder comprising a single piece of wire doubled into two strands, said strands being intertwined throughout the greater part of their length and bent substantially U-shaped, thereby providing an intertwined body portion adapted to yieldingly fit on a support, and one of said strands being doubled upon itself at its end to provide a lantern-supporting eye; substantially as described.

2. A lantern-holder comprising a single piece of wire doubled into two strands, said strands being first spread apart to provide a bearing-loop 4 and then intertwined to provide a body-portion 6, the said intertwined body-portion being bent substantially U-shaped and adapted to yieldingly fit on a support, and one of said strands being doubled upon itself at its end to provide a lantern-supporting eye; substantially as described.

3. A lantern-holder comprising a single piece of spring wire doubled into two strands, said strands being first spread apart to provide a bearing-loop 4 and then brought together and intertwined throughout their length, except at their ends, providing an intertwined body-portion 6, said body-portion being bent substantially U-shaped and adapted to yieldingly fit on a support, one of said strands being doubled upon itself at its end to provide a lantern-supporting eye, and the end of the other of said strands being bent outwardly and projecting below said eye; substantially as described.

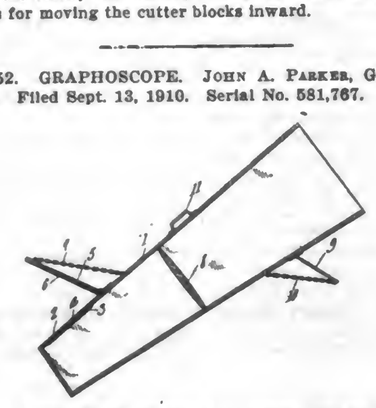
979,551. PIPE-CUTTING MACHINE. CHARLES A. OLSON, Chicago, Ill., assignor to Crane Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 19, 1907. Serial No. 358,214.

In combination in a pipe cutting machine, a supporting frame, a pair of opposing steady rest blocks slidably mounted therein, means for adjusting and holding such blocks in position, a pair of opposing cutter blocks mount-



ed in the steady rest blocks, cutters mounted therein, and means for moving the cutter blocks inward.

979,552. GRAPHOSCOPE. JOHN A. PARKER, Gardiner, Me. Filed Sept. 13, 1910. Serial No. 581,767.



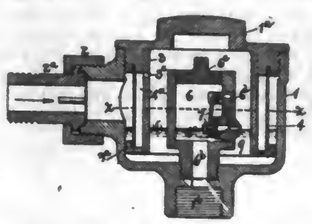
1. A graphoscope including a casing having a sight opening at one end, a light opening adjacent the other end of the casing, and a reflector for deflecting light rays through said light opening and into the casing.

2. A graphoscope including a casing having a sight opening at one end, there being a light opening in said casing adjacent its other end, said casing constituting means for supporting a picture adjacent the light opening, a mirror adjustably connected to the casing for deflecting light rays through the light opening and upon the picture, and a magnifying lens within the casing and between the two openings.

3. A graphoscope including a casing having a sight opening at one end and a light opening adjacent its other end, said casing constituting means for holding a picture adjacent the light opening, means adjustably mounted on the casing for deflecting the light rays through the light opening and upon the picture, a colored transparent member removably mounted between said deflecting means and the picture, and a magnifying lens interposed between the openings.

979,553. RADIATOR DRAIN-VALVE. CASSIUS CARROLL PECK, Rochester, N. Y. Filed Mar. 24, 1910. Serial No. 551,403.

1. In a radiator drainage valve, the combination of a valve body having an inlet port and an outlet port; a division wall within the valve body between the inlet port and the outlet port; and a passage through said division wall at least as large at its discharge end as at its inlet end adapted to control by its size alone discharge of water, air and steam and to maintain desired differential pressure between the interior of a radiator and its drain pipe.



2. In a radiator drainage valve, the combination of a valve body having an inlet port and an outlet port; a removable chamber within the valve body having inclosing walls which separate the inlet port from the outlet port; and a passage of fixed size through the wall of said chamber adapted to control by its size alone discharge of water, air and steam and to maintain desired differential pressure between the interior of a radiator and its drain pipe.

3. In a radiator drainage valve, the combination of a valve body having an inlet port and an outlet port; a screen within the valve body placed to intercept solid matter which enters the valve body; a scum plate beyond the screen adapting the space between the screen and the scum plate for retaining floating matter which passes through the screen; a valved passage protected by the screen and scum plate adapted to control discharge to the outlet of the valve body; and a removable valve body cover.

4. In a radiator drainage valve, the combination of a valve body having an inlet port and an outlet port; a chamber within the valve body having an inclosing wall which separates the inlet port from the outlet port; a passage through the wall of said chamber affording sole communication between the inlet and the outlet of the valve body and proportioned for efficiently draining water and air while preventing escape of all but a very little steam; an enlargement of said passage at its discharge end; a check valve within the chamber at the outlet end of said passage; and a removable cover for said valve body affording access to said check valve chamber.

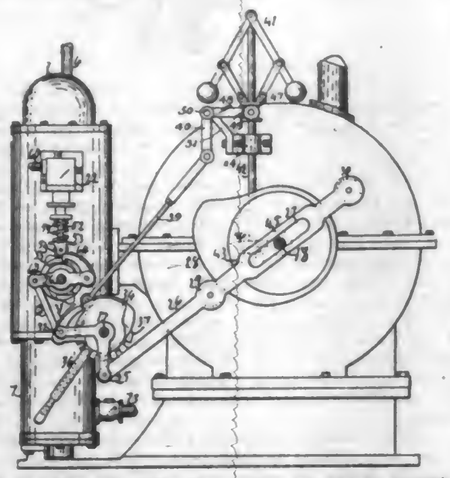
5. In a radiator drainage valve, the combination of a valve body having an inlet port and an outlet port; a chamber within the valve body having an inclosing wall which separates the inlet port from the outlet port and is open to the outlet port; a passage through the wall of said chamber affording communication between the inlet and the outlet of the valve body; a removable piece in the wall of the chamber which piece contains said passage; and a removable cover for said valve body affording access to said check valve chamber.

979,554. INTERNAL-COMBUSTION POWER-GENERATOR. ALFRED PELLETIER, Chicago, Ill. Filed May 14, 1910. Serial No. 561,491.

1. An internal combustion power generator, comprising a receiving cylinder, a combustion cylinder in axial alinement with the receiving cylinder, pistons in said cylinders, means rigidly connecting said pistons and affording a passage from one cylinder to the other, and means adapted to admit fuel to the combustion cylinder and compressed air to the receiving cylinder, the piston in the receiving cylinder being adapted to force the air through said passage and mix it with the fuel in the combustion cylinder.

2. An internal combustion power generator, comprising a receiving cylinder, a combustion cylinder mounted on the receiving cylinder and in axial alinement therewith, pistons in said cylinders having axial bores therein, a tubular piston rod connected in said bores, a mixing hood on the piston in the combustion cylinder, and means for admitting compressed air and fuel into said cylinders.

3. An internal combustion power generator, comprising a receiving cylinder, a combustion cylinder mounted thereon and having a tapered end, a piston in the receiving cylinder, a piston in the combustion cylinder and having a tapered end to fit the tapered end of the combustion cylinder and provide additional cooling surface for said cylinder, a hollow piston rod connecting said pistons and affording a passage from one cylinder to the other, a fuel inlet valve, a compressed air inlet, means adapted to operate the pistons and mix the air and fuel in the combustion cylinder, and means adapted to ignite the explosive mixture thus formed.



4. An internal combustion power generator, comprising a receiving cylinder, a combustion cylinder, reciprocating pistons in said cylinders, a tubular piston rod connecting said pistons and affording a passage from one cylinder to the other, means for admitting fuel to the combustion cylinder, means for admitting compressed air to the receiving cylinder, and an apertured hood on one of the pistons adapted to mix the compressed air with the fuel.

5. An internal combustion power generator, comprising a receiving cylinder a combustion cylinder mounted thereon and in axial alinement therewith, pistons in said cylinders, a tubular piston rod connecting the pistons and providing a passage from one cylinder to the other, a port in the combustion cylinder adapted to be opened when the piston reaches its lower limit of movement, means for independently admitting compressed air and fuel to said cylinders, means adapted to mix the air and fuel in the combustion cylinder, and means adapted to ignite the mixture when the pistons reach their lower limit of movement.

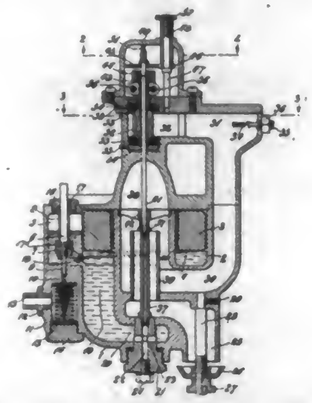
[Claims 6 to 13 not printed in the Gazette.]

979,555. CARBURETER. JONATHAN PETERSON, Brooklyn, N. Y. Filed Dec. 17, 1909. Serial No. 533,560.

1. In a carbureter, the combination with a vertical fluid standpipe arranged to discharge upwardly, of a stationary cup-shaped film forming device arranged over the standpipe and coöperating therewith, and an adjustable needle valve working through the film forming device to control the flow of fluid from the standpipe, substantially as described.

2. In a carbureter, the combination with a fluid feed, of a fluid regulator including a needle valve, a variable air feed including a swinging air-gate, and means movable about the axis of the valve said means coöperating with the swinging air-gate and valve to vary the flow of the fluid in accordance with the variations of the air feed, substantially as described.

3. In a carbureter, the combination with a fluid feed, of a fluid regulator including a needle valve, a variable air feed including a swinging air-gate, and means operated by the swinging air-gate and movable about the axis of the valve for operating said valve, substantially as described.

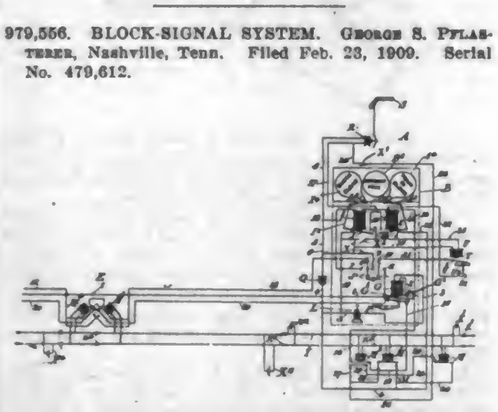


4. In a carbureter, the combination with a fluid regulator including a needle valve, of a variable air feed including an air-gate swinging about the axis of the valve, and connections between the valve and air-gate whereby movement of the air-gate produces longitudinal movement of the valve, substantially as described.

5. In a carbureter, the combination with a fluid regulator including a needle valve, of a variable air feed including an air-gate swinging about the axis of the valve, and connections including a screw and nut whereby movement of the air-gate produces longitudinal movement of the valve, substantially as described.

[Claims 6 to 12 not printed in the Gazette.]

979,556. BLOCK-SIGNAL SYSTEM. GEORGE S. PYLASTERER, Nashville, Tenn. Filed Feb. 23, 1909. Serial No. 479,612.



1. In a block signal system, the combination with a pair of block sections and a signal governing the passage of trains into one of said sections from the other, of electric controlling mechanism for the signal, devices automatically responsive to the presence of trains in said block sections, means controlled by one of said devices for preventing the initial energization of said mechanism when said one section is occupied by a train, and means controlled by said devices for maintaining the energization of said mechanism on the passage of a train into said one section from the other section and until the rear end of the train passes through said one section so long as no other train enters said other section, said last mentioned means being rendered inoperative by the entrance of another train in said other section.

2. In a three position signal mechanism, the combination with a signal and an actuating device therefor adapted upon a limited movement to move the signal from the danger position to an intermediate position, and on a further movement to move said signal into a third position, of a manually actuated mechanical latch normally preventing the movement of the actuating device to set the signal in a third position, and an electric lock for said latch.

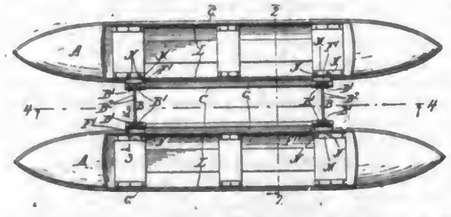
3. In a three position signal mechanism, the combination with a signal actuating lever, of a stand in which the lever is mounted, a latch mounted in said stand and movable into and out of the position in which it projects into the path of the lever and prevents the latter from being moved beyond the intermediate position into the clear position, but not interfering with the movement of the lever into the intermediate position, a spring normally holding the latch in its said position, and a handle by which the latch may be manually retracted from its said position.

4. In a three position signal mechanism, the combination with a signal actuating lever, of a stand in which the lever is mounted, a latch mounted in said stand and movable into and out of, and having provisions whereby it may be manually moved out of, the position in which it extends across the path of the lever and prevents the latter from being moved beyond the intermediate position into the clear position, yielding means normally holding the latch in its said position, a locking part normally engaging said latch and positively holding it in its said position, and electro-magnetic means for moving said locking part to free the latch.

5. In a block signal system, the combination with a manually actuated electric slot controlled signal and the electric slot thereof, of devices automatically responsive to the presence of trains in different portions of the block, means controlled by said devices for permitting the energization of said slot when the section of the block adjacent the signal is free from trains, but preventing said energization when said section has a train in it, a lock normally preventing the movement of the signal beyond an intermediate position, and lock releasing means also controlled by said devices, effective only when the block is entirely free from trains, for initially releasing the lock.

[Claims 6 to 8 not printed in the Gazette.]

979,557. CATAMARAN. MARCUS PHILLIPS, Chicago, Ill. Filed Sept. 25, 1908, Serial No. 454,608. Renewed Mar. 9, 1910. Serial No. 548,260.



1. A catamaran comprising two boat hulls and elastically flexible couplings joining them at two points in the length of the hulls, each coupling comprising a spring coil closely adjacent to each of the connected hulls and adapted to operate as a spring hinge between the two hulls.

2. A catamaran comprising two boat hulls ranged side by side; spring couplings connecting them at two points in their length, each spring coupling consisting of rod coiled into two helical springs near the ends of the rod and spaced from each other, the ends being anchored to the sides of the hulls respectively.

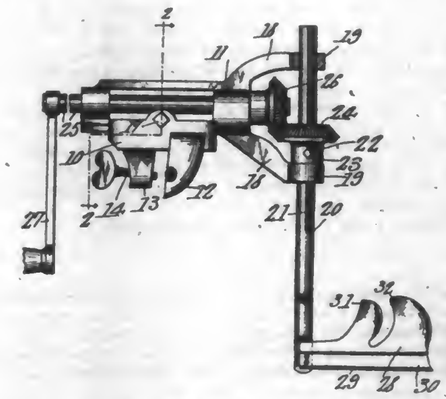
3. A catamaran comprising two boat hulls ranged side by side; elastically flexible couplings connecting them at two poinst in their length, and a flexible platform mounted on the couplings.

4. A catamaran comprising two boat hulls ranged side by side; flexible couplings connecting them at two points in their length; a platform mounted on the couplings consisting of strips and flexible lacing extended back and forth across the strips for binding them together.

5. In a catamaran which comprises two boat hulls ranged side by side and flexible couplings connecting them, an anchorage for the couplings consisting of a fitting of metal folded to form a quadrilateral loop, and mounted on the hull with one side of said loop abutting against the outer surface, the coupling comprising a stem or stud which penetrates said side of the quadrilateral loop and the opposite side thereof.

[Claims 6 to 16 not printed in the Gazette.]

979,558. COFFEE-STIRRING MACHINE. JUNIUS L. PLEDGER, Thibodaux, La., assignor of one-half to Joseph A. Naquin, Thibodaux, La. Filed June 23, 1910. Serial No. 568,570.



1. In a device of the class described, a support comprising a relatively fixed member attachable to a vessel, said support having a body formed upon its upper side with spaced flanges, an adjustable member comprising a body having a portion upon its under side fitting slidably between the flanges, a set screw threaded through one flange and bearing against the said portion of the adjustable member, a drive shaft journaled horizontally in the adjustable member, a stirrer shaft journaled vertically in the adjustable member and adjustable vertically, and gear connections between the two shafts.

2. In a stirrer of the class described, a stirrer blade comprising a body having a fin projecting from one end thereof and having oppositely curved outer corner portions.

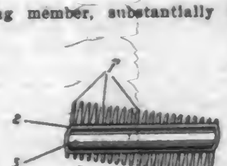
3. In a stirrer of the class described, a stirrer blade comprising a body having fins projecting from one edge thereof, each fin having oppositely curved outer corner portions, corresponding corners of the fins being correspondingly curved and presented.

4. In a stirrer of the class described, a stirrer blade comprising a body having lower portions curved forwardly continuously throughout its length, and fins projecting from the upper edge of the body and each having its outer corners oppositely curved, corresponding corners of the fins being correspondingly curved.

979,559. SAFETY-RAZOR. ALFRED MORGAN POINDEXTER, Red Bank, N. J., assignor of forty-nine one-hundredths to Justin S. Galland, New York, N. Y. Filed Sept. 18, 1909. Serial No. 518,424.

1. In a device of the character described, a guard member provided with marginal teeth, graduated in length, a cutting member set thereon substantially diagonally to a line drawn through the outer extremities of said teeth

and a retaining member, substantially as shown and described.



2. In a device of the character described, a guard section provided with marginal teeth, a cutting member set thereon substantially diagonally to a line drawn through the outer extremities of said teeth, and a retaining member, substantially as shown and described.

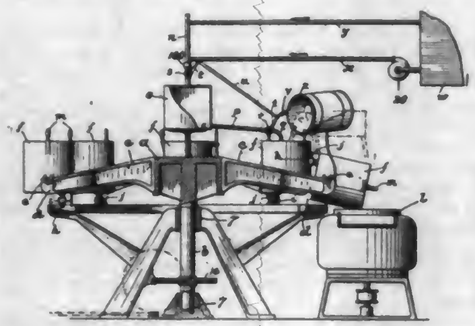
3. In a device of the character described, a guard member, a cutting member set thereon substantially diagonally to a line drawn through the outer extremities of said guard member, and a retaining member, substantially as shown and described.

4. In a device of the character described, a guard member, having its guard section provided with teeth graduated in length, a cutting member set thereon substantially diagonally to the exterior line of said guard member, substantially as shown and described.

5. In a device of the character described, the combination of a guard member provided with marginal teeth graduated in length, a cutting member set substantially diagonally thereon and parallel to the base of said marginal teeth, a retaining member, and a handle, substantially as shown and described.

[Claims 6 and 7 not printed in the Gazette.]

979,560. APPARATUS FOR NITRATING CELLULOSE. ALEXIS FELIX DU PONT and JOHN TORBERT THOMPSON, Wilmington, Del., assignors to E. I. du Pont de Nemours Powder Company, Wilmington, Del., a Corporation of New Jersey. Filed Jan. 8, 1910. Serial No. 537,054.



1. In an apparatus for nitrating cellulose, in combination, a rotating paltform, a vessel carried by said platform, said vessel having sections, perforated material between said sections, there being an outlet from the lower section, a valve controlling said outlet, and a fixed device adapted, in the movement of the platform, to open said valve.

2. In an apparatus for nitrating cellulose, in combination, a rotating platform, a vessel carried by said platform, said vessel having sections, perforated material between said sections, there being an outlet from the lower section, a valve controlling said outlet, and a fixed device adapted, in the movement of the platform, to open said valve, and a second fixed device adapted, in the movement of the platform, to close said valve.

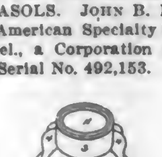
3. In an apparatus for nitrating cellulose, in combination, a rotating platform, a vessel, pivotally mounted, carried by said platform, said vessel having sections, perforated material between said sections, there being an outlet from the lower section, a valve controlling said outlet, and a fixed device adapted, in the movement of the platform, to open said valve.

4. In an apparatus for nitrating cellulose, in combination, a rotating platform, a vessel, pivotally mounted, carried by said platform, said vessel having sections, perforated material between said sections, there being an outlet from the lower section, a valve controlling said outlet, a fixed device adapted, in the movement of the platform, to open said valve, and a second fixed device adapted in the movement of the platform, to close said valve.

5. In an apparatus for nitrating cellulose, in combination, a rotating platform, a plurality of equi-spaced vessels mounted upon said platform, each vessel having sections, perforated material between said sections, there being an outlet from the lower section, a valve controlling said outlet, and a fixed device adapted in the movement of the platform, to open said valve.

[Claims 6 to 27 not printed in the Gazette.]

979,561. NOTCH OR RUNNER-HEAD FOR UMBRELLAS AND PARASOLS. JOHN B. RIEHL, Philadelphia, Pa., assignor to American Specialty Manufacturing Company, Dover, Del., a Corporation of Delaware. Filed Apr. 26, 1909. Serial No. 492,153.



1. A notch or runner head comprising one member having projecting hollow ribs with slotted outer faces and intervening grooves, and another member coöperating therewith and consisting of a slotted ring with central neck.

2. A notch or runner head comprising one member having projecting hollow ribs with slotted outer faces and intervening grooves, and another member coöperating therewith and consisting of a central neck with projecting ring having therein slots bridged at their outer ends.

3. A notch or runner head comprising one member with a central neck having hollow projecting ribs with slotted outer faces and intervening grooves, and another member also having a central neck and a projecting slotted ring, said central neck being of the same diameter as the neck of the first member.

4. A notch or runner head comprising one member with central neck having hollow projecting ribs with slotted outer faces and intervening grooves, and another member also having a central neck and a projecting slotted ring, said central neck fitting within the first member and being of the same diameter as the neck of the latter.

5. A notch or runner head comprising one member with central neck having projecting hollow ribs with slotted outer faces and intervening grooves, and another member also comprising a central neck with projecting ring having therein slots bridged at their outer ends, the central necks of both members being of the same diameter.

[Claims 6 and 7 not printed in the Gazette.]

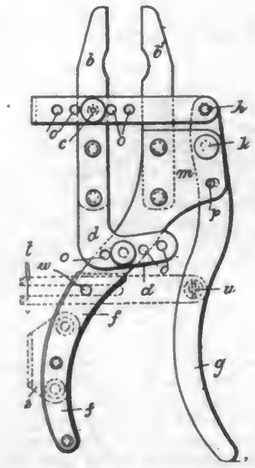
979,562. TOOL FOR REMOVING THE ROLLERS OF BALANCE-WHEEL STAFFS IN WATCH-MOVEMENTS. ALBERT F. ROBBINS, Waltham, Mass. Filed June 2, 1909. Serial No. 499,802.



1. A tool, for removing watch-rollers from balance-wheel staffs, comprising a head, suitably supported, a tubular-holder for a balance-wheel, its staff and roller which are carried by and projected from said head, and adapted to present the axial line of the staff along the axial line of the holder and to have the roller at rest flatwise against the outer end-wall thereof and a sliding ejector-rod, suitably supported, with its axis along a line coincident with the axial line of said holder and which is arranged and adapted to be entered into said holder, and to act on the projecting end of the staff which is toward it, in combination with a rotatable cam, suitably supported, and which is arranged and adapted to operate on said ejector-rod and thereby to slide it forward into said tubular-holder and therein to work on the projecting end of the staff which is toward it.

2. A tool, for removing watch-rollers from balance-wheel staffs, comprising a rotatable-head, suitably supported, and a plurality of tubular-holders for balance-wheels and their staffs and rollers, which are severally carried by and projected from said head, and are adapted to be moved outwardly and inwardly on the head, and have their several axes along parallel lines and at corresponding distances from and parallel with the axis of said holder and each adapted to present the axis of the staff which it holds along its axial line and to have the roller at rest flatwise against the outer end-wall thereof, in combination with a sliding ejector-rod, suitably supported, with its axis along a line at a corresponding distance from the axial line of said rotatable-head to that of said holders, and otherwise arranged and adapted to be entered into a holder of the said plurality of holders, which is placed in line therewith, and therein to act on the projecting end of the staff which is toward it.

979,563. GRIPPING-TOOL. ARTHUR SAMUEL FRANCIS ROBINSON, Barsham, Beccles, England. Filed Apr. 2, 1909. Serial No. 487,425.



1. In a gripping tool, a gripping jaw formed with a pivot hole and provided beyond said pivot hole with an L-shaped extension formed with a number of pivot holes an opposing jaw provided with a hand grip extension and formed with a pivot hole between the jaw part and hand grip, a pivot pin adapted to engage any one of the holes of the L-shaped extension of said gripping jaw and the pivot hole of said opposing jaw, a lever pivoted to said opposing jaw and formed with a corresponding hand grip, a link pivoted to said lever and formed with a number of pivot holes, and a pivot pin adapted to engage any one of the holes of said link and the pivot hole of said gripping jaw.

2. In a gripping tool, a gripping jaw formed with a pivot hole and provided beyond said pivot hole with an L-shaped extension formed with a number of threaded pivot holes, an opposing jaw provided with a hand grip extension and formed with a pivot hole between the jaw part and hand grip, a threaded pivot pin adapted to engage any one of the holes of the L-shaped extension of said gripping jaw and the pivot hole of said opposing jaw, a lever pivoted to said opposing jaw and formed with a corresponding hand grip, a link pivoted to said lever and formed with a number of threaded pivot holes, and a threaded pivot pin adapted to engage any one of the holes of said link and the pivot hole of said gripping jaw.

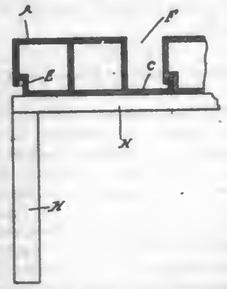
3. In a gripping tool, a gripping jaw formed with a pivot hole and provided beyond said pivot hole with an L-shaped extension formed with a number of pivot holes, an opposing jaw provided with a hand grip extension and formed with a pivot hole between the jaw part and hand grip, a pivot pin adapted to engage any one of the holes of the L-shaped extension of said gripping jaw and the pivot hole of said opposing jaw, a lever adjustably pivoted to said opposing jaw and formed with a corresponding hand grip, a link pivoted to said lever and formed with a number of pivot holes, and a pivot pin adapted to engage any one of the holes of said link and the pivot hole of said gripping jaw.

4. In a gripping tool, a gripping jaw formed with a pivot hole and provided beyond said pivot hole with an L-shaped extension formed with a number of pivot holes, an opposing jaw provided with a main pivot hole between the jaw part and hand grip and with a number of lever pivot holes between the jaw part and the main pivot hole, a pivot pin adapted to engage any one of the holes of the L-shaped extension of said gripping jaw and the main pivot hole of said opposing jaw, a lever formed with a pivot hole and with a hand grip, a pivot pin adapted to simultaneously engage any one of the pivot holes of said lever and any one of the lever pivot holes of said opposing jaw, a link pivoted to said lever and formed with a number of pivot holes, and a pivot pin adapted to engage any one of the holes of said link and the pivot hole of said gripping jaw.

5. In a gripping tool, a gripping jaw formed with a pivot hole and provided beyond said pivot hole with an L-shaped extension formed with a number of pivot holes, an opposing jaw provided with a hand grip extension and formed with a main pivot hole between the jaw part and hand grip and with a number of lever pivot holes between the jaw part and the main pivot hole, a pivot pin adapted to engage any one of the holes of the L-shaped extension of said gripping jaw and the main pivot hole of said opposing jaw, a lever formed with a pivot hole and with a hand grip, a pivot pin adapted to engage the pivot hole of said lever and any one of the lever pivot holes of said opposing jaw, a link pivoted to said lever and formed with a number of pivot holes, and a pivot pin adapted to engage any one of the holes of said link and the pivot hole of said gripping jaw.

[Claim 6 not printed in the Gazette.]

979,564. REINFORCED CONCRETE CONSTRUCTION. FRANK S. ROBINSON, Detroit, Mich. Filed May 9, 1908. Serial No. 431,863.



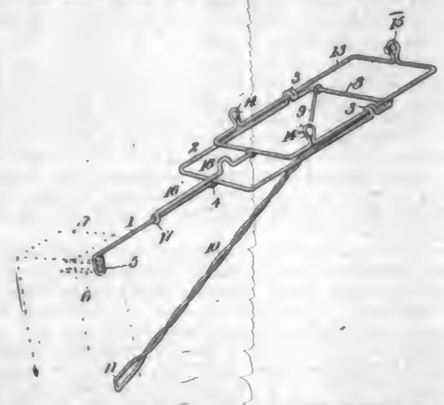
1. A building construction comprising pre-formed spa members having therebetween closed bottom channels, th base of the channel being formed by an extension of t

bottom wall of one of said members, said extension terminating in a vertical flange and the adjacent span member having a U-shaped socket with which said flange engages.

2. A building construction comprising pre-formed span members having therebetween closed bottom channels, the sides of said channels being formed by the side walls of the adjacent span members and the base of the channel being formed by an extension of the bottom wall of one of said span members, said extension having an interlocking engagement with the adjacent span member beyond the plane of the side wall of the last-mentioned span member.

3. A building construction comprising pre-formed span members having therebetween closed bottom channels, the sides of said channels being formed by the side walls of the adjacent span members and the base of the channels being formed by an extension of the bottom wall of one of said span members, said extension terminating in an upwardly projecting flange, and an inverted U-shaped socket formed in the other span member beyond the plane of the side wall of the latter with which said flange has an interlocking engagement.

979,565. MAIL-BOX SUPPORT. HENRY C. ROGERS, Talladega, Ala. Filed July 6, 1910. Serial No. 570,658.



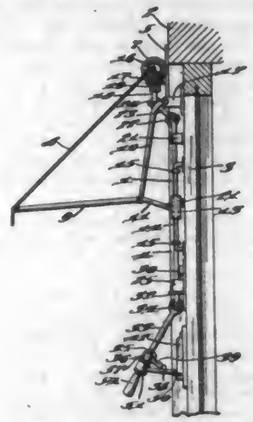
1. In a mail box support, the combination with a bracket comprising a rectangular frame formed of a single piece of metal rod, bent to shape and means for supporting the same, of a second frame similar to and slidably mounted upon the first, and means for securing a mail box to said second frame.

2. In a device of the character described, the combination of a suitable support, a swinging bracket pivoted thereto, such bracket comprising a frame and a shank, a similar frame and shank slidably mounted on said bracket and adapted to receive a mail box, said second shank having a hump intermediate its ends, and a spring clip adapted to embrace both shanks and resiliently hold said bracket in one of its positions, such clip serving also to engage said hump and thus prevent movement of the second frame on the first.

979,566. AWNING. LOUIS ROMBAUT, Philadelphia, Pa. Filed July 16, 1910. Serial No. 572,303.

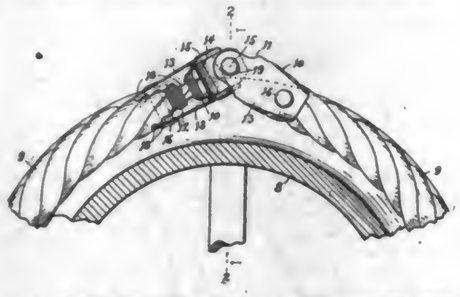
1. The combination with an awning, of a universally jointed shaft for raising and lowering the awning, a crank arm support, a lock to which said support may be secured, a crank arm on said support to which the shaft may be connected to turn with the arm, and a locking block on the shaft adapted to engage the lock when the support is disconnected therefrom, substantially as described.

2. The combination with an awning, of a universally jointed shaft for raising and lowering the awning, a crank arm support, a crank arm, a tubular journal mounted to turn in the support, a crank fixed to the journal, a spring pressed locking bolt adapted to engage the shaft and lock it in the tubular journal, a lock to which said support may be secured, and a locking block on the shaft adapted to engage the lock when the support is disconnected therefrom, substantially as described.



3. The combination with an awning, of a universally jointed shaft for raising and lowering the awning, a crank arm support, a crank arm, a tubular journal mounted to turn in the support, a crank fixed to the journal, a spring pressed locking bolt adapted to engage the shaft and lock it in the tubular journal, a lock to which said support may be secured, and a locking block on the shaft adapted to engage the lock when the support is disconnected therefrom, said locking block mounted to move longitudinally on the shaft, substantially as described.

979,567. ROPE-JOINT. AUGUST ROSENTHAL, West Allis, Wis. Filed May 29, 1908. Serial No. 435,611.



1. A mechanism, comprising a pulley provided with a tapering groove, a rope, and joint members connected to the rope and pivotally connected together and provided with an enlarged portion so shaped and constructed that each member will assume a tangential line with respect to the circumferential line of travel of the connected rope while traveling in the groove of the pulley.

2. A mechanism, comprising a pulley provided with a tapering groove, a rope, and tapering joint members connected to the rope and pivotally connected together at their larger ends, the larger ends of the members engaging the pulley grooves circumferentially at a greater distance from the center than the smaller ends of said members.

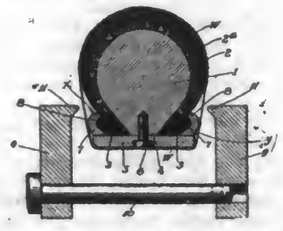
3. A mechanism, comprising a pulley provided with a tapering groove, a rope, a block, and tapering joint members connected to said rope and pivotally connected to said block at their larger ends, the larger ends of the members engaging the pulley groove circumferentially at a greater distance from the center than the smaller ends of said members.

4. A mechanism, comprising a pulley provided with a tapering groove, a rope, a block, pivotal means for said block, tapering joint members connected to said rope and pivotally connected to said block at their larger ends by said pivotal means, said pivotal means positioned at right angles with respect to each other, the larger ends of the members engaging the pulley groove circumferentially at a greater distance from the center than the smaller ends of said members.

5. A mechanism, comprising a pulley provided with a tapering groove, a rope, a block, pivotal means for said block, and two part tapering joint members connected to said rope and pivotally connected to said block at their larger ends by said pivotal means, said pivotal means positioned at right angles with respect to each other, the larger ends of the members engaging the pulley groove circumferentially at a greater distance from the center than the smaller ends of said members.

[Claims 6 to 10 not printed in the Gazette.]

979,568. TIRE-SHOE WRAPPING AND VULCANIZING APPARATUS. ROBERT ROWLEY, New York, N. Y. Filed Apr. 6, 1910. Serial No. 553,862.



1. In tire-wrapping apparatus, the combination of an annular mandrel; an inner, laterally projecting mandrel ring; a pair of shoe margin shaping-rings, each slidably mounted on a projecting margin of the mandrel ring; and a pair of wrapping-compression-plates having inward annular lips, the inner diameters of which are gerater than the outer diameters of the shoe margin shaping-rings.

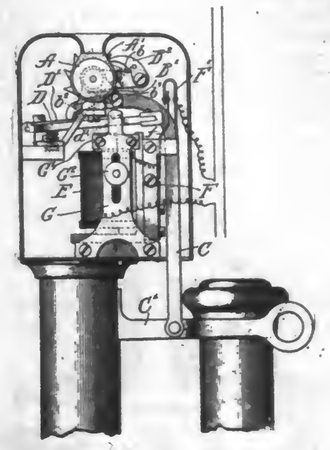
2. In tire-wrapping apparatus, the combination of an annular mandrel; an inner, laterally projecting mandrel ring; a pair of shoe margin shaping-rings, each slidably mounted on a projecting margin of the mandrel ring; a wrapping tubularly inclosing the mandrel, and a shoe when in place, together with the mandrel ring and bead margin shaping-rings; a pair of wrapping-compression-plates having inward annular lips, the inner diameters of which are greater than the outer diameters of the margin shaping-rings; and means for holding said wrapping-compression-plates in laterally movable relation one to another and to the mandrel.

3. In tire-wrapping apparatus, the combination of an annular mandrel; an inner, laterally projecting mandrel ring, the outer periphery of which is in contact with the inner periphery of the mandrel; a pair of clencher bead shaping-rings, each slidably mounted on a projecting margin of the mandrel ring, and having an inner, circumferentially extending, transverse, concave surface; a wrapping tubularly inclosing, when a shoe is in place, the shoe, mandrel, mandrel ring and bead shaping-rings; a pair of wrapping-compression plates having inward, annular lips, the inner diameters of which are greater than the outer diameters of the bead shaping-rings; and means for holding said wrapping-compression plates in laterally movable relations one to another.

979,569. TELEPHONE-CALL RECORDER. HENRY K. SANDELL, Chicago, Ill., assignor to Herbert S. Mills, Chicago, Ill. Filed Sept. 24, 1909. Serial No. 519,448.

1. The combination with a telephone line of a telephone call register, register-advancing means, and means whereby the breaking of the line-current shall render said register-advancing means effective.

2. The combination with a telephone line of a telephone call register, register-advancing means operated by the movement of a part of the telephone which is necessarily moved in making a call, and means whereby the breaking of the line-current shall render the register-advancing means effective.



3. The combination with a telephone line of a telephone call register, switch-hook operated register-advancing means, and means operated by the continuous passage of the normal line-current for rendering said register-advancing means ineffective, and arranged, when influenced by the changes in line-current, produced by the plugging in of the central operator to render said register-advancing means effective.

4. The combination with a telephone line of a telephone call register, switch-hook operated register-advancing means, means operated by the continuous passage of the normal line current for rendering said register-advancing means ineffective, and arranged, when influenced by the changes in line-current produced by the plugging in of the central operator, to render said register-advancing means effective.

5. The combination with a telephone line of a telephone call register, switch-hook operated means for advancing the register and normally operating to move the same back, and means operated by the changes in the line current produced by the plugging in of the operator for detaining the register.

[Claims 6 to 17 not printed in the Gazette.]

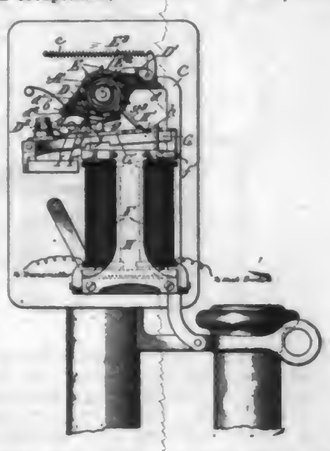
979,570. TELEPHONE-CALL RECORDER. HENRY K. SANDELL, Chicago, Ill., assignor to Herbert S. Mills, Chicago, Ill. Filed May 23, 1910. Serial No. 562,838.

1. The combination with a telephone line, of a telephone call register, means for advancing the register, a spring resisting its advance, means for preventing the overwinding of the spring, an escapement device and electromagnetic means for operating the escapement device to permit the spring to turn back the register.

2. The combination with a telephone line, of a telephone call register, a spring which resists the advancing of the register, friction means interposed between the spring and the register to prevent the overwinding of the spring, an escapement device engaging the register and electromagnetic means controlled by line conditions for operating the escapement means to permit the spring to turn the register backward.

3. The combination with a line, and a telephone call register, of register-advancing means, means tending normally to retract the register, means coöperating with the register-advancing means to form therewith an escapement mechanism and electro-magnetic means controlled by line conditions, and operating said means as an escapement to permit the step by step retraction of the register

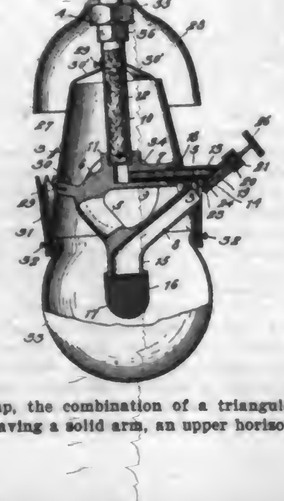
4. The combination with a telephone line, a telephone call register and a driving ratchet attached thereto, of two pawls coöperating to advance the ratchet, means for moving one pawl through the medium of a part of the telephone instrument necessarily moved in making a call, an electro-magnetic means for rendering one pawl effective or ineffective in accordance with line conditions, means coöperating with one pawl to form therewith an escapement mechanism, and electro-magnetic means controlled by line conditions for operating said pawl and its coöperating means as an escapement.



5. The combination with a telephone line, a telephone call register and a register driving ratchet and an advancing pawl connected to a part of the telephone necessarily manipulated in making a call and adapted to be moved thereby, a holding-pawl to engage the ratchet, electro-magnetic means for rendering said holding-pawl effective or ineffective in accordance with line conditions, means coöperating with the advancing pawl to form therewith an escapement, means tending normally to retract the register and electro-means controlled by line conditions for operating the advancing pawl and its coöperating means as an escapement.

[Claims 6 to 16 not printed in the Gazette.]

979,571. LAMP. ARTHUR W. SHARP, Summit, S. D. Filed Jan. 17, 1910. Serial No. 538,453.

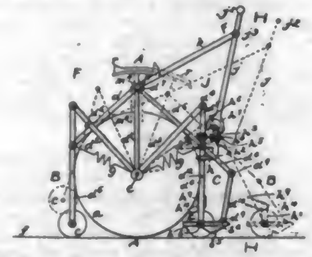


1. In a lamp, the combination of a triangular shaped burner head having a solid arm, an upper horizontal tubular arm united to the upper end of the solid arm and forming a vaporizing tube, and a downwardly inclined tubular arm united to and supported by the lower end of the solid arm and forming a mixer tube, the latter having a downturned lower end to support a mantle, a valve having its inlet connected to the horizontal arm of the burner head, and its outlet disposed opposite the inclined tubular arm of said head, an upright vaporizing tube connected to and communicating with the horizontal tubular arm of the burner head, a ceiling pipe, a liquid fuel pipe within the latter, and a coupling uniting the upper end of the upright vaporizing tube to the ceiling and fuel pipes.

2. In a lamp, the combination of a triangular shaped burner head having a solid arm, an upper horizontal tubular arm united to the upper end of the solid arm and forming a vaporizing tube, and a downwardly inclined tubular arm united to and supported by the lower end of the solid arm and forming a mixer tube, the latter having a downturned lower end to support a mantle, a valve having its inlet connected to the horizontal arm of the burner head, and its outlet disposed opposite the inclined tubular arm of said head, an upright vaporizing tube connected to and communicating with the horizontal tubular arm of the burner head, a globe-supporting casing surrounding the burner head and the upright vaporizing tube, said casing being formed with a torch-receiving opening, a ceiling pipe, a liquid fuel pipe arranged within the latter, a coupling uniting the upper end of the upright vaporizing tube to the ceiling pipe and fuel pipe, and a heat bell supported above the casing by said coupling.

3. In a lamp, the combination of a ceiling pipe having a flanged lower end, a fuel feeding tube in said pipe and having an enlargement at its lower end, a flanged sectional plug in the lower end of the ceiling pipe and adapted to receive the fuel pipe, an upright vaporizing tube, and upper and lower coupling sleeves having threaded engagement, the upper sleeve having an inwardly projecting flange to engage the flange on the lower end of the ceiling pipe, and the lower sleeve having a vaporizing tube connected to it and being formed with an opening having a cone shaped portion to engage the enlargement on the fuel tube.

979,572. VEHICLE. ROBERT COOKE SAYER, Bristol, England. Filed Aug. 10, 1908. Serial No. 447,863.



1. A vehicle comprising a main wheel, a seat supporting member carried thereby, a supplemental wheel contacting with the road, a system of pivoted levers connecting said supplemental wheel with the said member so that said supplemental wheel may be moved away from the main wheel and yielding means for holding said supplemental wheel in its normal position adjacent the main wheel.

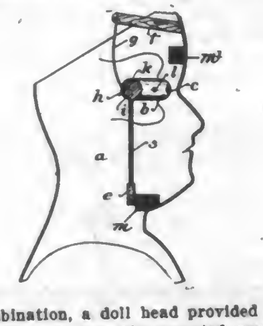
2. A vehicle comprising a main wheel, a seat supporting member carried thereby, front and rear wheels contacting with the road, a system of pivoted levers connecting each of the latter wheels with the seat supporting member so that said wheels may have movement away from the main wheel, and yielding means for holding said wheels in their normal position adjacent said main wheel.

3. A vehicle comprising a main wheel, a seat supporting member carried thereby, front and rear wheels contacting with the road, a system of pivoted levers connecting each of the latter wheels with the seat supporting member so that said wheels may have movement away from the main wheel, yielding means for holding said wheels in their normal position adjacent said main wheel, and steering means connected with the front wheel.

4. A vehicle comprising a main wheel, a seat supporting member pivoted to the hub of said wheel, vertical members d^3, front and rear wheels carried by said members, struts d^3 pivotally connected at their upper ends to the upper ends of the members d^3 and having their lower ends pivoted to the hub of the main wheel, struts d^5 pivoted at one end to the members d^3 and at their other ends to the upper portion of the seat supporting member, means for steering the front wheel and springs connecting the vertical members d^3 with the hub.

5. A vehicle comprising a main wheel, a seat supporting member carried thereby, a supplemental wheel, a shoe carried by said supplemental wheel, a system of pivoted struts connecting said wheel and shoe with the seat supporting member so that said wheel and shoe may have movement relatively to the main wheel, spring means for holding the wheel and shoe in normal position, and steering means connected with the supplemental wheel.

979,573. DOLL-EYES. GEORG SCHERF, Sonneberg, Germany. Filed Nov. 29, 1909. Serial No. 530,426.



1. In combination, a doll head provided with openings in the face thereof, movably mounted means simulating eye balls movable abreast of and away from said openings, a gravity acting device for maintaining said means abreast of said openings to simulate open eyes when the doll head is in one position and serving to move said means away from said openings to simulate closed eyes when the doll head is in another position, and mechanism coöperating with said means to hold the same in one position and upon shaking the head to release said means and permit said device to operate the same.

2. In combination, a doll head provided with openings in the face thereof, movably mounted means simulating eye balls movable abreast of and away from said openings, a gravity acting device arranged to maintain said means abreast of said openings to simulate open eyes when the doll head is in one position and serving to move said means to simulate closed eyes when the doll head is in another position, and mechanism coöperating with said means to hold the same in a position to simulate open eyes and serving upon shaking the head to release said means and permit said device to move the same into a position to simulate closed eyes.

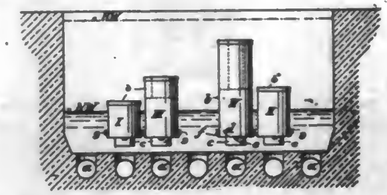
3. In combination, a doll head provided with openings, in the face thereof, a pivotally mounted member having portions simulating eye balls and arranged to be movable abreast of said openings, a weight on said member arranged to maintain the same in a position to simulate open eyes when the doll head is in a vertical position and closed eyes when the doll is in a horizontal position, and means coöperating with said member to hold the same in a position to simulate open eyes irrespective of the position of the head and serving when the head is shaken to release said member and permit operation thereof under the influence of said weight.

4. In combination, a doll head provided with openings in the face thereof, a pivotally mounted member having portions simulating eye balls movable abreast of and away from said openings, a weight secured to said member and serving to hold the same in a position to simulate open eyes when the doll head is in a vertical position and closed eyes when the doll head is in a horizontal position, and a spring engaging said member and serving to hold the same in a position to simulate open eyes when the doll head is in either position and serving when the doll head is shaken to release said member to permit actuation thereof under the influence of said weight.

5. In combination, a doll head including movable means for simulating the eyes of the doll arranged to be moved to simulate closed eyes, and mechanism for releasably holding said means in a position to simulate open eyes irrespective of the position of the doll head and adapted to be released to permit said means to assume a position to simulate closed eyes when the doll head is in one position.

[Claim 6 not printed in the Gazette.]

979,574. WEIR AND THE LIKE. FRIEDRICH SCHNAPP, Berlin, Germany. Filed Oct. 20, 1909. Serial No. 523,692.



1. In means for regulating the discharge from reser voirs having variable water-level, the combination, with weir having a plurality of outlets below the lowest wate level, of a plurality of floats of various height, open abov and provided below with an outlet, each of said floats b ing guided vertically above one of said outlets in the we and adapted to close the same, when the water-level ris above the float, and to open the same when the water-lev subsequently falls below the float.

2. The combination, with a weir having a discharge co duit, of a cylindrical sliding-valve guided vertically abov and adapted to close the mouth of said conduit, said sli ing-valve comprising a bottom shaft, a top shaft of larg diameter than the bottom shaft, and a perforated botto between said shafts, substantially as shown and for t purpose specified.

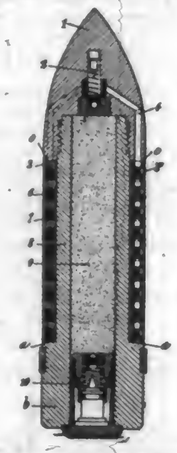
979,575. PROJECTILE FOR ORDNANCE. EUGE SCHNEIDER, Le Creuzot, France. Filed June 22, 191 Serial No. 568,325.

1. A projectile for firing against balloons and the li comprising in combination, a shell body having an exteri shoulder on its base portion and an ogival head provid with an opposing shoulder, a plurality of fuse rings co taining a flame-generating composition and mounted said body and held between said shoulders, said rings ing provided with flame passages open to the atmosphe and with other passages for effecting communication tween said rings, and ignition means for igniting a flame-generating composition.

2. A projectile for firing against balloons and the li comprising in combination, a shell body having an exter shoulder on its base portion and an ogival head provid with an opposing shoulder, a plurality of fuse rings co taining a flame-generating composition and mounted said body and held between said shoulders, said rings ing provided with flame-passages open to the atmosphe and with other passages for effecting communication tween said rings, and a conduit communicating the cha of said projectile and one of said fuse rings.

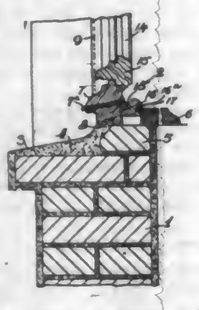
3. A projectile for firing against balloons and the l comprising in combination, a shell body having an exte shoulder on its base portion and an ogival head provi

with an opposing shoulder, a plurality of fuse rings containing a flame-generating composition and mounted on said body and held between said shoulders, said rings being provided with flame-passages open to the atmosphere, and with other passages for effecting communication be-



tween said rings, a conduit communicating the charge of said projectile and one of said fuse rings, and a closure in the end of the projectile adapted to be displaced when the initial charge is ignited to allow flame to issue from the rear of the projectile in its flight.

979,576. WINDOW-FRAME. FELIX SCHNEIDER, Geveisberg, Germany. Filed July 28, 1909. Serial No. 510,145.

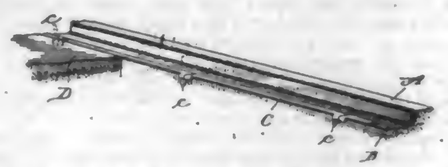


In a window frame structure, a lower window frame beam provided upon its lower side with a groove, a plastic sill upon which said beam is disposed, a portion of the material of said plastic sill fitting within said groove, the inner vertical side of said beam being provided with a groove, an auxiliary beam to fit snugly within the second named groove, means to secure the auxiliary beam to the window frame beam, said auxiliary beam having a groove formed upon its inner vertical side, a second sill having a tongue to fit within the last named groove, and the second sill being spaced from the window frame beam to form an air space therebetween.

979,577. PROCESS OF AND TEMPLET FOR USE IN LAYING PAVEMENTS. EUGENE GEO. SCHWENDEMAN, Oak Park, Ill., assignor to The American Asphalt Paving Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 28, 1910. Serial No. 584,183.

1. A templet for the purpose specified comprising a long flat strip having one or more ears projecting therefrom and extending transversely thereof at one edge.

2. A templet for the purpose specified comprising a long flat strip having a plurality of separated ears projecting transversely thereof at one edge and lying with their inner faces in approximately the plane of said edge.



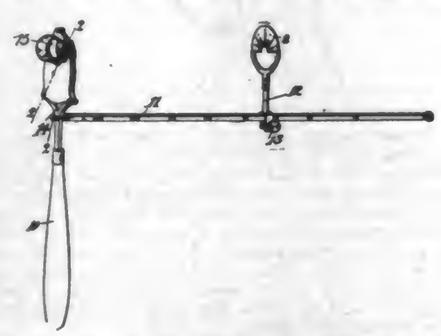
3. A templet for the purpose specified comprising a long flat strip having at each end a small ear extending at right angles thereto adjacent to one edge thereof.

4. A templet for the purpose specified comprising a long flat strip having at each end a small ear extending at right angles thereto adjacent to one of its edges, the inner faces of said ears lying approximately in the plane of said edge.

5. The method of laying a pavement beside a gutter member with its upper surface projecting above the gutter member, which consists in placing on the gutter member adjacent to the outer edge a templet having an ear overhanging the outer side of the gutter member, depositing the paving material beside the gutter member and rolling it level with the upper surfaces of the templet, removing the templet, and filling the opening left upon the withdrawal of the ear.

[Claim 6 not printed in the Gazette.]

979,578. REFRACTOMETER. NATHAN A. SHIGON, New York, N. Y. Filed Nov. 1, 1909. Serial No. 525,654.



1. In a refractometer having a lens disk with an opening and lenses, and a second lens disk with an opening and lenses movable in respect to the first disk, a cam-follower on one lens disk, a gear on the other lens disk, a starwheel intermittently engaged by the cam-follower, and a gear-wheel carried by the starwheel and engaging the first named gear-wheel and so arranged that on each complete rotation of the first lens disk the second lens disk is rotated the distance of one lens.

2. In a refractometer having a support with openings and with a sight-opening, lens disks with openings and lenses movable in respect to each other, a casing for said lens disks rotatable with respect to the sight-opening and having pins engaging the openings in the support, and a spring interposed between the casing and support arranged to permit the movement of the casing in relation to the support so as to permit the disengagement of the pins from the openings in the support.

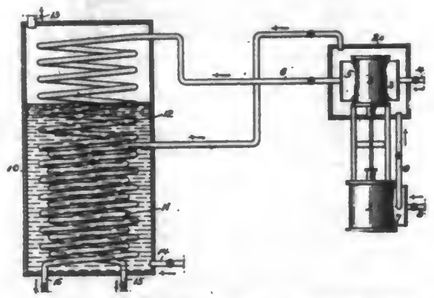
3. In a refractometer, an arbor, a lens disk having an opening and lenses connected to the arbor, a second lens disk freely rotatable on the arbor, and means to keep the second disk from rotation until the first disk makes one complete rotation.

4. In a refractometer, the combination of a pair of disks, a starwheel having an operative connection with one of the disks, and a revoluble part having an operative connection with the other disk, and having a projection adapted to engage said starwheel.

5. In a refractometer, the combination of a pair of disks, a starwheel having an operative connection with one of the disks, and a revoluble part having an operative connection with the other disk, and having a projection adapted to engage said starwheel, one of said connections comprising relatively movable parts.

[Claims 6 to 19 not printed in the Gazette.]

979,579. UTILIZING WASTE HEAT OF COMPRESSORS. FRANK SHUMAN, Philadelphia, Pa. Filed Mar. 18, 1907, Serial No. 362,892. Renewed May 21, 1910. Serial No. 562,766.



1. The mode herein described of utilizing waste heat of compressors, said mode consisting in causing the exhaust motive power fluid of the compressor engine to heat one portion of a power-developing agent having a relatively low boiling point, and causing the compressed fluid to heat to a higher temperature another portion of said agent.

2. The mode herein described of utilizing waste heat of compressors, said mode consisting in causing the exhaust motive power fluid of the compressor engine and the compressed fluid, conjointly, to heat one portion of a power-developing agent having a relatively low boiling point, and causing said compressed fluid to heat to a higher temperature another portion of said agent.

3. The mode herein described of utilizing waste heat of compressors, said mode consisting in raising the temperature of the exhaust motive power fluid of the compressor engine by heat of the compressed fluid, causing said exhaust motive power fluid, thus increased in temperature, to heat one portion of a power-developing agent having a relatively low boiling point and causing the compressed fluid to heat to a higher temperature another portion of said agent.

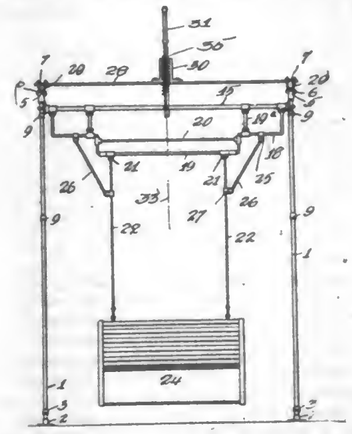
4. The mode herein described of utilizing waste heat of compressors, said mode consisting in causing the exhaust motive power fluid of the compressor engine to first lower the temperature of the compressed fluid in the compressor and then to heat one portion of a power-developing agent having a relatively low boiling point, and causing the compressed fluid to heat to a higher temperature another portion of said agent.

5. The mode herein described of utilizing waste heat of compression, said mode consisting in vaporizing, by heat of the compressed fluid, a power-developing agent having a relatively low boiling point and also causing the heat of the compressed fluid to superheat the vapor under pressure thus produced.

[Claims 6 to 8 not printed in the Gazette.]

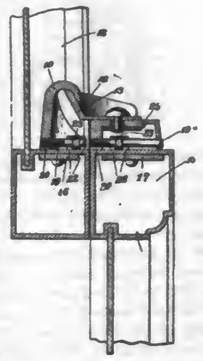
979,580. SWING. GREGORY SIMON, Pittsburg, Pa. Filed Sept. 1, 1910. Serial No. 579,068.

A swing comprising a pair of supporting frames suitably connected together, a pair of inwardly extending bearings secured to each of said frames, a transversely-extending rock shaft revolubly supported by each pair of bearings, a suspension frame pivotally mounted upon each of said rock shafts and having a centrally disposed offset portion, a tie-rod for bracing the upper end of each of said offset portions, a tie-rod for connecting one offset portion to the other, pairs of bars connected to the shafts and the suspension frames in proximity to their offset portions, a pair of rods suspended from the offset portion of each of said suspension frames, a carrier supported by each pair of



rods, inclined braces connected to each pair of rods and their respective suspension frame to one side of said bars, a fulcrum lever mounted at the top of said supporting frames, means for connecting one end of said lever to the offset portion of one of the suspension frames, and an operating cable connected to the other end of said lever and depending below the other suspension frame.

979,581. LOCK FOR WINDOWS AND THE LIKE. FRANK F. SMITH, Newark, N. J. Filed July 29, 1909. Serial No. 510,220.



1. In a lock of the class described, a keeper adapted to be secured to one of two meeting rails of a window sa and having an upwardly extending hook portion; a ba adapted to be secured to the other meeting rail and t upper surface of which is provided with a ratchet sto said keeper and base being adjustable with reference one another in a direction to vary their distance apart; holding member rotatably secured upon the upper surfa of said base and which moves in contact with said ratch and which holding member has an inclined portion adapt to engage beneath the hook portion of said keeper, a an operating arm provided with a vertical and radia extending slot; and a spring-pressed lever pivotally cured in said slot, the outer end of which lever proje above the upper surface of said operating arm, and inner end of which extends downward and through a s

provided for that purpose in said holding member and into position to engage with the ratchet stop aforesaid.

2. In a lock of the character described, the combination with a keeper member provided with a base of a locking member provided with a base and means for adjusting either of said members on the sash to which it is secured, said means comprising a screw tapped at one end into an opening in the wall of the base, said screw being provided between its ends with a shoulder, and a bearing secured tightly to the window sash to which the member is attached and adapted to engage the shoulder on said screw whereby when the latter is turned the member will be correspondingly moved.

3. In a lock of the character described, the combination with a keeper member, of a locking member adapted to engage therewith, the latter comprising a base and holding member mounted to turn on said base, a spring-actuated lever provided on said holding member whereby to lock the same against rotation in one direction on said base, either of said members being provided with elongated slots for the reception of the fastening screws, and adjusting means provided on either of said keeper or locking members comprising a screw tapped at one end into the wall of the base and provided between its ends with a shoulder adapted to engage with a bearing secured tightly to the window sash, substantially as described.

4. A lock of the character described, comprising a keeper and a locking member, either of which is provided with a screw tapped into the wall of the member at one end, a bearing immovable with respect to the screw, and adapted to engage a shoulder formed on the latter whereby to adjust said member with relation to the sash to which it is secured, said locking member comprising a base and holding member mounted to turn thereon, and means provided on said holding member whereby to lock the same against rotation on the base in one direction at different points in its rotation.

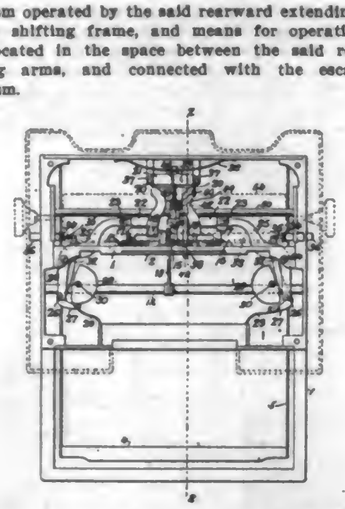
979,582. LOCK FOR METAL WINDOW-SASHES. FRANK F. SMITH, Newark, N. J. Filed Feb. 23, 1910. Serial No. 545,355.



The combination with a window frame, of a sash mounted therein, a lock comprising two members one of which is secured to said frame and the other to the sash, each of said members being provided at both its ends with elongated openings for the reception of retaining screws whereby the same may be adjusted with relation to said sash and frame, and each of said members being provided with serrations on its rear side, and two serrated plates one of which is secured to said sash and the other to said frame and each provided on its front face with serrations with which engage the serrations on the back of the two locking members, substantially as described.

979,583. RIBBON-MOVEMENT FOR TYPE-WRITERS. GEORGE A. SMITH, New York, N. Y., assignor of sixteen one-hundred and fourths to James W. Hennessey, New York, N. Y., forty-six one-hundred and fourths to Arthur Letts, Los Angeles, Cal., and twenty-one one-hundred and fourths to Frederick H. Ward, Brooklyn, N. Y. Filed Dec. 17, 1906. Serial No. 348,296.

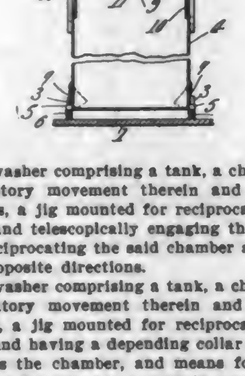
1. In a type-writer, a universal bar located at the center of the machine, means for operating said bar upon the striking of the keys, outward extending arms carried by said bar, spool-turning means operated by the said outward extending arms, rearward extending arms, spaced apart and carried by the said universal bar, escapement mechanism operated by the said rearward extending arms, a ribbon shifting frame, and means for operating said frame located in the space between the said rearward extending arms, and connected with the escapement mechanism.



2. In a type-writer, the combination of a universal bar, ribbon spools supported near the sides of the machine, pawls for turning the said spools, and means for throwing one or the other of said pawls into engagement and the other simultaneously out of engagement comprising a transversely arranged sliding rod, downwardly extending arms carried by the said rod, and adjustable contact pins mounted in the said arms and arranged to operate the pawls, whereby a greater or less turning of the spools is secured accordingly as the contact pins are adjusted.

3. In a type-writer, the combination of a platen, a platen-shift rod, an arm loosely mounted on said rod, a lever pivoted to said arm, an escapement-carrying lever, a link connecting the said two levers, a ribbon frame operated by the said lever that is pivoted to the arm on the platen-shift rod, and means for turning the said arm upon the platen-shift rod whenever the platen is shifted.

979,584. COAL-WASHER. NEWTON A. SMITH, Marion, Ill., assignor of one-half to Samuel H. Goodall, Marion, Ill. Filed Oct. 3, 1910. Serial No. 585,075.



1. A coal washer comprising a tank, a chamber mounted for reciprocatory movement therein and having valved inlet openings, a jig mounted for reciprocatory movement in the tank and telescopically engaging the chamber, and means for reciprocating the said chamber and jig simultaneously in opposite directions.

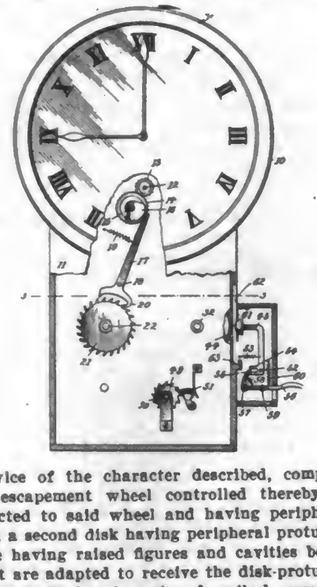
2. A coal washer comprising a tank, a chamber mounted for reciprocatory movement therein and provided with valved inlets, a jig mounted for reciprocatory movement in the tank and having a depending collar which telescopically engages the chamber, and means for reciprocating the chamber and jig simultaneously in opposite directions.

3. A coal washer comprising a tank, a chamber mounted for reciprocatory movement therein, a jig mounted for reciprocatory movement in the tank and telescopically engaging the chamber, means resiliently supporting the jig, and means for reciprocating the chamber and the jig simultaneously in opposite directions.

4. A coal washer comprising a tank, a chamber movably mounted in the tank and having a valved inlet, resilient means for normally holding said chamber in an elevated position, means for depressing the chamber against the tendency of the resilient means, a jig mounted for reciprocatory movement with the tank and telescopically engaging the chamber, means for reciprocating the jig, the parts being so arranged that the chamber and the jig move simultaneously in opposite directions.

5. A coal washer comprising a tank, guides mounted in the tank, a chamber having eyes which slidably receive the guides, springs interposed between the bottom of the tank and the chamber and normally holding the chamber in an elevated position, said chamber being provided with a valved inlet, a jig mounted for reciprocatory movement in the tank, means for reciprocating the jig, said jig telescopically engaging the chamber, means for depressing the chamber against its resilient supporting means the parts being so arranged that the chamber and the jig move simultaneously in opposite directions.

979,585. TIME-RECORDER. JACOB SOKOLOV, New York, N. Y. Filed June 6, 1910. Serial No. 565,377.



1. A device of the character described, comprising a clock, an escapement wheel controlled thereby, a first disk connected to said wheel and having peripheral protuberances, a second disk having peripheral protuberances, and a tape having raised figures and cavities below said figures that are adapted to receive the disk-protuberances.

2. A device of the character described, comprising a clock, an escapement wheel controlled thereby, a first disk connected to said wheel and having peripheral protuberances, a second disk having peripheral protuberances, a metal tape having raised figures and cavities below said figures that are adapted to receive the disk-protuberances, time-recording disks flanking the second disk, a cam controlled by the escapement, and means actuated by said cam for intermittently advancing said time-recording disks.

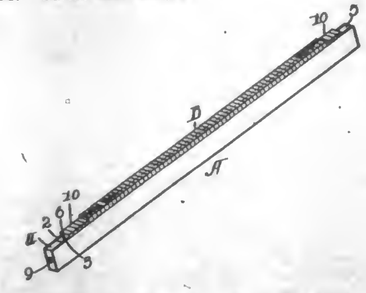
3. A device of the character described, comprising a clock, an escapement wheel controlled thereby, a first disk connected to said wheel and having peripheral protuberances, a second disk having peripheral protuberances, a tape having raised figures and cavities below said figures that are adapted to receive the disk-protuberances, time-recording disks flanking said second disk, a cam controlled by the escapement, a lever engaging the cam, and a ratchet wheel actuated by the lever and connected to the time-recording disks.

4. A device of the character described, comprising a clock, an escapement wheel controlled thereby, a first disk connected to said wheel and having peripheral protuberances, a second disk having peripheral protuberances, a tape having raised figures and cavities below said figures that are adapted to receive the disk-protuberances, a card-receiving pocket adjoining the tape, and manually actuated printing means adapted to partly enter said pocket.

5. A device of the character described, comprising a clock, an escapement wheel controlled thereby, a first disk connected to said wheel and having peripheral protuberances, a second disk having peripheral protuberances, a tape having raised figures and cavities below said figures that are adapted to receive the disk-protuberances, a card-receiving pocket adjoining the tape, and a manually actuated spring-influenced printing hammer adapted to enter said pocket.

[Claims 6 and 7 not printed in the Gazette.]

979,586. LINE UNIT-CASE FOR PRINTING-MACHINES. WILLIAM A. SORO, Minneapolis, Minn. Filed Sept. 2[illegible] 1908. Serial No. 454,011.



1. In means for printing, the combination of a li holder comprising side walls in parallel relation a spaced apart and forming a substantially vertical pa sageway between them, and a printing type having printing end and a plain or non-printing end to rest a type bed, said type being of greater length than t height of the line holder and having a supporting should adapted to engage the upper edge of one of said walls support the type therein with its printing end upwa when not on the type bed and with the plain or no printing end protruding from the lower edge of the li holder, whereby when said line holder with the ty therein is placed on the type bed with the non-printi end of the type against the bed, said shoulder projected out of engagement with the wall of the li holder.

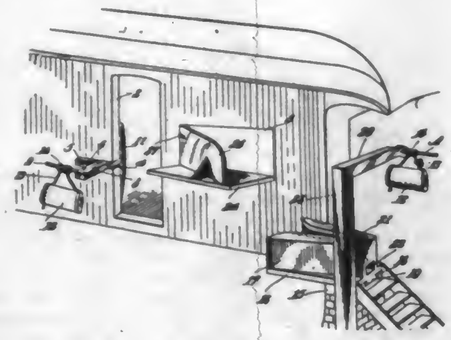
2. In means for printing, the combination of a li holder comprising side walls substantially parallel, lon tudinally and transversely and held together at th ends, a lock up in said holder, and a printing type havi a printing end and a plain or non-printing end to r on a type bed, said type being of greater length th the height of the line holder and having a supporti shoulder adapted to engage the upper edge of one of a walls to support the type therein with its printing upward when not on the type bed and with the plain non-printing end protruding from the lower edge of line holder, whereby when said line holder with the t therein is placed on the type bed with the non-print end of the type against the bed, said shoulder is projec out of engagement with the wall of the line holder.

3. In means for printing, the combination of a holder, comprising, side walls in parallel relation held spaced apart forming a substantially vertical passe way between them, and a printing type having a print end and a plain or non-printing end to rest on a t bed and fitting loosely between said walls, said type be of greater length than the height of the line holder, having a supporting shoulder adapted to engage the up

edge of one of said walls to support the type therein with its printing end upward when not on the type bed and with the plain or non-printing end protruding from the lower edge of the line holder, whereby when said line holder with the type therein is placed on the type bed with the non-printing end of the type against the bed, said shoulder is freely projected out of engagement with the wall of the line holder.

4. In means for printing, the combination of a line holder comprising a pair of side walls parallel longitudinally and transversely and held together at their ends, and a printing type having a printing end and a plain or non-printing end to rest on a type bed, said type being of greater length than the height of the line holder, and having a supporting shoulder adapted to engage the upper edge of one of said walls to support the type therein with its printing end upward when not on the type bed and with the plain or non-printing end protruding from the lower edge of the line holder, whereby when said line holder, with the type therein, is placed on the type bed, with the non-printing end of the type against the bed said shoulder is projected out of engagement with the wall of the line holder.

979,587. APPARATUS FOR CATCHING AND DELIVERING MAIL. WILLIAM STETSALL, Marion, Ind. Filed Oct. 1, 1910. Serial No. 584,885.

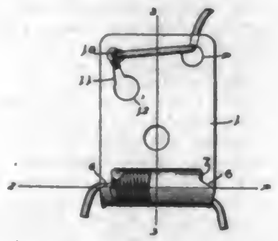


1. In an apparatus of the character described, in combination with a car having an opening in its side, an arm hingedly mounted in the car adjacent said opening, the said opening having at one of its edges a recess, a hinged section normally closing said recess, said arm adapted to swing into said recess, means for locking said arm in the recess, and a pin carried at the free end of the arm, and extending at approximately a right angle to the long dimension of the arm, and a socket member mounted upon a fixed support adjacent the course of travel of the car.

2. In an apparatus as described and in combination with a car having an opening in its side, a bag supporting arm mounted upon the car, a foundation located adjacent the path of travel of the car and provided at its upper end with a mortise having under cut sides, a socket member having upon its base a tenon adapted to fit snugly in said mortise and provided with a stop adapted to limit the movement of the tenon in the mortise, said socket member having converging side walls and provided in its top with an elongated slot, a flange provided within the socket member in the vicinity of its smaller end, said socket member having an opening at its smaller end in communication with its interior.

3. In an apparatus as described, in combination with a car provided in its side with an opening, a panel hinged at the lower edge of said opening and adapted to swing in opposite direction to open position, a board hingedly mounted upon said panel and having its hinged portion diagonally disposed along the panel, a handle attached to said board, said board adapted to be swung in a vertical position at an acute angle to the plane of the side of the car and having one end against the end of the opening therein, and a bag supporting arm located adjacent the path of movement of the car.

979,588. STRING-CLASP. SCOTT STEWART, Rivesville, W. Va. Filed Sept. 14, 1909. Serial No. 517,672.



1. A device of the character described, comprising a substantially flat body portion having one end thereof bent to form a housing, a coil spring arranged within said housing and being substantially smaller in its circumference than the internal surface of said housing, said housing being provided with a laterally arranged longitudinal opening, and means for preventing the displacement of said spring.

2. A device of the character described, comprising a housing, a coil spring disposed within said housing and capable of moving longitudinally thereof, said housing being provided with an opening upon one side thereof, and lugs formed upon one side of said housing for engaging the ends of said coil spring to limit the longitudinal movement of the same.

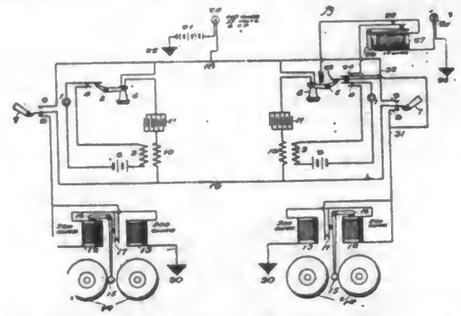
979,589. VARIABLE-SPEED DRIVING MECHANISM, RADFORD STOCKBRIDGE, Worcester, Mass., assignor of one-half to Arthur W. Beaman, Worcester, Mass. Filed Apr. 28, 1906. Serial No. 314,281.



In a mechanism of the class described, a framework having an opening in its side, a circular plate attached to the framework and covering said opening, provided with a hollow hub and a concentric interior flange, a gear journaled on said hub and said concentric flange, a driving shaft passing through the edge of said circular plate, and a pinion carried on said shaft engaging said gear.

979,590. TELEPHONE SYSTEM. SAMUEL S. STOLP, Chicago, Ill., assignor to William J. C. Kenyon, Chicago, Ill. Filed Nov. 27, 1908. Serial No. 464,740.

1. In a telephone system, a line comprising two metallic conductors, a grounded battery connected to one of them, grounded signaling devices normally connected to the other conductor, one at each end of the line, and means to disconnect the signaling device and simultaneously connect the conductors at either end of the line and thereby actuate the signaling device at the opposite end of the line.



2. In a telephone system, a line comprising two metallic conductors, a grounded battery connected to one of them, a grounded signaling device normally connected to the other conductor at one end of the line, means to connect the conductors at the opposite end of the line and thereby actuate the signaling device, and talking apparatus bridged across the line at the ends with respective condensers in series therewith.

3. In a telephone system, a line comprising two metallic conductors, a grounded battery connected to one of them, grounded signaling devices normally connected to the other conductor at the ends of the line, and means to connect the conductors at either end of the line and thereby actuate the signaling device at the opposite end thereof.

4. In a telephone system, a line comprising two metallic conductors, a grounded battery connected to one of them, grounded signaling devices normally connected to the other conductor at both ends of the line, and means at both ends of the line to disconnect the signaling device at the respective end therewith and to connect the conductors at that end and thereby actuate the signaling device at the opposite end.

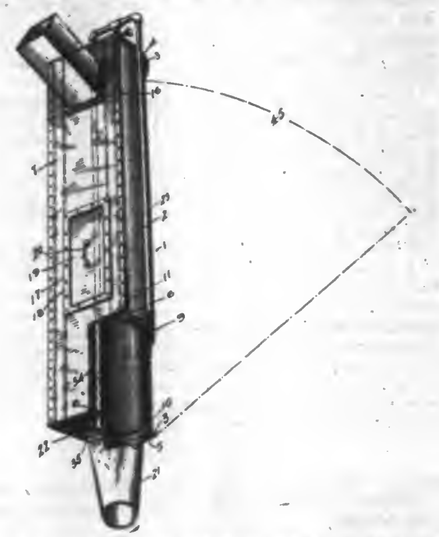
5. In a telephone system, a line comprising two metallic conductors, a grounded battery connected to one of them, talking apparatus in series with a condenser bridged across the line, a local transmitter circuit and a local battery associated therewith, a grounded signaling device normally connected to the conductor, which does not have the battery attached thereto, said talking apparatus and signaling device being associated together at one point on the line, and means to connect the conductors at another point of the line and thereby actuate the signaling device.

[Claims 6 to 13 not printed in the Gazette.]

979,591. STEAM-COOKER. ORA G. STORM, Longmont, Colo. Filed Mar. 28, 1910. Serial No. 552,070.

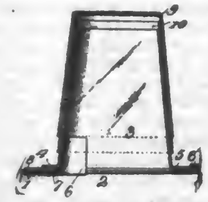
1. A cooker of the character described, comprising an inclined outer casing substantially U-shaped in cross section, an inner casing substantially U-shaped in cross section disposed within the outer casing and spaced therefrom, a common cover connected with the outer and inner casings, supply and discharge means for the inner casing arranged near the upper and lower ends thereof respectively, a steam supply pipe, a plurality of connections between said pipe and the outer casing, valves to control such connections, a perforated pipe disposed axially within the inner casing and connected with the steam supply pipe, and a valve connected with the steam supply pipe to control the passage of steam into the perforated pipe.

2. In a cooker of the character described, an outer casing substantially U-shaped in cross section and having its free edges bent to form flanges, a second casing substantially U-shaped in cross section disposed within the outer casing and having its free upper edges bent to form flanges, said casing having an inclined position, a flat cover disposed upon the flanges of said casings and connected therewith, means to feed material within the upper end of the second named casing, means to allow the discharge of the material from the lower end of the second named casing, means for independently supplying steam within the outer casing and the second named casing, and means to supply steam within the second named casing after such steam has passed through the outer casing.



3. In a cooker of the character described, inner and outer inclined casings, supply and discharge means for the inner casing near its upper and lower ends respectively, a steam supply pipe, a pipe establishing communication between the steam supply pipe and the lower portion of the outer casing, controlling valves connected with the steam supply pipe upon both sides of the second named pipe, a valve connected with the second named pipe to control the same, a third pipe establishing communication between the steam supply pipe and the upper end of the outer casing, a controlling valve connected with the third pipe, and a perforated pipe extending axially within the inner casing and having communication with the steam supply pipe.

979,592. DISPENSING-RECEPTACLE. LARKIN STOWE, Pleasant View, Ky. Filed Jan. 3, 1910. Serial No. 536,031.



1. In a device of the nature described, the combination of a spout adapted to seat around a port in the wall of a receptacle and having a tongue adapted to enter said port and extend beneath said wall and having another tongue located opposite the first-mentioned tongue and adapted to extend into engagement with a member located upon the outer side of said wall adjacent said port.

2. In a device of the nature described, the combination of a cap and a spout, said cap being adapted to seat upon said spout and said spout being adapted to seat around a port in the wall of a receptacle and having a tongue adapted to enter said port and extend beneath said wall and having another tongue located opposite the first mentioned tongue and adapted to extend into engagement with a member located upon the outer side of said wall adjacent said port.

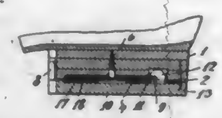
3. In a device of the nature described, the combination of a spout, a funnel, and a cap, said funnel being adapted to seat upon said spout and said cap being adapted to seat upon said funnel, and said spout being adapted to seat around a port in the wall of a receptacle and having a tongue adapted to enter said port and extend beneath said wall and having another tongue located opposite the first-mentioned tongue and adapted to extend into engagement with a member located upon the outer side of said wall adjacent said port.

4. In a device of the nature described, the combination of a spout adapted to seat around a port in the wall of a receptacle and having a flange around its base and having a tongue adapted to enter said port and extend beneath said wall and having another tongue located opposite the first-mentioned tongue and adapted to extend into engagement with a member located upon the outer side of said wall adjacent said port.

5. In a device of the nature described, the combination of a cap and a spout, said cap being adapted to seat upon said spout and said spout being adapted to seat around a port in the wall of a receptacle and having a flange at its base and having a tongue adapted to enter said port and extend beneath said wall and having another tongue located opposite the first-mentioned tongue and adapted to extend into engagement with a member located upon the outer side of said wall adjacent said port.

[Claim 6 not printed in the Gazette.]

979,593. EXCHANGEABLE HEEL FOR SHOES. SIMON STROMER, New York, N. Y. Filed June 1, 1910. Serial No. 564,387.

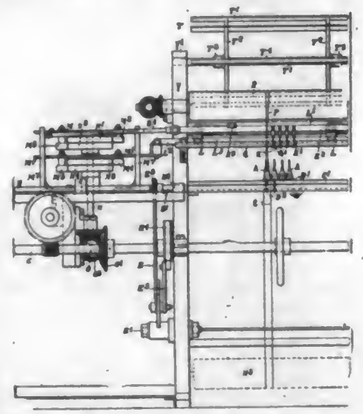


1. In combination with a boot or shoe, a holding plate secured to the heel having elongated slots radially arranged and a larger slot near its inner portion, a locking device rotatably mounted within the heel provided with marginal notches and a lateral projection extending through the large slot of the holding plate, in combination with an exchangeable heel comprising a fastening plate, hook shaped ears formed integrally with said fastening plate and adapted to pass through the radial slots of the holding plate and the notches of the locking device so that upon turning the latter the exchangeable heel is firmly attached.

2. In combination with a boot or shoe, a holding plate secured to the heel having elongated slots radially arranged and a larger slot near its inner portion, a locking device rotatably mounted within the heel provided with marginal notches forming slightly inclined teeth and a lateral projection extending through the large slot of the holding plate, in combination with an exchangeable heel comprising a fastening plate, hook shaped ears formed integrally with said fastening plate, and adapted to pass through the radial slots of the holding plate and the notches of the locking device so that upon turning the latter its teeth like edges enter the notches of the hook shaped ears under a slight angle whereby the exchangeable heel is firmly attached.

3. In combination with a boot or shoe, a holding plate secured to the heel having elongated slots radially arranged, small holes and a large slot near its inner portion, a locking device rotatably secured within the heel provided with marginal notches forming teeth like portions under a slight angle and having a lateral projection extending through the large slot of the holding plate, in combination with an exchangeable heel comprising a fastening plate with hook shaped ears formed integrally therewith and having spherical projections corresponding in number and location to the holes of the holding plate of the heel, so arranged that the ears may pass through the radial slots of the holding plate and marginal notches of the locking device and upon turning the latter its teeth like portions engage the notches of the ears and the spherical projections lodge in the holes of the holding plate of the heel.

979,594. LOOM FOR WEAVING TAPES, RIBBONS, AND SIMILAR FABRICS. ARTHUR EDWARD STROUD, Derby, England. Filed Mar. 14, 1905. Serial No. 250,100.



1. In a loom for weaving a plurality of narrow fabrics simultaneously, a series of shuttles working side by side in horizontal parallel paths transversely to the length of the loom, means for moving the whole of said shuttles simultaneously from front to back and back to front alternately, transverse guides for the shuttles, warp shedding mechanism consisting of a series of longitudinal thread guide bars each provided with a series of thread eyes or holes for the warps spaced the same distance apart as the shuttles so that each guide bar provides the shedding means for the corresponding thread in each of the sheds, and beating up mechanism, substantially as described.

2. In a loom for weaving a plurality of narrow fabrics simultaneously, a series of shuttles working side by side in horizontal paths transversely to the length of the loom, means for moving the whole of said shuttles simultaneously from front to back and back to front alternately, warp shedding mechanism comprising a series of longitudinal thread guide bars each provided with a series of thread eyes or holes for the warps spaced the same distance apart as the shuttles so that each guide bar provides the shedding means for the corresponding thread in each of the sheds, and beating up mechanism, substantially as described.

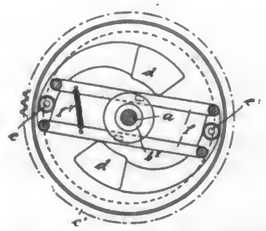
3. In a loom for weaving a plurality of narrow fabrics simultaneously, a series of shuttles working side by side in horizontal paths transversely to the length of the loom, guides for the shuttles, means for moving the whole of said shuttles simultaneously from front to back and back to front alternately comprising teeth on the shuttles and two longitudinal shafts provided with toothed wheels to engage with the teeth of the shuttles, means for reciprocating the two shafts, warp shedding mechanism comprising a series of longitudinal thread guide bars each provided with a series of thread eyes or holes for the warps spaced the same distance apart as the shuttles so that each guide bar provides the shedding means for the corresponding thread in each of the sheds, and beating up mechanism, substantially as described.

4. In a loom for weaving a plurality of narrow fabrics simultaneously, the combination of a series of shuttles provided with teeth, sets of horizontal transverse shuttle guides, two longitudinal shafts on the underside of said shuttle guides, means for actuating the same, toothed wheels on said shafts to engage with the teeth of the respective shuttles, warp shedding mechanism situated between the shafts comprised of a series of thread guide bars each provided with a series of thread eyes for the warps spaced the same distance apart as the shuttles so that each guide bar provides the shedding means for the corresponding thread in each of the sheds, warp shedding mechanism, and beating up mechanism, substantially as described.

5. In a loom for weaving a plurality of narrow fabrics simultaneously, the combination of the shuttles, propelling mechanism for the same, warp shedding mechanism, and beating up mechanism comprising a series of combs rigidly connected to a bar, levers provided with guides for said bar, and means for actuating said levers and moving the comb bar longitudinally in said guides, substantially as described.

[Claim 6 not printed in the Gazette.]

979,595. FRICTION-COUPLING OPERATED BY A CENTRIFUGAL DEVICE. WILHELM STUHLDREHER, Krefeld, Germany. Filed Apr. 14, 1910. Serial No. 555,528.

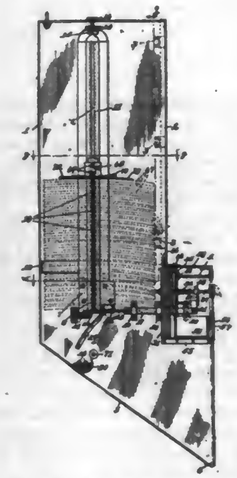


1. In a friction coupling the combination with the driven shaft and a coupling element keyed on said shaft, of a second coupling element capable of rotating freely around said shaft and of being moved axially into frictional engagement with the first named element, a centrifugal device, comprising two weighted double-armed levers, a pivot for each of said levers arranged diametrically opposite on either side of the axis or prolongation of the axis of said shaft, two parallel members, each connecting an arm of one lever with the other arm of the other lever, pivots for connecting said members to said arms arranged at equidistant points on either side of the pivots of said levers, a resistance device for opposing the upward movement of said weighted lever and means for utilizing the longitudinal movement of said members caused by the outward movement of said levers and the first named element as an abutment for causing an axial movement of the second named element into frictional engagement with the first named element.

2. In a friction coupling the combination with the shaft to be driven of a coupling element secured on said shaft, a concentric sleeve on said element, a second coupling element provided with a sleeve and being capable of rotating freely on the first named sleeve and of being moved into frictional engagement with the first named element, a collar on the first named sleeve located so as to provide an annular slot between the inner face of said collar and the outer face of the sleeve on said second element, means for detachably securing said collar to the first named sleeve, two weighted double-armed levers pivoted at two diametrically opposite points to said second element, two parallel members pivoted to each lever at equidistant points on either side of said pivots, each connecting opposite arms of said levers and adapted to reciprocate in said annular slot, a slot in each of said parallel members, a wedge located in each of said slots, corresponding cone surfaces on the outer face of the sleeve on said second element adapted to coöperate with said wedges and a spring device adapted to hold said levers in the inward position and to restrain the outward movement of said levers.

3. In a friction coupling the combination with the shaft to be driven of a coupling element secured to said shaft, a concentric sleeve on said element, a second coupling element provided with a sleeve and being capable of rotating freely on the first named sleeve and of being moved into frictional engagement with the first named element, a collar on the first named sleeve located so as to provide an annular slot between the inner face of said collar and the outer face of the sleeve on said second element, means for detachably securing said collar to the first named sleeve, two weighted double-armed levers pivoted at two diametrically opposite points to said second element, two parallel members pivoted to each lever at equidistant points on either side of said pivots, each connecting opposite arms of said levers and adapted to reciprocate in said annular slot, a slot in each of said parallel members, a wedge located in each of said slots, corresponding cone surfaces on the outer face of the sleeve on said second element adapted to coöperate with said wedges, a spring device adapted to hold said levers in the inward position and to restrain the outward movement of said levers and means for returning said second element into normal position.

979,596. VENDING-MACHINE. ERNEST E. SULLIVAN, Chicago, Ill. Filed Oct. 28, 1909. Serial No. 525,040.

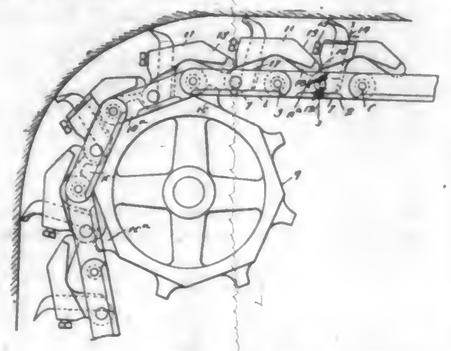


1. In a vending machine, the combination of a casing vertical T-shaped guide channels provided at either side of said casing; supporting rods having enlarged cylindrical ends sliding in said channels; a reciprocatory rod adapted to pass between said supporting rods; a reciprocatory spring held stop arranged below said reciprocatory rod at a distance substantially equal to the thickness of said supporting rods and on the other side of said supporting rods from said reciprocatory rod; a connection between said reciprocatory rod and said stop for normally holding said stop in inoperative position when said rod is operative but to prevent a limited movement of said stop when said rod is operated; and means for reciprocating said rod, substantially as described.

2. In a vending machine, the combination of a casing having a sloping discharge bottom; vertical T-shaped guide channels provided at either side of said casing; supporting rods having enlarged cylindrical ends sliding in said channels; a reciprocatory rod adapted to pass between said supporting rods; a reciprocatory spring held stop arranged below said reciprocatory rod at a distance substantially equal to the thickness of said supporting rods and on the other side of said supporting rods from said reciprocatory rod; a connection between said reciprocatory rod and said stop for normally holding said stop in inoperative position when said rod is operative but to prevent a limited movement to said stop when said rod is operated; means for reciprocating said rod; a rod receptacl

located to the rear and below said channels; guides arranged to conduct said supporting rods to said receptacle; and a discharge roller located above and forward of said receptacle, substantially as described.

979,597. MINING-MACHINE. SPENCER JAY TELLER, Unadilla, N. Y., assignor to The Jeffrey Manufacturing Company, a Corporation of Ohio. Filed Mar. 18, 1909. Serial No. 484,257.



1. In a mining machine cutter chain, the combination of a series of chain links, a series of cutter blocks, each pivotally attached to a link, and a series of supporting means located on the blocks, each being adapted to hold the cutter block of another link against rotation about its pivotal axis, substantially as set forth.

2. In a mining machine cutter chain, the combination of a chain, and a series of cutter carrying blocks, each of said blocks attached to the chain by a single pivotal connection, each of said blocks provided with a supporting surface, and each of said blocks adapted to engage with and be supported by the supporting surface of the next following block, substantially as set forth.

3. In a mining machine cutter chain, the combination of a chain, and a series of cutter blocks each attached to the chain by a single pivotal connection, each of said cutter blocks being provided with a supporting surface and each of said cutter blocks being adapted to engage with and be supported by the supporting surface of an adjacent cutter block, substantially as set forth.

4. In a mining machine cutter chain, the combination of a chain, and a series of cutter blocks each attached at its forward end to a link of the chain by a single pivotal connection, and means for supporting the rear end of each of the blocks on an adjacent link, substantially as set forth.

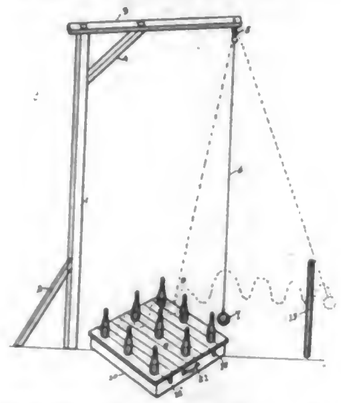
5. In a mining machine cutter chain, the combination of a chain, and a series of cutter blocks each having a rear extension, each of said blocks being attached to the chain by a single pivotal connection and each of said blocks having a forward cylindrical surface concentric with its pivotal axis, and adapted to support the rear extension of the next preceding block, substantially as set forth.

[Claims 6 to 19 not printed in the Gazette.]

979,598. GAME APPARATUS. ALEXIUS W. THIMM, Seattle, Wash. Filed July 23, 1910. Serial No. 573,406.

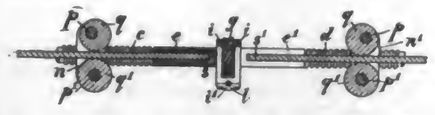
1. In a game apparatus, a suspended ball, a stationary standard around which the ball is to be thrown, a set of movable pins; means for imparting a sufficient vertical movement to the ball during its travel, whereby certain of the pins may be hurdled or skipped, or left standing, according to the skill of the player, substantially as described, as and for the purpose set forth.

2. In a game apparatus the combination of a fixed support, a vertically movable arm pivotally mounted upon said support, a ball, a connection attached at its upper end to said arm and at its lower end to said ball, said connection comprising an upper spring section and a lower flexible section, as and for the purpose set forth.



3. In a game apparatus the combination of the suspended and swinging ball 7 and spring 5, with the standard 13 and movable pins 8, for the purpose set forth.

979,599. BELT-STRETCHER. FREDERICK THOMAS, London, England. Filed Mar. 25, 1910. Serial No. 551,441.



1. A belt stretcher comprising in combination, two pairs of rollers, means for carrying the rollers, one roller of each pair being concentrically mounted on its carrying means and the other roller of each pair being eccentrically mounted on its carrying means, and means for moving one pair of rollers toward the other.

2. A belt stretcher comprising in combination, two pairs of rollers, means for carrying the rollers, one roller of each pair being concentrically mounted on its carrying means and the other roller of each pair being eccentrically mounted on its carrying means and means for moving the pairs of rollers simultaneously toward one another.

3. A belt stretcher comprising, in combination, two pairs of rollers, means for carrying the rollers, one roller of each pair being concentrically mounted on its carrying means, and the other roller of each pair being eccentrically mounted on its carrying means and screw means for moving one pair of rollers toward the other.

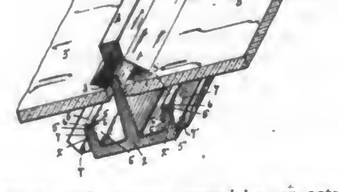
4. A belt stretcher comprising, in combination, two pairs of rollers, means for carrying the rollers, one roller of each pair being concentrically mounted on its carrying means and the other roller of each pair being eccentrically mounted on its carrying means and screw means for moving the pairs of rollers simultaneously toward one another.

5. A belt stretcher comprising in combination, two pairs of rollers, round bars for carrying the rollers, one roller of each pair being concentrically mounted on its bar and the other roller of each pair being eccentrically mounted on its bar and means for moving one pair of rollers toward the other.

[Claims 6 to 15 not printed in the Gazette.]

979,600. GLAZED ROOF STRUCTURE. HENRY T. THOMAS, New York, N. Y. Filed Mar. 5, 1909. Serial No. 481,325.

1. A glazed roof-structure comprising an astragal having a side-flange; a plicate cushion extending along the upper edge of said side-flange, and yieldable mainly within the plane thereof, the summital member of said cushion being merged into a facing segment, which projects downwardly therefrom and shields said cushion, at one side thereof, and likewise shields more or less of the adjacent face of the side-flange aforenamed; and a pane of glass on said cushion.



2. A glazed roof-structure comprising an astragal having a side-flange; a plicate cushion extending along the upper edge of said side-flange, and yieldable mainly within the plane thereof, the summital member of said cushion being merged into a facing segment, which extends downwardly therefrom and shields said cushion and said side-flange at one side thereof, and the base member of said cushion being merged into a facing segment which extends downwardly therefrom and shields said side-flange at the opposite side thereof.

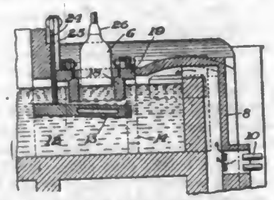
3. A glazed roof-structure comprising an astragal having a side-flange; a plicate cushion extending along the upper edge of said side-flange, and yieldable mainly within the plane thereof, the base member of said cushion being merged into a facing segment, which projects downwardly therefrom, shields more or less of the adjacent face of the side-flange aforenamed, and carries at its lower portion a condensation gutter; and a pane of glass on said cushion.

4. A glazed roof-structure comprising an astragal having a side-flange; a cushion, approximating the form of a plicated bead and extending along the upper edge of said side-flange, said cushion having segments projecting therefrom and engaging, after the manner of a clip, the side-flange aforenamed, at the opposite sides thereof, and being yieldable mainly within the plane of said side-flange; and a pane of glass on said cushion.

5. For a glazed roof-structure, a cushion, approximating the form of a plicated bead, the summital member thereof being merged into a down-turned segment adapted to shield one side of said cushion.

[Claims 6 to 9 not printed in the Gazette.]

979,601. GLASS-DRAWING PROCESS AND APPARATUS. LINCOLN A. THORNBURG, Muncie, Ind., assignor of one-half to American Window Glass Machine Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Sept. 3, 1908. Serial No. 451,474.



1. The method of forming glass articles which comprises drawing them upwardly from a bath of molten glass and meanwhile controlling the temperature of the glass at a level intermediate between the drawing point and the bottom of the mass of glass.

2. The method of forming glass articles which consists in drawing them upwardly from a bath of molten glass and controlling the flow and temperature of the glass at a level intermediate between the drawing point and the bottom of the mass of molten glass.

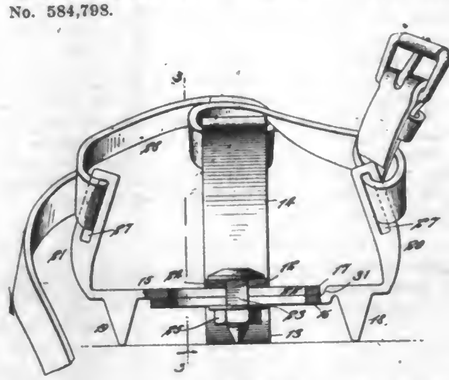
3. The process of drawing glass articles which comprises drawing the glass upwardly from a bath of large volume, controlling the flow of glass to the drawing point by an open ring around the same, and controlling the temperature of the glass at a point below the drawing ring but above the bottom of the bath.

4. In the art of drawing glass articles, the method of controlling the flow and temperature of the glass near the drawing point by drawing it under an open ring and over a submerged cooling block placed between the ring and the bottom of the bath, substantially as described.

5. In the art of drawing glass cylinders, the method which comprises flowing the main body of glass into a deep forehearth, drawing the articles in succession from the surface thereof out of open floating rings and controlling the temperature and flow of the glass by means of a submerged plate above the bottom of the bath.

[Claims 6 to 19 not printed in the Gazette.]

979,602. OVERSHOE FOR HORSES. WILLIAM TRABUE, Montvale, N. J. Filed Oct. 1, 1910. Serial No. 584,798.



1. An attachment for horseshoes comprising a longitudinal bar having calks on its end portions and at its front end an auxiliary upwardly extending bar to engage the front of a hoof, and a transverse bar-member secured to said longitudinal bar and having at its ends downwardly projecting calks and upwardly extending auxiliary bar portions to engage the sides of the hoof, said auxiliary bar portions being slotted, combined with flexible means extending through said slots for binding the attachment to the hoof; substantially as set forth.

2. An attachment for horseshoes comprising a longitudinal bar having calks on its end portions and at its front end an auxiliary upwardly extending bar to engage the front of a hoof, and a transverse bar-member secured to said longitudinal bar and having at its ends downwardly projecting calks and upwardly extending auxiliary bar portions to engage the sides of the hoof, said auxiliary bar portions being slotted, combined with a strap extending through said slots for binding the attachment to the hoof, said strap at its advance end being threaded in reverse direction through the slots and brought around against the face of the auxiliary bars, whereby the strap becomes looped at each of said bars; substantially as set forth.

3. An attachment for horseshoes comprising a longitudinal bar having calks on its end portions and at its front end an auxiliary upwardly extending bar to engage the front of a hoof, a transverse member comprising overlapping slotted bars each having at its outer end a downwardly extending calk and an upwardly extending auxiliary bar portion to engage the side of the

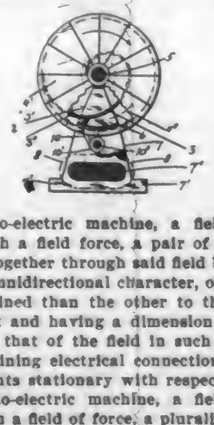
a bolt extending through said longitudinal bar and the slots in the overlapping portions of said transverse bars for enabling the lateral adjustment of said transverse bars and the securing of all said bars together, and binding means engaging said auxiliary bars for securing the attachment to the hoof; substantially as set forth.

4. An attachment for horseshoes comprising a longitudinal bar having calks on its end portions and at its front end an auxiliary upwardly extending bar to engage the front of a hoof, a transverse member comprising overlapping slotted bars each having at its outer end a downwardly extending calk and an upwardly extending auxiliary bar portion to engage the side of the hoof, a bolt extending through said longitudinal bar and the slots in the overlapping portions of said transverse bars for enabling the lateral adjustment of said transverse bars and the securing of all said bars together, and binding means engaging said auxiliary bars for securing the attachment to the hoof, said bolt where engages said slots and the walls of the hole it passes through in the longitudinal bar being polygonal in cross-section to prevent swiveling action of the bars; substantially as set forth.

5. An attachment for horseshoes comprising a longitudinal bar having calks on its end portions and at its front end an auxiliary upwardly extending bar to engage the front of a hoof, a transverse member comprising overlapping slotted bars each having at its outer end a downwardly extending calk and an upwardly extending auxiliary bar portion to engage the side of the hoof, a bolt extending through said longitudinal bar and the slots in the overlapping portions of said transverse bars for enabling the lateral adjustment of said transverse bars and the securing of all said bars together, and binding means engaging said auxiliary bars for securing the attachment to the hoofs, said bolt being extended downwardly to the lower horizontal plane of said calks and tapered to act as a calk; substantially as set forth.

[Claim 6 not printed in the Gazette.]

979,603. DYNAMO-ELECTRIC MACHINERY. DANIEL W. TROY, Montgomery, Ala. Filed Nov. 1, 1909. Serial No. 525,825.



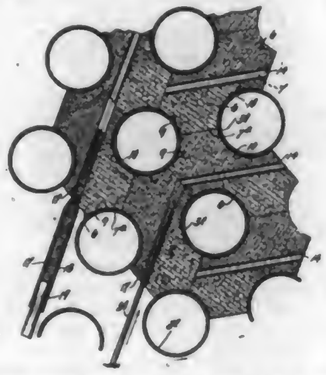
1. In a dynamo-electric machine, a field magnet arranged to establish a field force, a pair of armature conductors movable together through said field by relative motion therewith of unidirectional character, one of said conductors more inclined than the other to the direction of relative movement and having a dimension in that direction greater than that of the field in such direction, and means for maintaining electrical connection between said conductors at points stationary with respect to said field.

2. In a dynamo-electric machine, a field magnet arranged to establish a field of force, a plurality of armature conductors all movable together through said field by relative motion therewith, one of said conductors more inclined that the others to the direction of relative movement and having a dimension in that direction greater than that of the field in such direction, and means for maintaining electrical connection between said more inclined conductor and each of the others successively at points stationary with respect to said field.

3. In a dynamo-electric machine, a field magnet arranged to establish a field of force, an armature arranged to move through said field and having a plurality of conductors substantially normal to the direction of such movement and a return conductor substantially inclined to the direction of such movement, a peripheral conductor connected to said inclined conductor, and means for maintaining electrical connection between said peripheral conductors and each of said substantially normal conductors at points stationary with respect to said field.

4. In a dynamo-electric machine, a field magnet arranged to move through said field and having a plurality of conductors substantially normal to the direction of such movement and a return conductor substantially inclined to the direction of such movement, a second plurality of like substantially normal conductors and a second like substantially inclined conductor on said armature, said second substantially inclined conductor permanently connected electrically to said first substantially normal conductors, and means for maintaining electrical connection between said first substantially inclined conductor and each of said first substantially normal conductors and between said second substantially inclined conductor and each of said second substantially normal conductors at points stationary with respect to said flux.

979,604. BRICK FOR FLAME-WALLS OF WATER-TUBE BOILERS. THOMAS G. TURNER, New York, N. Y., assignor to Turner Baffle-Wall & Boiler Company, a Corporation of New York. Filed Jan. 28, 1909. Serial No. 474,765.



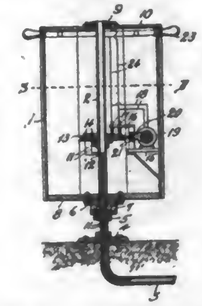
1. A water tube boiler having boiler tubes arranged in parallel series or rows, a flame wall composed of bricks arranged transversely of said tubes, a brick thereof having curved recesses in one edge adapted to be seated upon adjacent tubes of a row, said brick having an edge which terminates short of the tubes of an adjacent row, a similarly shaped brick of said wall adapted to contact adjacent tubes of said adjacent row having an edge which adjoins the last mentioned edge of the first brick, one line of separation between adjacent bricks that contact with adjacent rows of tubes passing within the space between adjacent rows, the other lines of separation being lines that connect centers of tubes of parallel rows.

2. A water tube boiler having boiler tubes arranged in parallel series or rows, a flame wall composed of bricks arranged transversely of said tubes, a brick thereof having curved recesses in one edge adapted to be seated upon adjacent tubes of a row, said brick having an edge which terminates short of the tubes of an adjacent row, a similarly shaped brick of said wall adapted to contact adjacent tubes of said adjacent row having an edge which adjoins the last mentioned edge of the first brick, one line of separation between adjacent bricks that contact with adjacent rows of tubes passing within the space between adjacent rows, the other lines of separation being lines that connect centers of tubes of parallel rows, said first meeting edges having grooves therein and a filler in said groove.

3. A water tube boiler having boiler tubes arranged in parallel series or rows, a flame wall composed of bricks arranged transversely of said tubes, a brick thereof having curved recesses in one edge adapted to be seated upon adjacent tubes of a row, said brick having an edge which terminates short of the tubes of an adjacent row, a similarly shaped brick of said wall adapted to contact adjacent tubes of said adjacent row, having an edge which adjoins the last mentioned edge of the first brick, one line of separation between adjacent bricks that contact with adjacent rows of tubes passing within the space between adjacent rows, the other lines of separation being along lines that connect centers of tubes of parallel rows, said first meeting edges having grooves therein and a filler in said groove, said filler being a tube.

4. In combination with the water tubes, and flame plate of a water tube boiler, a plurality of bricks within the space between a plurality of adjacent tubes and a filler forced between two bricks whereby they may be spread apart to be firmly seated upon adjacent tubes.

979,605. EXHIBITOR. WALTER S. TURNPAUGH, Fort Worth, Tex. Filed Aug. 12, 1910. Serial No. 576,895.



1. In a rotary exhibitor, a hollow shaft, a drum mounted to rotate about the shaft, a pulley fixed on the shaft, a motor carried by the drum and having driving connection with the pulley, contacts disposed about the shaft, electrical conductors extending through the shaft and having connection with the contacts, and brushes carried by the drum engaging with the contacts and having connection with the motor.

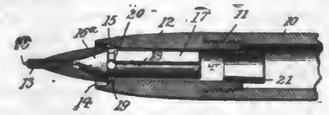
2. In a rotary exhibitor, a hollow shaft, electrical conductors in the shaft, a bearing member fixed on the shaft, a second bearing member rotatable about the shaft and over the first member, a drum mounted on the second bearing member, a pulley carried by the shaft and fixed thereto within the drum, contacts about the shaft within the drum having connection with the conductors of the shaft, other contacts carried by the drum and engaging the first contact and connected with the motor, a motor carried by the drum, and a connection between the pulley and the motor for transmitting rotation to the drum.

3. In a rotary exhibitor, a hollow shaft fixed in position, electrical conductors in the shaft, a bearing member fixed on the shaft, a second bearing member rotatable about the shaft over the first member, a drum having display spaces on its outer surface and secured on the second bearing member, a pulley carried by the shaft and fixed thereto within the drum, concentric contacts mounted on the pulley, and having connection with the conductors of the shaft, brushes supported by the drum and traveling on the contacts, a motor carried by the drum and having connection with the brushes, and a belt engaging with the pulley and the motor for transmitting rotation to the drum.

979,606. STYLOGRAPHIC PEN. JACOB ULLRICH, Hoboken, N. J. Filed Oct. 7, 1910. Serial No. 585,780.

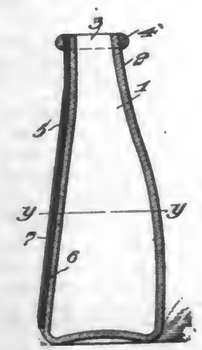
1. A stylographic pen comprising a holder, a nozzle, and a feed bar within the nozzle, said bar being provided with a tapering head, a longitudinal groove, a communicating lower circumferential groove, and a transverse duct opening at both ends into the circumferential groove.

2. A stylographic pen comprising a holder, a nozzle, and a feed bar within the nozzle, said bar being provided with a tapering head, a pair of diametrically disposed longitudinal grooves, a communicating lower circumfer-



ential groove, and a transverse duct that enters the circumferential groove and connects the lower ends of the longitudinal grooves.

979,607. NURSING-BOTTLE. ROBERT A. VAN CLEAVE, Philadelphia, Pa. Filed Aug. 30, 1909. Serial No. 515,161.

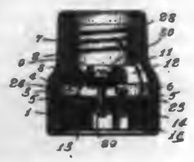


1. A nursing bottle, and a separate tube open at both ends and secured by being partly embedded and fused in the outside of the body of the bottle and wholly embedded and fused in and through the bead at the bottle mouth.

2. A nursing bottle, and a separate tube open at both ends and secured by being partly embedded and fused in and longitudinally to the outside of the bottle body and wholly embedded and fused in and through the bead at the bottle neck.

3. A nursing bottle provided with a bead at its mouth and an air conveying passage entirely upon the exterior of the bottle and comprising a tube formed separate from the bottle proper and extending from a point near the bottom of the bottle to and through said bead, said tube being embedded and fused in the body of the bottle and bead.

979,608. INCANDESCENT-ELECTRIC-LAMP SOCKET. SAMUEL B. VAN RANST, Syracuse, N. Y., assignor to Crouse-Hinds Company, Syracuse, N. Y., a Corporation of New York. Filed Oct. 5, 1910. Serial No. 585,40



1. An electric lamp socket comprising two elements, a base and a receptacle mounted on the base, said elements having opposing surfaces, a terminal within the receptacle for engaging one of the terminals of a lamp, a terminal for connection with a line wire mounted on the base, a spring conductor between the opposing surfaces and electrically connected to the terminal in the receptacle and to the wire-terminal, and a clamping member for drawing said elements together and compressing

spring conductor, substantially as and for the purpose described.

2. An electric lamp socket comprising two elements, a base and a receptacle mounted on the base, said elements having opposing surfaces, a terminal within the receptacle for engaging one of the terminals of a lamp, a terminal for connection with a line wire mounted on the base, a spring conductor between the opposing surfaces and electrically connected to the terminal in the receptacle and to the wire-terminal, and being secured to one of said terminals and frictionally engaging the other, and a clamping member for drawing said elements together and compressing the spring conductor, substantially as and for the purpose specified.

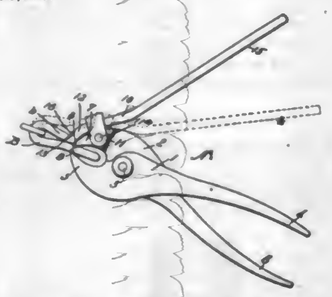
3. An electric lamp socket comprising two elements, a base and a receptacle mounted on the base, said elements having opposing surfaces, a terminal within the receptacle for engaging one of the terminals of a lamp, a terminal for connection with a line wire mounted on the base, a spring conductor between the opposing surfaces and electrically connected to the terminal in the receptacle and to the wire terminal, and a clamping member arranged centrally of the socket for drawing said elements together and compressing the spring conductor, substantially as and for the purpose set forth.

4. An electric lamp socket comprising two elements, a base and a receptacle mounted on the base, said elements having opposing surfaces, a terminal within the receptacle for engaging one of the terminals of a lamp, a terminal for connection with a line wire mounted on the base, a spring conductor between the opposing surfaces and electrically connected to the terminal in the receptacle and to the wire-terminal, a terminal for engaging the other terminal of the lamp, and an insulated clamping member arranged centrally of the lamp for drawing said elements together and compressing the spring conductor, substantially as and for the purpose described.

5. An electric lamp socket having a terminal for engaging one terminal of a lamp, and a spring conductor extending into the lamp receptacle of the socket and having a terminal at its free end arranged to engage the other terminal of the lamp when the lamp is part way in the socket, substantially as and for the purpose specified.

[Claims 6 to 13 not printed in the Gazette.]

979,609. CHAIN-REPAIRING TOOL. DR WILL G. VAUGHN, Richmond, Va. Filed Apr. 22, 1910. Serial No. 556,975.



1. A tool of the character described comprising a pair of pivotally connected members having coöperating jaws, and a pivoted supplementary member provided with a foot arranged to operate in advance of the gripping edge of said jaws.

2. A tool of the character described comprising a pair of pivotally connected members having coöperating jaws, and a supplementary member pivoted on one of said jaws and provided with a foot adapted to be operated in advance of the gripping edges of said jaws.

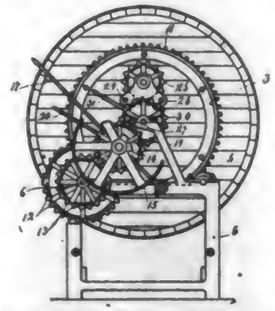
3. A tool of the character described comprising a pair of pivotally connected members having coöperating jaws, and a supplementary member pivoted on one of said coöperating members and movable in the plane of said member, and a foot on said supplementary member projecting in advance of the jaws.

4. A tool of the character described comprising a pair of pivotally connected members having coöperating jaws, and a supplementary member mounted on one of said coöperating jaws and movable in the plane of movement of said jaws, a foot on said supplementary member projecting in advance of the jaws, and a sharpened toe on the front of said foot.

5. A tool of the character described comprising a pair of pivotally connected members having coöperating jaws, and a pivoted supplementary member removably attached to the tool and provided with a foot arranged to operate in advance of said jaws in the plane of their movement.

[Claims 6 and 7 not printed in the Gazette.]

979,610. COMBINED CHURN AND BUTTER-WORKER. DENNIS E. VIATUE, Owatonna, Minn. Filed Apr. 11, 1910. Serial No. 554,640.



1. In a machine of the kind described, the combination with a horizontal rotary drum, of a central working partition, working rollers carried by said drum, one on each side of said partition, and lifting flights for delivering the butter to said rollers.

2. In a machine of the kind described, the combination with a horizontal rotary drum, of a central working partition secured to the drum heads, working rollers carried by said drum, one on each side of said working partition, lifting flights, also, one on each side of said partition, for delivering the butter to said working rollers, and means for rotating said drum and rollers in the same direction whereby the butter will be worked downward between the upwardly moving working roller and said partition.

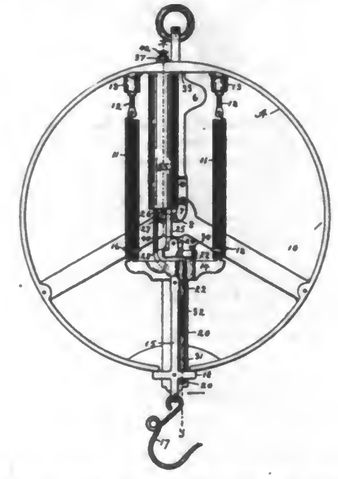
3. In a machine of the kind described, the combination with a horizontal rotary drum, of a central working partition secured to the heads of said drum and extended diametrically thereof, working rollers carried by said drum, adjacent to and one on each side of the central portion of said working partition, and lifting flights extended radially inward from the shell of the drum, at an oblique angle to said partition and approximately tangential to the coöperating working rollers.

4. In a machine of the kind described, the combination with a horizontal rotary drum, of a central working partition secured to the heads of said drum and provided on its opposite faces with reverse offsets in the vicinity of the axes of the drum, working rollers carried by said drum, located one on each side of said partition and cooperating with the offset portions of said partition, lifting flights extending inward from the shell of the drum for delivering butter to said rollers, and means for rotating said drum and rollers in the same direction, substantially as described.

5. In a machine of the kind described, the combination with a horisontal rotary drum provided at one end with a bearing ring having smooth and toothed portions of a counter shaft having a pinion meshing with the toothed portion of said ring and provided with a roller engaging the smooth portion of said ring, a second roller engaged with the smooth portion of said bearing ring and coöperating with the other roller, to rotatively support that end of the drum and a two speed driving gear mechanism operative on said counter shaft.

[Claim 6 not printed in the Gazette.]

979,611. SPRING-SCALE. GEORGE WALKER, New Britain, Conn., assignor to Landers, Frary and Clark, New Britain, Conn., a Corporation. Filed June 27, 1910. Serial No. 569,066.



1. In spring scales the combination of the draw bar, its cross head and wing the tare adjusting slide having the internally threaded hollow stem mounted within the said cross head, an adjusting screw passing upwardly through the said wing into the said stem for drawing the slide downwardly, and a spring on the said screw for moving the slide when the screw is moved in the reverse direction.

2. In spring scales the combination of the draw bar, its cross head and wing the tare adjusting slide having the internally threaded hollow stem mounted within the said cross head, an adjusting screw passing upwardly through the said wing into the said stem for moving the said slide.

3. In spring scales, the combination of the case frame having a vertically perforated and internal flat seat at its upper part with a pneumatic cylinder having a hollow and internally threaded boss at its upper end, for passing through the said perforation, a nut on the outer end of the said boss for holding the cylinder in place and an air adjusting screw fitted within the said boss.

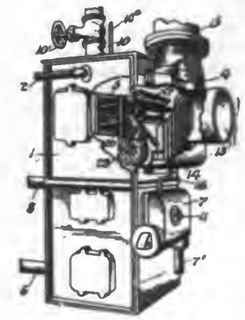
979,612. FEED-WATER HEATER AND SEPARATOR. AXEL BLYTT WALLEM, Moores, Pa., assignor to Joseph S. Lovering Wharton, William S. Hallowell, and John C. Jones, doing business under the firm-name of Harrison Safety Boiler Works, Philadelphia, Pa. Filed Jan. 18, 1910. Serial No. 538,770.

1. The combination of a heater and separator having a communicating passage therebetween and a relief valve in the passage controlling the same.

2. The combination of a heater and separator having a valve controlled passage therebetween, and means for holding the valve resiliently to its seat.

3. The combination of a heater and a separator having a passage therebetween; a spring pressed relief valve intermediate the heater and separator controlling said passageway.

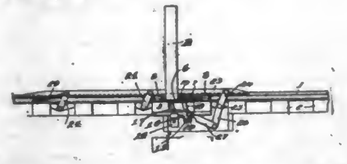
4. The combination of a heater and a separator having a passage therebetween; an auxiliary outlet for said separator; a valve resiliently held to its seat between the heater and separator, said valve adapted to oscillate upon it mounting to control the passage between the heater an separator.



5. The combination of a heater and a separator havi a valve controlled passage therebetween; an oscillati valve in said passage and means for holding the same siliently to its seat.

[Claims 6 to 14 not printed in the Gazette.]

979,613. AUTOMATICALLY-OPERATED GATE. Jo T. WALSTON, Springfield, Mo. Filed June 2, 1910. rial No. 564,639.



1. A gate comprising oppositely-swinging sections, rock shaft disposed under the sections, means for oper ing the rock shaft, and a toggle joint between the r shaft and each gate section for moving the latter by rocking of the shaft and forming locks for prevent the gate sections from being opened except by the r shaft.

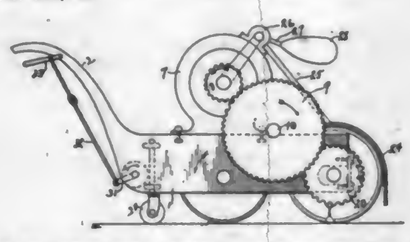
2. A gate comprising oppositely-swinging sectio means for mounting the gate to swing on their ou lower corners, outwardly and upwardly extending a on the lower outer corners of the sections, a rock sh extending under the sections and parallel with the pl in which the sections swing, crank arms on the shaft, links connected with the last-mentioned arms connected with the arms on the gate sections, said li being of such length that the point of connection betw them and the arms on the rock shaft will be disposed one side of lines passing through the rock shaft through the points of connection between the gate and links when the gate sections are closed, and me for rocking the shaft to swing the gate sections.

3. A gate comprising oppositely-swinging sections, m for mounting the gate to swing on their outer lower ners, outwardly and upwardly extending arms on lower outer corners of the sections, a rock shaft ext ing under the sections and parallel with the plan which the sections swing, crank arms on the rock sh links connected with the last-mentioned arms and nected with the arms on the gate sections, said links ing of such length that the point of connection betw them and the arms on the rock shaft will be disposed one side of lines passing through the rock shaft through the points of connection between the gate and links when the gate sections are closed, means rocking the shaft to swing the gate sections, said l being composed of adjustably connected parts for mitting the links to be lengthened or shortened.

4. A gate comprising oppositely-swinging sect means for mounting the gate to swing on their outer l

corners, outwardly and upwardly extending arms on the lower outer corners of the sections, a rock shaft extending under the sections and parallel with the plane in which the sections swing, crank arms on the rock shaft, links connected with the last-mentioned arms and connected with the arms on the gate sections, said links being of such length that the point of connection between them and the arms on the rock shaft will be disposed to one side of lines passing through the rock shaft and through the points of connection between the gate arms and links when the gate sections are closed, means for rocking the shaft to swing the gate sections, said links being composed of adjustably connected parts for permitting the links to be lengthened or shortened, and means connected with the gate sections for counterbalancing the same.

979,614. FLOOR-SURFACING MACHINE. WILLIAM E. WARNER, Houston, Tex. Filed Jan. 31, 1910. Serial No. 541,034.



1. In a floor surfacing machine the combination with a pivotally mounted supporting frame of an abrading roller carried by one end thereof; traction wheels for said frame; a motor carried thereby and operatively connected with the abrading roller; a transmission mechanism connecting said motor with the traction wheels of said device whereby forward or reverse movement may be imparted to the same; and a mechanism carried by the end of the frame opposite to the abrading roller for elevating said end and depressing the roller end of the frame, said mechanism including a vertically movable caster, and gear teeth carried by the shank thereof, a gear wheel carried by the frame and designed to mesh with the teeth of the shank and a hand lever operatively connected to said gear wheel whereby the same may be rotated and the caster moved vertically.

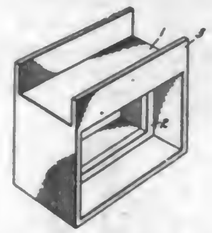
2. In a floor surfacing machine the combination with a pivotally mounted supporting frame of an abrading roller carried by one end thereof; traction wheels for said frame; a motor carried thereby and operatively connected with the abrading roller; a transmission mechanism connecting said motor with the traction wheels of said device whereby forward or reverse movement may be imparted to the same; and a mechanism carried by the end of the frame opposite the abrading roller for elevating said end and depressing the roller end of the frame, said mechanism including a vertically movable caster, and gear teeth carried by the shank thereof, a gear wheel carried by the frame designed to mesh with the teeth of the shank, a crank arm carried by the axle of the said gear wheel and a hand lever operatively connected to said crank arm whereby the same may be rotated and the caster moved vertically and the abrading roller held in positive contact with the surface to be abraded.

979,615. COLLAR FOR CONCRETE RAILWAY-TIES. JOSEPH S. WARRICK, Kansas City, Mo. Filed Mar. 2, 1910. Serial No. 546,894.

1. A collar comprising a body portion, having an inwardly projecting rib and provided with means for attaching a rail thereto.

2. A collar comprising a body portion, having a rib extending throughout its inner periphery, and means on one of the outer faces of the body portion adapted for attaching a rail thereto.

3. A collar comprising a body portion, having an inwardly projecting rib, and having parallel flanges projecting from opposite sides of one of its outer faces.



4. The combination with a concrete cross tie, of a collar within which said tie has been formed when in a plastic state, and having an inner rib around which the tie material has set, the upper face of said collar being provided with flanges adapted for receiving a rail base, substantially as set forth.

5. The combination of a concrete cross tie, a collar set into said cross tie and having flanges on its upper face, and a rail seated on the upper face of said collar, the collar flanges being folded over the rail base and welded thereto, substantially as set forth.

[Claim 6 not printed in the Gazette.]

979,616. TELEPHONE-SWITCHBOARD KEY. KLAS WEMAN, Buffalo, N. Y., assignor to Ericsson Manufacturing Company, Tonawanda, N. Y., a Corporation of New York. Filed Mar. 1, 1909. Serial No. 480,744.



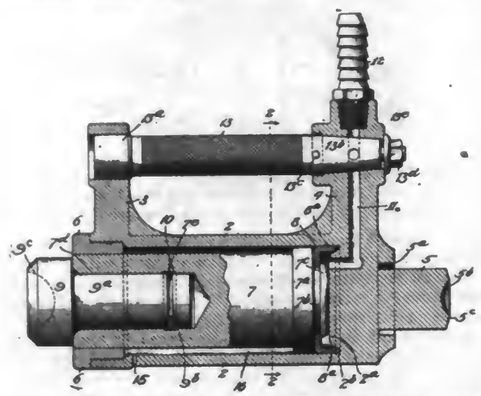
1. In a telephone switch board key, the combination of a support, a key-lever pivoted thereto, an angle plate having its horizontal member secured to said support and its depending main member arranged substantially in line with the key-lever pivot, and groups of contact springs secured to opposite sides of said depending member, a pair of the springs of said opposing groups being arranged on opposite sides of the key-lever and adapted to be deflected upwardly by the same.

2. In a telephone switch board key, the combination of a support, a key-lever pivoted thereto, an angle-plate having its horizontal member secured to said support and its depending main member arranged substantially in line with the key-lever pivot, and groups of contact springs secured to opposite sides of said depending member, a pair of the springs of said opposing groups being arranged on opposite sides of the plunger and provided with anti-friction rollers, and the key-lever having a part arranged between said opposing rollers and adapted to engage either of the same.

3. In a telephone switch board key, the combination of coöperating contact springs, a key-lever having a slot, and a separate tip secured in said slot and adapted to engage said springs, said tip consisting of opposing approximately V-shaped halves or sections.

4. In a telephone switch board key, the combination of a slotted support, a hanger consisting of an angle plate having its upper horizontal member slotted lengthwise and secured to said support, spring groups secured to the vertical member of said hanger, a key-lever pivotally arranged in the slots of said support and said hanger and having a tip adapted to engage one or more of said springs, said tip extending laterally beyond the key-lever and arranged to engage the underside of said horizontal hanger-member.

979,617. PNEUMATIC RIVETING-TOOL. CHRISTOPHER WEATHERSON, Chicago, Ill., assignor to The American Bridge Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Feb. 5, 1910. Serial No. 542,261.



1. A device of the class described, comprising a shell, a rearwardly extending boss having an annular groove surrounding the same, and handle attaching means, all cast integral with said shell, in combination with a reciprocatory piston mounted within said shell, and carrying a rivet snap therein, a handle and means for admitting fluid to and exhausting the same from that portion of the shell to the rear of said piston, substantially as described.

2. In a device of the class described, a shell, handle supporting means upon said shell, a protruding boss also upon said shell, said boss being surrounded by an annular groove and having its outer end of truncated conical form and also provided with a concave depression, in combination with a reciprocatory piston within said shell and means for admitting fluid to and exhausting the same from that portion of the shell to the rear of said piston, substantially as described.

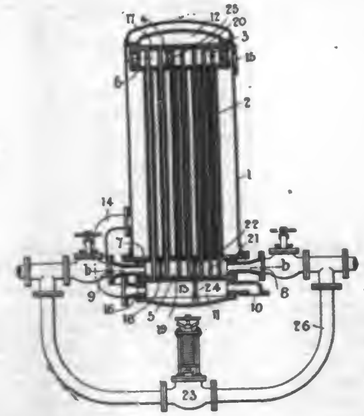
3. In a device of the class described, the combination of a shell, a rearwardly extending boss on said shell, an annular groove surrounding said boss and adapted to receive a tube or pipe, and reciprocatory means for engaging a rivet to be headed, substantially as described.

979,618. APPARATUS FOR HEATING OR COOLING OIL OR OTHER VISCOUS LIQUIDS. JAMES GEORGE WEIR, Glasgow, Scotland. Filed June 4, 1910. Serial No. 565,061.

1. In apparatus of the class described, the combination with an outer casing of concentric tube elements, means for passing cooling medium through the inner tube elements, means for causing the liquid to be cooled to flow through a gradually increasing number of outer tube elements.

2. In apparatus of the class described the combination with an outer casing, of concentric tube elements, inner tube plates for the inner tube elements, outer tube plates for the outer tube elements, chambers between the inner and outer tube plates, an inlet and an outlet for the liquid to be cooled in one of said chambers, baffle plates arranged in said chambers in such a manner as to cause the liquid to be cooled to flow through a gradually increasing number of outer tube elements and means for passing a cooling medium through the inner tube elements.

3. In apparatus of the class described the combination with an outer casing, of concentric tube elements, inner tube plates for the inner tube elements, outer tube plates for the outer tube elements, chambers between the inner and outer tube plates, an inlet and an outlet for the liquid to be cooled in one of said chambers, baffle plates arranged in said chambers in such a manner as to cause the liquid to be cooled to flow through a gradually increasing number of outer tube elements, an inlet chamber for the cooling medium surrounding the lower ends of the inner tube elements, a baffle plate dividing said chamber and forming a second chamber, a third chamber surrounding the upper ends of the inner tube elements into which the cooling liquid flows before passing down the inner tube elements into said second chamber, a pipe connecting the second chamber to the outer casing and an outlet in the outer casing.



4. In apparatus of the class described the combinati with an outer casing, of concentric tube elements, inn tube plates for the inner tube elements, outer tube plat for the outer tube elements, chambers between the inn and outer tube plates, an inlet and an outlet for the liqu to be cooled in one of said chambers, baffle plates arrang in said chambers in such a manner as to cause the liqu to be cooled to flow through a gradually increasing nu ber of outer tube elements, an inlet chamber for the co ing medium surrounding the lower ends of the inner tu elements, a baffle plate dividing said chamber and form a second chamber, a third chamber surrounding the up ends of the inner tube elements into which the cool liquid flows before passing down the inner tube eleme into said second chamber, a pipe connecting the sec chamber to the outer casing an outlet in the outer cas a by-pass pipe connecting the inlet and outlet of the f to be cooled, and a loaded valve in said by-pass pipe.

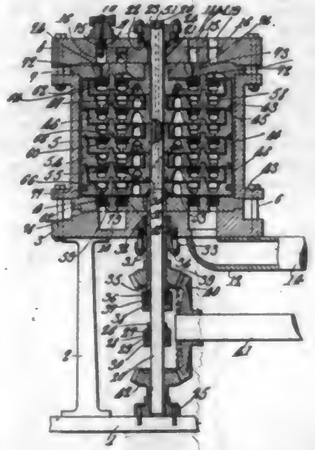
979,619. TURBINE. THOMAS JAMES WESTERMAN, Ola Wash. Filed Sept. 22, 1910. Serial No. 583,242.

1. In a device of the class described, superposed rot provided in their upper faces with ported channels dim ished intermediate their tops and bottoms to define sh ders; racks removably resting upon the shoulders provided with inclined blades.

2. In a device of the class described, superposed rot provided in their upper faces with ported channels dim ished intermediate their tops and bottoms to define sh ders; removable racks comprising parallel side walls inclined blades connecting the side walls, the side w fitting closely in the channels and resting on the sh ders.

3. In a device of the class described, superposed rot provided in their upper faces with ported channels dim ished intermediate their tops and bottoms to define sh ders; removable racks including parallel side walls inclined blades connecting the side walls, the side w

fitting closely in the channels and resting upon the shoulders; blocks disposed in the channels beneath the ends of the racks, to divide the channels into a plurality of segments, the blocks being provided with inclined nozzles extending through the bottoms of the rotors.



4. In a device of the class described, a plurality of superposed rotors provided in their upper faces with concentric, inner and outer channels, the inner and outer channels of each rotor being alined with the inner and outer channels of the adjacent rotors and having communication therewith; racks removably mounted in the channels and provided with blades inclined in one direction in the outer channels and in an opposite direction in the inner channels, to provide for a reversal of the rotors; each rotor being provided with an upstanding annular rib, positioned between the concentric channels of said rotor, and adapted to register in an annular groove in the superposed rotor, to prevent the passage of fluid under pressure from the inner to the outer channels, transversely of the rotors.

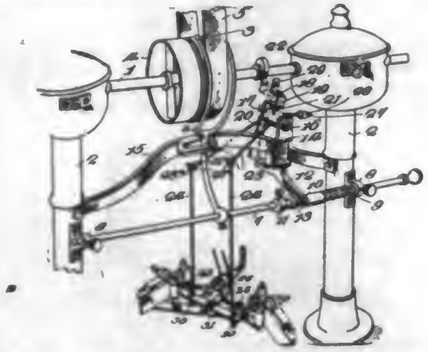
5. In a device of the class described, superposed rotors provided in their upper faces with concentric inner and outer channels, the inner and outer channels of each rotor being alined with the inner and outer channels of the adjacent rotors and having communication therewith; racks removably mounted in the channels and provided with blades inclined in one direction in the outer channels and in an opposite direction in the inner channels.

[Claims 6 and 7 not printed in the Gazette.]

979,620. AUTOMATIC STOP MECHANISM FOR WOOL-COMBING MACHINES. HERBERT R. WESTWELL, Lawrence, Mass. Filed Mar. 2, 1909. Serial No. 480,842.

1. In a stop mechanism for wool combing machines, the combination of a rotary shaft, fixed and loose belt pulleys mounted on the shaft, a cam also mounted on the shaft, belt shipper mechanism, a detent engaging the belt shipper mechanism, a trip member mounted independently of the cam and detent and having a turning movement into and out of an operative position between the said cam and detent, the trip member also having a sliding movement under the influence of the cam and against the detent to disengage the latter from the shipper mechanism, and means for turning the trip member into operative relation to both the cam and the detent by and upon the failure of the sliver.

2. In a stop mechanism for wool combing machines, the combination of belt shipper mechanism, a movable support, a trip member carried by and movable with said support, the trip member being movable relative to the support and against the detent to disengage the same from the shipper mechanism, trip actuating mechanism for moving the trip member relative to the support, the trip member being normally held by the support in an inoperative position, and means for moving the support by and upon the failure of the sliver, to bring the trip member into operative relation to both the actuating means and the detent.



3. In a stop mechanism for wool combing machines, the combination of a rotary shaft, a shipper rod, a detent engaging the shipper rod, a movable support, a trip member carried by and movable with said support, the trip member being movable relative to the support and against the detent to disengage the same from the shipper rod, actuating means disposed on the shaft for effecting the relative movement of the trip member, the trip member being normally supported in an inoperative position, and means controlled by the sliver for moving the support by and upon the breakage of the sliver, to bring the trip member in an operative relation to both the actuating means and the detent.

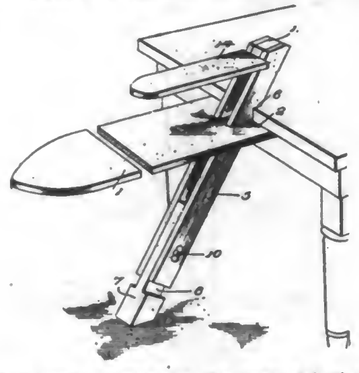
4. A stop mechanism for wool combing machines including belt shipper mechanism, a detent engaging the belt shipper mechanism, a trip member, trip actuating means, the trip member being movable into and out of an operative position between the actuating means and the detent, and means for moving the trip member into operative relation to both the actuating means and the detent, by and upon the breakage of the sliver, the trip member having a folding section adapted to afford clearance for the actuating means to render the stop mechnism inoperative when desired.

5. In a machine of the character described the combination of a main shaft, a belt for driving the main shaft, shipper mechanism for controlling the belt, a detent for engaging the shipper mechanism, a rock shaft provided with an outstanding post, a trip member connected to the post, trip actuating means disposed on the main shaft, the trip member being normally supported in inoperative relation to both the actuating means and the detent, and means controlled by the sliver for turning the rock shaft by and upon the breakage of the sliver, to move the trip member into an operative position, whereby to trip the detent and release the shipper mechanism.

[Claims 6 to 12 not printed in the Gazette.]

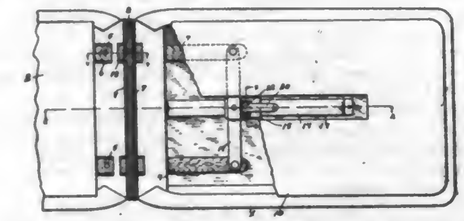
979,621. IRONING-BOARD. SEBERN J. WEVER, Sheller, Ill. Filed Nov. 3, 1909. Serial No. 526,018.

A device comprising a board formed in one edge with recesses, a cleat secured to the inner faces of the board at the recessed end thereof and extending longitudinally of the board between the recesses, a strut embodying side bars which embrace and are pivotally connected at one point to the cleat intermediate of the ends of the side bars, said bars being notched above their point of connection with the cleat, and a foot formed with a shank extending upwardly between the lower ends of said bars and having a longitudinally adjustable connection therewith, the distance between the inner end of the shank at the inner limit of the adjustment thereof and the pivot pin of the side bars of the strut being substantially equal to the distance between the adjoining end of the cleat



and said pivot pin, whereby the inner end of said shank may frictionally engage with the adjoining end of the cleat when the parts are in folded relation to each other.

979,622. TEMPORARY BINDER OR LOOSE-LEAF HOLDER. GEORGE P. WIGGINTON and FRANK W. HODGES, Kalamazoo, Mich., assignors to Kalamazoo Loose Leaf Binder Company, Kalamazoo, Mich. Filed Feb. 28, 1910. Serial No. 546,558.



1. In a structure of the class described, the combination with the cover, of a binding cord; an inwardly-facing toothed spring bar mounted on said cover; a binding cord member slidably associated with said bar, said binding cord member being provided with a pair of outwardly-facing bar-engaging members; an engaging lever mounted on said binding cord member to engage said bar between said bar-engaging members; and a bowed spring arranged in said binding cord member between its said rack engaging members to hold said bar normally out of engagement therewith.

2. In a structure of the class described, the combination with the cover, of a binding cord; a toothed spring bar mounted on said cover; a binding cord member slidably associated with said bar, said binding cord member being provided with a pair of bar-engaging members; an engaging lever mounted on said binding cord member to engage said bar between said bar-engaging members; and a bowed spring arranged in said binding cord member between its said rack engaging members to hold said bar normally out of engagement therewith.

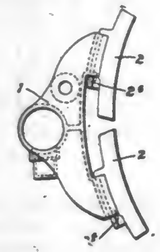
3. In a structure of the class described, the combination with the cover, of a binding cord; an inwardly-facing toothed spring bar mounted on said cover; a binding cord member slidably associated with said bar, said binding cord member being provided with a pair of outwardly-facing bar-engaging members; and an engaging lever mounted on said binding cord member to engage said bar between said bar-engaging members.

4. In a structure of the class described, the combination with the cover, of a binding cord; a toothed spring bar mounted on said cover; a binding cord member slidably associated with said bar, said binding cord member being provided with a pair of bar-engaging members; and an engaging lever mounted on said binding cord member to engage said bar between said bar-engaging members.

5. In a structure of the class described, the combination with the cover, of a binding cord; a yielding toothed bar mounted on said cover; a binding cord member slidably associated with said bar, said binding cord member being provided with a bar-engaging member; a bar clamping member mounted on said binding cord member; and a spring carried by said binding cord member arranged to hold said bar normally out of engagement therewith.

[Claims 6 to 10 not printed in the Gazette.]

979,623. ADJUSTABLE BRAKE-HEAD. CHARLES H. WILLIAMS, Jr., Chicago, Ill., assignor to Chicago Railway Equipment Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 10, 1910. Serial No. 537,137.



1. The combination of a brake head and a brake sho projecting beyond the ends thereof, said shoe having movement independent of the head.

2. The combination of a brake head and a brake sho projecting beyond both ends thereof, said shoe having movement independent of the head.

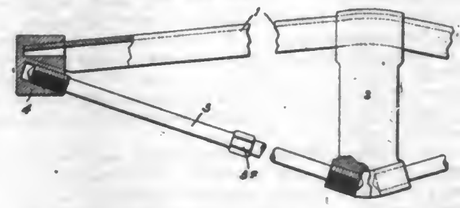
3. The combination of a brake head and a sections brake shoe secured thereto, each section of said shoe hav ing a movement independent of the head.

4. The combination of a brake head and independentl movable brake shoes arranged thereon.

5. The combination of a brake head and a brake sho composed of sections which are independently detachabl

[Claims 6 to 11 not printed in the Gazette.]

979,624. BRAKE-BEAM. CHARLES H. WILLIAMS, Jr., Chicago, Ill., assignor to Chicago Railway Equipment Company, Chicago, Ill., a Corporation of Illinois. Filed Jan 17, 1910. Serial No. 538,469.

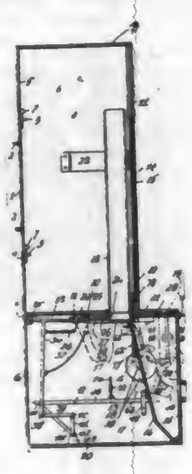


1. In a brake beam, a tension member having right a left hand threads, whereby it may be turned to place ca ber in the compression member.

2. In a brake beam, the combination of a compressi member, thrust block, a strut, and a tension member co posed of sections, each of which has right and left ha threads at its ends respectively, said ends having thread engagement with said thrust blocks and said strut.

3. In a brake beam, the combination of a compressi member, a thrust block arranged thereon and having inward extension in line with the tension member, s inwardly extending portion being provided with a thread socket, and a tension member threaded into said socket.

979,625. VENDING-MACHINE. WILLIAM R. WILLIAMS, Punxsutawney, Pa. Filed Apr. 4, 1910. Serial No. 553,354.

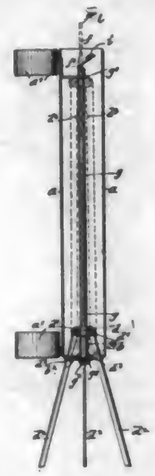


1. In a vending machine, a cabinet, a box at the lower end of said cabinet, a casing located within said cabinet and adapted to contain matter, said box having a pocket arranged therein, a normally locked delivery slide arranged within said box and adapted to transfer matter from said casing to said pocket, said slide provided with an opening, rails within said box for said slide, a plunger connecting with said delivery slide for shifting said slide when released, a yoke at the rear end of the slide and having a depending arm, means extending through said yoke for locking the slide from movement, means connected to said locking means for shifting it to release the slide, connections between the arms of the yoke and the shifting means for the locking means for restoring said shiftable means to normal position when the slide is moved forward, and a resilient element connected with the slide for moving it rearwardly.

2. A vending machine comprising a cabinet, a box at the lower end of the cabinet, a normally locked delivery slide arranged within said box and provided with an opening adapted to communicate with said casing, a plunger connected with said slide for manually shifting it when the slide is released, a resilient element connected to the slide for automatically returning it to normal position, a yoke projecting rearwardly from the slide, a pivoted spring-controlled element adapted to normally engage the yoke for maintaining the slide locked, means for shifting said pivoted element to release the slide, and a connection between the slide and said means operated on a forward movement of the slide for positioning the said element in the path of the yoke to engage the latter when the slide moves inwardly.

3. A vending machine comprising a normally locked apertured delivery slide adapted to communicate with a reservoir and when moved outwardly deliver an article from a machine, a plunger connected to the forward end of the slide for shifting the slide outwardly when the latter is released, a resilient element connected to the rear end of the slide for automatically returning the same to normal position, a yoke projecting rearwardly from the slide, a spring-controlled pivoted member normally extending through said yoke for maintaining the slide locked, means for shifting said element to release the slide, and a connection between the slide and said means operated on a forward movement of the slide for positioning the said member in the path of the yoke to engage the latter when the slide moves rearwardly whereby said member as the yoke passes over it will extend through the yoke and lock the slide.

979,626. MUSIC-STAND. AUGUST WOLFF, New York, N. Y. Filed Apr. 21, 1910. Serial No. 556,734.



1. In a folding music-stand, the combination of, a cylindrical case provided with a head having radial slots and permanently and rigidly attached to the case, folding legs guided at the inside of the case, and adapted to be moved outwardly through said slots and provided with notches, and means carried by said head, and adapted to engage in said notches.

2. In a folding music-stand, the combination of, a cylindrical case provided with a head having radial slots and permanently and rigidly attached to the case, folding legs guided at the inside of the case, and adapted to be moved outwardly through said slots and provided with notches, means carried by said head and adapted to engage in said notches, and a cap hinged to said case and adapted to engage over the free ends of the legs and hold the legs in innermost position.

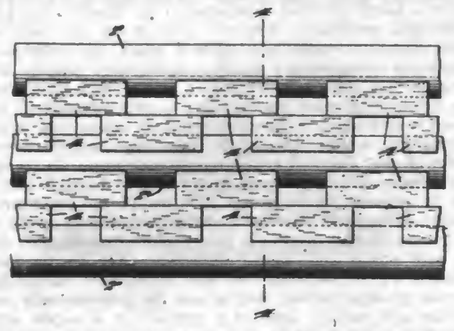
3. A music-stand comprising a cylindrical case having a handle at its middle portion and caps at its outer ends, a stationary central guide-tube at the interior of said case, a head at one end of the case having radial slots, folding legs guided on the center-tube adapted to be extended through the slotted head into outward position, a rotary and spring-actuated disk having radial slots for engaging the legs when in extended position, a supporting rod sliding in said guide-tube, means for locking the rod in raised position, and a folding music-rack adapted to be attached to the outer end of the supporting rod or to be stored in the case.

4. In a folding music-stand, the combination of a cylindrical case provided with a head having radial slots, folding legs guided at the inside of the case and adapted to be moved outwardly through said slots, a rotary disk provided with slots registering with the slots of the head and adapted to open or close the slots of the head, and means for turning the disk and closing the slots of the head when the legs are drawn back into the case.

979,627. FURNACE-TILE. GEORGE WM. WOOD, Camden, N. J., assignor of one-half to Michael Shapiro, Camden, N. J. Filed Feb. 23, 1910. Serial No. 545,378.

1. The combination with boiler tubes, of two longitudinal series of bricks interposed between parallel facing boiler tubes, and having grooved faces engaging the boiler tubes, and flat backs, said bricks arranged in staggered relation, with the flat backs of one series engaging the flat backs of the other series, and the bricks of each series spaced apart, substantially as described.

2. The combination with boiler tubes, of two longitudinal series of bricks interposed between parallel facing boiler tubes, and extending above and below the tubes, all of said bricks having grooved faces longitudinally of the bricks, between their upper and their lower edges to engage the boiler tubes, and flat backs, said bricks ar-



ranged in staggered relation, with the flat backs of one series engaging the flat backs of the other series, and the bricks in each series spaced apart, substantially as described.

979,628. FLOOR-SLEEPER ANCHORING AND SPACING DEVICE FOR CONCRETE. FREDERICK WRIGHT and JOSEPH WALMSLEY, Toronto, Ontario, Canada. Filed Mar. 3, 1910. Serial No. 547,153.



A floor sleeper anchoring and spacing device for concrete comprising a plurality of strips laid in a bed of concrete and having a series of prongs projecting through the concrete and located at desired distances apart, and arranged in rows in lateral alinement, and sleepers extending crosswise of the strips on top of the bed of concrete, the said prongs being bent and secured to the sleepers as and for the purpose specified.

979,629. CUP. SIGMUND W. WRIGHT, Philipsburg, Pa. Filed May 6, 1910. Serial No. 559,675.



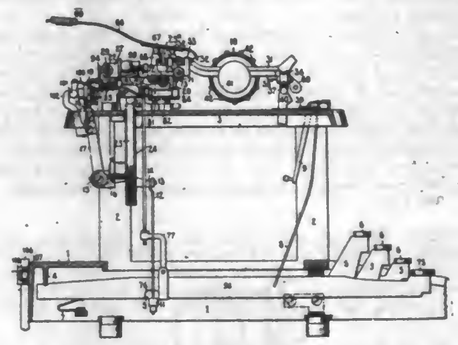
1. A receptacle of the character described, comprising a blank folded longitudinally to form overlapping side walls, said side walls being folded transversely, each of said side walls being provided with a neck having a head formed thereon, and the overlapping side walls being provided with slots to receive such heads.

2. A receptacle of the character described, comprising a blank folded in one direction to form overlapping side walls, said blank being folded in a direction transversely to the first named fold to form a handle portion, and means to secure the end of said handle portion to the overlapping side walls.

3. A receptacle of the character described, comprising a blank folded in one direction to form over-lapping side walls, and said blank being folded in a direction transversely to the first named fold to form a handle portion.

4. A receptacle of the character described, comprising a blank folded in one direction to form over-lapping side walls, said blank being folded in a direction transversely to the first named fold, to form a handle portion, and means to connect said handle portion with said receptacle in such a manner to allow said handle portion to be moved laterally with relation to said receptacle.

979,630. TYPE-WRITING MACHINE. CLIO B. YAW New York, N. Y., assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y., a Corporation of New York. Filed Sept. 5, 1906. Serial No. 333,335.



1. In a typewriting machine, the combination of carriage, key-actuated printing instrumentalities, a platen coöperative with a work sheet of tags comprising a plurality of alined tags arranged at different points in the length of the platen, letter spacing means, and means for effecting a movement of the carriage to bring the first letter space position on one tag to the printing point after another tag has been written.

2. In a typewriting machine, the combination of carriage, key-actuated printing instrumentalities, a platen coöperative with a work sheet of tags, comprising a plurality of alined tags arranged at different points in the length of the platen, and in different longitudinal rows, and line spacing means, each operation of which is effective to bring a set of alined tags to the printing line.

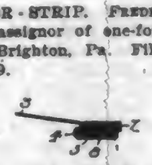
3. In a typewriting machine, the combination of carriage, a platen coöperative with a work sheet of tags comprising a plurality of alined tags arranged at different points in the length of the platen and in different longitudinal rows, line spacing means, each operation of which is effective to bring a set of alined tags to the printing line, letter spacing means, and means for effecting a movement of the carriage to bring the first letter space position on one tag to the pritning point after another tag has been written.

4. In a typewriting machine, the combination of carriage, a platen coöperative with a work sheet comprising a plurality of tags ararnged longitudinally of the platen and also arranged in different longitudinal rows, work sheet engaging means on the platen coöperative with the tags in the different longitudinal rows, letter spacing means, and means for effecting a movement of the carriage from one tag to another along the line of print and for skipping over the work sheet engaging means for the different tags.

5. In a tyepwriting machine, the combination of a carriage, a platen coöperative with a work sheet comprising tags arranged in different transverse and longitudinal rows, an aperture in each tag, a series of projections on the platen, said projections being coöperative with the apertures in the different tags as they are fed through the machine, means for effecting a line feed of the platen and means for preventing any of said projections from being arrested at the printing point.

[Claims 6 to 53 not printed in the Gazette.]

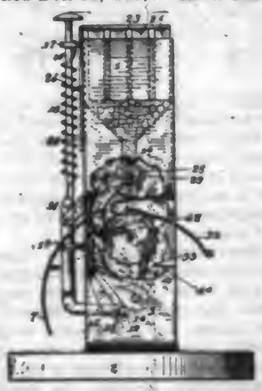
979,631. WEATHER-STRIP. FREDERICK A. YEAGER, Thornburg, Pa., assignor of one-fourth to Donald V. McConnel, New Brighton, Pa. Filed June 29, 1909. Serial No. 505,099.



1. A weather-strip having a curved-portion, a flat entering-member extending from the curved-portion in one direction, a second member extending from the curved-portion in an opposite direction and inclined with relation to the entering-member to form a spring, said second member bent upon itself, and a strip of yielding material projecting from the curved portion and having a portion held by the bend of the second member.

2. A weather-strip having a curved-portion, a flat entering-member extending from the curved-portion in one direction, a second member extending from the curved-portion in an opposite direction and inclined with relation to the entering-member to form a spring, said second member provided with an extension, and a strip of yielding material held between the inclined-member and its extension, projecting from the curved-portion and bent against the extension to form a double thickness of felt.

979,632. MATCH-LIGHTER. ERNEST ZENCHMAR, Chicago, Ill. Filed Dec. 13, 1909. Serial No. 532,935.



1. In a device of the class described, the combination with a suitable frame, of a match carrier adapted to carry matches transversely of their length; means for operating said carrier; a match receptacle; means for feeding matches singly from said receptacle to said carrier; spring-held pivoted plates converging and located in the path of the ends of said match; a ratchet wheel carried by one of said plates and having abrasive means on its face adapted to contact with the head of a match during its travel in said carrier; and means for automatically rotating said ratchet upon each ignition of a match, substantially as described.

2. In a device of the class described, the combination with a suitable frame; of an oscillatory shaft mounted therein; a match carrier carried by said shaft and provided with a match carrying depression at its forward end and extending rearwardly through openings in the back of said frame; a catch arm on said shaft; a spring-held vertically reciprocatory slide; a spring-held trigger carried by said slide and adapted to engage said catch arm to rotate said shaft rearwardly; a stop adapted to release said trigger; a spring adapted to rotate said shaft forwardly; a stop adapted to limit the forward movement of said shaft; a match receptacle; automatic means for feeding matches to said carrier singly; a guard adapted to prevent expulsion of said match by centrifugal force; spring-held pivoted plates converging and located in the path of the ends of said match; and abrasive means carried by one of said plates and adapted to contact with the head of a match during its travel in said carrier, substantially as described.

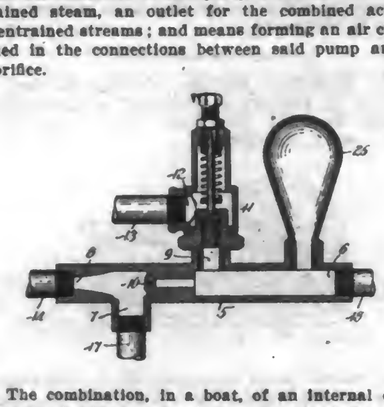
3. In a device of the class described, the combination with a suitable frame, of an oscillatory shaft mounted therein; a match carrier carried by said shaft and provided with a match carrying depression at its forward end and extending rearwardly through openings in the back of said frame; a catch arm on said shaft; a spring-held vertically reciprocatory slide; a spring-held trigger carried by said slide and adapted to engage said catch arm to rotate said shaft rearwardly; a stop adapted to release said trigger; a spring adapted to rotate said shaft forwardly; a stop adapted to limit the forward movement of said shaft; a match receptacle; automatic means for feeding matches to said carrier singly; a guard adapted to prevent expulsion of said match by centrifugal force; spring-held converging plates located in the path of the ends of said match; a ratchet wheel carried by one of said plates and having abrasive means on its face adapted to contact with the head of a match during its travel in said carrier; and means for automatically rotating said ratchet upon each ignition of a match, substantially as described.

4. In a device of the class described, the combination with a suitable frame, of an oscillatory shaft mounted therein; a match carrier carried by said shaft and provided with a match carrying depression at its forward end and extending rearwardly through openings in the back of said frame; a catch arm on said shaft, a spring-held vertically reciprocatory slide; a spring-held trigger carried by said slide and adapted to engage said catch arm to rotate said shaft rearwardly; a stop adapted to release said trigger; a spring adapted to rotate said shaft forwardly; a stop adapted to limit the forward movement of said shaft; a match receptacle provided with a delivery hopper; an oscillatory shaft located under said hopper; notched plates on said shaft and adapted to receive matches singly from said hopper; a connection between said slide and said last named oscillatory shaft whereby reciprocation of said slide causes oscillation of said plates to deliver a match to said carrier; a guard adapted to prevent expulsion of said match by centrifugal force; and means of ignition adapted to contact with the head of said match during its travel in said carrier, substantially as described.

5. In a device of the class described, the combination with a suitable frame; of an oscillatory shaft mounted therein, a match carrier carried by said shaft and provided with a match carrying depression at its forward end and extending rearwardly through openings in the back of said frame; a catch arm on said shaft; a spring-held vertically reciprocatory slide; a spring-held trigger carried by said slide and adapted to engage said catch arm to rotate said shaft rearwardly; a stop adapted to release said trigger; a spring adapted to rotate said shaft forwardly; a stop adapted to limit the forward movement of said shaft; a match receptacle provided with a delivery hopper; an oscillatory shaft located under said hopper; notched plates on said shaft and adapted to receive matches singly from said hopper; a connection between said slide and said last named oscillatory shaft whereby reciprocation of said slide causes oscillation of said plates to deliver a match to said carrier; a guard adapted to prevent expulsion of said match by centrifugal force; spring-held pivoted plates converging and located in the path of the ends of said match; a ratchet wheel carried by one of said plates and having abrasive means on its face adapted to contact with the head of a match during its travel in said carrier; and means for automatically rotating said ratchet upon each ignition of a match, substantially as described.

970,633. PUMPING APPARATUS. SOLOMON E. AARON, Charlestown, Mass. Filed Nov. 27, 1909. Serial No. 530,181.

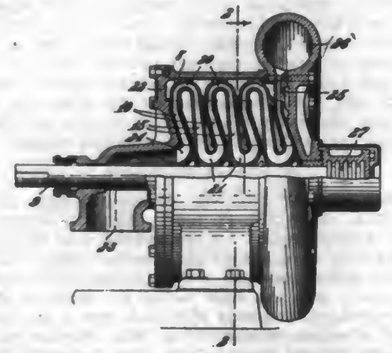
1. The combination with an internal combustion engine having a water jacket; of a pump driven by said engine and connected to said water jacket to pump water thereto; an ejector provided with a jet orifice for the actuating stream connected to said pump, a suction inlet for the entrained steam, an outlet for the combined actuating and entrained streams; and means forming an air chamber located in the connections between said pump and said jet orifice.



2. The combination, in a boat, of an internal combustion engine having a water jacket; a pump driven by said engine and connected to pump water from the exterior of said boat to said water jacket; an ejector provided with a jet orifice for the actuating stream connected to said water jacket, a suction inlet for the entrained stream, an outlet for the combined actuating and entrained streams; a bilge pipe leading from said suction inlet to a point inside and adjacent to the bottom of the boat, a pipe leading from said outlet to the exterior of the boat, and means forming an air chamber located in the connections between said pump and said jet orifice.

3. The combination with an internal combustion engine having a water jacket; of a pump driven by said engine and connected to said water jacket to pump water thereto; an ejector provided with a jet orifice for the actuating stream connected to said pump through said water jacket, a suction inlet for the entrained stream, and an outlet for the combined actuating and entrained streams; and means forming an air pressure chamber located in the connections between said pump and said jet orifice.

970,634. ROTARY PUMP. NICHOLAS W. AKIMOFF, Philadelphia, Pa. Filed Mar. 22, 1909. Serial No. 484,884.



1. In a pump of the character described, a shaft, a plurality of impellers secured to said shaft, said impellers being inclined backwardly substantially as and for the purpose set forth.

2. In a pump of the character described, a shaft, a series of impellers secured to said shaft, a plurality of stationary guides having passageways forming a communication between the successive impellers of the series thereof, said impellers being inclined backwardly with respect to said guides substantially as and for the purpose set forth.

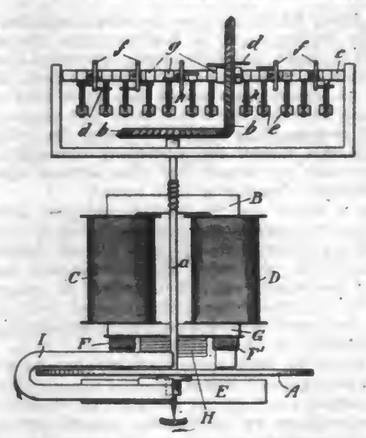
3. In a pump of the character described, a shaft, a series of impellers secured to said shaft, said impellers being inclined backwardly, and a plurality of guides having passageways forming a communication between the successive impellers of the series thereof, said guides being made in separable sections substantially as and for the purpose set forth.

4. In a pump of the character described, a shaft, a series of impellers secured to said shaft, said impellers being inclined backwardly, a plurality of stationary guides having passageways forming a communication between the successive impellers of the series thereof, said guides being made in separable sections, and an inclosing housing surrounding said stationary guides substantially as and for the purpose set forth.

5. In a pump of the character described, a shaft, a series of impellers secured to said shaft, said impellers being inclined backwardly, a plurality of stationary guides having passageways forming a communication between the successive impellers of the series thereof, said guides being made in separable sections, an inclosing housing surrounding said stationary guides, and a casing having a volute discharge passageway communicating with the last impeller of the series thereof substantially as and for the purpose set forth.

[Claim 6 not printed in the Gazette.]

979,635. ELECTRICITY-METER. HERMANN ARON, Charlottenburg, Germany, assignor to The American Aron Electricity Meter Company, a Corporation of New Jersey. Filed Apr. 29, 1909. Serial No. 493,015.



1. In an electricity meter, a rotary spindle, means under the influence of the current to be measured for applying thereto a driving moment, means for applying to said spindle a retrograde moment in opposition to said driving moment, and coupling means for intermittingly connecting and disconnecting the retrograde moment applying means and said spindle.

2. In an electricity meter, a rotary spindle, means under the influence of the current to be measured for applying thereto a driving moment, means comprising a plurality of independently operable parts adapted to apply to said spindle a plurality of rotation-resisting moments, and coupling means for successively connecting and disconnecting said parts of the resisting moment applying means and said spindle.

3. In an electricity meter, a rotary spindle, means under the influence of the current to be measured for applying thereto a driving moment, means comprising a plurality of independently operable parts adapted to apply to said spindle a plurality of rotation-resisting moments and including adjusting means for varying the intensity of said resisting moments, and coupling means for successively connecting and disconnecting said parts of the resisting moment applying means and said spindle.

4. In an electricity meter, a rotary shaft, means under the influence of the current to be measured for applying thereto a driving moment, weights supported by said rotary shaft and freely movable relative thereto, and lifting means for said weights fixed to said shaft and adapted to release said weights when raised to a predetermined height.

5. In an electricity meter, a rotary shaft, means under the influence of the current to be measured for applying thereto a driving moment, weighted arms loosely mounted on said shaft, and lifting members fixed upon said shaft and adapted for engagement of the weighted arms upon one side only of the latter and for the release of the same as they are raised to a position of maximum height above said shaft.

[Claims 6 and 7 not printed in the Gazette.]

979,636. ELECTRICAL-LAMP WIRE CONNECTION. SYDNEY ASHDOWN, Vancouver, British Columbia, Canada. Filed Jan. 11, 1910. Serial No. 537,434.



1. A device for the purposes specified comprising a body insertible between a pair of insulated main line wires to separate the same, said body having provisions for receiving a pair of branch line wires intermediate the ends thereof to separate said branch line wires from one another and from said main line wires, and means passing through corresponding main and branch line wires and the insulation thereof for electrically connecting corresponding main and branch line wires without destroying the insulating covering of said wires.

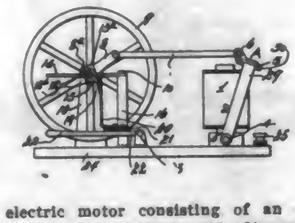
2. As a device for the purpose specified, means for separating the positive and negative wires of a pendant lamp circuit intermediate the ends thereof, means adjacent thereto for separating intermediate their ends the wires of the branch which it is desired to connect, and means for electrically connecting through suitable insulation a separated wire of each circuit without impairing the continuity of either circuit.

3. A device for the purpose specified, comprising a body of ovoid form grooved around its edges to receive the separated positive and negative wires of an electric circuit and notched from the outside edge toward the center to receive the separated positive and negative wires of another circuit, insulation between the several adjacent wires, and metallic pins one of which is pushed through the positive wires of the two circuits and the other through the negative wires of the two circuits so as to electrically connect one circuit with the other.

4. A device for the purpose specified, comprising an ovoid body of insulating material said ovoid body having its edges deeply grooved to receive the separated wires of a lamp circuit and having notches through its thickness from the edges toward the center of it for the reception of the separated wires of a branch circuit which it is desired to connect to the other circuit, and sharp metal pins having heads of insulating material said pins connecting the positive wire of one circuit to the positive wire of the other and on the other side connecting the negative wire of one circuit to the negative wire of the other.

5. A device for the purpose specified, comprising an ovoid body of insulating material deeply grooved around its edge to receive the separated positive and negative wires of an electric circuit and notched from its outer edge toward the center to receive the separated positive and negative wires of another circuit, a metal pin slidable in the insulating body and through the separated positive wires, a similar pin through the separated negative wires, and means for slidably supporting these pins exterior to the wire in the groove.

979,637. ELECTRIC MOTOR. CHARLES BACKER, New York, N. Y., assignor of forty-nine one-hundredths to Rudolph Rosenfeld, New York, N. Y. Filed Apr. 6, 1910. Serial No. 553,680.



1. An electric motor consisting of an electromagnet having a core, an armature pivoted adjacent said magnet adapted for movement across the face of said core, said armature being out of contact with said core, a shaft provided with a crank, a link connecting said crank and said armature, a plurality of sets of contacts slidably mounted upon said shaft and adapted to rotate therewith, a shift-lever adapted to move said contacts, and a brush contact adapted to impinge upon said slidable contacts, said brush contact being positioned to impinge upon one of said sets of slidable contacts when said motor is running forward, the other of said sets of slidable contacts being adapted to impinge upon said brush contact when said motor has been reversed, the sets of slidable contacts last named being brought into alinement with said brush contact by the movement of said shift-lever, said brush contact being in circuit with said magnet.

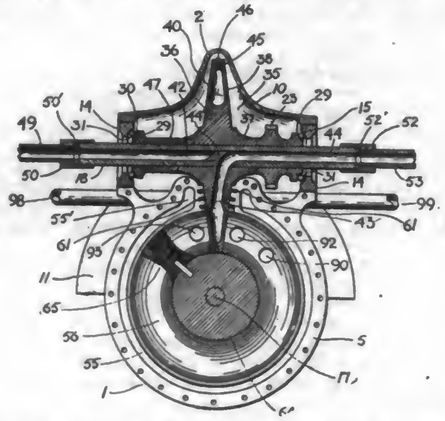
2. An electric motor consisting of an electromagnet having a core, an armature pivoted adjacent said magnet adapted for movement across the face of said core, said armature being out of contact with said core, a shaft provided with a crank, a link connecting said crank and said armature, a plurality of sets of contacts, slidably mounted upon said shaft and adapted to rotate therewith, a shift lever adapted to move said contacts, a pivotally supported lever, and a brush contact, adapted to impinge upon said slidable contacts, carried by said pivotally supported lever, said brush contact being adapted to impinge upon one of said sets of slidable contacts when said motor is running forward, the other of said sets of slidable contacts being adapted to impinge upon said brush contact when said motor has been reversed, the sets of slidable contacts last named being brought into alinement with said brush contact by the movement of said shift lever, said brush contact being in circuit with said magnet.

979,638. ROTARY ENGINE. GEORGE E. BALL, Cranston, R. I. Filed Nov. 17, 1908. Serial No. 463,112.

1. In a rotary engine, the combination with the casing provided with an abutment chamber and cylinder chamber, of a hollow abutment shaft mounted in the casing, an abutment upon the shaft within the abutment chamber provided with tapering sides and with a continuous internal chamber communicating with interior of the shaft, and inclined bearing faces upon the casing intermediate the chambers adapted to receive the tapering sides of the abutment.

2. In a rotary engine, the combination with the casing provided with an abutment chamber and cylinder chamber, of a hollow abutment shaft mounted in the casing, an abutment upon the shaft within the abutment chamber provided with tapering sides and with a cylindrical arcuate internal chamber communicating with the interior of the shaft, and inclined bearing faces upon the casing intermediate the chambers adapted to receive the tapering sides of the abutment.

3. In a rotary engine, the combination with the casing provided with an abutment chamber and cylinder chamber, of a hollow abutment shaft mounted in the casing, an abutment upon the shaft within the abutment chamber provided with tapering sides and with a curved interior chamber and with passages extending from the ends of the chamber to the interior of the shaft, and inclined bearing faces upon the casing intermediate the chambers and adapted to receive the tapering sides of the abutment.



4. In a rotary engine, the combination with the casing provided with an abutment chamber, of a hollow abutment shaft mounted in the casing, an abutment upon the shaft within the abutment chamber provided with tapering sides and with a curved interior chamber having spiral radially disposed passages extending from the chamber to the interior of the shaft, and inclined bearing faces upon the casing intermediate the chambers and adapted to receive the tapering sides of the abutment.

5. In a rotary engine, the combination with a casing provided with an abutment chamber and a cylinder chamber of an abutment shaft mounted in the casing, an abutment upon the shaft within the abutment chamber adapted to intersect the cylinder chamber and provided with tapering sides, inclined bearing faces upon the casing intermediate the chambers adapted to receive the tapering sides of the abutment, said intermediate portion of the casing being provided with water cavities, and packing rings in the casing intermediate the abutment and the water cavities.

[Claims 6 to 20 not printed in the Gazette.]

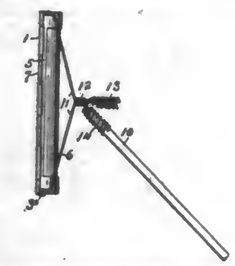
979,639. SANTALOL COMPOUND. RUDOLPH BERENDES, Elberfeld, Germany, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Apr. 28, 1910. Serial No. 558,156. (Specimens.)

1. The herein described new alkylamino acetic acid esters of santalol, obtainable by treating chloroacetyl santalol with a secondary amin, which are oils soluble in alcohol and ether and insoluble in water, forming solid salts with acids, which salts also exhibit the valuable therapeutic properties of the bases, substantially as described.

2. The herein described new dimethylaminoacetyl santalol obtainable by treating chloroacetylsantalol with dimethylamin, which is an oil soluble in alcohol and ether and insoluble in water, forming solid salts with acids, which salts also exhibit the valuable therapeutic properties of the base; the hydrochlorid melting at 154° C., substantially as described.

979,640. FLY-CATCHER. MAX E. BOERNGEN, Kansas City, Mo., assignor of two-thirds to John Maurer, Kansas City, Mo. Filed Nov. 15, 1909. Serial No. 528,105.

1. In a fly catcher, the combination with a frame having closed ends and parallel side flanges, of hinged devices for clamping a sheet of fly paper to said flanges intermediate said ends.



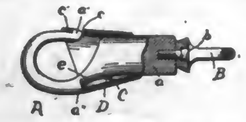
2. In a fly catcher, the combination with a frame having closed ends, one of which is provided with an opening and a closure for said opening, of means for detachably securing intermediate said ends and in concavo-convex form a sheet of fly paper.

3. A fly catcher comprising a receptacle having the form of a longitudinal section of a hollow cylinder having closed ends one of which has an opening and a closure therefor, a portion of the inner surface of the receptacle being sticky.

4. In a fly catcher, the combination with a frame having the form of the longitudinal section of a hollow cylinder, of means for detachably securing in said frame against the curved inner surface thereof a sheet of fly paper.

5. In a fly catcher, the combination with a frame having the form of the longitudinal section of a hollow cylinder and provided with means for supporting a handle at different angles to the axis of the cylinder, of means for detachably supporting in said receptacle in concavo-convex form a sheet of fly paper.

979,641. SNAP-HOOK. ALBERT W. BRASH, Newark, N. J. Filed May 14, 1910. Serial No. 561,344.



1. The combination with a shank having at one end a swivel eye and at the other end a hook provided with an outward projection at the extremity of its bill, the shank also having a concave bearing for a spring, of a sliding sleeve having secured to its rear inner side a curved spring adapted to bear on the concave portion of the shank and at its front end at the opposite side a recess and catch for engaging with said projection on the bill, said spring serving to hold the parts in engagement.

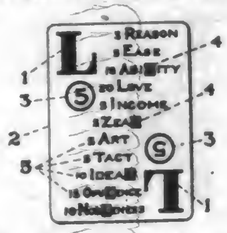
2. A shank and hook, the latter having a shoulder on its rear edge near the shank, and an outward projection on its bill, in combination with a sliding sleeve having a curved spring secured to its rear inner side and a recess and catch at the front end of its opposite side adapted to slide over and engage with said projection, while the end of the spring bears against said shoulder.

979,642. PLAYING-CARDS. RALPH WILLIS BUMSTEAD, Brookline, Mass. Filed Feb. 13, 1909. Serial No. 477,723.

1. A pack of cards, each card bearing one of the letters in a selected list of words or names, such of said cards as represent initial letters of said words or names bearing one designating characteristic, and the remainder of said cards bearing another designating characteristic, and each of said cards bearing said list of names or words.

2. A pack of cards, each card bearing one of the letters in a selected list of names or words, each word of said selcted list containing an initial or a non-initial let-

ter not occurring as such in any of the others of said words, and each of said cards bearing said list of words.



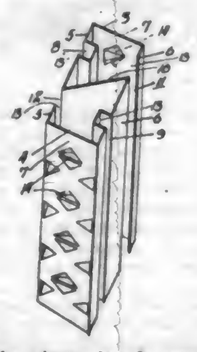
3. In a pack of cards, a card for each letter of a plurality of selected names or words, the letters of said words not being sufficiently duplicated to permit of said words being duplicated by spelling out said words with said cards, and each of said cards bearing said list of words in addition to the particular letter for which it stands.

4. In a pack of cards, a selected list of names or words appearing *in toto* upon each card, each letter of said words being designated by one of said cards; a division of said cards into suits characterized by the positions of their respective letters in said words; an identifying characteristic common to all the cards of a suit; and a limited duplication of the letters of a suit so as to render impossible the duplication of said words in spelling out the latter with said cards while retaining the same in their respective suits.

5. A pack of cards, each card representing one of the letters in a selected list of names or words, and bearing a designation of its uniqueness or of the number of similar cards to be found in the pack, and each card bearing said list of words.

[Claims 6 to 19 not printed in the Gazette.]

979,643. STUDDING FOR PLASTER-BOARDS. HARRY H. BURSON, Chicago, Ill., assignor to Burson Bros., Chicago, Ill., a Copartnership. Filed June 22, 1909. Serial No. 503,720.



1. A studding for plaster boards comprising shell-like sections formed of sheet metal and joined together by a diagonally extending wall constituting a partition, the partition being connected at one end to the front wall of one of the sections and at the other end to the rear wall of the other section, said front and rear walls being formed with a longitudinally extending channel providing a seat for the reception of plaster boards, each of the sections being provided with a slot formed between the free ends of the metal from which the studding is formed and the termini of the partition wall, said slots providing seats for the reception of plaster boards and said slots being oppositely disposed from said channels, substantially as described.

2. A studding for plaster boards comprising shell-like sections formed of sheet metal and joined together by a diagonally extending wall constituting a partition connected at one end to the front wall of one of the sections and at the other end to the rear wall of the other section, said front and rear walls being formed with a longitudinally extending channel providing a seat for the reception of plaster boards, each of the sections being provided with a slot formed between the free ends of the metal from which the studding is formed and the termini of the partition wall, said slots providing seats for the reception of plaster boards and said slots being oppositely disposed from said channels, the side walls of the studding being provided with a plurality of openings to allow the ingress of plaster boards into the interior of the studding, substantially as described.

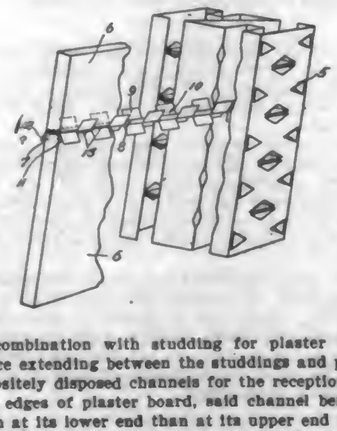
3. A studding for plaster boards comprising shell-like sections formed of sheet metal and joined together by a wall constituting a partition, the front wall of one section and the rear wall of the other section being formed with channels positioned equidistant from the center of the studding, each of the sections having a portion of one wall cut away to provide slots extending longitudinally of the studding and in alinement with the channels, said channels and slots providing seats for the reception of plaster boards, substantially as described.

4. A studding for plaster boards, comprising shell-like sections formed of sheet metal and joined together by a diagonally extending wall constituting a partition, the front wall of one section and rear wall of the other section being formed with indentures, providing seats for the reception of plaster boards, the indentures being equidistant from the center of the studding, substantially as described.

5. A studding for plaster boards comprising shell-like sections formed of sheet metal and joined together by a diagonally extending wall constituting a partition the front wall of one section and the rear wall of the other section being equal in width, the front wall of one section and the rear wall of the other section being provided with longitudinally extending channels for the reception of the ends of the plaster boards, each of the sections having a longitudinally extending slot formed in the wall opposite to that in which the channel is formed, said slots and channels coöperating to provide seats for the plaster boards, substantially as described.

[Claim 6 not printed in the Gazette.]

979,644. CROSS-BRACE FOR PLASTER-BOARDS OR THE LIKE. HARRY H. BURSON, Chicago, Ill., assignor to Burson Bros., Chicago, Ill., a Copartnership. Filed Aug. 16, 1910. Serial No. 577,387.



1. In combination with studding for plaster board a cross brace extending between the studdings and provided with oppositely disposed channels for the reception of the adjoining edges of plaster board, said channel being of a less width at its lower end than at its upper end whereby the lower edge of the plaster board is held away from contact with the lower edge of the wall of the channel, substantially as described.

2. In combination with a studding for plaster board a cross brace extending between the studdings and provided with oppositely disposed channels for the reception of the adjoining edges of plaster boards, the wings of said channels diverging outwardly whereby a space is provided around the edges of the boards for the reception of plaster, substantially as described.

3. In combination with a studding for plaster board, a cross brace comprising an elongated flat plate having oppositely disposed wings arranged in pairs and alternately extending in opposite directions from the body of the plate, said wings forming channels for the reception of the adjoining edges of the plaster board, said channels being of a less width at their lower end than at their upper end, whereby the lower edge of the plaster board is held out of contact with the surface of the plate, substantially as described.

4. In combination with a studding for plaster board, a cross brace comprising an elongated, flat plate having wings extending outwardly in both directions therefrom and forming channels for the reception of the adjoining edges of plaster board, said wings extending diagonally from said plate whereby a flaring channel is produced to provide a space around the edges of the board for the reception of plaster.

5. In combination with a studding for plaster board, a cross brace comprising an elongated flat plate having wings thereon extending in opposite directions therefrom, whereby a channel is formed above and below the plate for the reception of the adjoining edges of the plaster board, said channels being of a less width at their lower end than at their upper end whereby a space is provided between the lower end of the plaster board and the plate, substantially as described.

[Claim 6 not printed in the Gazette.]

979,645. ALBUMEN PREPARATION FROM ALBUMINOIDS AND SALTS OF GUAIACOL-SULFONIC ACIDS. ALBERT BUSCH, Brunswick, Germany, assignor to Firm of Bauer & Cie., Berlin, Germany. Filed Dec. 28, 1909. Serial No. 535,330. (Specimens.)

1. The process of manufacturing albumen preparations soluble in water from albuminoids such as albuminates, casein of milk or vegetable casein and basic soluble salts of guaiacol-sulfonic-acids consisting in combining said albuminoids with concentrated solutions of the basic sodium salts of the guaiacol-sulfonic-acids, substantially as set forth.

2. The process of manufacturing albumen preparations soluble in water, from albuminoids such as albuminates, casein of milk or vegetable casein and basic soluble salts of guaiacol-sulfonic-acids consisting in suspending the albuminoids in inactive liquids and mixing to them basic soluble salts of guaiacol-sulfonic-acids, then removing the inactive liquid by filtration and drying the product, substantially as set forth.

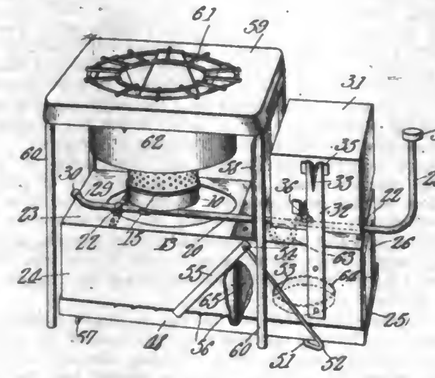
3. As a new article of manufacture the above described water soluble product obtained by combining albuminoids such as albuminates, casein of milk or vegetable casein and basic soluble salts of guaiacol-sulfonic-acids in form of a powder white in color, odorless and tasteless, absorbing cold water and swelling up and dissolving by heat to a milky white liquor, substantially as described.

979,646. BLUE-FLAME OIL-STOVE. CORODON S. CANNON, Battle Creek, Mich. Filed May 3, 1910. Serial No. 559,110.

1. In a vapor burner, an oil supply pipe having upturned ends, and removable closures for said ends, a burner carried by the pipe, a feed cup on the pipe, and an oil reservoir discharging into the feed cup.

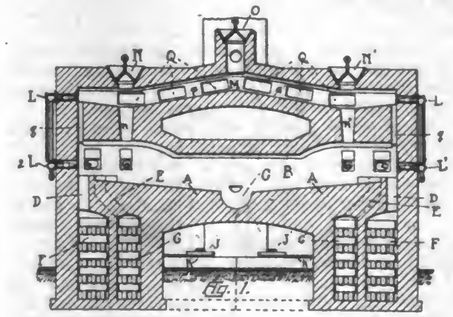
2. In a vapor burner, a base, an oil supply pipe supported by the base, a burner carried by the oil supply pipe, a feed cup on said pipe, an oil reservoir discharging into the feed cup, and a rock shaft journaled under the base, said rock shaft having laterally extending portions, one of which terminates in a return bend which is elongated to form a handle for rocking the shaft.

3. In a vapor burner, an oil supply pipe, an annular firing pan connected to the pipe, and extending from one side thereof, an arm secured to the pipe, and extending from one side thereof beneath the firing pan, and supporting that portion of said pan which is farthest from the pipe.



4. In a vapor burner, a base, an oil supply pipe supported by the base, a burner carried by the oil supply pipe, a feed cup on said pipe, an oil reservoir discharging into the feed cup, a rock shaft journaled under the base, said rock shaft having laterally extending portions, one of which laterally extending portions terminates in a return bend which is elongated to form a handle for the rock shaft, and a prop pivoted to the outer end of said handle, and engageable with the base.

979,647. REGENERATIVE FURNACE. ARTHUR W. CATTON and CHARLES W. CATTON, West Seattle, Wash. Filed Aug. 10, 1909. Serial No. 512,155.



1. In reverberatory type of regenerative furnace the combination of an upper roasting chamber and a lower smelting chamber, each of said chambers having two hearths oppositely inclined and means for using one of each of said two hearths alternatively, the upper hearth for roasting and the lower hearths for smelting ores substantially as shown and described, and for the purposes set forth.

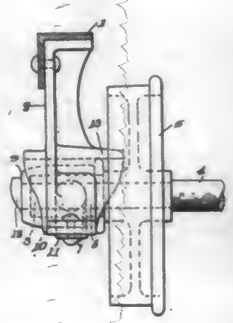
2. In a reverberatory type of regenerative furnace, the combination of an upper roasting chamber and a lower smelting chamber, each of said chambers having oppositely inclined hearths, and liquid hydrocarbon burners located in the end walls of each of said roasting and smelting chambers, said burners being adapted to furnish liquid hydrocarbon or crude oil for combustion from each end of said chambers alternately, and thus generate the heat required to roast and smelt the ores on the hearths of said chambers, as shown and described and for the purposes set forth.

3. In a regenerative furnace the combination of an upper roasting chamber and a lower smelting chamber, said smelting chamber being located below the roasting chamber, each of said chambers having oppositely inclined hearths designed to be used alternately in roasting and smelting ores in the respective chambers, liquid hydrocarbon burners in the end walls of said roasting and smelting chambers to supply the necessary heat alternately in each end thereof, and said burners being constructed with an outer nozzle to receive and discharge the compressed air and an inner nozzle to receive and discharge the fuel oil, a sleeve valve intake in said inner nozzle to receive compressed air from the outer nozzle and back of the oil intake, to spray the oil within the furnace for combustion substantially as described and shown.

4. In a reverberatory furnace the combination of a roasting chamber and a smelting chamber, each of said chambers having two oppositely inclined hearths, to be used alternately and simultaneously, each of said chambers being provided with liquid hydrocarbon burners, and each of said burners having a sight hole in the tube of the inner nozzle, as described and shown and for the purposes set forth.

5. A reverberatory furnace having an upper roasting chamber with hearths oppositely inclined toward the end of said chamber, and a lower smelting chamber with hearths oppositely inclined toward a central lead well, each of said roasting and smelting chambers being provided at opposite ends with liquid hydrocarbon burners, as described and shown, and suitable flues and superheating chamber connections with the smokestack whereby from each end of the furnace the draft may be changed alternately from end to end, and superheated air furnished alternately therethrough to aid in the combustion of the fuel oil as described and shown.

979,648. ADJUSTABLE JOURNAL-BOX FOR TRUCKS. SHERWOOD M. CHASE, Columbus, Ohio, assignor to The Chase Foundry and Manufacturing Company, Columbus, Ohio, a Corporation of Ohio. Filed May 26, 1910. Serial No. 563,586.



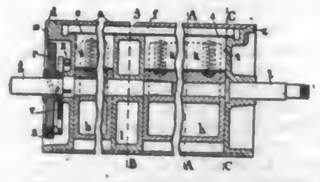
1. In a truck, the combination, with a main frame, an axle, and track wheels carried by said axle, of a supporting bracket having vertical guideways therein, and a journal box having trunnions slidably and pivotally mounted in said guideways.

2. In a truck, the combination, with a main frame, an axle, and track wheels mounted on said axle, of a supporting bracket carried by said main frame and having a bifurcated lower arm, the arms of said bifurcation having grooves in the adjacent faces thereof, and a journal box having trunnions arranged in a substantially horizontal plane, extending transversely to the length thereof and slidably and pivotally mounted in said grooves.

3. In a truck, the combination, with a main frame, an axle, and track wheels mounted on said axle, of a bearing bracket carried by said main frame, a journal box pivotally and slidably mounted on said bearing bracket, and a dust shield carried by said bracket and extending inwardly beyond the end of said journal box.

4. In a truck, the combination, with a main frame, an axle, and track wheels mounted on said axle, of a bearing bracket carried by said main frame, a journal box pivotally and slidably mounted on said bearing bracket, a dust shield carried by said bracket and extending inwardly beyond the end of said journal box, and a dust shield carried by said journal box and extending beyond the outer end thereof.

979,649. INKING DEVICE. WALTER CHIPPERFIELD, Romford, England. Filed Nov. 6, 1909. Serial No. 526,540.



1. An inking device consisting of a roller having a line of peripheral perforations, a circumferential ink reservoir, a lever, and an internal rotating part actuated by the operation of said lever for discharging a definite quantity of ink from said reservoir.

2. An inking device comprising a roller having a line of peripheral perforations, a circumferential ink reservoir, a lever, an internal rotating part for discharging the ink and actuated by the operation of said lever, a cam surface and a ratchet wheel actuated by said cam surface.

3. An inking device comprising a roller containing an ink reservoir, a lever, internal means actuated by the operation of said lever to discharge a definite quantity of ink and means for automatically putting the lever and parts out of action after the actuation of the ink delivery mechanism.

4. An inking device comprising a roller containing a circumferential ink reservoir, a lever, internal means actuated by the operation of said lever to discharge a definite quantity of ink, and means for automatically putting the lever and parts out of action after the actuation of the ink delivery mechanism.

5. An inking device consisting of a roller having a line of peripheral perforations, an internal circumferential ink reservoir, a lever, internal means actuated by the operation of said lever to discharge a definite quantity of ink, and means for automatically putting the parts out of action after the actuation of the ink delivery mechanism.

[Claims 6 to 24 not printed in the Gazette.]

979,650. LOGGING-CAR BUNK AND BLOCK. FREDERICK W. CHRISWELL, Seattle, Wash., assignor to Seattle Car Manufacturing Company, Seattle, Wash., a Corporation of Washington. Filed Apr. 10, 1909. Serial No. 489,166.



1. The combination of a hollow bunk which is divided by a partition to afford two passage-ways extending the entire length of the bunk, chocks slidably mounted on the bunk, a chain for each chock and positioned within the respective passage-ways, and means engageable with the chains for securing the respective chocks against outward movement, such means being disposed at the opposite ends of the bunk from the respective chocks.

2. The combination of a bunk formed of side plates, two spaced webs connecting said plates and disposed to afford a channel above the upper web and a passage-way between the webs, a chock movable in said channel, a chain connected with the chock and extending through a slot provided adjacent to one end of the bunk in the upper of said webs and thence through said passage-way and through an opening near the other end of the bunk and in the lower of said webs, and a means for adjustably securing the chain from being drawn upwardly through the said opening.

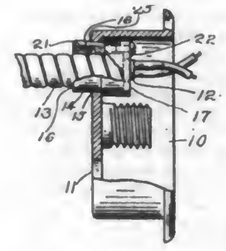
3. The combination of a bunk of hollow section, two movable chocks supported upon the bunk, and chains attached to the chocks and extending through the inclosed passage-way of the bunk and openings in the bottom of the bunk and adjacent to the ends opposite the respective chocks to which they are attached, said chocks being angular in form and capable of folding down over end of the bunk.

4. The combination of a hollow bunk, movable chocks arranged to slide thereon, said chocks being angular in form and capable of folding down over ends of the bunk and means extending through openings in the bottom of the bunk for securing the chocks in operative positions.

5. The combination of a hollow bunk forming a protected passage-way with a slide way above, chocks arranged to slide in said slide way, chains attached to the chocks and extending through the passage-way, and an opening in the bottom of the bunk near each end and through which the respective chains are rove.

[Claims 6 to 14 not printed in the Gazette.]

979,651. ELECTRIC-CABLE CONNECTION. LEWIS H. CHURCH, Stamford, Conn., assignor to The Standard Electric Fittings Company, Stamford, Conn., a Corporation of Connecticut. Filed Feb. 3, 1910. Serial No. 541,866.



1. A connection of the character described, comprising a body adapted to engage a hole in a fixture and having a recess in one side, a wedge-shaped locking block in said recess and a screw passing longitudinally through the body and engaging one end of the locking block whereby the latter is moved longitudinally and caused to grip a cable and the connection is locked to the fixture.

2. A connection of the character described, comprising a body adapted to engage a hole in a fixture and having a shoulder adapted to engage the inner side of the fixture and a recess in one side, a wedge-shaped locking block in said recess and a screw passing longitudinally through the body and engaging one end of the locking block whereby the latter is moved longitudinally and caused to grip a cable and the connection is locked to the fixture.

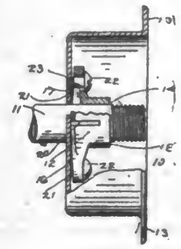
3. A connection of the character described, comprising a body adapted to engage a hole in a fixture and having an eccentrically located opening, a head, a hole in the head concentric with the opening in the body and a recess in the thick side of its wall, a wedge-shaped locking block in said recess and a screw passing through the head and engaging the locking block, for the purpose set forth.

4. A connection of the character described, comprising a body adapted to engage a hole in a fixture and having a recess in one side, a wedge-shaped locking block in said recess having a slot and a screw passing longitudinally through the body and engaging one end of the locking block at the base of the slot.

5. A connection of the character described, comprising a body adapted to engage a hole in a fixture and having a shoulder adapted to engage the inner side of the fixture an eccentrically disposed longitudinal opening in the body, a recess in the thick portion of the wall thereof a wedge shaped locking block in said recess, a longitudinally disposed screw passing through the periphery of the body and engaging one end of said block, whereby the latter is caused to grip a cable and the connection is locked in the fixture.

[Claims 6 to 8 not printed in the Gazette.]

979,652. GAS CONNECTION FOR OUTLET-BOXES. LEWIS H. CHURCH, Stamford, Conn., assignor to The Standard Electric Fittings Company, Stamford, Conn., a Corporation of Connecticut. Filed Mar. 11, 1910. Serial No. 548,548.



1. A connection of the character described comprising attaching arms having faces highest at the center transversely and inclining from the center toward the ends, a central hub and slots in the sides of the hub which cause the wall of the hub to close inward, for the purpose set forth, when the attaching arms are pressed downward.

2. A connection of the character described comprising attaching arms having faces highest at the center transversely and inclining from the center toward the ends, a central hub and side flanges, said hub and flanges being provided with slots whereby the walls of the hub are caused to close inward when the attaching arms are pressed downward.

3. A connection of the character described having a face highest at the center and inclining from the center toward the ends and having slots for attaching screws and a central hub and side flanges provided with slots which permit the walls of the hub to move inward, for the purpose set forth, when the connection is attached in place.

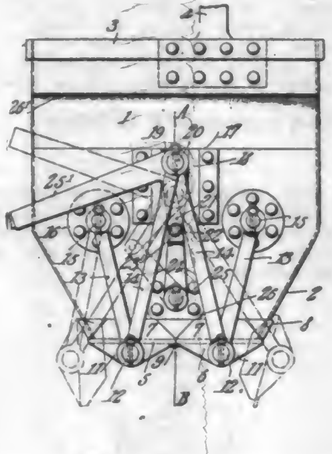
4. A sheet metal connection of the character described having a face highest at the center and inclining toward the ends, and a central hub provided with slots, for the purpose set forth.

5. A connection of the character described comprising attaching arms having faces highest at the center transversely and inclining from the center toward the ends, and a central hub having slots, for the purpose set forth.

979,653. CONVEYER-BUCKET. SEBERN A. COONEY, Trenton, N. J., assignor of one-half to John A. Roebling's Sons Co., Trenton, N. J. Filed Oct. 15, 1909. Serial No. 522,771.

1. In a conveyer bucket, a closure therefor comprising two like closing members meeting at the central longitudinal

vertical plane of the bucket, each member being supported at each end solely by a hanger turning about an axis in fixed relation to the bucket body and located at a distance above the bottom of the bucket and more distant from the vertical central plane of the bucket than the connection of the hanger with the respective closure member when the latter is in the closed position.



2. A conveyer bucket having a closure at the bottom thereof composed of two coacting members movable away from each other in the act of dumping the bucket each through an arc described about a relatively fixed point located within the confines of the body of the bucket above the bottom thereof, and each member being also movable about an axis participating in the arc movement of said member.

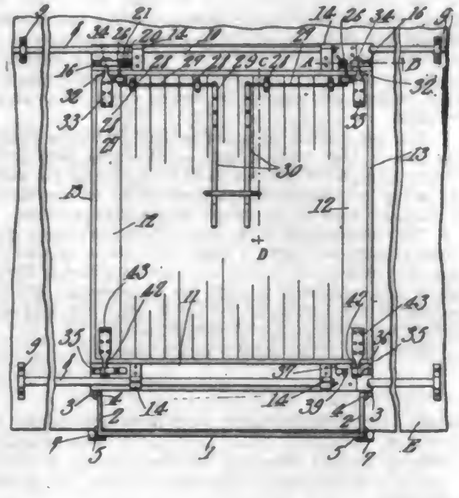
3. A conveyer bucket provided with matching closing members, each movable through an arc to and from the dumping position described about a point within the confines of the bucket body above the bottom thereof, a sliding member at each end of the bucket and connected to both closure members, and a toggle connection between the sliding support and the bucket body having the toggle members in locking alinement when the closure members are in the closed position.

4. A conveyer bucket having an open bottom, two closure members therefor co-acting to cover the bottom of the bucket when in the closed position, a hanger for each end of each closure member pivotally connected thereto at substantially the middle point of the width of the closure member and movable about an axis within the confines of the bucket body and above the bottom thereof, and means for permitting the swinging of the closure members about their own axes coincident with the point of connection therewith of said hanger and for moving them about the supporting axes of the hangers.

5. A conveyer bucket having an open bottom, two closure members therefor co-acting to cover the bottom of the bucket when in the closed position, a hanger for each end of each closure member pivotally connected thereto at substantially the middle point of the width of the closure member and movable about an axis within the confines of the bucket body and above the bottom thereof, means for permitting the swinging of the closure members about their own axes and for moving them about the supporting axes of the hangers, said means comprising a slide at each end of the bucket body carrying a projecting stud, link connections between the stud and the pivot point of the individual pivots of each closure member, a toggle connection between each slide and a corresponding fixed point on the bucket body, and a connection between corresponding members of the toggle connections at each end of the bucket body for causing simultaneous movement of the slides.

[Claim 6 not printed in the Gazette.]

979,654. CAR-DOOR. WILLIAM W. COBB, Caton, S. D., assignor of one-half to Earl C. Kimball, Paxton, S. D. Filed Sept. 6, 1910. Serial No. 580,493.



1. The combination with rails, of a door including detachable upper and lower strips slidably and revolubly mounted upon the rails.

2. The combination with rails, of a door including detachable top and bottom strips, means upon each of said strips for slidably and revolubly engaging one of the rails, said means being non-detachable from the rails.

3. The combination with rails, top and bottom strips slidably and revolubly mounted on the rails, a door body interposed between the top and bottom strips, and means for detachably connecting the door body to the strips.

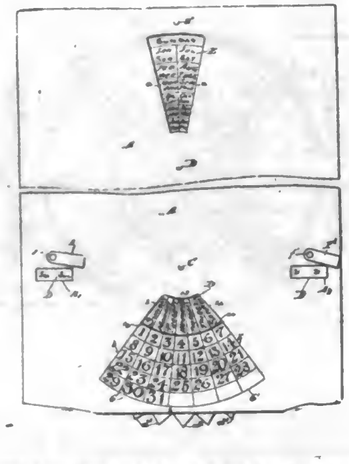
4. The combination with top and bottom strips mounted for rotation about parallel axes, of a door body interposed between said strips and hinges connecting the ends of each strip with the door body, each hinge consisting of separable members.

5. The combination with top and bottom strips mounted for rotation about parallel axes, of a door body interposed between said strips, hinges connecting the ends of the strips with the door body, said hinges constituting the sole connection between the strips and body and each hinge consisting of separable members.

[Claims 6 to 14 not printed in the Gazette.]

979,655. INDICATOR FOR PERPETUAL CALENDARS. JAMES M. CRAWFORD, Bentonville, Ind. Filed Mar. 14, 1906. Serial No. 306,059.

The combination of a card, and an indicator mounted on the rear thereof said indicator comprising a disk pivotally mounted at its center and having rings marked thereon adjacent its pivot point and its periphery, a space between said rings being divided into fourteen segmental divisions, each division being subdivided by annular and radial lines, said divisions being captioned by the names of one of the days of the week, and the subdivisions being provided with the names of the months of the year, and the week-day on which each month begins together with names of seven additional days corresponding to leap year, the days of the week in the caption being arranged in regular order said



card having an aperture of the same size and shape as one of the fourteen segmental divisions.

979,656. CLARIFYING EXTRACTS CONTAINING TANNIN. HERMANN DAMKÖHLER and HUGO SCHWINDT, Bremen, Germany. Filed Dec. 14, 1909. Serial No. 533,055.

1. The process of clarifying extracts containing tannin, which consists in adding thereto an aluminate of the alkaline earth metals.

2. The process of clarifying extracts containing tannin, which consists in adding thereto an aluminate of barium.

3. The process of clarifying extracts containing tannin, which consists in adding thereto meta aluminate of barium.

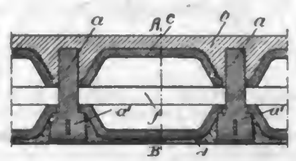
4. The process of clarifying extracts containing tannin, which consists in adding thereto an aluminate of the alkaline earth metals and precipitating the resulting color-lake by means of a water soluble sulfate.

5. The process of clarifying extracts containing tannin, which consists in adding thereto an aluminate of barium and then precipitating the resulting color-lake by means of a water soluble sulfate.

[Claims 6 to 8 not printed in the Gazette.]

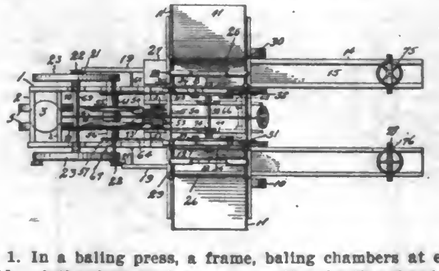
979,657. [WITHDRAWN.]

979,658. CEILING. EMIL DIECKMANN, Barmen-Unterbarmen, Germany. Filed Sept. 9, 1909. Serial No. 516,938.



A ceiling comprising a series of concrete beams having offsets, a series of lower plates having hook-shaped ends that project above said offsets and are directly supported thereby, a series of spacing bars also arranged above said offsets and projecting with their ends over the same so as to be supported thereby, and a series of upper plates supported upon the spacing bars.

979,659. BALING-PRESS. THOMAS H. DIBBRENS, Dallas, Tex. Filed June 6, 1910. Serial No. 565,384.



1. In a baling press, a frame, baling chambers at each side of the frame, plungers operating in the chambers, tampers reciprocating over the baling chambers, side boards above the chambers, a guard sheet carried by each tamper between the side boards, a wing pivoted between each pair of side boards, and mechanism for swinging the wings and reciprocating the plungers and the tampers.

2. In a baling press, a frame, feeding boxes mounted on the frame, baling chambers in the lower portion of the feeding boxes, plungers reciprocating in the chambers, pressing wheels mounted on the frame and operating the plungers, a tamper reciprocating vertically in each feeding box, a vertical guard sheet carried by each tamper, and a swinging wing in each feeding box mounted outside of the tamper.

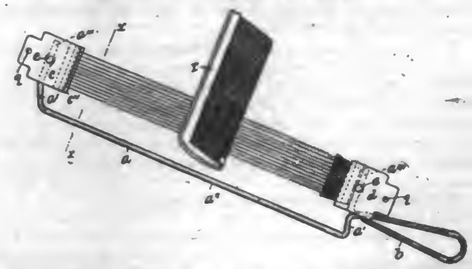
3. In a baling chamber, a frame, feeding boxes mounted on the frame, baling chambers in the lower portion of the feeding boxes, plungers reciprocating in the chambers, pressing wheels mounted on the frame and operating the plungers, a tamper reciprocating vertically in each feeding box, a vertical guard sheet carried by each tamper, a swinging wing in each feeding box mounted outside of the tamper, and means for swinging the wings when the tampers are raised.

4. In a baling press, a frame, feeding boxes mounted on the frame, plungers reciprocating in the feeding boxes, tampers reciprocating in the feeding boxes, wings swinging laterally in the feeding boxes, a shaft extending transversely of the feeding boxes, devices mounted on the shaft for reciprocating the tampers and swinging the wings, and means for imparting rotation to the shaft.

5. In a baling press, a feeding box, a tamper mounted in the feeding box, links supporting the tamper, a shifting frame for swinging the links, a shaft associated with the frame, a device carried on the shaft engaging the frame for shifting the same, and means for imparting rotation to the shaft.

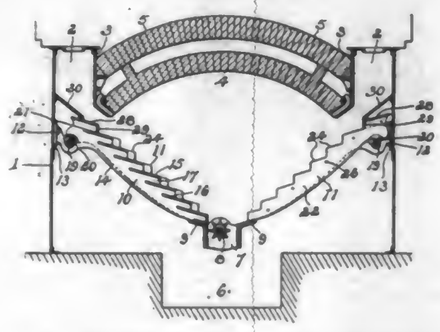
[Claims 6 to 9 not printed in the Gazette.]

979,660. COMB-CLEANER. OTTO C. FELDER, Paterson, N. J. Filed July 18, 1910. Serial No. 572,414.



A comb cleaner comprising a set of spaced wires, a brush arranged close to the set of wires at one end thereof and having its bristles disposed substantially parallel with the wires, and means for supporting said wires in extended disposition and also supporting the brush, substantially as described.

979,661. FURNACE. JOHN R. FORTUNE, Detroit, Mich. Filed Mar. 12, 1910. Serial No. 548,953.



1. In a device of the character described, the combination of a hopper, inclined stationary grate bars, inclined movable grate bars alternating with the stationary bars, and means carried by the upper ends of the movable bars overlapping the stationary bars and forming a continuous shelf at the upper end of the grate movable with the movable bars.

2. In a device of the character described, the combination of a hopper, inclined stationary grate bars supported with their upper ends beneath the hopper, inclined movable grate bars alternating with the stationary bars, and a shelf carried by the upper end of each movable bar movable therewith beneath the hopper and extending laterally over each adjacent stationary bar to meet the edges of the shelves on the adjacent movable bars, said shelves together forming a continuous stoker to receive fuel from the hopper and feed the same on to the grate bars.

3. In a device of the character described, the combination of a hopper, a series of stationary inclined grate bars each having a stepped upper surface forming shelves for supporting fuel, movable inclined bars between the stationary bars each having a stepped upper surface, a shelf on the upper end of each movable bar projecting laterally over the adjacent stationary bars to meet the shelves on the adjacent movable bars and form a continuous shelf across the upper end of the grate beneath the hopper, and means for actuating the movable bars simultaneously in the same direction.

4. In a device of the character described, the combination of a hopper, a series of stationary grate bars having stepped upper surfaces, a series of movable grate bars alternating with the stationary bars and having stepped upper surfaces, a shelf on the upper end of each movable bar to receive fuel from the hopper and extending over the upper steps of the adjacent stationary bars, and a wall extending downward from the edge of the shelf on each movable bar to the step below on said bar and forming means for moving the fuel.

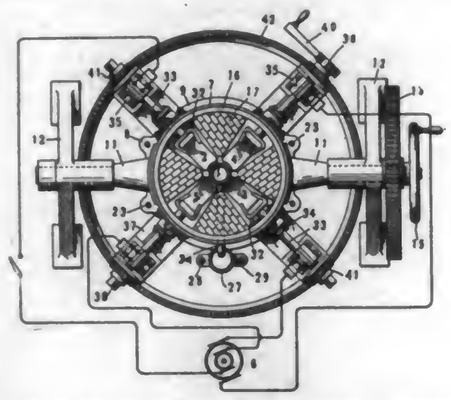
5. In an automatic stoker, the combination with a hopper and a series of movable grate bars, of a rock shaft extending across said series of bars, and laterally extending means on the rock shaft adapted to engage and operate the bars, said means extending laterally from one portion of the shaft to a greater distance than from other portions thereof to give to certain of the grate bars a greater movement than to the others.

[Claims 6 to 8 not printed in the Gazette.]

979,662. PAINT-OIL. ELWOOD GOSSETT, Kansas City, Kans., assignor of one-half to Alfred N. Gossett, Kansas City, Mo. Filed Apr. 28, 1909. Serial No. 492,674.

A paint vehicle comprising a mixture of thinned linseed foots, paraffin oil, and gloss oil, in the proportions of 1 gallon of the first, 2 gallons of the second, and one gallon of the third.

979,663. ELECTRIC FURNACE. BAYARD GUTHRIE, Pittsburg, Pa., and JOSEPH P. KARCH, Plainville, Conn. Filed Mar. 8, 1909. Serial No. 481,895.



1. In an electric furnace, a tiltable casing, a crucible therein, a plurality of electrodes supporting said crucible when pouring and means for retracting said electrodes to form an arc.

2. In an electric furnace, a crucible, a plurality of electrodes having their faces shaped to fit the sides of the crucible and holders for said electrodes movable toward and from the crucible said electrodes being vertically removable from said holder.

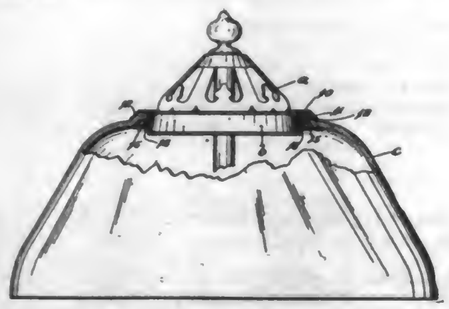
3. In an electric furnace, a plurality of pairs of radially movable spring jaws having vertical openings and electrodes having wedge shaped posterior portions adapted to be inserted in the openings in said jaws and removable therefrom by vertical movement.

4. In an electric furnace, a crucible having a funnel shaped mouth and an outlet below the mouth electrodes arranged at the sides of the crucible and means for tilting said crucible to pour from said outlet.

5. In an electric furnace, a casing, a crucible therein, means for producing an arc, a spout leading from said crucible, a mold swinging from the casing and means for tilting the crucible and casing

[Claims 6 to 15 not printed in the Gazette.]

979,664. SHADE-HOLDER. PHILIP J. HANDEL and ANTONE E. TEICH, Meriden, Conn.; said Teich assignor to said Handel. Filed June 15, 1910. Serial No. 566,987.



1. The combination with a shade, of a holder therefor comprising a ring having exterior and interior depending flanges between which the upper edge of said shade is located, a non-rotatable securing ring surrounding said interior flange engaging the under side of said shade, and means for locking said securing ring in place.

2. The combination with a shade having an inclined annular centering shoulder arranged exteriorly thereof near its upper edge, of a holder comprising a ring and an inclined exterior flange adapted to fit against said inclined centering shoulder, an interior flange projecting through the opening in the top of said shade, and means engaging the under edge of said shade to secure said holder in place.

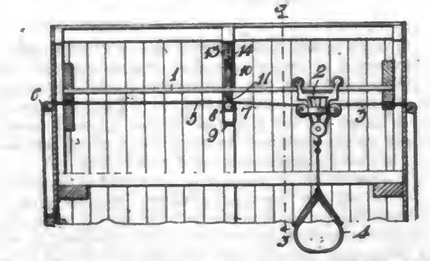
3. The combination with a shade having an inclined centering shoulder on its exterior surface near the opening through its top, of a holder having a supporting member and an inclined centering face adapted to receive and engage the centering shoulder on said shade.

4. The combination with a shade having an inclined centering shoulder on its exterior surface near the opening through its top, of a holder comprising a supporting member, a flange having an inclined centering face against which said shoulder is adapted to fit, and means for securing said shade in position in said holder.

5. The combination with a shade having an inclined centering shoulder thereon, of a holder comprising a supporting member, a flange having an inclined centering face against which said shoulder is adapted to fit, a non-rotatable ring in engagement with said shade, and clips on said supporting member adapted to lock said ring in place.

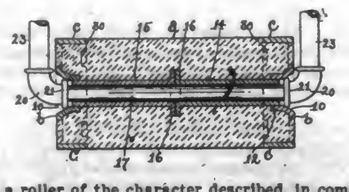
[Claim 6 not printed in the Gazette.]

979,665. ROPE-SUPPORTING DEVICE FOR HAY-ELEVATORS. CHARLES A. HANSON, Donovan, Ill. Filed June 13, 1910. Serial No. 566,569.



A rope support for hay elevators comprising a bar arranged to extend under the rope transversely thereof and provided at one end with an enlargement having a vertically disposed bearing eye at its extremity, and a longitudinally disposed perforated rib on its upper side, a pivot pin inserted through the bearing eye and secured in a fixed support at one side of the rope, and a spring having one end secured in a perforation in the said rib and its upper end secured to the fixed support above the bar.

979,666. COMPOSITE ROLLER. CHARLES F. HARGRAVE, Winthrop, Mass. Filed Apr. 13, 1910. Serial No. 555,178.

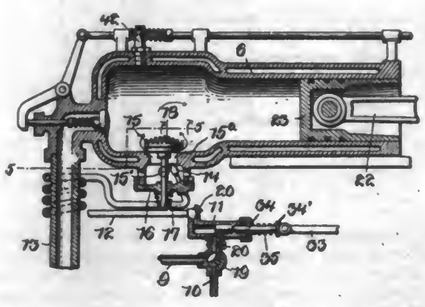


1. In a roller of the character described, in combination, a concrete body portion provided with metal end disks having inwardly extended hubs provided with conical inner surfaces, and a handle provided with elbows extended into said hubs and having beads coöperating with said conical surfaces, and a rod extended through said roller and connecting said elbows, substantially as described.

2. In a roller of the character described, in combination, a concrete body portion provided with metal end disks having inwardly extended hubs provided with conical inner surfaces, and a handle having side arms extended into said hubs and coöperating with said conical surfaces to cause moisture to be deflected by said conical surfaces to the outside of the said body portion, substantially as described.

3. In a roller of the character described, in combination, a concrete body portion provided with end disks having inwardly extended hubs provided with conical portions extended from the outer surfaces of the disks toward the center of the roller with the narrower end of said conical portions within the concrete body portion, a handle provided with side arms extended into said conical portions and provided with means coöperating therewith to cause moisture to be deflected outward to the ends of the roller, substantially as described.

979,667. VAPORIZER FOR INTERNAL-COMBUSTION ENGINES. WILLIS M. HARPSTER, Florence, Kans. Filed Aug. 10, 1910. Serial No. 576,459.



In combination with an internal combustion engine including a cylinder, ignition chamber, piston, and crank shaft, a spring controlled air valve seated in the wall of the ignition chamber, the inner surface of said valve being corrugated, a liquid fuel supply pipe coiled about the exhaust pipe from the ignition chamber and provided with a spraying nozzle on its discharge end disposed beneath the air valve, a pump for forcibly ejecting the liquid fuel from the spraying nozzle, said pump comprisng a plunger, an oscilatory arm, a link connecting the arm and plunger, means operable from the crank shaft of the engine engaging said arm to reciprocate the plunger, and means for adjusting the link on said arm to vary the stroke of the plunger and regulate the supply of fuel to the engine.

979,668. BRAKE-BEAM. BRODERICK HASKELL, Franklin, Pa., assignor to Chicago Railway Equipment Company, Chicago, Ill., a Corporation of Illinois. Filed July 7, 1909. Serial No. 506,371.



1. A brake beam comprising a tension member provided with integral heads at its ends, a compression member snugly fitted between said heads, and abutting solely against and flush with the inner side of said heads, and brake heads fitting over the abutting edges of the integral heads and compression member.

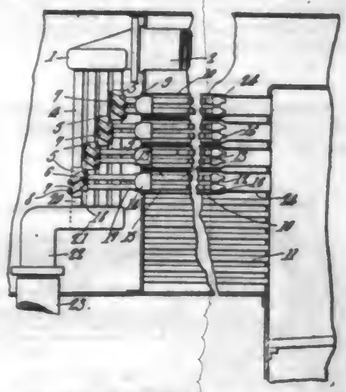
2. A brake beam comprising a tension member provided with integral heads at the ends thereof, said heads forming undercut recesses and a compression member having engagement with said heads.

3. A brake beam comprising a tension member provided with heads at the ends thereof, and a compression member fitted between and abutting solely against and flush with the inner side of said heads and united in molecular union therewith.

4. A brake beam comprising a tension member provided with integral heads at the ends thereof, said heads form

ing undercut recesses, and a compression member having mortised engagement in said recesses with said heads, said engagement being in the nature of a molecular union between said parts.

979,669. STEAM-SUPERHEATER. JAMES C. HERON, St. Paul, Minn., assignor of one-half to Arthur C. Deverell, St. Paul, Minn. Filed Aug. 29, 1910. Serial No. 579,370.



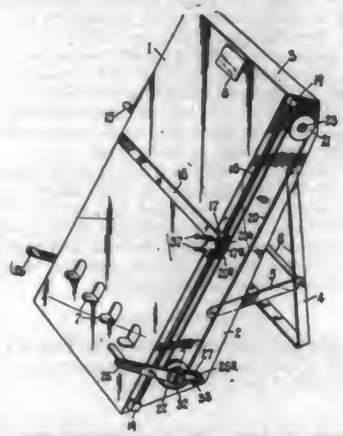
1. In combination with a steam boiler a superheater comprising tubes extending from one end of the boiler to the other, a head connected with the steam outlet of the steam boiler, pipes depending from said head, coils located in the said tubes and being at approximately right angles to the pipes which depend from the said head, a second head located vertically under the first named head, upstanding pipes mounted upon the last said head, the last said pipes being connected with the discharge end of said coils, the last said head being connected with service pipes.

2. In combination with a boiler a superheater comprising tubes extending longitudinally of the boiler and being open at both ends, said tubes being reduced in diameter at their discharge ends, a head connected with the steam outlet of the said boiler, pipes depending from the said head, coils located in said tubes and extending at right angles to the said pipes depending from the said head, a second head located vertically under the first said head, upstanding pipes mounted upon the last mentioned head and connected with the discharge outlet coil, and the last said head being connected with service pipes.

3. In combination with a steam boiler a superheater comprising tubes extending longitudinally of the boiler and being open at both ends, a head connected with the steam outlet of the steam boiler, a second head located vertically under the first said head, the last mentioned head being connected with service pipes, downwardly extending pipes connected with the first mentioned head, upwardly extending pipes connected with the last mentioned head, T's located at the inner ends of said pipes, L's connected with the ends of said T's, plates located against the outer side of said L's, the plates at one side of the vertically disposed pipes connected with the plates of the opposite side thereof by means of cross clamp bolts, and coils located in the said tubes and having their receiving ends connected with the L's which are attached to the pipes which depend from the first mentioned head, said coils having their discharge ends connected with the L's which in turn connect with the pipes mounted upon the second mentioned head.

979,670. COPY-HOLDER. HUBERT HOPKINS, St. Louis, Mo., assignor to The Moon-Hopkins Billing Machine Company, St. Louis, Mo., a Corporation of Missouri. Filed Oct. 17, 1908. Serial No. 458,263.

1. A copy holder, comprising a support, a guide, a belt connected to said guide, pulleys over which said belt passes, one of which pulleys is adjustable toward and from the opposite pulley in order to maintain the belt in a taut condition, a rock shaft extending transversely of the support and provided at each end with an operating handle or lever, a pawl on one end of said levers, and a ratchet wheel connected to one of said pulleys, with which ratchet wheel the pulley is adapted to engage.

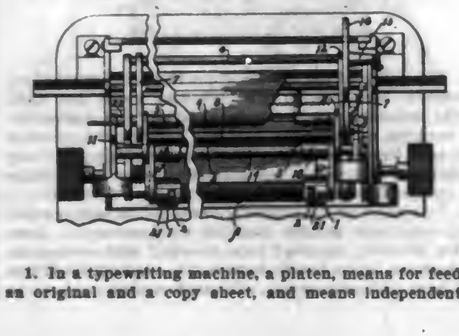


2. In a copy holder, a support, a guide rod arranged at one side thereof, a device arranged to slide on said rod, means under control of the operator for imparting a step-by-step movement to said device, a U-shaped member loosely mounted on the rod and carried by said device, projections on the U-shaped member, and a guide, one end of which is loosely mounted on said projections.

3. In a copy holder, a support, a guide rod arranged on one side thereof, an inverted U-shaped member free to ride and rotate upon said guide rod, means for imparting an intermittent sliding movement to said member, a pair of pins projecting upward from said member, a line guide on the support, one end of which line guide is provided with apertures which receive the pins carried by the inverted U-shaped member.

4. A copy holder comprising a support, a guide rod thereon, an endless belt, pulleys over which said belt passes, one of which pulleys is adjustable to maintain the belt in a taut condition, a shaft on which one of the pulleys is arranged, a ratchet wheel carried by the last mentioned pulley, operating handles fixed on the ends of the shaft, a pawl carried by one of the levers, which pawl is adapted to engage the ratchet wheel, a member connected to the belt and arranged to slide on the guide rod, and a line marker loosely connected at one end to said sliding member.

979,671. TYPE-WRITING MACHINE. WILLIAM W. HOPKINS, St. Louis, Mo., assignor to Moon-Hopkins Billing Machine Company, St. Louis, Mo., a Corporation of Missouri. Filed Aug. 5, 1907. Serial No. 387,210.



1. In a typewriting machine, a platen, means for feeding an original and a copy sheet, and means independent of the platen for moving the copy sheet rearwardly a predetermined distance independently of the original sheet.

2. In a typewriting machine, a platen, means for feeding an original and a copy sheet, and means independent of the platen for moving the copy sheet rearwardly an adjustable distance independently of the original sheet.

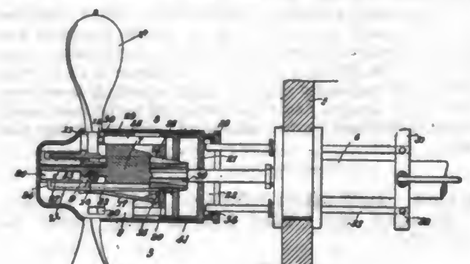
3. In a typewriting machine, a platen for supporting a copy sheet, a transfer sheet, and an original which has only a portion of its space available to receive printing impressions, means for feeding all of said sheets in one direction for the same distance, and means independent of the platen for retracting the copy sheet or moving it in the reverse direction after the original has been completed so as to compensate for the unavailable printing space on the original, the means last referred to being so designed that it can move the copy sheet in only one direction; substantially as described.

4. In a typewriting machine, a platen, means for feeding an original and a copy sheet, and means in the form of a reciprocating frame for moving the copy sheet rearwardly a predetermined distance independently of the original sheet.

5. In a typewriting machine, a platen, means for feeding an original sheet and a copy sheet, a pivoted frame for moving the copy sheet rearwardly a predetermined distance independently of the original sheet, and means for regulating the distance of movement of said pivoted frame.

[Claims 6 to 17 not printed in the Gazette.]

979,672. PROPELLER. ISAAC A. HORTMAN, Philadelphia, Pa. Filed Feb. 11, 1909. Serial No. 477,368.



1. In marine propulsion, a driving shaft, a plurality of oscillating propeller blades carried by the shaft, means for changing the angle of the blades with respect to said shaft, and locking members independent of the driving shaft and actuated by the blade adjusting means for securing said blades in different positions.

2. In marine propulsion, a driving shaft, a casing carried by the shaft and provided with radiating arms, propeller blades mounted for oscillation in said arms, means for oscillating the blades to effect the reversal thereof, and means carried by the blade adjusting means and independent of the driving shaft for locking the blades in reversed position.

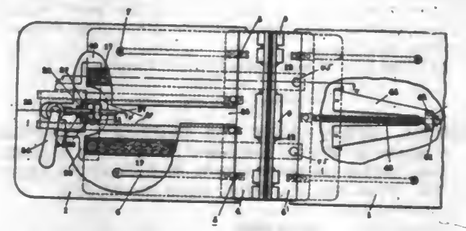
3. In marine propulsion, a driving shaft, a casing carried by the shaft, a plurality of propeller blades mounted for oscillation in said casing, an actuating sleeve slidably mounted on the driving shaft, rods forming connections between the propeller blades and actuating sleeve for changing the angle of the blades with respect to the driving shaft when said sleeve is operated, and means actuated by the sleeve and independent of the driving shaft for locking the blades in different positions of angular adjustment.

4. In marine propulsion, a driving shaft held against movement in a longitudinal plane, but free to rotate, a casing carried by the shaft, propeller blades mounted for oscillation in the casing and provided with laterally extending lugs, means slidably mounted on the driving shaft for oscillating the propeller blades to change the angle of said blades with respect to the driving shaft, and longitudinally movable locking members co-acting with the lugs on the propeller blades and actuated by the propeller oscillating means for locking the blades in different positions of angular adjustment.

5. In marine propulsion, a driving shaft, a casing carried by the shaft, a plurality of propeller blades mounted for oscillation in the casing, arms extending laterally from the propeller blades, an actuating sleeve carried by and adjustable longitudinally of the driving shaft, rods forming a connection between the actuating sleeve and arms of the propeller blades, and oppositely disposed locking members movable with the sleeve and arranged to engage the propeller blades for locking the latter in normal and reversed positions.

[Claims 6 to 12 not printed in the Gazette.]

979,673. TEMPORARY BINDER OR LOOSE-SHEET HOLDER. FRANCIS LEVITT IMPEY, Birmingham, England, assignor to Kalamazoo Loose Leaf Binder Company, Kalamazoo, Mich. Filed Feb. 23, 1910. Serial No. 545,504.



1. The combination with a cover, of a binding cord; a pair of facing ratchet bars arranged on said cover; a member to which said binding cord is connected, slidably mounted on said ratchet bars; a pair of pawls; a lever on which said pawls are pivoted, pivotally mounted on said binding cord member, said pawls being pivoted to said lever on opposite sides of its pivot center; a coiled spring arranged between said pawls for holding them yieldingly in engagement with said ratchet bars, said pawls being provided with lugs with which the ends of said spring is engaged; a pawl trip pivotally mounted on said binding cord member and having a pair of wedge-like pawl engaging fingers thereon, said pawls being longitudinally slotted to receive said fingers; an opening finger piece pivotally mounted on said binding cord member to actuate said pawl trip; and a closing finger piece mounted on said binding cord member in an opposed relation to said opening finger piece.

2. The combination with a cover, of a binding cord; a pair of facing ratchet bars arranged on said cover; a member to which said binding cord is connected, slidably mounted on said ratchet bars; a pair of pawls; a lever on which said pawls are pivoted, pivotally mounted on said binding cord member, said pawls being pivoted to said lever on opposite sides of its pivot center; a coiled spring arranged between said pawls for holding them yieldingly in engagement with said ratchet bars, said pawls being provided with lugs with which the ends of said spring is engaged; a pawl trip pivotally mounted on said binding cord member and having a pair of wedge-like pawl engaging fingers thereon, said pawls being longitudinally slotted to receive said fingers; and a finger piece pivotally mounted on said binding cord member to actuate said pawl trip.

3. The combination with a cover, of a binding cord; a pair of facing ratchet bars arranged on said cover; a member to which said binding cord is connected, slidably mounted on said ratchet bars; a pair of pawls; a lever on which said pawls are pivoted, pivotally mounted on said binding cord member, said pawls being pivoted to said lever on opposite sides of its pivot center; a pawl trip pivotally mounted on said binding cord member; an open-

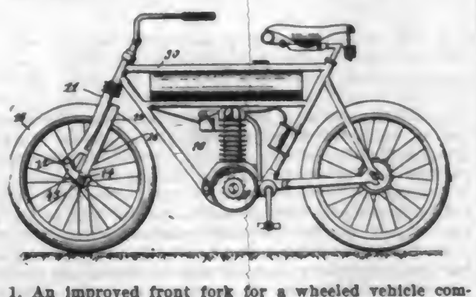
ing finger piece pivotally mounted on said binding cord member to actuate said pawl trip; and a closing finger piece pivotally mounted on said binding cord member in an opposed relation to said opening finger piece.

4. The combination with a cover, of a binding cord; a pair of facing ratchet bars arranged on said cover; a member to which said binding cord is connected, slidably mounted on said ratchet bars; a pair of pawls; a lever on which said pawls are pivoted, pivotally mounted on said binding cord member, said pawls being pivoted to said lever on opposite sides of its pivot center; a pawl trip pivotally mounted on said binding cord member; and a finger piece pivotally mounted on said binding cord member to actuate said pawl trip.

5. The combination with a cover, of a binding cord; a pair of facing ratchet bars arranged on said cover; a member to which said binding cord is connected, slidably mounted on said ratchet bars; a pair of pawls; a lever on which said pawls are pivoted, pivotally mounted on said binding cord member, said pawls being pivoted to said lever on opposite sides of its pivot center; a coiled spring arranged between said pawls for holding them yieldingly in engagement with said ratchet bars, said pawls being provided with lugs with which the ends of said spring is engaged; and a pawl trip mounted on said binding cord member and having a pair of wedge-like pawl engaging fingers thereon, said pawls being longitudinally slotted to receive said fingers.

[Claims 6 to 23 not printed in the Gazette.]

979,674. SPRING-FORK FOR WHEELED VEHICLES. CHARLES R. KITTLE and JOHN W. GATES, Los Angeles, Cal.; said Gates assignor to R. K. Holmes, Los Angeles, Cal. Filed Mar. 28, 1910. Serial No. 551,929.



1. An improved front fork for a wheeled vehicle comprising an U-shaped frame mounted upon the axle of the front wheel and extending upwardly and over the wheel; a bifurcated front member; rocking bars mounted upon the axle of the front wheel and pivotally connected to the lower ends of the bifurcated member; spring barrels connected to the legs of the bifurcated member at the rear thereof; plungers within said spring barrels, said plungers having stems extending upwardly to and pivotally connected with the U-shaped frame; coiled springs within said barrels around said plunger stems; removable closures for the lower ends of said spring barrels; and coiled springs between said closures and said plungers.

2. An improved fork for a wheeled vehicle comprising a bifurcated front member operatively mounted in the frame of the vehicle and upon the axle of the wheel, the legs of said front member being jointed, an U-shaped member mounted upon the axle of the wheel and extending over said wheel and being located behind the front member, and a resilient connection between said members.

3. In a wheeled vehicle, a frame; a steering post member revolubly mounted in the forward part of said frame, said steering post member comprising a bifurcated front member, the legs of which are jointed, and mounted upon the axle of the front wheel, and an U-shaped member at the rear of the front member mounted upon the axle of the front wheel and extending over said wheel, and a resilient connection between said bifurcated and U-shaped members.

979,675. KNEADING APPARATUS. JOHANNES KRETZSCHMAR, Torgau, Germany, assignor to Herkules Patentverwertungsgesellschaft mit beschränkter Haftung, Berlin, Germany. Filed Oct. 15, 1910. Serial No. 587,230.



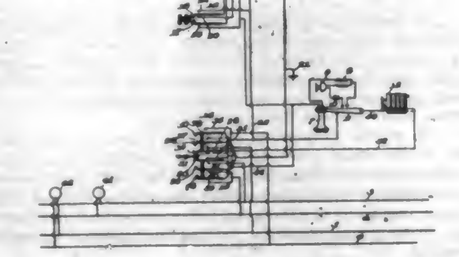
1. Kneading apparatus comprising a lower kneading board having a cavity in its upper surface, a dish of perforated elastic material fixed in said cavity clear of the bottom of the latter, an upper kneading board having a hole therein, and a diaphragm of perforated elastic material fastened to the upper board and subtending said hole.

2. Kneading apparatus comprising a lower kneading board having a cavity in its upper surface, a dish of perforated elastic material fixed in said cavity clear of the bottom of the latter, an upper kneading board having a hole therein, and a diaphragm of perforated elastic material fastened to the upper board and subtending said hole, said diaphragm having a downwardly directed ridge.

3. Kneading apparatus comprising a lower kneading board having a cavity in its upper surface, a dish of wire-netting fixed in said cavity clear of the bottom of the latter, an upper kneading board having a hole therein and a diaphragm of wire-netting fastened to the upper board and subtending said hole.

4. Kneading apparatus comprising a lower kneading board having a cavity in its upper surface a dish of perforated elastic material fixed in said cavity clear of the bottom of the latter, a meal drawer slidable in said cavity below said perforated dish, an upper kneading board having a hole therein, and a diaphragm of perforated elastic material fastened to the upper board and subtending said hole.

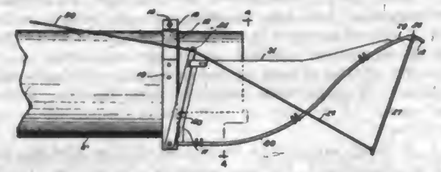
979,676. SWITCHING SYSTEM. OTTO T. LADEMAN, Milwaukee, Wis. Filed Sept. 2, 1909. Serial No. 515,954.



1. Apparatus of the class described consisting of a telephone substation set, a through telephone line, two terminating telephone lines, a signal-receiving device for said through telephone line, a signal-receiving device for each terminating line, switching means for connecting said telephones set to either terminating line and simultaneously changing the connection of the signal-receiving device of the selected line to include the local switching devices of said telephone set, and switching means for connecting said telephone set to said through line.

2. Apparatus of the class described consisting of a telephone substation set, a through telephone line, two grounded terminating telephone lines, a signal-receiving device for said through telephone line, a signal-receiving device for each terminating line, switching means for connecting said telephone set to either terminating line and simultaneously changing the connection of the signal-receiving device of the selected line to include the local switching devices of said telephone set, and switching means for connecting said telephone set to said through line.

979,677. ATTACHMENT FOR HAY-STACKERS. CONRAD LANGUM, Volga, S. D. Filed Mar. 7, 1910. Serial No. 547,784.

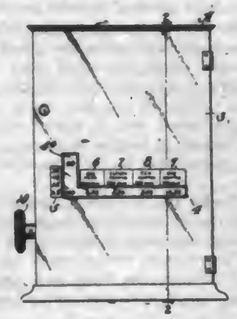


1. In an attachment for pneumatic hay stackers comprising a shaft, arms in which said shaft is journaled, a lever for rotating said shaft in said arms, means to attach said arms to a hay stacker delivery tube, said means being arranged to hold the shaft beneath said tube, fingers projecting from said shaft and inclined upwardly, an apron pivoted to and depending from the outer ends of certain of said fingers, and a limiting connection between the apron and lever to stop movement of the apron away from the lever.

2. In an attachment for pneumatic hay stackers, a band adapted to surround the delivery tube of a stacker adjacent the mouth thereof, means to clamp said band on said tube, arms attached to said band and projecting downwardly therefrom, a shaft journaled in the lower ends of said arms, an upstanding lever attached to said shaft and provided with means to attach a pull cord, spaced parallel fingers secured to said shaft and curved upwardly across the mouth of said tube, an apron pivoted to the outer ends of certain of said fingers and depending therefrom, and a cable connecting the lower part of the apron with said lever.

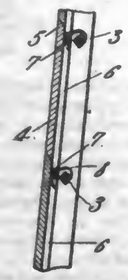
3. In an attachment for pneumatic hay stackers, a band adapted to surround the delivery tube of a stacker adjacent the mouth thereof, means to clamp said band on said tube, arms attached to said band and projecting downwardly therefrom, a shaft journaled in the lower ends of said arms, an upstanding lever attached to said shaft and provided with means to attach a pull cord, spaced parallel fingers secured to said shaft and curved upwardly across the mouth of said tube, an apron pivoted to the outer ends of certain of said fingers and depending therefrom, a cable connecting the lower part of the apron with said lever, and wind boards carried at the sides of the series of fingers.

979,678. CALCULATING DEVICE. NIM R. LONG, Troy, Mo. Filed July 2, 1909. Serial No. 505,679.



An interest-computing device, comprising a casing provided with a vertical opening and a horizontal opening in one wall thereof, a scale arranged at one side of said vertical opening and consisting of a vertical column of figures with % signs placed at one side of the same, a flexible member arranged inside of said casing and provided with a plurality of vertical columns of numbers that can be seen through the horizontal opening in said casing, the numbers in each column being spaced apart the same distance as the figures of said scale, an independent vertical column of numbers on said flexible member arranged in alinement with the vertical opening in said casing and spaced apart from each other a distance equal to the length of said scale, and means for moving said flexible member so as to bring the numbers of said independent column into alinement with one or the other figures of said scale.

979,679. DOOR AND LOCK THEREFOR. WILLIAM H. LUDWIG, De Pere, Wis. Filed June 10, 1910. Serial No. 566,198.



1. The combination with a door having lapping sections of a keeper upon each section, and a spiral catch revoluble into engagement with the keeper.

2. The combination with a door consisting of lapping sections, of a keeper upon each section and a spiral catch mounted to slide and rotate.

3. The combination with a door, and means thereon for lapping a fixed structure to hold one end of the door against displacement, of a keeper upon the door, and revoluble means for engaging the keeper to bind the door in closed position.

4. The combination with a door, and means extending therebeyond for lapping a fixed structure to hold one end of the door, of a keeper upon the other end of the door and spiral means for engaging the keeper to secure the door in closed position.

5. The combination with a removable door, of a supporting element, a spiral fastener slidably and revolubly mounted on said element, and a keeper secured to the door for engagement by the fastener.

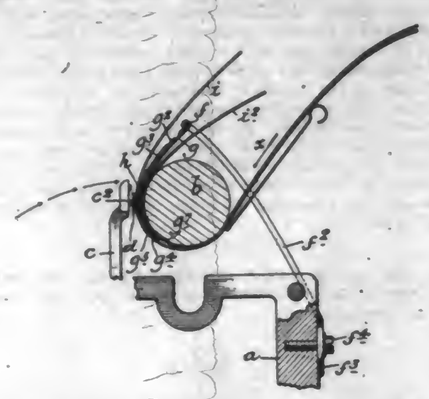
[Claims 6 to 15 not printed in the Gazette.]

979,680. TYPE-WRITING MACHINE. DAVIS MARINSKY, New York, N. Y. Filed Sept. 13, 1910. Serial No. 581,845.

1. An attachment for typewriting machines adapted to be connected with a stationary part of the frame thereof and comprising in its construction a top member, which is supported over the paper roller of the machine, and which passes between the sheets of paper as they leave the said roller in the operation of making duplicate copies, and a duplicator holder connected with said top member and extending downwardly and forwardly in front of the paper roller.

2. An attachment for typewriting machines adapted to be connected with a stationary part of the frame thereof and comprising in its construction a top member which is supported over the paper roller of the machine, a duplicator holder connected with said top member and extending downwardly and forwardly in front of said roller, said duplicator holder and said top member operating to separate the sheets of paper as they leave said

roller in the operation of making duplicate copies and a duplicator detachably connected with said duplicator holder.

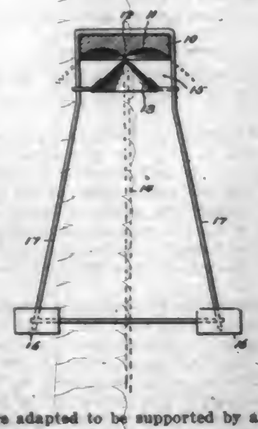


3. An attachment for typewriting machines adapted to be connected with a stationary part of the frame thereof and comprising in its construction a horizontal top member supported over the paper roller of the machine, a duplicator holder connected with said top member and extending in front of said roller, said duplicator holder and said top member serving to separate sheets of paper as they leave said roller in the operation of making duplicate copies, and a duplicator mounted in connection with said duplicator holder.

4. An attachment for typewriting machines adapted to be connected with a stationary part of the frame thereof and comprising in its construction a duplicator holder which is supported over and in front of the paper roller of the machine, and which separates the sheets of paper as they leave said roller in the operation of making duplicate copies.

5. An attachment for typewriting machines adapted to be connected with a stationary part of the frame thereof and comprising in its construction a duplicator holder which is supported over and in front of the paper roller of the machine, and which separates the sheets of paper as they leave said roller in the operation of making duplicate copies, and a duplicator rotatably and detachably mounted in connection with said duplicator holder.

979,681. FLUID-JET FLOAT. JOHN L. MAUCH, Salt Lake City, Utah. Filed Sept. 17, 1910. Serial No. 582,574.



1. A device adapted to be supported by a fluid jet having a supporting surface arranged transverse to the direction of flow of said jet and an annular alining surface angularly disposed with respect to said direction of flow.

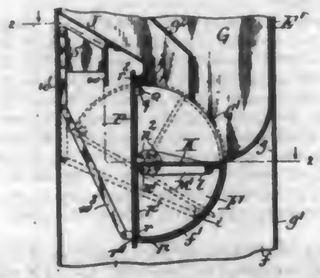
2. A device adapted to be supported by a fluid jet having a supporting surface arranged transverse to the direction of flow of said jet and an annular alining surface arranged below said supporting surface and angularly disposed with respect to said direction of flow.

3. A device adapted to be supported by a fluid jet having a supporting surface arranged transverse to the direction of flow of said jet and an annular alining surface angularly disposed with respect to said direction of flow, said parts being constructed and arranged to permit a free escape of fluid after striking said supporting surface.

4. A device adapted to be supported by a fluid jet having a supporting surface arranged transverse to the direction of flow of said jet and an annular alining surface angularly disposed with respect to said direction of flow, the center of gravity of said device being below said surfaces.

5. A device adapted to be supported by a fluid jet having a supporting surface arranged transverse to the direction of flow of said jet and an annular alining surface angularly disposed with respect to said direction of flow, and a supporting platform carried by said device.

979,682. CARBID-FEEDER FOR ACETYLENE-GENERATORS. WILLIAM JOHN KENETH MCLEOD, Buffalo, N. Y. Filed Mar. 27, 1909. Serial No. 486,259.



1. A carbid feeder for acetylene generators comprising a casing, a vertically swinging drum arranged in said casing and having two semi-circular heads, a carbid supply chute having side walls which have curved edges facing the periphery of the heads, and means for producing a practically gas tight joint between the edges of said heads and the edges of said side walls comprising circumferential knife edge ribs arranged on the heads and engaging with grooves in the curved edges of said side walls which are adapted to contain a plastic filling or packing.

2. A carbid feeder for acetylene generators comprising a casing, a vertically swinging drum arranged in the casing, a carbid supply chute having its outlet arranged adjacent to the drum, a shelf extending across the space within the drum and pivoted thereto at its front end so as to be capable of turning vertically relatively to the drum, and means for adjusting the shelf comprising a cross bar arranged below the shelf, rock arms carrying said bar and pivoted concentrically on the drum, a shaft movable axially relatively to the drum and connected with one of said arms, and a locking pin arranged on the drum and adapted to engage with one or another of a concentric row of openings in the arm which is connected with said shaft.

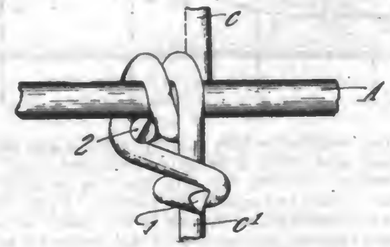
3. A carbid feeder for acetylene generators comprising a casing, a vertically swinging drum arranged in the casing and having two semi-circular heads and a shutter connecting the lower parts of the heads, and a gate valve diametrically pivoted on the drum and adapted to swing laterally and to engage with the rear edges of the heads and shutter.

4. A carbid feeder for acetylene generators comprising a casing, a vertically swinging drum arranged in the casing and having two semi-circular heads and a shutter connecting the lower parts of the heads, a wall arranged above the drum and having a transverse flange, and a vertically swinging gate valve pivoted on the drum and adapted when closed to engage with the rear edges of said heads, shutter and flange.

5. A carbid feeder for acetylene generators comprising a casing, a vertically swinging drum arranged in the casing and having two semi-circular heads and a shutter connecting the lower parts of the heads, a wall arranged above the drum and having a transverse flange, a vertically swinging gate valve pivoted on the drum and adapted when closed to engage with the rear edges of said heads, shutter and flange, and means for producing a practically gas tight joint between the valve and the rear edges of said heads, shutter and flange.

[Claims 6 and 7 not printed in the Gazette.]

979,683. WIRE-FENCE TIE. CHARLES MERCER, Tuscola, Ill., assignor to National Fence & Gate Co., Tuscola, Ill. Filed Oct. 20, 1909. Serial No. 523,635.



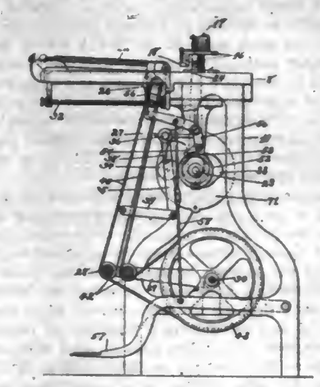
1. A fence tie comprising a line wire and first and second oppositely extending stay wires fitted against opposite sides of the line wire and having their terminals coiled around the line wire in parallelism with each other, the terminals of the first wire at the end of the parallel coils being bent sharply across the terminal of the second stay wire so as to grip said terminal of the second wire in the space between the coils of the first wire, the extreme end of said first wire being then directed toward and coiled around said second stay wire at a point thereon removed from the line wire.

2. A fence tie comprising a line wire and first and second oppositely extending stay wires fitted against opposite sides of the line wire and having their terminals coiled around the line wire in parallelism with each other, the terminal of the first stay wire at the end of the parallel coil being bent sharply across the terminal of the second stay wire so as to grip said terminal in the space between the coils of the first wire, the extreme end of said first wire being then extended to and coiled around said second stay wire, the ends of both of said wires being directed in the same direction and on the same side of the fence.

979,684. MACHINE FOR TRIMMING AND CUTTING PLACKET-OPENINGS IN UNDERGARMENTS. AUGUSTUS H. MORRISON, Amsterdam, N. Y., assignor of one-fourth to Henry G. Edmonds, one-fourth to Clarence C. Collette, and one-fourth to Harry T. Warnick, Amsterdam, N. Y. Filed Jan. 10, 1910. Serial No. 537,161.

1. In a machine of the class described, and in combination, slit-cutting mechanism and a trimming-die located for simultaneous operation upon the same garment; means for simultaneously operating said die and slit-cutting mechanism, and means for supporting a garment stationary during the operation of said die and slit-cutting mechanism.

2. In a machine of the class described, and in combination, a movable slit-cutter; a trimming-die located near one end of the path of said slit-cutter; means for supporting a garment in position to be simultaneously acted upon by both said trimming-die and said slit-cutter; means for operating said die and said slit-cutter, and means for supporting a garment stationary during the operation of said die and slit-cutting mechanism.



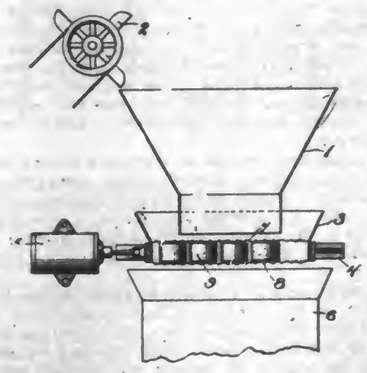
3. In a machine of the class described, and in combination, a slotted bed; a trimming-die located near one end of the slot in said bed; a rotatory-cutter adapted to play in said slot; a carrier for said cutter movable beneath the bed along said slot; means for moving said carrier along said slot; means for rotating said carrier; and means connected with said carrier-moving means for operating said trimming-die.

4. In a machine of the class described, and in combination, a slotted bed; a channeled shield supported above the slot in said bed; a slit-cutter; means for moving the same to and fro along said channeled shield and said slot; a trimming-die located near one end of said slot; and means for operating said trimming-die.

5. In a machine of the class described, and in combination, a slotted bed; a channeled shield pivotally mounted above the slot in said bed; a slit-cutter; a carrier for said slit-cutter; means for imparting to said carrier a to-and-fro movement along the slotted portion of the bed; and a projection on said channeled shield located in the path of said carrier at the end of its return movement, whereby said shield is automatically raised by said carrier.

[Claims 6 to 13 not printed in the Gazette.]

979,685. RIDDLE. EDGAR H. MUMFORD, Philadelphia, Pa. Filed May 1, 1907. Serial No. 371,231.



1. A sand riddle comprising a pair of opposing screens and a plurality of devices interposed between the screens for grating the sand through the lower screen and comprising pipe sections of greater diameter than height with their axes at right angles to the planes of the screens and

movable laterally independently of each other, the said sections having substantially their entire lower edges in engagement with the lower screen.

2. A sand riddle comprising a pair of opposing screens, and a plurality of devices interposed between the screens for grating the sand through the lower screen and comprising cellular sections of greater diameter than height each adapted to inclose a body of sand and supported upon its edge so as to permit the free passage of the sand therethrough, the said sections being movable laterally independently of each other and having the greater portion of their lower edges in engagement with the lower screen in order to grate the sand therethrough.

3. In combination, a receptacle provided with a feeding orifice, and a gate for the orifice comprising a riddle mounted for reciprocation past the orifice and consisting of a pair of spaced screens together adapted to substantially prevent the passage of sand when the riddle is stationary, and devices interposed between the screens for grating the sand through the lower screen when the riddle is reciprocated and comprising a plurality of cellular sections each adapted to inclose a body of sand and supported upon its edge so as to permit the free passage of the sand therethrough, the said sections being movable laterally.

979,686. TROCHA-CUTTER. GEORGE F. NELSON and JOSEPH H. BEAN, Washington, D. C. Filed Apr. 28, 1905. Serial No. 257,910.



1. The combination with an offensive weapon, of a cutting device carried thereby, said cutting device having two co-acting cutting members, one of which is movable, said movable cutting member being arranged obliquely across one edge of said offensive weapon whereby said weapon will serve to direct the article to be cut to the cutting device, the introduction of said article serving to bring the cutting members into operation, as set forth.

2. The combination with an offensive weapon, of a wire cutting device detachably connected to the hilt of said weapon, said cutting device having two co-acting cutting members, one of which is movable, the edge of said movable member being arranged obliquely to and across the weapon whereby said weapon serves to direct the wire to the cutting device, the introduction of said wire serving to bring the cutting members into operative action, for the purpose set forth.

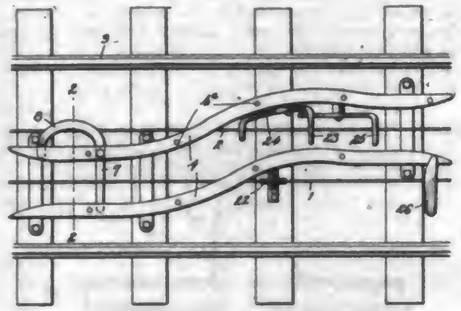
3. The combination with a bayonet, of a cutting device connected to the hilt end of said bayonet, said cutting device comprising a bracket and a pair of cutting members, the cutting edge of one of the members being arranged oblique to and across the edge of the bayonet, whereby said bayonet serves to guide the wire to be cut to the cutting members.

4. The combination of a bayonet and wire cutting device connected to the hilt end thereof, said cutting device comprising a rotary cutting wheel and a pivoted cutting blade, the edge of said cutting blade being arranged oblique to and across the edge of the bayonet whereby said bayonet edge serves to guide the wire to the cutting wheel and blade.

5. In a device of the kind described, a wire cutting device adapted to be connected to the hilt of a bayonet, said cutting device comprising a bracket, a cutting blade pivoted to the bracket and a cutting disk carried by the bracket and adapted to co-act with the cutting blade to cut the wire, said parts being so constructed and arranged that when placed upon the hilt of the bayonet the cutting edge of the blade will be oblique to and extend across one edge of the bayonet, as set forth.

[Claims 6 and 7 not printed in the Gazette.]

979,687. DEVICE FOR SWITCHING CABLES. ERICK NEWMAN, Ashland, Wis. Filed Mar. 19, 1910. Serial No. 550,327.



1. The combination with parallel cables, a grip adapted to engage said cables, a switching frame comprising parallel curved members, the grip traveling between said members, means arranged at the entrance to said switching frames for detaching the grip from a cable, and means arranged adjacent the rear ends of said frames for locking the grip to a cable, the said frames guiding the grip from one cable to the other.

2. The combination with an endless cable having parallel portions, means arranged adjacent said portions for disengaging a grip from one of said portions, means for locking said grip to the other portion, and a switching frame comprising parallel members between which the grip passes, for the purpose of transferring the grip from one portion of the cable to the other.

3. In a device of the kind described a grip having a fixed and a movable jaw, a lever pivotally connected to the movable jaw, a switch comprising parallel members curved intermediate their ends, means carried by one of said members in advancement of the curved portion for engaging the lever above mentioned and throwing the same into open position, thereby permitting the disengagement of the grip from a cable, means arranged at the rear ends of the curved portion of the switch for lifting a second cable, said means operated by passage of the grip, and means carried by the switch for returning said lever to its normal position as and for the purpose set forth.

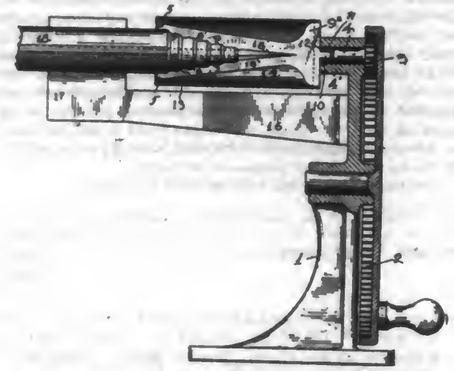
979,688. PENCIL-SHARPENER. DOCTOR FRANKLIN OLIVER, Fruitvale, Cal. Filed Oct. 25, 1909. Serial No. 524,141.

1. In a pencil sharpener, the combination with a suitable base, of a barrel rotatably mounted thereon, a series of concentric step bearings within the same, a cutting blade held within the barrel, the said blade being provided with a series of step cutting edges which project within the barrel intermediate the step bearings thereof.

2. In a pencil sharpener, the combination with a suitable base, of a barrel rotatably mounted thereon, a series of concentric step bearings within the barrel, and a series of inclined cutting edges within the barrel intermediate the step bearings thereof.

3. A pencil sharpener, the same comprising a tapering barrel for the cutting blade, the said barrel being provided on its inner surface with a series of concentric step bearings, and a cutting blade removably held with the barrel.

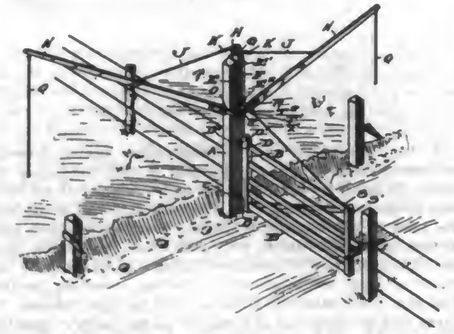
4. A pencil sharpener, the same comprising a tapering barrel for the cutting blade, the said barrel being centrally slotted to receive a cutting blade, and provided on its inner face with a series of concentric step bearings, and a cutting blade held within the barrel.



5. The combination with a slotted barrel for a pencil sharpener, a series of concentric step bearings on the inner face thereof, a cutting blade held within the slotted portion of the barrel, and a series of inclined cutting edges on said blade which projects within the barrel intermediate the step bearings, and means for holding the cutting blades within the barrel.

[Claims 6 to 10 not printed in the Gazette.]

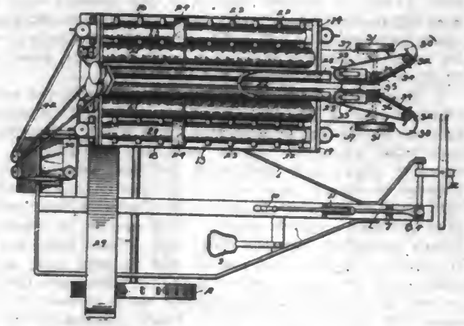
979,689. GATE-OPENER. PERLEY L. ORMISTON, Days Creek, Oreg. Filed May 13, 1910. Serial No. 561,091.



A gate opener comprising, in combination with a gate post having a flattened top, a bar having two laterally projecting portions thereof bent upon itself and parallel to each other and apertured, one of said portions thus bent extending over and resting upon the flattened top of the post, an angled rod journaled in said apertures of the bar, a collar resting upon a portion of the bar which engages the flat top of the post and supporting said edged rod, a convexed plate fixed to the end of said angled rod, a link fixed to said rod and adapted to actuate a latch, and lever operated connections with said convexed plate.

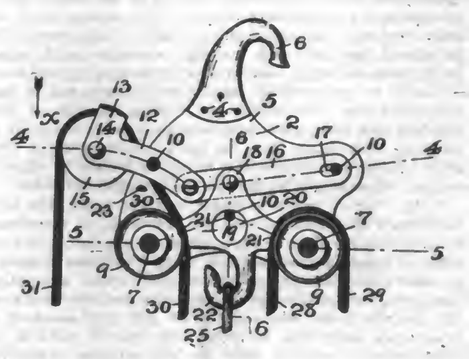
979,690. CORN-HUSKER. JESSE C. OVERTON, Omaha, Nebr., assignor of one-half to John Schwabland, Fordyce, Nebr. Filed Feb. 5, 1910. Serial No. 542,176.

1. In a machine of the class described, the combination, with a pair of stripping rollers, of a pair of husking rollers disposed upon each side of said stripping rollers, a vertical member disposed between each stripping roller and the adjacent pair of husking rollers and having its upper longitudinal edge curved over the former roller, to guide the stripped ears to said husking rollers, and means for driving all of said rollers.



2. In a machine of the class described, the combination of a box-like frame and a support therefor, a pair of parallel stripper rollers arranged longitudinally of said frame and midway between the sides thereof, a pair of husking rollers disposed between each stripper roller and the adjacent frame side, a pair of vertical members arranged longitudinally of said frame and interposed each between one of said stripper rollers and the adjacent husking roller, each of said members having its upper longitudinal edge curved over the adjacent stripper roller, to guide the stripped ears to said husking rollers, and means for driving all of said rollers.

979,691. HOISTING DEVICE. JOSEPH OWEN, Newark, N. J. Filed Mar. 22, 1910. Serial No. 550,927.



1. A safety pulley for hoisting tackle comprising a frame-work, pulley-wheels or sheaves over which the hoisting rope runs, said pulley-wheels or sheaves being rotatably mounted in said frame-work, a brake-block movably disposed between said pulley-wheels or sheaves, said pulley-block being provided with a plurality of grip-portions, each grip-portion being adapted to be brought into engagement with portions of the hoisting rope arranged over said pulley-wheels or sheaves, and means connected with said brake-block and extending downwardly between the said pulley-wheels or sheaves for the attachment of the load-carrying end of the hoisting rope thereto, and all arranged so that the brake-block is operated by the direct downward pull of the load lifted to bind said hoisting rope and arrest the movement of the same over the pulley-wheels or sheaves when the pull is removed from the hauling or running end of the rope, and means for releas-

ing the binding and arresting engagement of said brake-block with the hoisting rope when the hauling or running end of the rope is manipulated to raise the load, consisting of a compound lever, said compound-lever having one arm connected to the brake-block, and a pulley-wheel or sheave carried by the other arm of said compound lever over which the hauling portion of the hoisting rope is adapted to be arranged and runs, said compound lever when operated being adapted to lift said brake-block from its frictional holding engagement with the rope, substantially as and for the purposes set forth.

2. In a safety pulley block for hoisting tackle, the combination with a pair of wall-like members, of rotatable grooved sheaves or pulley-wheels over which a hoisting-rope runs, journaled between said wall-like members, a movable brake-block supported between said grooved sheaves or wheels, shoe or grip-portions connected with said brake-block so as to respectively present their gripping surfaces opposite each of said sheaves or wheels, means connected with the lower end of said brake-block for securing thereto one end of said hoisting rope, said brake-block being operated by the pull of the weight lifted, to bind said hoisting rope and arrest the movement of the same over said sheaves or pulley-wheels, an arm pivotally disposed between said wall-like members, and a pulley-wheel or sheave carried by said arm over which the hauling portion of the hoisting rope runs, and a means of connection between said arm and said brake-block for releasing the binding and arresting engagement of said brake-block with said hoisting rope when the latter is manipulated to raise a weight, substantially as and for the purposes set forth.

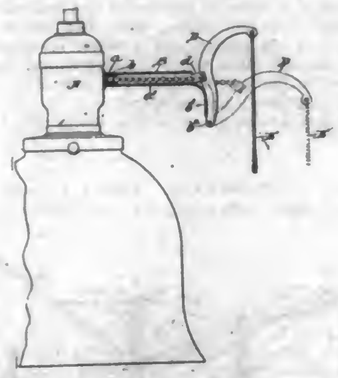
3. In a safety pulley-block for hoisting tackle, the combination with a pair of wall-like members, of rotatable grooved sheaves or pulley-wheels over which a hoisting-rope runs, journaled between said wall-like members, a movable brake-block supported between said grooved sheaves or wheels, shoe or grip-portions connected with said brake-block so as to respectively present their gripping surfaces opposite each of said sheaves or wheels, means connected with the lower end of said brake-block for securing thereto one end of said hoisting rope, said brake-block being operated by the pull of the weight lifted, to bind said hoisting rope and arrest the movement of the same over said sheaves or pulley-wheels, a compound-lever fulcrumed between said wall-like members, said brake-block being pivotally connected with said compound lever, a sheave or pulley-wheel carried in the free end of said compound-lever over which the hauling portion of said hoisting-rope runs, said compound-lever being operated to lift said brake-block from its operative engagement with said hoisting-rope when the latter is pulled to raise a weight, substantially as and for the purposes set forth.

4. In a safety pulley-block for hoisting tackle, the combination with a pair of wall-like members, of cross-bolts for securing the same in their operative relation with each other, a hanger-portion secured to said wall-like members, grooved pulley-wheels or sheaves over which a hoisting rope runs, said sheaves or wheels being journaled between the opposite lower edge-portions of said wall-members, a brake-block supported between said grooved sheaves or pulley-wheels, grooved shoe or grip portions connected with said brake-block so as to respectively present their gripping surfaces opposite each of said grooved sheaves or pulley-wheels, a forked portion connected with the upper end of said brake-block, a hook-portion connected with the lower end of said brake-block, a compound-lever pivotally connected with the forked end of said brake-block, said compound-lever being fulcrumed upon one of said cross-bolts, and said compound-lever being adapted to be operated by the hauling portion of said hoisting rope to release said brake-block from its binding or arresting engagement with said hoisting-rope, substantially as and for the purposes set forth.

[Claims 6 and 7 not printed in the Gazette.]

979,692. [WITHDRAWN.]

979,693. SWITCH-OPERATING DEVICE FOR LAMP-SOCKETS. HUGH E. PLUNKETT, Boston, Mass., assignor to James Barry, Boston, Mass. Filed Apr. 9, 1910. Serial No. 554,555.



1. In combination with a lamp socket having a switch operating member, an arm secured to and extending laterally from said socket, and a lever fulcrumed at its lower end to the outer end of said arm and attached at its middle part to said switch operating member, adapted when swung on its fulcrum to pull said switch operating member, the upper end of said lever being turned laterally outward to form an outwardly extending operating portion, and said lever standing substantially upright between the pivot and the point of attachment to the switch-operating member, whereby the switch-operating member will be pulled substantially straight outward by the lever without material deflection.

2. In combination with a lamp socket having a switch operating member, a tubular arm secured to and extending laterally from said socket through which said switch operating member passes, and a lever to which said switch operating member is attached, pivoted at the outer end of said tubular arm and adapted when swung on its pivot to pull said switch operating member.

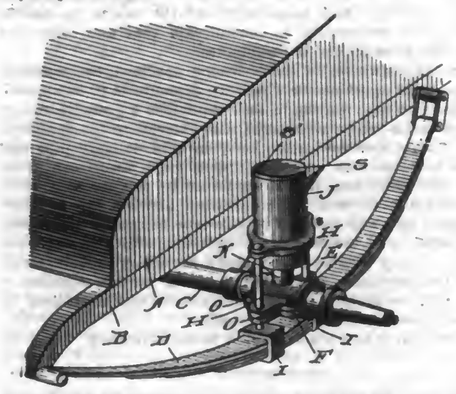
3. In combination with a lamp socket having an aperture through its side, a sleeve secured to the socket about said aperture, a tubular arm separably attached to said sleeve, a switch operating member passing through said sleeve and tubular arm, and a lever to which said switch operating member is attached, pivoted at the outer end of said tubular arm, adapted when swung on its pivot to pull said switch operating member.

4. In combination with a lamp socket having an aperture through its side, a screw threaded sleeve secured to the socket about said aperture, a screw threaded tubular arm separably attached to said sleeve, a switch operating member passing through said sleeve and tubular arm, and a lever to which said switch operating lever is attached, pivoted at the outer end of said tubular arm, adapted when swung on its pivot to pull said switch operating member.

5. In combination with a lamp socket having a switch operating member, a tubular arm secured to and extending laterally from said socket through which said switch operating member passes, a downwardly extending bracket at the end of said tubular arm, and a lever pivoted at its lower end to said bracket, and attached to said switch operating member at a point substantially opposite the end of the tubular arm.

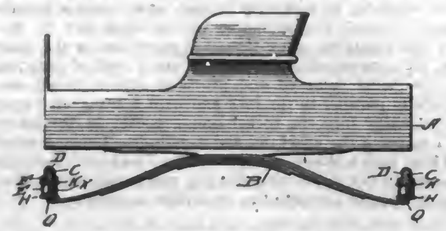
[Claims 6 and 7 not printed in the Gazette.]

979,694. SHOCK-ABSORBER FOR VEHICLES. CHARLES G. POLLEYS, Malden, Mass., assignor of one-half to F. C. Taft, Uxbridge, Mass. Filed Apr. 6, 1910. Serial No. 553,681.



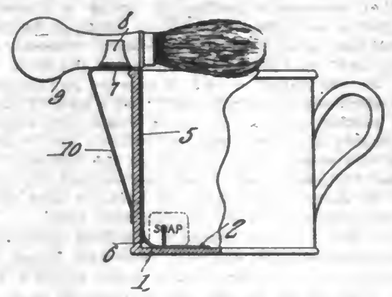
A vehicle attachment for taking up vibrations comprising, in combination with the axle and leaf spring of a running gear, winged clamping plates fastened to the axle, a piston having a stem fixed to one of said plates, a cylinder in which said piston is mounted, collars fitted about the leaf spring, rods projecting therefrom and movable through registering apertures in said clamping plates, an integral flange upon said cylinder fastened at its upper ends to said rods, cushion balls mounted within the cylinder intermediate the top of the latter and said piston, and a tension spring fastened at one end to the under side of said piston and its other end to the bottom of the cylinder.

979,695. RESILIENT APPARATUS FOR VEHICLES. CHARLES G. POLLEYS, Malden, Mass., assignor of one-half to F. C. Taft, Uxbridge, Mass. Filed Apr. 23, 1910. Serial No. 557,271.



In combination with the running gear of a vehicle having axles and side spring, disks, rods secured thereto and fastened to the axles, said disks being slotted, a ball resting upon each of said disks, other disks, one resting upon each of said balls and slotted, rods secured to the disks resting upon said balls, the rods of one disk movable through the slots in the other disk, the rods upon the disks which rest upon said balls connected to the ends of the side spring of the running gear.

979,696. SHAVING APPLIANCE. EWALD PRAEGER, San Antonio, Tex. Filed Mar. 22, 1910. Serial No. 550,999.



1. A shaving device comprising a soap plate adapted normally to rest on the bottom of a shaving cup, prongs on said plate for holding the soap thereon, a lifting member connected with said plate and extending upward along the interior of the cup, a platform connected with the upper end of the lifting member, brush-holding means on said platform, and a resilient member extending downward from the outer edge of said platform and engaging the exterior of the cup to hold the device in position.

2. A shaving device comprising a sheet metal soap plate having integral prongs stamped therefrom and bent upward to hold the soap in position thereon, said plate being formed with rounded corners to conform to the adjacent portions of the cup, an integral lifting member extending upward from said soap plate and being bent outward at its upper end to form a platform, the edges of said platform being bent upward to form brush-engaging clips, and the outer edge of said platform being bent downward to form an integral engaging member which bears against the outer surface of the cup and is adapted to hold the shaving device in any position to which it has been adjusted within the cup.

979,697. TWEEZERS. CHARLES J. PRANKARD, Jr., Troy, N. Y. Filed Sept. 14, 1909. Serial No. 517,741.



1. A device of the character described, comprising tweezers, and a device located adjacent to and movable inwardly and outwardly with the operating points of said tweezers to hold down the flesh immediately adjacent a hair or splinter while being withdrawn, there being a relative vertical movement between the points of the tweezers and the device located adjacent the same.

2. A device of the character described, comprising tweezers, a device movable movable with the tweezers and located adjacent the operating points of said tweezers and in contact therewith to hold down the flesh immediately adjacent a hair or splinter and in contact with the hair or splinter while the latter is being withdrawn, there being a relative vertical movement between the points of the tweezers and the device located adjacent the same.

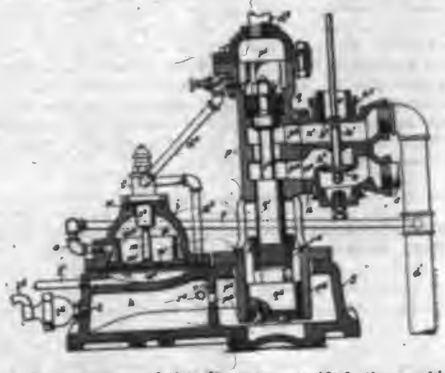
3. A device of the character described, comprising a pair of tweezers, a spring leg having a presser foot adjacent to and removable with the points of the tweezers to impinge upon the flesh immediately adjacent a hair being drawn and prevent the pulling of the flesh.

4. In combination, a pair of tweezers having resilient legs which tend to spread apart, and a slidably mounted flesh holding device formed with presser feet adapted to be brought together when the tweezers are withdrawn from said presser feet, cushions on the bottoms of said presser feet, and a spring interposed between the tweezers and the flesh holding device to normally hold the feet and the points of tweezers adjacent each other.

5. A device of the character described, comprising a pair of tweezers provided with perforated flanges and a perforated head, a flesh holding device provided with a stem which passes through the perforations in the head and legs which pass through the perforations in the flanges, and a spring normally holding the points of the tweezers and the points of the flesh holding device together.

[Claims 6 to 9 not printed in the Gazette.]

979,698. APPARATUS FOR CONTROLLING THE ADMISSION AND RELIEF OF PRESSURE TO TANKS AND OTHER APPLIANCES. ALBERT PRIESTMAN and EDWARD C. MOORE, Philadelphia, Pa.; said Moore assignor to Merritt & Company, a Corporation of Pennsylvania. Filed July 6, 1908. Serial No. 441,960.



1. In apparatus of the character specified, the combination of an appliance to which the pressure is to be applied, valve mechanism exterior to the appliance to control the admission of pressure to said appliance, means to control said valve mechanism, a relief valve to control the relief of the pressure from the appliance independently of said valve mechanism, and means independent of the means to control said valve mechanism and controlled by the pressure in the appliance exterior to said appliance to control said relief valve.

2. In apparatus of the character specified, the combination of an appliance to which pressure is to be applied, a delivery pipe leading to said appliance, valve mechanism to control the admission and relief of fluid pressure in said delivery pipe, and a secondary valve for controlling the relief of said delivery pipe independently of the valve mechanism and controlled directly by the pressure in the delivery pipe, said valve devices being all located exterior to the appliance so as not to be subjected to contact with the contents thereof.

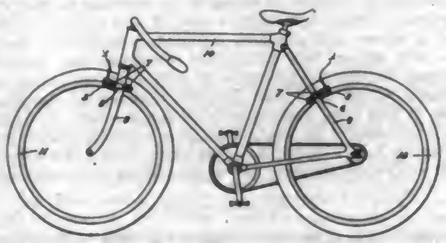
3. In apparatus of the character specified, the combination of an appliance to which pressure is to be applied, a delivery pipe leading to said appliance, valve mechanism to control the admission of fluid pressure to said delivery pipe, and a valve for controlling the relief of said delivery pipe independently of the valve mechanism which controls the admission of pressure to said pipe and controlled by the pressure in said delivery pipe, said valve devices being all located exterior to the appliance so as not to be subjected to contact with the contents thereof.

4. In apparatus of the character specified, the combination of an appliance to which the pressure is to be applied, a delivery pipe leading to said appliance, a pressure supply pipe and a vent, valve mechanism exterior to the appliance to control communication between said delivery pipe and the pressure pipe and vent respectively, means controlled by the conditions in the appliance to operate said valve mechanism to open communication between the pressure supply pipe and delivery pipe, means to control the return of said valve mechanism to open communication between the delivery pipe and vent, and means exterior to the appliance and independent of the means to control the valve mechanism, to control said vent and controlled by the pressure in the appliance.

5. In apparatus of the character specified, the combination of an appliance to which the pressure is to be applied, a delivery pipe leading to said appliance, a pressure supply pipe and a vent, valve mechanism exterior to the appliance to control communication between said delivery pipe and the pressure pipe and vent respectively, means controlled by the conditions in the appliance to operate said valve mechanism to open communication between the pressure supply pipe and delivery pipe, means to control the return of said valve mechanism to open communication between the delivery pipe and vent, and a secondary valve exterior to the appliance for controlling said vent independently of said valve mechanism subjected to and controlled by the pressure in said delivery pipe.

[Claims 6 to 11 not printed in the Gazette.]

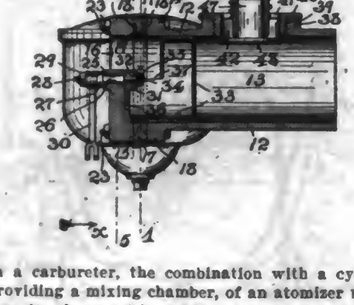
979,699. PUNCTURE-GUARD FOR PNEUMATIC TIRES. THOMAS H. PRINCE, Detroit, Mich. Filed Nov. 29, 1907. Serial No. 404,208.



Puncture guards for pneumatic tires of a bicycle provided with front and rear forks each consisting of a pair of corresponding apertured metal jaws whose proximate faces conform to and grip a fork arm, screws passing loosely through the apertures in the outer jaw of each pair and engaging screw-threaded apertures in the inner jaw, the corresponding ends of the inner jaws of each pair of clips being enlarged and provided with a socket substantially parallel to the fork and with a transverse aperture opening into the socket and a pocket in the socket wall opposite the aperture, and a cylindrical spring metal rod bent into a U-loop spanning a tire tread with each end inserted in the socket of a clip jaw and permanently offset into the pocket opposite the transverse aperture.

979,700. CARBURETER. EDWARD J. PROEHL, New York, N. Y. Filed Sept. 28, 1910. Serial No. 584,182.

1. In a carbureter, the combination with a cylindrical body providing a mixing chamber, of an atomizer ring provided on its faces with gasolene-receiving grooves and a plurality of radially disposed grooves leading to the interior edges of said atomizer ring substantially as and for the purposes set forth.



2. In a carbureter, the combination with a cylindrical body providing a mixing chamber, of an atomizer ring provided on its faces with gasolene-receiving grooves and a plurality of radially disposed grooves or ducts leading from said gasolene-receiving grooves to the interior edges of said atomizer ring, a throttle-member mounted to rotate within said cylindrical body, a semi-cylindrical portion connected with said throttle-member adapted to be brought into whole or partial closing relation with the outlets of said radially disposed grooves or ducts of said atomizer ring upon the rotation of said throttle-member, substantially as and for the purposes set forth.

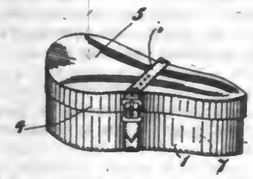
3. In a carbureter, the combination with a cylindrical body providing a mixing chamber, of an atomizer ring provided on its faces with gasolene-receiving grooves and a plurality of radially disposed grooves or ducts leading from said gasolene-receiving grooves to the interior edges of said atomizer ring, a throttle-member mounted to rotate within said cylindrical body, a semi-cylindrical portion connected with said throttle-member adapted to be brought into whole or partial closing relation with the outlets of said radially disposed grooves or ducts of said atomizer ring upon the rotation of said throttle-member, and means for supplying or feeding gasolene to said gasolene-receiving grooves of said atomizer ring substantially as and for the purposes set forth.

4. In a carbureter, the combination with a cylindrical body providing a mixing chamber, of an atomizer ring provided on its faces with gasolene-receiving grooves and a plurality of radially disposed grooves or ducts leading from said gasolene-receiving grooves to the interior edges of said atomizer ring, a face-plate provided with a semi-circular air-inlet adapted to be arranged in connection with said atomizer ring and said cylindrical body, a throttle-member mounted so as to rotate within said cylindrical body and adapted to be manipulated to simultaneously close in whole or in part both said air-inlet and said radially disposed grooves or ducts of said atomizer ring, substantially as and for the purposes set forth.

5. In a carbureter, the combination with a cylindrical body providing a mixing chamber, of an atomizer ring provided on its faces with gasolene-receiving grooves and a plurality of radially disposed grooves, or ducts leading from said gasolene-receiving grooves to the interior edges of said atomizer ring, a face-plate provided with a semi-circular air-inlet adapted to be arranged in connection with said atomizer ring and said cylindrical body, a throttle-member mounted so as to rotate within said cylindrical body, and adapted to be manipulated to simultaneously close in whole or in part both said air-inlet and said radially disposed grooves or ducts of said atomizer ring, and means for supplying or feeding gasolene to said gasolene-receiving grooves of said atomizer ring, substantially as and for the purposes set forth.

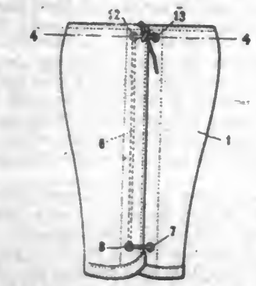
[Claims 6 to 9 not printed in the Gazette.]

979,701. COLLAR-BOX AND THE LIKE. JOHN REID, London, England, assignor of one-half to John Patrick O'Donnell, Westminster, England. Filed Oct. 21, 1909. Serial No. 523,745.



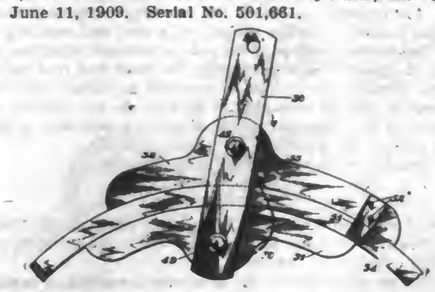
A collar box comprising an oblong body part having a rounded enlarged portion at one end and tapering to a pointed portion at its opposite end, said body part having its encircling wall of relatively stiff material and a bottom of relatively flexible material, a cover of the same shape as the body part, and consisting of a cover piece of relatively flexible material and a rim of relatively stiff material, and an adjustable fastening device arranged to encircle both the body, and its cover, and comprising means for placing said body and cover under compression.

979,702. LEGGING. MORRIS ROSENWASSER, New York, N. Y. Filed Aug. 23, 1910. Serial No. 578,588.



A legging having overlapping flaps, metallic stiffening members suitably covered and secured at the edges of said flaps, an eye extending through the outer flap and its stiffening member at its top and bottom portions only, an eye extending through the inner flap and its stiffening member at the top and bottom portions only and a lace engaging all of said eyes and extending along the inside throughout the length of the legging between said inner and outer flaps.

979,703. CLUTCH. SAMUEL E. ROSS, Paris, Ill. Filed June 11, 1909. Serial No. 501,661.

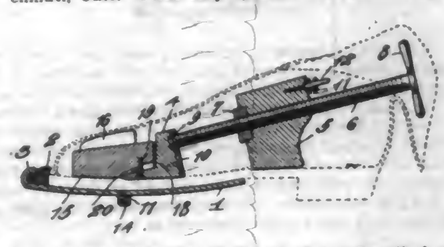


The combination in a clutch of a lever, two shoes pivotally mounted on said lever, the outer shoe having a concave inner surface and the inner shoe having a convex outer surface, a circular upright flange engaged by the surfaces of said shoes, a bar support secured to the outer shoe at one end and extending over the upright flange, a pin in the outer shoe near the lever, and a curved spring between the pin and the lever.

979,704. MOTH-DESTROYING COMPOSITION. ANTON POSSELT, Hanover, Germany, assignor to Wilhelm Roeder, Hanover, Germany. Filed May 12, 1909. Serial No. 495,419.

A moth destroying composition composed of turpentine, a quickly oxidising oil adapted to incase the turpentine particles, and a more slowly oxidising oil, which retards the drying up of the quickly oxidising oil.

979,705. SHOE-STRETCHER. DEMAS P. ROWLAND, Cincinnati, Ohio. Filed May 4, 1910. Serial No. 559,340.



1. A stretching device of the character described comprising a base to receive the sole of a shoe and carrying a stop for the toe portion of the sole, a two-part stretcher to enter the shoe, means for forcing the front and rear parts of the stretcher away from each other, and a flexible member engaged with the base and the rear part of the stretcher.

2. A stretching device of the character described comprising a base to receive the sole of a shoe and carrying a stop for the toe portion of the sole, a two-part stretcher to enter the shoe, means for forcing the front and rear parts of the stretcher away from each other, and an adjustable connection between the rear part of the stretcher and said base.

3. A stretching device of the character described comprising a base to receive the sole of a shoe and carrying a stop for the toe portion of the sole, a two-part stretcher to enter the shoe, means for forcing the front and rear parts of the stretcher away from each other, a pin upon the rear part of the stretcher, and chains extending from opposite sides of the base and having their links engaged with said pin, whereby the base and rear section of the stretcher are adjustably connected.

4. A stretching device of the character described comprising a base to receive the sole of a shoe and carrying a stop for the toe portion of the sole, a two-part stretcher to enter the shoe, means for forcing the front and rear parts of the stretcher away from each other, lateral projections on the base, a chain passed across the base and engaged with said projections, and chain-engaging means on the rear section of the stretcher.

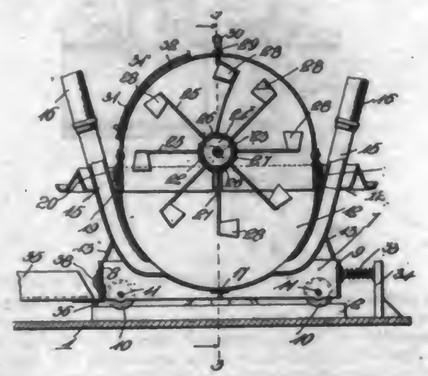
5. A stretching device of the character described comprising a base to receive the sole of a shoe and carrying a stop for the toe portion of the sole, a two-part stretcher to enter the shoe, means for forcing the front and rear parts of the stretcher away from each other, an elastic member forming a part of said stop to protect the toe portion of the sole of the shoe, and means connecting said base to the rear part of the stretcher.

[Claims 6 to 12 not printed in the Gazette.]

979,706. CONCENTRATOR AND AMALGAMATOR. ROBERT L. ROYSE, Martinsville, Ind. Filed May 11, 1910. Serial No. 560,604.

1. In an apparatus of the character described, a casing mounted upon a wheeled carriage, feed pipes leading into the bottom of the casing at opposite ends thereof, means for vibrating the casing, a telescopic cover for said casing provided with an opening, and a series of buckets within the cover, said buckets being mounted upon resilient spokes connected to a shaft, means for rotating said shaft, and means for retarding the buckets to discharge their contents out through the cover of the casing.

2. An amalgamator or concentrator comprising a casing supported upon a carriage mounted on wheels, tracks for said wheels, run-ways hinged to said carriage, means for operating said run-ways, weighted balls in said run-ways, a spring for returning the carriage to its initial position after movement by the weighted balls, feed pipes leading into said casing at opposite ends thereof, and a cover for said casing provided with a rotating wheel having spring spokes and buckets thereon.

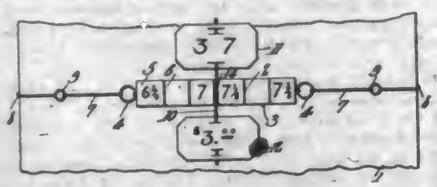


3. In an apparatus of the character described, a carriage, a casing mounted on the carriage, means for vibrating the carriage, feed pipes leading into the opposite ends of said casing, a wheel mounted on a shaft within the casing, said wheel comprising resilient spokes carrying pockets, and means for retarding the buckets and discharging their contents through the casing.

4. An amalgamator comprising a casing mounted upon a carriage, tracks upon which said carriage is adapted to run, a spring at one end of said carriage, hinged run-ways at the opposite end of said carriage, weighted balls in said run-ways, means for raising and lowering one end of each run-way alternately, pipes leading into the casing at opposite ends thereof, and a telescopic cover containing a rotary discharging element for the tailings.

5. In an apparatus of the character described, the combination of a carriage mounted on wheels running on tracks, means for vibrating said carriage, spill ways at the upper edge of said casing, feed pipes leading into said casing, a telescopic cover for said casing, a wheel rotating in said cover, said wheel comprising resilient spokes having buckets secured thereto, and means for discharging said buckets through said cover.

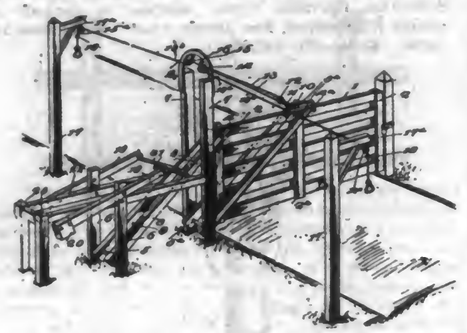
979,707. HAT-INDICATOR. CLARENCE W. ROZELL, McCook, Nebr. Filed Apr. 11, 1910. Serial No. 554,814.



1. A device of the class described comprising a support; a holder disposed transversely of the support and connected in its intermediate portion therewith; the holder being adapted at both ends to receive display elements; indicators rotatably mounted upon the support; and means for connecting the support with a receptacle.

2. A device of the class described comprising a support; a plurality of individually rotatable indicators mounted upon the support; rings at the ends of the support constituting a means for preventing the indicators from sliding upon the support; receptacle engaging elements; resilient members connecting the receptacle engaging elements with the rings; a bar disposed transversely of the support and connected therewith between certain of the indicators; and display elements removably mounted upon the ends of the bar.

979,708. FARM-GATE. WALTER RUBLE, Culdesac, Idaho. Filed May 28, 1910. Serial No. 564,016.

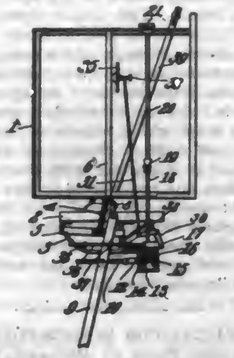


1. The combination of a gate, main posts between which the gate is adapted to move, an arched brace connected to the upper ends of said posts, pulleys swiveled on said brace, a pulley carried by said gate, and a single actuating cable the intermediate portion of which has a running connection with the last named pulley and with the two first named pulleys the runs of the cable extending in opposite directions, for the purpose specified.

2. The combination of a gate, supports therefor, a rod connected to the gate, a link having a running connection with the rod, a pulley connected to said link, two other pulleys supported by said last named pulleys, and a single cable having a running connection over the first named pulleys and the respective second named pulleys and extended in opposite directions therefrom, said cable being provided with protuberances designed to limit the movement in one direction over the last named pulleys.

3. The combination of a gate, supports therefor, a rod connected to the gate, a link having a running connection with the rod, pulleys, supports for said pulleys, and a single cable having a running connection with said pulleys and link and extended in opposite direction from the pulleys, for the purpose specified.

979,709. BINDER-HITCH. JOHN RUTZ, Beach, N. D. Filed Sept. 13, 1910. Serial No. 581,768.



1. Means for swinging the tongue of a binder to change its line of travel, comprising a screw operatively connected with the tongue, reversing gears to transmit motion to the screw, a pinion driven from the main drive chain, and means for shifting the pinion as required.

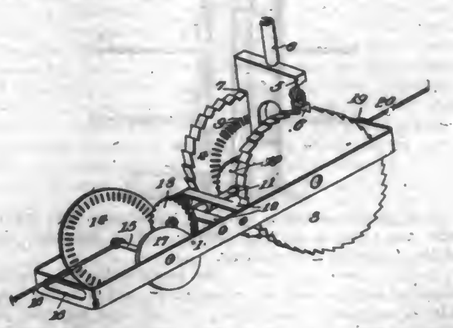
2. Means for swinging the tongue of a binder to change its line of travel, comprising a screw operatively connected with the tongue, reversing gears arranged to transmit motion to the screw, a pinion driven from the main drive chain of the machine to actuate either of the gears, means for shifting the pinion as required, from the operator's seat, and automatic means for shifting the pinion at the limit of the swing of the shaft in either direction.

3. Means for swinging the tongue of a binder to change its line of travel, comprising a screw operatively connected with the tongue, reversing gears arranged to transmit motion to the screw, a pinion driven from the main drive chain to actuate either of the gears, manual means for shifting the pinion as required, automatically operating means to shift the pinion at the limit of the swing of the tongue in either direction, and means for centering the pinion relative to the reversing gears.

4. Means for swinging the tongue of a binder to change its line of travel, comprising a screw, a swiveled nut carried by the tongue and with which the screw engages, a train of reversing gears, a shaft including a universal joint connecting with the screw; a pinion interposed between the gears, a shaft carrying the pinion and driven from the main operating chain of the machine, a guide in which the latter shaft is supported, means for shifting the guide to bring the pinion into mesh with either of the gears, a lug carried by the tongue, a rod secured to the guide and passing through the lug, and collars carried by the rod and arranged to contact with the lug whereby to shift the tongue automatically at the limit of the swing in either direction.

5. Means for swinging the tongue of a binder to change its line of travel, comprising a screw, a swiveled nut carried by the tongue and with which the screw engages, a train of reversing gears, a shaft including a universal joint, connecting with the screw, a pinion interposed between the gears, a shaft carrying the pinion and driven from the main operating chain of the machine, a guide in which the latter shaft is supported, means for shifting the guide to bring the pinion into mesh with either of the gears, a lug carried by the tongue, a rod secured to the guide and passing through the lug, collars carried by the rod and arranged to contact with the lug whereby to shift the tongue automatically at the limit of the swing in either direction, and resilient means for centering the pinion relative to the reversing gears.

979,710. WINDLASS. WALTER A. SAMUELL, Ringwood, Okla., assignor of forty-nine one-hundredths to Fran E. Fuller, Ringwood, Okla. Filed Apr. 19, 1910. Serial No. 556,424.

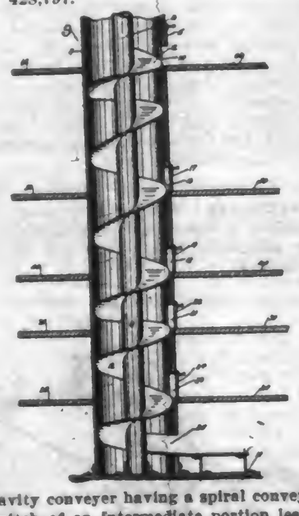


1. A device of the character described, comprising frame, ratchet wheels mounted in said frame, the teeth one ratchet wheel facing oppositely to the teeth of th other wheel, a block mounted for a rocking movement b tween said wheels and provided with oppositely actin pawls engaging the teeth of the respective wheels, a tran verse shaft mounted in the frame, a cable adapted to win upon said shaft, and an operative connection between th teeth of said ratchet wheels and said shaft.

2. A device of the character described, comprising a frame, ratchet wheels mounted in said frame, the teeth of one ratchet wheel facing oppositely from the teeth of the other wheel, oppositely acting pawls engaging the teeth of said wheels respectively, a block carrying said pawls and mounted to move back and forth in the frame, the wheels being formed on their opposing faces with gear teeth, a pinion interposed between said faces and meshing with the gear teeth of both wheels, a longitudinally extending shaft journaled in the framework, the pinion being secured to said shaft, another pinion secured to said shaft, a crown gear meshing with said last named pinion, a transverse shaft journaled in the framework and on which the crown gear is mounted, and a cable adapted to wind on said last named shaft.

3. A device of the character described, comprising a frame, ratchet wheels mounted in said frame, the teeth of one ratchet wheel facing oppositely from the teeth of the other wheel, oppositely acting pawls engaging the teeth of said wheels respectively, a block carrying said pawls and adapted to move back and forth in the frame, the wheels being formed on their opposing faces with gear teeth, a pinion interposed between said faces and meshing with the gear teeth of both wheels, a longitudinally extending shaft journaled in the framework, the pinion being secured to said shaft, another pinion secured to the shaft, a crown gear meshing with said last named pinion, a shaft journaled on the framework on which said crown gear is mounted, a disk secured to said last named shaft, and spaced from the crown gear, and a cable adapted to wind on said last named shaft.

979,711. GRAVITY-CONVEYER HAVING SPIRAL BLADE OF VARYING PITCH. MARTIN C. SCHWAB, Chicago, Ill., assignor to Gravity Conveyor Company, a Corporation of New York. Filed Apr. 23, 1908. Serial No. 428,797.



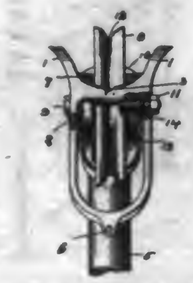
1. A gravity conveyer having a spiral conveying surface with the pitch of an intermediate portion less than that of the adjoining convolutions.

2. In a gravity conveyer, the combination of a casing provided with a plurality of openings, and a spiral blade within the casing and having the portions adjacent the openings uniformly located with respect to the openings and said blade having a variable number of convolutions between adjacent openings.

3. In a gravity conveyer, the combination of a casing provided with a plurality of openings in vertical alinement and a spiral blade extending through the casing, the pitch of different portions of the blade being varied to include a variable number of convolutions between adjacent openings, said openings being uniformly located with respect to the adjacent portions of the blade.

4. The combination with a plurality of floors, of a tubular casing extending through openings in the floors, and a spiral within the casing arranged to intersect the planes of the floors at points in substantially vertical alinement, said spiral having a variable number of convolutions between adjacent floors.

979,712. TROLLEY GUARD AND FINDER. HENRY R. SHERMAN, Hartford, Conn., assignor of one-half to George H. Woodruff, New Haven, Conn. Filed June 10, 1909. Serial No. 501,274.



1. In a device of the character described; a cradle designed to be applied to a trolley pole and moved about the axis of the trolley wheel, having outwardly flaring sides which terminate just below the top of said wheel and form a trough upon each side thereof when said wheel is in contact with the wire, said sides being joined at one end by a part having a notch therein.

2. In a device of the character described; a cradle, designed to be applied to a trolley wheel and move about the axis of the trolley wheel, having outwardly flaring sides which terminate just below the top of said wheel and form a trough upon each side thereof when said wheel is in contact with the wire, said sides being joined at one end by a part having a notch therein located in the center of the space between said sides, and joined at the other end by a loop bar.

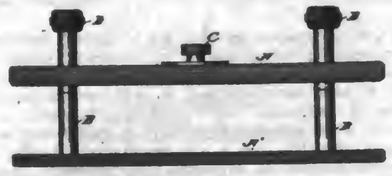
3. In a device of the character described, the combination with a pole; of a grooved wheel rotatably mounted therein; a cradle rotatably mounted upon the same axis as said wheel having outwardly flaring sides which terminate just below the top of said wheel and form a trough upon each side thereof when said wheel is in contact with the wire, said cradle having a notch or groove in one end thereof in the same line as the groove in said wheel.

4. In a device of the character described, the combination with the pole; of a grooved wheel; a cradle, having outwardly flaring sides which terminate just below the top of said wheel and form a trough upon each side thereof when said wheel is in contact with the wire, said cradle having a notch in line with the groove in said wheel; a pin passing through said wheel, pole and cradle; and spring means for moving said cradle in one direction.

5. In a device of the character described, the combination with a pole; of a trolley wheel; a cradle, having outwardly flaring sides which terminate just below the top of said wheel and form a trough upon each side thereof when said wheel is in contact with the wire, said cradle having a notch in one end thereof in line with the groove in said wheel; means connected with the other end of said cradle whereby the movement thereof in one direction is limited; a pin upon which the said cradle and wheel are mounted; and spring means for moving said cradle upon said pin in one direction.

979,713. BALL-CAP FOR BINDER-POSTS. GEORGE A. SHOEMAKER and ELIAS C. HOLLAND, Benton Harbor, Mich., assignors to Metal Sectional Furniture Company, Portland, Me., a Corporation. Filed Feb. 11, 1907. Serial No. 356,756.

1. The combination in a binder with binding posts, clamping bars one of which is rigidly secured to said binding posts, and the other fitted with perforations and movable upon said binding posts, a lock fitted within said movable bar, of ball caps consisting of a threaded shank adapted to engage corresponding threads in the free ends of said binding posts, a plate surmounting said shank, a resilient cap adapted to engage said plate, and means to prevent the lateral rotation of the said resilient cap upon said plate.



2. The combination in a binder with binding posts, clamping bars one of which is rigidly secured to said binding posts, and the other fitted with perforations and movable upon said binding posts, a lock fitted within said movable bar, of a ball cap consisting of a shank adapted to engage the free end of said binding posts, a plate surmounting said shank, pins projecting from the upper surface of said plate, a resilient ball cap adapted to be forced upon said pins and engage said plate, a means for firmly binding all of said parts together.

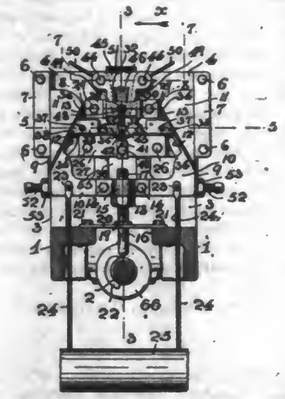
3. The combination in a binder with binding posts, clamping bars one of which is rigidly secured to said binding posts, and the other fitted with perforations and movable upon said binding posts, a lock fitted within said movable bar, of a ball cap consisting of a shank adapted to engage the free end of said posts, a plate surmounting said cap, a pin projecting from the face of said plate, a squared block surmounting said plate and being contiguous therewith, a resilient ball cap adapted to engage said squared block and said plate, said parts being longitudinally perforated, a screw passing through said perforation and adapted to engage a nut fitted within a suitable countersink in the surface of the said resilient ball cap substantially as described and for the purposes herein set forth.

4. The combination in a binder with binding posts, clamping bars one of which is rigidly secured to said binding posts, and the other fitted with perforations and movable upon said binding posts, a lock fitted within said movable bar, of ball caps consisting of a threaded shank adapted to engage the free ends of said binding posts, a plate fixed to said shank and a cap of resilient material attached to the said plate.

979,714. HOLDING OR CLAMPING CHUCK FOR MACHINES FOR BORING AND NICHING THREAD-HOLES IN BUTTON-BLANKS. HERBERT J. SKIPP, Newark, N. J. Filed Aug. 4, 1910. Serial No. 575,510.

1. In a clamping chuck for button-blank drilling machinery, the combination with a supporting plate, of a vertically movable plate, a pair of clamping plates, means connecting said clamping plates with said vertically movable plate, so that the former are operated by the movement of the latter, a cam-like member connected with a driving shaft, means connected with said vertically movable plate adapted to be engaged by said cam-like member to raise said vertically movable plate, a weight connected with said vertically movable plate for lowering the same, a chuck-plate adapted to coact with said clamping plates in holding a button blank, and means for oscillating said chuck-plate to cause the same to move in and out of its operative holding position, substantially as and for the purposes set forth.

2. In a clamping chuck for button-blank drilling machinery, the combination with a supporting plate and posts for carrying the same, of a vertically movable plate, a pair of clamping plates, guide-plates for slidably supporting said clamping plates, means connecting said clamping plates with said vertically movable plate, so that the former are operated by the movement of the latter, a cam-like member connected with a driving shaft, means connected with said vertically movable plate adapted to be engaged by said cam-like member to raise said vertically movable plate, a weight connected with said vertically movable plate for lowering the same, a pivotally mounted chuck-plate adapted to coact with said clamping plates in holding a button-blank, and means for oscillating said chuck-plate to cause the same to move in and out of its operative holding position, substantially as and for the purposes set forth.



3. In a clamping chuck for button-blank drilling machinery, the combination with a supporting plate and posts for carrying the same, of a vertically movable plate, a pair of clamping plates, guide-plates for slidably supporting said clamping plates, means connecting said clamping plates with said vertically movable plate, so that the former are operated by the movement of the latter, a cam-like member connected with a driving shaft, means connected with said vertically movable plate adapted to be engaged by said cam-like member to raise said vertically movable plate, a weight connected with said vertically movable plate for lowering the same, a cross-bar pivotally supported between the posts of said supporting plate, an upwardly extending member connected with said cross-bar, a chuck-plate carried by said upwardly extending member, said chuck-plate being provided with an opening for the passage of drills therethrough, and means for oscillating said cross-bar to move said chuck-plate in and out of its coöperative holding relation with said clamping plates, substantially as and for the purposes set forth.

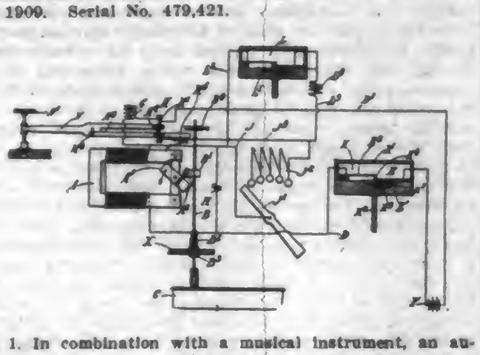
4. In a clamping chuck for button-blank drilling machinery, the combination with a supporting plate and posts for carrying the same, of a vertically movable plate, a pair of clamping plates, guide-plates for slidably supporting said clamping plates, means connecting said clamping plates with said vertically movable plate, so that the former are operated by the movement of the latter, a cam-like member connected with a driving shaft, means connected with said vertically movable plate adapted to be engaged by said cam-like member to raise said vertically movable plate, a weight connected with said vertically movable plate for lowering the same, a cross-bar pivotally supported between the posts of said supporting plate, an upwardly extending member connected with said cross-bar, a chuck-plate carried by said upwardly extending member, said chuck-plate being provided with an opening for the passage of drills therethrough, and means for oscillating said cross-bar to move said chuck-plate in and out of its coöperative holding relation with said clamping plates, comprising a cam-like member provided with a cam-groove a downwardly extending arm connected with said cross-bar, and a roller journaled upon the lower end of said arm and adapted to be engaged by said cam-groove of said cam-like member, substantially as and for the purposes set forth.

5. In a clamping chuck for button-blank drilling machinery, the combination with a supporting plate and post

for carrying the same, of a vertically movable plate, a pair of clamping plates provided with clamping jaws, plates for slidably supporting said clamping plates, means connecting said clamping plates with said vertically movable plate, so that the former are operated by the movement of the latter, a cam-like member connected with a driving-shaft, means connected with said vertically movable plate adapted to be engaged by said cam-like member to raise said vertically movable plate, a weight connected with said vertically movable plate for lowering the same, a pair of swinging guide-members arranged above said clamping plates adapted to guide a button-blank between the clamping jaws of said clamping-plates, a chute-plate arranged over said guide-members, said chute-plate being provided with a spring-like member having a tongue or lug adapted to engage the back of said button-blank, means for adjusting the position of said spring-like member, a stop-lug adjustably supported in connection with one of said guide-plates, said stop-lug having an inwardly projecting fingerpiece adapted to support the said button-blank, a pivotally mounted chuck-plate adapted to coact with said clamping plates and their clamping jaws in holding the button-blank, and means for oscillating said chuck-plate to cause the same to move in and out of its operative holding position, substantially as and for the purposes set forth.

[Claims 6 to 15 not printed in the Gazette.]

979,715. ELECTRIC PIANO-PLAYER. WILLIAM HENRY SMITH, Penge, London, England, assignor to Joseph Herbert Marshall, London, England. Filed Feb. 23, 1909. Serial No. 479,421.



1. In combination with a musical instrument, an automatic operator comprising an electromagnet, a striker operated thereby, a high resistance in series with the electromagnet, a low resistance in parallel with the high resistance, a cut-out in the low resistance circuit, and adjustable means constructed and arranged to be operated while the instrument is in use in playing a piece, operatively conecting said cut-out with said striker whereby the time of operation of said cut-out with respect to the operation of said striker may be varied.

2. In an automatic operator for a musical instrument, the combination of a plurality of electro-magnets, strikers operated thereby, a high resistance in series with each electro-magnet, a low resistance in parallel with each high resistance, a cut-out in each low resistance circuit, means for varying the resistance of the low resistance circuits, and means for operatively connecting each of said cut-outs with its corresponding striker whereby said cut-outs may be operated during the operation of said strikers.

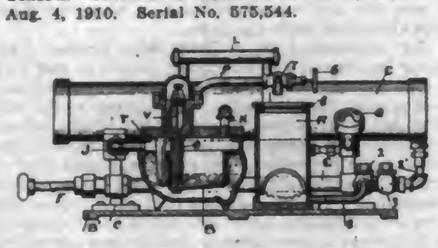
3. In an automatic operator for a musical instrument the combination of, an electro-magnet, a striker operated thereby, a high resistance in series with the electro-magnet, a low resistance in parallel with the high resistance, a cut-out in the low resistance circuit, a pneumatically operated contact in shunt with the low resistance, and means for operatively connecting the cut-out with the striker whereby the cut-out is operated at approximately the end of the stroke, substantially as set forth.

4. In an automatic operator for a musical instrument the combination of an electro-magnet, a striker operated thereby, a high resistance in series with the electro-magnet, a variable low resistance in parallel with the high resistance, a cut-out in the low resistance circuit, a pneumatically operated contact in shunt with the low resistance, and means for operatively connecting the cut-out with the striker whereby the cut-out is operated at approximately the end of the stroke, substantially as set forth.

5. In an automatic operator for a musical instrument the combination of a source of electrical energy, an electro-magnet, a pneumatically-operated contact in the circuit of said electro-magnet, an armature normally in position of maximum torque, a striker operated by the armature, a lug mounted adjustably on the striker, a cut-out operated by the lug, a high resistance in series with the electro-magnet, an adjustable low resistance rheostat in parallel with the high resistance and in circuit with the cut-out, a pneumatically operated contact in parallel with the low resistance.

[Claims 6 to 13 not printed in the Gazette.]

979,716. DEMONSTRATING APPARATUS FOR STEAM-TRAPS. CHARLES E. SQUIRES, Cleveland, Ohio. Filed Aug. 4, 1910. Serial No. 575,544.



1. A demonstrating apparatus comprising a steam trap and a compressed air chamber and fixed open connections between said chamber and said trap.

2. A demonstrating device comprising a chamber adapted to receive air under pressure, a steam trap, open pipe connections from said chamber to said trap, and means to force water into said chamber, said tray being provided with the usual exhaust.

3. A demonstrating device comprising a steam trap, a chamber adapted to hold air under pressure, separate water and air connections respectively connecting said parts, and means to force water into said chamber.

4. A demonstrating device comprising a steam trap, a compressed air chamber having open water and air passages respectively leading to said trap, a receptacle to receive the water from said trap and a pump and connections to force the water from said receptacle into said chamber.

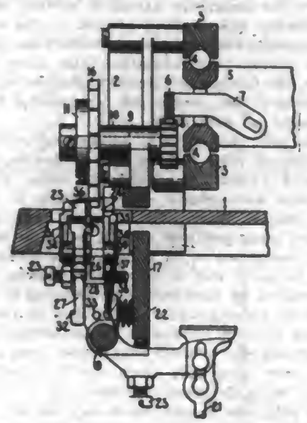
5. A demonstrating device comprising a steam trap, a cylindrical chamber having inlet passages for water and air respectively to said trap, a water receptacle and a valve controlled passage from said trap to said receptacle and a valved water passage from said receptacle to said chamber.

[Claims 6 and 7 not printed in the Gazette.]

979,717. TYPE-WRITING MACHINE. HERBERT H. STEELE, Marcellus, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Filed Oct. 18, 1910. Serial No. 587,704.

1. In the carriage feed mechanism of a typewriting machine, the combination of an escapement rack, a dog rocker, dogs on said rocker for controlling the forward feed of said rack, and a separate device on said dog rocker, acting in all positions of said dog rocker to prevent backward motion of said rack.

2. In the carriage feed mechanism of a typewriting machine, the combination of an escapement rack, a dog rocker, dogs on said rocker for controlling the forward feed of said rack, and a separate dog or pawl pivoted to said dog rocker and engaging said rack in all positions of said dog rocker to prevent backward motion of said rack.



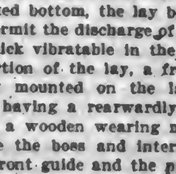
3. In the carriage feed mechanism of a typewriting machine, the combination of an escapement rack, a dog rocker, dogs on said rocker for controlling the forward feed of said rack, and a pawl for preventing backward motion of said rack, said pawl pivoted on said dog rocker to swing in the plane in which said rack moves, and said pawl having an elongated engaging face so that it engages the rack in all positions of the dog rocker.

4. In the carriage feed mechanism of a typewriting machine, the combination of an escapement rack, a pivoted dog rocker, dogs on said rocker for controlling the forward feed of said rack, and a pawl on said dog rocker for preventing backward motion of said rack, said pawl having an elongated engaging surface formed on an arc having its center in the pivotal axis of said dog rocker, so that said pawl engages said rack in all positions of said dog rocker.

5. In the carriage feed mechanism of a typewriting machine, the combination of a feed rack, a dog rocker having a stepping dog pivoted thereon and engaging said rack, and a pawl for preventing backward motion of said rack, said pawl pivoted to said dog rocker concentrically with said stepping dog.

[Claim 6 not printed in the Gazette.]

979,718. LOOM. MELVIN L. STONE, Lewiston, Me., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Sept. 20, 1909. Serial No. 518,540.



In a loom, a lay and a shuttle-box thereon having a longitudinally slotted bottom, the lay being cut away beneath the box to permit the discharge of a bobbin from the shuttle, a picker-stick vibratable in the slot and through such cut away portion of the lay, a front guide for the picker-stick fixedly mounted on the lay below its cut away portion and having a rearwardly-extended boss at its inner end, and a wooden wearing member having an aperture to receive the boss and interposed and fixedly held between the front guide and the picker-stick in parallelism with the path of movement of and to support the picker-stick at the front of its path, to prevent lateral play in the vibrational movement thereof, said wearing strip throughout its length resting against the rear face of the guide and being fixed at all times relatively to such guide and to the picker-stick.

979,719. GRATE. HENRY C. STUCKENBURG, Louisville, Ky., assignor to Bridgeford and Company, Louisville, Ky., a Corporation. Filed May 23, 1908. Serial No. 434,672.



1. In a grate the combination of a frame, a basket pivotally mounted therein on a horizontal axis and arranged to be tilted forward between the sides of the frame, a crown pivotally mounted in the frame on a horizontal axis which is at the rear of the crown and at a point in advance of the basket, and arranged to be tilted up and back against the front of the basket out of the vertical plane of and to the rear of a summer front, thereby leaving room for a summer front, and a summer front fitting in the frame and occupying by its lower end the space normally occupied by the crown, substantially as set forth.

2. In a grate the combination of a frame having at each side a pivot bearing, and having below the same a laterally extending bearing lug, a basket having at each side a pivot engaging one of the said pivot bearings and arranged to be dumped forward, and having stop portions engaging the rear sides of the said bearing lugs to hold the basket in normal position, and a crown below the basket having pivots engaging the said bearing lugs and arranged to be tilted up at the front of the basket, substantially as set forth.

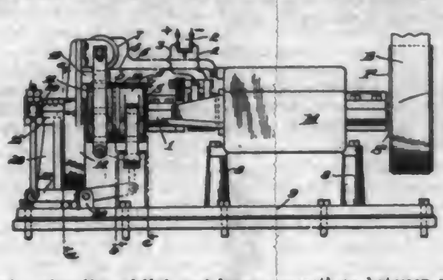
3. In a grate the combination of a frame, a basket pivotally mounted therein on a horizontal axis and arranged to be tilted forward between the sides of the frame, and a crown arranged to occupy the space between the sides of the frame below the basket and having rearward extensions carrying pivots 18 which are at the rear of and out of the vertical plane of the crown, and bearings 7 on the frame at the front of the basket and engaging the said pivots, the crown being adapted to be tilted up against the front of the basket, substantially as set forth.

4. In a grate the combination of a frame, pivot lugs thereon, and a basket having pivots 11 near the front plane of the basket and held in bearings in the said lugs and having stops 15 above the pivots arranged to swing forward and downward in front of the pivots and to engage the front of the lugs when the basket is tilted forward of the frame, substantially as set forth.

979,720. ELECTROMECHANICAL COMPOUND BRAKE. AUGUST SUNDH, Yonkers, N. Y., assignor to Otis Elevator Company, Jersey City, N. J., a Corporation of New Jersey. Filed Feb. 15, 1906. Serial No. 301,182.

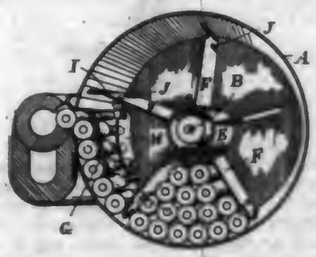
In a compound brake, the combination with a brake pulley, of a rock plate, a primary brake carried by said rock plate, and associated with the outside surface of said

pulley, ● secondary brake similarly arranged, spring mechanism for effecting the application of said primary brake,



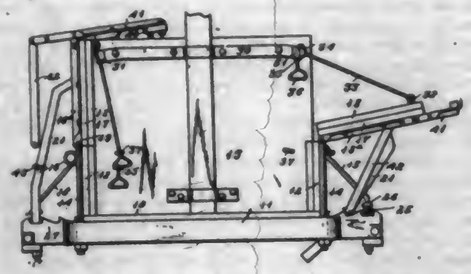
and a plurality of link and lever connections between said rock plate and said secondary brake.

979,721. MAGAZINE FOR GUNS. HARALD SUNNGÅRD, Christiania, Norway. Filed Feb. 11, 1910. Serial No. 543,289.



A detachable magazine for guns, comprising a casing, cylindrical in cross section, a rotatable hub journaled in the casing, of small diameter as compared with the diameter of the casing, a plurality of wings extending from the hub to near the periphery of the casing forming sector-shaped compartments of such dimensions that a plurality of cartridges are adapted to lie loosely therein, the distance between the outer ends of the wings being slightly less than the length of the cartridges to prevent a complete endwise movement of the latter, and guide ribs projecting from a delivery slot in the casing into the path of the wings, said wings having notches to permit them to pass the guide-ribs.

979,722. ADJUSTABLE WAGON-BOX. ANDREW E. SUTHERLAND, Madrid, Iowa. Filed Aug. 8, 1910. Serial No. 576,191.



1. A wagon box, comprising a bottom, stationary sides and a front, bars on the stationary sides extended upwardly and forwardly, adjustable sides, a number of bars on each adjustable side, each bar having an opening therein to receive the forwardly extended portion of the bar on the stationary side, and a hook pivoted to the stationary side and designed to engage one of the bars on the adjustable side to prevent said adjustable side from being detached from the forwardly extended portions of the bars on the stationary side.

2. A wagon box, comprising a bottom, stationary sides and a front, bars on the stationary sides extended upwardly and forwardly, adjustable sides, a number of bars on each adjustable side, each bar having an opening therein to receive the forwardly extended portion of the bar on the stationary side, a hook pivoted to the stationary side and designed to engage one of the bars on the adjustable side to prevent said adjustable side from being detached from the forwardly extended portions of the bars on the stationary side, and a pin for limiting the downward movement of said hook.

3. An improved wagon box, comprising a stationary bottom, stationary sides secured thereto, beams under the sides extended outwardly beyond the sides, each beam being provided with plates spaced apart, a block between each pair of plates at their outer ends, each pair of plates also being provided with a notch at each outer end, a brace connected at its upper end to the stationary side and at its lower end to the adjacent beam, two arms pivotally mounted on said brace and designed to enter the adjacent notch, an adjustable side hinged to the stationary side, and an arm pivoted to the adjustable side and extended downwardly between said plates, said arm being designed to rest upon said block and the pivoted arms on the brace being designed to engage the edges of said arm to hold said arm in position on said block.

4. An improved wagon box, comprising a stationary bottom, stationary sides secured thereto, beams under the sides extended outwardly beyond the sides, each beam being provided with plates spaced apart, a block between each pair of plates at their outer ends, each pair of plates also being provided with a notch at each outer end, a brace connected at its upper end to the stationary side and at its lower end to the adjacent beam, two arms pivotally mounted on said brace and designed to enter the adjacent notch, an adjustable side hinged to the stationary side, and an arm pivoted to the adjustable side and extended downwardly between said plates, said arm being designed to rest upon said block and the pivoted arms on the brace being designed to engage the edges of said arm to hold said arm in position on said block, each of said arms pivoted to the adjustable sides being provided with a pin and each pair of plates being provided with notches to receive said pin.

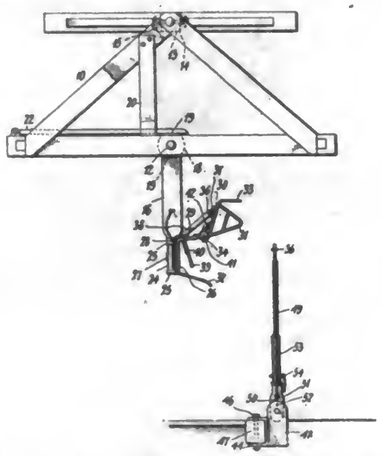
5. An improved wagon box, comprising a stationary bottom, stationary sides secured thereto, beams under the sides extended outwardly beyond the sides, each beam being provided with plates spaced apart, a block between each pair of plates at their outer ends, each pair of plates also being provided with a notch at each outer end, a brace connected at its upper end to the stationary side and at its lower end to the adjacent beam, two arms pivotally mounted on said brace and designed to enter the adjacent notch, an adjustable side hinged to the stationary side, an arm pivoted to the adjustable side and extended downwardly between said plates, said arm being designed to rest upon said block, and the pivoted arms on the brace being designed to engage the edges of said arm to hold said arm in position on said block, and a spring on said brace and in engagement with the pivoted arms on the brace to yieldingly hold said pivoted arms in the notch.

[Claims 6 and 7 not printed in the Gazette.]

979,723. MAIL-BAG CATCHING AND DELIVERING APPARATUS. IRENAEUS P. TIDMORE, Malakoff, Tex. Filed July 7, 1910. Serial No. 570,812.

1. In a mail bag catcher, a crane arm, a frame carried by said crane arm, a lateral extension on said frame, a swinging bag clamp hinged to the edge of said extension, means constantly urging said clamp to close toward said frame, a latch member engageable with said clamp to hold the same open, and a trip operatively connected to said latch member.

2. In a mail bag catcher, a crane arm, a frame carried by the crane arm, a lateral extension on said frame, a swinging bag clamp hinged to the end of said extension, means constantly urging said clamp in the direction of said frame, a latch member engageable with said clamp to hold the same open, a trip operatively connected to said clamp and arranged to release said latch when struck by a mail bag, and retaining elements to hold the clamp closed after actuation by said means.



3. In a mail bag catcher, a crane arm, a frame carried by the crane arm, a lateral extension on said frame, a swinging bag clamp hinged to the end of said extension, means constantly urging said clamp in the direction of said frame, a latch member engageable with said clamp to hold the same open, a trip operatively connected to said clamp and arranged to release said latch when struck by a mail bag, a ratchet fixed to the extension concentric with the hinge of the clamp, and a pawl carried by the clamp and engaging said ratchet to hold the clamp closed after the actuation by said means.

4. In a mail bag catcher, a crane arm, a frame pivoted on said arm to swing in a vertical plane transverse the crane arm, means to hold said frame in vertical position on either side of the crane arm, and a clamping device carried by said frame and movable therewith.

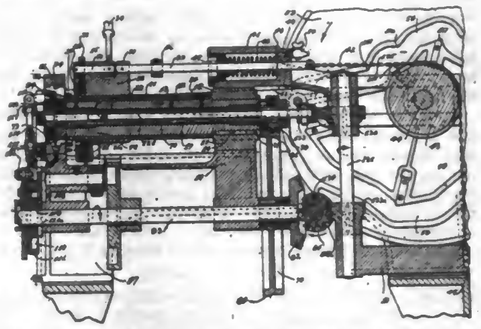
5. In a mail bag catcher, a crane arm, a frame pivoted on said arm to swing in a vertical plane transverse the crane arm, means to hold said frame in vertical position on either side of the crane arm, an extension on a lateral edge of said frame directed away from said crane arm, a mail bag clamp hinged to the outer edge of the extension and clamp to close toward the frame, a latch pivoted to said frame, a loop on said clamp engageable with the latch when the clamp is in open position, and a trip on said frame and connected to said latch to release the latch when the trip is struck by a mail bag.

[Claims 6 to 12 not printed in the Gazette.]

979,724. PIPE-BENDING MACHINE. BENJAMIN W. TUCKER, South Orange, N. J., and THEODORE F. ORCHSLE, Philadelphia, Pa. Filed July 15, 1909. Serial No. 507,694.

1. In a bending machine, the combination with a mandrel adapted to support the tube to be bent, of a slidingly held gripping device adapted to move along the mandrel, a die having a plurality of members and having means whereby a part of the metal may be forced into the die to form a crimp, an eccentrically arranged rotary device adapted to force a part of the tube into the die to provide a rib on one side of the body of the tube, a slidingly held wiper adapted to move within the tube to sustain the circular form thereof, means for positively moving certain members of the die to compensate for the curvature of the tube during the crimping and bending operation, together with mechanism for automatically actuating the several parts to form a succession of crimps.

2. In a bending machine, the combination with a support adapted to hold the tube to be bent, of a movable gripping device, a die having a plurality of members and having means whereby a part of the metal may be forced into the die to form a crimp, an eccentrically arranged rotary device adapted to force a part of the tube into the die to provide a rib on one side of the body of the tube, means for forcing the tube to cause the rib to be telescoped to form a crimp, a reciprocatory wiper movable within the tube and die, means for positively moving certain members of the die to compensate for the curvature of the tube during the crimping and bending operation, together with mechanism for automatically actuating the several parts to form a succession of crimps and simultaneously bend the tube.



3. In a bending machine, the combination with a mandrel adapted to support the tubular blank, of a movable gripping device adapted to carry the blank therewith, a slidingly held wiper adapted to move within the tubular blank to sustain its circular form, a die having a plurality of members moving in parallel relation and having means whereby a part of the metal may be forced into the die to form a crimp, a device adapted to force a part of the blank into the die to provide a rib on one side of its body, means for telescoping the rib by the movement of the blank, together with mechanism for actuating the several parts to form a plurality of crimps.

4. In a machine of the character described, the combination with a support adapted to hold the tube to be bent, of a gripping device adapted to move along the support, a slidingly held wiper adapted to move within the tube to sustain its circular form, a die having a plurality of members moving in parallel relation and having means whereby a part of the metal may be forced into the die to form a crimp, an eccentrically arranged rotary device adapted to force a part of the tube into the die to provide a rib on one side of the body of the tube, and means for collapsing the rib to form a crimp.

5. In a bending machine, the combination with a support for the tube to be bent, of a slidingly held gripping chuck adapted to move along the mandrel, a die having a plurality of members, one set of members moving at right angles to the other, means being provided for intermittently locking said members, and means coöperating with the die and chuck for forming a plurality of crimps in the tube.

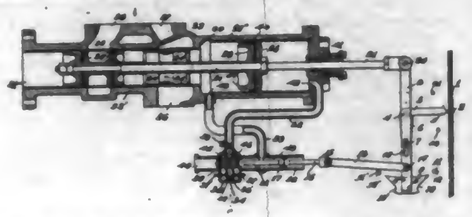
[Claims 6 to 63 not printed in the Gazette.]

979,725. VALVE-CONTROLLING DEVICE. ISAAC H. VENN, Yonkers, N. Y., assignor to Otis Elevator Company, East Orange, N. J., a Corporation of New Jersey. Filed Mar. 21, 1905. Serial No. 251,257.

1. The combination with a valve, an actuating device therefor, a single pilot valve, and means co-acting with said single pilot valve for effecting the retardation of such actuating device near the limit of its stroke.

2. The combination with a main valve, of an actuating device therefor, a single pilot valve controlling such device, and means controlled by the pilot valve for retarding such device near the limit of its stroke.

3. The combination with a main valve, of a motor-piston, a single pilot valve, and means controlled by the pilot valve for restricting the escape of fluid near the outer limits of the stroke of such piston.

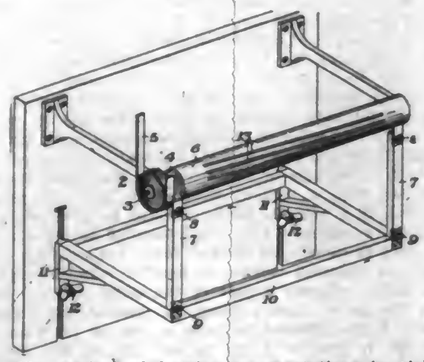


4. In an elevator, the combination with a main valve, of an actuating device rigidly secured thereto and in alinement therewith, a single pilot valve, and means co-acting with said pilot valve for retarding said actuating device near the limit of its stroke.

5. In an elevator, the combination with a main valve and a casing therefor, of a motor piston, a cylinder for said motor piston, a single pilot valve, a pilot valve casing, devices establishing communication between the pilot valve casing and the main valve casing and additional motor cylinder, and means to effect retardation of the motor piston near the limit of its stroke.

[Claims 6 to 55 not printed in the Gazette.]

979,726. METHOD OF FORMING ORNAMENTATIONS ON ARTICLES OF EARTHENWARE. EDWIN J. WHITEHEAD, Trenton, N. J., assignor to The Trenton Potteries Company, Trenton, N. J., a Corporation of New Jersey. Filed May 21, 1909. Serial No. 497,530.



1. The method of forming ornamentations in atricles of earthenware which consists in throwing the blank in one direction and cutting the ornamentations thereon in the same direction as the direction of the throw, and firing and finishing the article.

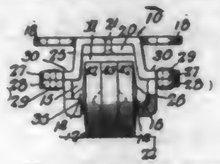
2. The method of forming ornamentations on articles of earthenware which consists in throwing the blank, turning the same, and cutting ornamentations thereon so that when the blank is fired and finished said ornamentations will become straight instead of spiral.

3. The method of forming ornamentations in articles of earthenware, which consists in throwing the blank, turning the same, and cutting ornamentations thereon so that when the blank is fired and finished said ornamentations will be twisted at an angle to their former position.

979,727. ANTIFRICTION-BEARING. EDWIN S. WOODS, Chicago, Ill. Filed Jan. 6, 1909. Serial No. 470,982.

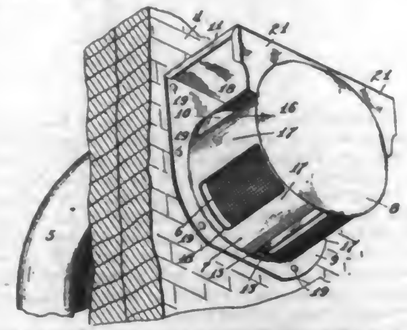
1. In an anti-friction bearing, upper and lower bearing members, an interposed anti-friction element having a cylindric surface, said anti-friction element embracing a plurality of disks or members arranged flatwise together and rotative relatively to each other, and interlocking means on said element members arranged to avoid axial displacement thereof.

2. A side bearing for railway cars and the like, comprising a carrier arranged to form a chamber for an anti-friction element and provided with means for attaching it to a support, and an anti-friction element in said chamber, the anti-friction element embracing a plurality of



disks or members arranged with their flat sides together and rotative relatively to each other, the outermost of said members being provided with end bearings or trunnions.

979,728. VENTILATOR. ERASTUS W. WOODS, Chicago, Ill., assignor to The Woods Air Infuser Co., Chicago, Ill., a Corporation of Illinois. Filed Apr. 21, 1910. Serial No. 556,697.



1. In a ventilator, an air-intake comprising a foraminous element and an inclosing member therefor disposed with air space therebetween, the foraminous element having upper and lower deflection-flanges fixed to the outer surface thereof, the inclosing member having upper and lower ports therethrough adjacent to the flanges, and an imperforate end plate closing the outer ends of both the foraminous element and the inclosing member, substantially as shown and described.

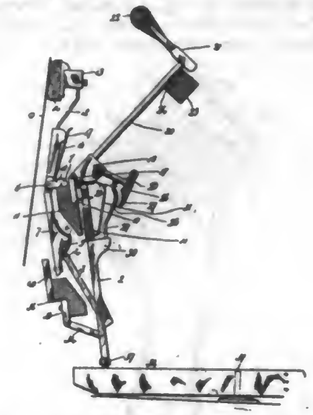
2. In a ventilator, an air-intake comprising a foraminous cylinder and an inclosing shell therefor, concentrically disposed with air-space therebetween, the cylinder having upper and lower deflection-flanges longitudinally fixed to the outer surface thereof, the shell having upper and lower ports therethrough adjacent to the flanges, an imperforate end plate closing the outer ends of both the cylinder and the shell, and a weather-shield substantially as shown and described.

3. In a ventilator, an air-intake comprising a foraminous cylinder and an inclosing shell therefor, concentrically disposed with air-space therebetween, the cylinder having upper and lower end deflection-flanges longitudinally fixed to the outer surface thereof, the shell having upper and lower ports therethrough adjacent the flanges, an imperforate end plate closing the outer ends of both the cylinder and the shell, an inner end collar and an outer end plate both extending above the plane of the shell, and a weather shield supported thereby and in conjunction with a portion of the exterior of the shell forming an air chute terminating at the upper port in the shell, substantially as shown and described.

979,729. PIANO-ACTION. IGNATZ WROZINA, West Haven, Conn. Filed July 11, 1910. Serial No. 571,393.

1. In an upright-piano action, the combination with the hammer-butt and fly thereof, of a damper-lever, a spring therefor, and a set-off carried by the fly and engaging with the lower end of the damper-lever.

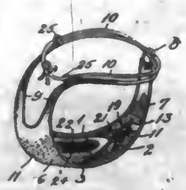
2. In an upright-piano action, the combination with the hammer-butt and fly thereof, of a damper-lever provided at its lower end with a cam, a spring coacting with the said damper-lever to press its upper end inward and its lower end outward, and a set-off carried by the fly and extending inwardly therefrom in position to engage with the cam carried by the damper-lever.



3. In an upright-piano action, the combination with the hammer-butt and fly thereof, of a damper-lever provided upon the outer face of its lower end with a cam, a spring coacting with the damper-lever to swing its upper end inward and its lower end outward, and a set-off carried by the fly and extending inwardly therefrom for engagement with the cam of the damper-lever.

4. In an upright piano-action, the combination with the hammer-butt and fly thereof, of a damper-lever, a cam at the lower end thereof, a spring coacting with the damper-lever to force its upper end inward and its lower end outward, a set-off carried by the fly and engaging with the cam of the damper-lever, and a hammer-retracting spring secured to the upper end of the fly and connected with the hammer-butt.

979,730. CATAMENIAL BANDAGE. IDA M. ARGO, Dallas, Tex. Filed Mar. 10, 1910. Serial No. 548,387.

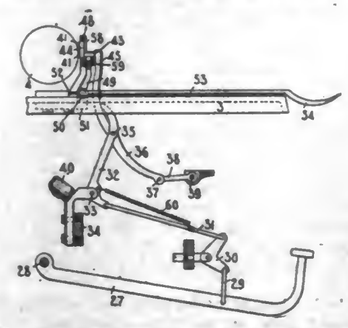


1. In a bandage, a supporting member having a diagonally stitched intermediate portion with a tapered portion at one end and separated tongues terminating in fastening straps at the other end, a pad of water-proof material disposed on the stitched intermediate portion of the member, the member having provision for fastening the pad thereto, and a sack disposed on the pad and having an opening for receiving a filling of fibrous material.

2. In a bandage, a supporting member having an intermediate portion provided with diagonal cross stitching and a central dart whereby said portion is shaped and prevented from wrinkling, the member having a tapered portion at one end and separated tongues at the other end, the tongues terminating in elongated fastening straps, a pad of water-proof material having diagonal cross stitching and a dart whereby the pad is shaped and prevented from wrinkling, the pad being removably attached to the supporting member over the intermediate portion thereof, and a sack having an opening and provided with darts on each side whereby the sack is curved, the sack being disposed on the pad and removably attached to the supporting member.

3. In a bandage, supporting member having an intermediate padded portion stitched through with diagonal stitching in lines crossing each other at an angle, loops attached to the ends of the intermediate portion, a tapered back portion extending from end of the intermediate portions and provided at its outer end with a loop, diverging and tapered tongues extending from the opposite end of the intermediate portion and each provided with a loop near its outer end, elongated fastening straps extending from the ends of the tongue adapted to pass through the loop of the back portion and the loops of the tongues about the body of the wearer and have their free ends fastened together, a pad of water-proof material stitched diagonally and provided with tabs to engage the loops of the intermediate portion of the member, and a sack provided with tabs for engaging loops of the intermediate portion of the member, the sack having a concavo-convex shape and provided with an opening to expose a filling of fibrous material.

979,731. TYPE-WRITING MACHINE. WALTER J. BARRON, New York, N. Y., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Sept. 30, 1909. Serial No. 520,327.



1. In a typewriting machine, the combination of a type action, including a type carrier, the usual means whereby the type carrier is restored to normal position after each printing operation, and means for actuating said type carrier; and auxiliary mechanical means operable at will independently of printing operations to return the type carrier to normal position in the event of it sticking before it is restored to normal position by the usual means employed for this purpose.

2. In a typewriting machine, the combination of a type action including a type carrier, the usual means whereby the type carrier is restored to normal position after each printing operation, and key actuated means for actuating said type carrier; and auxiliary mechanical means operable at will to return the type carrier and its actuating means to normal position in the event of the parts sticking before they are restored to normal position by the usual means employed for this purpose.

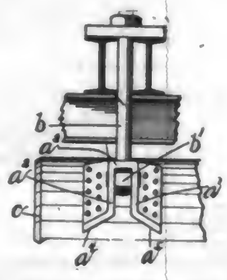
3. In a typewriting machine, the combination of a series of type actions including a series of type carriers and the usual means whereby each of said carriers is restored to normal position after each printing operation; and auxiliary mechanical means operable independently of printing operations to return to normal position any of said type carriers which may stick before it is restored to normal position by the usual means employed for this purpose.

4. In a typewriting machine, the combination of a series of type actions including a series of type carriers and the usual means whereby each of said carriers is restored to normal position after each printing operation; and auxiliary mechanical means operable at will independently of printing operations to return to normal position all of said type carriers which may stick before they are restored to normal position by the usual means employed for this purpose.

5. In a typewriting machine, the combination of a series of type actions including a series of type carriers, and the usual means whereby each of said carriers is restored to normal position after each printing operation, key actuated means for operating said type carriers; and positively acting auxiliary mecbanical means operable at will to return any of said type carriers and its actuating connections to normal position which may stick before the type carrier is restored to normal position by the usual means employed for this purpose.

[Claims 6 to 16 not printed in the Gazette.]

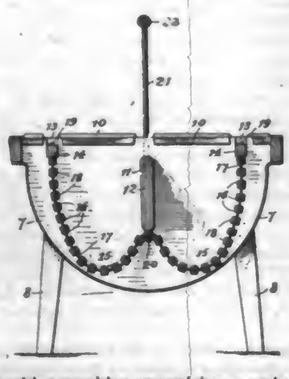
979,732. BOILER-HANGER. JOSEPH P. BAUER and FREDERICK C. STIMMEL, Chattanooga, Tenn., assignors to The Casey-Hedges Company, Chattanooga, Tenn., a Corporation of Ohio. Filed Aug. 10, 1908. Serial No. 447,829.



1. A boiler hanger comprising, two vertical walls having an apertured connecting web and attaching flanges; said walls having means for supporting a nut against vertical displacement in linement with said web aperture, a nut supported by said supporting means and a threaded rod extending through said web aperture and secured into said supported nut; whereby the nut will be held in place when the rod is removed and while the rod is being screwed in.

2. A boiler hanger comprising, two vertical walls having opposed slots, an apertured connecting web, and attaching flanges, an elongated nut mounted in the wall slots and a threaded rod extending through said web aperture and screwed into said supported nut; whereby the nut will be held in place during the insertion and removal of the rod.

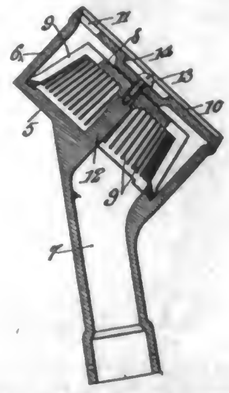
979,733. WASHING-MACHINE. SAMUEL E. BEELMAN, Somonauk, Ill. Filed June 12, 1909. Serial No. 501,683.



1. A washing-machine comprising a casing, a continuous apron suspended from each end therein and arranged to receive articles to be washed, and means connected with the apron intermediate its ends whereby reciprocatory movement is imparted to the intermediate portion of the apron.

2. A washing-machine comprising a casing, a removable cross member near the top of the casing and near each end, an apron depending into the casing and having its ends connected with said cross members, and means connected with an intermediate portion of the apron whereby reciprocatory movement is imparted thereto.

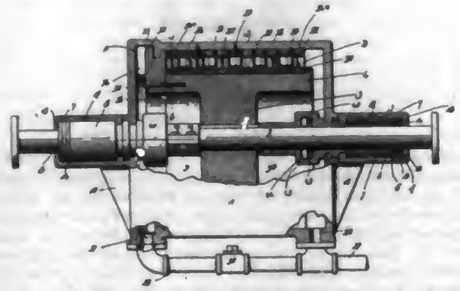
979,734. GAS-BURNER. ADOLF BELER, Pittsburg, Pa., assignor to Beler Water Heater Co., Pittsburg, Pa. Filed June 25, 1910. Serial No. 568,877.



1. A gas burner comprising a body having a gas inlet, a burner cap in the body into which the inlet opens, said cap having gas outlets, and a cover on the body having an outlet, said cover being adjustable to vary the position of its outlet.

2. A gas burner comprising a cylindrical body having a bottom gas inlet, a frusto-conical burner cap seating in the body on the bottom thereof over the gas inlet, the base of the burner cap being open, and the top thereof being partially closed, and said burner cap having gas outlets in its side and top, the side of the cap being spaced from the side wall of the burner body, and a cover located on the top of the burner body, said cover being spaced from the gas outlets in the top of the burner cap, and having an outlet, and said cover being adjustable on the burner body to vary the position of its outlet.

979,735. TURBINE. ALONZO W. BENNETT, Hamden, Conn. Filed Dec. 18, 1909. Serial No. 533,820.



1. In a turbine engine, the combination with a steam-chest, of a rotary piston formed at one end with a deep concentric exhaust-chamber, a series of rings mounted upon the piston in spaced arrangement, buckets projecting outwardly from the said rings, a series of rings applied in spaced arrangement to the inner wall of the steam-chest, buckets projecting from the rings last mentioned inwardly between the buckets carried by the said rings on the piston, a steam passage for the entrance of steam directly into the outer row of buckets carried by the piston from which buckets the steam passes directly into the outer row of buckets carried by the chest,

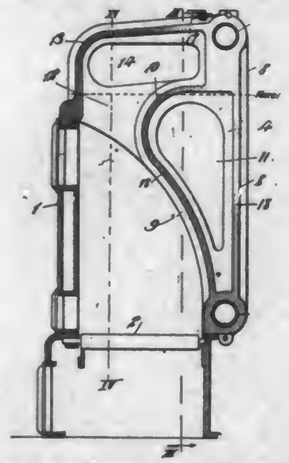
and so on from one end of the system of buckets to the other, and means located at the end of the piston opposite from the said exhaust-chamber, for reversing the direction of the piston.

2. In a turbine engine, the combination with a steam-chest, of a rotary piston having a concentric exhaust-chamber at one end, a series of bucket-carrying rings mounted upon the piston, buckets carried by the said rings, spacing-rings located between the said bucket-carrying rings, a series of bucket-carrying rings applied to the inner face of the steam-chest, buckets carried by the rings last mentioned and extending into the spaces between the buckets carried by the piston, blocking-rings located between the bucket-carrying rings of the steam-chest, a steam passage for admitting steam directly into the buckets at the end of the piston opposite its exhaust-chamber, and means located at the end of the piston opposite its exhaust-chamber, for reversing the piston.

3. In a turbine engine, the combination with a steam-chest having at one end a piston-reversing steam-chamber located at a right angle to the axis of the chest, of a rotary piston, steam buckets carried by the piston and steam-chest and arranged in alternation for the progressive passage through them from one end to the other of live steam, a head secured to one end of the piston and extending into the said piston-reversing chamber of the chest and provided with radially arranged blades, and steam passages leading into and out of the said piston-reversing chamber, whereby the rotation of the piston may be reversed.

4. In a rotary steam engine, the combination with the steam chest thereof, of a rotary piston located therein and having its opposite ends recessed, a shaft for the said piston, steam buckets arranged in alternating rows respectively carried by the piston and steam-chest, steam passages for the introduction of steam into one end of the system of buckets through which it passes to the other end thereof in actuating the rotary piston, housings mounted upon the shaft and containing fan-chambers, and fans mounted upon the said shaft and located in the said fan-chambers for the production of inward air pressure within the ends of the chest around the bearings of the shaft for preventing the escape of steam.

979,736. SECTIONAL BOILER. JOHN BLOOMFIELD BERNHARD, Newark, N. J., assignor to Union Boiler Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 20, 1909. Serial No. 523,681.



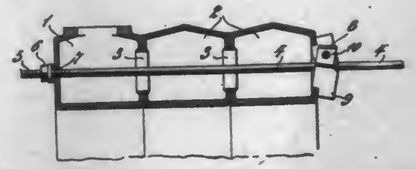
1. A steam boiler comprising end sections and intermediate sections extending from the front to the rear of the boiler, each of the intermediate sections being formed with an upwardly and forwardly extending water chamber, and with a rear upright water chamber connected at its lower end to the lower end of the upwardly and forwardly extending chamber, the upper ends of these chambers being also connected together, the said chambers surrounding and forming a lower flue for the passage of the furnace gases, a reduced portion extending forwardly from and in communication with the said water passages, and an upwardly and rearwardly extending steam chamber connected to the forward end of the reduced portion and to the upper end of the rear vertical water chamber, said steam chambers forming an upper horizontal flue for the furnace gases, and means connected to the end sections for directing the furnace gases from the upper flue downwardly into the lower flue and from the lower flue to the smoke outlet.

2. A steam boiler comprising end sections and intermediate sections extending from the front to the rear of the boiler, each of the intermediate sections being provided with an upper flue and with a lower flue, and with a reduced portion forward of the lower flue, and forming channels leading into the upper flue, the forward wall of the lower flue being formed by an upwardly and forwardly inclined water chamber extending over the fire box, and the rear wall of said flue being formed by an upright water chamber connected at its lower end with the chamber forming the front wall of said flue, and means carried by the end sections for directing the furnace gases from the upper flue downwardly into the lower flue, and from the lower flue to the smoke outlet.

3. A steam boiler comprising end sections and intermediate sections extending from the front to the rear of the boiler, each of the intermediate sections being formed with an upwardly and forwardly extending water chamber, and with an upright water chamber in the rear of the inclined chamber, said chambers being connected together at their upper and lower ends and forming a flue for the passage of the furnace gases, a steam chamber above said water chamber and forming in connection therewith an upper flue for the furnace gases, and a reduced portion forward of the lower flue, and forming channels through which the furnace gases may pass to the upper flue, and means carried by the end sections for directing the furnace gases from the upper flue into the lower flue and from the lower flue into the smoke outlet.

4. A section for a steam boiler formed with a lower flue and an upper flue, the lower flue being formed by an upwardly and forwardly inclined water chamber and a rear upright water chamber, said chambers being connected together at their upper and lower ends, and the upwardly inclined water chamber forming the rear wall of the fire box, the upper flue being formed by a steam chamber above the water chamber and connected thereto, and a reduced portion forward of the water chamber and connected to the forward end of the steam chamber, said reduced portion permitting the furnace gases to pass into the upper flue in front of the water chamber forming the lower flue.

979,737. CLAMP FOR ASSEMBLING BOILER-SECTIONS. JOHN BLOOMFIELD BERNHARD, Newark, N. J., assignor to Union Boiler Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 20, 1909. Serial No. 523,682.



1. A clamp for assembling boiler sections comprising a clamp rod threaded at one end and adapted to receive a clamping nut, a gripping abutment movable on said rod and consisting of two members pivotally connected together, each of said members being adapted to engage a boiler section, and one of said members being formed wit

a gripping edge adapted to grip the rod and hold the abutment rigidly thereto.

2. A clamp for assembling boiler sections comprising a clamp rod, means for moving said rod longitudinally through the boiler sections, a movable abutment adjustable along said rod and comprising two members pivotally connected together and adapted to receive the rod between them, said members being arranged to engage the boiler sections, and one of said members being provided with means for gripping the rod, said means being on the opposite side of said members from the boiler sections.

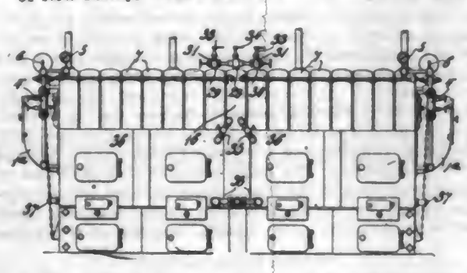
3. A clamp for assembling boiler sections comprising a rod threaded at one end and adapted to receive a clamping nut, a movable abutment adjustable along said rod and comprising two members pivotally connected together and formed with centering means to engage the wall of the boiler section aperture and with means for gripping the rod when outward pressure is exerted on said members.

4. A clamp for assembling boiler sections comprising a clamp rod, means for moving said rod longitudinally through the boiler sections and abutments adjusted along said rod and comprising a lower member formed with a pair of upwardly extending jaws and an upper gripping member pivoted between said jaws and formed with a boiler section engaging surface at its upper end on one side of the pivot, and with a rod gripping edge at its lower end on the opposite side of said pivot.

5. A clamp for assembling boiler sections comprising a clamp rod threaded at one end and adapted to receive a clamping nut, a movable abutment comprising a lower member formed with a pair of upwardly extending jaws to receive the clamp rod and a centering shoulder near its lower end, and a gripping member pivoted between the upper ends of the jaws of the lower member and formed with a centering shoulder on one of its sides and with a rod-gripping edge on its opposite side.

[Claims 6 to 8 not printed in the Gazette.]

979,738. DOUBLE SECTIONAL BOILER. JOHN BLOOMFIELD BERNHARD, Newark, N. J., assignor to Union Boiler Company, New York, N. Y., a Corporation of New Jersey. Filed Dec. 2, 1909. Serial No. 530,920.



1. A sectional boiler comprising two end sections, a water dividing section and extending downwardly to the grate level and being without lateral passages and serving to interrupt the fire travel and divide the fire box into two portions, intermediate water legs or sections arranged between the end sections and the dividing section, each of said intermediate water sections being formed with a steam dome portion, a crown sheet portion, flue openings between the steam dome portions and the crown sheet portion, an upwardly and forwardly extending portion over-hanging the fire box, a rear return water portion and an upwardly extending portion forming the rear wall of the fire box, the crown sheet portions of the water sections adjoining the dividing section being reduced in width to form passages connecting the fire box with the flues formed by the flue openings above the crown sheet portions, means to connect the outer ends of the upper flues with the outer ends of the lower return flues, and means forming two independent smoke outlets from the respective return flues at the rear of the boiler and adjoining the dividing section.

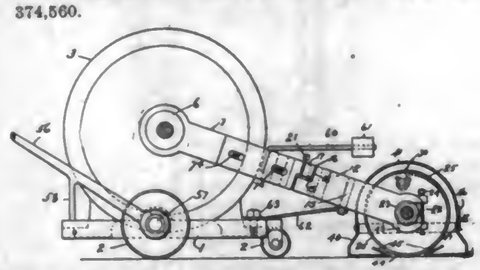
2. A sectional boiler formed of two end water sections, a dividing water section midway between said end sections, a plurality of water legs or sections between the end sections and the dividing section, each of said water legs being formed with registering apertures forming lateral flues for the fire gases, means whereby the gases from one flue may pass to the other flue at one end of the boiler section and means whereby the fire gases may escape from said flue into the smoke outlet at one end of said lateral flue, valved pipe connections to supply water to the lower ends of the water sections and the dividing section.

3. A sectional boiler formed of two end sections, a dividing water section without lateral passageways for the fire gases, the lower edge of said dividing section extending near to the grate and thereby dividing the fire box into two unconnected sections, intermediate water legs or sections provided with registering passages forming laterally extending flues for the travel of the fire gases, the water legs adjoining the dividing section having the faces which face the dividing section set back or cut away to form flues at right angles to the lateral passages, said water legs being cut away at their rear portions to form smoke outlets at the rear of the furnace near the dividing section, one of said outlets being on each side of said dividing section, and means for independently controlling said smoke outlets.

4. A boiler comprising a fire box forming a combustion chamber, a central water section dividing the fire box and combustion chamber into two separate parts, a grate for each of the parts of the fire box, a boiler abutting said central section at each side thereof so that said central dividing section forms a common wall between the boilers, external water supplying pipes connected to both boilers and the dividing section, pipes connecting together the steam spaces of the two boilers and the dividing section, and valves in the aforesaid pipes whereby the two boilers may be connected up to the dividing section to permit the whole to be used as a single boiler or either boiler may be cut off from the other boiler and the dividing section.

5. A sectional boiler comprising two end sections, a dividing water section, intermediate water legs or sections arranged between the end sections and the dividing section, each of said intermediate water sections being formed with a steam dome portion, a crown sheet portion, an upwardly and forwardly extending portion over-hanging the fire box, a rear return water portion and an upwardly extending portion forming the rear wall of the fire box, the crown sheet portions of the water sections adjoining the dividing section being reduced in width to form passages connecting the fire box with the flues above the crown sheet portions, and intermediate sections adjoining the dividing section having their rear return water portions cut away to form two independent smoke outlets from the inner ends of the return flues.

979,739. SURFACING-MACHINE. ALEXANDER BEVAN, Providence, R. I. Filed May 20, 1907. Serial No. 374,560.



1. In a surfacing machine, the combination of a truck, a motor carried by said truck, a frame axially hung from said truck, a dressing roll mounted in said frame whereby said roll may have a vertical motion independent of that of said truck, means for driving said roll from said motor, and means whereby the axis of the roll may swing out of a line parallel with the axis of the shaft on which the same is pivotally hung.

2. In a surfacing machine, the combination of a truck, a motor carried by said truck, a frame rotatably hung at one end on the motor shaft bearings, a dressing roll mounted in the opposite end of said frame, a belt for transmitting a rotary motion from said motor to said roll, and means whereby the axis of said roll may be free to swing out of a line parallel with the axis of the driving motor shaft.

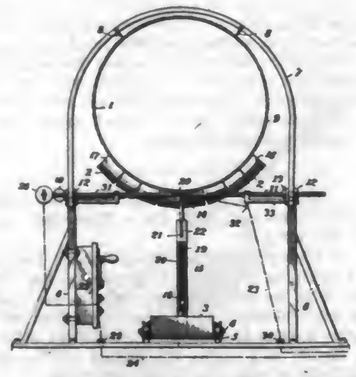
3. In a surfacing machine, the combination of a truck, a motor carried by said truck, a frame pivotally connected to said truck, said frame being constructed in two parts and connected together by a swivel pin whereby one portion may oscillate on the other, a dressing roll mounted in the oscillating portion of said frame, and means for driving said roll from said motor.

4. In a surfacing machine the combination of a truck, a motor carried by said truck, a frame pivotally connected to said truck, said frame being constructed in two parts and connected together by a swivel pin whereby one portion may oscillate on the other, means also in said frame for preventing said oscillating motion, a dressing roll mounted in the oscillating portion of said frame, and means for driving said roll from said motor.

5. In a surfacing machine the combination of a truck, a motor carried on said truck, a frame pivotally hung at one end on the motor shaft bearings, a dressing roll mounted in the opposite end of said frame, a belt for transmitting a rotary motion from said motor to said roll, said frame being constructed in two parts and connected together by a swivel pin whereby one portion may oscillate on the other, and means in said frame whereby the strain of the driving belt is received and the oscillating motion facilitated.

[Claims 6 to 13 not printed in the Gazette.]

979,740. APPARATUS FOR SEVERING GLASS CYLINDERS. RICHARD H. BOLIN, Kane, Pa. Filed May 4, 1908. Serial No. 430,086.



1. In an apparatus for severing glass cylinders comprising a heating wire, means for adjusting said wire to the glass cylinder, an equalising carrier for supporting said cylinder during the severing operation, and means for moving the carrier horizontally between the severing operations.

2. In an apparatus of the nature indicated the combination of a vertical frame for holding the heating wire in an annular form, a horizontally reciprocating carrier operatively mounted on a track to move through said frame, a series of yielding supports mounted on said carrier supporting said cylinder during the severing operation.

3. In an apparatus of the nature indicated the combination of a vertical frame arranged for holding in annular form a heating wire, means for expanding and contracting the annular form of said wire to permit of easy access of the cylinder therein, a horizontally reciprocating carrier operatively mounted on a track to move through said frame, a series of vertically yielding supporting arms, elastically mounted on said carrier to support the cylinder during the severing operation.

4. In an apparatus of the nature indicated the combination of a vertical frame supporting a heating wire, adapted to encircle glass cylinders, a movably mounted glass cylinder carrier, consisting of a carriage, a plurality of vertical socket-recessed standards, rigidly fixed to the bed of said carriage, vertically disposed guide rods, elastically mounted in said sockets, with arch shaped cushioned supports, attached to the upper ends of said guide rods, adapted to support glass cylinders thereon.

5. In an apparatus of the nature indicated, the combination of a vertical frame for holding an open annular electrical conductor adapted to encircle a glass cylinder, means for applying said conductor in close contact to the glass cylinder, a movably mounted glass cylinder carrier consisting of a carriage mounted on a suitable track for horizontal movement, a plurality of vertically disposed supports, yieldingly held in retracted position, mounted on the bed of said carrier, and supporting said cylinder during the severing operation.

979,741. WINDOW-SASH. PAUL W. BOWDS, Waukesha, Wis. Filed July 17, 1909. Serial No. 508,138.



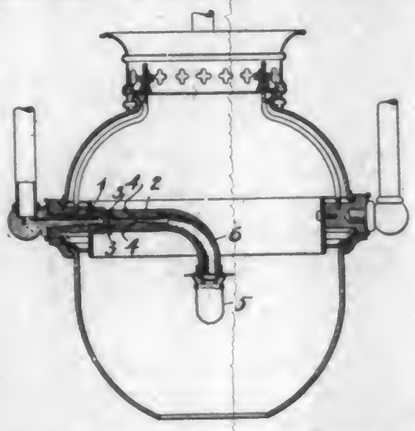
A sash comprising an outer frame having a rib along its bottom rail, an inner glazed frame having its bottom rail channeled to fit said rib, slotted strips pivoted to the top rail of the outer frame, and trunnions engaging their slots and carried by the top rail of the inner frame; combined with a casing having sash grooves, a window ledge, and a rib on the latter spaced from the grooves a distance substantially equal to that between said pivot and the end of said slot, for the purpose set forth.

979,742. INVERTED MANTLE-BURNER. RUDOLPH E. BRUCKNER, Mount Vernon, N. Y. Filed May 28, 1910. Serial No. 563,888.

1. In a burner of the incandescent mantle type, a gas supply tip, a mixing tube having an hour-glass passage therethrough, a main air inlet at the base of said tube, said tube having a supplemental air duct of sufficient length to give direction to the flow of air therethrough, said duct communicating with said hour-glass passage approximately at its smallest diameter and inclined relatively to the axis of said passage, and a downwardly extending outlet at the end of said mixing tube.

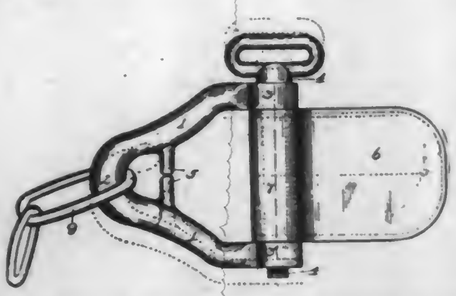
2. In a burner of the incandescent mantle type, a gas supply tip, a mixing tube having an hour-glass passage therethrough, a main air inlet at the base of said tube

said tube having supplemental air ducts of sufficient length to give direction to the flow of air therethrough, said ducts communicating with said hour-glass passage approxi-



mately at its smallest diameter, and inclined relatively to the axis of said passage, and a downwardly extending outlet at the end of said mixing tube.

979,743. TRACE-COUPLING. ALBERT BULLEY, Mellen, Wis., assignor of two-thirds to John Blake and William Layman, Mellen, Wis. Filed Jan. 31, 1910. Serial No. 541,082.



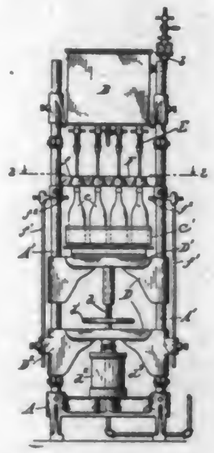
1. A device of the class described, comprising two side members having their outer ends over-lapping and their inner ends provided with bolt receiving eyes, one of said eyes being threaded; alining locking projections near the ends of said members; and a locking bolt passing through one of said eyes and threaded in the other, substantially as described.

2. A device of the class described, comprising two side members having their outer ends over-lapping and their inner ends provided with bolt receiving eyes, one of said eyes being threaded; alining locking projections near the ends of said members, a securing strap provided with a loop at its free end; a metallic sleeve in said loop adapted to rest between said eyes; and a locking bolt passing through one of said eyes and said sleeve and threaded in the other eye, substantially as described.

979,744. BUCKLE. ALFRED BURKE, Leominster, Mass. Filed July 17, 1908. Serial No. 443,940.

A method of making buckles consisting in stamping the body, bow and tongue from sheet material, a portion of the tongue being stamped elliptical in contour with the elliptical hollow center in such manner that the combined width of the sides thereof substantially equals the width of the other portion of the tongue, heating the tongue and pressing the sides of the elliptical portion together to cause the tongue to overlap the bow.

979,745. BOTTLING-MACHINE. JOSEPH H. CHAMP, Cleveland, Ohio. Filed Apr. 7, 1909. Serial No. 488,403.



1. In mechanism of the class described, the combination of a bottle-filling device; a vertically reciprocable bottle support; a guide member for centering a bottle with respect to said filling device; and means adjustably connected with said support adapted to engage and raise said guide member after said support has been raised a predetermined distance.

2. In mechanism of the class described, the combination of a bottle-filling device; a vertically reciprocable bottle support; guide means for centering a bottle with respect to said filling device, said means including an open cone-shaped cup reciprocably mounted over said support and normally held higher than the bottles on the latter; and means adjustably connected with said support adapted to engage and raise said guide means after said support has raised such bottles into contact therewith.

3. In mechanism of the class described, the combination of a bottle-filling device; a vertically reciprocable bottle support; and guide means for centering a bottle with respect to said filling device, said means including an open cone-shaped cup reciprocably mounted over said support, and means adjustably connected with the latter adapted to engage and raise said cup after said support has been raised a predetermined distance.

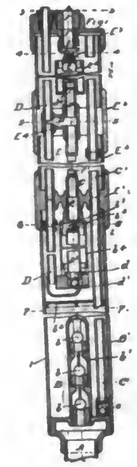
979,746. APPARATUS FOR ACTUATING LIQUIDS. RUDOLPH CONRADER, Erie, Pa. Filed Oct. 14, 1904. Serial No. 228,463.

1. In an apparatus for actuating liquids, the combination of a pumping chamber; a connection for conveying actuating fluid to said chamber; means for conducting liquid to said chamber; means for permitting the escape of actuating fluid as it is admitted during the filling movement of liquid; and means for cutting off the escape of actuating fluid to expel the liquid therefrom.

2. In an apparatus for actuating liquids, the combination of a pumping chamber; a connection for conveying the actuating fluid continuously to said chamber; means for conveying liquid to said chamber; means for permitting the escape of actuating fluid during the filling movement of liquid; and means for cutting off the escape of actuating fluid to expel the liquid.

3. In an apparatus for actuating liquids, the combination of a pump chamber; means for conducting liquid to said chamber; means for permitting the escape of actuating fluid during a filling movement of liquid; means for conveying actuating fluid to said chamber in small volume during the filling movement of liquid; and means for cutting off the escape of actuating fluid to expel the liquid.

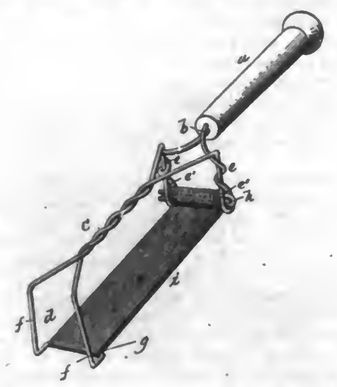
4. In an apparatus for actuating liquids, the combination of a pump chamber; a connection for conveying actuating fluid to said chamber, said connection containing a restricted passage to restrict the passage of actuating fluid through it; means for conveying liquid to said chamber; means for permitting the escape of actuating fluid as it is admitted during the filling movement of liquid; and means for cutting off the escape of actuating fluid to expel the liquid therefrom.



5. In an apparatus for actuating liquids, the combination of a pump chamber; a connection for conveying actuating fluid to said chamber; means for conducting liquid to said chamber; means for permitting the escape of actuating fluid as it is admitted during the filling movement of liquid; and means actuated by the liquid entering the chamber for cutting off the escape of actuating fluid to expel the liquid from the chamber.

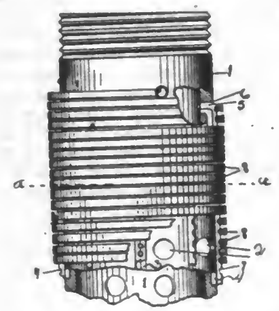
[Claims 6 to 127 not printed in the Gazette.]

979,747. COMB-CLEANER. FRANCOIS X. COTE, Biddeford, Me. Filed Oct. 14, 1910. Serial No. 587,071.



A comb cleaning device consisting of a handle, a yielding frame provided with a pair of depending arms at each end, the arms at one end being connected by a stationary cross bar and the arms at the other end being each provided with an elongated eye, a flat cross bar having its ends in separable engagement with said elongated eyes, and the webbing connecting said cross bars and consisting of numerous flexible threads, said threads being looped around the stationary cross bar and having their free ends wound about the removable cross bar, the resilience of the frame serving to hold said threads taut.

979,748. WELL-SCREEN. HARRY R. DECKER, Houston, Tex. Filed June 7, 1909. Serial No. 500,482.

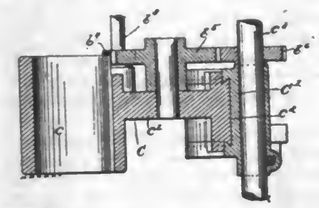


1. In a well screen a perforated strainer pipe provided with a plurality of longitudinal grooves therein, spacers designed to be partially embedded in said grooves for their entire length, the outer portions of which project from said grooves, and are provided with notches, said notches forming a spiraled groove, and a strainer held in position by the spiraled groove.

2. In a well screen a perforated strainer pipe provided with a plurality of longitudinal grooves therein, spacers designed to be partially embedded in said grooves for their entire length, the outer portions of which project from said grooves and are provided with sharp edges, and a strainer held in position by the spacers.

3. In a well screen, a perforated strainer pipe provided with a plurality of longitudinal grooves therein, spacers designed to be partially embedded in said grooves for their entire length, the outer portions of which project from said grooves, and a strainer held in position by the spacers.

979,749. RADIAL DRILL. JAMES G. DORNBIRER, Cleveland, Ohio. Filed May 2, 1908. Serial No. 430,492.



1. In a machine of the class described, the combination of a post, a member supported by said post and provided exteriorly with a segmental way having its axis parallel with said post, a saddle formed on one side to slidably engage said way, and a tool spindle rotatable in said saddle.

2. In a machine of the class described, the combination of a post, a segmental rail rotatably mounted thereon and provided exteriorly with a way having its axis parallel with said post, a saddle formed on one side to slidably engage said way, and a tool spindle rotatable in said saddle.

3. In a machine of the class described, the combination of a post, a segmental rail rotatably mounted thereon and provided exteriorly with a dove-tail way having its axis parallel with said post, said rail being vertically adjustable on said post, a saddle having one side concave and formed to slidably engage said way, and a tool spindle rotatable in said saddle.

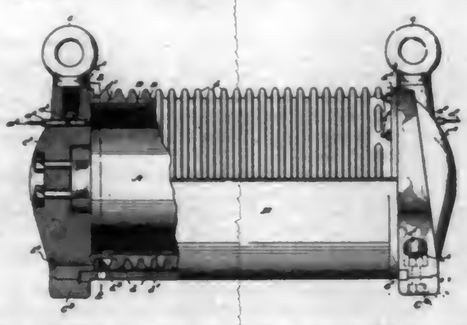
4. In a machine of the class described, the combination of a post, a segmental rail rotatably mounted thereon and provided exteriorly with a dove-tail way having its axis parallel with said post, said rail being vertically adjustable on said post, a saddle having one side concave and formed to slidably engage said way, a tool spindle ro

table in said saddle, and driving mechanism for said tool spindle.

5. In a machine of the class described, the combination of a post, a segmental rail rotatably mounted thereon and provided exteriorly with a dove-tail slide-way having its axis parallel with said post, said rail being vertically adjustable on said post, a saddle having one side concave and formed to slidably engage said slide-way, a tool spindle rotatable in said saddle, and driving mechanism for said tool spindle, said mechanism including a gear mounted on said rail concentric with said slide-way and a pinion on said tool spindle meshing with said gear.

[Claim 6 not printed in the Gazette.]

979,750. LIFTING-MAGNET. ARTHUR C. EASTWOOD, Cleveland, Ohio. Filed July 17, 1908. Serial No. 443,974.



1. A lifting magnet specifically adapted to the handling of miscellaneous products of magnetic material, said magnet having a core, a pole piece depending from either end of said core, and a magnetizing winding surrounding the said core, said winding when energized producing a magnetic flux substantially uniform in direction through the length of said core.

2. A lifting magnet specifically adapted to the handling of miscellaneous products of magnetic material, said magnet having a core, a magnetizing winding surrounding the said core and a pole piece at either end of said core, substantially all of the magnetic flux set up in said core when said winding is energized passing also through each of said pole pieces.

3. A lifting magnet adapted to the handling of magnetic material, said magnet having a core and a pole piece depending from either end of said core, the lower faces of said pole pieces being wider than the diameter or width of said core, so that the magnetic flux set up in the core may be distributed through a greater mass of material to be lifted.

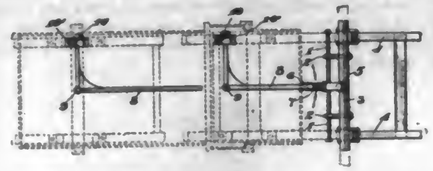
4. A lifting magnet adapted to the handling of magnetic material, said magnet having a horizontal core and magnetizing winding surrounding said core, and a pole piece depending from either end of said core, said pole pieces increasing in width and decreasing in thickness from their junctions with the core downward.

5. A lifting magnet adapted to the handling of magnetic material, said magnet having a core and a magnetizing winding surrounding said core, and a pole piece depending from either end of said core, said pole pieces being wider at their faces than at their junction with said core, but of substantially the same area as the cross section of said core.

[Claims 6 to 10 not printed in the Gazette.]

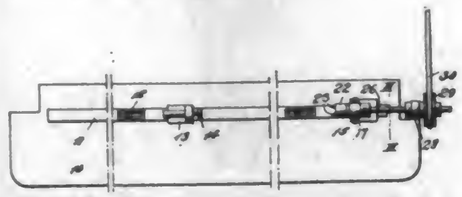
979,751. SHAFT-SHIFTER. JOHN T. EMMERSON, Edmundston, New Brunswick, Canada, assignor of one-third to John M. Stevens and one-third to Aaron Lawson, Edmundston, Canada. Filed Apr. 1, 1910. Serial No. 552,847.

A shaft shifter consisting of the combination of a rod mounted in the forward end of a vehicle, a shaft connecting beam, and eyes connected to said beam and working laterally on said rod, with a plate secured rigidly to said beam, a plate hinged to the first plate, a bell crank lever,



slidable pivotal connections between the latter plate and said lever, and a quadrant and sector for shifting said beam to any point desired.

979,752. WINDOW-SHADE-ROLLER SUPPORT. EPHRAIM O. ENOBSEN, Salt Lake City, Utah, assignor to John Beecher Patton, Kent, Ohio. Filed Feb. 19, 1908. Serial No. 416,772.



1. The combination with a table, of a bar adjustably held on said table, brackets held to said bar, means carried by one of the brackets for supporting one end of the shade roller, a spindle having an opening at one end and a threaded projecting portion on its other end, rotatably held by the other bracket, a chuck removably held to said threaded portion of the spindle and adapted to support and rotate a shade roller, and a shaft held in the opening of the spindle for rotating the spindle.

2. In a window shade machine, the combination with means for supporting one end of a shade roller, of a bracket adapted to support the other end of said roller a spindle rotatably held in the bracket and provided with collars at each end thereof, a threaded projecting portion on the spindle, a chuck removably held to the threaded portion and provided with pins adapted to engage the end of a shade roller to rotate the same, said spindle having a circular opening at one end thereof, a square shaft entering the opening in said spindle, means for holding the shaft to the spindle, together with means for rotating the shaft.

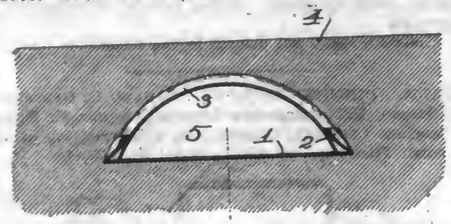
3. In a window shade machine, the combination with means for supporting one end of a shade roller, of a bracket adapted to support the other end of said roller, a spindle rotatably held in the bracket and provided with collars at each end thereof, a threaded projecting portion on the spindle, a chuck removably held to the threaded portion and provided with means adapted to engage the end of a shade roller to rotate the same, said spindle having an opening at one end thereof, a rectangular shaft entering the opening in said spindle, means for removably holding the shaft to the spindle, together with means for rotating the shaft.

979,753. PRODUCTION OF DEXTRIN, BRITISH GUMS, AND THE LIKE. ARTHUR FIELDING, Salford, England. Filed Oct. 10, 1910. Serial No. 586,388.

1. The production of dextrin, British gums and the like, at a comparatively low temperature by the action of dextrinating agents upon dried starch from which the water content has been practically eliminated, substantially as herein described.

2. Dextrin, British gums and the like, produced at a comparatively low temperature by the action of dextrinating agents upon dried starch from which the water content has been practically eliminated, substantially as herein described.

979,754. GUTTER-BRIDGE. CALVIN C. FOUTS, Middletown, Ohio, assignor to The Arkansas Corrugated Metal Culvert Company, Little Rock, Ark. Filed Apr. 10, 1908. Serial No. 426,209.



1. A gutter bridge or conduit comprising, a sheet-metal chord-member provided at its side edges with lips turned upwardly and at an angle inwardly from the vertical, and a transversely corrugated sheet-metal arch-member having its corrugated side edges engaging under said angular lips, combined substantially as set forth.

2. A sheet metal pipe including a longitudinally flat section and an annular corrugated opposite section with overlapping edges, the edges of the flat section being crimped to fit the opposite section, combined substantially as set forth.

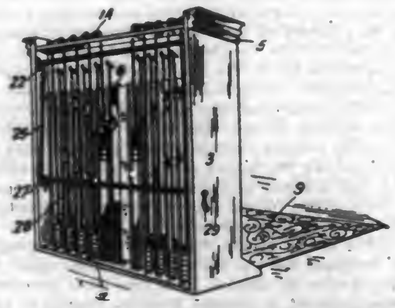
3. A sheet metal pipe including a flat chord section having edges bent to form an angle and a corrugated arch-section having its edges abutted into the angles formed by the edges of the chord section, the edges of the chord section being shaped to fit engaging portions of the arch-section.

4. A sheet metal pipe including a flat section and an annularly corrugated opposite section, with overlapping edges.

5. A sheet metal pipe including a flat and an annularly corrugated opposite section joined together at the edges.

[Claims 6 to 8 not printed in the Gazette.]

979,755. APPARATUS FOR EXHIBITING CARPETS AND OTHER TEXTILE FABRICS. WILLIAM FRANKLIN, Manly, near Sydney, New South Wales, Australia. Filed June 8, 1910. Serial No. 565,689.



1. In a displaying apparatus for carpets and other textile fabrics, the combination of an open front casing, a series of hangers therein, two cords attached to each of said hangers, head and fair lead pulleys therefor, counterweights on the looped falls of said cords, and a releasable trip mechanism by which stops on said cords are engaged when the counterweights attached to said cords have been raised to a predetermined height by drawing down the corresponding hanger.

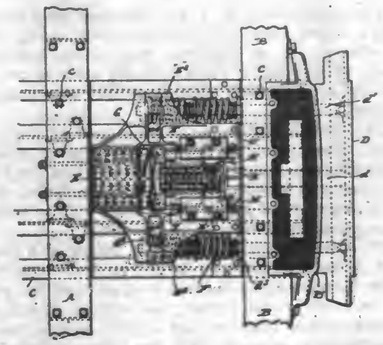
2. In a display apparatus of the character specified, the combination with a file of hangers adapted to carry the goods to be displayed pendent therefrom, of a pair of cords for supporting each of the hangers, each of said cords being provided with a stop and carrying a counterweight at its rear end, means adapted to coöperate with said stops to retain the counterweights in inoperative position when the cords have been drawn a predetermined distance, and manually operable means whereby said counterweights may be rendered operative to return the cords to initial position.

3. In a display apparatus of the character specified, the combination with a plurality of hanger cords adapted to support the articles to be displayed, each of said cords being provided with a stop intermediate its ends, of a pivoted plate provided with slots through which the cords are adapted to pass, said slots being smaller than the stops on the cords, spring governed carriers adapted to support said plate, and a hand lever for retiring said carriers against the pressure of the spring.

4. In a displaying apparatus of the type set forth, the combination of a casing, a file of rollers 8, a corresponding file of hangers 10, pair cords 12 attached to either end of each hanger, and to fixed points 16 respectively, head sheaves 13 and fair lead sheaves 14 stops 21 on the cords 12, a flap plate 22 with edge slots 23 which pass the cords 12 but intercept the stops 21 thereon, rod supports 25 for the free side of said flap plate 22, springs 30 carrying said rods, and a lever 27 for retiring said rod supports.

5. In a display apparatus of the character specified, the combination with a casing, of a series of pulleys therein, cords arranged in pairs and adapted to pass over said pulleys, a hanger supported by each pair of cords, a stop carried by each cord, a counterweight carried in the fall loop of each cord, a trip device operating automatically to engage the stops on the cords when the latter have been drawn a predetermined distance, and manually operable means for disengaging the stops from the trip device, whereby the counterweights become operative to return the cords to initial position.

979,756. BUFFING MECHANISM FOR RAILWAY-CARS. RICHARD D. GALLAGHER, Jr., New York, N. Y., assignor to Standard Coupler Company, New York, N. Y., a Corporation of New Jersey. Filed Sept. 25, 1909. Serial No. 519,552.



1. The combination with the longitudinal car sills, end sill and buffer beam supported thereon and the buffer movable toward and from the buffer beam, of a buffer controlling mechanism embodying an integral casting lying above the longitudinal sills with its outer and inner ends against the buffer beam and end sill, respectively, said casting having laterally extending integral brackets on opposite sides intermediate the ends and having chambers therein, side stem followers in said chambers, side stem springs supported by said brackets, and center stem springs located centrally within the casting.

2. In a buffing mechanism for railway cars, the combination with the end sill, buffer beam and buffer movable toward and from the beam, of a casting interposed between

and abutting the end sill and beam, said casting having a center housing for the center stem spring, lateral projections forming housings for the ends of the side stem springs, and transverse openings in the last mentioned housings for the admission of the side stem spring followers.

3. In buffing mechanism for railway cars, an integral casting having its rear face formed to abut centrally against the car end sill, a bifurcated forwardly extending portion formed to abut the buffer beam and to receive the rear end of the center stem, center stem spring guides and supports within said casting, lateral extensions on the casting each forming a side stem spring follower housing and transverse openings in said housings for the admission and removal of the followers.

4. In buffing mechanism for railway cars, an integral casting forming housings for the center and side stem springs and a support for the buffer beam, said casting having a central chamber for the ends center stem springs, forwardly extending arms on each side of the center and between which the center springs are located, transversely extending brackets each formed with a chamber for the reception of a side stem spring follower and apertured for the passage of the side stem, and each chamber having a transverse opening for the admission and removal of the follower.

5. In a buffing mechanism for railway cars, the combination with the end sill and buffer beam, of an integral casting abutting the proximate faces of the sill and beam, said casting being formed with an inner housing for center springs, forwardly extending arms between which the center stem and forward springs work, laterally extending brackets having chambers for side stem spring followers, guides projecting from the proximate faces of the forwardly extending arms, a center spring barrell held by said guides, and center and side springs and stems.

979,757. FOUNTAIN-PEN. JOEL L. GOLDSMITH, Chicago, Ill. Filed July 29, 1910. Serial No. 574,522.



1. The combination in a fountain pen of a pen body having a finger opening in its lateral wall, a cap for said body adapted for arrangement upon either end thereof, said cap being adapted when arranged upon either end of said body to cover said finger opening, substantially as described.

2. The combination in a fountain pen of a pen body having a finger opening in its lateral wall substantially midway its ends, a cap for said body adapted for arrangement upon either end thereof, said cap being adapted when arranged upon either end of said body to cover said finger opening, substantially as described.

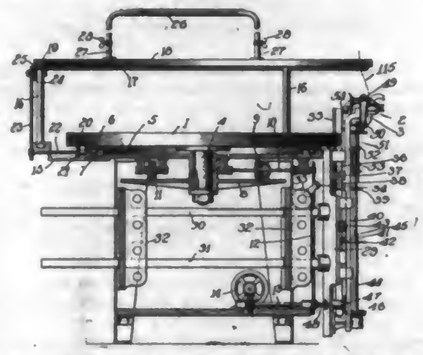
3. The combination in a fountain pen of of a pen body having a finger opening in its lateral wall substantially midway its ends, a cap for said body adapted for arrangement upon either end thereof, the exterior of the respective ends of said body and the interior of said cap being correspondingly tapered, said cap being adapted when arranged upon either end of said body to cover said finger opening, substantially as described.

4. The combination in a fountain pen of a pen body having a finger opening in its lateral wall substantially midway its ends, the respective ends of said body being of identical conformation, a cap for said body adapted for arrangement upon either end thereof, the exterior ends of the respective ends of said body and the interior of said cap being of identical conformation, said cap being adapted when arranged upon either end of said pen body to cover said finger opening, substantially as described.

5. The combination in a fountain pen of a pen body having a finger opening in its lateral wall substantially midway its ends, the exterior surface of said body bearing said opening being cylindrically formed, the respective ends of said body at opposite sides of said cylindrical portion being identically tapered, a cap for said body adapted for arrangement upon either end thereof, the interior surface of said cap being of a conformation identical with that of the exterior conformation of either of the ends of said body, said cap being adapted when arranged upon either end of said body to extend over and to cover the finger opening therein, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

979,758. PINNING-MACHINE. SAMUEL E. GREENBERG, Chicago, Ill., assignor to Greenberg Automatic Fitting Machine Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 30, 1909. Serial No. 520,418.



1. A device for fitting garments, comprising a platform for the customer to stand upon, means for folding the material of a garment worn by the customer to form a hem at a predetermined elevation with respect to the platform, means for automatically pinning the folded parts of the garment so as to retain them in such folded position, and mechanism for causing a relative movement of said platform and said folding and pinning means.

2. A device for fitting garments, comprising a platform for the customer to stand upon, means for folding the material of a garment worn by the customer to form a hem at a predetermined elevation with respect to the platform, means for automatically securing the folded parts of the garment so as to retain them in such folded position, and mechanism for causing a relative movement of said platform and said folding and securing means.

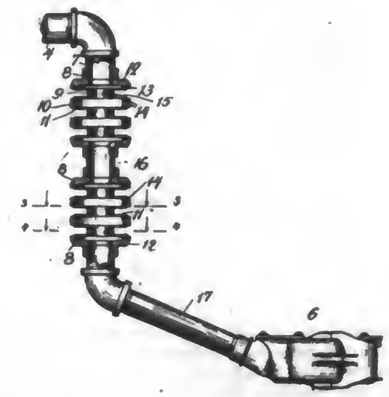
3. In a device of the class described, the combination of a platform for the customer to stand upon, a cloth folding device for turning up a hem on a garment worn by the customer, a pinning machine located at one side of said folding device and adapted to secure together the parts of the garment at each side of the fold, and mechanism for causing relative rotation of said platform with respect to said folding device and pinning machine to cause said device and machine to traverse the edges of the platform and form a hem on the garment at a predetermined level with respect to said platform.

4. In a device of the class described, the combination of a platform for the customer to stand upon, a cloth folding device for turning up a hem on a garment worn by the customer, a pinning machine located at one side of said folding device and adapted to secure together the parts of the garment at each side of the fold, mechanism for causing relative rotation of said platform with respect to said folding device and pinning machine to cause said device and machine to traverse the edges of the platform and form a hem on the garment at a predetermined level with respect to said platform, and means for adjusting said platform, folding device and pinning machine relatively of each other for cnanging the level of the hem with respect to the platform.

5. In a device of the class described, the combination of a platform for the customer to stand upon, a cloth folding device for turning up a hem on a garment worn by the customer, a pinning machine located at one side of said folding device and adapted to secure together the parts of the garment at each side of the fold, mechanism for causing relative rotation of said platform with respect to said folding device and pinning machine to cause said device and machine to traverse the edges of the platform and form a hem on the garment at a predetermined level with respect to said platform, and means for positively feeding the cloth of the garment to said pinning machine.

[Claims 6 to 14 not printed in the Gazette.]

979,759. HOSE. EDWIN T. GREENFIELD, Kiamesha, N. Y. Filed Jan. 20, 1908. Serial No. 411,582.

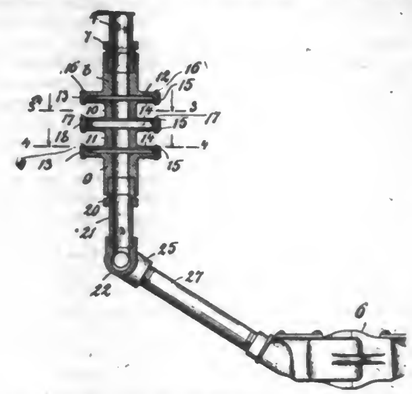


1. A flexible end-connector for a train-pipe consisting of a normally straight, flexible tubular metallic member adapted to be connected to and to extend vertically downwardly from the end of the train-pipe and having in its wall a plurality of of annuli of thin metal disposed in a plane substantially transverse to the axis of the member and adapted to flex to permit bending of the member, a rigid tubular metallic member connected to the lower end of said member and bent intermediate its ends to extend laterally therefrom, and a detachable coupling on the free end of said last-named tubular member, substantially as set forth.

2. A flexible end-connector for a train-pipe consisting of a tubular metallic member adapted to be connected to and to extend downwardly from the end of the train-pipe, said member consisting of metallic sleeves, substantially flat annuli of thin metal between said sleeves disposed substantially transverse to the axis of the member, and integral flanges on the edges of said annuli turned at an angle thereto and embedded in grooves in the ends or said sleeves, a rigid tubular member connected to the lower end of said member and bent intermediate its ends to extend laterally therefrom, and a detachable coupling on the free end of said last-named member, substantially as set forth.

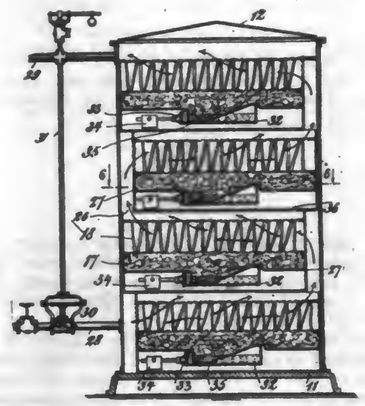
979,760. HOSE. EDWIN T. GREENFIELD, Kiamesha, N. Y. Filed Jan. 20, 1908. Serial No. 411,583.

A flexible end-connector for a train-pipe consisting of a tubular metallic member adapted to be connected to and to extend downwardly from the end of the train-pipe and having in its wall a plurality of substantially flat annuli of thin metal disposed in a plane substantially transverse to the axis of the member, said annuli being adapted to flex to permit bending of the member but normally holding the member against flexure, a rigid tube pivotally connected at one end to the lower end of said member and adapted to extend laterally therefrom, and a detachable



coupling on the free end of said tube, substantially as set forth.

979,761. CARBURETER. DANIEL HOWARD HAYWOOD, New York, N. Y., assignor, by mesne assignments, to American Gas & Power Co., a Corporation of New Jersey. Filed Dec. 24, 1908. Serial No. 469,122.



1. A carbureter comprising a casing, a plurality of superposed trays therein dividing the casing into a plurality of chambers, the said trays having openings therethrough arranged in alternate trays at opposite sides of the casing, and each tray having a depressed perforated portion in the base thereof, capillary threads arranged across the said chambers, a pan for holding liquid, supported beneath the depressed perforated portion of the tray, and means for producing relative movements between the pan and the tray for immersing the perforated portion of the tray in the liquid contained in the pan.

2. A carbureter comprising a casing, a plurality of superposed trays therein dividing the casing into a plurality of chambers, the said trays having openings therethrough arranged in alternate trays at opposite sides of the casing, and each tray having a depressed perforated portion in the base thereof, capillary threads arranged across the said chambers, a pan for holding liquid, supported beneath the depressed perforated portion of the tray, and means controlled by the weight of the liquid in the pan, for producing relative movements between the pan and the tray for immersing the perforated portion of the tray in the liquid contained in the pan.

3. A carbureter comprising a casing, and a plurality of superposed trays therein dividing the casing into a plu-

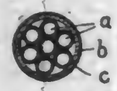
rality of chambers, the said trays having openings therethrough arranged in alternate trays at opposite sides of the casing, and each tray having a perforated portion in the base thereof, capillary threads across the said chambers, absorbent material arranged in contact with portions of the said capillary threads, a pan for holding liquid supported beneath the depressed perforated portion of the tray, and means for producing relative movements between the pan and the tray for immersing the perforated portion of the tray in the liquid contained in the pan.

4. A carbureter comprising a casing, and a plurality of superposed trays therein dividing the casing into a plurality of chambers, the said trays having openings therethrough arranged in alternate trays at opposite sides of the casing, and each tray having a perforated portion in the base thereof, capillary threads across the said chambers, absorbent material arranged in contact with portions of the said capillary threads, a pan for holding liquid supported beneath the depressed perforated portion of the tray, and means controlled by the weight of the liquid in the pan for producing relative movements between the pan and the tray for immersing the perforated portion of the tray in the liquid contained in the pan.

5. A carbureter provided with an air channel, a tray for supporting absorbent material in proximity to the air channel, the said tray having a perforated portion, a pivoted tray or pan for containing liquid into which the said perforated portion is adapted to be immersed, and means controlled by the movements of the said tray or pan upon its pivotal support for regulating the supply of liquid thereto.

[Claims 6 to 12 not printed in the Gazette.]

979,762. HEAT-EXCHANGE PIPING. GOTTHOLD HILDEBRANDT, Spandau-Tiefwerder 29b, near Berlin, Germany. Filed Jan. 3, 1910. Serial No. 536,098.



1. A heat exchange pipe comprising an outer tube of pliable metal and a plurality of flexible inner tubes inclosed by said outer tube and arranged closely together therein to snugly contact with each other and with the inner wall of the outer tube.

2. Heat-exchange piping comprising a bundle of flexible tubes inclosed by an outer pipe, the inner tubes contacting one with another and with said outer pipe, said outer pipe consisting of lead, with strips of canvas wound around it.

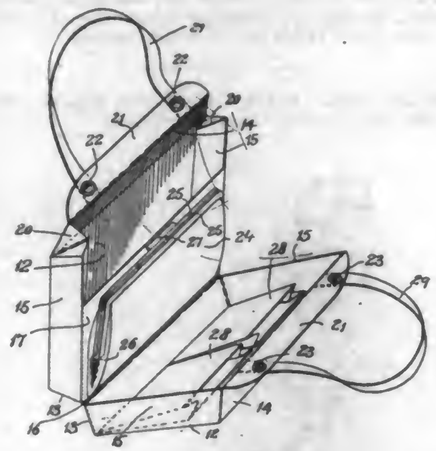
3. A heat exchange piping comprising a bundle of flexible tubes inclosed by an outer pipe of pliable metal, the inner tubes contacting one with another and with the inner wall of said pipe, said pipe being surrounded with an insulated material.

979,763. HAND-BAG. CATHERINE HOLLIS, Brockton, Mass. Filed July 12, 1910. Serial No. 571,569.

1. An improved hand bag comprising two relatively shallow trays provided at their inner edges with a flexible connection, one of said trays being provided with a supplemental side member forming a pocket, the outer edge of the last mentioned tray being connected with the ends of the latter by means of gussets, whereby a flexible cover for said pocket is provided.

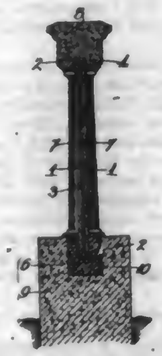
2. An improved hand bag comprising two relatively shallow trays provided at their inner edges with a flexible connection, one of said trays being provided with a supplemental side member forming a pocket, the outer edge of the last mentioned tray being flexibly connected with the body of the tray to form a flexible cover, said flexible cover and the corresponding outer edge of the other tray being provided with outwardly projecting flexible lips the inner faces of which are adapted to abut when the bag is closed, and means carried by said lips for detachably connecting the same.

3. A hand bag comprising two trays each composed of a side member, an outer and an inner edge member, and transverse edge members connecting the said outer and inner edge members, the inner edge members of the trays being hinged together, and one of the trays being provided with a supplemental side member forming one side of a book-receiving pocket, the outer edge member of said tray being flexibly connected with the first-mentioned side member and with the transverse edge members to permit



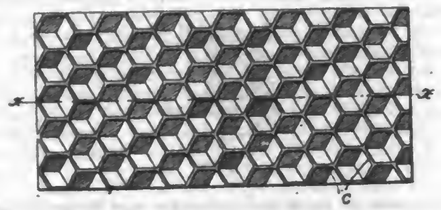
the insertion and removal of a book, flexible lips projecting outwardly from the outer edge members of the trays, and provided with complemental fastening members whereby said edge members may be detachably connected, and flexible handles attached at their ends to the said lips, the said fastening members coinciding with the attached ends of the handles whereby said members may be disconnected by a pull exerted on the handles.

979,764. GRAVE-MARKER. ALEXANDER HUMBLE, Jr., Kansas City, Kans. Filed Nov. 10, 1909. Serial No. 527,312.



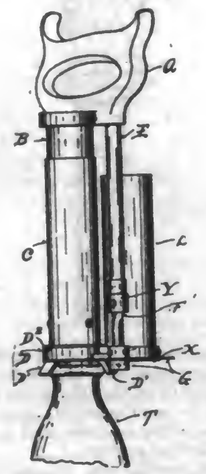
A grave marker comprising a tablet, a pair of glass plates fitting against opposite faces of the tablet and having beveled edges to produce an inwardly tapering channel around the edges of the tablet, a filling for said channel which prevents the access of air and moisture to said tablet, a compressible filler between the glass plates, the said filling and the edges of the tablet, and a cement frame in which the edges of the glass plates and the filling are embedded.

979,765. HONEYCOMB FOUNDATION. OSCAR M. HUSTED, Lacey, Ark. Filed Dec. 20, 1909. Serial No. 534,209.



A honey comb foundation having a permeable reinforcing fabric medium, saturated and sheeted with wax so that said reinforcing medium becomes an inseparable and integral part of the construction of the foundation and favored.

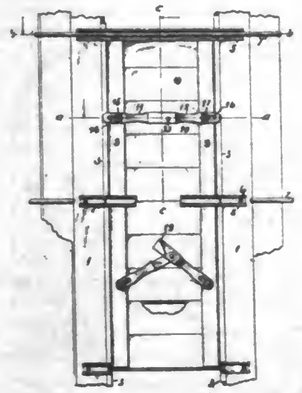
979,766. BOTTLE-CAPPING MACHINE. CHARLES FRANCIS JENKINS, Washington, D. C. Filed May 4, 1910. Serial No. 559,258.



1. The combination with a base having an opening to register with a bottle mouth, of an open tube surrounding said opening, a sleeve telescoping in said tube and provided with a handle and with an axial plunger, a stop limiting the upward movement of the plunger in said tube, a spring resisting contrary movement, a closure hopper alongside said tube, a vertical rod rotatably secured to the base alongside the hopper, means for rotating the rod back and forth as the plunger reciprocates, and a pusher fixed to the rod and adapted to push closures from the hopper into the path of the plunger.

2. The combination with a base having an opening adapted to register with the mouth of a bottle upon which the base may rest, of a plunger alining with the opening and normally above it, a stop limiting the plunger's upward movement, a spring resisting contrary movement, a closure hopper alongside the plunger, a vertical rod alongside the hopper and provided with a surface groove longitudinal near the base and spiral above, a horizontal pusher fixed to the lower part of the rod to swing across the lower part of the hopper and push closures therefrom beneath the raised plunger, and a non-rotary member moving with the plunger and engaging in said groove, whereby as the plunger descends, the pusher feeds a closure beneath it and holds it against return, and itself returns to initial position as the plunger again rises.

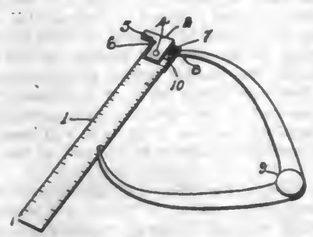
979,767. SILO. NELS JOHNSON, Batavia, Ill., assignor to Challenge Company, Batavia, Ill., a Corporation of Illinois. Filed June 18, 1910. Serial No. 567,643.



1. A silo having a door opening, door sections for closing the opening, two levers pivotally connected and each pivotally connected to a door section and adapted to contact with the edges of the door opening.

2. A silo having a door opening, door sections for closing the opening, a toggle supported by each door section, the outer end of each of the links of the toggle being formed with a slot through which a bolt passes, and one of the links formed with a stop for engagement with the other link thereby forming a lock between the links.

979,768. MACHINIST'S SCALE. MARION F. JONES, Detroit, Mich. Filed May 7, 1910. Serial No. 559,972.



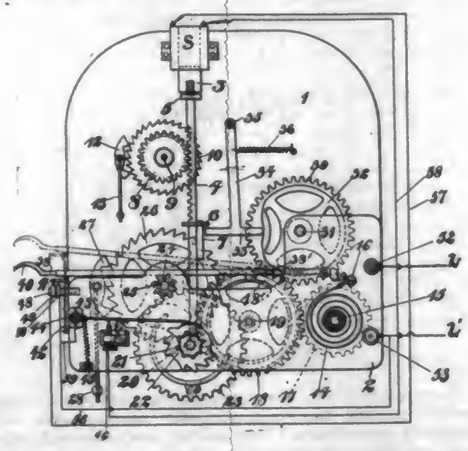
1. The combination with a scale bar, of a head provided with an arm extending laterally therefrom at right angles to one edge of the bar and forming a shoulder at the end of the bar for the engagement of the end of one arm on an inside caliper, a flange on the other side of the head extending laterally therefrom toward the edge of the bar and projecting beyond the end of said bar to form a supporting ledge for supporting the end of one arm of outside calipers in contact with the end of the scale bar.

2. The combination with a scale bar having graduations reading from one end thereof, of a head formed with a slit to receive said end of said bar and provided with an arm projecting at right angles to one edge of the bar with one side of said arm abutting the end of the bar, and a flange on the opposite side of the head, the upper supporting surface of which flange extends in the plane of the under surface of the bar beyond the end of said bar to form a support for one arm of an outside caliper with said caliper arm in contact with the end of the bar.

979,769. ELECTRIC SIGNALING-BOX. ARTHUR KEMPSTON, San Francisco, Cal. Filed Feb. 23, 1909. Serial No. 479,635.

1. In an electric signaling box, an electric circuit, a signaling mechanism, means to drive said mechanism, a solenoid, a plunger operated by said solenoid and having a

projection adapted to obstruct the motion of the signaling mechanism if the line is in use, means to permit the free action of the plunger in one direction, and means to cause its slow operation in the opposite direction.



2. In an electric signaling box, an electric circuit, a signaling mechanism, means to drive said mechanism, a slowly movable plunger adapted to obstruct the motion of the signaling mechanism if the line is in use, a solenoid for moving said plunger in one direction, means to permit the instant return of said plunger in the opposite direction if the line comes into use during its slow movement, and means to cut the solenoid out of circuit during the time the box is not in use.

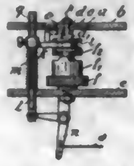
3. In an electric signaling box, an electric circuit, a signaling mechanism, means to drive said mechanism, a slowly movable plunger adapted to obstruct the motion of the signaling mechanism if a signal is being sent over the line, a solenoid for moving said plunger in one direction, means to permit the instant return of the plunger if the line comes into use during its slow movement, means to stop the movement of the signaling mechanism at the end of a predetermined number of signals, and means to cut the solenoid out of the circuit at the end of the signaling period.

4. In an electric signaling box, an electric circuit, a signaling mechanism, means to drive said mechanism, a slowly movable plunger adapted to hold the signaling mechanism in a position ready to send a signal at the first moment the line is clear of other signals, means to return the plunger to its initial position instantly if the line is operated during the period of initial movement of the plunger and before the signal has been started from that box, means to stop the mechanism, a solenoid for moving said plunger, and means to cut the solenoid out of circuit at the end of the set of signals.

5. In an electric signaling box, an electric circuit, a signaling mechanism, means to drive said mechanism, means to prevent the sending of the signal for a period of time after the ringing in of the signal, means to stop the box in said period if other signals are passing over the line, means to permit the use of the line for sending other signals during the period of signaling from the given box, and means whereby the box will complete its set of signals when the line is free from outside signals.

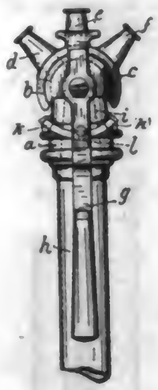
979,770. LACE-MAKING MACHINE. GUSTAV KRENZLER, Barmen, Germany. Filed Dec. 20, 1909. Serial No. 534,061.

The combination, in a lace-making machine, of a spindle carrying a driver having a hole therein, a driving clutch-member freely revoluble on said spindle, a gear connected with said clutch-member, a driven clutch-member slidable axially on, but nonrevoluble on, said spindle, and upwardly spring-pressed arresting means actuated by pattern gear and comprising a forked member for actuating said driven clutch-member to bring the same into and out of engagement with said driving clutch-member, said



forked member carrying a pin under said driver adapted to enter into said hole in the driver when said clutch-members are disengaged and thereby positively secure the driver in its rest position.

979,771. MULTIPLE-JET-PIPE MOUTHPIECE. CARL KUNZELMANN, Sr., Säckingen, Germany. Filed Oct. 8, 1907. Serial No. 396,467.



1. In a jet pipe mouthpiece, the combination of an adjusting member provided with a plurality of nozzles, displaceable in the plane of the axis of the hose pipe, a prismatic guide-way for said adjusting member, a hand-lever actuating the adjusting member, and means for locking the lever in the desired position.

2. In a jet-pipe mouth-piece, the combination of an adjusting member provided with a plurality of nozzles displaceable in the plane of the axis of the hose-pipe, a prismatic guide-way for said adjusting member, a hand-lever for operating said adjusting member, and locking means for holding the desired nozzle in the axis of the hose-pipe, substantially as set forth.

3. In a jet-pipe mouth-piece, an adjusting member having mounted thereon a plurality of nozzles, moving in a plane parallel to the axis of the main hose-pipe, in combination with a hand-lever actuating said adjusting member, and means for locking any desired nozzle in the axial line of the main hose-pipe, substantially as set forth.

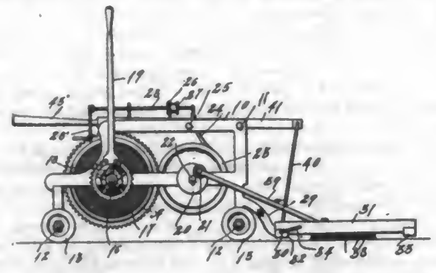
979,772. VAULT-LIGHT. JAMES J. LAWLER, Pelham Heights, N, Y. Filed Feb. 2, 1910. Serial No. 541,450.



In combination, a receptacle comprising a conoidal shaped body portion having its outer end provided with an outwardly-extending annular flange and its inner end formed with an inwardly-extending annular flange for supporting

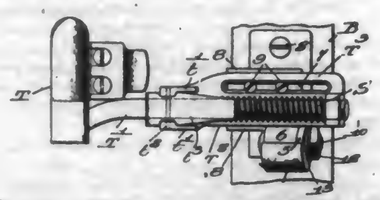
a prism within the receptacle, said body portion further provided at diametrically opposite points with a pair of outwardly-projecting lugs flushed with the inner flange, a coupling member comprising a conoidal shape body portion surrounding the body portion of the receptacle and having diametrically opposed and outwardly-projecting opposite portions and further provided at diametrically opposite points with pockets extending through the wall of the body portion and into the offset portion, said pockets providing means for the passage of the lugs of the receptacle when mounting the coupling member thereon, and said coupling member further having its body portion cut away to provide a pair of inclines extending a short distance from one of the side walls of the pockets whereby the said side walls will constitute stops for limiting the movement of the lugs in one direction, said coupling member further having its body portion provided with an outwardly-extending annular flange associating with the flange of the body portion of the receptacle for clamping the receptacle to a support.

979,773. SCRUBBING-MACHINE. ABNER LEIGH, Osceola, Ark. Filed June 20, 1910. Serial No. 567,895.



In a scrubbing machine, the combination with a wheeled supporting frame, a motor supported on said frame and including a crank disk and pin, and means to regulate said motor; of a rock shaft extending transversely across the front of said frame, a pair of spaced guides extending forwardly from said rock shaft, a forwardly extending arm formed on said rock shaft and attached to one of said guides, a brush reciprocable in said guides, a link connecting said brush and crank pin, a rock arm extending up from said shaft, a handle bar extending laterally from said frame, a handle on said handle bar, and an adjusting bar connected to the end of said rock arm and provided with a series of notches adapted to receive said handle bar.

979,774. HOLDING DEVICE FOR LOOM-TEMPLES. CHARLES A. LITTLEFIELD, Lowell, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed July 27, 1910. Serial No. 574,071.

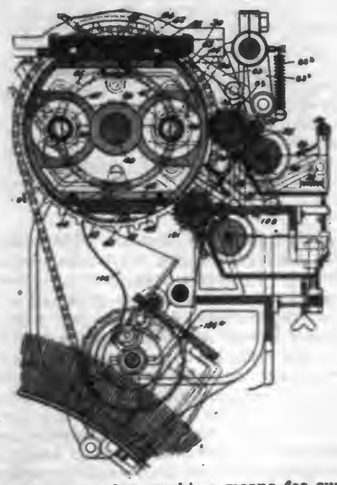


1. A holding device for loom-temples, comprising a base-plate, a transverse and elongated substantially semi-circular, open-sided bearing thereon at one end, a seat for the temple-stand, a boss fixedly connected therewith and having a curved face to frictionally engage and fit the semi-circular wall of the bearing, whereby the seat can be tipped about the longitudinal axis of the bearing as a center, and means to clamp the boss in adjusted position in the bearing, the cup-like fit of the boss in the bearing rigidly positioning the seat to resist strain upon the temple-stand due to the inward pull of the cloth.

2. A holding device for loom-temples, comprising a base-plate having an upturned and enlarged portion at its outer end, a transversely extended and elongated bearing on such uptured portion, open at its rear end and inner side and having its longitudinal axis inclined in parallelism to the path of movement of the temple bar, a seat for the temple-stand, and a boss on the outer end of the seat provided with a circularly curved and elongated face to enter the open side of and fit said bearing and to turn therein on the axis of the bearing as a center, the seat projecting inward over the base-plate, a stud connecting the boss and the bearing while permitting rotative movement of the boss, and a clamping nut coöperating with said stud to hold the boss and its connected seat in adjusted position, the coöperating semi-cylindrical surfaces of the boss and the bearing serving to rigidly position the seat and prevent twisting thereof when the clamping nut is set up.

3. A holding device for loom-temples, comprising a base-plate adapted to be secured to the loom breast-beam, a seat for the temple-stand, overhanging the base-plate, a pivotal connection between the outer ends of said base-plate and seat, said connection comprising an elongated, open-sided and substantially semi-circular bearing on one or said parts and an elongated, externally convexed coöperating member on the other part, to enter the open side of and fit into the bearing, whereby the seat can be tipped by relative rotative movement of said bearing and the coöperating member, and means to clamp together the latter and the bearings to thereby maintained the seat in adjusted position, the coöperating semi-cylindrical surfaces of the bearing and its coöperating member, when clamped together, holding the seat from twisting when the temple-stand is subjected to lateral strains due to the inward pull of the cloth.

979,775. ROTARY ENVELOP-MACHINE. CHARLES DE LUKACSEVICS, New York, N. Y., assignor to William L. Lewis, George C. Moxon, and George W. Morgan, Jr., New York, N. Y. Filed Nov. 2, 1905. Serial No. 285,563.



1. In a rotary envelop machine, means for supplying a sheet or ribbon of paper or other envelop material, in combination with means for cutting envelop blanks, and means for forming the said blanks into completed envelops, such means comprising a rotating cylinder having pneumatic means to maintain the blanks in position thereon during the forming operation.

2. In a rotary envelop machine, a source of supply for a sheet of ribbon of paper or other envelop material, means for feeding the said sheet or ribbon, means for cutting the said sheet or ribbon into envelop blanks, a chute down which said blanks are moved by gravity for receiving the blanks as they are cut, and placing them in a position for the folding operation to commence, and means for transforming the said envelop blanks into completed envelops.

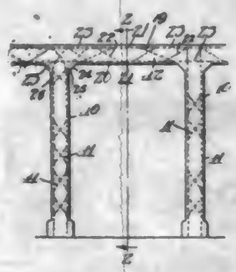
3. In a rotary envelop machine, a source of supply for an envelop sheet or ribbon, means for cutting the said sheet or ribbon into envelop blanks, and means for gumming and folding said blanks so as to form completed envelops, such means comprising a rotary drum, and pneumatic means carried thereby for causing the blanks to adhere thereto.

4. In a rotary envelop machine, means for cutting envelop blanks and suppiying them to the machine, pneumatic means for causing said blanks to adhere to a rotary part of said machine for a time, and for expelling said blanks from said part at the end of that time, mechanism for forming said blanks into completed or finished envelops during said time, and means for feeding said blanks from said supply means to said rotary part of the machine.

5. In a rotary envelop machine, a source of supply for a ribbon of paper or other envelop material, means for cutting said material into envelop blanks during the feeding process, pneumatic means for causing said blanks to adhere to a moving part of the machine for a time, and for expelling said blanks from said part at the end of said time, forming mechanism for the forming of the blanks into finished envelops during said time, and means for feeding the cut blanks from said cutting mechanism to said moving part of the machine.

[Claims 6 to 16 not printed in the Gazette.]

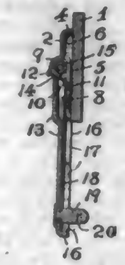
979,776. REINFORCED STRUCTURE. DANIEL B. LUTEN, Indianapolis, Ind. Original application filed May 17, 1902, Serial No. 107,812. Divided and this application filed July 23, 1904. Serial No. 217,767.



1. A reinforcement for concrete girders, beams, etc., comprising a lower horizontal tension rod and upper and lower shearing rods, each having a central horizontal part, inclined parts extending outwardly from opposite ends of the central part and horizontal parts extending outwardly from the ends of said inclined parts, the central horizontal part of the lower shearing rod being longer than that of the upper shearing rod, and the horizontal ends of the upper shearing rod being longer than those of the lower shearing rod, substantially as set forth.

2. A reinforcement for concrete beams, girders, etc., comprising an upper compression rod, a lower horizontal tension rod, and upper and lower shearing rods, each having a central horizontal part, inclined parts extending outwardly from opposite ends of the central part and horizontal parts extending outwardly from the ends of said inclined parts, the horizontal part of the lower shearing rod being longer than that of the upper shearing rod and the horizontal ends of the upper shearing rod being longer than those of the lower shearing rod, substantially as set forth.

979,777. TRUNK-HASP. CORNELIUS J. LYNAGHT, Newark, N. J., assignor to R. Neumann Hardware Co., a Corporation of New Jersey. Filed July 27, 1910. Serial No. 574,053.



1. A hasp comprising a plate having a tongue-like member formed with an outward curve and then curved inwardly, said tongue-like member forming a bearing-portion, and a hasp-plate pivotally connected with said bearing-portion.

2. A hasp comprising a plate having a tongue-like member formed with an outward curve and then curved inwardly, said tongue-like member forming a bearing-portion, and a hasp-plate pivotally connected with said bearing-portion, said outwardly extending part of the tongue-like member being provided with a projection forming a stop adapted to limit the outward movement of the said hasp-plate.

3. A hasp comprising a plate having a tongue-like member formed with an outward curve and then curved inwardly, said tongue-like member forming a bearing-portion, a hasp-plate, said hasp-plate being provided with a slit through which said tongue-like member is passed, and a bead upon the upper marginal edge-portion of said hasp-plate oscillatorily arranged in the bearing-portion of said tongue-like member.

4. A hasp comprising a plate having a tongue-like member formed with an outward curve and then curved inwardly, said tongue-like member forming a bearing-portion, a hasp-plate, said hasp-plate being provided with a slit through which said tongue-like member is passed, and a bead upon the upper marginal edge-portion of said hasp-plate oscillatorily arranged in the bearing-portion of said tongue-like member, said outwardly extending part of the tongue-like member being provided with a projection forming a stop adapted to limit the outward movement of said hasp-plate.

5. A hasp comprising a plate having a marginal rib forming with said plate a chamber, said plate being provided with depressed portions and a laterally extending connecting member, said depressed portions and said connecting member being formed with an opening between them, a tongue-like member formed with an outward curve, and then curved inwardly, said tongue-like member forming a bearing-portion and having its inwardly extending portion extending through said opening and terminating in said chamber, a hasp-plate provided with a marginal rib forming with said hasp-plate a chamber, and a spring-plate secured at one end in the chamber of said hasp-plate and having its other end-portion in engagement with said laterally extending member, substantially as and for the purposes set forth.

[Claims 6 to 8 not printed in the Gazette.]

979,778. LOADING-MACHINE. THOMAS MALLOY, Chicago, Ill., assignor of one-third to John J. Gilman, Chicago, Ill. Filed May 21, 1909. Serial No. 497,436.

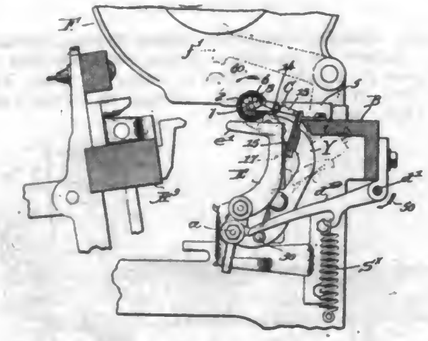
1. In a machine of the class described; a wheeled frame; an inclined car track on said frame, each of the members of said track terminating at its lower end in a hinged section adapted to contact with the ground; means for drawing cars onto said track; one or more receiving hoppers located under said track; and means on said hinged sections for directing car wheels onto said track, substantially as described.



2. In a machine of the class described; a wheeled frame; an inclined car track on said frame; means for drawing cars onto said track; one or more receiving hoppers located under said track; and a pointed wheel guide pivoted between the lower ends of said tracks and adapted when in operative position to lie upon the ground and direct car wheels onto said tracks, substantially as described.

3. In a machine of the class described; a wheeled frame; an inclined car track on said frame comprising a pair of parallel members, a hinged section at the lower end of each of said track members adapted to contact with the ground; means for drawing cars onto said track; one or more receiving hoppers located under said track; and a pointed wheel guide connected to and pivoted between the ends of said hinged sections of said tracks and adapted to lie upon the ground and direct car wheels onto said tracks, substantially as described.

979,779. THREAD-PARTING MECHANISM FOR LOOMS. JAMES MARCURE, Pawtucket, R. I., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Aug. 19, 1910. Serial No. 577,938.



1. In an automatic filling-replenishing loom having a device to part and clamp the spent thread of filling upon filling replenishment, and means to actuate said device, in combination, a fixed support for the severed piece of thread, a rotatable member to sweep the severed piece of thread frontward along the support, and means to effect intermittent rotation of said member.

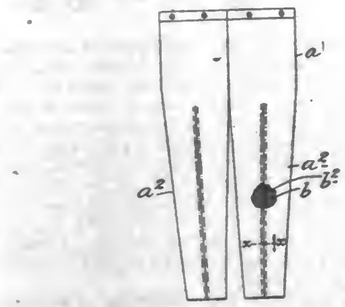
2. In an automatic filling-replenishing loom having a thread-parting and clamping device bodily movable upon filling replenishment into position to act upon the thread of filling to be abandoned, in combination, a thread-remover comprising a fixed supporting member for the severed piece of thread, a coöperating, intermittingly rotatable member to sweep the piece of thread forward along the fixed member, and means to effect rotative movement of the rotatable member when filling is replenished.

3. In an automatic filling-replenishing loom having a thread parting and clamping device bodily movable upon filling replenishment into position to act upon the thread of filling to be abandoned, in combination, a thread-remover comprising a fixed support for the severed piece of thread, a rotatable brush mounted above and to sweep the upper face of the support, and means to effect rotative movement of the brush to thereby sweep frontward pieces of thread sustained on the support.

4. In an automatic filling-replenishing loom having a thread parting and clamping device bodily movable upon filling replenishment into position to act upon the thread of filling to be abandoned, and operating means for said device, in combination, a fixed support for the piece of thread severed by the parting device, a rotatable brush to sweep the severed piece of thread frontward along the support, actuating connections between the brush and said operating means, to effect intermittent rotation of the brush when replenishment of filling takes place.

5. In an automatic filling-replenishing loom having a shuttle-feeler, a thread parting and clamping device thereon bodily movable upon filling replenishment into position to part and clamp the filling thread to be abandoned, and means to govern movement of the shuttle-feeler, in combination, a thread-remover comprising a substantially horizontal, stationary thread support adjacent the shuttle-feeler path, a coöperating, rotatable brush having an attached ratchet, a pawl, a pivoted carrier on which it is mounted, and actuating means for said pawl-carrier, connected with and operated by movement of the shuttle-feeler into and out of operative position, to effect intermittent rotation of the brush.

979,780. MEANS FOR CREASING THE LEGS OF TROUSERS. DAVIS MARINSKY, New York, N. Y. Filed Dec. 18, 1909. Serial No. 533,765.



1. A pair of trouser legs, the front of which are provided on the inner sides thereof and longitudinally thereof with creasing strips, consisting of flexible material and having a cord secured thereto longitudinally thereof and forming a longitudinal bead.

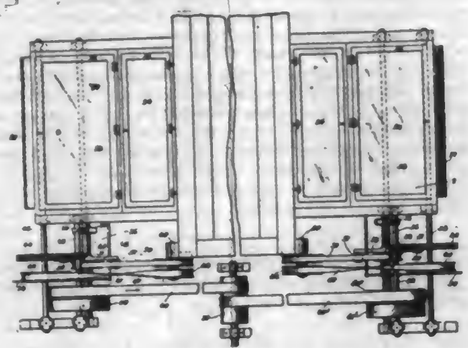
2. A pair of trousers, the legs of which are provided on the inner sides thereof and longitudinally thereof with creasing strips consisting of fabric material, said creasing strips having a central longitudinal bead on the outer side thereof over and around which the trouser legs are folded in the operation of pressing and creasing the same.

979,781. DRYING APPARATUS. GEORGE H. MAY, Newburgh, N. Y., and WILLIAM M. GROSVENOR, Grantwood, N. J. Filed Mar. 24, 1909. Serial No. 485,401.

1. In a drying apparatus, the combination of an evaporating chamber, means for heating the drying medium before it comes into contact with the material being dried, means at each end of the evaporating chamber for holding the material to be dried, and means for moving the material in either direction through the evaporating chamber whereby the material may be passed back and forth through said evaporating chamber.

2. In a drying apparatus, the combination of an evaporating chamber, a condensing chamber suitably connected with the evaporating chamber, condensing means connected with said condensing chamber, means for heating the drying medium before it comes into contact with the material being dried, electrical connections grounding the exposed metal surfaces in the evaporating chamber, means at each end of the evaporating chamber for holding the material, and means for moving the material through the evaporating chamber.

3. In a drying apparatus, the combination of an evaporating chamber, a condensing chamber suitably connected with the evaporating chamber, condensing means connected with said condensing chamber, heating means to heat the drying medium before it comes into contact with the material being dried, means to support the material while passing through the evaporating chamber, a driving roller at the discharge end, a receiving roller at the discharge end, means for driving the receiving roller, a supply roller at the supply end, and means for putting a tension on the material at the supply end.



4. In a drying apparatus, the combination of an evaporating chamber, a condensing chamber suitably connected with the evaporating chamber, condensing means connected with said condensing chamber, heating means to heat the drying medium before it comes into contact with the material being dried, means to support the material while passing through the evaporating chamber, a driving roller at the discharge end, a receiving roller at the discharge end, means for driving the driving roller, and means for driving the receiving roller at a variable speed so as to maintain the proper tension on the material, a supply roller at the supply end, and means for putting a tension on the material at the supply end.

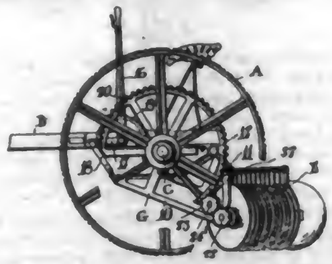
5. In a drying apparatus, the combination of an evaporating chamber, a condensing chamber suitably connected with the evaporating chamber, condensing means connected with said condensing chamber, heating means to heat the drying medium before it comes into contact with the material being dried, means to support the material while passing through the evaporating chamber, a driving roller at the discharge end, a receiving roller at the discharge end, means for driving the driving roller, a belt and pulley connection between the shaft of the driving roller and the shaft of the receiving roller whereby the receiving roller is driven at a variable speed so as to maintain the proper tension on the material, a supply roller at the supply end, and means for putting a tension on the material at the supply end.

[Claims 6 to 30 not printed in the Gazette.]

979,782. DISK HARROW. JOHN JAMES MCLEAN, Moose Jaw, Saskatchewan, Canada. Filed Jan. 21, 1910. Serial No. 539,394.

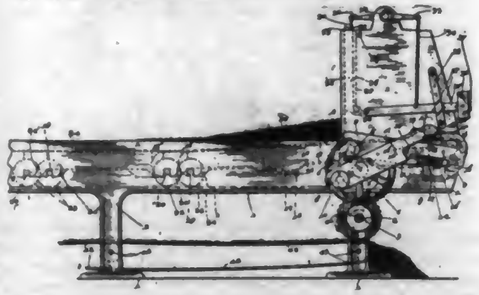
1. A cultivator comprising a transversely extending driving axle, driving wheels on opposite ends of the axle, a tongue connected to the axle, a pair of bracket members pivotally supported from the axle and each including a pair of triangular side members, links connected to the forward ends of the triangular members, a lever operatively connected to each of said links, a set of disk harrows supported from each bracket and means operatively connecting each set of disks with the driving wheels in such a way as to continuously rotate the disks.

2. A cultivator comprising a transversely extending driving axle, driving wheels on opposite ends of the axle, a tongue connected to the axle, a pair of bracket members pivotally supported from the axle and each including a pair of triangular side members, links connected to the forward ends of the triangular members, a lever operatively connected to each of said links, a set of disk harrows supported from each bracket, a driving shaft for each set of disks, a pinion on the driving shaft, a driving gear rotated by each driving wheel, and idlers connecting said driving wheels with the pinion, said idlers being supported from the brackets.



3. In a cultivator and in combination an axle, driving wheels thereon, driving gears connected to the driving wheels, two sets of disk harrows, driving shafts for the sets of disk harrows, pivoted brackets mounted on the axle and each having side members supporting one of the sets of disk harrows, one of said side members journaling the shaft at the end of the set of disk harrows and the other side member entering between the end disk and the second to end disk, a bracket 25 connected to one of the pivoted brackets and extending rearwardly and formed with a hook-shaped end, and an auxiliary disk 24 supported from said hook-shaped end.

979,783. FURNACE-GRATE. GEORGE MINION, Chicago, Ill., assignor of one-fifth to James Belle, one-fifth to Charles H. Scheuer, one-fifth to Ernest H. Miller, and one-fifth to John Robertson, Chicago, Ill. Filed June 8, 1910. Serial No. 565,772.



1. A device of the class described comprising a main frame, two series of alternately arranged grate-bars mounted to reciprocate longitudinally in said main frame, transversely disposed reciprocable bars connected with each series of grate-bars, projections on one series of grate-bars set in the path of the reciprocable bar of the other series, means for causing alternate movement of said reciprocable bars in a rearward direction, and means for causing return movement of said projection engaging bar, substantially as described.

2. A device of the class described comprising a main frame, two series of alternately arranged grate-bars mounted to reciprocate longitudinally in said main frame, a single acting transversely disposed reciprocable bar connected with one of said series of grate-bars, a double acting transversely disposed reciprocable bar connected with the other series of grate-bars, projections on the grate-bars connected with said single acting bar and lying in the path of the other reciprocable bar, means for causing alternate movement of said reciprocable bars in a rearward direction, means for causing return movement of said double acting bar, and a latch connection for said single acting bar arranged to hold the same stationary during the independent movement of the other bar, substantially as described.

3. A device of the class described comprising a main frame, two series of alternately arranged grate-bars mounted to reciprocate longitudinally in said main frame, a single acting transversely disposed reciprocable bar connected with one of said series of grate-bars, a double acting transversely disposed reciprocable bar connected with the other series of grate-bars, projections on the grate-bars connected with said single acting bar and lying in the path of the other reciprocable bar, means for causing alternate movement of said reciprocable bars in a rearward direction, means for causing return movement of said double acting bar, a latch pivoted to said main frame and engaging said single acting bar to hold the same stationary during the independent movement of the other bar, and a releasing cam projection of said latch arranged to contact with said double acting bar at the end of its independent movement to release said latch, substantially as described.

4. A device of the class described comprising a main frame, two series of alternately arranged grate-bars adapted to reciprocate longitudinally on said frame, a transversely disposed rod connected to one of said series of grate-bars and a similar rod connected to the other, said rods being adapted to reciprocate with the grate-bars to which they are connected, connecting rods having shoulders adapted to contact with and actuate said rods, and means for imparting motion to said connecting rods comprising a power-driven two-throw crank and crank pins of which are set at ninety degrees to each other, substantially as described.

979,784. DUST-PAN. THOMAS C. MORRIS, Lockport, N. Y. Filed Nov. 30, 1909. Serial No. 530,615.

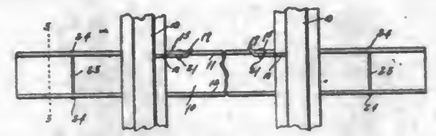


A dust pan comprising a receptacle including side walls having their forward edges outwardly turned to provide lips, and a handle pivotally mounted in the lips below the central point thereof.

979,785. RAILWAY-TIE. WILLIAM H. MORRIS, Copley, Ohio. Filed Apr. 25, 1910. Serial No. 557,500.

1. The herein-described railway tie, consisting of a base plate from the longitudinal edges of which rise side walls, these side walls being tapered from their roots to their free edges and being provided in their top edges with alined rail base flange receiving recesses, and angular keepers secured to the side walls and each having one leg extending over the rail base flange and the opposite leg terminating in a hook which engages the top edge of the adjacent side wall.

2. A railway tie consisting of a base, a pair of vertical side walls rising from the longitudinal edges of the base, said side walls tapering in thickness, and having alined rail base flange receiving recesses in their top edges, and angular keepers secured to the side walls of the tie, each consisting of a straight body portion, having opposite



terminals extending upwardly, one of the terminals engaging the base flange and preventing the vertical movement thereof, and the opposite terminal terminating in a hook which engages the top edge of said side wall, and a securing bolt passed transversely through the keeper and said side wall.

979,786. PIPE-REAMER. PETER NEERUP, Louisiana, Mo., assignor to Reliable Tool & Specialty Company, Louisiana, Mo., a Corporation of Missouri. Filed Sept. 30, 1907. Serial No. 395,124.



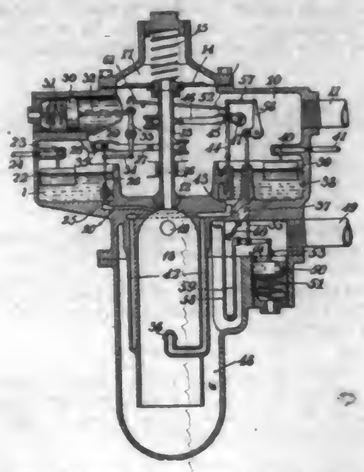
1. In a pipe reamer, in combination, a bracket, a reamer rotatably mounted in said bracket and adjustable longitudinally therein, guide rods having one end fixed in said bracket, a second bracket comprising a bearing sleeve and arms extending outwardly from said sleeve, a pipe collar removably fitting in said sleeve, means for fixing said collar in said sleeve, the arms of said second bracket being slidably mounted on said guide rods and being removable therefrom to permit of removing said pipe collar from its sleeve, and means for fixing said arms upon said guide rods.

2. In a pipe reamer, in combination, a frame comprising an upper bracket, a lower bracket, and guide rods fixed in the upper bracket, the lower bracket being slidably mounted on said guide rods; means for fixing said lower bracket on said guide rods; a shaft rotatably mounted in the upper bracket and having a plurality of annular grooves in its periphery: a reamer fixed to the inner end of said shaft and lying within said frame; a set screw seated in said upper bracket, the inner end of said set screw being arranged to lie in either of said annular grooves for rotatably securing said shaft in longitudinally adjusted positions in said upper bracket; said lower bracket having an opening therethrough; a pipe collar fitting in said opening; and means for securing said collar in said opening, said lower bracket being withdrawable from said rods to permit of removing said pipe collar.

979,787. MIXER FOR GASES AND LIQUIDS. EDWARD P. NOYES, Winchester, Mass., assignor, by mesne assignments, to C. P. Power Company, Newark, N. J., a Corporation of New Jersey. Filed Jan. 8, 1907. Serial No. 351,317.

1. A gas and liquid mixer comprising a mixing chamber having a gas inlet and a posterior liquid inlet, a valve-and-septum device having opposite surfaces of substantially fixed area exposed respectively to the mixing-chamber pressure and the gas-pressure anterior to the gas inlet, said device being subject to a substantially constant force tending to close the gas inlet and adapted to maintain a substantially-constant difference between the anterior and mixing-chamber pressures, and a liquid-controlling valve operated by said valve-and-septum device and

adapted to graduate the liquid inlet in a predetermined relation to the variation of the gas inlet.



2. A gas and liquid mixer comprising a mixing chamber having gas and liquid inlets, a valve-and-septum device having opposite surfaces of substantially-fixed area exposed respectively to the mixing-chamber pressure and the gas-pressure anterior to the gas inlet, said device being subject to a substantially-constant force tending to close the gas-inlet, a fuel reservoir communicating with the fuel inlet and subject to said anterior pressure, a constant-level device for said reservoir, a valve controlling the fuel-inlet, and a motion-reducing connection from the valve-and-septum device to said fuel valve for imparting a movement to the latter in a predetermined ratio to that of the former.

3. A gas and liquid mixer comprising a mixing chamber having gas and liquid inlets adapted for a continuous flow, a reservoir for supplying said liquid inlet, said reservoir being subject to the gas pressure anterior to the gas inlet and having a constant-level device, a valve controlling the liquid inlet, means responsive to the volume of flow through the gas inlet for holding said valve at an opening corresponding to said volume, and adjusting means for varying the position of said valve relative to a given rate of gas flow.

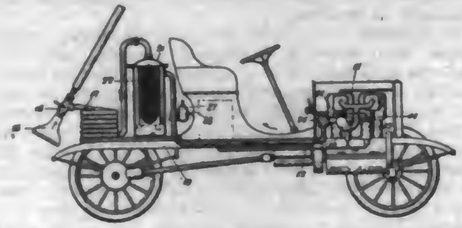
4. A gas and liquid mixer comprising a mixing chamber having gas and liquid inlets, a valve-and-septum device controlling the gas inlet and responsive to the volume of flow therethrough, a reservoir for supplying said liquid inlet, said reservoir being subject to the gas pressure anterior to the gas inlet and having a constant-level device, a valve controlling the liquid inlet, a motion-reducing connection from the valve-and-septum device to the liquid-inlet valve, and means for adjusting said connection to vary the relative travel of said device and said liquid-inlet valve.

5. In a gas and liquid proportioning apparatus, the combination of connected devices for automatically measuring a gas flow and a liquid flow, and means responsive to the degree of pressure of said gas flow for varying the relation of said devices to maintain a known quantity ratio between the gas and liquid flows during variations in gas density.

[Claims 6 to 16 not printed in the Gazette.]

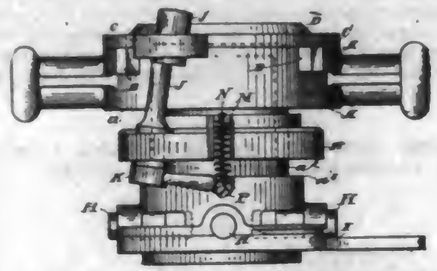
979,788. VACUUM APPARATUS. EDWARD P. NOYES, Winchester, Mass., assignor, by mesne assignments, to C. P. Power Company, Newark, N. J., a Corporation of New Jersey. Filed Nov. 29, 1907. Serial No. 404,214.

1. Vacuum apparatus comprising an automatic internal-combustion motor having means for mechanically pumping its combustion-air charge, an anteriorly-extended air-supply pipe for said motor having a movable portion carrying the air inlet, and a throttle valve in the movable portion of said pipe.



2. Vacuum apparatus comprising an automatic internal-combustion motor adapted to mechanically pump its combustion-air charge, an anteriorly-extended air-suction pipe having a plurality of suction inlets one of which is provided with means for applying the motor suction to the performance of external work, and throttle-valves for the respective inlets controllable at will.

979,789. DIE-STOCK. HERMAN W. OSTER, Cleveland, Ohio, assignor to The Oster Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed May 14, 1909. Serial No. 459,890.

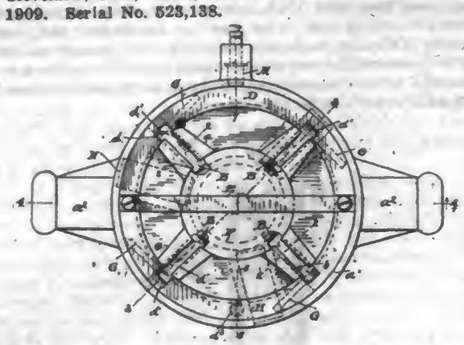


1. In a die stock, the combination of a body having a head and cylindrical portion behind said head, there being through said cylindrical portion two diametrically opposed longitudinal slots which are extended as grooves in the head part of said body to the front end thereof, radially movable dies mounted in the end of said head, and a cam plate rotatably mounted on said head and engaging said dies and having a laterally extended perforated ear, the ring embracing the cylindrical part of said body, and inclined bar connected therewith and extended through said perforated ear, and a bar extending across the tubular center of said body and having rearwardly extended members which pass through said longitudinal slots and are fixed to said ring.

2. In a die stock, the combination of a body, radially movable dies carried thereby, a cam plate mounted on the body and engaging said dies and having a laterally extended perforated ear, a ring longitudinally movable upon said body, means preventing its rotation, and an inclined bar fixed to said ring and extended through said perforated ear, said bar having at its front end an enlarged head offset to one side of said bar so that at the opposite side the external surfaces of said head and bar are in the same plane, and a bar fixed to said ring and extended across the tubular center of the body.

3. In a die stock, the combination of a body having a longitudinal slot, radially movable dies mounted on said body, a rotatable cam plate mounted on the body and engaging said dies to move them, a ring movable longitudinally on said body and having an inclined surface engaging with a part of said cam plate, a bar extending across the tubular center of said body and through the slot therein and being connected with said ring, and a spring connected with the ring and body and exerting its force to draw the ring rearward on the body.

979,790. DIE-STOCK. HERMAN W. OSTER, Cleveland, Ohio, assignor to The Oster Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Oct. 18, 1909. Serial No. 523,138.



1. In a die stock, the combination of a tubular body having at its front end die holders provided with radial guideways, and having outside of said holders a cylindrical flange, a ring which is fitted in said cylindrical flange and has in its inner periphery longitudinal grooves which near the front end of the ring have tapered outer walls and which are abruptly deepened near the rear end of said ring, dies movably mounted in said radial guideways and projecting at their outer ends into the grooves in said ring and into engagement with the tapered outer walls thereof, and a bar fixed to said ring and extending across the central opening in the die stock body.

2. In a die stock, the combination of a tubular body having at its front end die holders provided with radial guideways, and having outside of said holders a cylindrical flange, a ring which is fitted in said cylindrical flange and has in its inner periphery longitudinal grooves whose outer walls are tapered, dies movably mounted in said radial guideways and projecting at their outer ends into the grooves in said ring and into engagement with the tapered outer walls thereof, a bar fixed to said ring and extending across the central opening in the die stock body, and a spring latch for holding the said ring in its outdrawn position and a spring which acts to draw said ring inward.

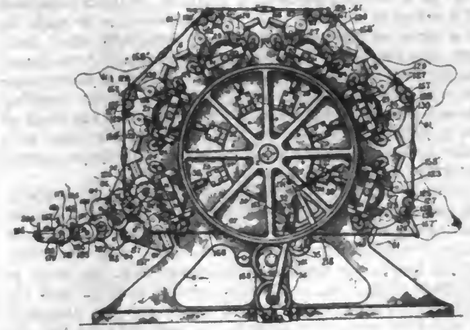
3. In a die stock, the combination of a tubular body having at its front end die holders provided with radial guideways, and having outside of said holders a cylindrical flange, with a ring which is fitted in said cylindrical flange and has in its inner periphery longitudinal grooves which are deepened near the rear end of said ring, dies movably mounted in said radial guideways and projecting at their outer ends into the grooves in said ring and into engagement with the outer walls thereof, each of said dies having in one side an inclined groove, and pins fixed to the ring projecting into the longitudinal grooves thereof adapted when the ring is moved forward to enter the grooves in the dies.

979,791. PRINTING-PRESS. GEORGE E. PANCOAST, Brooklyn, N. Y., assignor to American Lithographic Company, a Corporation of New York. Filed Jan. 20, 1900. Serial No. 3,170.

1. In a printing press, the combination with an impression mechanism, of means for supporting successive sets of curved printing surfaces of the same or of different curvatures in coöperative relation with the impression mechanism, and means for simultaneously separating or bringing together said printing surfaces and impression mechanism, substantially as described.

2. In a printing press, the combination with an impression surface, of means for supporting successive sets of curved printing surfaces of the same or of different curvatures in coöperative relation with the impression surface, and means for simultaneously separating or bringing together said printing and impression surfaces, substantially as described.

3. In a printing press, the combination with an impression drum, of means for supporting successive sets of curved printing surfaces of the same or of different curvatures in coöperative relation with the impression drum, and means for simultaneously moving the printing surfaces into or out of contact with the impression drum, substantially as described.

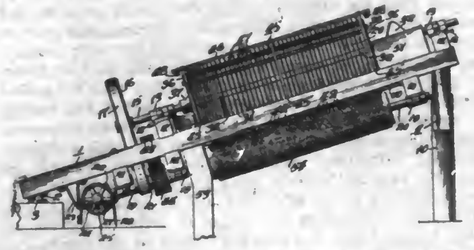


4. In a printing press, the combination with an impression drum, of means for supporting successive sets of curved printing surfaces of the same or of different curvatures in coöperative relation with the impression drum, and means consisting of cams mounted concentrically with the impression drum for simultaneously moving the printing surfaces into or out of contact with the impression drum, substantially as described.

5. In a printing press, the combination with an impression drum, of means for supporting successive sets of curved printing surfaces of the same or of different curvatures in coöperative relation with the impression drum, means consisting of cam disks, one at each end of the impression drum for moving the printing surfaces into or out of contact with the impression drum, and means for operating the cam disks in unison, substantially as described.

[Claims 6 to 54 not printed in the Gazette.]

979,792. COTTON-SEPARATOR. WARREN A. PATTERSON, St. Louis, Mo., assignor to The Cotton Harvester Company, St. Louis, Mo., a Corporation of South Dakota. Filed Aug. 27, 1909. Serial No. 514,858.



1. In a cotton separator, a rotatable cylinder composed of a number of rings formed integral with each other saws projecting between the rings of the cylinder and means operating between the rings at a point removed from the saws to dislodge the cotton carried upwardly by the rings.

2. In a cotton separator, a rotatable cylinder composed of a series of sections, each of which sections is composed of a series of rings formed integral with each other integral ribs projecting inwardly from the inner faces of the rings, saws projecting between the rings of the cylinder and means operating between the rings at a point removed from the saws to dislodge the cotton carried upwardly by the rings and said ribs.

3. In a cotton separator, a rotatable cylinder composed of a series of sections, each of which sections is made u

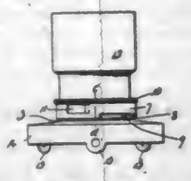
of a series of rings formed integral with each other, ribs projecting inwardly from the rings, the forward faces of which ribs meet the rings in a sharp angle the rear faces of the ribs being curved, saws projecting between the rings of the cylinder and means operating between the rings at a point removed from the saws to dislodge the cotton carried upwardly by the rings and said ribs.

4. In a cotton separator, a rotatable cylinder composed of a series of sections, each of which sections is made up of a series of rings formed integral with each other, integral ribs projecting inwardly from the faces of the rings, the forward faces of which meet the rings in a sharp angle the rear faces of the ribs being curved means for clamping the sections together, saws projecting between the rings of the cylinder and means operating between the rings at a point removed from the saws to dislodge the cotton carried upwardly by the rings and said ribs.

5. In a cotton separator, a rotatable cylinder comprising end plates, a series of sections interposed between the end plates, each of which sections comprises a number of rings formed integral with each other and uniformly spaced apart, ribs projecting inwardly from the faces of the rings there being an aperture formed through each rib, rods extending through the end plates and the apertures in said ribs, means for securing the rods between the end plates, saws projecting between the rings of the cylinder and means operating between the rings at a point removed from the saws to dislodge the cotton carried upwardly by the rings and said ribs.

[Claims 6 to 13 not printed in the Gazette.]

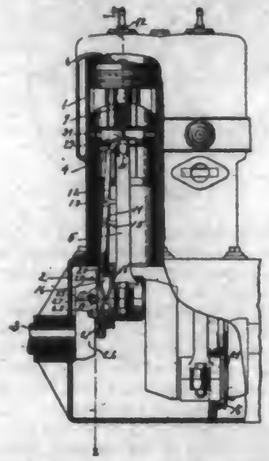
979,793. SHADE-HOLDER. WALTER H. PERKINS, Cheshire, Conn., assignor to Waterbury Mfg. Co., Waterbury, Conn., a Corporation. Filed Feb. 26, 1910. Serial No. 546,213.



In a shade-holder the combination with a flange or skirt provided with shade-fastening devices and having an upwardly extending coupling-sleeve or flange smaller in diameter than the diameter of the said flange or skirt and formed with a plurality of concentric spring arms each of which is formed at its outer end with an inwardly projecting locking-lug; of a locking-ring encircling the said flange or skirt and formed upon its upper edge with a knurled bead, and at its lower edge with a stop-notch, and having a clearance-slot for each of the said spring arms aforesaid, and a lamp-socket formed at its lower end with a circumferential outwardly projecting locking-bead adapted to clear the said locking-lugs when the arms are in their retired positions in the said slots, and to be engaged by the said lugs for coupling the flange or skirt to the socket when the said arms are crowded inward by the rotation of the said locking-ring.

979,794. INTERNAL-COMBUSTION ENGINE. ADOLPH PETERS, New York, N. Y. Filed May 19, 1910. Serial No. 562,134.

1. In a four-stroke cycle internal combustion engine, a cylinder; a piston; a reciprocating valve carried by said piston and adapted to control the flow of fluid therethrough and having a depending stem; a passage communicating with said valve and through which fluid may flow; a crank shaft; a connecting rod extending between the crank pin of said crank shaft and said piston and connected therewith by means of a wrist pin; a member carried by said connecting rod and located to one side of a line passing through the center lines of the crank and wrist pin so that it will be moved toward and from said valve stem as the connecting rod swings about said wrist pin, and movable with reference to said connecting rod into positions such that it may alternately engage and pass the end of said valve stem; a double-loop cam concentric with the crank pin aforesaid; and means carried by said connecting rod and operated by said cam for moving said valve stem engaging member, alternately into and out of line with said valve stem.



2. In a four-stroke cycle internal combustion engine, a cylinder; a piston; a reciprocating valve carried by said piston and adapted to control the flow of fluid therethrough and having a depending stem; a passage communicating with said valve and through which fluid may flow; a crank shaft; a connecting rod extending between the crank pin of said crank shaft and said piston and connected therewith by means of a wrist pin; a reciprocating slide carried by said connecting rod and located to one side of a line passing through the center lines of the crank and wrist pin so that it will be moved toward and from said valve stem as the connecting rod swings about said wrist pin, and movable with reference to said connecting rod into positions such that it may alternately engage and pass the end of said valve stem; a double-loop cam concentric with the crank pin aforesaid; and means carried by said connecting rod and operated by said cam for moving said reciprocating slide alternately into and out of line with said valve stem.

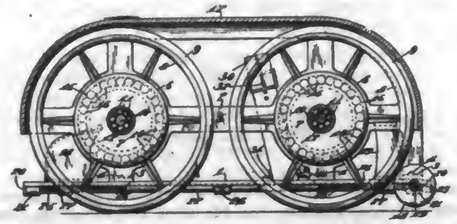
3. In a four-stroke cycle internal combustion engine, a cylinder, a piston; a reciprocating valve carried by said piston and adapted to control the flow of fluid therethrough and having a depending stem; a passage communicating with said valve and through which fluid may flow; a crank shaft; a connecting rod extending between the crank pin of said crank shaft and said piston and connected therewith by means of a wrist pin; a reciprocating slide carried by said connecting rod and located to one side of a line passing through the center lines of the crank and wrist pin so that it will be moved toward and from said valve stem as the connecting rod swings about said wrist pin, and having a hole so that it may move past the valve stem without lifting said valve, said slide being movable with reference to said connecting rod into positions such that an imperforate portion thereof may engage the end of said valve stem or the valve stem may enter the hole aforesaid; a double-loop cam concentric with the crank pin aforesaid; and means carried by said connecting rod and operated by said cam for moving said reciprocating slide so as to alternately bring an imperforate portion thereof and the hole thereof in line with said valve stem.

4. In a four-stroke cycle internal combustion engine, a cylinder; a piston; a supply and an exhaust valve carried by said piston; a supply port extending through the wall of said cylinder; a passage formed in said piston and leading to said supply valve, and in permanent communication with said supply port; an exhaust port extending through the wall of said cylinder; a second passage formed in said piston and leading to said exhaust valve, and in permanent communication with said exhaust port; a crank shaft; a connecting rod connecting the crank pin of said crank shaft and said piston; means carried by said connecting rod for operating said supply and exhaust valves; and means carried by said crank shaft for controlling said valve operating means to secure a four-stroke cycle of operation of the engine.

5. In a four-stroke cycle internal combustion engine, a cylinder; a piston; a supply and an exhaust valve carried by said piston; a supply port extending through the wall of said cylinder; a passage formed in said piston and leading to said supply valve, and in permanent communication with said supply port; an exhaust port extending through the wall of said cylinder; a second passage formed in said piston and leading to said exhaust valve, and in permanent communication with said exhaust port; a crank shaft; a connecting rod connecting the crank pin of said crank shaft and said piston; means carried by said connecting rod for operating said supply and exhaust valves; means carried by said connecting rod for controlling said valve operating means; and means carried by said crank shaft for operating said controlling means to secure a four-stroke cycle of operation of the engine.

[Claims 6 to 25 not printed in the Gazette.]

979,795. SKATE. DANIEL M. PFAUTZ, Philadelphia, Pa., assignor to William H. Tigerman, Philadelphia, Pa. Filed Jan. 26, 1910. Serial No. 540,193.



1. In a skate, the combination with a foot support, of side frames at both sides of the foot support, and to the lower ends of which said foot support is secured, said frames extending throughout the length of the foot support, and forming a rectangular boxing or chamber open at its ends, and wheels mounted in and partially inclosed in said frames, substantially as described.

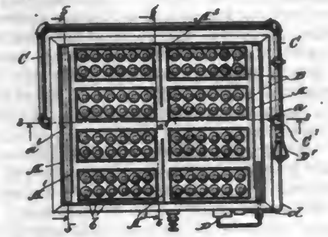
2. In a skate, the combination with a foot support, of side frames at both sides of the foot support and to which the foot support is secured, a pair of wheels mounted in each frame one behind the other, journals secured in said wheels, cups secured in said frames and roller bearings around the journals in said cups.

3. In a skate, the combination with a foot supporting platform, of side frames secured to the platform, a pair of wheels located in each frame one behind the other, journals in said wheels supported in the frames, cups in said frames around the journals, and roller bearings around the journals in the cups, and plates secured to said frames and holding the cups in the frames.

4. In a skate, the combination with a foot supporting platform, side frames secured to the platform, a pair of wheels in each side frame located one behind the other, journals in said wheels supported in the frames, registering ball run-ways in the frames, and wheels and balls in said run-ways to withstand the side thrust on the wheels.

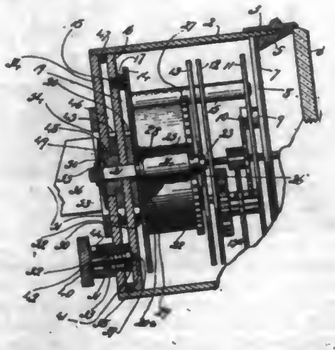
979,796. PASTEURIZER. BRYAN D. PINKNEY, Cleveland, Ohio, assignor to The Loew Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Oct. 19, 1908. Serial No. 458,544.

1. A pasteuriser of the tank type comprising a receptacle, means exterior of the same for effecting a circulation of liquid therethrough and simultaneously heating the liquid, and transverse baffle plates within said receptacle comprising one at each end spaced from the bottom and side walls of the receptacle and a centrally located plate in contact with such walls but formed with an opening midway between the side walls, whereby the entering warmer liquid is spread throughout the tank.



2. A pasteurizer of the tank type comprising a receptacle, a conduit exterior of said receptacle and connecting opposite ends of the same, an injector connected with said conduit adapted to effect a circulation of said receptacle's contents and simultaneously heat the same, and transverse baffle plates within said receptacle comprising one at each end spaced from the bottom and side walls of the receptacle and a centrally located plate in contact with such walls but formed with an opening midway between the side walls, whereby the entering warmer liquid is spread throughout the tank.

979,797. KEYLESS CLOCK. WILSON E. PORTER, New Haven, Conn., assignor to New Haven Clock Co., New Haven, Conn., a Corporation. Filed Sept. 19, 1910. Serial No. 582,720.



1. In a keyless clock, the combination with a clock-base or supporting means, of a clock-movement bodily rotatable in either direction, and a winding-arbor coupling the said movement to the said base or supporting means, and held against rotation when the movement is rotated for winding the clock but rotatable with the movement when the same is reversely rotated for resetting the dial.

2. In a keyless clock, the combination with a clock-base or supporting means, of a clock-movement bodily rotatable in either direction, a winding-arbor coupling the movement to the said base or supporting means, and means for normally holding the winding arbor against rotation when the clock-movement is being bodily rotated for winding the clock.

3. In a keyless clock, the combination with a clock-base or supporting means, of a clock-movement, a case therefor, a winding-arbor coupling the said movement and case to the said base or supporting means, and means for normally holding the winding arbor against rotation when the clock-movement and case are being bodily rotated for winding the clock, the movement and case being manually rotatable in one direction for winding the clock while the arbor remains at rest, and the arbor being rotated in the

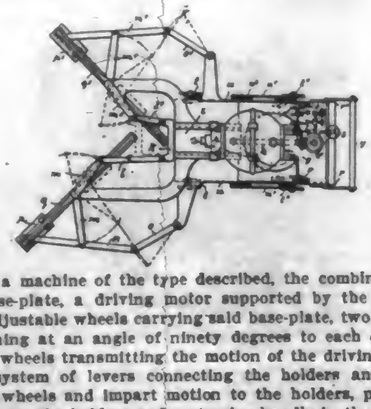
opposite direction with the movement and case for resetting the clock-dial.

4. In a keyless clock, the combination with a centrally arranged winding-arbor, of a movement rotatable with respect to the said arbor, a ratchet-wheel located upon the arbor, a pawl carried by the movement and coacting with the said ratchet-wheel over which it sweeps, means for supporting the said movement, a dial-resetting ratchet-wheel mounted upon the arbor for rotation therewith, and a pawl coacting with the ratchet-wheel last mentioned and connected with the said supporting means, whereby the main-spring is wound by rotating the movement in one direction while the arbor remains at rest, and whereby the dial is reset by rotating the movement in the other direction and rotating the arbor with it.

5. In a keyless clock, the combination with a centrally arranged winding-arbor, of a movement rotatable with respect to the said arbor, a ratchet-wheel fixed upon the said arbor, a pawl carried by the said movement and coacting with the said ratchet-wheel over which it sweeps when the movement is being rotated, means for supporting the said movement, a dial-resetting ratchet-wheel mounted upon the arbor for rotation therewith, and a pawl coacting with the ratchet-wheel last mentioned and connected with the said supporting means, whereby the main-spring of the said movement is wound by rotating the movement in one direction while the arbor remains at rest, and whereby the dial is reset by rotating the movement in the other direction and rotating the arbor with it, the said movement being connected with the said supporting means through the medium of the arbor.

[Claims 6 to 8 not printed in the Gazette.]

979,798. MACHINE FOR POLISHING FLOORS. ERNST POST, Rummelsburg, near Berlin, Germany. Filed Mar. 26, 1910. Serial No. 551,754.

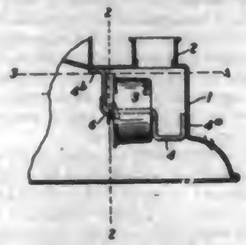


1. In a machine of the type described, the combination of a base-plate, a driving motor supported by the base-plate, adjustable wheels carrying said base-plate, two holders running at an angle of ninety degrees to each other, toothed wheels transmitting the motion of the driving motor, a system of levers connecting the holders and the toothed wheels and impart motion to the holders, polishing tools on the holders and a steering-handle in the base-plate, as and for the purpose described.

2. In a machine of the type described the combination of, two holders running at an angle of 45° to the longitudinal axis of the machine, and guiding devices therefor arranged out of the central line of the machine for the purpose of enabling the polishing of the ends of the staffs of the floor lying at a right angle to one another.

979,799. OIL-POT INDICATOR. ALBERT R. PRITCHARD, Rochester, N. Y. Filed Jan. 10, 1910. Serial No. 537,310.

1. The combination, with an oil pot having a filling opening, of a cylindrical indicator having a series of symbols to indicate the contents of the pot, a float to actuate the indicator, an arm connecting the indicator and the float, and a bracket for supporting the indicator rotatably beneath the filling opening, the bracket consisting of a wire bent upwardly on one side of the indicator and downwardly on the other side thereof to form stops to limit the lengthwise movement of the indicator on the bracket, the ends of the wire being secured, respectively, to the top and the side of the oil pot.



2. The combination, with an oil pot having a filling opening, of a cup-shaped indicator having a series of symbols to indicate the contents of the pot, a wire fixed to and crossing the open end of the indicator and having a loop therein to form a pivotal bearing for the indicator, a float secured to one end of said wire, and a bracket for supporting the indicator rotatably beneath the filling opening, the bracket comprising a wire bent at an angle on each side of the indicator to form stops to limit the lengthwise movement of the indicator on the bracket, the bracket passing through the loop in the first-mentioned wire and being secured at its ends to the oil pot.

979,800. TYPE-WRITING MACHINE. WILLIAM JANSON ROCHE, Cochranton, Pa., assignor to Remington Typewriter Company, Ilion, N. Y., a Corporation of New York. Filed Nov. 27, 1908. Serial No. 464,534.



1. In a typewriting machine, the combination of a carriage, an open-mouthed bearing in each end of the carriage, a rotative platen, a platen shaft, and spring-pressed catches that normally partly close said open-mouthed bearings and each of which has a curved recess which receives the shaft, said catches having beveled faces with which the shaft engages as it is placed in the bearings, whereby the catches are forced to one side as the shaft is placed in the bearings.

2. In a typewriting machine, the combination of a carriage having open-mouthed bearings in the ends thereof; a rotative platen; a platen shaft received in said bearings; and two pairs of pivoted spring-pressed catches, one pair of catches at each end of the carriage, each pair of said catches being spring-pressed toward each other and partly closing the mouth of the associated bearing, each of said catches having a curved recess which receives the shaft and a beveled face against which the shaft bears as it is placed in the bearings, whereby the catches will be separated against their spring pressure by the act of placing the shaft in its bearings.

3. In a typewriting machine, the combination of a carriage, a platen, a platen shaft, bearings in the carriage for said shaft, and a pair of spring-pressed pivoted catches adapted to partially embrace said shaft and having each two oppositely arranged beveled or tapering edges whereby the catches are forced away from each other when the platen shaft is inserted and also forced away from each other when the platen shaft is withdrawn from its bearings.

4. In a typewriting machine, the combination of a platen, platen shaft or journals, open bearings in the carriage for said journals, a pair of pivoted catches overlapping each of said bearings and adapted to partially embrace its associate journal and having each two oppositely arranged beveled or tapering edges and having each an outwardly extending arm, and a spring for acting on each of said arms, whereby the catches are forced away from each other when the platen journals are inserted and are also forced away from each other when the platen journals are withdrawn from their bearings.

970,801. FINGER-GUARD PENHOLDER. JOHN ROECKER, Jr., Kansas City, Mo., assignor of one-half to Robert A. Bergner, Kansas City, Mo. Filed Jan. 20, 1910. Serial No. 539,156.



1. A penholder, comprising a body having a reduced front portion, an anchoring sleeve secured upon the body, a sleeve fitting slidably on the said reduced portion and provided with a guard at its front end and an outwardly-projecting tongue at its rear end, a spring surrounding said reduced portion and exerting a forward pressure on said slidable sleeve, a pen secured to the front end of the reduced portion and projecting forwardly beyond said guard, an adjustment sleeve fitting slidingly on the anchoring and slidable sleeves and provided with a longitudinal slot receiving the tongue of said slidable sleeve, and means for interlocking the adjustment sleeve and anchoring sleeve together.

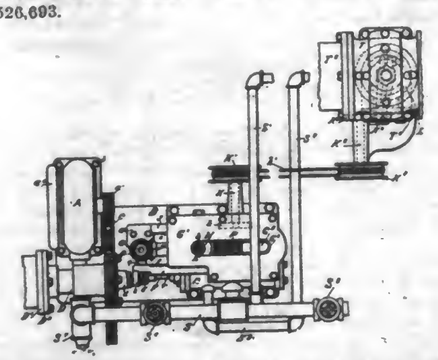
2. A penholder, comprising a body having a reduced front portion, an anchoring sleeve secured upon the body and provided with a tongue, a sleeve fitting slidably on said reduced portion and provided with a guard at its front end and an outwardly-projecting tongue at its rear end, a spring surrounding said reduced portion and exerting a forward pressure on said slidable sleeve, a pen secured to the front end of the reduced portion and projecting forwardly beyond said guard, an adjustment sleeve fitting slidingly on the anchoring and slidable sleeves and provided with a longitudinal slot receiving the tongue of said slidable sleeve, and a second longitudinal slot having one or more offsetting notches; said slot and either of said notches being adapted to alternately receive the tongue of the anchoring sleeve.

3. In a penholder, a sleeve provided at one end with diametrically opposite notches, a guard projecting outwardly unequal distances through said notches in opposite directions and provided between them with oppositely-bowed portions fitting in the sleeve, the latter having its front end at opposite sides of the notches bent inward upon said bowed portions to clamp the guard in place.

4. In a penholder, a sleeve provided at one end with diametrically opposite notches, a guard projecting outwardly unequal distances through said notches in opposite directions and provided between them with oppositely-bowed portions fitting in the sleeve, the latter having its front end at opposite sides of the notches bent inward upon said bowed portions to clamp the guard in place, the long arm of the guard curving forwardly.

5. A penholder, comprising a body portion having a diametrically reduced front portion, a sleeve fitting tightly on and projecting beyond the front end of said front portion and diametrically enlarged beyond said portion, a sleeve fitting on the front portion within the first-named sleeve, a pen clamped between said sleeves and projecting forwardly therefrom, an anchoring sleeve secured on the body of the holder and provided with a tongue, a slidable sleeve on the reduced portion of the shoulder and fitting upon the first-named sleeve rearward of the enlarged portion thereof and provided at its front end with a guard, and at its rear end with an outturned tongue, a helical spring surrounding the reduced portion of the holder and bearing at its rear end against the same and at its front end against the rear end of said slidable sleeve, an adjustment sleeve fitting slidingly on the slidable sleeve and slidably and rotatably on the anchoring sleeve and provided with a longitudinal slot receiving the tongue of the slidable sleeve and a longitudinal slot and offsetting notches for alternate engagement with the tongue of the anchoring sleeve.

979,802. CONTROLLER FOR TURBINES. HENNING G. SAHLIN, Malden, Mass. Filed Nov. 8, 1909. Serial No. 526,693.



1. In a controller comprising a gate valve, a gate valve motor, a valve to supply a working fluid to said gate valve motor, means for operating said valve comprising a constant motor, an engine shaft, a rack, means whereby said rack will be operated by a difference in speed between said constant motor and said shaft, a pinion and connections between said pinion and said valve whereby its movement in either direction will operate said valve mechanism to control the supply of said working fluid to said gate valve motor.

2. In a controller comprising a gate valve, a gate valve motor, a valve to supply a working fluid to said gate valve motor, means for operating said valve comprising a constant motor, an engine shaft, a rack, means whereby said rack will be operated by a difference in speed between said constant motor and said shaft, a pinion, a second rack in mesh with said pinion and connected to the moving element in said gate valve motor whereby the travel of said pinion will be controlled, and connections between said pinion and said valve whereby the movement of said pinion will control the position of said valve and the supply of said working fluid to said gate valve motor.

3. In a controller, a gate valve motor, a constant speed motor, an engine shaft, two sliding racks one connected to and operated by said gate valve motor and the other connected to and operated by the joint action of said constant speed motor and said engine shaft, and a pinion in mesh with both racks and capable of travel along each rack, a valve controlling the supply of working fluid to said gate valve motor, and connections between said valve and said pinion, whereby the travel of said pinion in either direction will cause a corresponding movement of said valve.

4. In a controller, a constant speed motor, an engine shaft, a rack and connections between said rack, said con

stant speed motor and said engine shaft, whereby said rack will remain stationary when said motor and said shaft are running at constant speed, a gate valve, a gate valve motor, and means for controlling the supply of working fluid thereto comprising a valve, a carriage, connections between said valve and said carriage whereby the movement of the carriage in either direction will cause a corresponding movement of said valve, a pinion mounted on said carriage and engaging said rack, and means connected to said gate valve motor and comprising a rack in mesh with said pinion whereby a different movement is given to said pinion, carriage and valve, as described.

5. In a controller, a valve for controlling the supply of working fluid to a gate valve motor and means for operating it comprising a segment gear, and connections whereby the oscillating movement of said segment gear will give a reciprocating movement to said valve, and means for oscillating said segment gear comprising a rack having a notch therein, a single toothed gear adapted to engage the notch in said rack, and a pinion mounted to turn with said single toothed gear, and means for operating said pinion.

[Claim 6 not printed in the Gazette.]

979,803. RECEPTACLE. CHARLES L. SANFORD, Washington, Pa. Filed Feb. 3, 1910. Serial No. 541,681.



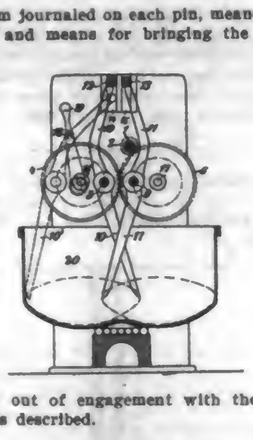
A closure for casks, having its periphery bent upwardly at an outward inclination, to form a shoulder to receive the beveled face of a cask chime, the shoulder being carried downwardly and inclined outwardly to receive the stave ends of a cask, and to press the beveled face of the chime of the cask against the shoulder, the flange being downwardly prolonged beyond the plane of the closure, the exposed face of the shoulder which is disposed toward the axis of the closure being positioned at an acute angle to the flange, whereby, when a securing element is driven into the said exposed face of the shoulder, the securing element will be given a downward inclination to facilitate the clenching of the end of the securing element upon the outer face of the flange.

979,804. KNEADING AND MIXING MACHINE. HANS SCHREIBER, Berlin, Germany. Filed Mar. 4, 1910. Serial No. 547,313.

1. In a kneading and mixing machine, in combination, two shafts, a crank mounted on each of the same, an agitating arm journaled to each crank, means for driving said shafts, and means for shifting the position of the one crank shaft relatively to the other one, whereby the relative position of the agitating arms can be altered, substantially as described.

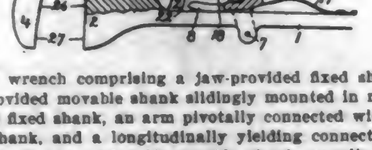
2. In a kneading and mixing machine, in combination, two shafts, a toothed wheel mounted on each of the same, an agitating arm journaled eccentrically to each wheel, means for driving the one shaft, and means for bringing the one wheel into or out of engagement with the other one, substantially as described.

3. In a kneading and mixing machine, in combination, two shafts, a pair of toothed wheels mounted on each of the same, a crank pin connecting the wheels of each pair, an agitating arm journaled on each pin, means for driving the one shaft, and means for bringing the one pair of



wheels into or out of engagement with the other pair, substantially as described.

979,805. WRENCH. ARTHUR E. SMILEY, Springfield, Mass. Filed July 26, 1910. Serial No. 573,912.



1. A wrench comprising a jaw-provided fixed shank, a jaw-provided movable shank slidingly mounted in relation to said fixed shank, an arm pivotally connected with said fixed shank, and a longitudinally yielding connection between said arm and said movable shank, coupling them together so that the latter may move with the former.

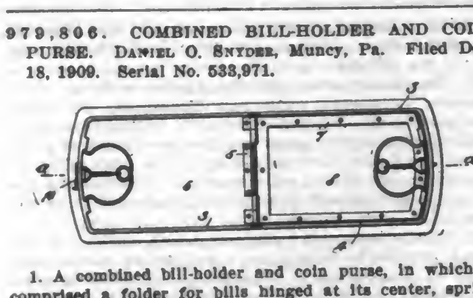
2. A wrench comprising a jaw-provided fixed shank, a jaw-provided movable shank slidingly mounted in relation to said fixed shank, an arm pivotally connected with said fixed shank, a yielding connection between said arm and said movable shank, coupling them together so that the latter may move with the former, and means to lock said movable shank to said fixed shank and to release it therefrom.

3. The combination, in a wrench, of a jaw-provided shank, a second jaw-provided shank arranged in reciprocating and tilting relation to said first shank, a spring-pressed arm pivotally connected with said fixed shank and provided with a forwardly-extending finger and a rearwardly-extending handle, said finger projecting beneath said movable shank, and a flexible connection between said arm and said movable shank.

4. The combination, in a wrench, of a jaw-provided shank, a second jaw-provided shank arranged in reciprocating and tilting relation to said first shank, a spring-pressed arm pivotally connected with said fixed shank and provided with a forwardly-extending finger and a rearwardly-extending handle, said finger projecting beneath said movable shank, a flexible connection between said arm and said movable shank, and engaging means for said movable shank to hold it against longitudinal movement when said shank is tilted upwardly by said finger.

5. The combination, in a wrench, of a jaw-provided shank, a second jaw-provided shank arranged in reciprocating and tilting relation to said first shank, a spring-pressed arm pivotally connected with said fixed shank and provided with a forwardly-extending finger and a rearwardly-extending handle, said finger projecting beneath said movable shank, a flexible connection between said arm and said movable shank, engaging means for said movable shank to hold it against longitudinal movement when said shank is tilted upwardly by said finger, and disengaging means for such shank when the latter is released by said finger.

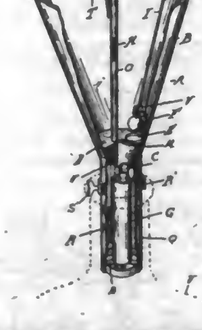
979,806. COMBINED BILL-HOLDER AND COIN-PURSE. DANIEL O. SNYDER, Muncy, Pa. Filed Dec. 18, 1909. Serial No. 533,971.



1. A combined bill-holder and coin purse, in which is comprised a folder for bills hinged at its center, spring mechanism for securing bills at each extremity within the folder, and a coin receptacle secured to the rear of the folder, substantially as shown and described.

2. A device of the character herein specified in which is comprised a hinged frame carrying a coin holder, a bill holder at the front of the coin holder one part whereof is hinged to the pintle 5 of the hinged frame, a rim surrounding the bill holder the movable portion of the bill holder being arranged to fold therein, and spring means for securing bills at each extremity, within the bill holder.

979,807. FUNNEL. CLAUDE J. SQUIRES, Three Rivers, Mich. Filed Feb. 11, 1910. Serial No. 543,357.



1. In a funnel, the combination with the body portion and the discharge nozzle, of a valve controlling the discharge, a float for actuating said valve loosely sleeved upon said nozzle, and an operative connection between said valve and float, for the purpose described.

2. In a funnel, the combination with the body portion and the discharge nozzle, of a vented guard surrounding said nozzle, a valve for controlling the discharge, and a float for actuating said valve positioned intermediate the guard and nozzle, and an operative connection between said valve and float, for the purpose described.

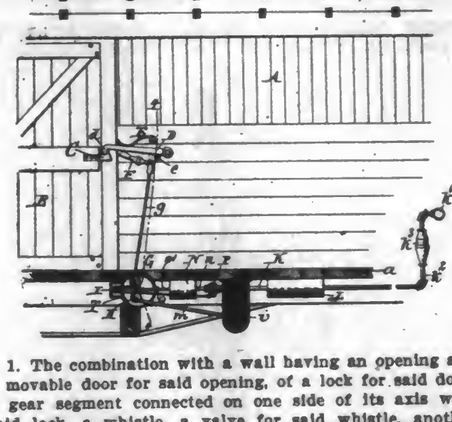
3. In a funnel, the combination with the body portion and the discharge nozzle, of a valve controlling the discharge, a float for actuating said valve loosely sleeved upon said nozzle, a cylindrical guard encircling said float and nozzle, and secured to the body; and a connection between the float and valve.

4. In a funnel, the combination with the body portion and the discharge nozzle, of a valve controlling the discharge, a float for actuating said valve loosely sleeved upon said nozzle, a cylindrical guard encircling said float and nozzle and secured to the body, a connection between the float and valve, and means carried by the guard for limiting the downward movement of the float.

5. In a funnel, the combination with the body portion and the discharge nozzle, of a transverse partition positioned within the funnel body having an aperture therein, a valve controlling said aperture, a float sleeved upon said nozzle for automatically closing said valve, a link pivoted upon the float body, a rod secured to said float and extending upward through the funnel body and said transverse partition, and pivotally secured to one end of said link, and a connection between the other end of the link and the valve.

[Claim 6 not printed in the Gazette.]

979,808. LOCKING AND SIGNALING DEVICE. ARTHUR D. STANFORD, Buffalo, N. Y. Filed Feb. 5, 1910. Serial No. 542,169.



1. The combination with a wall having an opening a a movable door for said opening, of a lock for said door a gear segment connected on one side of its axis with said lock, a whistle, a valve for said whistle, another gear segment connected on one side of its axis with said whistle valve and a gear rack having teeth engaging with both of said segments.

2. The combination with a wall having an opening and a movable door for said opening, of a lock for said door, a gear segment connected on one side of its axis with said lock, a whistle, a valve for said whistle, a connecting rod connected at one end with said valve, another gear segment connected on one side of its axis with said connecting rod, a gear rack having teeth engaging with both of said segments, a pressure cylinder and a piston arranged in said cylinder and connected with said rack.

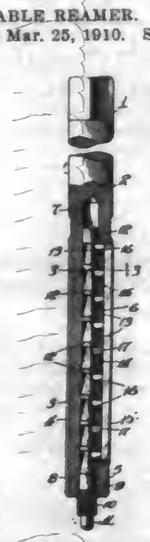
3. The combination with a wall having an opening a movable door for said opening, of a lock for said door a gear segment connected on one side of its axis with said lock, a whistle, a valve for said whistle, a connecting rod connected at one end with said whistle valve another gear segment connected on one side of its axis with said connecting rod, a gear rack having teeth engaging with both of said segments, a pressure cylinder, a piston arranged in said cylinder and connected with said rack, an auxiliary air reservoir, and a vent valve for connecting said cylinder with said reservoir or with the atmosphere.

4. The combination with a wall having an opening and a movable door for said opening, of a lock for said door, a gear segment connected on one side of its axis with said lock, a whistle, a valve for said whistle, a connecting rod connected at one end with said whistle valve another gear segment connected on one side of its axis with said connecting rod, a gear rack having teeth engaging with both of said segments, a pressure cylinder, a piston arranged in said cylinder and connected with said rack, an auxiliary air reservoir, a vent valve for connecting said cylinder with said reservoir, or with the atmosphere, and means for operating said vent valve from the movement of the last mentioned segment.

5. The combination with a wall having an opening a door for controlling said opening, of a lock for said door a releasing device for said lock, an upper gear segment connected on one side of its axis with said releasing device, a lower gear segment, a gear rack provided with teeth engaging with both of said gear segments, an air cylinder, a piston arranged in said cyl

der and connected with said rack, a compressed air reservoir, a connection between said reservoir and cylinder comprising a vent valve having a plug connected with the lower segment and adapted to place said cylinder in communication either with the reservoir or with the atmosphere, a whistle connected with said reservoir and operatively connected with said lower segment, and a hand crank arranged on the lower segment, the relative arrangement of the teeth of the lower segment and the gear rack being such that the initial part of the forward movement of said segment and the valve plug connected therewith is independent of said gear rack.

979,809. ADJUSTABLE REAMER. ALFRED STUDER, St. Louis, Mo. Filed Mar. 25, 1910. Serial No. 551,552.



1. In a device of the class described, a cylindrical body portion having cutting blades and formed hollow for a portion of its length, a member located within the hollow portion having a number of inclined faces, a strip arranged lengthwise of the reamer provided with projections having inclined faces for engagement with the inclined faces of said member and means for moving said member longitudinally of the reamer so as to move said strip laterally relative the body of the reamer.

2. In an adjustable reamer, a body portion having integral cutting blades around a portion of its periphery, the remainder of the periphery being smooth, there being a depression in the smooth portion of the periphery of the reamer, a strip located in said depression and means for moving the strip laterally for the purposes stated.

3. In an adjustable reamer, a body portion having cutting blades on a portion of its periphery only, the remainder of the body portion being smooth, there being a depression formed in the smooth portion of the reamer, a strip arranged in said depression, a rod having a plurality of inclined faces located within the body of the reamer, there being projections on said strip for engagement with said inclined faces and means for adjusting said rod longitudinally within the body of the reamer for the purposes stated.

4. In an adjustable reamer, a hollow body portion having cutting blades arranged on a portion of its periphery only, there being a depression in the smooth portion of the reamer and openings leading from the bottom of said depression to the interior of the reamer, a rod provided with a number of frustums located within the reamer, a portion of which rod is threaded and threads arranged adjacent the bottom of the reamer, a strip having projections with inclined faces carried by said depression and said openings leading from the depression to the interior of the reamer.

979,810. MANUFACTURE OF MALT BEVERAGES. ROBERT WAHL, Chicago, Ill. Filed Sept. 13, 1909. Serial No. 517,465.

1. The process of manufacturing a malt-beverage, which consists in mashing malt and acidulating the resultant product by inoculating it with lactic-acid bacteria while maintaining it, until the required extent of acidulation has taken place, at a temperature (46° C. to 55° C., or thereabout) that will promote the fermenting action of said bacteria and prevent practically all other fermentation in the liquid.

2. The process of manufacturing a malt-beverage, which consists in mashing malt, acidulating the resultant wort by inoculating it with lactic-acid bacteria while maintaining it, until the required extent of acidulation has taken place, at a temperature (46° C. to 55° C., or thereabout) that will promote the fermenting action of said bacteria and prevent practically all other fermentation in the liquid, and carbonating the acidulated product.

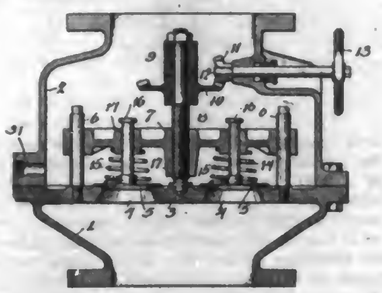
3. The process of manufacturing a malt-beverage, which consists in mashing malt, acidulating the resultant product by inoculating it with lactic-acid bacteria while maintaining it, until the required extent of acidulation has taken place, at a temperature (46° C. to 55° C., or thereabout) that will promote the fermenting action of said bacteria and prevent practically all other fermentation in the liquid, and hopping the acidulated product.

4. As a new article of manufacture, an extract of malt containing the products of lactic-acid acidulation to the exclusion of the products of substantially all other fermentation.

5. As a new article of manufacture, a carbonated extract of malt containing the products of lactic-acid acidulation to the exclusion of the products of substantially all other fermentation.

[Claims 6 and 7 not printed in the Gazette.]

979,811. VALVE. AXEL B. WALLEM, Moores, Pa., assignor to Harrison Safety Boiler Works, Philadelphia, Pa., a Copartnership of Pennsylvania. Filed Apr. 30, 1909. Serial No. 493,118.



1. A valve comprising a casing, a member therein provided with a plurality of openings, a plurality of independently-movable valve members, each adapted to close one of said openings, a spring for each of said valve-members arranged to hold the same upon its seat, and means for regulating the tension of all of said springs simultaneously, substantially as set forth.

2. A valve comprising a casing, a member therein provided with a plurality of openings, a plurality of independently-movable valve-members, each adapted to close one of said openings, a spring for actuating each of said valve-members, a pressure-member engaging all of said springs, and means operated from outside the casing for moving said pressure-member to regulate the tension of all of said springs, substantially as set forth.

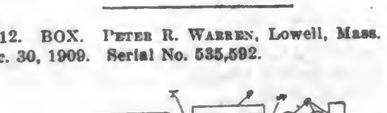
3. A valve comprising a casing, a member therein provided with a plurality of openings, a plurality of independently-movable valve-members, each adapted to close one of said openings, a spring for each of said valve-members arranged to hold the same upon its seat, means for regulating the tension of all of said springs simultaneously, and means for positively raising said valve-members from their seats, substantially as set forth.

4. A valve comprising a casing, a member therein provided with a plurality of openings, a plurality of independently-movable valve-members, each adapted to close one of said openings, a spring for actuating each of said valve-members, a pressure-member engaging all of said springs, and means operated from outside the casing for moving said pressure-member and thereby raising said valve-members from their seats, substantially as set forth.

5. A valve comprising a casing, a member therein provided with a plurality of openings, a plurality of independently-movable valve-members, each adapted to close one of said openings, a spring for each of said valve-members arranged to hold the same upon its seat, means for regulating the tension of all of said springs simultaneously, and means for limiting the extent to which said springs may be compressed by said regulating means, substantially as set forth.

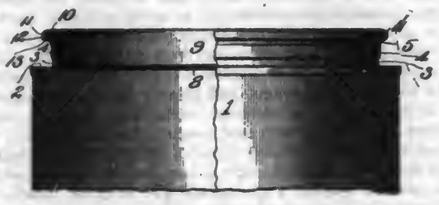
[Claims 6 to 16 not printed in the Gazette.]

979,812. BOX. PETER R. WARREN, Lowell, Mass. Filed Dec. 30, 1909. Serial No. 535,592.



The combination with a folding box having printed on one side thereof the representation of an object and having flaps hinged to the edges of said side and printed with representations of other portions of said object, of a second box similarly printed to represent an object, and having representations of projecting portions printed upon flaps hinged to the edges of a side thereof, one of said boxes having a male coupling member and the other of said boxes having a female coupling member whereby the two boxes may be mechanically connected.

979,813. SHEET-METAL CAN. FREDERICK WESTERBECK, St. Louis, Mo. Filed June 16, 1909. Serial No. 502,413.

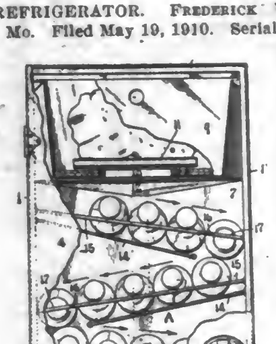


1. The combination in a sheet metal can, of a body having a neck provided at its upper end with an inturned and downwardly extending flange providing an annular lip, a flexible annular outwardly flaring flat packing strip held between the body of the neck and said lip, and a cover insertible into said neck to bear against said packing strip.

2. The combination in a sheet metal can, of a body having a neck provided with an outwardly flaring flange having a flat outer face, a flexible annular outwardly flaring flat packing strip located interiorly of said neck and secured thereto at its upper end, and a cover insertible into said neck to bear against the lower portion of said packing strip beneath the flaring flange of the neck, and having at its upper end a rim extending across the flange of said neck and provided with a downwardly extending flange having a bead arranged for engagement with the flat outer face of the flange of the neck of the can body.

3. The combination in a sheet metal can, of a body having a neck provided with an outwardly flaring flange having a flat outer face, a flexible annular outwardly flaring flat packing strip located interiorly of said neck and secured thereto at its upper end, and a cover insertible into said neck to bear against the lower portion of said packing strip beneath the flaring flange of the neck, and having at its upper end a rim extending across the flange of said neck and provided with a downwardly curved flange terminating at its lower end in a bead for engagement with the flat outer face of the flange of the can body neck.

979,814. REFRIGERATOR. FREDERICK WESTERBECK, St. Louis, Mo. Filed May 19, 1910. Serial No. 562,212.



1. In a bottle storage refrigerator, a housing containing a storage chamber, a plurality of rear runways in said storage chamber arranged one above another, each alternate runway being inclined downwardly in a direction the reverse of the surmounting runway, the lower ends of the runways being separated from the housing walls opposing such lower ends to provide spaces through which bottles may descend to the next lowermost runways and forward runways elevated above the rear runways.

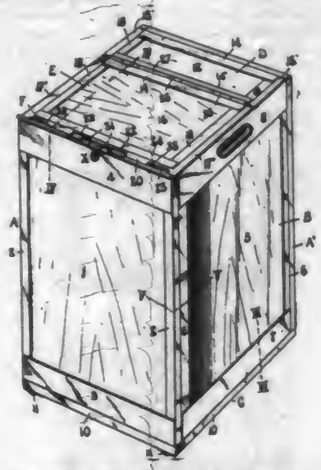
2. In a bottle storage refrigerator, a housing containing a storage chamber, a plurality of rear runways in said storage chamber arranged one above another, each alternate runway being inclined downwardly in a direction the reverse of the surmounting runway, the lower ends of the runways being separated from the housing walls opposing such lower ends to provide spaces through which bottles may descend to the next lowermost runways; said housing being provided with an aperture through which the bottles may be withdrawn when they have descended on said runways and forward runways elevated above the rear runways.

3. In a bottle storage refrigerator, a casing containing a storage chamber and having a doorway therein, a door closing said doorway, a plurality of rear runways in said storage chamber arranged one above another, each alternate runway being inclined downwardly in a direction the reverse of the surmounting runway, the lower ends of the runways being separated from the casing walls opposing such lower ends to provide spaces through which bottles may descend to the next lowermost runways, the said door being provided with an aperture at the lower end of the lowermost of said runways, and a stopper by which said aperture is normally closed and forward runways elevated above the rear runways.

979,815. CONTAINER. FREDERICK WESTERBECK, St. Louis, Mo. Filed June 9, 1910. Serial No. 565,933.

1. A container comprising a body, a lid having a fixed cover section provided with a lining bent upwardly at the sides and outwardly producing flanges overlying the side walls of the body, and also bent upwardly at the front edge and provided with ears, and a hinged cover section provided with a lining bent upwardly at the sides and ou

wardly, producing flanges overlying the side walls of the body, and also bent upwardly at the front edge, and provided with a flange overlying the front wall, the leaves between the cover sections, and a pintle rod connecting the ears and the leaves.



2. A container comprising a body having a lining extended to the top of the walls, bent downwardly upon itself and then inwardly to provide a seat for a lid.

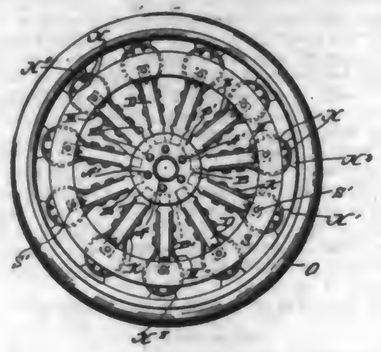
3. A container, comprising a body having a front wall provided with a top member containing elongated apertures, a lid hinged to said body and having a front flange provided with elongated apertures for registration with the apertures in the top member of said front wall, and seal receiving members slidably arranged in the top member of said front wall and extending through the apertures therein, the seal receiving members being arranged for passage through the apertures in the flange of said lid to be shifted over said flange.

4. A container, comprising a body having a front wall provided with a top member containing elongated apertures, a lid hinged to said body and having a front flange provided with elongated apertures for registration with the apertures in the top member of said front wall, and seal receiving members slidably arranged in the top member of said front wall and extending through the apertures therein, the seal receiving members being arranged for passage through the apertures in the flange of said lid to be shifted over said flange, and being provided with loops at their facing ends.

5. A container, comprising a body having a front wall provided with a top member containing elongated apertures, a lid hinged to said body and having a front flange provided with elongated apertures for registration with the apertures in the top member of said front wall, and seal receiving members slidably arranged in the top member of said front wall and extending through the apertures therein, the seal receiving members being arranged for passage through the apertures in the flange of said lid to be shifted over said flange, and being provided with loops at their inner and facing ends and upturned arms at their outer ends.

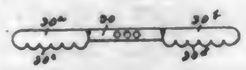
979,816. WHEEL. FRANK L. WHITE, Little Rock, Ark., assignor of one-half to T. F. Hutchinson, Little Rock, Ark. Filed Mar. 8, 1910. Serial No. 548,007.

A resilient wheel having a hub, a series of spokes fixed thereto, said spokes having shoulders upon opposite faces thereof adjacent to their outer ends, rings seated against said shoulders, fastening means passing through the outer ends of the spokes and said rings, said rings projecting beyond the ends of the spokes, shoulders on said spokes adjacent to said hubs and upon faces thereof opposite those in which the shoulders engaged by the rings are formed, bowed springs fastened to opposite faces of the spokes and their inner ends engaging said shoulders adjacent to the hub, a rim, concaved blocks fastened thereto



and to which the bowed springs are fastened, the opposite edges of the springs adapted to contact with said rings as the springs yield.

979,817. COVERING ATTACHMENT FOR PLANTERS AND DISKS. JOHN B. ALLBEE, Rolfe, Iowa, assignor of one-half to J. S. Smith, Plover, Iowa. Filed June 21, 1910. Serial No. 568,574.



1. In a scraping attachment, a tongue, an angle plate mounted beneath and longitudinally of said tongue and adapted for vertical adjustment relative thereto, a scraper blade fixed to one arm and extending transversely of said angle plate, means for connecting the scraper blade, angle plate and tongue, and means for attaching said tongue to an implement.

2. In a scraping attachment, a tongue, an angle plate mounted beneath said tongue and adapted for vertical adjustment relative thereto, a scraper blade fixed to one arm of said angle plate, means for connecting the scraper blade, angle plate and tongue, means for attaching said tongue to an implement, and means for raising and lowering said tongue and scraper blade conjunctively.

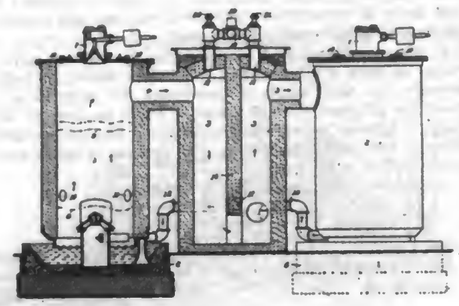
3. A scraping attachment comprising tongues, angle plates mounted beneath said tongues and adapted for vertical adjustment relative thereto, scraper blades fixed to one arm each of said angle plates, means for connecting the scraper blades, angle plates and tongues, means for attaching said tongues flexibly to an implement, a cross-bar flexibly connected at its ends to said tongues, and manually operated lever mechanism attached to the central portion of said cross-bar, whereby said tongues, angle plates and scraper blades may be conjunctively raised and lowered.

4. In a scraping attachment, a tongue, and a scraper blade mounted transversely of one end portion of said tongue and arranged for rotative adjustment relative thereto, end portions of said scraper blade being of greater width than the central portion of said blade and extending forwardly therefrom on diverging planes.

5. In a scraping attachment, a tongue formed with an ear, an angle plate mounted beneath and longitudinally of said tongue and adapted for vertical adjustment relative thereto, a scraper blade fixed to one arm and extending transversely of said angle plate, means for connecting the scraper blade, angle plate and ear, and means for attaching said tongue to an implement.

[Claims 6 and 7 not printed in the Gazette.]

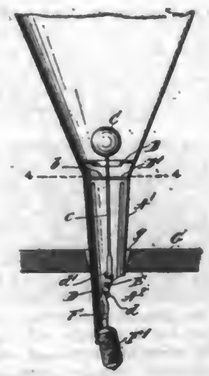
979,818. METHOD OF MAKING PRODUCER-GAS. WALTER O. AMSLER, Pittsburg, Pa. Filed Feb. 26, 1908. Serial No. 417,885.



1. The method of making gas which consists in generating a producer-gas in a gas-producer, oxidizing the gas in a combustion-chamber, recarbonizing the resultant gas by passing it through a second gas-producer containing a bed of carbonaceous residue, reversing the flow of gases, introducing a tar-containing-fuel into the second producer, and then passing the gas generated in the second producer through the combustion-chamber and through a carbonaceous residue formed in the first producer.

2. The method of making gas which consists in generating a producer-gas by passing air through a highly heated bed of carbonaceous material and a body of green bituminous material contained in a gas-producer, oxidizing the gas, recarbonizing the resultant gas by passing it through a second gas-producer containing a highly heated bed of carbonaceous residue formed therein from green bituminous material and from which a producer-gas has been generated, reversing the flow of gases, introducing a tar-containing-fuel into the second gas-producer, and then passing the gas generated in the second producer through the combustion-chamber and through a carbonaceous residue formed in the first producer.

979,819. FUNNEL. PAHR ANDERSON, Cambridge, Mass., assignor to Dover Stamping & Manufacturing Company, Portland, Me., a Corporation of Maine. Filed Mar. 31, 1910. Serial No. 552,498.



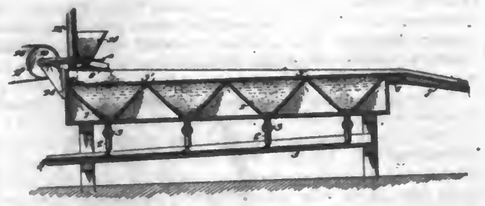
1. The funnel above described having a throat provided with a valve seat, a valve to close against said seat, a trip lever pivotally mounted in said throat, one end of said trip lever being pivotally connected to said valve and a float pivotally connected to the other end of said trip lever.

2. The funnel above described having a throat provided with a valve seat, a valve to close against said seat, a valve rod, a trip lever pivotally mounted in said throat, one end of said trip lever being pivotally attached to said valve rod and a float pivotally connected to the other end of said trip lever.

3. The funnel above described having a throat provided with a valve seat, a valve to close against said seat, a valve rod, a trip lever pivotally mounted in said throat, one end of said trip lever being pivotally attached to said valve rod and a float pivotally connected to the other end of said trip lever and having a limited movement with relation thereto.

4. The funnel above described having a throat provided with a valve seat, a valve to close against said seat, a valve rod, a trip lever pivotally mounted in said throat, one end of said trip lever pivotally connected to said valve rod and having a limited movement with relation thereto, and a float pivotally connected to the other end of said trip lever and having a limited movement with relation to said trip lever.

979,820. FLOTATION-TANK FOR ORE-DRESSING. SAMUEL K. BEHREND, New York, N. Y. Filed May 7, 1910. Serial No. 559,999.



1. The combination with a flotation tank adapted to contain water, and means for feeding ore to the surface of the water, of a plate extending substantially horizontal, and located just below the surface of the water in the tank, and over which the floating material passes, and is slightly agitated in a thin film in its passage through the machine.

2. The combination with a plurality of flotation tanks adapted to be filled with water and have ore fed upon the surface thereof, of plates extending horizontally over the dividing partitions between the tanks, or compartments, slightly below the superficial stratum of water over which a thin film of water and the light floating particles pass, and upon which the heavier and absorbent particles passing over the plates settle, due to the thinness of the film and the slight agitation caused in the films during their passage across the plates.

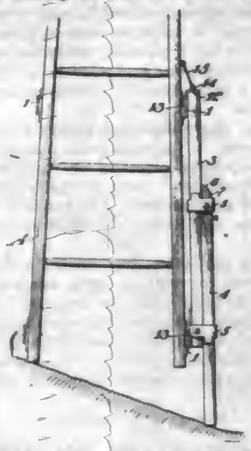
3. The combination with a plurality of flotation tanks, one of which flows into another, of horizontally disposed plates located over the partitions between tanks and approximately coincident with the water-level, the edges of the plates extending well beyond the dividing partition, whereby the particles caught on said plates discharge into the tanks some distance beyond the dividing wall.

979,821. LADDER EXTENSION. ROSS MANDAVILLE BRASINGTON, Marietta, Ohio. Filed Jan. 4, 1910. Serial No. 536,326.

1. The combination with a ladder having locking plates thereon, of an extension adapted to be detachably fitted to the locking plates, and means for securing the extension against displacement from the locking plates.

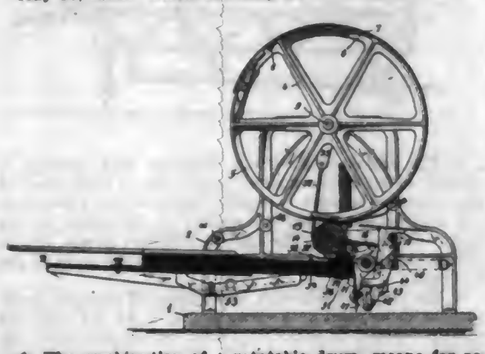
2. The combination with a ladder having locking plates thereon with key-hole slots in the plates, the smaller ends of which are uppermost, of an extension comprising two extension strips slidably connected together, one carrying

means for locking said strip to the locking plates, and the other against moving in one direction, while permitting



movement in the other, and means for holding the extension in locked position.

979,822. SHEET-FEEDING APPARATUS. ERNEST J. BRASSEUR, Chicago, Ill., assignor to A. B. Dick Company, Chicago, Ill., a Corporation of Illinois. Filed May 17, 1910. Serial No. 561,802.



1. The combination of a rotatable drum, means for rotating the same, a shaft, a roller on said shaft coacting with said drum, a feeder mounted on said shaft, a feed-board for supporting a sheet-pile adjacent to said feeder, a member concentric with said roller and actuated by said drum, and automatically actuated means for connecting said member in driving relation to the feeder during a portion of each revolution of the drum and disconnecting it therefrom, substantially as set forth.

2. The combination of a rotatable drum, a shaft, a roller on said shaft coacting with said drum, a feeder mounted on said shaft, a feed-board for supporting a sheet-pile adjacent to said feeder, a member mounted on said shaft, means actuated as said drum is rotated for giving said member a reciprocatory rotary movement, and automatic devices for connecting said member in driving relation to said feeder when the member is moving in one direction and disconnecting it from the feeder when the member is moving in the opposite direction, substantially as set forth.

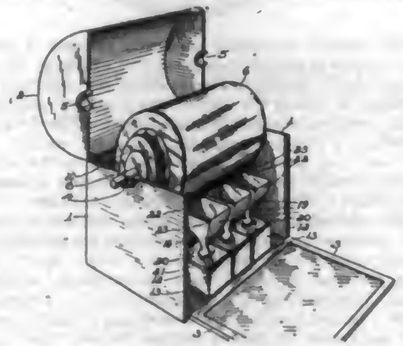
3. The combination of a rotatable drum, a shaft, a roller on said shaft coacting with said drum, a feeder mounted on said shaft, a feed-board for supporting a sheet-pile adjacent to said feeder, a member, means for giving said member a reciprocatory movement as said drum is rotated, and means for causing said member to actuate the feeder when moving in one direction, substantially as set forth.

4. The combination of a rotatable drum, a shaft, a roller on said shaft coacting with said drum, a feeder mounted on said shaft, a feed-board for supporting a sheet-pile adjacent to said feeder, a member connected to said drum and having reciprocating rotary movement as said drum is rotated, and a clutch between said member and feeder, substantially as set forth.

5. The combination of a rotatable drum, a shaft, a roller on said shaft coacting with said drum, a feeder mounted on said shaft, a feed-board for supporting a sheet-pile adjacent to said feeder, a crank secured to said drum, a member connected to said crank and reciprocated thereby, and means connecting said member to said feeder, substantially as set forth.

[Claims 6 to 13 not printed in the Gazette.]

979,823. ICE-CREAM FREEZER. WILLIAM C. BROADWELL, Detroit, Mich., assignor to David P. Wilson, Detroit, Mich. Filed Mar. 19, 1910. Serial No. 550,438.



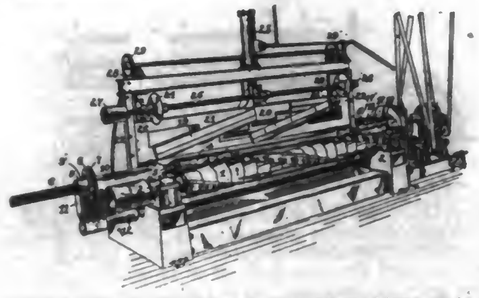
1. A device of the character described comprising a casing, a rotatable cylinder within the casing adapted to contain a freezing medium, a pan in the casing below the cylinder, a roll within the pan engaging the lower side of the cylinder, and a cup supported by the forward end of the pan with its upper edge in contact with the surface of the cylinder to scrape frozen material therefrom.

2. A device of the character described comprising a casing, a hinged top for the casing, said casing and top being provided with mating bearings, a cylinder provided with a trunnion at one end to engage one of the bearings, and provided with a fill opening at its opposite end, a cap for closing the opening, a trunnion on the cap to engage the other of said bearings, a series of parallel ribs on the bottom of the casing, a series of pans between said ribs, a hinge door to close the front of the casing and through which front the pans may be removed, a series of rolls detachably supported within the pans to engage the cylinder, and a series of receptacles detachably supported upon the forward end of the pans to receive frozen material from the cylinder.

3. A device of the character described, comprising a casing, a rotatable cylinder detachably supported within the casing, a pan beneath the cylinder for containing material to be frozen and provided with open bearings on its side walls, a roll to engage said cylinder formed with an enlarged axial bore, a shaft extending through the bore, yielding rings on the shaft fitting within the ends of the bore, and a receptacle within the casing to receive frozen material from the surface of the cylinder.

4. A device of the character described comprising a casing having an open top and front side, a hinge cover to close the top, said cover being formed with mating bearing members, a cylinder provided with trunnions at its ends to engage said bearings, a series of pans detachably supported within the bottom of the casing, rolls detachably supported within the pans in engagement with the cylinder, a series of cups supported upon the forward ends of the pans, flanges on the cups engaging the sides of the pans to hold the cups in place, a yielding upper edge portion upon each cup to engage the surface of the cylinder, and a hinged door for the front of the casing adapted to engage the cups and hold the same with their yielding edges in contact with the cylinder.

979,824. WOODWORKING-MACHINE. ABEL D. CATLIN, Chattanooga, Tenn. Filed Oct. 13, 1909. Serial No. 522,456.



1. In combination in a wood working machine, a rotary roughing cutter, pedestals therefor in the upper part of which the roughing cutter is journaled, a finishing cutter movable vertically in rear of the roughing cutter, an upwardly extending frame at each end in which the finishing cutter is guided, a sill extending longitudinally and connecting the pedestals, a sill extending longitudinally at the bottom of the upwardly extending frames, and a swinging support for the work pivoted at its lower end at a point between the vertical planes of the sills and having its upper end extending to a point between the rear side of the roughing cutter and the downwardly directed edge of the finishing cutter, substantially as described.

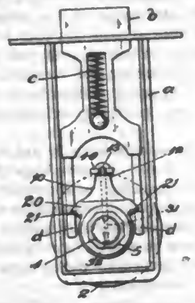
2. In combination in a wood working machine, a rotary roughing cutter at the front of the machine, rotating from front to rear, a chip guard over the said cutter, a vertically movable finishing cutter in rear of the roughing cutter, a rotary work holder, an oscillating work holder support between the roughing cutter and the finishing cutter, and means for reversing the rotary movement of said work holder, and the supporting frame having an outlet for the chips below the work holder and between the roughing and finishing cutters, substantially as described.

3. In combination a rotary roughing cutter at the front of the machine, a frame in the upper part of which the said cutter is journaled, vertically extending frame portions at the rear of the roughing cutter, a vertically movable slicing cutter guided in said frame portions, a rotary work holder, a swinging support therefor pivoted at its lower end in a plane between the roughing cutter and slicing cutter, and driving means for the work holder to rotate it at a high rate of speed when moved rearwardly to the slicing cutter and at a low rate of speed when moved forwardly to the roughing cutter, substantially as described.

4. In combination with a rotary roughing cutter, a vertically movable slicing knife, a swinging support between the cutters, a work holder carried by said swinging support and means for limiting the swinging movement of the work holder support, said means consisting of a rod pivotally mounted and passing through the upper portion of the work holder support and having stops thereon to be engaged by said support, substantially as described.

979,825. LOCK. ANTONIO COLOSIMO, New Britain, Conn. Filed Sept. 21, 1910. Serial No. 583,022.

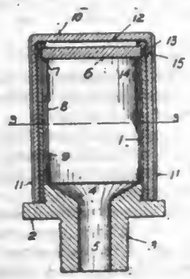
1. In an article of the character described the combination with a casing, bolt and bolt spring, of a spindle, a retractor carried thereby and adapted for coöperation with said bolt, a rotatable tumbler within said spindle having diametrically opposite recesses of different depths, a longitudinally movable pin in said retractor whose inner end is adapted to rest in either one of said recesses, its outer end being adapted for engagement with a locking projection on the casing and a key insertible endwise in said tumbler and adapted to disengage said pin from said tumbler, and to rotate said tumbler in said spindle.



2. In an article of the character described the combination with a casing, bolt and bolt spring, of a spindle, a retractor carried thereby, and adapted to coöperate with said bolt, a pin mounted in said retractor and adapted for longitudinal movement through a wall of said spindle, a tumbler rotatably mounted within said spindle and having recesses of different depths adapted to receive the inner end of said pin, a semi-circumferential groove connecting said recesses, a locking projection on the casing adapted for engagement with the outer end of said pin, longitudinal grooves in said tumbler leading to said recesses and a key adapted for insertion through said knob into the groove in said tumbler as and for the purposes specified.

3. In an article of the character described the combination with a casing, bolt and bolt spring, of a spindle, a retractor carried thereby and adapted for coöperation with said bolt, a locking lug on the casing, a pin in said retractor adapted for longitudinal movement, the outer end of which is adapted for coöperation with said locking projection, a rotatable tumbler mounted in said spindle, recesses of different depths in said tumbler and adapted to receive the inner end of said pin, a circumferential groove connecting said recesses, a knob secured to the outer end of said spindle, a sleeve secured to the inner end thereof and rotatable thereon, a second retractor carried by said sleeve and adapted for coöperation with said bolt, a knob secured to said sleeve, longitudinal grooves in said tumbler leading to said recesses and a key adapted to be inserted through said outer knob into said grooves as and for the purposes specified.

979,826. GREASE-CUP. JAMES F. CRAVEN, Pittsburg, Pa., assignor to Craven Engineering Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Feb. 5, 1910. Serial No. 542,289.



1. A grease cup comprising a casing inclosing a chamber to receive the grease and provided in its bottom with an opening for the discharge of the grease, a plunger vertically movable in said chamber to expel the grease, a rotatable closure for said casing, and means connected to

said closure and surrounding the body of grease and arranged to actuate said plunger, said plunger and actuating means being provided with inter-engaging sliding connections.

2. A grease cup comprising a casing inclosing a chamber to receive the grease and provided in its bottom with an opening for the discharge of the grease, a rotary plunger vertically movable in said chamber to expel the grease, and means arranged to rotate said plunger without opening the casing, said plunger and rotating means being provided with inter-engaging connections permitting movement of the plunger vertically relatively to the rotating means.

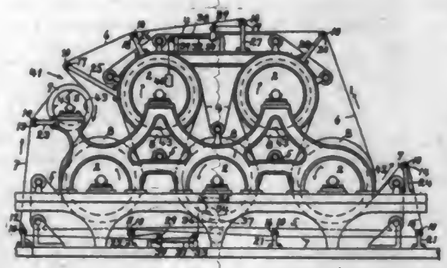
3. A grease cup comprising a casing inclosing a chamber to receive the grease and provided in its bottom with a grease discharge opening, a rotatable plunger in said casing and having threaded connection therewith, a rotatable closure for said casing, and means actuated by said rotatable closure and arranged to rotate said plunger, said plunger and rotating means being provided with inter-engaging sliding connections.

4. A grease cup comprising a casing inclosing a chamber and provided in its bottom with a grease discharge opening and being internally threaded, a cap, a tube carried thereby and projecting down into the casing and provided with vertical slots, a plunger provided with projections extending through said slots and threaded externally to engage the internal threads of the casing.

5. A grease cup comprising a casing inclosing a chamber and provided in its bottom with a grease discharge opening and being internally threaded, a plunger having a threaded connection with said casing, a rotatable cap closing said casing, means projecting from said cap and engaging the plunger and allowing independent vertical movement of the plunger, and means connecting the cap and casing for preventing accidental separation thereof.

[Claim 6 not printed in the Gazette.]

979,827. CYLINDER-DRIER. EDWARD J. CROWSON, Holyoke, Mass. Filed July 14, 1910. Serial No. 571,921.



1. The combination, in a cylinder drier, with the rotary cylinders of the drier, of traveling paper-actuating members juxtaposed to but offset from the ends of said cylinders.

2. The combination, in a cylinder drier, with the rotary cylinders of the drier, of contacting tapes, and means to support and drive such tapes in juxtaposition but offset relation to the ends of said cylinders.

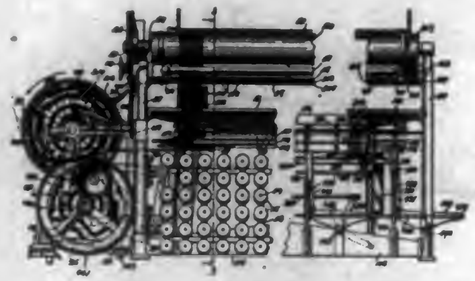
3. The combination, in a cylinder drier, with the cylinders of the drier, of contacting tapes, pulleys attached to the ends of said cylinders for said tapes, and suitable guide means for said tapes.

4. The combination, in a cylinder drier, with the cylinders of the drier, of contacting tapes, pulleys and idlers arranged to support and drive said tapes in juxtaposition to the ends of said cylinders, and means to keep said tapes taut.

5. The combination, in a cylinder drier, with the cylinders of the drier, of tapes adapted to receive and hold paper between them, and means to support and drive such tapes in juxtaposition to the ends of said cylinders, such means maintaining said tapes in normal contact throughout the length of their paper-grasping course, and further maintaining such course in agreement with the adjacent peripheries of said cylinders.

[Claims 6 and 7 not printed in the Gazette.]

979,828. MACHINE FOR MAKING NETS. RICHARD F. DANIELS, Chicago, Ill. Filed Aug. 11, 1906. Serial No. 330,130.



1. In a netting machine, the combination with a spool, knot-forming mechanism, and a take-up roll, of a latch located between the spool and the knot-forming mechanism and adapted to permit the passage of thread in one direction only, a reciprocable take-out member adapted to bear on the thread between the latch and the spool, a cam intermittently acting on such member to move it in one direction, and means for intermittently turning the take-up roll.

2. In a netting machine, the combination with a spool, knot-forming mechanism, and a take-up roll, of a latch located between the spool and the knot-forming mechanism and adapted to permit the passage of thread in one direction only, a reciprocable take-out member adapted to bear on the thread between the latch and the spool, a cam intermittently acting on such member to move it in one direction, a weight bearing on such member in the same direction, and means for intermittently turning the take-up roll.

3. In a netting machine, in combination, knotting mechanism, a spool, a reciprocable take-out member retracted by the strain of the knotting mechanism, means for limiting the recession of the reciprocable member, and a cam for advancing the reciprocable member and engageable therewith in any of its positions.

4. In a netting machine, in combination, knotting mechanism, a spool, a reciprocable take-out member retracted by the strain of the knotting mechanism, a cam for advancing the reciprocable member and engageable therewith in any of its positions, and a weight acting on the bar in the same direction as the cam.

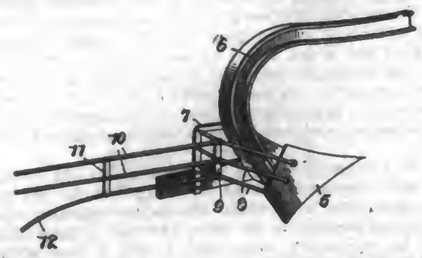
5. In a netting machine, in combination, knotting mechanism, a spool, a reciprocable take-out member retracted by the strain of the knotting mechanism, a swinging arm pivoted to a fixed support, a link connecting the arm and the reciprocable member, a movable inclined advancing cam, a cam-engaging roller on the arm in the path of movement of the cam, and a weight bearing forwardly on the reciprocable member.

[Claims 6 to 50 not printed in the Gazette.]

979,829. PLOW ATTACHMENT. HENRY E. DAVIS, Three Hills, Alberta, Canada. Filed July 18, 1910. Serial No. 572,549.

1. A plow attachment comprising a plurality of spaced parallel rods pivotally mounted upon the mold board and extending rearwardly thereof, means pivotally connecting said rods intermediate of their ends to maintain the same in parallel relation, the end of the lowermost rod being bent downwardly to engage the ground surface and support said rods at all times in parallel relation thereto.

2. A plow attachment comprising a plurality of spaced parallel rods pivotally mounted upon the mold board and extending rearwardly thereof, the rearwardly extending portions of said rods being freely movable independently of the plow and disposed in parallel relation to the ground surface at all times, and a movable member pivoted to each of the rods intermediate of their ends to movably connect the same.



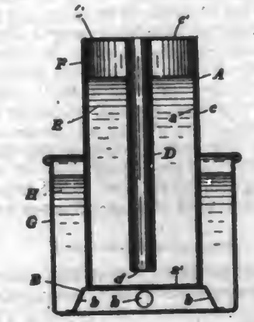
3. A plow attachment comprising a plurality of spaced parallel rods bent at right angles at one of their ends and pivotally mounted upon the mold board, said rods extending rearwardly of the plow and being independently movable thereof, the end of the lowermost rod being bent downwardly and engaged in the furrow made by the plow to support said rods in parallel relation to the ground at all times, and a link pivotally connecting said rods intermediate of their ends to support the same in spaced relation.

4. In an attachment of the character described, the combination with a plow, of spaced supporting bars secured to the plow, a plurality of substantially L-shaped rods rotatably mounted in said bars and extending rearwardly thereof, said rods being disposed in spaced parallel relation and in the same vertical plane, and a link connecting said rods adjacent to their rear ends to movably support the same.

5. In a plow attachment the combination with a plow, of spaced vertical bars carried by said plow, a plurality of L-shaped rods having their shorter arms rotatably mounted in the bars, the longer arms of said rods extending rearwardly thereof in spaced parallel relation, means for supporting said rods above the ground surface, and a link connecting said rods to movably support the same.

[Claim 6 not printed in the Gazette.]

979,830. PASTEURIZING APPARATUS. EMILE DAVOU, Pawtucket, R. I. Filed July 7, 1910. Serial No. 570,724.



1. In a pasteurizing apparatus, the combination of a receptacle comprising a side wall, a bottom, and means for supporting the same, and a closure member, comprising a side wall slidably engaging the receptacle wall and movable with relation thereto under pressure and of substantially the same length as the receptacle wall, and a top.

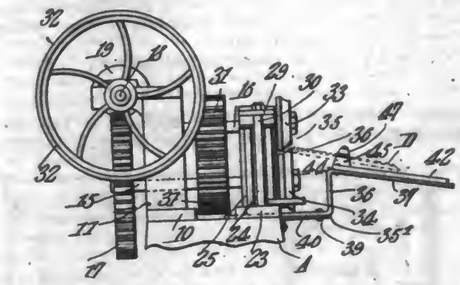
2. In a pasteurizing apparatus, the combination of a receptacle comprising a side wall, a bottom, and means for supporting the same, and a closure member comprising a side wall surrounding the first mentioned wall and movable with relation thereto under pressure, a top upon the wall of the closure, and a tube provided with an open upper end and a closed lower end located in the top and extending within the receptacle.

3. In a pasteurizing apparatus, the combination of a receptacle comprising a side wall and a bottom, a downwardly extending flange upon said bottom provided with openings, and a closure member comprising a wall engaging the first mentioned wall and movable with relation thereto under pressure, a top upon the closure wall, and a closed tube in the top extending into the receptacle.

4. In a pasteurizing apparatus, the combination with a receptacle comprising a side wall and a bottom, a downwardly directed flange upon the receptacle provided with openings, a closure member comprising a wall slidably engaging the exterior of the first mentioned wall and movable with relation thereto under pressure, and a tube closed at its lower end extending into the receptacle.

5. A portable pasteurizing apparatus comprising a receptacle having a bottom and an open top, a support therefor having perforations adjacent the bottom of said receptacle and a closure member comprising a depending wall snugly embracing said receptacle and a top closing the open end thereof, said top having depending centrally therefrom a tube closed at its bottom.

979,831. DISK-SHARPENER. JAMES I. DEPEW, Loup City, Nebr. Filed Aug. 2, 1909. Serial No. 510,794.



In a machine of the class described, a frame, shafts mounted to rotate in the frame, disk-rolls carried one by each of the shafts, said rolls coöperating, a bracket supported upon the frame, a support comprising a bar bent to afford a portion disposed upon the bracket and formed with a plurality of openings, a bolt engaged through the bracket and through the openings interchangeably, said bar being bent from its said portion to extend upwardly and thence forwardly at an angle downwardly, in advance of the rolls, and a lever pivoted upon the last mentioned portion of the bar and arranged to support the disk to be sharpened.

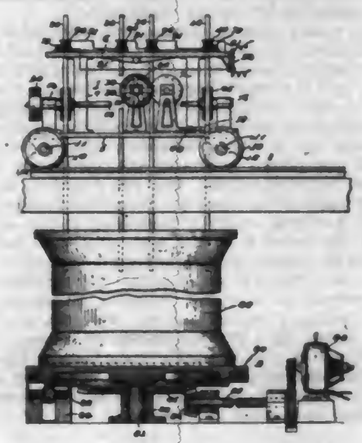
979,832. RAMMING-MACHINE. JACOB K. DIMMICK, Philadelphia, Pa. Filed July 15, 1909. Serial No. 507,768.

1. A ramming machine comprising a carriage, a plurality of laterally adjustable longitudinally movable rammers carried thereby, means to reciprocate said rammers longitudinally and means to hold said rammers in inoperative positions, said latter means comprising an electro-magnet surrounding each rammer.

2. In a ramming machine, the combination with a reciprocatory rammer, of an electro-magnet tending to lift said rammer and to hold said rammer in an inoperative position.

3. In a ramming machine, the combination with a reciprocatory rammer of an electro-magnet surrounding said rammer, tending to lift said rammer and to hold said rammer in an inoperative position.

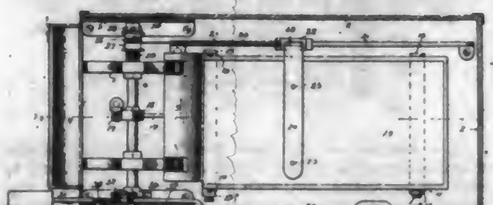
4. In a ramming machine, the combination with a reciprocatory rammer of a drive shaft, and an eccentric pulley carried by said drive shaft and adjustable longitudinally thereof for reciprocating said rammer.



5. In a ramming machine, the combination with a reciprocatory rammer of a drive shaft, an eccentric pulley carried by said drive shaft and adjustable longitudinally thereof, an idler shaft parallel to said drive shaft, and an idler pulley carried by said idler shaft and adjustable longitudinally thereof to coöperate with said eccentric pulley for reciprocating said rammer.

[Claims 6 to 28 not printed in the Gazette.]

979,833. VENDING-MACHINE. RICHARD F. DOWNEY, Milwaukee, Wis. Filed Feb. 1, 1910. Serial No. 541,351.



1. A vending machine for cigars or the like comprising supporting means adapted to receive an open end box containing articles to be vended, a frame, an intermittently rotated reel mounted in the frame and arranged to be disposed adjacent to the open end of the box, a drum carried by the reel, a spring controlled clutch mechanism connecting the drum and reel, a release lever for the clutch, a rail disposed longitudinally of the box supporting means, a feed mechanism slidably mounted upon the rail, and a cable connecting the feed mechanism and drum aforesaid.

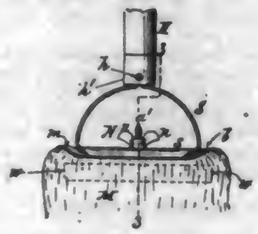
2. A vending machine for cigars or the like comprising supporting means adapted to receive an open end box containing the articles to be vended, a frame, an intermittently rotative reel mounted upon the frame and arranged to be disposed adjacent to the open end of the box, a drum carried by the reel and in clutch connection therewith, a rail disposed longitudinally of the box supporting means, a feed mechanism mounted upon the rail, a cable connecting the feed mechanism and drum aforesaid, a gyrating mechanism for the box, and means for operating the gyrating mechanism incidental to the reel movement.

3. A vending machine for cigars or the like comprising supporting means adapted to receive an open end box containing the articles to be vended, a frame, a shaft mounted in the frame, the shaft being disposed opposite the open end of the box, disks having pockets therein secured to the shaft, a drum loosely mounted upon said shaft, means for locking the drum with relation to the aforesaid shaft, a rail disposed longitudinally of the box-supporting means, a head slidably supported upon the rail, a cable connecting the head and drum, a feed member adjustably secured to the head, strippers carried by the feed member, a ratchet-wheel secured to the shaft, a spring-controlled actuating lever, a pawl carried by the lever for engagement with the ratchet-wheel, and a lock and release mechanism for said lever.

4. In a vending machine for cigars or the like having a reel and a spring-controlled actuating-lever for the reel; the combination of a drum, the spring-controlled clutch mechanism connecting the drum and reel, a hand release lever for the clutch mechanism, a rail, a head slidably mounted upon the rail, the head being provided with a socket, a feed member fitted within the socket, depending strippers in connection with the feed member, and a cable connecting the head and drum.

5. In a vending machine for cigars or the like having a reel and a spring-controlled actuating-lever for the reel; the combination of a drum, a spring-controlled clutch mechanism connecting the drum and reel, a release lever for the clutch mechanism, a rail, a feed mechanism slidably mounted upon the rail, and a cable connecting the drum and feed mechanism.

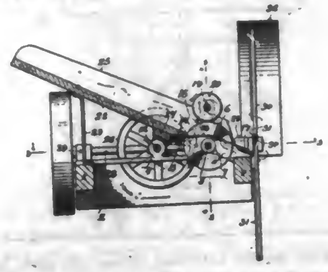
979,834. MOP-HOLDER. ALBERT J. EAN, New York, N. Y. Filed Aug. 23, 1910. Serial No. 578,505.



A mop holder comprising a handle, a metallic stirrup attached thereto, formed with a cross member constituting the fixed clamping member, said fixed clamping member being concavo-convex in cross section to form a concave bearing surface for the bight of the mop, and being formed with a central hole for the admission of a clamping screw, a movable wooden clamping member of a greater length than the length of the fixed metallic clamping member and of greater length than the width of the stirrup, a clamping screw projecting through the center of said movable wooden member, and a clamping nut for engaging said clamping screw and bearing against the fixed metallic member, whereby the protruding ends of the movable wooden clamping member perform the function of fenders to prevent contact with the metal, substantially as set forth.

979,835. CURD-CUTTING MACHINE. JOHN C. EICKHOFF, Blackcreek, Wis. Filed Dec. 6, 1909. Serial No. 531,535.

1. In a curd-cutting machine having a shaft, a series of space cutting disks carried thereby, a feed trough extending rearwardly of the disks, and a shear-plate disposed forwardly of the disks; the combination of a series of flat independent strips permanently secured adjacent to the mouth of the trough and adapted to rest loosely upon the shear-plate, the strips being arranged to extend over the shaft to constitute a yieldable feed throat, a trunnioned feed roller disposed above said disks having engagement with their cutting edges, supporting brackets having bearings for the aforesaid disk shaft and feed roller trunnions, a rotatory knife arranged to have shearing engagement with the shear-plate, and driving gears for the knife, disk shaft and feed roller.



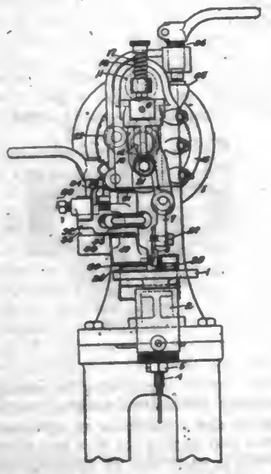
2. A curd-cutting machine comprising a shaft, a series of disks carried by the shaft, spacing rings mounted upon said shaft intermediate of the disks, an inclined feed trough extending rearwardly of said disks, a shear-plate disposed forwardly of the aforesaid disk, a series of independent flat spring strips connecting the trough and arranged to bear loosely upon the shear-plate intermediate of the disks to constitute a yieldable feed throat, a trunnioned feed roller having frictional engagement with the upper cutting edges of the disks, supporting brackets having bearings for the feed-roller and disk shaft, and gear connection between said disk shaft and one of the feed-roller trunnions, a rotatory knife arranged to have shearing engagement with the shear-plate and driving means connecting the knife and gear connection of the aforesaid disk shaft and feed-roller.

3. A curd-cutting machine comprising a frame, brackets secured to the frame, a shaft supported in brackets extending from the frame, a series of disks carried by the shaft, spacing thimbles interposed between the disks, a bar secured to the brackets rearwardly of the disks, a shear-plate carried by the frame forwardly of said disks, independent strips in pivotal connection with the bar, the strips being provided with free ends adapted to rest upon the shear-plate and arranged to extend between each pair of disks, a trunnion feed-roller revoluble in bearings that extend from the brackets, a gear-wheel carried by one of the feed-roller trunnions, another gear-wheel carried by the disk shaft for engagement with the feed-roller gear-wheel, a sprocket secured to said disk shaft, a power-shaft mounted upon the frame in parallel relation with the aforesaid disk shaft, a sprocket-wheel secured to the power-shaft, the sprocket-wheel being in chain-belt connection with the sprocket-wheel of the disk shaft, a shaft disposed at right angles to the power shaft having its bearings supported by the frame, a bevel-gear connection between this latter shaft and the power-shaft, a knife head having radial arms secured to that shaft which is at right angles to the power-shaft, blades secured to the arms of the knife-head, the blades being adapted to have a shearing engagement with the shear-plate, and an inclined trough supported by the frame and extending rearwardly of the series of disks, the trough being provided with side-bars which are abutted against the outer faces of the end disks of the series.

979,836. MACHINE FOR REINFORCING INSOLES. ANDREW EPPLER, Boston, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Feb. 24, 1905. Serial No. 247,116.

1. An insole reinforcing machine, having, in combination, a pressing device, an arm carrying said device pivotally mounted to move in and out toward and from the lip of an insole, a carrier for the arm mounted to move back and forth in the direction of feed, means for actuating the carrier, a cam operated plunger for moving said arm outwardly and a spring for moving said arm inwardly, substantially as described.

2. An insole-reinforcing machine, having, in combination, a work support, a pressing device, and means for moving the pressing device downward to engage the reinforcing material on the insole and then move inward and farther downward so as to draw the material into the channel and press it against the lip, substantially as described.



3. An insole-reinforcing machine, having, in combination, a work support, a pressing device, and means for moving the latter downward to engage the reinforcing material on the insole and move inward and farther downward so as to draw the material into the channel, the last part of such movement being comparatively quick so as to cause the pressing device to strike a blow against the reinforcing material on the inside of the lip, substantially as described.

4. An insole-reinforcing machine, having, in combination, a work support, a pressing device, and means for moving the pressing device first downward to engage the reinforcing material on the insole and then inward and farther downward to draw it into the channel, and then substantially perpendicular to the direction of the latter movement so as to feed the work, substantially as described.

5. An insole-reinforcing machine, having, in combination, a work support, a pressing device provided with a feeding point on its inner surface to engage the lip of the insole, and means for moving the pressing device to first engage the reinforcing material, and then inward and farther downward to press the reinforcing material against the lip and into the angle of the channel and then in direction to feed the work, substantially as described.

[Claims 6 to 16 not printed in the Gazette.]

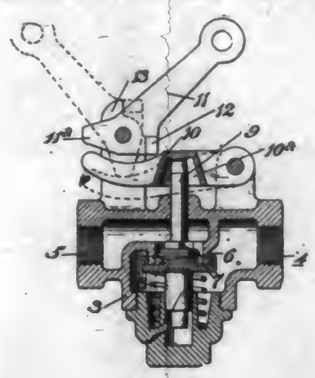
979,837. CONDUCTOR'S VALVE FOR FLUID-PRESSURE BRAKES AND SIGNALS. CLYDE C. FARMER, Chicago, Ill., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Mar. 6, 1907. Serial No. 360,909.

1. A conductor's valve comprising a casing, a valve therein, an operating mechanism for said valve adapted to be operated from a distant point and adapted to exert its maximum power upon initial movement to open said valve.

2. A conductor's valve comprising a casing, a valve therein, an operating mechanism for said valve adapted to be operated from a distant point and having means for exerting its maximum force upon initial movement to open said valve and a positive stop device for limiting the movement of said operating mechanism.

3. A conductor's valve comprising a casing, a valve therein, an operating mechanism adapted to be operated

from a distant point and comprising a camming means adapted to exert greatest power at the beginning of its movement to open the valve and an intermediate lever interposed between said camming means and the stem of the valve.



4. A conductor's valve comprising a casing, a valve therein, an operating mechanism adapted to be operated from a distant point and comprising an intermediate lever pivoted at one end and having its free end curved for engaging the stem of the valve and an operating lever adapted to bear upon said curved portion and having a portion of its bearing surface flattened to lock the valve in its open position.

979,838. SUSPENDER ATTACHMENT. WILLIAM D. FLYNN, Spray, N. C. Filed Feb. 26, 1910. Serial No. 546,240.



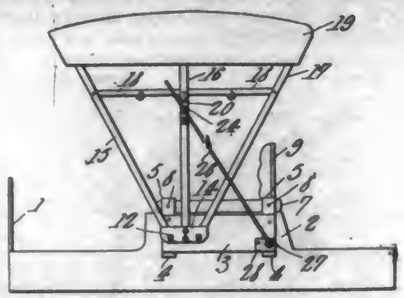
1. The combination of a suspender web extremity, a clamp inclosed within and extending transversely across said extremity, and a cord loop having the extremities thereof secured in the clamp and the parts of the loop drawn in close relation and projected from the center of the clamp through the web extremity.

2. The combination of a web extremity for suspenders, a bendable clamp inclosed by and extending transversely across said extremity and having a slot in the intermediate portion of its side wall, and a cord loop having the extremities drawn together and inserted in said slot and the ends projected in opposite directions in the clamp and secured by contracting the clamp thereagainst, the cord loop being projected through the web extremity.

3. The combination with a portion of a suspender, of a clamp inclosed therein and extending transversely across the same, and a loop having the extremities secured in the clamp and projecting from a point intermediate of the ends of the latter and also extending through the portion of the suspender.

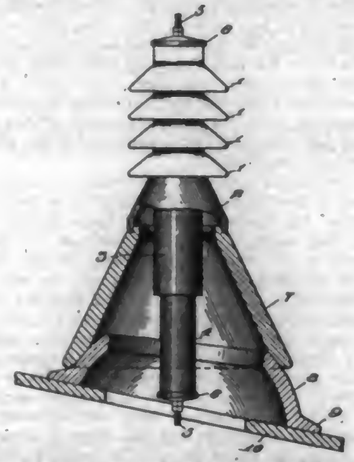
979,839. WAGON-TOP. FRANK GRIGGS, Patoka, Ill. Filed July 7, 1910. Serial No. 570,838.

In a device of the class described, plates adapted to be applied to the outer sides of a wagon box; standards rising from the plates and bent to overhang the upper edges of the box, the ends of the standards being fashioned into hooks adapted to be disposed within the box; bars secured in the bent portions of the standards, and adapted to rest upon the upper edges of the box; a seat terminally



provided with straps extended across its ends to engage the hooks; and a top carried by the plates.

979,840. INSULATOR-BASE. WALTER T. GODDARD, Victor, N. Y., assignor to Locke Insulator Manufacturing Company, Victor, N. Y., a Corporation of New York. Filed Sept. 9, 1910. Serial No. 581,220.



1. An insulator support or base embodying two sections connected by a ball and socket joint for universal relative adjustment.

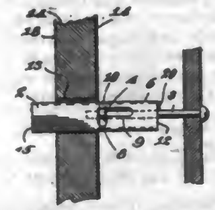
2. An insulator support or base embodying a lower section having a rounded upper portion and an upper section fitting over the latter and adjustable thereon.

3. In an insulator, the combination of a lower base section having an upwardly extending annular flange and rounded or partly spherical on its exterior surface and an upper base section having its lower interior edge curved to correspond with the exterior surface of the lower section and universally adjustable thereon.

4. In an insulator the combination of the lower hollow base section having the exteriorly rounded and upper surface, the hollow conical upper base section having the interior of its lower edge fitted to the upper surface of the lower section and universally adjustable thereon, and an insulator column resting upon said upper section and provided with an extension passing downwardly into the base.

5. The combination with the hollow lower base section having the upper exterior spherical surface and the upper hollow base section having the lower portion fitting over and universally adjustable upon the lower section of an insulator embodying one or more petticoated insulating sections supported upon the upper edge of the upper base section and having the downwardly extending portion passing into the base.

979,841. TOGGLE-BOLT. JAMES EDWARD GOEWEY, Newark, N. J., assignor to Diamond Expansion Bolt Company, a Corporation of New York. Filed June 28, 1910. Serial No. 569,283.

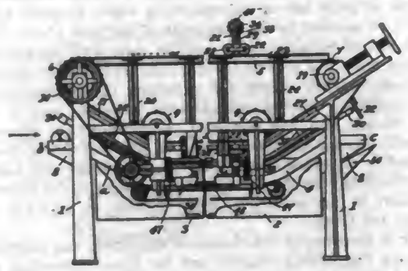


1. A head for a toggle bolt, including a body member, one or more guards connected at both ends with the body member, and side strengthening flanges provided with pivoting and locking surfaces.

2. A head for a toggle bolt, including a body member, one or more guards connected at both ends with the body member, side strengthening flanges provided with pivoting and locking surfaces, and a lug partly closing one end of the head.

3. In a toggle bolt the combination of a head including a body member, one or more guards connected at both ends with the body member, side strengthening flanges provided with pivoting and locking surfaces, a removable nut to coöperate with pivoting and locking surfaces, and a removable bolt to coöperate with the nut.

979,842. APPARATUS FOR CLEANSING BOTTLES AND JARS. GEORGE E. GORDON, Philadelphia, Pa. Filed Feb. 12, 1910. Serial No. 543,585.



1. In an apparatus for cleansing jars, a runway and devices to roll jars along the runway, combined with rotary brushes, means to force the rotary brushes when in rotation into the jars and then withdraw them while the jars are subjected to a rolling motion, a brush over which the jars are rolled to cleanse their bodies, a brush situated in the path of the jars against which their bottoms are rolled, and means to supply a cleansing solution to the jars and the various brushes described, substantially as specified.

2. In an apparatus for cleansing jars, a tank adapted to contain a cleansing solution, a runway extending longitudinally of and situated in the tank, and devices to roll the jars along the runway from the entrance to the delivery end of the same, combined with rotary brushes and means to force the said brushes while in rotation into the submerged and rolling jars, and withdraw them before the jars reach the delivery end of the runway, substantially as specified.

3. In an apparatus for cleansing jars, a tank adapted to contain a cleansing solution, a runway extending longitudinally of the tank, having its entrance and delivery ends above the tank, and its intermediate portion within the tank, devices to roll the jars along the runway from the entrance to the delivery end of the same, and a brake to retain the jars in contact with the rolling devices, combined with rotary brushes and means to force the said brushes while in rotation into the submerged and rolling jars and withdraw them before the jars reach the delivery end of the runway, substantially as specified.

4. In an apparatus for cleansing jars, a tank adapted to contain a cleansing solution, a runway extending longitudinally of the tank, having its entrance and delivery ends above the tank, and its intermediate portion within the tank, devices to roll the jars along the runway from the entrance to the delivery end of the same, combined with rotary brushes and means to force the said brushes while in rotation into the submerged and rolling jars and withdraw them before the jars reach the delivery end of the runway, and a brush within the tank over which the jars are rolled to clean their bodies, substantially as specified.

5. In an apparatus for cleansing jars, a tank adapted to contain a cleansing solution, a runway extending longitudinally of the tank, having its entrance and delivery ends above the same, and its intermediate portion within the tank, devices to roll the jars along the runway from the entrance to the delivery end of the same, and a brake to retain the jars in contact with the rolling devices, combined with rotary brushes and means to force the said brushes while in rotation into the submerged and rolling jars and withdraw them before the jars reach the delivery end of the runway, and a fixed brush within the tank over which the jars are rolled to clean their bodies, substantially as specified.

[Claims 6 and 7 not printed in the Gazette.]

979,843. WRITING IMPLEMENT. ALEXANDER HERBERT GRANTHAM, Durban, Natal. Filed Mar. 17, 1910. Serial No. 549,980.



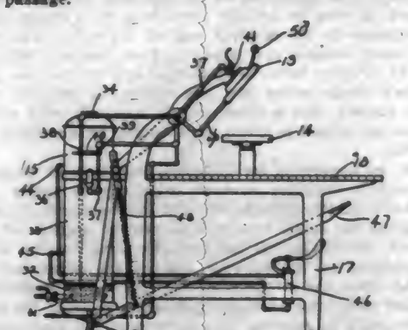
1. A writing implement comprising in combination a reservoir for powdered writing material, a writing head on the outer end of said reservoir comprising a perforated member extending across the end of the reservoir, a pin mounted on said member and having a socket in its outer end, a ball in said socket, a second ball in contact with said first ball and an adjustable perforated cap fitting over said second ball.

2. A writing implement comprising in combination a reservoir for powdered writing material, a writing head on one end of said reservoir comprising a perforated disk mounted on the end of the reservoir and a pin projecting axially from said disk and having a socket in its outer end a ball in said socket, a second ball in contact with said first ball and a perforated cap attached to the end of the reservoir and fitting over said second ball and holding it in position, said cap lying clear of the said first ball.

979,844. GARMENT-PRESSING MACHINE. EDWARD C. GREVER, Cincinnati, Ohio. Filed Feb. 7, 1910. Serial No. 542,400.

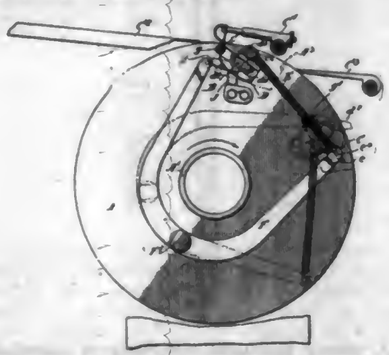
1. In a pressing machine, a pressing head provided with a fluid delivery passage, and a series of slots com

municating with said passage, ridges formed integrally with said head and located on each side of said slots, a diffusing screen secured to said head and coöperating with said ridges to form transversely extending steam delivery channels, and a heating chamber provided in said head located adjacent to said ridges and around said fluid delivery passage.



2. In combination in a garment pressing machine, a pressing head, a fluid delivery passage provided in said head, a heating chamber, a boiler for delivering saturated steam to said fluid delivery passage and super-heated steam to said heating chamber, and valves for shutting off the supply of saturated steam to said delivery passage and for delivering the super-heated steam thereto.

979,845. GRIPPER MECHANISM FOR CYLINDER-PRESSES. HARRY P. GUILLO, Revere, Mass. Filed June 16, 1910. Serial No. 567,175.



1. In combination with a gripper shaft, a tumble lever, a floating abutment and a spring one end of which engages said tumbler lever, the other end of said spring engaging said floating abutment, and means for controlling the movements of said abutment.

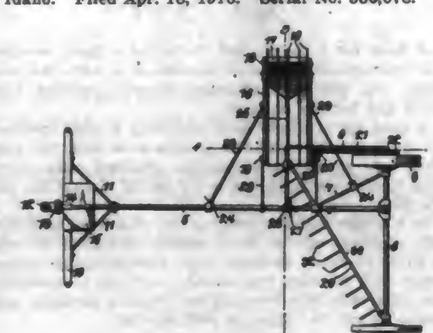
2. In combination with a gripper shaft, a tumbler lever, means for turning it, a floating abutment, and a spring one end of which engages said tumbler lever and the other said floating abutment, and means for controlling the movements of said abutment to maintain said spring at substantially constant tension.

3. In combination with a gripper shaft, a tumbler lever, means for turning it, a floating abutment, and a spring one end of which engages said tumbler lever and the other said floating abutment, and means for controlling the movements of said abutment comprising a cam roll connected to said abutment and a cam located to control the movements of said cam roll.

4. In combination with a gripper shaft, a tumbler lever, means for turning it, a floating abutment, and a spring one end of which engages said tumbler lever and the other said floating abutment, and means for controlling the movements of said abutment comprising a cam roll connected to said abutment and a cam located on said tumbler lever to be engaged by said cam roll.

5. In combination with a gripper shaft, a tumbler lever, means for turning it, a floating abutment, and a spring one end of which engages said tumbler lever and the other said floating abutment, and means for controlling the movements of said abutment comprising a movable support for said abutment carrying a cam roll, a cam located on said tumbler lever adapted to be engaged by said cam roll as and for the purposes set forth.

979,846. HAY-LOADER. JAMES HADLEY, Swanlake, Idaho. Filed Apr. 18, 1910. Serial No. 556,078.

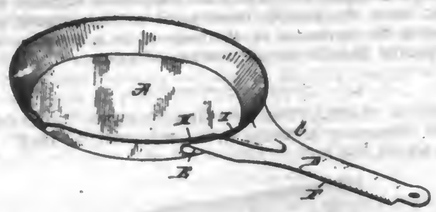


1. In a machine of the character described, the combination of supporting wheels and an axle connecting the same, a frame comprising a longitudinal bar secured to the axle at one side of its longitudinal center, a caster supporting the end of said bar, a substantially right angular brace secured at one end to the longitudinal bar and at its other end to the wheel axle, of an endless conveyer transversely disposed upon one side of the machine and supported from the frame thereof, means for adjusting the inclination of said conveyer, driving connections between one of the drive wheels and the conveyer, a transversely disposed forwardly extending rake secured at one end to the wheel axle and at its other end to said angular brace and adapted to direct the material across the machine in its forward movement to the conveyer, substantially as and for the purpose set forth.

2. In a machine of the character described, the combination with supporting wheels and an axle connecting the same, a longitudinally extending frame bar secured to said axle at one end and adjacent to one of the supporting wheels, a caster supporting the other end of said frame bar, a right angularly extending brace secured to one end of the axle beyond the supporting wheel and at its other end to said longitudinal bar, of an endless conveyer arranged upon one side of the longitudinal bar and vertically inclined with relation thereto, supporting bars secured to the machine frame and adjustably connected to the conveyer, an adjusting lever mounted on the longitudinal bar and connected to the upper end of the conveyer, and a rake extending forwardly from one end of the wheel axle across the machine beneath said longitudinal bar, said rake having its forward end disposed adjacent to the conveyer and adapted to direct the material upon the same in the movement of the machine, substantially as and for the purpose set forth.

979,847. COLD HANDLE FOR COOKING UTENSILS. ROBERT O. HAMMOND, Rome, N. Y., assignor of one-half to Hymen A. Evans, one-fourth to Cyrus Edwin Tyler, and one-eighth to Jesse Sheldon Tyler, Rome, N. Y. Filed July 23, 1909. Serial No. 509,098.

1. The combination of a serving-utensil or tool, and a handle secured thereto and having a securing-portion provided with spaced projections in contact with said utensil or tool and forming an air-passage between the latter and the handle and means for securing said handle to said utensil or tool at points coincident with said projections.



2. The combination of a serving-utensil or tool, and a handle having a hollow gripping-portion and a securing-portion at an angle to said gripping-portion, said securing-portion having spaced projections on its surface in contact with said utensil or tool to form an air-passage between the latter and said handle, and fastening-means for securing the handle to the utensil or tool.

3. The combination of a serving utensil or tool and a handle formed of sheet metal and comprising an elongated gripping portion and a securing portion, said gripping portion having its longitudinal marginal portion bent or curved underneath its center portion to provide an air space and said securing portion being bent at an angle to said gripping portion and having perforated teats bearing against the serving utensil or tool, and rivets passing through said perforated teats and through said utensil or tool.

979,848. LANTERN-FRAME. ALEXANDER H. HANDLAN, Jr., St. Louis, Mo. Filed Sept. 30, 1910. Serial No. 584,613.

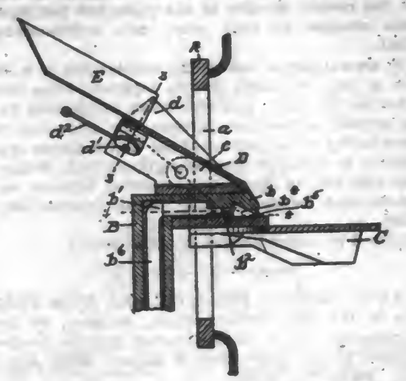
In a lantern frame, a guard hoop provided at its upper end with an outwardly jutting guard wire receiving member having a downturned flange extending inwardly toward the guard hoop, and vertical guard wires extending downwardly through the upper portion of said receiving member and having lower arms at angles to their upper portions confined within said receiving member by its flange.

979,849. AUTOMATIC STOKER. WILLIAM T. HANNA, Cincinnati, Ohio, assignor, by mesne assignments, to The Mechanical Construction Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Oct. 10, 1905. Serial No. 282,142.

1. In a blast feed stoker, a feed plate angular in cross section, and having its sides sloping downwardly from the median line, in combination with guide wings, adjustable upon the sloping sides of the plate, substantially as specified.

2. In a blast feed stoker, a feed plate angular in cross section, and having its sides sloping downwardly from the median line in combination with guide wings independently adjustable upon the sloping sides of the plate, substantially as specified.

3. In a blast feed stoker, a feed plate angular in cross section, inclined from the receiving toward the discharge end, and having its sides sloping downwardly from the median line, in combination with guide wings adjustable upon the sloping sides, substantially as specified.

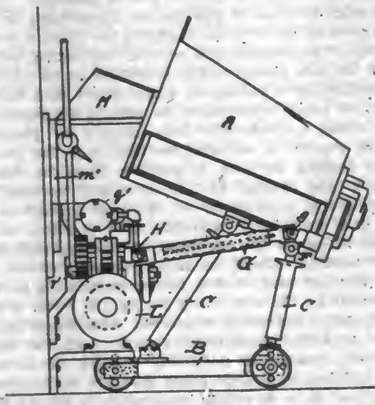


4. In a blast feed stoker, a feed plate angular in cross section, inclined from the receiving toward the discharge end, and having its sides sloping downwardly from the median line, in combination with guide wings independently adjustable upon the sloping sides, substantially as specified.

5. In an automatic stoker, a blast casing having a supply throat, a central port and diverging side ports leading from the supply throat, and a discharge face of angular form with its arm substantially at right angles to the discharge ends of the side ports, substantially as specified.

[Claims 6 to 24 not printed in the Gazette.]

979,850. AUTOMATIC STOKER. WILLIAM T. HANNA, Cincinnati, Ohio, assignor, by mesne assignments, to The Mechanical Construction Company, Cincinnati, Ohio, a Corporation of Ohio. Filed June 25, 1906. Serial No. 323,257.



1. A distributing plate for blast feed stokers, provide with a central portion recessed at its forward end and d vergent channels formed in its upper face lying below th central portion of the plate, substantially as specified.

2. A distributing plate for blast feed stokers provide with a central portion and divergent channels, formed its upper face, lying below the central portion of the pla and having their bottoms recessed at their outer ends, su stantially as specified.

3. A distributing plate for blast feed stokers provide with a central portion recessed at its forward end and d vergent channels formed in its upper face lying below th central portion of the plate and having their bottoms r cessed at their outer ends, substantially as specified.

4. A distributing plate for blast feed stokers slopi downwardly from its feed to its discharge end and pr

vided with a central portion recessed at its forward end and divergent channels formed in its upper face lying below the central portion of the plate and having their bottoms recessed at their outer ends, substantially as specified.

5. In an automatic stoker, the combination of a steam engine, a pair of shafts geared together, arms loosely mounted on the shafts and adapted to be operated by the steam engine, connections between the arms and their shafts whereby reciprocations of the engine piston operate the shafts in opposite directions alternately, means for feeding fuel and an operative connection between one of the shafts and the fuel feeding means, substantially as specified.

[Claims 6 to 11 not printed in the Gazette.]

979,851. HOLDER FOR BOOT AND SHOE FORMS. JOHN S. HANSEN, Medford, Mass., assignor, by mesne assignments, to O. A. Miller Treeing Machine Company, Portland, Me., a Corporation of Maine. Filed Aug. 14, 1901. Serial No. 72,016.



1. A holder for boot or shoe forms, comprising an arm, means carried by the arm for holding the form in fixed position upon the arm, a support constructed to permit adjustment of the form about an axis substantially parallel with its length, means for positively locking the arm in adjusted position, said arm being movable with relation to the support in a direction longitudinal of the form to render said locking means ineffective, and means tending to hold the arm in locked position.

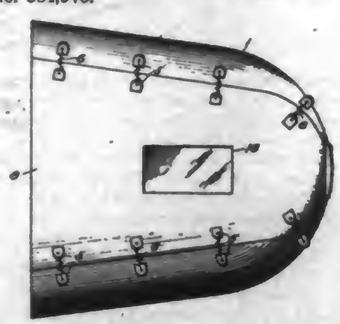
2. A holder for boot or shoe forms, comprising an arm, means carried by the arm for engaging the form, a bracket constructed to be secured to a vertical supporting surface, a support for said arm pivotally sustained by said bracket and adjustable in a horizontal plane about said bracket, said support being constructed to permit adjustment of the arm about a horizontal axis, means for positively holding the support in adjusted position upon the bracket, means for locking the arm in position upon the support including a pin carried by the arm and arranged to enter any one of a plurality of openings formed in the support, said arm being movable with relation to the support to withdraw the pin from its opening and resilient means tending to hold the arm in locked position.

3. A holder for boot or shoe forms, comprising an arm, means carried by the arm for engaging the form, a horizontal support constructed to permit adjustment of the arm about an axis substantially parallel with the length of the form, means for positively locking the arm in adjusted position, said arm being movable with relation to the support in a direction longitudinally of the form to render said locking means ineffective, and means for sustaining said support constructed to permit its adjustment about an axis approximately at right angles to said first-named axis.

4. A holder for boot or shoe forms, comprising an arm, two holding members carried by the arm and arranged to enter corresponding sockets on the heel of the form, and means for positively moving said members relatively by either a separating or an approaching movement to clamp the form on the arm.

5. A holder for boot or shoe forms comprising an arm, means carried by the arm for engaging the form, a horizontal support constructed to permit adjustment of the arm about an axis substantially parallel with the length of the form, means for holding the arm in adjusted position upon the support constructed to be rendered ineffective by a longitudinal movement of the arm, a bracket for sustaining the support constructed to permit its adjustment about an axis at right angles to said first-named axis, and means for locking the support in adjusted position upon the bracket constructed to be rendered ineffective by movement of the support in a direction substantially parallel to said last-named axis.

979,852. REFLECTOR FOR HEADLIGHTS. ALEXANDER R. HARRISON, Millville, N. J. Filed Oct. 8, 1910. Serial No. 584,976.



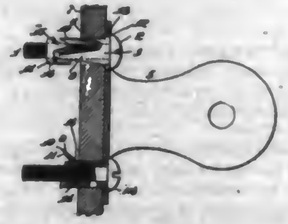
1. A reflector comprising a glass mirror of general semi-ellipsoidal shape, a sectional metal casing inclosing said glass mirror, and elastic means holding said sections together, substantially as described.

2. A reflector comprising a glass of general semi-ellipsoidal shape, a sectional metal casing around said glass, chimney receiving registering openings in said glass and casing, openings in said casing, and a mirror coating on the back of said glass except at said last-mentioned openings in the casing, substantially as described.

3. A reflector comprising a glass mirror of general semi-ellipsoidal shape, a metal casing over said mirror comprising a plurality of overlapping sections, lugs on said sections, and springs connecting the lugs of one section with the lugs of the other, substantially as described.

4. A reflector comprising a glass mirror of general semi-ellipsoidal shape, a metal casing over said mirror comprising a plurality of overlapping sections, lugs on said sections, springs connecting the lugs of one section with the lugs of the other, the forward edges of said casing sections extending beyond the forward edge of the mirror, and inwardly projecting spring tongues on said sections engaging the inner face of the mirror, substantially as described.

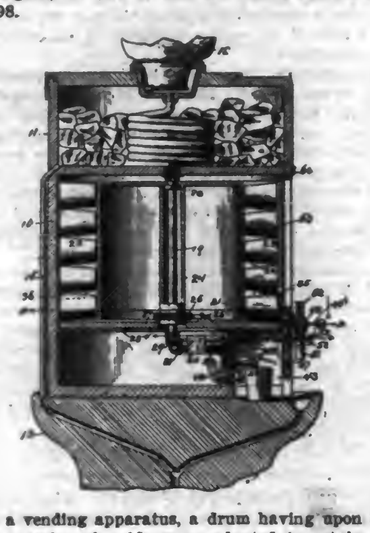
979,853. FASTENER. EDMUND F. HARTSHORN, East Newark, N. J., assignor to Stewart Hartshorn Company, East Newark, N. J., a Corporation of New Jersey. Filed Jan. 27, 1908. Serial No. 412,800.



1. The combination of a plate having a hole therein and a notch in the wall of said hole, and an expansible bolt for securing said plate to a support comprising a screw, a sleeve having a head through which said screw freely passes and a lug on said head adapted to engage the notch in the hole in said plate and having tapering fingers extending at right angles from said head, and a nut on said screw having a body portion and pointed projections extending from said body portion at right angles thereto and between the fingers on said sleeve, whereby when said screw is rotated and said nut is drawn toward said sleeve, the fingers of said sleeve are forced outwardly over the body of said nut.

2. A fastener which comprises a screw, a sleeve and a nut, said sleeve surrounding the screw, and having a lug to prevent rotation, and having tapering fingers with tapering slots between the fingers and inclined ends, said nut having tapering projections, the wall of the body of the nut at the base of the projections being inclined and adapted to engage with the inclined ends of the fingers.

979,854. VENDING APPARATUS. MAURICE P. HENVIS, Washington, D. C. Filed Dec. 17, 1909. Serial No. 533,598.



1. In a vending apparatus, a drum having upon its periphery a series of guide ways adapted to retain a plurality of superposed articles in horizontal position, a movable delivery device disposed beneath said guide ways, and means for supporting one end of an article to cause it to assume a vertical position as delivered.

2. In a vending apparatus, a vertically disposed drum having upon its periphery a series of parallel guide ways adapted to contain superposed articles in horizontal position, an oscillating delivery plate disposed beneath said guide ways and connected to rotate the drum, and means for supporting one end of an article during its delivery to cause it to assume a vertical position.

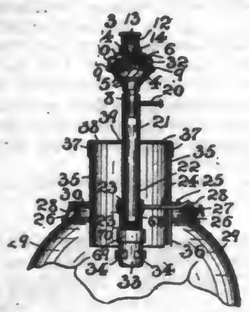
3. In a vending apparatus, a drum having upon its periphery a series of vertical guide ways adapted to retain superposed articles in horizontal position, an oscillating plate beneath said guide ways and movable in one direction to impart an intermittent movement to said drum, means for automatically restoring said plate to its initial position, and means for supporting one end of an article during its delivery to cause it to assume a vertical position.

4. In a vending apparatus, a drum having upon its periphery a series of vertical guide ways adapted to retain superposed articles in horizontal position, an oscillating plate beneath said guide ways and connected to intermittently move said drum, means for automatically restoring said plate to its initial position, means for latching said plate in restored position, and means for supporting one end of an article during its delivery to cause it to assume a vertical position.

5. In a vending apparatus, a drum having upon its periphery a series of parallel vertical guide ways adapted to retain a series of cups in horizontal position, a delivery plate disposed beneath said drum and connected to rotate the same, and means for guiding said cups into upright position as delivered.

[Claims 6 to 10 not printed in the Gazette.]

979,855. INVERTED INCANDESCENT GAS-LAMP. ADAM J. HOFMANN, Newark, N. J. Filed May 4, 1909. Serial No. 493,851.



1. An inverted incandescent gas-lamp comprising a mixing device provided with air-inlets, a gas-conveying tube extending from said mixing device, a burner-tip mounted upon the lower end of said tube, a globe-supporting ring, a globe suspended from said ring, and an air-circulating element surrounded by said ring, said ring having an inwardly extending portion provided with recesses forming air-inlets for permitting an influx of air into said globe, said circulating element being provided at one side only with a hot-air outlet for forcing the expended gases from within said globe to one side and away from the air-inlets of the mixing device, so as to prevent the contamination of the fresh air by said expended gases.

2. An inverted incandescent gas-lamp comprising a mixing device provided with air-inlets, a gas-conveying tube extending from said mixing device, a burner-tip mounted upon the lower end of said tube, a series of spider-arms radiating from said tube, a globe-supporting ring mounted upon said arms, a globe supported from said ring, and an air-circulating element surrounded by said ring, said ring having an inwardly extending portion provided with recesses forming air-inlets for permitting an influx of air into said globe, said circulating element being provided with means for forcing the expended gases from within said globe to one side and away from the air-inlets of the mixing device, so as to prevent the contamination of the fresh air by said expended gases.

3. An inverted incandescent gas-lamp comprising a mixing device provided with air-inlets, a gas-conveying tube extending from said mixing device, a burner-tip mounted upon the lower end of said tube, a series of spider-arms radiating from said tube, a globe-supporting ring mounted upon said arms, a globe supported from said ring, and a cylindrical center-draft producing chimney provided with vertical slots fitted over said spider-arms and surrounded by said ring, said ring having an inwardly extending portion provided with recesses forming air-inlets for permitting an influx of air into said globe, said chimney being provided with means for forcing the expended gases from within said globe to one side and away from the air-inlets of the mixing device, so as to prevent the contamination of the fresh air by said expended gases.

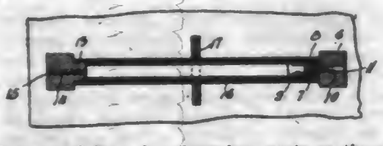
4. An inverted incandescent gas-lamp comprising a mixing device provided in one of its sides with air-inlets, a gas-conveying tube extending from said mixing device, a burner-tip mounted upon the lower end of said tube, a globe, a cylindrically formed air-circulating element slidably arranged upon said tube, and an end-cap upon the upper end-portion of said circulating element, said end-cap being provided with an opening diametrically opposite to the air-inlets in said mixing device for forcing the expended gases from within the globe to one side and away from the air-inlets of the mixing device, so as to prevent the contamination of the fresh air by said expended gases.

5. An inverted incandescent gas-lamp comprising a mixing device provided in one of its sides with air-inlets, a gas-conveying tube extending from said mixing device, a burner-tip mounted upon the lower end of said tube,

globe-supporting ring, a globe suspended from said ring, a cylindrically formed air-circulating element slidably arranged upon said tube and encircled by said ring, said ring being provided with recesses forming air-inlets for permitting an influx of air into said globe, and an end-cap upon the upper end-portion of said circulating element, said end-cap being provided with an opening diametrically opposite to the air-inlets in said mixing device for forcing the expended gases from within the globe to one side and away from the air-inlets of the mixing device, so as to prevent the contamination of the fresh air by said expended gases.

[Claims 6 to 9 not printed in the Gazette.]

979,856. DEVICE FOR HOLDING KEYS IN FIRE-ALARM BOXES. FRANK B. HOLBROOK, Rome, Ga. Filed Aug. 2, 1910. Serial No. 575,164.



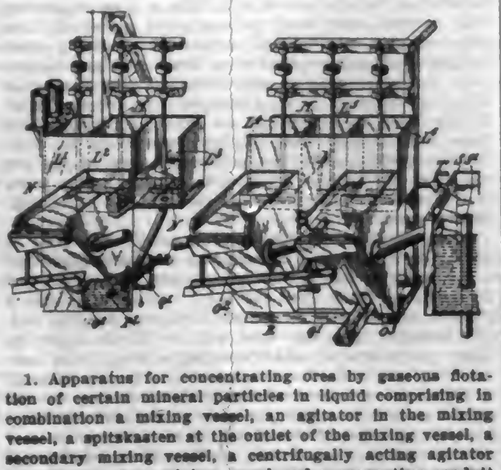
1. In a guard for a fire alarm box, posts on the exterior of the box, a frangible guard held by the posts, and a key having an aperture to receive the guard.

2. In a guard for fire alarm boxes, a door, posts on the door, a key having an aperture, a frangible guard in the apertured key, and means on the posts for holding the guard.

3. In a guard for fire alarm boxes, a door, posts on the door, a key having an aperture, and a frangible tubular guard in the apertured key, a boss in one of the posts to receive the guard and a movable part on the other post for engaging the guard.

4. In a guard for a fire alarm box, posts secured to the said box, a key having an aperture, a frangible tubular guard in the aperture of the key, a boss on one of the posts to receive the guard, and a movable part adapted to engage the end of the guard remote from the boss.

979,857. APPARATUS FOR ORE CONCENTRATION. THEODORE JESSE HOOVER, London, England, assignor to The Minerals Separation Limited, London, England. Filed July 14, 1910. Serial No. 571,989.



1. Apparatus for concentrating ores by gaseous flotation of certain mineral particles in liquid comprising in combination a mixing vessel, an agitator in the mixing vessel, a spitzkasten at the outlet of the mixing vessel, a secondary mixing vessel, a centrifugally acting agitator in said secondary mixing vessel and a connecting conduit between the tailings outlet of the spitzkasten and the zone of the suction influence of the centrifugally acting agitator of said secondary mixing vessel.

2. Apparatus for concentrating ores by gaseous flotation of certain mineral particles in liquid comprising a mixing vessel, an agitator in said mixing vessel, a spitzkasten at the outlet of said mixing vessel, a secondary mixing vessel, a connecting conduit between the tailings outlet of the spitzkasten and the center of the bottom of said secondary vessel and a centrifugally acting agitator in said secondary mixing vessel.

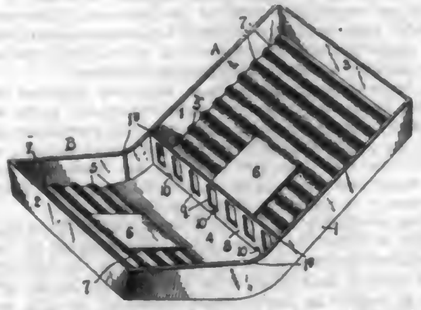
3. An apparatus for concentrating ores by gaseous flotation of certain mineral particles in liquid comprising in combination a plurality of mixing vessels connected as a group, an agitator in each of said mixing vessels, a spitzkasten at the outlet of said group of mixing vessels a plurality of secondary mixing vessels connected as a group, a centrifugally acting agitator in said secondary mixing vessel, and a connecting conduit between the spitzkasten and the zone of the suction influence of the centrifugally acting agitator.

4. An apparatus for concentrating ores by gaseous flotation of certain mineral particles in liquid comprising in combination a first mixing vessel, an agitator in the mixing vessel, a spitzkasten at the outlet of the mixing vessel, a secondary mixing vessel at substantially the same level as the first mixing vessel, a centrifugally acting agitator in said secondary mixing vessel, and a connecting conduit between the tailings outlet of the spitzkasten and the zone of the suction influence of the centrifugally acting agitator in the secondary mixing vessel.

5. An apparatus for concentrating ores by gaseous flotation of certain mineral particles in liquid comprising in combination a mixing vessel, a spitzkasten at the outlet of said mixing vessel, a secondary mixing vessel a centrifugally acting agitator therein, and a connecting conduit between the tailings outlet of the spitzkasten and the zone of the suction influence of the centrifugally acting agitator in the secondary mixing vessel, said conduit being provided with an air inlet.

[Claims 6 to 8 not printed in the Gazette.]

979,858. PHOTOGRAPHER'S TRAY. WILLIAM HOYER, St. Louis, Mo. Filed Oct. 15, 1909. Serial No. 522,702.



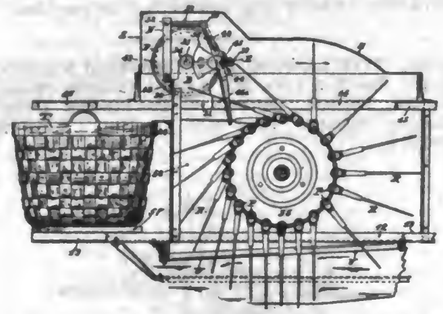
1. A photographer's rocking tray of approximately L-shape, having transverse corrugations at its opposite ends, a central plane part, a transverse partition having perforations and located at the central plane part, and plane surfaces intermediate of the sides extending lengthwise of the tray from the central plane part.

2. A photographer's rocking tray of approximately L-shape, having longitudinal rockers and transverse corrugations at its opposite ends, a central plane part, a transverse partition having perforations and located at the central plane part, and plane surfaces intermediate of the sides extending lengthwise of the tray from the central plane part.

3. A photographer's rocking tray of approximately L-shape, having transverse corrugations at its opposite ends, a central plane part, a transverse partition having perforations and drain openings and located at the central plane part, and plane surfaces intermediate of the sides extending lengthwise of the tray from the central plane part.

4. A photographer's rocking tray of approximately L-shape having transverse corrugations at its opposite ends, a central plane part, paired oppositely arranged grooves located at the central plane part, a transverse partition having perforations and shiftable from one pair of grooves to the other pair of grooves, and plane surfaces intermediate of the sides extending lengthwise of the tray from the central plane part.

979,859. COTTON-HARVESTER. ORLEY C. HOUGHTON, Chicago, Ill., assignor to Henry E. Bullock and James E. Bullock, Chicago, Ill. Filed Aug. 1, 1910. Serial No. 574,911.



1. In a cotton harvester, the combination, of a machine body, cotton picking mechanism located therein including axially rotating picking fingers, said picking fingers revolving in vertical planes parallel with the movement of the machine, and a stripper constructed to remove cotton from the picking fingers, said stripper including a series of reciprocating pivoted bars in spaced relation, said bars having a substantially reciprocatory movement, the picking fingers being constructed to pass through the spaces between said bars while said bars are reciprocating, as set forth.

2. In a cotton harvester, the combination, of a machine body, cotton picking mechanism located therein including axially rotating picking fingers, and a stripper, said stripper including a series of pivoted bars in parallel spaced relation, said bars having a substantially reciprocatory movement, said picking fingers being constructed to pass through the spaces between said bars, and means adapted to reciprocate said bars.

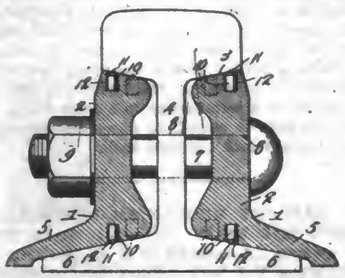
3. In a cotton harvester, the combination, of a machine body, cotton picking mechanism located therein including axially rotating picking fingers, and a stripper, said stripper including a series of pivoted bars in spaced relation, a movable connection to which said bars are pivoted, a crank shaft which said bars are constructed to engage, and means for rotating said crank shaft, whereby a substantially reciprocatory movement is imparted to said bars, said axially rotating picking fingers being constructed to pass through the spaces between said bars, as specified.

4. In a cotton harvester, the combination, of a machine body, cotton picking mechanism located therein including axially rotating picking fingers, and a stripper constructed to remove cotton from said picking fingers, said stripper including a series of bars in parallel spaced relation, said bars having a substantially reciprocatory movement, a crank shaft, said crank shaft having a long wrist pin upon which said bars are journaled, a link to which said bars are connected at one end, a support for the other end of said link, and means adapted to rotate said crank shaft.

5. In a cotton harvester, the combination, of a machine body, cotton picking mechanism located therein including axially rotating picking fingers, and a stripper constructed to remove cotton from said picking fingers, said stripper including a series of bars in spaced relation, said bars having a substantially reciprocatory movement, a crank shaft upon which said bars are journaled, a movable connection to which said bars are pivoted, and means adapted to rotate said crank shaft, said crank shaft being provided with balancing means, said axially rotating picking fingers being constructed to pass through the spaces between said bars, as stated.

[Claims 6 and 7 not printed in the Gazette.]

979,860. BONDING FISH-PLATE. CHARLES A. HUSE, Williamsport, and JAMES L. MILLER, Lewisburg, Pa. Filed Feb. 18, 1910. Serial No. 544,707.



1. A bonding fish plate and a rail cutting element carried thereby.

2. A bonding fish plate and means carried thereby to cut into the material of the rail during the application of the fish plate.

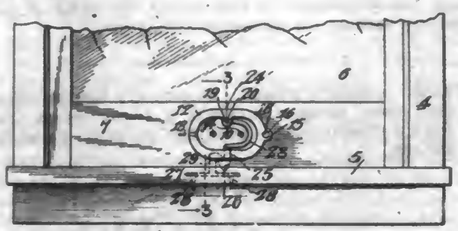
3. A bonding fish plate and a series of cutting elements carried thereby and projecting beyond the rail-engaging surfaces of said fish plate.

4. A bonding fish plate, and independent cutting elements fixedly secured in the rail-engaging surfaces of said fish plate.

5. A bonding fish plate, and means carried thereby to cut the material of the rail in any independent movement of the rail or fish plate.

[Claims 6 to 9 not printed in the Gazette.]

979,861. SASH-LOCK. WILLIAM ALEXANDER JORDAN, New Orleans, La., assignor of one-half to Oregon W. Long, New Orleans, La. Filed Dec. 27, 1909. Serial No. 535,107.



1. A sash lock comprising a substantially elliptical-shaped casing adapted to be carried by a sash, said casing comprising an inner wall, a connecting peripheral wall and a front flange, said peripheral wall having an opening at the bottom, a catch adapted to be secured to the sill or other fixed part, and a substantially U-shaped gravity arm arranged within and having a shape approximating one half the casing, said arm being pivotally mounted at its upper end at the top of the casing and arranged partially along and spaced from the top of said peripheral wall, then extended down and spaced from the end of said peripheral wall, and then down part way along and spaced from the bottom of said peripheral wall, the lower end of the arm projecting through the opening of the said peripheral wall and terminating in a hook which is adapted when the sash is closed, to automatically engage the catch and thereby lock the said sash, said arm swinging in a plane parallel to the plane of the sash.

2. In a sash-lock, the combination with a sash having a pocket formed in the bottom rail thereof, and a recess formed in the lower portion of the rail and communicating with the said pocket and the bottom of the rail, a casing arranged within the pocket, said casing comprising an inner wall, a connecting peripheral wall, and a front flange, the flange having a central depending ear having an opening, and the inner wall having an opening in register therewith, the wall of the casing at the bottom having an opening communicating with the said recess, a catch secured to the sill and adapted to project into the said recess, and a substantially U-shaped arm arranged within and at one side of the casing and provided at one end with oppositely-projecting pivots which respectively engage in the said registering openings, the other end of the arm being provided with a depending arm which projects through the opening in the peripheral wall and into the said recess, and terminating in a hook which is adapted, when the sash is closed, to automatically engage the catch and thereby lock the said sash.

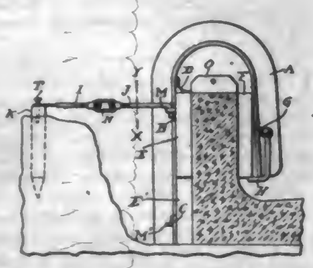
979,862. RATCHET MECHANISM FOR SCREW-DRIVERS AND THE LIKE. WILLEY B. LANE, New York, N. Y., assignor of one-half to J. C. McCarty & Co., a Corporation of New York. Filed Nov. 10, 1909. Serial No. 527,202.



1. In a tool holder, a handle member adapted to hold a revoluble tool, a tool turning ratchet, a pivoted pawl cooperating therewith, mounted on said handle member, a pivoted abutment member for said pawl coöperating therewith to relieve excessive strain upon the pawl pivot and limiting means for said abutment comprising an extension on one of the members aforesaid and movable through an aperture in the other of said members, the sides of said aperture limiting the movement of said extension.

2. In a tool holder, a handle adapted to hold a revoluble tool, a tool turning ratchet, a pawl coöperating therewith mounted on said handle, a movable abutment for said pawl and limiting means therefor comprising a pin extending from said abutment and movable through a circular drilled aperture in said handle, the sides of said aperture limiting the movement of said pin.

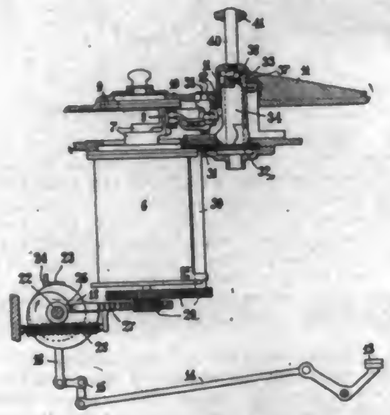
979,863. CEMENT-FORM. FRANCIS T. LEEDER, Sioux City, Iowa, assignor to Lewis & Leeder, Sioux City, Iowa, a Copartnership. Filed Apr. 25, 1910. Serial No. 557,405.



1. In a cement form for curbs, the combination with boards for inclosing the cement, of an inverted U-shaped holder one leg of which is longer than the other, guides secured to the boards on the long side of the holder in which the holder is held in position, a hook pivoted to the short end of the holder and adapted for adjustment under the board on the short or gutter side of the holder, and a stop on the long side of the holder adapted to rest on the top board inclosing the cement, substantially as described.

2. In a cement form for curbs, the combination with boards inclosing the cement, of an inverted U-shaped holder made of T rail one leg of which is longer than the other, guides secured to the boards on the long side of the holder in which the holder is secured, a hook pivoted to the short end of the holder and adapted for adjustment under the board on the gutter side of the form, the board on that side being wedge-shaped or wider at the bottom than at the top to facilitate the release of the holder, a stop on the long side of the holder adapted to rest on the top board inclosing the cement, and eyes secured to the boards on the long side of the form for the insertion of brace rods, substantially as described.

979,864. TYPE CASTING AND COMPOSING MACHINE. ROLLS PERCIVAL LINK and ARTHUR CHARLES MORGAN, London, England, assignors to Uni-Typebar, Limited, London, England. Filed Mar. 17, 1910. Serial No. 550,011.



1. In a type casting and composing machine, a plurality of magazines each comprising matrix-carrying sectors, sector operating means, a frame supporting the magazines, and means for raising the frame to remove one magazine away from the sector operating means, and for rotating and lowering the said frame to bring another magazine into operative relation with the said sector operating means.

2. In a type casting and composing machine, a frame supporting a plurality of magazines, a rotary screw-threaded shaft, a nut engaging the threads of the said shaft, means for preventing rotation of the nut, and means for, at times, releasing the said nut to allow it to rotate with the shaft.

3. In a type casting and composing machine, a frame supporting a plurality of magazines, a screw-threaded shaft, a nut engaging the threads of said shaft, and fixed ribs engaging slots in the said nut.

4. In a type casting and composing machine, a frame supporting a plurality of magazines, a screw-threaded shaft, a nut engaging the threads of said shaft, fixed ribs engaging slots in said nuts, and spring latches in alinement with the said fixed ribs.

5. In a type casting and composing machine, a frame supporting a plurality of magazines, a screw-threaded shaft, a nut engaging the threads of said shaft, fixed ribs engaging slots in the said nuts, means for rotating the said shaft first in one direction and then in the opposite direction, and spring latches in alinement with the said fixed ribs.

[Claims 6 to 23 not printed in the Gazette.]

979,865. SHUTTLE-THREADING MEANS. HERBERT L. LITCHFIELD, Southbridge, Mass. Filed Jan. 14, 1910. Serial No. 538,104.



1. A hand-threading loom-shuttle having an upright recess in its body communicating with the bobbin recess, and a transverse delivery-eye fixed in the shuttle-body and having a straight, tubular thread-passage extended thereinto from its outer end and having an inlet at its inner end opening into the bottom of such upright recess, the inner end of the thread-passage being inclined upwardly from the bottom of the passage to the edge of said inlet farthest from the open end of said passage, whereby a guide surface for the leading end of a flexible threader is provided, to direct the same upward through the inlet and into the recess in the shuttle-body when the threader is passed into the thread-passage to thread the shuttle.

2. As a new article of manufacture, a thread delivery-eye for hand-threading loom-shuttles, consisting of a cylindrical, elongated body having a straight, tubular thread-passage extended thereinto from one end and having an inlet near its other end communicating with the passage, the inner end of said passage being inclined upwardly from the bottom of the thread-passage to the edge of the inlet farthest from the open end of such passage, for the purpose set forth.

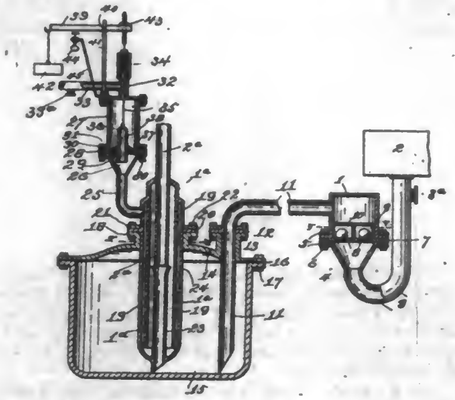
979,866. TAILOR'S MEASURE. JAMES E. LITTLE, Philadelphia, Pa. Filed Mar. 7, 1910. Serial No. 547,716.



1. A tailor's measure, comprising a plate curved to fit against the body, and cut out to fit under the arm, a fixed pin on said plate at the base and front of the scye, a tape secured to said fixed pin, a bar depending from the plate, a second bar mounted to slide on the first-mentioned bar, a thumb screw securing said bars at various positions of adjustment, one of said bars having a scale thereon, a cross bar at the lower end of said last-mentioned bar, headed pins on said bar and on said plate, and a tape adapted to be removably caught over any of said pins, subetantially as described.

2. A tailor's measure, comprising a plate bent to conform to the body of the customer, and fit beneath his arm, forwardly and rearwardly projecting extensions on said plate, a strap secured to said plate, and adapted to be passed over the shoulder of the customer, devices on the rear extension to engage and secure the strap, telescoping bars depending from the plate, and constructed to indicate the length of waist, said plate having a cut out portion in its front edge, and the part above said cut out portion bent flat against the chest, a fixed pin on the plate at the base and front of the scye, other pins on said plate, having a known distance from the fixed pin and devices for taking measurements on the body from all of said pins, substantially as described.

979,867. AUTOMATIC CHEMICAL AIR-LIFT. AUGUST LONG, Bayonne, N. J. Filed Aug. 11, 1910. Serial No. 576,732.



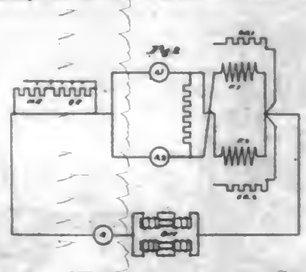
1. In a liquid lifting apparatus, the combination of a liquid reservoir, a plurality of telescoping pipes including an outer pipe, a pair of innermost pipes and an intermediate pipe, such pipes forming air and liquid channels therein and therebetween and projecting from and into the reservoir, said outer pipe being closed at its top and bottom and having a vent leading thereinto from the reservoir adjacent the top of the latter, one of the innermost pipes having an open end extending through and sealed to said closed bottom, the other innermost pipe being sealed to and projecting through the closed top of the intermediate pipe which has an open bottom, and means for supplying the apparatus with compressed air.

2. In a liquid lifting apparatus, the combination, with a reservoir into which liquid is injected and ejected therefrom, a liquid check valve in communication with source of liquid supply and with the reservoir, and a valve for automatically feeding air to the reservoir in different amounts for injecting and ejecting the liquid, a two-part liquid discharge pipe from the reservoir, a casing having closed ends and depending into the cylinder and having the automatic valve connected thereto and having the lower part of the discharge pipe sealed with and opening through the bottom thereof, a vent in the casing adjacent the top of the reservoir and opposite the intersection of the said two-part pipe, and a pipe depending from the top of the casing between the latter and the two-part pipe and terminating in an open end adjacent the lower end of the casing and having the upper part of the two-part pipe sealed to and projecting therefrom.

3. In a chemical liquid lifting apparatus, the combination, with a reservoir supplied with such liquid by its own gravity, of a plurality of telescoping pipes projecting into and out of the reservoir, and a casing inclosing the pipes and having one of them sealed to and opening through the bottom of the casing, a vent in the casing adjacent the inner face of the top of the reservoir, an air valve connected with the casing and automatically opened upon the liquid reaching the said vent, a vent in the valve permitting escape of air therethrough into said casing while the valve is closed, said valve being automatically closed upon the evacuation of the reservoir.

4. The combination, with the air cylinder having a valve seat therein, a pendent valve working in the cylinder and having an air vent therethrough, and a valve-stem projecting from the top of the cylinder, of means for hanging the valve and adjusting the movement thereof comprising a fulcrumed lever having a weight at one end and the other end working under an adjusting nut on the said stem, and an adjusting screw for limiting the movement of the lever.

979,868. ELECTRIC RAILWAY-BRAKE. JOSEPH N. MAHONEY, Wilkinsburg, Pa., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 20, 1908. Serial No. 428,163.



1. In a railway brake, the combination with motors adapted to act as generators and produce a flow of electric current in a local brake circuit, of means adapted to initially cause a rush of current through said brake circuit and then operating to restore the brake circuit to its normal braking condition.

2. In a railway brake, the combination with electric motors and a braking controller for connecting the motors to act as generators in a local brake circuit, of means governed by the current in said brake circuit for at first permitting a large flow of current through the brake circuit and then operating to restore said brake circuit to its normal braking condition.

3. In a railway brake, the combination with electric motors and a braking controller for connecting the motors to act as generators in a local brake circuit, of means adapted upon movement of the controller to a braking position, and governed according to the flow of current in said brake circuit, to first establish a direct circuit around a resistance to permit a large flow of current to the brake circuit and then operating to cut in said resistance and establish the normal braking combination.

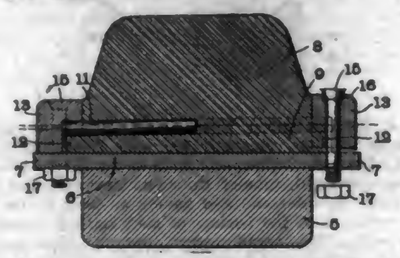
4. In a railway brake, the combination with electric motors and a braking controller for connecting up said motors to act as generators to supply current to a local brake circuit, and a magnetic brake shoe normally having a clearance space between same and the friction engaging surface, of means for causing a sudden momentary rush of current through the brake circuit for bringing said brake shoe into engagement with said friction engaging surface.

5. In an electric brake apparatus, the combination with a plurality of motors adapted to act as generators in a local brake circuit, of a magnetic regulating device having its coil in the brake circuit and controlling a switch normally short circuiting a manually controlled resistance in said circuit and operating upon a predetermined increase in the flow of current through said brake circuit to open the short circuit and cut in the resistance.

[Claims 6 to 15 not printed in the Gazette.]

979,869. CUSHION-TIRE WHEEL. CHARLES A. MARIEN, St. Louis, Mo. Filed Feb. 2, 1910. Serial No. 541,441.

1. The combination with the rim of a wheel, of a tire of resilient material formed in sections, each of said sections being provided at its base with a pair of lateral projections, transverse rods passing through the base of each section, a pair of independent sets of sectional retaining members, one set arranged at each side of the tire, each of said retaining members being provided with a pocket closed at both ends and adapted to receive one of said projections, and means for removably securing said retaining members to the rim of the wheel.



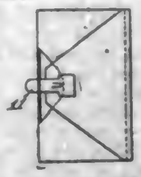
2. The combination with the rim of a wheel, of a tire of resilient material formed in sections, each of said sections being provided at its base with a pair of lateral projections, transverse rods passing through the base of each section, a pair of independent sets of sectional retaining members, one set arranged at each side of the tire, each of said retaining members being provided with a pocket to receive one of said projections, said pockets having recesses in their upper parts to receive the ends of said transverse rods, and means for removably securing said retaining members to the rim of the wheel.

979,870. CUSHION-TIRE WHEEL. CHARLES A. MARIEN, St. Louis, Mo. Filed Feb. 2, 1910. Serial No. 541,442.



The combination with a wheel, of a channel-shaped rim on said wheel, a tire of resilient material formed in sections, the ends of said sections being inclined to the plane of the wheel, the base of each of said sections being provided with longitudinal projections, longitudinal rods embedded in the base of said sections, inclined cross bars each provided on each side with a pocket to receive the projections of said base and the ends of said rods, and means for removably securing said cross bars in said channel-shaped rim.

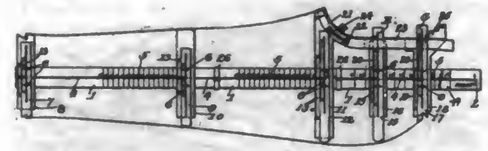
979,871. PAPER RECEPTACLE OR BOX. CHARLES O. MASON, Attleboro Falls, Mass. Filed July 14, 1910. Serial No. 577,059.



1. In a box having foldable flaps forming the closure thereof, one of said flaps having an integral tongue at the base thereof and a foldable metallic tongue carried by the opposing flap and adapted to be passed through the tongue of the first named flap at the base thereof.

2. A paper or pasteboard box having flaps for effecting the closure thereof, one of said flaps having a substantially semicircular integral tongue, said tongue having a slit at the base thereof in the line of the fold of the flap, a metallic fastening device carried by the other flap and comprising a foldable tongue adapted to be passed through said slit and be folded over upon said tongue, substantially as described.

979,872. DRAFTING INSTRUMENT. HENRY MATTINGER, Los Angeles, Cal. Filed Dec. 31, 1909. Serial No. 535,768.



1. A device of the character described comprising a plurality of conjoined strips extensible longitudinally according to the measurement of the length of the trouser garment, a plurality of cross pieces on said strips to measure the bottom, knee, seat and waist respectively, said waist measuring cross pieces and one of said seat measuring cross pieces being adjustable relatively to each other and to said strips and said bottom, knee and other of said seat cross pieces being adjustable relatively to each other, and a curved member pivotally attached to one of said cross pieces and adapted to be moved relatively to said cross pieces to obtain the curves necessary in a garment pattern.

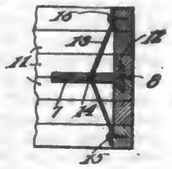
2. A device of the character described comprising a plurality of conjoined strips adjustable in respect to each other in accordance with the length required for a garment, said strips being provided on the faces thereof with scale indications, a plurality of sets of cross pieces on said strips to obtain the measurement of the bottom, knee, seat and waist of a trouser garment, the bottom, knee and one of the seat sets being adjustable relatively to each other and the waist and the other of said seat sets being adjustable relatively to each other and to said longitudinally adjustable strips, each of said cross pieces being provided with inversely arranged scale indications and a member pivotally and adjustably attached to one of said cross pieces to obtain the correct curve of a garment from the crotch to the waist line.

3. A device of the character described comprising a plurality of conjoined strips adjustable in respect to each other in accordance with the length required for a trouser garment, said strips being provided on the faces thereof with scale indications, a plurality of sets of cross pieces on said strips to measure the bottom, knee, seat and waist of a trouser garment, the bottom, knee and one of the seat sets being fastened to said strips and adjustable in respect to each other, and said waist set and one of said seat sets being adjustable relatively to each other and to said strips, and a curved member pivotally fastened to one of said seat sets to obtain the curves necessary in a trouser garment from the crotch to the waist line.

4. A device of the character described, comprising a plurality of conjoined strips relatively movable in accordance with the length desired for a garment, said strips being provided on the faces thereof with scale indications, a plurality of cross-pieces on said strips, three of which are movable relatively to each other and with said strips, and two of which are movable relatively to each other and independently of said strips, said cross pieces being provided on the faces thereof with scale indications inversely arranged, pivotal means on one of said cross-pieces adapted to be moved relatively to said strips and a curved member attached to said pivotal means to obtain the curves necessary in a garment pattern.

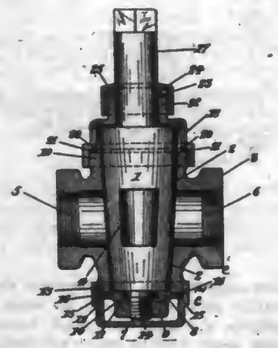
5. A drafting instrument for trousers, comprising a plurality of strips extensible longitudinally relatively to each other and having on the face thereof scale indications, reinforcing bands to normally hold said strips in a true line, a plurality of sets of cross pieces on and at right angles to said strips and provided with scale indications on the faces thereof, said cross pieces severally consisting of two cross pieces movable relatively to each other and to the right and left of said strips to measure the bottom, knee, seat and waist for a trouser garment, said bottom, knee and one of said seat sets being fastened on said strips and movable therewith and the other of said seat sets and said waist set being adjustable relatively to said strip and to each other, and a plurality of curved members pivoted to one of said seat sets to obtain the curve necessary from the crotch to the waist line.

979,873. PULLEY. WALTER N. MECKLAN, Memphis, Tenn., assignor of one-half to James P. Rowe, Memphis, Tenn. Filed Sept. 3, 1910. Serial No. 580,295.



In a pulley, a frame including a rim outwardly widened in cross section, a facing comprising segments arranged in annular series with the meeting edges of the segments of two series grooved and receiving the said rim of the frame, and strengthening strips secured through the rims and attached to the inner peripheral surface of the facing at opposite sides of the rim.

979,874. VALVE. FERDINAND MESSMER, Jr., St. Louis, Mo. Filed Mar. 23, 1910. Serial No. 551,141.



1. A valve including a casing, a plug therefor having a stem, a projection borne by the lower end of the plug of less diameter than the latter, a screw threaded pin projecting outwardly from said projection, a washer formed with a recess to receive said projection and with an opening to receive said pin, said washer abutting the lower end of the plug and having a flange which engages the bottom of the casing, a cap secured to the bottom end of the casing and formed with an internal offset, a packing washer encircling the said first named washer abutting the bottom end of the casing and being seated on said offset, and a nut on said screw threaded pin bearing against the outer end of the first named washer.

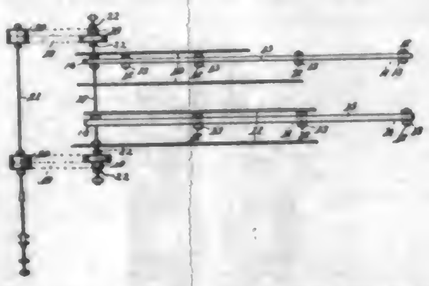
2. A valve including a casing, a plug therefor having a stem, a projection borne by the lower end of the plug of less diameter than the latter, a screw threaded pin projecting outwardly from said projection, a washer formed with a recess to receive said projection and with an opening to receive said pin, said washer abutting the lower end of the plug and having a flange which engages the bottom of the casing, a cap secured to the bottom end

of the casing and formed with an internal offset, a packing washer encircling the said first named washer and being seated on said offset, a nut on said screw threaded pin bearing against the outer end of the first named washer, the upper end of said plug extending above the top of the casing, a second cap secured to the top end of the casing, said cap being formed with an interior offset, a packing washer seated on the top end of the casing and surrounding said upper end of the plug, and being engaged by said offset of the cap, a sleeve borne by the cap and encircling said stem, packing surrounding the stem and seating on the top end of said sleeve and a third cap secured to said sleeve receiving said stem and pressing on top of said packing.

3. A valve including a casing, a plug therefor, said plug being formed at its lower end with a projection and a threaded pin extending outwardly therefrom, a washer received over said pin and recessed to receive said projection and abutting the bottom end of the plug, a packing washer abutting the bottom end of the casing and encircling the peripehry of said first named washer, a nut threaded on said pin and projecing against the outer end of said washer, and means inclosing said nut, washer, and the packing washer, said means being formed to support the packing washer against movement and being further formed for attachment to the casing.

4. A valve comprising a casing, a plug therefor, a stem borne by the plug, a washer seating on the upper end of the casing, and below the top end of the plug, a cap secured to the casing and seating on the washer, said cap extending over the top end of the plug and encircling the stem, and a stuffing box carried by the cap above the top end of the plug.

979,875. STARTING APPARATUS FOR PLEASURE-RAILWAYS. JOHN A. MILLER, Homewood, Ill. Filed Apr. 19, 1910. Serial No. 556,883.



1. A starting apparatus of the character described comprising a flexible belt constructed to have one surface frictionally engage a vehicle to impart movement to the latter said belt being free to move relatively to the vehicle during the movement of the latter.

2. A starting apparatus of the character described comprising a flexible belt constructed to have one surface frictionally engage a vehicle to impart movement to the latter, said belt being free to move relatively to the vehicle during the movement of the latter and means for imparting movement to said belt.

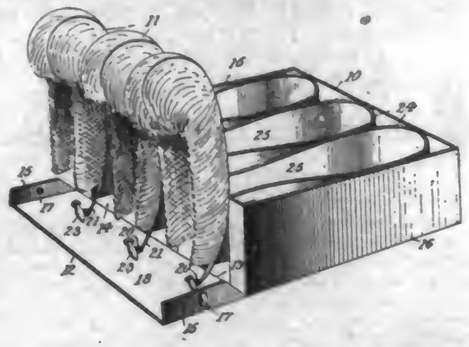
3. A starting apparatus of the character described comprising a flexible belt constructed to have one surface frictionally engage a vehicle to impart movement to the latter, said belt being free to move relatively to the vehicle during the movement of the latter a power shaft for driving said belt, and means for connecting said belt with the power at will.

4. A starting apparatus of the character described comprising a support, sheaves mounted therein, and an endless flexible belt carried by said sheaves and constructed to have one surface frictionally engage a vehicle to impart movement to the latter said belt being free to move relatively to the vehicle during the movement of the latter.

5. A starting apparatus of the character described comprising a vibratile support, and a flexible belt carried by said support and constructed to engage a vehicle to impart movement to the latter.

[Claims 6 to 10 not printed in the Gazette.]

979,876. HOLDER FOR PLUMES AND SIMILAR ARTICLES. EUGENE W. MOCH, New York, N. Y. Filed Sept. 12, 1910. Serial No. 581,643.

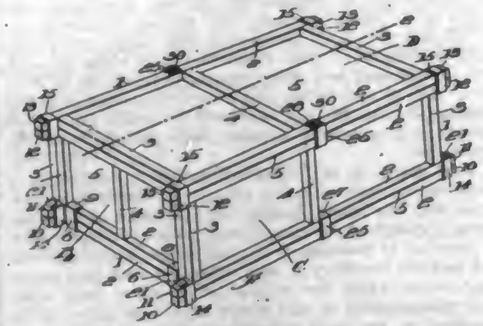


1. A device of the character described, comprising a box having a folding front, a plume having a heel bent at right angles to its stem, and a keeper on the inner face of the front that is removably engaged by said heel, whereby the plume is lodged in a horizontal position within the box when the front is folded, and righted when the front is unfolded.

2. A device of the character described, comprising a box having a folding front, a keeper on the inner face of said front and adapted to removably attach thereto a plume or similar article extending at right angles to said front, end flaps on the front that are adapted to be projected over the box sides, and fasteners for removably securing the box-sides to said flaps, whereby said sides are held against inward deflection when the fasteners are closed.

3. A device of the character described, comprising a box having a folding front, a partly detached lining on the inner face of the front and apertured at its detached section, to form an intervening pocket adapted to receive the bent heel of a plume-stem, and lining depressing means engaging the detached lining section above said heel.

979,877. COLLAPSIBLE BOX. SAMUEL MODESN, New York, N. Y. Filed Feb. 8, 1910. Serial No. 542,727.



1. A box comprising a bottom, ends and sides, means for securing said ends to said bottom, projections on said bottom, projections on said sides registering with said bottom projections, bands fitting over said projections and securing said sides to said bottom and means for securing the upper edges of the sides and ends of the box together.

2. A box comprising a bottom, sides, ends, means for securing said ends to said bottom, projections on said bottom, projections on said sides registering with said bottom projections, bands fitting over said projections and securing said sides to said bottom, means for locking said bands on said projections, and means for securing the upper edges of said sides and ends together.

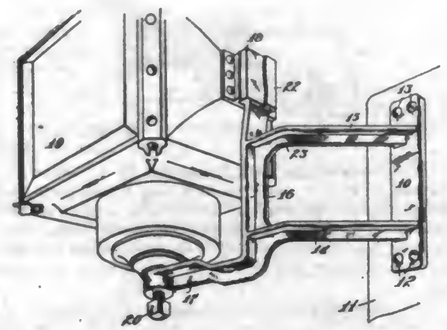
3. A box comprising a bottom, sides and ends, means for securing said ends to said bottom, projections on said bottom, projections on said sides, registering with said bottom projections, locking members secured to the box, comprising strips of flexible material, bands fitting over said projections and said strips, said strips having their ends bent over the edges of said bands to lock said bands in position on said projections, and means for securing the upper edges of said sides and ends together.

4. A box composed of a plurality of sections, a projection on one of said sections, a projection on another of said sections registering with the aforesaid projection, a locking member secured to one of said sections comprising a strip of flexible material, a band surrounding said projections and said strip to secure said projections together, said strip having its end bent over the edge of said band to lock said band in position on said projections.

5. In a box comprising a plurality of sections, a projection on one of said sections, a projection on another of said sections, registering with the aforesaid projection, a band fitting over said projections and securing said sections together, and means for locking said band on said projections.

[Claims 6 to 10 not printed in the Gazette.]

979,878. LAMP-BRACKET. ROGER M. NEWBOLD, Chicago, Ill., assignor to The Adams & Westlake Company, a Corporation of Illinois. Filed Jan. 24, 1910. Serial No. 539,887.



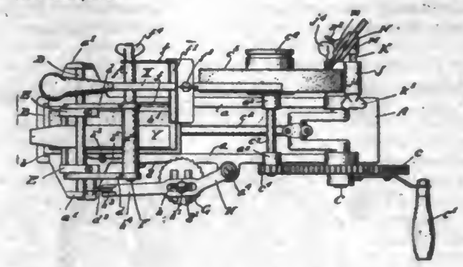
1. In a lamp bracket for vehicles, in combination, a wall plate, a plurality of arms projecting therefrom and united at their outer ends, a sole-plate carried by the arms and forming a seat for the bottom of the lamp, and a lug carried by the arms for laterally staying a lamp mounted upon such seat.

2. In a lamp bracket for vehicles, in combination, a wall plate, a pair of arms projecting outwardly therefrom, a bar uniting the outer ends of the arms, a sole-plate forming a seat for the bottom of a lamp and projecting from the lower end of the bar, and an upstanding stud for engaging a lateral socket lug of the lamp.

3. A lamp bracket comprising, in combination, a wall plate, an arm projecting from the plate and having branches at its outer end, one branch forming a central support for the bottom of the lamp and the other branch projecting upwardly for engaging the side of the lamp body adjacent its upper end.

4. A lamp bracket comprising, in combination, a wall plate, a support for centrally engaging the bottom of the lamp, a lateral support for engaging near its upper end a lamp seated upon the first-named support, such two supports being carried by the wall plate.

979,879. BLADE-SHARPENING MACHINE. FREDERICK P. OLDS, Berea, Ohio, assignor of one-half to William F. Wieland, Berea, Ohio, and one-half to Fred H. Leick, Cleveland, Ohio. Filed Apr. 19, 1910. Serial No. 556,373.



1. In a blade-sharpening machine, the combination of a reciprocable abrading member; means for effecting such reciprocation; a clamping member; and means for automatically effecting the movement of said clamping member.

2. In a blade-sharpening machine, the combination of a reciprocable abrading member; means for effecting such reciprocation; a clamping member; and operatively connected means, including a lever and a ratchet for automatically effecting the reciprocation of said clamping member.

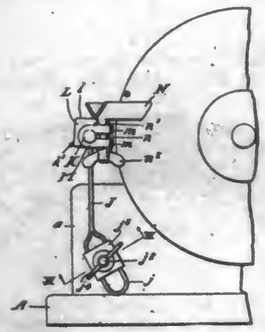
3. In a blade-sharpening machine, the combination of an abrading member; a clamping member; and means operatively connecting said members, whereby the reciprocation of one effects the transverse movement of the other.

4. In a blade-sharpening machine, the combination of an abrading member; a clamping member; and means operatively connecting said members, whereby the reciprocation of the former effects the intermittent transverse reciprocation of the latter.

5. In a blade-sharpening machine, the combination of a suitable frame; an abrading member; means for reciprocating it longitudinally; a pawl secured to said member; a ratchet mounted in the path of said pawl; a clamping member slidably mounted across said frame; and means comprising a lever operatively connecting said ratchet and clamping member, whereby the rotation of the former effects the reciprocation of the latter.

[Claims 6 and 7 not printed in the Gazette.]

979,880. TOOL-REST. FREDERICK P. OLDS, Beauchamp, Saskatchewan, Canada, assignor of one-half to William F. Wieland, Berea, Ohio, and one-half to Fred H. Leick, Cleveland, Ohio. Filed June 14, 1910. Serial No. 566,773.



1. In a tool rest, the combination of a frame, a standard pivotally mounted thereon, means for fixing said standard in various positions about its pivot and perpendicularly thereto, a member secured to the upper part of said standard, a tool rest slidably and rotatably mounted upon said member, and means for fixing said rest simultaneously against sliding and rotation.

2. In a tool rest, the combination of a frame, a standard pivotally mounted thereon, means for fixing said standard in various positions about its pivot, a member secured to said standard, a clamp rotatably and slidably mounted upon said member, a tool rest provided with a screw passing through said clamp, and a wing-nut for simultaneously holding said clamp and rest in a fixed position.

979,881. BEARING. ISAAC E. PALMER, Middletown, Conn. Filed Jan. 2, 1909. Serial No. 470,312.

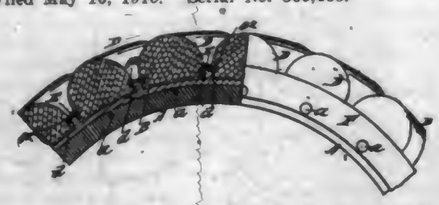


1. As a new article of manufacture, a shaft bearing comprising a longitudinally divided box and a contained longitudinally divided sleeve or bushing, said box and sleeve each having formations adapted to interengage to maintain the sleeve in circumferential position and to prevent relative longitudinal movement of the box and sleeve, said formations being inclosed and concealed when the parts are assembled, any member of said divided sleeve being thereby adapted to be lifted radially therefrom and thus removed from the shaft upon separation of said divided bearing box and circumferential adjustment of said divided sleeve.

2. As a new article of manufacture a shaft bearing comprising a longitudinally divided box provided with one or more locking teeth upon its inner concaved surface and a longitudinally divided sleeve or bushing positioned within said box, one or both members of said divided sleeve or bushing having a plurality of superficial teeth to engage said tooth or teeth upon said divided box said teeth being inclosed and concealed when the parts are assembled and rotatable friction reducing elements positioned within said sleeve or bushing.

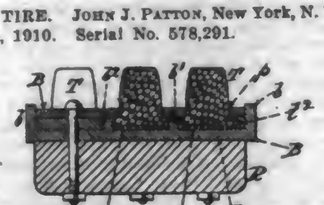
3. As a new article of manufacture, a shaft bearing comprising a longitudinally divided box, each of its members being provided with a locking tooth 21 between its outer edges, a longitudinally divided sleeve or bushing positioned within said box, each member of said sleeve or bushing having a plurality of superficial teeth 20 between its edges and within the lateral edges of said box and rotatable friction rollers 23 positioned within said sleeve or bushing.

979,882. TIRE. JOHN J. PATTON, New York, N. Y. Filed May 10, 1910. Serial No. 560,468.



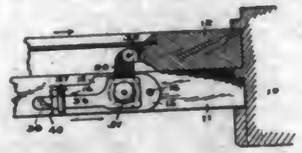
A wheel tire of the character designated, comprising a continuous one piece annular metallic base plate shrunk onto the rim of the wheel, formed with peripheral diagonal ribs which are rectangular in cross section, elastic resilient tread sections seated directly in the channels between the said diagonal ribs, said tread sections being formed with side and end shoulders, cap flange plates mounted upon, secured to, and overlapping said diagonal ribs and engaging the side shoulders of the said tread sections on either side, circumferential side plates formed with shoulders engaging the end shoulders on the tread sections, and bolts securing the said side plates to the rim of the wheel for the purpose and substantially in the manner described.

979,883. TIRE. JOHN J. PATTON, New York, N. Y. Filed Aug. 22, 1910. Serial No. 578,291.



A wheel tire of the character designated, comprising a continuous one piece rolled annular metallic rim shrunk onto the felly of a wheel and formed integrally with outturned peripheral side flanges and with intermediate longitudinal and transverse ribs on its base constituting pockets, elastic resilient tread blocks having flanged bases seated in said pockets, and a tread plate formed with apertures fitting over the bodies of said tread blocks seated in said pockets and overlapping the flanges on said tread blocks, said tread plate abutting against the inner sides of both of said out-turned peripheral flanges on the rim, and bolts securing said tread plate in position substantially in the manner and for the purpose described.

979,884. SASH OR WINDOW LOCK. WILLIAM E. PELAR, St. Joseph, Mo. Filed June 27, 1910. Serial No. 569,148.



1. The combination with the sashes of a window, of a sash-lock secured to one sash including a base-plate and a spindle, an arm moving on said spindle, a shoe pivotally mounted on said arm, a square boss on said arm, and an operating lever provided with a square opening to engage said boss, to move the shoe into contact with the second sash.

2. The combination with the sashes of a window, of a sash-lock secured to one sash including a base-plate and a spindle, an arm moving on said spindle, a shoe pivotally mounted on said arm, a square boss on said arm, an operating lever provided with a square opening to engage said boss, to move the shoe into contact with the second sash, and means to prevent accidental separation of the arm and lever.

3. The combination with the sashes of a window, of a sash-lock secured to one sash including a base-plate and a spindle, an arm moving on said spindle a shoe pivotally mounted on said arm, a square boss on said arm, an operating lever provided with a square opening to engage said boss, to move the shoe into contact with the second sash, and means for holding the operating lever in locked position.

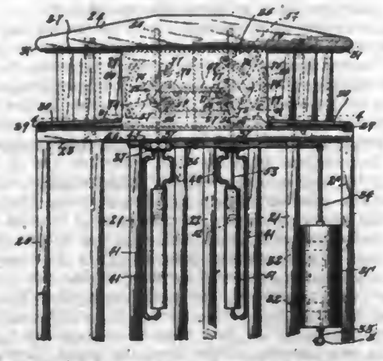
979,885. PAPER-PULP-REFINING APPARATUS. JOHN L. PERKINS, JOHN O. STANLEY, CLESSON W. PUTNAM, and JOHN MONTGOMERY, Holyoke, Mass., assignors to Stoneybrook Paper Company, Holyoke, Mass., a Corporation of Massachusetts. Filed Mar. 13, 1909. Serial No. 483,174.

1. In an apparatus of the character described, the combination with the usual longitudinally adjustable plug carrying shaft of a pulp refining engine of a sprocket wheel thereon, a motor having a driving shaft offset from and in a line parallel with the plug carrying shaft, provided with a sprocket wheel thereon, and a chain arranged transversely of said shaft and running around said sprocket wheels, a base on which the motor is mounted, a support having guideways on which the motor base is movable in a direction parallel with the length of the engine shaft, a screw rotatably engaged with but restrained against endwise movement relatively to said support and having a screw thread engagement with said motor base, and means for operating said screw.



2. In an apparatus of the character described, the combination with the longitudinally adjustable plug carrying shaft of a pulp refining engine, of a motor having a chain and sprocket wheel connection with said plug carrying shaft, a base on which the motor is mounted, a support having guideways on which the motor base is movable in a direction parallel of the length of the engine shaft, a screw rotatively engaged with, but restrained against endwise movement relatively to, said support and having a screw thread engagement with said motor base and provided with a sprocket wheel, a rotatable member for longitudinally adjusting the plug carrying shaft having appurtenant thereto a sprocket wheel, a shaft ranging longitudinally of the refining engine externally thereof and having sprocket wheels at opposite end portions thereof, and sprocket chains running respectively around the one end sprocket wheel of said longitudinally ranging shaft and around the sprocket wheel on said rotatable plug shaft adjusting member, and another chain running around the other sprocket wheel of the last named shaft and also around the sprocket wheel on the screw shaft which engages the motor base.

979,886. STEP, PLATFORM, AND DOOR OPERATING MECHANISM. CHARLES W. RAGLAND, Manchester, Va. Filed Jan. 7, 1910. Serial No. 536,834.



1. The combination of a car provided with a fixed platform, a sliding platform mounted on said car to slide in and out beneath said fixed platform, a door hinged to the car and connected to the sliding platform, and pneumatically actuated mechanism to operate said platform and door.

2. The combination of a car provided with a fixed platform, a sliding platform mounted on said car to slide in and out beneath the fixed platform, a set of steps pivotally mounted beneath the fixed platform, means operatively connecting the steps and platform, and pneumatically actuated mechanism to operate said platform and thereby move the steps.

3. The combination with a car provided with a fixed platform; of a sliding platform mounted on said car to slide in and out beneath the fixed platform, an air supply, a valve connected thereto, a cylinder, a piston reciprocable therein, pipes connecting each end of the cylinder with the respective ports of the valve, a piston rod fixed to said piston, and mechanism operatively connecting the piston rod and sliding platform.

4. The combination with a car; of a sliding platform mounted on said car, a door hinged to said car adjacent the platform, an operative connection between the door and platform, an air supply, a valve connected thereto, a cylinder, a piston reciprocable therein, pipes connecting each end of the cylinder with the respective parts of the valve, a piston rod fixed to said piston, and mechanism operatively connecting the piston rod and sliding platform to move said platform and thereby actuate the door.

5. The combination with a car provided with a fixed platform, a sliding platform mounted on said car to slide in and out beneath the fixed platform, a door mounted on the car adjacent the sliding platform, an operative connection between the door and sliding platform, an air supply, a valve connected thereto, a cylinder, a piston reciprocable therein, pipes connecting each end of the cylinder with the respective ports of the valve, a piston rod fixed to said piston, and mechanism operatively connecting the piston rod and sliding platform to actuate the platform and thereby move the door.

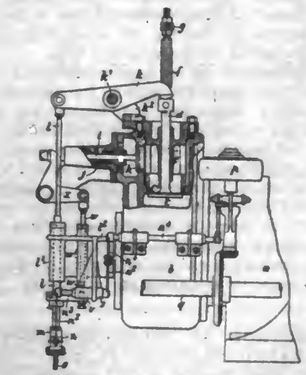
[Claims 6 to 20 not printed in the Gazette.]

979,887. VANADIUM ACID OXALATE AND PROCESS OF MAKING SAME. PAUL REHLÄNDER, Charlottenburg, Germany, assignor to Chemische Fabrik auf Actien (vorm. E. Schering), Berlin, Germany. Filed Sept. 20, 1909. Serial No. 518,556.

1. The process of manufacturing a solid preparation for vanadium green tonings which consists in subjecting vanadium chlorid to the action of anhydrous oxalic acid.

2. The herein described vanadium compound, suitable for vanadium green tonings, the same being the product of the action of anhydrous oxalic acid upon vanadium chlorid, and being a dry, friable, non-hygroscopic substance of gray-green color which is soluble in water and in alcohol with a blue color.

979,888. GOVERNOR FOR INTERNAL-COMBUSTION ENGINES. DAVID ROBERTS, ALFRED ROWE BELLAMY, and CHARLES JAMES, Grantham, England. Filed Dec. 13, 1909. Serial No. 532,862.



1. In an internal combustion engine of the kind herein before referred to, the combination with the charge-valve and the gas-valve, of a reciprocating plunger-rod designed to control the said valve, a finger pivoted to the lower end of the plunger rod, the said finger co-acting with a pivoted member, such as a link, designed to be oscillated from a controlling cam, and link and lever mechanism connecting

the governor or to the pivoted finger through the medium of an elastic or spring connection, substantially as hereinbefore described.

2. In an internal combustion engine of the kind hereinbefore referred to, the combination with the charge-valve and the gas-valve, of a reciprocating plunger-rod designed to control the said valves, a pivoted member, such as a link, connected to the lower end of the plunger-rod and co-acting with a pivoted finger designed to be oscillated from a controlling cam, and link and lever mechanism connecting the governor to the pivoted finger through the medium of an elastic or spring connection, substantially as hereinbefore described.

979,889. TIRE-SHOE-VULCANIZING APPARATUS. ROBERT ROWLEY, New York, N. Y. Filed Mar. 17, 1910. Serial No. 549,965.



1. In open cure vulcanizing apparatus for use in making tire-shoes, the combination of an annular tire-shoe supporting mandrel with a transversely solid, circumferentially segmental bead-supporting annulus fitting within the mandrel, projecting laterally on both sides of the mandrel, and having outwardly extending bead-receiving flanges; a pair of lateral wrapping-compression rings, each having an inward annular flange the inner extension of which is slightly greater than the outer diameter of the flanges of the bead-supporting annulus to permit the passage of wrapping material between the outer edges of the latter, and inner wall of the former, flanges; and a wrapping of fibrous material tubularly inclosing the bead-supporting ring and the mandrel; the sides of the segmental bead-supporting ring holding the part of the wrapping in contact with it removed from the mandrel for initial engagement by the inwardly projecting flanges of the wrapping-compression rings.

2. The combination of an annular, tire-shoe supporting mandrel with an interiorly fitting, transversely solid but circumferentially segmental bead-supporting ring having outwardly extending side flanges thickened at their outer edges to form bearing surfaces for a fibrous wrapping; a pair of wrapping compression, side rings each having an annular inner flange adapted to pass over the bearing surfaces of the flanges of the bead-supporting ring; and means for moving the side rings toward and from the sides of the bead-supporting ring.

3. The combination of an annular tire-shoe supporting mandrel with an interiorly fitting, transversely solid but circumferentially segmental bead-supporting ring, each segment having an outwardly extending flange; a tubular wrapping; and means for tensioning the wrapping.

4. The combination of an annular mandrel with an interiorly contained, circumferentially segmental, outwardly flanged ring the segments whereof are transversely solid; a pair of laterally movable side rings having inwardly projecting flanges the interior extensions whereof are greater than the exterior extension of the segmental ring; and means for actuating the side rings.

979,890. METHOD OF PRODUCING LETTERPRESS PLANOGRAPHIC-PRINTING PLATES. AUGUSTE L. SALTZMAN, East Orange, N. J., assignor to American Planograph Company, a Corporation of West Virginia. Filed Feb. 10, 1906. Serial No. 300,382. Renewed Apr. 30, 1910. Serial No. 558,654.

1. The method of producing a letter-press planographic printing plate which comprises placing letter-press matter in alined lines upon a transfer surface in a suitable medium, laying down the transfer surface upon a planographic plate, transferring the letter-press matter from the transfer surface to the plate, bringing the plate and a series of transfer surface line bars into contact, transferring the matter from the said plate to the line bars, making such substitutions, additions, subtractions, transpositions, or other changes in the line bars as may be desired to bring the matter to the desired final form, and then transferring the matter from the said transfer surface line bars to a unitary planographic plate.



2. The method of producing a letter-press planographic printing plate which comprises placing letter-press matter upon a transfer surface in a suitable medium, transferring the matter from the said surface to a unitary planographic plate, preparing said plate for printing planographically, taking impressions from the said plate to be used in reading proof, taking an impression from the said plate upon a series of transfer surface line bars, placing upon a transfer surface lines of characters embodying desired changes for those originally composed in which changes are to be made, transferring the matter from the said transfer surface to a unitary plate, preparing said plate for printing planographically, taking an impression from the said plate upon a series of transfer surface line bars, substituting the said line bars embodying the changes for the corresponding original bars, assembling the said bars into a form, bringing a unitary planographic plate into contact with the surface of said bars, transferring the matter from the said bars to the said plate, and preparing said plate for printing planographically.

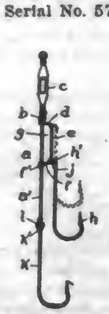
3. The method of producing a letter-press planographic printing plate which comprises placing letter-press matter in line series upon a transfer surface, bringing said transfer surface into definite relation to a planographic printing plate, transferring the letter-press matter from the said transfer surface to the printing plate, preparing the said printing plate for printing planographically, bringing a series of transfer surface line bars into definite relation to said plate so that a line of characters will be in register with each of the line bars, impressing the matter from the said plate upon the said bars in a transferable medium, transferring the letter-press matter from the said bars to a unitary planographic plate, and preparing said plate for printing planographically.

4. The method of producing a letter-press planographic printing plate which comprises placing letter-press matter in line series upon a transfer surface, bringing the said transfer surface into definite relation with a planographic printing plate, transferring the letter-press matter from the said transfer surface to the planographic printing plate, preparing said plate for printing planographically, taking impressions from the said plate for use in proof reading, bringing a series of line strip transfer surfaces into definite relation to said printing plate so that each line strip may receive the impression of a line of characters from the said plate, bringing the series of line strips and a planographic printing plate into contact, applying pressure to the said surfaces so that the transfer surfaces will adhere to the plate, detaching the said surfaces from the line strips leaving them adherent upon the plate, damping the said transfer surfaces and plate, stripping the transfer strips from the plate leaving the lines of characters adherent upon the plate, and preparing said plate for printing planographically.

5. The method of producing a letter-press planographic printing plate which comprises placing letter-press matter in line series upon a transfer surface, bringing the said transfer surface into definite relation with a planographic printing plate, transferring the letter-press matter from the said transfer surface to the planographic printing plate, preparing said plate for printing planographically, taking impressions from the said plate for use in proof reading, bringing a series of line strip transfer surfaces, detachably carried upon line bars, into definite relation to said printing plate so that each line strip may receive the impression of a line of characters from the said plate, placing upon another transfer surface in their changed form the lines of letter-press matter in which changes are desired, bringing the said lines into definite relation with the planographic printing plate, transferring the said lines to the said printing plate, preparing said printing plate for printing planographically, bringing a series of line strip transfer surfaces into definite relation with said plate so that each line strip may receive a line of characters, impressing the letter-press matter from the said plate upon the said transfer surface line bars, substituting the last-mentioned line bars for the corresponding line bars in the series of line bars so that the said series will then represent the letter-press matter in the desired final form, assembling the said transfer surface line bars into a form, bringing a planographic printing plate into contact with the surfaces of the said line bars, applying pressure to the said surfaces so that the transfer surfaces may adhere to the said plate, detaching the said transfer surfaces from the supporting line bars and leaving them adherent upon the surface of the plate, moistening the transfer surfaces and the plate, stripping the said strips from the plate, and preparing the plate for printing planographically.

[Claims 6 to 9 not printed in the Gazette.]

979,891. FISH-HOOK. HENRY C. SCHIELD, Merrill, Wis. Filed July 21, 1910. Serial No. 573,133.

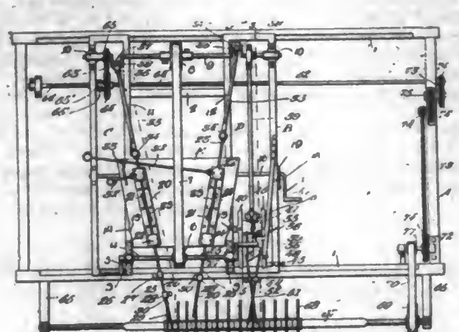


1. In a fish hook, a carrier-wire having at its upper end an eye for a line connection, at its lower end an eye, and an outward bent portion constituting a support for a second hook located intermediately of and separated from the upper and lower eyes and separated from the upper eye by a substantial portion of the length of the carrier wire, a hook suspended from the lower eye, and an upper hook provided with an integral angularly bent eye having slidable engagement with the upper portion of the carrier wire for engagement with bait of varying lengths and engagement at the lower limit of its movement with said support.

2. In a fish hook, a carrier wire having at its upper end an eye for a line connection, at its lower end an eye, and below and adjacent to said upper eye an outward bent loop having a longitudinal portion parallel to the carrier wire and of a length equal to at least one-third of that of the carrier wire and a lower transverse portion constituting a hook support and located intermediately of and separated from the upper and lower eyes, a hook suspended from the lower eye, and an upper hook having an integral angularly bent eye having slidable engagement with the longitudinal portion of said loop for engagement with bait of varying lengths and engagement at the lower limit of its movement with the lower transverse portion of said loop.

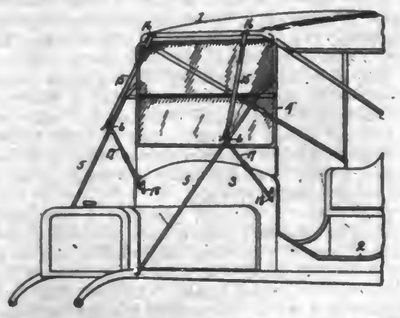
979,892. SAW-FILING MACHINE. HENRY SEIFERT, Weimar, Tex. Filed June 3, 1910. Serial No. 564,832.

1. In a machine of the character described, a frame, a carriage movably supported thereon, a table tiltably supported upon the carriage, a shaft extending transversely below the table and having an eccentric supporting the free end of said table, obliquely slotted guide members supported pivotally upon the table and having bearings, file carrying rods supported in the bearings and having radially extending pins engaging the slots in the guide members, a flange rising from the table, adjusting rods threaded through the flange and having swivel connection with the guide members, a counter shaft having cranks provided with sleeves, bifurcated links pivotally engaging said sleeves, and ball and socket joints connecting said links with the file carrying rods.



2. A bed frame, a carriage movable thereon, and including a rectangular frame, suitably connected guide members pivotally connected with the rectangular frame, means for adjusting the guide members and supporting the same at various adjustments, a slide guided for reciprocation in the guide members, a lever fulcrumed upon the slide, resilient file carrying members connected with the arms of the lever, an auxiliary arm extending rearwardly from the lever and having a notch, a spring secured upon the slide and engaging the notch, a second auxiliary arm extending from the lever, and a suitably supported adjusting screw engaging said second auxiliary arm.

979,893. FRONT FASTENING DEVICE FOR VEHICLE-TOPS. ALBERT E. SMITH, Detroit, Mich., assignor of one-half to Leonard A. Young, Detroit, Mich. Filed Sept. 1, 1909. Serial No. 515,560.



1. A front top fastener, comprising a flexible membe attached to the top and having a ring at its end, an in clined brace, a slidable bracket mounted thereon and hav ing a hooked extension adapted to engage said ring, hook pivotally mounted on said hooked extension to coin cide therewith and lie in the plane thereof, said hook bein adapted to receive the ring on said strap and confine sai ring in the hooked extension of the bracket.

2. The combination with an automobile top, of a win shield brace, a bracket movably mounted on said brace, t slide longitudinally, a fastening device carried by sai bracket, and a strap attached to the top and detachabl connected to said fastening device.

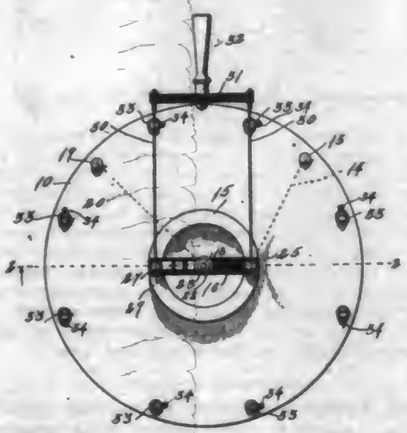
3. The combination of an automobile top, a wind shield brace rod, a bracket slidable on said brace rod, a strap attached to the top and detachably coupled to said bracket, and a lateral brace connected at one end with said brace rod, and at the other end with a fixed support.

4. A front fastening for an automobile top, comprising a strap attached to said top and having a ring at the end thereof, a wind shield brace rod, a bracket slidable upon said rod, a member on said bracket adapted to detachably engage the ring on said strap, and a lateral brace connected to said bracket.

5. A front fastening for an automobile top comprising a strap attached to said top, a wind shield brace rod, a bracket slidable upon said rod and adapted to be fixedly secured thereto, means for detachably connecting the end of said strap to said bracket, and a lateral telescopic brace connected to said bracket and to a fixed support.

[Claims 6 to 8 not printed in the Gazette.]

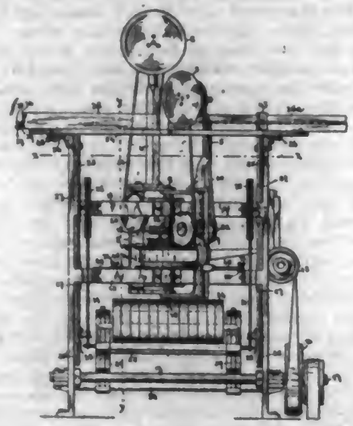
979,894. ELECTRIC SWITCH. ROY D. SNYDER, Delta, Pa. Filed May 12, 1910. Serial No. 560,891.



1. In an electric switch, a base, a fixed contact ring mounted on said base, a turn-table carried on said ring and in electrical contact therewith, a switch blade support carried on said turn-table and electrically connected to said turn-table, a second switch blade support carried on said turn-table and insulated therefrom, a fixed contact post, an electric connection between the fixed contact post and the second support, a pair of knife blades pivoted to said supports, and a plurality of pairs of contacts arranged around said turn-table and adapted to be engaged by said knife blades.

2. In a device of the kind described, a base, a contact ring mounted upon said base, a main line binding post, an electrical connection between said binding post and ring, a turn-table ring carried on the contact ring, an insulating bar extending across said turn-table ring diametrically thereof, a center pin passing through said base and bar, adjusting screws on the upper end of said center pin, a spring surrounding said center pin and having one end bearing against the bar and the other end against said screws, a knife blade support mounted on said bar and electrically connnected to said turn-table ring, a second knife blade support mounted on said bar and insulated from said turn-table ring, an electric connection between the second support and the center pin, a second line wire binding post, a wire connecting the center pin and second main line binding post, a double blade knife switch mounted in said supports, and a series of spaced contacts arranged in pairs around the base and adapted to be engaged by said knife switch.

979,895. MITERING-MACHINE. CHARLES T. SPENCER, Elmira, N. Y. Filed June 25, 1910. Serial No. 568,824.



1. In a mitering machine, a pair of saws positioned to operate in planes which intersect in a fixed line and having their arbors mounted in bearings normally fixed as to movement in a plane at right angles to said line, one of said saws being mounted beyond and extending to or across the plane of the other saw, combined with means for adjusting the bearings to change the angular positions of one or both of said saws around said line of intersection as a center.

2. A mitering machine comprising a table, a pair of saws having their arbors mounted in bearings normally fixed as to horizontal movement, the plane of said saws intersecting in a fixed line perpendicular to the table and one saw extending to or across the plane of the other, means for positioning the work on the table between the saws and means for imparting relative vertical movement between the saws and table.

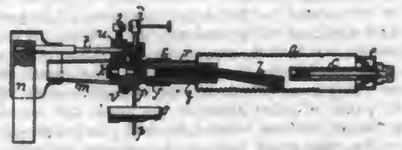
3. A mitering machine comprising a table, a pair of saws having their arbors mounted in bearings normally fixed as to horizontal movement, the planes of said saws intersecting in a fixed line perpendicular to the table and one saw extending to or across the plane of the other, means for adjusting the bearings to change the angular positions of one or both of said saws around said line of intersection as a center, and means for imparting relative vertical movement between the saws and table.

4. A mitering machine comprising a table, a pair of saws having their arbors mounted in bearings normally fixed as to horizontal movement, the planes of said saws intersecting in a fixed line perpendicular to the table and one saw extending to or across the plane of the other, a work guide on the table between the saws adapted to be set at different angular positions around said line of intersection as a center, and means for imparting relative vertical movement between the saws and table.

5. A mitering machine comprising a table susceptible of vertical movement upon the frame of the machine, a pair of saws, standards passing upward through openings provided therefor in the table, the saws being mounted on said standards above the table in planes which intersect in a line perpendicular to the table with one saw extending to or across the plane of the other, pivotal mountings for one or both of said standards in axial coincidence with said line of intersection extended downward, means for fastening said standard or standards in different angular adjustments, a work guide upon the table adapted to hold the work to a line which intersects the line of intersection of the saw planes, means for setting said guide at different angular positions around said line of intersection as a center, means for imparting rotary motion to the saws, and means for imparting relative vertical movement between the table and saws.

[Claim 6 not printed in the Gazette.]

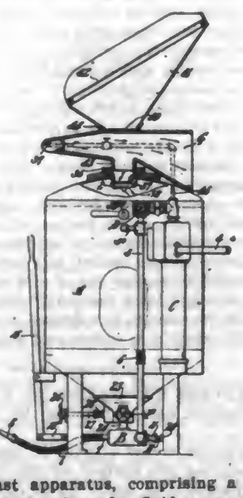
979,896. SOLDERING-TOOL. REINOLD STAEHLE, Mount Vernon, N. Y. Filed Jan. 14, 1910. Serial No. 538,040.



1. A device of the kind described, comprising a tank having a casing projecting therefrom, an outlet tube located in the casing and communicating with the tank, a cooling chamber formed between the casing and the outlet tube, said casing having a series of ventilating passages near the tank and leading to the cooling chamber, and a movable sleeve mounted on the casing adapted to regulate the area of the ventilating passages.

2. A device of the kind described, comprising a tank having an outlet tube, a surrounding spaced casing for the tube provided with ventilating passages, a movable sleeve for regulating the area of the ventilating passages, a valve casing connected to the outlet tube, a soldering tip and a heat conductor connecting the soldering tip to the valve casing.

979,897. CLOSED-HOPPER SAND-BLAST. GEORGE F. STEEDMAN, St. Louis, Mo., assignor to Curtis & Company Manufacturing Company, Wellston, Mo., a Corporation of Missouri. Filed June 2, 1910. Serial No. 564,595.



1. A sand blast apparatus, comprising a closed sand hopper whose contents is under fluid pressure, a conduit for establishing communication between said hopper and a blast tool, means for supplying fluid under pressure to said conduit so as to cause a stream of sand under pressure to emerge from the blast tool, and means for cutting off the flow of sand and fluid pressure from the blast tool without disturbing or varying the supply of fluid pressure to the sand hopper.

2. A sand blast apparatus, comprising a closed hopper or container that is adapted to hold sand under air pressure, a conduit for conducting a stream of sand from said hopper to a blast tool, means for supplying air under pressure to said conduit, and a shut-off valve for starting and stopping the flow of sand and air through said conduit.

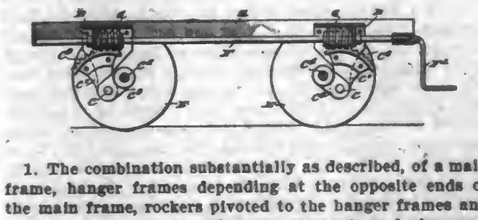
3. A sand blast apparatus, comprising a closed hopper or container that is adapted to hold sand, a mixing chamber communicating with the discharge opening in said hopper, means for supplying compressed air to said hopper and to the mixing chamber, a conduit communicating with said mixing chamber for conducting a stream of sand and air to a blast tool, and means for stopping and starting the flow of sand and air from said mixing chamber to said conduit without disturbing the supply of compressed air that is admitted to said hopper and mixing chamber.

4. A sand blast apparatus, comprising a closed hopper or container that is adapted to hold sand, a mixing chamber communicating with the discharge opening in said hopper, means for supplying compressed air to said hopper and to said mixing chamber, a conduit communicating with said mixing chamber for conducting a stream of sand and air to a blast tool, and a shut-off valve under control of the operator for controlling the flow of sand and air that passes from said mixing chamber into said conduit

5. A sand blast apparatus, comprising a closed hopper or container that is adapted to hold sand, a mixing chamber communicating with the discharge opening in said hopper, means for supplying compressed air to said hopper and mixing chamber, a conduit communicating with said mixing chamber for conducting a stream of sand and air to a blast tool, and a shut-off valve in said mixing chamber for controlling the flow of air and sand from said mixing chamber into said conduit, said shut-off valve being so designed that when it is closed the pressure of the air in the mixing chamber operates to hold it seated.

[Claims 6 to 19 not printed in the Gazette.]

979,898. BRICK-CAR. CLARENCE M. STEELE, Statesville, N. C. Filed Apr. 5, 1910. Serial No. 553,476.



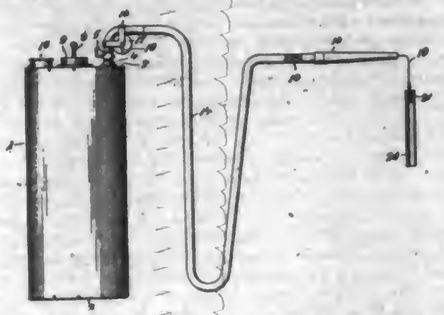
1. The combination substantially as described, of a main frame, hanger frames depending at the opposite ends of the main frame, rockers pivoted to the hanger frames and having arms provided with worm segments and also arms adapted to support axles, axles carried by said arms and provided with wheels, an operating shaft journaled in the end frames and provided with worms meshing with the segments of the rockers, the worms and segments at the opposite ends of the frame being one right and the other left, substantially as set forth.

2. The combination of a framing, rockers pivoted intermediate their ends thereto and having crank arms projecting from their pivots and provided with worm segments and also having crank arms projecting from their pivots at an angle to said first crank arms being provided near their free ends with bearings and wheels having their axles journaled in the bearings of said crank arms, and a shaft journaled to the framing and having worms meshing with the worm segments, substantially as set forth.

3. The combination of a framing having end frames provided with cross bars having midway between their ends bearings for a worm shaft, the said end frames having depending hangers provided with bearings, a rocker pivoted at its ends in the bearings of the hanger and having at its ends projecting crank portions provided with bearings near their free ends, axle shafts journaled in said bearings crank arms projecting from the rockers midway between their ends and at an angle to the arms having bearings for the axle, said intermediate crank arms being provided with worm segments and an operating shaft journaled in the cross bars of the end frames and having worms meshing with the worm segments of the rockers, substantially as set forth.

4. The combination of a frame, hangers depending from the frame adjacent the ends thereof, rockers having at their ends crank portions provided with axial bearings axles journaled in said bearings, the rockers being provided between their ends with crank arms projecting at an angle to said first crank arms and having worm segments and an operating shaft having worms meshing with said segments, substantially as set forth.

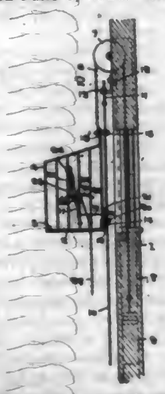
979,899. LINE-THREADING DEVICE. FRANK N. STRIGLEDER, Richmond, Va. Filed Mar. 12, 1910. Serial No. 548,966.



1. In a line threading device, the combination of a fluid pressure supply pipe having an opening therein and provided with a discharge nozzle, a bracket mounted upon the exterior of said pipe in proximity to said opening, a reel journaled upon said bracket, a line wound upon the reel and extending through said opening into the pipe and thence through the pipe and externally through the nozzle, and a traveler connected with the free end of said line, said traveler comprising a flexible stem carrying radially flexible disks.

2. In a line threading device, the combination of a fluid pressure supply pipe having at one end an elbow-shaped inlet portion and an opening adjacent thereto and having at its opposite end a discharge nozzle, a bracket fitted upon the elbow-shaped portion of the pipe, a reel mounted upon said bracket to lie within the bend formed by the elbow-shaped portion, a line wound upon the reel and extending therefrom through said opening into the pipe and thence exteriorly of the pipe through the nozzle, and a traveler detachably connected with the free end of the line, said traveler comprising a flexible stem carrying a series of concavo-convex radially flexible disks.

979,900. FIRE-ESCAPE. WILLIAM C. STUART, Weatherford, Tex. Filed June 3, 1910. Serial No. 564,826.



1. In a fire escape, the combination with a basket, of supporting chains for said basket, counter-weights attached to said chains, cables, means to hold said cables taut, sheaves carried by the basket adapted to engage said cables, one set of the sheaves engaging the cables at one side and the opposite set at the opposite side, an auxiliary sheave, a gripping roller adapted to engage one of the cables between one set of the sheaves and the auxiliary sheave, a lever pivoted to the basket, a link connecting said lever with the gripping roller, a rack carried by the basket, a latch coöperating with said rack to hold the lever in its adjusted position, means carried by the lever to release the latch from the rack and additional means attached to the opposite end of the latch and depending from the basket, whereby the latch may be released when at a distance from the basket.

2. A fire escape for buildings, comprising the combination with a pair of cables and means to attach the same to a building, of a basket, supporting chains for said basket, rotatably mounted sheaves, over which said chains extend, counter-weights attached to the opposite ends of the chains, a pair of yokes adjacent the upper and lower ends of the basket, sheaves carried by said yokes and engaging said cables, the upper pair of the sheaves engaging that portion of the cables adjacent the building and the lower pair that portion of the cables farthest from the building, an auxiliary sheave engaging one of the cables at a point above the lower set of sheaves, a gripping roller adapted to engage one of said cables at a point between the lower sheave and the auxiliary sheave, a bell crank lever carrying said gripping roller, a lever pivoted to the basket, a link connecting said lever to the bell crank lever, a rack carried by the basket, a latch carried by the lever and adapted to coöperate with the rack to hold the lever in its adjusted position, means carried by the lever to release said latch from the rack and a chain connected to the opposite end of the latch to release the latch from the rack when a pull is given said chain.

3. In a fire escape, the combination with a basket, supporting chains therefor, pulleys over which said chains extend and counter-weights secured to the opposite ends of said chains; of a pair of guide cables extending vertically of a building, means to hold said cables taut, yokes carried at the upper and lower ends of said basket, sheaves mounted within said yokes, the upper and lower sets of said sheaves engaging said cables at opposite sides, a gripping roller carried by said basket, and means to move said roller into engagement with one of said cables.

4. In a fire escape, the combination with a pair of vertically disposed cables and a basket slidably mounted on said cables; of means to prevent the ascent and descent of said basket, comprising a lever pivoted to said basket, a bell crank lever also carried by said basket, said bell crank lever carrying a sheave adapted to engage one of said cables, a link connecting said levers, and means to retain said first referred to lever in any desired position.

5. In a fire escape, the combination with a pair of vertically disposed cables and a basket slidably mounted on said cables; of a lever pivoted to said basket, a bell crank lever also carried by said basket, said latter lever carrying a sheave adapted to engage one of said cables, a link connecting said levers, a latch carried by said first referred to lever to retain the same in any desired position, and means to release said latch from within and without said basket.

979,901. PROCESS FOR TREATING WOOD. FRANK J. TAYLOR, Phoenix, Ariz. Filed May 16, 1910. Serial No. 561,772.

1. The herein described method of treating wood, consisting in treating the surface of the wood to a liquid formed of cobalt-chlorid, water, oil of cloves, glycerin and alcohol and applying heat to the thus treated surface.

2. The herein described method of changing a wood to a permanent dye, which consists in treating the surface thereof to a liquid formed of cobalt-chlorid, water, oil of cloves, glycerin and alcohol; allowing said surface to dry and applying heat thereto.

3. The herein described method of changing the surface of wood to a permanent dye, which consists in treating the surface of the wood to a liquid formed of cobalt-chlorid, water, oil of cloves, glycerin and alcohol; allowing said surface to dry until the greater portion of said liquid has evaporated and applying to the thus treated surface a degree of heat, which will slightly burn, scorch or char that portion thereof absorbing the liquid to a greater extent.

979,902. RECOVERY OF RUBBER. HAROLD T. G. VAN DER LINDE, New York, N. Y. Filed Jan. 8, 1910. Serial No. 536,980.

1. In the art of separating particles of rubber from mixtures in which they are contained, the method of increasing the buoyancy of the rubber particles, for the purpose described, by subjecting them to the action of a specific-gravity lowering intumescent; substantially as described.

2. In the art of separating particles of rubber from mixtures in which they are contained, the method of increasing the buoyancy of the rubber particles, for the purpose described, by subjecting them to the swelling action of a specific-gravity lowering solvent; substantially as described.

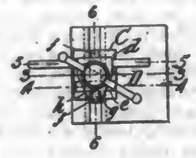
3. In the art of separating particles of rubber from mixtures in which they are contained, the method of increasing the buoyancy of the rubber particles, for the purpose described, by subjecting them to the action of a substance of the paraffin series, substantially as described.

4. In the art of separating particles of rubber from mixtures in which they are contained, the method of increasing the buoyancy of the rubber particles, for the purpose described, by subjecting them to agitation in the presence of a specific-gravity lowering intumescent; substantially as described.

5. In the art of separating particles of rubber from mixtures in which they are contained, the method of increasing the buoyancy of the rubber particles, for the purpose described, by subjecting them to agitation in the presence of water and a specific-gravity lowering intumescent; substantially as described.

[Claims 6 to 27 not printed in the Gazette.]

979,903. TOOL-HOLDER FOR LATHES. FREDERICK D. VAN NORMAN, Springfield, Mass. Filed July 21, 1910. Serial No. 572,964.



1. In a lathe tool holder, the combination with a slide rest having an upright post adjustably engaged therewith, of lower and upper clamping blocks having vertical apertures through which said post passes and whereby said blocks are swiveled on the post, the lower block having a pair of parellel, straight, upwardly opening channels, of equal widths but of varying depths, in portions thereof at opposite sides of the post, and means screw engaging on the post and operative against the upper clamping block for confining it in its engagement with a tool in either of said channels.

2. The combination with a slide rest having an upright post adjustably engaged therewith, of lower and upper clamping blocks having vertical apertures through which said post passes, the lower block having a pair of parellel, straight, upwardly opening channels, of equal widths but of varying depths, in portions thereof at opposite sides of the post, and having upwardly opening curved depressions in its top at opposite portions thereof which are outwardly beyond said channels, and the upper clamping block having an extension to overlie either of said curved depressions provided with a vertical threaded hole, and a screw, engaged in said hole, having an operating head at its upper end, above the top of the upper clamping block, and having a rounded lower end for a rocking engagement in either of said curved depressions, and means, screw-engaging on the post and operative against the upper clamping block for confining it in its engagement with a tool in either of said channels.

3. The combination with a slide rest having an upright post, of lower and upper clamping blocks having vertical apertures through which said post passes, the lower block having a pair of parallel straight upwardly opening channels of equal widths but of varying depths, the bases of which are similarly curved on arc lines, and having upwardly opening curved depressions at its top at opposite portions thereof which are outwardly beyond, and in a line at right angles to, the length of such channels, the upper clamping block being revolubly reversible relatively to the post and lower clamping block and having an extension to overlie either of said curved depressions, provided with a vertically threaded hole and having surrounding its vertical aperture for the post an upwardly projecting annular rib, the external surface of which is curved on an arc of a circle generated from a point below the top of such clamping block, a screw engaged through the threaded hole in the clamping block extension having an operating head above the block and having a rounded lower end for a rocking engagement in either of said curved depressions, a tool base supporting-bar having a curved base adapted to be removably and interchangeably engaged in either of said channels of the lower clamping block, a collar surrounding the post above the upper clamping bar having a depression for the engagement therein of the aforesaid annular rib, and means for screw-engaging on the post and operative against the upper clamping block for confining it in its engagement with the tool in either of said channels.

4. The combination with a slide rest having an upright post, of lower and upper clamping blocks having vertical apertures for said post, the upper block having at its top surrounding the post aperture an annular rib the surface of which is grooved on the arc of a circle generated from a point below the top of such upper clamping block, and such block also having an extension to overlie said curved depression provided with a vertically threaded hole therethrough, a screw engaged through said hole having at its upper end above the top of the clamping block an operating head and having a rounded end for engagement in said curved depression, a collar surrounding the post above the upper clamping block and having a curved depression in its under side, and means screw engaging the upper extremity of the post and operating through said collar for confining the upper clamping block in its engagement with a tool in said channel.

5. A tool holder comprising a base clamping block and an upper clamping block and means for imparting a clamping bind thereto, the base block having two upwardly opening channels of varying depths made with curved bases, and a tool rest bar to be interchangeably engaged in either of said channels and having a curved bottom and a straight top.

979,904. ELECTRIC SOLDERING-IRON. ALVIN H. WAAGE and CLARENCE P. WAAGE, Chicago, Ill. Filed Jan. 28, 1910. Serial No. 540,706.



1. In a device of the character described, a heating element or cartridge comprising a coil of wire, a heating conducting core upon which said coil is directly wound extending beyond the coil at one end for engagement wit

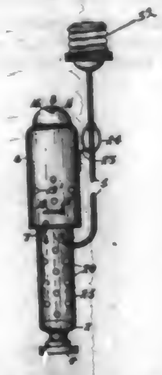
a part to be heated, a part to be heated provided with two bores, one for the coil and one for the core extension to make engagement therewith, a hollow handle, a pipe having a hollow enlarged end and connecting said handle and part to be heated, a terminal block supported in said enlarged end and projecting therefrom and over which the end of the handle is adapted to pass.

2. In a device of the character described, a heating element or cartridge comprising a heat conducting core circumferentially grooved near one end, a coil surrounding said core leaving a part projecting at the other end, terminal wires overlying said groove and secured by transversely wound securing wires, and an extension from said coil comprising a series of turns of relatively thin sheet insulating material embedding the terminal wires therein.

3. In a device of the character described, a hollow part to be heated, a heating element therein having an insulating extension consisting of a roll of insulating sheet material integral with the insulation of said heating element, terminals of said heating element separated by layers and embedded within said roll, a tube through which said extension passes to the handle, an enlarged thimble or cap secured to the end of the tube, a perforated insulating terminal block secured within said thimble and projecting therefrom, terminal screws carried by said projecting part of said block, and a longitudinally perforated handle to receive the conducting cord, and adapted to make engagement with and inclose said thimble.

4. In a device of the character described, a tube 14 having screw-threaded engagement with a copper tip, 5, at one end and a cap, 16, larger than said tube at the other end, an insulating terminal block 18 projecting therefrom perforated, as at 23—23', for terminal wires, 31—33, said block adapted for support in said cap and flattened, as at 25, and carrying terminal screws, 24—24', and a handle, 9, perforated axially, as at 11 and 12 providing a shoulder therebetween, and adapted for frictional engagement with said cap and limited in its movement by said shoulder.

979,905. ELECTRIC SEALING DEVICE. JOHANN G. WALLMANN, Oakland, Cal., assignor of one-half to Edward Pierce, Oakland, Cal. Filed June 27, 1910. Serial No. 569,041.



1. In an electric sealing device, the combination of a tube having a lower portion and a contracted upper portion, a cap supporting a seal removably secured to the lower portion of said tube, a casing having a head containing a longitudinal opening and surrounding the upper portion of said tube and projecting over the lower portion thereof, a drum in said casing, and current conducting means leading into said casing and encircling said drum.

2. In an electric sealing device the combination of a tube having a lower portion and a contracted upper portion, a cap supporting a seal removably secured to the lower portion of said tube, a sleeve having openings surrounding the lower portion of said tube, said sleeve being out of contact with said tube, a casing having a head containing a longitudinal opening and surrounding the upper portion of said tube and projecting over the lower portion thereof, a drum in said casing and encircling said drum.

3. In an electric sealing device the combination of a tube having a lower portion, and a contracted upper portion having a stop at its upper end extending laterally therein, a cap supporting a seal removably secured to the lower portion of said tube, a sleeve having openings surrounding the lower portion of said tube, said sleeve being out of contact with said tube, a casing having a head containing a longitudinal opening and surrounding the upper portion of said tube and projecting over the lower portion thereof, a drum in said casing and current conducting means leading into said casing and encircling said drum.

4. In an electric sealing device the combination of a tube having a lower portion and a contracted upper portion having a stop at its upper end extending laterally therein, a cap supporting a seal removably secured to the lower portion of said tube, a sleeve out of contact with said tube having openings surrounding the lower portion of said tube, a casing having a head containing a longitudinal opening and surrounding the upper portion of said tube and projecting over the lower portion thereof, and said casing having a transverse slot penetrated by a screw secured in said tube, a drum in said casing and current conducting means leading into said casing and encircling said drum.

5. In an electric sealing device the combination of a tube having a lower portion, and a contracted upper portion having a stop at its upper end extending laterally therefrom, a cap removably secured to the said tube having means for supporting a seal, a sleeve having openings surrounding the lower portion of said tube and out of contact therewith, a casing having side openings and having a head containing a longitudinal opening and surrounding the upper portion of said tube and projecting over the lower portion thereof, a drum in said casing and current-conducting means leading into said casing and encircling said drum.

[Claims 6 and 7 not printed in the Gazette.]

979,906. ELECTROLYTIC CELL. FRITZ WEINBERG, New York, N. Y., assignor of two-thirds to Emile Berliner, Washington, D. C. Filed Mar. 31, 1909. Serial No. 487,085.

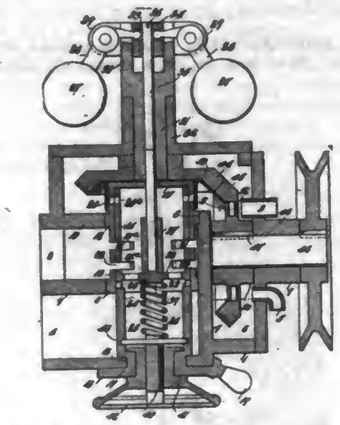
1. The method of constructing an electrode for an electrolytic cell, consisting in the preliminary immersion of an aluminum electrode in a special forming solution which is independent of the electrolyte in which the electrode is to be used, passing an alternating current through the same, until said electrode is formed.

2. The method of constructing an electrode for an electrolytic cell, consisting in the preliminary immersion of an aluminum electrode in a phosphate solution which is independent of the electrolyte in which the electrode is to be used, passing an alternating current through the same until said electrode is formed.

979,907. CARBURETER. ELEKIAL FIELD WHITE, Atlanta, Ga. Filed May 19, 1909. Serial No. 496,906.

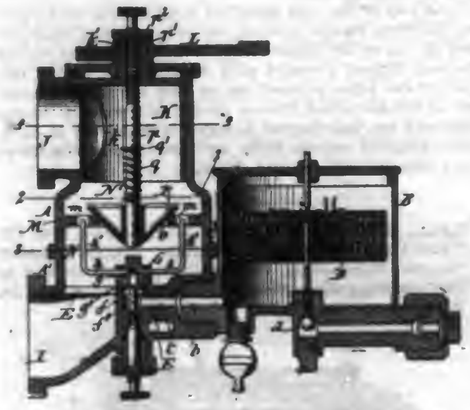
1. In a carbureter, a bushing provided with annular interrupted slots forming ports for the purpose set forth, a valve rotatable therein and having similar slots for registering therewith, said valve being longitudinally movable, manually operated means for rotating the valve, a governor, a connection between the governor and the valve for moving it longitudinally, a curtain encircling the bushing in front of the inlet port, means for revolving the curtain around the bushing, a receptacle for gasolene, a bevel gear for driving the governor and dipping into the receptacle, said gear rotating in front of the inlet port, and a connection between the gear and the curtain for operating the same.

2. In a carbureter, a housing having an air inlet, a valve rotatable therein and provided with an inlet for air and the liquid fuel, a receptacle for the liquid fuel, a gear wheel rotating on a horizontal axis and adapted to be driven by the engine and dipping into the receptacle,



the portion of the gear above the axis passing between the air inlet and the inlet of the valve, a screen movable between the gear wheel and the inlet of the valve, and a governor operated by the gear wheel.

979,908. CARBURETER. JOHN G. WILLET, Buffalo, N. Y., assignor of eighteen one-hundredths to Isidore Michael, eighteen one-hundredths to Edward Michael, eighteen one-hundredths to Clark L. Ingham, and eighteen one-hundredths to Elgood C. Lufkin, Buffalo, N. Y. Filed Feb. 23, 1907. Serial No. 358,852.



1. In a carbureter, the combination of a casing having fuel and air inlets, a mixture outlet, and a diaphragm which divides the casing into an inlet chamber and a mixing chamber, said diaphragm having one or more main air passages and a supplemental air passage, vaporizing nozzles arranged adjacent to said main air passages and connected with said fuel inlet, and an automatic valve normally closing said supplemental passage and controlled by the suction of the motor supplied by the carbureter, said valve having deflecting means for directing the air which flows through the supplemental passage toward said nozzles, substantially as set forth.

2. In a carbureter, the combination of a casing having fuel and air inlets, a mixture outlet, and a diaphragm which divides the casing into an inlet chamber and a mixing chamber, said diaphragm having a row of main air passages and a supplemental air passage surrounded by the row of main passages, vaporizing nozzles arranged adjacent to said main passages, and an automatic valve normally closing said supplemental air passage and having a conical deflecting face, substantially as set forth.

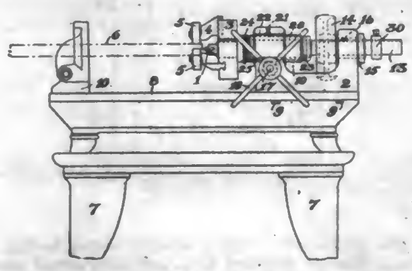
3. In a carbureter, the combination of a casing having fuel and air inlets, a mixture outlet, and a diaphragm which divides the casing into an inlet chamber and a mixing chamber, said diaphragm having a row of main air passages and a supplemental air passage surrounded by the row of main passages, vaporizing nozzles arranged adjacent to said main passages, and an automatic valve normally closing said supplemental passage and having a conical deflecting face which extends above and below said diaphragm, substantially as set forth.

4. In a carbureter, the combination of a casing having fuel and air inlets, a mixture outlet, and a diaphragm which divides the casing into an inlet chamber and a mixing chamber, said diaphragm having a row of main air passages and a supplemental air passage surrounded by said row of main passages, vaporizing nozzles projecting into said main passages, and an automatic valve normally closing said supplemental passage and having a conical deflecting face which extends above said diaphragm and overhangs said main passages, substantially as set forth.

5. In a carbureter, the combination of a casing having fuel and air inlets, a mixture outlet, and a diaphragm which divides the casing into an inlet chamber and a mixing chamber, said diaphragm having one or more main air passages and a supplemental air passage, vaporizing nozzles arranged adjacent to said main air passages and connected with said fuel inlet, a guide arranged in line with said supplemental passage and capable of longitudinal adjustment in the top of the casing, a valve slidably mounted on said guide and normally closing said supplemental passage, and a spring carried by said guide and bearing against said valve, substantially as set forth.

[Claim 6 not printed in the Gazette.]

979,909. APPARATUS FOR CENTERING SHAFTS AND THE LIKE. GEORGE WILLIAMSON, Rochdale, England. Filed Mar. 29, 1910. Serial No. 552,144.



1. Apparatus for centering shafts and the like, comprising means for holding the shaft, a headstock, a cutter for marking the center carried in said headstock, interconnected members grouped about the axis of said cutter and adapted to engage the periphery of the shaft adjacent the end thereof, means for rotating said group of members about the shaft and in contact with the surface thereof, said group of members and said rotating means being carried by said headstock, means for moving the cutter axially relative to said headstock.

2. Apparatus for centering shafts and the like, comprising means for holding the shaft, a headstock, a cutter for marking the center carried in said headstock, interconnected members grouped about the axis of said cutter and adapted to engage the periphery of the shaft adjacent the end thereof, means for rotating said group of members about the shaft and in contact with the surface thereof, said group of members and said rotating means being carried by said headstock, means for moving the cutter axially relative to said headstock and to said group of members.

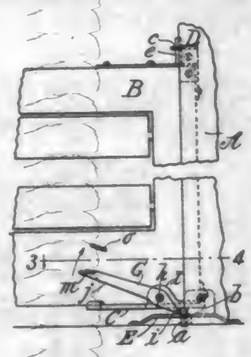
3. Apparatus for centering shafts and the like comprising means for holding the shaft, a cutter for marking the center, interconnected members grouped about the axis of said cutter and adapted to engage the periphery of the shaft adjacent the end thereof, means for rotating said group of members about the shaft and in contact with the surface thereof, and means for moving the cutter axially relative to and independently of the said group of members.

4. Apparatus for centering shafts and the like, comprising means for holding the shaft, a cutter for marking the center, interconnected members grouped about said cutter axis and adapted to engage the periphery of the shaft near the end thereof, means for rotating said group of members about the shaft and in contact with the surface thereof, independent means for rotating the cutter and means for bringing the cutter into contact with the end of the shaft.

5. Apparatus for centering shafts and the like comprising means for holding the shaft, a cutter for marking the center, interconnected members grouped about the axis of said cutter and adapted to engage the periphery of the shaft near the end thereof, means for rigidly supporting said cutter and said group of members, means for rotating said group of members about the shaft and in contact with the surface thereof, independent means for rotating the cutter and means for moving said cutter axially relative to the support and independently of said group of members.

[Claims 6 to 8 not printed in the Gazette.]

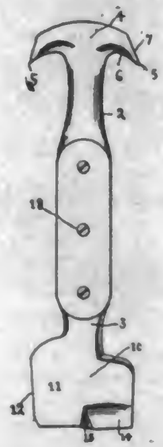
979,910. SHUTTER OPERATING AND FASTENING DEVICE. CHARLES W. ADAMS, Putney, Vt. Filed Mar. 14, 1910. Serial No. 549,269.



1. The combination with a window casing having outstanding brackets provided with vertically alined journal bearing apertures, and the lower bracket having a plurality of sockets arranged in an arc line concentrically of the lower journal aperture, of a shutter provided with alined upwardly and downwardly projecting journal studs engaged in said journal apertures, and having at its bottom a depending stud located outwardly beyond its lower journal stud, and shorter than said stud, adapted on the bodily lifting of the shutter to be disengaged from any of the concentrically arranged sockets, leaving the shutter free to be swung, and adapted, on the downward bodily movement of the shutter, to acquire a locking engagement in any of the concentrically arranged sockets, and means provided on the shutter for bodily imparting a lifting movement thereto.

2. The combination with a window casing having upper and lower brackets, of a shutter journaled in said brackets and adapted to have a vertical movement relatively thereto, the said lower bracket being provided with a plurality of sockets arranged concentrically of the journal axis, a lever fulcrumed on the shutter and having an engagement with the lower bracket, and operative by its swinging movement to impart a lifting movement to the shutter, and a stud projecting downwardly from the bottom of the shutter, located outside of the journal axis and adapted for engagement in any of said sockets.

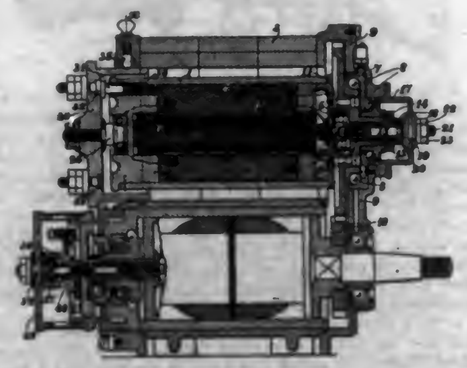
979,911. GOUGING-TOOL. JOHN Q. ADAMS, Sr., Pittsburg, Pa. Filed Mar. 22, 1910. Serial No. 550,838.



1. A tool of the type described comprising a shank having the ends thereof reduced, an anchor-shaped head carried by one of the reduced ends of said shank and having the ends thereof provided with cutting edges and a head carried by the other reduced end of said shank and having one of the side edges thereof beveled to provide a cutting edge and the end thereof formed with a pair of oppositely-disposed cutting edges.

2. A tool of the type described comprising a shank having the ends thereof reduced, an anchor-shaped head carried by one of the reduced ends of said shank and having the ends thereof provided with cutting edges, a head carried by the other reduced end of said shank and having one of the side edges thereof beveled to provide a cutting edge and the end thereof provided with a pair of oppositely disposed cutting edges, and handle pieces mounted upon opposite sides of said shank.

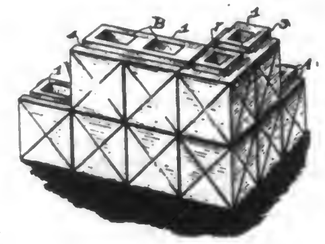
979,912. ELECTRIC IGNITION APPARATUS FOR INTERNAL-COMBUSTION ENGINES. FRANK HERBERT ALSTON, Birmingham, England, assignor of one-half to Boultbee Brooks, Birmingham, England. Filed Jan. 24, 1910. Serial No. 539,723.



1. In electric ignition apparatus, an anti-friction current collector, comprising a cup part provided with races, a ring of anti-friction devices running upon said races, a central plunger engaging with said anti-friction devices, yielding means associated with said plunger and adapted to normally keep it in engagement with the anti-friction devices, and means for retaining the anti-friction devices in place when not engaged by the plunger.

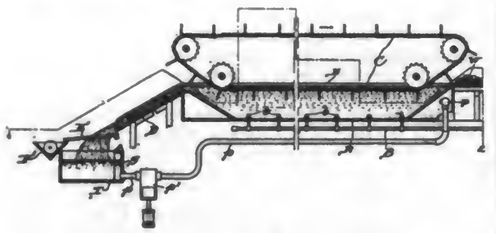
2. In electric ignition apparatus, an anti-friction contact comprising a cup part containing a ring of anti-friction devices and a relatively rotating spring-influenced feeder brush adapted to engage said anti-friction devices, said cup being carried by a shank passing through the part upon which the contact is mounted, and constituting an external terminal.

979,913. BUILDING-BLOCK. JAMES M. AULT, Decatur, Ind. Filed Jan. 19, 1907. Serial No. 353,122.



A hollow building block of rectangular form having two orifices extending therethrough from top to bottom only, the block having a depression or mortise at one of the terminals of the orifices, and a tenon at the opposite terminal of the orifices surrounding the same, whereby the block is made to fit corresponding parts in adjacent blocks placed above and below, each block also provided with a vertically disposed mortise and tenon extending from top to bottom in the solid part of the block and unbroken by orifices and adapted to fit the corresponding parts of the next adjacent blocks in a tier.

979,914. METHOD OF SEPARATING BARK FROM WOOD. FRED W. AYER, Bangor, Me. Filed May 23, 1910. Serial No. 562,853.



1. The method of loosening bark from wood which consists in immersing pieces of wood with bark attached in an abundance of water in liquid as distinguished from vaporous condition, at a minimum temperature of 120° Fahrenheit for such time as suffices to so far liquefy all the cementitious matter binding the bark to the wood that it loses its character as an effective adhesive, and so that the wood and bark are impregnated with sufficient water to hold said cementitious matter in liquefied condition for a considerable time.

2. The method of loosening bark from wood which consists in immersing pieces of wood with bark attached in an abundance of water in liquid as distinguished from vaporous condition, at a minimum temperature of 120° Fahrenheit for such time as suffices to so far liquefy all the cementitious matter binding the bark to the wood that it loses its character as an effective adhesive, and so that the wood and bark are impregnated with sufficient water to hold said cementitious matter in liquefied condition for a considerable time, then removing the pieces of wood from the water and subjecting them to mutual attrition while the cementitious matter is still thus liquefied.

3. The method of separating bark from wood which consists in severing the bark covering of pieces of wood along the grain, immersing the wood thus prepared in an abundance of water in liquid as distinguished from vaporous condition, at a minimum temperature of 120° Fahrenheit for such a time as suffices to so far liquefy all the cementitious matter binding the bark to the wood that it loses its character as an effective adhesive and so that the wood and bark are impregnated with sufficient water to hold said cementitious matter in liquefied condition for a considerable time.

4. The method of denuding wood of its bark to make it suitable for paper pulp which consists in steeping the bark covered wood by immersion in an abundance of water at a minimum temperature of 120° Fahrenheit thereby liquefying all the cementitious matter between the bark and the wood and impregnating the wood and bark with sufficient water to hold said cementitious matter in such liquefied condition as renders the bark capable of removal from the wood in its entirety by the aid of gentle mechanical treatment such as the attrition of one piece of wood upon another, and subsequently, while the cementitious matter is still liquefied, subjecting the pieces of wood to such mechanical treatment.

5. The method of denuding wood of its bark to make it suitable for paper pulp which consists in steeping the bark covered wood by immersion in an abundance of water at a temperature between 180° Fahrenheit and boiling point, thereby liquefying all the cementitious matter between the bark and the wood and impregnating the wood and bark with sufficient water to hold said cementitious matter in such liquefied condition as renders the bark capable of removal from the wood in its entirety by the aid of gentle mechanical treatment such as the attrition of one piece of wood upon another, and subsequently, while the cementitious matter is still liquefied, subjecting the pieces of wood to such mechanical treatment.

979,915. WIRE-STRETCHER. JOHN W. BAGGETT, Erin, Tenn. Filed May 14, 1910. Serial No. 561,420.



In a wire stretcher, a frame bar comprising a body portion provided at one end with a lateral extension having a transverse opening, and provided at its opposite end with a post extending in the same direction as the extension and in alinement with the said extension, said post terminating in a forwardly extending portion lying in a plane parallel with the body portion, the outer end of the said forwardly extending portion having a lateral head extending in a direction opposite to the post and in alinement with the latter, the said head being provided with an attaching means to engage a fixed support, a rotatable operating lever loosely fitted on the post and having at one end an engaging prong, and its opposite end portion being movable into and out of engagement with the said lateral extension, and a flexible wire pulling element passing through the opening of the first-named extension and having one end thereof adapted to be detachably secured to the prong end of the operating lever.

979,916. HEXAMETHYLENE-TETRAMIN-MONOGUAIACOL. EMIL BARELL and FRANZ ELGER, Basel, Switzerland, assignors to The Firm of The Hoffmann-La-Roche Chemical Works, New York, N. Y. Filed June 18, 1910. Serial No. 567,691.

1. The process for the production of hexamethylene-tetramin-monoguaiacol, which consists in causing guaiacol to act on the hexamethylene-tetramin in proportions corresponding to the compound $C_6H_{12}N_4.C_6H_4(OH)(OCH_3)$.

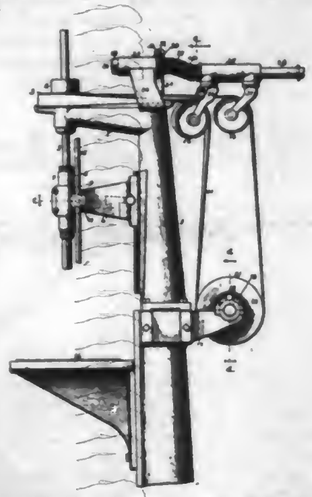
2. As a new product, hexamethylene-tetramin-monoguaiacol, being a compound capable of crystallizing in the shape of needles, melting at about 90° C., forming with 17 parts of water a clear solution, soluble in cold alcohol and in chloroform and yielding guaiacol 46.9 per cent. of its weight when distilled in a current of steam, substantially as described.

979,917. HEXAMETHYLENE-TETRAMIN-DIGUAIACOL. EMIL BARELL and FRANZ ELGER, Basel, Switzerland, assignors to The Firm of The Hoffmann-La-Roche Chemical Works, New York, N. Y. Filed June 18, 1910. Serial No. 567,692.

1. The process for the production of hexa-methylene-tetramin-diguaiacol, which consists in causing guaiacol to act on hexa-methylene-tetramin in proportions corresponding to the compound $C_6H_{12}N_4.2C_6H_4(OH)(OCH_3)$.

2. As a new product, hexa-methylene-tetramin-diguaiacol, being a compound capable of crystallizing in the shape of brilliant needles, melting at about 90–95° C., forming with 22 parts of water a clear solution, easily soluble in cold alcohol and in chloroform and yielding guaiacol 63.9 per cent. of its weight, when distilled in a current of steam, substantially as described.

979,918. GEARING FOR DRILLING-MACHINES. JOHN S. BARNES and JOHN R. VINCER, Rockford, Ill., assignors to W. F. & John Barnes Company, Rockford, Ill., a Corporation of Illinois. Filed Sept. 7, 1900. Serial No. 516,624.



1. In mechanism of the character described, the combination with driving and driven members, of a power-transmitting belt connecting the same, a rotatable crank member, means for rotating and holding the crank member in different positions, and a belt-engaging element mounted on the crank member.

2. In mechanism of the character described, the combination with driving and driven members, of a power-transmitting belt connecting the same, a support, a shaft journaled on the support and having an offset crank element, and a belt-engaging element mounted on the crank element.

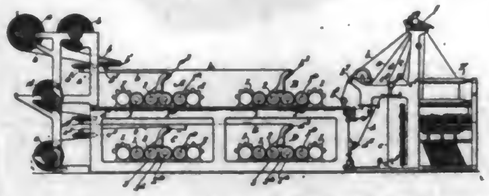
3. In a mechanism of the character set forth, the combination with a supporting frame, of driving and driven members thereon, a belt connecting the members, a shaft having one end journaled on the supporting frame and having its other end offset, and a belt-engaging pulley carried by the offset end of the shaft.

4. In mechanism of the character disclosed, the combination with a supporting frame, of driving and driven members thereon, a belt connecting the members, a shaft having one end journaled on the supporting frame and having its other end offset, a belt engaging pulley carried by the offset end of the shaft, a worm wheel carried by the shaft, and an actuating and holding worm meshing with the worm wheel.

5. In mechanism of the character set forth, the combination with driving and driven members, of an endless belt connecting the same, a supporting rod, a sleeve slidable on the rod, a pair of idler pulleys swiveled upon the sleeve, and a coiled spring surrounding the rod and bearing against the sleeve.

[Claims 6 to 18 not printed in the Gazette.]

979,919. SINGLE-PLATE ROTARY PRINTING-PRESS. HENRY F. BECHMAN, Battle Creek, Mich., assignor to Duplex Printing Press Company, Battle Creek, Mich., a Corporation of Michigan. Filed Mar. 15, 1909. Serial No. 483,600.



1. In a rotary printing press the combination of a plate cylinder having a narrow longitudinal rib or abutment, and a tubular stereotype plate adapted to encircle the cylinder and having a narrow longitudinal slot adapted to engage the rib on the cylinder when the plate is slipped endwise thereon, whereby said plate is locked against rotative movement on the cylinder.

2. In a rotary printing press the combination of a plate cylinder having a narrow longitudinal rib or abutment, with a tubular single page stereotype plate adapted to surround the cylinder and having a single narrow longitudinal slot adapted to receive the rib when the plate is slipped endwise upon the cylinder, whereby said plate is locked against rotative movement on the cylinder; and means for clamping such plate against endwise movement on the cylinder.

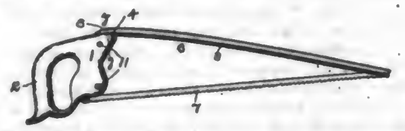
3. In a rotary printing press the combination of a plate cylinder, and a bearing for such cylinder supported by a narrow web; with a tubular stereotype plate adapted to substantially encircle the cylinder but having a longitudinal slot whereby it is adapted to be slid endwise past the web and over the bearing onto or off of the cylinder.

4. In a rotary printing press, a plate cylinder adapted to carry single page tubular plates, a bearing for such cylinder not exceeding the cylinder in diameter and rigidly supported by a narrow web, in combination with a tubular stereotype plate adapted to substantially encircle the cylinder and having a longitudinal slot whereby said plate can be slid endwise past the web and over the bearing onto or off of the cylinder.

5. In a rotary printing press the combination of a plate cylinder having a narrow longitudinal rib, with a bearing for said cylinder not exceeding the cylinder in diameter, and a web supporting said bearing not exceeding the cylinder rib in thickness; with a slotted tubular plate adapted to encircle the cylinder and to be slid endwise past the web and over said bearing on or off the cylinder when the cylinder rib is in alinement with said web.

[Claims 6 to 17 not printed in the Gazette.]

979,920. PRUNING-SAW. JOSEPH S. BENNETT, Fayetteville, Ark., assignor of one-third to Emmett W. Lucas and one-third to Arthur C. Lucas, Fayetteville, Ark. Filed Feb. 23, 1910. Serial No. 545,489.



1. In a saw, the combination, with a frame comprising a strip bent to form a long arm and a short arm, of a handle-block provided with a hole extending edgewise therethrough and positioned well inward from the edge thereof, the short arm of the frame extending through said hole in the handle-block, the portion of the long arm, adjacent to the short arm engaging the upper edge of said handle-block, and a blade secured at one end to the outer extremity of said long arm of the frame and at the other end to the extremity of the short arm, projecting through the opening in the handle-block, immediately below the lower edge of the latter whereby said frame is secured to said handle-block.

2. In a saw, the combination, with a frame comprising a bent strip, and a blade carried by said frame, of a handle-block provided with a hole extending edgewise therethrough, and a groove in its upper edge, a portion of said strip extending through said hole and another portion seated in said groove whereby the frame is prevented from turning in said hole.

3. In a saw, the combination, with a frame comprising a bent strip, and a blade carried by said frame, of a handle-block provided with a hole extending edgewise therethrough, a groove in its upper edge, a portion of said strip extending through said hole and another portion seated in said groove, whereby the frame is prevented from turning in said hole and a fastening passed through said strip and into the grooved portion of the handle-block.

4. In a saw, the combination, with a frame comprising a bent strip, and a blade carried by said frame, of a handle-block provided with a hole extending edgewise therethrough and positioned well inward from the edge thereof, a portion of the strip comprising the frame extending through said hole, the upper corner of the block inward of said hole being extended below the upper portion of the frame to serve as a brace for the frame substantially as and for the purpose specified.

5. In a saw, the combination, with a frame comprising a bent strip, and a blade carried by said frame, of a handle-block provided with a hole extending edgewise therethrough, and a groove in its upper edge, a portion of said strip extending through said hole and another portion seated in said groove, the upper corner of the block inward of said hole being extended below the upper portion of the frame to serve as a brace for the frame, substantially as and for the purpose specified.

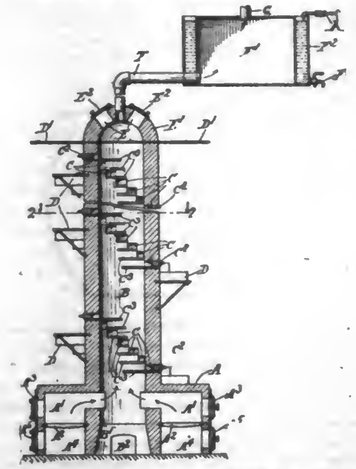
979,921. ORE-FURNACE. CHARLES J. BEST, Oakland, Cal. Filed Jan. 15, 1910. Serial No. 538,220.

1. An ore roasting furnace comprising a vertical flue, a combustion chamber connected so as to discharge thereinto at the bottom, and a series of horizontal overhanging helically arranged separated shelves on the inside of the flue.

2. An ore roasting furnace comprising a vertical flue, a combustion chamber connected so as to discharge thereinto at the bottom, and a series of overhanging helically arranged separated shelves of refractory material on the inside of the flue.

3. An ore roasting furnace comprising a vertical flue, a combustion chamber connected so as to discharge thereinto at the bottom, a series of overhanging separated shelves on the inside of the flue, and an opening associated with each shelf whereby access can be had to it from the outside of the flue.

4. An ore roasting furnace comprising a vertical flue, a combustion chamber connected so as to discharge thereinto at the bottom, a series of overhanging helically arranged separated shelves on the inside of the flue, and an opening associated with each shelf whereby access can be had to it from the outside of the flue.



5. An ore roasting furnace comprising a vertical flue, a combustion chamber connected so as to discharge thereinto at the bottom, a series of overhanging separated shelves of refractory material on the inside of the flue, and an opening associated with each shelf whereby access can be had to it from the outside of the flue.

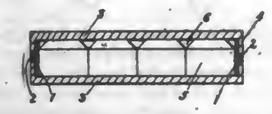
[Claims 6 to 13 not printed in the Gazette.]

979,922. MANDREL. EDWARD BOARD, Philadelphia, Pa. Filed May 31, 1910. Serial No. 564,260.



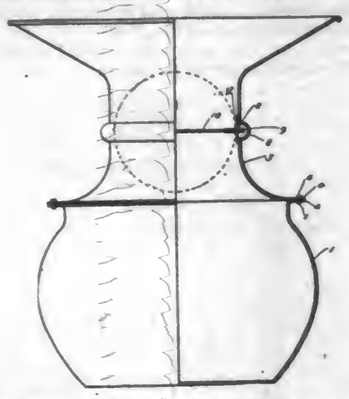
The combination of a solid hard metal mandrel having an opening in each end, with detachable center pieces secured to the ends of the mandrel, said center pieces being of material softer than the material of the mandrel and each center piece having a central recess therein.

979,923. GAME APPARATUS. BURTON A. BOORE, McKeesport, and JAMES W. FERGUSON, Pittsburg, Pa. Filed June 17, 1909. Serial No. 502,773.



A game apparatus comprising a relatively shallow rectangular receptacle including a body-portion and a pair of removable combined cover and supporting sections adapted to be mounted upon the top and bottom of the body-portion and overlap the outer faces of the sides of the body-portion, and shiftable members mounted within said body-portion and having the upper and lower faces thereof provided with characters adapted when the members are shifted to be arranged in proper order, each of said sections providing means when engaging with the body-portion for supporting said members to expose when the characters on both faces of the members are properly arranged, the arranged characters upon either face of the members.

979,924. CUSPIDOR. CHARLES EDWARD BOWERS, Philadelphia, Pa. Filed Nov. 20, 1909. Serial No. 529,103.



1. In combination, a cuspidor having a circumferential groove formed therein, a valve member having trunnions disposed in the groove and means for holding the trunnions in the groove.

2. In combination, a cuspidor having a circumferential groove formed therein, a valve member having trunnions disposed therein and formed with flattened portions, and a supporting plate secured to the cuspidor adjacently to the groove having openings engaging the flattened portions of the trunnions.

3. In combination, a cuspidor having a flange formed on a lower section constituting the bowl section thereof, a mouth section for the cuspidor having a flange engaging the flange of the lower section, said second flange having slots having reduced ends, bolts attached to the flange of the lower section having heads adapted to be secured in the slots, and means carried by the upper section for holding the mouth thereof normally closed.

979,925. PLIERS AND WIRE-CUTTER. PETER BROADBOOKS, Batavia, N. Y. Filed Oct. 9, 1909. Serial No. 521,940.



1. Pliers consisting of two similar complemental members each comprising a jaw, a handle, and an intermediate approximately circular pivotal portion, the pivotal portions being halved and fitted together at the joints so that the jaws and the handles lie flush, the jaws having an enlarged opening between their inner faces at their bases, formed by recessing the inner face of the base of each jaw and the adjacent pivotal portion of the member below the jaw in a uniform curve, the lower end of the recess being below the top of the pivotal portion, substantially as described.

2. Pliers consisting of two complemental members each comprising a jaw, a handle, and an intermediate circular pivotal portion, the pivotal portions being halved and fitted together as described, the jaws and the handles being recessed at their junction with the pivotal portion forming zig-zag shoulders which pass by one another to increase the capacity of the jaws as and for the purpose specified.

3. Pliers consisting of two complemental members each comprising a jaw, a handle, and an intermediate circular pivotal portion, the pivotal portions being halved and fitted together as described, the jaws being recessed on their inner faces near the pivotal portion, the angles at the outer sides of the recesses forming biting points, and the shoulders of the jaws and the handles being recessed at their junction with the pivotal portion forming zig-zag shoulders which pass by one another to increase the capacity of the jaws as and for the purpose specified.

4. A pair of pliers consisting of two similar complemental members each comprising a jaw, a handle and an intermediate pivotal portion, said portions being halved and fitted together, the jaws having an enlarged opening between their inner faces at their bases formed by recessing the inner face of each jaw near its base and the pivotal portion adjacent thereto on a uniform curve, the lower end of the recess being below the top of the pivotal portion, and each jaw being also provided with a longitudinal V-shaped groove on its inner face said groove increasing in size from the end of the jaw toward the pivot thereof and extending from the recess to the outer extremity of the jaw.

979,926. HOOK. HARRY CLARENCE BROWN, Spring Valley, N. Y. Filed Dec. 1, 1908, Serial No. 465,505. Renewed Mar. 9, 1910. Serial No. 548,311.



1. A hook comprising a member having a hook at each end and at the same side thereof, and a member having a hook at each end and opposite sides thereof, fitting within the first mentioned member.

2. A hook comprising a member having a hook at each end thereof, and a member having a hook at each end thereof and slidable edgewise within the first mentioned member, the hooks of each member having notches in the edges which register when the hooks are assembled.

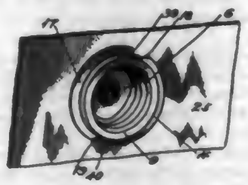
3. A hook comprising a member having a hook at each end thereof, and a second member having hooks at the ends thereof arranged at opposite sides, with the second member slidable edgewise within the first and held against relative endwise movement by the first mentioned member.

4. A hook comprising a member having a hook at each end thereof, one of said hooks being provided with an extended lip, and a second member having a hook at each end thereof and fitting within the first mentioned member, said extended lip and the body of the second member forming a contracted opening.

5. A hook open at one end and closed at the opposite end and composed of two separable hooked members, with one of said members fitting within the other.

[Claims 6 to 13 not printed in the Gazette.]

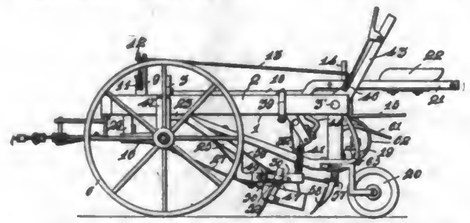
979,927. ELECTRIC-LIGHT RECEPTACLE. HENRY D. BROWN and LAYFETTE W. BLYMYER, Los Angeles, Cal. Filed Oct. 6, 1909. Serial No. 521,289.



1. In a device of the class described, the combination of a sign base provided with an aperture with a notch in the edge thereof, of an electric light receptacle and a locking member carried thereby, said member engaging the edge of the aperture at said notch by a rotary movement and pressing said edge on the inner side and outer side to lock said receptacle thereto.

2. The combination of a sign base provided with an aperture having notches in the edge thereof, of an electric light receptacle formed of insulating material, a metallic locking member secured in detachable relation to said receptacle, said member having a flange with slits adapted to engage the edges of the aperture at said notches whereby the receptacle is maintained in a detachable locked relation therewith, by a rotary movement.

979,928. CULTIVATOR. WILLIAM A. J. BROWN, Lancaster, Kans. Filed Mar. 21, 1910. Serial No. 550,671.



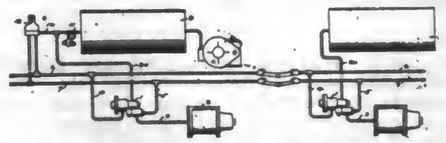
1. In a cultivator, a wheeled supporting frame, a series of cultivator beams arranged in pairs in opposite sides of the frame, supporting shafts to detachably connect the forward ends of said beams to the frame, laterally adjustable supporting yokes connected to the frame, a yielding connection between said beams and yokes, draft chains connected to said beams, springs to connect said chains with the cultivator frame, and cultivator blades adjustably secured to said beams.

2. In a cultivator, a supporting frame, a series of cultivator beams, means to detachably connect said beams to the frame, pivotally mounted beam supporting frames, laterally adjustable supporting yokes connected to said supporting frames, a yielding connection between said cultivator beams and said supporting yokes, beam raising and lowering levers operatively connected with said frames, whereby said beams are raised or lowered, and cultivator blades carried by said beams.

3. In a machine of the character set forth, a wheeled supporting frame having central and side bars connected by cross bars, a series of beams arranged in pairs in opposite sides of the frame, bearing brackets in the forward portions of the frame, pivot shafts mounted in said bearing brackets and having the side beams connected to them, brackets upon the rear portions of the central and side bars of the frame, transverse pivot rods mounted in the last mentioned brackets, swinging brackets pivotally mounted on said transverse pivot rods and having their lower ends provided with spaced portions, transverse channel bars having their ends pivotally mounted in the spaced lower portions of said swinging brackets, said channel bars having spaced upper and lower flanges forming channels, angular yoke members each having a flat longitudinally slotted horizontal portion arranged in the channel of one of said channel bars and a reduced depending end, slidable connections between the depending ends of said yoke members and the rear portions of said beams, springs on the reduced depending ends of said angular yoke members for actuating the beams downwardly, fastenings passed through the slots in the horizontal portion of the angular yoke members and into said channel bars to adjustably fasten the yoke members, and means connected to said channel bars for raising and lowering them.

979,929. COMBINED AUTOMATIC AND INDEPENDENT BRAKE. CHRISTOPHER P. CASS, Maplewood, Mo., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 16, 1908. Serial No. 427,403.

1. In a fluid pressure brake, the combination with an automatic brake pipe, independent brake pipe, and brake cylinder, of a valve device operated at all times by varying pressure in either the automatic or the independent brake pipe for controlling the supply of air to the brake cylinder.



2. In a fluid pressure brake, the combination with an automatic brake pipe, independent brake pipe, and brake cylinder, of a valve device constantly subject to variations in either automatic or independent brake pipe pressure for controlling the admission and release of fluid under pressure to and from the brake cylinder.

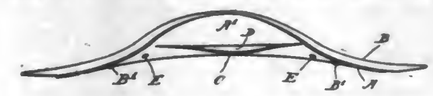
3. In a fluid pressure brake, the combination with an automatic brake pipe, independent brake pipe, and brake cylinder, of a valve device operated directly by variations in pressure in either the automatic or the independent brake pipe for controlling the supply of air to the brake cylinder in service applications.

4. In a fluid pressure brake, the combination with an automatic brake pipe, independent brake pipe, brake cylinder and reservoir, of a valve device subject to the pressures of the automatic brake pipe and the brake cylinder opposing the pressures of the independent brake pipe and the reservoir for governing the supply of air to the brake cylinder.

5. In a fluid pressure brake, the combination with a brake cylinder, automatic brake pipe, and an independent brake pipe, of a valve device subject to the opposing pressures of the automatic brake pipe and the independent brake pipe for controlling the admission and release of fluid under pressure to and from the brake cylinder.

[Claims 6 to 19 not printed in the Gazette.]

979,930. INSTEP-SUPPORT. WILLIAM F. CONNELL, New York, N. Y. Filed Mar. 5, 1910. Serial No. 547,604.



1. The combination of a metallic plate curved to approximate the under surface of the instep, a cover secured to and covering the upper surface of the said plate, and a strip of metal located near the middle of the plate and extending longitudinally thereof, and an opening in the plate above the said strip, said strip being joined to the plate at its ends and being downwardly curved, and a cushion of non-metallic substance interposed between the said strip and the cover and extending through the opening of the plate.

2. The combination of a metallic plate arched to approximate the under surface of the instep, a strip of metal located centrally and extending longitudinally thereof, said strip of metal being connected with the plate at its ends and being substantially straight in cross section but downwardly curved intermediate its ends, the said plate having an opening above the said strip coextensive therewith and adapted to receive the strip when the plate is depressed or the strip pressed upwardly until the said strip and plate are substantially in plane, the construction and arrangement being such that pressure of the foot on the plate will first cause the middle of the strip to press against the inner sole of the shoe, then straighten the strip by tension and then bring it in plane with the plate, but preventing said strip from protruding above the upper surface of the plate.

3. In a device of the character described, the combination of a metallic plate arched to approximate the undersurface of the instep and having an upturned side portion at one edge curved to approximate the shape of the side portion of the instep arch, an integral strip of metal located near the middle of the plate and extending longitu-

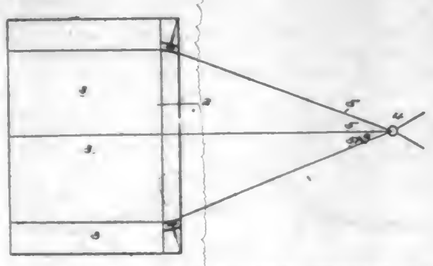
dinally thereof, said strip being substantially straight in cross-section, joining the plate at its ends and separated therefrom along its longitudinal edges and being downwardly curved and having its medial portion normally in contact with the inner sole of the shoe.

979,931. SCALING, ANNEALING, AND COATING METALS. SHERARD OSBORN COWPER-COLES, Westminster, London, England, assignor of one-half to Metalloids Limited, Tipton, England, a Company. Filed Oct. 29, 1909. Serial No. 525,309.



In the scaling and annealing of metals which may be subsequently coated, the process whereby the metal is heated to or above the annealing temperature, in an atmosphere of a reducing gas, present in excess over the amount necessary to reduce the sale or rust to the metallic state, and the said metal at the time of beginning and completing the process is heated to a temperature of from 100° to 150° C.

979,932. CABLE ANGLE-SUPPORT. WILLIAM F. CURRAN, Coloma, Wis. Filed Aug. 30, 1910. Serial No. 579,703.



1. An arch angle support for cables comprising an arch member, means for flexibly anchoring said arch member, and a plate connected therewith designed to receive and support at will trolley wires upon direct or reverse curves.

2. An arch support for cables, comprising an arch member, a flexible support for said arch member, a bar rigidly secured to said arch member, and a plurality of independently adjustable plates connected with said bar.

3. An arch support for cables, comprising an arch member, means for supporting said arch member, a bar secured to said arch member and extending at substantially a right angle to the general direction thereof, a plurality of adjustable plates formed with grooves for accommodating cables, and means for independently adjusting each of said plates.

4. An arched angle support for cables comprising in its construction an arched member adapted to be anchored flexibly to a suitable standard, a series of plates carried by said arched member and adjustable to the angle of the cable, substantially as shown and described.

979,933. TUNGSTEN-LAMP SHOCK-ABSORBER AND ADAPTER. JOHN H. DALE, New York, N. Y. Filed Mar. 29, 1910. Serial No. 552,233.

1. A tungsten lamp shock-absorber and adapter, comprising elements pivotally connected to each other to provide a universal joint, one of said elements affording support for the remaining parts of the device, and such element being pivotally connected to the adjacent member and being further provided with means for securing said element in place upon a bracket, the universal joint aforesaid comprising elements cushioned from each other.



2. A tungsten lamp shock-absorber and adapter comprising a pair of bent members, one of which is linked through the other, a pivotal pin secured to one of said elements, the other of said elements slidably engaging said pin, and a resilient device disposed between the opposing surfaces of said linked elements.

3. A tungsten lamp shock-absorber and adapted comprising a link-shaped member carrying a pin in substantial alinement with the sides thereof, a second link-shaped member apertured for the reception of said pin, and a plurality of resilient devices disposed adjacent the said pin, one of said devices being interposed between the normally contacting surfaces of said link members, and the other of said devices being disposed between the upper surface of one of said members, and an abutment carried by said pin.

4. A tungsten lamp shock-absorber and adapter comprising a link-shaped member carrying a pin in substantial alinement with the sides thereof, a second link-shaped member apertured for the reception of said pin, and a plurality of resilient devices disposed adjacent the said pin, one of said devices being interposed between the normally contacting surfaces of said ling members, and the other of said devices being disposed between the upper surface of one of said members, an abutment carried by said pin, and a pair of members, one of which is recessed and threaded for the reception of a threaded stud, and the other of which is provided with a threaded stud respectively pivoted to the link members aforesaid.

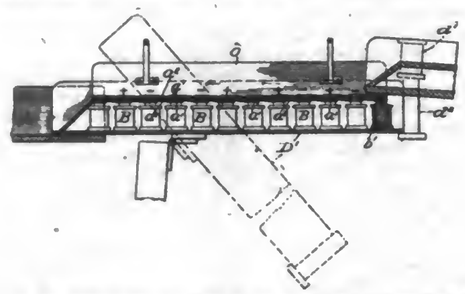
5. A device of the class described comprising a pivot and a plurality of elements pivotally connected thereby, a shock-absorbing, spacing device coöperating with said elements, and a plurality of members pivotally connected to said elements, to permit of oscillation of each of said members in a plane passing through the axis of the pivot aforesaid.

[Claim 6 not printed in the Gazette.]

979,934. APPARATUS FOR SEPARATING MAGNETIC MATERIALS FROM OTHER MATERIALS OR FROM LIQUIDS. ALFRED EVAN DAVIES, Birmingham, England. Filed Dec. 28, 1908. Serial No. 469,620.

1. In combination with a magnetic separator having a tray and means for magnetizing said tray, a supplemental tray adapted for insertion in said first named tray, a portion of the bottom of said supplemental tray being adapted to be magnetized by induction from said first mentioned tray.

2. In apparatus for separating magnetic materials from other materials, a tray having a portion of its bottom adapted to be magnetized, means for magnetizing said bottom portions, and a supplemental tray adapted for insertion in said first named tray, the bottom of said supplemental tray being formed of bars of magnetic and non-magnetic material alternately disposed and adapted to be magnetized by induction from said first mentioned tray.



3. In apparatus for separating magnetic materials from other materials, a tray or trough, the bottom of which is formed of bars of magnetic and non-magnetic material alternately disposed, electro-magnets disposed beneath the tray or trough for magnetizing the bars, a feed trough communicating with said first-named trough, and a supplemental tray adapted for insertion in said first named tray, the bottom of said supplemental tray being formed of bars of magnetic and non-magnetic material alternately disposed and adapted to be magnetized by induction from said first mentioned trough.

4. In apparatus for separating magnetic materials from other materials, a tray or trough, the bottom of which is formed of bars of magnetic and non-magnetic material alternately disposed, electro-magnets disposed beneath the tray or trough for magnetizing the bars, a feed trough communicating with said first named trough, said first named trough being pivoted and provided with magnetizable iron pieces, supplementary electro-magnets adapted to magnetize said iron pieces whereby said first-named trough may be maintained in its normal position, and a supplementary tray adapted for insertion in said first named trough, the bottom of said supplementary tray being formed of bars of magnetic and non-magnetic material alternately disposed and adapted to be magnetized by induction from said first mentioned trough.

5. In apparatus for separating magnetic materials from other materials, a tray or trough, the bottom of which is formed of bars of magnetic and non-magnetic material alternately disposed, electro-magnets disposed beneath the tray or trough for magnetizing the bars, a feed trough communicating with said first named trough, and a supplemental tray adapted for insertion in said first named tray, the bottom of said supplemental tray being adapted to be magnetized by induction from said first mentioned trough.

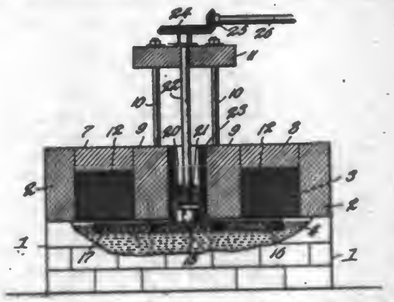
[Claims 6 and 7 not printed in the Gazette.]

979,935. GLASS-FURNACE. HENRY DOUCHAMP, Mount Jewett, Pa., assignor to Smethport Glass Company, Smethport, Pa., a Corporation of West Virginia. Filed Nov. 18, 1908. Serial No. 463,264.

1. A reservoir adapted to contain molten glass and formed with a draw opening, a plurality of elements floating in the material and through each of which the material may be drawn, and means for operating the elements to cause their successive registry with the draw openings.

2. A reservoir adapted to contain molten glass, a carrier supported solely by the molten material, said carrier including a plurality of elements through which the material may be drawn, and means for operating the carrier.

3. A reservoir adapted to contain molten glass and formed with a draw opening, a carrier arranged in the reservoir and supported solely by the molten material, said carrier including a plurality of elements through which the material may be drawn, and means for operating the carrier to cause the successive registry of the elements with the draw opening.

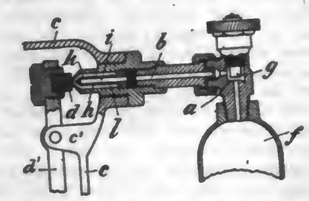


4. A reservoir adapted to contain molten glass and formed with a draw opening, said reservoir including a chamber open to the heat from the molten material, a carrier arranged in the reservoir and supported solely by the molten material, said carrier including a plurality of elements through which the material may be drawn, and means for operating the carrier to cause the successive registry of the elements with the draw opening and with the chamber.

5. A reservoir adapted to contain molten glass and formed with a plurality of draw openings, said reservoir including a plurality of heat chambers beyond the opening, a carrier arranged in the reservoir and supported solely by the molten material, said carrier including a plurality of elements arranged in diametrically opposed pairs, and means for operating the carrier to register the elements of a particular pair with the draw openings, the respective elements being so disposed as to arrange one pair thereof within the heat chambers when another pair is in registry with the draw openings.

[Claims 6 to 13 not printed in the Gazette.]

979,936. DEVICE FOR PREVENTING IGNITION OF PRESSURE-REDUCING VALVES. JOHANN HEINRICH DRÄGER and ALEXANDER BERNHARD DRÄGER, Lubeck, Germany, assignors to The Firm of Drägerwerk, Heinr. & Bernh. Dräger, Lubeck, Germany. Filed June 7, 1909. Serial No. 500,690.

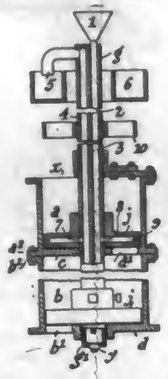


1. In a device of the character described, the combination with a pressure chamber having an outlet passage and a pressure reducing valve controlling the latter, of a by-chamber communicating and being arranged coaxially with the said outlet passage for the reception of the air discharged therefrom.

2. In a device of the character described, the combination with a pressure chamber, of a discharge conduit communicating therewith closed at its end and provided with radial apertures, a member surrounding the discharge conduit forming a coaxial annular chamber communicating with the latter through said apertures, and a pressure reducing valve to control the annular chamber.

3. In a device of the character described, the combination with a pressure cylinder, of a discharge conduit communicating therewith closed at its end and provided with radial apertures, a sleeve forming an annular coaxial chamber surrounding the conduit to receive gas discharged from said apertures, and a pressure reducing valve to control the exit port of the sleeve.

979,937. DUST-PREVENTING ORE-DROPPING APPARATUS AND THE LIKE FOR ROASTING-FURNACES. THOMAS EDWARDS, Ballarat, Victoria, Australia. Filed June 25, 1910. Serial No. 568,884.



1. In a dropping apparatus for ore roasting furnaces, a series of dust preventing ore saving chambers, one below another, each having an inlet opening, a discharge opening below and out of vertical alinement with the inlet, an apertured rotatable carrier, and an ore stop plate mounted above said carrier, substantially as described.

2. In a dropping apparatus for ore roasting furnaces, a series of chambers one below another, a rotatable spindle passing therethrough and apertured carriers adjustably mounted on said spindle to prevent draft, substantially as described.

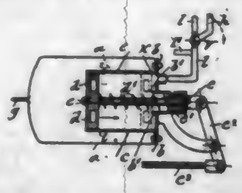
3. In a dropping apparatus for ore roasting furnaces, a chamber having its outlet below and out of immediate alinement with its inlet, a hollow carrier apertured for ore dropping, in combination with means for rotating and cooling said carrier, substantially as described.

4. In an ore dropping apparatus for ore roasting furnaces having an ore chamber and an inlet and outlet therefor, the combination of a movable carrier within said chamber provided with an aperture coöperating with said outlet, a water conduit associated with said chamber for cooling the contents of same, and means for moving said carrier, substantially as described.

5. In a dropping apparatus for ore roasting furnaces the combination of a plurality of superposed chambers each having an inlet and an outlet, the outlet of one chamber being disposed out of vertical alinement with the outlet of its adjacent ore chamber, a rotatable carrier for each of said ore chambers provided with an aperture cooperating with the outlet of its chamber, a shaft extending through said chambers and connected with said carriers for rotating same, ore stops disposed in said chamber above said carriers and adjacent said outlets, and a water conduit associated with said chambers for cooling the contents thereof, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

979,938. AUTOMATIC EMERGENCY-BRAKE FOR AUTOMOBILES. EMIL EISELT, Baltimore, Md. Filed Aug. 26, 1910. Serial No. 579,104.



1. An automatic emergency-brake for automobiles comprising, an air-tank, an air-cylinder having its inner end communicating with the air-tank and having a closed outer end, a piston movable in said cylinder, a brake operatively connected to the piston, a passage communicating with said closed outer end, and an emergency-valve in said passage, said cylinder being provided near its ends with air orifices communicating with the air-tank.

2. An automatic emergency-brake for automobiles comprising, an air-tank, an air-cylinder having one end open and in communication with the air-tank and the other end closed, a piston movable in said cylinder and having a rod passing through the closed end, a brake operatively connected with the piston rod, a coiled compression-spring on said rod and bearing against the piston and said closed end, a pipe communicating with said closed end, and an emergency-valve in said pipe, the side-wall of said cylinder being provided near said open end with pressure-equalizing orifices communicating with the air-tank, and near the closed end with air-orifices also communicating with the air-tank.

3. An automatic emergency-brake for automobiles, comprising an air-tank, a head for the same, an air-cylinder attached to said head and located at the interior of the air-tank, a spring-actuated piston in said cylinder, pressure-equalizing orifices near the inner end of the cylinder, an air-orifice in the cylinder near the head of the same, a piston-rod for said piston, a brake on the driving shaft of the automobile, a lever-transmission between the piston-rod and said brake, an emergency-valve provided with a handle, and a pipe connecting the emergency-valve with the air-cylinder.

4. An automatic emergency-brake for automobiles, comprising an air-tank, an air-cylinder in the same, a piston in said cylinder, a brake on the motor-shaft, a lever-transmission between the piston-rod and the brake, an emergency-valve connected with the air-cylinder, a handle for operating the emergency-valve, a lever-arm on the stem of the emergency-valve, and a clamping contact for said lever-arm, located in the igniter-circuit for applying the brake simultaneously with the stopping of the motor.

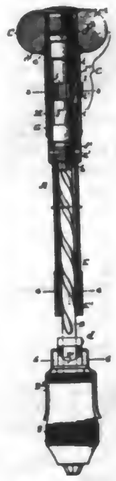
5. In an emergency-brake for automobiles, the combination of an air-tank, a pipe for supplying air under pressure to the same, a head attached to the opposite end of the tank and provided with a stop, an air-cylinder in the tank attached at one end to the head and open at its opposite end, the cylinder being provided with pressure-equalizing holes near its open end and with an air-orifice near the head, a spring-actuated piston in the air-cylinder, and a piston-rod passing through a stuffing-box in the head, and an air outlet-pipe for the cylinder.

979,939. SPIRAL TOOL-DRIVER. THOMAS J. FEGLEY and GEORGE O. LEOPOLD, Philadelphia, Pa., assignors to North Bro's M'f'g Co., Philadelphia, Pa., a Corporation of Pennsylvania. Filed May 22, 1909. Serial No. 497,652.

1. The combination in a push drill or screw driver, of a handle portion consisting of a casing and a handle proper secured thereto, a ratchet stem mounted in the handle casing, pawls and a shifter carried by the handle casing, said pawls arranged to engage the ratchet stem, a head on one end of the stem resting against a shoulder on the casing, a hollow stem attached to the opposite end of the ratchet stem and bearing against the end of the casing, thus holding the ratchet stem in the proper position, a nut carried by the hollow stem, and a spiral spindle mounted in the hollow stem and engaged by the nut.

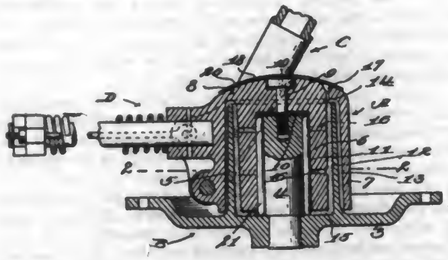
2. The combination in a push drill or screw driver, of a handle, a ratchet stem mounted in the handle, a ratchet wheel thereon, pawls carried by the handle, said pawls engaging the ratchet wheel, a shifter for throwing either one or other of the pawls into engagement with the ratchet wheels, a hollow stem secured to the ratchet stem, a nut located at the end of said hollow stem, a spindle having a spiral groove therein with which the nut meshes, and a chuck carried by the end of the spindle.

3. The combination in a push drill or screw driver, of a casing, ratchet mechanism inclosed by the casing, a spiral spindle actuated by said ratchet mechanism, a ring forming a shoulder and mounted on the casing, a wire ring entering a recess in the casing and holding the shoulder ring in place, a handle mounted on the casing, a screw adapted to a thread in the end of the casing, the head of the screw extending over the handle so that the handle is confined between the shoulder ring and the head of the screw.



4. The combination in a push drill or screw driver, of a ratchet stem in the handle, a hollow stem secured to the ratchet stem and recessed at the lower end, a nut mounted within the hollow stem and having a projection adapted to rest in the stem, a threaded cap retaining the nut in the stem, and a spiral spindle mounted in the hollow stem and engaged by the nut.

979,940. TROLLEY-STAND. CHARLES M. FRIST, Sioux City, Iowa, assignor of forty-nine one-hundredths to Edwin L. Kirk, Sioux City, Iowa. Filed Apr. 13, 1910. Serial No. 555,159.



1. A trolley stand comprising, in combination, a dished base adapted to contain a lubricant and provided with a central bearing post; a cap rotatably mounted upon said post and formed with a depending annular wall inclosing the same and spaced therefrom, said wall terminating at its lower edge short of said base to admit the lubricant into the space between said wall and post; and a series of elongated anti-friction rollers arranged in the said space and resting at their lower ends upon said base.

2. A trolley stand comprising, in combination, a base provided with a bearing post and with an annular flange surrounding the same and spaced therefrom; a cap rotatably mounted upon said post and formed with outer and inner depending annular walls arranged in spaced relation to each other, the inner wall being received in the space between said post and flange, and the outer wall inclosing the latter; and a pole socket carried by said cap.

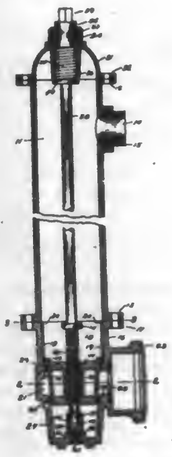
3. A trolley stand comprising a base member; a rotatable cap; and means on said base for supporting said cap, said base and cap having parts coöperating to produce an inclosed annular oil well.

4. A trolley stand comprising a dished base provided with a bearing post and with an annular flange encircling the same and spaced therefrom; and a cap rotatably mounted upon said post and formed with a depending annular wall received in the space between said post and flange and having its opposite faces spaced from the adjacent faces of said post and flange to produce a pair of lubricant chambers, said wall terminating short of said base to afford a means of communication between said chambers.

5. A trolley stand comprising a dished base provided with a bearing post and with an annular flange encircling the same and spaced therefrom; and a cap rotatably mounted upon said post and formed with a depending annular wall received in the space between said post and flange and having its opposite faces spaced from the adjacent faces of said post and flange to produce a pair of lubricant chambers, said wall having a series of ports formed therethrough and terminating at its lower end short of said base.

[Claims 6 to 11 not printed in the Gazette.]

979,941. HYDRANT AND VALVE THEREFOR. JOHN LANSING FULLER, Schaghticoke, N. Y. Filed Aug. 19, 1910. Serial No. 577,932.



1. In a hydrant, a stand pipe; a bottom portion; a lateral inlet; a vertically movable main valve; a valve stem having rotary movement for raising and lowering said valve and a limited vertical movement with respect thereto; and a waste outlet in said bottom portion below said main valve including a valve seat and an aperture above said valve seat, said valve stem being constructed and fitted to engage said outlet valve seat and thereby to close said outlet.

2. In a hydrant, a stand pipe; a bottom portion; a lateral inlet; a vertically movable main valve; a valve stem having rotary movement for raising and lowering said valve and a limited vertical movement with respect thereto; and a waste outlet in said bottom portion below said main valve including a drip cup having an upper portion in which the lower end of said valve stem moves, a valve seat engageable by the lower end of said stem and a lateral aperture in the wall of said cup above said valve seat.

3. In a hydrant, a stand pipe; a bottom portion; a lateral inlet; a vertically movable main valve; a valve stem having rotary movement for raising and lowering said valve; a spring for giving said stem a limited vertical

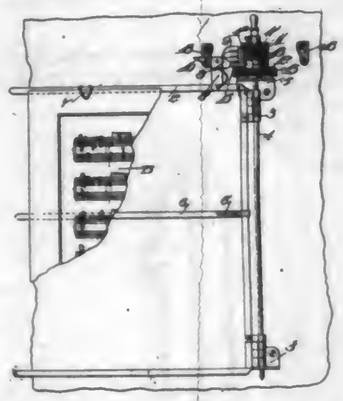
movement; and a waste outlet in said bottom portion below said main valve including a valve seat engageable by the lower end of said stem for closing said outlet.

4. In a hydrant, a stand pipe; a bottom portion; a lateral inlet; a valve stem; a hollow valve having threaded engagement with said stem for vertical movement thereon; a waste outlet in said bottom portion below said valve and closable by the lower end of said stem; and a spring operative to force said stem downward to its outlet closing position prior to its valve opening operation.

5. In a hydrant, a stand pipe; a bottom portion; a lateral inlet; a vertically movable main valve; a valve stem having rotary movement for raising and lowering said valve and a limited vertical movement with respect thereto; and a waste outlet in said bottom portion below said main valve including a valve seat closable by the lower end of said valve stem and forming a step or bearing for limiting the downward movement of said stem.

[Claims 6 to 11 not printed in the Gazette.]

979,942. MUSIC-LEAF TURNER. ROBERT A. GIBSON, Berkeley, and JOHN B. SARTOLOU, Emeryville, Cal. Filed July 5, 1910. Serial No. 570,484.



1. In a music leaf turner, the combination of a series of leaf holders, a suitable support for the same, selective means carried by the holders and disposed in successive levels, a rotating part having a vertical movement to position it successively with respect to said selective means, and means for operating said rotating part in either direction, said operating means including a rotatable drum inclosing the rotating part, said drum being slotted and said part having an actuating dog extending through the slot of the drum and thereby connecting the drum and rotating part so that they turn in unison.

2. In a music leaf turner, the combination of series of pivoted leaf holders, a suitable support for the same, selective means on each holder, the several selective means arranged in successive levels, a single actuator, with means for giving it a combined horizontal rotary motion, and a vertical reciprocating motion to operate said selective means successively, and means for operating said actuator, said last named means including a pedal and connections including a reversible pawl and gearing between the pedal and said actuator whereby the actuator is operated in either direction.

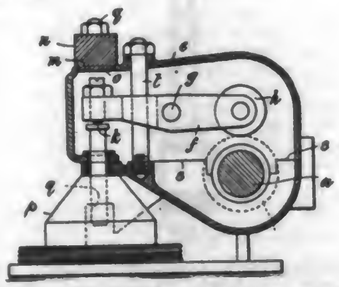
3. In a music leaf turner, the combination of a series of music leaf holders, a suitable support for the same, a vertically slotted drum, means for revolving the drum, a stationary screw, a single vertically traveling actuator on the screw and connected with the drum, means on the several leaf holders arranged at successive levels in the path of said actuator, and means for revolving the drum in either direction.

4. In a music leaf turner, the combination of a series of music leaf holders, a suitable support for the same, a vertically slotted drum, a fixed vertical screw, a single vertically traveling actuator on the screw and connected with the drum, means on the several leaf holders arranged at successive levels in the path of said actuator, and means for turning the holders in either direction corresponding with the rotation of the drum.

5. In a music leaf turner, the combination of a plurality of swinging leaf-carrying frames, a spindle supporting said frames, a vertically slotted drum revoluble around said spindle, an arm extending through and guided by said drum, and means carried by the slot in the frames adapted to be engaged by said arm and automatically disengaged therefrom, whereby the leaves of music are turned.

[Claims 6 to 10 not printed in the Gazette.]

979,943. VALVE-OPERATING MECHANISM FOR USE IN INTERNAL-COMBUSTION ENGINES. GUSTAVUS GREEN, Bexhill, England. Filed Dec. 6, 1909. Serial No. 531,676.



1. In an internal combustion engine the combination of an overhead cam shaft, a casing surrounding said shaft and revoluble thereon, operating levers extending from the cams to the valve stems mounted in said casing, and extensions on said casing surrounding the levers.

2. In an internal combustion engine the combination of an overhead cam shaft, a casing surrounding said shaft and revoluble thereon, lateral extensions in said casing, guides formed in said extensions, plungers sliding in said guides and contacting with the valve stems, and operating levers extending from the cams to the plungers and mounted in and inclosed by the extensions of the casing.

3. In an internal combustion engine the combination with the valves of an overhead cam shaft, a casing revoluble thereon, extensions from said casing, and mechanism conveying motion from the cams to the valves mounted in said extensions and inclosed thereby.

4. In an internal combustion engine, the combination of an overhead cam shaft, a casing surrounding said cam shaft and revoluble thereon, extensions from said casing, valves and domes over said valves adapted to be joined to the extensions of the casing.

5. In an internal combustion engine, the combination of an overhead cam shaft, a casing surrounding said shaft and revoluble thereon, extensions from said cam shaft carrying mechanism intermediate between the cams and valves, and means for pressing down said extensions so as to prevent undesired rotation.

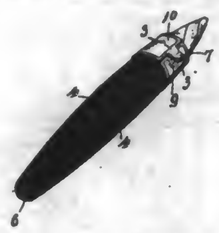
[Claim 6 not printed in the Gazette.]

979,944. CIGAR-ASH PROTECTOR. EDWARD HALLER, Cleveland, Ohio, assignor of one-fourth to John J. Koller and one-fourth to Ladimir Herold, Cleveland, Ohio. Filed Apr. 11, 1910. Serial No. 554,586.

1. A cigar ash protector consisting of a two part reticulated covering for said cigar and extending from one end to substantially the other end thereof, and means for holding said reticulated covering upon the cigar, with the edges of the two parts overlapping.

2. A cigar ash protector, consisting of a two-part reticulated member, means for holding the said parts together and for securing them to the cigar, with their longitudinal edges overlapping.

3. A cigar ash protector comprising two reticulated members which are shaped to conform to the shape of the cigar, a collar to which the said members are secured at one end, the said collar being hinged, and means upon the collar for fastening the two parts thereof together.

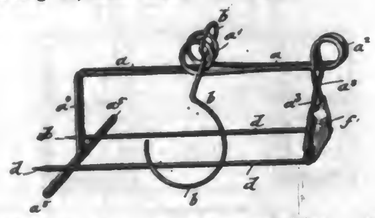


4. A cigar ash protector comprising two rounded members, the edges of which overlap when they are in place upon the cigar, a collar to which the ends of the said members are secured, said collar being formed of two parts which are hinged together, and means upon the collar for securing the two portions thereof together.

5. A cigar ash protector comprising two reticulated members which are adapted to envelop a cigar, a two-part collar, each of the said members being secured to one of the parts of the collar, a tongue projecting from one of said collars, a ridge upon said tongue, and depressions formed in the other part of the said collar with which the ridge on the tongue may coöperate and grip the cigar.

[Claims 6 and 7 not printed in the Gazette.]

979,945. SUSPENSION-CLAMP FOR MEAT AND BACON. AUGUST HARNISCHFEGER, New York, N. Y. Filed Aug. 12, 1910. Serial No. 576,783.

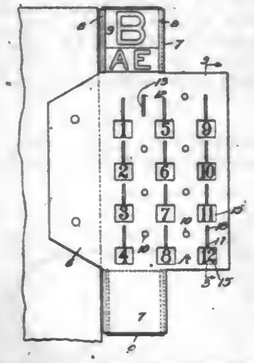


A suspension-clamp for bacon, comprising a one-piece frame wire sharpened at the ends and bent and doubled upon itself and formed into an inverted U-shaped bail having at one end an inverted T-shaped extension and having a coil at the top forming an eye and a spring coil at the end opposite to the T-shaped end, the two wires of the bail extending outwardly and downwardly from the spring coil to form diverging legs, the wires being then bent inwardly and extending transversely against each other and then forwardly forming spaced parallel pins resting on the arms of the T-shaped extension, a suspension hook in said eye, and a one piece triangular sheet metal clamping device having its edges bent respectively around said divergent legs and said transversely-extending portion of the wires.

979,946. INDEX-TAB. WALTER E. HARROD, Harrod, Ohio. Filed Aug. 27, 1909. Serial No. 514,915.

1. An index tab for books comprising side members provided with registering sight apertures, said side members being also provided with leaf engaging extensions, plates bearing similar reference characters on opposite sides thereof, said plates being supported slidably in the casing in longitudinal and transverse series and movable in or out of registry with the sight apertures through which said plates are visible from both sides of the casing, and resetting means whereby a plurality of plates may be simultaneously moved into registry with the sight apertures.

2. In an index tab for books, a casing having side members provided with leaf engaging extensions and with registering sight apertures, a slotted frame supported slidably between the sides of the casing, and index plates confined within the slotted frame between the sides of the casing and slidable between the sides of the casing independently of the frame.



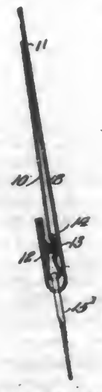
3. In an indicator, a casing comprising side members having extensions adapted to receive a book leaf therebetween, said casing having sight openings, index plates movably supported with reference to the sight openings, and plate setting means movable with reference to the index plates and independently movable with reference to the casing.

4. In a device of the character described, a casing having apertured side members consisting of flat thin plates provided with lateral extensions for the reception of a book leaf therebetween, a resetting device consisting of a frame guided between the side members of the casing and having a longitudinal slot, connecting means for the side members of the casing extending through said slot, and index plates movably supported between the side members of the casing and independently slidable within the confines of the resetting frame and capable of being moved in one direction by means of said resetting frame.

5. In a device of the character described, a casing comprising apertured side members having laterally extending flaps, longitudinally slotted frames interposed between the side members, plates movable in the slots of the frames, means for effecting longitudinal adjustment of the plates and the frames, and connecting means extending through the side members and serving to guide the frames for longitudinal movement.

[Claim 6 not printed in the Gazette.]

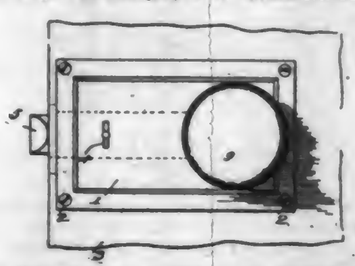
979,947. SUSPENDERS. EDWIN J. HAYDEN and JOHN R. GORDON, Minneapolis, Minn. Filed Nov. 10, 1909. Serial No. 527,256.



A suspender comprising a shoulder band, a strap, on end of which is secured to said band at a suitable distanc along its length and having its opposite end also attache

to the lower end of the band, a plane oblong plate upon said strap having elongated openings adjacent to its opposite ends through which the strap freely passes, said plate being provided on one face and at the inner sides of said slots with flanges projecting at right angles to one face of the plate, the ends of said flanges frictionally binding on the strap when strain is brought to bear upon the latter and a snap button secured to the strap adjacent to the lower end thereof, and adapted to be received by the snap opening formed in the plate, as and for the purpose described.

979,948. DOOR-LOCK. ARTHUR JOSEPH HELMS, Portland, Oreg. Filed Aug. 3, 1909. Serial No. 511,007.



1. A lock comprising a casing, a bolt slidable therein and provided with a transverse opening therethrough, the casing having opposite openings registering with the opening of the bolt, a bar extending through the registering openings and provided with a lateral lug, the opening having in one wall a lip for engagement by the lug to move the bolt to unlocked position, a spring for releasing the bolt, said bolt having a recess, and a longitudinal groove in the bottom thereof, the casing having key hole openings registering with the recess, tumblers in the recess each comprising integral sections arranged at an angle to each other, and pivoted to the bolt, a pin arranged transversely of the casing and passing through the recess, said pin being adapted for engagement by the inner ends of the tumblers, a spring secured to the bolt, for normally retaining the tumblers in engagement with the pin to prevent inward movement of the bolt, the outer end of the tumblers having a recess for engagement by a key to swing the other ends out of engagement with the pin.

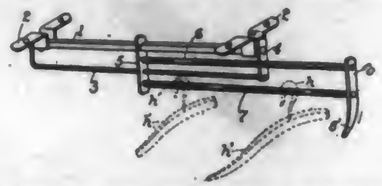
2. A lock comprising a sliding bolt, a bar provided with a lug, said bolt having an opening through which the bar passes and having a lip within the opening, said lip having a flat face for engagement by the lug to move the bolt when the bar is turned in one direction, and a beveled face to permit the key to slip thereover when the bar is turned in the other direction, a tumbler pivoted to the bolt, and having one end adapted for engagement by a key, to swing the tumbler a fixed pin for engagement by the other end to lock the bolt, and means for returning the tumbler to its original position when the bolt moves outwardly.

3. A lock comprising a sliding bolt, a bar provided with a lug, said bolt having an opening through which the bar passes, and having a lip within the opening, said lip having a flat face for engagement by the lug to move the bolt when the bar is turned in one direction, and a beveled face to permit the lug to slip thereover when the bar is turned in the other direction, a tumbler on the bolt, and a fixed support for engagement by the tumbler to lock the bolt.

4. In a lock of the class described, a sliding bolt, a spring for normally retaining the bolt in locked position, a tumbler pivoted to the bolt, a fixed pin with which the tumbler is normally engaged to retain the bolt in locked position, said tumbler having means for engagement by a key to release the same, a knob, and means on the knob for engaging the bolt to move the same.

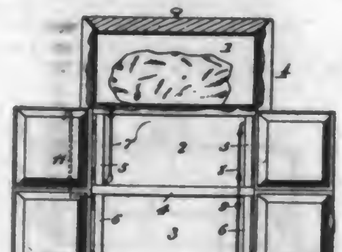
979,949. PULL-OUT BRACKET. FREDERICK HERBERT, Jr., St. Louis, Mo. Filed Apr. 4, 1910. Serial No. 553,311.

A pull-out bracket comprising a stationary section comprising an upper bar substantially rectangular in cross-section, a strap at each end for securing said bar in position and preventing axial rotation thereof, a parallel bottom rod spaced therefrom and coupled at each end to the bar, an extension section comprising a plate slidingly mounted on the bar and rod of the first section in front of the rear strap, and parallel rods leading from the said plate, the upper rod passing freely through the front connection between the bar and rod of the stationary section



and the lower rod being disposed below and in close proximity to the bottom rod of the stationary section, a spacing plate connecting the front ends of the rods of the extension section and provided with a depending hand-hold, the bottom rod of the extension section being adapted to support a series of clothes-hanger hooks maintained against dislodgment by the bottom rod of the stationary section for a collapsed position of the bracket.

979,950. REFRIGERATOR. WILLIAM H. HILL, Owensboro, Ky., assignor of one-half to Abraham Hirsch, Owensboro, Ky. Filed June 28, 1909. Serial No. 504,920.

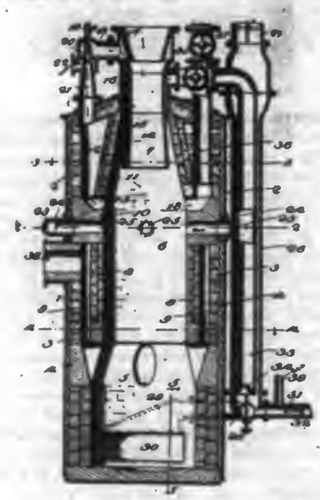


In a refrigerator, the combination with a body having a partition running horizontally thereof dividing it into upper and lower chambers, an ice-chamber having a solid bottom located above said chambers, removable U-shaped water receptacles in each of the chambers and extending around the walls thereof, a pipe connected to the ice-chamber, said pipe extending downward and connected to the lower part of the water receptacle in the upper chamber for conducting the water from the ice chamber to the upper receptacle, a pipe connected to the water receptacle in the upper chamber at the top thereof, said pipe extending downward and connected to the water receptacle in the lower chamber at the bottom thereof, and a pipe connected at the top of the low water receptacle for carrying off surplus water.

979,951. GAS-PRODUCING FURNACE. ROBERT HILPRECHT, Lansing, Mich. Filed Dec. 17, 1909, Serial No. 533,737. Renewed Nov. 7, 1910. Serial No. 591,117.

1. A gas producing furnace including an upper fire chamber, a lower fire chamber, a coal supply chamber extending within the upper end of the furnace with a gas space surrounding the same, a combustion chamber encircling and in open communication with the upper fire chamber, and means for withdrawing the gas supply from the upper fire chamber and delivering the same to the combustion chamber.

2. A gas producing furnace including an upper fire chamber, a lower fire chamber, a coal supply chamber extending within the upper end of the furnace with a gas space surrounding the same, a combustion chamber encircling and in open communication with the upper fire chamber, and an injector arranged beyond the furnace and operating to withdraw the gas from the upper fire chamber and deliver the same to the combustion chamber.



3. A gas producing furnace including an upper fire chamber, a lower fire chamber, a coal supply section, said section being arranged within the furnace to provide a gas space between the section and furnace in open communication with the upper fire chamber, a combustion chamber having communication with the fire chamber beneath the lower end of the coal supply section, means for delivering gas from the gas space to the lower fire chamber and an air supply pipe surrounding the gas delivering means.

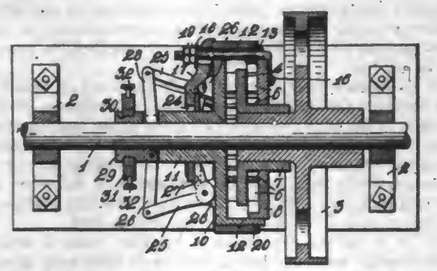
4. A gas producing furnace including an upper fire chamber, a lower fire chamber, a coal supply section, said section being arranged within the furnace to provide a gas space between the section and furnace in open communication with the upper fire chamber, a combustion chamber having communication with the fire chamber beneath the lower end of the coal supply section, an air supply pipe for delivering air to both the upper and lower fire chambers, and a gas transferring pipe in communication with the gas space and arranged within the air supply pipe.

5. A gas producing furnace including an upper fire chamber, a lower fire chamber, a coal supply section, said section being arranged within the furnace to provide a gas space between the section and furnace in open communication with the upper fire chamber, an air supply pipe for delivering air to both the upper and lower fire chambers, and a gas transferring pipe in communication with the gas space and arranged within the air supply pipe, said transferring pipe having valved communication with the air supply pipe.

[Claims 6 to 8 not printed in the Gazette.]

979,952. FRICTION-CLUTCH. FERDINAND F. HOEHNE, Kaukauna, Wis. Filed Mar. 7, 1910. Serial No. 547,914.

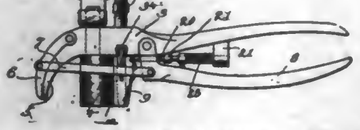
1. In a friction disk, a shaft, a pulley loosely mounted on said shaft, a friction disk carried by said pulley, said disk having arranged therein an annular series of friction blocks, a clamping disk carried by the pulley, a clamping disk fixedly mounted on the shaft and having a sliding engagement with the clamping disk on said pulley, a series of disk connecting bolts, operating levers loosely mounted on said bolts and adapted to be actuated to draw said clamping disks together into frictional engagement with the blocks in said friction disk, a fulcrum member for said operating levers adjustably mounted on said fixed clamping disk, means to operate said levers, and means to force said disks apart and normally hold the same out of engagement with the friction disk when released by said operating lever.



2. In a friction clutch, a shaft, a pulley loosely mounted on said shaft, a friction disk fixedly mounted on the hub of said pulley, an annular series of radially projecting friction blocks arranged in said disk and projecting beyond the opposite sides thereof, a clamping disk loosely mounted on the hub of said friction disk, a clamping disk fixedly mounted on said shaft, said fixed disk having an annular exteriorly threaded flange adapted to receive the clamping disk on the hub of the friction disk, a series of bolts connected to the latter clamping disk and projecting through the disk fixed on the shaft, a series of disk clamping levers loosely mounted on said bolts, means to operate said levers to draw said clamping disks into frictional engagement with the blocks of said friction disk, an adjustable fulcrum band having a threaded engagement with the threaded flange of said fixed clamping disk and adapted to be engaged by the outer end of said levers, thus providing a fulcrum for the same, and means whereby said disks are expanded or moved out of engagement with said friction disk when said levers are released.

3. In a friction clutch, a shaft, a pulley loosely mounted thereon, a friction disk carried by said pulley, a clamping disk arranged on said friction disk, a clamping disk fixedly mounted on said shaft, a series of connecting rods secured to the clamping disk on said friction disk and projecting through the clamping disk on the shaft, a series of operating levers loosely mounted on said rods, and an adjustable fulcrum for said levers, a slidably mounted lever operating collar adapted to be engaged with said levers, a series of bell crank levers having an operative engagement with said collar whereby the latter is shifted to operate said clamping levers, a clutch operating sleeve slidably mounted on said shaft, a series of links to connect said bell crank levers with said sleeves and an operating lever connected with said sleeve.

979,953. AUTOMATIC NAILING OR TACKING APPARATUS. CHARLES P. HOLMES and EMIL HOLMES, Lynn, Mass., assignors to Sidney W. Winslow, Beverly, Mass. Filed Jan. 18, 1904. Serial No. 189,466.



1. In a nailing apparatus, a hammer head, automatic tack feeding means to feed forward a string of connected tacks to bring the end tack into position to be driven at a subsequent operation of the hammer head, a catch to hold said means normally inactive, and permit an independent use of the hammer head, and tack severing devices operated by the tack feeding means.

2. In a nailing apparatus, a hammer head, a tack feeding member slidably mounted thereon, constructed and ar-

ranged to act on a string of connected tacks, locking means under the control of the operator to hold said feeding member retracted to permit an independent use of the hammer head, and means acting automatically to move said feeding member forward to carry the tacks in position to be driven.

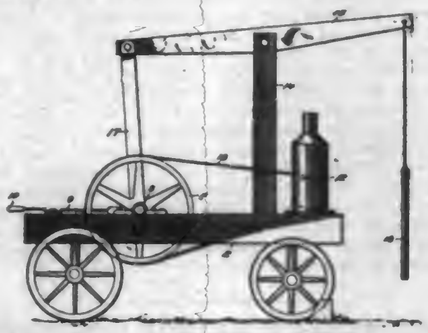
3. In a nailing apparatus, a hammer head, a tack feeding member slidably mounted thereon constructed and arranged to act on a string of connected tacks, locking means under the control of the operator to hold said feeding member retracted to permit an independent use of the hammer head, means acting automatically to move said feeding member forward to carry the tacks into position to be driven and a cutter to sever the driven tack.

4. In a nailing apparatus, a hammer head, a slidable tack feeding member, locking means to hold said member normally with its face in the plane of the face of the hammer head, and permit an independent use of the hammer head, means acting automatically to move the tack feeding member forward to carry the tacks into position to be driven and a cutter operated by the movement of the tack feeding member to sever the driven tack.

5. In a nailing apparatus, a hammer head, a slidable tack feeding member, a manually controlled catch to hold said member normally with its face in the same plane as the face of the hammer head, to permit an independent use of the hammer head, automatically operative means to feed said member forward when the catch is released, and a cutter operated by the movement of the tack feeding member to sever the driven tack from the string of tacks.

[Claims 6 to 30 not printed in the Gazette.]

979,954. WELL-DRILLING-MACHINE ATTACHMENT. GEORGE HOMBARG, Hampton, Ky. Filed Sept. 8, 1909. Serial No. 516,783.



In well drilling apparatus, a frame, a walking beam thereon, a drill tool suspended from one end of the beam, a shaft revoluibly mounted on the frame, a driven loose pulley mounted on the shaft, a crank arm supported by the shaft, connections between the crank arm and the walking beam, a sliding actuating element on the shaft and constructed to revolve therewith and independently of the pulley, a lug extending from the pulley, a lug extending from the said sliding actuating element to be engaged by the lug on the pulley so as to impart rotary movement to the shaft and to allow the shaft to rotate independently of the pulley and at a greater rate of speed by weight of the walking beam and drill tool thereof, and a movably mounted member operatively connected with the actuating element to move the same to a position to cause its lug to lie out of the path of the lug on the pulley.

979,955. NOZZLE. JAMES H. HULINGS, Parsons, W. Va. Filed Jan. 11, 1910. Serial No. 537,526.

1. A nozzle formed at its outer end with an integral eccentric head externally screw-threaded and through which the bore of the nozzle eccentrically extends, a one-piece threaded cap having a discharge opening in its outer end wall, said cap having a rotary and longitudinal movement on the threads of the head, and a locking device on the head movable to engage the cap to lock it in a variety of positions.

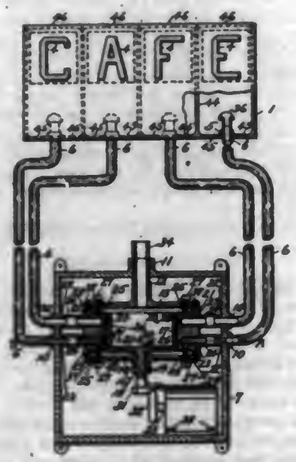


2. A nozzle formed at its outer end with an integral eccentric head externally screw-threaded and through which the bore of the nozzle eccentrically extends, a one-piece threaded cap having a discharge opening in its outer end wall for coöperation with said bore, said cap having a combined rotary and longitudinal movement on the threads of the head, and a locking device on the nozzle adjustable to engage the inner rim edge of the cap to lock it in a variety of positions.

3. A nozzle formed at its outer end with an integral eccentric head externally screw-threaded and through which the bore of the nozzle eccentrically extends, a one-piece threaded cap having a discharge opening in its outer end wall for coöperation with said bore, said cap having a combined rotary and longitudinal movement on the threads of the head and being provided at its inner rim edge with ratchet teeth, and a spring actuated sliding detent on the nozzle longitudinally movable thereon to engage said ratchet teeth and lock the cap in a variety of adjusted positions.

4. A nozzle provided at its outer end with an eccentric head integral therewith and through which the bore of the nozzle eccentrically extends, said head being externally screw-threaded, a one-piece threaded cap having a discharge opening in its outer end wall for coöperation with said bore, said cap having a combined rotary and longitudinal movement on the threads of the head, a casing upon the nozzle in rear of the eccentric head, a stem slidable longitudinally in said casing and carrying a detent to engage the rim edge of said cap, and a spring within the casing and acting on the stem to normally hold the detent in engaging position.

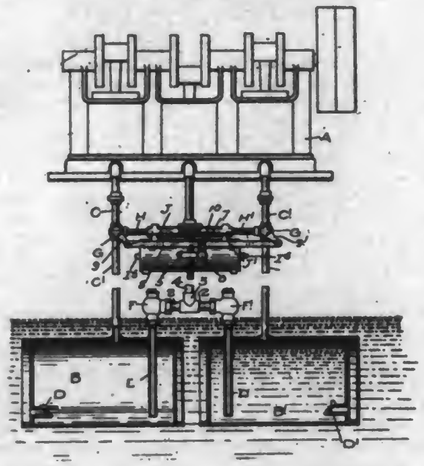
979,956. SIGN-CONTROLLING APPLIANCE. CHARLES G. HUVER and HAROLD DILKS, Philadelphia, Pa. Filed Apr. 13, 1910. Serial No. 555,293.



In a sign controlling appliance, in combination with a sign, consisting of a casing provided with compartments, of a stationary gas-chamber in the wall whereof are provided two series of outlet openings, one series provided with adjustable means for regulating the passage of gas

therethrough, a cup-shaped receptacle mounted to revolve within said gas chamber and having a series of openings in the wall thereof adapted to register with the other series of said outlet openings to permit of intermittently supplying gas therethrough, means for revolving said receptacle, piping in communication with the two series of openings of said gas-chamber and said piping terminating in jets in the compartments of said sign, substantially as and for the purposes described.

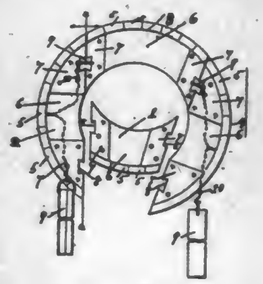
979,957. LIQUID-ELEVATING APPARATUS. GEORGE HARTFORD IRWIN, JOHN PERCIVAL CULLON, and FREDERICK KNOWLSON, Lindsay, Ontario, Canada. Filed Apr. 14, 1910. Serial No. 555,481.



1. The combination with an air compressor and two compression tanks arranged to be submerged in a body of water, of pipes connecting each tank with the air compressor, a flap valve at the bottom of each tank, a discharge pipe leading from each tank, a three-way faucet located on each pipe conecting the tanks with the compressor provided with suitable operating arms and designed to be one reversely set to the other, an independent pipe leading from the compressor, a controlling valve communicating with this pipe comprising a cylinder provided with an upward extension having a longitudinal passage-way with a central enlargement opposite the independent pipe and ball valve therein, and vertically disposed end passage-ways and double piston provided with a connecting rod, and spindles having passage-ways leading therethrough, tubular bosses formed on the ends of the cylinders into which the spindles extend, a pin extending from the connecting bar of the piston through a slot in the cylinder, an arm connected to the pin and a cross bar connecting the arms of the faucets to the arm on the pin and branch pipes leading from the cylindrical passage-way in the upper extension of the cylinder to the faucets as and for the purpose specified.

2. In a device of the class described, a controlling valve comprising a cylinder provided with an upward extension having a longitudinal passage-way with a central enlargement opposite the independent pipe and ball valve therein, and vertically disposed end passage-ways, a double piston provided with a connecting rod and spindle having passage-ways leading therethrough, tubular bosses formed on the ends of the cylinders into which the spindles extend, a pin extending from the connecting bar of the pistons through a slot in the cylinder, an arm connected to the pin and a cross bar connecting the arms of the faucets to the arm and branch pipes leading from the rearward passage-way in the upper extension of the cylinder to the faucets as and for the purpose specified.

979,958. COLLAPSIBLE FORM. MERRILL S. JACKSON, Hartford, Conn. Filed July 26, 1909. Serial No. 509,740.



A form composing two opposing primary segments, the terminal faces respectively of which are separated different distances, the faces of each segment being in a common plane, and keying segments of different sizes having their side faces convergent in the same direction and fitting into the spaces between the terminals of the respective primary segments.

979,959. COMBINED CRUTCH AND CHAIR. SAMUEL J. JOHNSON, Fort Worth, Tex., assignor of one-half to Thomas Finn, Fort Worth, Tex. Filed June 29, 1909. Serial No. 504,959.



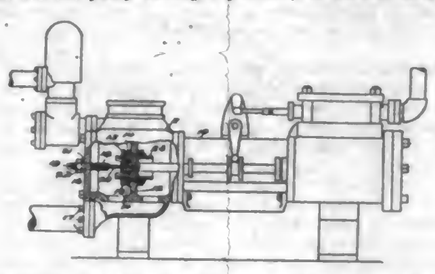
1. In a device of the character described, a crutch member provided with a shaft forming a handle, a frame pivotally mounted in said crutch member, a flexible sheet attached to said shaft and to said frame, and a locking crank slidably engaging said shaft for winding said sheet on said shaft and for locking said device in the form of a crutch.

2. In a device of the character described, a crutch member provided with a shaft forming a handle, a frame pivotally mounted in said crutch member and locked thereto, a flexible sheet attached to said shaft and to said frame, a pin in said crutch member, and a locking crank slidably engaging said shaft and coöperating with said pin to lock said frame within said crutch member, said sheet coöperating with said frame and crutch member to form a chair and said crank coöperating with said shaft and pin to lock said device in the form of a chair.

979,960. LINER FOR STEAM-PUMPS. HORACE G. JOHNSTON, Corsicana, Tex. Filed Apr. 28, 1909. Serial No. 492,672.

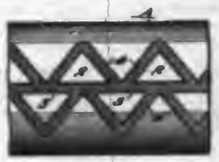
The combination with a pump having a dividing partition provided with a ring extending from the opposite sides of the base portion thereof, a piston mounted in the ring and circumferentially spaced apart therefrom, a liner hav-

ing an upstanding surrounding flange at one end to permit of its being mounted between the piston and ring, and a head for the pump having a plurality of screws inserted



through the same so that their inner ends will bear against the upstanding flange so as to hold the liner in position, substantially as specified.

979,961. NON-SKID TIRE. ROBERT HOMER KEATON, San Francisco, Cal. Filed Jan. 24, 1910. Serial No. 539,655.



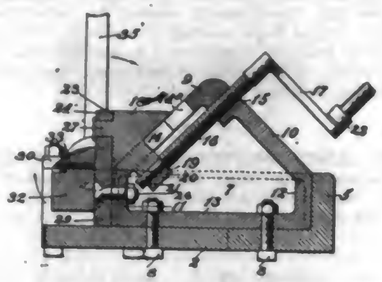
1. An improved tire having a tread portion with a central circumferential groove, said tire having triangular portions at each side of the groove with outer faces substantially flush with that of the tire, the bases of opposite triangles being parallel and spaced from each other and forming the walls of said groove, and the oppositely extending legs of the triangles separated from corresponding portions of the body of the tire to form other grooves which converge outwardly and connect at the outer angles of the triangles, while the inner ends of the last-named grooves intersect the said central groove, said grooves being molded into the tire and the walls of each of said grooves being square to prevent side slipping and to increase the tractive effect.

2. An improved tire having a tread portion with a central circumferential groove, said tire having triangular portions arranged in staggered relation at each side of the groove with outer faces substantially flush with that of the tire, the bases of the opposite triangles being parallel and spaced from each other and forming the walls of said groove, and the oppositely extending legs of the triangles being separated from corresponding portions of the body of the tire to form other grooves which converge outwardly and connect at the outer angles of the triangles, while the inner ends of the last-named grooves intersect the said central groove, said central and outwardly converging grooves being molded into the tire and the walls of each of said grooves being square to prevent side slipping and to increase the tractive effect.

979,962. BENDING-MACHINE. JULIUS KELLNER, Calumet, Pa. Filed July 2, 1910. Serial No. 570,185.

1. In a bending machine, a fixed clamping-member, a movable detachable clamping-member coöperating with the fixed clamping-member for holding the material to be bent, positively operated means for moving the movable clamping-member vertically and laterally with respect to the fixed clamping-member, and a member for bending the material over an edge of the movable clamping-member.

2. In a bending machine, a fixed clamping-member, a movable clamping-member, means for moving the movable clamping-member vertically and laterally with respect to the fixed clamping-member, comprising an inclined slotted support, a carrier provided with a member extending into the opening of the support and a threaded member connected to the carrier, and a bending-member for bending the material over an edge of the movable clamping-member.



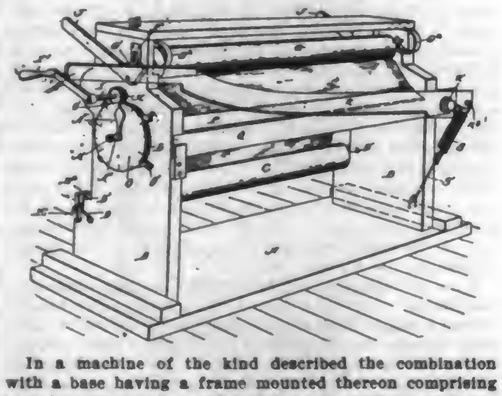
3. In a bending machine, a fixed clamping-member, a movable clamping-member, means for moving the movable clamping-member vertically and laterally with respect to the fixed clamping-member comprising a carrier, an inclined support, and means imparting a positive motion to the carrier, and a bending-member for bending the material over an edge of the movable clamping-member.

4. In a bending machine, a fixed clamping-member, a movable clamping-member, means for moving the movable clamping-member vertically and laterally with respect to the fixed clamping-member comprising inclined supporting-members, carriers mounted on the inclined-members and means for moving the carriers on the supports, and a bending-member for bending the material over an edge of the movable clamping-member.

5. In a bending machine, a fixed clamping-member, a detachable movable clamping-member, means for moving the movable clamping-member vertically and laterally with respect to the fixed clamping-member comprising inclined supporting-members, carriers mounted on the inclined-members to which the movable clamping-member is detachably secured, and means for moving the carriers on the supports, and a bending-member for bending the material over an edge of the movable clamping-member.

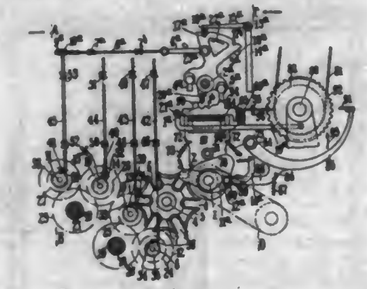
[Claims 6 to 9 not printed in the Gazette.]

979,963. CLOTH CUTTING AND MEASURING MACHINE. JAMES A. KILLIAN and GEORGE M. KENNEDY, Hamburg, Ark. Filed July 19, 1909. Serial No. 508,499.



In a machine of the kind described the combination with a base having a frame mounted thereon comprising uprights connected together by a top member, said uprights being provided with shoulders having vertical slots, a cloth roller mounted within said slots, means for holding said roller therein and applying tension thereto, a spring actuated pressure roller mounted in slots formed in said uprights, cam-levers for raising said roller, a measuring roller arranged under said pressure roller, a shaft mounted in one of said uprights, a gear carried by said shaft, a dial arranged over said gear, a pointer working over said dial and operated by said shaft and a gear operated by the measuring roller meshing with said gear, for the purpose set forth.

979,964. JACQUARD FOR EMBROIDERING-MACHINES. JOHANN JACOB KNECHT, Chemnitz, Germany. Filed Dec. 16, 1909. Serial No. 533,450.



1. In an embroidering machine, the combination, with a main shaft, a variable transmission gearing driven therefrom, and spindles driven by said gearing, of an embroidery frame actuated by said spindles, means for varying the ratio of transmission of said gearing, a displaceable and rotatable card cylinder driven intermittently from said main shaft, needles adapted to be moved rectilinearly by a card on said cylinder, and hooks operated intermittently by said shaft, coacting with said needles and adapted to move independently thereof rectilinearly in a direction at right angles to the direction of motion imparted by said needles and coact with said means.

2. In an embroidering machine, the combination, with a main shaft, a variable transmission gearing driven therefrom, and spindles driven by said gearing, of an embroidery frame actuated by said spindles, means comprising an axle, and riders mounted to rock on said axle, for varying the ratio of transmission of said gearing, a displaceable and rotatable card cylinder driven intermittently from said main shaft, needles adapted to be moved by a card on said cylinder, and hooks driven intermittently by said shaft, coacting with said needles and adapted to move independently thereof in a direction at right angles to the direction of motion imparted by said needles and coact with said riders.

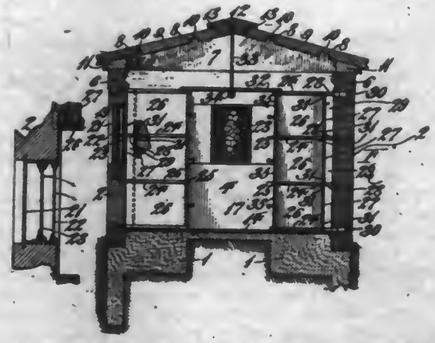
3. In an embroidering machine, the combination, with a main shaft, a variable transmission gearing driven therefrom, and spindles driven by said gearing, of an embroidery frame actuated by said spindles, means comprising an axle, and riders mounted to rock on said axle, each rider having two pushers pivotally suspended therefrom, for varying the ratio of transmission of said gearing, a displaceable and rotatable card cylinder driven intermittently from said main shaft, needles adapted to be moved by a card on said cylinder, and hooks each having two lugs and driven intermittently by said shaft, coacting with said needles and adapted to move independently thereof in a direction at right angles to the direction of motion imparted by said needles and coact with said pushers and rock said riders.

4. In an embroidering machine, the combination, with a frame, a main shaft journaled therein, a variable transmission gearing driven by said shaft, and spindles driven by said gearing, of an embroidery frame actuated by said spindles, means comprising an axle, and riders mounted to rock on said axle, for varying the ratio of transmission of said gearing, a displaceable and rotatable card cylinder driven intermittently from said main shaft, needles adapted to be moved horizontally by a card on said cylinder, a box, carrying hooks, movable vertically in said former frame, means on said shaft for intermittently moving said box, said hooks coacting with said needles and able to move vertically independently thereof and coact with said means.

5. In an embroidering machine, the combination, with a main shaft, a variable transmission gearing driven therefrom, and spindles driven by said gearing, of an embroidery frame actuated by said spindles, means comprising an axle and riders rocking on said axle for varying the ratio of transmission of said gearing, each rider having two pushers pivotally suspended therefrom and two notches, a displaceable and rotatable card cylinder driven intermittently from said shaft, needles adapted to be driven horizontally by a card on said cylinder, notched hooks driven intermittently by said shaft, coacting with said needles and able to move vertically independently thereof and coact with said pushers, a detent on each rider for engaging in the notches in said hooks, and detent means controlled by said shaft for engaging in the notches in said riders.

[Claim 6 not printed in the Gazette.]

979,965. MAUSOLEUM. MAURICE L. KNIGHT, Baltimore, Md. Filed May 14, 1910. Serial No. 561,415.



1. In a vault or mausoleum structure, horizontal shelves having their back edges secured in a wall of the same and formed with openings at said edges, vertical back walls and end walls between said shelves to form crypts or loculi, and said back walls supported to form together with the openings an air duct between them and a wall of the structure and formed with openings into said duct at their top and bottom edges, an inlet and outlet at the ends of such duct, and shutters closing the fronts of such crypts or loculi.

2. In a vault or mausoleum structure, horizontal shelves having their back edges secured in a wall of the same and formed with openings at said edges, vertical back walls and end walls between said shelves to form crypts or loculi, and said back walls supported to form together with the openings an air duct between them and a wall of the structure and formed with openings into said duct at their top and bottom edges, and an inlet and outlet being provided at the lower and upper end of such duct.

3. In a vault or mausoleum, a roof having a ridge-stone, opposed series of vertically arranged loculi, a ceiling slab supported upon the top of said loculi and spanning the space between them, and a rod secured in the ridge-stone at its upper end and having an eye at its lower end bearing against the underside of the ceiling slab to support the same and serve to attach suitable hoisting mechanism.

4. In a vault or mausoleum, horizontal shelves having their rear edges secured in the inner face of a wall of the same and having rectangular openings at said edges extending for the greater portion of the length of the same and registering vertically, and vertical side and back walls forming loculi between said shelves having their back walls secured at the inner edges of the openings in the shelves to form a vertical air-chamber between the back walls and the wall of the mausoleum and through said openings, the wall of the mausoleum having openings at the top and bottom of the air-space.

5. In a vault or mausoleum, horizontal shelves having their rear edges secured in the inner face of a wall of the same and having openings at said edges and registering ver

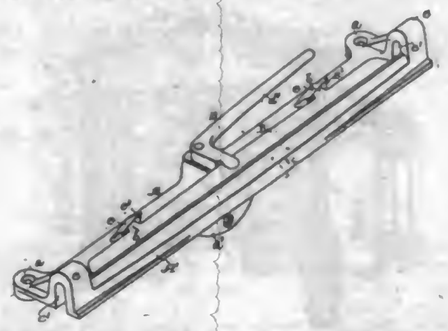
tically, vertical back walls and side walls forming loculi between said shelves having their back walls spaced from the wall of the mausoleum vault to form a vertical air-chamber.

[Claim 6 not printed in the Gazette.]

979,966. PROCESS OF DYEING ACETYL-CELLULOSE. EMIL KNOEVENAGEL, Heidelberg, Germany. Filed Jan. 17, 1910. Serial No. 538,474.

The improvement in the art of dyeing acetyl-cellulose, which consists in treating the acetyl-cellulose with a phenol in aqueous solution, then rinsing it with water and then dyeing it in the dye-bath, substantially as described.

979,967. SAW-CLAMP. ROBERT J. KOEHLER, Philadelphia, Pa., assignor to Henry Disston & Sons, Incorporated, Philadelphia, Pa., a Corporation of Pennsylvania. Filed June 19, 1909. Serial No. 503,147.



1. The combination in a saw clamp, of a base plate carrying a fixed jaw connected to it by arched members at each end, a movable jaw mounted to slide upon the base plate, a horizontally movable lever pivoted to the center of the base plate and having one arm pivotally connected to the movable jaw, and beveled surfaces on the base plate at each side of the lever forming guides for the movable jaw to positively force said jaw toward the fixed jaw as the lever is operated.

2. The combination of a base plate carrying a fixed jaw and having undercut beveled lugs, a movable jaw having projections at the rear arranged to aline with the working faces of the lugs, and means for moving the movable jaw so that it will ride upon the working faces of the lugs.

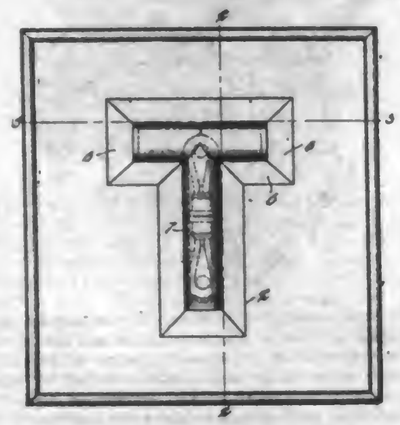
3. The combination of a base plate having a fixed jaw connected to it by arched members at each end, a movable jaw mounted on the base plate, a lever pivoted to the center of the base plate and having one arm connected to said movable jaw, two beveled lugs on the base plate on each side of the lever, said movable jaw having projections on the rear also beveled and arranged to travel on the working faces of the lugs; the parts being so arranged that as the lever is operated the movable jaw will have a longitudinal movement as well as a movement toward the fixed jaw.

979,968. BRAKE-BEAM. CHARLES HENRY KOPSKE, Waterloo, Iowa. Filed Sept. 8, 1910. Serial No. 580,981.



A brake beam comprising a lower plate having its opposite ends bent upwardly to form end flanges, an upper plate arranged above said lower plate and between said flanges, a bracing member arranged between said plates and having its ends engaging the end flanges of the bottom plate and a lever attaching clip arranged around the beam to hold said parts together in operative position.

979,969. SIGN-LETTER. HAROLD C. KRETZ, Rochester, N. Y. Filed July 24, 1909. Serial No. 509,204.



1. An illuminated letter including a sign board formed with a letter recess rearwardly offset therefrom, a body letter arranged in the plane of the sign board, said letter recess including a base wall arranged in parallel relation with the sign board, side walls connecting the base wall and sign board, the side walls inclining outwardly from the base wall, the base wall corresponding in size and shape with the body letter, and means for supporting the body letter from the base wall to arrange said body letter to completely and exactly cover the base wall, whereby the side walls of the letter recess are visible throughout their length and breadth beyond the body letter.

2. An illuminated letter including a sign board formed with a letter recess having a base wall corresponding in outline and size to the letter, side walls connecting the base wall and sign board and inclined outwardly with relation to the base wall, a body letter corresponding in size and shape to the base wall, and means for hingedly connecting the upper end of said body letter to the base wall to maintain said body letter in alinement with the sign board and spaced from the base wall, said hinge connection serving to permit the body letter to maintain its position with relation to the sign board by gravity.

979,970. METHOD OF ELECTRIC WELDING. LAURENCE S. LACHMAN, New York, N. Y., assignor to Universal Electric Welding Company, a Corporation of New York. Filed Oct. 17, 1906. Serial No. 339,321.



1. The process of electrically welding objects together which consists in forming in one a socket adapted to receive a part of the other, and providing the engaging portion of one of said objects with means limiting the relative electric contact area of said objects, placing the objects together and passing a current of electricity through the parts and simultaneously forcing said parts together.

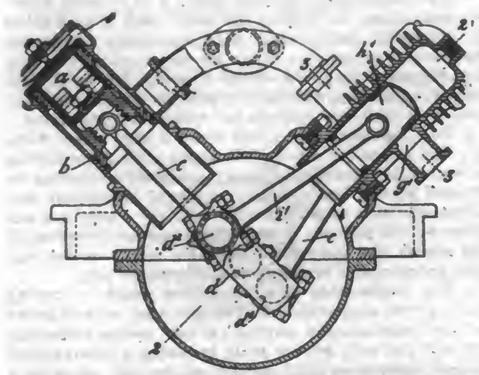
2. The process of electrically welding objects together which consists in forming in one a slot adapted to receive an edge of the other, and providing the engaging portion of one of said objects with means limiting the relative electric contact area of said objects, placing the objects together and passing a current of electricity through the parts and simultaneously forcing said parts together.

3. The process substantially as herein described of electrically welding a handle to a blade, which consists in forming the handle with a slot in its end, reducing the section of metal at one portion of the blade, placing said reduced portion of the blade in the slot in the handle, passing a current of electricity through the parts and simultaneously forcing said parts together.

4. The process substantially as herein described of electrically welding a handle to a blade, which consists in forming the handle with a slot in its end, cutting away a portion of the metal at one edge of the blade to reduce the section of metal, placing said reduced portion of the blade in the slot in the handle, passing a current of electricity through the parts and simultaneously forcing said parts together.

5. The process of electrically welding blades and shanks which consists in providing the blade with a reduced portion, and providing the shank with a lug adapted to overlap said reduced portion, placing the blade and shank together with the lug so overlapping, passing a welding current through the parts in this position and forcing the parts together.

979,971. TWO-CYCLE INTERNAL-COMBUSTION MOTOR. FREDERICK LAMPLOUGH, London, England. Filed Oct. 24, 1910. Serial No. 588,582.

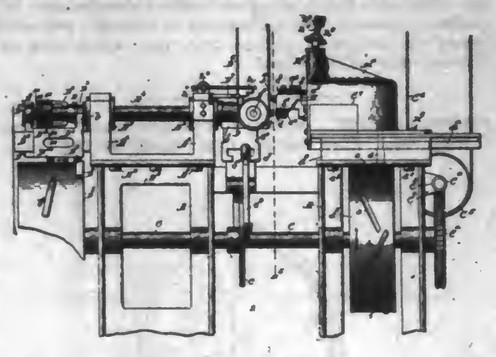


In an internal combustion motor, the combination of two complete motors arranged at an angle of 90° to each other, each consisting of two firing cylinders provided with a common combustion chamber and a charging cylinder and a crank shaft having two cranks at an angle of 180° to each other, the pistons of the firing cylinders of one motor and the piston of the charging cylinder of the other motor being connected to each crank, substantially as herein shown and described.

979,972. MILLING-MACHINE. SANFORD D. LELAND, Winchester, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., and Boston, Mass., a Corporation of New Jersey. Filed July 28, 1902. Serial No. 117,228.

1. In a machine of the class described, mechanism to hold the stock to be dressed, cutting means arranged to operate upon opposite sides of said stock, and means for producing a relative movement of the cutting means and stock, the center of the space defined by the inward limits of movement of the cutting means being offset from the longitudinal center of the stock.

2. In a machine of the class described, mechanism to hold and feed stock to be dressed, cutting tools arranged to operate simultaneously upon the opposite sides of the end portion of the stock, and means to cause said tools to move relatively to the stock, the center of the space defined by the inward limits of movement of the tools being offset from the longitudinal center of the stock.



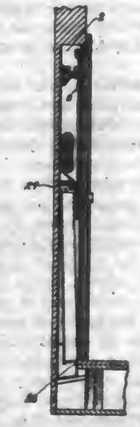
3. In a machine of the class described, mechanism to feed stock to be dressed, a plurality of rotatable tools arranged to act simultaneously upon opposite sides of the stock, means for relatively reciprocating said tools and said stock, and means for so controlling the relative positions of the tools and stock that the center of the space defined by the inward limits of movement of the tools will be offset from the longitudinal center of the stock.

4. In a milling machine, means to embrace and feed a rod, means to clamp and hold said rod stationary that it may be milled, pairs of rotatable milling tools, the tools of each pair being constructed to act simultaneously on opposite sides of the rod, a movable support for the pairs of milling tools, whereby the various pairs of tools may be brought successively into operative position, means for causing relative movement of the support and rod along the rod for the pair of tools to act on it, and automatic means to cause the milling tools of one pair to be separated while acting on the rod to produce a longitudinal taper.

5. In a milling machine, means to clamp and hold a rod stationary while being milled, means to feed the rod longitudinally, a pair of milling tools adapted to act simultaneously on opposite sides of the rod, automatic means to separate the milling tools when in operation, and means to regulate the point at which the separation begins.

[Claims 6 to 12 not printed in the Gazette.]

979,973. FOLDING BATH-TUB. RICHARD L. LEO, New York, N. Y. Filed June 5, 1909. Serial No. 500,345.

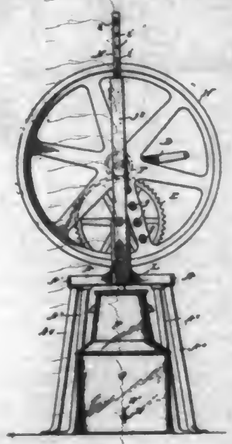


1. In a device of the character described, the combination of a wall having a recess, bathing attachments that are adapted to be folded into said recess, an outer door,

and an inner door which open at different sides of the recess said doors being hinged at their edges.

2. In a device of the character described, the combination of a wall having a recess, bathing attachments, including a bath-tub that are adapted to be folded into said recess, an outer door, and an inner door which open at different sides of the recess.

979,974. CHURN. WILLIAM WALLACE LILES, Mineral Wells, Tex. Filed Dec. 31, 1909. Serial No. 535,738.

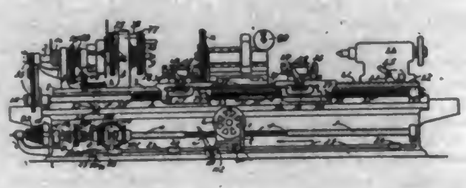


1. The churning device herein described, comprising a framework cast in one piece and consisting of a base piece, front and rear uprights, top and intermediate cross pieces, a shaft journaled in the intermediate cross piece and carrying a gear at its front end, a shaft journaled in the top cross piece, a pinion mounted on and meshing with the gear on the intermediate shaft, a fly wheel secured to the front end of the upper shaft, a pitman secured at its lower end to the fly wheel below its center, a dasher shaft secured at the upper end to the upper end of the pitman, a rectangular guideway or boxing for said dasher shaft, a dasher at the lower end of the dasher shaft, a churn body in which said dasher works, and means for rotating the intermediate shaft.

2. The churning device herein described, comprising a framework cast in a single piece, geared horisontal shafts carried by said frame, a fly wheel carried by one of the shafts, a pitman connected to said fly wheel and engaging a vertical dasher shaft at its upper end, a churn body located beneath the frame work, and a dasher at the lower end of the dasher shaft adapted to work within the churn body.

3. The churning device herein described comprising a frame-work cast in one piece and consisting of a base piece having front and rear side extensions, detachable legs secured to said side extensions, front and rear uprights, tops and intermediate cross pieces cored to receive horizontal shafts, a shaft journaled in the intermediate cross pieces, a gear wheel secured to the front end of the intermediate shaft, a pinion carried by the top shaft and meshing with the aforesaid gear wheel, a fly wheel secured to the front edge of the top shaft and having spokes, one of which is provided with a series of adjusting holes, a pitman secured at its lower end in one of said adjusting holes, a dasher shaft having at or near its upper end a series of adjusting holes in one of which the upper end of the pitman is secured, a rectangular guide box in which said dasher shaft has a vertically sliding movement, a hinged front wall secured to said guide box, said guide box detachably secured to the base of the framework, a dasher secured to the lower end of the dasher shaft, a churn body located beneath the framework, and means for imparting rotary motion to the intermediate shaft.

979,975. MACHINE FOR GRINDING, TURNING, AND FINISHING SHAFTS, PISTON-RODS, PINS, TOOLS, AND OTHER MACHINED WORK. ALFRED MACDONALD, Whiteinch, Scotland. Filed June 4, 1906. Serial No. 320,143.



1. The combination of a frame; a headstock; driving mechanism therefor; a driving shaft; means including a gear spindle for connecting the headstock driving mechanism and said driving shaft; the headstock being free to swivel around said spindle; a movable structure a tool carried thereon; and means including a shaft extending transversely of the frame for operating said structure from said driving shaft to move it longitudinally of the machine.

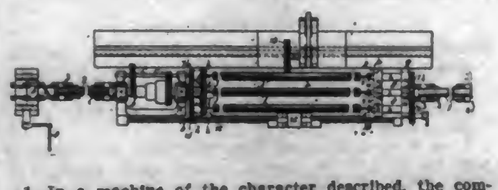
2. The combination of a headstock; driving mechanism thereon; a driving shaft; mechanism including a gear spindle connecting the headstock driving mechanism and said driving shaft; a tool actuated from said shaft; with a swivel ring for the headstock surrounding said spindle and entering a recess in the bed so as to permit said headstock to turn around the spindle.

3. The combination of a tool slide; a slide screw therefor; and means for driving the same; with a mechanism for controlling said means; said mechanism comprising interposed gearing and a clutch for disconnecting one part of the gearing from the other; a screw driven by said gearing; a carriage traveling on said screw; and means in connection with said carriage for controlling said clutch.

4. The combination of a tool slide; a slide screw therefor; and means for driving the same; with a mechanism for controlling said means; said mechanism comprising interposed gearing and a clutch capable of operatively connecting one part of said gearing with the other; a screw driven by the gearing; a controlling carriage traveling on said screw; and mechanism including means on the carriage for manually actuating said gearing at will.

5. The combination of a supporting frame; a driving shaft; a tool supporting structure swiveled on said frame and also longitudinally movable; a tool; means connecting said tool and said driving shaft including a substantially vertical spindle mounted axially of the tool supporting structure, gears carried thereby and other gears intermeshing therewith whereby the tool is actuated from the driving shaft.

979,976. MACHINE FOR GRINDING, TURNING, AND FINISHING SHAFTING, &c. ALFRED MACDONALD, Whiteinch, Scotland. Filed June 4, 1906. Serial No. 320,144.



1. In a machine of the character described, the combination of a frame, a series of pairs of dead centers for supporting a plurality of blanks, means for rotating said blanks on a common axis, means for rotating one or all of the blanks independently on their individual axes, a device having a tool capable of acting on a blank, a rest for the blank operated on, and means for adjusting the position of said rest so as to render possible the rotation of the blanks on a common axis.

2. In a machine of the character described, the combination of a frame, a series of pairs of dead centers for supporting a plurality of blanks, means for rotating said blanks on a common axis, means for rotating one or all of the blanks independently on their individual axes, a device having a tool capable of acting on a blank, a rest for the blank operated on, and means for adjusting the position of said rest both to swing it horizontally and to move it vertically in order to prevent its interference with the revolution of the blanks about a common axis.

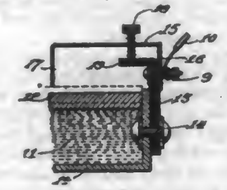
3. In a machine of the character described, having a longitudinally open bed portion, head and tail stocks supported thereon, means in connection with the latter for carrying a plurality of blanks, means for rotating the same on a common axis, and means for rotating the same on their individual axes, in combination with a movable support for lifting and lowering a blank through the opening in said bed portion to and from its position in the head and tail stocks, and means to actuate said support.

4. In a machine of the character described, a frame, a headstock and a tail stock supported thereon, in combination with a conveyer arranged and operative below the head and tail stocks of the machine, means to actuate said conveyer and means to raise and lower a blank to and from said conveyer to its position between the head and tail stocks.

5. In a machine of the character described, a frame, a head stock and a tail stock supported thereon and provided with centers for supporting a plurality of blanks, a tool or tools for operating on certain of the blanks, and a lifter placed to deliver a blank to or remove a blank from certain of the centers while a blank carried by others of the centers is being operated on by a tool.

[Claim 6 not printed in the Gazette.]

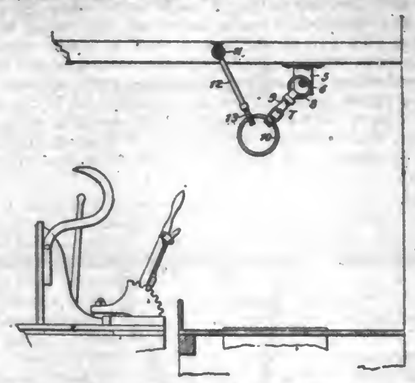
979,977. ELECTRIC FIRE-ALARM. EMMETT MAHON, Fairfield, Iowa. Filed July 13, 1909. Serial No. 507,336.



1. In an electric alarm, a normally open circuit, an annunciator in the path thereof, a circuit closer in the path thereof, said closer comprising a receptacle containing expansible liquid, a float supported by said liquid, a substantially inverted L-shaped insulating member fixedly secured to said casing and extending above the same, a substantially inverted U-shaped contact member supported upon said insulating member, and having one of its depending ends adapted to engage said float for closing an electrical circuit and actuating the annunciator, and an adjusting screw passing through said U-shaped member and engaging said insulating member for adjusting the U-shaped member with respect to the float.

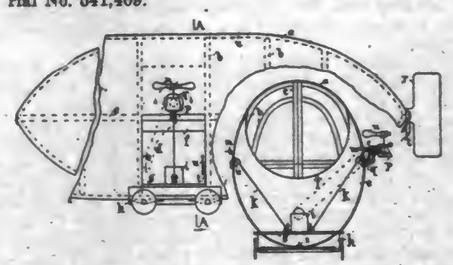
2. A circuit closer of the class described, comprising a receptacle adapted to contain expansible liquid, a float carried within said receptacle, an insulating member fixedly secured to one side of said receptacle, said insulating member provided with a portion overhanging said receptacle, a substantially U-shaped contact member carried by said insulating member and overhanging the same, one end of said U-shaped contact member adapted to form a contact with said float, a terminal carried by said receptacle, a second terminal connected to said U-shaped contact member, and means passing through said U-shaped contact member and engaging the overhanging portion of said insulating member for adjusting the U-shaped contact member with relation to said insulating member.

979,978. SAFETY DEVICE. GEORGE W. MARKLE, Cloquet, Minn. Filed Aug. 24, 1909. Serial No. 514,354.



A safety device comprising a fixed support; a freely-swingable hanger thereon comprising a ring encircling and slidable on said fixed support, a link attached to said ring, and a hand-ring on the free end of said link; an auxiliary fixed support and a link depending from said auxiliary support; and a clip on said link arranged to releasably engage said hanger and hold the free end thereof to one side of said fixed support.

979,979. AIRSHIP OF THE RIGID TYPE. JOHANNES MASSOHN, Hamburg, Germany. Filed Feb. 1, 1910. Serial No. 541,409.

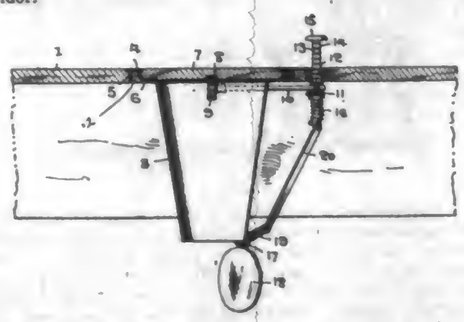


An airship comprising a gas containing receptacle substantially oval-shape in vertical section, a compartment formed in the lower half and near the center of the receptacle, the end walls of said compartment being gas-tight and substantially conforming in contour to the sides of the receptacle, the roof of the compartment being substantially semi-circular in contour and forming a continuation of the top of the receptacle, thereby providing a cylindrical gas passage over said compartment, the floor of said compartment arranged above the plane of the bottom of the receptacle and provided with observation openings, a motor within said compartment, propellers arranged at the sides of said receptacle, and driving shafts connected with said propellers and extending in said compartment and driven by said motor.

979,980. CUSPIDOR. STERLING B. MCDONALD, Greenwood, Nebr. Filed Mar. 22, 1910. Serial No. 550,860.

1. In a cuspidor, a receptacle adapted to be seated with its upper surface flush with the floor, a cover slidably mounted above the receptacle, a rack on the under surface of said cover, a pinion meshing with the rack and secured to a shaft extending without the receptacle and under the floor, a second pinion secured on the outer end of said shaft, a push button having its stem slidably secured to the floor, a rack formed on one side of said stem and adapted to engage said last mentioned pinion, a bottom pivotally mounted on the receptacle, a link connecting the bottom with the stem of the push button, and means for normally holding said push button in a fixed position.

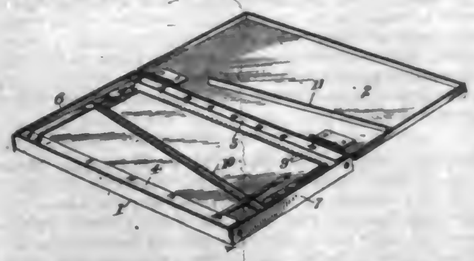
2. The combination with a floor having an opening therethrough, of a cuspidor extending through said opening, said cuspidor having a flange surrounding its upper end and extending laterally therefrom, said flange having a depressed portion to form a way, a closure movably mounted in said way, a toothed bar attached to said cover, a cog meshing with said toothed bar, a shaft carrying said cog, a pinion mounted upon the opposite end of the shaft and a push rod having teeth thereon meshing with said pinion, whereby when the push rod is lowered, the shaft will be rotated and the cover moved from over the cuspidor.



3. A device of the class described, comprising the combination with a floor having an opening therethrough, of a cuspidor extending through said opening, a cover for the upper end of the cuspidor, a toothed bar attached to the cover, a cog meshing with said bar, a shaft carrying said cog, a pinion on said shaft, a push rod having teeth thereon meshing with the pinion and means to automatically raise said push rod after the same has been depressed and released.

4. A cuspidor comprising the combination with a floor section having an opening therethrough, of a cuspidor seated in said opening, said cuspidor being open at both ends, a cover for the upper end of the cuspidor, a toothed bar attached to said cover, a cog meshing with said bar, a shaft to which said cog is secured, a pinion on the opposite end of said shaft, a push rod having teeth thereon adapted to mesh with said pinion, a socket in which said push rod is movably mounted, a closure plate for the lower end of the cuspidor, connecting means between said plate and push rod adapted to close the plate when the push rod is lowered and a spring adapted to move said push rod upwardly after it has been depressed and released.

979,981. RECEPTACLE FOR BITS AND DRILLS. OTTO R. MILKE, Washington, D. C., assignor of one-half to Herbert S. Berliner, Washington, D. C. Filed Nov. 11, 1909. Serial No. 527,464.

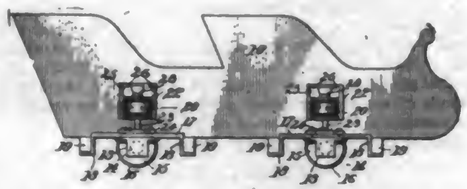


1. The combination with a receptacle for bits or drills having parallel carrier bars attached thereto so as to be revoluble upon the attaching means, each carrier-bar having therein a series of sockets which gradually diminish as to their diameters and arranged so that the walls of the sockets in one of the bars will be in line with one of its sides; as its upper surface; the sockets in the other carrier-bar being in line with one of the sides as its lower surface, a longitudinally tapered strip attached to the bottom of the receptacle to form a rest for the bits or drills carried by one of the carrier-bars and retaining means for the bits or drills carried by the opposite carrier-bar, and an oppositely tapered strip attached to the inner side of the cover for the receptacle, substantially as shown.

2. A carrier and support comprising a receptacle and its cover, carrier-bars revolubly connected to the receptacle, means extending diagonally across the bottom of the receptacle to retain bits or drills in one of the carrier-bars and means that projects from the inner side of the cover to retain bits or drills in the other carrier-bar.

3. A receptacle for bits or drills comprising a base and a cover that is hinged to the base, parallel carrier-bars journaled to the base and provided with sockets graduated as to size to receive bits or drills of different diameters, strips which project from the base and from the cover to lie in the same plane as the ends of the bits or drills when the carrier bars therefor are turned to position the bits or drills parallel with the bottom of the base.

979,982. RAILWAY-CAR FOR PLEASURE-RAILWAYS. JOHN A. MILLER, Homewood, Ill. Filed Apr. 16, 1910. Serial No. 555,824.



1. In a car for pleasure railways, the combination with the car body of a brace secured thereto, traction wheels, bearings for said traction wheels supported between the ends of said brace, a casing supported by said brace above said bearings and in line therewith, and a side bearing wheel mounted in said casing.

2. In a car for pleasure railways, the combination with the car body of a brace secured thereto, traction wheels, bearings for said traction wheels supported between the ends of said brace, a casing provided with a standard secured to said brace above said bearings and in line therewith, and a side bearing wheel mounted in said casing.

3. In a car for pleasure railways, the combination with the car body of a brace secured thereto, traction wheels, bearings for said traction wheels supported by said brace, a casing provided with spaced apart flanges and having a standard extending upwardly from said brace and in line with said bearings, and a side bearing wheel mounted between said flanges.

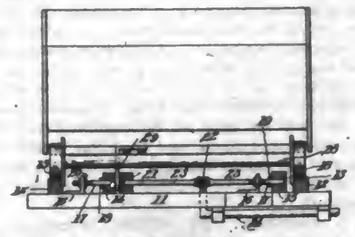
4. In a car for pleasure railways, the combination with the car body, of a brace secured thereto, traction wheels, bearings supported by said brace, a casing provided with a back plate and spaced apart flanges, and a standard secured to said brace above said bearings and in line therewith, and a side bearing wheel mounted between said flanges.

5. In a car for pleasure railways, the combination with the car body of a brace secured thereto, traction wheels, bearings supported by said brace, a casing provided with spaced apart flanges and a standard secured to said brace above said bearings and in line therewith, said casing being provided with means for strengthening said flanges, and a side bearing wheel mounted between said flanges.

[Claims 6 to 8 not printed in the Gazette.]

979,983. BRAKING APPARATUS FOR PLEASURE-RAILWAYS. JOHN A. MILLER, Homewood, Ill. Filed Apr. 19, 1910. Serial No. 556,382.

1. In a brake of the character described the combination with a railway track of a stationary member located between the rails of said track, and a movable member cooperating with said stationary member, said members being constructed to engage a moving vehicle to arrest the movement thereof.



2. A brake of the character described comprising a stationary member, and a movable member coöperating therewith, said members being constructed to engage a moving vehicle to arrest the movement thereof, and means for adjusting the position of said stationary member.

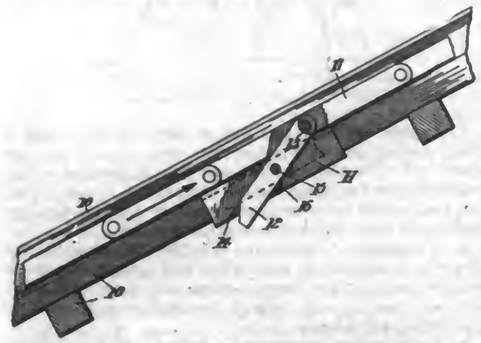
3. A brake of the character described comprising a stationary member, and a movable member coöperating therewith, said members being constructed to engage a moving vehicle to arrest the movement thereof, means for adjusting the throw of said movable member.

4. A brake of the character described comprising a stationary member, and a movable member coöperating therewith, said members being constructed to engage a moving vehicle to arrest the movement thereof, means for adjusting the position of said stationary member, and means for regulating the throw of said movable member.

5. In a brake of the character described the combination with a railway track of a stationary member located between the rails of said track, and a movable member cooperating with said stationary member, said members being constructed to engage a moving vehicle to arrest the movement thereof, and a toggle member for operating said movable member.

[Claims 6 to 11 not printed in the Gazette.]

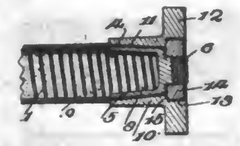
979,984. SAFETY DEVICE FOR PLEASURE-RAILWAYS. JOHN A. MILLER, Homewood, Ill. Filed Apr. 19, 1910. Serial No. 556,384.



1. A safety device of the character described comprising a pivoted dog constructed to be placed in the path of movement of a power chain to prevent retrograde movement of the latter, said dog having one end beveled and overweighted, the other end thereof being provided with a concavity.

2. The combination with a road bed and a power chain traveling over the same, of angle irons secured to said road bed, and a safety dog comprising a flat metal bar pivotally mounted between said angle irons and arranged in the path of movement of said chain, the forward end of said bar being concaved to engage said chain and prevent retrograde movement thereof, the rear end of said bar being beveled and overweighted.

979,985. FLEXIBLE SHAFT. SAMUEL C. MOORHEAD, Cleveland, Ohio. Filed Nov. 27, 1900. Serial No. 530,230.



1. A flexible shaft comprising a coiled member, sockets secured to the ends thereof and having tapering outer faces, a covering for said flexible member and extending over the tapering faces of the sockets, a sleeve on each socket and tapering to correspond with the taper of the sockets and having laterally extending flanges carried by the outer ends and means within the flanges for tightening said sockets within the sleeves.

2. A flexible shaft comprising a coiled member, a socket having a recess in its inner end in which the coiled member is secured, said socket having a tapering outer face and reduced screw-threaded outer end, a covering for said coiled member and extending over the tapering face of the socket, a sleeve having a tapering bore to correspond with the taper of the socket and to receive the same and having a laterally extending flange carried by the outer end thereof and having a recess communicating with the bore of the sleeve and of a greater diameter, and receiving the reduced screw-threaded end of the socket, and a nut screwed upon the threaded end of the socket and bearing against the shoulder formed by the enlarged recess, whereby the socket is tightly drawn into the sleeve and clamping the covering between the tapering walls of the socket and sleeve.

3. A flexible shaft comprising a coiled member, a socket having a tapering outer face and reduced screw-threaded outer end, a flexible operating member secured to said socket, a covering for said coiled member and extending over the tapering face of the socket, a sleeve having a tapering bore to correspond with the taper of the socket and to receive the same and having attaching means thereon, said sleeve having a recess communicating with the bore thereof and of a greater diameter than the outer end of the sleeve and into which extends the screw threaded end of the socket, and a nut screwed upon the threaded end of the socket, the greatest diameter of the nut being less than that of the recess whereby the nut is free to rotate therein and bear against the inner face of the recess.

4. A flexible shaft comprising a socket having a tapering outer face and reduced screw threaded portion carried by the small end thereof, a flexible operating member secured to said socket, a covering for said operating mechanism and extending over the tapering face of the socket, a sleeve having a tapering bore to correspond with the taper of the socket and to receive the same and having a lateral flange carried thereby and serving as an attaching means, said sleeve having a recess in its outer face communicating with the bore thereof and of a greater diameter than the inner end of the bore and a nut screwed upon the threaded end of the socket and of a thickness a little less than that of the recess for making the outer face of the nut slightly beyond the outer face of the flange, the greatest diameter of the nut being less than that of the recess whereby the nut is free to be rotated therein.

979,986. TELEPHONE RELAY OR REPEATER. HOWARD MORGAN, Quinter, Kans. Filed May 19, 1909. Serial No. 496,914.

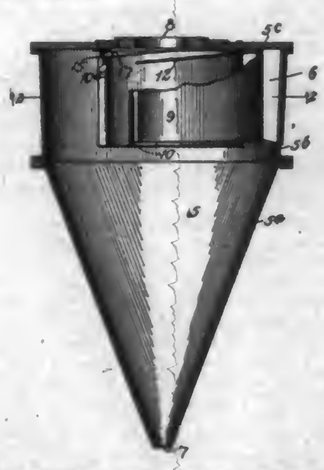
The combination with the transmitting and ground or return wires of adjacent circuits or sections of a circuit, of a supporting frame provided with sets of binding posts to which the wires of the respective circuits or sections of a circuit are connected, a set of magnets carried by said frame and connected with one of said sets of binding posts, and a second set of magnets carried by the frame and connected with the other set of binding posts, said

sets of magnets having their pole faces arranged in juxtaposition, whereupon upon the energization of either set



of magnets corresponding induced currents will be set up in the other set of magnets, substantially as described.

979,987. DUST-COLLECTOR. ORVILLE M. MORSE, Jackson, Mich.; Sarah G. Morse special administratrix of said Orville M. Morse, deceased. Filed Oct. 9, 1905. Serial No. 281,928.



1. In a centrifugal dust collector, a structure inclosing an area wherein the air tends to whirl, provided with a tangential inlet, an air outlet and a dust outlet, and a plurality of deflectors, including between their lateral faces an elongated expansion space gradually increasing in width in the direction of air movement.

2. In a centrifugal dust collector, a structure inclosing an area wherein the air tends to whirl provided with a tangential inlet, an air outlet and a dust outlet, and a plurality of vertical deflectors, curved in plan, including between their lateral faces an elongated expansion space arcuate in plan, gradually increasing in width in the direction of air movement and located in eccentric relation to the casing axis.

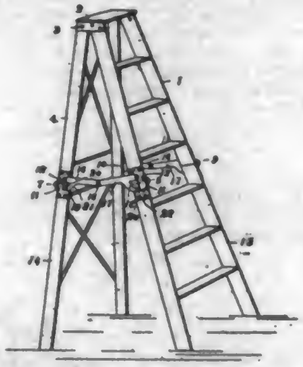
3. In a centrifugal dust collector, a structure including an area wherein the air tends to vortically whirl, provided at its upper end with a tangential inlet, in its top with an air outlet, and in its base with a dust outlet, and a plurality of deflectors, arranged in overlying relation throughout a major portion of their extent at different radial distances from the center of the area, said deflectors in plan being both curved throughout their overlapping portions and eccentric to the center of said area, and gradually approaching said center in the direction of air movement, the radially outermost deflector extending from an initial point of contact with the including structure, and from substantially the top of said area to the bottom of the inlet.

4. In a centrifugal dust collector, a casing structure wherein dust-laden air may move centrifugally to mass the dust, and two eccentric curved deflectors therein, one extending from the casing wall gradually toward the casing axis, and terminating between said wall and axis, and the other extending from a point separated from the casing wall gradually toward a point nearer the casing axis than the end of the first said deflector, said casing providing an air outlet opening to the eccentric whirl area partially defined by the deflectors, a dust outlet, and a tangential air inlet to the area radially outside of the first said deflector, whereby the inner deflector diverts relatively dustless air into an eccentric vortical whirl to which the air outlet opens, and the outer deflector diverts substantially the entire dust-laden air portion for delivery outside of the eccentric vortical whirl to the incoming dust-laden air.

5. In a centrifugal dust collector, a casing structure wherein dust-laden air may move to centrifugally mass the dust, a tangential inlet thereto, a dust outlet therefrom, a deflector extending from a point out of contact with the casing wall eccentrically inward toward the axis of the casing to a point between the air outlet and the casing wall, means between said deflector and the casing wall for downwardly directing dust passing between the casing wall and the radially outer end of said deflector, said casing providing an air outlet opening to the whirl area within, and partially defined by, said deflector.

[Claims 6 to 8 not printed in the Gazette.]

979,988. FOLDING STEP-LADDER. LAWRENCE J. MUEHR, Duluth, Minn. Filed Oct. 22, 1909. Serial No. 524,053.



1. A step ladder comprising a ladder section and a brace section pivotally connected, each divided into an upper and lower section, the lower section adapted to fold outward upon the upper section and pivoted levers locking the upper and lower sections together and holding the ladder and brace in their separated position.

2. A step ladder comprising a ladder and brace section pivotally connected to each other and formed of pivoted sections, and pivoted levers locking the upper and lower sections together and holding the ladder and brace in their separated position.

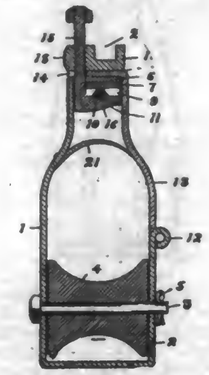
3. A step ladder, comprising a ladder and brace section pivotally connected to each other and formed of pivoted sections, abutting lugs carried by the sections, and pivoted levers adapted to encircle said lugs and hold them together.

4. A step ladder comprising a ladder and brace section pivoted together and each formed of two pivoted sections, means for locking the upper and lower sections of the ladder and brace sections together, and means carried by the locking means for holding the ladder and brace sections in their separated position.

5. A step ladder comprising a ladder section and brace section pivotally connected at their upper ends, each section divided into upper and lower portions, plates carried by the abutting ends of said sections and having outwardly extending ears pivoted together, lugs carried by the inner end of the plates and abutting levers pivoted to the plates of the upper sections and having downwardly curved fingers adapted to embrace the lugs and clamp them together and the inner ends of said levers pivoted together.

[Claims 6 to 10 not printed in the Gazette.]

979,989. SUPPORT FOR STRINGING CABLES. LAWRENCE J. MUEHR, Duluth, Minn. Filed Dec. 6, 1909. Serial No. 531,689.



1. A support of the character described, comprising a hanger formed of two hinged sections, and a vertically movable means carried by the upper end of the hanger for attaching it to the supporting wire and securing the sections together.

2. A support of the character described, comprising a hanger formed of two hinged sections, a roller, supported thereby, and a vertically movable means carried by the upper end of the hanger for attaching it to the supporting wire and securing the sections together.

3. A support of the character described, comprising an elongated plate, a stirrup extending transverse of the plate and rigidly secured thereto, a hinged section formed in the stirrup, a roller journaled in the stirrup below said hinged section, and means carried by the plate for clamping the supporting wire thereagainst.

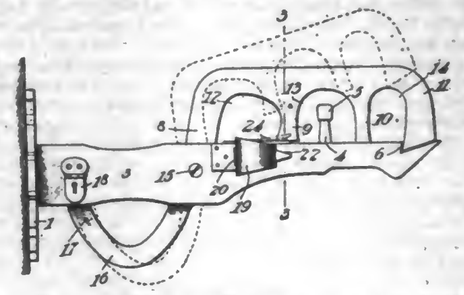
4. A support of the character described, comprising an elongated plate, a stirrup extending transverse of the plate and rigidly secured thereto, a hinged section formed in the stirrup and having an inwardly turned bifurcated end, a gripping jaw below the plate and having a screw-threaded shank extending through the plate and stirrup and the bifurcated end of the hinged section, and a nut on said shank, substantially as described.

5. A support of the character described, comprising an elongated plate having downwardly bifurcated ends, a stirrup having a laterally turned end extending transverse the plate and rigidly secured to the upper face thereof, a gripping member below the plate and having an upwardly extending screw-threaded shank passing through the plate and turned end of the stirrup, a hinged portion formed by one side of the stirrup and having a bifurcated laterally turned end adapted to straddle the shank of the gripping jaw, a nut carried by the shank above the laterally turned end and a roller removably secured in the stirrup below the hinged portion.

[Claims 6 to 9 not printed in the Gazette.]

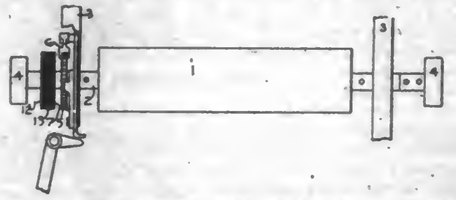
979,990. GARMENT SUPPORT AND LOCK. WILLIAM MURPHY, Moab, Utah. Filed Feb. 10, 1910. Serial No. 543,066.

A combined support and lock for wearing apparel comprising a main supporting arm, a pivoted member mounted thereon and embodying a recess in the side thereof adjacent to the main supporting arm, an article holding clip pivotally mounted on one side of the main supporting arm and provided with an inwardly projecting tongue received in a mortise in the main supporting arm, a spring supported locking pin on the main supporting arm adapted to move into and out of engagement with the tongue of



the clip and adapted to be thrown into engagement with the tongue of the clip by the inward movement of the pivoted member, and means for locking and releasing the pivoted member.

979,991. TYPE-WRITING MACHINE. LOUIS NEY, Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 8, 1909. Serial No. 488,563.



1. In a typewriting machine, the combination with a revoluble platen, of a loose line-space wheel having a ring or drum, a split-ring confined within said drum, a finger-wheel revoluble about the platen axis relatively to the platen and line-space wheel, and a self-binding device controlled by said finger-wheel to expand said split-ring against the interior of the drum and also to bind said finger-wheel against accidental turning movement.

2. In a typewriting machine, the combination with a revoluble platen, of a loose line-space wheel having a ring or drum, a split-ring confined within said drum, a finger-wheel revoluble about the platen axis relatively to the platen and line-space wheel, and means controlled by said finger-wheel to expand said split-ring against the interior of the drum and also to lock said finger-wheel against accidental turning movement, said finger-wheel in the form of a cap fitting over said drum.

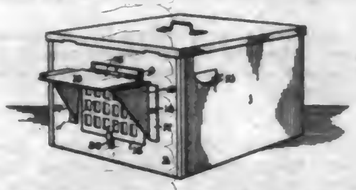
3. In a typewriting machine, the combination with a revoluble platen, of a loose line-space wheel having a ring or drum, a split-ring confined within said drum, a finger-wheel revoluble about the platen axis relatively to the platen and line-space wheel, and means controlled by said finger-wheel to expand said split-ring against the interior of the drum and also to lock said finger-wheel against accidental turning movement, said finger-wheel and drum forming a casing separated from the line-space wheel and mounted between the latter and a finger-wheel which is fixed on an axle, to which the platen is also fixed.

4. In a typewriting machine, the combination with a revoluble platen, of a loose line-space wheel having a ring or drum, a split-ring confined within said drum, a finger-wheel revoluble about the platen axis relatively to the platen and line-space wheel, a self-binding cam connected to said finger-wheel, and a lever operating between said cam and said split-ring to enable the finger-wheel by its revolution to expand said ring against said drum.

5. In a typewriting machine, the combination with a revoluble platen, of a loose line-space wheel having a ring or drum, a split-ring confined within said drum, a finger-wheel revoluble about the platen axis relatively to the platen and line-space wheel, a self-binding cam connected to said finger-wheel, and a lever operating between said cam and said split-ring to enable the finger-wheel by its revolution to expand said ring against said drum; said cam being constructed to coöperate with said lever to bind the finger-wheel against accidental backward turning movement.

[Claims 6 to 22 not printed in the Gazette.]

979,992. SETTING AND BROOD COOP. WILLIAM L. NIEMANN, Mount Olive, Ill., assignor of one-half to Edward F. Niemann, Mount Olive, Ill. Filed Oct. 14, 1909. Serial No. 522,504.



1. A coop comprising a door way, a hanger strip, located above the doorway and having an outwardly jutting inclined portion, formed with apertures and a curl beneath the apertures providing pivots, and a shield door having curled leaves at its inner edge passed through the apertures of the inclined portion and conforming to the curl-pivots.

2. A coop comprising a doorway, a hanger strip, located above the doorway and having an outwardly jutting inclined portion, a shield door hinged to the inclined portion, a ventilating door, and rings whereby the inner edges of the doors are hinged together flush with each other.

3. A coop comprising a doorway, a hanger strip, located above the doorway and having an outwardly jutting inclined portion, a door hinged to the inclined portion, a prop formed with a vertical flange pivoted at one side of the doorway, with a horizontal ledge on which the door is adapted to rest and with a triangular body providing a side awning beneath the ledge.

979,993. PROJECTILE. JOSEPH FRANCIS O'BYRNE, Contact, Nev., and THOMAS A. FLOOD, Salt Lake City, Utah. Filed Mar. 24, 1910. Serial No. 551,353.



1. A projectile having a recess or opening, a narcotic therein and a gelatin like cover for said recess or opening.

2. A projectile having a point, a butt, a connection between the point and the butt and a narcotic between the point and butt and alongside the connection and a gelatin-like cylinder inclosing the narcotic.

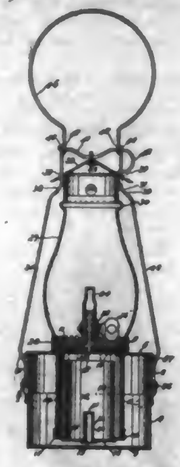
3. A projectile of material adapted to be absorbed by animal tissue and having a point and butt and a central connection between the same and a narcotic between the point and butt encircling the connection.

4. A projectile having an annular recess, a narcotic therein and a gelatin like cylinder inclosing the narcotic.

5. A projectile having a point or butt and a connection between the same of reduced diameter whereby an annular recess is provided surrounding the connection, the ends of the said recess being undercut and a narcotic held in said recess.

[Claims 6 to 9 not printed in the Gazette.]

979,994. HAND-LANTERN. GILBERT M. OTTO, Oaklawn, Ill. Filed Sept. 18, 1909. Serial No. 518,402.



1. A hand lantern comprising in combination an acetylene gas generator apparatus, a burner therefor, a transparent globe surrounding and projecting above said burner, a detachable collar loosely supported upon the top of the generator apparatus and forming a seat for and surrounding said globe, a suspending frame secured to said apparatus, a bail therefor, and a locking means supported by said frame adapted to removably clamp and lock the globe upon its seat, substantially as described.

2. A hand lantern comprising in combination an acetylene gas generator apparatus, a burner therefor, a transparent globe mounted above and supported loosely upon the top of said apparatus, a suspending frame, and a bail therefor, a cap, a pivoted locking device forming the top bar of said frame and actuating said cap toward and thereby removably locking the globe in its operative position, substantially as described.

3. A hand lantern comprising in combination an acetylene gas generator apparatus, a burner therefor, a transparent globe surrounding said burner, a base support for said globe, a suspending frame, a cap sleeved thereon, a collar separated therefrom, means for depressing said cap against the collar and locking the cap and collar in a position tightening and maintaining the globe upon its base support, substantially as described.

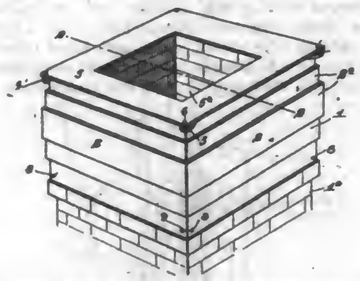
4. A hand lantern comprising in combination an acetylene gas generator apparatus, a burner therefor, a stationary transparent globe, a generator suspending frame, a pivoted bail therefor, a cap located within said frame, and a bell-crank pivoted in and connecting the upper ends of said frame, suspending said cap, and adapted to actuate the cap to a position locking and unlocking the globe upon its seat, substantially as described.

5. A hand lantern comprising in combination an acetylene gas generator apparatus, a burner therefor, a transparent globe surrounding and projecting above said burner, a suspending frame secured to said apparatus, a cap, a locking device permanently suspending said cap, a perforated collar separate therefrom seated upon the globe and actuated by the depression of the cap to lock the globe upon its seat, substantially as described.

[Claims 6 and 7 not printed in the Gazette.]

979,995. CHIMNEY-TOP PROTECTOR. ROBERT C. OWENS, Pittston, Pa. Filed Dec. 31, 1909. Serial No. 535,866.

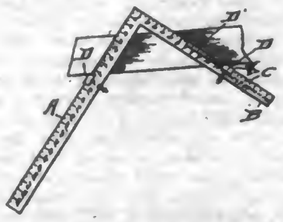
1. A chimney top protector comprising side plates arranged with their side edges juxtaposed and their top edges all in the same plane, a cover resting on the top edges of the plates, overlapping lugs at the adjacent edges of contiguous plates, and fastenings securing the cover to the plates and securing contiguous plates together, said fastenings passing through the overlapping lugs of the plates.



2. A chimney top protector comprising side plates arranged with their top edges all in the same plane and their side edges contiguous throughout their length, a cover resting on the top edges of the plates, overlapping lugs at the adjacent edges of contiguous plates, fastenings securing the cover to the plates and securing contiguous plates together, said fastenings passing through the overlapping lugs of the plates, and fastenings connecting contiguous plates together at their lower corners.

3. A chimney protector comprising angularly disposed plates having their side edges abutting, lugs on the upper corners of the plates extending outwardly therefrom, the lugs of one plate being arranged in overlapping relation with the lugs of adjacent plates and so disposed that the plates will have their top edges flush, a cover resting on the top edges of the plates, and bolts passing through the corners of the cover and through the overlapping lugs to secure the covers of the plates and adjacent plates together.

979,996. PITCH-GAGE ATTACHMENT FOR SQUARES. JOHN PARKHILL, Rochester, Minn. Filed Mar. 9, 1910. Serial No. 548,250.



1. A right angled square having graduations numbered similarly each way from the vertex of the square, one of the arms of the square having an extra series of identifying characters beyond the ordinary mark numbered 12 of the arm, and each extra character being positioned at a distance from the mark numbered 12 equal to the difference between the length from said mark 12 to the vertex of the square and from the said mark 12 to the graduation upon the other arm of the square bearing the same numeral as that of this particular extra character.

2. A right angled square having graduations numbered similarly each way from the vertex of the square, one of the arms of the square having an extra series of identifying characters beyond the ordinary mark numbered 12 of the arm, and each extra character being positioned at a distance from the mark numbered 12 equal to the difference between the length from said mark 12 to the vertex of the square and from the said mark 12 to the graduation upon the other arm of the square bearing the same numeral as that of this particular extra character, and adjustable clamps fastened to the arms of the square.

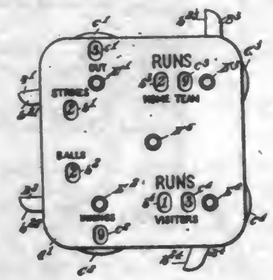
3. A right angled square having graduations numbered similarly each way from the vertex of the square, one of the arms of the square having an extra series of identifying characters beyond the ordinary mark numbered 12 of the arm, and each extra character being positioned at a distance from the mark numbered 12 equal to the difference between the length from said mark 12 to the vertex of the square and from the said mark 12 to the graduation upon the other arm of the square bearing the same numeral as that of this particular extra character, and adjustable clamps fastened to the arms of the square, each of said clamps having a knife edge adapted to bear against the edge of the timber being marked.

4. A right angled square having graduations numbered similarly each way from the vertex of the square, one of the arms of the square having an extra series of identifying characters beyond the ordinary mark numbered 12 of the arm, and each extra character being positioned at a distance from the mark numbered 12 equal to the difference between the length from said mark 12 to the vertex of the square and from the said mark 12 to the graduation upon the other arm of the square bearing the same numeral as that of this particular extra character, and adjustable clamps fastened to the arms of the square, each of said clamps having a knife edge projecting at right angles therefrom.

5. A right angled square having graduations numbered similarly each way from the vertex of the square, adjustable clamping members fastened to the arms of the square each having a knife edge projecting therefrom, and one of said clamps having an extension arm with a series of numbered marks thereon, each of the other marks being at a distance from the first one equal to the difference between the length from the ordinary mark numbered 12 on one arm to the vertex of the square and from said mark 12 to the graduation upon the other arm of the square bearing the same numeral as that of this particular mark on said clamp.

[Claim 6 not printed in the Gazette.]

979,997. GAME-COUNTER. JOHN PAULY, Lowell, Mass. Filed June 2, 1909. Serial No. 499,753.



1. The combination of a frame having separate compartments, a disk arranged in one of said compartments and having an annular row of figures, a segment arranged in the other of said compartments and having an arc-shaped row of figures, said disk, segment and row of figures being arranged concentrically with each other, said disk and segment being adapted to be rotated independently of each other and said frame having sight-openings through which said figures may be seen.

2. The combination of a frame having separate compartments, a disk arranged in one of said compartments and having an annular row of figures, a segment arranged in the other of said compartments and having an arc-shaped row of figures, said disk, segment and row of figures being arranged concentrically with each other and said segment having a longer radius than said disk and the figures on said segment being arranged beyond the circumference of said disk, said disk and segment being adapted to be rotated independently of each other and said frame having sight-openings through which said figures may be seen.

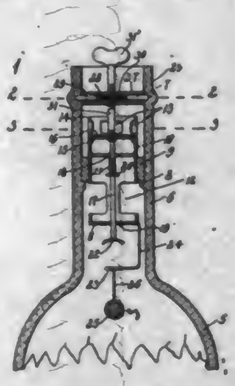
3. The combination of a frame having separate compartments, a disk arranged in one of said compartments and having an annular row of figures, a segment arranged in the other of said compartments and having an arc-shaped row of figures, said disk, segment and rows of figures be-

ing arranged concentrically with each other, the margin of said disk projecting through one side of said frame and said segment having an arm or handle which projects through another side of said frame to enable said disk and segment to be rotated independently with each other, said frame having sight-openings through which said figures may be seen.

4. The combination of a frame having separate compartments, a disk arranged in one of said compartments and having an annular row of figures, a segment arranged in the other of said compartments and having an arc-shaped row of figures, said disk, segment and row of figures being arranged concentrically with each other, said disk and segment being adapted to be rotated independently of each other and said frame having sight-openings through which said figures may be seen and brakes arranged to bear upon said disk and segment to prevent the accidental turning of the same.

5. The combination of a frame having separate compartments, a disk arranged in one of said compartments and having an annular row of figures, a segment arranged in the other of said compartments and having an arc-shaped row of figures, said disk, segment and row of figures being arranged concentrically with each other, said disk and segment being adapted to be rotated independently of each other and said frame having sight-openings through which said figures may be seen, a stationary stop-piece having a stop-projection and said segment having stop-surfaces on opposite sides of said projection to limit the movement of said segment.

979,998. NON-REFILLABLE BOTTLE. MARTIN PELZ, New York, N. Y. Filed Aug. 31, 1910. Serial No. 579,800.

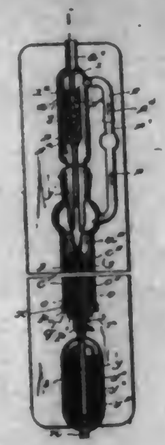


In a non-refillable bottle, the combination with the neck of a bottle, of a tubular valve casing therein provided with a plurality of openings near its upper end and a plurality of openings near its lower closed end, a valve seat below the openings which are arranged near the upper end of said valve casing, a valve upon said seat, a valve stem attached to said valve and projecting through and below the closed end of said valve casing, resilient means for holding said valve upon its seat, a disk attached to said valve casing below the lower end of said stem, a ball and a flexible connection between said ball and said disk.

979,999. APPARATUS FOR THE STERILIZATION OF WATER OR OTHER LIQUIDS. CASIMIR STANISLAS PIESTRAK, Paris, France. Filed Aug. 29, 1910. Serial No. 579,475.

1. An apparatus for sterilizing water and other liquids by means of ozone comprising a vacuum tube, said vacuum tube containing mercury, an electrode mounted within said vacuum tube, an outer electrode arranged concentrically with and surrounding said inner electrode, an air passage between said electrodes and means for aspirating air through said air passage and into contact with the liquid to be sterilized.

2. An apparatus for sterilizing water and other liquids by means of ozone, comprising a liquid inlet tube, a series of cones forming an injector, said inlet tube dipping into the uppermost cone of said injector, two electrodes, said electrodes being arranged concentrically one within the other, a vacuum tube within which said inner electrode is mounted and an air passage between said electrodes communicating with said injector and the atmosphere.



3. An apparatus for sterilizing water and other liquids by means of ozone, comprising a liquid-inlet tube, a series of cones forming an injector, rings welded to said cones and holding them superposed, said inlet tube dipping into said injector, two electrodes, said electrodes being arranged concentrically one within the other, a vacuum within which said inner electrode is mounted and an air passage between said electrodes communicating with said injector and the atmosphere.

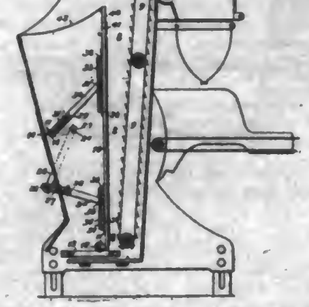
4. An apparatus for sterilizing water and other liquids by means of ozone comprising an upper portion, an inlet tube communicating therewith, an injector arranged in said upper portion, said injector consisting of concentric superposed cones, a tube for the passage of the liquid to be sterilized, said tube being arranged below and concentric with said cones, an air passage concentric with and surrounding said liquid-passage tube, said air passage communicating with the atmosphere and the injector, a lower portion comprising a central tube forming a continuation of said upper liquid-passage tube, a vacuum tube surrounding said central tube, said vacuum tube containing mercury, an electrode in said vacuum tube, an air passage surrounding said vacuum tube, a second electrode surrounding said air passage, said second electrode being inclosed by the outer wall of said lower portion.

980,000. FIBER-FEEDING MACHINE. JAMES A. PINKSTONE, Clinton, Mich. Filed Nov. 27, 1909. Serial No. 530,188.

1. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a support, a presser member movable bodily on said support toward, and operable to force material during such bodily movement against, said transferring device, and a device for so moving said presser member.

2. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a track, a presser member movable bodily on said track toward and from said transferring device, and means for so moving said presser member.

3. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a support, a presser member movable bodily on said support toward, and operable to force material during such bodily movement against, said transferring device, a device for so moving said presser member, and means whereby movement of said presser member toward said transferring device is limited.

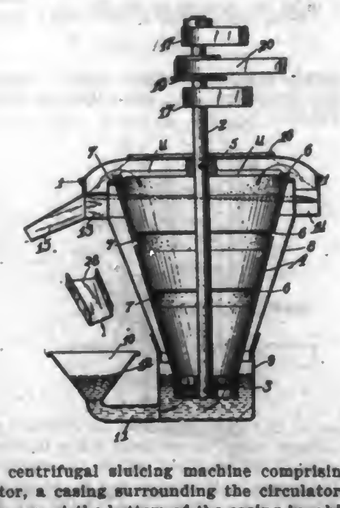


4. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a presser member, a shaft, an arm actuated by said shaft in sliding engagement with said presser member, and means whereby motion is imparted to said shaft and said presser member moved toward said transferring device.

5. In a stock-feeding mechanism, the combination, with a source of supply and a transferring device, of a presser member, a shaft, an arm actuated by said shaft in engagement with said presser member, means whereby motion is imparted to said shaft and said presser member moved toward said transferring device, and means associated with said arm whereby movement of said presser member is limited.

[Claims 6 to 14 not printed in the Gazette.]

980,001. CENTRIFUGAL SLUICING-MACHINE. ANDERS PONTEN, Berkeley, Cal., assignor of forty-five one-hundredths to James D. Millar, Portland, Oreg. Filed Sept. 27, 1906. Serial No. 336,481.



1. A centrifugal sluicing machine comprising a rotary circulator, a casing surrounding the circulator, and a removable cup at the bottom of the casing in which the concentrates are finally washed and caught after the completion of the sluicing operation.

2. A centrifugal sluicing machine comprising a rotary circulator, a casing surrounding the circulator, a removable cup at the bottom of the casing, a receiving hopper in communication with the cup, a trough at the upper end of the casing and means for rapidly revolving the circulator.

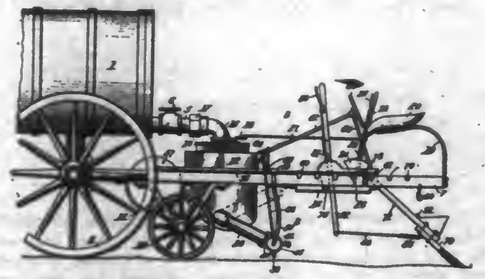
3. A centrifugal sluicing machine comprising a rotary circulator, a casing surrounding the circulator, a removable cup at the bottom of the casing, a receiving hopper in communication with the cup, a trough at the upper end of the casing and means for automatically circulating and re-circulating the water used in the operation of the machine.

4. A centrifugal sluicing machine comprising a rotary circulator, a casing surrounding the circulator, a removable cup at the bottom of the casing for removing the concentrates, a receiving hopper in communication with the cup, a trough at the upper end of the casing and means for automatically circulating and re-circulating the water used in the operation of the machine, said means comprising a tank which receives the discharge from the trough at the upper end of the casing, said tank having means whereby it discharges into the cup at the bottom of the casing and means for catching any overflow from the tank.

5. A centrifugal sluicing machine comprising a rotary circulator, a surrounding casing having a removable cup at the bottom and a trough at the top thereof, said trough having a helical bottom and the lower end of the circulator having a helical feeder.

[Claims 6 to 9 not printed in the Gazette.]

980,002. OIL-DISTRIBUTING APPARATUS. CHARLES PEARL PRICE, Malden, Mass., assignor to American Tar Company, Boston, Mass., a Corporation of Massachusetts. Filed June 6, 1908. Serial No. 437,089.



1. An oil distributer comprising a liquid-retaining tank, short pipes extending from the ends of said tank, delivering pipes having a swiveled connection with said short pipes, whereby the same may turn axially about said short pipes, said short pipes forming an unobstructed passage between said tank and said delivering pipes, a distributing pipe supported by said delivering pipes, said distributing pipe having a plurality of separated delivering openings, and means whereby the distributing pipe may be swung about said short pipes, so as to cause the flow of liquid through the delivering openings to vary or to stop.

2. An oil distributer comprising an auxiliary tank, a supporting frame for said auxiliary tank, wheels connected to said supporting frame, short pipes extending from the ends of said auxiliary tank, delivering pipes having swiveled connections to said short pipes, whereby the same may turn axially about said short pipes, a distributing pipe supported by said delivering pipes, said short pipes forming an unobstructed passage between said auxiliary tank and said delivering pipes, said distributing pipe having a plurality of separated delivering openings and means whereby the distributing pipe may be swung about said short pipes, so as to cause the flow of liquid through the delivering openings to vary or stop.

3. An oil distributer comprising an auxiliary tank, a supporting frame for said auxiliary tank, wheels connected to said supporting frame, short pipes extending from the ends of said auxiliary tank, delivering pipes having swiveled connections to said short pipes, whereby the same may turn axially about said short pipes, a distributing pipe supported by said delivering pipes, said short pipes forming an unobstructed passage between said aux

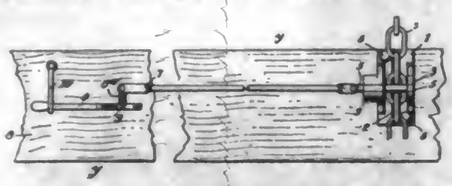
iliary tank and said delivering pipes, said distributing pipe having a plurality of separated delivering openings, and means whereby the distributing pipe may be swung about said short lengths of pipes, so as to cause the flow of liquid through the delivering openings to vary or stop, said means including a shaft mounted in said frame, and a flexible connection between said shaft and said distributing pipe.

4. An oil distributer comprising a liquid retaining tank, a distributing pipe connected to said liquid-retaining tank, said distributing pipe having a plurality of rows of different size delivering openings, means whereby said openings may be independently closed, and means for turning said distributing pipe, whereby any desired row of delivering openings may be brought to the lower side of said pipe and used for distributing the liquid.

5. An oil distributer comprising an auxiliary tank adapted to be connected to a main tank wagon, a frame for supporting said auxiliary tank, a distributing pipe connected to said auxiliary tank, said distributing pipe having a plurality of rows of different size delivering openings, means whereby said openings may be independently closed, and means for turning the distributing pipe, whereby any desired row of openings may be brought to the lower side thereof and used for distributing the liquid.

[Claims 6 to 9 not printed in the Gazette.]

980,003. FASTENING AND RELEASING DEVICE FOR LOGGING-CAR CHAINS. JOSEPH W. PROCTOR, Beaumont, Tex. Filed Sept. 8, 1910. Serial No. 581,011.



1. The improved apparatus for the purpose specified, comprising a casting having opposite perforated lugs on its face side and a lengthwise groove extending between and parallel to said lugs, a pin adapted for insertion through the lugs for fastening a chain in the manner described, a rod connected with said pin, and a pivoted hand-lever with which said rod is connected, as shown and described.

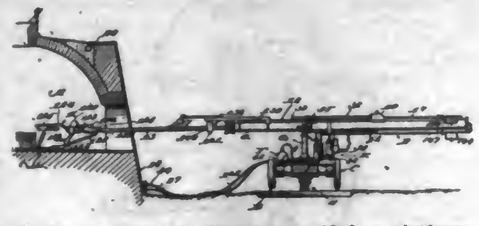
2. The combination with the platform of a transporting vehicle, of a casting secured thereto in vertical position and provided with a lengthwise groove and opposite perforated lugs, a pin adapted for insertion through the lugs, and a slidable rod and pivoted lever connected therewith for operating said pin in the manner described.

3. In an apparatus for the purpose specified, the combination with a perforated casting having a vertical groove to receive a chain, of a pin adapted to traverse said groove, a rod pivoted to the pin, a lever pivoted and arranged normally horizontally, and having a lateral arm to which the rod is pivoted, as shown and described.

980,004. COKE-DRAWER. ANDREW H. REEDER, Stonega, Va. Filed Nov. 17, 1909. Serial No. 528,521.

1. In a machine of the type specified, a platform, a lifting jack mounted thereon, a beam pivotally mounted on said jack, means for supplying an actuating fluid to said jack to bodily raise the beam, and separate fluid-actuated mechanism for tilting said beam; in combination with mechanism for reciprocating said beam.

2. In a machine of the type specified, a platform, a fluid-actuated jack mounted thereon, a beam pivotally connected with said jack and raised and lowered by the operation thereof, a turn-table carried by the movable member of the jack, and fluid-actuated mechanism connected with the turn-table for operating the same to swing said beam laterally; in combination with mechanism for reciprocating said beam.



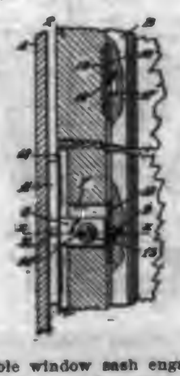
3. In a machine of the type specified, a platform, a fluid-actuated jack mounted thereon, a beam pivotally connected with said jack and raised and lowered by the operation thereof, a turn-table carried by the movable member of the jack, fluid-actuated mechanism connected with the turn-table for operating the same, to swing said beam laterally, and additional fluid-actuated mechanism connected to said beam to tilt the same in a vertical plane; in combination with mechanism for reciprocating said beam.

4. In a coke-treating machine, the combination of a reciprocatory beam; a tool attached to the outer end thereof and comprising a fixed upper jaw and a movable lower jaw arranged to receive the coke between them, the second-named jaw being adapted to support the coke; means for holding said second-named jaw rigid during movement of the beam in one direction; and means for releasing the holding means upon movement of said beam in the opposite direction, to liberate said second-named jaw and dump the coke therefrom.

5. In a coke-treating machine, the combination of a reciprocatory beam; a tool attached to the outer end thereof and comprising a fixed upper jaw and a movable lower jaw arranged to receive the coke between them, the second-named jaw being adapted to support the coke; a trip member for holding the second-named jaw rigid during movement of the beam in one direction; and means for tripping said member when said beam moves in the opposite direction, to liberate said second-named jaw and dump the coke therefrom.

[Claims 6 to 21 not printed in the Gazette.]

980,005. REVERSIBLE WINDOW-SASH. ERNEST L. REGUIN, San Francisco, Cal. Filed Mar. 15, 1910. Serial No. 549,505.



1. In a reversible window sash engageable with slide-bars slidable in the usual sash grooves, plates fixed to the sash and on which the sash is pivotally mounted, said plates extending through slotted openings in the slide-bars, and said openings being wider than the width of the bars, bearing-bars mounted on opposite ends of said plates, means carried by the slide bars and operating in conjunction with said plates for moving the slide-bars in and out of engagement with the sash, and means for automatically locking said bars to said sash, substantially as described.

2. In a reversible window sash engageable with slide-bars slidable in the usual sash grooves, plates fixed to the sash and on which the sash is pivotally mounted, said plates extending loosely through slotted openings in the slide-bars, and said openings being wider than the width of the bars, bearing bars mounted on said plates, hubs fixed in the slide bars and having a part engaged eccentrically with said plates, said hubs having means by which they may be rotated to move the slide-bars, and means for automatically locking said bars to said sash, substantially as described.

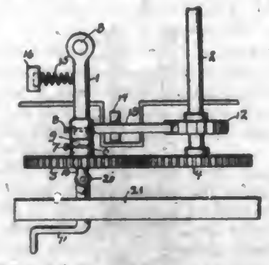
3. In a reversible window sash engageable with slide-bars slidable in the usual sash grooves, plates fixed to the sash and on which the sash is pivotally mounted, said plates extending loosely through slotted openings in the slide-bars, and said openings being wider than the width of the bars, bearing-bars mounted on said plates, hubs engaged eccentrically with said plates, said hubs being mounted in the slide-bars, and having means by which said hubs may be rotated so as to move said slide-bars in and out of engagement with the sash, and means for automatically locking said bars to said sash, substantially as described.

4. In a reversible window sash engageable with slide-bars slidable in the usual sash grooves, plates fixed to the sash and on which the sash is pivotally mounted, said plates extending loosely through slotted openings in the slide-bars, said openings being wider than the width of the bars, bearing bars mounted on said plates, hubs engaged eccentrically with said plates, said hubs being mounted in the slide-bars, and having means by which said hubs may be rotated so as to move said slide-bars in and out of engagement with the sash, tangs mounted on said slide-bars, slotted plates on said sash adapted to be engaged by said tangs for locking said slide-bars to said sash.

5. In combination with the pulley stiles of a window frame, slide bars slidable on said stiles, pivot carying plates mounted loosely in said slide bars, a window sash pivotally connected to said slide-bars on said pivot plates, said plates being fixed to the sash, hubs mounted in said slide-bars, at right angles to said plates, eccentric connections between the inner ends of said hubs and said pivot plates, and means by which said hubs may be rotated so as to move said slide-bars in and out of engagement with the sash.

[Claims 6 and 7 not printed in the Gazette.]

980,006. DEVICE FOR CRANKING GASOLENE OR OTHER ENGINES. ROY REHMEYER, Chicago, Ill. Filed May 13, 1910. Serial No. 561,236.



1. In a device of the class described, a crank shaft, a supplemental shaft mounted adjacent thereto, means for pivoting one end of the supplemental shaft, a universal joint in the shaft last mentioned, a gear wheel carried by each of the shafts, and ratchet means for throwing the gear wheel out of mesh by the rotation of the crank shaft.

2. In a device of the class described, a crank shaft, a supplemental shaft mounted adjacent thereto, means for pivoting the supplemental shaft, a gear wheel carried by each of the shafts, such gear wheels being arranged to intermesh, a ratchet wheel carried by the crank shaft, and a pawl engaging the teeth of the ratchet wheel and pivotally mounted on the supplemental shaft.

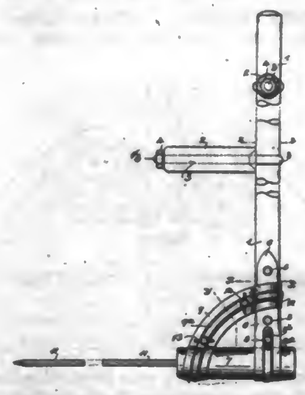
3. In a device of the class described, a crank shaft, a gear wheel carried thereby, a ratchet wheel also carried by such shaft, a gear mounted independently of the crank shaft for driving the gear on such crank shaft, and means whereby the rotation of the crank shaft will throw said gears out of mesh.

4. In a device of the class described, a crank shaft, a gear wheel carried thereby, a ratchet wheel also carried by the crank shaft, a supplemental shaft mounted adjacent to the shaft first mentioned, means for pivoting the supplemental shaft, a gear mounted on the supplemental shaft and mounted to rotate thereon, a pawl carried by the supplemental shaft and arranged to engage the teeth of the ratchet wheel, means for rotating the gear on the supplemental shaft, and a spring for holding the supplemental shaft in position.

5. In a device of the class described, a crank shaft, a supplemental shaft mounted adjacent thereto, a gear wheel rigidly mounted on the crank shaft, a ratchet wheel also mounted thereon, a gear wheel rotatably mounted on the supplemental shaft, means engaging the ratchet wheel for swinging one end of the supplemental shaft outwardly and causing the gears to be thrown out of mesh, a spring for holding the supplemental shaft in position, and a device for throwing the means operating the supplemental shaft out of engagement with the ratchet wheel.

[Claim 6 not printed in the Gazette.]

980,007. IMPLEMENT FOR HOLDING GRASS-HOOKS OR SICKLES. CHARLES A. REITMEYER, Freeport, N. Y. Filed Mar. 8, 1910. Serial No. 548,102.



1. An implement for adjustably holding a grass hook or sickle by its handle for use, comprising a snathe adapted to be grasped by the hand, a pair of oppositely positioned clamp plates securely fastened to the lower end of the snathe and extending below the same and terminating in curved resilient jaws to receive and partially encircle the handle of the grass hook, and means located between the lower end of the snathe and the said jaws and acting to draw said jaws toward one another for clamping the latter upon the handle of the grass hook.

2. An implement for adjustably holding a grass hook or sickle by its handle for use, comprising a snathe to be grasped by the hand, plate members secured to the lower end of the snathe, and prolonged and terminating in means adapting said parts to receive the said handle, clamping means for engaging said parts, a detachable brace extending from the lower end of the snathe at said plate members to and also engaging the said handle, and means at both ends of the brace for clamping the same in position.

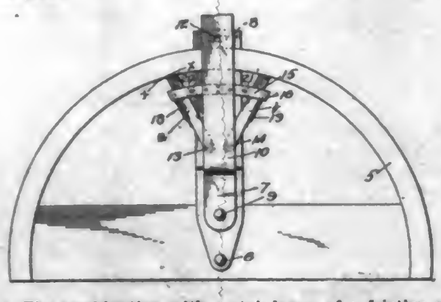
3. An implement for adjustably holding a grass-hook or sickle by its handle for use, comprising a snathe, a pair of oppositely positioned clamp plates secured to the lower end of the snathe and extending below the same and terminating in curved jaws to receive and partially encircle the handle of the grass-hook, means for clamping said

curved jaws to the handle of the grass-hook, a brace detachably secured to the snathe at one end and provided with jaws at the other end adapted to receive the handle of the grass-hook, and means for clamping the same thereon.

4. An implement for adjustably holding a grass-hook or sickle by its handle for use, comprising a snathe, a pair of clamp plates secured to the lower end of the snathe in opposite positions and extending below the same and terminating in curved jaws to receive and partially encircle the handle of the grass-hook, means for clamping said curved jaws to the said handle, a brace, means for clamping the brace to the snathe at one end, said brace being provided with jaws at its other end to receive the handle of the grass-hook, and said brace having ribs at their free ends with alined openings therein, a bolt passing through said openings, and a thumb nut upon said bolt for clamping said jaws upon the said handle.

5. An implement for adjustably holding a grass-hook or sickle by its handle for use comprising a snathe, a pair of clamp plates secured to the lower end of the snathe in opposite positions and extending below the same and terminating in curved jaws to receive and partially encircle the handle of the grass-hook, means for clamping said curved jaws to the said handle, a curved brace formed of one piece of spring metal with a loop at one end and a pair of jaws at the other and free end, said loop portion encircling the snath and the clamp plates thereon, and said jaws receiving and encircling the handle of the hook, means for clamping said jaws upon the said sickle handle and for clamping the said looped portion upon the snathe around the clamp plates thereon.

980,008. SELF-LOCKING LEVER. LEROY ROMINES, Martinsville, Ill. Filed May 25, 1908. Serial No. 434,942.

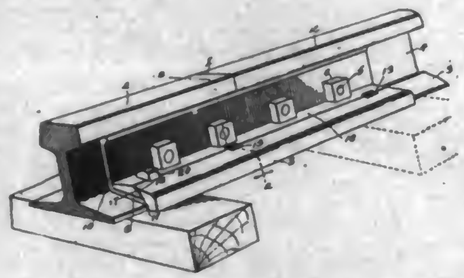


1. The combination with a stub lever, of a friction segment, a hand lever connected with the stub lever, a yoke secured centrally to the hand lever and having its terminals bent to form keepers, a pair of locking bars pivoted at one end to the stub lever and having their free ends arranged for engagement with the segment and their intermediate portions engaged by the keepers; a pair of springs normally forcing the bars toward each other and into engagement with the segment, said springs having one end in engagement with the keepers and the other end in engagement with the bars.

2. The combination with a stub lever, of a friction segment, a hand lever connected with the stub lever, a yoke secured centrally to the hand lever and having its terminals bent to form keepers, a pair of locking bars pivoted at one end to the stub lever having their free ends arranged for engagement with the segment and their intermediate portions engaged by the keepers, a pair of leaf springs normally forcing the bars toward each other and into engagement with the segment, said springs having one end in engagement with the keepers and the other end in engagement with the bars, and a pair of lugs secured to the yoke adjacent the ends thereof for releasing the bar ends from engagement with the segment when the hand lever is moved in one direction or the other.

3. The combination with a stub lever, of a friction segment, a hand lever connected with the stub lever, a yoke secured centrally of the hand lever and having its terminals bent laterally and then inwardly toward each other, so the inwardly extending portion of said terminals will lie in spaced substantially parallel relation to its body portion, a pair of locking bars pivoted at one end to the stub lever and having their free ends arranged for engagement with the segment and projecting through the spaces between the inwardly projecting terminals and the body portion of said yoke, and a pair of leaf springs normally forcing the last mentioned ends of the bars into engagement with the segment, said springs being secured at one end to the bars and having their free ends projecting through the spaces between the inwardly projecting terminal portions and the body portion of the yoke.

980,009. SAFETY ANGLE-BAR. SIMPSON J. ROUTLEDGE, Ensley, Ala. Filed Mar. 18, 1910. Serial No. 550,142.



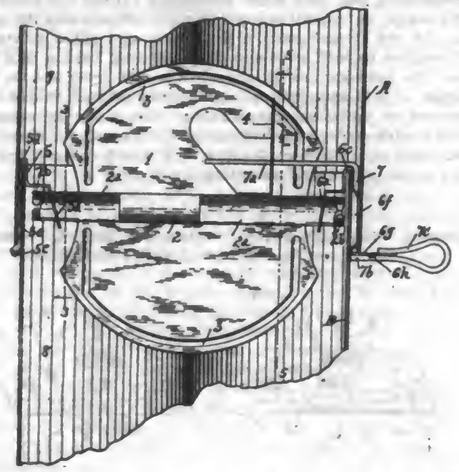
In combination with the meeting ends of a pair of rails, a base plate having bolts and nuts therefor, of an angle bar, said angle bar having its horizontal straight base portion provided with an undercut lip upon its outer edge, the inner wall of the said lip being inclined, the inner edge of the lip being provided with a plurality of cut-away portions, the base of the angle bar having openings alining with the said cut-away portion, a key for the angle bar, said key comprising a rectangular member having one of its edges beveled and provided with cut-away portions adapted to aline with the cut-away portions of the lip, the top of the key member being inclined, all substantially as and for the purpose set forth.

980,010. PULLEY-BLOCK. GUY C. SANDMYER, Bucoda, Wash. Filed Mar. 31, 1910. Serial No. 552,546.



In a pulley block, a frame including a pair of side members countersunk on their inner faces, a hub section formed in the countersunk portion of one of said side members and projecting beyond the inner surface of said side member, the said hub section having a central bore the inner end of which is counterbored, a hub section formed in the countersunk portion of the opposite side member and projecting beyond the inner surface of said member and terminating in a reduced boss receivable by the counterbore of the first-named hub section, said second hub section being provided with a bore to aline with the bore of the first-named hub section, said hub section being peripherally provided with circular rabbets which coöperate to form a circular groove when the said hub sections bear one upon the other, a sheave arranged in the countersunk portions of said side members and having a central opening to receive said hub sections, the medial portion of the wall of said opening being provided with a circular groove alining with the groove formed by said rabbets, and a plurality of bearing rollers arranged in said grooves.

980,011. DAMPER. JOHN C. F. SCHAFER, Mount Pulaski, Ill. Filed Feb. 15, 1909. Serial No. 477,951.



1. A damper bracket comprising in an integral structure an arched central part adapted to support the bracket on one end of an inside pipe-section, an inner member adapted to support one end of an oscillative damper plate, and an outer member having laterally extending flanges adapted to engage the inner surface of an outside pipe-section to prevent lateral movement of the bracket between the connected outside and inside pipe-sections.

2. A damper-plate comprising in an integral structure of pressed metal, an approximately circular body, a slotted standard and concavo-convex trunnions having oppositely projecting tongues adapted to be spread to prevent displacement of the damper plate; in combination with brackets adapted to support the damper plate on an inside pipe-section; and damper-turning means mounted on one of the brackets and extending through the slot in the standard of the damper plate.

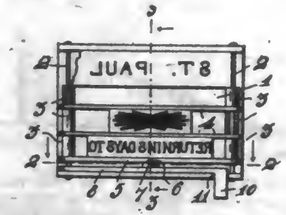
3. The combination of a damper plate having a slotted standard and trough shaped trunnions, a bracket adapted to be supported on the end of a pipe section and having a segmental slot accommodating one trunnion of said damper plate and limiting the turning thereof and also having a disk fitting in the trough of said trunnion to guide the turning thereof; a complemental bracket adapted to fit on the upper end of a pipe section and having a segmental slot adapted to accommodate the other trunnion of the same damper plate and limiting the turning thereof, a member having a vertical bearing adapted to accommodate the vertical member of a lever, operating the damper plate and a member adapted to support the operating lever and having lugs adapted to limit the lateral movement of the horizontal member of the same lever; and an operating lever having a vertical member turning in the vertical bearing on said last named bracket, a horizontal member adapted to engage with the stops on the horizontal member of the same bracket and a second horizontal member adapted to fit in the slot of the standard of said damper-plate, to operate the damper-plate.

4. The combination of a damper-plate having trough-shaped trunnions provided with oppositely extending tongues, brackets adapted to rest on the end of a pipe-section and having members supporting said damper-plate and provided with segmental slots accommodating the trunnions of said damper plate and limiting the rotation thereof, and disks fitting in the troughs of said trunnions to guide the rotation thereof, the tongues of the trunnions of said damper plate being adapted to engage with the members of the brackets supporting the damper plate to prevent the withdrawal of the trunnions of said damper-plate from the segmental slots in the members of the brackets supporting said damper plate.

5. In combination with an upper pipe-section and a lower pipe-section telescoping within the upper pipe-section; a bracket having an arched central member adapted to fit on the upper end of said lower pipe-section, an inner member extending downwardly within the lower pipe-section and adapted to support one trunnion of a damper plate, an outer member extending downwardly between the walls of the telescoping pipe-sections and provided with a vertical bearing, also provided with flanges projecting beyond said bearing and adapted to engage the inner surface of the upper pipe-section; and a damper-operating lever adapted to turn in the vertical bearing on said bracket.

[Claim 6 not printed in the Gazette.]

980,012. HAND-STAMP. JOSEPH A. SCHMITZ, St. Paul, Minn. Filed Mar. 14, 1910. Serial No. 549,076.



1. In a hand stamp, a frame having flanges on either side thereof, guiding rods connected with said flanges, spacing members slidably mounted upon said guiding rods, type partitions slidably mounted upon said rods, a pressure plate slidably moupted upon said rods and having a cam face, and a lever provided with a cam for coöperating with the cam on the pressure plate.

2. In a hand stamp, a frame having flanges at either side thereof, guiding rods connecting said flanges at the ends of the frame, spacing sleeves mounted upon said rods, type partitions arranged intermediate the spacing sleeves, a pressure plate slidably mounted upon said rods and having a cam surface, a lever pivoted upon one of the rods and having a cam faced stud projecting therefrom to ride upon the cam surface of the pressure plate, means for operating the lever so that it will act upon the pressure plate, and means to receive the lever operating means whereby the lever may be held flush with the top of the flange adjacent which it is pivoted.

980,013. TOY. ALBERT SCHOENHUT, Philadelphia, Pa. Filed July 3, 1909. Serial No. 505,805.

1. The combination of a base, a block carried thereby, a board loosely mounted on top of said block to rock or vibrate thereon, a loose jointed figure, a support for the same, a socket in said base to receive said support, said figure being adapted to contact with the board when the latter is vibrated, and tension means connecting the base and vibrating board on opposite sides of the fulcrum of the latter.

2. The combination of a base, a block carried thereby, a board loosely mounted on top of said block to rock or vibrate thereon, a loose jointed figure, a support for the same, sockets in said base to receive said support, the vibrating board being apertured to permit the figure support to engage one of said sockets, whereby said figure may contact with the board when the latter is vibrated, and tension means connecting the base and vibrating board on opposite sides of the fulcrum of the latter.



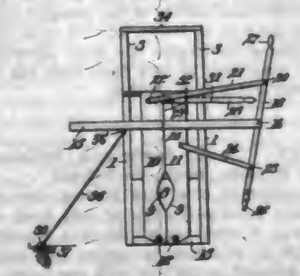
980,014. GAME DEVICE. JAMES SHAWELL, Nashville, Tenn., assignor to H. M. Sneed, Nashville, Tenn. Filed Sept. 17, 1910. Serial No. 582,556.



1. A game device comprising a box with inclosing sides, an incline rising from the bottom of the said box, and two open-topped pockets at the raised end of said incline the walls of said pockets, on the sides thereof facing said incline, being provided with openings.

2. A game device comprising a box with inclosing sides, an incline rising from the bottom of the said box, and two open-topped pockets at the raised end of said incline, the walls of said pockets, on the sides thereof facing said incline, being provided with openings, and a transverse baffle-plate beneath said incline.

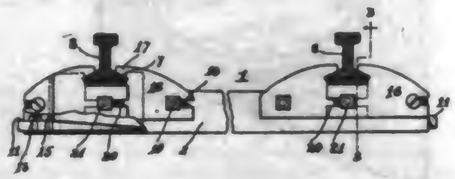
980,015. HOG-TRAP. HOWARD MILES SHEMSLEY, Osco, Ill., assignor of one-half to Ernest M. Clark, Rock Island, Ill. Filed Apr. 26, 1910. Serial No. 557,711.



1. A hog trap comprising a frame, hog holding bars pivotally mounted at one end of the frame, a plate secured to one of the bars, a U-shaped guide secured to the frame and in which the upper ends of said bars move backwardly and forwardly, the bight portion of said U-shaped guide forming a stop to prevent undue outward swing of the corresponding bar, said guide projecting beyond the sides of the frame, an operating lever pivoted intermediate its ends to one end of said guide, a link above said guide pivotally connected to said lever and to one of said bars, a link below the guide pivotally connected to said lever and to the other of said bars, a locking lever pivoted to one of said bars and curved adjacent its pivot and having teeth for engagement with said plate, whereby the bars may be locked in adjusted position with relation to each other.

2. A hog trap comprising a frame, hog holding bars pivotally mounted at one end of the frame, a plate secured to one of the bars, a U-shaped guide secured to the frame and in which the upper ends of said bars move backwardly and forwardly, the bight portion of said U-shaped guide forming a stop to prevent undue outward swinging of the corresponding bar, said guide projecting beyond the sides of the frame, an operating lever pivoted intermediate its ends to one end of said guide, a link above said guide pivotally connected to said lever and to one of said bars, a link below the guide pivotally connected to said lever and to the other of said bars, and a locking lever pivoted at one end to one of said bars and provided with teeth for engagement with said plate, whereby said bars may be locked in adjusted relation to each other, and a foot rest carried by the lower end of said operating lever.

980,016. RAILROAD-TIE. WILLIAM T. SHIMP, Philadelphia, Pa. Filed Jan. 25, 1910. Serial No. 540,030.



1. In a tie for railway rails, cushion blocks adapted to receive the base flanges of the rail, a wedge member underlying the cushion block, said wedge member having its enlarged portion provided with a bifurcation, and a threaded element upon the tie engaging between the walls provided by the bifurcation.

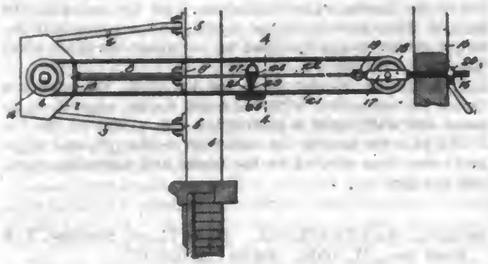
2. A tie for railway rails, said tie comprising a substantially U-shaped member, partitions for the member forming a central compartment, a plastic body within this compartment, rail receiving cushion blocks adjacent the partitions and within the U-shaped tie, means for vertically adjusting these blocks, and means for retaining the rails upon the blocks and out of contact with the sides of the tie.

3. A tie for railway rails comprising a rectangular body member having an open top, partitions for this member forming a central compartment, a plastic body within this compartment, the sides of the body between the partitions and the ends of the body being cut away, rail receiving cushion blocks positioned adjacent the compartment, wedge members for vertically adjusting the cushion blocks, means for securing the wedge members, and means for securing the rails upon the cushion blocks and out of contact with the sides of the tie.

4. A tie for railway rails comprising a rectangular shell having an open top, partitions within the shell forming a central compartment, a plastic body within this compartment, the sides of the shell adjacent the partitions being cut away, rail receiving cushion blocks within the shell adjacent the partitions, said blocks being provided with transverse depressions adapted to serve as seats for the rails, the under face of the cushion blocks being inclined, wedge members connected with the base of the shell underlying said block, the sides of the tie member being provided with rail retaining members, each of said members being provided with an overlying lip adapted to contact with the base flanges of the rails and having their bodies

provided with longitudinal openings whereby the members may be slid toward or away from each other, and means for removably securing the members upon the sides of the ties.

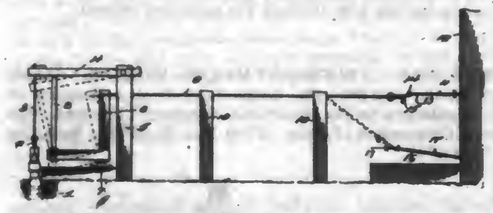
980,017. CLOTHES-LINE SUPPORT. EDWIN E. SHORT, Prairie View, Kans. Filed Dec. 10, 1909. Serial No. 532,453.



1. The combination with a supporting-cable of a folding support including a frame, an arm pivotally connected with a frame, a pivotally mounted lever connected with the terminal of said arm, and means for securing the arm and lever in adjusted relation, a remote support, a supporting-cable fixedly secured to the respective supports, a clothes-line movably connected to the respective supports, and clothes pins slidably engaging the supporting-cable and removably engaging the clothes-line.

2. A supporting-cable support including a frame pivotally mounted in the fixture, means carried by said frame to permit the connection thereto of the supporting-cable, an arm pivotally connected to the frame, a lever pivotally connected to the fixture and to said arm, said lever being projected beyond the arm and terminally formed with a lateral section, said arm being formed with an opening, said section being formed with a series of openings adapted to register with the opening in the arm in determinate positions of the lever, and a pin to engage the registering openings.

980,018. OIL-WELL PICK-UP. HARRY A. SILLS, Robinson, Ill., assignor of one-half to Lafe Sills, Robinson, Ill. Filed Nov. 23, 1909. Serial No. 529,640.



1. The combination with a well pump plunger, and its operating mechanism having a coupling member, of a driving element having a coacting coupling member, and means adapted to be engaged with said coupling members whereby the driving element is utilized to draw the members into engaged position in the event of their separation.

2. In combination with a pump mechanism including a reciprocating rod having a coupling member, and a driving element provided with a coupling member, a draft connection adapted to be applied to a fixed support and connected with said members for operation by said driving element to draw the coupling members together for interlocking engagement in the event of their separation.

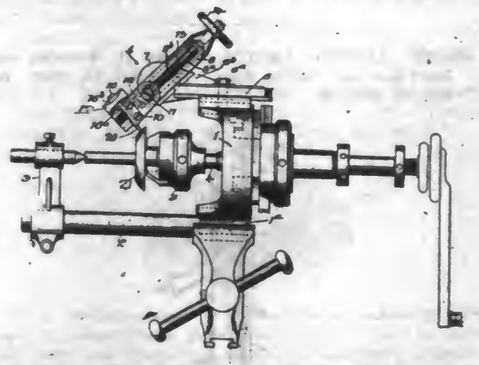
3. In a pumping mechanism, the combination of a plunger, driving connections therefor including a rod having a coupling member, a driving element having a coacting coupling member, a fixed element having a similar coupling member, and means for connecting said elements to utilise the power element to bring said driving element into position for the engagement of its coupling element with the coupling members of the power element or fixed element.

4. In a pumping mechanism, a pump plunger, driving mechanism therefor including a rod having a coupling member, power mechanism including a rod having a coacting coupling member, a fixed support, a bracket adapted to be engaged with the driving rod and having a pulley thereon, a chain adapted to be terminally attached to the fixed support and power rod and passing around said pulley, and a pawl on said bracket to engage the links of the chain.

5. In a pumping mechanism, the combination of a plunger, driving connections therefor including a rod having a pair of coupling hooks disposed one below the other, an eccentrically-driven driving element having a coöperating coupling member adapted to be engaged by one of said hooks, a fixed element having a coupling member adapted to be engaged by the other hook, a bracket to be engaged with the latter-named hook of the driving rod, a pulley upon said bracket, a chain adapted to be connected to said fixed element and passing around the pulley on the bracket, means for connecting the chain to the coupling member of the eccentrically-driven power element, and a pawl upon the bracket to interlock with the links of the chain.

[Claim 6 not printed in the Gazette.]

980,019. VALVE-DISK-CUTTING MACHINE. FRANK L. SMITH, Chicago, Ill., and THOMAS B. WILLIAMS, Orange, Mass., assignors to The Leavitt Machine Company, Orange, Mass., a Corporation of Massachusetts. Filed Dec. 12, 1908. Serial No. 467,305.



1. In a machine of the character indicated, in combination with a rotatable work holder, a longitudinally slotted tool carrier; a traveler thereon and means for propelling it there-along in the direction of the slot; a tool holder; a pivot bolt by which the tool holder is connected to the traveler extending through said slot and constituting the means for guiding the traveler on the carrier; a spring reacting between the traveler and the holder for yieldingly holding the tool on the latter away from the axis of the work holder; a cam mounted on the carrier extending in the general direction of said slot positioned for limiting the spring-caused movement of the holder.

2. In a machine of the character indicated, in combination with a rotatable work holder; a longitudinally slotted carrier; a traveler mounted on such carrier and means for propelling it longitudinally of the carrier; a tool holder and a pivot bolt by which it is connected to the traveler extending through the slot in the carrier and constituting the means of guiding the traveler in its movement longitudinally of the carrier; a spring flexed about such pivot bolt reacting between the traveler and the holder for yieldingly holding the tool away from the axis of the work holder, and a cam on the tool carrier extending in the general direction of the slot positioned for stopping the spring-caused movement of the holder.

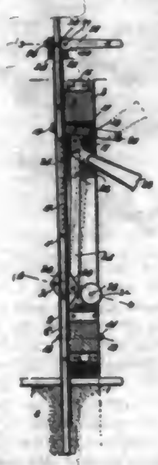
3. In a machine of the character indicated, in combination with a rotatable work holder; a longitudinally slotted tool carrier; a traveler mounted thereon and means for propelling it there-along; a tool holder pivotally attached to the traveler; a spring reacting between the traveler and tool holder for yieldingly holding the tool on the latter away from the axis of the work holder, said tool holder being apertured from side to side in plane radial to said axis for mounting the tool so that the latter shall protrude at both ends, and a cam mounted on the carrier extending in the general direction of the slot in the latter, positioned for encounter of the tool at the end thereof remote from the axis of the work holder for limiting said spring-caused movement of the holder.

4. In a machine of the character indicated, in combination with a rotatable work holder, a tool carrier and a traveler thereon and means for propelling it there-along; a tool holder pivoted to the traveler, the carrier having a longitudinal slot whose edge remote from the work holder axis is parallel to the direction of travel of the traveler; a stop on the tool holder for bearing against said edge, and a spring tending to hold it yieldingly thereagainst.

5. In a machine of the character indicated, in combination with a rotatable work holder; a tool carrier; a traveler mounted on the carrier and means for moving it there-along; a tool holder pivoted to the traveler and a spring reacting between the traveler and the tool holder to yieldingly hold the tool on the latter away from the axis of the work holder; a pivot on the carrier and a cam eccentrically mounted on such pivot and adapted to be mounted with its length extending parallel with the direction of travel of the traveler and rotatable about such pivot away from such position, and means on the pivoted holder adapted to bear on said cam.

[Claims 6 and 7 not printed in the Gazette.]

980,020. LIFTING DEVICE. JAMES H. SPENCER and JOHN SIMPSON, Salina, Kans. Filed Oct. 13, 1909. Serial No. 522,389.



1. A form composed of spaced parallel side bars, bolts connecting the bars, upper and lower blocks between the bars for retaining them in spaced relation, a pipe adapted to encircle a reinforcing rod and slidably supported on the blocks, a sleeve threaded onto the top of the pipe, a dog pivoted on the sleeve for engaging the rod, set-screws threaded through the sleeve for engaging the rod, a dog pivoted to the upper block and having an opening through which the pipe passes, a pair of bars adjacent to the lower block and between which the pipe passes, oppositely arranged gripping jaws on the bars, a weight on the bars for swinging the same to retain the jaws in gripping position, a lever pivoted to the upper block, and links connecting said lever to the bars.

2. A device of the character specified, comprising a frame for connection with the mold, said frame comprising connected spaced side bars, and end bars, a pipe slidably mounted on the frame and adapted to receive a reinforcing rod, means for locking the pipe on the rod, said means comprising a sleeve on the pipe, set-screws threaded through the sleeve for engaging the rod, a lever pivoted to the sleeve and having a cam end for engaging the rod, an upper dog for detachably locking the frame to the pipe, a lower dog having spaced gripping jaws for engaging the pipe, a lever pivoted to the frame, and a connection between the lever and the jaws for releasing the same when the lever is lifted.

3. A device of the character specified, comprising a frame for connection with the mold, a pipe adapted to receive and slide upon a reinforcing rod, means at the top of the pipe for locking the said pipe to the rod, and upper and lower dogs pivoted on the frame and normally engaging the pipe.

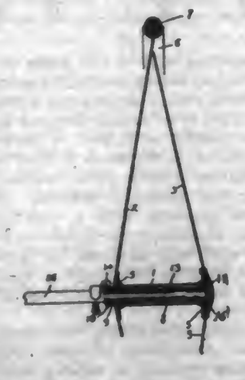
980,021. HAT-FASTENER. JACOB TAUSS, Bayonne, N. J. Filed Nov. 11, 1909. Serial No. 527,437.



1. A hat fastener, comprising a band adapted to be secured to a hat, plates secured to the band at the sides and rear and projecting below the lower edge of the band, and a comb hinged to the lower edge of each plate to swing inwardly toward the center of the band, said combs being provided in their backs with apertures adapted to receive hat pins.

2. A hat fastener comprising a band adapted to be secured to a hat, and pivoted and spring pressed combs carried by the band, one at the rear and one at each side, the combs being adapted to swing inwardly and provided with apertures in their backs, said combs being adapted to receive hat pins through the apertures thereof.

980,022. PROCESS OF MAKING WHEELS. ALFRED THOMPSON, Erie, Pa., assignor, by direct and mesne assignments, to The Erie Wheel Company, Cleveland, Ohio, a Corporation of Ohio. Filed July 22, 1908. Serial No. 444,707.



1. The process of forming a pressed metal wheel which consists in making a plurality of slits in each end of a sheet metal blank, the slits at the ends of the blank being of equal length and terminating on each side of the center so as to leave a plane central portion out of which the hub of the wheel is to be formed, pressing the said plane central portion out of the plane of the remainder of the blank, rolling the blank in a direction at right angles to the said slits with the pressed-out central portion on the outer side of the roll so as to give a diameter to the hub greater than the diameter of the ends of the rolled blank, inserting over each end of the rolled blank and against the central portion thereof a metal ring, bending outwardly the end portions of the blank so as to form spokes for the wheel out of those parts of the blank which are included between the adjacent slits, and securing the outer ends of the spokes to the rim of the wheel.

2. The process of forming a pressed metal wheel which consists in making a plurality of slits in each end of a sheet metal blank, the slits at the ends of the blank being of equal length and terminating on each side of the center so as to leave a plane central portion out of which the hub of the wheel is to be formed, pressing the said plane central portion out of the plane of the remainder of the blank, rolling the blank in a direction at right angles to the said slits with the pressed-out central portion on the outer side of the roll so as to give a diameter to the hub greater than the diameter of the ends of the rolled blank, inserting over each end of the rolled blank and against the central portion thereof a metal ring, bending outwardly the end portions of the blank so as to form spokes for the wheel out of those parts of the blank which are included between the adjacent slits, securing the outer ends of the spoke to the rim of the wheel, and inserting within the hub portion of the wheel a tubular bearing, for the purpose specified.

3. The process of forming a pressed metal wheel which consists in making a plurality of slits in an end of a sheet metal blank, said slits being of equal length, pressing the unslitted portion of said blank out of the plane of the remainder of the blank, rolling the blank in a direction at right angles to the said slits with the pressed-out portion on the outer side of the roll so as to give a diameter to the hub portion which is greater than the diameter of the end of the rolled blank, inserting over the end of the blank which is adjacent to the slits a metal ring, bending outwardly the slitted end portion of the blank to form spokes and securing the outer ends of the spokes to the rim of the wheel.

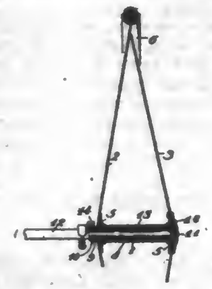
4. The process of forming a pressed metal wheel, said process consisting in making a plurality of slits in the end of a sheet metal blank, said slits being of equal length, forming an abutment near an end of the unslitted portion of said blank, rolling the blank in a direction at right angles to the said slits, with the abutment on the outer side of the roll, inserting over the end of the blank which is adjacent to the slits a metal ring, bending outwardly the slitted end portion of the blank to form spokes, and securing the outer ends of the spokes to the rim of the wheel.

980,023. PRESSED-METAL WHEEL. ALFRED THOMPSON, Erie, Pa., assignor to The Erie Wheel Company, Cleveland, Ohio, a Corporation of Ohio. Filed May 11, 1909. Serial No. 495,272.

1. In a pressed metal wheel, the combination, with a tubular hub having a reduced end, of spokes integral with said hub and projecting from such reduced end, a collar on such reduced end and forming a bearing for the inner portions of the spokes, and a rim secured to the outer ends of said spokes.

2. In a pressed metal wheel, the combination, with a tubular hub having each end thereof reduced in diameter, of spokes projecting outwardly from each reduced end of the hub, a collar applied to each reduced end of the hub and engaging the inner ends of the spokes, and a rim secured to the outer ends of said spokes.

3. In a pressed metal wheel, the combination of a tubular hub having its opposite ends reduced in diameter, integral spokes projecting from such reduced ends, a collar applied to each reduced end of the hub and engaging the inner ends of the spokes, and a rim to which the outer ends of the spokes are secured, the outer faces of said collars tapering inwardly or toward the center of the hub to form bearings for the inner portions of the spokes.

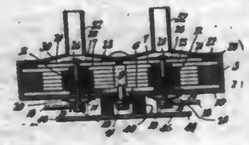


4. In a pressed metal wheel, the combination of a tubular hub having integral spokes projecting from a end thereof and provided, near such end and between the spokes and the center of the hub, with an abutment, an a collar applied to the end of the hub between the spoke and the abutment and arranged to be engaged by the inner ends of the spokes.

5. In a pressed metal wheel, the combination of a tubular hub portion, a collar at each end of said hub portion said collar having an internal diameter that is less than the diameter of the hub portion, a series of spokes at each end of the hub portion, said spokes being integral with the hub portion and extending through the said collars, a rim to which the outer ends of the spokes are secured, and a tubular bearing within the hub portion said bearing being fitted to an axle.

[Claim 6 to 11 not printed in the Gazette.]

980,024. TELEPHONE-RECEIVER. WILBUR H. THOMPSON, Wheeling, W. Va., and HARVE R. STUART, Milwaukee, Wis. Filed June 11, 1909. Serial No. 501,493.



1. A telephone receiver and connections therefor, said receiver comprising a permanent magnet, a pair of separate coils and diaphragms associated therewith, separate sound receiving and carrying tubes for said diaphragms said tubes being extended to permit the free ends thereof to be positioned one adjacent each ear of the person using the receiver, and said connections comprising separate circuits for energizing said coils, such circuits being independently energizable, the aforesaid elements coöperating to obviate the neutralizing effect of slight difference in phase between telephonic currents in said separate circuits.

2. In a telephone receiver, an oval permanent magnet having consequent poles, a pair of bifurcated pole pieces projecting from said poles, a pair of solenoids joining the extremities of the respective pole pieces, extensions from said pole pieces entering said solenoids into close proximity to one another, and diaphragms actuated by the varying attraction between said extensions.

3. In a telephone receiver, a permanent magnet, a pair of solenoids, pole piece extensions projecting from said magnet into close proximity to each other, said extensions being inwardly directed into said solenoids, means for independently adjusting extensions in separate solenoids and separate diaphragms actuated by the varying attraction between said extensions.

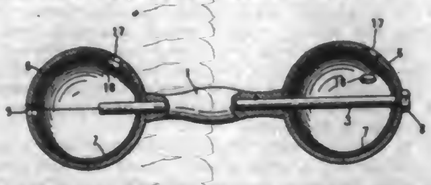
4. In a telephone receiver, an oval permanent magnet having consequent poles, a pair of bifurcated pole pieces

projecting from said poles, a pair of solenoids joining the extremities of the respective pole pieces, extensions from said pole pieces entering said solenoids into close proximity to one another, diaphragms actuated by the varying attraction between said extensions, and separate circuits for said coils.

5. In a telephone receiver, an oval permanent magnet having consequent poles, a pair of bifurcated pole pieces projecting from said poles, a pair of solenoids joining the extremities of the respective pole pieces, extensions from said pole pieces entering said solenoids into close proximity to one another, diaphragms actuated by the varying attraction between said extensions, and separate means for adjusting the separation of said extensions within the respective solenoids.

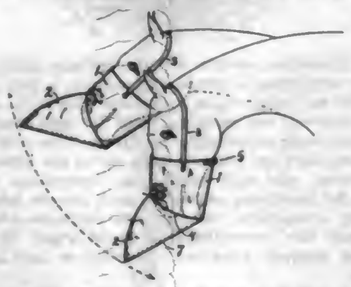
[Claims 6 to 8 not printed in the Gazette.]

980,025. DUMB-BELL. HENRY W. TITUS, New York, N. Y. Filed July 23, 1909. Serial No. 509,137.



A dumb-bell having a handle and provided with weight receptacles, and a connecting bar passing through said handle and weight receptacles, said weight receptacles comprising inner and outer casings, the inner casing having two hemispherical sections forming a hollow spheroid with the line of juncture parallel with the axis of the bar, the outer casing having two hemispherical sections forming a hollow spheroid closely encircling the inner spheroid and with the line of juncture transverse to the axis of the bar, a perforation through one of the sections of the inner casing, and a perforation through one of the sections of the outer casing adapted to be brought into registering position upon relative rotation of the parts.

980,026. FEED-BAG. CHARLES E. TOMLINSON, Syracuse, N. Y. Filed June 23, 1909. Serial No. 503,904.



1. A feed bag comprising a tubular neck portion, means for adjusting the same to closely fit the muzzle of the horse, and a laterally extending pocket supported entirely from the lower end of the neck portion and provided with a substantially flat bottom inclined to the axis of the neck portion.

2. A feed bag comprising a tubular neck portion, means at the upper edge of the neck portion for securing the bag upon a horse's head, and a pocket extending downwardly and forwardly from the lower end of the neck portion and supported entirely by the latter and forming an uninterrupted continuation thereof.

3. A feed bag comprising a tubular neck portion and a pocket having a fixed position respecting the neck portion and forming a downwardly and outwardly extending continuation thereof.

4. A feed bag comprising a tubular neck portion and an outwardly extending pocket in the form of a shoe including a substantially flat bottom and an upper part provided with an elliptical opening, the edge of the opening being connected throughout its entire extent to the lower edge of the neck portion.

5. A feed bag for horses comprising a neck for receiving the muzzle of a horse, and an outwardly extending pocket at the lower end of the neck, the pocket having a downwardly and forwardly inclined bottom and being connected throughout the entire extent of its upper edge to the neck in order to maintain the relative position of the pocket and the neck and to change the angle of the inclined bottom relatively to the earth during the movements of the horse's head, substantially as and for the purpose specified.

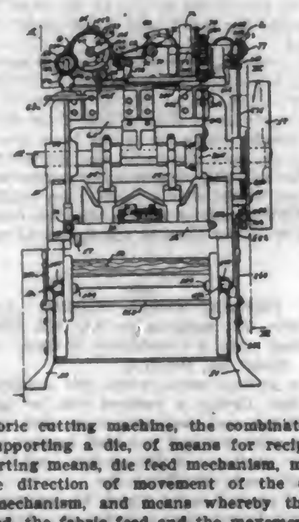
[Claims 6 to 19 not printed in the Gazette.]

980,027. RAZOR ATTACHMENT. EDDIE P. TRUESDALE, Camden, S. C. Filed May 19, 1910. Serial No. 562,235.



A safety attachment for a razor blade formed from spring metal comprising a longitudinal blade rest, a flange formed upon one side of said rest, a pair of end flanges formed upon the other side of said rest and adapted to clamp said blade between said side flanges, a depending tongue formed between said pair of end flanges, a longitudinal plate formed at the lower end of said tongue, and provided with a series of comb teeth, and a set screw passing through said tongue and contacting with the razor blade to adjust said plate.

980,028. AUTOMATIC DIE-PRESS. BENJAMIN W. TUCKER, South Orange, N. J. Filed Feb. 27, 1909. Serial No. 480,897.



1. In a fabric cutting machine, the combination with means for supporting a die, of means for reciprocating the die-supporting means, die feed mechanism, means for reversing the direction of movement of the die feed, fabric feed mechanism, and means whereby the action of the die feed, the fabric feed and the movement of the die in cutting will be controlled one by the other.

2. In a fabric cutting machine, the combination with means for supporting a die, of means for moving the die-supporting means, die feed mechanism, fabric feed mechanism and means whereby the action of the die feed, the fabric feed and the movement of the die in cutting will be timed to operate at different periods and one controlled by the other.

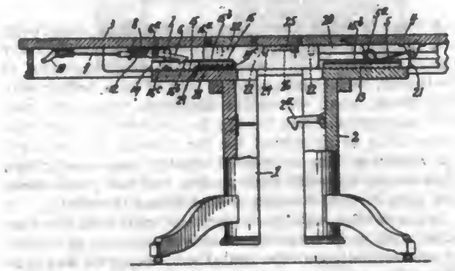
3. In a fabric cutting machine, the combination with means for supporting a die, of means for reciprocating the die, die-supporting means, die feed mechanism, means for reversing the direction of the die feed, means for supporting layers of fabric in the path of movement of the die, and means whereby the movement of the die in cutting and the movement of the die feed will be controlled one by the other.

4. In a fabric cutting machine, the combination with means for supporting a die, of means for moving the die-supporting means, and die feed mechanism for imparting a step-by-step movement to the die along the supporting means.

5. In a fabric cutting machine, the combination with a support for a die, of means for reciprocating the die-support feeding means for moving a die with a step-by-step movement along the support, and fabric feed mechanism for moving the work transversely to the direction of movement of the die timed to operate with relation to the movement of the die feeding means.

[Claims 6 to 141 not printed in the Gazette.]

980,029. EXTENSION-TABLE. EMIL TYDEN, Hastings, Mich. Filed Oct. 18, 1909. Serial No. 523,330.



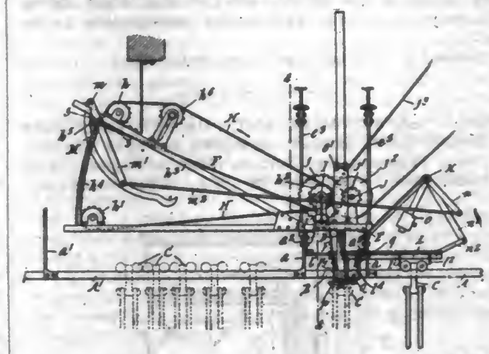
1. In an extension table, comprising a supporting member and top members, movable thereon for extension, in combination with such supporting member and top members, engaging devices on the supporting member and cooperating engaging devices of the two top members respectively, relatively positioned for engagment at intervals of extension equal to the unit filler width, one of said engaging devices being mounted for movement longitudinally of the table on the part by which it is carried for drawing the table members together, one of said engaging devices comprising a spring, positioned therein for receiving the drawing pressure.

2. In an extension table comprising a supporting member and top members movable relatively thereto for extension, the supporting member being divided and the parts being provided with slides by which they are connected for extension, means for engaging the slides of the two halves of the supporting member at intervals of extension of such halves substantially equal to the unit filler width; engaging devices on the two top members and coöperating engaging devices on the corresponding halves of the supporting member; one of such engaging devices being movable longitudinally of the table on the part by which it is carried for drawing the members together when such engaging devices are engaged, and one of such engaging devices comprising a spring positioned for yielding to the drawing pressure.

3. In an extension table which comprises a supporting member and top members movable relatively thereto for extension to admit fillers, in combination with such supporting member and top members, engaging devices on the supporting members coöperating and engaging devices on the top members, one of such engaging devices being movable longitudinally of the table on the member by which it is carried for drawing the two members together when such devices are engaged, and means for so moving the movable engaging device and for locking it, one of the engaging devices on the supporting member comprising a spring positioned for yielding to the drawing pressure.

4. In an extension table which comprises a supporting member and top members movable relatively thereto for extension to admit fillers, in combination with such supporting member and top member, hooks carried by the top members respectively, and plates carried by the supporting member having means for engaging the hooks positioned for such engagement at closed position of the top members and at half filler width intervals outward therefrom; a slide to which one of the hooks is pivoted, and means for operating the same longitudinally of the table for drawing the hook longitudinally; one of the plates being mounted on the supporting member for longitudinal movement, and a spring which resists such movement outwardly.

980,030. DIP PAINTING-MACHINE. CHARLES VALLONE and FRANK R. ROGERS, Buffalo, N. Y., assignors to Barcalo Manufacturing Company, Buffalo, N. Y. Filed Oct. 7, 1909. Serial No. 521,517.



1. The combination with a track having a movable section, and a carrier which is free to travel on the track, of an elevator for said movable track section, a carrier-moving device which is disconnected from said carrier and is adapted to engage and move the carrier and then leave the carrier free to continue its travel, driven mechanism which is operatively connected to said elevator for moving the movable track section away from and returning it to the track, and which is operatively connected to said carrier-moving device to move a carrier onto said movable track section while the same is stationary, substantially as set forth.

2. The combination with a track having a movable section, and a carrier which is free to travel along the track, of an elevator for said movable track section, driven mechanism which operates said elevator to move said movable track section away from and return it to the track and then hold in stationary for a period of time, a carrier-moving device which is disconnected from said carrier and is adapted to engage and move the carrier and then leave the carrier free to continue its travel, and mechanism operated by said driven mechanism for actuating said carrier-moving device to move a carrier onto said movable track section during the rest period thereof, substantially as set forth.

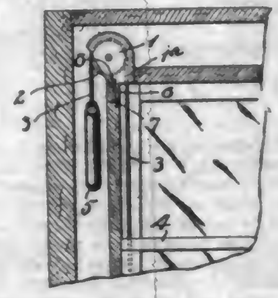
3. The combination with a track having a movable section, and a carrier which is free to travel along the track, of an elevator for said movable track section, driven mechanism which operates said elevator to move said movable track section away from and return it to the track and then hold it stationary for a period of time, a reciprocating carrier-moving device which is disconnected from said carrier and which has means for engaging and moving a carrier, and mechanism for advancing said carrier-moving device to move a carrier onto said movable track section during the rest period thereof and retracting the carrier-moving device during the vertical movement of said movable track section, substantially as set forth.

4. The combination with a track, and a traveling carrier which is free to move along the track, of an elevator adjacent to the track and having a part adapted to receive the carrier from the track, a driven mechanism which moves said elevator away from the receiving position and returns it to and holds it in the receiving position for a period of time, and means which are disconnected from said carrier and are operated by said driven mechanism and which are adapted to move a carrier from the track onto said elevator during the rest period thereof and leave the carrier free to continue its travel, substantially as set forth.

5. The combination with a track having a movable section and a carrier which is free to travel on the track, of an elevator for said movable track section, a reciprocating carrier-moving device which is disconnected from said carrier and is provided with means which permit the carrier to be interlocked with said carrier-moving device and which engage and move the carrier when the carrier-moving device is moved, whereby the carrier is moved by said device onto said movable track section, said carrier-moving device having a part which shoves the carrier off of said track section, substantially as set forth.

[Claims 6 to 12 not printed in the Gazette.]

980,031. SASH-CORD PULLEY. HENRY G. VOIGHT, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Sept. 20, 1910. Serial No. 584,443.

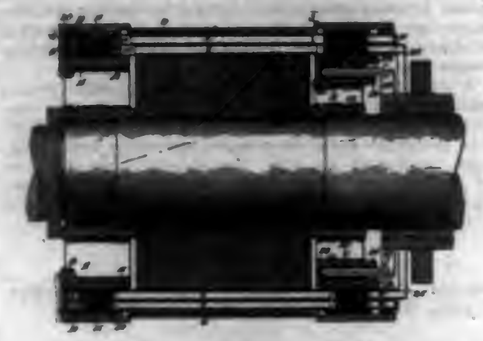


In combination with a window frame including a head jamb having a notch in one end thereof and a side stile having a notch in the end thereof registering with the notch in the head jamb, said notches forming a slotted passage through the upper corner of said window casing, of a pulley housing substantially filling both of said notches, the exposed part of said housing forming an angle corresponding with the exposed meeting surfaces of the head jamb and side stile, said housing having a vertical clearance passage for a sash cord, said clearance passage being located inside of the plane of the side stile, a pulley journaled in said housing, and a downward extension from said pulley housing arranged to lie flush with the exposed surface of the side stile and arranged to receive a fastening screw for holding said housing in place.

980,032. ROTOR FOR HIGH-SPEED ELECTRICAL MACHINES. HENRY H. WAIT, Chicago, Ill. Filed Mar. 11, 1907. Serial No. 361,681.

1. A rotor for high speed electrical machines comprising a core, windings on said core, end connections for said windings, and an annular connection-box at the end of the rotor in which said end connections are disposed, said connection box comprising a hollow central supporting drum, end plates supported upon said drum at both ends thereof, and a retaining ring fitted upon said end plates and supported thereby, the end-plate nearest the core being slotted for the passage of the windings.

2. A rotor for high-speed electrical machines, said rotor having annular chambers in the end portions thereof, windings having their end connecting portions disposed in said annular chambers and insulating material under heavy compression surrounding said windings and forming therewith a complete solid filling in said chambers, retaining bands covering said chambers, and heavy solid metal retaining rings shrunk on outside said bands.



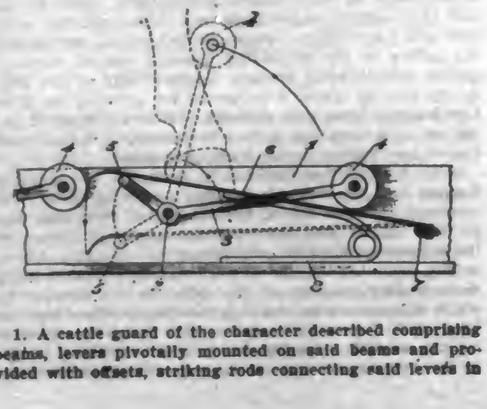
3. A rotor for high speed electrical machines comprising a core, windings thereon, an annular connection-chamber at the end of the core receiving the end-connections of said winding, said chamber being formed by a hollow supporting drum, upon which the end-connections are compressed, supporting rings closing the chamber at each end, the inner ring being slotted for the passage of the winding, a retaining ring supported rigidly upon said rings, and insulating material surrounding the end connections in said chamber and forming a solid filling therefor.

4. In a rotor for high-speed electrical machines, the combination with a core having windings thereon, of an annular connection-box at the end of said core, said box comprising a central hollow supporting drum against which the end-connections of the winding are compressed, end plates closing the ends of said box, and a retaining ring shrunk upon said end-plates; said box being separated from the body of the core by a ventilating space.

5. A head for the rotor of a high-speed electrical machine comprising a central supporting drum, windings disposed around said drum, insulating material compressed outside of said windings, a metallic band maintaining a preliminary compression on said insulating material, and a retaining ring placed around said preliminary band under pressure.

[Claims 6 to 8 not printed in the Gazette.]

980,033. CATTLE-GUARD. ROBERT B. WALKER, Strathcona, Alberta, Canada. Filed May 14, 1909. Serial No. 496,028.

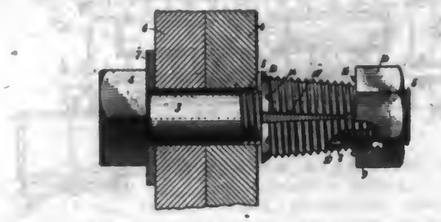


1. A cattle guard of the character described comprising beams, levers pivotally mounted on said beams and provided with offsets, striking rods connecting said levers in pairs and tread plates pivotally mounted beneath and in advance of said rods and resting upon the offsets of said levers.

2. A cattle guard of the character described comprising beams, bell crank levers pivotally mounted on said beams and provided with offsets extending from their short arms, striking rods connecting the long arms of said bell crank levers, and plates pivotally mounted beneath and in advance of said striking rods and resting upon said offsets.

3. A cattle guard of the character described comprising beams, levers pivotally mounted on said beams and provided with offsets, striking rods connecting said levers in pairs, tread plates pivotally mounted beneath and in advance of said rods and resting upon the offsets of said levers, and means for holding said tread plates normally inoperative.

980,034. NUT-LOCK. LAWRENCE KEARNEY WATROUS, Sea Cliff, N. Y. Filed Mar. 21, 1910. Serial No. 550,658.



1. The combination of a bolt, a sleeve encircling the same and provided with a flange having notches, and a nut encircling said sleeve and provided with lugs for entering said notches to prevent said nut from turning.

2. In a nut lock, the combination of a bolt provided with a thread; a sleeve encircling said bolt, said sleeve being provided adjacent to one of its ends with a thread disposed internally of said sleeve and mating said thread of said bolt, said sleeve being further provided with ribs disposed substantially parallel with the longitudinal axis of said sleeve; and a nut fitted upon said sleeve for forcing the ribs thereof toward said bolt.

3. In a nut lock, the combination of bolt; a sleeve encircling the same, said sleeve being fitted adjacent to one of its ends upon said bolt and having ribs; and a nut for forcing said ribs toward said bolt in order to cause said ribs to bite cross-wise into the threads of said bolt.

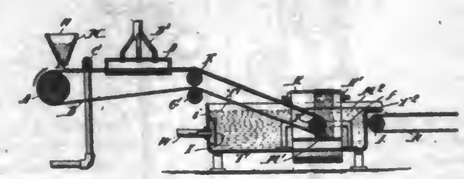
4. In a nut lock, the combination of a threaded bolt; a sleeve encircling said bolt and provided with a threaded portion engaging the same, said sleeve having a split portion provided internally with ribs and normally springing away from said bolt; and a nut relatively mounted upon said sleeve for forcing said spring portion toward said bolt in order for said ribs to engage the latter.

5. In a nut lock, the combination of a split sleeve provided internally with ribs for biting into a bolt in order to lock said sleeve rigidly in relation with said bolt; and a nut relatively mounted upon said sleeve for drawing together the portions thereof provided with said ribs.

[Claims 6 and 7 not printed in the Gazette.]

980,035. PROCESS OF SEPARATION. HENRY A. WENTWORTH, Newton, Mass., assignor to Huff Electrostatic Separator Company, Boston, Mass., a Corporation of Maine. Original application filed Aug. 18, 1908, Serial No. 449,058. Divided and this application filed Mar. 11, 1910. Serial No. 548,780.

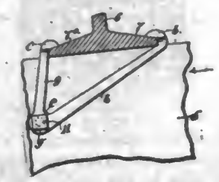
1. The process of separating ingredients of comminuted material, which consists in preparing the material for flotation separation by means of a liquid capable of wetting by prolonged contact all the particles in their normal condition, by associating with the material a substance chemically reactive upon particles thereof, thereby producing upon particles affected by said substance superficial coatings of a compound possessing greater avidity for said liquid than said particles possessed before said treatment, and thereupon directly utilizing the thus produced quality to effect flotation separation of the differentiated particles by association with said liquid.



2. The process of separating ingredients of comminuted material, which consists in preparing the material for flotation separation by means of a liquid capable of wetting by prolonged contact all the particles in their normal condition, by subjecting the material to chemical treatment producing upon part thereof a compound possessing an avidity for said liquid greater than that of the unaffected material, and placing said material into contact with a body of said liquid, wetting and enguling the particles rendered abnormally susceptible as aforesaid, and subsequently separately collecting the immersed and floated particles of the material.

3. The process of separating zinc sulfid from mixtures of comminuted material which consists in treating the mixture with a halogen, thereby producing on ingredients other than zinc sulfid compounds possessing an abnormal avidity for a liquid, placing the material into contact with a body of said liquid, wetting and enguling the particles of material rendered abnormally susceptible as aforesaid, and subsequently separately collecting the immersed particles and the floated zinc sulfid.

980,036. RAILROAD-TRACK-RAIL HOLDER AND BRACE. JOHN THOMAS WEST, Bowling Green, Ky. Filed Sept. 9, 1909. Serial No. 516,830.



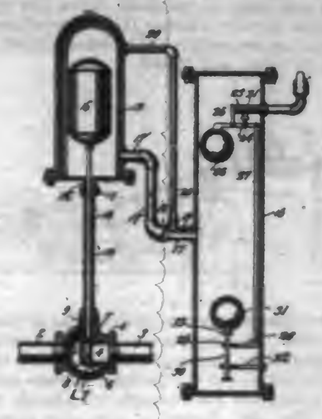
The combination with the tie, and the rail seated there on, of means for holding the rail to the tie, said means comprising an angle bar, the arms thereof diverging from each other at an acute angle, one of said arms being of greater length than the other and each arm having at its free end a hook for engaging the rail base, said bar having a transverse opening at the junction of the arms for receiving a spike, whereby the bar may be secured to the tie, the said opening being at the same side of both hooks

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980,037. FEED-WATER REGULATOR. THOMAS [illegible] WHITTAKER, Lawrence, Mass. Filed Apr. 2, 1907. Serial No. 366,195.

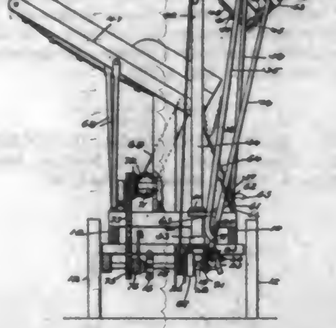
The combination with a water column of a feed water regulator including a feed valve, a casing therefor, a sleeve secured to and rising from the casing, a stem slidably mounted in the sleeve and connected directly to the feed valve, a casing secured upon the upper end of the sleeve, a float mounted upon the upper end of the stem within the casing, a steam connection leading from the water column at the normal water level therein and opening in

the casing above the top of the water column, and a water pipe opening into the water column at the normal water



level therein and into the casing below the top of the water column.

980,038. SHOCK-LOADER FOR GRAIN AND HAY. BENJAMIN F. WILSON, Hastings, Nebr. Filed Mar. 19, 1909. Serial No. 484,510.



1. In a device of the class described, a vehicle, a conveyer mounted thereon and extending laterally therefrom, a derrick arm pivoted to the vehicle, an elevator basket carried at the extremity of the derrick arm, a flexible member connected with the extremity of the derrick arm, and means carried by the vehicle to wind the flexible member.

2. In a device of the class described, a vehicle, a conveyer extending laterally therefrom, a derrick arm pivoted to the vehicle and extending laterally therefrom opposite the conveyer, an elevator basket carried at the extremity of the derrick arm, means to lift the derrick arm, means to maintain the basket in upright position during a portion of the lifting, and means to dump the basket above the conveyer at the completion of its movement.

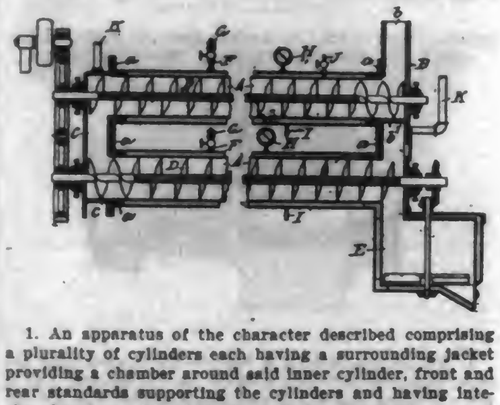
3. In a device of the class described, a vehicle, a conveyer extending laterally therefrom, a derrick arm extending laterally from the vehicle opposite the conveyer, an elevator basket carried by the derrick arm, means to at times lift the derrick arm and basket carried thereby, and means operated by the derrick arm for throwing out of gear the lifting means.

4. In a device of the class described, a vehicle, a conveyer extending laterally at one side of the vehicle, a derrick arm pivoted to the vehicle and extending laterally opposite the conveyer, means carried by the derrick arm for engaging and lifting the material, means to lift the derrick arm, a manually controlled clutch adapted to at times operate the derrick-lifting means, and means carried by the derrick arm adapted to disengage the clutch.

5. In a device of the class described, a vehicle, a conveyer extending laterally from the vehicle, a derrick arm extending laterally from the vehicle opposite the conveyer, shock engaging means carried at the extremity of the derrick arm, parallel levers adapted to maintain the shock engaging means in upright position, and means to destroy the parallelism of the levers to dump the engaging means.

[Claims 6 to 11 not printed in the Gazette.]

980,039. COTTON-SEED-MEAL COOKER. THOMAS G. WOLFE, Oklahoma, Okla. Filed July 27, 1909. Serial No. 509,801.

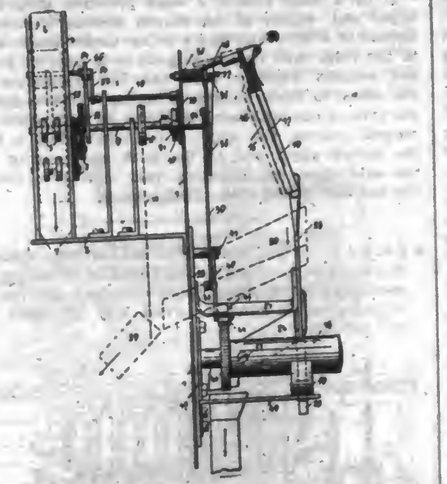


1. An apparatus of the character described comprising a plurality of cylinders each having a surrounding jacket providing a chamber around said inner cylinder, front and rear standards supporting the cylinders and having interior chambers with which the cylinders communicate, vent means adapted for connecting the chambered interior of each standard with the atmosphere, means in each cylinder for agitating the meal and conveying it through the cylinder, a pipe for supplying a heating medium to the chamber surrounding each inner cylinder, and means on each of said pipes for independently controlling the temperature of each cylinder.

2. An apparatus of the character described comprising a plurality of passages each formed of inner and outer cylinders and flanged rings inserted between the cylinders at their opposite ends, the cylinders being fastened to said rings, front and rear standards to which said flanged rings are secured, the standards being formed with interior chambers communicating with the passages formed by said cylinders at their opposite ends, the front standard being formed with an open mouth or hopper and with a partition at the bottom of the first cylinder and the rear standard being formed with a partition at the bottom of the second cylinder, a rotatable spiral conveyer mounted in each inner cylinder and journaled in the standards, means for admitting a regulatable quantity of steam independently to the space surrounding each inner cylinder, a pipe communicating with the interior of an inner cylinder, means for venting the closed chambers of the standards, means for taking the water of condensation from the steam space surrounding the inner cylinders, a receptacle connected to one of the hollow standards in communication with the bottom chamber thereof, and a rotatable agitating device in the said receptacle.

980,040. AUTOMATIC COIN-TESTER FOR COIN-FREED APPARATUS. HEINRICH WOLLHEIM, Berlin, Germany, assignor to The American Stamp & Ticket Vending Machine Company, New York, N. Y., a Corporation of New Jersey. Original application filed Nov. 27, 1908, Serial No. 464,592. Divided and this application filed June 14, 1909. Serial No. 502,174.

1. In coin-controlled apparatus, a coin-testing device open to receive coins and operable to deliver them at either of two different points, and merchandise delivering means operatively connected to said device to provide movements thereto, said device being positionable to deliver coins at but one of said points upon exhaustion of the merchandise being tested.

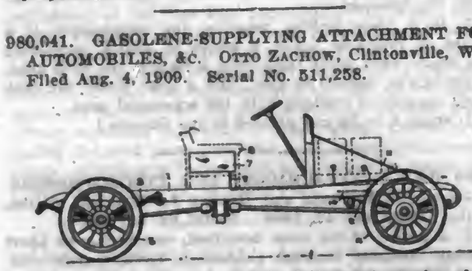


2. In coin-controlled apparatus, a coin-testing device open to receive coins and operable to deliver them at either of two different points, merchandise delivering means operatively connected to said device to provide movements thereto, and a detecting device, said latter device being operably positionable to automatically position the testing device to deliver coins at but one of said points upon exhaustion of the merchandise being vended.

3. In a coin-controlled apparatus, a pivoted coin tester, a rotatable coin tester, an operating shaft for the merchandise delivery means, means operated by said shaft for oscillating said pivoted coin tester, means whereby oscillation of the pivoted coin tester causes partial rotation of said rotatable coin tester, a pivoted weighted element normally engaging the merchandise and held inoperative thereby and means whereby when the merchandise is exhausted and said pivoted weighted element has been released said shaft will be locked against operation.

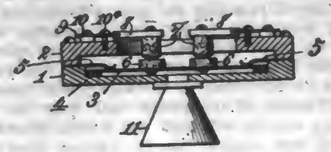
4. In a coin-controlled apparatus, in combination with coin-controlled delivery operating means for vending the merchandise in strip form, means for automatically locking said first means against movement when the merchandise has become exhausted, a coin catch device leading to the delivery opening of the apparatus, and means whereby when said first means is locked the coin will be placed in said coin catch device to be returned thereby to the delivery opening.

980,041. GASOLENE-SUPPLYING ATTACHMENT FOR AUTOMOBILES, &c. OTTO ZACHOW, Clintonville, Wis. Filed Aug. 4, 1909. Serial No. 511,258.



The combination with a main fuel supply tank; of an auxiliary supply tank arranged in a plane below that of said main tank, a pipe connecting said tanks, an outlet pipe leading from the rear lower portion of said auxiliary tank, and a vent pipe in communication with the upper side of said auxiliary tank and leading upwardly and rearwardly to a point at a higher level than said main supply tank.

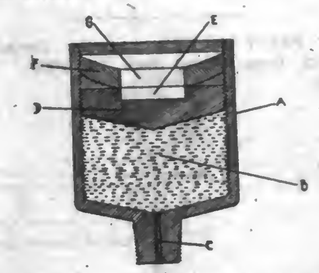
980,042. TELEPHONE-TRANSMITTER. CHARLES ADAMS-RANDALL, New York, N. Y. Original application filed Apr. 14, 1905, Serial No. 255,602. Divided and this application filed Aug. 31, 1907. Serial No. 390,970.



1. A telephone transmitter having a diaphragm, a plurality of independent variable resistances or electrodes carried thereby and insulated therefrom, a corresponding plurality of independent coöperating electrodes insulated from one another and from the diaphragm and engaging the said independent variable resistances or electrodes carried by the diaphragm, and means for connecting in series, in whole or in part, the resistances or electrodes carried by the diaphragm and the independent coöperating electrodes engaging therewith whereby the internal resistance of the transmitter may be varied.

2. A telephone transmitter having a given variable resistance subdivided into fractions or units, a vibrator, each unit being insulated from the vibrator and having its own variation produced by said vibrator, the vibrator being common to all the units and the latter normally insulated from one another, contact means and a source of current supply with which the units are adapted to be connected up in series, in whole or in part, and adjustable means also connected to portions of the units and coöperating with the contacts.

980,043. LOCKING DEVICE FOR LUBRICATING-CUPS. KOS M' ANDERSON, Temple, Tex. Filed Aug. 27, 1910. Serial No. 579,254.



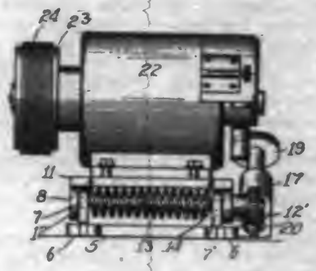
1. In a lubricator cup, the interior of which is threaded, the combination with a threaded plug within the cup, a dish-shaped plug threaded within the cup, and bearing upon the first named plug.

2. In a lubricator cup, the interior of which is threaded, the combination with a plug threaded within said cup and having a square central aperture, of a dish-shaped plug threaded within the cup and bearing upon the first named plug, and also provided with a square central aperture.

980,044. POWER-TRANSMISSION DEVICE. VINCENT G. APPLE, Dayton, Ohio. Filed Mar. 21, 1910. Serial No. 550,639.

1. In a device of the character described, the combination of a base member providing on opposite sides thereof two alining upwardly projecting apertured lugs and a single third apertured lug longitudinally and laterally beyond one of said alining lugs, a superposed base member providing on opposite sides two alining downwardly projecting apertured lugs, the apertures thereof arranged to register with the apertures in said lugs of the underlying base member, a horizontal shaft passing through said apertures and connecting said base member

for relative pivotal movement, said shaft at one end extending beyond the alining lugs to a point in lateral alinement with the single third lug of the underlying base member, a gear on said end of the shaft, a shaft in the aperture of the said third lug of the base, a worm on one end thereof engaging the gear, a handle on the other end, and means for establishing a yielding connection between the base members comprising a spiral spring around the horizontal shaft secured at one end to the shaft and at the other to the superposed base member, whereby turning of the handle may vary the stress of said spring and therethrough the lateral pressure of the superposed base member for the purpose described, said superposed base member provided with a small downturned apertured lug on the outer edge of its lower surface, for the reception of the spring end, as described.



2. In a device of the character described, a casting providing upturned lugs, a coacting casing providing downturned lugs, a shaft passing through apertures in said several lugs, a spring around said shaft and connected to the second casting member, said upper casting providing an upper table for reception of a part to be mounted thereon, and means for adjusting the pressure of said spring between the shaft and upper casting.

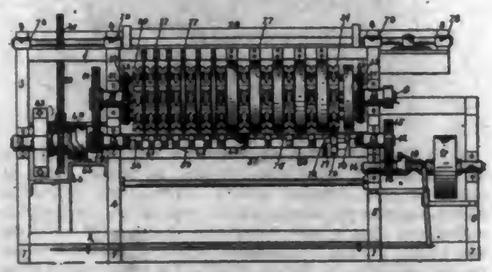
980,045. FRUIT-PICKER. AUGUST HENRY BASTIAN, Portland, Oreg. Filed Dec. 15, 1909. Serial No. 533,137.



1. A fruit picker, comprising a pair of cup shaped picking members, each formed of a wire ring and a fabric basket portion secured to the ring each ring having its ends bent to form eyes and secured together and forming an approximately right angular arm, a stick having a forked bearing at its upper end, between the members of which the eyes of the picking members are arranged, a pivot in the forked bearing and passing through the eyes of the rings of the picking members, a sleeve sliding on the lower end of the stick, a rod pivoted to the sleeve, links pivoted to the rod and to the angular arms of the picking members, and a stop on the stick for limiting the upward movement of the sleeve.

2. In a fruit picker, a stick provided with a forked upper end, a pair of cup-shaped picking members, each formed of a wire ring and a fabric basket portion secured to the ring, each ring having its ends bent to form eyes and secured together with one end projecting beyond the other to form an approximately right angular arm, the eyes of one ring being adjacent to each other and arranged between the eyes of the other ring, a pivot in the forked upper end of the stick and passing through the said eyes, an operating rod, and links pivoted to the rod and to the said angular arms.

980,046. FENCE-MAKING MACHINE. CHARLES B. BAUMGARTNER, Chicago, Ill., assignor, by mesne assignments, to Interlocking Fence Company, Morton, Ill., a Corporation of Illinois. Filed May 17, 1905. Serial No. 260,887.



1. In a fence making machine, the combination of a series of rotatable heads, twisters supported by the heads, means for rotating the heads, and means for rotating the twisters during a portion of each revolution of the heads, and each alterante twister rotating in opposite directions.

2. In a fence making machine, the combination of a series of rotatable heads, twisters supported by the heads, means for rotating the heads, means for rotating the twisters, and means for creating slack in the brace wires while being twisted.

3. In a fence making machine, the combination of a series of rotatable heads, twisters supported by the heads, means for rotating the heads, means for rotating the twisters, the curved bars located between the heads for creating slack in the brace wires.

4. In a fence making machine, the combination of a series of rotatable heads, twisters supported by the heads, means for rotating the heads, means for rotating the twisters, and wheels for forcing the wire into engagement with the twisters.

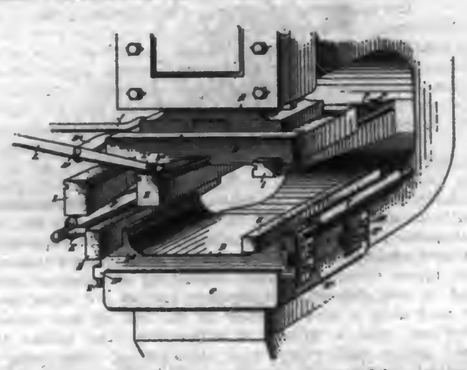
5. In a fence making machine, the combination of a series of rotatable heads, a series of shafts connecting the heads, each shaft supporting a twister for each head, a stationary segmental gear, and a gear wheel for each shaft capable of meshing with the segmental gear.

[Claims 6 to 16 not printed in the Gazette.]

980,047. ATTACHMENT FOR POWER-PRESSES. JOSHUA G. BENSTER and HALSEY L. BENSTER, Moline, Ill. Filed Nov. 11, 1909. Serial No. 527,402.

1. A device of the class described, comprising an anvil having reversely inclined guideways, anvil wedges slidingly engaging the said guideways and having their upper faces horizontally disposed and adapted to be inclined, vertically adjustable rollers on the sides of the anvil for the beam to rest thereon, a reciprocating head above the said anvil, and a wedge held adjustably on the said head intermediate the said anvil wedges, and operating in conjunction with the said rollers and anvil wedges to straighten or bend a beam or like article.

2. An attachment for power presses, comprising an anvil for removable attachment to the bed of the press, the said anvil having reversely inclined guideways, and wedges slidingly engaging the said anvil guideways, vertically adjustable rollers mounted on the sides of the anvil, a head for attachment to the reciprocating ram of the press and provided at its bottom near the sides with horizontal guideways and at the middle with an inclined guideway, head wedges slidingly engaging the said head guideways, and manually-controlled means for moving the said head wedges in their guideways.



3. An attachment for power presses, comprising an anvil for removable attachment to the head of the bed of the press, the said anvil having inclined transversely-extending parallel guideways at the top and bearings at the sides, anvil wedges slidingly engaging the said guideways and adapted to be reversed therein, brackets held vertically adjustable in the said bearings, rollers journaled in the said brackets, a head for attachment to the ram of the power press and provided at its bottom with horizontal guideways directly opposite the said anvil guideways, and head wedges slidingly engaging the said head guideways.

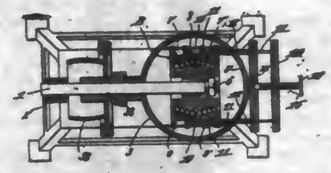
4. An attachment for presses, comprising an anvil for removable attachment to the bed of the press, the said anvil having inclined transversely-extending parallel guideways at the top and bearings at the sides, anvil wedges slidingly engaging the said guideways and adapted to be reversed therein, brackets held vertically adjustable in the said bearings, rollers journaled in the said brackets, a head for attachment to the ram of the power press and provided at its bottom with horizontal guideways directly opposite the said anvil guideways, head wedges slidingly engaging the said head guideways, and manually-controlled means for shifting the said head guideways simultaneously in opposite directions.

5. An attachment for power presses, comprising an anvil for removable attachment to the bed of the press, the said anvil having inclined transversely-extending parallel guideways at the top and bearings at the sides, anvil wedges slidingly engaging the said guideways and adapted to be reversed therein, brackets held vertically adjustable in the said bearings, rollers journaled in the said brackets, a head for attachment to the ram of the power press and provided at the middle with an inclined transversely-extending guideway, a head wedge slidingly engaging the said head guideway, and manually-controlled means connected with the said head wedge to adjust the same transversely in its guideway.

980,048. GRINDING-MILL. JOSEPH BERCHA, Beatrice, Nebr. Filed Mar. 11, 1910. Serial No. 548,560.

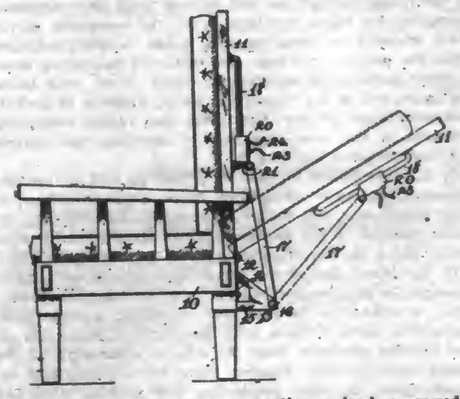
1. In a grinding mill, a double conical male bur, a female bur comprising two slidably supported conical members having overlapped interengaging flanges at their meeting edges, and means for positively forcing each member of the female bur in the direction of the mating member to vary the distance between the grinding faces of the male and female burs.

2. In a grinding mill, a frame including a casing, a shaft supported for rotation, said shaft extending within the casing, a double conical male bur mounted upon the shaft, guide rods supported within the casing, a female bur comprising conical members slidably supported upon the guide rods, sleeves connected with one female bur member and guided through the casing, a cross bar connecting said sleeves, bolts connected with the other female bur member and guided through the sleeves of the first bur member, a cross bar connecting said bolts, and an adjusting screw threaded in the second cross bar and bearing against the first mentioned cross bar.



3. In a grinding mill, a casing, a conical male bur supported for rotation within the casing, guide rods supported within the casing, a female bur comprising two conical sections having apertured lugs slidably engaging the guide rods, sleeve connected with one bur member and extending through the casing, bolts connected with the other bur member and guided through the sleeves of the first bur member, a cross bar connecting the sleeves, said cross bar being apertured for the passage of the bolts, a cross bar connecting the bolts, and an adjusting screw threaded in the latter cross bar and bearing against the first cross bar.

980,049. ADJUSTABLE BRACKET FOR FURNITURE AND THE LIKE. BERTRAND E. BEYER, Paterson, N. J., assignor of one-half to William Molenaar, Paterson, N. J. Filed May 24, 1909. Serial No. 497,861.



A chair comprising a body portion, a back arranged to swing on the body portion, a rod secured to the back, a casing arranged to slide on the rod, finger-pieces projecting from the casing and adapted to engage the rod to lock the casing on the rod and to release the casing when the finger-pieces are operated, a bracket secured to the body portion, the bracket comprising a sheet of metal formed into ears arranged in line for securing the bracket to the body portion and being bent to form projecting wings integral with the ears, the ears being stamped from the wings, and a link pivoted on one end between the wings and pivoted on its other end to the casing.

980,050. PUMP. BURTON BLACK, Orcutt, Cal. Filed Nov. 24, 1908. Serial No. 464,230.

1. A valve sleeve for use in pumps including a body formed at one end to provide a circular portion closed at the upper end by a plate, said plate being formed with

pairs of diametrically opposed openings, the sleeve above the plate being formed with vertically extending oppositely disposed semi-circular sections, said sections coinciding at their central portions and having their free terminals connected by walls coincident with the periphery of the plate whereby to form opposing tubes in communication with one pair of openings, and valves removably mounted in the opposing pairs of openings and beyond the semi-circular section, whereby to permit access to the valves from beyond the tubes.



2. A valve sleeve for use in pumps including a body formed at one end to provide a circular portion closed at the upper end by a plate, said plate being formed with pairs of diametrically opposed openings, the sleeve above the plate being formed with vertically extending oppositely disposed semi-circular sections, said sections coinciding at their central portions and having their free terminals connected by walls coincident with the periphery of the plate whereby to form opposing tubes in communication with one pair of openings, the vertically extending semi-circular sections terminating at their upper ends below the upper end of the connecting walls, whereby to provide communication between the tubes, and valves removably mounted in the remaining pair of openings and beyond the semi-circular sections.

3. A valve sleeve for use in pumps formed to provide opposing vertically extending tubes communicating at their upper ends, and valves arranged in diametrically opposite relation on the sections and wholly beyond the tube walls, and a circular member having threaded connection with the lower end of the sleeve and formed with valve passages, in combination with a pump casing made in sections, a connector between two adjacent sections said connection being formed with an annular projection of less interior diameter than the similar dimension of the casing, said circular member being circumferentially reduced above the said projection, and packing arranged in said reduced portion to bear upon the projection to secure an air-tight connection between the parts.

980,051. MUD-GUARD. JOHN BLASZCZYK, New York, N. Y. Filed Mar. 28, 1910. Serial No. 551,859.

1. In a mud guard for vehicle wheels, the combination with an axle, of a wheel rotatably mounted thereon, a concentric plate member for covering part of the periphery of said wheel and extending at both sides inward toward the center thereof, a brace attached at one end to one side of said member and at its other end to said axle, a ring fastened to the hub of said wheel provided with a groove, a supporting ring seated in said groove and carrying a plurality of substantially vertical sleeves, rods engaging said sleeves, and braces attached to the other side of said plate member and to said rods.

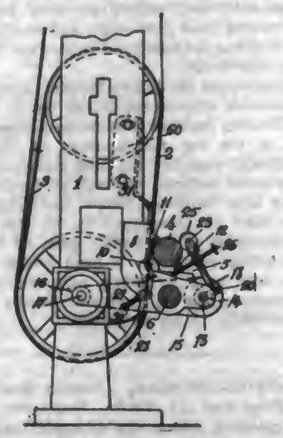
2. In a mud guard for vehicle wheels, the combination with an axle, of a wheel rotatably mounted thereon, a concentric plate member for covering part of the periphery of said wheel and extending at both sides inward toward the center thereof, a brace attached at one end to one side of said member and at its other end to said axle, a ring fastened to the hub of said wheel provided with a groove, a supporting ring seated in said groove and carrying a plurality of substantially vertical sleeves, rods engaging said sleeves, and braces detachably attached to the other side of said plate member and to said rods.



3. In a mud guard for vehicle wheels, the combination with an axle, of a wheel rotatably mounted thereon, a concentric plate member for covering part of the periphery of said wheel and extending at both sides inward toward the center thereof, a brace adjustably attached at one end to one side of said member and at its other end to said axle, a ring fastened to the hub of said wheel provided with a groove, a supporting ring seated in said groove and carrying a plurality of substantially vertical sleeves, rods engaging said sleeves, and braces attached to the other side of said plate member and to said rods.

4. In a mud guard for vehicle wheels, the combination with an axle, of a wheel rotatably mounted thereon, a concentric plate member for covering part of the periphery of said wheel and extending at both sides inward toward the center thereof, a brace adjustably attached at one end to one side of said member and at its other end to said axle, a ring fastened to the hub of said wheel provided with a groove, a supporting ring seated in said groove and carrying a plurality of substantially vertical sleeves, rods engaging said sleeves, and braces detachably attached to the other side of said plate member and to said rods.

980,052. GRINDING AND POLISHING MACHINE. JOHN C. BLEVNEY and JOHN HAUSMAN, Newark, N. J. Filed May 20, 1909. Serial No. 497,331.



1. In a machine of the class described, the combination of an abrasive belt, means for driving the same, a bracket mounted adjacent to the belt, workholders carried by the bracket, including skew-rolls independently adjustable relatively to each other on said bracket, and means for rotating one of the adjustable rolls.

2. In a machine of the class described, an abrasive belt, means for driving the same, backing-means adapted yieldably to press the abrasive belt to the work, and work-holders, comprising a guide-roll, a second guide-roll adjustable relatively thereto, and means for yieldably holding the article against the guide-rolls.

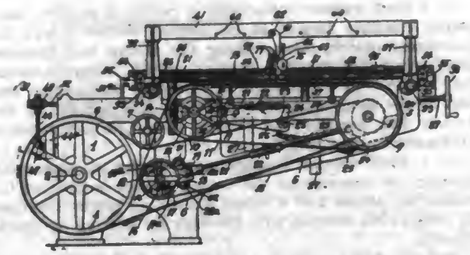
3. In a machine of the class described, the combination of an abrasive belt and means for holding the work in operative relation thereto, comprising three rolls, two of which are mounted on different sides of the third and adjustable relatively thereto, and a fourth roll yieldably held and adjustable with relation to said third roll.

4. In a machine of the class described, the combination with an abrasive belt and means for driving the same, of work-holding means, comprising a guide-roll, additional guide-rolls adjustably mounted to move toward and away from the first guide-roll, and a spring-pressed skew-roll adjustable angularly to the guide-rolls, and means for driving said skew-roll.

5. In a machine of the class described, the combination with an abrasive belt and means for driving the same, of work-holding means comprising a bracket having horizontal and vertical arms, a guide-roll mounted at the junction of said arms, an additional guide-roll mounted on each of said arms, and a skew-roll angularly adjustable with relation to the guide-rolls.

[Claims 6 to 16 not printed in the Gazette.]

980,053. GRINDING AND POLISHING MACHINE. JOHN C. BLEVNEY and JOHN HAUSMAN, Newark, N. J., assignors to Atha Tool Company, a Corporation of New Jersey. Filed May 20, 1909. Serial No. 497,332.



1. In a device of the class described, a frame, a series of pulleys connected to said frame, one or more of the pulleys being adjusted vertically and horizontally and means for yieldingly pressing said pulley in one direction, an abrasive belt passing over said pulleys, means for driving said belt, a bracket at each end of said frame, means for vertically adjusting said brackets, means connecting the brackets, work holders pivoted to said means, said work holders adapted to support a piece of work, and means for pressing the work holder yieldingly against the abrasive belt, and means for oscillating the work longitudinally of the abrasive belt.

2. In a device of the class described, a frame, an endless abrasive belt moving adjacent thereto, eccentric shafts mounted in said frame, a bracket on each of said shafts, means for moving said eccentrics, a bar connecting said brackets, a work holder pivoted to said bar, means for yieldingly pressing the work holder toward the abrasive belt, a reciprocating rod having a stop on each side of the work holder, and means for reciprocating the rod whereby the work holder may be swung longitudinally of the belt.

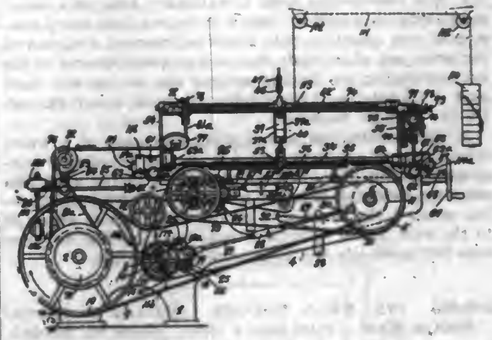
3. In a device of the class described, a frame, an endless abrasive belt moving adjacent thereto, eccentric shafts mounted in said frame, a bracket on each of said shafts, means for moving said eccentrics, a bar connecting said brackets, a work holder pivoted to said bar, means for yieldingly pressing the work holder toward the abrasive belt, a reciprocating rod having a stop on each side of the work holder, means for reciprocating the rod whereby the work holder may be swung longitudinally of the belt, and means for moving the work holder and adjusting the belt transversely of each other.

4. In a device of the class described, a frame, an endless abrasive belt moving adjacent thereto, eccentric shafts mounted in said frame, a bracket on each of said shafts, means for moving said eccentrics, a bar connecting said brackets, a work holder pivoted to said bar, means for yieldingly pressing the work holder toward the abrasive belt, a reciprocating rod having a stop on each side of the work holder, means for reciprocating the rod whereby the work holder may be swung longitudinally of the belt, and means for adjusting the belt transversely of each other.

5. In a device of the class described, a frame, a series of pulleys connected to said frame and one or more of the pulleys being adjustable vertically and horizontally, a backing belt moving over certain of said pulleys, an abrasive belt moving over the pulleys outside of the backing belt, means for yieldingly moving certain of said pulleys to produce a yielding tension on the backing and abrasive belts, means for driving the pulleys, eccentric shafts mounted transversely of the frame, a worm-gear connected to each of said shafts, a longitudinal shaft mounted in the frame having worms connected to the worm-gears on the eccentric shafts, means for moving the brackets transversely of the belt, a bar connecting the upper ends of the brackets, an arm pivoted to said bar, a bar vertically adjusted in said arm, a work holder connected to said arm, a spring connected to said arm and work-holder, a weight forcing the work holder toward the abrasive belt against the tension of the spring, a reciprocating rod located horizontally of the frame, stops secured to the reciprocating rod and extending on each side of the work holder, and means for reciprocating said rod.

[Claims 6 to 13 not printed in the Gazette.]

980,054. ABRASIVE MACHINE. JOHN C. BLEVNEY and JOHN HAUSMAN, Newark, N. J., assignors to Atha Tool Company, a Corporation of New Jersey. Filed May 20, 1909. Serial No. 497,333.



1. In a device of the class described, an abrading means, a work-holding frame arranged adjacent thereto, work-holders carried thereby, means for oscillating the frame, means for raising or lowering the frame, and means for rotating the work-holders.

2. In a device of the class described, an abrading means, a work-holding frame arranged adjacent thereto, work-holders carried thereby, means for oscillating the frame, means for tilting the frame, means for reciprocating the frame, and means for rotating the work-holders.

3. In a device of the class described, an abrading means, a work-holding frame arranged adjacent thereto, work-holders carried thereby, means for oscillating the frame, and means for raising and lowering one end of the frame independently of the other.

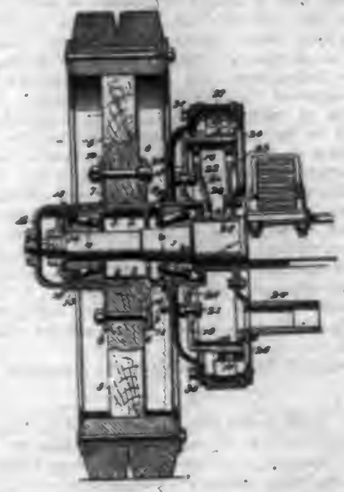
4. In a device of the class described, an abrading means, a work-holding frame arranged adjacent thereto, work-holders carried thereby, means for rotating the work-holders, respective means for adjusting the height of

the respective ends of the frame independently of the other, and means for connecting each of the latter means to adjust the height of both ends simultaneously.

5. In a device of the class described, the combination with an abrading means, of a work-holding frame, and adjusting mechanism therefor, comprising elements severally operable to raise or lower the respective ends of the frame independently, and jointly operable to raise or lower both ends simultaneously.

[Claims 6 to 26 not printed in the Gazette.]

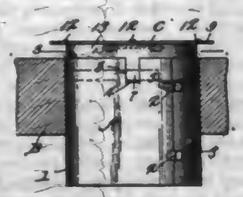
980,053. AUTOMOBILE DRIVING AND SUPPORTING WHEEL. PRESTON H. BABSB, Pittsfield, Mass., assignor to The Alden Sampson Manufacturing Company, Pittsfield, Mass. Filed July 14, 1909. Serial No. 507,647.



1. The combination with a stationary axle, of a wheel comprising an auxiliary hub, a main hub detachably telescoping the auxiliary hub, a driving member attached to the inner end of the main hub, and a casing secured to the axle embracing the driving member and having the inner edge of its outer wall surrounding the inner end of the hub for the purpose described.

2. The combination with a stationary axle, of a wheel comprising an auxiliary hub, a main hub detachably telescoping the auxiliary hub, the inner end of the main hub carrying a driving member, a casing embracing the driving member, the inner wall of the casing firmly attached to the axle, and a detachable outer wall having its inner edge fitting closely the inner portion of the hub.

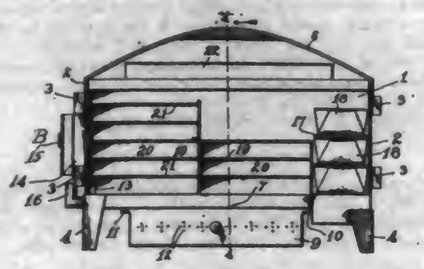
980,056. INK-WELL HOLDER. BERTRAM D. BROWN, Hudson, Mass. Filed June 4, 1910. Serial No. 565,012.



1. In an ink well, a support, a socket member open at both ends and having vertical slots opening through the upper edge, the material of the slots being bent inwardly to provide well-supporting lugs whereby the top of the well will rest in a plane below the top of the socket, circumferential slots communicating with one side of the said slots at a point between the bottom and top of the latter, a closure having a top and a depending annular flange of less diameter than the top, lugs on the said flange adapted to be inserted in the vertical slots to engage the said circumferential slots to hold the top of the closure in spaced relation to the socket and support.

2. In an ink well, a support, a socket member open at both ends and having vertical slots opening through its upper edge, the material of the slots being bent inwardly to provide well-supporting means, circumferential slots communicating with one side of the said slots, a closure having a cover and a depending annular wall of less diameter than the cover and adapted to fit within the socket member, said wall being of a height greater than the distance between the well-supporting means and the top of the socket, lugs carried by the annular wall adapted to be inserted in the vertical slots to engage with the said circumferential slots to space the overlying flange of the cover from the socket member and support.

980,057. FOOD-WARMER. FIRMIN C. BROWN, Charleston, W. Va. Filed Apr. 2, 1910. Serial No. 552,985.



1. A food warmer comprising a casing, a shallow horizontal chamber formed in the bottom of the casing for containing water, means under the casing and chamber for heating the water to generate steam, separate means for respectively discharging steam into the casing and out of the same, and a dish-holding rack carried by the casing and arranged to receive steam from the latter steam-discharging means.

2. A food warmer comprising a casing, a heater for heating the contents of the casing, a rack outside of the casing for plates, and a steam generating means arranged in coöperative relation with the rack for heating the plates therein.

3. A food warmer comprising a casing, a steam generating chamber in the bottom of the casing, a heater for the chamber, a rack on the outside of the casing for holding plates, means for conducting steam from the chamber into the casing, and means for heating the plates in the rack by vapor from the chamber.

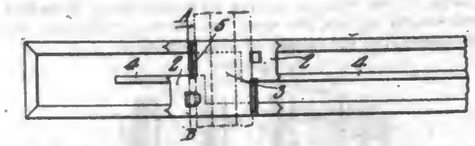
4. A food warmer comprising a casing, a steam generating chamber in the bottom of the casing, a heater for the chamber, means for conducting steam from the chamber to the casing, a plate holding rack supported on the outside of the casing and open at its bottom, and a steam outlet connected with the chamber and discharging steam into the rack for heating the plates therein.

5. A food warmer comprising a casing, a shallow steam-generating chamber extending horizontally of the casing at the bottom thereof, compartments arranged in superimposed relation over the chamber and communicating with each other, means for discharging steam from the chamber to the compartments, a heater disposed under the chamber, a plate holder disposed outside the casing, and means under the plate holder and connected with the chamber for directing steam against the plates in the holder.

980,058. METALLIC RAILWAY-TIE AND FASTENER. CHARLES J. BURCH, Lena, Ind., assignor of one-half to George Hitesman, Mattoon, Ill. Filed Feb. 14, 1910. Serial No. 543,696.

1. A tie having a sinuous fastener receiving opening provided with a straight unobstructed longitudinal center.

2. A metallic railway tie having a sinuous fastener receiving opening extending therethrough, the straight longitudinal center of the opening being unobstructed by the walls of said opening.



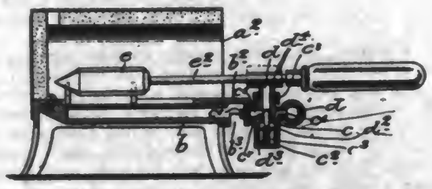
3. The combination with a tie having an opening therein, of a bendable rail fastener insertible into the opening, the walls of said opening coöperating to bend the fastener during the insertion thereof said inserted fastener having a straight central longitudinal portion.

4. The combination with a metallic tie having an opening extending therethrough, of a bendable rail fastener adapted to be driven into said opening, opposed walls of the opening coöperating to distort the fastener when driven into the opening, there being a straight central longitudinal portion within the distorted fastener.

5. A metallic railway tie having spaced rail engaging portions upstanding therefrom and sinuous fastener receiving openings extending through the tie and spaced from said portions.

[Claims 6 and 7 not printed in the Gazette.]

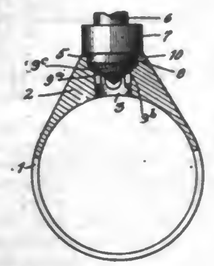
980,059. SOLDERING-IRON HEATER. PINCUS BURGER and BENJAMIN SAKREN, New York, N. Y. Filed Aug. 15, 1910. Serial No. 577,333.



1. A soldering iron heater provided with a plurality of gas burner tubes and adapted to hold a plurality of irons at the same time, said burner tubes being open at one end and provided with gas supply couplings, and a gas supply tube communicating with the said couplings, said couplings being provided at the top thereof with stuffing boxes and at the bottom thereof with detachable caps forming chambers in the bottom of said couplings, said couplings being also provided with ports which communicate with said chambers and with said gas supply tube and with discharge ports which communicate with said burner tubes and with vertical passages which extend from said chambers upwardly therethrough, and which communicate with said discharge ports, and vertically movable valve stems mounted in said couplings and extending from said chambers upwardly therethrough and through said stuffing boxes and provided at their upper ends with supports, said valve stems being provided within said chambers with valves adapted to close the communications with said discharge ports and with springs which normally force said valve stems upwardly.

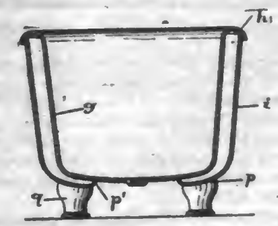
2. A soldering iron heater provided with a gas burner tube, said burner tube being open at one end and provided with a gas supply coupling, and a gas supply pipe connected with said coupling, said coupling being provided at the top thereof with a stuffing box and at the bottom thereof with a chamber closed by a detachable cap and said coupling being also provided with a port forming a communication between said chamber and the supply pipe and with a discharge port forming a communication between said chamber and the burner tube, and said coupling being also provided with a vertically arranged passage which extends upwardly therethrough from said chamber and which forms a part of the discharge port, and a vertically movable valve stem mounted in said coupling and extending from said chamber upwardly therethrough and provided at its upper end with a support and within said chamber with a valve and below said valve with a spring which normally serves to force said valve stem and valve upwardly.

980,060. DIAMOND AND STONE SETTING TOOL. JOSEPH J. BUSER, Freedom, Pa. Filed Apr. 27, 1909. Serial No. 492,438.



A cutting tool for forming seats in the prongs of rings for the setting of precious stones comprising a solid cylindrical shank having its periphery smooth throughout, a collar formed integral therewith at one terminus thereof and of the same diameter throughout and of greater diameter than the shank and having each end flat and uninterrupted, and a head consisting of a solid cylindrical body portion having an integral cone-shaped cutting end, said body portion formed integral with the outer end of and of less diameter than said collar whereby the collar will project beyond the plane of said body portion so as to constitute a stop to limit the cutting movement of the tool, said body portion being of greater diameter and of less length than the shank and having a smooth periphery to constitute a polishing medium for the cut away portions of the prongs during the cutting operation and further constituting a gage for the depth of the seat, and said cone-shaped end provided throughout with closely arranged teeth formed with cutting edges, said cutting edges extending from the apex of said cone-shaped end to that terminus of the body portion in which said end terminates, said integral cutting end of greater length than said body portion.

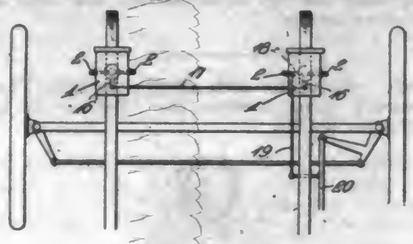
980,061. PORCELAIN-ENAMELED WARE. HIRAM T. BUSH, Port Hope, Ontario, Canada. Filed Aug. 6, 1908. Serial No. 447,319.



1. The hereinbefore described article of manufacture comprising a bottomless and topless outer shell having inturned portions at its lower edge with upward projections, and an inner shell within the outer shell removably supported on the upward projections.

2. The hereinbefore described article of manufacture comprising a bottomless and topless outer shell having inturned portions at its lower edge with upward projections, a removable inner shell removably supported on the upturned projections and a supporting ledge at the top of the inner shell engaging with the top surface of the outer shell.

980,062. AUTOMATIC LAMP-OPERATING MECHANISM FOR AUTOMOBILES. JAMES H. BUTTERFIELD, Logan, Ohio. Filed June 20, 1910. Serial No. 567,892.



1. In a lamp operating mechanism for vehicles, the combination of pairs of lamp supporting forks, a stationary bearing member, a supporting bracket arranged under said member, a rotatable bearing member resting on and rising from said stationary member, the lamp supporting forks being engaged over and resting upon said rotatable member, a bolt extending through said bracket, bearing members and forks, a clamping nut on said bolt engaging said forks to secure the same against movement relative to the bolt, means connecting the movable bearing members of the lamp-supporting forks, and means to connect the bearing member of one of said forks to the steering mechanism of the vehicle.

2. In a lamp operating mechanism for vehicles, pairs of lamp supporting forks each comprising laterally adjustable slotted arms, a stationary bearing member, a supporting bracket therefor, said member having an annular flange, a rotatable bearing member having an annular flange disposed upon the flange of said stationary member, said rotatable member having an oil-receiving groove in its under surface, a bolt extending through said bracket, bearing members and the slots of said fork arms, a clamping nut on one end of said bolt engaging said arms to secure the same against relative movement, means connecting the movable bearing members of the lamp supporting forks, and means to connect the movable bearing member of one of said forks to the steering mechanism of the vehicle.

980,063. METHOD OF MANUFACTURING WIRE-GLASS. WILLIAM BUTTLER, Indianapolis, Ind. Filed Feb. 16, 1909. Serial No. 478,273.



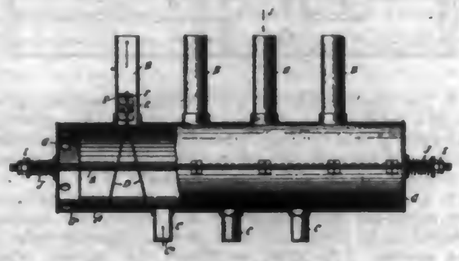
1. The hereindescribed method of manufacturing sheet-glass having a metallic reinforcement embedded therein, which consists in breaking down a batch of molten glass and embedding the metallic reinforcement by means of a roller having a series of peripheral ribs or flanges, and then bringing the sheet down to its ultimate thickness by working the glass back and forth by several applications of a finishing roller.

2. The hereindescribed method of manufacturing sheet glass having metallic reinforcement embedded therein which consists in breaking down a batch of molten glass and embedding the metallic reinforcement by means of a roller and then passing a second roller back and forth over the soft glass in order to remove the seams.

980,064. MUFFLER. JOHN ARCHIBALD CARRICK, Georgetown, Ky. Filed May 24, 1910. Serial No. 563,057.

1. A muffler, comprising a shell, a tubular inlet opening into the shell, an outlet leading from the shell, a breaker within the tubular inlet, and a transverse perforate baffle in the shell opposite said inlet.

2. A muffler, comprising a shell, an inlet entering the shell at one side, an outlet leading from the shell at the opposite side and out of register with the said inlet, and a baffle in the form of oblique perforate plates extending transversely within the shell and having their apex approximately at the middle of the said inlet.



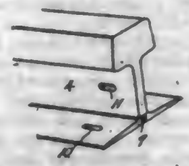
3. A muffler, comprising a shell, an inlet entering the shell at one side, an outlet leading from the shell at the opposite side and out of register with the said inlet, a baffle in the form of oblique perforate plates extending transversely within the shell and having their apex approximately at the middle of the said inlet, and a breaker extending from the said baffle into the inlet.

4. A muffler, comprising a shell, an inlet entering the shell at one side, an outlet leading from the shell at the opposite side and out of register with the said inlet, a baffle in the form of oblique perforate plates extending transversely within the shell and having their apex approximately at the middle of the said inlet, and a breaker extending from the said baffle into the inlet, each breaker having a plate, and deflecting flanges extending obliquely on the plate.

5. A muffler, comprising a shell, an inlet entering the shell at one side, an outlet leading from the shell at the opposite side and out of register with the said inlet, a baffle in the form of oblique perforate plates extending transversely within the shell and having their apex approximately at the middle of the said inlet, and a breaker extending from the said baffle into the inlet, each breaker having a plate, and deflectors arranged zigzag on each face of the plate.

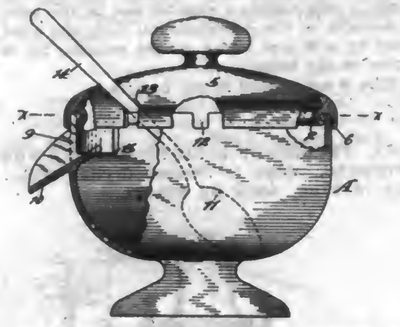
[Claim 6 not printed in the Gazette.]

980,065. RAIL-JOINT. THOMAS A. CHAPMAN, Crigersville, Va., assignor of one-third to James A. Strother, Welch, W. Va. Filed Dec. 18, 1909. Serial No. 533,789.



The combination with the meeting ends of a pair of rails, one of said rails being provided with an integrally formed longitudinally extending foot, said foot having its upper face depressed and being provided with a central longitudinally extending tongue, said depressed portion of the foot being provided between the outer flanges and the tongue with openings, the co-acting rail having its base provided with a longitudinally extending recess arranged directly beneath its web, the base flanges of the said co-acting rail being further provided with longitudinally extending recesses adapted to aline with the openings within the foot, fish plates for the sides of the rail and the foot, said fish plates comprising an underlying portion, a vertical extension, an overlying flange and a web engaging portion, the overlying flanges of the fish plates being provided with openings, bolts for the openings within the foot, the co-acting rail and the overlying flange of the fish plates, nuts for these bolts, and means for connecting the web engaging flanges of the fish plates with the webs of the co-acting rail.

980,066. DISH. JOSEPH B. COLLINS, San Jose, Cal., assignor of one-half to Hugh Collins, San Jose, Cal. Filed June 20, 1910. Serial No. 567,836.

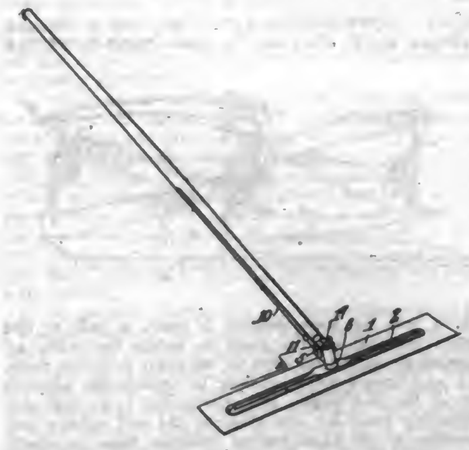


1. A dispensing dish or bowl having an opening and an inclined chute at one side, a rotatable cover with means interlocking it with the upper edge of the dish, said cover having a notch or depression for the reception of a spoon or like handle, and said cover being turnable in contact with the spoon to bring the bowl of the spoon into desired relative position with the discharge chute of the dish.

2. A dish or bowl having an inturned flange around its edge with opposed cut-away portions of different length, a rotatable cover having exterior and interior flanges forming grooves or channels adapted to fit the dish flange, said inturned cover flanges being respectively of a length to register with the opposed cut-away portions of the dish flange, and said dish and cover having notches or depressions for the passage of a spoon or like handle, said notches being made to register by the turning of the cover upon the dish.

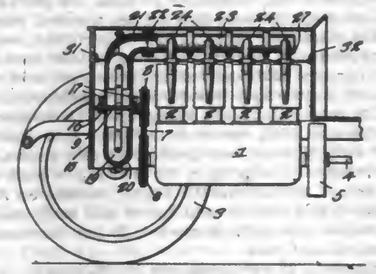
3. A dispensing dish having an opening in one side near the top, with an inclined chute extending from the interior across the bottom of said opening, a rotatable cover having a curtain adapted to close the discharge opening, said cover and dish having interlocking flanges and cut-away portions whereby the cover may be removed from the dish, and said cover and dish having notches or depressions adapted to be moved into or out of register and to receive the handle of the spoon whereby the contents of the dish may be lifted to the discharge chute without removing the cover.

980,067. ADJUSTABLE TOOL. PATRICK F. CONNELLY, El Reno, Okla. Filed July 17, 1909. Serial No. 508,166.



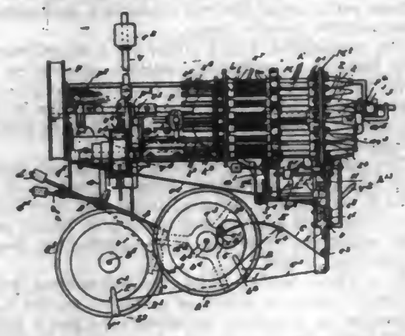
A device of the class described comprising a socket provided with an aperture arranged to receive the shank of a tool; the socket being radially cleft from the aperture to the outer face of the socket to form coöperating jaws, the ends of said jaws defining a portion of the face of the aperture in the socket, the said jaws being provided with transverse openings; a handle; plates disposed upon either side of the handle and terminating therebeyond in oppositely convexed heads having alined apertures; a transverse member terminally mounted in the apertures of the heads, and disposed in the openings in the jaws; and means carried by the transverse member for simultaneously clamping the peripheries of the heads to the jaws, and for operating the jaws.

980,068. MOTOR-COOLING SYSTEM. JOHN GORDON COOKE, Chloride, Ariz. Filed July 24, 1909. Serial No. 509,319.



In a motor vehicle, the combination of an engine, a hood mounted over the engine and having an opening at its front, a fan mounted wholly on the hood at a point between the opening thereof and the front of the engine, a conduit connected with the fan and extending rearwardly therefrom over the top of the engine and carried wholly by the top of the hood at the under side thereof, branches extending from opposite sides of the conduit and depending therefrom with their lower ends open and disposed to direct cooling air against the exterior of the engine cylinder, and operating means between the engine and fan for rotating the latter, said fan receiving air directly through the opening in the hood.

980,069. MACHINE FOR WINDING CONES AND TUBES. JOHN C. CORAM, Lowell, Mass. Filed Jan. 20, 1908. Serial No. 411,784.



1. The combination of a mandrel having a hollow conical free end, a center spindle having two parts, movable on each other, means for sliding one of said parts over a strip of paper placed on the other, means for revolving said mandrel about its axis and means for giving a longitudinal movement to said mandrel simultaneously with said revolving movement and pasting devices.

2. The combination of a stripper, two mandrels, means for rotating said mandrels simultaneously in opposite directions and means for simultaneously moving said man-

drels longitudinally in opposite directions, to wind a strip of sheet material into a cone on one of said mandrels and at the same time to discharge a cone previously wound on the other of said mandrels.

3. The combination of an endless series of mandrels arranged at equal intervals from each other, means for moving said series intermittently in one direction an amount equal to one of said intervals, means for rotating two adjacent mandrels simultaneously in opposite directions, means for moving said two mandrels last named longitudinally and simultaneously in opposite directions, to wind a strip of sheet material into a cone on one mandrel and to discharge a cone previously wound from another of said mandrels and to retain cones on the other mandrels until said cones are dry enough to keep their form.

4. The combination of a stripper-disk, a mandrel, movable with said disk, means for rotating the same to wind a strip of sheet material into a cone, a cutter carried by said disk below said strip, a stationary cutter, means for rotating said disk when the winding of said cone is completed, to carry said first named cutter past said stationary cutter in proximity thereto, to sever said strip.

5. The combination of a stripper-disk, a mandrel movable with said disk, means for rotating said mandrel to wind a strip of sheet material thereon into a cone, means for severing said strip when the winding of said cone is completed, a spring-actuated finger, means for rotating said disk to bring the severed end of said strip under said finger before said strip is severed, to lay the same upon the base of said cone.

[Claims 6 to 29 not printed in the Gazette.]

980,070. BIFOCAL TESTING-FRAME. HARRY I. COWAN, Boston, Mass., assignor to The Meriden Optical Manufacturing Company, Meriden, Conn., a Corporation of Connecticut. Filed Aug. 23, 1909. Serial No. 514,132.



1. The combination with a holder for a bifocal segment testing lens, of a positioning member carrying the lens holder and constructed and adapted for seating in a testing frame and locating the lens holder in a predetermined position relative to such frame.

2. The combination with a holder for a bifocal segment testing lens, of a positioning member constructed and adapted for seating in a testing frame and locating the instrument in a predetermined position relative to such frame, and an adjustable connection between the positioning member and the lens holder.

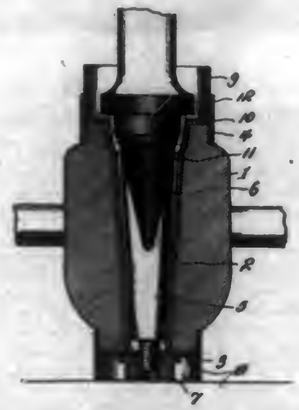
3. The combination with a holder for a bifocal segment testing lens, of a positioning member constructed and adapted to be seated in a testing frame and to be located in a predetermined position relative to such frame, and a member adjustably connected to the positioning member and to the lens holder.

4. In a bifocal testing frame, the combination with a body portion having a socket, of a bracket having a portion mounted in the socket for adjustment and a portion disposed transversely to the socket entering portion, and a lens holder having a socket mounted on the said transverse portion of the bracket for adjustment longitudinally thereon in a plane parallel with the plane of said body portion.

5. The combination with a body portion constructed and adapted for seating in a testing frame, an ear carried thereby and having a guideway of angular cross sectional configuration, an adjusting nut mounted on the said ear adjacent the guideway, a bracket having a segmental limb and a limb disposed transversely to the segmental limb and provided with an angular cross sectional configuration and guided by said guideway in the ear and having a screw-threaded portion adjacent said angular portion, said screw-threaded portion being engaged by the adjusting nut, a lens holder, a socketed ear on the lens holder and mounted on the said segmental limb, and a set screw carried by said lens holder ear for securing the same in position on the bracket.

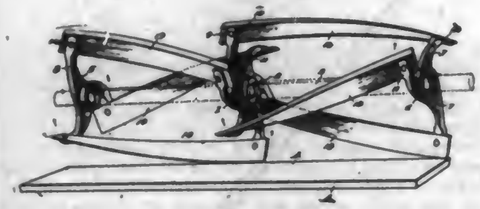
[Claim 6 not printed in the Gazette.]

980,071. PROCESS OF BABBITTING WORN VEHICLE-SPINDLES. JOHN L. CRAMER, Crystal, Mich. Filed May 18, 1910. Serial No. 562,022.



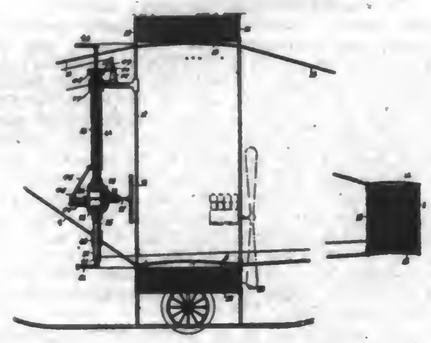
The herein-described method of repairing axles, which consists first in thoroughly cleaning the spindle and collar of the axle to render the same susceptible to a union with another metal, second of preparing the boxing of the vehicle so as to render the same non-susceptible to adhesion with a metal, then applying paper-washers to the opposite ends of the boxing, then applying a paper ring to the interior of the sand band of the hub, then inserting the spindle through the washers and boxing, then placing a nut on the extreme end of the threaded portion of the spindle and causing the same to bear against the paper washer, and then applying melted bearing metal through the paper collar to permit the same to surround and adhere to the spindle.

980,072. LAWN-MOWER REEL. WILLIAM H. CRAMER, Ottawa, Kans. Filed Mar. 16, 1909. Serial No. 488,715.



In a reel for lawn mowers, a shaft, a pair of end spiders mounted on the shaft to rotate therewith, an intermediate spider mounted on the shaft to rotate therewith and having arms equaling in number the arms of both of the end spiders and constructed to provide corresponding arms for the arms of the end spiders and extending in the same general direction from the shaft, and cutting blades, each secured at its inner end to an arm of the intermediate spider next adjacent and in rear of the arm of the intermediate spider which extends in the same general direction from the shaft in which the arm of the end spider to which the outer end of the blade is attached extends, and fastenings extending through the extremities of the arms of the spiders and through the blades.

980,073. CONTROLLING MEANS FOR AEROPLANES. PAUL DANIEL, Perth Amboy, N. J., assignor to Adam C. King, New York, N. Y. Filed Apr. 12, 1910. Serial No. 554,969.



1. An aeroplane having two vertical balancing planes for maintaining lateral stability, two vertically-disposed shaft sections in alinement with each other, operating means connecting one of said sections with one of said balancing planes, operating means connecting the other of said sections with the other of said balancing planes, and means for rotating said shaft sections simultaneously.

2. An aeroplane having two vertical balancing planes for maintaining lateral stability, two vertically-disposed shaft sections in alinement with each other, operating means connecting one of said sections with one of said balancing planes, operating means connecting the other of said sections with the other of said balancing planes, and means for rotating said shaft sections simultaneously in the same direction.

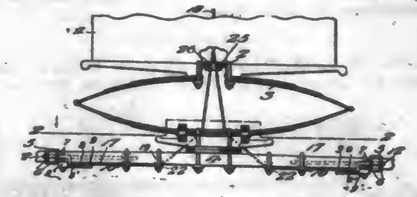
3. An aeroplane having two vertical balancing planes for maintaining lateral stability, two vertically-disposed shaft sections in alinement with each other, operating means connecting one of said sections with one of said balancing planes, operating means connecting the other of said sections with the other of said balancing planes, and means for rotating said shaft sections simultaneously in opposite directions.

4. An aeroplane having two vertical balancing planes for maintaining lateral stability, two vertically-disposed shaft sections in alinement with each other, operating means connecting one of said sections with one of said balancing planes, operating means connecting the other of said sections with the other of said balancing planes, bevel pinions upon the adjacent ends of said shaft sections, a third bevel pinion in mesh with both of said bevel pinions, and an operating member connected to said third pinion for rotating the latter to move the same laterally.

5. An aeroplane having two vertically balancing planes, a steering rudder, two separate shaft sections, each connected to its respective balancing plane, a sleeve encircling said shaft sections, connections between said sleeve and said rudder, and means for rotating said shaft sections simultaneously in opposite direction, independently of the rotation of the sleeve, or rotating them simultaneously in the same direction together with the sleeve.

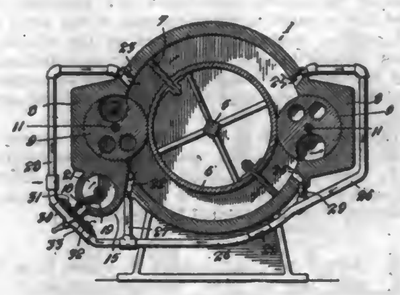
[Claims 6 to 9 not printed in the Gazette.]

980,074. HORSE-DETACHER. PRESTON C. DAY, Augusta, Okla. Filed Oct. 23, 1908. Serial No. 459,185.



In a horse releasing device, the combination with an axle, of end members secured thereto and provided with forwardly extending apertured ears, guide members supported by the axle and disposed on the underside thereof adjacent to the said end members, the said guide members having recesses formed therein, the said guide members each having its outer end formed to provide a stop and having its inner end formed to provide a stop, sliding bolts operating in the apertures of the ears, the said bolts having their inner ends extended downwardly and offset to provide portions which are slidably engaged in the recesses in the guide members, the said bolts having their extremities extended longitudinally of the axle, brackets slidably supporting the extremities of the bolts, stops located on the extremities of the bolts, extensible springs surrounding the extremities and confined between the said stops and the brackets, and flexible actuating elements operatively connected with the said bolts to move them against the tension of the said extensible springs.

980,075. ROTARY ENGINE. HORACE DOKE, Greeley, Colo. Filed May 7, 1910. Serial No. 559,979.



1. In an engine of the character described, the combination of a cylinder provided at opposite points with chambers, a drum arranged to rotate within the cylinder and provided at diametrically opposite points with pistons, rotary abutments arranged within said chambers and provided with cylindrical spaces for the said pistons to sweep through, means for simultaneously rotating the rotary abutments and drum so that said abutments make two revolutions for each revolution of the drum, a chest, connecting means between said chest and the cylinder and leading into the latter upon opposite sides of and adjacent the chambers thereof, a valve arranged to operate in the chest, a valve for directing the motive medium to two ports of the cylinder, and a cut-off for closing one of two outlets provided in the connecting means between the chest and cylinder.

2. In a rotary engine, the combination of a cylinder provided at opposite points with two ports, a drum arranged to operate in the cylinder and provided at opposite points with pistons, abutments located between the ports at opposite points of the cylinder, a chest, passages connecting the chest with the four ports of the cylinder, one of the pipes having outlets upon opposite sides of its connection with the chest, a valve located

in the pipe for directing the motive medium to two of the said ports, and a cut-off for closing one of the outlets, whereby the spent motive medium may be exhausted from the other two ports.

980,076. WAGON-BRAKE. EBEN G. DOLAND, Starksboro, Vt. Filed Jan. 10, 1910. Serial No. 537,154.



1. The combination of a vehicle having a tongue, a braking mechanism constructed and arranged to be applied and released under the action of the tongue, means to automatically lock the brakes when both applied and released, and means to throw the locking means out of action.

2. The combination of a vehicle having a draft member, a braking mechanism constructed and arranged to be applied and released under the action of the draft member, and means to automatically lock the draft member with the brake in either an applied or released position, adapted to be automatically overcome by a predetermined strain.

3. The combination of a vehicle having a tongue, a braking mechanism constructed and arranged to be applied and released under the action of the tongue, and means to automatically lock the brakes when both applied and released, having a pawl for throwing it into and out of operation.

4. The combination of a vehicle having a draft member, a braking mechanism constructed and arranged to be applied and released under the action of the draft member, a yielding locking lever carried by the vehicle, and a roller carried by the draft member and arranged to engage the locking lever and to be forced to either side thereof and lock the brakes both when applied and released.

5. The combination of a vehicle having a tongue-operated brake, and a locking mechanism to automatically lock the brake when both applied and released, having a displaceable member to throw it into and out of action.

[Claims 6 to 14 not printed in the Gazette.]

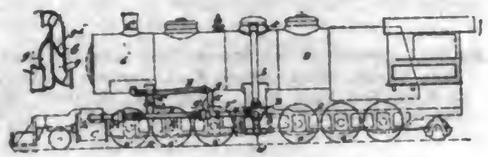
980,077. BELT-BUCKLE. JOHN F. DUNN, New York, N. Y. Filed July 14, 1910. Serial No. 571,886.



1. A belt buckle, comprising a face plate having an attaching loop for the buckle holding end of a belt; a cross bar provided with a plurality of upturned curved parallel flanges providing inclined grooves and rigidly secured to said face plate; a clamp plate having wedge shaped upturned bearing flanges formed on the edges thereof, said flanges being extended at the end to form tabs to prevent the said clamp becoming disengaged from said cross bar.

2. A belt buckle, comprising a face plate arranged to conceal the belt engaging members adapted to be connected therewith; an attaching loop for permanent connection with the end of a belt; a cross bar rigidly connected to said face plate and bent at the lateral extreme to form ridges having guiding grooves therein; and a clamp having a downturned engaging edge arranged to impinge upon the free end of the belt when disposed thereunder, said clamp being provided with lateral upturned sliding flanges.

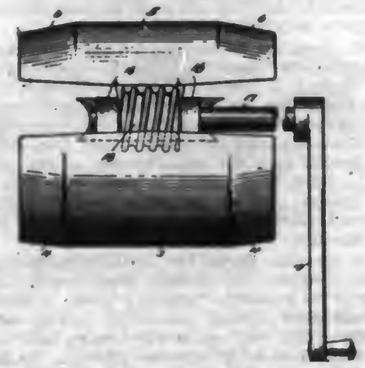
980,078. SUPERHEATER FOR LOCOMOTIVES. CHARLES A. DWINELL, Philadelphia, Pa., assignor, by mesne assignments, to Baldwin Locomotive Works, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Oct. 15, 1907. Serial No. 397,482.



1. The combination in an articulated locomotive of two frames pivotally connected, a boiler rigidly mounted on one frame and overhanging the other frame, high pressure cylinders on the frame to which the boiler is rigidly secured, low pressure cylinders on the other frame, a superheater in the smoke box of the boiler, a fitting having two passage-ways, a pipe connected to one end of the first passage-way and to the high pressure cylinders' exhaust ports, a pipe connected to the other end of the first passage-way and to one side of the superheater, a pipe connected to one end of the second passage-way and to the opposite side of the superheater, and a pipe made in sections connected to the other end of the second passage-way by a ball and socket joint and to the low pressure cylinders by a ball and socket joint, said sectional pipe having a telescopic joint interposed between the two ball and socket joints.

2. The combination in an articulated locomotive, of two frames pivotally connected, a boiler rigidly mounted on one frame and overhanging the other frame, high pressure cylinders on the frame on which the boiler is rigidly mounted, low pressure cylinders at the forward end of the other frame, a superheater in the smoke box of the boiler, a vertically arranged fitting having two passages therein and having two arms, one arm projecting on one side of the locomotive and the other on the opposite side, a pipe connecting one of said arms with one side of the superheater, a pipe connecting the other arm with the other side of the superheater, a cross pipe coupling the two exhaust ports of the high pressure cylinders with one of the said passages in the fitting, a yoked fitting connected to the inlet passages of the low pressure cylinders, and a pipe connecting said yoked fitting with one of the passages of the first mentioned fitting, said pipe having balls at each end adapted to sockets in the said fitting and having a telescopic section.

980,079. CASING-SWAGE. RYLAND W. EAMES, Vale, Oreg. Filed Dec. 18, 1909. Serial No. 533,897.



1. A swage including an anvil member, a base member having a greater circumferential extent than the anvil member, an operating rod having threaded engagement

with one of said members, a gear secured upon the rod and means for operating the gear.

2. An interior swaging implement comprising a base member, an anvil member, an operating rod having threaded connection with one of said members, a gear mounted upon the rod, a worm screw supported on the base member and coöperating with the gear, and a shaft coöperating with the worm screw.

980,080. SMOKING IMPLEMENT. JAMES M. EDER, New York, N. Y. Filed Mar. 10, 1910. Serial No. 548,899.

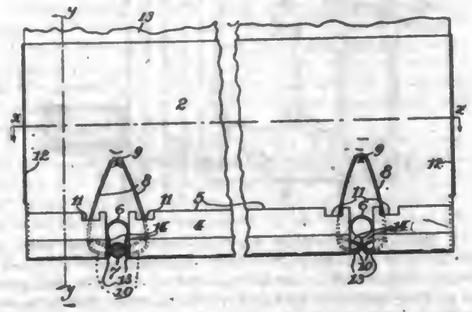


1. A device of the class described, comprising a tobacco-holding member, a mouth-piece, a tubular member associated with said mouth-piece, a threaded sleeve in said tobacco-holding member, and movably receiving said tubular member, said tubular member having at the end a stop to limit the movement thereof with respect to said sleeve, a collar encompassing said tobacco-holding member and said mouth-piece, and an absorbent cartridge in said mouth-piece and said tubular member.

2. In a device of the class described, a cartridge fashioned from absorbent material, and having a laterally extended part adapted to receive directly the end of a cigar.

3. In a device of the class described, an absorbent cartridge having a tubular body, and at one end an outwardly tapered extension adapted to be received within the tobacco-holding member, and formed to receive directly, the end of a cigar.

980,081. SHEET-INSERTER. EARLE W. EDGERTON, St. Paul, Minn. Filed Mar. 14, 1910. Serial No. 549,177.

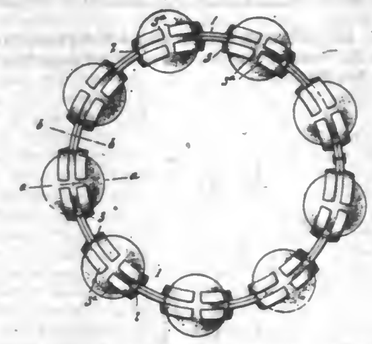


A loose leaf inserter, comprising upper and lower sheet holding plates having formed therein post engaging notches to correspond with the post engaging notches in the leaf, one of said plates being formed with a wedge tapering outwardly along its inner edge substantially throughout its entire length, means to hold the plates in operative engagement with the leaf and means whereby the retaining devices on the ledger leaf are restored to an operative position in passing the binding posts of the ledger.

980,082. BALL-BEARING CAGE. BERTHOLD EITNER, Berlin, Germany. Filed July 9, 1909. Serial No. 506,761.

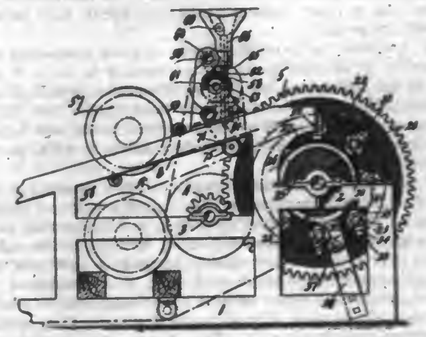
1. A spacing cage for ball bearings comprising a flat body portion or web provided in its edge with open notches, and having flanges projecting outwardly from the edges of said notches laterally beyond the faces of the web and constituting conjointly ball-holding sockets.

2. A spacing cage for ball bearings comprising a body portion in the form of a flat strip having open notches at intervals in its edge, fingers at the ends of the notches extending beyond the edge of the strip, and flanges projecting outwardly from the sides of the notches and laterally beyond the faces of the web, the said fingers being adapted to be bent downwardly on the balls to confine the same, and the flanges serving as seats for the balls.



3. A spacing cage for ball bearings consisting of a folded body portion presenting two strips or plates disposed face to face and provided at intervals in their edges with open notches, and having flanges extending outwardly from the notched edges of said strips respectively, and laterally beyond the faces of the plates and constituting conjointly ball holding sockets.

980,083. WIRE-FENCE MACHINE. BRADEN L. ELWELL, WILLIAM GRIMM, and WILLIAM F. DREXLER, Jr., Morton, Ill., assignors to Interlocking Fence Company, Morton, Ill., a Corporation of Illinois. Filed Mar. 21, 1904. Serial No. 199,129.



1. A machine of the character described, comprising movable support, wire twisting devices on said support and wire shifting devices on said support independent o said twisters adapted to shift one or more wires to sai twisters.

2. A machine of the character described, comprising revolving frame, wire twisting devices arranged in row on said frame, and wire shifting devices carried on sai frame and co-acting with each row of twisters to shift on or more wires thereto.

3. A machine of the character described, comprising shaft, wire twisting devices supported to rotate with sai shaft, wire shifting devices also supported by said shaf and adjacent to said twisters for feeding wire strand thereto.

4. A machine of the character described, comprising movable support, a row of wire twisting devices carrie by said support, and wire shifting devices independent o said twisters also carried by said support and arrange upon opposite sides of the twisters.

5. A machine of the character described, comprising movable support, a series of wire twisting devices on sai support, wire shifting devices independent of said twister carried by said support and upon the opposite sides of sai

twisters, and means for actuating one series of shifters in advance of the other.

[Claims 6 to 95 not printed in the Gazette.]

980,084. DEVICE FOR HANDLING SHEETS OF GLASS. CYRUS H. FARLEY, Portland, Me. Filed Jan. 28, 1910. Serial No. 540,562.



1. A device for handling sheets of glass consisting of a plurality of suction heads, means carried by each of said heads for regulating the degree of suction independently of the other heads to attach the head to the face of the glass and a rigid connecting bar to which said suction heads are secured.

2. A device for handling sheets of glass consisting of a plurality of suction heads, means carried by each of said heads for regulating the degree of suction independently of the other heads to attach the head to the face of the glass, a clamp on each of said suction heads and a rigid bar connecting said heads and detachably secured thereto by said clamps.

3. A device for handling sheets of glass consisting of a sheet of flexible packing, a disk beneath said packing, a pressure ring surrounding said disk, and above said packing and having a connecting dome forming a free space above said disk, a screw spindle secured to said disk and extending upward through said dome, a nut engaging the upper end of said screw spindle above said dome, a clamping member secured to said dome and extending upward therefrom and having an offset flange at the upper end thereof, a clamping screw extending through said offset flange and a connecting bar adapted to be clamped between the dome and said offset flange.

4. A device for handling sheets of glass consisting of a sheet of flexible packing, a disk beneath said packing, a pressure ring surrounding said disk, and above said packing having a connecting dome to form a free space above the disk, a screw spindle secured to said disk and extending upward through said dome, a nut engaging the upper end of said screw spindle above said dome.

5. A device for handling sheets of glass consisting of a sheet of flexible packing, a disk beneath said packing, a pressure ring surrounding said disk, and above said packing and having a connecting dome to form a free space above the disk, a screw spindle secured to the disk and extending upward through the dome, a nut on the upper end of the spindle, a connecting bar adapted to rest on the dome, a clamping member having a foot piece on its lower end and a laterally projecting offset on its upper end, a flange being formed on the top of said dome for engaging said foot piece, a binding screw extending through said offset and adapted to confine the connecting bar between the offset and the dome.

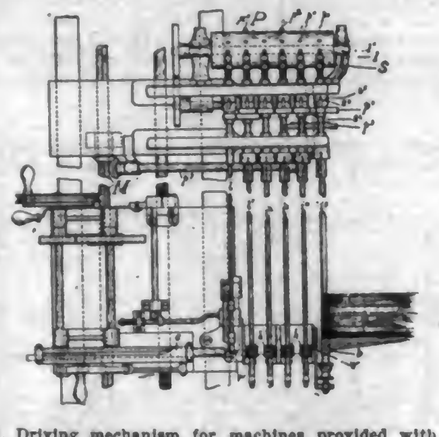
[Claims 6 to 10 not printed in the Gazette.]

980,085. HEEL OF BOOTS AND THE LIKE. HENRY FENTON, Glebe Point, near Sydney, New South Wales, Australia. Filed June 25, 1909. Serial No. 504,897.



A heel for boots and shoes comprising two parts one of which is secured to the boot or shoe and the other of which is separable therefrom, one of said parts being provided with a recess therein having undercut side walls, and end walls one of which is undercut and the other straight, a tenon formed integral with the other part and projecting therefrom having its sides and one of its ends undercut, with its other end straight, said tenon being of a shape and size to fit the recess, and the side walls of the recess being flared off adjacent the straight end wall to permit the entrance of the tenon into the recess.

980,086. PATTERN-DRUM-ACTUATED DRIVING MECHANISM. MILLARD F. FIELD, Winthrop, CHARLES D. LANNING and EDGAR F. HATHAWAY, Boston, Mass., and FREDERICK C. BLANCHARD, Fort Wayne, Ind., assignors to American Warp-Drawing Machine Company, Boston, Mass., a Corporation of Maine. Filed Feb. 6, 1903. Serial No. 142,250.



1. Driving mechanism for machines provided with a plurality of operating parts to be intermittently actuated, which consists of a pattern member, a series of plungers to be longitudinally actuated by the pattern, clutch members upon the ends of the plungers and intermittently rotated counter-clutch members upon the connections with the said operating parts.

2. Driving mechanism for machines having operating devices to be intermittently actuated, which consists of an intermittently rotated clutch member normally free to turn upon the shaft connection of each of such operating devices, a counter clutch member capable of longitudinal movement independent of the other member, a spring to disengage the clutch members, and a pattern member to cause them to engage, as predetermined.

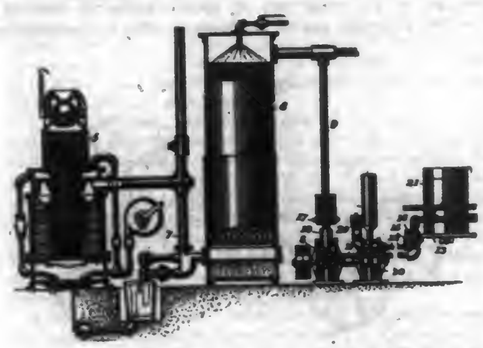
3. Driving mechanism for machines having operating devices to be intermittently actuated, which consists of a clutch member normally free to rotate upon the shaft connection of such operating devices, a slotted sleeve at the end of such shaft, a plunger within the sleeve, provided with a pin which engages the slot and serves as the other clutch member, a pattern chain or drum to force the clutch members together and means to separate them.

4. Driving mechanism for machines having operating devices to be intermittently actuated, which consists of a pattern member, a clutch member normally free to rotate upon the shaft connection of each of such operating devices, counter clutch members longitudinally actuated by the pattern independently of the other clutch members, and mechanism to give a portion of said operating devices a movement differential to that of the other operating devices.

5. The combination with the shafts which operate the reed dent opener, the heddle-eye separating devices and the warp thread selecting and separating screw, in a warp-drawing machine, of clutch mechanism which is normally out of engagement and an adjustable pattern member with means to intermittently put such of the clutches into engagement to turn said shafts as predetermined by the pattern.

[Claims 6 to 52 not printed in the Gazette.]

980,087. METHOD OF GENERATING HIGH TEMPERATURES. WILLIAM CHRISTIAN FINCK, Elizabeth, N. J., assignor to George H. Benjamin, New York, N. Y. Filed June 6, 1906. Serial No. 320,475.

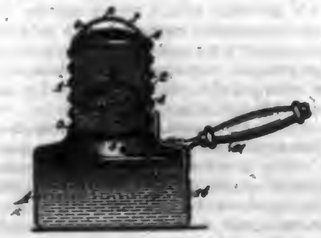


1. The method of generating very high temperatures, which consists in generating a gas containing a high percentage of hydrogen and transmitting it to a burner under a definite pressure, supplying air to said burner under a definite pressure, the pressures of gas and air being substantially in the ratio of one to one and one-quarter, and igniting the resultant mixture.

2. The method of generating very high temperatures, which consists in generating a semi-water gas and transmitting it to a burner under a definite pressure, supplying air to said burner under a definite pressure, the pressures of gas and air being substantially in the ratio of one to one and one-quarter, and igniting the resultant mixture.

3. An improvement in the art of generating high temperatures, which consists in mixing a definite volume of gas containing free hydrogen and carbon monoxid with a definite volume of air, supplying said gas and air at definite pressures substantially in the ratio of one to one and one-quarter, and igniting the mixture.

980,088. COFFEE-MAKER. LOUIS S. FLATAU, St. Louis, Mo. Filed June 3, 1909. Serial No. 499,851.



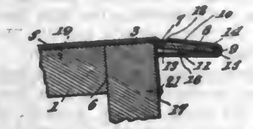
1. A coffee maker comprising a vessel having an extended spirally corrugated neck, a perforated tray and a perforated top adapted to be removably screwed into and held in the neck, and a tube which extends from the interior of the vessel out alongside the neck in position to enter the coffee pot when the vessel is inverted and the neck thereof is inserted into the top of the coffee pot.

2. A coffee maker comprising a vessel having an extended spirally corrugated neck, and a tray and top similarly corrugated to screw into the top and bottom of the neck and held therein, said parts each having perforated heads and provided with handles to facilitate turning them in and out of the neck.

3. A coffee maker comprising a vessel having an extended screw-threaded neck, a screw-threaded tray provided with perforations adapted to be screwed into and held in the neck, said tray adapted to receive the coffee, a strainer disk mounted over the coffee, and a screw-threaded cover having perforations therein adapted to screw into and held in the neck whereby the coffee is confined between the tray, strainer and cover, said vessel adapted to be inverted to permit the water from the vessel to pass through the coffee for making drip coffee.

4. A coffee maker comprising a vessel having an extended screw-threaded neck, a screw-threaded perforated tray for supporting the coffee within the neck adapted to be screwed therein the required distance and held, and a screw-threaded perforated cover adapted to be screwed into and held in the neck.

980,089. FASTENER FOR ROOFING MATERIAL. RAYMOND S. FORD, Cuba, N. Y., assignor, by mesne assignments, to Lillie F. Bates, Cuba, N. Y. Filed Nov. 18, 1909. Serial No. 528,794.



1. A fastener for roofing material comprising a body portion with depending flange and an intermediate roofing material clamping member terminating outside the body portion to clamp said material against a vertical part of said body portion.

2. A fastener for roofing material embodying a body portion to engage the roof, a downwardly extending securing flange, and an inclined portion extending outwardly from the body portion below its upper edge and provided with a clamping member.

3. A fastener for roofing material embodying a body portion, upper and lower vertical flanges to engage the cornice, and a member extending at an angle to and between said flanges and terminating in an intermediate resilient clamping member.

4. A fastener for roofing material embodying a body portion, upper and lower vertical flanges to engage the cornice, and an intermediate resilient clamping member having its free edge inclined downwardly and inwardly toward the body portion.

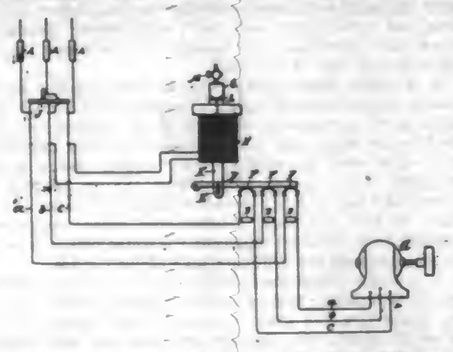
5. A fastener for roofing material embodying a body portion, upper and lower vertical flanges to engage the cornice, and an intermediate resilient clamping member, said body portion at one end being extended.

[Claims 6 to 12 not printed in the Gazette.]

980,090. SAFETY APPLIANCE FOR MOTORS. PARIS R. FORMAN, Chicago, Ill., assignor to The Burdett-Rowntree Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 23, 1909. Serial No. 529,602.

1. In a safety appliance for motors the combination with a motor, of a fuse of large capacity in the circuit thereof, an auxiliary fuse of smaller capacity and means operated by the current supply in the circuit of the fuse of large capacity for introducing said auxiliary fuse into the motor circuit.

2. The combination with a motor, of a fuse of large capacity in the motor circuit, an auxiliary fuse of small capacity, also arranged in the motor circuit, a short circuit for said auxiliary fuse, and means operated by the current supply in the circuit of the fuse of large capacity for breaking said short circuit.



3. The combination with a motor, of a fuse of large capacity in the motor circuit, an auxiliary fuse of small capacity also arranged in the motor circuit, a short circuit for the auxiliary fuse, and means operated by current in the motor circuit for including the auxiliary fuse in the motor circuit.

4. The combination with a motor, of a fuse of large capacity in the motor circuit, an auxiliary fuse of small capacity, means operated by the closing of the motor-circuit for including the auxiliary fuse in the motor circuit, and means for controlling the time interval between the closing of the motor circuit and the introduction of the auxiliary fuse into the motor circuit.

5. The combination with a motor of a fuse of large capacity in the motor circuit, an auxiliary fuse of small capacity also in the motor circuit, a short circuit for the auxiliary fuse, means operated by current in the motor circuit for breaking said short circuit, and means for controlling the time at which said short circuit breaking means operates.

[Claims 6 to 11 not printed in the Gazette.]

980,091. ROTARY BRUSH. CHARLES L. FRIEDEY, Cleveland, Ohio. Filed May 13, 1910. Serial No. 561,076.



1. A brush comprising a hub composed of separable members, an abutment on each member, a removable bristle element centrally between the sections, a member on the ends of the element engaging the said abutments to prevent slipping of the bristle element on the hub.

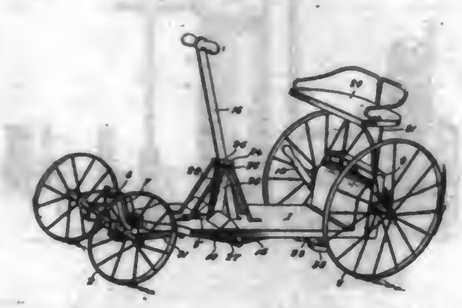
2. A brush comprising a two part hub each part having a flange and provided with an abutment on the flange, and a removable bristle element clamped between the flanges and including a bristle carrying base having its extremities formed into outwardly extending members arranged to engage said abutments to prevent turning of the element on the hub.

3. A brush comprising a hub composed of flanged members, a bolt passing through one of the members and threaded on the other member, arcuate webs on the inner faces of the flanges to form abutments, and a brush element removably clamped between the flanges and prevented from rotating on the hub by the said webs.

4. A brush comprising a hub composed of separable sections clamped together, an arcuate web on each section, a bristle element including a spirally wound base and bristles thereon, the extremities of the base being free from bristles and bent outwardly in a radial direction to engage the ends of said webs.

980,092. VELOCIPEDE. FRANK A. GAGNON, Watertown, N. Y. Filed May 21, 1910. Serial No. 562,682.

1. In a vehicle and in combination with the propelling



mechanism and brake devices, an operating lever for actuating the propelling means and for setting the brake, connecting means between the operating lever and the propelling means, and means connected with the brake and adapted to be actuated by the said operating lever when it is required to set the brake.

2. In a vehicle provided with propelling means, brake devices and steering mechanism, an operating lever common to each of the mechanisms, connecting means between the operating lever and the propelling means, other connecting means between said operating lever and the steering mechanism, and means connected with the brake and adapted to be actuated by the said operating lever when it is required to set the brake.

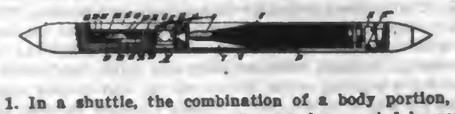
3. In a vehicle comprising a brake mechanism and a steering mechanism, means for propelling the vehicle, an operating lever for controlling both the brake and the steering mechanisms, connecting means between said operating lever and the steering mechanism, and other means connected with the brake mechanism and adapted to be actuated by the operating lever when it is required to set the brake.

4. In a vehicle the combination of a drive wheel, a clutch member connected with the drive wheel, a drum loosely mounted and provided with a clutch member to coöperate with the clutch member connected with said drive wheel, a spring connected with said drum, means for imparting a positive intermittent movement to the drum for operating said drive wheel, and a shipper for moving the drum to throw the clutch out of action.

5. In a vehicle the combination of a drive wheel, a clutch member connected with said drive wheel, a loosely mounted drum having a clutch member to coöperate with the first mentioned clutch member, a helical spring serving to press the drum toward the first mentioned clutch member and to turn said drum backward when released after being turned forward, and means for imparting an intermittent rotary movement to said drum to operate the drive wheel.

[Claims 6 to 10 not printed in the Gazette.]

980,093. SHUTTLE. THEODORE J. GARISIO, Allentown, Pa. Filed Oct. 28, 1909. Serial No. 525,051.



1. In a shuttle, the combination of a body portion, a bobbin carried thereby, a cutting member carried by said body portion and movable relatively to the latter, means for directing a filling thread partially within the path of travel of said cutting member, and means controllable by tension of said thread for actuating said cutting member.

2. The combination of a shuttle, a bobbin carried thereby for the purpose of paying out thread, a casing carried by said shuttle, a plunger slidably mounted within said casing, a cutting blade secured to said plunger and movable therewith, a spring engaging said casing and said plunger for the purpose of normally maintaining said plunger in a predetermined position relatively to said casing, and means for guiding said thread through said casing at a point adjacent to said cutting blade and within the path of the latter for enabling the tension of said thread to actuate said plunger.

3. In a shuttle, the combination of the shuttle-body, and means, arranged in the shuttle body, for severing the thread upon abnormal resistance being opposed within the shuttle-body to the discharge of the thread therefrom, comprising a thread-guide, another and elastically controlled and movable thread-guide normally held out of alinement with the first thread-guide, and a movable cutter controlled by the movable thread-guide and adapted to sever the thread upon movement of said movable thread-guide, substantially as described.

4. In a shuttle, the combination of the shuttle-body, and means, arranged in the shuttle body, for severing the thread upon abnormal resistance being opposed within the shuttle-body to the discharge of the thread therefrom, comprising two spaced thread-guides, another and elastically controlled thread-guide movable in a plane extending between the first two thread-guides and normally held out of alinement with them, and a movable cutter controlled by the movable thread-guide and adapted to sever the thread upon movement of said movable thread-guide, substantially as described.

980,094. HOOF-PROTECTOR. ALBERT JOHN GASTLIN, New York, N. Y. Filed June 2, 1910. Serial No. 564,559.



1. A device of the class described, comprising relatively movable guard members adapted to be positioned under the hoof, within the shoe, means for spreading the members outwardly against the sides of the shoe, and a common guard member movably associated with said first members, adapted to cover a gap between the same when they are in position, and a common pivotal connection for all of said guard members.

2. A device of the class described, comprising relatively movable guard members adapted to be positioned under the hoof, and within the shoe, a spring secured to said members and tending to spread the same outwardly against the sides of the shoe, a common guard member movably associated with said first members and adapted to cover a gap between the same when they are in position, and a common pivotal connection for all of said guard members.

3. A device of the class described, comprising relatively movable guard members adapted to be positioned under the hoof, within the shoe, means for spreading the members outwardly against the sides of the shoe, and a common guard member movably associated with said first members, and adapted to cover a gap between the same when they are in position, said common member having means for limiting the spreading of said first members.

4. A device of the class described, comprising relatively movable guard members adapted to be positioned under the hoof, and within the shoe, a spring secured to said members and tending to spread the same outwardly against the sides of the shoe, and a common guard member movably associated with said first members and adapted to cover a gap between the same when they are in position, said common member having stops adapted to be engaged by said first members, and serving to limit the spreading thereof.

5. A device of the class described, comprising pivotally connected guard members having at the opposite edges offset flanges, said members being adapted to be positioned under a hoof, within a shoe, and to have said flanges engage the shoe, a spring having arms arranged adjacent to said flanges and secured to said members, said spring serving to spread said members, and a common guard member pivotally associated with both of said first members, and adapted to cover a gap between the same when they are in position, said common member having at the sides stops, said first members having projections adapted to engage said stops, whereby the spreading of said first members is limited.

[Claim 6 not printed in the Gazette.]

980,095. WATER-HEATER. BERNARD A. GEURINK, East Cleveland, Ohio, assignor to The Trenkamp Stove and Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Sept. 23, 1909. Serial No. 519,295.



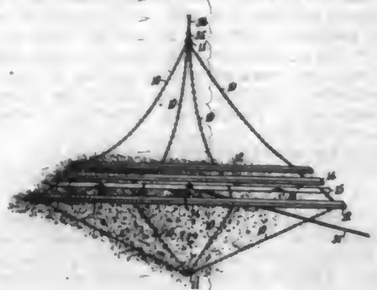
1. In a water heater of the class described, a water container made up of a plurality of centrally connected sections, each section comprising a central chamber and a plurality of chambers radiating therefrom, the bottom walls of such radiating chambers inclining downward toward the center of the section, with the exception of the lowermost section of the series, such lowermost section having a radiating chamber inclining in the opposite direction.

2. In a water heater of the class described, a water container made up of a plurality of centrally-connected sections, each section comprising a central chamber and

plurality of chambers radiating therefrom, the walls between such radiating chambers alternately approaching within a greater and less distance of the center of the section, and the bottom walls of such radiating chambers inclining downwardly toward the center of the section, with the exception of the lowermost section of the series, such lowermost section having a radiating chamber inclining in the opposite direction.

3. In a water heater of the class described, a water container made up of a plurality of centrally-connected sections, each section comprising a central chamber and a plurality of chambers radiating therefrom, the walls between such radiating chambers alternately approaching within a greater and less distance of the center of the section, the bottom walls of such radiating chambers inclining downwardly toward the center of the section with the exception of the lowermost section, such lowermost section having a radiating chamber inclining in the opposite direction and provided with an opening in its side and bottom respectively, and supply and drain connections for such side and bottom openings, respectively.

980,096. STRAW-HOISTING NET. GEORGE GLASER, Halleck, Nev. Filed Aug. 10, 1910. Serial No. 576,484.



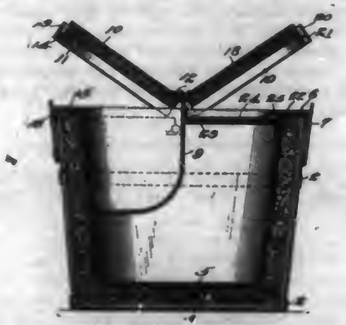
1. A straw hoisting net, comprising a plurality of flexible half sections, said sections being constructed of a series of flexible members permanently united by horizontally disposed spreading bars; a rocking bar rotatively suspended upon one of said half sections; a hanging bearing plate for said rocking bar; a collar fixedly mounted on said rocking bar having a recess formed in the side thereof; a latch head pivotally mounted on said bearing plate and adapted to engage said collar and the recess therein; means embodying a flexible pull member for releasing said latch from said collar; a plurality of pins extended from said rocking bar; and a plurality of flexible loop members permanently mounted upon the lower cross bar of the opposite half-section, adapted to engage the said pins on said rocking bar.

2. A straw hoisting net, comprising a plurality of flexible half sections, said sections being constructed of a series of flexible members permanently united by horizontally disposed spreading bars; a rocking bar rotatively suspended upon one of said half sections; a hanging bearing plate for said rocking bar; a collar fixedly mounted on said rocking bar having a recess formed in the side thereof; a latch head pivotally mounted on said bearing plate and adapted to engage said collar and the recess therein; a guiding bracket mounted on said bearing plate and extended in parallel relation with said latch, said bracket having a guiding eyelet formed in the end thereof opposite the end of said latch; means embodying a flexible pull member for releasing said latch from said collar; a plurality of pins extended from said rocking bar; and a plurality of flexible loop members permanently mounted upon the lower cross bar of the opposite half section, adapted to engage the said pins on said rocking bar.

3. A straw hoisting net, comprising a plurality of flexible half sections, said sections being constructed of a series of flexible members permanently united by horizontally disposed spreading bars; a rocking bar pivotally suspended upon one of said half sections; a hanging bearing plate for said rocking bar; a collar fixedly mounted on said rocking bar having a recess formed in the side thereof; a latch head pivotally mounted on said bearing plate and adapted to engage said collar and the recess therein; a guiding bracket mounted on said bearing plate and extended in parallel relation with said latch, said bracket having a guiding eyelet formed in the end thereof opposite the end of said latch; a spring mounted between and engaging said bracket and said latch in locked position; means embodying a flexible pull member for releasing said latch from said collar; a plurality of pins extended from said rocking bar; and a plurality of flexible loop members permanently mounted upon the lower cross bar of the opposite half section, adapted to engage the said pins on said rocking bar.

4. A straw hoisting net, comprising a plurality of flexible half sections, said sections being constructed of a series of flexible members permanently united by horizontally disposed spreading bars; a rocking bar pivotally suspended upon one of said half sections; a hanging bearing plate for said rocking bar; a flexible member supporting said bearing plate to maintain the same in vertical extension when the said bar is rotated; a collar fixedly mounted on said rocking bar having a recess formed in the side thereof; a latch head pivotally mounted on said bearing plate and adapted to engage said collar and the recess therein; a guiding bracket mounted on said bearing plate and extended in parallel relation with said latch, said bracket having a guiding eyelet formed in the end thereof opposite the end of said latch; means embodying a flexible pull member for releasing said latch from said collar; a plurality of pins extended from said rocking bar; and a plurality of flexible loop members permanently mounted upon the lower cross bar of the opposite half section, adapted to engage the said pins on said rocking bar.

890,097. DISPLAY-CARRIER. EDWARD GRANT, Mobile, Ala. Filed June 23, 1910. Serial No. 568,596.



1. In a display carrier, a top therefor including a projecting portion adapted to fit over the carrier proper, and provided on one side with a receptacle for containing a cooling material and adapted to enter said carrier and on the other side with a transparent window, a projecting central portion, and a pair of double walled doors hinged to the top of said cover, substantially as described.

2. A cover for display carriers, composed of a horizontal circular portion adapted to fit on the carrier proper and having downwardly depending edges adapted to fit around said carrier, a receptacle for ice depending from said cover on one side, a transparent window let into said cover on the other side, said cover being provided with a centrally located upwardly projecting portion and semi-circular subsidiary covers hinged to said portion, said subsidiary covers being double walled and provided on their outer edges with projecting parts adapted to engage the carrier proper, substantially as described.

3. In a display carrier, the combination of a wooden pail, a galvanized lining therefor with its upper edge bent over the top of said pail, packing between the walls of said pail, the upper end of said pail being open and said pail being provided on the outside with fastening devices, and a removable cover adapted to fit into, over, and around the top of said pail, said cover being provided with an ice compartment on one side fitting into said pail, a transparent window on the other side and fitting into said pail, with a centrally located upwardly projecting portion, semi-circular subsidiary covers pivoted to said portion, said subsidiary covers being double walled and provided on their outer edges with downwardly extending flanges adapted to extend around the top of the pail, and fastening devices carried by said top portion and coöperating with the fastening devices on said pail, substantially as described.

4. In a display carrier, the combination of a portable refrigerating carrier and a display member made in compartments, and each compartment independent when in use said carrier including a wooden pail, a galvanized lining therefor with its upper edge bent over the top of said pail, packing between the walls of said pail, the upper end of said pail being left open, and said display member being composed of a removable cover adapted to fit into, over and around the top of said pail, said cover being provided with an ice compartment on one side, adapted to fit down into said pail, a transparent window on the other side, also fitting down into said pail, a centrally located upwardly projecting portion, semi-circular subsidiary covers pivoted to said portion, said subsidiary covers being double walled and provided on their outer edges with downwardly extending flanges adapted to extend around the top of the pail, and fastening devices carried by said pail and said cover, respectively, substantially as described.

980,098. PARASOL-BAG. HANSINE K. HANSEN, New York, N. Y. Filed Nov. 4, 1909. Serial No. 526,218.

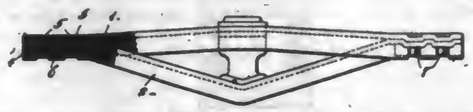


1. A bag for containing parasols, umbrellas or canes, comprising a main bag formed of fabric pieces increasing in width from bottom to top, the side edges of the said fabric pieces being united, pocket pieces on the outside of the main bag and secured at their side edges to the side edges of the said fabric pieces, each pocket piece forming with a corresponding bag piece a pocket, the lower ends of the pocket pieces projecting beyond the lower ends of the said bag pieces, and a bottom to which the lower ends of the said pocket pieces are secured.

2. A bag for containing parasols, umbrellas or canes, comprising a main bag formed of fabric pieces increasing in width from the bottom to the top, the side edges of the said fabric pieces being united, pocket pieces on the outside of the said main bag and secured at their side edges to the side edges of the said fabric pieces, each pocket piece forming with a corresponding bag piece a pocket, the lower ends of the pocket pieces projecting beyond the lower ends of the said bag pieces, a bottom to which the lower ends of the said pocket pieces are secured, and a binding for each of the united edges of the said bag pieces and pocket pieces.

3. A bag of the character specified, comprising a main portion having a mouth and means for closing the same, and a series of pockets outside of the main portion and arranged lengthwise thereof, each pocket being closed at its lower end and having an open top below the mouth of the main portion whereby to permit the handle of the articles contained in the pockets to be seen, said main portion having a block of rigid material forming the bottom thereof to retain the bottom part of the bag in open position and to properly space the pockets from each other.

980,099. TRUSSED STRUCTURE. PHILIP B. HARRISON, Chicago, Ill., assignor to Chicago Railway Equipment Company, Chicago, Ill., a Corporation of Illinois. Original application filed July 12, 1909, Serial No. 507,180. Divided and this application filed Apr. 30, 1910. Serial No. 558,646.



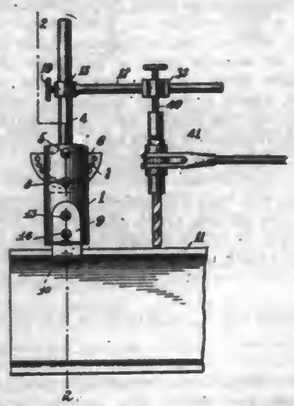
1. In a trussed structure, nested flanged compression and tension members whose webs are interlocked, and a filler block interlocking with the flanges thereof.

2. In a trussed structure, nested flanged compression and tension members, whose webs are formed with interlocking indentations and whose flanges are provided with recesses, and a filler block extending into said recesses.

3. In a trussed structure, nested flanged compression and tension members, and a filler-block below which said flanges extend.

4. In a trussed structure, nested flanged compression and tension members, whose webs are formed with interlocking indentations, and a filler-block extending beyond said flanges.

980,100. ADJUSTABLE POST FOR RATCHET-DRILLS. CHARLES B. HASTINGS, New York, N. Y. Filed Aug. 23, 1909. Serial No. 514,531.

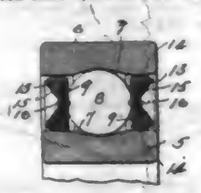


1. A device of the class described, comprising a post having a pair of openings passing therethrough and disposed in a vertical plane, a second pair of openings passing through said post disposed in a vertical plane forming an angle with said first vertical plane, means for rigidly securing said post to the work near the point of application of the drill, said means having bolts passing there-

through and adapted to pass through either pair of said openings, whereby said post may be held in different angular positions with respect to the vertical axis thereof, an adjustable arm carried by said post, and means on said arm for adjustably supporting the butt end of a drill.

2. A device of the character described, comprising a post provided with a number of holes extending diametrically through it, different groups of said holes being arranged in definite planes, a plane corresponding to one group of said holes crossing another plane corresponding to another group of said holes, bolts for extending through said holes, stationary members for engaging said bolts, said stationary members being for this purpose provided with holes arranged in a definite plane so that a plurality of said bolts may be used for holding said post relatively to said stationary members, a rigid drill, and means on said post for adjustably supporting the butt end of a drill.

980,101. ROLLER-BEARING. HENRY HESS, Philadelphia, Pa. Filed Jan. 2, 1907. Serial No. 350,414.



1. In a non-adjustable ball-bearing forming a self-contained operative unit, the combination of an inner and an outer bearing ring, a series of balls running in races therein, washers serving to close the space between the bearing rings, and means urging the washers into contact with said rings.

2. In a unit assembled ball bearing, the combination of an inner and an outer bearing ring, a series of balls running in races therein, washers serving to close the space between the bearing rings, and spring rings applied to the washers and exerting a pressure serving to keep the washers always in contact with the rings.

3. In a non-adjustable ball-bearing, the combination of an inner and an outer bearing ring, balls running in races therein, a separator for spacing the balls apart, and washers one on each side of the balls secured to members of the separator, and devices applied to the washers for maintaining them in active contact with the bearing rings.

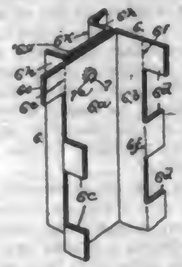
4. In a ball-bearing, the combination of an inner and an outer bearing ring, a series of balls running in races therein, an annular plate at each side of the ball series, said plates being secured together and serving to space the balls apart, a sealing washer on each of the plates, and a spring ring outside each of the washers and secured to the corresponding plate serving to hold the washer in active contact with the bearing rings.

5. A non-adjustable ball bearing comprising two bearing rings and balls running in races therein, said bearing rings being spaced apart adjacent to the balls, sealing devices free to rotate in relation to both of the rings and serving to close the spaces between the rings, and means for retaining the sealing devices in close contact with the rings.

[Claims 6 and 7 not printed in the Gazette.]

980,102. BUILDING CONSTRUCTION. HARRY IRWIN JEFFERS, Fort Smith, Ark., assignor of one-half to William F. May, Fort Smith, Ark. Original application filed Oct. 23, 1909, Serial No. 524,495. Divided and this application filed Feb. 17, 1910. Serial No. 544,482.

1. In a building construction, a metallic studding comprising two sheet metal channel-like members, each of which has a body and two side portions, a side portion of each of said members being of greater length than the other side portion thereof, and having a part bent at right angles to the remainder of the side portion, and means passing through the bodies of the members securing them back to back.

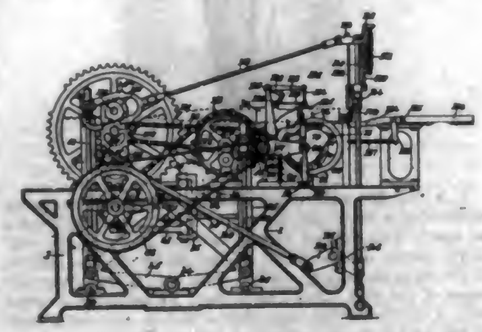


2. A metallic studding comprising a first and a second sheet metal member, each having a body portion, the first of said members having two side portions, the second of said members having a side portion, and ears projecting from said last named side portion, a member projecting from the body of said second sheet metal member and bent parallel to the side of said second sheet metal member, said first and second members being placed back to back thereby defining a double channel member.

3. A stud comprising two sheet metal members, one of said sheet metal members having a body and sides to form a U-shaped channel, a side of one member being longer than the other side thereof and a part of said longer side being bent over at right angles to the remainder of said longer side, the other sheet metal member comprising an L-shaped body and ears projecting from the longitudinal edges thereof, said ears being bent over at right angles to the remainder of the respective parts from which said ears project, said members being placed back to back thereby defining a double channel member or stud.

4. In a building construction, a first and a second sheet metal member each of which has a body portion and a side portion, ears projecting from said side portions, the first of said members having a second side portion and the second of said members having parts bent at right angles to its respective body portion to act as a second side portion for said second member, said members being placed back to back thereby defining a double channel member or stud.

980,103. FILLER-MACHINE. GEORGE R. KENDRICK, Portland, Ind. Filed Dec. 19, 1908. Serial No. 468,296.



1. In a machine of the class described, in combination, means for guiding and advancing a plurality of strips in parallel arrangement and disposed apart, a drum disposed transversely near the path of said strips, a plurality of fingers pivotally mounted in said drum, cam levers controlling the positions of said fingers, cams coöperating with said levers, strip holders coöperating with said fingers to hold transverse strips thereupon and spring-pressed toward engagement with said fingers, and a fixed member adapted to be engaged by said strip holders to hold the same away from said fingers.

2. In a machine of the class described, in combination, means for guiding and advancing a plurality of strips in substantially parallel arrangement and disposed apart, a transversely disposed drum, a feed shelf formed near said drum and adapted to receive transverse strips, said feed shelf having openings, a plurality of fingers carried by said drum and passing upwardly through said openings to take the transverse strips therefrom, and means for guiding said fingers to present said transverse strips to said first strips.

3. In a machine of the class described, in combination, means for guiding and advancing a plurality of strips in substantially parallel arrangement and disposed apart, a drum disposed transversely, a feed shelf near said drum adapted to receive transverse strips, said feed shelf having openings therein, a plurality of fingers carried by said drum and passing upwardly through said openings to take the transverse strips therefrom, strip holders adapted to grasp said strips when received by said fingers, and means for guiding said fingers to present said transverse strips to said first strips.

4. In a machine of the class described, in combination, means for guiding and advancing a plurality of strips in substantially parallel arrangement and disposed apart, a drum disposed transversely near the path of said strips, a feed shelf near said drum adapted to receive transverse strips and having openings therein, a plurality of fingers carried by said drum and passing upwardly through said openings to take said transverse strips, spring-pressed strip holders coöperating with said fingers to grasp the transverse strips when taken thereby, means for holding said strip holders open when said fingers receive said transverse strips, means for releasing said fingers to grasp said strips, and means for guiding said fingers to present said transverse strips to said first strips.

5. In a machine of the class described, in combination, means for advancing and guiding a plurality of over-strips in substantially parallel arrangement, a drum shaft disposed transversely therebelow, a drum rotatably mounted on said shaft, a plurality of fingers carried by said drum and adapted to hold under-strips, said fingers having cam levers for controlling the positions thereof, cams mounted on said shaft and controlling the positions of said cam levers, means for adjusting said cams, spring-pressed strip holders coöperating with said fingers to hold the under-strips, a block mounted on said shaft and adapted to engage said strip holders to open the same in receiving the under-strips, and means for adjusting the position of said block.

[Claims 6 to 11 not printed in the Gazette.]

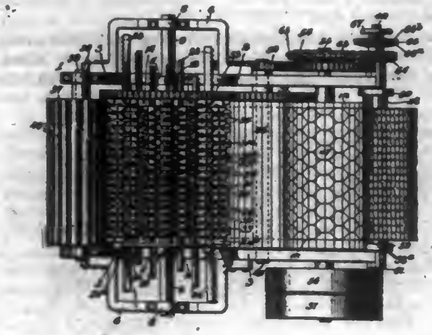
980,104. MACHINE FOR MAKING WIRE FABRIC. ALVA L. KITSELMAN, Muncie, Ind., assignor to Interlocking Fence Company, Morton, Ill., a Corporation of Illinois. Filed June 11, 1904. Serial No. 212,196.

1. In a machine for making wire fabric, the combination with a plurality of wire connecting devices arranged out of alinement, of oppositely inclined wire guiding devices associated with the wire connecting devices to deflect different portions of a wire in different directions to present said wire to the connecting devices.

2. In a machine for making wire fabric, the combination with means for advancing a wire, of oppositely inclined wire guides arranged to engage the wire at different points, twisters to which the wire is deflected by said guides, means for advancing a second wire to certain of the twisters, and means for operating the twisters to connect the wires.

3. In a machine for making wire fabric, the combination with several sets of twisters, of means for leading a plurality of wires, wire guiding fingers arranged to guide certain of the wires to the twisters without deflection and to deflect certain other of the wires to the twisters.

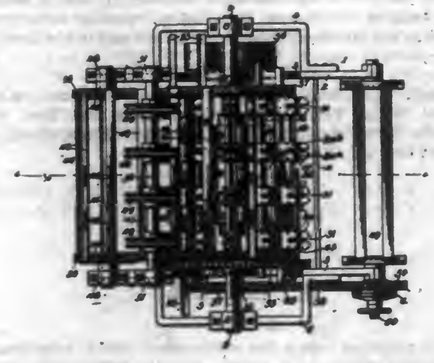
4. In a machine for making wire fabric, the combination with a plurality of traveling twisters, of wire guiding fingers associated therewith and having wire deflecting faces, and means for advancing a plurality of wires in the direction of the twister travel to be connected by said twisters.



5. In a machine for making wire fabric, the combination with a rotary twister mounted to travel in an endless orbit, of a cam having oppositely disposed spiral channels, and a rack geared to the twister and having an extension movable in the channels of the cam.

[Claims 6 to 21 not printed in the Gazette.]

980,105. FENCE-MACHINE. ALVA L. KITSELMAN, Muncie, Ind., assignor to Interlocking Fence Company, Morton, Ill., a Corporation of Illinois. Filed June 11, 1904. Serial No. 212,198.



1. In a machine for making wire fabric, the combination with means for guiding a plurality of wires, of means including twisting mechanism for applying a previously formed stay to said wires during the movement of the latter.

2. In a machine for making wire fabric, the combination with means for advancing a plurality of line wires, of continuously operating means for moving a stay laterally to present the same to the line wires, and twisting means for connecting the wires and stay.

3. In a machine for making wire fabric, the combination with means for continuously advancing a plurality of line wires, of means for moving a stay sidewise to present the same to the wires during the advance movement of the latter, and wire twisting means for connecting the wires and stay.

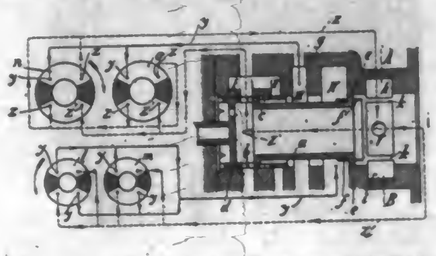
4. In a machine for making wire fabric, the combination with means for advancing a plurality of line wires, of mechanism operating during the movement of said wires to feed a stay laterally thereto and to connect the stay and wires said mechanism including a twister.

5. In a machine for making wire fabric, the combination with means for leading a plurality of wires longitudi-

nally, of means for moving a stay laterally to present it to the wires, and twisting means for connecting the wires and stay during their movement in unison.

[Claims 6 to 108 not printed in the Gazette.]

980,106. VALVE ARRANGEMENT FOR CONTROLLING FLUID TRANSMISSION-GEARS. HUGO LENTZ, Mannheim, Germany. Filed Sept. 1, 1909. Serial No. 515,704.



1. In a device for controlling the speed, braking, and reversing of motors, the combination with the motors of a valve casing provided with ports connected with the motors, a hollow piston valve, open at one end and having working faces at each end, slidably mounted in said casing, the working face at the open end being provided with segmental pieces for throttling a port of the casing, the working face of the valve at the closed end having openings for connecting the hollow interior of the valve with a port of the casing, and also having openings for connecting the exterior of the valve with a port in the casing.

2. A hollow piston valve open at one end, said end having a working face provided with segmental pieces, the closed end of the valve having a working face, and a flange over-hanging the exterior of the valve, openings being provided in the last-mentioned working face and in the flange.

980,107. CHURN-DASHER. WILLIAM W. LILES, Mineral Wells, Tex. Original application filed Dec. 31, 1909, Serial No. 535,738. Divided and this application filed Oct. 20, 1910. Serial No. 588,218.

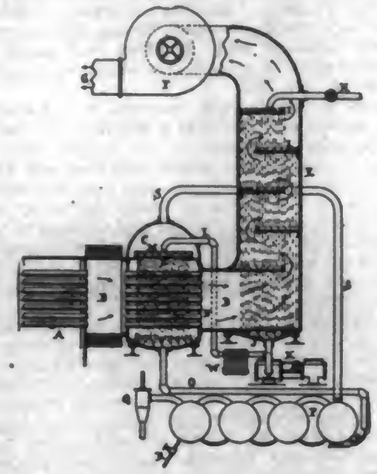


In a churning device the combination with a reciprocating dasher shaft, of a concavo-convex dasher-head, consisting of lower annular band or rim disposed obliquely, a concavo-convex central hub, and curved spiders or spokes connecting said hub and rim.

980,108. APPARATUS FOR EVAPORATING SOLUTIONS. SAMUEL MORRIS LILLIE, Philadelphia, Pa. Original application filed Apr. 20, 1907, Serial No. 369,248. Divided and this application filed Oct. 3, 1907. Serial No. 395,790.

1. In apparatus for treating liquids, the combination of a vertical flue receiving hot gases of combustion processes at the bottom, a liquid supply pipe entering the flue near its top, means within the flue for intimately commingling the gases and liquid during the passage of the liquid to the bottom, means independent of the flue for further heating the liquor by the heat of the hot gases before passing to the flue, positively acting means for circulating the liquor from the flue to the means for further heating it, and a filter through which the liquid passes before being delivered to the means for further heating it.

2. In apparatus for treating liquids, the combination of a flue through which hot gases from combustive or chemical combinations are passed, means for spraying liquor downward upon the gases when passing upward through the flue, an evaporator having tubes heated by the hot gases, and means for collecting the sprayed liquor in its heated condition and supplying it to the evaporator tubes in the form of spray whereby it may be heated in contact with the tubes thereof.



3. In apparatus for treating liquids, the combination of a flue through which hot gases are passed, means for spraying liquor upon the gases when passing through the flue and thereby transferring the heat of the gases to the liquor, an evaporator heated by the hot gases, means for collecting the sprayed liquor in its heated condition and supplying it to the evaporator whereby it may be further heated and provide a hot vapor, and a multiple effect evaporating apparatus receiving the hot vapors and utilizing them as the heating medium.

4. In apparatus for treating liquids, the combination of a vertical flue receiving hot gases at the bottom, a liquid supply pipe entering the flue near its top, means within the flue for intimately commingling the gases and liquid during the passage of the liquor to the bottom, means for further heating the liquor by the heat of the hot gases before passing to the flue, and positively acting means for circulating the liquor from the flue to the means for further heating it.

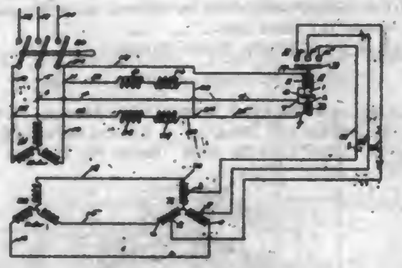
5. In apparatus for treating liquids, the combination of a vertical flue receiving hot gases at the bottom, said gases being from a source other than the liquor to be treated, an exhauster at the top of the flue for drawing the hot gases through it, a liquid supply pipe entering the flue near its top, means within the flue for producing a dense spray for intimately commingling the gases and liquid during the passage of the liquid to the bottom, means independent of the vertical flue for further heating the liquor by the heat of the hot gases before passing to the flue, and positively acting means for circulating the liquor from the bottom of the flue to the means for further heating it.

[Claims 6 and 7 not printed in the Gazette.]

980,109. MOTOR CONTROL. DAVID L. LINDQUIST, Yonkers, N. Y., assignor to Otis Elevator Company, Jersey City, N. J., a Corporation of New Jersey. Filed May 7, 1908. Serial No. 431,498.

1. The combination with an alternating current motor, of electro-magnetic brake apparatus for said motor, and means dependent upon the magnetic reluctance of said brake apparatus for controlling the speed of said motor.

2. The combination with an alternating current motor, of electro-magnetic brake apparatus therefor, and means dependent upon the reluctance of the circuit for said brake apparatus for controlling the speed of said motor, said means being independent of slight variations of voltage in the main line.



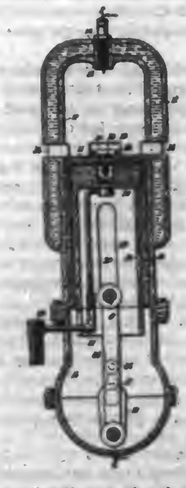
3. The combination with an electric motor, of brake apparatus therefor comprising a brake magnet, and a differential device dependent upon the operation of said brake magnet for controlling the speed of said motor.

4. The combination with an alternating current motor of the induction type, of brake apparatus comprising an alternating current magnet having a movable armature, and means dependent upon the magnetic reluctance of said magnet for controlling the speed of said motor.

5. The combination with an alternating current motor of the induction type, of brake apparatus therefor comprising an electromagnet, electromagnetic means for controlling the speed of said motor, said electromagnetic means being electrically connected to the brake magnet and controlled by the impedance of the electrical circuit of the latter and operating independently of slight variations of the primary voltage.

[Claims 6 to 15 not printed in the Gazette.]

980,110. TWO-CYCLE INTERNAL-COMBUSTION ENGINE. CHARLES E. MAUD, Monterey, Cal. Filed Sept. 24, 1909. Serial No. 519,313.



1. An internal combustion engine having a cylinder, a reciprocatory piston within said cylinder, a second piston forming with the first piston a compression chamber, a passage in said first-mentioned piston for the delivery of gas from said compression chamber to said cylinder, and means for moving said second-mentioned piston substantially into engagement with said first-mentioned piston to transfer substantially all of the charge through said passage when said first-mentioned piston is adjacent the end of its power stroke.

2. An internal combustion engine having a cylinder, a piston subdividing the cylinder into an explosion chamber and a compression chamber and operating to compress a gas in the compression chamber during the application of power to the opposite side of the piston, a passage in said piston for the delivery of the gas from the compression chamber to the explosion chamber, and a member in the rear of the piston movable toward said piston and substantially into engagement therewith to transfer substantially all of the gas within the compression chamber to the explosion chamber when said piston is adjacent the end of its power stroke.

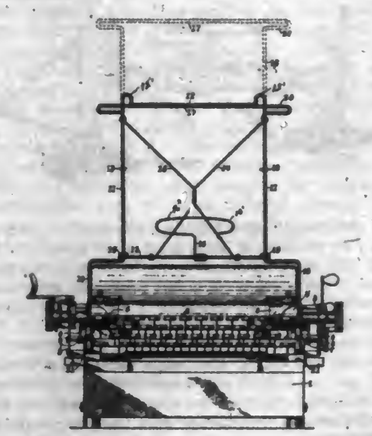
3. An internal combustion engine having a compression chamber and a cylinder inclosing an explosion chamber, the maximum capacity of one of said chambers being substantially equal to the maximum capacity of the other, a piston separating said chambers and operating to vary their relative capacities during its reciprocation, a second piston forming an end wall for said compression chamber, a passage connecting said chambers and means for moving said second piston toward and substantially into engagement with said first-mentioned piston when said first-mentioned piston is adjacent the end of its power stroke, to reduce the capacity of the compression chamber approximately to zero and transfer approximately the entire compressed charge to the explosion chamber.

4. An internal combustion engine having a cylinder, a reciprocatory hollow piston therein provided with a valved passage leading to the explosion chamber of the engine, a reciprocatory piston within the first-mentioned piston, a fuel conduit leading from the exterior of the engine to the interior of the first-mentioned piston, and means for moving said second-mentioned piston toward the end of the first-mentioned piston when the latter is approximately at the end of its power stroke.

5. An internal combustion engine having a cylinder, a reciprocatory hollow power piston therein provided with a passage leading from the interior of the piston to the interior of the cylinder, and terminating in a deflector within said cylinder and serving for the delivery of gas to the cylinder, a reciprocatory piston within the first-mentioned piston and provided with a valved passage therethrough, and a fuel conduit leading from the exterior of the engine to the last-mentioned passage for the delivery of fuel to the interior of the hollow piston.

[Claims 6 to 10 not printed in the Gazette.]

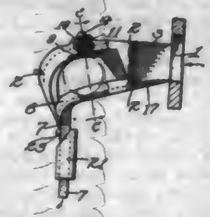
980,111. COPY-HOLDER. TRUMAN J. MARTIN, New York, N. Y. Filed July 20, 1910. Serial No. 539,000.



1. The combination of a typewriter having a carriage and a keyboard, a copyholder having legs with feet bent at an angle thereto, and two sets of lugs on said typewriter frame, one set of lugs having sockets adapted when receiving said feet to hold said copyholder in an upright position, and the other set of lugs having sockets adapted when receiving said feet to hold said copyholder in a prone position.

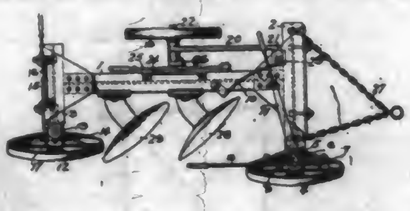
2. The combination of a typewriter having a carriage and a keyboard, a copyholder having legs with feet bent at an angle thereto, and two sets of lugs on said typewriter frame, one set of lugs having sockets adapted when receiving said feet to hold said copyholder in an upright position, and the other set of lugs having sockets adapted when receiving said feet to hold said copyholder in a prone position, said first set of lugs being mounted to the rear of said last set of lugs.

980,112. COIN-DETECTOR CHUTE. ROBERT ALVIS MCCRACKEN, Santa Ana, Cal., assignor of one-half to Henry Amos Reed, Los Angeles, Cal. Filed June 21, 1909. Serial No. 503,521.



A coin detector comprising a lower wall inclined downwardly from its receiving end and after passing back a short distance curved laterally and downwardly until its discharge end is in a plane transverse of its receiving end; two side walls extending upwardly from the lower wall, there being an opening through one of the side walls just at the beginning of the curved part; a top wall extending from one of the side walls; an adjusting plate in position for its lower edge to form the upper edge of the opening; a set screw extending through the adjusting plate into the top wall; a spring around the screw between the top wall and the adjusting plate; said adjusting plate forming the upper part of one of the side walls; and the lower end of the adjusting plate being pivotally connected.

980,113. ROTARY DISK PLOW. CHARLES H. MCKEE, Pittsburg, Pa. Filed Feb. 10, 1908. Serial No. 415,092.



1. A rotary disk plow having a plurality of rotary disks mounted in succession, with each disk, after the first or leading one, placed behind, lower and more oblique with relation to the vertical than the preceding disk, and having each disk set with the lead of its cutting edge along the bottom and landside of its furrow.

2. A rotary disk plow having a plurality of rotary disks mounted in succession with each disk, after the first or leading one, set behind and lower than the preceding disk, and with each disk, after the first or leading one, set with a less transverse inclination with respect to its furrow and at a greater rearward inclination than the preceding disk.

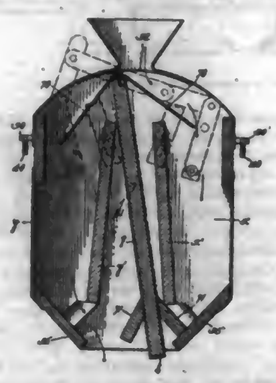
3. A rotary disk plow having a plurality of rotary disks mounted in succession with each disk, after the first or leading one, placed behind, lower and more oblique with relation to the vertical than the preceding disk.

4. A rotary disk plow having a front disk, a rear disk, said rear disk set lower and more oblique with relation to the vertical than the front disk.

5. A rotary disk plow having a front disk tilted or inclined back slightly at its top and deflected to the rear on the side from which it turns its furrow, a rear disk, said rear disk set with the plane of its face less nearly vertical and less nearly transverse its furrow than the plane of the face of the front disk.

[Claim 6 not printed in the Gazette.]

980,114. AUTOMATIC WEIGHING-SCALE. RUSSELL J. MCKNOWN and WILLIAM A. KIRKPATRICK, Abbyville, Kans. Filed June 28, 1909. Serial No. 504,753.



1. The combination of a counterbalanced receptacle having two distinct compartments, and having an inlet and an outlet, each of said compartments having an inlet communicating with the inlet of the receptacle and having an outlet communicating with the outlet of the receptacle, a pivoted diaphragm, and means carried by said diaphragm to shift the stream of material entering the inlet of the receptacle from one compartment to the other and simultaneously open the outlet of one compartment and close the outlet of the other compartment, and means actuated by the descent of the receptacle for shifting the diaphragm.

2. The combination of a counterbalanced weighing receptacle having two compartments each compartment having a fixed inner wall and an inlet and an outlet, said receptacle having a common inlet adjacent to the inlets for the compartments and having a common outlet into which the material from the compartments is discharged through their respective outlets, a pivoted diaphragm in said receptacle, means for holding the diaphragm locked to its extreme positions, said diaphragm being constructed to close off the inlet to one compartment as it closes the outlet to the other compartment, and other means actuated by the drop of the weighing receptacle for releasing the diaphragm locking means.

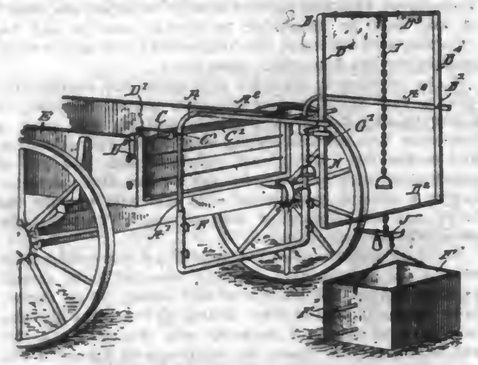
3. The combination of a counterbalanced weighing receptacle having a single inlet and outlet and two distinct compartments, each in communication with the inlet and outlet, a diaphragm pivotally mounted in the receptacle between the two compartments adapted, under one extreme position, to cut off the flow of material into one of the compartments and cut off the flow of material from the other compartment, toggle link devices for holding the said diaphragm locked to its extreme positions and means actuated by the drop of the receptacle for releasing the toggle link devices.

4. The combination of a receptacle having a single inlet and outlet, and two compartments each having a fixed inner wall, each of said compartments having an inlet and outlet in communication with the inlet and outlet of the receptacle, a diaphragm movably mounted in the receptacle to close the inlet of one compartment and open the outlet for the other compartment and to be shifted to alternate positions by the descent of the receptacle.

5. In an automatic weighing machine, a counterbalanced receptacle having a plurality of compartments each having an inlet and an outlet, and means located between the compartments and actuated by the descent of the receptacle for closing the inlet to one compartment and the outlet to the other compartment.

[Claims 6 to 10 not printed in the Gazette.]

980,115. WAGON-LOADER. ANSEL MCKINNEY, Berclair, Tex. Filed June 28, 1910. Serial No. 569,294.



1. The loading apparatus herein described, comprising a lever frame having handle arms and load supporting arms at approximately a right angle to each other, means whereby the lever frame may be pivoted adjacent to the juncture of its said arms, a rocking frame having its side bars pivoted between their ends to the load supporting arms of the lever frame, a latch operating adjacent to said pivot of the rocking frame, means for supporting a holder from one end bar of the rocking frame and a pull device connected with the other end bar of the rocking frame, all substantially as and for the purposes set forth.

2. A loading apparatus comprising a lever frame having handle and load supporting arms and pivotally supported at the juncture of said arms and a rocking frame pivoted to the load supporting arms of the lever frame, substantially as set forth.

3. A loading apparatus, substantially as described, comprising a pivoted lever frame and a rocking frame pivoted to said lever frame whereby the rocking frame may be tilted or rocked in connection with the lever frame and the lever frame may be adjusted on its pivots to bodily elevate the rocking frame, substantially as set forth.

4. A loading apparatus comprising a pivoted lever frame, a rocking frame pivoted to the lever frame and having side bars and an end bar and a holder for the material to be loaded suspended from the end bar of the rocking frame and having lateral projections to abut the side bars of said frame, substantially as set forth.

5. A loading apparatus comprising a pivoted lever frame, a rocking frame and movable bodily up and down with the movements of the lever frame pivoted to the lever frame, a holder for the material to be loaded and means suspending said holder from the rocking frame and including a weighing scale, substantially as set forth.

[Claims 6 to 9 not printed in the Gazette.]

980,116. PIPE-COUPLING. HENRY MUELLER, Decatur, Ill.; Ora B. Mueller and Adolph Mueller, executors of said Henry Mueller, deceased, assignors to H. Mueller Manufacturing Company, Decatur, Ill., a Corporation of Illinois. Filed Sept. 10, 1908. Serial No. 452,448.

1. As an article of manufacture, a gasket comprising a yielding metallic joint-ring, and a stiff sustaining ring longer than the joint-ring and around which the latter is frictionally but slidably fitted.

2. As an article of manufacture, a gasket comprising a joint-ring of soft metal, and a sustaining ring of stiff metal extending through and beyond one end of the joint-ring and around which the latter is slidably fitted.

3. As an article of manufacture, a gasket comprising a yielding metallic joint-ring having a substantially cylindrical bore, and a stiff sustaining ring longer than the joint-ring and upon which the bore of the latter is frictionally but slidably fitted.

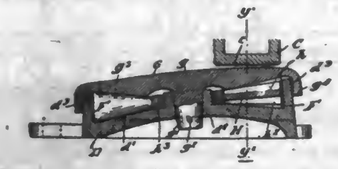


4. As an article of manufacture, a gasket comprising a yielding metallic joint-ring smaller externally at one end than elsewhere, and a sustaining ring extending from the smaller end through the joint-ring and beyond its other end, the joint-ring being slidably fitted on the sustaining ring.

5. As an article of manufacture, a gasket comprising a yielding metallic joint-ring having a substantially conical exterior, and a sustaining ring extending from the smaller end through the joint-ring and beyond its other end, the joint-ring being slidably fitted on the sustaining ring.

[Claims 6 to 9 not printed in the Gazette.]

980,117. ANTIFRICTION SIDE BEARING FOR RAILWAY-CARS. JOHN F. O'CONNOR, Chicago, Ill., assignor, by mesne assignments, to William H. Miner, Chicago, Ill. Continuation of application Serial No. 406,649, filed Dec. 16, 1907. This application filed July 6, 1909. Serial No. 506,178.



1. In an antifriction side bearing for railway cars, the combination with an upper bearing member having an integral stud and secured to the body bolster and a lower bearing member secured to the truck bolster, and having an upwardly projecting annular hub inclosing the said stud and forming a journal bearing for the same, of a rotatable disk interposed between the upper and lower bearing members, a plurality of radially arranged conical rollers interposed between said disk and the lower bearing member, and a roller spacing spider interposed between the lower bearing member and said rotatable disk, and having an annular hub fitting the hub of said lower bearing member and provided with radial spacing arms fitting between adjacent rollers, substantially as specified.

2. In an anti-friction side bearing for railway cars the combination with an upper bearing member secured to the body bolster, and a lower bearing member secured to the truck bolster, of a rotatable disk interposed between the upper and lower bearing members, a plurality of radially arranged conical rollers interposed between said disk and the lower bearing member, and a roller spacing spider having cone shaped faces and interposed between the lower bearing member and said rotatable disk, said rotary disk turning on an axis slightly inclined to the vertical substantially as specified.

3. In an antifriction side bearing for railway cars, the combination with an upper bearing member secured to the body bolster and a lower bearing member secured to the truck bolster, and provided with an upwardly projecting annular hub, of a rotatable disk interposed between the upper and lower bearing members, a plurality of radially arranged conical rollers interposed between said disk and the lower bearing member, and a roller spacing spider interposed between the lower bearing member and said rotatable disk, said rollers spacing spider being provided with an annular hub fitting said hub on said lower

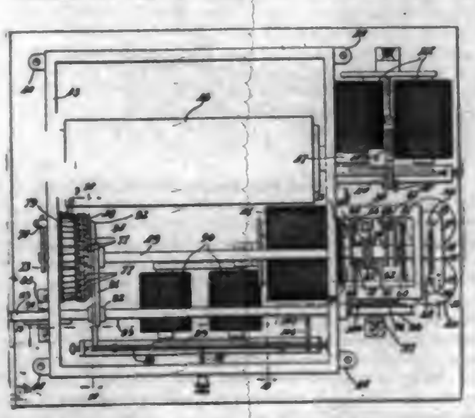
bearing member and having a plurality of outwardly flaring cone faced radial arms fitting between adjacent rollers, substantially as specified.

4. In an anti-friction side bearing for railway cars, the combination with an upper bearing member secured to the body bolster and a lower bearing member secured to the truck bolster and having an upwardly projecting annular hub, of a rotatable disk interposed between the upper and lower bearing members, a plurality of radially arranged conical rollers interposed between said disk and the lower bearing member, and a roller spacing spider interposed between the lower bearing member and said rotatable disk, said roller spacing spider having a plurality of outwardly flaring radial arms provided with curved faces at their upper portions, and with straight or flat faces at their lower portions, substantially as specified.

5. In an anti-friction bearing, the combination with a bearing plate having a cone faced annular tread, and provided with an upwardly projecting annular hub, of a rotatable disk having a cone faced annular tread, a plurality of radially arranged anti-friction rollers between said plate and disk and a roller spacing spider between said disk and plate and having an annular hub fitting said hub on said bearing plate and provided with radial spacing arms having cone shaped and straight bearing faces as described fitting between adjacent rollers, substantially as specified.

[Claims 6 and 7 not printed in the Gazette.]

980,118. TELEGRAPH APPARATUS. JOHN B. ODELL, Chicago, Ill., assignor of one-half to Arthur G. Leonard, Chicago, Ill. Filed Dec. 21, 1907. Serial No. 407,454.



1. In an electric selective apparatus, the combination with a member to be variably shifted, said member being spring-held in normal position, of a ratchet wheel, a shiftable connector between said ratchet wheel and said member, a selecting magnet, a spring-held armature vibrated by said magnet, a push pawl and a pull pawl pivoted to said armature and engaging the teeth of said ratchet wheel, to shift said ratchet wheel and said member one step when said armature is shifted in either direction, and means for shifting said connector to permit the return of said member to normal position, substantially as described.

2. In an electric selective apparatus, the combination with a member to be variably shifted, of a single selecting magnet, a non-pivoted spring-held armature vibrated by said magnet, a ratchet wheel connected to said member, a push pawl and a pull pawl pivoted directly on said armature and engaging the teeth on opposite sides of said ratchet wheel, to advance said ratchet wheel and said member one step when said armature is shifted in either direction, and a common spring connecting said pawls and pressing the same into engagement with said ratchet wheel, substantially as described.

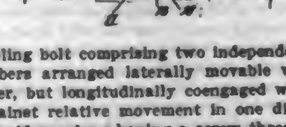
3. In an electric selective apparatus, the combination with a spring-held part variably shiftable from normal position, of a selecting magnet, an armature vibrated by said magnet, pawl and ratchet mechanism controlled by the movement of said armature for variably shifting said part, a toothed member connected to said pawl and ratchet mechanism, a shiftable connector normally engaging said toothed member and connecting said variably operable part thereto and means for shifting said connector out of engagement with said toothed member to permit the return of said part by its spring to normal position and for returning said connector into engagement with said toothed member for the succeeding operation.

4. In an electric selective apparatus, the combination with a part variably operable from normal position, of a step-by-step device for variably shifting said part, a connector between said step-by-step device and said part, and means for shifting said connector into and out of engagement with said step-by-step device, said connector having a one-way engagement with said part whereby the latter and said connector may return to normal independently of each other.

5. In an electric selective apparatus, the combination with a spring-held part variably operable from normal position against the tension of said spring, of an electrically operated step-by-step device for variably shifting said part, a connector between said step-by-step device and said part, and means for shifting said connector out of and into engagement with said step-by-step device, said connector being spring-held in normal position and having a one-way engagement with said variably operable part, whereby said part and said connector may be returned to normal position independently of each other.

[Claims 6 to 30 not printed in the Gazette.]

980,119. COUPLING-BOLT. FREDRIC D. OGDEN, Bayonne, N. J.; J. Edward Ogden, administrator of said Fredric D. Ogden, deceased, assignor, by mesne assignments, to The Patent Appliance Company, a Corporation of New York. Filed Dec. 4, 1909. Serial No. 531,284.



1. A coupling bolt comprising two independent and separable members arranged laterally movable with respect to each other, but longitudinally coengaged whereby they are held against relative movement in one direction, one only of the said members having a screw threaded portion for receiving a nut, and the other said portion being retained against relative lateral movement by the nut, when the same is upon the said screw threaded portion.

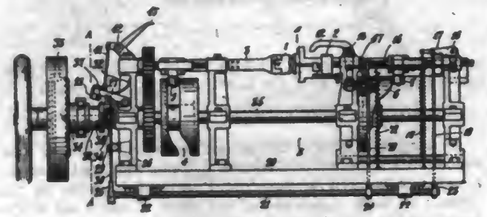
2. A coupling bolt comprising two coengaging members one only of which is provided with a screw threaded portion, the two said members being disposed longitudinally in abutting relation with each other whereby relative longitudinal movement in one direction is prevented, and a nut fitted upon the said screw threaded portion and freely engaging the other said portion to prevent relative lateral displacement thereof.

3. A coupling bolt comprising a body portion having a screw threaded shank and part of a head, the shank having a longitudinal slot therein for receiving a tongue, and a tongue fitted between the walls of the said slot and arranged to slide longitudinally therein in one direction, the said tongue being provided with the other portion of the head of the bolt.

4. In a coupling bolt, the combination with a body portion consisting of a screw threaded shank and a portion projecting therefrom at one end to form part of the head, the said shank having a slotted portion therein terminating in an abutment, of a tongue having a shank fitted to the said slotted portion and provided with a shoulder which engages the abutment and having a portion constituting another part of the said head of the bolt.

5. In a coupling bolt, the combination with a screw threaded body portion having a slot which extends all the way across the same and throughout nearly but not quite all the length thereof, and a tongue whose width is not greater than the smaller diameter of the screw threaded portion, fitted in the said slot, the said body portion and tongue having complementary head portions.

980,120. MACHINE FOR MANUFACTURING MATCH-BOXES. GUSTAF OLASON, Jönköping, Sweden, assignor to Jönköpings & Vulcans Tändsticksfabriksaktiebolag, Jönköping, Sweden. Filed Apr. 18, 1910. Serial No. 556,284.



1. In a machine for manufacturing match boxes, the combination of a mandrel, means for supplying box blanks to the said mandrel, a movable part supported near the said mandrel in such a manner as to be able to engage the same if no box-side has been placed thereon, means for normally keeping the said part away from the mandrel but allowing it to engage the same, or the blank thereon, in a certain period of working, a disconnecting device for the machine, and mechanical connections between the said movable part and the disconnecting device for operating the latter and thereby disconnecting the machine when the said part, after being released, does not meet a box blank.

2. In a machine for manufacturing match boxes, the combination of a mandrel, means for supplying box blanks to the said mandrel, a swingable arm supported near the said mandrel in such a manner as to be able to engage the said mandrel if no box-side has been placed thereon, means for normally keeping the said arm swung away from the mandrel but allowing it to engage the mandrel, or the blank thereon, in a certain period of working, a disconnecting device for the machine, and mechanical connections between the swingable arm and the said disconnecting device for operating the latter and thereby disconnecting the machine when the said arm, after being released, does not meet a box blank.

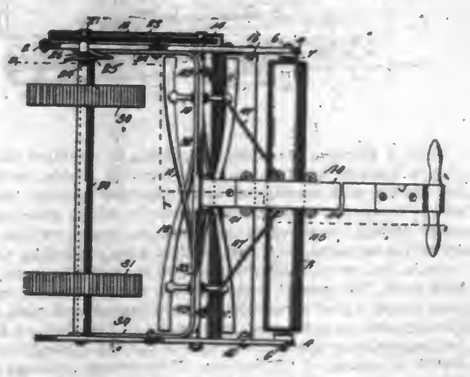
3. In a machine for manufacturing match boxes, the combination of a mandrel having a notch, means for supplying box blanks to the said mandrel, an angle lever pivotally supported near the said mandrel in such a manner as to be capable of entering with one end into the notch of the mandrel if no box-side has been placed thereon, means for normally keeping the angle lever swung away from the mandrel but allowing it to engage the said mandrel, or the blank thereon, in a certain period of working, a disconnecting device for the machine, and mechanical connections between the angle lever and the disconnecting device for disconnecting the machine when the end of the lever enters into the notch in the mandrel.

4. In a machine for manufacturing match boxes, the combination of a mandrel having a notch, means for supplying box blanks to the said mandrel, an angle lever pivotally supported near the said mandrel in such a manner as to be capable of entering with one end into the notch of the mandrel if no box-side has been placed thereon, a cam which normally keeps the angle lever swung away from the mandrel but allows the said lever to engage the mandrel, or the blank thereon, in a certain position of the cam, a disconnecting device for the machine, and mechanical connections between the angle lever and the disconnecting device for disconnecting the machine when the end of the lever enters into the notch in the mandrel.

5. In a machine for manufacturing match boxes, the combination of a mandrel having a notch, means for supplying box blanks to the said mandrel, an angle lever pivotally supported near the said mandrel in such a manner as to be capable of entering with one end into the notch of the mandrel if no box-side has been placed thereon, a disconnecting device for the machine, a rocking shaft, arms attached to the said shaft, connections between the angle lever and one of the said arms for turning the shaft when the end of the lever enters into the notch in the mandrel, and connections between another arm of the rocking shaft and the disconnecting device for operating the latter when the shaft is rocked.

[Claims 6 to 9 not printed in the Gazette.]

980,121. LAWN-MOWER. PERCY CLIFTON PETRIE, Simons, Cal. Filed Apr. 12, 1910. Serial No. 554,980.



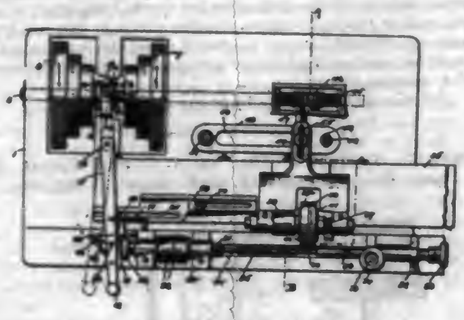
A lawn mower comprising parallel side members, a roller revolubly supported by the members at the rear ends thereof, a cutting knife revolubly mounted in the members and located at a point forwardly of the said roller, a drive shaft located forwardly of the cutting knife and provided with fixed traction wheels which are disposed inwardly of the ends of the cutting knife, a clutch member formed at one end of the shaft, a sliding clutch member movably mounted on the shaft, a sprocket gear wheel supported by the said second clutch member, a sprocket gear wheel supported by the cutting knife, a drive chain connecting the said sprocket wheels with each other, a controlling lever for the second clutch member, a yoke pivotally mounted on said parallel members, a bracket pivotally mounted on the yoke, an adjustable handle adjustably supported by the bracket, and connections between the yoke and the handle for holding the handle in its adjusted position.

980,122. GRINDING-MACHINE. WILLIAM D. PIERSON, Waterbury, Conn., assignor to H. P. and E. Day, Incorporated, Seymour, Conn., a Corporation of Connecticut. Filed June 10, 1909. Serial No. 501,267.

1. In a grinding machine, in combination with a grinding wheel, a carriage for the wheel, and a pair of oppositely rotating pulleys, means between the pulleys to engage alternately with each and having connection with said grinding wheel to reciprocate the latter, a spring-pressed lever for shifting said means, a pivoted trip lever of L-shape adjacent the free end of the lever, a stop carried by the carriage for engagement with one arm of the trip lever, a shoulder on the other arm of the trip lever, a spring connected to the said arm of the trip lever, a pin carried by the lever to engage said shoulder of the trip lever, a second stop on the carriage to engage the lever.

2. In a grinding machine, in combination with a grinding wheel, a carriage for the wheel, and a pair of oppositely rotating pulleys, means between the pulleys to en

gage alternately with each and having connection with said grinding wheel to reciprocate the latter, a spring pressed lever for shifting said means, means to lock said lever against the action of its spring when said lever is moved in one direction, means on the carriage to engage said locking means at a predetermined point in the travel of said carriage and release said lever, and other means carried by the carriage which engage said lever and move the same to neutral position when the carriage travels in an opposite direction.



3. In a grinding machine, comprising, a rotatable mandrel, a movable carriage carrying grinding means, means for moving said carriage to and from said mandrel, said means consisting of a pair of oppositely driven pulleys, a collar slidably received by said pulleys, a pivoted spring pressed lever connected to said collar, a pin carried by said lever, a trip lever, a shoulder formed on said trip lever to hold said first named lever against the tension of said spring, and a stud carried by the said carriage whereby on the forward movement of said carriage the stud of the carriage trips said lever and releases the first named lever, which by reason of the tension of the spring attached to the lever, causes said lever to shift the collar into the reverse pulley.

4. In a grinding machine, in combination with the bed and the carriage having grinding means thereon, a guide plate on the bed pivotally secured thereto at one of its ends, means to secure the opposite end of the plate to the bed in any position to which the plate may be adjusted, said plate having a longitudinal slot therein, a slotted arm carried by the carriage, a stud movable in the slot of said arm, a screw in said arm slot engaging said stud, and a roll carried by said stud and operating in said slot.

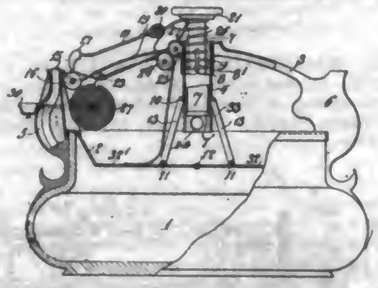
5. In a grinding machine, in combination with the bed and the carriage having grinding means thereon, a guide plate on the bed, said plate having a longitudinal slot, means whereby said plate may be adjusted so that it may have different positions on the bed, a roll carried by the carriage and operating in said slot, and means whereby said roll may be adjusted with respect to said carriage.

980,123. CIGAR-CUTTER. JAMES R. POLLOCK, Jersey City, N. J., and WILLIAM SCHREIBER, New York, N. Y.; said Pollock assignor to said Schreiber. Filed Aug. 6, 1909. Serial No. 511,580. Renewed June 15, 1910. Serial No. 567,072.

1. The combination with a receptacle, of a cover, composed of a stationary frame and of a movable part, hinged thereto; an arch over the cover, a spring actuated cutter, mounted thereon, and links, pivotally connected with the cutter, and the movable part of the cover to actuate the latter by the motions of the cutter.

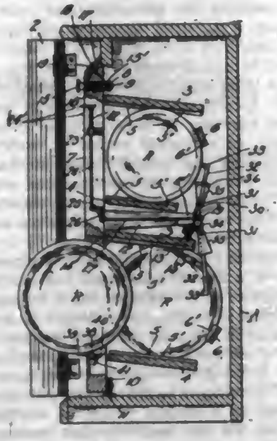
2. The combination with a receptacle for cigar tips, ashes, etc., of a frame, mounted thereon, a cover composed of two wings, hinged together and set in the frame, an arch surmounting the cover, a spring actuated cutter set in the arch, and links, pivotally connecting the cutter with the wings of the cover, substantially as herein shown and described.

3. The combination with a spring actuated cigar cutter, of a receptacle for cigar tips, ashes, etc., means for supporting the cutter above the receptacle, a frame on the receptacle, a cover, composed of two wings hinged in the frame and means operatively connecting the wings with the cutter, to open the receptacle when the cover is depressed and to close it again when the cutter returns to its normal position, substantially as herein shown and described.



4. A combined cigar cutter and receptacle for cigar tips, ashes, etc., comprising a vessel, a frame mounted thereon, a cover, composed of two wings, hinged together in the frame; an arch, surmounting the cover, a cutter set in the arch, a spring set to return the cutter to its original position when released after being depressed, to perform the cutting operation; links pivotally connected to the cutter and to the wings of the cover, substantially as herein shown and described.

980,124. PHONOGRAPH-DISK-RECORD CABINET. EARL POOLER and DON C. POOLER, Seattle, Wash.; said Don C. Pooler assignor, by mesne assignments, of one-half of his right to said Earl Pooler, Seattle, Wash. Filed Apr. 28, 1910. Serial No. 558,147.



1. In a disk-record cabinet, receptacles therein arranged to retain the disks in uniform edgewise positions, a traveler movable parallel to the plane of the rear edges of the disks, and means upon said traveler whereby said disks may be selectively engaged and ejected forwardly from said plane.

2. In a disk-record cabinet, a receptacle for disk-records provided with guide-strips for the reception of disk-records therebetween, a traveler movable transversely of said cabinet, and a curtain connected upon each side of said traveler and to the adjacent wall of the cabinet and respectively arranged to be rolled up or unrolled to accommodate the movements of said traveler.

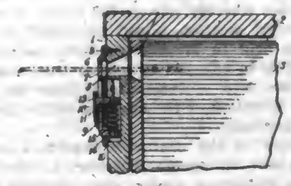
3. In a disk-record cabinet, a receptacle for disk-records provided with guide-strips for the reception of disk-records in the spaces therebetween, a traveler movable transversely of the cabinet, means to retain the traveler in operative position with respect to one of said spaces, and means whereby said disk-records may be selectively engaged and ejected from said spaces.

4. In a disk-record cabinet, a receptacle for disk-records provided with guide-strips for the reception of disk-records in the spaces therebetween, a traveler movable transversely of said cabinet, and means to retain said traveler in operative position with respect to one of said spaces.

5. In a disk-record cabinet, receptacles therein arranged to retain a plurality of disks in side-by-side edgewise positions, a traveler movable transversely to the planes of said disks, and a vertical slot in said traveler parallel to the planes of said disks, and adapted to permit the passage therethrough of said disks.

[Claims 6 to 11 not printed in the Gazette.]

980,125. LETTER-SLOT ATTACHMENT. JOSEPH POPENHAGEN, Chicago, Ill. Filed May 13, 1910. Serial No. 561,184.



1. The combination with a trunk, of a receptacle in said trunk, said trunk and said receptacle having alined openings, a face plate secured to said trunk, having an opening extending in alinement with said first-mentioned openings, a guard interposed between said plate and said trunk and adapted to be extended across the path of said alined openings, a button slidingly mounted on said plate, a lug on said button adapted to manipulate said guard, and a spring engaging said lug, for actuating said button.

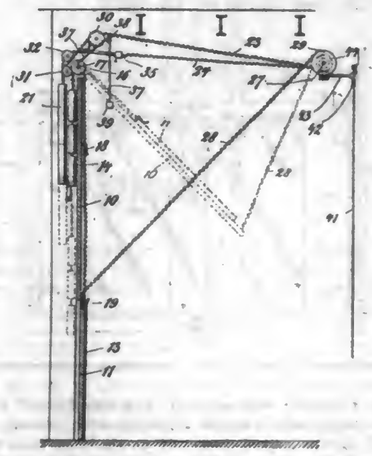
2. The combination with a receptacle having an opening therein, of a face plate on said receptacle having an opening extending in alinement with said first-mentioned opening, a lug on said plate, a rod supported by said lug, a spring on said rod, a button slidingly mounted on said plate and having a lug engaging said rod, and a guard secured to said first-mentioned lug and adapted to be projected across the path of said alined openings by means of said spring.

3. The combination with a receptacle having a slot therein, of a face plate connected to said receptacle and having a slot extending in alinement with said first-mentioned slot, said receptacle having a cavity therein, a button slidingly mounted on said face plate and having a lug extending into said cavity, said face plate having a lug extending into said cavity, a rod located in said cavity and secured to said second-mentioned lug and slidingly engaging said first-mentioned lug, a spring interposed between said lugs, and a guard slidingly mounted between said receptacle and said face plate and engaging said first-mentioned lug, whereby it is adapted to be actuated by said spring.

980,126. COUNTERBALANCING MECHANISM. ARTHUR T. PRESCOTT, East Orange, N. J., assignor to George H. Frothingham Co., a Corporation of New York. Filed Oct. 8, 1909. Serial No. 521,785.

1. The combination with a horizontally pivoted element and counterbalancing means for applying a counterbalancing load thereto, of an element radially movable with respect to the said pivoted element, and means operated by the radial movement of the second said element to increase the said counterbalancing load.

2. The combination with a horizontally pivoted element and counterbalancing means for applying a counterbalancing load thereto, of an element radially movable with respect to the said pivoted element and in one position angularly movable therewith about its pivoted axis, and means operated by the movement of the second said element to its latter said position to increase the said counterbalancing load.



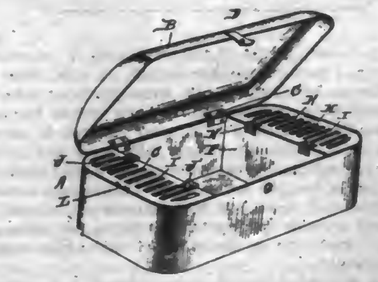
3. The combination with a horizontally pivoted object comprised in a plurality of sections, and means for lifting the same to move it angularly about its pivotal support, of counterbalancing means therefor, means for moving one section with relation to another, other than in the direction of the said angular movement, and means actuated by the said relative movement to vary the counterbalancing load.

4. The combination with a horizontally pivoted object comprised in a plurality of sections, and means for moving the same angularly about its pivotal axis, of counterbalancing means for applying a counterbalancing load thereto, means for moving one section radially with relation to the other, and means actuated by the said radial movement in one direction to increase the counterbalancing load.

5. The combination with a horizontally pivoted element and a plurality of counterbalancing weights therefor, of an element radially movable with respect to the said pivoted element, and means operated by the radial movement of the second said element to vary the number of the said counterbalancing weights actively employed.

[Claims 6 to 23 not printed in the Gazette.]

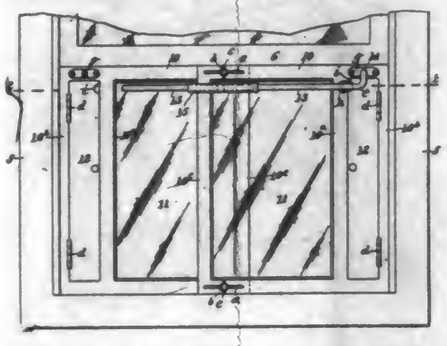
980,127. TOBACCO-MOISTENER. RUDOLPH RAABE, Tyrone, Pa. Filed Feb. 19, 1910. Serial No. 544,764.



A tobacco box or case having compartments formed at each end provided with annular flanged walls, a cover for

closing said box or case, and grate covers mounted upon the flanges of said compartments for holding the moistening material within said compartments.

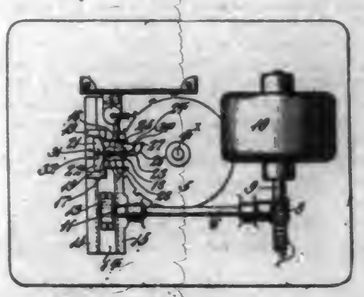
980,128. CLOTHES-LINE-SUPPORTING DEVICE. VICTOR A. ROUILLIARD, Fall River, Mass., assignor of one-half to Louis P. Clapin, Fall River, Mass. Filed Sept. 25, 1909. Serial No. 519,545.



1. In a clothes line support, a frame formed of two sections adjustably secured together, each section being provided with a hinged door, and on its inner face with a bar spaced therefrom, the bars of the sections having an adjustable connection one with the other and each provided with a pulley opposite the door.

2. In a clothes line support, a frame formed of two sections adjustably secured together, each section being provided with a hinged door, and on its inner face with a bar having an angular arm by which it is secured to the section, the bars telescoping one in the other and each provided with a pulley opposite the door.

980,129. AUTOMATIC FEEDER-REGULATOR. BENJAMIN PARKS RUCKER, Charlotte, N. C. Filed Apr. 1, 1910. Serial No. 552,845.



1. In a device of the character stated, a regulating transformer, a movable member therefor, a volt meter device having an indicating needle, arms pivotally mounted and adapted to be reciprocated normally out of the path of said needle and one of said arms adapted to engage with said needle when the voltage falls below the normal and the other adapted to engage with the needle when the voltage rises above the normal, and connections between said reciprocating arms and said transformer adapted to actuate said movable member for regulating the voltage of the circuit when one or the other of said arms engages with said needle.

2. In a device of the character stated, a regulating transformer, a movable member therefor, a volt meter device having an indicating needle, arms adapted to be reciprocated and normally out of the path of said needle when the voltage is at a normal potential, one of said arms being adapted to engage with said needle when the voltage falls and the other to engage with the needle when the voltage rises, and a pawl adjacent said arms adapted to be actuated to actuate the movable member in one direction or the other to return the voltage to its normal potential.

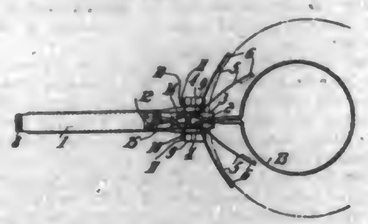
3. In a device of the character stated, a regulating transformer, a movable member therefor, a volt meter device having an indicating needle, arms adapted to be reciprocated and normally out of the path of said needle when the voltage is at a normal potential, one of said arms being adapted to engage with said needle when the voltage falls and the other to engage with the needle when the voltage rises, and means thrown into operation by one or the other of said arms to actuate the movable member in one direction or the other to return the voltage to its normal potential.

4. In a device of the character stated, a regulating transformer, a movable member therefor, a volt meter device having an indicating needle, arms adapted to be reciprocated and normally out of the path of said needle when the voltage is at a normal potential, one of said arms being adapted to engage with the needle when the voltage fluctuates whereby one or the other of said arms is held in lowered position, a rod controlled by each of said arms and held in lowered position therewith, and means adapted to be engaged by one or the other of said rods and thrown into operation to actuate the movable member in one direction or the other to return the voltage to its normal potential.

5. In a device of the character stated, a regulating transformer, a movable member therefor, a volt meter device having an indicating needle, arms adapted to be reciprocated and normally out of the path of said needle when the voltage is at a normal potential, one or the other of said arms being adapted to engage with said needle when the voltage fluctuates, a rod controlled by each of said arms, a pawl adapted to be thrown into operation by one or the other of said rods, and means for reciprocating said pawl whereby the same will actuate the movable member in one direction or the other to return the voltage to its normal potential.

[Claims 6 to 10 not printed in the Gazette.]

980,130. HOLDER FOR COOKING VESSELS. FRANZ SCHULER, Charlottenburg, Germany. Filed Nov. 8, 1909. Serial No. 526,886.



1. A plate or pot lifter consisting of a handle, two supporting arms attached to said handle and turnable toward each other, means for automatically pressing said arms against the cooking vessel upon lifting the same, a hook fixed at front end of said handle for engaging the rim of said vessel between the said supporting arms substantially as described and for the purpose set forth.

2. A plate lifter consisting of a handle, supporting arms attached to said handle and turnable toward each other, a bar attached to said handle, a link connecting said bar and handle, a hook fixed at the front end of said bar, guiding wedges carried by the front end of said bar adapted to engage the supporting arms automatically advancing the same upon manipulating the said holder, substantially as described and for the purpose set forth.

980,131. DOOR-LOCKING MECHANISM. THOMAS P. SHEAN, Chicago, Ill. Filed Feb. 11, 1910. Serial No. 543,336.



1. In door-locking mechanism, the combination with a door and door-frame, of a gravity acting bar mounted on the lock stile of said door to slide vertically and laterally, bolts connected with said bar and adapted to be projected from the lock-stile of the door, means for manually lifting said bar, means coöperating with said bar for automatically locking it in its raised position, and means on the door-frame for automatically releasing said bar operative upon the closing of the door against the frame.

2. In a door-locking mechanism, the combination with a door and door-frame, of a gravity-acting bar mounted on the lock-stile of said door to slide vertically and laterally, bolts connected with said bar and adapted to be projected from the lock-stile in an oblique direction, a knob-spindle, means connected with the knob-spindle for lifting said bar, means for locking said bar in its raised position and means on the door-frame adapted upon the closing of the door, to push against said bar whereby said bar will be released from said locking means.

3. In door-locking mechanism, the combination with a door and door-frame, of a gravity-acting latch bar mounted on the lock stile of said door to slide obliquely, bolts connected with said bar and extending in the direction of the movement of said bar, means for lifting said bar, means for automatically locking said bar in its lifted position, and means for automatically releasing said bar, operative upon the closing of the door against its frame.

4. In door-locking mechanism, the combination with a hollow metal door-stile having inclined openings in its edge, of a latch-bar arranged within said stile, bolts connected with said bar and adapted to slide in said openings, means mounted in said stile to guide said bar in an oblique direction, and means for operating said bar.

5. In door-locking mechanism, the combination with a door, a latch-bar mounted to slide obliquely on said door, a knob-spindle mounted transversely to said bar, a plate on said spindle, and slotted links pivotally connected with said plate and bar and adapted to lift said bar when the spindle is turned in either direction.

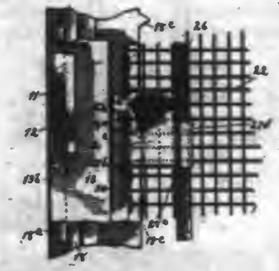
[Claims 6 to 12 not printed in the Gazette.]

980,132. PARTITION-WALL TIE. THOMAS P. SHEAN, Chicago, Ill. Filed Feb. 18, 1910. Serial No. 544,532.

1. In the construction of walls, a hollow metal frame having projecting marginal flanges, a metal bar set in the wall, and a sheet metal tie having portions interlocking with the frame and with said bar.

2. In the construction of walls, a hollow metal frame having projecting free edges, a metal stiffening bar adapted to be set in the wall, and a metal tie adjustably arranged on said bar and frame and interlocking therewith.

3. In the construction of walls, a metal frame or jamb having its edges bent to form clips, a metal stiffening bar adapted to be secured in the wall, a metal tie having clips interlocking with said bar and other clips interlocking with said frame or jamb.

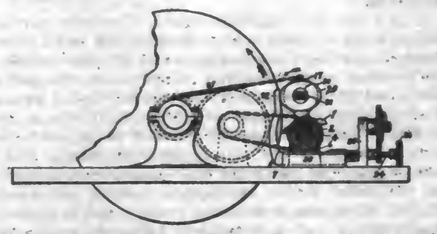


4. In the construction of walls, a hollow metal frame, a metal molding secured to said frame, a metal bar set in the wall, and a metal tie, said frame, molding, tie and bar having interengaging portions detachably connecting them together.

5. In the construction of walls, a hollow metal frame, a metal molding removably connected to said frame, a metal bar set in the wall and an adjustable metal tie adapted to interlock with said frame, molding and bar.

[Claims 6 to 10 not printed in the Gazette.]

980,133. LENS-GRINDING MACHINE. WILLIAM J. SLAVIN, Horseheads, N. Y., assignor to Winchester Optical Company, Horseheads, N. Y., a Corporation of New York. Filed Jan. 15, 1910. Serial No. 588,314.

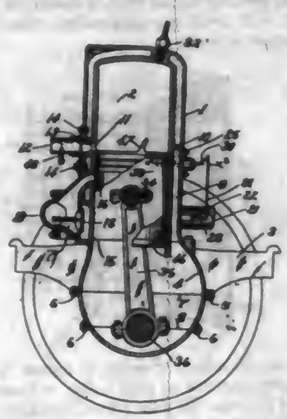


1. In a lens grinding machine, the combination with the grinding stone, of a lens holder having a central box intermediary of two other boxes, a reciprocable and rotatable shaft independently carried in said box, said central shaft having a central and squarely formed tenon with shoulder for taking on the lens pattern at one end and the lens gripping head at the other for coöperation with two outer shafts.

2. In a lens grinding machine, the combination with the grinding stone of a lens holder having a central box independent and intermediary of two outer boxes, an independent shaft in the central box, a lens pattern with a squared hole through its center to engage the central shaft, an outer shaft with cap with a squared central hole to also engage the central shaft and the lens pattern, and another outer shaft reciprocable to and from the central shaft and provided with a thread and nut for engagement with a rotatable sleeve for carrying and rotating said shaft.

3. In a lens grinding machine, in combination, a holder frame supported by two lower boxes, and having one central box and two end boxes in its upper portion, a shaft independently journaled in each of the upper boxes, the central shaft having a lens gripping head on one side of its box, and a squared tenon end on the other side, its gripping head communicable with a head on one of the outer shafts, and its tenon end communicable with a squared hole through the center of the lens former and the center of a cap covering the end of the other outer and rotatably driven shaft.

980,134. EXPLOSIVE-ENGINE. FRANK W. SPRINGER, Minneapolis, Minn. Filed Nov. 23, 1908. Serial No. 464,025.



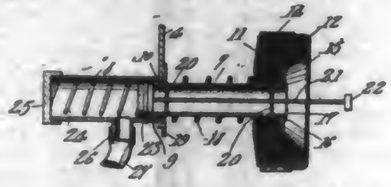
1. In a two-cycle explosive engine, a cylinder having an explosive end, a crank case or pumping end and a transfer passage connecting the crank case or pumping end of said cylinder with the working or explosion end thereof, when the piston is at the end of its working stroke, said cylinder also having circumferentially spaced fresh air intake ports, one of which is connected to the atmosphere and the other of which is connected to the delivery end of said transfer passage, and the said piston having a passage extending through the body thereof and terminating in circumferentially spaced ports adapted to connect the circumferentially spaced fresh air intake ports of said cylinder when said piston is at the beginning of its working stroke.

2. In a two-cycle explosive engine, a cylinder having an explosive end, a crank case or pumping end and a transfer passage connecting the pumping end of said cylinder to the working or explosion end thereof, when the piston is at the end of its working stroke, and having on each side of said transfer passage circumferentially spaced fresh air intake ports, the inner members of which are connected to the delivery end of said transfer passage and the outer members of which are connected to the atmosphere, and the piston having, on opposite sides of said transfer passage, air passages extended through the body portion of said piston and each terminating in circumferentially spaced ports arranged to connect the circumferentially spaced inner and outer ports of said cylinder, when said piston is at the beginning of its working stroke, whereby two opposing streams of fresh air are caused to meet in the delivery end of said transfer passage, substantially as described.

3. In a two-cycle explosive engine, a cylinder having an explosion end, a crank case or pump end an exhaust port, a fresh air intake passage, and a transfer passage connecting its working and pumping ends, a fuel supply passage connected to the pumping end of said cylinder, a piston in said cylinder arranged to open said transfer passage and exhaust port when at the end of its working stroke and to connect said fresh air intake port to the delivery end of the said transfer passage when said piston is at the beginning of its working stroke, a valve in said fresh air intake passage, a valve in said fuel supply passage, and a mechanical connection between said two valves whereby the control of the relative amounts of the explosive mixture admitted to the pumping end of the said cylinder and the fresh air admitted to said transfer passage may be regulated.

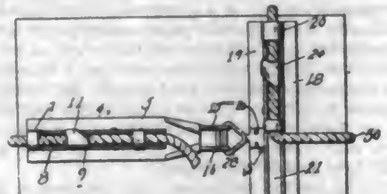
980,135. TRAIN-PIPE COUPLING. JOSIAH SULLIVAN and CHARLES E. SULLIVAN, McCook, Nebr. Filed July 23, 1910. Serial No. 573,405.

1. In a device of the class described, a support; a tubular coupling member slidable in the support and provided with an inlet port; a valve having a stem protruding at one end beyond the discharge end of the coupling member; means for yieldingly holding the valve between the port and the discharge end of the coupling member, the coupling member being enlarged in diameter intermediate its ends, to define in the interior thereof a shoulder to receive the valve, and to define upon the exterior of the coupling member a shoulder to bear against the support; and resilient means for normally holding the said shoulder in contact with the support.



2. In a device of the class described, a car body; spaced beams extended longitudinally of the car body; an angle plate having one of its flanges connecting the beams to define with the beams a channel for the reception of a coupling beam, the other flange of the angle plate being disposed in upright position beneath the car body; a tubular coupling member swiveled in the upright flange of the angle plate; a head secured to the forward end of the coupling member; resilient means for actuating the head away from the upright flange of the angle plate; and means engaging the upright flange of the angle plate to maintain the axis of the coupling member normally at right angles thereto.

980,136. BALE OR PACKAGE TIE. EDWARD WALDEN, Ardmore, Okla. Filed Sept. 18, 1909. Serial No. 518,418.



1. A bundle tie comprising a cord and an engaging member provided with a cord clamping lever, a means for positively engaging one end of the cord, a means about which the cord turns and passes laterally from the member, and further provided with a loop upon that side opposite to the side from which said cord extends, said loop being approximately in alinement with the cord turning means, and an attaching member having a cord clamping member, and a hook engaging said loop.

2. A bundle tie comprising a cord an engaging member provided with a base, a means for positively engaging one end of the cord, a cord clamping member on said base, means about which the cord turns and passes laterally from one side of the base, a loop upon the opposite side of said base disposed approximately in alinement with said means, and an attaching member provided with a base and a cord clamping member on said base, and further provided at one end of its base with a hook engaging said loop.

980,137. TORPEDO-PLACER. EDWARD P. S. ANDREWS, West Windham, N. H. Filed Feb. 1, 1910. Serial No. 541,256.

1. A torpedo placer having a torpedo guide to feed the torpedoes to the rails when the train is in motion, and a foot-plate to retain the placer in operative position, hinged to the guide and otherwise free to rest on the platform of the car.

2. A portable torpedo placer having a torpedo guide adapted to feed torpedoes to the rails when the train is in motion, and a foot plate to retain the placer in operative position, hinged to the placer to adapt the latter to swing in a vertical plane to accommodate itself to the rail.



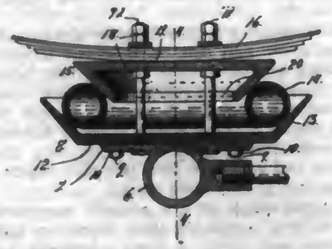
3. A portable torpedo placer comprising a handle bar, a rail shoe attached to the lower end of the handle bar, the handle bar and rail shoe having a guide for directing the torpedoes onto the rails, and a foot-plate to retain the placer on the car, having a hinged connection with the handle bar to adapt the placer to swing in a vertical plane to accommodate the shoe to the rail.

4. In a torpedo placer, the combination of a handle bar, a rail shoe attached to the lower end of the handle bar, the handle bar and rail shoe having a torpedo guide to direct the torpedoes onto the rails, and a foot-plate to retain the placer in operative position, adjustable along the length of the handle bar and having a hinged connection therewith to accommodate the shoe to the rail and adapt the foot-plate to extend outwardly from the handle bar or along the length thereof.

5. A torpedo placer having a torpedo guide to feed torpedoes to the rail when the train is in motion, and a guard arranged over the guide to insure safe transit of the torpedoes, and open at the front, whereby the torpedoes are accessible along the length of the guide.

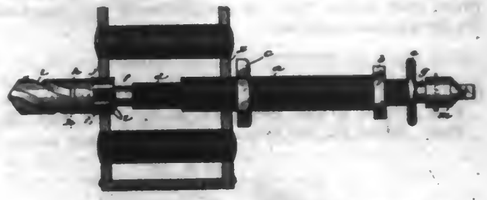
[Claims 6 and 7 not printed in the Gazette.]

980,138. PNEUMATIC CUSHION FOR VEHICLES. GEORGE J. BANCROFT, Denver, Colo. Filed Mar. 18, 1908. Serial No. 421,958.



The combination with a vehicle, of a hollow member having inclined sides outwardly flared from the bottom of the member, the latter being open at the top and secured to the running gear of the vehicle, a pneumatic tube seated in said member and engaging the inclined sides thereof, a hollow, inverted bearing open at the bottom, secured to a spring of the vehicle, the said bearing having inclined sides, inwardly flared from the base thereof, the outer surface of its inclined walls engaging said tube, the coöperating bearing and hollow member being of counterpart shape and separated by the said tube, connecting bolts passing through the bearing and hollow member, the openings in the hollow member, through which the bolts pass, being considerably larger in diameter than the said bolts, to allow the bearing and hollow member an independent movement, whereby the vibrations incident to the travel of the vehicle are taken up by the pneumatic tube.

980,139. STAY-BOLT DRILL. HARRY L. BARRICKMAN, Richwood, W. Va., assignor of one-third to Haze Morgan, Clarksburg, W. Va. Filed Oct. 7, 1909. Serial No. 521,637.

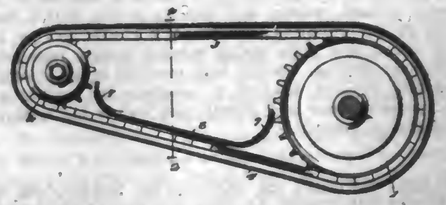


The combination of a tubular barrel *a* having an enlargement at one end thereof, a tubular feed screw *d* screw-threaded in said barrel *a*, a spindle *f* fitting and longitudinally movable in said feed screw *d*, and having a drill-bit secured at one end thereof and the other end shaped to engage with a motor or other device suitable for imparting a rotary motion to it, the periphery of the barrel *a* being screw-threaded from the end nearest the drill-bit to the enlargement at the opposite end of the barrel, and said enlargement being shaped to be engaged by a wrench, and a jam-nut on said screw-threaded periphery of the barrel *a*.

980,140. BLUE VAT DYE. WILHELM BAUER, Vohwinkel, near Elberfeld, and ALFRED HERRE, Elberfeld, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Original application filed Sept. 8, 1909, Serial No. 516,686. Divided and this application filed Sept. 29, 1910. Serial No. 584,526.

The herein described dyestuff obtainable from dichloroisatin-alpha-chlorid and 1-anthrol, which dyestuff is in a dry state a blue crystalline powder, soluble in hot benzene with a pure blue and in concentrated sulfuric acid with an olive coloration, and which yields with hydrosulfite and caustic soda lye an orange vat from which cotton is dyed a pure blue, substantially as described.

980,141. CHAIN CASE AND GEARING. PRESTON H. BREED, Pittsfield, Mass., assignor to Alden Sampson Manufacturing Company, Pittsfield, Mass. Original application filed Sept. 1, 1909, Serial No. 515,650. Divided and this application filed July 11, 1910. Serial No. 571,446.

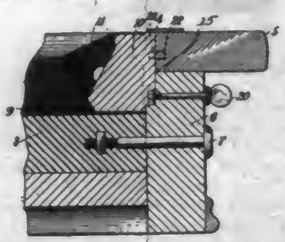


1. The combination with a driving sprocket and a driven sprocket apart from the driving sprocket and adapted to receive a sprocket chain, of a case extending from one sprocket to the other and having an interior chain receiving member located in the case adjacent the sprockets for the purpose described.

2. The combination with a driving chain, a driving and a driven sprocket adapted to receive said driving chain, of a chain case having an interior dimension greater than the respective diameters of the said sprockets, and a longitudinally extending shelf located within the case and between lines drawn from the peripheries of the sprockets, the ends of the shelf turned upward and extending adjacent the sprockets.

3. The combination with a driving sprocket and a driven sprocket apart from the driving sprocket, a chain passing around the sprockets, a chain case extending between the sprockets, the case having side walls and an interior dimension greater than the respective diameters of the sprocket wheels, and a longitudinally extending shelf projecting from the side walls of the case and located between lines drawn from the peripheries of the sprockets for the purpose described.

980,142. COMBINATION POOL AND BILLIARD TABLE. JOHN BYNER, New York, N. Y. Filed Sept. 13, 1909. Serial No. 517,385.



1. A combination pool and billiard table having pockets and having notches formed in the cushion rail thereof adjacent to said pockets, said pockets having pocket irons with shanks projecting over the edges of said notches, cushion bars received in said notches adapted to complete the cushion rail and projecting under said shanks, and means for retaining said bars in said notches.

2. A combination pool and billiard table having a corner pocket with a notch formed in a cushion rail at one side of said pocket, said notch presenting an inclined face and a face substantially parallel to the rail, a cushion bar received in said notch completing the cushion and having an inclined end face abutting against said first-named inclined face, said table having a second notch on the other side of the pocket in the cushion rail thereof, presenting a face transverse to the rail at this point and presenting a face running longitudinally of the rail at this point, a cushion bar completing the cushion rail and fitting in said second notch, said bars having inclined faces meeting together to form a miter joint, and means for retaining said bars in said notches, said pocket having a pocket iron with shanks projecting over the edges of said notches and adapted to rest against the upper faces of said cushion bars.

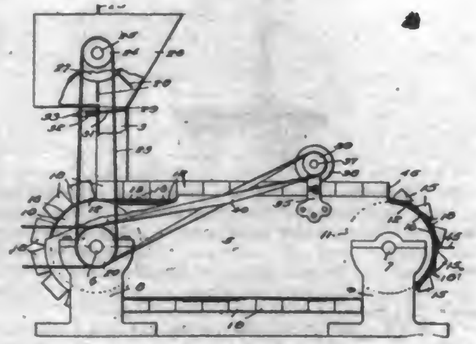
3. A combination pool and billiard table having pockets, and having notches formed in the cushion rail thereof adjacent to said pockets, said pockets having pocket irons with shanks projecting over the edges of said notches, the side rail of said table having recesses therein registering with said notches, cushion bars received in said notches and said recesses, adapted to complete the cushion rail and project under said shanks, and means for retaining said bars in position.

980,143. METHOD OF OBTAINING SOLUTIONS OR QUASI SOLUTIONS OF CERTAIN METALLIC OXIDS. ZACHARIAH CARTWRIGHT, Ilford, England. Original application filed June 29, 1909, Serial No. 505,045. Divided and this application filed Jan. 12, 1910. Serial No. 537,763.

1. A process for separating certain metallic oxids, consisting in placing the said oxids in an aqueous solution having not less than 0.5 per cent. of a saponaceous material; then increasing the percentage slowly to obtain the desired color, then precipitating the oxids in the said solution by the addition of an alkali and then decanting the liquid.

2. A process of separating certain metallic oxids, consisting in placing the said oxids in an aqueous solution having not less than one-half of one per cent. nor more than five per cent. of a saponaceous material; then precipitating the oxids in the said solution by the addition of an alkali thereto; and then decanting the liquid carefully to obtain separate layers of liquid varying in color.

980,144. GYPSUM-BLOCK-MAKING MACHINE. WILLIAM M. COWLEY, Richfield, Utah. Filed Jan. 28, 1910. Serial No. 540,556.



1. The combination in a machine of the character described, of a suitably supported driving drum, a suitably supported idler drum, an endless belt passing over said drum, mold blocks secured to said belt, dividing panels hingedly secured to said belt and side boards hinged to said belt for coaction with said blocks.

2. The combination with a driving drum, of an idler drum, an endless belt passing over said drum, mold blocks secured to said belt, side boards hinged to said belt adjacent to the ends of said mold block, dividing panels hingedly secured to said belt and means to hold said side boards at times against said mold blocks.

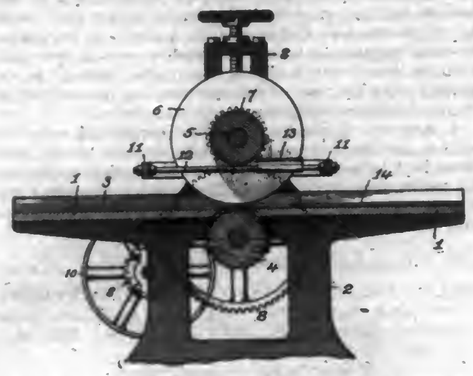
3. The combination with a suitably supported endless belt, of mold blocks secured to said belt, side boards hinged to said belt arranged to work against the ends of said block, means to hold said side boards at times against said block, and dividing panels hingedly secured to said belt at predetermined points between said blocks and side boards.

4. The combination with a suitably driven endless belt, of a table below said belt, mold blocks secured to said belt, dividing panels secured to said belt between said molding blocks at predetermined points, side boards hingedly secured to said belt working against the end of said mold blocks, dividing panels hingedly secured to said belt at predetermined points between said blocks and said boards, and means to hold said side boards at times against the end of said mold blocks.

5. The combination with a suitably supported driving drum, a suitably supported idler drum, an endless belt passing over said drum, a table positioned below said belt, mold blocks carried by said belt, side boards hingedly connected to said belt, for coaction with said blocks, dividing panels hingedly secured to said belt at predetermined points between said blocks and said boards, means to hold said side boards against said mold blocks at times, a chute terminating above said belt, a pressing roller, and means to synchronously operate said belt and pressing roller.

[Claim 6 not printed in the Gazette.]

980,145. CUTTING-MACHINE. GEORGE F. DICKSON, Chicago, Ill., assignor to Confectioners and Bakers Supply Co., Chicago, Ill., a Corporation of Illinois. Filed Dec. 17, 1909. Serial No. 533,626.



1. In a cutting machine, the combination of a supporting frame, a table, a feed roll, a series of separated cutters revolubly mounted on said frame, a series of supporting rods carried by the frame and arranged in pairs, each pair being individual to a space between the cutter blades, and a series of scrapers mounted on said rods, each scraper being individual to one side of a cutter blade and having a clearance space with relation to the supporting rod of a companion scraper, substantially as set forth.

2. In a cutting machine, the combination of a supporting frame, a table, a feed roll, a series of separated cutters revolubly mounted on said frame, a series of supporting rods carried by the frame and arranged in pairs, each pair being individual to a space between the cutter blades and a series of scrapers mounted in alternate relation to the axis of revolution of the cutter blades on said rods, each scraper being individual to one side of a cutter blade and having a clearance space with relation to the supporting rod of a companion scraper, substantially as set forth.

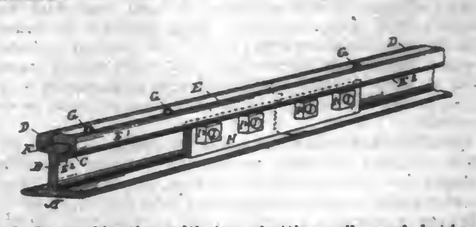
3. In a cutting machine, the combination of a supporting frame, a table, a feed roll, a series of separated circular cutter blades, a rectangular frame inclosing the series of cutter blades, longitudinal rods carried by said frame, and extending through the spaces between the cutter blades and a series of scrapers carried by said rods and arranged in pairs, each pair being individual to a cutter blade and adapted to bear upon and have scraping engagement with opposite sides of the same, substantially as set forth.

4. In a cutting machine, the combination of a supporting frame, a table, a feed roll, a series of separated circular cutter blades, a rectangular frame inclosing the series of cutter blades, pairs of longitudinal rods carried by said frame, and extending through the spaces between the cutter blades and a series of scrapers arranged in pairs, each pair being individual to a cutter blade and arranged at opposite sides of said cutter blades and at opposite sides of the axis of rotation of the cutter blades, substantially as set forth.

980,146. RAILWAY-RAIL AND NUT-LOCK FOR FISH-PLATE BOLTS. ALFRED P. FINLEY, Sherman, Tex. Filed May 12, 1910. Serial No. 561,012.

1. A railway-rail comprising a permanent base and web portion of usual construction, the web terminating in a laterally projecting rib having an upwardly flanged portion forming part of the rail-head, a removable head portion channeled to receive the rib portion, and connecting devices for the rib and head extending therethrough, substantially as and for the purpose described.

2. A railway-rail comprising a removable head portion and an outwardly projecting rib portion, both perforated vertically at regular intervals, the rib being flanged upwardly forming the outer part of the rail-head, and the removable head portion extending downwardly and inwardly embracing the outwardly projecting rib and resting on the top side of the nuts of the fish-plate bolts effecting a lock therefor, substantially as and for the purpose described.



3. In combination with two abutting rails, each having a portion of the head cut away, of a removable head portion fitting thereon and making a flush joint therewith, and connecting devices, a downwardly and inwardly projecting flange on the removable head section resting on the top side of the nuts of the fish-plate bolts effecting a lock therefor, substantially as and for the purpose described.

980,147. LUMBER EDGER, TRIMMER, AND LATH MILL. ANTON S. FROSLID, Portland, Oreg., assignor to Silkworth-Froslid Machinery Company, Portland, Oreg., a Corporation of Oregon. Filed Feb. 14, 1910. Serial No. 543,769.

1. The combination, in a lumber trimmer, of a feed table, and circular saws rotating in vertical planes at right angle with and across said table, said saws being mounted in frames which swing upon axes that in turn are mounted in frames which swing upon another axis, said arbor frames traveling on guide ways located at different heights with dropping places from one to the other, all substantially as described.

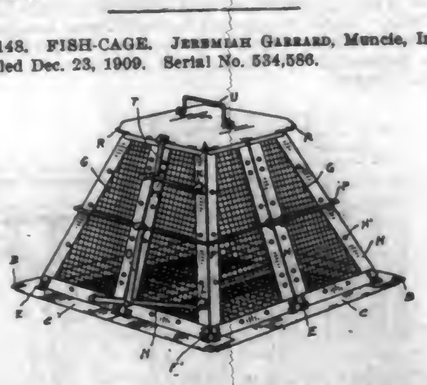
2. The combination, in a lumber edger and trimmer, of a feed table, circular saws rotating in vertical planes parallel with the line of feed, and circular saws rotating in vertical planes at right angle with and across said table, said saws being mounted in frames which swing upon axes that in turn are mounted in frames which swing upon another axis, said arbor frames traveling on guide ways located at different heights with dropping places from one to the other, all substantially as described.

3. The combination, in a lumber edger, trimmer and lath mill, of a feed table, circular saws rotating in vertical planes parallel with the line of feed, circular saws rotating in horizontal planes above said table, and circular saws rotating in vertical planes at right angle with and across said table, said latter saws being mounted in frames which swing upon axes that in turn are mounted in frames which swing upon another axis, said arbor frames traveling on guide ways located at different heights with dropping places from one to the other, all substantially as described.

4. The combination, in a lumber edger and trimmer, of a feed table, circular saws rotating in vertical planes parallel with the line of feed, a circular grooving saw rotating in a vertical plane parallel with the line of feed and projecting slightly above said table, projections from said table placed in line with said grooving saw, and circular saws rotating in vertical planes at right angle with and across said table, said saws being mounted in frames which swing upon axes that in turn are mounted in frames which swing upon another axis, said arbor frames traveling on guide ways located at different heights with dropping places from one to the other, all substantially as described.

5. The combination, in a lumber edger, trimmer and lath mill, of a feed table, circular saws rotating in vertical planes parallel with the line of feed, circular saws rotating in horizontal planes above said table, a circular grooving saw rotating in a vertical plane parallel with the line of feed and projecting slightly above said table, projections from said table placed in line with said grooving saw, and circular saws rotating in vertical planes at right angle with and across said table, said saws being mounted in frames which swing upon axes which in turn are mounted in frames that swing upon another axis, said arbor frames traveling on guide ways located at different heights with dropping places from one to the other, all substantially as described.

980,148. FISH-CAGE. JEREMIAH GARRARD, Muncie, Ind. Filed Dec. 23, 1909. Serial No. 534,586.



1. A device of the kind described, comprising a bottom-section composed of sub-sections hingedly secured together, there being a succession of holes arranged along the outer edges of said bottom-section, body-sections composed of sub-sections hingedly secured together, said body-sections to co-engage each other at their sides and having projections on their bottoms to engage the holes in said bottom-section, a collapsible girdle to encompass the said body sections, connections carried by one of the body-sections to tighten said girdle into contact with the said body-sections.

2. A device of the kind described, comprising a bottom-section composed of sub-sections hingedly secured together, there being a succession of holes arranged along the outer edges of said bottom-section, polygon-shaped body-sections composed of sub-sections hingedly secured together and having coöperative connections on their sides, and there being projections provided on their bottoms to engage the holes in said bottom-sections, a collapsible girdle to encompass the said body-sections, means carried by the body-sections to tighten the girdle into contact with the body-sections, a top-section detachably connected to one of the said body-sections, means to lock the top-section into engagement with the body-sections, substantially as described.

3. A device of the kind described, comprising a bottom section, similar polygon shaped body-sections having their bases to engage the said bottom section, a girdle to encompass the body-sections, means carried by one of the body-sections to engage the said girdle, means carried by one of the other body-sections to draw and to hold the girdle into tightened engagement with the body-sections, a top-section having connection with the upper edge of one of the body sections, means carried by one of the body-sections to draw and to hold the top-section into tightened engagement with the body-sections.

4. A device of the kind described comprising a bottom section, polygon shaped body-sections having their bases to engage the said bottom-section, a girdle to encompass the body-sections, a lever fulcrumed on one of the body-sections there being a lug carried by the latter to be engaged by the free end of the said lever, a link carried by the lever to detachably engage the said girdle.

5. A device of the kind described comprising a bottom section, similar polygon-shaped body sections having their bases to detachably engage said bottom section, a collapsible girdle to encompass the body-sections, connections carried by one of the body-sections to tighten the said girdle into contact with the said body-sections.

980,149. PEDAL-KEYBOARD MUSICAL INSTRUMENT. THOMAS F. GAYNOR, New York, N. Y., assignor to Pedaphone Company, a Corporation of New York. Filed Mar. 7, 1908. Serial No. 419,610.



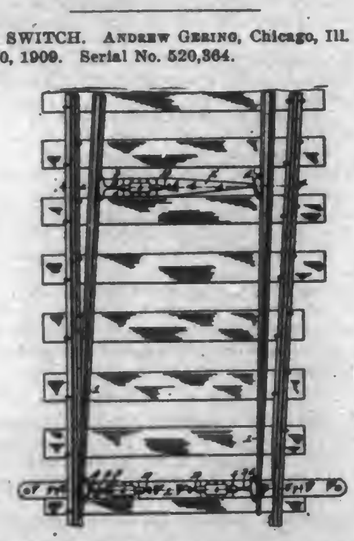
1. A pedal keyboard musical instrument constructed so that it can be played by a person with his feet while in a standing position thereon and so that he can be seen therefrom in all directions horizontally, and consisting of a keyboard platform box, a series of pedal key actuated bellows arranged within the platform box, a corresponding series of tone producers mounted in a frame so as to be over the head of the player, a series of tubes connecting the bellows with the tone producers, and a pair of hollow standards mounted upon the platform box and supporting the tone producer frame and tubes in position, and all combined as described.

2. A pedal keyboard musical instrument constructed so that it can be played by a person with his feet while in a standing position thereon and so that he can be seen therefrom in all directions horizontally, and consisting of a keyboard platform box, a series of pedal key actuated bellows arranged within the platform box, a corresponding series of tone producers mounted in a frame so as to be over the head of the player, a series of tubes connecting the bellows with the tone producers, a pair of hollow standards mounted upon the platform box and supporting the tone producer frame and tubes in position, and a hand support connected with the standards, all combined as described.

3. A pedal keyboard musical instrument constructed so that it can be played by a person with his feet while in a standing position thereon, and consisting of a keyboard platform box, a series of pedal key controlled bellows arranged within the platform box, a corresponding series of tone producers mounted in a frame so as to be over the head of the player, a series of tubes connecting the bellows with the tone producers, and a pair of hollow standards mounted upon the platform box and supporting the tone producer frame and tubes in position thereupon, all combined as described.

4. A pedal keyboard musical instrument constructed so that it can be played by a person with his feet while in a standing position thereon, and consisting of a keyboard platform box, a series of pedal key controlled bellows arranged within the platform box, a corresponding series of tone producers mounted in a frame so as to be over the head of the player, a series of tubes connecting the bellows with the tone producers, a pair of hollow standards mounted upon the platform box and supporting the tone producer frame and tubes in position thereupon, and a hand rail support connected with the standards by means of which the player can support himself by his hands, all combined as described.

980,150. SWITCH. ANDREW GERING, Chicago, Ill. Filed Sept. 30, 1909. Serial No. 520,364.



1. The combination with the switch tongues of a switch, of a shifting bar; rectangular casings secured to either end of said bar; two springs in each of said casings; nuts fitting within said casings between said springs; slidable threaded rods engaging said nuts and secured to said tongues; plates in the ends of said casings opposite to said rods; and threaded rods for adjusting said plates, substantially as described.

2. The combination with the switch tongues of a switch, of a shifting bar; rectangular casings secured to either end of said bar; two springs in each of said casings; nuts fitting within said casings between said springs; slidable threaded rods engaging said nuts and secured to said tongues; plates in the ends of said casings opposite to said rods; threaded rods for adjusting said plates; a supplemental connecting bar having one end secured to one switch tongue; a rectangular casing secured to the other end of said connecting bar; two springs in said casing; a nut fitting within said casing between said springs; and a slidable threaded rod engaging said nut and secured to the other switch tongue, substantially as described.

980,151. AUTOMATIC MUSICAL INSTRUMENT. FRANK WILLIAM GUNTON, London, England, assignor to The Wilcox & White Company, Meriden, Conn., a Corporation of Connecticut. Filed Apr. 2, 1909. Serial No. 487,498.

1. In a grand piano having automatic playing mechanism, a hammer action, a manual key for operating said action, a pivot therefor arranged intermediate its length, an auxiliary key, a pivot therefor arranged intermediate its length, the pivot of the auxiliary key being arranged to the rear of the pivot of the manual key, the inner end of the manual key making operative connection with the auxiliary key adjacent the extreme inner end of the latter, whereby both of said keys may impart the same range of movement to said hammer action.

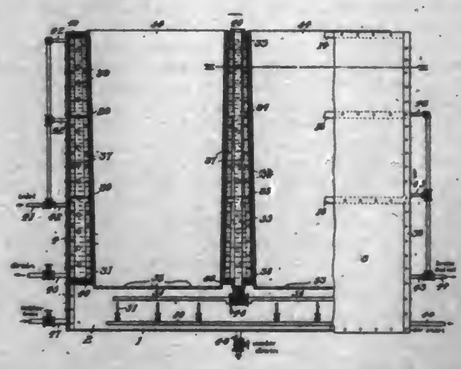


2. In a grand piano having automatic playing mechanism, a hammer action, a manual key for operating said action, a pivot therefor arranged intermediate its length, an auxiliary key, a pivot therefor arranged intermediate its length, the pivot of the auxiliary key being arranged to the rear of the pivot of the manual key, the inner end of the manual key making operative connections with the auxiliary key adjacent the extreme inner end of the latter, whereby both of said keys may impart the same range of movement to said hammer action, and adjustable means interposed between the coöperating portions of said keys.

3. In a grand piano, a hammer action, a pivoted key lever for both automatic and manual operation of said action, a pivot therefor intermediate its length, a second key lever for manual operation pivoted independently of the first and at a point in front of the pivot of the former, contacting means between the extreme rear ends of both levers, whereby a movement of the second lever will impart operative movement to the first mentioned lever and whereby movement of the first mentioned lever may be independent of the second mentioned lever.

4. In a grand piano, a hammer action, a pivoted key lever for both automatic and manual operation of said action, a pivot therefor intermediate its length, a second key lever for manual operation pivoted independently of the first for manual operation and at a point in front of the pivot of the former, a connection between the rear ends of both levers whereby a movement of the second lever will impart operative movement to the first mentioned lever and whereby movement of the first mentioned lever may be independent of the second mentioned lever and means for holding the second mentioned lever in a position of rest during the movement of the first mentioned lever.

980,152. RAW-WATER-FREEZING APPARATUS. FRED W. HAAS, Pittsburg, Pa., assignor of one-third to George N. Powell, Pittsburg, Pa. Filed Oct. 21, 1909, Serial No. 523,754. Renewed Oct. 15, 1910. Serial No. 587,315.



1. In an ice-making apparatus, a can to contain water to be frozen, means for injecting air into the can from below, and means in the path of the air to intercept the air and conduct it away from the can when the water in the can freezes entirely across the same.

2. In an ice making apparatus, jacketed compartments means for supplying the jacket with refrigerant, remov

able ice cans seated in the compartments and having their lower ends open and below the bottom of the refrigerant containing jacket whereby ice cannot form externally of the sides thereof and beneath the jacket.

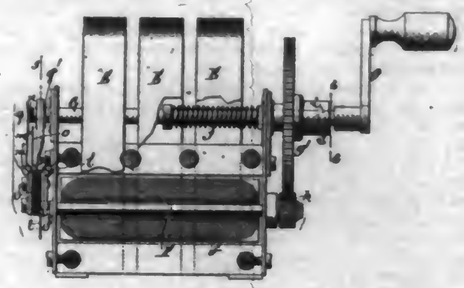
3. In an ice-making machine, a tank, a refrigerant compartment located in the tank above the bottom thereof and having walls preventing the passage of fluid between the tank and the compartment, and an ice-can surrounded laterally by the said chamber and having its bottom perforated and below the bottom of the said chamber whereby the ice cannot form externally of the sides of the can and beneath the refrigerant compartment.

4. In an ice making apparatus, a refrigerant jacket having upright plates spaced apart at the top and bottom by channeled plates opening outwardly, and heat insulating material in the channels.

5. In an ice making apparatus, a casing having upright jacketed walls surrounding compartments for the water to be frozen, means for dividing the jacket into different levels, pipes at the tops of the levels for injecting refrigerant, and pipes at a lower portion of the levels for conducting the refrigerant away.

[Claims 6 to 11 not printed in the Gazette.]

980,153. MAGNETO-ELECTRIC GENERATOR. THOMAS S. HUMPHWAY, Buffalo, N. Y., assignor to Ericsson Manufacturing Company, Tonawanda, N. Y., a Corporation of New York. Filed May 25, 1908. Serial No. 434,788.

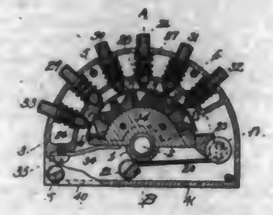


1. In an electric generator, the combination of the armature-shaft, a longitudinally-movable driving shaft connected therewith, a circuit-interrupter comprising a member mounted on said driving-shaft and a brush coöperating with said member and a contact-spring connected with one terminal of the generator and coöperating with said brush, said driving shaft normally engaging the contact spring and holding it out of contact with said brush, substantially as set forth.

2. In an electric generator, the combination of the armature-shaft, a longitudinally-movable driving shaft, gearing for transmitting motion from the driving shaft to the armature shaft at a multiplied speed, a spring tending to shift the driving shaft to its normal position, means for automatically shifting said shaft in the opposite direction during its initial rotation, a circuit-interrupter comprising a projection carried by said driving shaft and a brush coöperating therewith and having a contact-spring, and a second contact-spring connected with one terminal of the generator and coöperating with the first-named contact-spring, the driving shaft being provided at its end with an insulator which bears normally against said second contact-spring to hold it out of engagement with the other contact-spring, substantially as set forth.

980,154. LOCK. ELAM HERSHEY, Philadelphia, Pa. Filed Apr. 15, 1910. Serial No. 555,688.

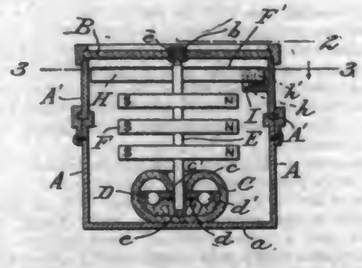
1. In a lock of the character described, a casing, a rotatable sector mounted therein carrying a plurality of interchangeable members each provided with a transverse slot, key pins adapted to engage with said slots and actuate the said sector upon a predetermined sequence actuation of said key pins, and a locking pin in operative relation with said sector, all substantially as and for the purpose shown and described.



2. In a lock of the character described, the combination with a casing provided with key pins mounted therein and a locking pin, of a rotatable sector mounted in said casing carrying a plurality of members each provided with a transverse slot, said key pins adapted to engage with said slots and actuate the said sector upon a predetermined sequence actuation of said key pins, and said sector operatively connected to said locking pin, all substantially as and for the purpose shown and described.

3. In a lock of the character described, the combination with a casing provided with a plurality of key pins mounted therein and a locking pin, of a rotatable member mounted in said casing carrying a plurality of interchangeable members each provided with a slot, said key pins adapted to engage with said slots and revolve the said sector in one direction upon a predetermined actuation of said key pins and in a reverse direction upon a non-sequence actuation thereof, and said sector operatively connected to said locking pin, all substantially as and for the purpose shown and described.

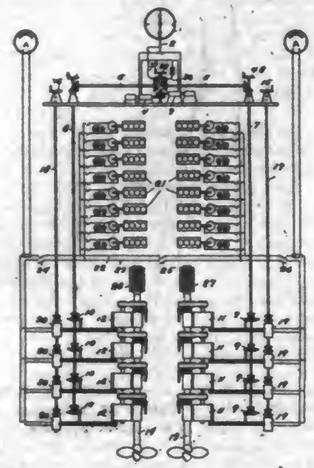
980,155. MARINE COMPASS. HARRY HERTZBERG, New York, N. Y., assignor to Abbot A. Low, Horseshoe, N. Y., Maurice J. Wohl, New York, N. Y., and Harry Hertzberg, Brooklyn, N. Y., trustees. Original application filed Aug. 14, 1906, Serial No. 330,613. Divided and this application filed May 31, 1907. Serial No. 376,728.



1. A compass comprising a box, a non-spillable liquid cup positioned therein, the side wall of said cup being curved inwardly upon itself and producing a mouth, the diameter of which is less than that of said cup, a staff stepped in the cup and extending through the small diameter mouth portion thereof to a point above said cup, a magnetic needle mounted on the staff, and a float attached to the staff and adapted to be immersed in liquid to be contained in the cup.

2. A compass comprising a box having a staff bearing at its top, a non-spillable cup positioned in the box, at the lower portion thereof, a staff extending through the upper part of said cup, the lower end of said staff being mounted in the cup and the upper end thereof in the bearing of the casing, a magnetic needle on the staff exteriorly to said cup, a circuit controller carried by the staff, circuit terminals in the path of said circuit controller, and a float attached to the staff and immersed in liquid adapted to be contained in said cup for the purpose of sustaining, primarily, the weight of said needle and the circuit controller.

980,156. STEERING MEANS FOR VESSELS. HARRY HERTZBERG and MAURICE J. WOHL, New York, N. Y., assignors to Maurice J. Wohl and Harry Hertzberg, New York, N. Y., and Abbot A. Low, Horseshoe, N. Y., trustees. Filed Dec. 12, 1908. Serial No. 467,234.



1. A vehicle provided with a plurality of propellers, independent driving means for said propellers, a compass, and means operated by said compass for controlling said driving means.

2. A vehicle having a plurality of propellers, separate means for driving said propellers in unison, and means for automatically and momentarily varying the relative speed of said driving means.

3. A vehicle having a plurality of propellers each of which is provided with a plurality of independent driving units, a plurality of independent means for cutting out one or more of said driving units, and means for automatically varying the operation of said driving units whereby said propellers may be driven at different speeds.

4. A vessel having a plurality of propellers, operating motors for said propellers, mechanism arranged to be operated intermittently to control said motors, and means for varying the periodicity of said intermittent operation.

5. A vessel having a plurality of propellers, operating motors for said propellers, mechanism arranged to be automatically operated intermittently to control said motors, and means for varying the periodicity of said intermittent operation.

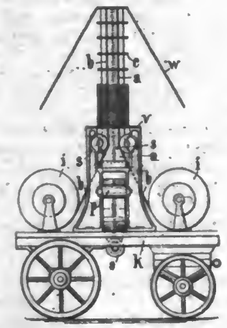
[Claims 6 to 8 not printed in the Gazette.]

980,157. PORTABLE, EXTENSIBLE, AND RETRACTABLE MAST. FRITZ JAEGER, Magdeburg, and ALEXANDER SIEWERT, Wilmersdorf, near Berlin, Germany; said Jaeger assignor to said Siewert. Filed Apr. 24, 1909. Serial No. 492,078.

1. An extensible mast composed of a plurality of flexible, collable metal strips detachably assembled parallel to a common axis and at an angle one to another, and rigid metal cross pieces placed at intervals perpendicular to said axis surrounding and retaining the flexible strips in position.

2. An extensible mast composed of a plurality of flexible metal strips detachably assembled parallel to a common axis and at an angle one to another and adapted to be taken apart and coiled for transport, and rigid metal cross pieces placed at intervals perpendicular to said axis surrounding and retaining the flexible strips in position when the mast is erected.

3. An extensible and retractable mast composed of a plurality of flexible metal strips detachably assembled parallel to a common axis and at an angle one to another and adapted to be coiled for retracting the same, and rigid metal cross pieces placed at intervals perpendicular to said axis surrounding and retaining the flexible strips in position when the mast is erected, and allowing the flexible strips to be drawn through them.



4. An extensible and retractable mast composed of a plurality of flexible metal strips connected together at their upper ends, detachably assembled parallel to a common axis and at an angle one to another and adapted to be coiled for retracting the same; and rigid metal cross pieces placed at intervals perpendicular to said axis surrounding and retaining the flexible strips in position when the mast is erected, and allowing the flexible strips to be drawn through them.

980,158. ACETYLENE-GAS CONTAINER. CHARLES W. KAISER, Newark, N. J., assignor of one-half to J. Lawrence Mandeville, Newark, N. J. Filed Oct. 8, 1910. Serial No. 586,124.

1. A filler for acetylene gas containers, containing plaster of paris set in an impressible non-frangible form.

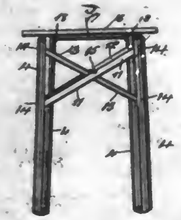
2. In an acetylene gas container, the combination with a receptacle, of a filler in said receptacle containing plaster of paris set in an impressible form.

3. In an acetylene gas container, the combination with a receptacle providing an interior chamber, of a filler in said chamber in contact with the wall thereof and containing plaster of paris set in an impressible form.

4. In an acetylene gas container, the combination with a receptacle providing an interior chamber, of an imperforate filling mass filling said chamber and containing plaster of paris set in an impressible form.

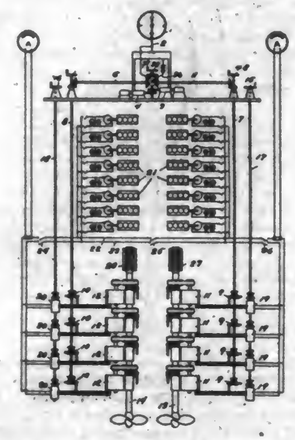
5. In an acetylene gas container, the combination with a receptacle providing an interior chamber, of an integral imperforate core filling the said chamber and containing plaster of paris set in an impressible non-frangible form.

980,159. CONVERTIBLE CANE AND STOOL. JOHN O. KAPP, Cincinnati, Ohio. Filed Oct. 20, 1909. Serial No. 523,735.



In a convertible cane and stool of the class described, quadruple parts, 4, 4, 4, 4, thereof, two of said parts having horizontally grooved centers at their upper portions, the lower portions of said quadruple parts depressed at 10 upon the flatter inner side thereof, said

980,156. STEERING MEANS FOR VESSELS. HARRY HERTZBERG and MAURICE J. WOHL, New York, N. Y., assignors to Maurice J. Wohl and Harry Hertzberg, New York, N. Y., and Abbot A. Low, Horseshoe, N. Y., trustees. Filed Dec. 12, 1908. Serial No. 467,234.



1. A vehicle provided with a plurality of propellers, independent driving means for said propellers, a compass, and means operated by said compass for controlling said driving means.

2. A vehicle having a plurality of propellers, separate means for driving said propellers in unison, and means for automatically and momentarily varying the relative speed of said driving means.

3. A vehicle having a plurality of propellers each of which is provided with a plurality of independent driving units, a plurality of independent means for cutting out one or more of said driving units, and means for automatically varying the operation of said driving units whereby said propellers may be driven at different speeds.

4. A vessel having a plurality of propellers, operating motors for said propellers, mechanism arranged to be operated intermittently to control said motors, and means for varying the periodicity of said intermittent operation.

5. A vessel having a plurality of propellers, operating motors for said propellers, mechanism arranged to be automatically operated intermittently to control said motors, and means for varying the periodicity of said intermittent operation.

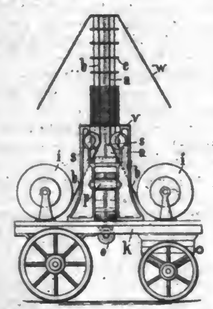
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2. An extensible mast composed of a plurality of flexible metal strips detachably assembled parallel to a common axis and at an angle one to another and adapted to be taken apart and coiled for transport, and rigid metal cross pieces placed at intervals perpendicular to said axis surrounding and retaining the flexible strips in position when the mast is erected.

3. An extensible and retractable mast composed of a plurality of flexible metal strips detachably assembled parallel to a common axis and at an angle one to another and adapted to be coiled for retracting the same, and rigid metal cross pieces placed at intervals perpendicular to said axis surrounding and retaining the flexible strips in position when the mast is erected, and allowing the flexible strips to be drawn through them.



4. An extensible and retractable mast composed of a plurality of flexible metal strips connected together at their upper ends, detachably assembled parallel to a common axis and at an angle one to another and adapted to be coiled for retracting the same; and rigid metal cross pieces placed at intervals perpendicular to said axis surrounding and retaining the flexible strips in position when the mast is erected, and allowing the flexible strips to be drawn through them.

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1. A filler for acetylene gas containers, containing plaster of paris set in an impressible non-frangible form.

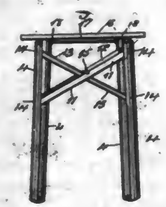
2. In an acetylene gas container, the combination with a receptacle, of a filler in said receptacle containing plaster of paris set in an impressible form.

3. In an acetylene gas container, the combination with a receptacle providing an interior chamber, of a filler in said chamber in contact with the wall thereof and containing plaster of paris set in an impressible form.

4. In an acetylene gas container, the combination with a receptacle providing an interior chamber, of an imperforate filling mass filling said chamber and containing plaster of paris set in an impressible form.

5. In an acetylene gas container, the combination with a receptacle providing an interior chamber, of an integral imperforate core filling the said chamber and containing plaster of paris set in an impressible non-frangible form.

980,159. CONVERTIBLE CANE AND STOOL. JOHN O. KAPP, Cincinnati, Ohio. Filed Oct. 20, 1909. Serial No. 523,735.



In a convertible cane and stool of the class described, quadruple parts, 4, 4, 4, 4, thereof, two of said parts having horizontally grooved centers at their upper portions, the lower portions of said quadruple parts depressed at 10 upon the flatter inner side thereof, said

groove adapted to receive the U-shaped brace support 11, whose center portion moves out of said groove in the upper center portion of said parts as a stool, forming an angular brace between two of said quadruple parts as a stool, a smaller brace adapted to lie partially concealed within said groove when said parts form a cane but serving as cross brace 13 when the parts are opened out as a stool, the means 14 for securing said brace supports in position as a stool, flat slotted braces 8, slots 9 therein, means 6, 7, to hold said slotted braces in position as a stool, a hole 20 in the upper end of each of two of said quadruple parts, a seat 18, seat pin 19 engaging said holes as the means for retaining said seat in place as a stool, said quadruple parts folding together as a cane, ferrules 2, and retaining band 3 as the means for retaining said quadruple parts with their concealed parts in the form of a cane, substantially as described and for the purposes set forth.

980,160. TRANSOM DRAFT-RIGGING. EDMUND P. KINNE, Alliance, Ohio, assignor, by mesne assignments, to American Steel Foundries, New York, N. Y., a Corporation of New Jersey. Filed Nov. 17, 1906. Serial No. 343,881.



1. A draft rigging including a draft member provided at one end with a pocket closed at its rear end, open at its front end and provided with shoulders in front of its closed back, a yoke extending through the open end of the pocket with its closed end limited in its rearward movement by the closed back of the pocket, a follower in the pocket and coöperating with the shoulders thereof, and a spring interposed between and bearing against the follower and the closed end of the yoke, substantially as described.

2. A draft frame having integral therewith at one end a spring pocket extending below the bottom of the draft member, and at least one vertical longitudinal flange connecting the projecting lower portion of the pocket with the under side of the draft member, substantially as described.

980,161. BRUSH. JAKOB KNOLLER, Berlin, Germany. Filed Nov. 4, 1908. Serial No. 461,094.

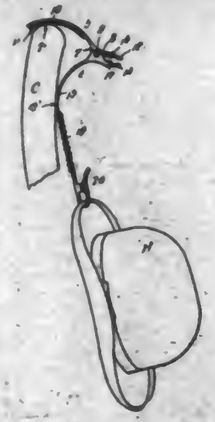


1. In a device of the kind described, the combination of a brush holder and a flexible elastic brush detachably connected therewith, the holder being provided with means to hold the brush in a bowed position for drying and cleaning it.

2. In a device of the kind described the combination of a brush holder and a flexible elastic brush detachably connected therewith, the holder being provided on its back with cuttings to hold the brush in a bent position for drying and cleaning.

980,162. HAT-HOOK. EDWARD L. MEYER, Seattle, Wash. Filed Nov. 24, 1909. Serial No. 529,310.

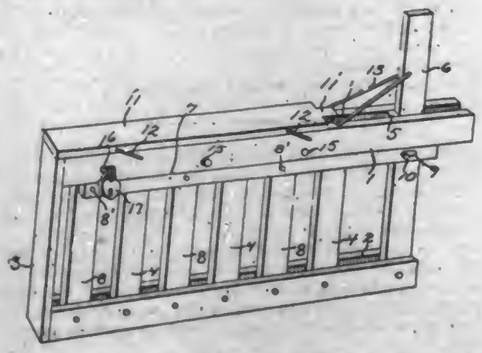
1. A hat hook of the class described, comprising a curved holder-member, a hanger-member pivotally connected to the holder-member and provided with means for securing an article thereto, said members being each provided with rearwardly extending ends adapted to provide means to manipulate the said members and also to limit the extent of their separation.



2. A hat hook of the class described, comprising a holder member having a forwardly extending part with a curvature conforming to an arc of a circle of relatively large radius, a hanger-member having a forwardly extending part of a curvature approximating that of said holder-member, and provided with means for securing an article thereto, said members being each provided with rearwardly extending ends adapted to provide means to manipulate the said members, and also to limit the extent of their separation.

3. A hat hook of the class described, consisting of two members which are pivotally connected together at points unequally distant from their ends, the longer ends of the respective members having approximately coinciding curvatures, the shorter ends of said members extending in diverging directions to afford a stop to limit the separation between said members, a spring interposed between the members and tending to hold the longer ends of said members into contact with each other, and means to suspend an article from one of said members.

980,163. STANCHION. CLARANCE H. MOORE, Fairmont, Minn. Filed June 26, 1909. Serial No. 504,580.



1. In a device of the character described, the combination with a frame including a plurality of stationary bars, of a plurality of stanchion bars pivoted in said frame for movement into and out of coöperative relation to the stationary bars, an operating lever pivotally mounted in one end of said frame, spaced longitudinally extending bars secured to said lever and to said stanchion bars, and a locking plate pivotally secured to said frame and vertically and longitudinally movable above the same, adapted to lock said stanchion bars in their closed position.

2. In a device of the character described, the combination with a stanchion frame including a stationary bar of a stanchion bar pivoted in said frame, an operating lever pivotally mounted in one end of said frame, parallel longitudinal bars secured at one end to said lever, said stanchion bar being extended between said parallel bars and movable therewith, a locking plate pivoted to said frame and vertically and longitudinally movable above the same, a link connecting one end of said plate with said operating lever, and means secured to the under side of said plate and adapted to lock said stanchion bar against pivotal movement.

3. In a device of the character described, the combination with a stanchion frame, comprising upper and lower parallel bars, vertical bars secured to one end of said parallel bars, a plurality of uprights having their ends secured between said parallel bars, a plurality of stanchion bars pivoted at their lower ends between the lower parallel bars, an operating lever pivotally mounted between the lower ends of said bars and extending between said upper bars, longitudinal bars secured at one end to said lever upon either side and extending in parallel relation to said upper bars and beneath the same, said longitudinal bars being pivotally connected to said stanchion bars, a locking plate pivoted to said upper bars and vertically and longitudinally movable above the same, a link connecting said locking plate with said operating lever, blocks secured to the under side of said locking plate, one end of said blocks being formed with a vertical and beveled surface, and adapted to be disposed between said uprights and said stanchion bars to lock the same in their closed positions.

4. The combination with a stanchion frame including stationary bars, of a plurality of stanchion bars pivoted in said frame for movement into and out of coöperative relation to the stationary bars, an operating lever pivotally mounted in one end of said frame, parallel longitudinal bars secured at one of their ends to either side of said lever, said stanchion bars being pivotally secured between said parallel longitudinal bars, a transverse pin secured in said lever and extending into longitudinal slots in the ends of said parallel bars, a locking plate pivoted to said frame and vertically and longitudinally movable above the same, openings in said frame adapted to receive the pivotal connections between said stanchion bars and the longitudinal parallel bars whereby the pivotal movement of any one of said stanchion bars may be prevented upon the operation of said lever, and a bolt adapted to extend through said frame and to be locked therein to prevent the operation of said lever.

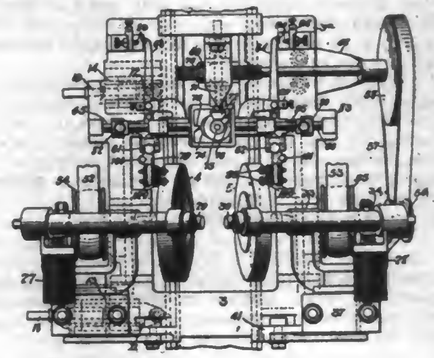
5. A cattle stanchion comprising a stationary vertical bar, a stanchion bar movable into and out of coöperative relation to the stationary bar, guides for the movable stanchion bar, a lever arranged for movement between the guides, a horizontal bar connected to the stanchion bar, connections between said horizontal bar and the lever, said connections being arranged to permit of slight lost motion between the bar and lever, means for locking the stanchion bar in operative position, and connections between said locking means and the lever for movement of the locking means into and out of operative position, when the lever is moved.

980,164. AUTOMATIC CALIPERING ATTACHMENT. HENRY B. NICHOLS, Philadelphia, Pa. Original applications filed Sept. 5, 1908, Serial No. 451,875, and Jan. 14, 1909, Serial No. 472,236. Divided and this application filed Dec. 27, 1909. Serial No. 535,091.

1. A caliper mechanism for grinding machines comprising a carriage, means for reciprocating said carriage, a caliper finger moved thereby, a swinging arm controlled by the finger, and means carried by the arm to affect the compensating feed devices of a grinding machine.

2. A caliper mechanism for grinding machines comprising a carriage, means for reciprocating said carriage, a caliper finger moved thereby, a swinging arm controlled by the finger, electrical contacts controlled by the swinging arm, and circuit connections therefrom adapted to control compensating feed mechanism.

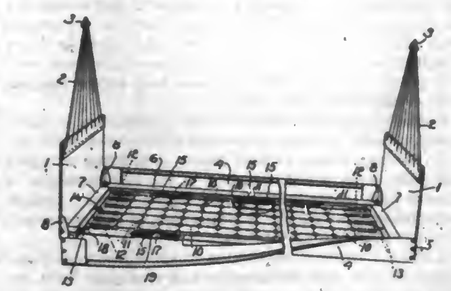
3. An automatic caliper comprising a frame, a carriage, a calipering finger carried thereon, a pivoted lever arm controlled thereby, a cam shaft, a rotating cam for reciprocating said shaft, and a connection between the shaft and the carriage.



4. An automatic caliper comprising a frame, a carriage, a calipering finger carried thereon, a pivoted lever arm controlled thereby, a cam shaft, a rotating cam for reciprocating said shaft, and a yielding connection between the shaft and the carriage.

5. An automatic calipering device comprising a frame, a shaft mounted to reciprocate therein, a cam frame mounted upon said shaft, a cam disk journaled to rotate within said cam frame and thereby to reciprocate the shaft, a pair of carriages on said shaft, adapted to reciprocate in the main frame, a pair of collars on the shaft, coiled springs interposed between the collars and carriages, a caliper finger pivotally and adjustably mounted on each carriage, a swinging independently pivoted lever for each carriage, having its short arm pivoted thereto, and electrical contacts carried by the long arms of said levers, together with circuit connections from said contacts adapted to control compensating feed mechanism.

980,165. FRAMED HAMMOCK. ISAAC E. PALMER, Middletown, Conn., assignor to The I. E. Palmer Co., Middletown, Conn., a Corporation of Connecticut. Filed Jan. 21, 1909. Serial No. 473,457.



1. A framed hammock comprising in combination a hammock body having suspension means, a frame comprising longitudinal and end members, all of said members being received and supported upon the upper surface of said body, and a seating secured to said frame, said seating underlying a portion of the hammock body.

2. A framed hammock comprising in combination a hammock body having upstanding sides and suspension means, a frame having longitudinal and end members, all of said members being received and supported upon the upper surface of said body and a seating secured to said frame, said seating underlying a portion of the hammock body.

3. A framed hammock comprising in combination a hammock body having suspension means, a frame support-

ed upon the upper surface of said body and a seating secured to said frame, said body being pierced for the passage of portions of said seating.

4. A framed hammock comprising in combination a hammock body having suspension means, a frame supported upon the upper surface of said body, and a seating secured to said frame, said seating penetrating said hammock body so as to permit the positioning of the hammock body above the said seating.

5. A framed hammock comprising in combination a hammock body having suspension means, a frame composed of longitudinal and transverse members all received and supported upon the upper surface of said body, and a flexible seating secured to said frame and underlying the hammock body and supporting the said body at substantially the upper face of the said frame.

[Claims 6 to 17 not printed in the Gazette.]

980,166. HANGING SEAT-HAMMOCK. ISAAC E. PALMER, Middletown, Conn., assignor to The I. E. Palmer Co., Middletown, Conn., a Corporation of Connecticut. Filed Sept. 18, 1909. Serial No. 518,379.



1. A couch hammock comprising in combination a frame composed of side and end members and a continuous hammock body having a supporting engagement with the ends of the frame and thence continuing to the points of support, said hammock body having its lateral edges provided with longitudinal pockets, supporting strips in said pockets, and means adjustable transversely of the frame to secure said pockets and strips to said frame, whereby slack in said hammock body may be taken up transversely.

2. A couch hammock comprising in combination a frame composed of side and end members and a continuous hammock body folded at the end members of the frame and thence continued to the points of support, and means for adjustably securing said folded ends to the frame, whereby the tension may be adjusted and slack be taken up longitudinally.

3. A couch hammock comprising in combination, a frame composed of side and end members and a continuous hammock body folded under the end members of the frame and thence continued to the points of support, and means for adjustably securing said folded under ends to the frame, whereby the tension may be adjusted and slack be taken up longitudinally, said means including transverse supporting strips and brackets engaging said strips and adjustably connected to the frame.

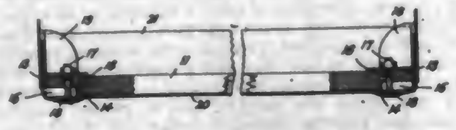
4. A couch hammock comprising in combination a frame composed of side and end members, a hammock body applied to the upper face of said frame, a padding attached to said body, and means attached to the side members of the frame and laterally adjustable with respect thereto for adjustably securing the lateral edges of said hammock body and padding to said frame.

5. A couch hammock comprising in combination a frame composed of side and end members, a hammock body applied to the upper face of said frame, a padding underlying said hammock body but attached thereto, and means for securing the lateral edges of said body and padding to and transversely adjustable of said side members, whereby lateral slack in said body and in said padding may be taken up.

[Claims 6 to 17 not printed in the Gazette.]

980,167. KNOCKDOWN COUCH-HAMMOCK. ISAAC E. PALMER, Middletown, Conn., assignor to The I. E. Palmer Co., Middletown, Conn., a Corporation of Connecticut. Filed Jan. 10, 1910. Serial No. 537,270.

1. A couch hammock comprising in combination a knockdown frame therefor consisting of side and end members having flat upper faces and having oppositely recessed, superposed, meeting ends whereof the overlying ends are in the general plane of the upper surface of said frame, one of said ends having an open ended, short, longitudinal slot and the other having a bolt hole, hammock positioning corner brackets upstanding from the corners formed by said meeting ends and each having a single web provided with a bolt hole and applied flatwise to said frame at said meeting ends, bolts passing through said slots and holes and nuts thereon securing the parts together, but permitting the detachment of said members merely upon loosening said nuts and without removal of said bolts, said frame being adapted to resist the strain incident to hammock suspension in use, and a hammock body applied to said frame, and suspension means therefor.



2. A couch hammock comprising in combination a knockdown frame therefor consisting of side and end members having oppositely recessed meeting ends, said side members terminating in substantially the vertical line of the outer edges of said end members, said side and end members having their upper faces flat and in substantially the same plane, hammock positioning corner brackets upstanding from the corners formed by the meeting ends of said members and having webs applied flatwise to one face only of the frame, bolts passing through said webs and meeting ends, thereby clamping them together, said bolts having heads terminating substantially flush with the lower face of said side and end members, and a hammock body applied to said frame and suspension means therefor.

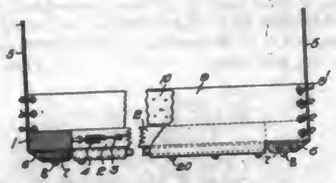
3. A couch hammock comprising in combination a knockdown frame therefor consisting of side and end members having oppositely recessed meeting ends, said side members terminating substantially in the vertical plane of the outer edges of said end members, said side and end members having their upper faces in substantially the same plane and one of each pair of meeting ends having a short, longitudinal assembling slot, hammock positioning corner brackets upstanding from the meeting ends of said members and each having a single web applied flatwise to the frame at said meeting ends, bolts passing through said webs, member-ends and slots, thereby adjustably clamping the said parts together, said bolts having heads terminating substantially flush with the lower faces of said side and end members, a hammock body applied to said frame and suspension means therefor.

4. A couch hammock comprising in combination a knockdown frame therefor consisting of side and end members having flat upper and lower faces and having oppositely recessed meeting ends, one of each pair of meeting ends having an open ended, short, assembling, longitudinal slot and the other having a bolt hole, bolts passing through said holes and slots, nuts upon said bolts, the parts being detachable merely upon loosening said nuts, said bolts having heads terminating substantially flush with the lower faces of said side and end members, said side members terminating in substantially the vertical plane of the outer edges of the end members, a hammock body applied to said frame, and suspension means therefor.

5. A couch hammock comprising in combination a knockdown frame therefor having side and end members with flat upper faces and oppositely recessed, superposed, meeting ends, the ends of said side members not extending beyond the plane of the outer edges of said end members, hammock positioning brackets upstanding from the said meeting ends, and means for securing said brackets to said meeting ends, said securing means terminating substantially flush with the lower faces of said members and constituting means for connecting together but permitting the ready detachment of said side and end members, a hammock body applied to said frame and suspension means therefor.

[Claims 6 to 10 not printed in the Gazette.]

980,168. COUCH-HAMMOCK. ISAAC E. PALMER, Middletown, Conn., assignor to The I. E. Palmer Co., Middletown, Conn., a Corporation of Connecticut. Filed Feb. 28, 1910. Serial No. 546,279.



1. A couch hammock comprising in combination a frame having longitudinal and end members, suspension ends of textile material transversely connected to said frame at its ends, upstanding side strips or edge pieces of textile material distinct from said suspension ends but adapted to be connected thereto and supported thereby, said side strips or edge pieces being secured to and upstanding from the longitudinal members of said frame, the said frame being devoid of a hammock body within the confines of its members, whereby a substantial saving of material is effected, a seating secured to said frame and a mattress superposed upon said seating and frame and positioned by said suspension ends and upstanding edge pieces.

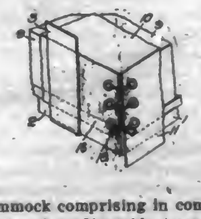
2. A couch hammock comprising in combination a frame composed of side and end members, suspension ends therefor, a mattress supported upon said frame, the said hammock having upstanding sides of textile material extending along the sides of said frame, and means detachably to connect the upper edges of said upstanding sides to the upper portion of the mattress.

3. A couch hammock comprising in combination a frame composed of side and end members, a seating therefor, a mattress supported upon said seating, a hammock body underlying said frame and seating and having suspension ends, said hammock body having upstanding sides, and means to connect said upstanding sides to the upper portion of the mattress.

4. A couch hammock comprising in combination a frame composed of side and end members, a seating therefor, a mattress supported upon said seating, a hammock body underlying said frame and seating and having suspension ends, said hammock body having upstanding sides laced to said suspension ends, and detachably secured to the upper portion of the mattress.

5. A couch hammock comprising in combination a frame having suspension ends, a mattress supported upon said frame, said hammock having upstanding sides of textile material extending along the sides of said frame, and means to connect said upstanding sides to the mattress.

980,169. COUCH-HAMMOCK. ISAAC E. PALMER, Middletown, Conn., assignor to The I. E. Palmer Co., Middletown, Conn., a Corporation of Connecticut. Filed Mar. 1, 1910. Serial No. 546,588.



1. A couch hammock comprising in combination a frame, suspension ends therefor adjustable toward and from each other, a mattress overlying said frame, and a mattress cover overlying said mattress and distinct from but connected to said suspension ends transversely of the latter and provided with depending lateral edge portions whose ends terminate substantially in the plane of support of said suspension ends.

2. A couch hammock comprising in combination a frame, angularly adjustable suspension ends therefor, a mattress cover overlying said mattress and provided with depending lateral edge portions, and lacing extending transversely of said suspension ends and adjustably connecting said mattress cover thereto, the ends of said lateral edge portion terminating in proximity to the plane of support of said suspension ends and forming therewith well defined rectangular corners.

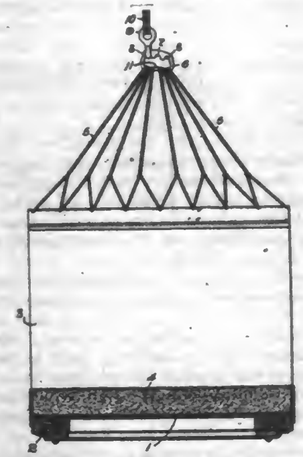
3. A couch hammock comprising in combination a frame, suspension ends therefor, a mattress overlying said frame, a mattress cover overlying said mattress and having depending lateral edge portions, and means extending transversely of said suspension ends for detachably connecting the ends of the mattress cover to said suspension ends, whereby said mattress cover may partake of adjusting movements of said suspension ends.

4. A couch hammock comprising in combination a frame, suspension ends therefor, a mattress overlying said frame, and a mattress cover overlying said mattress and distinct from said suspension ends, said mattress cover having a transversely extending end spreader.

5. A couch hammock comprising in combination a frame, suspension ends therefor, a mattress overlying said frame, a mattress cover overlying said mattress and having a depending lateral edge, and means to attach the ends of said depending lateral edge to the said suspension ends.

[Claims 6 to 13 not printed in the Gazette.]

980,170. HAMMOCK-SUSPENSION MEANS. ISAAC E. PALMER, Middletown, Conn., assignor to The I. E. Palmer Co., Middletown, Conn., a Corporation of Connecticut. Filed June 8, 1910. Serial No. 565,734.

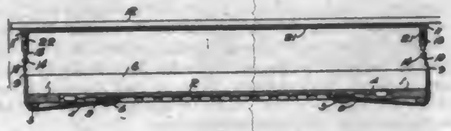


As a new article of manufacture, a hammock suspension ring-like member, from which hammock suspension strands of a couch or other hammock may be supported, said ring-like member having at its upper part a recess or formation to receive a hammock supporting hook or the like, said recess or hook receiving formation being eccentrically positioned with respect to the ends of said suspension strands, and the lower part of said ring-like member being sufficiently closed to support and retain said strands, whereby the hammock may be supported at a lateral tilt when the supporting hook or the like is engaged with said recess or formation.

980,171. SUSPENSION MEANS FOR COUCH-HAMMOCKS. ISAAC E. PALMER, Middletown, Conn., assignor to The I. E. Palmer Co., Middletown, Conn., a Corporation of Connecticut. Filed July 26, 1910. Serial No. 573,847.

1. A couch hammock comprising in combination, a frame composed of side and end members having a seat

ing secured thereto and exposed at the under side of the frame, normally upstanding flexible suspension ends secured at their lower parts to the end portions of said frame, connecting means detachably to secure the upper parts of said suspension ends to the under side of said seating when folded thereunder, and stringing means connected to said ends to suspend the hammock both when the ends are detachably secured as described and when normally extended.



2. A couch hammock comprising in combination a frame composed of side and end members, a flexible wire seating composed of transverse and longitudinal members secured thereto and exposed at its under side, normally upstanding cloth suspension ends secured at their lower parts to said frame and provided at their upper ends with suspension cords, and connecting means detachably to secure the upper parts of said suspension ends in collapsed condition to the under side of said seating, whereby said hammock may be suspended with its suspension ends normally extended or in collapsed condition.

3. A couch hammock comprising in combination a frame composed of side and end members, a flexible wire seating composed of transverse and longitudinal members secured thereto and exposed at its under side, cloth suspension ends secured at their lower parts to said frame and normally upstanding above the frame, and provided at their upper edges with transverse spreaders and suspension cords, and connecting means detachably to secure said spreaders to said seating at the underside of the frame while permitting the continued suspension of the hammock by said cords whereby said hammock may be suspended with its suspension ends normally extended or in collapsed condition.

4. A couch hammock comprising in combination a frame having separate suspension ends normally upstanding above the frame end provided with stringing strands and connecting means detachably to secure the upper portions of said ends to the frame when folded thereunder while still permitting the continued suspension of the hammock by said strands.

5. A couch hammock comprising in combination a frame having separate suspension ends normally upstanding above the frame end provided at their upper edges with transverse spreaders and suspension cords and hooks for detachably attaching said spreaders to the underside of said frame while permitting the continued suspension of the hammock by said suspension strands whereby the hammock may be suspended with its suspension ends normally extended or in a collapsed condition.

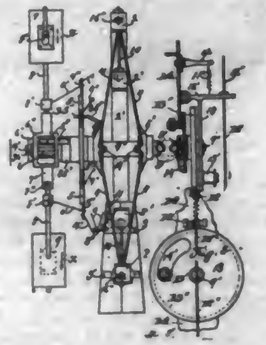
[Claims 6 to 10 not printed in the Gazette.]

980,172. WINDMILL. WILLIAM P. BRETT, Decatur, Ill. Filed Feb. 26, 1906. Serial No. 303,012.

1. The combination in a windwheel of an outer rim, an inner rim, a hub for said windwheel, spokes connecting said hub and outer rim, a plurality of sails each of which is pivoted substantially on its longitudinal center line and intermediate its end portions to both of said rims, a stay or distance rod connecting said rims adjacent to each of said sails and independent of the pivot portions thereof, and mechanism adapted to automatically oscillate said sails for regulating the speed of the windwheel.

2. The combination in a windwheel of an outer rim, an inner rim, a hub, spokes connecting said hub and outer rim, a plurality of sails each of which is pivoted substantially on its longitudinal center line and intermediate its end portions to both of said rims, and a stay or distance rod extending from one to the other of said rims adjacent to each of said sails and independent of the pivot portions thereof.

3. The combination in a windwheel of an outer rim, an inner rim, a hub, spokes connecting said hub and outer rim, a plurality of sails each of which is adapted to oscillate about its longitudinal center line which radiates from the central portion of said windwheel, and an adjustable spacing or distance rod in connection with said rims near to and independent of the pivot portions of each of the said sails.

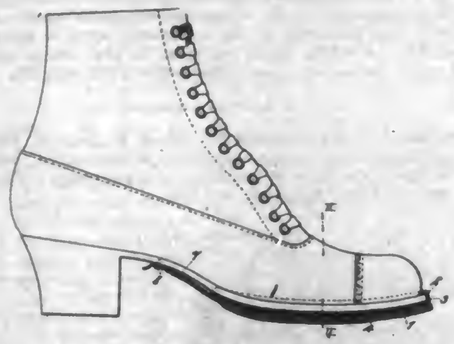


4. The combination in a windwheel of an outer rim, an inner rim, stay or distance rods connecting said rims, a hub, spokes connecting said hub and outer rim, a plurality of skeletons or frames each comprising longitudinal and cross bars for carrying the sail surface portions of the windwheel, and means whereby the said skeletons or frames may be pivotally secured to said rims.

5. The combination in a windwheel of an outer rim, an inner rim, stay or distance rods connecting said rims, a hub, spokes connecting said hub and outer rim, a plurality of longitudinally divided two part sails, means whereby the two parts of each sail may be detachably secured together, and adjustable pivot portions whereby said sails are adapted to oscillate about radial axes.

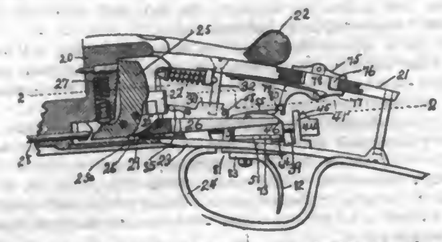
[Claims 6 to 46 not printed in the Gazette.]

980,173. RUBBER FOOTWEAR. MAURICE C. CLARK, Providence, R. I., assignor to Maurice C. Clark Company, Providence, R. I., a Corporation of Rhode Island. Filed May 28, 1908. Serial No. 435,408.



An article of rubber footwear, comprising a sole-portion devoid of a heel, provided at its edge with an inwardly and downwardly extending flange adapted to readily adjust itself to the edges of shoe soles of different thicknesses, the shank-portion being elastic and thereby capable of being elongated by stretching, and having secured to it a fastening device to coöperate with a fastening device fixed to the shank of the wearer's shoe when the said elastic shank-portion is stretched to bring the fastening device carried thereby into engagement with the device on the shoe; whereby the said fastening device and the inwardly and downwardly extending flange serve to secure the article on the shoe-sole against displacement in any direction.

980,174. SINGLE-TRIGGER MECHANISM FOR FIREARMS. EMIL F. FLUES, Ithaca, N. Y. Filed Feb. 19, 1910. Serial No. 544,845.



1. A single trigger-mechanism for double barrel guns, comprising a lock plate, a trigger-lock mounted for swinging movement in said lock plate, a trigger adjustably secured to said trigger-block, a locking-bolt movable with the trigger-block in the swinging movement of the latter and also movable longitudinally in the block, a head on the rear end of said bolt, a stop carried by the lock plate, a lug on said bolt head and adapted to engage said stop for retarding the longitudinal movement of the bolt in the first swinging movement imparted to the block, and means carried by the block for actuating the gun hammer sears comprising side lugs on the trigger block, a shift in the trigger block, and lugs on the shift to be engaged by the lugs on the trigger block, said last named means operative to fire one barrel in the one position of the locking-bolt and the other barrel in the other position of said locking-bolt.

2. The combination with a plurality of locks and the sears thereof, of a firing mechanism comprising a single trigger, a trigger-block to which the trigger is secured, a spring-actuated locking-bolt mounted in the trigger-block and movable therewith in the swinging movement of the latter, a lug carried by the locking bolt, a stop co-acting with said lug to arrest and retard the longitudinal movement of the locking-bolt in the block with the firing of one barrel of the gun and for permitting the completion of the bolt travel after one barrel has been fired, a shift member carried by the block, means on the block co-acting with the shift member for effecting operation of the sears independently.

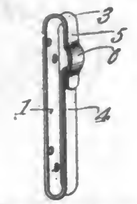
3. The combination with a plurality of locks and the sears thereof, of a firing mechanism comprising a single trigger, a trigger-block to which the trigger is secured, a locking-bolt mounted for longitudinal movement in the block independent of the swinging movement of said block, a beveled lug carried by the bolt, and a stationary stop separate from the block to be engaged by said lug for retarding the movement of the bolt and holding the same against movement to position to permit discharge of a second barrel until the first barrel has been fired.

4. A firing-mechanism for double-barrel guns comprising in combination with a plurality of locks, the sears thereof, and a lock plate, a single trigger, a trigger-block mounted for swinging movement in the lock plate and having the trigger secured thereto, a locking-bolt mounted in the trigger-block for longitudinal movement therein, a stop carried by the lock plate, and means on the bolt co-acting with said stop for preventing simultaneous actuation of the sears and resultant firing of both barrels.

5. A firing mechanism for double barrel guns comprising in combination with a plurality of locks, the sears thereof, and a lock plate, a single trigger, a trigger-block mounted in the lock plate to swing with the trigger in the movement of the latter, a locking-bolt mounted in the trigger-block and having longitudinal movement in the block independent of the swinging movement of the latter, a stop carried by the lock plate, and means carried by said bolt and co-acting with said stop for preventing the positioning of the bolt to permit firing of the second barrel until after the first barrel has been fired and pressure on the trigger relieved.

[Claims 6 to 11 not printed in the Gazette.]

980,175. BELT-LOOP. JOSEPH LEWIS FARDLHP, Madera, Cal. Filed Aug. 30, 1909. Serial No. 515,251.



As an article of manufacture a belt loop consisting of a resilient strip of material having opposed hook portions, a straight tongue extending from one of said portions and parallel with the intermediate portion of the strips, and another tongue extending from the other hooked portion and contacting at its end upon the outer face of the first mentioned tongue, there being a transversely extending depression in the inner face of said lapping tongue, the straight tongue being extended a short distance across the depression and both of said tongues being adapted to rest flat upon a belt within the loop.

980,176. MESSAGE-CARRIER FOR BOATS. FREDERICK J. MENO, Detroit, Mich., assignor to Joseph E. Meno, Port Huron, Mich. Filed Jan. 25, 1909. Serial No. 474,010.

1. A message carrier comprising a cylindrical casing closed at one end, a hollow cap adapted to be detachably secured on the open end, handles secured diametrically across the casing and cap ends and adapted when the cap is in closed position to lie in the same plane, and a cage within the casing consisting of wire hoops adapted to closely fit the casing and wires extending longitudinally of the casing secured on the inner side of the hoops in parallel, spaced relation.

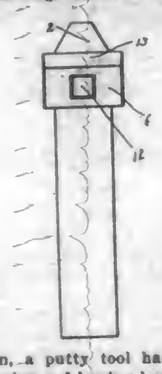
2. A message carrier comprising a cylindrical metal casing closed at one end, a hollow cap adapted to be detachably secured on the open end thereof, the cap and casing when united forming a cylinder with substantially unbroken periphery, and smoothly rounded corners, and the exterior being polished to form reflecting surfaces, flat sheet metal loop handles each secured diametrically across the casing and cap end, the surfaces of the handles being polished for reflectors, and a cage within the casing.

3. A message carrier comprising a cylindrical metal casing closed at one end, a hollow cap adapted to be detachably secured on the open end thereof, the cap and casing when united forming a cylinder with substantially unbroken periphery, and smoothly rounded corners, and the exterior being polished to form reflecting surfaces, flat sheet metal loop handles each secured diametrically across the casing and cap ends, the surfaces of the handles being polished for reflectors, and a cage within the casing consisting of wire hoops adapted to closely fit the casing and wires extending longitudinally of the casing secured on the inner side of the hoops in parallel, spaced relation.

4. A message carrier comprising a cylindrical metal casing closed at one end, a hollow cap adapted to be detachably secured on the open end thereof, the cap and casing when united forming a cylinder with substantially unbroken periphery, and smoothly rounded corners, and the exterior being polished to form reflecting surfaces, flat sheet metal loop handles each secured diametrically across

the casing and cap end, the surfaces of the handles being polished for reflectors, and a spring lock adapted to engage and hold the cap when the latter is screwed in place.

980,177. PUTTY-KNIFE. EDWARD ERDMAN KOSCHKE, Chicago, Ill. Filed Aug. 28, 1909. Serial No. 515,092.



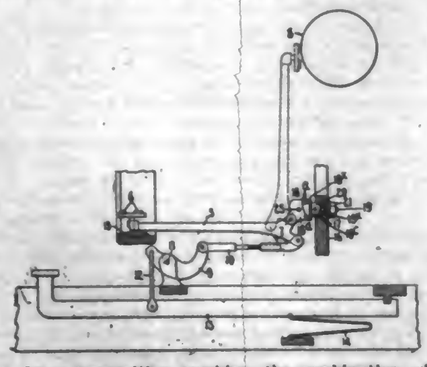
1. In combination, a putty tool having a knife blade formed with an angular end having beveled sides and provided with a putty guide adjustably secured to said end.

2. In combination, a putty knife having an angular end formed with beveled sides and with a longitudinal slot located near said beveled sides, and a putty guide having a beveled forward underside adjustably screw-secured to the slotted end.

3. In combination, a putty knife having an angular forward end and beveled sides, said end being formed with a longitudinal slot, a guide having a recess for the reception of the angular end and formed with a forward angular underside, and a screw having a nut threaded thereon extending through the guide and the slot, said screw having a squared head disposed in a countersunk opening in the guide.

REISSUES.

13,185. TYPE-WRITING MACHINE. CHARLES F. CRANDALL, Ilion, N. Y., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed July 14, 1909. Serial No. 507,657. Original No. 882,627, dated Mar. 24, 1908, Serial No. 383,881.



1. In a typewriting machine, the combination with a type bar hanger and its support, of a universal joint between said hanger and its support and by means of which the hanger may be adjusted to different set positions.

2. In a typewriting machine, the combination with a type bar hanger and its support, of a ball and socket joint between said hanger and its support and by means of which the hanger may be adjusted to different set positions.

3. In a typewriting machine, the combination with a type bar hanger and its support, of a universal joint between said hanger and its support and by means of which the hanger may be adjusted to different set positions, and means for effecting a ready disconnection of the hanger from its support.

4. In a typewriting machine, the combination with a type bar hanger and its support, of a ball and socket joint between said hanger and its support and by means of which the hanger may be adjusted to different set positions, and means for enabling the ball and socket to be readily connected and disconnected.

5. In a typewriting machine, the combination with a type bar hanger and its support, of a universal joint between said hanger and its support, and means for locking the parts of the joint against relative movement.

6. In a typewriting machine, the combination with a type bar hanger and its support, of a universal joint between said hanger and its support, said universal joint including adjustable means that enable the parts of the joint to be readily connected and disconnected and enable the hanger to be readily connected to or disconnected from its support.

7. In a typewriting machine, the combination with a type bar hanger and its support, of a universal joint between said hanger and its support, and means for securing the hanger in the position to which it may be adjusted around said universal joint.

8. In a typewriting machine, the combination with a type bar hanger and its support, of a ball and socket joint between said hanger and its support, and means for preventing the ball and socket from turning relatively to each other.

9. In a typewriting machine, the combination with a type bar hanger and its support, of a ball and socket joint between said hanger and its support, and a screw which coöperates with the ball and socket members and prevents a relative movement between said members.

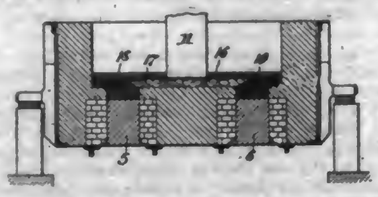
10. In a typewriting machine, the combination with a type bar hanger and its support, of a ball and socket joint between said hanger and its support, and by means of which the hanger may be adjusted to different set positions, one of the ball and socket members being adjusted in part by a screw.

11. In a typewriting machine, the combination with a type bar hanger and its support, of a ball and socket joint between said hanger and its support, one of the ball and socket members comprising relatively adjustable parts by which said members may be secured in fixed relation and by which the hanger may be readily secured to or removed from its support.

12. A hanger for a type bar having substantially semi-spherical bearing, a frame bar having socket to receive the bearing and a bolt engaging in the hanger and passing through the socket and the bar and arranged to bind the hanger to the bar, substantially as set forth.

13. A hanger for a type bar having substantially semi-spherical bearing, a frame bar having a socket to receive the bearing, a bolt movably engaging the hanger and passing through the socket and frame bar, substantially as set forth.

13,186. ELECTRIC FURNACE FOR METALLURGICAL PURPOSES. PAUL GIROD, Ugine, France. Filed Aug. 5, 1909. Serial No. 511,476. Original No. 921,228, dated May 11, 1909, Serial No. 292,617.



1. An electric metallurgical furnace comprising a refractory working hearth, a lower electrode, means for causing part of the metal to unite with the same, and an upper electrode held in contact with the slag but out of contact with the fused metal; substantially as described.

2. An electric furnace having opposed upper and lower electrodes out of vertical alinement, the lower electrode being formed partly by the metal to be treated; substantially as described.

3. An electric furnace having opposed upper and lower electrodes out of vertical alinement, and means for cooling the lower electrode, part of said lower electrode being formed by the metal to be treated; substantially as described.

4. An electric furnace embodying opposed electrodes that are out of alinement with each other both vertically and horizontally, that portion of one of the electrodes in contact with the metal in fusion being of the same metal as that which is being fused, and the other electrode being adjustable whereby it may be kept out of contact with the fused metal and in contact only with the slag formed by the fluxes and the fused ore; substantially as described.

5. An electric furnace embodying opposed upper and lower electrodes, a refractory working hearth having formed within it a metal receiving recess at the end of one of the electrodes, the other electrode being arranged to remain in contact with the slag formed by the fluxes and the fused ore; substantially as described.

6. An electric furnace embodying upper and lower electrodes out of vertical alinement, the lower electrode being annular, and the furnace having a metal-receiving chamber over said lower annular electrode; substantially as described.

7. An electric furnace comprising a refractory working hearth of relatively large area with respect to its depth, a lower electrode passing through said hearth and embedded therein, means for causing part of the metal bath to unite with said electrode, and an upper depending electrode, adjustable with respect to the furnace charge; substantially as described.

8. An electric furnace having a refractory working hearth for the reception of metal, a movable upper electrode adapted to be lifted out of contact with the melted metal when the furnace is in operation, and a lower electrode passing through said hearth for electrical connection with the working electric heating current, said lower electrode consisting in part of a liquid portion of the metal under treatment; substantially as described.

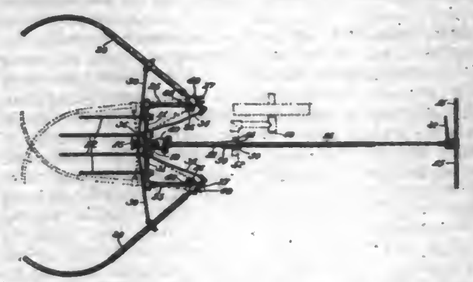
9. An electric furnace having a refractory working hearth for the reception of metal, a movable upper electrode adapted to be lifted out of contact with the melted metal when the furnace is in operation, and a lower electrode passing through said hearth for electrical connection with the working electric heating current, said lower electrode consisting in part of a solidified portion of the metal under treatment; substantially as described.

10. An electric furnace having a refractory working hearth for the reception of metal, a movable upper electrode adapted to be lifted out of contact with the melted metal when the furnace is in operation, and a lower electrode passing through said hearth for electrical connection with the working electric heating current, said lower electrode consisting in part of a liquid portion and in part of a solid portion of the metal under treatment; substantially as described.

11. An electric furnace having a refractory working hearth for the reception of metal, a movable upper electrode adapted to be lifted out of contact with the melted metal when the furnace is in operation, and a lower electrode passing through said hearth for electrical connection with the working electric heating current, said lower electrode consisting in part of a liquid portion of the metal under treatment and in part of a solid conductor capable of maintaining electrical connection with said liquid portion; substantially as described.

13,187. SHOCK-LIFTER. ARTEMUS N. HADLEY, Indianapolis, Ind. Filed July 7, 1909. Serial No. 507,137. Original No. 886,123, dated Apr. 28, 1908, Serial No. 262,841.

1. A shock lifter including a main head, a shaft rotatably mounted therein, shock-entering prongs carried by said shaft, releasable means for holding said shaft in one position, and shock embracing means coöperating with said prongs.



2. A shock lifter including a main head, a prong member movably mounted on said main head, releasable means for holding said prong member in one position on said main head, and shock-embracing means carried by the prong member.

3. A shock lifter including a main head, a prong-member movably mounted on said main head, releasable means for holding said prong-member in one position on said main head, shock-embracing arms carried by the prong-member, means for drawing said shock-embracing arms about a shock, and releasable means for holding said arms in embracing position.

4. A shock lifter including a main head, a prong member journaled thereon so as to swing in a substantially vertical plane and provided with prongs, a pair of shock-embracing arms pivotally mounted on the prong member so as to swing in a substantially horizontal plane, releasable means for holding the prongs of the prong-member in a substantially horizontal plane, means for swinging the embracing arms to embrace a shock, and releasable means for holding said arms in embracing position.

5. A shock lifter including a main head, a prong shaft journaled therein on a substantially horizontal axis, shock-entering prongs carried by said shaft, a pair of shock-embracing arms pivotally mounted upon supports carried by the prong shaft and arranged to swing in a substantially horizontal plane, a winding drum carried by means of the main head, a cable connecting said winding drum with the embracing arms to draw said arms to embracing position, a second cable having its ends attached to the shock embracing arms beyond the pivots thereof and its middle arranged to be engaged by means for supporting the entire structure, means for winding said drum, releasable means for holding said drum, and releasable means for holding the prongs in a substantially horizontal plane.

6. A shock lifter including a main head, a prong shaft journaled thereon on a substantially horizontal axis, shock-entering prongs carried by said shaft, a pair of shock-embracing arms pivotally mounted upon supports carried by the prong shaft and arranged to swing in a substantially horizontal plane, a handle member journaled in the main head and extending to the rear, a winding drum journaled on the forward portion of said handle member, releasable clutch mechanism between said handle member and winding drum, a cable attached to said winding drum and to the shock-embracing arms in front of the pivots thereof, means by which the structure may be suspended, and a cable having its ends attached to the shock-embracing arms to the rear of the pivots thereof and extending through devices connected to the prong shaft in front of the axis thereof, and from thence to the suspending means, substantially as and for the purpose set forth.

7. A shock lifter including a main head, a prong shaft journaled therein on a substantially horizontal axis, shock-entering prongs carried by said shaft and extending forward therefrom, a catch mounted upon the main head, means carried by the prong shaft for engagement with said catch, a handle member journaled in the main head an

extending to the rear, means carried by said handle member for operating the catch, a winding-drum journaled on the forward portion of the handle member, a separable clutch between said handle member and the winding-drum, means extending to the end of the handle member for operating said clutch, shock-embracing arms supported pivotally by means of said prong shaft, and a cable connected to the winding drum and also to the shock-embracing arms.

8. A shock lifter comprising a main head, a prong shaft journaled therein on a substantially horisontal axis, shock-entering prongs carried by said shaft and extending forward therefrom, a catch mounted upon the main head, means carried by the prong shaft for engagement with said catch, a hollow handle member journaled in the main head and extending to the rear, means carried by said handle member for operating the catch, a winding drum journaled on the forward portion of the handle member, a separable clutch between said handle member and said drum, a rod extending to the rear through said hollow handle member and connected at its forward end to said clutch and at its rear end to an operating lever, a pair of arms carried by the prong shaft and extending rearward, a pair of shock embracing arms pivotally mounted upon said rearward-extending arms to swing in a plane substantially at right angles to the plane of swing of the prongs, a cable attached at its ends to the shock-embracing arms forward of the pivots thereof and at its middle attached to said drum, a second cable 34 attached at its ends to the shock-embracing arms to the rear of the pivots thereof, guide blocks 35 through which said last mentioned cable is passed and by which said cable is connected to the prong shaft in front of the axis thereof, and a cable 31 connected to said shaft, the middle of said cable 31 and the middle of the cable 34 that is attached to the rear ends of the shock-embracing arms being brought together for a reception in a supporting means.

9. In a shock-lifter, a head having a controlling handle, means for carrying the head, a pair of curved arms pivotally supported by means of the head, means connected with the handle and the arms for drawing the arms each toward the other for embracing a shock, and prongs carried by the head to coöperate with the arms for lifting the shock.

10. In a shock-lifter, a head having a controlling handle, a plurality of prongs and also a pair of curved arms mounted movably on the head, means for lifting the head and having means connected therewith for moving the arms apart, and means connected with the handle and the arms for drawing the arms each toward the other to coöperate with the prongs.

11. In a shock-lifter, a head having a controlling handle, means for carrying the head, prongs supported by the head for entering a shock, a finger mounted on the handle to be engaged for forcing the prongs into the shock, a pair of curved arms supported by means of the head for embracing the shock, and means connected with the handle and the arms for drawing the arms each toward the other for embracing the shock.

12. In a shock-lifter, a head having a shaft and also an operating handle journaled therein, prongs carried by the shaft, means for supporting the head, a pair of arms pivotally supported by means of the head for embracing a shock, means for moving the arms apart, holding means controlled by the handle for temporarily maintaining the prongs in pre-determined positions relatively to the arms, movable means connected with the handlde and the arms for drawing the arms each toward the other to embrace the shock, and means connected with the handle for actuating the holding means to release the prongs for permitting the prongs to move from the pre-determined positions for releasing the shock.

13. In lifting apparatus, a head having a rotative controlling handle, a shaft mounted to rotate in the head, prongs mounted on the shaft, a pawl mounted movably in the head and normally projected therefrom, a collar secured to the handle and having lugs thereon for engaging and retracting the pawl, a yoke secured to the shaft and having notches therein to receive the pawl, and a finger mounted rotatably on the handle to be engaged for forcing the prongs forward.

14. In lifting apparatus, a head, a controlling handle and also a shaft mounted rotatively at angles one to the other in the head, prongs carried by the shaft and extending forward therefrom, a latching device mounted on the head, means carried by the shaft for engagement with the latching device, means connected with the handle for actuating the latching device, and a supporting cable connected to the shaft remote from the head.

15. In lifting apparatus, a head, a shaft mounted to rotate on the head, prongs mounted on the shaft, a handle member mounted to rotate on the head and extending rearward of the shaft, a yoke secured to the shaft and extending rearward therefrom near the handle member, the yoke having pawl-receiving notches therein, a pawl mounted in the head and spring-pressed to enter the notches, and a collar secured to the handle member and having lugs thereon to engage and withdraw the pawl from the notches.

16. In shock-lifting apparatus, a head, a controlling handle mounted movably in the head, a shaft mounted in the head and having two supporting arms thereon that project rearward at opposite sides of the plane of the handle, two shock-embracing arms, each mounted pivotally on a different one of the supporting arms and extending forward, means connected with the handle for drawing the shock-absorbing arms about a shock, and releasable means controlled by the handle for holding said arms in embracing position.

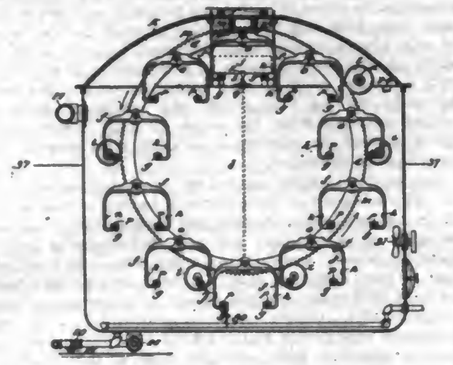
17. In shock-lifting apparatus, a head, a controlling handle mounted rotatively in the head, a shaft mounted on the head and having two supporting arms thereon that extend rearward substantially at opposite sides of the handle, two shock-embracing arms, each mounted pivotally on a different one of the supporting arms, a winding drum journaled on the forward portion of the handle, releasable clutch mechanism between said handle and winding drum, a cable connected to said winding drum and to the shock-embracing arms forward of the pivots thereof, and a cable having its ends attached to the shock-embracing arms rearward of the pivots thereof and extending through guiding devices connected to the shaft.

18. In shock-lifting apparatus, a head, a shaft mounted on the head and having two pivotal supports thereon, two curved shock-embracing arms mounted pivotally between their ends on the pivotal supports, an arm on each support, a hollow handle member journaled in the main head and extending rearward, a winding-drum journaled on the forward portion of the handle member, a separable clutch between said handle member and said winding-drum, a rod extending through said hollow handle member and connected with said clutch, a cable connected to the winding-drum and also to the shock-embracing arms forward of the pivots thereof, guides mounted on the structure, and a cable connected to the shock-embracing arms rearward of the pivots thereof and extending through the guides.

19. In shock-lifting apparatus, a head having a control- a cable connected to the shock-embracing arms rearward shock-embracing arms pivotally supported between their ends by means of the head, means connected with the handle and also with the arms forward of the pivots thereof for drawing the arms each toward the other for embracing a shock, and means connected with the arms rearward of the pivots thereof and coöperating with the structure for spreading the arms apart, with means carried by the head to coöperate with the arms for lifting the shock.

20. In lifting apparatus, a head, a pair of curved shock-embracing arms pivotally supported by means of the head, movable means carried by the head to coöperate with the arms for lifting a shock, a controlling handle mounted in the head and provided with a finger in proximity to the head to be engaged for forcing the apparatus forward, means connected with the arms for drawing the arms each toward the other for embracing a shock, and means connected also with the arms for spreading the arms apart, with means for controlling the movable means.

13,188. PASTEURIZING APPARATUS. HARTWIG M. A. HARDERS, Milwaukee, Wis., assignor, by mesne assignments, to Sydney Stein, Chicago, Ill. Filed Nov. 26, 1909. Serial No. 530,072. Original No. 915,765, dated Mar. 23, 1909, Serial No. 402,435.



1. The combination of a tank, an open-center rotary carrier in said tank, open-ended carriers suspended on said rotary carrier, ways on said suspended carriers whereby crates or trays of bottles or the like may be introduced into one end of said suspended carriers and discharged from the opposite ends thereof, and stationary ways at opposite sides of said rotary carrier with which the ways of the suspended carriers successively aline in the rotation of said rotary carrier, for the purpose set forth.

2. The combination of a tank, an open-center rotary carrier in said tank, open-ended carriers suspended on said rotary carrier, ways on said suspended carriers whereby crates or trays of bottles or the like may be introduced into one end of said suspended carriers and discharged from the opposite ends thereof, stationary ways at opposite sides of said rotary carrier with which the ways of the suspended carriers successively aline in the rotation of said rotary carrier, and means operating through said rotary carrier to introduce trays or crates upon the ways of said pivotally suspended carriers and discharge them therefrom after they have been moved by the rotary carrier through the tank.

3. The combination with a tank, an open-center rotary carrier in said tank, open-ended carriers pivotally suspended on said rotary carrier, ways on said suspended carriers whereby crates or trays of bottles or the like may be introduced into one end of said suspended carriers and discharged from the opposite ends thereof, means intermittently operating said rotary carrier, and means operating automatically through said rotary carrier to introduce upon the suspended carriers such trays or crates and to discharge them therefrom after such trays or crates have been moved by said rotary carrier through the tank.

4. The combination of a plurality of tanks, open-center rotary carriers in the tanks, open-ended carriers pivotally suspended on said rotary carriers, ways on said suspended carriers, means for intermittently moving said rotary carriers, and means operating automatically and alternately with relation to said rotary carrier, moving means to introduce trays or crates of bottles, or the like, into one of said suspended carriers upon its ways, transferring said crates or trays therefrom to each of the remaining rotary carriers and discharging them from the last carrier.

5. The combination of a tank, an open-center rotary carrier in the tank, open-ended carriers pivotally suspended on said rotary carrier for the introduction at one end and the discharge at their opposite ends of trays or crates of bottles, or the like, stationary ways at opposite sides of the rotary carrier with which the ways of the suspended carriers carried thereby, in the rotation of said rotary carrier, successively aline, intermittently operating means for actuating said rotary carrier to bring the ways of its suspended carriers successively into alinement with the stationary ways, and means operating through said rotary carrier to move such trays or crates of bottles, or the like, into and out of the ways on said suspended carriers.

6. The combination of a tank, an open-center rotary carrier in the tank, open-ended carriers pivotally suspended on said rotary carrier for the introduction at one end and the discharge at their opposite ends of trays or crates of bottles, or the like, stationary ways at opposite sides of the rotary carrier with which the ways of the suspended carriers carried thereby, in the rotation of said rotary carrier, successively aline, intermittently operating means for actuating said rotary carrier, to bring the ways of its suspended carriers successively into alinement with the stationary ways, and means operating through said rotary carrier to move such trays or crates of bottles, or the like, into and out of the ways on said suspended carriers and from one rotary carrier to the other in succession.

7. The combination of a tank, an open-center rotary carrier in said tank, open-ended carriers suspended on said rotary carrier, ways on said suspended carriers whereby crates or trays of bottles, or the like, may be introduced into one end and discharged from the opposite end of said suspended carriers, stationary ways at opposite sides of the rotary carriers with which the ways of the suspended carriers successively aline in the rotation of said rotary carrier, intermittently-operating means for actuating said rotary carrier to bring the ways of said suspended carriers successively into alinement with said stationary ways, and carrier-driven means operating alternately with relation to said rotary carrier-actuating means to move such trays or crates into and out of said suspended carriers.

8. The combination of a tank, an open-center rotary carrier therein provided with a plurality of open-ended carriers suspended thereon and provided with ways, means for moving said rotary carrier, and means operating automatically and alternately with relation to said rotary carrier-moving means for introducing crates or trays of bottles, or the like, upon the ways of said suspended carriers and to discharge them therefrom after they have been moved by said rotary carrier through the tank.

9. The combination of a plurality of tanks, open-center rotary carriers in the tanks, each provided with open-ended carriers suspended thereon, ways in said suspended carriers, means for moving said rotary carries and means operating automatically and alternately with relation to said rotary carrier-moving means to introduce trays or crates of bottles, or the like, upon the ways of said suspended carriers, transferring said trays or crates therefrom to a similarly suspended carrier on each of the remaining rotary carriers, and delivering them from the last rotary carrier, for the purpose set forth.

10. The combination of a tank, an open-center rotary carrier in said tank provided at intervals with open-ended carriers pivotally suspended thereon, each of which is open to the introduction into it at one end and to the discharge at its opposite end of trays or crates of bottles, or the like, ways in said suspended carriers, stationary ways at opposite sides of the rotary carrier with which the ways of the suspended carriers successively aline in the rotation of said rotary carrier, intermittently operated means operating automatically to actuate said rotary carrier to bring the ways of said suspended carriers successively into alinement with the stationary ways and means operating to move such trays or crates into and out of the ways on said suspended carriers.

11. In a pasteurizing apparatus, the combination of a tank, an open-center rotary carrier mounted in said tank and provided with ways parallel with its axis, stationary ways arranged to aline with the ways on the upper side of the carrier at opposite ends thereof, a reciprocating feed bar passing through said carrier parallel with its ways and provided with dogs which are adapted to engage with bottle-trays or crates and move them on said ways into and out of the carrier, and means for intermittently turning said carrier, substantially as described

12. In a pasteurizing apparatus, the combination of a plurality of tanks or compartments, open-center rotary carriers mounted coaxially in said tanks or compartments and provided with ways parallel with the axis of the carriers, stationary ways arranged to aline with the ways on the upper side of the carriers at opposite ends thereof, a reciprocating feed bar passing through the several carriers parallel with their axes and provided at intervals with dogs for moving bottle-crates on said ways into and out of the apparatus and from one carrier into another, and means for intermittently turning said carriers, substantially as described.

13. In pasteurizing apparatus, the combination of a tank, rollers mounted on opposite sides of said tank, an open-center rotary carrier mounted on said rollers, ways pivotally hung on said carrier parallel with its axis, means for intermittently turning said carrier, stationary ways arranged to aline with the ways on the upper side of the carrier at opposite ends thereof, and a reciprocating bar passing through said carrier parallel with said ways and provided with means for moving bottle-trays or crates on said ways into and out of the carrier, substantially as described.

14. In pasteurizing apparatus, the combination of a plurality of tanks, or compartments, arranged side by side, rollers mounted on opposite sides of said tanks or compartments, open-center rotary carriers mounted coaxially in the several tanks or compartments on said rollers, ways pivotally hung on each of said carriers parallel with its axis, stationary ways arranged to aline with the ways on the upper side of the carriers between them and at the ends of the apparatus, means for intermittently turning said carriers together, and a reciprocating bar passing through the several carriers parallel with said ways and provided with means for engaging and moving bottle-trays or crates on said ways into and out of the apparatus and from one carrier into another, substantially as described.

15. In pasteurizing apparatus, the combination of a tank, a carrier rotatably mounted therein, open-ended frames pivotally suspended on said carrier and provided with ways parallel with its axis, stationary ways arranged to aline with the ways on the upper side of the carrier at opposite ends thereof, said carrier being open at the ends between the stationary ways and the ends of said frames, means for holding each frame on the upper side of the carrier motionless with its ways in alinement with the stationary ways, means for intermittently turning said carrier, and means for automaticlly moving bottle-trays or crates upon said ways into and out of the first and last carriers and from one carrier into another, substantially as described.

16. In pasteurizing apparatus, the combination of a tank, an open-center carrier rotatably mounted therein, frames pivotally suspended on said carrier and provided with ways parallel with its axis, stationary ways arranged to aline with the ways on the upper side of the carrier at opposite ends thereof, a recoiprocating bar passing through said carrier parallel with said ways and provided with means for moving bottle-trays or crates upon said ways into and out of said carrier, and mechanism for intermittently turning said carrier and alternately moving said bar back and forth, comprising a pair of mutilated gears, pinions meshing therewith and locking shoes connected with the pinions and fitting curved rims or flanges on the toothless portions of the gears, said gears being arranged to turn said pinions alternately, substantially as described.

17. In pasteurizing apparatus, the combination of a tank, an open-center carrier rotatably mounted therein and provided with ways parallel with its axis, stationary ways arranged to aline with the ways in the upper part of the carrier at opposite ends thereof, means for intermittently turning said carrier, a reciprocating bar passing through said carrier parallel with said ways and provided with means for moving bottle-trays or crates on said ways into and out of the carrier, sprocket wheels, a link belt mounted on said sprocket wheels parallel with said bar and provided with a tooth adapted by engagement with lugs on said bar to move the same back and forth, and means for intermittently turning said sprocket wheels, substantially as described.

18. In pasteurizing apparatus, the combination of a tank provided on opposite sides with rollers, a carrier comprising spokeless wheels mounted on said rollers and connected by cross rods, frames pivotally suspended from said cross rods and having ways parallel therewith, one of said wheels having a circular rack or gear, a driving shaft parallel with the axis of said carrier and provided with a pinion meshing with said gear, means for intermittently turning said shaft, and stationary ways arranged to aline with the ways of said frames in the upper part of the carrier at opposite ends thereof, substantially as described.

19. In pasteurizing apparatus, the combination of a plurality of tanks or compartments having rollers mounted on opposite sides thereof and coaxial rotary carriers mounted on said rollers and each comprising a pair of spokeless wheels connected by cross rods, and a circular rack or gear, a driving shaft provided with pinions meshing with said racks or gears, means for turning said shaft intermittently, frames pivotally suspended from said cross rods and having ways parallel therewith, stationary ways arranged to aline with the ways of said frames in the upper part of the carriers at opposite ends thereof, and means for moving bottle trays or crates on said ways into and out of the first and last carriers and from one carrier into another, substantially as described.

20. In pasteurizing apparatus, the combination of a tank, a rotary carrier mounted therein, stationary ways arranged above and at the ends of said tank parallel with the axis of the carrier, stationary guides arranged at the sides of, above and parallel with said ways, racks pivotally suspended in said carrier and having ways and guides parallel with its axis and arranged to be brought on the upper side of the carrier into alinement with the stationary ways and guides, the ends of the racks and the ends of the carrier being open, and means for intermittently turning said carrier, substantially as described.

21. In pasteurizing apparatus, the combination of a plurality of tanks, coaxial open-center carriers rotatably mounted in said tanks, stationary ways and side guides arranged between and at the outer ends of said tanks parallel with the axis of the carriers, frames pivotally suspended in said carriers and having ways and side guides parallel with their axis and arranged to be brought into alinement on the upper side of the carriers with the stationary ways and guides, means for intermittently turning said carriers, and means for automatically moving bottle-trays or crates on said ways into and out of the first and last carriers and from one carrier into another, substantially as described.

22. In pasteurizing apparatus, the combination of a plurality of tanks, coaxial open-center carriers rotatably mounted therein, stationary ways located above and at the ends of the tanks parallel with the axis of the carriers, frames pivotally suspended in the carriers and having ways arranged to be brought on the upper side of the carriers into line with the stationary ways, return ways extending over the carriers from one end of the apparatus to the other, means for intermittently turning said carriers, and a reciprocating bar passing through the carriers and provided with means for moving bottle-trays or crates on said ways into and out of the apparatus and from one carrier into another, substantially as described.

23. In pasteurizing apparatus, the combination of three tanks arranged side by side, open-center carriers rotatably mounted in said tanks, vertical partitions extending through the carriers in the two outer tanks, circulating pipes connecting the outer tanks on one side of said partitions, means for heating liquid contained in the middle tank, stationary ways located above and at the ends of the tanks parallel with the axis of the carriers, frames suspended on the carriers and having ways arranged to be brought on the upper side of the carrier into line with the stationary ways, means for intermittently turning said carriers, and a reciprocating bar passing through the several carriers parallel with said ways and provided with means for moving bottle-trays or crates thereon into and out of the apparatus and from one carrier into another, substantially as described.

24. In pasteurizing apparatus, the combination of three tanks arranged side by side, rotary carriers mounted in said tanks and provided with supporting frames for bottle-trays or crates, the carriers in the two outer tanks being open through the center, means for turning said carriers, vertical partitions extending through the carriers in the two outer tanks, circulating pipes connecting said outer tanks on one side of said partitions, one of said pipes communicating with the upper parts of said tanks and the other pipe leading from the lower part of the first tank and opening into the other tank above the lower edge of the partition therein, and means for heating liquid contained in the middle tank, substantially as described.

25. In pasteurizing apparatus, the combination of a number of tanks arranged side by side, rotary carriers mounted in said tanks and provided with supporting frames for bottle-trays or crates, the carriers in the two outer tanks being open through the center, means for turning said carriers, vertical partitions extending through the carriers in the two outer tanks, circulating pipes connecting said outer tanks on one side of said partitions, one of said pipes communicating with the upper parts of said tanks and the other pipe leading from the lower part of the first tank into the other tank, means for heating liquid contained in the middle tank, a spray or jet pipe arranged in the upper part of the last tank to direct cool water toward the ascending side of the carrier therein, and an overflow connection leading out of one of the outer tanks, substantially as described.

26. In pasteurizing apparatus, the combiantion of a number of tanks, rotary carriers mounted in said tanks and provided with supporting frames for bottle-trays or crates, the two outer carriers being open through the center, means for turning said carriers, vertical partitions extending through the carriers in the two outer tanks, circulating pipes connecting said outer tanks on one side of said partitions, means for heating liquid contained in the middle tank, a spray or jet pipe arranged in the upper part of the last tank to direct cool water toward the ascending side of the carrier therein, and an overflow from said tank, substantially as described.

27. In pasteurizing apparatus, the combination of a number of tanks arranged side by side, rotary carriers mounted therein and provided with supporting frames for bottle-trays or crates, the two outer carriers being open through the center, means for turning said carriers, vertical partitions extending through the carriers in the two outer tanks, circulating pipes connecting said outer tanks on one side of said partitions, means for heating liquid contained in the middle tank, and a water supply pipe and a drain pipe having valve controlled branch connections with the lower parts of said tanks, substantially as described.

28. In pasteurizing apparatus, the combination of a number of tanks arranged side by side, endless carriers rotatably mounted in said tanks and having supports for bottle-trays or crates, the two outer carriers being open through the center, a vertical partition extending through the carrier in each outer tank and forming subdivisions which communicate with each other at the bottom, circulating connections between said subdivisions on the descending side of the carriers, means for heating liquid contained in the middle tank, means for turning said carriers, and means for feeding bottle-trays or crates into and discharging them from the apparatus, substantially as described.

29. In pasteurizing apparatus, the combination of a number of tanks arranged side by side, endless bottle-carriers movably mounted in said tanks and provided with supports for bottle-trays or crates, a partition extending through the carrier in each outer tank and forming subdivisions which communicate with each other at the bottom, circulating connections between said subdivisions on the descending side of the carriers, means for heating liquid contained in the middle tank, a cool water supply connection leading into the upper part of the subdivision of the last tank on the ascending side of the carriers, an overflow leading out of the lower part of the last tank, means for turning said carriers, and means for feeding bottle-trays or crates into and discharging them from the apparatus, substantially as described.

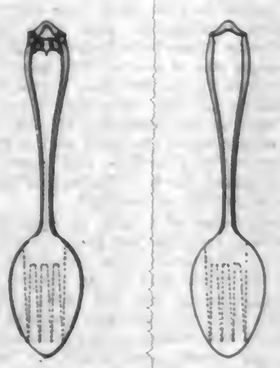
30. The combination of a tank, an open-center endless carrier mounted in said tank and provided with transverse horizontal ways, stationary ways arranged to aline with the ways in the upper part of the carrier at the ends thereof, a reciprocating feed bar passing through said carrier parallel with its ways and provided with a dog adapted to move bottle-trays or crates on said ways into and out of the carrier, and means for intermittently turning said carrier, substantially as described.

31. The combination of a tank, an open-center rotary carrier, open-ended frames pivotally suspended in said carrier parallel with its axis, and stationary ways arranged to aline with said frames in the upper part of the carrier at opposite ends thereof, substantially as described.

32. The combination of a tank, an endless carrier mounted therein and open at the ends, open-ended transverse frames pivotally suspended in said carrier, stationary ways arranged to aline with said frames in the upper part of the carrier at opposite ends thereof, a reciprocating bar passing through said carrier parallel with said ways and provided with a dog for moving bottle-trays or crates on said ways into and out of the frames in said carrier, and means for intermittently turning said carrier, substantially as described.

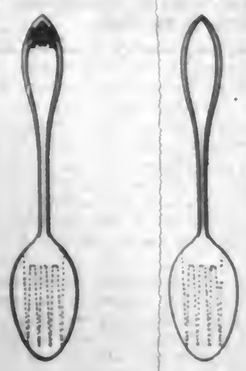
DESIGNS.

41,054. SPOON OR SIMILAR ARTICLE. WILLIAM A. JAMESON, Niagara Falls, N. Y. Filed Nov. 1, 1910. Serial No. 590,239. Term of patent 7 years.



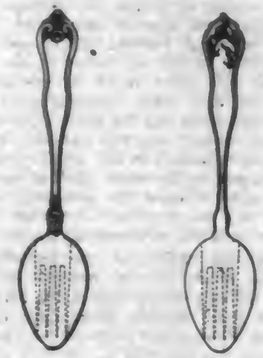
The ornamental design for a spoon or similar article as shown.

41,055. SPOON OR SIMILAR ARTICLE. WILLIAM A. JAMESON, Niagara Falls, N. Y. Filed Nov. 1, 1910. Serial No. 590,240. Term of patent 7 years.



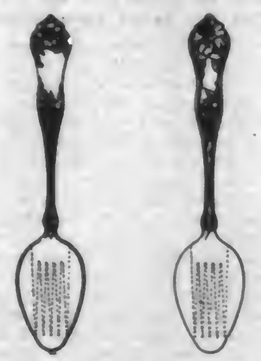
The ornamental design for a spoon or similar article as shown.

41,056. SPOON OR SIMILAR ARTICLE. WILLIAM A. JAMESON, Niagara Falls, N. Y. Filed Nov. 1, 1910. Serial No. 590,241. Term of patent 7 years.



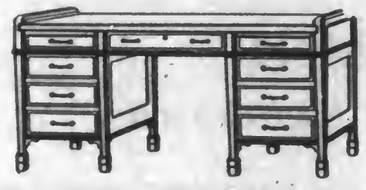
The ornamental design for a spoon or similar article as shown.

41,057. SPOON OR SIMILAR ARTICLE. WILLIAM A. JAMESON, Niagara Falls, N. Y. Filed Nov. 1, 1910 Serial No. 590,242. Term of patent 7 years.



The ornamental design for a spoon or similar article as shown.

41,058. DESK. KERVIN R. DUNTON, Boston, Mass., assignor to Doten-Dunton Desk Co., Boston, Mass., a Corporation of Massachusetts. Filed Dec. 15, 1909. Serial No. 533,292. Term of patent 7 years.



The ornamental design for desk as shown and described.

41,059. LAVATORY. JOHN S. ROWE, Buffalo, N. Y. Filed July 12, 1910. Serial No. 571,665. Term of patent 7 years.



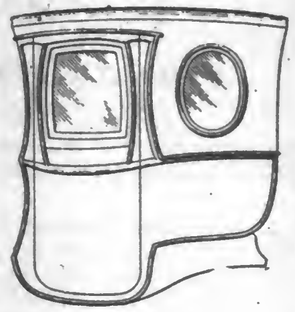
The ornamental design for a lavatory, as shown and described.

41,060. EXHAUST-STEAM SEPARATOR-CASING. JOSEPH WILLARD GAMBLE, Philadelphia, Pa. Filed July 18, 1910. Serial No. 572,648. Term of patent 14 years.



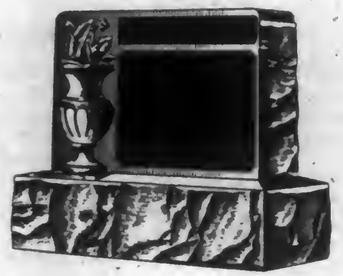
The ornamental design for an exhaust steam separator casing, as shown.

41,061. AUTOMOBILE-BODY. FRANK P. STONE, Chicago, Ill. Filed Oct. 31, 1910. Serial No. 590,092. Term of patent 7 years.



The ornamental design for an automobile body as shown.

41,062. MONUMENT. EDWIN O. TOWNSEND, New York, N. Y. Filed Nov. 1, 1910. Serial No. 590,248. Term of patent 7 years.



The ornamental design for a monument as shown.

TRADE-MARKS

PUBLISHED DECEMBER 27, 1910.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 41,450. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) ROBERT E. ATKINSON, Davidson, N. C., and Ontario, Va. Filed Mar. 29, 1909.



Consisting of the portrait and autograph-signature of J. E. Gregory, M. D.

Particular description of goods.—A Nerve and Bone Liniment.

Ser. No. 44,858. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, Höchst-on-the-Main, Germany. Filed Sept. 22, 1909.

TRIGEMIN

Particular description of goods.—A Remedy for the Painful Affections of the Nerves of the Brain.

Ser. No. 45,951. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) EMIL BRAUN, Cincinnati, Ohio. Filed Nov. 17, 1909.

FATMOR

Particular description of goods.—Loaf-Bread.

Ser. No. 46,037. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) GROS, MILLON & CIE., Lyon, France. Filed Nov. 20, 1909.

PERFEXA

Particular description of goods.—Tulles of All Kinds.

Ser. No. 46,755. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) CARSON, PIRIE, SCOTT & Co., Chicago, Ill. Filed Dec. 28, 1909.

IVANHOE

Particular description of goods.—Textile Drapery Fabrics.

Ser. No. 47,542. (CLASS 26. MEASURING AND SCIENTIFIC APPLIANCES.) EUGENE DIETZGEN COMPANY, Chicago, Ill. Filed Feb. 2, 1910. Used ten years.



Particular description of goods.—Draftsmen's Supplies Comprising Blue-Print Frames, Triangles, Curves, Section-Liners, T-Squares, Drawing-Boards, Surveyors' Leveling-Rods, Ranging-Poles, and Tapes.

Ser. No. 48,451. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) PARKISS VISE COMPANY, New York, N. Y. Filed Mar. 16, 1910.

"ANCHOR"

Particular description of goods.—Vises.

Ser. No. 48,814. (CLASS 35. BELTING, HOSE, MACHINERY PACKING, AND NON-METALLIC TIRES.) WOODWARD AND WANGER, Philadelphia, Pa. Filed Apr. 2, 1910.

FLEXO

Consists of the word "Flexo."

Particular description of goods.—Washers of Fibrous Materials for Cocks, Faucets, and Spigots.

Ser. No. 48,824. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) THE EAGLE MANUFACTURING COMPANY, Cincinnati, Ohio. Filed Apr. 2, 1910.

ARISTO

Particular description of goods.—Automobile Tire-Pumps and Lifting-Jacks.

Ser. No. 48,925. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) PACIFIC AMERICAN FISHERIES, Chicago, Ill. Filed Apr. 8, 1910.

RED ROVER

Particular description of goods.—Canned Salmon.

Ser. No. 48,931. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) PACIFIC AMERICAN FISHERIES, Chicago, Ill. Filed Apr. 8, 1910.

KING BIRD

Particular description of goods.—Canned Salmon.

Ser. No. 48,935. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) PACIFIC AMERICAN FISHERIES, Chicago, Ill. Filed Apr. 8, 1910.

SOUTHLAND

Particular description of goods.—Canned Salmon.

Ser. No. 48,943. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) PACIFIC AMERICAN FISHERIES, Chicago, Ill. Filed Apr. 8, 1910.

Red Top

Particular description of goods.—Canned Salmon.

Ser. No. 48,947. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) DEMING & GOULD CO., Chicago, Ill. Filed Apr. 8, 1910.

Red Boy

Particular description of goods.—Canned Salmon.

Ser. No. 49,065. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) FORT STANWIX CANNING COMPANY, Rome, N. Y. Filed Apr. 13, 1910.

ARGONAUT

Particular description of goods.—Canned Fruits and Vegetables.

Ser. No. 49,068. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) FORT STANWIX CANNING COMPANY, Rome, N. Y. Filed Apr. 13, 1910. Used ten years.

MISTLETOE

Particular description of goods.—Canned Fruits and Vegetables.

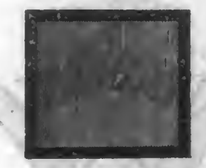
Ser. No. 50,278. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) CARSON, PIRIE, SCOTT & CO., Chicago, Ill. Filed June 13, 1910.



DIANA

Particular description of goods.—Bleached Cotton Piece Goods.

Ser. No. 50,282. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) GRIFFIN & SKELLEY COMPANY, San Francisco, Cal. Filed June 13, 1910.



The same consisting of a red panel with a gold border.

Particular description of goods.—Canned Fruits and Dried and Evaporated Fruits.

Ser. No. 50,387. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) PHILADELPHIA QUARTZ COMPANY, Philadelphia, Pa. Filed June 17, 1910. Used ten years.

S

Particular description of goods.—Silicate of Soda.

Ser. No. 50,401. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) WILLIAM H. DYER, Vincennes, Ind. Filed June 17, 1910.

ALICE

Particular description of goods.—Canned Pork and Beans.

Ser. No. 50,704. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) FLOOD & CONKLIN CO., Newark, N. J. Filed July 5, 1910.

SIMPLEX

Particular description of goods.—Varnishes.

Ser. No. 50,969. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) J. H. WILLIAMS & CO., Brooklyn, N. Y. Filed July 21, 1910.

RATCHO

Particular description of goods.—Wrenches.

Ser. No. 51,087. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) LORENZO WILLIS LEWIS, Columbus, Ohio. Filed July 26, 1910.

SMILE

Particular description of goods.—Metal-Polish.

Ser. No. 51,255. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) MERKLE WILEY BROOM CO., Paris, Ill. Filed Aug. 3, 1910.

IXL

Particular description of goods.—Brooms.

Ser. No. 51,283. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) CHEW PACK COMPANY, Los Angeles, Cal. Filed Aug. 6, 1910.



Particular description of goods.—A Liquid Medicinal Tonic.

Ser. No. 51,325. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) ALFRED B. SMITH & CO., Springfield, Mass. Filed Aug. 9, 1910.



No claim being made to the word "Flour."

Particular description of goods.—Wheat-Flour.

Ser. No. 51,417. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) GATLIN MANUFACTURING CO., Kansas City, Mo. Filed Aug. 16, 1910.



Particular description of goods.—Enameled Metal Ware.

Ser. No. 51,523. (CLASS 44. DENTAL, MEDICAL, AND SURGICAL APPLIANCES.) HOLTON & ADAMS, New York, N. Y. Filed Aug. 24, 1910.

SUCCESS

Particular description of goods.—Manicure-Sticks; Corn and Bunion Rasps, Knives, and Razors; Cuticle-Knives; Emery-Boards; Nail-Cleaners; Nail-Clippers; Nail-Files; and Nail-Polishers, and Tweezers.

Ser. No. 51,541. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) JOSEPH PENARD & MRS. AGNESS MYERS, Lawrence, Mass. Filed Aug. 25, 1910.



The picture being that of Joseph Penard.

Particular description of goods.—Medicine for Rheumatism.

Ser. No. 51,550. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) NATIONAL BISCUIT COMPANY, Jersey City, N. J., and New York, N. Y. Filed Aug. 26, 1910.

LOTUS

Particular description of goods.—Biscuit.

Ser. No. 51,679. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) ROBERT W. SUNASACK, Chicago, Ill. Filed Sept. 6, 1910.

CARBO-MAGNITE

Particular description of goods.—Razor-Strops and Razor-Hones.

Ser. No. 51,734. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) MARY LAMPRONT, Montreal, Canada. Filed Sept. 9, 1910.



Particular description of goods.—Condition Medicines for Domestic Animals.

Ser. No. 51,784. (CLASS 12. CONSTRUCTION MATERIALS.) NASHVILLE HARDWOOD FLOORING COMPANY, Nashville, Tenn. Filed Sept. 13, 1910.

ACORN-BRAND

Particular description of goods.—Flooring, Square-Edge Strips, Wood Flooring-Squares.

Ser. No. 51,835. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) PERU MILLING COMPANY, Peru, Ind. Filed Sept. 15, 1910.



Particular description of goods.—Winter-Wheat Patent Flour.

Ser. No. 51,867. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) JOSEPH H. DESMARAIS, Bristol, Conn. Filed Sept. 19, 1910.



The picture being fanciful and no claim being made to the right to the exclusive trade use of the words "Hope and Salvation" and "The Hartford Medical Service Company."

Particular description of goods.—Remedies for Female Ailments, Constipation, Piles, Anemia, Dandruff, Dyspepsia, and Toothache.

Ser. No. 51,925. (CLASS 43. THREAD AND YARN.) ALEXANDER & PERLMANN, New York, N. Y. Filed Sept. 23, 1910.



Consisting of the words "Queen Louise" and the portrait of Queen Louise.

Particular description of goods.—Embroidery-Flosses.

Ser. No. 52,011. (CLASS 39. CLOTHING.) GOLDEN STATE SHOE CO., Los Angeles, Cal. Filed Sept. 29, 1910.

California Bride

Particular description of goods.—Men's Leather Shoes.

Ser. No. 52,116. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) FIELD FORCE PUMP COMPANY, Elmira Heights, N. Y. Filed Oct. 5, 1910.

"OSPRAYMO"

Particular description of goods.—Hand-Operated Sprayers and Spraying-Machines.

Ser. No. 52,157. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) WOONSOCKET SHUTTLE COMPANY, Woonsocket, R. I. Filed Oct. 7, 1910.

ECLIPSE

Particular description of goods.—Loom-Shuttles.

Ser. No. 52,230. (CLASS 12. CONSTRUCTION MATERIALS.) FRIEDRICH RASCHIG, Ludwigshafen-on-the-Rhine, Germany. Filed Oct. 12, 1910.

KITON

Particular description of goods.—A Liquid Preparation of Coal-Tar for Application to the Surfaces of Roads.

Ser. No. 52,305. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) GARNER-BLAKELY COMPANY, Bainbridge, Ga. Filed Oct. 17, 1910.

WIRE-GRASS

Particular description of goods.—Cane-Syrups.

Ser. No. 52,320. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) EDMOND TYLER, New York, N. Y. Filed Oct. 18, 1910.



Particular description of goods.—Preserved Fruits and Mustard Pickles.

Ser. No. 52,334. (CLASS 39. CLOTHING.) O'CALLAGHAN & FREDDEN, New York, N. Y. Filed Oct. 19, 1910.

900

Particular description of goods.—Stockings.

Ser. No. 52,340. (CLASS 12. CONSTRUCTION MATERIALS.) THOMAS A. HAY, New York, N. Y. Filed Oct. 20, 1910.

ROCMAC

Particular description of goods.—A Liquid Adhesive Employed as a Binding Agent for Roads, Pavements, and other Wearing Surfaces.

Ser. No. 52,341. (CLASS 39. CLOTHING.) F. MAYER BOOT & SHOE CO., Milwaukee, Wis. Filed Oct. 20, 1910.



The portrait being that of Martha Washington, deceased.

Particular description of goods.—Leather Shoes.

Ser. No. 52,372. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE BROOKFIELD GLASS COMPANY, Oldbridge, N. J. Filed Oct. 20, 1910. Used ten years.

BROOKFIELD

Particular description of goods.—Glass Insulators.

Ser. No. 52,376. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) ERNST STOLL, Markneukirchen, Germany. Filed Oct. 22, 1910.

EMPIRNELLE

Particular description of goods.—Silk Strings for Musical Instruments.

Ser. No. 52,409. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) FLORA A. JONES, Detroit, Mich. Filed Oct. 24, 1910.



Particular description of goods.—A Toilet Wash for the Complexion.

Ser. No. 52,410. (CLASS 8. SMOKERS' ARTICLES, NOT INCLUDING TOBACCO PRODUCTS.) NISSIM S. HANOKA & MAURICE MISHOULA, Chicago, Ill. Filed Oct. 24, 1910.



Particular description of goods.—Cigarette-Papers.

Ser. No. 52,434. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) NATIONAL STARCH COMPANY, Jersey City, N. J., and New York, N. Y. Filed Oct. 25, 1910.

HAWKEYE

Particular description of goods.—Starch for Laundry and General Sizing and Stiffening Purposes.

Ser. No. 52,435. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) NATIONAL STARCH COMPANY, Jersey City, N. J., and New York, N. Y. Filed Oct. 25, 1910.

HAWKEYE

Particular description of goods.—Starch for Edible Purposes.

Ser. No. 52,436. (CLASS 6. CHEMICALS, MEDICINES, AND PHARMACEUTICAL PREPARATIONS.) JOHN H. SUSS, Visalia, Cal. Filed Oct. 25, 1910.



Which is portrait of applicant.
Particular description of goods.—Cancer Remedy.

Ser. No. 52,459. (CLASS 26. MEASURING AND SCIENTIFIC APPLIANCES.) AUSTIN EDWARDS, LIMITED, Warwick, England. Filed Oct. 26, 1910.

ENSIGN

Particular description of goods.—Photographic Films.

Ser. No. 52,460. (CLASS 46. FOODS AND INGREDIENTS OF FOODS.) W. T. WELISCH & COMPANY INC., San Francisco, Cal. Filed Oct. 26, 1910.

VIRGIN



Particular description of goods.—Head-Rice.

Ser. No. 52,465. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) THE PROCTER & GAMBLE COMPANY, Ivorydale, Ohio; Macon, Ga., and Cincinnati, Ohio. Filed Oct. 26, 1910. Used ten years.

DENVER BEST

Particular description of goods.—Soap for Laundry Use.

Ser. No. 52,495. (CLASS 42. KNITTED, NETTED, AND TEXTILE FABRICS.) BALTIMORE BARGAIN HOUSE, Baltimore, Md. Filed Oct. 28, 1910.

LYNFLEX

Particular description of goods.—Cotton, Silk, and Wool Piece Goods and Piece Goods Made of Cotton, Silk, and Wool Fibers or Any Two of These Fibers.

Ser. No. 52,500. (CLASS 14. METALS AND METAL CASTINGS AND FORGINGS.) THE ROESSLER & HASSLACHER CHEMICAL CO., New York, N. Y. Filed Oct. 28, 1910.

PYROCER

Particular description of goods.—A Metallic Compound Which on Friction or Concussion Emits Sparks.

Ser. No. 52,519. (CLASS 36. MUSICAL INSTRUMENTS AND SUPPLIES.) AEOLIAN COMPANY, Meriden, Conn.; Garwood, N. J., and New York, N. Y. Filed Oct. 31, 1910.

THEMEOLA

Particular description of goods.—Player-Pianos, Piano-Players, and Perforated Music-Sheets for Said Instruments.

Ser. No. 52,563. (CLASS 39. CLOTHING.) JOHN WANAMAKER, NEW YORK, New York, N. Y. Filed Nov. 2, 1910.

Letitia

Particular description of goods.—Corsets.

Ser. No. 52,576. (CLASS 26. MEASURING AND SCIENTIFIC APPLIANCES.) EDISON MANUFACTURING COMPANY, West Orange, N. J. Filed Nov. 2, 1910. Used ten years.

KINETOSCOPE

Particular description of goods.—Moving-Picture-Projecting Apparatus.

Ser. No. 52,586. (CLASS 12. CONSTRUCTION MATERIALS.) JAMES WILLIAM HALL, Chicago, Ill. Filed Nov. 3, 1910.

TARGREAT

Particular description of goods.—Road-Bonding Materials.

Ser. No. 52,590. (CLASS 13. HARDWARE AND PLUMBING AND STEAM-FITTING SUPPLIES.) KNOTT-VAN ARNAM MANUFACTURING CO., Fort Wayne, Ind. Filed Nov. 3, 1910.

VANARCO

Particular description of goods.—Flushing-Tanks and Hinged Seats for Water-Closets.

Ser. No. 52,643. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) HERMAN H. HOGE, New Knoxville, Ohio. Filed Nov. 7, 1910.

FAVORITE

Particular description of goods.—Machines for Separating Seeds.

Ser. No. 52,648. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) ROLKA & KLEIN, New York, N. Y. Filed Nov. 7, 1910.

The Smart Set

Particular description of goods.—Razors and Razor-Blades, Shears, Scissors, Steel Table Knives and Forks, Carving Knives and Forks, Butcher-Knives, Pocket-Knives, and Hair-Clippers.

Ser. No. 52,649. (CLASS 23. CUTLERY, MACHINERY, AND TOOLS, AND PARTS THEREOF.) ROLKA & KLEIN, New York, N. Y. Filed Nov. 7, 1910.

The World

Particular description of goods.—Razors and Razor-Blades, Shears, Scissors, Steel Table Knives and Forks, Carving Knives and Forks, Butcher-Knives, Pocket-Knives, and Hair-Clippers.

Ser. No. 52,657. (CLASS 38. PRINTS AND PUBLICATIONS.) CURTIS PUBLISHING COMPANY, Philadelphia, Pa. Filed Nov. 7, 1910.



Being a portrait of Benjamin Franklin, deceased.
Particular description of goods.—An Illustrated Weekly Magazine.

Ser. No. 52,838. (CLASS 39. CLOTHING.) JOHN H. AYLSWORTH, Jr., Providence, R. I. Filed Nov. 17, 1910.

REMO

Particular description of goods.—Boots, Shoes, and Slippers of Leather or Textile Materials.

Ser. No. 52,839. (CLASS 39. CLOTHING.) KOPS BROS., New York, N. Y. Filed Nov. 17, 1910.

LASTIKOPS

Particular description of goods.—Corsets.

Ser. No. 52,871. (CLASS 27. HOROLOGICAL INSTRUMENTS.) THE KEYSTONE WATCH CASE COMPANY, Philadelphia, Pa. Filed Nov. 19, 1910. Used ten years.

EXTRA

The trade-mark consists of the word "Extra."

Particular description of goods.—Watchcases, Watches, and Watch-Movements.

Ser. No. 52,893. (CLASS 2. RECEPTACLES.) THE UNION BAG AND PAPER COMPANY, Jersey City, N. J., and New York, N. Y. Filed Nov. 21, 1910.



Particular description of goods.—Paper Bags.

Ser. No. 52,981. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Nov. 26, 1910. Used ten years.

AGRICULTURAL MACHINERY OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 53,050. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Dec. 1, 1910. Used ten years.

WHITE SPINDLE OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 53,051. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Dec. 1, 1910. Used ten years.

VENANGO NEUTRAL OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 53,076. (CLASS 4. ABRASIVE, DETERGENT, AND POLISHING MATERIALS.) LEVER BROTHERS COMPANY, Portland, Me., and Cambridge, Mass. Filed Dec. 1, 1910.

MYLADY

Particular description of goods.—Soap.

Ser. No. 53,098. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Dec. 3, 1910. Used ten years.

COSMOS

Particular description of goods.—Lubricating-Oils.

Ser. No. 53,100. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Dec. 3, 1910. Used ten years.

AMBER ROPE OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 53,102. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Dec. 3, 1910. Used ten years.

No. 2 SUMMER OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 53,106. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Dec. 3, 1910. Used ten years.

40° C.T. DARK AXLE OIL

Particular description of goods.—Lubricating-Oils.

Ser. No. 53,107. (CLASS 15. OILS AND GREASES.) STANDARD OIL CO. OF NEW YORK, New York, N. Y. Filed Dec. 3, 1910. Used ten years.

MEDIUM DARK MACHINERY OIL

Particular description of goods.—Lubricating-Oils.

TRADE-MARKS

REGISTERED DECEMBER 27, 1910.

80,453. PERSONAL AND HOUSEHOLD MONTHLY-EXPENSE BOOKS. CYRUS J. ALBERT, Chicago, Ill.
Filed September 10, 1908. Serial No. 37,297. PUBLISHED OCTOBER 4, 1910.

80,454. MEDICINAL PREPARATIONS. ALLCOCK MANUFACTURING COMPANY, Ossining and New York, N. Y.
Filed May 3, 1910. Serial No. 49,486. PUBLISHED OCTOBER 25, 1910.

80,455. WOVEN BELTING. THE AMERICAN FABRIC BELTING CO., Cleveland, Ohio.
Filed March 31, 1910. Serial No. 48,776. PUBLISHED OCTOBER 25, 1910.

80,456. READY FELT ROOFING. BARRETT MANUFACTURING COMPANY, New York, N. Y.
Filed September 19, 1910. Serial No. 51,880. PUBLISHED OCTOBER 25, 1910.

80,457. READY FELT ROOFING. BARRETT MANUFACTURING COMPANY, New York, N. Y.
Filed September 19, 1910. Serial No. 51,881. PUBLISHED OCTOBER 25, 1910.

80,458. AUTOMOBILE HORN-REED. FRANK BISHOP, St. Louis, Mo.
Filed September 21, 1910. Serial No. 51,910. PUBLISHED OCTOBER 25, 1910.

80,459. MANTLES AND BURNERS. "THE "BRITELITE" COMPANY," Wilmington, Del., and New York, N. Y.
Filed August 4, 1910. Serial No. 51,257. PUBLISHED OCTOBER 25, 1910.

80,460. NATURAL MINERAL WATER. BUFFALO LITHIA SPRINGS WATER CO., Buffalo Lithia Springs, Va.
Filed December 28, 1907. Serial No. 31,956. PUBLISHED AUGUST 24, 1909.

80,461. REMEDIES FOR PILES. DANIEL ALEX. CARLYLE, Alba, Mo.
Filed August 5, 1910. Serial No. 51,269. PUBLISHED OCTOBER 25, 1910.

80,462. LAUNDRY STARCH. CORN PRODUCTS REFINING COMPANY, Jersey City, N. J., and New York, N. Y.
Filed September 27, 1910. Serial No. 51,976. PUBLISHED OCTOBER 25, 1910.

80,463. STERILIZED MILK. PATRICIUS ANGELUS MARIA CRAMER, Amsterdam, Netherlands.
Filed February 24, 1910. Serial No. 47,994. PUBLISHED OCTOBER 25, 1910.

80,464. HOSIERY. DANVILLE KNITTING MILLS, Danville, Va.
Filed September 22, 1910. Serial No. 51,914. PUBLISHED OCTOBER 25, 1910.

80,465. SALT. DIAMOND CRYSTAL SALT COMPANY, St. Clair, Mich.
Filed July 13, 1910. Serial No. 50,816. PUBLISHED OCTOBER 25, 1910.

80,466. PAPER. DISTRICT OF COLUMBIA PAPER MANUFACTURING COMPANY, Alexandria, Va., and Washington, D. C.
Filed March 29, 1910. Serial No. 48,715. PUBLISHED OCTOBER 25, 1910.

80,467. TEAS, COFFEES, COCOA, AND CHOCOLATE. DOWD & SCALLY, Fort Dodge, Iowa.
Filed August 15, 1910. Serial No. 51,409. PUBLISHED OCTOBER 25, 1910.

80,468. CANDY. THEODORE CHARLES DUSENBERG, Philadelphia, Pa.
Filed August 23, 1910. Serial No. 51,512. PUBLISHED OCTOBER 25, 1910.

80,469. HORSE EQUIPMENTS AND LAP-DUSTERS. WILLARD H. ELDRED, Battle Creek, Mich.
Filed August 22, 1910. Serial No. 51,488. PUBLISHED OCTOBER 25, 1910.

80,470. TICKET PRINTING AND DELIVERING MACHINES. THE ELMER MANUFACTURING COMPANY, St. Louis, Mo.
Filed August 17, 1910. Serial No. 51,434. PUBLISHED OCTOBER 25, 1910.

80,471. PERCALE. ELY & WALKER DRY GOODS CO., St. Louis, Mo.
Filed September 16, 1910. Serial No. 51,854. PUBLISHED OCTOBER 25, 1910.

80,472. COMPOUND OF CORN-SYRUP WITH CANE FLAVOR AND SORGHUM. THE FORT SCOTT SORGHUM SYRUP CO., Fort Scott, Kans.
Filed December 3, 1909. Serial No. 46,254. PUBLISHED MARCH 8, 1910.

80,473. GOLD AND SILVER JEWELRY FOR PERSONAL WEAR. J. A. & S. W. GRANBERY, Newark, N. J., and New York, N. Y.
Filed February 25, 1910. Serial No. 48,025. PUBLISHED JUNE 7, 1910.

80,474. COTTON PIECE GOODS. GRINNELL WILLIS CO., New York, N. Y.
Filed July 13, 1910. Serial No. 50,808. PUBLISHED OCTOBER 25, 1910.

80,475. CANNED FRUITS. HUNT BROTHERS COMPANY, San Francisco, Cal., assignor to Sprague, Warner Company, Chicago, Ill., a Corporation.
Filed January 3, 1910. Serial No. 46,878. PUBLISHED APRIL 12, 1910.

80,476. BOOKS OF ADVENTURE. HURST & COMPANY, New York, N. Y.
Filed June 4, 1910. Serial No. 50,124. PUBLISHED JULY 19, 1910.

80,477. PREPARATION FOR CLEANING AND POLISHING SILVER, GOLD, AND PLATED WARE. FRANK P. IANNARONE, Los Angeles, Cal.
Filed March 2, 1909. Serial No. 40,890. PUBLISHED OCTOBER 25, 1910.

80,478. GARBAGE-CREMATORIES. THE INCINERATOR COMPANY OF AMERICA, New York, N. Y.
Filed July 5, 1910. Serial No. 50,718. PUBLISHED OCTOBER 4, 1910.

80,479. CRACKER-DUST. FRANCIS H. LEGGETT & CO., New York, N. Y.
Filed August 12, 1910. Serial No. 51,382. PUBLISHED OCTOBER 25, 1910.

80,480. CERTAIN CHEMICAL PREPARATIONS. ALAN GEORGE LETSON, Bloomington, Ill.
Filed April 9, 1910. Serial No. 48,994. PUBLISHED SEPTEMBER 13, 1910.

80,481. CERTAIN CLOTHING. EDOUARD LEURET, Tourcoing, France.
Filed June 22, 1909. Serial No. 43,182. PUBLISHED OCTOBER 25, 1910.

80,482. HOBBY-HORSES, HOBBY-CARTS, AND TOY HARRY W. MCCLURE, Ann Arbor, Mich.
Filed July 27, 1910. Serial No. 51,161. PUBLISHED OCTOBER 25, 1910.

80,483. [WITHDRAWN.]

80,484. LITHOGRAPHIC PRINTS. MEISSNER & BUCH, Leipzig, Germany.
Filed August 20, 1910. Serial No. 51,469. PUBLISHED OCTOBER 25, 1910.

80,485. VENTILATORS. MERCHANT & EVANS COMPANY, Philadelphia, Pa.
Filed August 2, 1910. Serial No. 51,231. PUBLISHED OCTOBER 25, 1910.

80,486. EMBROIDERY-FLOSSES. MEYER, MARTIN & DANDA, New York, N. Y.
Filed September 24, 1910. Serial No. 51,952. PUBLISHED OCTOBER 25, 1910.

80,487. CIGARETTES. NATIONAL CIGARETTE COMPANY, New York, N. Y.
Filed August 19, 1910. Serial No. 51,458. PUBLISHED OCTOBER 25, 1910.

80,488. PAINTERS' MATERIALS. T. H. NEVIN COMPANY, Pittsburg, Pa.
Filed December 8, 1908. Serial No. 39,171. PUBLISHED FEBRUARY 16, 1909.

80,489. HOSE. NEW YORK BELTING & PACKING COMPANY LTD., New York, N. Y., and Passaic, N. J.
Filed September 22, 1910. Serial No. 51,919. PUBLISHED OCTOBER 25, 1910.

80,490. ANTIDOTE FOR MALARIA, CHILLS, FEVER, AND DUMB AGUE. NEW YORK CHEMICAL COMPANY, Dallas, Tex.
Filed October 4, 1909. Serial No. 45,124. PUBLISHED DECEMBER 7, 1909.

80,491. METAL-POLISHES. PACIFIC PLATING POLISH CO., San Francisco, Cal.
Filed September 22, 1909. Serial No. 44,362. PUBLISHED FEBRUARY 22, 1910.

80,492. PREPARED WHEAT AND BARLEY BREAKFAST FOODS. POSTUM CEREAL CO., LIMITED, Battle Creek, Mich.
Filed October 3, 1910. Serial No. 52,074. PUBLISHED OCTOBER 25, 1910.

80,493. PREPARED CORN BREAKFAST FOODS. POSTUM CEREAL CO., LIMITED, Battle Creek, Mich.
Filed October 3, 1910. Serial No. 52,075. PUBLISHED OCTOBER 25, 1910.

80,494. WATERPROOF BED-SHEETING. W. S. ROTHBAND & CO., Manchester, England.
Filed August 13, 1910. Serial No. 51,388. PUBLISHED OCTOBER 25, 1910.

80,495. ARTISTS' COLORS AND ARTISTS' VARNISHES. GEORGE ROWNEY & CO., London, England.
Filed June 5, 1909. Serial No. 42,841. PUBLISHED MAY 31, 1910.

80,496. OINTMENTS. RICH. SCHUBERT & CO., Weinböhla, near Dresden, Germany.
Filed May 12, 1909. Serial No. 42,374. PUBLISHED OCTOBER 25, 1910.

80,497. STRINGS FOR MUSICAL INSTRUMENTS. ERNST STOLL, Markneukirchen, Germany.
Filed June 16, 1910. Serial No. 50,839. PUBLISHED OCTOBER 25, 1910.

80,498. HAIR-TONIC, FACE-POWDER, AND COLD-CREAM. SULPHUME COMPANY, Boston, Mass.
Filed August 25, 1910. Serial No. 51,538. PUBLISHED OCTOBER 25, 1910.

80,499. SHOE-LACES, SHOE-EYELETS, AND SHOE-CLOSURE FASTENINGS. THOMPSON EHLERS CO., Chicago, Ill.
Filed March 10, 1910. Serial No. 48,319. PUBLISHED OCTOBER 25, 1910.

80,500. TOCOLOGICAL MEDICINE. TROPICAL PHARMACAL COMPANY, New York, N. Y.
Filed August 2, 1910. Serial No. 51,242. PUBLISHED OCTOBER 25, 1910.

80,501. REMEDY FOR DISEASES OF THE BLOOD. TIDINGS & CO., Ocala, Fla.
Filed May 14, 1909. Serial No. 42,413. PUBLISHED JULY 20, 1909.

80,502. STORAGE-TANKS. JAMES A. ULLMAN, New York, N. Y.
Filed July 28, 1910. Serial No. 51,128. PUBLISHED OCTOBER 25, 1910.

80,503. CLOCKS AND WATCHES. THE WESTERN CLOCK MFG. CO., Peru, Ill.
Filed September 21, 1910. Serial No. 51,900. PUBLISHED OCTOBER 25, 1910.

80,504. PLAIN WHITE, DYED, AND PRINTED CRETONNE. THE WINDSOR PRINT WORKS, North Adams, Mass., and New York, N. Y.
Filed June 17, 1910. Serial No. 50,389. PUBLISHED OCTOBER 25, 1910.

80,505. FLANNELS IN THE PIECE. THE RUSSELL EMBROIDERING CO., New York, N. Y.
Filed July 19, 1910. Serial No. 50,912. PUBLISHED OCTOBER 25, 1910.

LABELS

REGISTERED DECEMBER 27, 1910.

15,431.—*Title:* "LIFESTAFF THE LONG STORAGE BEER." (For Bottled Beer.) ALFRED OTT. GUTSCH, Sheboygan, Wis. Filed September 30, 1910.

15,432.—*Title:* "PENNANT CHOCOLATES MADE BY DARBY." (For Chocolates.) THE DARBY CANDY COMPANY, Baltimore, Md. Filed November 29, 1910.

15,433.—*Title:* "GINSENG CHEWING GUM." (For Chewing-Gum.) THE GINSENG GUM COMPANY, Akron, Ohio. Filed December 10, 1910.

15,434.—*Title:* "FRUITO." (For Chewing-Gum.) NEWTON GUM CO., San Francisco, Cal. Filed August 10, 1910.

15,435.—*Title:* "MINTO." (For Chewing-Gum.) NEWTON GUM CO., San Francisco, Cal. Filed August 10, 1910.

15,436.—*Title:* "PEPTOMULSION." (For an Emulsion of Cod-Liver Oil, Containing Hypophosphites of Calcium and Sodium, Pepsin, and Guiacol.) THOMAS J. RYAN, New York, N. Y. Filed September 28, 1910.

15,437.—*Title:* "IRON WILD CHERRY AND HONEY PHOSPHATES." (For a Medicine.) RICHARD STUMPF, Baltimore, Md. Filed August 30, 1910.

15,438.—*Title:* "PURINA WHOLE WHEAT BREAD." (For Whole-Wheat Bread.) RALSTON PURINA COMPANY, St. Louis, Mo. Filed December 3, 1910.

15,439.—*Title:* "EVERY EGG A PERFECT BAIT." (For Salmon-Eggs to be Used as Fish-Baits.) JAMES E. HUBBART, Seattle, Wash. Filed December 16, 1910.

15,440.—*Title:* "THE LIFE OF LEATHER." (For a Preparation for Preserving Leather.) D. W. SANKEY, Mifflinburg, Pa. Filed September 12, 1910.

15,441.—*Title:* "PEERLESS" (For Stamp-Inking Pads.) JOSEPH H. BEARNS, JR., & Co., New York, N. Y. Filed November 1, 1910.

15,442.—*Title:* "THE GAME OF LOBSTER." (For a Card Game.) WALTER M. DAY, Westboro, Mass. Filed November 22, 1910.

15,443.—*Title:* "BULL DOG GLOVES." (For Kid Gloves.) ARTHUR A. KIEWITZ, New York, N. Y. Filed October 22, 1910.

PRINTS

REGISTERED DECEMBER 27, 1910.

2,676.—*Title:* "A WHOLE WHEAT FOOD." (For Shredded Wheat.) THE SHREDDED WHEAT COMPANY, Niagara Falls, N. Y. Filed December 12, 1910.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

RIETZEL *v.* HARMATTA.

Decided December 3, 1910.

INTERFERENCE—MOTION FOR DISSOLUTION—SUPPLEMENTAL OATH.

It is well settled that the question of whether claims inserted by amendment should be supported by a supplemental oath is an *ex parte* matter not open for argument in the interference proceeding and that in the absence of such an oath, even where it should have been furnished, there is no such irregularity as will preclude the proper determination of the interference.

APPEAL on motion.

ELECTRIC WELDING.

Messrs. Townsend & Decker for Rietzel.

Messrs. O. E. Duffy & Son for Harmatta.

MOORE, *Commissioner:*

This is an appeal by Rietzel from that portion of the decision of the Examiner of Interferences refusing to transmit to the Primary Examiner the third ground of his motion to dissolve the interference.

This ground reads as follows:

Third, that the party Harmatta has no right to make the claims forming the subject of counts 4, 5, 6, 7 and 8 of the issue of this interference for the reason that he has not filed the oath required by Rule 48 and the patent statutes.

Transmission of this part of the motion to dissolve was denied by the Examiner of Interferences upon the ground that the sufficiency of the oath is an *ex parte* matter which may be readily adjusted after the interference shall have been determined.

The record shows that the application of Harmatta as filed disclosed a method, an apparatus, and an article, but contained only claims to the method and apparatus. The Examiner suggested to him, under the provisions of Rule 96, both method and article claims from the patent to appellant, which had in the meantime inadvertently issued upon a subsequently-filed application. The amendment of Harmatta inserting his claims was not accompanied by a supplemental oath.

It is well settled that the question of whether claims inserted by amendment should be supported by a supplemental oath is an *ex parte* matter not open for argument in the interference proceeding and that in the absence of such an oath, even where it should have been furnished, there is no such irregularity as will preclude the proper determination of the interference. (*Rennyson* v. *Merritt*, 58 O. G., 1415; *Kane* v. *Brill and Adams*, 84 O. G., 1142; *ex parte Richards*, 95 O. G., 1853; *Silverman* v. *Hendrickson*, 99 O. G., 445; *Auerbach* v. *Gubing* v. *Wiswell*, 108 O. G., 289; *Schubert* v. *Munro*, 113 O. G., 283; *Phillips* v. *Sensenich*, 134 O. G., 1806; 31 App. D. C., 159.)

It is urged by appellant that he should not be put to the expense of contesting the interference where there is doubt as to whether his opponent "can make such a statement under oath." In answer to this contention it is noted that the issue in the interference includes both method and article claims, and the interference would continue as to the former claims even if this ground of the motion to dissolve were granted; also, that Harmatta has filed a preliminary statement in which he alleges that he is the inventor of the issue in the interference. In the latter respect this case is similar to that of *Silverman* v. *Hendrickson*, *supra*.

Appellant suggests that the interference should be suspended, at least, and Harmatta required to file a supplemental oath.

In the case of *Rowe* v. *Brinkmann*, (133 O. G., 515,) where the original oath of Brinkmann was defective, a motion of Rowe to dissolve the interference based upon this ground was refused transmission; but it was directed by the Commissioner upon appeal that the interference be suspended and a proper oath required for the reason that "Brinkmann had filed no preliminary statement." In the present case, as stated above, Harmatta has filed a proper preliminary statement.

The decision of the Examiner of Interferences is affirmed.

EX PARTE MERRITT, BLACK, AND MORRIS.

Decided March 30, 1910.

PATENTABILITY—METAL LOCKER.

Claims for a metal locker *Held* unpatentable in view of the prior art.

APPEAL from Examiners-in-Chief.

METAL LOCKER.

Mr. E. H. Hunter for the applicants.

BILLINGS, *First Assistant Commissioner:*

This is an appeal from the decision of the Examiners-in-Chief affirming the action of the Primary Examiner in rejecting claims 1 to 26, inclusive, of this application.

The subject-matter of the claims is sufficiently illustrated for the purpose of this decision by the following:

1. A metal-locker structure having the back, top and bottom each formed of a series of overlapping sheets forming substantially a plate-girder.

9. A locker structure embracing vertical partitions forming the side walls, a back sheet secured to the back edges of the partitions, and a bottom sheet secured to the bottom edges of said partitions and having at its front a flange extending between the partitions and forming alone the bottom sill of the locker without the aid of an angle-iron or cross-bar.

10. In a locker structure, the combination with a vertical partition forming the dividing-wall between adjacent locker-compartments, of top sheets forming the tops of the lockers and having their adjacent edges secured to the top edge of said partition and provided at their front edges with flanges forming alone the top sills of the lockers without the aid of angle-irons or cross-bars, the adjacent flanged front corners of said top sheets being notched, and flanged plates secured to said partition at said notches and having their flanges extending over the front upper corner of the partition.

12. In a locker structure, the combination with a vertical partition forming the dividing-wall between adjacent locker-compartments, of a sheet-metal back secured to the back edge of said partition, top sheets forming the tops of the locker-compartments and having their adjacent edges overlapping and secured to the top of said partition, and provided at the back with flanges secured to the upper edge of the sheet-metal back, the front edges of said top sheets being flanged to form the top sills of the locker-compartments.

19. In a metal-locker structure, the combination with a sheet-metal back, of a vertical sheet-metal partition having its rear vertical edge flanged and secured directly to the sheet metal of the back, horizontal irons secured at the top and bottom to the sheet metal of said partition, and top and bottom pieces secured to said horizontal irons.

24. A metal-locker structure embracing vertical partitions forming the side walls, a back sheet secured to the back edges of the partitions, and a bottom secured to the lower edges of said partitions and having at its back a flange riveted to the lower edge of the back sheet and at its front a flange extending between the partitions and forming alone the lower sill of the locker without the aid of an angle-iron or cross-bar.

The references relied upon are: Matz, April 13, 1880, No. 226,530; Hoffman, May 15, 1888, No. 382,875; Breslin, December 12, 1893, No. 510,562; Jefferis, March 5, 1901, No. 669,171; Meyer, April 28, 1903, No. 726,555; Jefferis, January 23, 1906, No. 810,415; Jefferis, May 22, 1906, No. 821,102; Thornley, August 6, 1907, No. 862,596; Will, May 12, 1908, No. 887,168; Churchill, September 29, 1908, No. 899,589; Holden, March 9, 1909, No. 914,572; Jeffries, April 13, 1909, No. 917,869. British: Tresck *et al.*, No. 3,268 of 1907.

The invention relates to lockers constructed from sheet metal. As shown by the references cited, it is quite old broadly to make such structures from sheets of metal suitably bolted or riveted together and stiffened by angle-irons or the like where found necessary. In the applicant's construction the top, back, and bottom of a row of lockers are formed from separate sheets of metal, each corresponding in width to a single locker and overlapping each other on the line where they are joined to the partition. The construction thus formed is designated in the claims as "substantially a plate-girder." Angle-irons or strips of plain bar-iron are used to stiffen the front vertical edges of the locker and the upper and lower corners running from front to back. No such iron is used, however, across the front of the locker either at the top or bottom, the sheet metal of the top and bottom being flanged and itself forming the upper and lower sills. This feature and the so-called "plate-girder construction" are the points which applicant appears to consider the most essential and novel characteristics of his invention. Besides these, various minor features are mentioned in the claims, which may be briefly referred to. The top sheets are bent downward at the back, so that they may be secured thereto by suitable rivets or bolts. The same is true of the bottom sheet. The top plates are notched near the front, so that instead of overlapping they meet edge to edge at this point, and the joint is covered by a strip of iron bent to fit the formation of the flange on this plate, forming the upper sill. Small tie-plates of metal cut in a suitable shape are used to connect the lower sills and the partitions at the lower corners of each locker.

The patent to Jefferis, No. 917,869, shows a row of lockers made of sheets of metal joined together at substantially the same places as the sheets in applicant's locker. Jefferis uses angle or channel irons to stiffen the front vertical edges of the locker, as does applicant, and shows similar irons bolted to the top and bottom plates to form the upper and lower sills. He omits, however, the stiffening-irons running from front to back at the upper and lower corners, which applicant uses, apparently depending upon the joint at these edges to give the desired stiffness. The plates as shown by Jefferis do not overlap each other in the plane of the top, bottom, and back, but are flanged and fastened by bolts. The top plates are bent downward and overlap the back plates. Thornley shows the use of tie-plates for joining the sheet metal at the corners, and Jefferis shows pieces covering the joints at the upper corners of the lockers which correspond substantially with applicant's "top union-pieces."

Claims 1 to 6 call merely for a structure in which the top, back, and bottom sheets overlap. This is not considered a patentable feature, since it is, in fact, the simplest and most obvious way of joining a row of sheets together. Holden shows back sheets overlapping and secured together in a similar structure and must be considered as anticipating these claims, for it clearly would not require invention to use the overlapping feature in top and bottom plates as well.

Claims 7, 8, 9, 10, 14, 15, 16, 17, 18, 22, 23, and 24 all cover the flanging of the top and bottom sheets to form the lower sills of the locker without the use of any separate strip. As above stated, Jefferis forms the top and bottom sills by bolting on strips of a suitable form, which are shown as substantially the same thickness as the sheets of which the locker is constructed. It would not seem to be patentable merely to form these integrally instead of bolting them on. Furthermore, Thornley and Holden show sills formed by bending the plates around a stiffening-strip. As stated by the Examiners-in-Chief, it must be held unpatentable merely to omit these stiffening-strips where the sheet metal itself is found to be strong enough.

Claims 11, 12, 13, 25, and 26 include both the overlapping of the plates and the flanging of the top and bottom sheets. These features have been found to be unpatentable separately, and since placing them together produces a result which is only the aggregate of their individual results these claims must also be held unpatentable.

Claims 19, 20, and 21 refer to the structure of the partition, which is flanged at the back and stiffened at its top and bottom by angle-irons. Hoffman shows partitions flanged at the back for the purpose of connecting them to the back plates, and this would obviously be the most simple way of forming the connection. Stiffeners at the top and bottom of such partitions are shown in Jefferis. These claims are believed to present nothing patentable in view of the art cited.

It must be held, therefore, that all of the claims were properly rejected, and the decision of the Examiners-in-Chief is affirmed.

BARNES *v.* SWARTWOUT.

Decided April 6, 1910.

1. INTERFERENCE—TESTIMONY—VARIANCE BETWEEN TESTIMONY AND EX PARTE AFFIDAVITS.

Where the allegations made by an applicant in his preliminary statement and in affidavits filed during the *ex parte* prosecution of his application are not at all supported by the testimony offered on his behalf in the interference, *Held* that this variance tends to discredit the value of the testimony.

2. SAME—PRIORITY—ORIGINALITY.

Evidence considered and *Held* to establish, in view of all the circumstances of the case, that S. was not an original inventor, but derived her knowledge of the invention in issue from B.

APPEAL from Examiners-in-Chief.

DRESS AND CORSET STAY.

Mr. Herbert Cottrell and *Messrs. H. C. Evert & Co.* for Barnes.

Messrs. Fischer & Sanders and *Messrs. Bacon & Milans* for Swartwout.

TENNANT, *Assistant Commissioner:*

This is an appeal by Swartwout from the decision of the Examiners-in-Chief reversing the decision of the Examiner of Interferences and awarding priority of invention to Barnes, the junior party.

The invention, which relates to improvements in corset-stays, is set forth in count 4 as follows:

4. A corset or dress stay consisting of a single elastic wire formed into a series of substantially closed and alined tandem triangular loops all normally lying in the same plane.

The question presented in this case is clearly one of originality of invention. It is understood that on November 26, 1906, an interview was had between the parties in which the invention in issue was discussed. Each claims to have disclosed the invention to the other at this time, and each claims to have independently conceived the invention in issue prior to the date of this interview. The Examiner of Interferences was of the opinion that Swartwout was the first to conceive the invention and that the circumstances of the case warrant an award of priority in her favor. The Examiners-in-Chief, however, were of the opinion that the conduct of the party Swartwout was such as to discredit her story and that the circumstances of the case justified the conclusion that Barnes was the prior inventor.

At the time the invention in issue was made Swartwout was the proprietor of the Delsarte Manufacturing Company, engaged in manufacturing corsets in Newark, N. J., the corsets being sold under the name "Delsarte." Barnes was an advertising agent and had at one time been connected with the manufacture and sale of a corset embodying the "Spirella" type of wire stay, which comprised a spiral series of loops flattened down as nearly as possible into a single plane, the loops, however, overlapping. It appears that in an interview between Barnes and Eason, the manager for Swartwout, Barnes was advised of the desire of Swartwout to obtain a wire stay, such as the "Loomer" stay, which is somewhat similar to the invention in issue, which could be used in the "Delsarte" corset without infringement of patented devices. Barnes advised Eason that the Loomer form of stay was patented, but said that he could devise for Swartwout a satisfactory wire stay. In view of this conversation an interview between Barnes and Swartwout was arranged by Eason. The first interview occurred on Friday, November 23, 1906, and it appears that as a result thereof Barnes returned the following Monday, November 26, 1906, with samples of the device which he proposed to furnish.

Barnes testifies, and is corroborated by Mrs. Irish, with whom he boarded, that he made certain forms of wire stays, which are offered in evidence as Barnes Exhibits Nos. 1 and 4 to 8, Friday evening, November 23, 1906, which he submitted to Swartwout the following Monday, in Eason's presence. Among these devices Exhibit No. 1 embodies the invention in issue. Swartwout agrees that Barnes submitted Exhibits 4 to 8 to her at the interview on Monday, November 26, but states that Exhibit No. 1 was not among the number shown to her. On the contrary, she states that she objected to the exhibits shown to her by Barnes and suggested to him the construction of Exhibit No. 1, which he thereafter furnished to her. It is undisputed that subsequently in December or January, Barnes prepared a sufficient number of stays of the character disclosed in Exhibit No. 1 to enable the construction of two corsets, one of which was worn by Swartwout and another by a customer. A letter (Barnes Exhibit No. 13) written by Swartwout to Barnes giving directions as to the size and length of stays for one of these corsets contains the following statement:

I am sorry the work is so hard on your hands, yet if all is true regarding the work the wires will do, it is worth it. also regarding the little expense on your part you are entitled to bear, as I have always said that if what you have is worth it, I will stand for the expense of the patent and machine, providing the conditions can be made right for myself.

In other words, I want you to prove the article as I have always said.

To-day I stand for $29.00 before the trial of the wire but my faith is good that it will come as you say.

It is also undisputed that after the interview of November 26, 1906, negotiations were entered into between the parties whereby Barnes was to have an interest in the business in consideration of his services and was directed by Swartwout to call upon her attorneys, Fischer & Sanders, to arrange for filing an application for patent. It further appears that Swartwout paid the expenses of Barnes on a trip to

Philadelphia, which had for its object the purpose of enlisting the coöperation of one Edwards to increase the capitalization in the Delsarte Company and to promote the exploitation by that company of the corset-stay which forms the subject-matter in issue. The proposition made by Edwards was apparently unsatisfactory and was not carried out. This is, however, immaterial in this controversy, except in so far as it bears upon the relations of the parties to this proceeding. The interview between Barnes and Swartwout and Edwards, it is agreed, occurred on November 30, 1906.

Swartwout's story of the transaction differs from that of Barnes mainly in the assertion that she had previously conceived the invention in issue; that it had been recalled to her mind at the interview between herself and Barnes on November 26, at which time she disclosed the invention to him. She testifies that as early as 1893 she made a model of the invention in issue from a piece of ratan, which is offered in evidence as Swartwout Exhibit No. 1; but her testimony in respect to this fact is not corroborated. She also testifies that in 1904 an agent ordered through one of her saleswomen a corset containing a Loomer stay like Barnes' Exhibit No. 11. The agent, however, was not furnished with such goods and wrote a letter to Swartwout's general agent, Mrs. Bond, threatening to stop work for the reason that her order had not been properly filled. Swartwout testifies that in discussing this matter with Mrs. Bond she explained her inability to get the kind of steel ordered, but told Mrs. Bond that she had something better, and, picking up a corset-wire, bent it into form of the idea she wanted to give to Mrs. Bond. This device is offered in evidence as Swartwout's Exhibit No. 4. It consists of a flat wire, without temper, roughly bent into a form which approximates that disclosed in the invention in issue.

Swartwout's testimony concerning the construction of this device is corroborated by Bond. Nothing further appears to have been done, notwithstanding the admitted demand for stays of this character. Swartwout states that—

> I let the idea rest owing to lack of time and perhaps proper funds to manufacture and carry it out successfully for the use of my goods.

In fact, she had apparently forgotten this circumstance until the interview with Barnes above referred to, for she states in her testimony concerning the interview with Barnes on November 26, 1906:

> As I sat there, my own design of the triangle which I had in my mind so many years, came to me, and it was a question of about six minutes deliberation whether I would name this idea to Mr. Barnes, or not.

It is hardly credible that a business woman of experience would have deliberately suggested her own invention to another under such circumstances and offered to share equally the profits of the invention in return for the mere mechanical development of so simple an idea.

Much stress is laid by Swartwout upon the fact that the sample (Barnes Exhibit No. 1) made by Barnes of the invention herein was iron wire instead of brass, as are the remaining samples submitted by him to Swartwout, and it is alleged that it is improbable that Barnes would have made this sample of different wire had it been made at the time the other samples were prepared. While there is some force to this suggestion, it is believed to be insufficient to offset the presumptions arising from undisputed relations of the parties which followed the production of this invention.

It is also sought to discredit the testimony of Barnes by showing that although he testified that his first visit to the office of Fischer & Sanders occurred on November 26, 1906, after he had showed his samples to Swartwout, the call-book kept by that office contains an entry showing that he had called on November 23, 1906. This circumstance is not believed to have any special bearing upon the question in issue. It is certain that he called at Fischer & Sanders' office not only alone, but with Swartwout, and that such calls related to the obtaining of a patent on the invention in issue. The failure of Sanders to testify regarding the subject-matter discussed at these interviews is sufficient in my opinion to counterbalance any unfavorable presumption which might be had from any error on the part of Barnes as to the date of the call.

The Examiners-in-Chief have justly criticised the variance between the testimony presented by Swartwout and the preliminary statement filed by her in this case. The records show that two preliminary statements were filed, one of which was executed on February 27, 1908, the other on March 11, 1908. In each statement she alleged that she conceived the invention in 1893, that on or about September 15, 1906, she first embodied her invention in a full-sized dress or corset stay, that on or about December 1, 1906, said dress or corset stay was first successfully used. Swartwout testifies of a conception in 1893; but this testimony is not corroborated. The alleged date of reduction to practice, September 15, 1906, is absolutely without the support of any testimony, and no reasonable excuse is given for the obvious error in this allegation.

The record of Swartwout's application involved herein contains two affidavits executed, respectively, May 23, 1907, and July 25, 1907, in each of which Swartwout swears—

> that she had caused a complete stay to be made and exhibited to others prior to the said 28th day of November, 1906—

and, further—

> that subsequent to the manufacture of the hereinbefore-mentioned stay she has caused large numbers of additional stays substantially identical with the before-mentioned stay to be made and used, all of which acts took place prior to the said 28th day of November, 1906.

Such variance between the allegations of the sworn *ex parte* statements and the testimony tends to discredit the value of the testimony of such witnesses, and this is especially true in a case like the present, where the question is one of originality of invention. In the case of *Shaffer* v. *Dolan* (108 O. G., 2146; 23 App. D. C., 79) the court of appeals said:

> It is a remarkable fact that neither party in the testimony in this case has made the slightest attempt to support the allegation of his preliminary statement as to the date of his reduction to practice. The proof of such reduction to practice is on the part of both parties several months later than as alleged in the preliminary statement. This fact would indicate a reprehensible looseness of assertion in the preliminary statement, which tends to discredit both parties.

Furthermore, material witnesses, such as Sanders and Eason, who were readily available to Swartwout and who, according to the testimony of Barnes in his *prima facie* case, had knowledge of the transactions between the parties, were not called.

The circumstances of the agreement between Swartwout and Barnes are inexplicable if it be once granted that Barnes was not the inventor of the subject-matter in issue. It is incredible that if Swartwout was the real owner of the invention which had been made by her either two or thirteen years before she should have encouraged Barnes to develop this invention in the terms contained in her letter, (Barnes Exhibit No. 13,) which clearly appears to indicate an admission on her part that the origin of the invention was with Barnes.

It is insisted that Swartwout has established a conception of the invention through her testimony and that of Bond, and, being the first to conceive, it must be presumed that she disclosed the invention to Barnes rather than that Barnes disclosed the same to her; but, as stated by the Court of Appeals of the District of Columbia in the case of *Beals* v. *Finkenbiner*, (82 O. G., 598; 12 App. D. C., 23)—

> in weighing testimony we are not bound to believe a particular fact, testified to by one or more witnesses, simply because they may not have been directly contradicted therein or impeached generally by evidence tending to show a want of reputation for veracity. The inherent probability or improbability of such a fact is to be tested by the unquestioned circumstances that surround the main transaction or occurrence, as well as by "the ordinary laws that govern human conduct." (*Atlantic Works* v. *Brady*, C. D., 1883, 214; 23 O. G., 1330; 107 U. S., 192, 203; *Telephone Cases*, C. D., 1888, 321; 43 O. G., 377; 126 U. S., 567.)

See also *Tyler* v. *Kelch*, (98 O. G., 1282; 19 App. D. C., 180;) *Flather* v. *Weber*, (104 O. G., 312; 21 App. D. C., 179;) *Quist* v. *Ostrom*, (108 O. G., 2147; 23 App. D. C., 69.)

The testimony of Swartwout is not only discredited by the looseness of assertion in her sworn statements, above referred to, but is also discredited by the circumstances surrounding the transactions between the parties to this interference. These circumstances, on the other hand, support the story of Barnes in the main and, in my opinion, warrant the conclusion that Barnes was the original inventor.

The decision of the Examiner-in-Chief awarding priority of invention to Barnes is affirmed.

EX PARTE THE SAINT ANTHONY MILLING & ELEVATOR COMPANY.

Decided December 15, 1910.

1. TRADE-MARKS — COMBINATION OF NON-REGISTRABLE WORDS—NOT REGISTRABLE.

   A registrable trade-mark cannot be made by combining non-registrable words. (*In re Meyer Brothers Coffee and Spice Company*, 140 O. G., 756; 32 App. D. C., 277.)

2. SAME—NON-REGISTRABLE WORDS COMBINED WITH PRIOR REGISTERED MARK.

   A mark consisting of the words "Yellowstone Special" and the representation of a train of cars *Held* not registrable as a trade-mark for flour, since the word "Yellowstone" is geographical, the word "Special" descriptive, and the representation of a train of cars is shown in prior registered marks for goods of the same descriptive properties.

ON APPEAL.

TRADE-MARK FOR WHEAT-FLOUR.

Messrs. Taylor & Hulse and *Messrs. Steuart & Steuart* for the applicant.

TENNANT, *Assistant Commissioner:*

This is an appeal from the Examiner of Trade-Marks refusing to register a trade-mark consisting of the words "Yellowstone Special," representing a train of cars with a series of mountain-peaks in the background, as a trade-mark for flour.

Registration is refused upon the ground that the word "Yellowstone" is geographical and that the word "Special" is descriptive, and that the representation of a train is prohibited registration by the previously-registered trade-marks of C. Hoffman & Son, No. 36,806, July 23, 1901, and of the Oklahoma City Mill & Elevator Co., No. 40,739, July 7, 1903.

It is contended in behalf of the appellant that registration is not sought for the word "Yellowstone" alone or the word "Special" alone, or the pictorial representation of a railway-train alone. It is alleged that there is no flouring-mill or other flour industry in the Yellowstone Valley and that therefore "Yellowstone" is not merely geographical as applied to this merchandise. It is asserted that "Yellowstone Special" associated with the pictorial representation of a train indicates the Yellowstone special express train and that the composite mark is therefore of an arbitrary character and registrable as a whole. This contention is believed to be without force. As stated by the Examiner, "Yellowstone" is the name of a county in Montana, the name of mountains in the same State, the name of a lake in Wyoming, the name of a large river rising in Wyoming and also of the National Park located between Wyoming and Idaho. The word alone is clearly geographical in significance and prohibited registration under the provisions of the Trade-Mark Act of 1905.

The word "Special" is clearly descriptive of the character of merchandise, as was held in the decision in *ex parte Kiffe & Disch*, (110 O. G., 604.)

It is well settled that a registrable trade-mark cannot be made by combining two non-registrable words. In the case *in re Meyer Brothers Coffee and Spice Company* (140 O. G., 756; 32 App. D. C., 277) the court of appeals said in respect to the word "America's Strength:"

> Neither of the words used in this combination would, standing alone, be registrable as a trade-mark for coffee. The word "America" is clearly geographical. (*Shaver* v. *Heller & Merz*, 108 Fed., 821.) The word "Strength," when used as a mark on coffee, would be descriptive of quality and likewise prohibited by section 5 of the Trade-Mark Act of 1905. This court has held that a registrable mark cannot be made by combining two non-registrable words. (*Kentucky Distilleries & Warehouse Co.* v. *Old Lexington Club Distilling Co.*, C. D., 1908, 417; 135 O. G., 220; 31 App. D. C., 323.)

The assertion that the combination of the words "Yellowstone" and "Special," when associated with the pictorial representation of a train

would suggest to a prospective purchaser the particular train known as the "Yellowstone Special" is believed to be without substantial force. In any event it constitutes no sufficient reason for permitting the registration of this combination of a geographical and a descriptive word.

Furthermore, the representation of an engine and portion of a train has been previously registered by other milling concerns, and the appropriation and use of a similar pictorial representation of an engine and trains by the present applicant would undoubtedly lead to confusion in the mind of the purchasing public. It is well settled that where a mark contains features which so closely resemble those of a trade-mark previously adopted and used by others and registered in the United States Patent Office all doubts should be resolved in favor of the registrant as against a later applicant. (*Wayne County Preserving Company* v. *The Burt Olney Canning Company*, 140 O. G., 1003; *in re Wright & Taylor, et al.*, 148 O. G., 834; 33 App. D. C., 510.)

For the reasons above stated I am clearly of the opinion that the decision of the Examiner of Trade-Marks refusing to register the applicant's mark is right. It is accordingly affirmed.

ADJUDICATED PATENTS.

The Eck patent, No. 762,232, for a bicycle amusement apparatus, claims 1 and 7 are void for lack of invention in view of the Jones British patent, No. 17,328 of 1901. *Consolidated Loops Co.* v. *Miner*, (C. C. A.,) 182 Fed. Rep., 211.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., December 16, 1910.

Jacob Born, his assigns or legal representatives, take notice:

An interference having been declared by this Office between the applications of Henry N. Clark Co., of 56 Union street, Boston, Mass., and the North Dighton Co-operative Stove Co., of 1 Railroad avenue, Taunton, Mass., for registration of a trade-mark and a trade-mark registered to Jacob Born, of New Orleans, La., filed January 28, 1885, No. 19,518, registered June 23, 1885, No. 12,332, and the notice of said declaration sent by registered mail to the said Jacob Born having been returned undelivered, notice is hereby given to the said Jacob Born, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., December 8, 1910.

Ferdon & Berry, their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Daland & Company, 198 West Broadway, New York, N. Y., and trade-mark registration No. 24,421, dated April 3, 1900, to Ferdon & Berry, 1–8 and 9 Raleigh Building, Portland, Oreg., and the notice of such declaration sent by registered mail to the said Ferdon & Berry at the address given has been returned by the post-office undelivered.

Notice is therefore hereby given to the said Ferdon & Berry, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., December 8, 1910.

Marian L. Whitney, her assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Jacob Strohauer & Sons' Co., of village of Caro, Mich., and trade-mark registration No. 17,888, dated May 6, 1910, to Marian L. Whitney, of Stockton, Cal., and the notice of such declaration sent by registered mail to the said Marian L. Whitney at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Marian L. Whitney, her assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 16, 1910.

Sharpless Bros., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of the Consolidated Cotton Duck Co., of Continental Trust Building, Baltimore, Md., for registration of a trade-mark and the trade-mark registrations to Minot, Hooper & Co., of 40 Thomas street, borough of Manhattan, New York, N. Y., registered August 29, 1905, No. 45,761; Lindeke, Warner & Schurmeier, of East Fourth and Sibley streets, St. Paul, Minn., registered April 20, 1897, No. 29,854; Sharpless Bros., of 812–814 Market street, Philadelphia, Pa., registered May 23, 1893, No. 23,072; Denny, Poor & Co., of New York, N. Y., registered December 30, 1890, No. 18,761; John Dunn, of East Orange, N. J., registered June 22, 1886, No. 13,436, and Stark Mills, of Manchester, N. H., registered November 8, 1881, No. 8,822, and March 13, 1906, No. 50,891, and the Office actions sent to Sharpless Bros. at their address of record have been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Sharpless Bros., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 16, 1910.

Steinfeld, Kerngood and Co., their assigns or legal representatives, take notice:

An interference has been declared by this Office between the application of Chas. E. Shedaker & Sons, Eighth and Walnut streets, Philadelphia, Pa., for registration of a trade-mark and trade-mark registration No. 8,568, dated August 16, 1881, to Steinfeld, Kerngood and Co., of Baltimore, Md., and the notice of such declaration sent by registered mail to the said Steinfeld, Kerngood and Co. at the address given has been returned by the post-office as undeliverable.

Notice is therefore hereby given to the said Steinfeld, Kerngood and Co., their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall have been entered at the expiration of the period of publication, the interference will proceed as in case of default.

EDWARD B. MOORE, *Commissioner.*

INDEX

TO THE

DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS.

DECEMBER, 1910.

[Decisions of the United States Circuit Court of Appeals are indicated by the letter [4].]

TABLE OF CASES.

	Page.
Barnes *v.* Swartwout	1045
Blood *v.* Ross	267
Gale, Sr. *Ex parte*	530
Hardy, Jr. *Ex parte*	268
Harris *v.* Kennedy	530
Iroquois Brewing Company *v.* American Brewing Company	529
[4]Jackson Cushion Spring Co. *v.* D'Arcy	269
McElroy. *Ex parte*	753
Merritt, Black, and Morris. *Ex parte*	1043
Nicolaus. *Ex parte*	268
Potter & Roziene. *Ex parte*	269
[4]Ransome Concreté Machinery Co. *v.* United Concrete Machinery Co	754
Rietzel *v.* Harmatta	1043
Saint Anthony Milling & Elevator Company, The. *Ex parte*	1047
Victor Talking Machine Co. *v.* American Graphophone Co	753
[4]Warren Webster & Co. *v.* C. A. Dunham Co	531

SUBJECT-MATTER INDEX.

	Page.
[4]Anticipation, Jackson Cushion Spring Co. *v.* D'Arcy	269
Certified copy of subject-matter, what should be included, Harris *v.* Kennedy	530
Construction of Rule 105, Harris *v.* Kennedy	530
[4]Construction of specifications and patents, Warren Webster & Co. *v.* C. A. Dunham Co	531
Examiner of Interferences, decisions of not disturbed unless abuse of discretion is shown, Blood *v.* Ross	267
Goods of the same descriptive properties, *ex parte* Nicolaus	268
Interference, Harris *v.* Kennedy	530
Motion to dissolve interference, question of supporting claims inserted by amendment with supplemental oath *ex parte* matter, Rietzel *v.* Harmatta	1043
Transmission of where one party is a patentee, Blood *v.* Ross	267
Within the discretion of the Examiner of Interferences, Blood *v.* Ross	267
[4]New use of old devices, invention only when such use is so remote as not to occur readily to the skilled mechanic, Warren Webster & Co. *v.* C. A. Dunham Co	531
Patentability, Blood *v.* Ross	267
[4]Jackson Cushion Spring Co. *v.* D'Arcy	269
Ex parte Merritt, Black, and Morris	1043
Matters of common knowledge, *ex parte* McElroy	753
[4]Mere adaptation to double use requiring only mechanical skill not invention, Ransome Concrete Machinery Co. *v.* United Concrete Machinery Co.	754
Prior art, immaterial changes in, *ex parte* McElroy	753
Prosecution of applications, abandonment, non-responsive action by the applicant results in, *ex parte* Hardy, Jr.	268
Decision of Commissioner affirming rejection of claims, no further action by the Office necessary, *ex parte* Gale, Sr	530
Testimony, setting times for taking within the discretion of the Examiner of Interferences, Victor Talking Machine Co. *v.* American Graphophone Co	753
Variance from *ex parte* affidavits tends to discredit, Barnes *v.* Swartwout	1045
Trade-marks, Iroquois Brewing Company *v.* American Brewing Company	529
Combination of non-registrable words does not constitute a registrable trade-mark, *ex parte* The Saint Anthony Milling & Elevator Company	1047
The words "Mosquito Dope," for a preparation for keeping away mosquitos, refused registration as a descriptive term, *ex parte* Potter & Roziene	269
"Omnaline," for pharmaceutical preparations, refused on the word "Omnia," *ex parte* Nicolaus	268
"Yellowstone Special" and the representation of a train of cars refused registration for flour, the word "Yellowstone" being geographical, the word "Special" descriptive, and the train of cars having appeared in other marks for the same class of goods, *ex parte* The Saint Anthony Milling & Elevator Company	1047

DIGEST

OF THE

DECISIONS OF THE COMMISSIONER OF PATENTS AND THE UNITED STATES COURTS.

DECEMBER, 1910.

[Decisions of the United States Circuit Court of Appeals are indicated by the letter ᵈ.]

ABANDONMENT OF APPLICATIONS.
(See Prosecution of Application, 1.)

ACTION BY THE EXAMINERS.
(See Prosecution of Application.)

AFFIDAVITS.
(See Testimony, 2, 3.)

ALLEGATIONS.
(See Motion to Dissolve Interference, 2, 3; Testimony, 2.)

AMENDMENT.
(See Interference; Motion to Dissolve Interference, 4; Prosecution of Application, 1.)

ANTICIPATION.
(See Particular Patents, 1; Trade-Marks, 1 6.)

APPEAL TO THE COMMISSIONER OF PATENTS.
(See Prosecution of Application, 2.)

APPEAL TO THE COURT OF APPEALS.
(See Prosecution of Application, 2.)

ARGUMENT.
(See Interference; Motion to Dissolve Interference, 4; Prosecution of Application, 1.)

CERTIFIED COPY OF PART OF APPLICATION.
(See Interference.)

CLAIMS.
(See Motion to Dissolve Interference, 4.)

COMMON KNOWLEDGE.
(See Patentability, 1.)

CONSTRUCTION OF RULES.
(See Interference.)

CONSTRUCTION OF SPECIFICATIONS AND PATENTS.
(See Invention; Particular Patents.)

DESCRIPTIVE TERMS.
(See Trade-Marks, 3, 6.)

DISCRETION OF THE EXAMINER OF INTERFERENCES.
(See Motion to Dissolve Interference, 1; Testimony, 1.)

DOUBLE USE.
(See Particular Patents, 2, 3.)

EVIDENCE.
(See Testimony, 3.)

EXAMINER OF INTERFERENCES.
(See Motion to Dissolve Interference, 1; Testimony, 1.)

EXTENSION OF TIME FOR TAKING TESTIMONY.
(See Testimony, 1.)

FINAL REJECTION OF CLAIMS.
(See Prosecution of Application.)

FIRST AND ORIGINAL INVENTOR.
(See Testimony, 3.)

FORMER DECISIONS CITED.
(See Trade-Marks, 5.)

GEOGRAPHICAL TERMS.
(See Trade-Marks, 6.)

GOODS OF THE SAME DESCRIPTIVE PROPERTIES.
(See Trade-Marks, 1, 2, 6.)

INTERFERENCE.

(See Motion to Dissolve Interference; Testimony.)

CERTIFIED COPY OF SUBJECT-MATTER—WHAT SHOULD BE INCLUDED.

Where a party to an interference asks, under the provisions of Rule 105, to have a certified copy of that portion of the application relating to the interfering matter substituted for the application, such copy should include not only the original specification and claims, so far as they relate to the invention in issue, but also the actions of the Office upon such invention and the amendatory papers and arguments in behalf of the applicant.
[Harris *v.* Kennedy, 530.

INVENTION.

(See Particular Patents, 2, 3; Patentability.)

PATENTABILITY—NEW USE.

The application of an old machine or combination to a new use is not in itself invention or the subject of a patent. If the relations between the two uses be remote and if the use of the old device produce a new and beneficial result, the application to the new use may involve the exercise of the inventive faculty and be patentable; but it is only when the new use is so recondite or so remote from that to which the old device has been applied or for which it was evidently conceived that its application to the new use would not readily occur to the trained mind of the ordinary mechanic skilled in the art, seeking to devise means to accomplish the desired function, that its conception rises to the dignity of invention.
[4Warren Webster & Co. *v.* C. A. Dunham Co., 531.

LIMIT OF TIME.

(See Prosecution of Application, 2.)

MECHANICAL SKILL.

(See Invention; Particular Patents, 3.)

MOTION TO DISSOLVE INTERFERENCE.

1. TRANSMISSION.
The transmission of motions to dissolve is left largely to the discretion of the Examiner of Interferences, and his decision granting a motion to transmit will be disturbed only upon a clear showing of abuse of discretion. [Blood *v.* Ross, 267.

2. SAME—ONE OF THE PARTIES A PATENTEE.
A motion to dissolve alleging that the counts have different meanings in the two cases and that R. has no right to make the claims *Held* properly transmitted, notwithstanding the fact that R. is a patentee. [Id.

3. SAME—SAME.
In an interference involving a patentee and an applicant a motion to dissolve brought by the applicant and alleging that if the counts be construed broadly enough to read on both cases they are unpatentable *Held* properly refused transmission.
[Id.

4. SUPPLEMENTAL OATH.
It is well settled that the question of whether claims inserted by amendment should be supported by a supplemental oath is an *ex parte* matter not open for argument in the interference proceeding and that in the absence of such an oath, even where it should have been furnished, there is no such irregularity as will preclude the proper determination of the interference.
[Rietzel *v.* Harmatta, 1043.

NEW USE.

(See Invention.)

OLD DEVICES.

(See Invention.)

PARTICULAR PATENTS.

1. D'ARCY—No. 785,410—SPRING STRUCTURES.
The D'Arcy patent, No. 785,410, for an improvement in spring structures, claim 2, which covers a wire clip for securing spiral springs to a wire frame in spring structures in upholstery constructions, consisting of a wire bent into a double loop with a central and two end arms, each of which is clamped around both the frame-wire and spring, *Held* not anticipated.
[4Jackson Cushion Spring Co. *v.* D'Arcy, 269.

2. WILLIAMS—No. 256,089—STEAM-HEATING SYSTEMS.
The combination of thermostatic valves with the return-pipes or the connections between the return-pipes and the radiators of suction or vacuum systems of steam-heating such as are disclosed in Letters Patent No. 256,089 to Williames, issued April 4, 1882, did not rise to the dignity of an invention, in view of the combination of such valves with the return-pipes of pressure steam-heating systems shown in Letters Patent No. 113,434 to John J. Jorda , issued April 4, 1871; and Letters Patent No. 454,964 to W. E. Hal , issued June 30, 1891, was for a double use, and the patent for it is void. [4Warren Webster & Co. *v.* C. A. Dunham Co., 531.

3. RANSOME—No. 814,803—CONCRETE-MIXER.
The Ransome patent, No. 814,803, for a concrete-mixing machine consisting of a batch-mixing drum, in view of the prior Burns patent, No. 661,847, for an apparatus for mixing tea "and other material," even conceding that the Burns patent applies only to mixers of dry and non-solidifying materials, is void for lack of patentable invention, being a mere adaptation to a double use, requiring only mechanical skill.
[4Ransome Concrete Machinery Co. *v.* United Concrete Machinery Co., 754.

PATENTABILITY.

(See Invention; Motion to Dissolve Interference, 3; Particular Patents; Prosecution of Application.)

1. COMMON KNOWLEDGE—IMMATERIAL CHANGES IN THE PRIOR ART.
The combination of a high non-inductive resistance, a magnetic interrupting trembler-bell, and a circuit-closer in series across a high-power circuit *Held* so elementary in character as to be a matter of common knowledge and on its face unpatentable and also unpatentable over a reference showing substantially the same arrangement with an additional adjustable resistance in shunt to the bell. [*Ex parte* McElroy, 753.

2. METAL LOCKER.
Claims for a metal locker *Held* unpatentable in view of the prior art. [*Ex parte* Merritt, Black, and Morris, 1043.

PATENTEE AND APPLICANT.

(See Motion to Dissolve Interference, 2.)

PRELIMINARY STATEMENTS.

(See Testimony, 2, 3.)

PRIORITY OF INVENTION.

(See Testimony, 3.)

PRIOR REGISTRATION.

(See Trade-Marks, 6.)

PROSECUTION OF APPLICATION.

(See Testimony, 2.)

1. NON-RESPONSIVE ACTION—ABANDONMENT.
In response to a rejection accompanied by a statement that, in the opinion of the Examiner, there was no patentable novelty in the case the applicant presented one specific claim. The Examiner finally rejected this claim and called attention to a certain decision. The applicant filed an argument stating that he did not understand the application of the references or the pertinency of the decision cited. The Examiner then called attention to a slight fallacy in the mode of operation described and pointed out the portion of the decision considered pertinent. The only action taken by applicant within one year from this latter action of the Examiner was to file an amendment containing three claims broader than that finally rejected. *Held* that the application is abandoned. [*Ex parte* Hardy, Jr., 208.

2. DECISION OF COMMISSIONER AFFIRMING REJECTION OF CLAIMS—NO FURTHER ACTION BY OFFICE NECESSARY.
Where on appeal the Commissioner affirmed the decision of the Examiners-in-Chief holding certain claims unpatentable, there is no reason for the Examiner to further notify applicant that these claims stand finally rejected, and, unless applicant appeals to the court of appeals, his year in which to take action runs from the date of the decision of the Commissioner.
[*Ex parte* Gale, Sr., 530.

REGISTRABILITY.

(See Trade-Marks, 1, 3, 5, 6.)

RESPONSIVE ACTION BY THE APPLICANT.

(See Prosecution of Application.)

RIGHT TO MAKE CLAIMS.

(See Motion to Dissolve Interference, 2.)

SIMILARITY OF MARKS.

(See Trade-Marks, 1, 4.)

STATE OF THE ART.

(See Patentability.)

SUPPLEMENTAL OATH.

(See Motion to Dissolve Interference, 4.)

TESTIMONY.

1. EXTENDING TIME FOR TAKING.
It is well settled that the setting of times for taking testimony is a matter peculiarly within the discretion of the Examiner of Interferences.
[Victor Talking Machine Co. *v.* American Graphophone Co., 753.

2. VARIANCE BETWEEN TESTIMONY AND EX PARTE AFFIDAVITS.
Where the allegations made by an applicant in his preliminary statement and in affidavits filed during the *ex parte* prosecution of his application are not at all supported by the testimony offered on his behalf in the interference, *Held* that this variance tends to discredit the value of the testimony.
[Barnes *v.* Swartwout, 1045.

3. PRIORITY—ORIGINALITY.
Evidence considered and *Held* to establish, in view of all the circumstances of the case, that S. was not an original inventor, but derived her knowledge of the invention in issue from B. [Id.

TRADE-MARKS.

1. SIMILARITY—"OMNALINE" AND "OMNIA."
The word "Omnaline" *Held* properly refused registration as a trade-mark for a pharmaceutical preparation in view of the prior registration of the word "Omnia" for goods of the same descriptive properties. [*Ex parte* Nicolaus, 208.

2. GOODS OF THE SAME DESCRIPTIVE PROPERTIES—LINIMENT AND POWDER.
A powder designed to be used in the "treatment of rheumatism, neuralgia, and lumbago," and a liniment *Held* to constitute goods of the same descriptive properties. [Id.

3. "MOSQUITO DOPE"—DESCRIPTIVE.
The words "Mosquito Dope" as applied to a preparation for keeping away mosquitos *Held* properly refused registration, since it is descriptive of the goods upon which it is used.
[*Ex parte* Potter & Roziene, 269.

4. SIMILARITY.
A trade-mark which consists of a circular target or shield bearing the head of an Indian woman surrounded by an inscription *Held* to be so similar to another trade-mark consisting of a circular target or shield bearing the head of an Indian woman surrounded by a different inscription as to be likely to cause confusion in the mind of the public, notwithstanding that one of the trade-marks also contains a tomahawk, spear-heads, and peace-pipe, and one of the heads is shown in full profile, while the other is shown in three-quarter side view.
[Iroquois Brewing Company *v.* American Brewing Company 529.

5. COMBINATION OF NON-REGISTRABLE WORDS—NOT REGISTRABLE.
A registrable trade-mark cannot be made by combining non-registrable words. (*In re Meyer Brothers Coffee and Spice Company*, 140 O. G., 756; 32 App. D. C., 277.)
[*Ex parte* The Saint Anthony Milling & Elevator Company 1047

6. NON-REGISTRABLE WORDS COMBINED WITH PRIOR REGISTERED MARK.
A mark consisting of the words "Yellowstone Special" and the representation of a train of cars *Held* not registrable as a trade-mark for flour, since the word "Yellowstone" is geographical, the word "Special" is descriptive, and the representation of a train of cars is shown in prior registered marks for good of the same descriptive properties. [Id.

TRANSMISSION OF MOTIONS.

(See Motion to Dissolve Interference.)

VOID PATENTS.

(See Particular Patents, 2, 3.)

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED DURING THE MONTH OF DECEMBER, 1910.

[Abbreviations: "Sp."=Monthly Volume of Specifications; "Gaz."=Official Gazette.]

A-Theuca-Ine Medical & Manufacturing Company, The. (See Burdick, Fulton, and Williams, assignors.)
A. B. Dick Company. (See Brasseur, Ernest J., assignor.)
Aaron, Solomon E., Charlestown, Mass. Pumping apparatus. No. 979,633; Dec. 27; Sp. p. 4790; Gaz. vol. 161; p. 840.
Abbs, James, and E. Matthews, Philadelphia, Pa. Horseshoe. No. 977,993; Dec. 6; Sp. p. 1228; Gaz. vol. 161; p. 198.
Abell, Irvin H., assignor to G. W. Goff, East Hampton, Conn. Buckle. No. 978,101; Dec. 6; Sp. p. 1461; Gaz. vol. 161; p. 236.
Abrams, Percy G., Philadelphia, Pa. Joint for furniture. No. 978,530; Dec. 13; Sp. p. 2401; Gaz. vol. 161; p. 414.
Abtmeyer, Theodore, Wilkinsburg, Pa., assignor to Westinghouse Electric and Manufacturing Company. Electric heating or cooking apparatus. No. 977,580; Dec. 6; Sp. p. 375; Gaz. vol. 161; p. 55.
Acorn Brass Manufacturing Company. (See Osterhorn, William, assignor.)
Adams, Charles W., Putney, Vt. Shutter operating and fastening device. No. 979,910; Dec. 27; Sp. p. 5402; Gaz. vol. 161; p. 934.
Adams, John Q., Sr., Pittsburg, Pa. Gouging-tool. No. 979,911; Dec. 27; Sp. p. 5404; Gaz. vol. 161; p. 934.
Adams-Randall, Charles, New York, N. Y. Telephone-transmitter. No. 980,042; Dec. 27; Sp. p. 5674; Gaz. vol. 161; p. 977.
Adams & Westlake Company, The. (See Newbold, Roger M., assignor.)
Adams & Westlake Company, The. (See Newpher, Alfred H., assignor.)
Aden, William, Saratoga, Wyo. Plow attachment. No. 978,259; Dec. 13; Sp. p. 1834; Gaz. vol. 161; p. 320.
Adreon, Edward L., Jr. (See Portteus, James G., assignor.)
Agersburg, Christian T., and J. A. Loff, Chicago, Ill. Adjustable shade-fixture. No. 978,260; Dec. 13; Sp. p. 1835; Gaz. vol. 161; p. 320.
Agrell, Frans G., Stockholm, Sweden. Selecting device. No. 979,404; Dec. 27; Sp. p. 4289; Gaz. vol. 161; p. 761.
Ainge, George H. (See Weinland and Ainge.)
Ainlay, Ernest E. (See Sidey, Franklin, assignor.)
Akimoff, Nicholas W., Philadelphia, Pa. Rotary pump. No. 979,634; Dec. 27; Sp. p. 4792; Gaz. vol. 161; p. 841.
Akins, Lee J., Beckville, Tex. Guano-distributer. No. 977,773; Dec. 6; Sp. p. 781; Gaz. vol. 161; p. 121.
Alarm Lock Company. (See Percival, Leonard P., assignor.)
Albert, Eugen, Munich, Germany. Copying-frame. No. 978,261; Dec. 13; Sp. p. 1836; Gaz. vol. 161; p. 321.
Albertoni, John A., and T. Zuppa, Akron, Ohio; said Zuppa assignor to said Albertoni. Bottle-stopper fastener. No. 978,262; Dec. 13; Sp. p. 1838; Gaz. vol. 161; p. 321.
Albertson, Robert, F. M. and A. W. Woodward, Rockford, Ill., assignors of three-fourths to said Albertson and one-fourth to said F. M. Woodward. Exhibitor. No. 979,239; Dec. 20; Sp. p. 3973; Gaz. vol. 161; p. 684.
Alden Sampson Manufacturing Company, The. (See Breed, Preston H., assignor.)
Aldridge, Thomas J., assignor of one-half to M. A. Reilly, Rochester, N. Y. Soft-sole shoe. No. 979,240; Dec. 20; Sp. p. 3974; Gaz. vol. 161; p. 684.
Alexander, Jesse, Brooklyn, assignor of one-half to W. A. A. Schnauffer, New York, N. Y. Type-writer key and type-bar mechanism. No. 978,531; Dec. 13; Sp. p. 2403; Gaz. vol. 161; p. 414.
Allan, Hugh A. (See Gilman, Frederick J., assignor.)
Allbee, John B., Rolfe, assignor of one-half to J. S. Smith, Plover, Iowa. Covering attachment for planters and disks. No. 979,817; Dec. 27; Sp. p. 5203; Gaz. vol. 161; p. 902.
Allegheny Cornice and Skylight Company, The. (See McClaskey, Franklin J., assignor.)
Allemann, John. (See Kohler, Ernest, assignor.)
Allen, John A., Painted Post, N. Y. Pruning implement. No. 978,102; Dec. 6; Sp. p. 1462; Gaz. vol. 161; p. 236.
Alley, Frederick L., San Francisco, Cal., assignor to United Shoe Machinery Company, Paterson, N. J. Heel. No. 979,241; Dec. 20; Sp. p. 3975; Gaz. vol. 161; p. 685.
Allis-Chalmers Company. (See Osmer, John E., assignor.)
Allis-Chalmers Company. (See Pfau, Arnold, assignor.)
Allis-Chalmers Company. (See Rotter, Max, assignor.)
Allis-Chalmers Company. (See Sicka, Louis T., assignor.)
Allis-Chalmers Company. (See Tomlinson, Royal D., assignor.)
Allis-Chalmers Company. (See Trout, William H., assignor.)
Alston, Frank H., assignor of one-half to B. Brooks, Birmingham, England. Electric ignition apparatus for internal-combustion engines. No. 979,912; Dec. 27; Sp. p. 5405; Gaz. vol. 161; p. 934.
Alton, Daniel, Strathcona, Alberta, Canada. Water-pipe. No. 978,340; Dec. 13; Sp. p. 2020; Gaz. vol. 161; p. 352.
Aluminiumwarenfabrik Gontenschwil Aktiengesellschaft. (See Gautschi, Alfred, assignor.)
American Air Liquefying Co. (See Place, James F., assignor.)
American Aron Electricity Meter Company, The. (See Aron, Hermann, assignor.)
American Asphalt Paving Company, The. (See Schwendeman, Eugene G., assignor.)
American Automatic Telephone Company. (See Dunham, Bert G., assignor.)
American Baker's Machinery Company. (See Streich, Frank, assignor.)
American Bridge Company, The. (See Weatherson, Christopher, assignor.)
American Can Company. (See Kobke, John, assignor.)
American Can Company. (See Laskey, Walden L., assignor.)
American Can Company. (See Weber, George W., assignor.)
American Car and Foundry Company. (See Voas, William, assignor.)
American Car Screen Company. (See Scott, William A., Jr., assignor.) (Reissue.)
American Chemical Eduction Company. (See Wurtz, Henry, assignor.)
American Clay Machinery Co., The. (See Bach, Julius H., assignor.)
American Clay Machinery Company, The. (See Fritsch, Edward J., assignor.)
American Electrical Heater Company. (See Kuhn, Frank, assignor.)
American Evaporator Company. (See Dunn, Joseph E., assignor.)
American Gas & Power Co. (See Haywood, Daniel H., assignor.)
American Lithographic Company, The. (See Pancoast, George E., assignor.)
American Optical Company. (See Reno, Joseph, assignor.)
American Planograph Company. (See Saltzman, Auguste L., assignor.)
American Pulley Company, The. (See Brinley, Charles E., assignor.)
American Railway Device Co., The. (See Reynolds, James F., assignor.)
American Sheet & Tin Plate Company, The. (See Bray, Charles W., assignor.)
American Specialty Manufacturing Company. (See Riehl, John B., assignor.)
American Stamp and Ticket Vending Machine Company. (See Oehring, Oscar, assignor.)
American Stamp & Ticket Vending Machine Company, The. (See Wollheim, Heinrich, assignor.)
American Steel Foundries. (See Kinne, Edmund P., assignor.)
American Sugar Refining Company, The. (See Keppler, Theodore L., assignor.)
American Tar Company. (See Price, Charles P., assignor.)
American Warp-Drawing Machine Company. (See Field, Lanning, Hathaway, and Blanchard, assignors.)
American Window Glass Machine Company. (See Thornburg, Lincoln A., assignor.)
Amsden, George A., Littleton, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Cable-carrier apparatus. No. 978,826; Dec. 20; Sp. p. 3017; Gaz. vol. 161; p. 537.

Amsler, Walter O., Pittsburg, Pa. Making producer-gas. No. 979,818; Dec. 27; Sp. p. 5206; Gaz. vol. 161; p. 903.
Andersen, Lauritz W., assignor to The Plume and Atwood Manufacturing Company, Waterbury, Conn. Canopy for gas and electric-light fixtures. No. 978,532; Dec. 13; Sp. p. 2404; Gaz. vol. 161; p. 414.
Anderson, Albert, Tacoma, Wash. Rack. No. 977,693; Dec. 6; Sp. p. 623; Gaz. vol. 161; p. 95.
Anderson, Charles H., Seattle, Wash. Center-bearing for railway-cars. No. 977,694; Dec. 6; Sp. p. 624; Gaz. vol. 161; p. 95.
Anderson, Charles H., Seattle, Wash. Car-bolster. No. 978,424; Dec. 13; Sp. p. 2181; Gaz. vol. 161; p. 378.
Anderson, Charles O., Wichita, Kans. Stock-trough. No. 979,052; Dec. 20; Sp. p. 3530; Gaz. vol. 161; p. 617.
Anderson, Daniel A., Deer Creek, Minn. Bench-clamp. No. 977,695; Dec. 6; Sp. p. 627; Gaz. vol. 161; p. 95.
Anderson, Frank P., Chicago, Ill. Combined parlor bed and chair. No. 978,533; Dec. 13; Sp. p. 2406; Gaz. vol. 161; p. 415.
Anderson, Hans, Malcolm, N. D. Draft pole or tongue. No. 978,806; Dec. 13; Sp. p. 2981; Gaz. vol. 161; p. 505.
Anderson, Harold B., and B. B. Brockway, assignors to Cleveland Aeroplane Company, Cleveland, Ohio. Amusement apparatus or aviator-instructor. No. 978,263; Dec. 13; Sp. p. 1839; Gaz. vol. 161; p. 321.
Anderson, James C., Washington, D. C. Spark-plug. No. 979,242; Dec. 20; Sp. p. 3977; Gaz. vol. 161; p. 685.
Anderson, John F., San Francisco, Cal. Wrench. No. 978,827; Dec. 20; Sp. p. 3019; Gaz. vol. 161; p. 537.
Anderson, Kos M., Temple, Tex. Locking device for lubricating-cups. No. 980,043; Dec. 27; Sp. p. 5677; Gaz. vol. 161; p. 977.
Anderson, Pahr, Cambridge, Mass., assignor to Dover Stamping & Manufacturing Company, Portland, Me. Funnel. No. 979,819; Dec. 27; Sp. p. 5207; Gaz. vol. 161; p. 903.
Anderson, William W., Holly Springs, Miss. Apparatus for facilitating walking. No. 979,243; Dec. 20; Sp. p. 3980; Gaz. vol. 161; p. 685.
Andrews, Edward P. S., West Windham, N. H. Torpedo-placer. No. 980,137; Dec. 27; Sp. p. 5909; Gaz. vol. 161; p. 1008.
Andrews, James R., and J. W. Waldrum; said Waldrum assignor to C. Lucas, Sherman, Tex. Barrel-cover. No. 977,425; Dec. 6; Sp. p. 1; Gaz. vol. 161; p. 3.
Andrews, Oscar, assignor, by mesne assignments, to S. L. Andrews, Gloucester, Mass. Packing fish. No. 978,685; Dec. 13; Sp. p. 2745; Gaz. vol. 161; p. 468.
Andrews, Susanna L. (See Andrews, Oscar, assignor.)
Andrus, Frank, assignor of one-half to M. Scott, Chicago, Ill. Fan-support. No. 979,405; Dec. 27; Sp. p. 4291; Gaz. vol. 161; p. 761.
Angert, Morris, New York, N. Y. Hand-rubber. No. 978,534; Dec. 13; Sp. p. 2407; Gaz. vol. 161; p. 415.
Anthony, Daniel, Greenwich, Conn. Shutter or fire-shield worker. No. 979,244; Dec. 20; Sp. p. 3982; Gaz. vol. 161; p. 686.
Apgar, Peter E., Camden, N. J., and J. J. Silk, Philadelphia, Pa. Hydrant. No. 977,426; Dec. 6; Sp. p. 2; Gaz. vol. 161; p. 3.
Apple, Vincent G., Dayton, Ohio. Power-transmission device. No. 980,044; Dec. 27; Sp. p. 5678; Gaz. vol. 161; p. 977.
Archbald, Charles E., New Brunswick, N. J. Carbon-sheet holder. No. 978,807; Dec. 13; Sp. p. 2982; Gaz. vol. 161; p. 505.
Archibald, William H., assignor of one-half to E. E. Samson, Vernon, British Columbia, Canada. Hand-truck. No. 979,053; Dec. 20; Sp. p. 3531; Gaz. vol. 161; p. 617.
Argo, Ida M., Dallas, Tex. Catamenial bandage. No. 979,730; Dec. 27; Sp. p. 5000; Gaz. vol. 161; p. 873.
Arkansas Corrugated Metal Culvert Company, The. (See Fouts, Calvin C., assignor.)
Arlitz, Oscar C., New York, N. Y. Mechanical horn. No. 979,245; Dec. 20; Sp. p. 3984; Gaz. vol. 161; p. 686.
Arlitz, Oscar C., New York, N. Y. Mechanical horn. No. 979,246; Dec. 20; Sp. p. 3989; Gaz. vol. 161; p. 687.
Armstrong, Charles G., Orange, N. J. Pressure-reducer. No. 977,427; Dec. 6; Sp. p. 4; Gaz. vol. 161; p. 3.
Armstrong, Harry Y., Elgin, Ill. Mechanism for cutting sheets or wrappers from strips. No. 978,535; Dec. 13; Sp. p. 2409; Gaz. vol. 161; p. 415.
Armstrong, Harry Y., Elgin, Ill. Mechanism for cutting wrappers from strips. No. 979,406; Dec. 27; Sp. p. 4293; Gaz. vol. 161; p. 762.
Armstrong, James S., assignor to Farnsworth Company, Lisbon, Me. Bleaching union cotton and wool goods. No. 977,848; Dec. 6; Sp. p. 931; Gaz. vol. 161; p. 147.
Armstrong, Ralph W., assignor to The Gray National Telautograph Company, New York, N. Y. Telautograph. No. 978,128; Dec. 13; Sp. p. 1547; Gaz. vol. 161; p. 275.
Arnold, Harry B., assignor to The National Spring Bed Company, New Britain, Conn. Folding bed. No. 977,696; Dec. 6; Sp. p. 628; Gaz. vol. 161; p. 95.
Arnold, William W., Hamilton, Ohio. Electrical illuminating-sign. No. 978,828; Dec. 20; Sp. p. 3020; Gaz. vol. 161; p. 538.
Aron, Hermann, Charlottenburg, Germany, assignor to The American Aron Electricity Meter Company. Electricity-meter. No. 979,635; Dec. 27; Sp. p. 4793; Gaz. vol. 161; p. 841.
Arras, Walter H. (See Gross, Harry E., assignor.)
Arrington, G. M. (See Noell, Charles H., assignor.)
Arrow Electric Company, The. (See Peterson, Johann G., assignor.)
Arsem, William C., Schenectady, N. Y., assignor to General Electric Company. Chemical process. No. 979,363; Dec. 20; Sp. p. 4202; Gaz. vol. 161; p. 724.
Asbury, Orla F., assignor of one-half to D. A. Tompkins, Charlotte, N. C. Arc-lamp safety device. No. 977,774; Dec. 6; Sp. p. 782; Gaz. vol. 161; p. 121.
Ashcroft Manufacturing Company, The. (See Blanchard, Frederick C., assignor.)
Ashdown, Sydney, Vancouver, British Columbia, Canada. Electrical-lamp wire connection. No. 979,636; Dec. 27; Sp. p. 4796; Gaz. vol. 161; p. 842.
Ashley, Frank M., New York, N. Y. Fountain-pen. No. 978,829; Dec. 20; Sp. p. 3028; Gaz. vol. 161; p. 539.
Ashton, Reese. (See Mayer and Ashton.)
Asia Rubber Company of America. (See Chanut, Léon H., assignor.)
Atha Tool Company. (See Blevney and Hausman, assignors.)
Atkins, James H., Cambridge, Ohio. Weeding-machine. No. 979,407; Dec. 27; Sp. p. 4208; Gaz. vol. 161; p. 762.
Atkinson, Christopher C., Hawkinsville, Ga. Means for generating power. No. 978,425; Dec. 13; Sp. p. 2182; Gaz. vol. 161; p. 378.
Atlas Chain Company. (See Evans, Robert N., assignor.)
Atlas Chain Company. (See Evans and Hamm, assignors.)
Atlas Chain Company. (See Hamm, Philip T., assignor.)
Atlas Tack Company. (See Luscomb, Frederick W., assignor.)
Au Buchon, Peter P., French Village, Mo. Engine-starting device. No. 978,264; Dec. 13; Sp. p. 1840; Gaz. vol. 161; p. 322.
Ault, James M., Decatur, Ind. Building-block. No. 979,913; Dec. 27; Sp. p. 5406; Gaz. vol. 161; p. 935.
Aune, Andrew J., Milton, N. D. Lantern-carrier. No. 977,428; Dec. 6; Sp. p. 5; Gaz. vol. 161; p. 4.
Aurora Automatic Machinery Company. (See Norling, Reinhold A., assignor.)
Austerweil, Géza, Neuilly, near Paris, France. Oxidizing borneol to camphor. No. 979,247; Dec. 20; Sp. p. 3993; Gaz. vol. 161; p. 687.
Austin, John, Geneva, Ohio. Mainspring-barrel. No. 977,994; Dec. 6; Sp. p. 1229; Gaz. vol. 161; p. 198.
Austin, Samuel R., Arnett, Okla. Fence-tightener. No. 977,995; Dec. 6; Sp. p. 1230; Gaz. vol. 161; p. 198.
Austin, William A. (See Scheib and Austin.)
Automatic Packing Company. (See Cromley, Charles D., assignor.)
Ayer, Fred W., Bangor, Me. Separating bark from wood. No. 979,914; Dec. 27; Sp. p. 5407; Gaz. vol. 161; p. 935.
Ayer, James L., Cambridge, assignor to Simplex Electric Heating Company, Boston, Mass. Electric circulation water-heater. No. 978,808; Dec. 13; Sp. p. 2983; Gaz. vol. 161; p. 505.
Ayer, James L., Cambridge, and H. B. Gale, Natick, assignors to Simplex Electric Heating Company, Cambridge, Mass. Flush curling-iron heater. No. 978,980; Dec. 20; Sp. p. 3372; Gaz. vol. 161; p. 593.
Ayers, Joseph G., Jr., Steelton, Pa. Device for determining diameters. No. 979,248; Dec. 20; Sp. p. 3993; Gaz. vol. 161; p. 687.
Babcock & Wilcox Company, The. (See Higgins, Campbell P., assignor.)
Bach, Julius H., Chicago, Ill., assignor of two-thirds to The American Clay Machinery Co., Bucyrus, Ohio. Clay-tempering blade. No. 978,536; Dec. 13; Sp. p. 2413; Gaz. vol. 161; p. 416.
Backer, Charles, assignor of forty-nine one-hundredths to R. Rosenfeld, New York, N. Y. Electric motor. No. 979,637; Dec. 27; Sp. p. 4797; Gaz. vol. 161; p. 842.
Bacon, Jeremiah W. (See Beckwith and Bacon.)
Bader, Gustav A., Rochester, N. Y. Eyeglass-mounting. No. 978,809; Dec. 13; Sp. p. 2987; Gaz. vol. 161; p. 506.
Bader, Gustav A., Rochester, N. Y. Eyeglasses. No. 978,810; Dec. 13; Sp. p. 2987; Gaz. vol. 161; p. 506.
Bader, Leopold, Pillichsdorf, Austria-Hungary. Remedy for swine fever, plague, &c. No. 979,054; Dec. 20; Sp. p. 3533; Gaz. vol. 161; p. 618.
Baggaley, Ralph, Pittsburg, Pa. Converter. No. 977,922; Dec. 6; Sp. p. 1089; Gaz. vol. 161; p. 173.
Baggaley, Ralph, Pittsburg, Pa. Smelting and refining copper ores and compounds. No. 977,996; Dec. 6; Sp. p. 1231; Gaz. vol. 161; p. 198.
Baggett, John W., Erin, Tenn. Wire-stretcher. No. 979,915; Dec. 27; Sp. p. 5410; Gaz. vol. 161; p. 935.
Baguley, James, Evanston, Wyo. Rotary pump. No. 978,350; Dec. 13; Sp. p. 2020; Gaz. vol. 161; p. 352.
Bailey, Charles A., Cromwell, Conn. Manufacturing cartridge-shells. No. 977,497; Dec. 6; Sp. p. 152; Gaz. vol. 161; p. 26.
Bailey, James H., New York, N. Y. Register or ventilator. No. 978,129; Dec. 13; Sp. p. 1552; Gaz. vol. 161; p. 275.
Bailey, Seth G., Denver, Colo., assignor of one-fourth to M. Beck, New York, N. Y., and one-fourth to A. C. Carson, Denver, Colo. Mechanism for handling hanging scenery. No. 977,498; Dec. 6; Sp. p. 154; Gaz. vol. 161; p. 27.
Bailey, Seth G., Denver, Colo., assignor of one-fourth to M. Beck, New York, N. Y., and one-fourth to A. C. Carson, Denver, Colo. Apparatus for raising and lowering hanging scenery and other loads. No. 977,499; Dec. 6; Sp. p. 159; Gaz. vol. 161; p. 27.

Bailey, Seth G., Denver, Colo., assignor of one-fourth to M. Beck, New York, N. Y., and one-fourth to A. C. Carson, Denver, Colo. Apparatus for handling hanging scenery. No. 977,500; Dec. 6; Sp. p. 167; Gaz. vol. 161; p. 28.
Bailey, William T., Elmira, N. Y., assignor to Carter-Crume Company, Ltd., Toronto, Canada. Paper-transmitting mechanism. No. 977,501; Dec. 6; Sp. p. 173; Gaz. vol. 161; p. 28.
Baird, Cassius M. C., Evanston, Ill. Hose construction. No. 979,408; Dec. 27; Sp. p. 4299; Gaz. vol. 161; p. 762.
Baker, John W., Ellsworth, Kans. Hydrocarbon lighting system. No. 978,811; Dec. 13; Sp. p. 2989; Gaz. vol. 161; p. 506.
Baker, William J., assignor of one-half to L. G. Gridley, Oswego, N. Y. Hammer flue-cleaner. No. 979,121; Dec. 20; Sp. p. 3713; Gaz. vol. 161; p. 643.
Balch, Charles F., Earl, Ark. Tape-measure. No. 978,426; Dec. 13; Sp. p. 2184; Gaz. vol. 161; p. 378.
Balcom, Ebenezer B., Milwaukee, Wis., and G. P. Balcom, Houghton, Mich. Seed-germinator. No. 978,812; Dec. 13; Sp. p. 2990; Gaz. vol. 161; p. 507.
Balcom, George P. (See Balcom, Ebenezer B. and G. P.)
Balcom, Nella C., *et al.* (See Balcom, William D., assignor.)
Balcom, William D., assignor of one-half to N. C. Balcom, Greeley, one-fourth to J. W. Morey and one-fourth to E. E. Sellers, Denver, Colo. Coffee-cleaning apparatus. No. 977,697; Dec. 6; Sp. p. 631; Gaz. vol. 161; p. 96.
Baldwin Locomotive Works. (See Dwinell, Charles A., assignor.)
Baldwin Locomotive Works. (See Scheib and Austin, assignors.)
Baldwin Locomotive Works. (See Vauclain, Samuel M., assignor.)
Ball, George E., Cranston, R. I. Rotary engine. No. 979,638; Dec. 27; Sp. p. 4800; Gaz. vol. 161; p. 842.
Baltzley, John H., Jr., Baltimore, Md., assignor to The King Cork & Seal Company. Bottle-capping machine. No. 977,581; Dec. 6; Sp. p. 377; Gaz. vol. 161; p. 55.
Bancroft, George J., Denver, Colo. Pneumatic cushion for vehicles. No. 980,138; Dec. 27; Sp. p. 5910; Gaz. vol. 161; p. 1009.
Bandement, Ludovic, and W. Héring, Paris, France. Sugar crusher and pulverizer. No. 979,364; Dec. 20; Sp. p. 4204; Gaz. vol. 161; p. 724.
Bankhead, Alexandrew, Glen Ullin, N. D. Plow attachment. No. 978,427; Dec. 13; Sp. p. 2185; Gaz. vol. 161; p. 379.
Barba, Charles E., Altoona, Pa. Truck. No. 978,428; Dec. 13; Sp. p. 2186; Gaz. vol. 161; p. 379.
Barber, Howard M., Stonington, Conn., assignor to C. B. Cottrell & Sons Company, New York, N. Y. Variable-size-sheet folding, cutting, and delivering mechanism. No. 978,537; Dec. 13; Sp. p. 2415; Gaz. vol. 161; p. 416.
Barber, John C., assignor to Standard Car Truck Company, Chicago, Ill. Car-truck. No. 977,429; Dec. 6; Sp. p. 7; Gaz. vol. 161; p. 4.
Barcalo Manufacturing Company. (See Vallone and Rogers, assignors.)
Barclay, Richard, Youngstown, Ohio. Horseshoe. No. 979,365; Dec. 20; Sp. p. 4205; Gaz. vol. 161; p. 725.
Barell, Emil, and F. Elger, Basel, Switzerland, assignors to The Hoffmann-La-Roche Chemical Works, New York, N. Y. Hexamethylene-tetramin-monoguaiacol. No. 979,916; Dec. 27; Sp. p. 5411; Gaz. vol. 161; p. 936.
Barell, Emil, and F. Elger, Basel, Switzerland, assignors to The Hoffmann-La-Roche Chemical Works, New York, N. Y. Hexamethylene-tetramin-diguaiacol. No. 979,917; Dec. 27; Sp. p. 5412; Gaz. vol. 161; p. 936.
Barens, Jacob, Altus, Ark. Baling-press. No. 979,055; Dec. 20; Sp. p. 3534; Gaz. vol. 161; p. 618.
Bark, William, Elyria, Ohio, assignor to National Tube Company, Pittsburg, Pa. Pipe-straightening rolls. No. 978,813; Dec. 13; Sp. p. 2992; Gaz. vol. 161; p. 507.
Barker, Arthur, London, assignor to G. T. Hine, Westminster, England. Carbureter for internal-combustion engines or motors. No. 979,409; Dec. 27; Sp. p. 4300; Gaz. vol. 161; p. 762.
Barker, George A., assignor to The Barker Manufacturing Company, Cambria, Va. Sandpapering-machine. No. 977,923; Dec. 6; Sp. p. 1091; Gaz. vol. 161; p. 173.
Barker, Irving, Springfield, Ill. Gate. No. 979,410; Dec. 27; Sp. p. 4303; Gaz. vol. 161; p. 763.
Barker, John F., Springfield, Mass. Pump-base. No. 978,538; Dec. 13; Sp. p. 2418; Gaz. vol. 161; p. 416.
Barker Manufacturing Company, The. (See Barker, George A., assignor.)
Barkley, Robert A., Hamilton, Tex. Coupling-frame for planters. No. 978,539; Dec. 13; Sp. p. 2419; Gaz. vol. 161; p. 416.
Barksdale, Hamilton M., assignor to E. I. du Pont de Nemours Powder Company, Wilmington, Del. Lining boxes to contain explosives. No. 977,698; Dec. 6; Sp. p. 633; Gaz. vol. 161; p. 96.
Barler, Richard O., Chicago, Ill. Sounding toy. No. 977,924; Dec. 6; Sp. p. 1094; Gaz. vol. 161; p. 174.
Barlow, George H., *et al.* (See Dean, John R., assignor.)
Barnes, Carl L., Chicago, Ill. Embalming. No. 978,814; Dec. 13; Sp. p. 2993; Gaz. vol. 161; p. 507.
Barnes, John S., and J. R. Vincer, assignors to W. F. & John Barnes Company, Rockford, Ill. Gearing for drilling-machines. No. 979,918; Dec. 27; Sp. p. 5413; Gaz. vol. 161; p. 936.
Barnett, John S., Central Point, Oreg. Fruit-picker's receptacle. No. 978,429; Dec. 13; Sp. p. 2188; Gaz. vol. 161; p. 379.
Barnett, Samuel, Derby, assignor of one-half to J. Tonge Bolton, Lancaster, England. Hand-pump. No. 978,265 Dec. 13; Sp. p. 1843; Gaz. vol. 161; p. 322.
Barnett, Thomas, San Francisco, Cal. Dredger. No. 978,540; Dec. 13; Sp. p. 2420; Gaz. vol. 161; p. 417.
Barney & Berry. (See Klahn, Emil, assignor.)
Barrett, Edward R., assignor to Burroughs Adding Machine Company, Detroit, Mich. Adding-machine. No. 977,582; Dec. 6; Sp. p. 382; Gaz. vol. 161; p. 56.
Barrickman, Harry L., Richwood, assignor of one-third to H. Morgan, Clarksburg, W. Va. Stay-bolt drill. No. 980,139; Dec. 27; Sp. p. 5911; Gaz. vol. 161; p. 1009.
Barron, Thomas H., New York, N. Y. Advertising device. No. 978,130; Dec. 13; Sp. p. 1554; Gaz. vol. 161; p. 276
Barron, Walter J., New York, N. Y., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine. No. 979,731; Dec. 27; Sp. p. 5002; Gaz. vol. 161; p. 873.
Barry, James. (See Plunkett, Hugh E., assignor.)
Bartholomäus, Rudolf, Dresden, Germany. Die-stock. No. 979,056; Dec. 20; Sp. p. 3536; Gaz. vol. 161; p. 618.
Bastian, August H., Portland, Oreg. Fruit-picker. No. 980,045; Dec. 27; Sp. p. 5679; Gaz. vol. 161; p. 978.
Bastian, Charles L., Chicago, Ill. Carbonating apparatus. No. 978,103; Dec. 6; Sp. p. 1463; Gaz. vol. 161; p. 286
Bates, Arthur, Leicester, England, assignor to United Shoe Machinery Company, Paterson, N. J. Machine having a vibrating tool employed in the manufacture of boots and shoes. No. 979,249; Dec. 20; Sp. p. 3995; Gaz. vol. 161; p. 687.
Bates, Eddo V., Lowell, Mass. Feeding device for carding-machines. No. 977,502; Dec. 6; Sp. p. 175; Gaz. vol. 161; p. 29.
Bates, Lillie F. (See Ford, Raymond S., assignor.)
Bauer & Cie. (See Busch, Albert, assignor.)
Bauer, Gustavus A., Chicago, Ill. Motor-controller. No. 979,250; Dec. 20; Sp. p. 4001; Gaz. vol. 161; p. 688.
Bauer, Joseph P., and F. C. Stimmel, assignors to The Casey-Hedges Company, Chattanooga, Tenn. Boiler-hanger. No. 979,732; Dec. 27; Sp. p. 5006; Gaz. vol. 161; p. 874.
Bauer, Wilhelm, Vohwinkel, near Elberfeld, and A. Herrmann, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Blue vat dye. No. 980,140; Dec. 27; Sp. p. 5912; Gaz. vol. 161; p. 1009.
Bauknecht, Edward M., Martins Ferry, Ohio. Vehicle-seat lock. No. 978,104; Dec. 6; Sp. p. 1466; Gaz. vol. 161; p. 236.
Baumann, Edward C. (See Sawyer, Eugene W., assignor.)
Baumgarten, Emil, Barmen, Germany. Woven elastic fabric. No. 978,541; Dec. 13; Sp. p. 2422; Gaz. vol. 161; p. 417.
Baumgartner, Charles B., Chicago, assignor, by mesne assignments, to Interlocking Fence Company, Morton, Ill. Fence-making machine. No. 980,046; Dec. 27; Sp. p. 5680; Gaz. vol. 161; p. 978.
Bay State Tap and Die Company. (See Williams, Charles E., assignor.)
Bayer, Leo J., St. Louis, Mo. Boiler-cleaner. No. 978,830 Dec. 20; Sp. p. 3030; Gaz. vol. 161; p. 539.
Baylis, Robert N., Montclair, N. J. Sound-locater. No. 977,503; Dec. 6; Sp. p. 177; Gaz. vol. 161; p. 29.
Bayly, Harry E., assignor of one-third to R. G. Burlingame and one-third to H. M. McCormack, Indianapolis, Ind. Steering device. No. 979,411; Dec. 27; Sp. p. 4306; Gaz. vol. 161; p. 763.
Beagley, Hugh C. (See Griswold and Beagley.)
Beall, William L., assignor to Gale Manufacturing Company, Albion, Mich. Adjusting mechanism for plow-beams. No. 979,366; Dec. 20; Sp. p. 4207; Gaz. vol. 161; p. 725.
Beaman, Arthur W. (See Stockbridge, Radford, assignor.)
Bean, Joseph H. (See Nelson and Bean.)
Beardsley, Harber C., Lakewood, Ohio. Physician's toilet-holder. No. 977,583; Dec. 6; Sp. p. 391; Gaz. vol. 161; p. 56.
Bearman, Martin, New York, N. Y. Convertible cane-umbrella. No. 979,122; Dec. 20; Sp. p. 3715; Gaz. vol. 161; p. 643.
Beatty, Luther C. (See Edgar, George B., Sr., assignor.)
Bechman, Henry F., assignor to Duplex Printing Press Company, Battle Creek, Mich. Single-plate rotary printing-press. No. 979,919; Dec. 27; Sp. p. 5416; Gaz. vol. 161; p. 936.
Beck, Charles W., assignor, by mesne assignments, to Electrolite Gas Lamp Company, New York, N. Y. Acetylene generator. No. 978,266; Dec. 13; Sp. p. 1845; Gaz. vol. 161; p. 323.
Beck, Martin, *et al.* (See Bailey, Seth G., assignor.)
Becker, Emil. (See Ungerer and Becker.)
Becker, Otto R., Montrose, Colo. Hay-derrick. No. 979,057; Dec. 20; Sp. p. 3537; Gaz. vol. 161; p. 619.
Beckwith, Grove R., and J. W. Bacon, assignors to Self-Equalizer Bed Company, Minneapolis, Minn. Couch and bed spring equalizer. No. 978,105; Dec. 6; Sp. p. 1467; Gaz. vol. 161; p. 237.
Bedell, Charles A. (See McCarson and Bedell.)
Beelman, Samuel E., Somonauk, Ill. Washing-machine. No. 979,733; Dec. 27; Sp. p. 5007; Gaz. vol. 161; p. 87
Behrend, Samuel K., New York, N. Y. Flotation-tank for ore-dressing. No. 979,820; Dec. 27; Sp. p. 5208; Gaz. vol. 161; p. 903.
Beler, Adolf, assignor to Beler Water Heater Co., Pittsburg, Pa. Gas-burner. No. 979,734; Dec. 27; Sp. p. 5008; Gaz. vol. 161; p. 874.
Beler Water Heater Co. (See Beler, Adolf, assignor.)

Bell, Harmon, *et al.* (See Loftus, Thomas J., assignor.)
Bell, Thomas V., Outremont, Quebec, Canada. Tooling-machine for bookbinding. No. 979,367; Dec. 20; Sp. p. 4208; Gaz. vol. 161; p. 725.
Bellamy, Alfred R. (See Roberts, Bellamy, and James.)
Belle, James, *et al.* (See Minion, George, assignor.)
Beman, Herbert D. (See McLaughlin and Beman.)
Benham, Joseph M., and G. W. Slater, Oakland, Cal. Tire. No. 977,584; Dec. 6; Sp. p. 393; Gaz. vol. 161; p. 57.
Benincasa, Nicholas, East Pittsburg, Pa. Collar-button. No. 977,925; Dec. 6; Sp. p. 1095; Gaz. vol. 161; p. 174.
Benjamin, George H. (See Finck, William C., assignor.)
Benjamin, George H., New York, N. Y., assignor to H. F. Barrows Co., North Attleboro, Mass. Machine for soldering chains. No. 978,542; Dec. 13; Sp. p. 2423; Gaz. vol. 161; p. 417.
Benjamin, George H., New York, N. Y., assignor to H. F. Barrows Co., North Attleboro, Mass. Machine for soldering chains. No. 978,543; Dec. 13; Sp. p. 2428; Gaz. vol. 161; p. 418.
Bennet, Frank M. (See Copeland and Bennet.)
Bennett, Alonzo W., Hamden, Conn. Turbine. No. 979,735; Dec. 27; Sp. p. 5009; Gaz. vol. 161; p. 874.
Bennett, Fred E., Los Angeles, Cal., assignor to Phoenix Combination Lock Company, Phoenix, Ariz. Permutation-padlock. No. 978,831; Dec. 20; Sp. p. 3032; Gaz. vol. 161; p. 539.
Bennett, George R., Denver, Colo. Rock-drill. No. 978,981; Dec. 20; Sp. p. 3375; Gaz. vol. 161; p. 593.
Bennett, Joseph S., assignor of one-third to E. W. Lucas and one-third to A. C. Lucas, Fayetteville, Ark. Pruning-saw. No. 979,920; Dec. 27; Sp. p. 5420; Gaz. vol. 161; p. 937.
Bennett, Manfred H. (See Joslin and Bennett.)
Benster, Halsey L. (See Benster, Joshua G. and H. L.)
Benster, Joshua G. and H. L., Moline, Ill. Attachment for power-presses. No. 980,047; Dec. 27; Sp. p. 5683; Gaz. vol. 161; p. 978.
Bent, Arthur S. (See Eads and Bent.)
Bercha, Joseph, Beatrice, Nebr. Grinding-mill. No. 980,048; Dec. 27; Sp. p. 5685; Gaz. vol. 161; p. 979.
Berendes, Rudolph, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Santaliol compound. No. 979,639; Dec. 27; Sp. p. 4804; Gaz. vol. 161; p. 843.
Bergener, Charles, assignor to C. T. Ham Manufacturing Company, Rochester, N. Y. Lantern. No. 977,775; Dec. 6; Sp. p. 784; Gaz. vol. 161; p. 121.
Bergenstrohle, Ivar G., Worcester, Mass. Pocket safety device. No. 978,106; Dec. 6; Sp. p. 1469; Gaz. vol. 161; p. 237.
Berger, Joseph, Bayonne, N. J., assignor to The Singer Manufacturing Company. Thread-controller for sewing-machines. No. 978,267; Dec. 13; Sp. p. 1849; Gaz. vol. 161; p. 323.
Bergman, Carl O., Evanston, Ill. Latch-controlling device for clutch mechanisms. No. 978,351; Dec. 13; Sp. p. 2021; Gaz. vol. 161; p. 352.
Bergner, Robert A. (See Roecker, John, Jr., assignor.)
Bergsman, Daniel, Adams, N. D. Attachment for pneumatic stackers. No. 979,412; Dec. 27; Sp. p. 4308; Gaz. vol. 161; p. 764.
Berkshire Hills Paper Company. (See Ramage and Shaw, assignors.)
Berliner, Emile. (See Weinberg, Fritz, assignor.)
Berliner, Herbert S. (See Milke, Otto R., assignor.)
Berman, Louis C., Chicago, Ill. Jack. No. 978,544; Dec. 13; Sp. p. 2432; Gaz. vol. 161; p. 418.
Bernard, Clay. (See Newchurch and Bernard.)
Bernert, George and J., South Germantown, Wis. Pneumatic elevator. No. 977,849; Dec. 6; Sp. p. 932; Gaz. vol. 161; p. 147.
Bernert, Jacob. (See Bernert, George and J.)
Bernhard, Edward J. (See Hohmann, Richard K., assignor.)
Bernhard, John B., Newark, N. J., assignor to Union Boiler Company, New York, N. Y. Sectional boiler. No. 979,736; Dec. 27; Sp. p. 5011; Gaz. vol. 161; p. 875.
Bernhard, John B., Newark, N. J., assignor to Union Boiler Company, New York, N. Y. Clamp for assembling boiler-sections. No. 979,737; Dec. 27; Sp. p. 5013; Gaz. vol. 161; p. 875.
Bernhard, John B., Newark, N. J., assignor to Union Boiler Company, New York, N. Y. Double sectional boiler. No. 979,738; Dec. 27; Sp. p. 5015; Gaz. vol. 161; p. 876.
Berntson, Thomas, Pittsburg, Pa., assignor to F. C. Park, J. W. Carnahan, and E. P. Morey, Washington, D. C. Wheel. (Reissue.) No. 13,177; Dec. 6; Sp. p. 1522; Gaz. vol. 161; p. 245.
Berry, Charles M., assignor of one-half to B. Rosenberg, New York, N. Y. Window-fastener. No. 979,251; Dec. 20; Sp. p. 4003; Gaz. vol. 161; p. 683.
Berry, Seneca L., Sunnyvale, Cal. Hydraulic giant. No. 978,107; Dec. 6; Sp. p. 1470; Gaz. vol. 161; p. 237.
Berryman, James H., Tacoma, Wash. Car-dumping device. No. 977,699; Dec. 6; Sp. p. 637; Gaz. vol. 161; p. 97.
Bertholf, Edward, Watkins, N. Y. Flying-machine. No. 977,997; Dec. 6; Sp. p. 1243; Gaz. vol. 161; p. 199.
Bertram, William E., Brooklyn, assignor to Mergenthaler Linotype Company, New York, N. Y. Font-selecting mechanism for monoline composing-machines. No. 978,108; Dec. 6; Sp. p. 1471; Gaz. vol. 161; p. 237.
Besson, Louis C. (See Ludington, Marshall, and Besson.)
Best, Charles J., Oakland, Cal. Ore-furnace. No. 979,921; Dec. 27; Sp. p. 5422; Gaz. vol. 161; p. 937.
Best, William J., Detroit, Mich. Oven. No. 979,413; Dec. 27; Sp. p. 4309; Gaz. vol. 161; p. 764.
Betts, Charles L., assignor to R. E. Dietz Company, New York, N. Y. Spring-fastening for lanterns. No. 978,545; Dec. 13; Sp. p. 2435; Gaz. vol. 161; p. 419.
Betz, Frank S. (See Cedergren, Fred, assignor.)
Betz, Frank S. (See Pickart, Emil, assignor.)
Bevan, Alexander, Providence, R. I. Surfacing-machine. No. 979,739; Dec. 27; Sp. p. 5018; Gaz. vol. 161; p. 876.
Bevil, Andrew H. and C. W., Warren, Tex. Axle-skein. No. 979,398; Dec. 20; Sp. p. 4210; Gaz. vol. 161; p. 726.
Bevil, Charles W. (See Bevil, Andrew H. and C. W.)
Beydler, Frank M., Ashland, Kans. Plow. No. 978,815; Dec. 13; Sp. p. 2994; Gaz. vol. 161; p. 507.
Beyer, Bertrand E., assignor of one-half to W. Molenaar, Paterson, N. J. Adjustable bracket for furniture and the like. No. 980,049; Dec. 27; Sp. p. 5687; Gaz. vol. 161; p. 979.
Birch, Frank C., Philadelphia, Pa. Radiator. No. 979,414; Dec. 27; Sp. p. 4311; Gaz. vol. 161; p. 765.
Birdwell, J. W., *et al.* (See Rowe, Sidney M., assignor.)
Bishop, Columbus H., El Reno, assignor of one-half to H. A. White, Hinton, Okla. Saw-set. No. 978,686; Dec. 13; Sp. p. 2748; Gaz. vol. 161; p. 468.
Bishop, J. W., *et al.* (See Rowe, Sidney M., assignor.)
Bishop, Mary F., Boston, Mass. Hot-water heating device. No. 979,415; Dec. 27; Sp. p. 4312; Gaz. vol. 161; p. 765.
Bishop, Stephen W., Williston, Fla. Car step and platform. No. 977,504; Dec. 6; Sp. p. 178; Gaz. vol. 161; p. 29.
Bivalve Company, The. (See Webb, Joseph, assignor.)
Black, Burton, Orcutt, Cal. Pump. No. 980,050; Dec. 27; Sp. p. 5688; Gaz. vol. 161; p. 979.
Blackburn, Ernest C., and J. Michal, Jr., assignors of one-fourth to W. D. Murray, Goldfield, Nev. Handle. No. 978,816; Dec. 13; Sp. p. 2996; Gaz. vol. 161; p. 508.
Blaine, George E., Indianapolis, Ind. Harrow-tooth and tooth-bar fastening. No. 978,687; Dec. 13; Sp. p. 2749; Gaz. vol. 161; p. 468.
Blair, William R., assignor to Landis Machine Company, St. Louis, Mo. Thread take-up for sewing-machines. No. 978,832; Dec. 20; Sp. p. 3034; Gaz. vol. 161; p. 540.
Blake, John, *et al.* (See Bulley, Albert, assignor.)
Blake, Matthiew B., Little Falls, Minn. Combined lid and lifting device. No 977,430; Dec. 6; Sp. p. 9; Gaz. vol. 161; p. 4.
Blanc Stainless Cement Company. (See Carrère, Joseph M., assignor.)
Blanchard, Frederick C. (See Field, Lanning, Hathaway, and Blanchard.)
Blanchard, Frederick C., assignor to The Ashcroft Manufacturing Company, Bridgeport, Conn. Gage. No. 978,833; Dec. 20; Sp. p. 3035; Gaz. vol. 161; p. 540.
Blanchard, George P., Athens, Ga. Spectacles. No. 978,982; Dec. 20; Sp. p. 3378; Gaz. vol. 161; p. 594.
Blaszczyk, John, New York, N. Y. Mud-guard. No. 980,051; Dec. 27; Sp. p. 5691; Gaz. vol. 161; p. 980.
Blaw Collapsible Steel Centering Company. (See McArthur, Charles D., assignor.)
Blevney, John C., and J. Hausman, Newark, N. J. Grinding and polishing machine. No. 980,052; Dec. 27; Sp. p. 5693; Gaz. vol. 161; p. 980.
Blevney, John C., and J. Hausman, Newark, N. J., assignors to Atha Tool Company. Grinding and polishing machine. No. 980,053; Dec. 27; Sp. p. 5697; Gaz. vol. 161; p. 981.
Blevney, John C., and J. Hausman, Newark, N. J., assignors to Atha Tool Company. Abrasive machine. No. 980,054; Dec. 27; Sp. p. 5701; Gaz. vol. 161; p. 981.
Blieberger, Gustav, New York, N. Y. Menthylated oil of wintergreen. No. 979,416; Dec. 27; Sp. p. 4313; Gaz. vol. 161; p. 765.
Bloom, Charles F., Brady, Nebr. Trace-fastener. No. 979,369; Dec. 20; Sp. p. 4211; Gaz. vol. 161; p. 726.
Blower, Joseph W., Columbus, Ohio. Locking device. No. 977,850; Dec. 6; Sp. p. 934; Gaz. vol. 161; p. 147.
Blumenthal, Harry. (See Johnson, Gustaf I. D., assignor.)
Blumenthal, Louis, Brooklyn, N. Y. Cover-fastening device for bottles. No. 978,109; Dec. 6; Sp. p. 1474; Gaz. vol. 161; p. 238.
Blunck, Henry L., Sioux City, Iowa. Car-brake equalizer. No. 977,998; Dec. 6; Sp. p. 1246; Gaz. vol. 161; p. 199.
Blymyer, Layfette W. (See Brown and Blymyer.)
Board, Edward, Philadelphia, Pa. Mandrel. No. 979,922; Dec. 27; Sp. p. 5423; Gaz. vol. 161; p. 937.
Bodkin, John A., New York, N. Y. Rail-joint. No. 978,546; Dec. 13; Sp. p. 2436; Gaz. vol. 161; p. 419.
Boensch, Carl, Chicago, Ill. Adjustable lamp-bracket. No. 978,547; Dec. 13; Sp. p. 2437; Gaz. vol. 161; p. 419.
Boerner, Arno, Briessnitz, near Dresden, Germany. Elastic tire for vehicles. No. 979,417; Dec. 27; Sp. p. 4314; Gaz. vol. 161; p. 765.
Boerngen, Max E., assignor of two-thirds to J. Maurer, Kansas City, Mo. Fly-catcher. No. 979,640; Dec. 27; Sp. p. 4804; Gaz. vol. 161; p. 843.
Bogga, Thaddeus M., Monongahela, Pa. Boring, reaming, and tapping machine. No. 979,418; Dec. 27; Sp. p. 4315; Gaz. vol. 161; p. 765.
Bohrer, Richard E., Rochester, N. Y. Washtub-support. No. 979,123; Dec. 20; Sp. p. 3717; Gaz. vol. 161; p. 644.

Bohrmann, Emil, *et al.* (See Spähr, Ernst J., assignor.)
Boirault, Louis, assignor to The Societe d'Etudes des Brevets Boirault, Paris, France. Automatic coupling for cars and carriages. No. 977,926; Dec. 6; Sp. p. 1097; Gaz. vol. 161; p. 174.
Boland, Michael A., Buffalo, N. Y. Ball-grip. No. 977,776; Dec. 6; Sp. p. 785; Gaz. vol. 161; p. 122.
Boldrey, George W., and G. R. Hussung, Aurora, Ind. Loading and dumping apparatus. No. 978,817; Dec. 13; Sp. p. 2997; Gaz. vol. 161; p. 508.
Bolin, Richard H., Kane, Pa. Apparatus for severing glass cylinders. No. 979,740; Dec. 27; Sp. p. 5021; Gaz. vol. 161; p. 877.
Bolinder, Erik A., Stockholm, Sweden. Stove, range, and the like. No. 977,505; Dec. 6; Sp. p. 180; Gaz. vol. 161; p. 30.
Bolt, Bernhard J. L., San Francisco, Cal. Match-box. No. 979,124; Dec. 20; Sp. p. 3718; Gaz. vol. 161; p. 644.
Bolton, Joseph P., assignor to The Frost Prevention Company, Fresno, Cal. Frost-preventing apparatus. No. 979,370; Dec. 20; Sp. p. 4213; Gaz. vol. 161; p. 726.
Bommer, Emil, New York, N. Y. Door-spring. No. 978,548; Dec. 13; Sp. p. 2439; Gaz. vol. 161; p. 420.
Bond, J. Winn, *et al.* (See Glines, Earl C., assignor.)
Bond, Nathan O., Hyannis, assignor to B. F. Macy, Roslindale, Mass. Washboard. No. 979,371; Dec. 20; Sp. p. 4214; Gaz. vol. 161; p. 726.
Bone, John L., and C. H. Woods, Decatur, Ill. Means for collecting fares. No. 979,419; Dec. 27; Sp. p. 4318; Gaz. vol. 161; p. 766.
Bonner, Douglas E., Chicago, Ill. Curtain-fixture. No. 979,252; Dec. 20; Sp. p. 4004; Gaz. vol. 161; p. 688.
Bonness, Wilhelm F., Chicago, Ill. Metallic siding. No. 978,834; Dec. 20; Sp. p. 3036; Gaz. vol. 161; p. 540.
Boore, Burton A., McKeesport, and J. W. Ferguson, Pittsburg, Pa. Game apparatus. No. 979,923; Dec. 27; Sp. p. 5424; Gaz. vol. 161; p. 937.
Bosworth, Percy B., assignor to Firestone Tire & Rubber Company, Akron, Ohio. Vehicle-tire. No. 977,585; Dec. 6; Sp. p. 394; Gaz. vol. 161; p. 57.
Bosworth, Percy B., assignor to Firestone Tire & Rubber Company, Akron, Ohio. Fastening means for vehicle-tires. No. 977,586; Dec. 6; Sp. p. 395; Gaz. vol. 161; p. 57.
Bosworth, Percy B., assignor to Firestone Tire & Rubber Company, Akron, Ohio. Detachable fastening for pneumatic tires. No. 977,587; Dec. 6; Sp. p. 396; Gaz. vol. 161; p. 58.
Bosworth, Percy B., assignor to Firestone Tire & Rubber Company, Akron, Ohio. Fastening device for vehicle-tires. No. 977,588; Dec. 6; Sp. p. 398; Gaz. vol. 161; p. 58.
Bosworth, Percy B., assignor to Firestone Tire & Rubber Company, Akron, Ohio. Fastening device for vehicle-tires. No. 977,589; Dec. 6; Sp. p. 399; Gaz. vol. 161; p. 58.
Bosworth, Percy B., assignor to Firestone Tire & Rubber Company, Akron, Ohio. Vehicle-wheel rim. No. 977,590; Dec. 6; Sp. p. 400; Gaz. vol. 161; p. 58.
Bové, Ramon, New York, N. Y. Hair-waving machine. No. 979,058; Dec. 20; Sp. p. 3538; Gaz. vol. 161; p. 619.
Bow Shock Absorbing Spring Company. (See Luxembourger, Nicholas, assignor.)
Bowde, Paul W., Waukesha, Wis. Window-sash. No. 979,741; Dec. 27; Sp. p. 5024; Gaz. vol. 161; p. 877.
Bowden, Junius A., Los Angeles, Cal. Tire. No. 978,549; Dec. 13; Sp. p. 2442; Gaz. vol. 161; p. 420.
Bowen, Robert A., Colfax, Wash. Pipe-wrench. No. 978,818; Dec. 13; Sp. p. 2999; Gaz. vol. 161; p. 508.
Bowers, Charles E., Philadelphia, Pa. Cuspidor. No. 979,924; Dec. 27; Sp. p. 5425; Gaz. vol. 161; p. 938.
Bowers, George W., Somerville, assignor to C. S. Marsh, Winchester, Mass. Coin-controlled weighing-machine. No. 979,372; Dec. 20; Sp. p. 4216; Gaz. vol. 161; p. 727.
Bowers, John C., Spokane, Wash. Buckle. No. 977,999; Dec. 6; Sp. p. 1247; Gaz. vol. 161; p. 199.
Bowers, Lewis C., Boise, Idaho. Nozzle. No. 978,835; Dec. 20; Sp. p. 3038; Gaz. vol. 161; p. 540.
Bowslaugh, Edward W., North Grimsby township, Lincoln county, Ontario, Canada. System for land draining. No. 978,836; Dec. 20; Sp. p. 3039; Gaz. vol. 161; p. 541.
Boyd, John W., Mishawaka, assignor to Fabric Roll Protector Co., South Bend, Ind. Ladder-bracket. No. 978,550; Dec. 13; Sp. p. 2445; Gaz. vol. 161; p. 420.
Boyd, William, assignor of one-half to J. Keiller and Son Lt'd., Dundee, Scotland. Heating cream used for making fondants, chocolate centers, and the like. No. 978,131; Dec. 13; Sp. p. 1556; Gaz. vol. 161; p. 276.
Bradbury, Clifford C. (See Lawver and Bradbury.)
Bradley, William A., Spokane, Wash. Operating mechanism for ore-jigs. No. 979,253; Dec. 20; Sp. p. 4007; Gaz. vol. 161; p. 689.
Brady, John W., St. Louis, Mo. Moisture-proof wood floor. No. 978,352; Dec. 13; Sp. p. 2023; Gaz. vol. 161; p. 352.
Brainard, Charles H., assignor to Monighan Machine Company, Chicago, Ill. Winch-drum. No. 978,353; Dec. 13; Sp. p. 2025; Gaz. vol. 161; p. 353.
Brand, George P., New York, N. Y. Tracker-bar. No. 977,700; Dec. 6; Sp. p. 638; Gaz. vol. 161; p. 97.
Brand, George P., New York, N. Y. Pedal mechanism. No. 978,837; Dec. 20; Sp. p. 3040; Gaz. vol. 161; p. 541.
Branscom, William J. D., Mobile, Ala. Combination blind lock and catch. No. 977,777; Dec. 6; Sp. p. 786; Gaz. vol. 161; p. 122.
Branson, Walter J., Wilkinsburg, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, Pittsburg, Pa. Centrifugal switch. No. 977,591; Dec. 6; Sp. p. 405; Gaz. vol. 161; p. 59.
Brant, James. (See Grabe and Brant.)
Brash, Albert W., Newark, S. D. Snap-hook. No. 979,641; Dec. 27; Sp. p. 4806; Gaz. vol. 161; p. 843.
Brasington, Ross M., Marietta, Ohio. Ladder extension. No. 979,821; Dec. 27; Sp. p. 5209; Gaz. vol. 161; p. 903.
Brasseur, Ernest J., assignor to A. B. Dick Company, Chicago, Ill. Sheet-feeding apparatus. No. 979,822; Dec. 27; Sp. p. 5210; Gaz. vol. 161; p. 904.
Brasseur, Leon, Brooklyn, N. Y. Egg-nest or filler. No. 979,373; Dec. 20; Sp. p. 4221; Gaz. vol. 161; p. 727.
Braswell, Richard R., assignor of one-half to J. J. Nelson, Shreveport, La. Dental crown-forming tool. No. 978,430; Dec. 13; Sp. p. 2189; Gaz. vol. 161; p. 379.
Bray, Charles W., assignor to The American Sheet & Tin Plate Company, Pittsburg, Pa. Apparatus for rolling metal sheets. No. 978,551; Dec. 13; Sp. p. 2446; Gaz. vol. 161; p. 421.
Brayshaw, Shipley N., Hulme, Manchester, England, assignor to G. Nash, New York, N. Y. Furnace for heating steel cutters and other tools or articles. No. 977,778; Dec. 6; Sp. p. 788; Gaz. vol. 161; p. 123.
Breed, Preston H., assignor to The Alden Sampson Manufacturing Company, Pittsfield, Mass. Automobile driving and supporting wheel. No. 980,055; Dec. 27; Sp. p. 5708; Gaz. vol. 161; p. 982.
Breed, Preston H., assignor to Alden Sampson Manufacturing Company, Pittsfield, Mass. Chain case and gearing. No. 980,141; Dec. 27; Sp. p. 5913; Gaz. vol. 161; p. 1009.
Breither, Paul R., Chicago, Ill. Window-screen. No. 978,838; Dec. 20; Sp. p. 3043; Gaz. vol. 161; p. 541.
Bremer, Russell H., O. F. Thiry, and S. Hollands, Reading, Pa. Printing device. No. 978,839; Dec. 20; Sp. p. 3045; Gaz. vol. 161; p. 542.
Brent, Charles, Brandon, Manitoba, Canada. High and low water alarm. No. 978,983; Dec. 20; Sp. p. 3379; Gaz. vol. 161; p. 594.
Brett, William P., Decatur, Ill. Windmill. No. 980,172; Dec. 27; Sp. p. 5985; Gaz. vol. 161; p. 1020.
Brewington, Henry S., Baltimore, Md. Candy-pulling machine. No. 979,125; Dec. 20; Sp. p. 3720; Gaz. vol. 161; p. 645.
Bridgeford and Company. (See Stuckenburg, Henry C., assignor.)
Bridgham, Arthur L., Boston, Mass. Draft-exciter for locomotives. No. 978,552; Dec. 13; Sp. p. 2448; Gaz. vol. 161; p. 421.
Briegel, Theodore. (See Griswold and Briegel.)
Briggs, Carl R., Ravenna, Ohio. Lubricator. No. 978,819; Dec. 13; Sp. p. 3001; Gaz. vol. 161; p. 509.
Briggs, George H. (See Crossland, George, assignor.)
Brinley, Charles E., assignor to The American Pulley Company, Philadelphia, Pa. Reel. No. 978,431; Dec. 13; Sp. p. 2190; Gaz. vol. 161; p. 380.
Broadbooks, Peter, Batavia, N. Y. Pliers and wire-cutter. No. 979,926; Dec. 27; Sp. p. 5426; Gaz. vol. 161; p. 93.
Broadwell, William C., assignor to D. P. Wilson, Detroit, Mich. Ice-cream freezer. No. 979,823; Dec. 27; Sp. p. 5214; Gaz. vol. 161; p. 904.
Broberg, Ernest J., *et al.* (See Feller, Adolph F., assignor.)
Broberg, Frey L., Brooklyn, N. Y. Hoisting-derrick. No. 978,553; Dec. 13; Sp. p. 2450; Gaz. vol. 161; p. 422.
Broberg, Karl T., Montreal, Quebec, assignor of two-thirds to A. H. Davis, St. John, New Brunswick, Canada. Floor-cleaner. No. 977,701; Dec. 6; Sp. p. 640; Gaz. vol. 161; p. 97.
Brock, John M., New York, N. Y., assignor to William P. Crane Company. Gas-stove. No. 978,127; Dec. 6; Sp. p. 1518; Gaz. vol. 161; p. 245.
Brock, Mathias, Boston, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Apparatus for heading nails or tacks. No. 977,506; Dec. 6; Sp. p. 181; Gaz. vol. 161; p. 30.
Brockardt, Paul L. (See Schauer and Brockardt.)
Brockardt, Paul L., Hamilton, Ohio. Automatic centering device for endless aprons. No. 977,702; Dec. 6; Sp. p. 643; Gaz. vol. 161; p. 98.
Brockway, Byron B. (See Anderson and Brockway.)
Brohmann, Rudolf, Hanover, Germany. Lock. No. 978,354; Dec. 13; Sp. p. 2452; Gaz. vol. 161; p. 422.
Bröker, Hermann A. E., Hamburg, assignor to Ofenbau Gesellschaft m. b. H., Munich, Germany. Gas-producing oven. No. 978,354; Dec. 13; Sp. p. 2026; Gaz. vol. 161; p. 353.
Brombacher, Emil, Buffalo, N. Y. Spark-arrester. No. 978,132; Dec. 13; Sp. p. 1557; Gaz. vol. 161; p. 277.
Bronson, Adelbert E., Sr., Cleveland, Ohio. Steel stove. No. 977,592; Dec. 6; Sp. p. 406; Gaz. vol. 161; p. 59.
Brook, Charles E., Miles City, Mont. Spark-arrester. No. 978,555; Dec. 13; Sp. p. 2453; Gaz. vol. 161; p. 422.
Brooke, Robert G., Macclesfield, England. Steam-injector. No. 978,000; Dec. 6; Sp. p. 1248; Gaz. vol. 161; p. 200.
Brooke, Robert G., Macclesfield, England. Steam-injector. No. 978,001; Dec. 6; Sp. p. 1250; Gaz. vol. 161; p. 200.
Brooks, Alfred J., assignor of one-fifth to W. H. Brooks, Quincy, Mass. Attachment for stoves. No. 979,374; Dec. 20; Sp. p. 4222; Gaz. vol. 161; p. 727.
Brooks, Boultbee. (See Alston, Frank H., assignor.)
Brooks, Frank M., New York, N. Y. Inverted-mantle lamp. No. 978,133; Dec. 13; Sp. p. 1560; Gaz. vol. 161; p. 277.

Brooks, William H. (See Brooks, Alfred J., assignor.)
Brothers, Thomas. (See Merryweather, James, assignor.)
Brotherston, John D. (See Kinsey, Frederick L., assignor.)
Brown, Bertram D., Hudson, Mass. Ink-well holder. No. 980,056; Dec. 27; Sp. p. 5710; Gaz. vol. 161; p. 982.
Brown, Clarence H., Pittsburg, Pa. Feed-roller attachment for type-writers. No. 978,820; Dec. 13; Sp. p. 3005; Gaz. vol. 161; p. 510.
Brown, Daniel F., South Framingham, and W. E. Chenery, Framingham, Mass. Shoulder resistance-pad. No. 978,821; Dec. 13; Sp. p. 3007; Gaz. vol. 161; p. 510.
Brown, Edward L., Wabuska, Nev. Wrench. No. 978,688; Dec. 13; Sp. p. 2750; Gaz. vol. 161; p. 469.
Brown, Firmin C., Charleston, W. Va. Food-warmer. No. 980,057; Dec. 27; Sp. p. 5711; Gaz. vol. 161; p. 982.
Brown, Harry C., Spring Valley, N. Y. Hook. No. 979,926; Dec. 27; Sp. p. 5428; Gaz. vol. 161; p. 938.
Brown, Henry D., and L. W. Blymyer, Los Angeles, Cal. Electric-light receptacle. No. 979,927; Dec. 27; Sp. p. 5430; Gaz. vol. 161; p. 938.
Brown, Howard W., trustee. (See Moebus, Henry E., assignor.)
Brown, James A. (See Sutherland and Brown.)
Brown, Jesse B., Belding, Mich. Explosive-engine. No. 977,779; Dec. 6; Sp. p. 790; Gaz. vol. 161; p. 123.
Brown, John B., Akron, Ohio. Nut-lock. No. 977,507; Dec. 6; Sp. p. 183; Gaz. vol. 161; p. 30.
Brown, John W., assignor to Collins Plow Company, Quincy, Ill. Baling-press. No. 977,780; Dec. 6; Sp. p. 793; Gaz. vol. 161; p. 124.
Brown, Nimrod W. L., Marietta, Ga. Oil-press box. No. 978,840; Dec. 20; Sp. p. 3046; Gaz. vol. 161; p. 542.
Brown, Richard H., Sheepshead Bay, and R. J. Brown, Brooklyn, N. Y. Hose-supporter. No. 979,254; Dec. 20; Sp. p. 4008; Gaz. vol. 161; p. 689.
Brown, Robert J. (See Brown, Richard H. and R. J.)
Brown, Theodore P., Worcester, Mass., assignor to Simplex Piano Player Company. Spool-adjusting device for musical instruments. No. 978,355; Dec. 13; Sp. p. 2028; Gaz. vol. 161; p. 353.
Brown, Theophilus, Worcester, Mass. Automatic speed control. No. 977,703; Dec. 6; Sp. p. 644; Gaz. vol. 161; p. 98.
Brown, William A. J., Lancaster, Kans. Cultivator. No. 979,928; Dec. 27; Sp. p. 5432; Gaz. vol. 161; p. 939.
Brown, William C., Lake Pleasant, N. Y. Snow plow and roller. No. 979,255; Dec. 20; Sp. p. 4009; Gaz. vol. 161; p. 689.
Brownlee, James L., Wheeling, W. Va. Spring-clip for reinforcing-bars. No. 977,704; Dec. 6; Sp. p. 646; Gaz. vol. 161; p. 98.
Brownsville Glass Company. (See Speer and Harvey, assignors.)
Bruckner, Rudolph E., Mount Vernon, N. Y. Inverted mantle-burner. No. 979,742; Dec. 27; Sp. p. 5025; Gaz. vol. 161; p. 877.
Bryan, Harry E., Cadiz, Ohio. Poultry-fountain. No. 979,420; Dec. 27; Sp. p. 4319; Gaz. vol. 161; p. 766.
Bryan, Harry E., Cadiz, Ohio. Poultry-feeder. No. 979,421; Dec. 27; Sp. p. 4322; Gaz. vol. 161; p. 767.
Bryan, John, Yellow Springs, Ohio. Freight-car and the like. No. 977,705; Dec. 6; Sp. p. 649; Gaz. vol. 161; p. 99.
Bryant, Charles K. (See Ray, Mark G., assignor.)
Bryant Electric Company, The. (See Goodridge, Gilbert W., assignor.)
Buchanan, Robert, Liverpool, England. Flour-milling. No. 977,431; Dec. 6; Sp. p. 10; Gaz. vol. 161; p. 5.
Buck, William T., Vliets, Kans. Cable-supporting pulley-bracket. No. 977,593; Dec. 6; Sp. p. 409; Gaz. vol. 161; p. 60.
Buck, William T., Vliets, Kans. Mail carrier or box. No. 977,706; Dec. 6; Sp. p. 651; Gaz. vol. 161; p. 99.
Buck, William T., Vliets, Kans. Cable-track support. No. 978,134; Dec. 13; Sp. p. 1562; Gaz. vol. 161; p. 277.
Buckman, Edward. (See Maxwell and Buckman.)
Buckton, William W., London, England. Combined electric-connection plug and socket and switch. No. 978,841; Dec. 20; Sp. p. 3048; Gaz. vol. 161; p. 542.
Buda Foundry & Manufacturing Company. (See Jenkins, Merrill L., assignor.)
Buda Foundry & Manufacturing Company. (See Place and Jenkins, assignors.)
Buffalo Dental Manufacturing Company. (See Lewis, Theodore G., assignor.)
Bugnon, Achille, Paris, France. Water-tube steam-generator. No. 977,927; Dec. 6; Sp. p. 1098; Gaz. vol. 161; p. 175.
Buhoup, Harry C., Chicago, Ill. Car-truck. No. 977,707; Dec. 6; Sp. p. 652; Gaz. vol. 161; p. 99.
Bulley, Albert, assignor of two-thirds to J. Blake and W. Layman, Mellen, Wis. Trace-coupling. No. 979,743; Dec. 27; Sp. p. 5026; Gaz. vol. 161; p. 878.
Bullock, Henry E., *et al.* (See Houghton, Orley C., assignor.)
Bullock, James E., *et al.* (See Houghton, Orley C., assignor.)
Bullock, Thomas J., Freedom, Ky. Whiffletree-coupling. No. 979,059; Dec. 20; Sp. p. 3541; Gaz. vol. 161; p. 619.
Bumstead, Ralph W., Brookline, Mass. Playing-cards. No. 979,642; Dec. 27; Sp. p. 4807; Gaz. vol. 161; p. 843.
Burby, John M., Astoria, N. Y., assignor of one-half to F. Muser, Chicago, Ill. Steam-trap. No. 978,842; Dec. 20; Sp. p. 3050; Gaz. vol. 161; p. 543.
Burch, Charles J., Lena, Ind., assignor of one-half to G. Hitesman, Mattoon, Ill. Metallic railway-tie and fastener. No. 980,058; Dec. 27; Sp. p. 5712; Gaz. vol. 161; p. 982.
Burchartz, Ferdinand, New York, N. Y. Block for building construction. No. 978,002; Dec. 6; Sp. p. 1251; Gaz. vol. 161; p. 200.
Burchartz, Ferdinand, New York, N. Y. Apparatus for making hollow building-blocks. No. 978,003; Dec. 6; Sp. p. 1253; Gaz. vol. 161; p. 201.
Burdett-Rowntree Manufacturing Company, The. (See Forman, Paris R., assignor.)
Burdick, Charles L., London, England. Stencil-cleaning device. No. 978,984; Dec. 20; Sp. p. 3381; Gaz. vol. 161; p. 594.
Burdick, Jesse R., R. T. Fulton, Boulder, Colo., and B. F. Williams, Lincoln, Nebr., assignors to the A-Theuca-Ine Medical & Manufacturing Company, Boulder, Colo. Syringe. No. 978,985; Dec. 20; Sp. p. 3382; Gaz. vol. 161; p. 595.
Burger, Pincus, New York, N. Y. Fixture. No. 978,556; Dec. 13; Sp. p. 2455; Gaz. vol. 161; p. 423.
Burger, Pincus, and B. Sakren, New York, N. Y. Soldering-iron heater. No. 980,059; Dec. 27; Sp. p. 5714; Gaz. vol. 161; p. 983.
Burhorn, Edwin, Hoboken, N. J. Cooling-tower. No 978,986; Dec. 20; Sp. p. 3384; Gaz. vol. 161; p. 595.
Burke, Alfred, Leominster, Mass. Hair-pin. No. 979,422; Dec. 27; Sp. p. 4323; Gaz. vol. 161; p. 767.
Burke, Alfred, Leominster, Mass. Buckle. No. 979,744; Dec. 27; Sp. p. 5027; Gaz. vol. 161; p. 878.
Burke Electric Company. (See Burke, James, assignor.)
Burke Electric Company. (See Faure, Elie F. G. H., assignor.)
Burke, James, Erie, Pa., assignor to Burke Electric Company. Forming coils for armature-windings. No. 979,375; Dec. 20; Sp. p. 4224; Gaz. vol. 161; p. 728.
Burkhart, Adam P., Buffalo, N. Y. Window-sash. No. 979,423; Dec. 27; Sp. p. 4324; Gaz. vol. 161; p. 767.
Burlingame, Raymond G., *et al.* (See Bayly, Harry E., assignor.)
Burney, Edward M., Chicago, Ill. Jack-screw. No. 979,424; Dec. 27; Sp. p. 4326; Gaz. vol. 161; p. 767.
Burney, John L., Carlisle, Ark. Shoe-broom. No. 977,432; Dec. 6; Sp. p. 12; Gaz. vol. 161; p. 5.
Burnham, George A., Saugus, assignor to S. B. Condit, Jr., Boston, Mass. Time-limit device for electric switches. No. 979,256; Dec. 20; Sp. p. 4011; Gaz. vol. 161; p. 690.
Burns, James A., assignor of fifty-one one-hundredths to G. D. Horning, Washington, D. C. Mechanical starting device. No. 979,257; Dec. 20; Sp. p. 4015; Gaz. vol. 161; p. 690.
Burns, John E., Minneapolis, Minn. Flooring-tool. No. 977,708; Dec. 6; Sp. p. 654; Gaz. vol. 161; p. 100.
Burns, Walter G., Fort Wayne, Ind. Puff-box. No. 978,843; Dec. 20; Sp. p. 3052; Gaz. vol. 161; p. 543.
Burroughs Adding Machine Company. (See Barrett, Edward R., assignor.)
Burroughs Adding Machine Company. (See Kilpatrick, William J., assignor.)
Burrows, Charles, Weehawken, N. J. Pen-beam. No. 979,126; Dec. 20; Sp. p. 3726; Gaz. vol. 161; p. 645.
Burson Bros. (See Burson, Harry H., assignor.)
Burson, Harry H., assignor to Burson Bros., Chicago, Ill. Studding for plaster-boards. No. 979,643; Dec. 27; Sp. p. 4809; Gaz. vol. 161; p. 844.
Burson, Harry H., assignor to Burson Bros., Chicago, Ill. Cross-brace for plaster-boards or the like. No. 979,644; Dec. 27; Sp. p. 4811; Gaz. vol. 161; p. 844.
Burt, Alonzo, Albany, assignor of one-half to V. B. Hubbell, New York, N. Y. Manufacturing billiard or pool balls. No. 979,397; Dec. 20; Sp. p. 4267; Gaz. vol. 161; p. 734.
Burton, James L., Plainville, Conn., assignor of one-half to F. A. Champlin, East Long Meadow, Mass. Electrical cut-out. No. 978,004; Dec. 6; Sp. p. 1255; Gaz. vol. 161; p. 201.
Burton, Oliver M., Chicago, Ill. Mattress and the like. No. 977,508; Dec. 6; Sp. p. 184; Gaz. vol. 161; p. 30.
Busam, Theodor, Stuttgart, Germany. Apparatus for the production of bromid-of-silver post-cards and similar copies. No. 978,126; Dec. 6; Sp. p. 1516; Gaz. vol. 161; p. 244.
Busby, Nahum J., Boston, Mass. Resilient block. No. 978,689; Dec. 13; Sp. p. 2752; Gaz. vol. 161; p. 469.
Busch, Albert, Brunswick, assignor to Firm of Bauer & Cie., Berlin, Germany. Albumen preparation for albuminoids and salts of guaiacol-sulfonic acids. No. 979,645; Dec. 27; Sp. p. 4812; Gaz. vol. 161; p. 845.
Buschek, Fred C., Chicago, Ill. Seal-lock. No. 978,690; Dec. 13; Sp. p. 2753; Gaz. vol. 161; p. 469.
Buser, Joseph J., Freedom, Pa. Diamond and stone setting tool. No. 980,060; Dec. 27; Sp. p. 5715; Gaz. vol. 161; p. 983.
Busfield, James, Haverhill, Mass. Welt-slitting machine. No. 977,851; Dec. 6; Sp. p. 935; Gaz. vol. 161; p. 148.
Bush, Hiram T., Fort Hope, Ontario, Canada. Porcelain-enameled ware. No. 980,061; Dec. 27; Sp. p. 5717; Gaz. vol. 161; p. 983.
Bush, James J., New York, N. Y. Steam-generator. No. 978,135; Dec. 13; Sp. p. 1563; Gaz. vol. 161; p. 277.
Butler, James L., Alliance, Ohio. Annealing-furnace. No. 979,425; Dec. 27; Sp. p. 4327; Gaz. vol. 161; p. 768.
Butterfield, James H., Logan, Ohio. Automatic lamp-operating mechanism for automobiles. No. 980,062; Dec. 27; Sp. p. 5718; Gaz. vol. 161; p. 984.

Buttler, William, Indianapolis, Ind. Manufacturing wire-glass. No. 980,063; Dec. 27; Sp. p. 5719; Gaz. vol. 161; p. 984.
Button, F. S., *et al.* (See Underwood, Charles W., assignor.)
Butz, William M. (See Schwanengel, Charles F., assignor.)
Byers, Jacob J., Chicago, Ill., assignor to National Malleable Castings Company, Cleveland, Ohio. Rail-anchor. No. 978,110; Dec. 6; Sp. p. 1475; Gaz. vol. 161; p. 238.
Byner, John, New York, N. Y. Combination pool and billiard table. No. 980,142; Dec. 27; Sp. p. 5914; Gaz. vol. 161; p. 1010.
Byron, David B., Philadelphia, Pa. Device for supporting washbasins. No. 979,127; Dec. 20; Sp. p. 3727; Gaz. vol. 161; p. 645.
C. B. Cottrell & Sons Company. (See Barber, Howard M., assignor.)
C. B. Cottrell and Sons Company. (See Upham, Burt F., assignor.)
C. P. Power Company. (See Noyes, Edward P., assignor.)
C. T. Ham Manufacturing Company. (See Bergener, Charles, assignor.)
Cabinet Vending Co. (See Sencindiver, Judson H., assignor.)
Cafferty, Theron S., Union, N. Y., and J. F. Markle, Chanute, Kans. Ballast-dresser. No. 978,691; Dec. 13; Sp. p. 2754; Gaz. vol. 161; p. 469.
Cain, Leroy, Caledonia, Mich. Automatic fire-alarm. No. 979,376; Dec. 20; Sp. p. 4225; Gaz. vol. 161; p. 728.
Cais, Frank. (See Tran and Cais.)
Calhoun, Van C., Paris, Ark. Automatic car-dumper. No. 978,844; Dec. 20; Sp. p. 3054; Gaz. vol. 161; p. 544.
Callahan, Edward J., Salt Lake City, Utah. Briquet and making the same. No. 979,258; Dec. 20; Sp. p. 4017; Gaz. vol. 161; p. 691.
Callahan, William H., Utica, N. Y. Adding-machine. No. 978,111; Dec. 6; Sp. p. 1476; Gaz. vol. 161; p. 238.
Callan, Charles G., Chamberlain, Saskatchewan, Canada. Toothed bar for threshing cylinders and concaves. No 978,692; Dec. 13; Sp. p. 2755; Gaz. vol. 161; p. 470.
Cameragraph Company, The. (See Ellis, Calvin J., assignor.)
Campbell, Argyle, assignor to Enterprise Railway Equipment Company, Chicago, Ill. Dump-car. No. 977,433; Dec. 6; Sp. p. 13; Gaz. vol. 161; p. 5.
Campbell, Charles E., *et al.* (See Wilkins, Albert A., assignor.)
Campbell, Frederick R., *et al.* (See Wilkins, Albert A., assignor.)
Campbell, William R., Charleston, S. C. Shoe-polish bottle. No. 979,377; Dec. 20; Sp. p. 4226; Gaz. vol. 161; p. 728.
Cannan, James R. (See Kindlespire and Cannan.)
Cannon, Corodon S., Battle Creek, Mich. Blue-flame oil-stove. No. 979,646; Dec. 27; Sp. p. 4814; Gaz. vol. 161; p. 845.
Canton Culvert Company, The. (See Schlafly, Julius H., assignor.)
Capron, Seth A., Westfield, Mass. Apparatus for washing sand and like material. No. 978,693; Dec. 13; Sp. p. 2757; Gaz. vol. 161; p. 470.
Carbonating Company of America, The. (See Murphy, John C., assignor.)
Carbonell, Ramón T., Barcelona, Spain. Machine for the production of jacquard-cards. No. 979,128; Dec. 20; Sp. p. 3730; Gaz. vol. 161; p. 646.
Carborundum Company, The. (See Higgins, Francis W., assignor.)
Carborundum Company, The. (See Tone, Frank J., assignor.)
Carey, Charles W., assignor to Carey Manufacturing Company, Chicago, Ill. Bottle-capping device. No. 979,378; Dec. 20; Sp. p. 4227; Gaz. vol. 161; p. 728.
Carey Manufacturing Company. (See Carey, Charles W., assignor.)
Carlen, John, Havana, N. D. Concrete-mold. No. 978,845; Dec. 20; Sp. p. 3055; Gaz. vol. 161; p. 544.
Carleton, Charles T., Portales, N. Mex. Yoke for cattle. No. 977,928; Dec. 6; Sp. p. 1099; Gaz. vol. 161; p. 175.
Carlisle, Thomas F., Providence, R. I., assignor to The Improved Seamless Wire Company. Making seamless wire. No. 978,846; Dec. 20; Sp. p. 3056; Gaz. vol. 161; p. 544.
Carlisle, Thomas F., Providence, R. I., assignor to The Improved Seamless Wire Company. Wire for ornamental chains. No. 978,847; Dec. 20; Sp. p. 3057; Gaz. vol. 161; p. 544.
Carll, Addison B., Mobile, Ala. Adjustable tap. No. 978,005; Dec. 6; Sp. p. 1257; Gaz. vol. 161; p. 201.
Carmer, James R., Wilmington, Del. Hand brake mechanism. No. 979,379; Dec. 20; Sp. p. 4228; Gaz. vol. 161; p. 729.
Carnahan, J. Worth, *et al.* (See Berntson, Thomas, assignor.) (Reissue.)
Carnegie Steel Company. (See Wales, Samuel S., assignor.)
Carpenter, Henry L., Minneapolis, Minn. Garter. No. 979,426; Dec. 27; Sp. p. 4329; Gaz. vol. 161; p. 768.
Carr, William C., Buffalo, N. Y. Transportation system. No. 978,112; Dec. 6; Sp. p. 1482; Gaz. vol. 161; p. 239.
Carrère, Joseph M., assignor to Blanc Stainless Cement Company, Allentown, Pa. Making Portland cement. No. 978,848; Dec. 20; Sp. p. 3058; Gaz. vol. 161; p. 544.
Carrick, John A., Georgetown, Ky. Muffler. No. 980,064; Dec. 27; Sp. p. 5720; Gaz. vol. 161; p. 984.
Carrier, Carlos E., Bernalillo, N. Mex. Wire-band stretcher and cutter. No. 978,694; Dec. 13; Sp. p. 2758; Gaz. vol. 161; p. 470.
Carroll, George P., Bridgeport, Conn. Automatic absorption refrigerating system. No. 978,557; Dec. 13; Sp. p. 2456; Gaz. vol. 161; p. 423.
Carroll, James, assignor of one-half to G. I. Kendrick, Pittsfield, Ill. Gate or door latch. No. 978,558; Dec. 13; Sp. p. 2483; Gaz. vol. 161; p. 424.
Carroll, Thomas, assignor, by mesne assignments, to The National Cash Register Company, Dayton, Ohio. Cash-register. No. 977,509; Dec. 6; Sp. p. 186; Gaz. vol. 161; p. 31.
Carson, Andrew C., *et al.* (See Bailey, Seth G., assignor.)
Carter-Crume Company. (See Bailey, William T., assignor.)
Carter, George H., New York, N. Y. Fountain-pen. No. 979,427; Dec. 27; Sp. p. 4331; Gaz. vol. 161; p. 768.
Cartwright, Zachariah, Ilford, England. Obtaining solutions or quasi solutions of certain metallic oxids. No. 980,148; Dec. 27; Sp. p. 5916; Gaz. vol. 161; p. 1010.
Casey-Hedges Company, The. (See Bauer and Stimmel, assignors.)
Cass, Christopher P., Maplewood, Mo., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa. Combined automatic and independent brake. No. 979,929; Dec. 27; Sp. p. 5434; Gaz. vol. 161; p. 939.
Cassan, Robert J., Minneapolis, Minn. Horse-collar fastener. No. 978,006; Dec. 6; Sp. p. 1258; Gaz. vol. 161; p. 202.
Castle Braid Company. (See Schloss and Hawley, assignors.)
Catlin, Abel D., Chattanooga, Tenn. Woodworking-machine. No. 979,824; Dec. 27; Sp. p. 5216; Gaz. vol. 161; p. 905.
Catton, Arthur W. and C. W., West Seattle, Wash. Regenerative furnace. No. 979,647; Dec. 27; Sp. p. 4817; Gaz. vol. 161; p. 845.
Catton, Charles W. (See Catton, Arthur W. and C. W.)
Catucci, Pliny, Newark, N. J., assignor, by mesne assignments, to The Meisselbach-Catucci Manufacturing Company. Hobbing gear-cutter. No. 978,113; Dec. 6; Sp. p. 1483; Gaz. vol. 161; p. 240.
Caughrean, George H., assignor of one-sixth to A. J. Dunton and one-sixth to H. T. Dobson, Ketchikan, Alaska. Signaling apparatus. No. 978,695; Dec. 13; Sp. p. 2760; Gaz. vol. 161; p. 470.
Causey, Francis F. (See Cosby, Oscar G., assignor.)
Cavanagh, Daniel F. (See Cavanagh, Eugene M. and D. F.)
Cavanagh, Eugene M. and D. F., assignors to New York Scaffolding Co., New York, N. Y. Scaffold-support. No. 978,823; Dec. 13; Sp. p. 3010; Gaz. vol. 161; p. 511.
Cawley, Martin H., Epworth, N. D. Automatic carrier. No. 977,929; Dec. 6; Sp. p. 1101; Gaz. vol. 161; p. 175.
Cazier, Marion H., and A. P. Dike, Chicago, Ill. Trousers-hanger. No. 977,594; Dec. 6; Sp. p. 410; Gaz. vol. 161; p. 60.
Cazier, Perry H., Nashville, Mich. Lumber-piler. No. 977,434; Dec. 6; Sp. p. 14; Gaz. vol. 161; p. 6.
Cedergren, Fred, assignor of one-half to F. S. Betz, Hammond, Ind. Sinusoidal-wave-current apparatus. No. 979,060; Dec. 20; Sp. p. 3542; Gaz. vol. 161; p. 620.
Century Telephone Construction Company. (See Sweet, Burton W., assignor.)
Chadeloid Chemical Company. (See Ellis, Carleton, assignor.)
Chaille, Lee, Butlerville, Ind. Lawn-mower sharpener. No. 978,356; Dec. 13; Sp. p. 2030; Gaz. vol. 161; p. 354.
Chamness, Frank, and J. P. Kriegbaum, Huntington, Ind. Electrically-operated switch. No. 977,595; Dec. 6; Sp. p. 412; Gaz. vol. 161; p. 61.
Champ, Joseph H., Cleveland, Ohio. Bottling-machine. No. 979,745; Dec. 27; Sp. p. 5028; Gaz. vol. 161; p. 878.
Champion, Samuel K. (See Rickman, Robert L., assignor. (Reissue.)
Champlin, Frank A. (See Burton, James L., assignor.)
Chandler, Edgar C., Philadelphia, Pa. Pattern device for knitting-machines. No. 977,852; Dec. 6; Sp. p. 939; Gaz. vol. 161; p. 148.
Chandler, Edwin N., Brockton, assignor to Simplex Electric Heating Company, Boston, Mass. Edge setter and finisher. No. 977,510; Dec. 6; Sp. p. 201; Gaz. vol. 161; p. 31.
Chandler, Howard B., and J. A. Fleet, Portland, Me. Electric-lamp socket. No. 979,428; Dec. 27; Sp. p. 4333; Gaz. vol. 161; p. 769.
Chanut, Léon H., Aubervilliers, France, assignor, by mesne assignments, to Asia Rubber Company of America. Separating rubber or rubber-like substances and resins from materials containing the same. No. 978,696; Dec. 13; Sp. p. 2761; Gaz. vol. 161; p. 471.
Chapman, Archie, Pleasantville, Ohio. Crude-oil burner. No. 979,259; Dec. 20; Sp. p. 4018; Gaz. vol. 161; p. 691.
Chapman, Thomas A., Crigiersville, Va., assignor of one-third to J. A. Strother, Welch, W. Va. Rail-joint. No. 980,065; Dec. 27; Sp. p. 5722; Gaz. vol. 161; p. 984.
Charles Boldt Company, The. (See Taylor, Thomas H., assignor.)
Charles E. Reed & Company. (See Reed, Charles E., assignor.)
Charles J. Tagliabue Manufacturing Co. (See Roesch, Alfred, assignor.)
Chase Foundry and Manufacturing Company, The. (See Chase, Sherwood M., assignor.)

Chase, Frank H., Chicago, Ill. Stamp-cabinet. No. 978,560; Dec. 13; Sp. p. 2487; Gaz. vol. 161; p. 425.
Chase, Frank H., assignor to Standard Earth Auger Company, Chicago, Ill. Earth-auger. No. 978,550; Dec. 13; Sp. p. 2486; Gaz. vol. 161; p. 424.
Chase, Sherwood M., assignor to The Chase Foundry and Manufacturing Company, Columbus, Ohio. Adjustable journal-box for trucks. No. 979,648; Dec. 27; Sp. p. 4819; Gaz. vol. 161; p. 846.
Chatwell, Edward I., Weatherford, Tex. Jack. No. 977,596; Dec. 6; Sp. p. 413; Gaz. vol. 161; p. 61.
Cheatham Electric Switching Device Company. (See Olmsted, Elmer S., assignor.)
Chellis, Eugene D., assignor to National Metal Seal Company, Portland, Me. Closure for containing vessels. No. 978,432; Dec. 13; Sp. p. 2191; Gaz. vol. 161; p. 380.
Chemische Fabrik auf Actien (vorm. E. Schering). (See Rehlinder, Paul, assignor.)
Chenery, William E. (See Brown and Chenery.)
Cheney, Herbert N., Boston, Mass. Appliance for controlling the making of water-gas. No. 978,268; Dec. 13; Sp. p. 1852; Gaz. vol. 161; p. 324.
Cherry, Peterson H., Los Angeles, Cal. Fume-producing device. No. 978,561; Dec. 13; Sp. p. 2490; Gaz. vol. 161; p. 425.
Chester, Christian L., Belle Vernon, Pa. Window appliance. No. 977,930; Dec. 6; Sp. p. 1104; Gaz. vol. 161; p. 176.
Chicago Railway Equipment Company. (See Harrison, Philip B., assignor.)
Chicago Railway Equipment Company. (See Haskell, Broderick, assignor.)
Chicago Railway Equipment Company. (See Williams, Charles H., Jr., assignor.)
Chipperfield, Walter, Romford, England. Inking device. No. 979,649; Dec. 27; Sp. p. 4820; Gaz. vol. 161; p. 846.
Choate, Charles N., Woodstock, Ontario, Canada, assignor of one-half to F. E. Van Atta, Pontiac, Mich. Churn. No. 978,562; Dec. 13; Sp. p. 2493; Gaz. vol. 161; p. 426.
Christensen, Christian P., Copenhagen, Denmark. Color photography. No. 979,129; Dec. 20; Sp. p. 3736; Gaz. vol. 161; p. 647.
Christie, Evi W., Sewaren, and T. Roberts, Roselle Park, N. J., assignors to Wheeler Condenser and Engineering Company, Carteret, N. J. Condenser. No. 978,607; Dec. 13; Sp. p. 2763; Gaz. vol. 161; p. 471.
Christman, Philip D., Bryan, Ohio. Detachable strap-tightener. No. 978,357; Dec. 13; Sp. p. 2031; Gaz. vol. 161; p. 354.
Chriswell, Frederick W., assignor to Seattle Car Manufacturing Company, Seattle, Wash. Logging-car bunk and block. No. 979,650; Dec. 27; Sp. p. 4824; Gaz. vol. 161; p. 846.
Chronik, August and L., New York, N. Y. Film-perforating machine. No. 979,429; Dec. 27; Sp. p. 4334; Gaz. vol. 161; p. 769.
Chronik, Louis. (See Chronik, August and L.)
Church, Herbert E., and W. V. Cowden, Afton, N. Y. Window-bead fastener and the like. No. 979,430; Dec. 27; Sp. p. 4336; Gaz. vol. 161; p. 760.
Church, Lewis H., assignor to The Standard Electric Fittings Company, Stamford, Conn. Electric-cable connection. No. 979,651; Dec. 27; Sp. p. 4827; Gaz. vol. 161; p. 847.
Church, Lewis H., assignor to The Standard Electric Fittings Company, Stamford, Conn. Gas connection for outlet-boxes. No. 979,652; Dec. 27; Sp. p. 4829; Gaz. vol. 161; p. 847.
Cincinnati Ball Crank Company, The. (See Wessel, Louis, assignor.)
Cincinnati Bickford Tool Company, The. (See Schauer and Brockardt, assignors.)
Cincinnati Cooperage Company, The. (See Hall, William A., assignor.)
Cincinnati Frog and Switch Company, The. (See Partington, Charles, assignor.)
Claessen, Conrad H. H., Berlin, Germany, assignor to E. I. du Pont de Nemours Powder Company, Wilmington, Del. Nitrocellulose gunpowder. No. 979,431; Dec. 27; Sp. p. 4338; Gaz. vol. 161; p. 770.
Claflin, Alan A. (See Hartshorn and Claflin.)
Claflin, Otto H., Berea, Ohio. Potato-digging machine. No. 979,432; Dec. 27; Sp. p. 4338; Gaz. vol. 161; p. 770.
Clapin, Louis P. (See Bouilliard, Victor A., assignor.)
Clapp, Arthur B. (See Clapp, George W., assignor.)
Clapp, George W., New York, N. Y., assignor to A. B. Clapp, Brattleboro, Vt. Smoking-pipe. No. 977,781; Dec. 6; Sp. p. 797; Gaz. vol. 161; p. 124.
Claridge, William A. (See Cram and Claridge.)
Clark, Charles M. (See Shallenberger, Charles S., assignor.)
Clark, Ernest M. (See Sheesley, Howard M., assignor.)
Clark, Maurice C., assignor to Maurice C. Clark Company, Providence, R. I. Rubber footwear. No. 980,173; Dec. 27; Sp. p. 5093; Gaz. vol. 161; p. 1020.
Clark, Norris E., Plainville, Conn. Expanded-metal manufacture. No. 979,130; Dec. 20; Sp. p. 3736; Gaz. vol. 161; p. 647.
Clay, C. M. (See Hannold, Ed J., assignor.)
Clay, Cassius M., Mexico, Mo. Gasket for hose-couplings. No. 979,433; Dec. 27; Sp. p. 4340; Gaz. vol. 161; p. 770.
Clay, Fred, assignor of one-half to G. Haehnle, Cincinnati, Ohio. Nut-lock. No. 978,698; Dec. 13; Sp. p. 2766; Gaz. vol. 161; p. 472.
Clay, Willim F., Willis, Tex. Well-bucket strainer. No. 979,380; Dec. 20; Sp. p. 4230; Gaz. vol. 161; p. 729.
Clayton, James, Coventry, assignor to Samuel Courtauld and Co., Limited, London, England. Apparatus for use in the manufacture of artificial-silk and like threads. No. 979,434; Dec. 27; Sp. p. 4341; Gaz. vol. 161; p. 770.
Cleal, Joseph P., Toronto, Ontario, Canada, assignor to The National Cash Register Company, Dayton, Ohio. Cash-register. No. 977,511; Dec. 6; Sp. p. 202; Gaz. vol. 161; p. 31.
Cleveland Aeroplane Co. (See Anderson and Brockway, assignors.)
Clevenger, Isaac C., Buchanan, Mich. Ladder. No. 977,853; Dec. 6; Sp. p. 944; Gaz. vol. 161; p. 149.
Cline, Daniel, Patoka, Ind. Railway-tie. No. 977,512; Dec. 6; Sp. p. 206; Gaz. vol. 161; p. 32.
Clinton, Elbert, Hamden, Conn. Cranking device for internal-combustion engines. No. 977,931; Dec. 6; Sp. p. 1106; Gaz. vol. 161; p. 176.
Coats, Louis L., Bingham, Utah. Car and engine replacer. No. 979,131; Dec. 20; Sp. p. 3738; Gaz. vol. 161; p. 647.
Codd, Mortimer A., London, England. Operation of signal-horns. No. 979,061; Dec. 20; Sp. p. 3545; Gaz. vol. 161; p. 620.
Coe, Harrison S., Palo Alto, Cal. Miner's and assayer's scale. No. 977,513; Dec. 6; Sp. p. 207; Gaz. vol. 161; p. 32.
Cohen, Jacob G., New York, N. Y. Combined envelop, remittance-sheet, and check. No. 977,782; Dec. 6; Sp. p. 800; Gaz. vol. 161; p. 124.
Colby, Willis H., near Chattanooga, Tenn. Tool-chest. No. 978,358; Dec. 13; Sp. p. 2033; Gaz. vol. 161; p. 354.
Cole, Francis J., New York, N. Y. Steam-boiler superheater. No. 978,987; Dec. 20; Sp. p. 3387; Gaz. vol. 161; p. 596.
Cole, George W., Englewood, N. J. Closure for receptacles. No. 977,932; Dec. 6; Sp. p. 1107; Gaz. vol. 161; p. 177.
Coleman, John W., Madrid, Iowa. Windmill. No. 978,433; Dec. 13; Sp. p. 2192; Gaz. vol. 161; p. 380.
Coleman, Lewis A., assignor of one-third to R. H. Gregory, Norfolk, Va. Mortise-lock. No. 977,783; Dec. 6; Sp. p. 801; Gaz. vol. 161; p. 124.
Coleman, Samuel H., assignor of one-half to L. B. Fenton, Villisca, Iowa. Well-boring machine. No. 978,699; Dec. 13; Sp. p. 2768; Gaz. vol. 161; p. 472.
Collette, Clarence C., *et al.* (See Morrison, Augustus H., assignor.)
Collier, Henry B., Prairie Grove, Ark. Automatic burglar-alarm. No. 978,269; Dec. 13; Sp. p. 1854; Gaz. vol. 161; p. 324.
Collier, Henry B., Prairie Grove, Ark. Circuit-closer. No. 978,849; Dec. 20; Sp. p. 3061; Gaz. vol. 161; p. 545.
Collier, Horace S., London, England. Invalid and like bed. No. 979,260; Dec. 20; Sp. p. 4019; Gaz. vol. 161; p. 691.
Collins Axle and Manufacturing Company. (See Collins, Dennis P., assignor.)
Collins, Clay C., Whiting, Ind. Rail-joint. No. 977,514; Dec. 6; Sp. p. 210; Gaz. vol. 161; p. 32.
Collins, Dennis P., assignor to Collins Axle and Manufacturing Company, Pittsburg, Pa. Speed-changing and transmission gearing. No. 978,700; Dec. 13; Sp. p. 2771; Gaz. vol. 161; p. 473.
Collins, George F. (See Overmyer, Charles G., assignor.)
Collins, Hugh. (See Collins, Joseph B., assignor.)
Collins, Joseph B., assignor of one-half to H. Collins, San Jose, Cal. Dish. No. 980,066; Dec. 27; Sp. p. 5723; Gaz. vol. 161; p. 985.
Collins Plow Company. (See Brown, John W., assignor.)
Colosimo, Antonio, New Britain, Conn. Lock. No. 979,825; Dec. 27; Sp. p. 5218; Gaz. vol. 161; p. 905.
Comfort, Edward W., Pensauken township, Camden county, N. J., assignor to Warren Webster & Company. Humidity-regulator. No. 977,933; Dec. 6; Sp. p. 1100; Gaz. vol. 161; p. 177.
Commonwealth Steel Company. (See Westlake and Frede, assignors.)
Compton, George B., St. Louis, Mo. Dummy advertising-package. No. 979,261; Dec. 20; Sp. p. 4021; Gaz. vol. 161; p. 691.
Comstock, Charles, West Stockbridge, Mass. Vacuum steam-engine. No. 979,435; Dec. 27; Sp. p. 4344; Gaz. vol. 161; p. 771.
Condit, S. B., Jr. (See Burnham, George A., assignor.)
Conery, Arthur F., Jr., Newark, N. J. Soap article. No. 979,381; Dec. 20; Sp. p. 4231; Gaz. vol. 161; p. 729.
Confectioners and Bakers Supply Co. (See Dickson, George F., assignor.)
Confectioners' Machinery & Manufacturing Company, The. (See Kihlgren, David, assignor.)
Connell, William F., New York, N. Y. Instep-support. No. 979,930; Dec. 27; Sp. p. 5439; Gaz. vol. 161; p. 939.
Connelly, Patrick F., El Reno, Okla. Adjustable tool. No. 980,067; Dec. 27; Sp. p. 5724; Gaz. vol. 161; p. 985.
Connor, James E., Gillespie, Ill. Irrigation-tile. No. 977,435; Dec. 6; Sp. p. 16; Gaz. vol. 161; p. 6.
Conrader, Rudolph, Erie, Pa. Apparatus for actuating liquids. No. 979,746; Dec. 27; Sp. p. 5031; Gaz. vol. 161; p. 878.
Consolidated Fire Alarm Company. (See Dean, William W., assignor.)
Convis, Vernon B., Toronto, Ontario, Canada. Steam-trap. No. 978,701; Dec. 13; Sp. p. 2774; Gaz. vol. 161; p. 473.
Cook, Eugene. (See Hargle, Thomas, assignor.)

Cook, Herbert F., Colorado Springs, Colo. Window-shade and lace-curtain support. No. 978,114; Dec. 6; Sp. p. 1492; Gaz. vol. 161; p. 240.
Cook, Walter B., Medicine Hat, Alberta, Canada. Vehicle-spring fastener. No. 977,934; Dec. 6; Sp. p. 1113; Gaz. vol. 161; p. 178.
Cook, William A., South Bend, Ind. Loader for cement-mixers. No. 978,136; Dec. 13; Sp. p. 1565; Gaz. vol. 161; p. 278.
Cooke, John G., Chloride, Ariz. Motor-cooling system. No. 980,068; Dec. 27; Sp. p. 5725; Gaz. vol. 161; p. 985.
Cooney, Sebern A., assignor of one-half to John A. Roebling's Sons Co., Trenton, N. J. Conveyer-bucket. No. 979,653; Dec. 27; Sp. p. 4830; Gaz. vol. 161; p. 847.
Coonradt, Lester I., Oakland, Cal. Sprinkler. No. 979,382; Dec. 20; Sp. p. 4234; Gaz. vol. 161; p. 730.
Cooper, Augustus S., Los Olivos, Cal. Cementing wells. No. 978,359; Dec. 13; Sp. p. 2036; Gaz. vol. 161; p. 355.
Cooper, G. L. (See Nazor, Arthur U., assignor.)
Cooper Hewitt Electric Company. (See Thomas, Percy H., assignor.)
Cooper, Mary I., Hockley, England. Box for packing electric incandescent lamps. No. 977,935; Dec. 6; Sp. p. 1115; Gaz. vol. 161; p. 178.
Cooper, William, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. System of operation for alternating-current motors and generators. No. 977,597; Dec. 6; Sp. p. 414; Gaz. vol. 161; p. 61.
Cooper, William, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Electrical equalizer system. No. 977,598; Dec. 6; Sp. p. 417; Gaz. vol. 161; p. 61.
Cooper, William, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Alternating-current generator and motor system. No. 977,784; Dec. 6; Sp. p. 804; Gaz. vol. 161; p. 125.
Coopersmith, Rudolph, St. Louis, Mo. Sofa-bedstead. No. 978,270; Dec. 13; Sp. p. 1856; Gaz. vol. 161; p. 325.
Copeland, Charles C., New York, N. Y., and F. M. Bennet, East Orange, N. J. Bed sheet and sheeting. No. 977,936; Dec. 6; Sp. p. 1115; Gaz. vol. 161; p. 178.
Coram, John C., Lowell, Mass. Machine for winding cones and tubes. No. 980,069; Dec. 27; Sp. p. 5727; Gaz. vol. 161; p. 985.
Corbin, Julian E., Alameda, Cal. Vacuum supporting device. No. 979,436; Dec. 27; Sp. p. 4352; Gaz. vol. 161; p. 771.
Cork, William W., Caton, assignor of one-half to E. C. Kimball, Paxton, S. D. Car-door. No. 979,654; Dec. 27; Sp. p. 4833; Gaz. vol. 161; p. 848.
Cornine, Marshall, New York, N. Y. Index. No. 979,437; Dec. 27; Sp. p. 4352; Gaz. vol. 161; p. 771.
Cosby, Oscar G., assignor of forty-nine one-hundredths to F. F. Causey, Hampton, Va. Bearing. No. 978,115; Dec. 6; Sp. p. 1494; Gaz. vol. 161; p. 241.
Costa, Louis A. (See Landis and Costa.)
Cota, Daniel E., assignor of one-half to J. Fischer, Boston, Mass. Rotary engine. No. 979,262; Dec. 20; Sp. p. 4022; Gaz. vol. 161; p. 692.
Cote, Francois X., Biddeford, Me. Comb-cleaner. No. 979,747; Dec. 27; Sp. p. 5049; Gaz. vol. 161; p. 879.
Cotton Harvester Company, The. (See Patterson, Warren A., assignor.)
Cottrell, Thomas M., assignor to P. Nielsen and F. E. Peterson, Chicago, Ill. Sheet-music turner. No. 977,785; Dec. 6; Sp. p. 806; Gaz. vol. 161; p. 125.
Courtauld and Co., Samuel. (See Clayton, James, assignor.)
Courtney, Dana S., Chicopee, Mass. Machine for applying split rings on the butts of bobbins. No. 979,438; Dec. 27; Sp. p. 4355; Gaz. vol. 161; p. 772.
Cowan, Harry I., Boston, Mass., assignor to The Meriden Optical Manufacturing Company, Meriden, Conn. Bifocal testing-frame. No. 980,070; Dec. 27; Sp. p. 5734; Gaz. vol. 161; p. 986.
Cowden, Walter V. (See Church and Cowden.)
Cowles, Arthur B., Rochester, N. Y. Box-folding machine. No. 978,702; Dec. 13; Sp. p. 2775; Gaz. vol. 161; p. 473.
Cowley, James T., Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Pneumatic-despatch-tube apparatus. No. 978,271; Dec. 13; Sp. p. 1858; Gaz. vol. 161; p. 325.
Cowley, James T., Boston, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Pneumatic-despatch-tube apparatus. No. 978,272; Dec. 13; Sp. p. 1860; Gaz. vol. 161; p. 326.
Cowley, William M., Richfield, Utah. Gypsum-block-making machine. No. 980,144; Dec. 27; Sp. p. 5019; Gaz. vol. 161; p. 1010.
Cowper-Coles, Sherard O., Westminster, London, assignor of one-half to Metalloids Limited, Tipton, England. Scaling, annealing, and coating metals. No. 979,931; Dec. 27; Sp. p. 5440; Gaz. vol. 161; p. 940.
Cox Multi-Mailer Company. (See Cox, Sandford C., assignor.)
Cox, Sandford C., Edison Park, Ill., assignor to Cox Multi-Mailer Company, Augusta, Me. Folding and wrapping machine. No. 979,439; Dec. 27; Sp. p. 4359; Gaz. vol. 161; p. 772.
Cracraft-Leich Electric Co. (See Leich, Oscar M., assignor.)
Craig, David, Melrose, Mass., assignor to The David Craig Company. Reinforcement screw-bore. No. 977,709; Dec. 6; Sp. p. 655; Gaz. vol. 161; p. 100.
Craig, David, Melrose, Mass., assignor to The David Craig Company. Means for securing bolts in bodies of hardened plastic material. No. 977,710; Dec. 6; Sp. p. 656; Gaz. vol. 161; p. 100.
Crain, Benjamin. (See Crain, Rollie and B.)
Crain, Rollie and B., Marion, Ill. Self-feeder and band cutter for threshing-machines. No. 977,599; Dec. 6; Sp. p. 424; Gaz. vol. 161; p. 62.
Cram, Alonzo W., and W. A. Claridge, Haverhill, Mass. Water-cooler. No. 979,440; Dec. 27; Sp. p. 4364; Gaz. vol. 161; p. 772.
Cramer, John L., Crystal, Mich. Babbitting worn vehicle spindles. No. 980,071; Dec. 27; Sp. p. 5736; Gaz. vol. 161; p. 986.
Cramer, William H., Ottawa, Kans. Lawn-mower reel. No. 980,072; Dec. 27; Sp. p. 5737; Gaz. vol. 161; p. 986.
Crandall, Charles F., Ilion, N. Y., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine. (Reissue.) No. 13,135; Dec. 27; Sp. p. 6004; Gaz. vol. 161; p. 1022.
Crane Company. (See Olson, Charles A., assignor.)
Crane, Nelson H., McIndoe Falls, Vt. Lock. No. 978,273; Dec. 13; Sp. p. 1862; Gaz. vol. 161; p. 326.
Crane, Raymond E., Cameron, W. Va. Push-lever. for water-closet tanks. No. 977,937; Dec. 6; Sp. p. 1118; Gaz. vol. 161; p. 179.
Crane, Robert R., Menominee, Mich. Car-step. No. 978,563; Dec. 13; Sp. p. 2494; Gaz. vol. 161; p. 426.
Craven Engineering Company. (See Craven, James F., assignor.)
Craven, James F., Pittsburg, Pa. Electric welding. No. 977,711; Dec. 6; Sp. p. 658; Gaz. vol. 161; p. 101.
Craven, James F., assignor to Craven Engineering Company, Pittsburg, Pa. Grease-cup. No. 979,826; Dec. 27; Sp. p. 5219; Gaz. vol. 161; p. 905.
Craven, Macdonough. (See Rutherfurd and Craven.)
Crawford, Charles W., Cincinnati, Ohio. Driving mechanism. No. 979,441; Dec. 27; Sp. p. 4366; Gaz. vol. 161; p. 773.
Crawford, George S., assignor of one-half to R. R. Reed, McKeesport, Pa. Puncture-proof guard for pneumatic tires. No. 978,274; Dec. 13; Sp. p. 1864; Gaz. vol. 161; p. 327.
Crawford, Harry M., assignor to W. Stetson, trustee, Boston, Mass. Window-fastener. No. 977,854; Dec. 6; Sp. p. 945; Gaz. vol. 161; p. 149.
Crawford, James M., Bentonville, Ind. Indicator for perpetual calendars. No. 979,655; Dec. 27; Sp. p. 4833; Gaz. vol. 161; p. 848.
Crawford, John L., Emory Gap, Tenn. Motor-boat. No. 979,383; Dec. 20; Sp. p. 4237; Gaz. vol. 161; p. 730.
Creelman, Frank, New York, N. Y., assignor to The Wilson Carbide Works Company of St. Catharines, Limited, St. Catherines, Canada. Apparatus for electric smelting. No. 978,137; Dec. 13; Sp. p. 1567; Gaz. vol. 161; p. 278.
Crewson, Charles C. (See Crewson, Evander A. and C. C.)
Crewson, Evander A., Versailles, and C. C. Crewson, Kansas City, Mo. Door latch and lock mechanism. No. 978,275; Dec. 13; Sp. p. 1866; Gaz. vol. 161; p. 327.
Cripps, Alfred G., assignor to Prudential Heating Company, Akron, Ohio. Heating-boiler. No. 977,786; Dec. 6; Sp. p. 809; Gaz. vol. 161; p. 125.
Crismon, John L., Eagle, Colo. Ditching-machine. No. 979,442; Dec. 27; Sp. p. 4368; Gaz. vol. 161; p. 773.
Crocker Chair Company. (See Knilans, William A., assignor.)
Cromley, Charles D., Alameda, assignor to Automatic Packing Company, San Francisco, Cal. Bag-sewing machine. No. 978,850; Dec. 20; Sp. p. 3063; Gaz. vol. 161; p. 545.
Crosby, Jacob E., assignor of one-half to C. H. Lanne, Springfield, Ohio. Machine for turning gloves, mittens, and the like. No. 978,434; Dec. 13; Sp. p. 2194; Gaz. vol. 161; p. 380.
Crosby, William H., Pittsburg, Pa. Carpenter's plane. No. 978,360; Dec. 13; Sp. p. 2038; Gaz. vol. 161; p. 355.
Cross, Andrew J., New York, N. Y. Skiascope. No. 978,276; Dec. 13; Sp. p. 1868; Gaz. vol. 161; p. 328.
Cross, Andrew J., New York, N. Y. Eye-testing device. No. 978,277; Dec. 13; Sp. p. 1869; Gaz. vol. 161; p. 328.
Crossland, George, Watertown, assignor to G. H. Brigham, Amesbury, Mass. Cutting pile-wire. No. 978,116; Dec. 6; Sp. p. 1496; Gaz. vol. 161; p. 241.
Crouse-Hinds Company. (See Van Ranst, Samuel B., assignor.)
Crowson, Edward J., Holyoke, Mass. Cylinder-drier. No. 979,827; Dec. 27; Sp. p. 5221; Gaz. vol. 161; p. 906.
Crowther, William E., New Brighton, England. Twist-drill-grinding tie. No. 978,851; Dec. 20; Sp. p. 3066; Gaz. vol. 161; p. 545.
Crozier, Lester A., Lynn, Mass. Ball-puzzle. No. 977,606; Dec. 6; Sp. p. 429; Gaz. vol. 161; p. 63.
Crump, William R., Collinsville, Tex. Window-sash. No. 977,712; Dec. 6; Sp. p. 659; Gaz. vol. 161; p. 101.
Culley, Albert E. (See Murphy and Culley.)
Cullon, John P. (See Irwin, Cullon, and Knowlson.)
Culy, Jacob, Drain, Oreg. Non-clogging salt-shaker. No. 979,263; Dec. 20; Sp. p. 4027; Gaz. vol. 161; p. 692.
Cummings, Robert A., Beaver, Pa. Reinforced arch, bridge or viaduct. No. 978,361; Dec. 13; Sp. p. 2039; Gaz. vol. 161; p. 356.
Cunningham, John, Easton, Ill. Plow draft device. No. 977,436; Dec. 6; Sp. p. 17; Gaz. vol. 161; p. 6.

Cunningham, John F., Springfield, Mo. Force-pump. No. 978,852; Dec. 20; Sp. p. 3069; Gaz. vol. 161; p. 546.
Cunningham, Malcolm, Savannah, Ga. Medicine-dose dropper. No. 978,988; Dec. 20; Sp. p. 3390; Gaz. vol. 161; p. 596.
Cunningham, Richard, and M. Friar, Blanchard, N. D. Plow. No. 978,564; Dec. 13; Sp. p. 2496; Gaz. vol. 161; p. 426.
Custz, Johannes H., Hoboken, N. J. Electric cable. No. 977,713; Dec. 6; Sp. p. 660; Gaz. vol. 161; p. 101.
Curran, William F., Coloma, Wis. Cable angle-support. No. 979,932; Dec. 27; Sp. p. 5441; Gaz. vol. 161; p. 940.
Curran, Amos, Rich Hill, Mo. Wire-stretcher. No. 978,989; Dec. 20; Sp. p. 3392; Gaz. vol. 161; p. 597.
Curtain Supply Company. (See Keeler, Herbert E., assignor.)
Curtis & Company Manufacturing Company. (See Steedman, George F., assignor.)
Curtiss, Bert, Ypsilanti, Mich. Finger-moistener. No. 978,703; Dec. 13; Sp. p. 2784; Gaz. vol. 161; p. 474.
Cutter, William T., East Lyme, Conn., assignor, by mesne assignments, to Hydrocarbon Converter Company, New York, N. Y. Method of and apparatus for making gas. No. 978,853; Dec. 20; Sp. p. 3071; Gaz. vol. 161; p. 546.
Cyphers Incubator Company. (See Damon, Charles A., assignor.)
Czerniewski, Waclaw, London, England. Apparatus for producing animated pictures by the movement of vehicles. No. 978,854; Dec. 20; Sp. p. 3073; Gaz. vol. 161; p. 546.
D. H. Burrell & Company. (See Lane, Frederic A., assignor.)
D'Ollier, Henry, Jr., Rutherford, N. J., assignor to Holophane Glass Company, New York, N. Y. Electric-lamp reflector attachment. No. 977,939; Dec. 6; Sp. p. 1122; Gaz. vol. 161; p. 180.
D'Ollier, Henry, Jr., Philadelphia, Pa., assignor to Holophane Glass Company, New York, N. Y. Shade or reflector attachment. No. 977,940; Dec. 6; Sp. p. 1124; Gaz. vol. 161; p. 180.
D'Ollier, Henry, Jr., Philadelphia, Pa., assignor to Holophane Glass Company, New York, N. Y. Shade or reflector attachment. No. 977,941; Dec. 6; Sp. p. 1126; Gaz. vol. 161; p. 180.
Dade, John B., Frankfort, N. Y. Tapping attachment. No. 978,855; Dec. 20; Sp. p. 3076; Gaz. vol. 161; p. 547.
Dahl Manufacturing Company. (See Gasstrom, Herman, assignor.)
Dake, Charles W., Grand Rapids, Mich. Elastic-fluid turbine. No. 977,601; Dec. 6; Sp. p. 431; Gaz. vol. 161; p. 63.
Dale, John H., New York, N. Y. Tungsten-lamp shock-absorber and adapter. No. 979,933; Dec. 27; Sp. p. 5442; Gaz. vol. 161; p. 940.
Damköhler, Hermann, and H. Schwindt, Bremen, Germany. Clarifying extracts containing tannin. No. 979,656; Dec. 27; Sp. p. 4837; Gaz. vol. 161; p. 849.
Damon, Charles A., assignor to Cyphers Incubator Company, Buffalo, N. Y. Heater for incubators and brooders. No. 978,990; Dec. 20; Sp. p. 3394; Gaz. vol. 161; p. 597.
Daniel, Paul, Perth Amboy, N. J., assignor to A. C. King, New York, N. Y. Controlling means for aeroplanes. No. 980,073; Dec. 27; Sp. p. 5738; Gaz. vol. 161; p. 987.
Daniels, Richard F., Chicago, Ill. Machine for making nets. No. 979,828; Dec. 27; Sp. p. 5224; Gaz. vol. 161; p. 906.
Daningburg, William J., New York, N. Y. Attachment for printing-presses. No. 978,704; Dec. 13; Sp. p. 2785; Gaz. vol. 161; p. 474.
Dannacher, Oliver A., Greensburg, Ind. Safety-razor. No. 978,705; Dec. 13; Sp. p. 2787; Gaz. vol. 161; p. 474.
Darcy, Frederick, Philadelphia, Pa. Chain gearing and spacing mechanism. No. 978,007; Dec. 6; Sp. p. 1250; Gaz. vol. 161; p. 202.
Darden, Robert L., Juliette, Ga. Cotton-chopper. No. 979,264; Dec. 20; Sp. p. 4027; Gaz. vol. 161; p. 693.
Daum, Lewis L., Canton, Ohio. Resilient wheel. No. 979,265; Dec. 20; Sp. p. 4029; Gaz. vol. 161; p. 693.
David Craig Company, The. (See Craig, David, assignor.)
Davidson, James E., Butte, Mont. Valve. No. 978,706; Dec. 13; Sp. p. 2788; Gaz. vol. 161; p. 474.
Davidson, John E., Toronto, Ontario, Canada, assignor of one-half to F. E. Wachtler, Boston, Mass. Forming shanks for boots and shoes. No. 978,278; Dec. 13; Sp. p. 1871; Gaz. vol. 161; p. 328.
Davidson, John L., Barnet, Vt. Fly-catcher. No. 979,443; Dec. 27; Sp. p. 4374; Gaz. vol. 161; p. 774.
Davies, Alfred E., Birmingham, England. Apparatus for separating magnetic materials from other materials or from liquids. No. 979,934; Dec. 27; Sp. p. 5444; Gaz. vol. 161; p. 940.
Davis, Arthur H. (See Broberg, Karl T., assignor.)
Davis, Bethuel M., Chicago, Ill. Automatic vending-machine. No. 977,437; Dec. 6; Sp. p. 18; Gaz. vol. 161; p. 6.
Davis, Eugene H. (See Lacroix, Joseph D., assignor.)
Davis, Evan J., Prosser, Wash. Decoy. No. 977,787; Dec. 6; Sp. p. 810; Gaz. vol. 161; p. 126.
Davis, Frank E., Indianapolis, Ind. Spiral tool-driver. No. 979,132; Dec. 20; Sp. p. 3739; Gaz. vol. 161; p. 647.
Davis, Green B. (See Libby and Davis.)
Davis, Harry G., assignor to Electric Press Bulletin Company, Williamsport, Pa. Telegraph-transmitter apparatus. No. 978,435; Dec. 13; Sp. p. 2201; Gaz. vol. 161; p. 381.
Davis, Harry P., New Middletown, Ohio. Mail-box signal. No. 977,602; Dec. 6; Sp. p. 433; Gaz. vol. 161; p. 63.
Davis, Henry E., Three Hills, Alberta, Canada. Plow attachment. No. 979,829; Dec. 27; Sp. p. 5236; Gaz. vol. 161; p. 906.
Davis, Herman, New Orleans, La. Wardrobe-trunk. No. 978,436; Dec. 13; Sp. p. 2205; Gaz. vol. 161; p. 382.
Davis, Jack R., Duson, La. Wrench. No. 978,856; Dec. 20; Sp. p. 3080; Gaz. vol. 161; p. 547.
Davis, Walter B., Aurora, Ill. Combination-valve. No. 979,384; Dec. 20; Sp. p. 4239; Gaz. vol. 161; p. 730.
Davis, William L., Topeka, Kans. Variable-lead valve-gear for locomotives. No. 977,938; Dec. 6; Sp. p. 1119; Gaz. vol. 161; p. 179.
Davison, Frederick, St. Louis, Mo. Fly-proof and other like screen for windows. No. 978,437; Dec. 13; Sp. p. 2207; Gaz. vol. 161; p. 382.
Davison, Gregory C., Quincy, Mass. Automobile torpedo. No. 977,438; Dec. 6; Sp. p. 21; Gaz. vol. 161; p. 7.
Davrou, Emile, Pawtucket, R. I. Pasteurizing apparatus. No. 979,830; Dec. 27; Sp. p. 5238; Gaz. vol. 161; p. 907.
Dawson, James C., St. Louis, Mo., assignor to Sieber & Trussell Mnfg. Co. Loose-leaf book. No. 978,707; Dec. 13; Sp. p. 2790; Gaz. vol. 161; p. 475.
Day, Preston C., Augusta, Okla. Horse-detacher. No. 980,074; Dec. 27; Sp. p. 5741; Gaz. vol. 161; p. 987.
Day, William C., Cleveland, Ohio. Pivoted latch. No. 978,857; Dec. 20; Sp. p. 3081; Gaz. vol. 161; p. 548.
De Armond, Albert E., Chicago, Ill. Silo. No. 979,444; Dec. 27; Sp. p. 4376; Gaz. vol. 161; p. 774.
De Celle, Jerry D., Fort Collins, Colo. Beet-harvester. No. 978,710; Dec. 13; Sp. p. 2804; Gaz. vol. 161; p. 476.
De Forest, Lee, New York, N. Y. High-frequency electrical-oscillation generator. No. 979,277; Dec. 20; Sp. p. 4050; Gaz. vol. 161; p. 697.
De Forest, Lee, New York, N. Y., assignor, by mesne assignments, to De Forest Radio Telephone Co. Oscillation-responsive device. No. 979,275; Dec. 20; Sp. p. 4044; Gaz. vol. 161; p. 606.
De Forest, Lee, New York, N. Y., assignor, by mesne assignments, to De Forest Radio Telephone Co. Space telegraphy. No. 979,276; Dec. 20; Sp. p. 4048; Gaz. vol. 161; p. 696.
De Forest Radio Telephone Co. (See De Forest, Lee, assignor.)
De Lay, Frederic A., Ann Arbor, Mich. Measuring mechanism. No. 977,516; Dec. 6; Sp. p. 220; Gaz. vol. 161; p. 33.
De Lukacsevics, Charles, assignor to W. L. Lewis, G. C. Moxon, and G. W. Morgan, Jr., New York, N. Y. Rotary envelop-machine. No. 979,775; Dec. 27; Sp. p. 5094; Gaz. vol. 161; p. 887.
De Rocher, Fose, Chicago, Ill. Game-board. No. 979,445; Dec. 27; Sp. p. 4377; Gaz. vol. 161; p. 775.
De Voe, Albert H., Elizabeth, N. J., assignor to The Singer Manufacturing Company. Chain-stitch sewing-machine. No. 978,140; Dec. 13; Sp. p. 1573; Gaz. vol. 161; p. 279.
Dean, John R., Hartford, Conn. Base-ball bat. No. 979,266; Dec. 20; Sp. p. 4030; Gaz. vol. 161; p. 693.
Dean, John R., Girard, assignor, by mesne assignments, to G. H. Barlow and J. J. Desmond, Corry, Pa. Wire-bending machine. No. 977,515; Dec. 6; Sp. p. 211; Gaz. vol. 161; p. 33.
Dean, John S., Wheatland, Iowa. Surgical device for expanding collapsed lungs. No. 978,708; Dec. 13; Sp. p. 2791; Gaz. vol. 161; p. 475.
Dean, William W., Chicago, Ill., assignor, by mesne assignments, to Consolidated Fire Alarm Company, New York, N. Y. Combined telephone and alarm or kindred service system. No. 978,709; Dec. 13; Sp. p. 2793; Gaz. vol. 161; p. 476.
Deckebach, Henry E., Cincinnati, Ohio. Brewing beer of low alcoholic contents. No. 977,603; Dec. 6; Sp. p. 434; Gaz. vol. 161; p. 63.
Decker, Harry R., Houston, Tex. Well-screen. No. 979,748; Dec. 27; Sp. p. 5050; Gaz. vol. 161; p. 879.
Dedrick, Nicholas. (See Schuette and Dedrick.)
Deere & Company. (See Melvin, Charles H., assignor.)
Defiance Lantern & Stamping Co. (See Hill, James H., assignor.)
Defiance Lantern & Stamping Co. (See Minns, Earnest H., assignor.)
Degagne, George, Houghton, Mich. Tide-motor. No. 978,117; Dec. 6; Sp. p. 1498; Gaz. vol. 161; p. 241.
Deinet, Joseph, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Printing-paste. No. 978,138; Dec. 13; Sp. p. 1572; Gaz. vol. 161; p. 279.
Deinet, Joseph, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Printing-paste. No. 978,139; Dec. 13; Sp. p. 1572; Gaz. vol. 161; p. 279.
Deming Company, The. (See Garber, Jesse B., assignor.)
Deming Company, The. (See Stratton, James M., assignor.)
Dempster Mill Manufacturing Company. (See Elliott, Schlachter, and Tolles, assignors.)
Denison, Charles A., Lockport, La. Lumber-stacker. No. 978,565; Dec. 13; Sp. p. 2497; Gaz. vol. 161; p. 427.

Dennis, William, Fen Argyl, Pa. Grave-vault mold. No. 979,062; Dec. 20; Sp. p. 3546; Gaz. vol. 161; p. 621.
Dennison, Wilburn N., Merchantville, N. J., assignor to Victor Talking Machine Company. Sound-box. No. 978,566; Dec. 13; Sp. p. 2501; Gaz. vol. 161; p. 427.
Densmore Typewriter Company. (See Woodward, Oscar, assignor.)
Denton, Gilbert H., Denver, Colo. Band-brake. No. 977,714; Dec. 6; Sp. p. 664; Gaz. vol. 161; p. 101.
Depew, James I., Loup City, Nebr. Disk-sharpener. No. 979,831; Dec. 27; Sp. p. 5239; Gaz. vol. 161; p. 907.
Deschamp, William D., Fort Smith Ark., and G. C. Jones, McAlester, Okla.; said Deschamp assignor to said Jones. Well-drilling derrick. No. 979,133; Dec. 20; Sp. p. 3742; Gaz. vol. 161; p. 648.
Desmond, J. J., *et al.* (See Dean, John R., assignor.)
Deussen, Charles W., New York, N. Y. Garden-tool. No. 977,604; Dec. 6; Sp. p. 435; Gaz. vol. 161; p. 64.
Deverell, Arthur C. (See Heron, James C., assignor.)
Devitt, Henry T., St. Regis, Mont. Track-shifting machine. No. 978,858; Dec. 20; Sp. p. 3083; Gaz. vol. 161; p. 548.
Diamond Expansion Bolt Company. (See Goewey, James E., assignor.)
Dick, Frederick J., assignor to K. Tingley, Point Loma, Cal. Sun-dial gnomon. No. 978,859; Dec. 20; Sp. p. 3000; Gaz. vol. 161; p. 548.
Dickie, Charles, Kimberley, Cape Colony. Rotary pump for generating pressure. No. 977,439; Dec. 6; Sp. p. 22; Gaz. vol. 161; p. 7.
Dickinson, Fairleigh S., Rutherford, N. J. Thermometer. No. 978,141; Dec. 13; Sp. p. 1578; Gaz. vol. 161; p. 280.
Dickson, George F., assignor to Confectioners and Bakers Supply Co., Chicago, Ill. Cutting-machine. No. 980,145; Dec. 27; Sp. p. 5921; Gaz. vol. 161; p. 1011.
Dieckmann, Emil, Barmen-Unterbarmen, Germany. Celling. No. 979,658; Dec. 27; Sp. p. 4840; Gaz. vol. 161; p. 849.
Dietrich, Lewis, Imlay City, Mich. Whip-lock. No. 977,855; Dec. 6; Sp. p. 946; Gaz. vol. 161; p. 140.
Dietz, Gustav. (See Raabe, Walter, assignor.)
Dietz, William, Cement, Tex. Hydrocarbon-burner. No. 978,860; Dec. 20; Sp. p. 3092; Gaz. vol. 161; p. 548.
Dike, Albyn P. (See Cazier and Dike.)
Dilks, Harold. (See Huver and Dilks.)
Dillander, John, Temple, Tex. Air-brake system. No. 977,856; Dec. 6; Sp. p. 947; Gaz. vol. 161; p. 150.
Dimmick, Jacob K., Philadelphia, Pa. Ramming-machine. No. 979,832; Dec. 27; Sp. p. 5241; Gaz. vol. 161; p. 907.
Dingendahl, Gustav, assignor to Textile Machine Works, Wyomissing, Pa. Braiding-machine. No. 979,446; Dec. 27; Sp. p. 4379; Gaz. vol. 161; p. 775.
Dingman, Charles H., Marion, Mich., assignor to Walsh Manufacturing Company, Pittsburg, Pa. Dry-kiln. No. 978,991; Dec. 20; Sp. p. 3396; Gaz. vol. 161; p. 597.
Diplock, Bramah J., Westminster, England. Means for supporting vehicles. No. 979,447; Dec. 27; Sp. p. 4380; Gaz. vol. 161; p. 775.
Dirkes, Henry A., New York, N. Y. Ventilator. No. 979,134; Dec. 20; Sp. p. 3744; Gaz. vol. 161; p. 648.
Discerens, Thomas H., Dallas, Tex. Baling-press. No. 979,659; Dec. 27; Sp. p. 4841; Gaz. vol. 161; p. 849.
Dix, Charles B., New York, N. Y. Window attachment. No. 979,267; Dec. 20; Sp. p. 4031; Gaz. vol. 161; p. 693.
Dixon, Robert M., East Orange, N. J., assignor to Safety Car Heating & Lighting Company. Emergency shut-off for gas-holders. No. 978,861; Dec. 20; Sp. p. 3094; Gaz. vol. 161; p. 549.
Doak, Lester, McMinnville, Tenn. Rail-joint. No. 978,711; Dec. 13; Sp. p. 2805; Gaz. vol. 161; p. 477.
Doarnberger, John A., Roanoke, Va. Steam-boiler. No. 979,135; Dec. 20; Sp. p. 3746; Gaz. vol. 161; p. 649.
Dobson, Harry T., *et al.* (See Caughrean, George H., assignor.)
Dohm, Robert O., Dane, Wis. Pipe-wrench. No. 977,788; Dec. 6; Sp. p. 811; Gaz. vol. 161; p. 126.
Doke, Horace, Greeley, Colo. Rotary engine. No. 980,075; Dec. 27; Sp. p. 5742; Gaz. vol. 161; p. 987.
Doland, Eben G., Starksboro, Vt. Wagon-brake. No. 980,076; Dec. 27; Sp. p. 5744; Gaz. vol. 161; p. 988.
Dolby, Jesse H., Elgin, Ill. Timing attachment for cameras. No. 977,440; Dec. 6; Sp. p. 23; Gaz. vol. 161; p. 7.
Donchian, Armenouhi A., administratrix. (See Donchian, Samuel B.)
Donchian, Samuel B., deceased, Hartford, Conn.; A. A. Donchian, administratrix. Carpet and rug fastener. No. 977,857; Dec. 6; Sp. p. 954; Gaz. vol. 161; p. 150.
Donovan, John P., Westfield, Mass. Mat. No. 977,789; Dec. 6; Sp. p. 813; Gaz. vol. 161; p. 126.
Doran, Michael J., Brooklyn, N. Y. Amusement apparatus. No. 979,385; Dec. 20; Sp. p. 4240; Gaz. vol. 161; p. 731.
Dornbirer, James G., Cleveland, Ohio. Radial drill. No. 979,749; Dec. 27; Sp. p. 5051; Gaz. vol. 161; p. 879.
Douchamp, Henry, Mount Jewett, assignor to Smethport Glass Company, Smethport, Pa. Glass-furnace. No. 979,935; Dec. 27; Sp. p. 5446; Gaz. vol. 161; p. 941.
Dougherty, James W., Sterling, Kans. Weather-boarding gage. No. 977,715; Dec. 6; Sp. p. 666; Gaz. vol. 161; p. 102.
Douglas, William M., Galveston, Tex. Automobile torpedo. No. 978,862; Dec. 20; Sp. p. 3096; Gaz. vol. 161; p. 549.
Dover Stamping & Manufacturing Company. (See Anderson, Pahr, assignor.)
Dover Stamping and Manufacturing Company. (See Whitney, Horace E., assignor.)
Dovo, Joseph, Tenino, Wash. Hook. No. 977,716; Dec. 6; Sp. p. 667; Gaz. vol. 161; p. 102.
Dow, Alexander, New York, N. Y. Nail-file. No. 979,398; Dec. 20; Sp. p. 4270; Gaz. vol. 161; p. 734.
Dow, Herbert H., Midland, Mich., assignor to The Westinghouse Machine Company. Regenerator. No. 977,605; Dec. 6; Sp. p. 436; Gaz. vol. 161; p. 64.
Downey, Richard F., Milwaukee, Wis. Vending-machine. No. 979,833; Dec. 27; Sp. p. 5245; Gaz. vol. 161; p. 908.
Downey, William H. J., Wilmington, Del. Railway crossetie. No. 979,268; Dec. 20; Sp. p. 4033; Gaz. vol. 161; p. 693.
Dräger, Alexander B. (See Dräger, Johann H. and A. B.)
Dräger, Johann H. and A. B., assignors to Drägerwerk, Heinr. & Bernh. Dräger, Lubeck, Germany. Device for preventing ignition of pressure-reducing valves. No. 979,936; Dec. 27; Sp. p. 5449; Gaz. vol. 161; p. 941.
Drägerwerk, Heinr. & Bernh. Dräger. (See Dräger, Johann H. and A. B., assignors.)
Dramis, Gennaro, Brooklyn, N. Y. Air-cooling apparatus. No. 978,008; Dec. 6; Sp. p. 1261; Gaz. vol. 161; p. 202.
Draper Company. (See Littlefield, Charles A., assignor.)
Draper Company. (See Marcure, James, assignor.)
Draper Company. (See Rhoades, Alonzo E., assignor.)
Draper Company. (See Stone, Melvin L., assignor.)
Drenk, Charles F., assignor of one-half to J. F. Kline, Elkhart, Ind. Bottle-stopper. No. 978,712; Dec. 13; Sp. p. 2807; Gaz. vol. 161; p. 477.
Dressel, Oscar, Elberfeld, R. Kothe and H. Hoerlein, Vohwinkel, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Dye. No. 978,438; Dec. 13; Sp. p. 2208; Gaz. vol. 161; p. 382.
Dressel, Oscar, Elberfeld, R. Kothe and H. Hoerlein, Vohwinkel, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Dyestuff. No. 978,439; Dec. 13; Sp. p. 2209; Gaz. vol. 161; p. 383.
Drew, Herbert W., assignor to Northern Railway Supply Company, Chicago, Ill. Box-cover fastener. No. 978,862; Dec. 13; Sp. p. 2041; Gaz. vol. 161; p. 356.
Drexler, William F., Jr. (See Elwell, Grimm, and Drexler.)
Dreyfus, Wilhelm, New York, N. Y. Disinfecting compound. No. 978,142; Dec. 13; Sp. p. 1581; Gaz. vol. 161; p. 280.
Droitcour, Michael A., assignor to Miehle Printing Press & Manufacturing Company, Chicago, Ill. Matrix. No. 978,824; Dec. 13; Sp. p. 3012; Gaz. vol. 161; p. 511.
Drucker, Julius, Brünn, Austria-Hungary. Saddle for draft-animals. No. 977,790; Dec. 6; Sp. p. 814; Gaz. vol. 161; p. 127.
Druzbach, Theodor, Hoboken, N. J., assignor of one-half to G. E. Foerster, Brooklyn, N. Y. Disinfector. No. 979,386; Dec. 20; Sp. p. 4243; Gaz. vol. 161; p. 731.
Du Bois, Frederick N., New York, N. Y. Means employed in closing the ends of lead L's by spinning. No. 978,863; Dec. 20; Sp. p. 3099; Gaz. vol. 161; p. 863.
Du Pont, Alexis F., and J. T. Thompson, assignors to E. I. du Pont de Nemours Powder Company, Wilmington, Del. Apparatus for nitrating cellulose. No. 979,560; Dec. 27; Sp. p. 4633; Gaz. vol. 161; p. 814.
Dubbelde, Jurgen J., West Philadelphia, Pa. Change-delivering machine. No. 978,713; Dec. 13; Sp. p. 2808; Gaz. vol. 161; p. 477.
Dubert, Harry, Dunkirk, N. Y. Valve-gear. No. 978,143; Dec. 13; Sp. p. 1582; Gaz. vol. 161; p. 280.
Duff Manufacturing Company, The. (See Hylander, Charles E., assignor.)
Duhl, Daniel, Wellston, assignor of one-half to O. M. Duhl, Glenroy, Ohio. Harrow and clod-crusher. No. 978,714; Dec. 13; Sp. p. 2816; Gaz. vol. 161; p. 478.
Duhl, Oscar M. (See Duhl, Daniel, assignor.)
Dunham, Bert G., assignor to American Automatic Telephone Company, Rochester, N. Y. Electromagnet. No. 978,992; Dec. 20; Sp. p. 3399; Gaz. vol. 161; p. 598.
Dunham, Newsom, Fulton, Mo. Gun. No. 978,144; Dec. 13; Sp. p. 1583; Gaz. vol. 161; p. 281
Dunivant, Robert L., Fort Worth, Tex. Rail-bond. No. 979,448; Dec. 27; Sp. p. 4382; Gaz. vol. 161; p. 776.
Dunn, John F., New York, N. Y. Belt-buckle. No. 980,077; Dec. 27; Sp. p. 5747; Gaz. vol. 161; p. 988.
Dunn, Joseph E., assignor to American Evaporator Company, Philadelphia, Pa. Evaporator. No. 978,993; Dec. 20; Sp. p. 3400; Gaz. vol. 161; p. 598.
Dunn, Matthew E., New York, N. Y. Pavement. No. 978,994; Dec. 20; Sp. p. 3401; Gaz. vol. 161; p. 598.
Dunton, Addis J., *et al.* (See Caughrean, George H., assignor.)
Dupee, John C., Chicago, Ill., assignor of one-half to The Padden Gas and Electric Company, New Hampton, Iowa. Automatic cut-off. No. 977,858; Dec. 6; Sp. p. 956; Gaz. vol. 161; p. 150.
Duplex Printing Press Company. (See Bechman, Henry F., assignor.)
Durant, Samuel T., deceased, and G. Gunderson, Mountain Home, Idaho; W. C. Howle, administrator, assignor to T. Durant. Sage-brush-grubbing machine. No. 978,118; Dec. 6; Sp. p. 1500; Gaz. vol. 161; p. 241.
Durant, Thecla. (See Durant and Gunderson, assignors.)

Durman, Michael E., Detroit, Mich. Rotary pump. No. 978,715; Dec. 13; Sp. p. 2818; Gaz. vol. 161; p. 478.
Duwelius, Alfred H., *et al.* (See Foster, William B., assignor.)
Dwight, James L., Roanoke, Tex. Windmill. No. 978,716; Dec. 13; Sp. p. 2820; Gaz. vol. 161; p. 478.
Dwinell, Charles A., assignor, by mesne assignments, to Baldwin Locomotive Works, Philadelphia, Pa. Superheater for locomotives. No. 980,078; Dec. 27; Sp. p. 5748; Gaz. vol. 161; p. 988.
Dwofsky, Bernard, assignor of one-half to S. C. Newman, New York, N. Y. Polygon-inscriber. No. 979,449; Dec. 27; Sp. p. 4383; Gaz. vol. 161; p. 776.
Dyson, Orion E., Chicago, Ill. Horseshoe. No. 979,450; Dec. 27; Sp. p. 4384; Gaz. vol. 161; p. 776.
E. I. du Pont de Nemours Powder Company. (See Barksdale, Hamilton M., assignor.)
E. I. du Pont de Nemours Powder Company. (See Claessen, Conrad H. H., assignor.)
E. I. du Pont de Nemours Powder Company. (See Du Pont and Thompson, assignors.)
E. I. du Pont de Nemours Powder Company. (See Fleming, Samuel H., assignor.)
E. I. du Pont de Nemours Powder Company. (See Stillwell, Howard A., assignor.)
Eads, James M., and A. S. Bent, Los Angeles, Cal. Irrigation-valve. No. 978,567; Dec. 13; Sp. p. 2505; Gaz. vol. 161; p. 427.
Eames, George M., Bridgeport, Conn., assignor to The Singer Manufacturing Company. Sewing-machine. No. 979,451; Dec. 27; Sp. p. 4386; Gaz. vol. 161; p. 777.
Eames, Ryland W., Vale, Oreg. Casing-swage. No. 980,079; Dec. 27; Sp. p. 5750; Gaz. vol. 161; p. 988.
Ean, Albert J., New York, N. Y. Mop-holder. No. 979,834; Dec. 27; Sp. p. 5248; Gaz. vol. 161; p. 908.
Eastwood, Arthur C., Cleveland, Ohio. Lifting-magnet. No. 978,119; Dec. 6; Sp. p. 1502; Gaz. vol. 161; p. 242.
Eastwood, Arthur C., Cleveland, Ohio. Lifting-magnet. No. 979,750; Dec. 27; Sp. p. 5053; Gaz. vol. 161; p. 880.
Eaton, OK, Portland, Me. Door-stay. No. 978,568; Dec. 13; Sp. p. 2506; Gaz. vol. 161; p. 427.
Eddy, John A. (See Stevens, Fred P., assignor.)
Eder, James M., New York, N. Y. Smoking implement. No. 980,080; Dec. 27; Sp. p. 5751; Gaz. vol. 161; p. 989.
Edgar, George B., Sr., assignor of one-third to L. C. Beatty, Iola, Kans. Freight-car seal. No. 979,452; Dec. 27; Sp. p. 4390; Gaz. vol. 161; p. 777.
Edgar, William K., assignor of one-half to F. T. Tolbert, Iola, Kans. Credit-account cabinet. No. 977,942; Dec. 6; Sp. p. 1127; Gaz. vol. 161; p. 181.
Edgerton, Earle W., St. Paul, Minn. Sheet-inserter. No 980,081; Dec. 27; Sp. p. 5753; Gaz. vol. 161; p. 989.
Edmonds, Henry G., *et al.* (See Morrison, Augustus H., assignor.)
Edwards, Harry C., Kansas City, Mo. Alfalfa-grinding machine. No. 979,063; Dec. 20; Sp. p. 3549; Gaz. vol. 161; p. 621.
Edwards, Philip H., Colorado Springs, Colo. Trap-nest. No. 977,606; Dec. 6; Sp. p. 437; Gaz. vol. 161; p. 64.
Edwards, Thomas, Ballarat, Victoria, Australia. Dust-preventing ore-dropping apparatus and the like for roasting-furnaces. No. 979,937; Dec. 27; Sp. p. 5450; Gaz. vol. 161; p. 942.
Edwin B. Stimpson Company. (See Stimpson, Edwin B., assignor.)
Egge, Frederick, assignor to The Smith & Egge Manufacturing Co., Bridgeport, Conn. Making cable-chains. No. 978,717; Dec. 13; Sp. p. 2822; Gaz. vol. 161; p. 479.
Eggenhofer, August, Zanesville, Ohio. Dough dividing and rounding machine. No. 978,440; Dec. 13; Sp. p. 2210; Gaz. vol. 161; p. 383.
Eggleston, Edmund E., Wichita, Kans. Bicycle-lock. No. 979,453; Dec. 27; Sp. p. 4392; Gaz. vol. 161; p. 777.
Egly, Georg, Berlin, assignor to Gebrüder Siemens & Co., Lichtenberg, near Berlin, Germany. Arc-lamp electrode. No. 977,607; Dec. 6; Sp. p. 439; Gaz. vol. 161; p. 65.
Eichwede, Heinrich. (See Ernst and Eichwede.)
Eickhoff, John C., Blackcreek, Wis. Curd-cutting machine. No. 979,835; Dec. 27; Sp. p. 5249; Gaz. vol. 161; p. 908.
Eiselt, Emil, Baltimore, Md. Automatic emergency-brake for automobiles. No. 979,938; Dec. 27; Sp. p. 5453; Gaz. vol. 161; p. 942.
Eitner, Berthold, Berlin, Germany. Ball-grinding machine. No. 977,717; Dec. 6; Sp. p. 668; Gaz. vol. 161; p. 102.
Eitner, Berthold, Berlin, Germany. Ball-grinding machine. No. 977,718; Dec. 6; Sp. p. 669; Gaz. vol. 161; p. 103.
Eitner, Berthold, Berlin, Germany. Ball-grinding machine. No. 977,719; Dec. 6; Sp. p. 670; Gaz. vol. 161; p. 103.
Eitner, Berthold, Berlin, Germany. Ball-bearing cage. No. 980,082; Dec. 27; Sp. p. 5754; Gaz. vol. 161; p. 989.
Eldridge, Hilliary. (See Rockey and Eldridge.)
Electric Press Bulletin Company. (See Davis, Harry G., assignor.)
Electro Dental Manufacturing Company. (See Russell and Schramm, assignors.)
Electrolite Gas Lamp Company. (See Beck, Charles W., assignor.)
Elfborg, Henry G., Chicago, Ill. Railway-crossing. No. 979,479; Dec. 27; Sp. p. 4445; Gaz. vol. 161; p. 785.
Elger, Franz. (See Barell and Elger.)
Elias, Owen O. (See Gibberd and Elias.)
Elkin, Jo P. G., Maplewood, Mo. Receptacle. No. 978,569; Dec. 13; Sp. p. 2507; Gaz. vol. 161; p. 428.
Ellingham, Robert W., *et al.* (See Stowell, Byron F., assignor.)
Ellington, Edmund W., Owensboro, Ky. Air-grate cover. No. 978,718; Dec. 13; Sp. p. 2823; Gaz. vol. 161; p. 479.
Elliott, William, R. H. Schlachter, and A. L. Tolles, assignors to Dempster Mill Manufacturing Company, Beatrice, Nebr. Draft-equalizer. No. 979,387; Dec. 20; Sp. p. 4244; Gaz. vol. 161; p. 731.
Elliott, William S., Pittsburg, Pa. Trap. No. 977,943; Dec. 6; Sp. p. 1129; Gaz. vol. 161; p. 181.
Ellis, Calvin J., assignor to The Cameragraph Company, Kansas City, Mo. Copy-holder. No. 978,719; Dec. 13; Sp. p. 2824; Gaz. vol. 161; p. 479.
Ellis, Carleton, Larchmont, assignor to Chadeloid Chemical Company, New York, N. Y. Paint or varnish remover. No. 979,136; Dec. 20; Sp. p. 3748; Gaz. vol. 161; p. 649.
Ellis, Ferrand F., Oneida, N. Y. Shaft-collar. No. 977,720; Dec. 6; Sp. p. 671; Gaz. vol. 161; p. 103.
Ellis, William, Phoenixville, Pa. Accounting device. No. 978,995; Dec. 20; Sp. p. 3403; Gaz. vol. 161; p. 599.
Elwell, Braden L., W. Grimm, and W. F. Drexler, Jr., assignors to Interlocking Fence Company, Morton, Ill. Wire-fence machine. No. 980,083; Dec. 27; Sp. p. 5755; Gaz. vol. 161; p. 989.
Ely, William A., *et al.* (See Hutchinson, Raleigh E., assignor.)
Embury Manufacturing Company. (See Hill, James H., assignor.)
Emerson Electric Manufacturing Company. (See Finch, Herbert I., assignor.)
Emmerson, John T., assignor of one-third to J. M. Stevens and one-third to A. Lawson, Edmundston, New Brunswick, Canada. Shaft-shifter. No. 979,751; Dec. 27; Sp. p. 5056; Gaz. vol. 161; p. 880.
Engberg, Ephraim O., Salt Lake City, Utah, assignor to J. B. Patton, Kent, Ohio. Window-shade-roller support. No. 979,752; Dec. 27; Sp. p. 5057; Gaz. vol. 161; p. 880.
Engel, Godfrey, Brooklyn, N. Y. Steam-boiler. No. 978,009; Dec. 6; Sp. p. 1262; Gaz. vol. 161; p. 202.
Engelman, Edward Y. B., Noxen, Pa. Table for leather-working machines. No. 978,120; Dec. 6; Sp. p. 1503; Gaz. vol. 161; p. 242.
Engelman, Julius R., Jersey City, N. J., assignor to H. A. Metz, Brooklyn, N. Y. Film-perforating machine. No. 978,121; Dec. 6; Sp. p. 1505; Gaz. vol. 161; p. 242.
Engelmann, Max, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Organic mercury compound. No. 978,145; Dec. 13; Sp. p. 1585; Gaz. vol. 161; p. 281.
Engholdt, Charles G. (See Streibich, John C., assignor.)
Enos Company. (See Hopton, Lemuel R., assignor.)
Enrico, Giovanni, Turin, Italy, assignor, by mesne assignments, to F. I. A. T., Poughkeepsie, N. Y. Radiator for automobiles. No. 979,137; Dec. 20; Sp. p. 3749; Gaz. vol. 161; p. 649.
Enterprise Railway Equipment Company. (See Campbell, Argyle, assignor.)
Eppler, Andrew, Boston, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Machine for reinforcing insoles. No. 979,836; Dec. 27; Sp. p. 5251; Gaz. vol. 161; p. 909.
Erickson, Charles J., assignor, by mesne assignments, to First Trust and Savings Bank, trustee, Chicago, Ill. Harmonic party-line telephone-ringer. No. 978,864; Dec. 20; Sp. p. 3101; Gaz. vol. 161; p. 550.
Ericson, Charles J., Salt Lake City, Utah. Transom support and fastener. No. 979,138; Dec. 20; Sp. p. 3750; Gaz. vol. 161; p. 649.
Ericson, Thoursten E., Cambridge, Mass. Doughnut-dipper. No. 979,388; Dec. 20; Sp. p. 4245; Gaz. vol. 161; p. 732.
Ericsson Manufacturing Company. (See Hemenway, Thomas S., assignor.)
Ericsson Manufacturing Company. (See Weman, Klas, assignor.)
Erie Wheel Company, The. (See Thompson, Alfred, assignor.)
Ernst, Otto, and H. Eichwede, assignors to Farbwerke vorm. Meister Lucius & Brüning, Hochst-on-the-Main, Germany. Monoazo dye and making. No. 978,865; Dec. 20; Sp. p. 3103; Gaz. vol. 161; p. 550.
Esser & Co., Ferd. (See Glauser, Gustave, assignor.)
Estelle, Axel T. K., and K. W. H. Evers, assignors to Nya Ackumulator Aktiebolaget Jungner, Filseryd, Sweden. Electrical element. No. 979,064; Dec. 20; Sp. p. 3550; Gaz. vol. 161; p. 621.
Eubank, Judson C. (See Eubank, Reuben B., Jr., and J. C.)
Eubank, Mary E. (See Eubank, Reuben B., Jr., and J. C., assignors.)
Eubank, Reuben B., Jr., and J. C.; said Reuben B. Eubank, Jr., assignor to M. E. Eubank, Kansas City, Mo. Flying-machine. No. 977,517; Dec. 6; Sp. p. 224; Gaz. vol. 161; p. 33.
Evans, Alfred B., F. Marcaurele, New Bedford, Mass., and F. R. Langlois, Woonsocket, R. I. Combing-machine. No. 979,389; Dec. 20; Sp. p. 4247; Gaz. vol. 161; p. 732.
Evans, Clarence A., Chester, Pa. Combined button-hook hanger and toy. No. 978,720; Dec. 13; Sp. p. 2827; Gaz. vol. 161; p. 480.

Evans, Hymen A., *et al.* (See Hammond, Robert O., assignor.)
Evans, Robert N., assignor to Atlas Chain Company, New York, N. Y. Antiskid device or chain. No. 979,139; Dec. 20; Sp. p. 3752; Gaz. vol. 161; p. 650.
Evans, Robert N., New York, assignor to Atlas Chain Company, Brooklyn, N. Y. Antiskid-chain. No. 979,141; Dec. 20; Sp. p. 3756; Gaz. vol. 161; p. 650.
Evans, Robert N., and P. T. Hamm, New York, assignors to Atlas Chain Company, Brooklyn, N. Y. Antiskid device for tires. No. 979,140; Dec. 20; Sp. p. 3754; Gaz. vol. 161; p. 650.
Everett, Charles J., New York, N. Y. Electric battery. No. 977,721; Dec. 6; Sp. p. 672; Gaz. vol. 161; p. 103.
Evers, Heins, Zurich, assignor to Gerster & Cie., Clarens-Montreux, Switzerland. Eliminating the active toxic agent from coffee. No. 978,866; Dec. 20; Sp. p. 3104; Gaz. vol. 161; p. 551.
Evers, Karl W. H. (See Estelle and Evers.)
Ewart, Samuel, London, England. Cowl for ventilating and other purposes. No. 979,390; Dec. 20; Sp. p. 4249; Gaz. vol. 161; p. 732.
Ewen, William E., Newlin, Tex. Joint-chair. No. 978,721; Dec. 13; Sp. p. 2827; Gaz. vol. 161; p. 480.
Ewoldt, Henry, Grand Island, Nebr. Threshing-machine. No. 978,570; Dec. 13; Sp. p. 2509; Gaz. vol. 161; p. 428.
Eytalis, Charles, Chicago, Ill. Sliding-door fastener. No. 979,454; Dec. 27; Sp. p. 4393; Gaz. vol. 161; p. 778.
F. H. Lummus Sons Company. (See Grimes, Thaddeus S., assignor.)
F. I. A. T. (See Enrico, Giovanni, assignor.)
F. I. A. T. (See Fornaca, Guido, assignor.)
Fabric Roll Protector Co. (See Boyd, John W., assignor.)
Fabun, Daniel E., Los Angeles, Cal. Saw-set. No. 977,722; Dec. 6; Sp. p. 674; Gaz. vol. 161; p. 104.
Faeh, Ambrose W., Oakland, Cal. Automatic fire-escape. No. 978,571; Dec. 13; Sp. p. 2512; Gaz. vol. 161; p. 428.
Fagot, Arthur, assignor to Pacific Engineering Company, San Francisco, Cal. Distillation system for ice plants. No. 978,279; Dec. 13; Sp. p. 1873; Gaz. vol. 161; p. 328.
Fahnestock Electric Company, The. (See Fahnestock, Ernest B., assignor.)
Fahnestock, Ernest B., New York, N. Y., assignor to The Fahnestock Electric Company. Metal-bending machine. No. 979,142; Dec. 20; Sp. p. 3757; Gaz. vol. 161; p. 651.
Fahrney, William H., Chicago, Ill. Vehicle-wheel. No. 979,269; Dec. 20; Sp. p. 4034; Gaz. vol. 161; p. 694.
Fain, George C., Bakersfield, Cal. Gasolene-engine. No. 978,867; Dec. 20; Sp. p. 3105; Gaz. vol. 161; p. 551.
Fairman, Edword, and R. O. Munson, Humboldt, Iowa. Bag-holder. No. 978,441; Dec. 13; Sp. p. 2212; Gaz. vol. 161; p. 383.
Fajen, Otto J., Stover, Mo. Record. No. 978,722; Dec. 13; Sp. p. 2828; Gaz. vol. 161; p. 480.
Fallon, Bernard J., Chicago, Ill. Adjustable guard-rail chair. No. 978,996; Dec. 20; Sp. p. 3404; Gaz. vol. 161; p. 599.
Falwell, Wray, Boston, Mass., assignor to Wray Manufacturing Company. Removable spark-plug. No. 978,280; Dec. 13; Sp. p. 1876; Gaz. vol. 161; p. 329.
Farbenfabriken vorm. Friedr. Bayer & Co. (See Bauer and Herre, assignors.)
Farbenfabriken vorm. Friedr. Bayer & Co. (See Berendes, Rudolph, assignor.)
Farbenfabriken vorm. Friedr. Bayer & Co. (See Deinet, Joseph, assignor.)
Farbenfabriken vorm. Friedr. Bayer & Co. (See Dressel, Kothe, and Hoerlein, assignors.)
Farbenfabriken vorm. Friedr. Bayer & Co. (See Engelmann, Max, assignor.)
Farbenfabriken vorm. Friedr. Bayer & Co. (See Günther, Hesse, and Zart, assignors.)
Farbenfabriken vorm. Friedr. Bayer & Co. (See Weiler, Max, assignor.)
Farbwerke vorm. Meister Lucius & Brüning. (See Ernst and Eichwede, assignors.)
Farley, Cyrus H., Portland, Me. Device for handling sheets of glass. No. 980,084; Dec. 27; Sp. p. 5769; Gaz. vol. 161; p. 990.
Farmer, Clyde C., Chicago, Ill., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa. Conductor's valve for fluid-pressure brakes and signals. No. 979,837; Dec. 27; Sp. p. 5255; Gaz. vol. 161; p. 909.
Farnsworth Company. (See Armstrong, James S., assignor.)
Fast, August C., East Orange, N. J. Serving-table for restaurants. No. 978,572; Dec. 13; Sp. p. 2513; Gaz. vol. 161; p. 429.
Faure, Elie F. G. H., Erie, Pa., assignor to Burke Electric Company. Controlling device for electrical apparatus. No. 979,143; Dec. 20; Sp. p. 3763; Gaz. vol. 161; p. 651.
Faust, Casper, Oshkosh, Wis. Bridge-gate. No. 979,270; Dec. 20; Sp. p. 4035; Gaz. vol. 161; p. 694.
Faust, Casper, Oshkosh, Wis. Bridge-gate. No. 979,271; Dec. 20; Sp. p. 4037; Gaz. vol. 161; p. 695.
Faust, William T., Browerville, Minn. Brooder. No. 978,010; Dec. 6; Sp. p. 1264; Gaz. vol. 161; p. 203.
Fegley, Thomas J., and G. O. Leopold, assignors to North Bro's M'f'g Co., Philadelphia, Pa. Spiral tool-driver. No. 979,939; Dec. 27; Sp. p. 5456; Gaz. vol. 161; p. 942.
Feist, Charles M., assignor of forty-nine one-hundredths to E. L. Kirk, Sioux City, Iowa. Trolley-stand. No. 979,940; Dec. 27; Sp. p. 5458; Gaz. vol. 161; p. 943.
Felder, Otto C., Paterson, N. J. Comb-cleaner. No. 979,660; Dec. 27; Sp. p. 4844; Gaz. vol. 161; p. 849.
Feldt, Ferdinand J., Peoria, Ill. Corrugated culvert. No. 977,944; Dec. 6; Sp. p. 1131; Gaz. vol. 161; p. 182.
Feldt, Ferdinand J., Peoria, Ill. Corrugated culvert. No. 977,945; Dec. 6; Sp. p. 1132; Gaz. vol. 161; p. 182.
Feldt, Ferdinand J., assignor to J. A. Engel & Co., Peoria, Ill. Elevator. No. 977,518; Dec. 6; Sp. p. 226; Gaz. vol. 161; p. 34.
Feller, Adolph F., Berkeley, assignor of one-fourth to E. J. Broberg and one-fourth to H. C. Hansen, Oakland, Cal. Combined clutch and multiple transmission. No. 979,272; Dec. 20; Sp. p. 4040; Gaz. vol. 161; p. 695.
Fenlason, Orin C., Hoquiam, Wash. Collapsible veneer box for berries, &c. No. 978,868; Dec. 20; Sp. p. 3107; Gaz. vol. 161; p. 551.
Fennel, Jacob W., Newburgh, N. Y. Glove. No. 979,065; Dec. 20; Sp. p. 3552; Gaz. vol. 161; p. 621.
Fenton, Henry, Glebe Point, near Sydney, New South Wales, Australia. Heel of boots and the like. No. 980,085; Dec. 27; Sp. p. 5771; Gaz. vol. 161; p. 990.
Ferguson, J. A. (See Todt, Edward G., assignor.)
Ferguson, James W. (See Boore and Ferguson.)
Fergusson, Henry A., St. Louis, Mo. Vacuum cleaning-tool. No. 978,869; Dec. 20; Sp. p. 3108; Gaz. vol. 161; p. 551.
Ferrell, Charles B., and J. M. Perrine, Spencer, W. Va. Folding shipping crate or coop. No. 977,791; Dec. 6; Sp. p. 815; Gaz. vol. 161; p. 127.
Ferries, James A., Chili, N. Y. Guide for drilling-machines. No. 979,273; Dec. 20; Sp. p. 4042; Gaz. vol. 161; p. 695.
Féry, Charles, and C. Langlet, Paris, France. Electric furnace. No. 978,146; Dec. 13; Sp. p. 1586; Gaz. vol. 161; p. 281.
Fessenden, Reginald A., Brant Rock, Mass. Transmission and receipt of electrical energy. No. 979,144; Dec. 20; Sp. p. 3768; Gaz. vol. 161; p. 651.
Fessenden, Reginald A., Brant Rock, Mass. Electrical signaling. No. 979,145; Dec. 20; Sp. p. 3769; Gaz. vol. 161; p. 652.
Fewell, Cicero A., Glenwood, Ark. Friction-operated dasher for churns. No. 979,274; Dec. 20; Sp. p. 4043; Gaz. vol. 161; p. 696.
Field, Charles H., Syracuse, N. Y. Valve-grinding device. No. 978,442; Dec. 13; Sp. p. 2213; Gaz. vol. 161; p. 383.
Field, Frederick F., Lakewood, R. I. Valve mechanism. No. 977,723; Dec. 6; Sp. p. 675; Gaz. vol. 161; p. 104.
Field, Millard F., Winthrop, C. D. Lanning, E. F. Hathaway, Boston, Mass., and F. C. Blanchard, Fort Wayne, Ind., assignors to American Warp-Drawing Machine Company, Boston, Mass. Pattern-drum-actuated driving mechanism. No. 980,086; Dec. 27; Sp. p. 5772; Gaz. vol. 161; p. 990.
Fielding, Arthur, Salford, England. Production of dextrin, British gums, and the like. No. 979,753; Dec. 27; Sp. p. 5058; Gaz. vol. 161; p. 880.
Finch, Herbert I., assignor to Emerson Electric Manufacturing Company, St. Louis, Mo. Oscillating electric fan. No. 978,147; Dec. 13; Sp. p. 1588; Gaz. vol. 161; p. 281.
Finck, William C., Elizabeth, N. J., assignor to G. H. Benjamin, New York, N. Y. Generating high temperatures. No. 980,087; Dec. 27; Sp. p. 5780; Gaz. vol. 161; p. 991.
Finckel, George M. (See Owens, George L., assignor.)
Finitzer, Philipp. (See Forster and Finitzer.)
Finley, Alfred P., Sherman, Tex. Railway-rail and nut-lock for fish-plate bolts. No. 980,140; Dec. 27; Sp. p. 5922; Gaz. vol. 161; p. 1011.
Finn, Thomas. (See Johnson, Samuel J., assignor.)
Firestone Tire & Rubber Company. (See Bosworth, Percy B., assignor.)
First Trust and Savings Bank, trustee. (See Erickson, Charles J., assignor.)
Fischer, Adolf, Stuttgart, Germany. Knife and fork cleaning machine. No. 977,519; Dec. 6; Sp. p. 230; Gaz. vol. 161; p. 34.
Fischer, Jacob. (See Cota, Daniel E., assignor.)
Fishburne, George R. (See Newberry, Spencer B., assignor.)
Fisher, Frank, Reardon, Wash. Horse-releaser. No. 978,281; Dec. 13; Sp. p. 1879; Gaz. vol. 161; p. 329.
Fitchet, Charles L., San Francisco, Cal. Adjustable mirror. No. 978,573; Dec. 13; Sp. p. 2516; Gaz. vol. 161; p. 429.
Fitzhugh, Phillip A., Gulfport, Miss. Cotton-seed delinter. No. 979,066; Dec. 20; Sp. p. 3553; Gaz. vol. 161; p. 621.
Fitzpatrick, William S., Bloomfield, Mo. Saw-set. No. 978,723; Dec. 13; Sp. p. 2829; Gaz. vol. 161; p. 480.
Fix, Samuel D. W., Amity township, Berks county, Pa. Magazine-firearm. No. 977,859; Dec. 6; Sp. p. 957; Gaz. vol. 161; p. 151.
Flatau, Louis S., St. Louis, Mo. Coffee-maker. No. 980,088; Dec. 27; Sp. p. 5781; Gaz. vol. 161; p. 991.
Fleet, James A. (See Chandler and Fleet.)
Fleming, Henry C., and W. F. Royster, Denison, Tex. Match-box. No. 977,441; Dec. 6; Sp. p. 26; Gaz. vol. 161; p. 7.
Fleming, Howard C., Watertown, Mass. Door-check. No. 978,870; Dec. 20; Sp. p. 3110; Gaz. vol. 161; p. 552.
Fleming, Samuel H., Camden, N. J., assignor to E. I. du Pont de Nemours Powder Company, Wilmington, Del. Treating glycerin. No. 978,443; Dec. 13; Sp. p. 2215; Gaz. vol. 161; p. 384.

Flintkote Manufacturing Company. (See Overbury, Frederick C., assignor.)
Flood, Thomas A. (See O'Byrne and Flood.)
Flues, Emil F., Ithaca, N. Y. Single-trigger mechanism for firearms. No. 980,174; Dec. 27; Sp. p. 5995; Gaz. vol. 161; p. 1021.
Flynn, William D., Spray, N. C. Suspender attachment. No. 979,838; Dec. 27; Sp. p. 5256; Gaz. vol. 161; p. 910.
Foell, Otto, A. Kusebauch, and R. Neckerman, assignors, by mesne assignments, to Nernst Lamp Company, Pittsburg, Pa. Heater and glower renewal for second-class-conductor lamps. No. 979,455; Dec. 27; Sp. p. 4397; Gaz. vol. 161; p. 778.
Foerster, George E. (See Drusbach, Theodor, assignor.)
Foersterling, Hans, and H. Philipp, Perth Amboy, N. J., assignors to The Roessler & Hasslacher Chemical Co., New York, N. Y. Composition of matter for and method of generating hydrogen. No. 977,442; Dec. 6; Sp. p. 28; Gaz. vol. 161; p. 8.
Folsom, Frederick M., and E. E. Higgins, Minneapolis, Minn.; said Higgins assignor to said Folsom. Dust-pan. No. 978,724; Dec. 13; Sp. p. 2830; Gaz. vol. 161; p. 480.
Foote, Charles E. and C. T., assignors to The Foote Manufacturing Company, Nunda, N. Y. Mixing-machine. No. 978,011; Dec. 6; Sp. p. 1266; Gaz. vol. 161; p. 203.
Foote, Chester T. (See Foote, Charles E. and C. T.)
Foote Manufacturing Company, The. (See Foote, Charles E. and C. T., assignors.)
Ford, Bruce, Philadelphia, Pa. Storage-battery plate. No. 977,443; Dec. 6; Sp. p. 29; Gaz. vol. 161; p. 8.
Ford, Charles R., *et al.* (See Lutz, Herbert, assignor.)
Ford, Mabel L., Pequot, Minn. Ribbon-holding device. No. 979,456; Dec. 27; Sp. p. 4399; Gaz. vol. 161; p. 778.
Ford, Raymond S., assignor, by mesne assignments, to L. F. Bates, Cuba, N. Y. Fastener for roofing material. No. 980,089; Dec. 27; Sp. p. 5782; Gaz. vol. 161; p. 991.
Forman, Paris R., assignor to The Burdett-Rowntree Manufacturing Company, Chicago, Ill. Safety appliance for motors. No. 980,090; Dec. 27; Sp. p. 5784; Gaz. vol. 161; p. 991.
Fornaca, Guido, Turin, Italy, assignor, by mesne assignments, to F. I. A. T., Poughkeepsie, N. Y. Vehicle-frame suspension. No. 979,278; Dec. 20; Sp. p. 4054; Gaz. vol. 161; p. 697.
Forster, Desider, and P. Finitzer, Budapest, Austria-Hungary. Fermentation for use in manufacture of yeast and spirit. No. 978,282; Dec. 13; Sp. p. 1880; Gaz. vol. 161; p. 330.
Forster, Zachary P. (See Schrader and Forster.)
Fortune, John R., Detroit, Mich. Furnace. No. 979,661; Dec. 27; Sp. p. 4845; Gaz. vol. 161; p. 850.
Foster Brothers Manufacturing Company, The. (See Frank and Taylor, assignors.)
Foster, Charles A., Portland, Oreg. Corrugated sectional nestable culvert. No. 979,146; Dec. 20; Sp. p. 3770; Gaz. vol. 161; p. 652.
Foster, Ephraim J., Steubenville, Ohio, and F. H. Grafton, Wheeling, W. Va., assignors of one-fourth to J. M. Foster, Steubenville, Ohio, and one-fourth to W. S. Grafton, Wheeling, W. Va. Combined hay rake and shocker. No. 978,725; Dec. 13; Sp. p. 2831; Gaz. vol. 161; p. 481.
Foster, James M., *et al.* (See Foster and Grafton, assignors.)
Foster, William B., Norwood, assignor of one-third to M. J. Klaw and one-third to A. H. Duwelius, Cincinnati, Ohio. Pantographic pyrograph. No. 978,012; Dec. 6; Sp. p. 1270; Gaz. vol. 161; p. 204.
Fouts, Calvin C., Middletown, Ohio, assignor to The Arkansas Corrugated Metal Culvert Company, Little Rock, Ark. Gutter-bridge. No. 979,754; Dec. 27; Sp. p. 5059; Gaz. vol. 161; p. 881.
Fouts & Hunter Carriage Manufacturing Company. (See Hunter, William A., assignor.) (Reissue.)
Fowler, William, *et al.* (See Wolentarsky, Charles, assignor.)
Fox, Anna B., administratrix. (See Fox, George H.)
Fox, George H., deceased, Bangor, Me.; A. B. Fox, administratrix. Machine for molding candy pipes and other articles. No. 978,726; Dec. 13; Sp. p. 2836; Gaz. vol. 161; p. 481.
Fox, William R., Grand Rapids, Mich. Escapement mechanism for type-writers. No. 978,871; Dec. 20; Sp. p. 3111; Gaz. vol. 161; p. 552.
Frakes, Mattie F., Portland, Oreg. Device for holding pillow-shams. No. 978,148; Dec. 13; Sp. p. 1589; Gaz. vol. 161; p. 282.
Francis, John H., assignor to The Kilby Manufacturing Company, Cleveland, Ohio. Wire-nail machine. No. 979,457; Dec. 27; Sp. p. 4399; Gaz. vol. 161; p. 778.
Frank, William E., and C. C. Taylor, assignors to The Foster Brothers Manufacturing Company, St. Louis, Mo. Wire fabric. No. 978,149; Dec. 13; Sp. p. 1590; Gaz. vol. 161; p. 282.
Franklin Core Rod and Gagger Co. (See Rinebolt, Guy S., assignor.)
Franklin, Emil, New York, N. Y. Air-inlet box for sewers. No. 977,860; Dec. 6; Sp. p. 959; Gaz. vol. 161; p. 151.
Franklin, William, Manly, near Sydney, New South Wales, Australia. Apparatus for exhibiting carpets and other textile fabrics. No. 979,755; Dec. 27; Sp. p. 5060; Gaz. vol. 161; p. 881.
Frantz, Tilghman S., and W. H. Troxell, near Coplay borough, Pa. Fertilizer-distributing attachment to cultivators. No. 978,363; Dec. 13; Sp. p. 2043; Gaz. vol. 161; p. 356.
Frasch, Herman, New York, N. Y., assignor to The Frasch Sulphur Process Company. Apparatus for mining sulfur. No. 977,444; Dec. 6; Sp. p. 30; Gaz. vol. 161; p. 8.
Frasch Sulphur Process Company, The. (See Frasch, Herman, assignor.)
Frayer, Charles A., assignor to The Vulcan Steam Shovel Company, Toledo, Ohio. Telescopic bucket. No. 977,608; Dec. 6; Sp. p. 440; Gaz. vol. 161; p. 65.
Frazier, Charles H., South Bend, Ind. Vehicle-tire tool. No. 979,279; Dec. 20; Sp. p. 4055; Gaz. vol. 161; p. 697.
Freak, George R., assignor of one-half to J. Roberts, Chicago, Ill. Safety-gate. No. 979,458; Dec. 27; Sp. p. 4403; Gaz. vol. 161; p. 779.
Frede, Charles F. (See Westlake and Frede.)
Fredlihp, Joseph L., Madera, Cal. Belt-loop. No. 980,175; Dec. 27; Sp. p. 6000; Gaz. vol. 161; p. 1021.
Free, Reuben L., Leechburg, Pa. Clothes-dampener. No. 978,727; Dec. 13; Sp. p. 2830; Gaz. vol. 161; p. 482.
Freeman, William F., assignor to Grand Rapids Show Case Company, Grand Rapids, Mich. Adjustable detachable bracket. No. 977,609; Dec. 6; Sp. p. 441; Gaz. vol. 161; p. 65.
Freemark, Micheal, Hope, N. D. Post-hole digger. No. 978,444; Dec. 13; Sp. p. 2216; Gaz. vol. 161; p. 384.
Freer, Charles K., Sandusky, Ohio. Device for driving fishes. No. 978,872; Dec. 20; Sp. p. 3115; Gaz. vol. 161; p. 553.
Freund, Joseph, St. Louis, Mo. Tile. No. 979,280; Dec. 20; Sp. p. 4056; Gaz. vol. 161; p. 698.
Friar, Michael. (See Cunningham and Friar.)
Friedel, John G., Jr., Van Nest, N. Y. Folding bed. No. 979,281; Dec. 20; Sp. p. 4057; Gaz. vol. 161; p. 698.
Friedey, Charles L., Cleveland, Ohio. Rotary brush. No. 980,091; Dec. 27; Sp. p. 5787; Gaz. vol. 161; p. 992.
Friedman, Samuel, New York, N. Y. Snow-melting machine. No. 977,724; Dec. 6; Sp. p. 678; Gaz. vol. 161; p. 105.
Fries, Albert C., Grove City, Ohio. Attachment for educational globes. No. 978,997; Dec. 20; Sp. p. 3405; Gaz. vol. 161; p. 599.
Frink, Carroll H., Jacksonville, Fla. Apparatus for the administration of general anesthetics. No. 978,728; Dec. 13; Sp. p. 2840; Gaz. vol. 161; p. 482.
Frink, Etta P., and D. A. Jones, Fort Lupton, Colo. Mold for cement blocks. No. 977,792; Dec. 6; Sp. p. 817; Gaz. vol. 161; p. 127.
Fritsch, Edward J., Willoughby, assignor to The American Clay Machinery Company, Bucyrus, Ohio. Device for handling bricks. No. 977,610; Dec. 6; Sp. p. 443; Gaz. vol. 161; p. 65.
Froelich, Carl H., St. Louis, Mo. Electric street-lighting. No. 979,459; Dec. 27; Sp. p. 4405; Gaz. vol. 161; p. 779.
Fromhold, Alexander, Rutherford, N. J. Sheet-metal window. No. 977,611; Dec. 6; Sp. p. 445; Gaz. vol. 161; p. 66.
Froslid, Anton S., assignor to Silkworth-Froslid Machinery Company, Portland, Oreg. Lumber edger, trimmer, and lath mill. No. 980,147; Dec. 27; Sp. p. 5923; Gaz. vol. 161; p. 1011.
Frost Prevention Company, The. (See Bolton, Joseph P., assignor.)
Frumviller, Frank A., Detroit, Mich. Pruning-knife. No. 978,574; Dec. 13; Sp. p. 2520; Gaz. vol. 161; p. 430.
Fryette, Harrison H., Chicago, Ill. Articulated mounting for bones of a body. No. 979,147; Dec. 20; Sp. p. 3773; Gaz. vol. 161; p. 653.
Fugate, Jefferson D., Morrill, Nebr. Combined shipping-tag and invoice-holder. No. 977,445; Dec. 6; Sp. p. 37; Gaz. vol. 161; p. 9.
Fulford, Charles F., Rochester, N. Y. Ball. No. 978,445; Dec. 13; Sp. p. 2217; Gaz. vol. 161; p. 384.
Fuller, Frank E. (See Samuel, Walter A., assignor.)
Fuller, John L., Schaghticoke, N. Y. Hydrant and valve therefor. No. 979,941; Dec. 27; Sp. p. 5460; Gaz. vol. 161; p. 943.
Fulton, Richard T. (See Burdick, Fulton, and Williams.)
Fulton, Weston M., Knoxville, Tenn. Flexible corrugated-metal wall for collapsible and expansible vessels. No. 979,460; Dec. 27; Sp. p. 4407; Gaz. vol. 161; p. 780.
Furbeck, George H. (See Stewart, Lemuel N., assignor.)
Fylling, Ole, Crookston, Minn. Convertible tool. No. 978,283; Dec. 13; Sp. p. 1882; Gaz. vol. 161; p. 330.
G. Sauerbrey Maschinenfabrik, Aktiengesellschaft. (See Sauerbrei, Richard, assignor.)
Gagnou, Frank A., Watertown, N. Y. Velocipede. No. 980,092; Dec. 27; Sp. p. 5788; Gaz. vol. 161; p. 992.
Gale, Francis G., Waterville, Quebec, Canada. Combined bed and chair. No. 979,461; Dec. 27; Sp. p. 4409; Gaz. vol. 161; p. 780.
Gale, Horace B. (See Ayer and Gale.)
Gale Manufacturing Company. (See Beall, William L., assignor.)
Gallagher, Richard D., Jr., assignor to Standard Coupler Company, New York, N. Y. Mechanism for yieldingly resisting relative movement of bodies. No. 978,873; Dec. 20; Sp. p. 3116; Gaz. vol. 161; p. 553.
Gallagher, Richard D., Jr., assignor to Standard Coupler Company, New York, N. Y. Buffing mechanism for railway-cars. No. 979,756; Dec. 27; Sp. p. 5062; Gaz. vol. 161; p. 881.

Gallaher, Jesse B., Penrith, Wash. Saw-set. No. 977,861; Dec. 6; Sp. p. 961; Gaz. vol. 161; p. 151.
Galland, Justin S. (See Poindexter, Alfred M., assignor.)
Gamble, Edward A., Hastings, Nebr. Harness attachment. No. 979,067; Dec. 20; Sp. p. 3555; Gaz. vol. 161; p. 622.
Gamble, Joseph W., assignor to Harrison Safety Boiler Works, Philadelphia, Pa. Feed-water heater and separator. No. 979,462; Dec. 27; Sp. p. 4412; Gaz. vol. 161; p. 780.
Garber, Jesse B., assignor to The Deming Company, Salem, Ohio. Gravity valve-cage and valve for pumps. No. 978,729; Dec. 13; Sp. p. 2845; Gaz. vol. 161; p. 482.
Gardiner, Arthur. (See Warburton and Gardiner.)
Gardiner, Charles, Philadelphia, Pa. Cleaner for windshields for automobiles, trolley-cars, and the like. No. 978,013; Dec. 6; Sp. p. 1272; Gaz. vol. 161; p. 204.
Gardner, Edward F., Scranton, Pa. Time-controlled damper-actuating mechanism. No. 979,148; Dec. 20; Sp. p. 3775; Gaz. vol. 161; p. 653.
Garisio, Theodore J., Allentown, Pa. Thread-cutting shuttle. No. 979,282; Dec. 20; Sp. p. 4058; Gaz. vol. 161; p. 698.
Garisio, Theodore J., Allentown, Pa. Shuttle. No. 980,093; Dec. 27; Sp. p. 5791; Gaz. vol. 161; p. 993.
Garland, Thomas H., Chicago, Ill. Car ventilating, refrigerating, and heating system. No. 978,284; Dec. 13; Sp. p. 1883; Gaz. vol. 161; p. 330.
Garlinghouse, Burton A., Jackson, Mich. Hat-guard. No. 978,364; Dec. 13; Sp. p. 2044; Gaz. vol. 161; p. 357.
Garrard, Jeremiah, Muncie, Ind. Fish-cage. No. 980,148; Dec. 27; Sp. p. 5927; Gaz. vol. 161; p. 1012.
Garrett, James W., Elk City, Okla. Cotton-chopper. No. 979,463; Dec. 27; Sp. p. 4414; Gaz. vol. 161; p. 781.
Garrison, George W., Hanford, Cal. Earth-scraper. No. 979,283; Dec. 20; Sp. p. 4061; Gaz. vol. 161; p. 698.
Garton, William R., Chicago, Ill., assignor to C. J. Griffin, Montezuma, Iowa. Lightning-arrester. No. 979,464; Dec. 27; Sp. p. 4416; Gaz. vol. 161; p. 781.
Gasstrom, Herman, assignor to Dahl Manufacturing Company, New York, N. Y. Rule. No. 978,446; Dec. 13; Sp. p. 2219; Gaz. vol. 161; p. 385.
Gastlin, Albert J., New York, N. Y. Hoof-protector. No. 980,094; Dec. 27; Sp. p. 5793; Gaz. vol. 161; p. 993.
Gaston, Walter, New York, N. Y. Treating carbon electrodes. No. 979,465; Dec. 27; Sp. p. 4418; Gaz. vol. 161; p. 781.
Gates, John W. (See Kittle and Gates.)
Gault, Harry D., Wooster, Ohio. Expansible pulley. No. 978,285; Dec. 13; Sp. p. 1887; Gaz. vol. 161; p. 330.
Gaut, John E., Vermontville, Mich. Table-slide. No. 978,730; Dec. 13; Sp. p. 2847; Gaz. vol. 161; p. 482.
Gautier, Claude M., Lewisham, London, England. Metallic fabric suitable for pneumatic tires of motor-cars and other carriages. No. 978,731; Dec. 13; Sp. p. 2848; Gaz. vol. 161; p. 483.
Gautschi, Alfred, Menziken, assignor to Aluminiumwarenfabrik Gontenschwil Aktiengeseilschaft, Gontenschwil, Switzerland. Rolling-mill. No. 977,725; Dec. 6; Sp. p. 679; Gaz. vol. 161; p. 105.
Gay, Edgar A., Rochester, N. Y. Furniture attachment. No. 979,149; Dec. 20; Sp. p. 3777; Gaz. vol. 161; p. 654.
Gaynor, Joseph, New York, N. Y. Resilient vehicle-wheel. No. 977,520; Dec. 6; Sp. p. 232; Gaz. vol. 161; p. 35.
Gaynor, Thomas F., New York, N. Y., assignor to Pedaphone Company. Pedal-keyboard musical instrument. No. 980,149; Dec. 27; Sp. p. 5929; Gaz. vol. 161; p. 1012.
Geb, George F., Franklin, Mass. Carding mechanism. No. 978,908; Dec. 20; Sp. p. 3407; Gaz. vol. 161; p. 599.
Geddes, Albert H., Empire, Panama. Dipper-trip for steam-shovels. No. 978,575; Dec. 13; Sp. p. 2522; Gaz. vol. 161; p. 430.
Geiger, Frank, Patoka, Ill. Wagon-top. No. 979,839; Dec. 27; Sp. p. 5258; Gaz. vol. 161; p. 910.
Geis, William H., Massillon, Ohio. Hot-water boiler. No. 978,365; Dec. 13; Sp. p. 2045; Gaz. vol. 161; p. 357.
Gemmill, James I., Cleveland, Ohio. Automatic phonograph of the wax-cylinder type. No. 978,014; Dec. 6; Sp. p. 1273; Gaz. vol. 161; p. 204.
Genella, Alphonse J. K., New Orleans, La., assignor, by mesne assignments, to G. H. Underhill, Boston, Mass. Multiple-record graphophone. No. 979,466; Dec. 27; Sp. p. 4419; Gaz. vol. 161; p. 782.
General Electric Company. (See Arsem, William C., assignor.)
General Electric Company. (See Milch, Maurice, assignor.)
General Electric Company. (See Priest, Edward D., assignor.)
General Electric Company. (See Schattner, Ernest, assignor.) (Reissue.)
General Electric Company. (See Wakefield, William O., assignor.)
General Electric Company. (See White, Harold E., assignor.)
General Electric Company. (See Wiard, John B., assignor.)
Gentle, Charles, Hamilton, Ontario, Canada. Truck. No. 978,015; Dec. 6; Sp. p. 1281; Gaz. vol. 161; p. 205.
George Frost Company. (See Glidden, George B., assignor.)
George H. Frothingham Co. (See Prescott, Arthur T., assignor.)
Geraerdts, Gerard H., New York, N. Y. Window-sill. No. 977,946; Dec. 6; Sp. p. 1133; Gaz. vol. 161; p. 182.
Gerdin, Sven P., Amal, Sweden. Sewing-machine table. No. 977,726; Dec. 6; Sp. p. 681; Gaz. vol. 161; p. 105.
Gering, Andrew, Chicago, Ill. Switch. No. 980,150; Dec. 27; Sp. p. 5933; Gaz. vol. 161; p. 1013.
Gernsback, Hugo, New York, N. Y. Relay. No. 978,999; Dec. 20; Sp. p. 3410; Gaz. vol. 161; p. 600.
Gerster & Cie. (See Evers, Heinz, assignor.)
Gervin, Charles D., New York, N. Y. Pendant-switch. No. 977,446; Dec. 6; Sp. p. 38; Gaz. vol. 161; p. 9.
Geurink, Bernard A., East Cleveland, assignor to The Trenkamp Stove and Manufacturing Company, Cleveland, Ohio. Water-heater. No. 980,095; Dec. 27; Sp. p. 5794; Gaz. vol. 161; p. 993.
Gibberd, George W., and O. A. Elias, London, England. Telephone-mouthpiece. No. 979,467; Dec. 27; Sp. p. 4424; Gaz. vol. 161; p. 782.
Gibbs, Charles, and J. Sokolov, assignors to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 979,000; Dec. 20; Sp. p. 3411; Gaz. vol. 161; p. 600.
Gibbs, James M., assignor of one-half to G. E. Powell, Santa Ana, Cal. Valve-seating attachment. No. 979,068; Dec. 20; Sp. p. 3557; Gaz. vol. 161; p. 622.
Gibbs, John C. (See Pletcher and Gibbs.)
Gibbs, William D., Durham, N. H. Educational appliance. No. 977,793; Dec. 6; Sp. p. 819; Gaz. vol. 161; p. 127.
Gibbs, William E., Pittsburg, Pa. Mechanical player for organs. No. 979,284; Dec. 20; Sp. p. 4062; Gaz. vol. 161; p. 699.
Gibson, Robert A., Berkeley, and J. B. Sartolou, Emeryville, Cal. Music-leaf turner. No. 979,042; Dec. 27; Sp. p. 5463; Gaz. vol. 161; p. 944.
Gibson, William W., assignor of one-half to D. W. Hanbury, Victoria, British Columbia, Canada. Flying-machine. No. 978,732; Dec. 13; Sp. p. 2849; Gaz. vol. 161; p. 483.
Giese, Robert W., Philadelphia, Pa. Garment-hanger. No. 977,727; Dec. 6; Sp. p. 682; Gaz. vol. 161; p. 106.
Gilbert, Joseph M., Mount Vernon, N. Y. Automobile-wheel. No. 979,468; Dec. 27; Sp. p. 4425; Gaz. vol. 161; p. 782.
Gilbert, Perry R., Chambersburg, Pa., assignor of one-half to S. R. Gilbert, Washington, D. C. Lock for umbrellas, canes, and the like. No. 977,612; Dec. 6; Sp. p. 446; Gaz. vol. 161; p. 66.
Gilbert, Stanley R. (See Gilbert, Perry R., assignor.)
Gilbertson, George, Bloomfield, Nebr. Cultivator. No. 979,150; Dec. 20; Sp. p. 3779; Gaz. vol. 161; p. 654.
Gilchrist, John E., South Bend, Wash. Pulley-block. No. 977,613; Dec. 6; Sp. p. 448; Gaz. vol. 161; p. 67.
Giles, W. Trickett. (See Westphal, Albert, assignor.)
Gill, Edwin R., Yonkers, N. Y., assignor to United States Electric Company. Answer-back signal. No. 978,733; Dec. 13; Sp. p. 2851; Gaz. vol. 161; p. 483.
Gilles, John. (See Walker and Gilles.)
Gillette, Walter A., Los Angeles, Cal. Rotary road-scarifier. No. 978,016; Dec. 6; Sp. p. 1282; Gaz. vol. 161; p. 205.
Gilligan, John, Nebraska City, Nebr. Reinforced concrete construction. No. 979,285; Dec. 20; Sp. p. 4067; Gaz. vol. 161; p. 699.
Gilman, Frederick J., assignor of one-fourth to H. A. Allan, Montreal, Quebec, Canada. Transporter-rail. No. 979,469; Dec. 27; Sp. p. 4428; Gaz. vol. 161; p. 783.
Gilman, John J. (See Malloy, Thomas, assignor.)
Girod, Paul, Ugine, France. Electric furnace for metallurgical purposes. (Reissue.) No. 13,186; Dec. 27; Sp. p. 6007; Gaz. vol. 161; p. 1022.
Gits, Alphons H., Chicago, Ill. Transmission-belt. No. 979,151; Dec. 20; Sp. p. 3781; Gaz. vol. 161; p. 654.
Gittins, Charles E., Twickenham, England. Automatic piano-player. No. 979,470; Dec. 27; Sp. p. 4430; Gaz. vol. 161; p. 783.
Glaser, George, Halleck, Nebr. Straw-hoisting net. No. 980,096; Dec. 27; Sp. p. 5796; Gaz. vol. 161; p. 994.
Glauser, Gustave, Girardot, Colombia, assignor to Ferd. Esser & Co., Hamburg, Germany. Implement for tapping trees. No. 978,366; Dec. 13; Sp. p. 2047; Gaz. vol. 161; p. 357.
Glawatzky, Kasimir, Philadelphia, Pa. Life-saving fire-escape. No. 978,447; Dec. 13; Sp. p. 2220; Gaz. vol. 161; p. 385.
Glenn, William H., Hempstead, N. Y. Valve. No. 977,614; Dec. 6; Sp. p. 450; Gaz. vol. 161; p. 67.
Glidden, George B., Dighton, assignor to George Frost Company, Boston, Mass. Display-package for garters. No. 978,367; Dec. 13; Sp. p. 2049; Gaz. vol. 161; p. 357.
Glines, Earl C., Leominster, Mass., assignor of two-thirds to I. E. Glines and one-third to J. W. Bond, Providence, R. I. Barrette. No. 979,471; Dec. 27; Sp. p. 4432; Gaz. vol. 161; p. 783.
Glines, Ida E., *et al.* (See Glines, Earl C., assignor.)
Gnoeth, Emil, Madisonville, assignor to The International Harness Machinery Company, Cincinnati, Ohio. Thong-stitch sewing-machine. No. 978,017; Dec. 6; Sp. p. 1284; Gaz. vol. 161; p. 205.
Goddard, Walter T., assignor to Locke Insulator Manufacturing Company, Victor, N. Y. Insulator-base. No. 979,840; Dec. 27; Sp. p. 5259; Gaz. vol. 161; p. 910.
Goehner, Fred, Buffalo, N. Y. Flying-machine. No. 979,472; Dec. 27; Sp. p. 4433; Gaz. vol. 161; p. 783.

Goetz, George, assignor to Streeter-Amet Weighing & Recording Company, Chicago, Ill. Automatic car weighing and recording scale. No. 978,874; Dec. 20; Sp. p. 3119; Gaz. vol. 161; p. 553.

Goetz, George, assignor to Streeter Amet Weighing & Recording Company, Chicago, Ill. Recording car-scale. No. 979,401; Dec. 20; Sp. p. 4277; Gaz. vol. 161; p. 735.

Goewey, James E., Newark, N. J., assignor to Diamond Expansion Bolt Company. Toggle-bolt. No. 979,841; Dec. 27; Sp. p. 5260; Gaz. vol. 161; p. 911.

Goff, George W. (See Abell, Irvin H., assignor.)

Goheen, Leonard L., Sherwood, N. D. Weed, stubble, and seed burning machine. No. 978,875; Dec. 20; Sp. p. 3122; Gaz. vol. 161; p. 554.

Gohl, Friedrich L., Arlen, near Singen, Germany. Inkstand. No. 979,473; Dec. 27; Sp. p. 4435; Gaz. vol. 161; p. 784.

Gold, Egbert H., Chicago, Ill. Thawing device for drip-pipes. No. 978,150; Dec. 13; Sp. p. 1591; Gaz. vol. 161; p. 282.

Goldblatt, Edward J., Chicago, Ill. Electrically-ignited burner. No. 977,521; Dec. 6; Sp. p. 233; Gaz. vol. 161; p. 35.

Goldsborough, John B., Croton, assignor to The Underpinning Company, New York, N. Y. Apparatus for the construction of supports for building and other structures. No. 979,474; Dec. 27; Sp. p. 4436; Gaz. vol. 161; p. 784.

Goldschmidt Detinning Company. (See Goldschmidt and Weber, assignors.)

Goldschmidt, Karl, and J. Weber, Essen-on-the-Ruhr, Germany, assignors to Goldschmidt Detinning Company, Jersey City, N. J. Furnace for heating old tinned sheet-iron boxes and the like to render them suitable to be detinned. No. 978,018; Dec. 6; Sp. p. 1287; Gaz. vol. 161; p. 206.

Goldsmith, Joel L., Chicago, Ill. Fountain-pen. No. 979,757; Dec. 27; Sp. p. 5064; Gaz. vol. 161; p. 882.

Goldsmith, Karl M., *et al.* (See Harris, Nathan, assignor.)

Goodall, Samuel H. (See Smith, Newton A., assignor.)

Goodell, Henry E., Greenfield, Mass. Miter-box. No. 978,576; Dec. 13; Sp. p. 2524; Gaz. vol. 161; p. 431.

Gooderham, Edward G. (See May, Thomas L., assignor.)

Goodknight, John M., Kansas City, Kans. Elevator. No. 979,001; Dec. 20; Sp. p. 3415; Gaz. vol. 161; p. 600.

Goodridge, Gilbert W., assignor to The Bryant Electric Company, Bridgeport, Conn. Pull-socket for electric lamps. No. 979,475; Dec. 27; Sp. p. 4440; Gaz. vol. 161; p. 784.

Goodson, George A., Minneapolis, Minn. Apparatus for treating metals. No. 978,448; Dec. 13; Sp. p. 2221; Gaz. vol. 161; p. 385.

Goodwyne, Charles O., Jr. (See Wolcott and Goodwyne.)

Goodwyne, Early N. (See Wolcott and Goodwyne.)

Gordon, George E., Philadelphia, Pa. Apparatus for cleansing bottles and jars. No. 979,842; Dec. 27; Sp. p. 5261; Gaz. vol. 161; p. 911.

Gordon, John R. (See Hayden and Gordon.)

Gordon, Seth, Chazy, N. Y. Lantern-hook. No. 978,734; Dec. 13; Sp. p. 2859; Gaz. vol. 161; p. 484.

Gore, Roscoe C., Tecumseh, Nebr. Aerial navigator. No. 979,286; Dec. 20; Sp. p. 4068; Gaz. vol. 161; p. 700.

Goss, John H., assignor to Scovill Manufacturing Company, Waterbury, Conn. Staple for attaching barbuttons. No. 977,615; Dec. 6; Sp. p. 451; Gaz. vol. 161; p. 67.

Gossett, Alfred N. (See Gossett, Elwood, assignor.)

Gossett, Elwood, Kansas City, Kans., assignor of one-half to A. N. Gossett, Kansas City, Mo. Paint-oil. No. 979,662; Dec. 27; Sp. p. 4847; Gaz. vol. 161; p. 850.

Gottschalk, Felix, New York, N. Y. Telephone-transmitter. No. 977,616; Dec. 6; Sp. p. 453; Gaz. vol. 161; p. 68.

Gottschalk, Felix, New York, N. Y. Telephone-transmitter. No. 977,617; Dec. 6; Sp. p. 456; Gaz. vol. 161; p. 68.

Gottschalk, Felix, New York, N. Y. Telephone-transmitter. No. 977,618; Dec. 6; Sp. p. 458; Gaz. vol. 161; p. 69.

Gottschalk, Felix, New York, N. Y. Telephone-transmitter. No. 977,619; Dec. 6; Sp. p. 459; Gaz. vol. 161; p. 69.

Gottschalk, Felix, New York, N. Y. Telephone-transmitter. No. 977,620; Dec. 6; Sp. p. 461; Gaz. vol. 161; p. 69.

Gottschalk, Felix, New York, N. Y. Sound-reproducing device. No. 977,621; Dec. 6; Sp. p. 463; Gaz. vol. 161; p. 70.

Gottschalk, Felix, New York, N. Y. Telephone-transmitter. No. 977,622; Dec. 6; Sp. p. 466; Gaz. vol. 161; p. 70.

Gottschalk, Felix, New York, N. Y. Telephone-transmitter. No. 977,623; Dec. 6; Sp. p. 468; Gaz. vol. 161; p. 70.

Gould, Edward, assignor of one-fourth to S. C. Pattridge, one-fourth to W. D. Ingalls, and one-fourth to F. Viall, Spring Valley, Minn. Cut-out telephone system. No. 977,447; Dec. 6; Sp. p. 41; Gaz. vol. 161; p. 9.

Gould-Mersereau Company *et al.* (See McBride, Charles S., assignor.)

Grabe, William H., and J. Brant, Fort Gage, Ill. Corn-planter. No. 978,735; Dec. 13; Sp. p. 2860; Gaz. vol. 161; p. 484.

Graf, Alfred. (See Graf, Otto and A.)

Graf, Otto and A., Messkirch, Germany. Machine for stringing tobacco-leaves. No. 979,287; Dec. 20; Sp. p. 4071; Gaz. vol. 161; p. 700.

Grafton, Frank H. (See Foster and Grafton.)

Grafton, William S., *et al.* (See Foster and Grafton, assignors.)

Graham, Albert C., Oilfields, Cal. Rope-knife. No. 978,577; Dec. 13; Sp. p. 2528; Gaz. vol. 161; p. 431.

Graham, James H., Pittsburg, assignor of one-half to E. Kemp, Coal Valley, Pa. Bottle. No. 978,736; Dec. 13; Sp. p. 2862; Gaz. vol. 161; p. 484.

Grand Rapids Show Case Company. (See Freeman, William F., assignor.)

Grand Rapids Show Case Company. (See Vanderveld, Anthony, assignor.)

Grant, Edward, Mobile, Ala. Display-carrier. No. 980,007; Dec. 27; Sp. p. 5798; Gaz. vol. 161; p. 994.

Grant, Francis M., Napoleon, Ohio. Meat-case. No. 978,578; Dec. 13; Sp. p. 2529; Gaz. vol. 161; p. 431.

Grant, John B., Atlanta, Ga. Bill-board. No. 977,862; Dec. 6; Sp. p. 962; Gaz. vol. 161; p. 151.

Grantham, Alexander H., Durban, Natal. Writing implement. No. 979,843; Dec. 27; Sp. p. 5264; Gaz. vol. 161; p. 911.

Graves, Albert H. (See Soans and Graves.)

Graves, Hiram P., Elmira Heights, N. Y. Valve-gear. No. 978,737; Dec. 13; Sp. p. 2863; Gaz. vol. 161; p. 485.

Gravity Conveyor Company. (See Schwab, Martin C., assignor.)

Gray, Hobart H., assignor to The Standard Optical Company, Geneva, N. Y. Nose-guard. No. 979,288; Dec. 20; Sp. p. 4072; Gaz. vol. 161; p. 700.

Gray National Telautograph Company, The. (See Armstrong, Ralph W., assignor.)

Grebel, Paul J., and W. J. Theis, assignors to Manufacturers Equipment Company, Chicago, Ill. Air-valve. No. 978,579; Dec. 13; Sp. p. 2529; Gaz. vol. 161; p. 431.

Green, Alfred R., Leeds, England. Shoe-straightener. No. 978,286; Dec. 13; Sp. p. 1889; Gaz. vol. 161; p. 331.

Green, Gustavus, Bexhill, England. Valve-operating mechanism for use in internal-combustion engines. No. 979,943; Dec. 27; Sp. p. 5465; Gaz. vol. 161; p. 944.

Green, William J., Chicago, Ill. Concrete tie. No. 977,728; Dec. 6; Sp. p. 683; Gaz. vol. 161; p. 106.

Greenberg Automatic Fitting Machine Company. (See Greenberg, Samuel E., assignor.)

Greenberg, Samuel E., assignor to Greenberg Automatic Fitting Machine Company, Chicago, Ill. Pinning-machine. No. 979,758; Dec. 27; Sp. p. 5065; Gaz. vol. 161; p. 882.

Greenfield, Edwin T., Kiamesha, N. Y. Hose. No. 979,759; Dec. 27; Sp. p. 5071; Gaz. vol. 161; p. 883.

Greenfield, Edwin T., Kiamesha, N. Y. Hose. No. 979,760; Dec. 27; Sp. p. 5072; Gaz. vol. 161; p. 883.

Greenlaw Manufacturing Company, The. (See Greenlaw, Warren A., assignor.)

Greenlaw, Warren A., Melrose Highlands, Mass. Lamp-controlling device for motor-cars. No. 977,729; Dec. 6; Sp. p. 684; Gaz. vol. 161; p. 106.

Greenlaw, Warren A., Melrose Highlands, assignor to The Greenlaw Manufacturing Company, Boston, Mass. Flexible pipe-joint. No. 978,876; Dec. 20; Sp. p. 3124; Gaz. vol. 161; p. 554.

Greer, Howard, Jr., Chicago, Ill. Coke-drawing machine. No. 977,522; Dec. 6; Sp. p. 235; Gaz. vol. 161; p. 35.

Gregory, J. Allen. (See Johnson, Oscar W., assignor.)

Gregory, Robert H. (See Coleman, Lewis A., assignor.)

Greter, John G., Crestline, Ohio. Collar. No. 978,738; Dec. 13; Sp. p. 2865; Gaz. vol. 161; p. 485.

Grever, Edward C., Cincinnati, Ohio. Garment-pressing machine. No. 979,844; Dec. 27; Sp. p. 5265; Gaz. vol. 161; p. 911.

Grewe, Albert H., Des Plaines, Ill. Muffler for explosive-engines. No. 978,287; Dec. 13; Sp. p. 1801; Gaz. vol. 161; p. 331.

Gridley, Lewis G. (See Baker, William J., assignor.)

Griffen, Catherine S., administratrix. (See Griffen, Henry R.)

Griffen, Henry R., deceased, Phoenixville, Pa.; C. S. Griffen, administratrix. Calculating or computing machine. No. 979,391; Dec. 20; Sp. p. 4250; Gaz. vol. 161; p. 782.

Griffin, Charles J. (See Garton, William R., assignor.)

Griffing, Charles E., Salt Lake City, Utah. Explosive. No. 979,476; Dec. 27; Sp. p. 4441; Gaz. vol. 161; p. 784.

Grimes, Thaddeus S., Columbus, Ga., assignor to F. H. Lummus Sons Company. Gear mechanism for cotton-gin feeders. No. 978,877; Dec. 20; Sp. p. 3126; Gaz. vol. 161; p. 555.

Grimm, William. (See Elwell, Grimm, and Drexler.)

Griswold, George M., and H. C. Beagley, Kingman, Kans. Bonding and tie plate for building-blocks. No. 977,794; Dec. 6; Sp. p. 821; Gaz. vol. 161; p. 128.

Griswold Manufacturing Company. (See Griswold and Briegel, assignors.)

Griswold, Milton O., and T. Briegel, assignors to Griswold Manufacturing Company, Rock Island, Ill. Dust-collector. No. 978,739; Dec. 13; Sp. p. 2866; Gaz. vol. 161; p. 485.

Grohs, Anton, East Pittsburg, Pa. Danger-signal apparatus for mines, &c. No. 977,947; Dec. 6; Sp. p. 1135; Gaz. vol. 161; p. 182.

Gronke, William, and W. T. Rouse, Canora, Saskatchewan, Canada. Railway-spike. No. 977,795; Dec. 6; Sp. p. 823; Gaz. vol. 161; p. 128.

Gross, Harry E., Knoxville, assignor of one-half to W. H. Arras, Pittsburg, Pa. Threading-machine. No. 979,152; Dec. 20; Sp. p. 3784; Gaz. vol. 161; p. 655.

Grosvenor, William M. (See May and Grosvenor.)

Grover, Ronello A., Andover, Me. Skewer-making machine. No. 977,948; Dec. 6; Sp. p. 1137; Gaz. vol. 161; p. 183.

Grubb, Howard, Rathmines, Dublin, Ireland. Apparatus for sighting objects from protected positions. No. 978,368; Dec. 13; Sp. p. 2050; Gaz. vol. 161; p. 358.

Guadagni, Giuseppe, Pavia, Italy. Apparatus for the manufacture of artificial silk. No. 977,863; Dec. 6; Sp. p. 963; Gaz. vol. 161; p. 152.

Guadagni, Giuseppe, Pavia, Italy. Manufacture of artificial silk. No. 978,878; Dec. 20; Sp. p. 3128; Gaz. vol. 161; p. 555.

Guernsey, Charles C., Derry, N. H., assignor of one-half to F. O. Libbey, Lawrence, Mass. Monkey-wrench. No. 978,151; Dec. 13; Sp. p. 1593; Gaz. vol. 161; p. 283.

Gugler, Julius H., Milwaukee, Wis. Electric-battery cell. No. 979,153; Dec. 20; Sp. p. 3786; Gaz. vol. 161; p. 655.

Gugler, Julius H., Milwaukee, Wis. Combined primary and secondary battery system. No. 979,154; Dec. 20; Sp. p. 3788; Gaz. vol. 161; p. 656.

Gugler, Julius H., Milwaukee, Wis. Combined primary and secondary battery system. No. 979,155; Dec. 20; Sp. p. 3789; Gaz. vol. 161; p. 656.

Guhl, Heinrich A. H., Hamburg, Germany. Machine for sharpening knives. No. 977,624; Dec. 6; Sp. p. 470; Gaz. vol. 161; p. 71.

Guillo, Harry P., Revere, Mass. Gripper mechanism for cylinder-presses. No. 979,845; Dec. 27; Sp. p. 5267; Gaz. vol. 161; p. 912.

Gunderson, Gust. (See Durant and Gunderson.)

Gunnell, Orville J. (See Wood, Charles E., assignor.)

Günther, Oscar, L. Hesse, Elberfeld, and A. Zart, Vohwinkel, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Dye. No. 978,580; Dec. 13; Sp. p. 2532; Gaz. vol. 161; p. 432.

Gunton, Frank W., London, England, assignor to The Wilcox & White Company, Meriden, Conn. Automatic musical instrument. No. 980,151; Dec. 27; Sp. p. 5933; Gaz. vol. 161; p. 1013.

Gustafson, Victor G., Joliet, Ill. Automatic balancing device. No. 977,523; Dec. 6; Sp. p. 242; Gaz. vol. 161; p. 36.

Gutermuth, Max F., Darmstadt, Germany. Automatically-acting spring flap-valve. No. 978,152; Dec. 13; Sp. p. 1595; Gaz. vol. 161; p. 283.

Guthrie, Bayard, Pittsburg, Pa., and J. P. Karch, Plainville, Conn. Electric furnace. No. 979,663; Dec. 27; Sp. p. 4848; Gaz. vol. 161; p. 850.

Guthrie, Nehemiah, and C. L. Johnson, Dallas, Tex. Tire for vehicle-wheels. No. 978,019; Dec. 6; Sp. p. 1289; Gaz. vol. 161; p. 206.

Guttmann, Walter, Mülheim-on-the-Ruhr, Germany. Plaster. No. 977,730; Dec. 6; Sp. p. 686; Gaz. vol. 161; p. 107.

H. Mueller Manufacturing Company. (See Mueller, Henry, assignor.)

H. F. Barrows Co. (See Benjamin, George H., assignor.)

H. K. Porter Company. (See Hodges, Charles B., assignor.)

H. L. Judd Company *et al.* (See McBride, Charles S., assignor.)

H. P. and E. Day. (See Pierson, William D., assignor.)

Haas, Fred W., assignor of one-third to G. N. Powell, Pittsburg, Pa. Raw-water-freezing apparatus. No. 980,152; Dec. 27; Sp. p. 5935; Gaz. vol. 161; p. 1013.

Hadaway, William S., Jr., East Orange, N. J., assignor to Westinghouse Electric and Manufacturing Company. Electrically-heated device. No. 977,625; Dec. 6; Sp. p. 471; Gaz. vol. 161; p. 71.

Hadaway, William S., Jr., East Orange, N. J., assignor to Westinghouse, Electric and Manufacturing Company. Electric toaster. No. 977,626; Dec. 6; Sp. p. 472; Gaz. vol. 161; p. 71.

Hadley, Artemus N., Indianapolis, Ind. Shock-lifter. (Reissue.) No. 13,187; Dec. 27; Sp. p. 6010; Gaz. vol. 161; p. 1023.

Hadley, James, Swanlake, Idaho. Hay-loader. No. 979,846; Dec. 27; Sp. p. 5269; Gaz. vol. 161; p. 912.

Hadley, William, *et al.* (See Stowell, Byron F., assignor.)

Haehnle, George. (See Clay, Fred, assignor.)

Haennig, Joseph E., Belfort, France. Thermodynamic machine. No. 977,731; Dec. 6; Sp. p. 687; Gaz. vol. 161; p. 107.

Hafsaas, John A., Gross, Nebr. Seed-corn grader or separator. No. 977,524; Dec. 6; Sp. p. 244; Gaz. vol. 161; p. 36.

Hahn, George, New York, N. Y. Vegetable-cutter. No. 978,153; Dec. 13; Sp. p. 1598; Gaz. vol. 161; p. 283.

Hainer, Whitfield, Toronto, Ontario, Canada. Type-writing machine. No. 978,360; Dec. 13; Sp. p. 2054; Gaz. vol. 161; p. 358.

Haldeman, John R., Springfield, Mo. Domestic boiler. No. 978,020; Dec. 6; Sp. p. 1290; Gaz. vol. 161; p. 207.

Hall, Dana G. (See King and Hall.)

Hall, Frank B., Wheeling, W. Va. Electric-circuit-changing mechanism. No. 978,879; Dec. 20; Sp. p. 3130; Gaz. vol. 161; p. 555.

Hall, George L., New York, N. Y. Guard-rail clamp. No. 979,477; Dec. 27; Sp. p. 4442; Gaz. vol. 161; p. 784.

Hall, George L., New York, N. Y. Rail-joint. No. 979,478; Dec. 27; Sp. p. 4443; Gaz. vol. 161; p. 785.

Hall, Harvey, Paonia, Colo. Reel. No. 977,732; Dec. 6; Sp. p. 689; Gaz. vol. 161; p. 107.

Hall, Joel E., Meridian, Miss. Vertically-movable shade-bracket. No. 977,949; Dec. 6; Sp. p. 1140; Gaz. vol. 161; p. 183.

Hall, Louis H., New York, N. Y. Clutch mechanism. No. 977,864; Dec. 6; Sp. p. 965; Gaz. vol. 161; p. 152.

Hall, Rollie E., Liverpool, N. Y. Pocket-fastener. No. 979,156; Dec. 20; Sp. p. 3792; Gaz. vol. 161; p. 657.

Hall, Stephen S., assignor to The Pickering Governor Co., Portland, Conn. Self-locking automatic stop for governors. No. 979,289; Dec. 20; Sp. p. 4074; Gaz. vol. 161; p. 700.

Hall, Thomas, assignor to Ridgway Dynamo & Engine Company, Ridgway, Pa. Valve-gear. No. 979,002; Dec. 20; Sp. p. 3421; Gaz. vol. 161; p. 601.

Hall, William A., assignor to The Cincinnati Cooperage Company, Cincinnati, Ohio. Parquet flooring. No. 977,796; Dec. 6; Sp. p. 824; Gaz. vol. 161; p. 129.

Haller, Edward, assignor of one-fourth to J. J. Koller and one-fourth to L. Herold, Cleveland, Ohio. Cigar-ash protector. No. 979,944; Dec. 27; Sp. p. 5466; Gaz. vol. 161; p. 944.

Haller, Joseph F., Sheridan borough, Pa. Filling-machine. No. 978,154; Dec. 13; Sp. p. 1599; Gaz. vol. 161; p. 284.

Hallock, Anne L. (See Hallock, Arthur T., assignor.)

Hallock, Arthur T., Grand Rapids, assignor, by mesne assignments, to A. L. Hallock, Muskegon, Mich. Swinging bed or hammock. No. 979,157; Dec. 20; Sp. p. 3794; Gaz. vol. 161; p. 657.

Hallock, Arthur T., Grand Rapids, assignor, by mesne assignments, to A. L. Hallock, Muskegon, Mich. Bottom for hammocks. No. 979,158; Dec. 20; Sp. p. 3795; Gaz. vol. 161; p. 657.

Hamilton, Augustus W., and E. L. Thompson, Bluffton, Ind. Fence-post brace. No. 978,740; Dec. 13; Sp. p. 2869; Gaz. vol. 161; p. 486.

Hamilton, Harry F., Boston, Mass. Saliva-tube for dentists' use. No. 979,290; Dec. 20; Sp. p. 4076; Gaz. vol. 161; p. 701.

Hamilton, Henry M., assignor to International Text Book Company, Scranton, Pa. Type-writing machine. No. 979,480; Dec. 27; Sp. p. 4447; Gaz. vol. 161; p. 786.

Hamilton, William L., Glasgow, Scotland. Aerial or suspended railway. No. 978,581; Dec. 13; Sp. p. 2533; Gaz. vol. 161; p. 432.

Hamm, Phillip T. (See Evans and Hamm.)

Hamm, Philip T., assignor to Atlas Chain Company, New York, N. Y. Antiskid device for tires. No. 979,159; Dec. 20; Sp. p. 3796; Gaz. vol. 161; p. 658.

Hamm, Philip T., assignor to Atlas Chain Company, New York, N. Y. Antiskid device for tires. No. 979,160; Dec. 20; Sp. p. 3798; Gaz. vol. 161; p. 658.

Hammond, Robert O., assignor of one-half to H. A. Evans, one-fourth to C. E. Tyler, and one-eighth to J. S. Tyler, Rome, N. Y. Cold handle for cooking utensils. No. 979,847; Dec. 27; Sp. p. 5271; Gaz. vol. 161; p. 912.

Hammond, William P., assignor to Securo Manufacturing Company, Passaic, N. J. Electrical switch. No. 977,797; Dec. 6; Sp. p. 826; Gaz. vol. 161; p. 129.

Hanbury, David W. (See Gibson, William W., assignor.)

Handel, Philip J., and A. E. Teich, Meriden, Conn.; said Teich assignor to said Handel. Shade-holder. No. 979,664; Dec. 27; Sp. p. 4850; Gaz. vol. 161; p. 850.

Handlan, Alexander H., Jr., St. Louis, Mo. Lantern-frame. No. 979,848; Dec. 27; Sp. p. 5272; Gaz. vol. 161; p. 913.

Hanlon, Bernard, Miles City, Mont. Hame-ring. No. 977,733; Dec. 6; Sp. p. 692; Gaz. vol. 161; p. 108.

Hanna, William T., assignor, by mesne assignments, to The Mechanical Construction Company, Cincinnati, Ohio. Automatic stoker. No. 979,849; Dec. 27; Sp. p. 5273; Gaz. vol. 161; p. 913.

Hanna, William T., assignor, by mesne assignments, to The Mechanical Construction Company, Cincinnati, Ohio. Automatic stoker. No. 979,850; Dec. 27; Sp. p. 5276; Gaz. vol. 161; p. 913.

Hannold, Ed J., Mexico, Mo., assignor, by mesne assignments, to C. M. Clay. Hose-coupling. No. 979,481; Dec. 27; Sp. p. 4448; Gaz. vol. 161; p. 786.

Hansen, Alfred, Gotham, Wis. Pan-handle. No. 978,741; Dec. 13; Sp. p. 2870; Gaz. vol. 161; p. 486.

Hansen, Charles C., Easton, Pa., assignor to Ingersoll-Rand Company, New York, N. Y. Mounting for drills. No. 977,734; Dec. 6; Sp. p. 693; Gaz. vol. 161; p. 108.

Hansen, Hans C., *et al.* (See Feller, Adolph F., assignor.)

Hansen, Hansine K., New York, N. Y. Parasol-bag. No. 980,098; Dec. 27; Sp. p. 5800; Gaz. vol. 161; p. 995.

Hansen, John C., Jr., Newark, N. J. Plumb-level. No. 977,735; Dec. 6; Sp. p. 694; Gaz. vol. 161; p. 108.

Hansen, John S., Medford, Mass., assignor, by mesne assignments, to O. A. Miller Treeing Machine Company, Portland, Me. Holder for boot and shoe forms. No. 979,851; Dec. 27; Sp. p. 5279; Gaz. vol. 161; p. 914.

Hanson, Charles A., Donovan, Ill. Rope-supporting device for hay-elevators. No. 979,665; Dec. 27; Sp. p. 4851; Gaz. vol. 161; p. 851.

Hanson, Martin, assignor to Louis Hanson Company, Chicago, Ill. Hydraulic chair. No. 977,736; Dec. 6; Sp. p. 698; Gaz. vol. 161; p. 109.

Hanson, Paul, and S. Matney, Rockford, Wash. Mail-bag crane. No. 977,627; Dec. 6; Sp. p. 473; Gaz. vol. 161; p. 72.

Happe, Arthur H., assignor of one-half to S. C. Mumford, Detroit, Mich. Electric sad-iron. No. 979,291; Dec. 20; Sp. p. 4076; Gaz. vol. 161; p. 701.

Harders, Hartwig M. A., Milwaukee, Wis., assignor, by mesne assignments, to S. Stein, Chicago, Ill. Pasteurizing apparatus. (Reissue.) No. 13,188; Dec. 27; Sp. p. 6014; Gaz. vol. 161; p. 1025.

Hardman, Samuel, Holyoke, Mass. Apparatus for providing alum solution for paper-makers' use. No. 979,482; Dec. 27; Sp. p. 4450; Gaz. vol. 161; p. 786.

Hardy, Frederick, Columbia, Tenn. Nut-lock. No. 978,021; Dec. 6; Sp. p. 1292; Gaz. vol. 161; p. 207.

Hargie, Thomas, assignor, by mesne assignments, to E. Cook, Kalamazoo, Mich. Drilling-machine. No. 979,161; Dec. 20; Sp. p. 3800; Gaz. vol. 161; p. 658.

Hargrave, Charles F., Winthrop, Mass. Composite roller. No. 979,668; Dec. 27; Sp. p. 4852; Gaz. vol. 161; p. 851.

Harkom, John W., Melbourne, Quebec, Canada. Valve. No. 978,288; Dec. 13; Sp. p. 1893; Gaz. vol. 161; p. 331.

Harley, William S., Milwaukee, Wis. Variable-speed gearing. No. 978,880; Dec. 20; Sp. p. 3132; Gaz. vol. 161; p. 556.

Harley, William S., Milwaukee, Wis. Vehicle-frame. No. 978,881; Dec. 20; Sp. p. 3137; Gaz. vol. 161; p. 557.

Harley, William S., Milwaukee, Wis. Spring-seat post. No. 979,483; Dec. 27; Sp. p. 4452; Gaz. vol. 161; p. 787.

Harley, William S., Milwaukee, Wis. Lubricator system. No. 979,484; Dec. 27; Sp. p. 4454; Gaz. vol. 161; p. 787.

Harner, Philip H., Dooms, Va. Telephone cut-out. No. 979,292; Dec. 20; Sp. p. 4078; Gaz. vol. 161; p. 701.

Harnischfeger, August, New York, N. Y. Suspension-clamp for meat and bacon. No. 979,945; Dec. 27; Sp. p. 5468; Gaz. vol. 161; p. 945.

Harper, Harold E., Atwood, Kans. Lumber-piler. No. 979,293; Dec. 20; Sp. p. 4080; Gaz. vol. 161; p. 702.

Harpster, Willis M., Florence, Kans. Vaporizer for internal-combustion engines. No. 979,667; Dec. 27; Sp. p. 4853; Gaz. vol. 161; p. 851.

Harrell, Samuel J., Minden, La. Safety-nest. No. 979,294; Dec. 20; Sp. p. 4082; Gaz. vol. 161; p. 702.

Harris Air Pump Company. (See Miller, Francis S., assignor.)

Harris, Benjamin, *et al.* (See Lutz, Herbert, assignor.)

Harris, Ford W., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Circuit-breaker. No. 978,882; Dec. 20; Sp. p. 3139; Gaz. vol. 161; p. 557.

Harris, Joseph G., and A. Mancuso, Philadelphia, Pa. Telephone-receiver support. No. 978,370; Dec. 13; Sp. p. 2057; Gaz. vol. 161; p. 359.

Harris, Louis, *et al.* (See Harris, Nathan, assignor.)

Harris, Nathan, Jamaica Plain, Mass., assignor of one-third to K. M. Goldsmith, New York, N. Y., and one-third to L. Harris, Boston, Mass. Coat-collar. No. 977,865; Dec. 6; Sp. p. 969; Gaz. vol. 161; p. 153.

Harris, Nathan, Jamaica Plain, Mass., assignor of one-third to K. M. Goldsmith, New York, N. Y., and one-third to L. Harris, Boston, Mass. Coat-collar. No. 977,866; Dec. 6; Sp. p. 971; Gaz. vol. 161; p. 153.

Harris, William H., Gladstone, N. Mex. Portable track. No. 978,582; Dec. 13; Sp. p. 2537; Gaz. vol. 161; p. 432.

Harrison, Abraham, Los Angeles, Cal. Bath-tub headrest. No. 977,950; Dec. 6; Sp. p. 1142; Gaz. vol. 161; p. 184.

Harrison, Alexander R., Millville, N. J. Reflector for headlights. No. 979,852; Dec. 27; Sp. p. 5282; Gaz. vol. 161; p. 914.

Harrison, Frank M., Newton, assignor to C. H. McDermott, Malden, Mass. Bottle-stopper. No. 978,449; Dec. 13; Sp. p. 2223; Gaz. vol. 161; p. 385.

Harrison, Philip B., assignor to Chicago Railway Equipment Company, Chicago, Ill. Trussed structure. No. 980,009; Dec. 27; Sp. p. 5801; Gaz. vol. 161; p. 995.

Harrison Safety Boiler Works. (See Gamble, Joseph W., assignor.)

Harrison Safety Boiler Works. (See Jones, Robert V., assignor.)

Harrison Safety Boiler Works. (See Wallem, Axel B., assignor.)

Harrison, Samuel A., Brooklyn, N. Y. Oriental typewriter. No. 977,448; Dec. 6; Sp. p. 44; Gaz. vol. 161; p. 10.

Harrison, William L., Branford, Conn. Mechanism for transmitting rotary motion. No. 978,371; Dec. 13; Sp. p. 2059; Gaz. vol. 161; p. 359.

Harrod, Walter E., Harrod, Ohio. Index-tab. No. 979,946; Dec. 27; Sp. p. 5469; Gaz. vol. 161; p. 945.

Hart, Charles, Oakland, Cal., assignor to The Hart Heater Company. Burner for water-heaters. No. 978,123; Dec. 6; Sp. p. 1511; Gaz. vol. 161; p. 243.

Hart Heater Company, The. (See Hart, Charles, assignor.)

Hartshorn, Derick S., Boston, and A. A. Claflin, Medford, Mass. Electrolytic cell. No. 979,485; Dec. 27; Sp. p. 4458; Gaz. vol. 161; p. 788.

Hartshorn, Edmund F., assignor to Stewart Hartshorn Company, East Newark, N. J. Fastener. No. 979,853; Dec. 27; Sp. p. 5283; Gaz. vol. 161; p. 914.

Harvey, George H. (See Speer and Harvey.)

Harvey, Josiah H., Scranton, Pa. Vehicle-wheel. No. 978,289; Dec. 13; Sp. p. 1894; Gaz. vol. 161; p. 332.

Haskell, Broderick, Franklin, Pa., assignor to Chicago Railway Equipment Company, Chicago, Ill. Brake-beam. No. 979,668; Dec. 27; Sp. p. 4856; Gaz. vol. 161; p. 851.

Haskell, Byron W., and S. B. McCrea, Oakland, Cal. Car-fender. No. 977,867; Dec. 6; Sp. p. 973; Gaz. vol. 161; p. 153.

Haslup, William, Sidney, Ohio, assignor to Sidney Steel Scraper Company. Vehicle-wheel. No. 977,737; Dec. 6; Sp. p. 700; Gaz. vol. 161; p. 109.

Hastings, Charles B., New York, N. Y. Adjustable post for ratchet-drills. No. 980,100; Dec. 27; Sp. p. 5802; Gaz. vol. 161; p. 995.

Hatchell, Benjamin, Crockett, Tex. Animal-trap. No. 978,742; Dec. 13; Sp. p. 2872; Gaz. vol. 161; p. 486.

Hatfield, Henry S., Hove, England. Electrical resistance, contact, and the like. No. 978,022; Dec. 6; Sp. p. 1293; Gaz. vol. 161; p. 207.

Hathaway, Edgar F. (See Field, Lanning, Hathaway, and Blanchard.)

Haudenshield, Samuel, Carnegie, Pa. Rotary engine. No. 978,743; Dec. 13; Sp. p. 2874; Gaz. vol. 161; p. 487.

Hauer, Elmer E., assignor to The Lagonda Manufacturing Company, Springfield, Ohio. Tube-cleaning apparatus. No. 979,295; Dec. 20; Sp. p. 4084; Gaz. vol. 161; p. 703.

Hausfeld, Joseph E., *et al.* (See Mieth, Otto F., assignor.)

Hausman, John. (See Blevney and Hausman.)

Hawkins, John W., New Durham, N. H. Skirt-measuring device. No. 978,155; Dec. 13; Sp. p. 1600; Gaz. vol. 161; p. 284.

Hawley, Herman. (See Schloss and Hawley.)

Hay, Marley F., assignor to Whitehead & Company, Fiume, Austria-Hungary. Device for regulating the submersion of submarine boats and the like. No. 977,951; Dec. 6; Sp. p. 1143; Gaz. vol. 161; p. 184.

Hayden, Arthur C., Brockton, Mass. Razor-stropper. No. 977,868; Dec. 6; Sp. p. 974; Gaz. vol. 161; p. 154.

Hayden, Arthur C., Brockton, Mass. Developing-tank for photographic films. No. 978,156; Dec. 13; Sp. p. 1601; Gaz. vol. 161; p. 284.

Hayden, Edwin J., and J. R. Gordon, Minneapolis, Minn. Suspenders. No. 979,947; Dec. 27; Sp. p. 5471; Gaz. vol. 161; p. 945.

Hayden, George D., assignor of one-half to C. R. Hunt, New Bedford, Mass. Variable-speed mechanism. No. 977,449; Dec. 6; Sp. p. 47; Gaz. vol. 161; p. 10.

Hayes, Frank E., assignor of one-half to E. S. McPherson, Boston, Mass. Toy. No. 979,486; Dec. 27; Sp. p. 4462; Gaz. vol. 161; p. 788.

Hayes, George D., Davenport, Iowa. Wire stretcher and splicer. No. 977,860; Dec. 6; Sp. p. 976; Gaz. vol. 161; p. 154.

Haymaker, Kidder V., Defiance, Ohio. Duplex account-book. No. 979,487; Dec. 27; Sp. p. 4463; Gaz. vol. 161; p. 789.

Hayne, Levi, Schenectady, N. Y., and E. B. Pike, Pike, N. H. Bread-dough mixer. No. 978,372; Dec. 13; Sp. p. 2061; Gaz. vol. 161; p. 360.

Haywood, Daniel H., New York, N. Y., assignor, by mesne assignments, to American Gas & Power Co. Carbureter. No. 979,761; Dec. 27; Sp. p. 5074; Gaz. vol. 161; p. 883.

Heany, John A., York, Pa. Combined generating and starting apparatus for gas-engines. No. 979,003; Dec. 20; Sp. p. 3424; Gaz. vol. 161; p. 601.

Heath, Frank M., Portland, Oreg. Draft-regulator. No. 979,069; Dec. 20; Sp. p. 3558; Gaz. vol. 161; p. 622.

Heatly, Melvin L., Silver Springs, Fla. Bait. No. 978,290; Dec. 13; Sp. p. 1896; Gaz. vol. 161; p. 332.

Heberlein & Co. (See Heberlein, Eduard, assignor.)

Heberlein, Edward, assignor to Heberlein & Co., Wattwil, Switzerland. Apparatus for mercerizing textile fabrics. No. 978,883; Dec. 20; Sp. p. 3143; Gaz. vol. 161; p. 558.

Heberling, John, Rochester, N. Y. Dumping-wagon. No. 979,488; Dec. 27; Sp. p. 4465; Gaz. vol. 161; p. 789.

Heely, Patrick, Brooklyn, N. Y. Tool for spreading tubes of water-tube boilers. No. 979,162; Dec. 20; Sp. p. 3801; Gaz. vol. 161; p. 659.

Heeney, Joseph P., East St. Louis, assignor to M. H. Foundry and Manufacturing Company, Belleville, Ill. Drinking-faucet. No. 979,489; Dec. 27; Sp. p. 4468; Gaz. vol. 161; p. 789.

Heeter, Thomas E., St. Louis, Mo., assignor to Sieber & Trussell Manufacturing Co. Loose-leaf binder. No. 978,744; Dec. 13; Sp. p. 2879; Gaz. vol. 161; p. 487.

Heilmann, Adolf, and B. Tauss, Leipzig, Germany. Surgical syringe. No. 977,952; Dec. 6; Sp. p. 1145; Gaz. vol. 161; p. 184.

Heinn Company, The. (See Morehouse, Cyrus E., assignor.)

Heinonen, John, Brush Prairie, Wash. Metal railway-tie. No. 977,798; Dec. 6; Sp. p. 828; Gaz. vol. 161; p. 129.

Heinze, John O., Jr., Lowell, Mass. Induction-coil. No. 977,870; Dec. 6; Sp. p. 979; Gaz. vol. 161; p. 154.

Heissenberger, John, assignor to F. A. and C. H. Stirrup, New York, N. Y. Safety-razor. No. 979,296; Dec. 20; Sp. p. 4085; Gaz. vol. 161; p. 703.

Heisterman, William, London, England. Advertising device. No. 978,157; Dec. 13; Sp. p. 1603; Gaz. vol. 161; p. 285.

Heller, Charles S., Barberton, assignor to The Moore Architectural and Engineering Company, Akron, Ohio. Apparatus for use in reclaiming vulcanized-rubber waste. No. 978,583; Dec. 13; Sp. p. 2538; Gaz. vol. 161; p. 433.

Heller, Charles S., Barberton, assignor to The Moore Architectural and Engineering Company, Akron, Ohio. Reclaiming vulcanized-rubber waste. No. 978,584; Dec. 13; Sp. p. 2543; Gaz. vol. 161; p. 433.

Helms, Arthur J., Portland, Oreg. Door-lock. No. 979,948; Dec. 27; Sp. p. 5472; Gaz. vol. 161; p. 946.

Helmus, Edward, Brooklyn, N. Y. Antivibration device for vehicles. No. 978,291; Dec. 13; Sp. p. 1897; Gaz. vol. 161; p. 332.

Hemenway, Thomas S., Buffalo, assignor to Ericsson Manufacturing Company, Tonawanda, N. Y. Magneto-electric generator. No. 980,153; Dec. 27; Sp. p. 5938; Gaz. vol. 161; p. 1014.

Henderson, William, New York, N. Y. Window-came. No. 978,745; Dec. 13; Sp. p. 2881; Gaz. vol. 161; p. 488.

Hendrix, James D., Wall, Tex. Baling-press. No. 978,158; Dec. 13; Sp. p. 1604; Gaz. vol. 161; p. 285.

Hennessey, James W., *et al.* (See Smith, George A., assignor.)

Hennig, Ernst A. P., Dresden, assignor to Ludwig Hupfeld, Aktiengesellschaft, Leipzig, Germany. Bow for self-playing violins. No. 978,373; Dec. 13; Sp. p. 2065; Gaz. vol. 161; p. 361.

Henrich, Henry, New York, N. Y. Machine for marking finger-rings. No. 979,297; Dec. 20; Sp. p. 4087; Gaz. vol. 161; p. 703.

Henriod, Charles E., Neuilly, France. Transmission-gearing. No. 978,159; Dec. 13; Sp. p. 1607; Gaz. vol. 161; p. 285.

Henry Disston & Sons. (See Koeberle, Robert J., assignor.)

Henry, George. (See Weaner, Cornelius, assignor.)

Henson, James A., Aubrey, Tex. Back-band buckle. No. 979,490; Dec. 27; Sp. p. 4470; Gaz. vol. 161; p. 790.

Hentschel, Augustin, Berlin, Germany. Manufacturing imitation fur. No. 979,298; Dec. 20; Sp. p. 4089; Gaz. vol. 161; p. 704.

Henvis, Maurice P., Washington, D. C. Vending apparatus. No. 979,854; Dec. 27; Sp. p. 5285; Gaz. vol. 161; p. 915.

Hepburn, Charles J., *et al.* (See Matthiessen, Conrad S., assignor.)

Héring, Wilhelm. (See Baudement and Héring.)

Herkert, Frederick, Jr., St. Louis, Mo. Pull-out bracket. No. 979,949; Dec. 27; Sp. p. 5473; Gaz. vol. 161; p. 946.

Herkules Patentverwertungsgesellschaft mit beschränkter Haftung. (See Kretzschmar, Johannes, assignor.)

Herman, Raphael. (See Miggett, William L., assignor.)

Herman, Reinhold, Crafton, Pa. Transmission mechanism. No. 977,871; Dec. 6; Sp. p. 981; Gaz. vol. 161; p. 155.

Hermanson, Bennie L., Arendahl, Minn. Hoe. No. 979,299; Dec. 20; Sp. p. 4089; Gaz. vol. 161; p. 704.

Herold, Ladimir, *et al.* (See Haller, Edward, assignor.)

Heron, James C., assignor of one-half to A. C. Deverell, St. Paul, Minn. Steam-superheater. No. 979,669; Dec. 27; Sp. p. 4857; Gaz. vol. 161; p. 852.

Herre, Alfred. (See Bauer and Herre.)

Herrick, Warren L., San Jose, Cal. Clamp. No. 977,738; Dec. 6; Sp. p. 702; Gaz. vol. 161; p. 109.

Herrmann, Christian, Bristol, R. I. Window-ventilator. No. 977,739; Dec. 6; Sp. p. 704; Gaz. vol. 161; p. 110.

Hershey, Elam, Philadelphia, Pa. Lock. No. 980,154; Dec. 27; Sp. p. 5939; Gaz. vol. 161; p. 1014.

Hertzberg, Harry, New York, assignor to A. A. Low, Horseshoe, M. J. Wohl, New York, and H. Hertzberg, Brooklyn, N. Y., trustees. Marine compass. No. 980,155; Dec. 27; Sp. p. 5941; Gaz. vol. 161; p. 1014.

Hertzberg, Harry, and M. J. Wohl, New York, N. Y. Amusement device. No. 978,884; Dec. 20; Sp. p. 3143; Gaz. vol. 161; p. 558.

Hertzberg, Harry, and M. J. Wohl, assignors to M. J. Wohl and H. Hertzberg, New York, and A. A. Low, Horseshoe, N. Y., trustees. Steering means for vessels. No. 980,156; Dec. 27; Sp. p. 5944; Gaz. vol. 161; p. 1015.

Herzog, Joseph L., New York, N. Y. Forming cuff-buttons. No. 979,163; Dec. 20; Sp. p. 3803; Gaz. vol. 161; p. 659.

Hess, Henry, Philadelphia, Pa. Roller-bearing. No. 980,101; Dec. 27; Sp. p. 5804; Gaz. vol. 161; p. 996.

Hesse, Leopold. (See Günther, Hesse, and Zart.)

Housted, Luman G., Charlotte Harbor, Fla. Steering-gear. No. 978,746; Dec. 13; Sp. p. 2882; Gaz. vol. 161; p. 488.

Hewitt, James E., League City, Tex. Cistern-cover. No. 979,004; Dec. 20; Sp. p. 3427; Gaz. vol. 161; p. 602.

Heyer, William B., Newport, Vt. Band-saw. No. 978,374; Dec. 13; Sp. p. 2068; Gaz. vol. 161; p. 361.

Higginbotham, Averi R. (See McGill and Higginbotham.)

Higgins, Campbell P., Roselle, assignor to The Babcock & Wilcox Company, Bayonne, N. J. Pipe-coupling. No. 977,740; Dec. 6; Sp. p. 700; Gaz. vol. 161; p. 110.

Higgins, Elmer E. (See Folsom and Higgins.)

Higgins, Francis W., assignor to The Carborundum Company, Niagara Falls, N. Y. Abrasive article. No. 978,747; Dec. 13; Sp. p. 2883; Gaz. vol. 161; p. 488.

High Frequency Ignition Coil Company. (See Seeley, James E., assignor.)

Hildebrandt, Gotthold, Spandau-Tiefwerder 29b, near Berlin, Germany. Heat-exchange piping. No. 979,762; Dec. 27; Sp. p. 5077; Gaz. vol. 161; p. 884.

Hildreth, George H., Seattle, Wash. Water-tight seam. No. 977,741; Dec. 6; Sp. p. 707; Gaz. vol. 161; p. 110.

Hill, Horace G., Youngs, Miss. Flying-machine. No. 978,375; Dec. 13; Sp. p. 2069; Gaz. vol. 161; p. 361.

Hill, James H., Rochester, N. Y., assignor to Defiance Lantern & Stamping Co., Limited. Tubular lantern. No. 978,292; Dec. 13; Sp. p. 1902; Gaz. vol. 161; p. 333.

Hill, James H., assignor to Embury Manufacturing Company, Rochester, N. Y. Lantern. No. 978,293; Dec. 13; Sp. p. 1904; Gaz. vol. 161; p. 333.

Hill, William H., assignor of one-half to A. Hirsch, Owensboro, Ky. Refrigerator. No. 979,950; Dec. 27; Sp. p. 5474; Gaz. vol. 161; p. 946.

Hill, William W., Sharpsburg, Ky. Inking-rollers. No. 979,300; Dec. 20; Sp. p. 4090; Gaz. vol. 161; p. 704.

Hiller, Joseph L., Mattapoisett, Mass. Crushing or pulverizing machine. No. 977,799; Dec. 6; Sp. p. 829; Gaz. vol. 161; p. 130.

Hillhouse, John T., New York, N. Y. Electropneumatic tool. No. 979,164; Dec. 20; Sp. p. 3804; Gaz. vol. 161; p. 659.

Hilprecht, Robert, Lansing, Mich. Gas-producing furnace. No. 979,951; Dec. 27; Sp. p. 5475; Gaz. vol. 161; p. 946.

Hine, George T. (See Barker, Arthur, assignor.)

Hinkel, Peter, Youngstown, Ohio. Safety appliance for elevators. No. 979,491; Dec. 27; Sp. p. 4471; Gaz. vol. 161; p. 790.

Hirsch, Abraham. (See Hill, William H., assignor.)

Hiscock, Charles O., Detroit, Mich. Paper-holder. No. 977,800; Dec. 6; Sp. p. 831; Gaz. vol. 161; p. 130.

Hist, John, Barberton, Ohio. Potato-planter. No. 977,742; Dec. 6; Sp. p. 709; Gaz. vol. 161; p. 111.

Hitesman, George. (See Burch, Charles J., assignor.)

Hodges, Charles B., assignor to H. K. Porter Company, Pittsburg, Pa. Compound compressed-air engine. No. 979,165; Dec. 20; Sp. p. 3808; Gaz. vol. 161; p. 659.

Hodges, Frank W. (See Wigginton and Hodges.)

Hodgkinson, Francis, Edgewood Park, Pa., assignor to The Westinghouse Machine Company. Automatic cut-off valve. No. 978,294; Dec. 13; Sp. p. 1905; Gaz. vol. 161; p. 333.

Hodgkinson, James, Pendleton, Manchester, England. Evaporating brine apparatus. No. 979,301; Dec. 20; Sp. p. 4092; Gaz. vol. 161; p. 704.

Hodgson, Howard H., Toronto, Ontario, Canada. Tire. No. 977,628; Dec. 6; Sp. p. 475; Gaz. vol. 161; p. 72.

Hodgson Limited, George. (See Nichols, David, assignor.)

Hoehne, Ferdinand F., Kaukauna, Wis. Friction-clutch. No. 979,952; Dec. 27; Sp. p. 5478; Gaz. vol. 161; p. 947.

Hoerlein, Heinrich. (See Dressel, Kothe, and Hoerlein.)

Hoerr, Louis A., St. Louis, Mo. Brake-rod jaw. No. 977,629; Dec. 6; Sp. p. 476; Gaz. vol. 161; p. 72.

Hoff, Carlton L., assignor to Standard Chain Company, York, Pa. Electric chain-welding machine. No. 978,160; Dec. 13; Sp. p. 1609; Gaz. vol. 161; p. 286.

Hoffne, Fred G., Kansas City, Mo. Ironing-table. No. 978,885; Dec. 20; Sp. p. 3145; Gaz. vol. 161; p. 559.

Hoffman, Adolph, Columbus, Ohio. Adjustable support for drawing-boards. No. 979,070; Dec. 20; Sp. p. 3560; Gaz. vol. 161; p. 623.

Hoffman, Frank L., Denison, Iowa. Sanitary receptacle. No. 979,005; Dec. 20; Sp. p. 3428; Gaz. vol. 161; p. 602.

Hoffmann-La-Roche Chemical Works, The. (See Barell and Elger, assignors.)

Hofmann, Adam J., Newark, N. J. Inverted incandescent gas-lamp. No. 979,855; Dec. 27; Sp. p. 5288; Gaz. vol. 161; p. 915.

Hogan, Charles W., Detroit, Mich., and S. M. McCormick, Chatham, Ontario, Canada. Skirt-gage. No. 979,492; Dec. 27; Sp. p. 4474; Gaz. vol. 161; p. 790.

Hohmann, Richard K., San Diego, assignor of one-fourth to E. J. Bernhard, Los Angeles, Cal. Take-up for sewing-machines. No. 977,630; Dec. 6; Sp. p. 477; Gaz. vol. 161; p. 73.

Holby, Enoch, Minneapolis, Minn. Bob-sled. No. 978,376; Dec. 13; Sp. p. 2071; Gaz. vol. 161; p. 361.

Holbrook, Frank B., Rome, Ga. Device for holding keys in fire-alarm boxes. No. 979,856; Dec. 27; Sp. p. 5294; Gaz. vol. 161; p. 916.

Holland, Elias C. (See Shoemaker and Holland.)

Holland, Russell I. (See Whelchel, James F., assignor.)

Hollands, Stephen. (See Bremer, Thiry, and Hollands.)

Hollis, Catherine, Brockton, Mass. Hand-bag. No. 979,763; Dec. 27; Sp. p. 5078; Gaz. vol. 161; p. 884.

Hollis, John N., Macon, Ga. Cleaning-machine. No. 978,749; Dec. 13; Sp. p. 2885; Gaz. vol. 161; p. 488.

Holmes, Charles P. and E., Lynn, assignors to S. W. Winslow, Beverly, Mass. Automatic nailing or tacking apparatus. No. 979,953; Dec. 27; Sp. p. 5480; Gaz. vol. 161; p. 947.

Holmes, Emil. (See Holmes, Charles P. and E.)

Holmes, Joseph W., Galesburg, Ill. Wheel. No. 978,161; Dec. 13; Sp. p. 1614; Gaz. vol. 161; p. 286.

Holmes, R. K. (See Kittle and Gates, assignors.)

Holmström, Axel, Gefle, Sweden. Etching apparatus. No. 979,071; Dec. 20; Sp. p. 3562; Gaz. vol. 161; p. 623.

Holophane Glass Company. (See D'Olier, Henry, Jr., assignor.)

Holtz, Gustav, Gouldsboro, Pa. Sanitary dental bracket-table. No. 979,493; Dec. 27; Sp. p. 4475; Gaz. vol. 161; p. 791.

Holweg, Carl, Strasburg, Germany. Paper-bag machine. No. 977,801; Dec. 6; Sp. p. 832; Gaz. vol. 161; p. 130.

Homans, Jacobus J., Samarang, Java. Apparatus for separating scum and precipitates from sugar-juice. No. 978,450; Dec. 13; Sp. p. 2225; Gaz. vol. 161; p. 386.

Homans, Jacobus J., Samarang, Java. Extracting juice from sugar-cane or sugar-beet. No. 978,451; Dec. 13; Sp. p. 2227; Gaz. vol. 161; p. 386.

Homans, Jacobus J., Samarang, Java. Separating scum from sugar-juice. No. 978,750; Dec. 13; Sp. p. 2887; Gaz. vol. 161; p. 489.

Homburg, George, Hampton, Ky. Well-drilling-machine attachment. No. 979,954; Dec. 27; Sp. p. 5484; Gaz. vol. 161; p. 948.

Homer Roberts Telephone Co. (See Soans and Graves, assignors.)

Hooper, Rebecca E., Half Moon Bay, Cal. Sanitary drinking appliance. No. 978,295; Dec. 13; Sp. p. 1908; Gaz. vol. 161; p. 334.

Hoover, Theodore J., assignor to The Minerals Separation Limited, London, England. Apparatus for ore concentration. No. 979,857; Dec. 27; Sp. p. 5295; Gaz. vol. 161; p. 916.

Hopkins, Augusta D., Covington, La. Grater. No. 977,872; Dec. 6; Sp. p. 986; Gaz. vol. 161; p. 155.
Hopkins, Hubert, assignor to The Moon-Hopkins Billing Machine Company, St. Louis, Mo. Copy-holder. No. 979,670; Dec. 27; Sp. p. 4859; Gaz. vol. 161; p. 852.
Hopkins, Leslie, Kansas City, Mo. Sign-exhibiting apparatus. No. 978,162; Dec. 13; Sp. p. 1615; Gaz. vol. 161; p. 286.
Hopkins, William W., assignor to Moons-Hopkins Billing Machine Company, St. Louis, Mo. Type-writing machine. No. 979,671; Dec. 27; Sp. p. 4861; Gaz. vol. 161; p. 852.
Hopper, John G., San Francisco, Cal. Brake mechanism for automobiles. No. 977,631; Dec. 6; Sp. p. 479; Gaz. vol. 161; p. 73.
Hopton, Lemuel R., Plainfield, N. J., assignor to Enos Company, New York, N. Y. Electric-lighting fixture. No. 978,163; Dec. 13; Sp. p. 1621; Gaz. vol. 161; p. 287.
Horn, John J., Surrey, N. D. Bridle attachment. No. 978,296; Dec. 13; Sp. p. 1609; Gaz. vol. 161; p. 334.
Horner, John, Friend, Nebr. Gate. No. 979,302; Dec. 20; Sp. p. 4095; Gaz. vol. 161; p. 705.
Horner, John P., Lockhart, Tex. Cotton-blocking attachment. No. 978,751; Dec. 13; Sp. p. 2889; Gaz. vol. 161; p. 489.
Horning, George D. (See Burns, James A., assignor.)
Horsfall, Aaron, St. Joseph, Mo. Puzzle-purse. No. 979,303; Dec. 20; Sp. p. 4097; Gaz. vol. 161; p. 705.
Hortman, Isaac A., Philadelphia, Pa. Propeller. No. 979,672; Dec. 27; Sp. p. 4864; Gaz. vol. 161; p. 853.
Hotze, William, St. Louis, Mo. Photographer's tray. No. 979,858; Dec. 27; Sp. p. 5207; Gaz. vol. 161; p. 916.
Houghton, Orley C., assignor to H. E. and J. E. Bullock, Chicago, Ill. Cotton-harvester. No. 979,859; Dec. 27; Sp. p. 5299; Gaz. vol. 161; p. 917.
Houston Manufacturing Company. (See Sutton, William S., assignor.)
Howard Automatic Railway Switch Co., The. (See Howard, Emmett, assignor.)
Howard, Charles R., Rosendale, N. Y. Safety-track for railways. No. 979,494; Dec. 27; Sp. p. 4477; Gaz. vol. 161; p. 791.
Howard, Emmett, assignor to The Howard Automatic Railway Switch Co., Eugene, Oreg. Automatic railway-switch. No. 979,166; Dec. 20; Sp. p. 3810; Gaz. vol. 161; p. 660.
Howe, William G., Butler, Ind. Trench-filling apparatus. No. 978,886; Dec. 20; Sp. p. 3147; Gaz. vol. 161; p. 559.
Howell, Chester A., Des Moines, Iowa. Lamp supporting and turning mechanism. No. 979,495; Dec. 27; Sp. p. 4478; Gaz. vol. 161; p. 791.
Howie, W. C., administrator. (See Durant and Gunderson.)
Howland, Chauncey W., assignor to The Standard Optical Company, Geneva, N. Y. Screw-finishing machine. No. 979,006; Dec. 20; Sp. p. 3430; Gaz. vol. 161; p. 602.
Howland, Chauncey W., assignor to The Standard Optical Company, Geneva, N. Y. Lens-drilling machine. No. 979,007; Dec. 20; Sp. p. 3432; Gaz. vol. 161; p. 603.
Hoyt, Charles H., New York, N. Y. Bookbinder. No. 977,873; Dec. 6; Sp. p. 988; Gaz. vol. 161; p. 155.
Hoyt, Guy L., New York, assignor to Robert Gair Company, Brooklyn, N. Y. Bag-filling machine. No. 977,632; Dec. 6; Sp. p. 481; Gaz. vol. 161; p. 73.
Hoyt, Guy L., New York, assignor to Robert Gair Company, Brooklyn, N. Y. Bag-feeding mechanism. No. 978,887; Dec. 20; Sp. p. 3148; Gaz. vol. 161; p. 559.
Hubbard, Joel D. (See Pelham, Joseph, assignor.)
Hubbell, Vincent B. (See Burt, Alonzo, assignor.)
Huber, Clemence, Streator, Ill. Can-top fastener and opener. No. 978,585; Dec. 13; Sp. p. 2547; Gaz. vol. 161; p. 434.
Hudson, Harold C., administrator. (See Keith, Thomas K.)
Huebsch, Joseph, Milwaukee, Wis. Valve. No. 978,752; Dec. 13; Sp. p. 2890; Gaz. vol. 161; p. 489.
Huethwohl, Louis, New York, N. Y. Bottle-closure. No. 978,164; Dec. 13; Sp. p. 1623; Gaz. vol. 161; p. 287.
Huff Electrostatic Separator Company. (See Wentworth, Henry A., assignor.)
Hughes, Howard R., Houston, Tex. Roller boring-drill. No. 979,496; Dec. 27; Sp. p. 4479; Gaz. vol. 161; p. 792.
Hughes, Robert, Jr. (See Zimmerman and Hughes.) (Reissue.)
Hughes, William B., Cleveland, Ohio. Gas-producer. No. 977,651; Dec. 6; Sp. p. 525; Gaz. vol. 161; p. 79.
Hughes, William B., Cleveland, Ohio. Manufacture of gas. No. 977,874; Dec. 6; Sp. p. 991; Gaz. vol. 161; p. 156.
Hughes, William B., Cleveland, Ohio. Number-plate support for vehicles. No. 978,023; Dec. 6; Sp. p. 1295; Gaz. vol. 161; p. 207.
Hulbert, Edwin F., assignor to Sealshipt Oyster System, Inc., South Norwalk, Conn. Refrigerator. No. 979,304; Dec. 20; Sp. p. 4098; Gaz. vol. 161; p. 705.
Hulin, Paul L., assignor to Société d'Electro-Chimie, Paris, and P. L. Hulin, Grenoble, Isère, France. Apparatus for carrying out the electrolytic production of sodium. No. 978,888; Dec. 20; Sp. p. 3149; Gaz. vol. 161; p. 559.
Hulin, Paul L., Grenoble, assignor to Société d'Electro-Chimie, Paris, France, and P. L. Hulin. Means for the electrolytic manufacture of sodium. No. 979,497; Dec. 27; Sp. p. 4482; Gaz. vol. 161; p. 792.
Hulings, James H., Parsons, W. Va. Nozzle. No. 979,955; Dec. 27; Sp. p. 5486; Gaz. vol. 161; p. 948.
Hultgren, William H., Philadelphia, Pa., assignor to Otis Elevator Company, Jersey City, N. J. Combined brake apparatus and switch mechanism. No. 979,498; Dec. 27; Sp. p. 4485; Gaz. vol. 161; p. 792.
Hultquist, Charles A., Bisbee, Ariz. Rock-drill. No. 978,586; Dec. 13; Sp. p. 2549; Gaz. vol. 161; p. 434.
Humble, Alexander, Jr., Kansas City, Kans. Grave-marker. No. 979,764; Dec. 27; Sp. p. 5079; Gaz. vol. 161; p. 884.
Hummel, Theodore, assignor of one-third to E. E. L. Montellus and one-third to J. B. Paulson, New York, N. Y. Trick snuff-box. No. 979,499; Dec. 27; Sp. p. 4489; Gaz. vol. 161; p. 793.
Humphrey, Ernest N., assignor to Traut & Hine Manufacturing Company, New Britain, Conn. Garment-supporter clasp. No. 978,024; Dec. 6; Sp. p. 1296; Gaz. vol. 161; p. 208.
Humphrey, Henry A., assignor to Safety Elevator Lock and Signal Company, Kansas City, Mo. Elevator. No. 978,377; Dec. 13; Sp. p. 2072; Gaz. vol. 161; p. 362.
Humphrys, Charles A., Chico, Cal. Draft-pocket. No. 977,875; Dec. 6; Sp. p. 993; Gaz. vol. 161; p. 156.
Hunt, Charles R. (See Hayden, George D., assignor.)
Hunt, Charlie D., Paola, Kans. Wipe-joint pipe-holder. No. 979,305; Dec. 20; Sp. p. 4100; Gaz. vol. 161; p. 706.
Hunt, John O., Glens Falls, N. Y. Attachment for pulp-presses. No. 978,587; Dec. 13; Sp. p. 2552; Gaz. vol. 161; p. 435.
Hunter, William A., assignor to Fouts & Hunter Carriage Manufacturing Company, Terre Haute, Ind. Storm-top. (Reissue.) No. 13,183; Dec. 13; Sp. p. 3014; Gaz. vol. 161; p. 511.
Huntley, John W., assignor to R. T. Marsh, Rockhill, S. C. Shutter manipulator and fastener. No. 978,588; Dec. 13; Sp. p. 2555; Gaz. vol. 161; p. 435.
Hurst, Joseph, Louisville, Ky. Centrifugal pump. No. 978,753; Dec. 13; Sp. p. 2891; Gaz. vol. 161; p. 490.
Huse, Charles A., Williamsport, and J. L. Miller, Lewisburg, Pa. Bonding fish-plate. No. 979,860; Dec. 27; Sp. p. 5302; Gaz. vol. 161; p 917.
Huseby, Albert A., Chicago, Ill. Process of and apparatus for casting piano-plates. No. 978,452; Dec. 13; Sp. p. 2231; Gaz. vol. 161; p. 387.
Hussung, George R. (See Boldrey and Hussung.)
Hustace, Frank, and J. J. Smiddy, Honolulu, Hawaii. Cuff attachment. No. 979,306; Dec. 20; Sp. p. 4102; Gaz. vol. 161; p. 706.
Husted, Oscar M., Lacey, Ark. Honeycomb foundation. No. 979,765; Dec. 27; Sp. p. 5080; Gaz. vol. 161; p. 885.
Hutchings, George S., Cambridge, Mass. Wrapper. No. 979,307; Dec. 20; Sp. p. 4103; Gaz. vol. 161; p. 706.
Hutchings, Jennie E. (See Mortimer, Frederick E., assignor.)
Hutchinson Bros. (See Hutchinson, Charles F., assignor.)
Hutchinson, Charles F., assignor to Hutchinson Bros., Kingsville, Md. Shaking and dumping grate. No. 978,589; Dec. 13; Sp. p. 2556; Gaz. vol. 161; p. 436.
Hutchinson, Raleigh E., assignor of one-half to R. E. Hutchinson, one-sixth to W. A. Ely, one-sixth to A. K. Slocum, Portland, and one-sixth to E. M. Young, Rainier, Oreg. Door-securer. No. 979,167; Dec. 20; Sp. p. 3812; Gaz. vol. 161; p. 660.
Hutchinson, T. F. (See White, Frank L., assignor.)
Hutton, Roger B., Pitsea, England. Combined dark slide and developing-dish for color photography. No. 978,590; Dec. 13; Sp. p. 2558; Gaz. vol. 161; p. 436.
Huver, Charles G., and H. Dilks, Philadelphia, Pa. Sign-controlling appliance. No. 979,956; Dec. 27; Sp. p. 5487; Gaz. vol. 161; p. 948.
Hyatt Roller Bearing Company. (See Lockwood, Charles S., assignor.)
Hyde, Albert G., and R. P. Link, assignors to Uni-Typebar Limited, London, England. Means for aligning and supporting type. No. 978,754; Dec. 13; Sp. p. 2892; Gaz. vol. 161; p. 490.
Hydrocarbon Converter Company. (See Cutter, William T., assignor.)
Hylander, Charles E., assignor to The Duff Manufacturing Company, Pittsburg, Pa. Lifting-jack. No. 977,450; Dec. 6; Sp. p. 49; Gaz. vol. 161; p. 10.
I. E. Palmer Co., The. (See Palmer, Isaac E., assignor.)
Ideal Manufacturing Company. (See McCarthy, John S., assignor.)
Imhoff, Karl, Bredeney, near Essen, Germany. Treating sewage. No. 978,889; Dec. 20; Sp. p. 3151; Gaz. vol. 161; p. 560.
Impey, Francis L., Birmingham, England, assignor to Kalamazoo Loose Leaf Binder Company, Kalamazoo, Mich. Temporary binder or loose-sheet holder. No. 979,673; Dec. 27; Sp. p. 4868; Gaz. vol. 161; p. 853.
Improved Seamless Wire Company, The. (See Carlisle, Thomas F., assignor.)
Industriële Maatschappij Trompenburg. (See Laviolette, Joseph V., assignor.)
Ingalls, William D., *et al.* (See Gould, Edward, assignor.)
Ingaramo, Tenedos, Zurich, Switzerland. Life-saving apparatus. No. 978,378; Dec. 13; Sp. p. 2076; Gaz. vol. 161; p. 362.
Ingersoll-Rand Company. (See Hansen, Charles C., assignor.)
Ingersoll-Rand Company. (See Prellwitz, William, assignor.)

Ingham, Clark L., *et al.* (See Willet, John G., assignor.)
Ingham, Howard T., Fairfield, Iowa. Air-brake coupling. No. 978,755; Dec. 13; Sp. p. 2894; Gaz. vol. 161; p. 490.
Ingoldsby Automatic Car Company, The. (See Ingoldsby, Frank S., assignor.)
Ingoldsby, Frank S., assignor to The Ingoldsby Automatic Car Company, St. Louis, Mo. System of operating dump-cars. No. 977,876; Dec. 6; Sp. p. 994; Gaz. vol. 161; p. 156.
Interlocking Fence Company. (See Baumgartner, Charles B., assignor.)
Interlocking Fence Company. (See Elwell, Grimm, and Drexler, assignors.)
Interlocking Fence Company. (See Kitselman, Alva L., assignor.)
International Harness Machinery Company, The. (See Gnoeth, Emil, assignor.)
International Text Book Company. (See Hamilton, Henry M., assignor.)
International Text Book Company. (See Tanner, Frank J., assignor.)
Inwood, Barbara C., New York, N. Y. Cocoa and chocolate pot attachment. No. 978,298; Dec. 13; Sp. p. 1916; Gaz. vol. 161; p. 335.
Irvine, S. C. (See Smith, Bernard O., assignor.)
Irving, Adam H. (See Wilkinson and Irving.)
Irwin, George H., J. P. Cullon, and F. Knowlson, Lindsay, Ontario, Canada. Liquid-elevating apparatus. No. 979,957; Dec. 27; Sp. p. 5489; Gaz. vol. 161; p. 949.
Isbell, Sterling P., Ukiah, Cal. Salt-shaker. No. 979,500; Dec. 27; Sp. p. 4489; Gaz. vol. 161; p. 793.
Isham, Harry S., Belmar, N. J. Railway-tie and fastener. No. 978,890; Dec. 20; Sp. p. 3152; Gaz. vol. 161; p. 560.
Ivory, James W., Philadelphia, Pa. Dental instrument for crown or cap holding. No. 979,501; Dec. 27; Sp. p. 4490; Gaz. vol. 161; p. 793.
J. A. Engel & Co. (See Feldt, Ferdinand J., assignor.)
J. C. McCarty & Co. (See Lane, Willey B., assignor.)
J. M. Dodge Company, The. (See Wetherill, Richard W., assignor.)
J. P. Karns Tunneling Machine Co. (See Karns, John P., assignor.)
Jaccard, Ami, assignor to T. E. La Montague, New York, N. Y. Talking-machine. No. 978,891; Dec. 20; Sp. p. 3154; Gaz. vol. 161; p. 560.
Jackson, Isaac, Glossop, England. Belt-fastener. No. 978,025; Dec. 6; Sp. p. 1297; Gaz. vol. 161; p. 208.
Jackson, Merrill S., Hartford, Conn. Collapsible form. No. 979,958; Dec. 27; Sp. p. 5490; Gaz. vol. 161; p. 949.
Jacobs, Fred M. (See Stewart, Howard D., assignor.)
Jacobs, Max, Wilkes-Barre, Pa. Optical table. No. 978,299; Dec. 13; Sp. p. 1917; Gaz. vol. 161; p. 335.
Jaeger, Fritz, Magdeburg, and A. Siewert, Wilmersdorf, near Berlin, Germany. Portable extensible and retractable mast. No. 980,157; Dec. 27; Sp. p. 5946; Gaz. vol. 161; p. 1015.
Jaenichen, Louis, assignor to Standard Computing Scale Company, Limited, Detroit, Mich. Spring-scale. No. 978,026; Dec. 6; Sp. p. 1299; Gaz. vol. 161; p. 208.
James, Charles. (See Roberts, Bellamy, and James.)
Janssen, Friedrich O., Hemelingen, near Bremen, Germany. Cover for nursing-bottles. No. 978,892; Dec. 20; Sp. p. 3157; Gaz. vol. 161; p. 561.
Janssen, Henry, and R. C. Rahm, assignors to Textile Machine Works, Wyomissing, Pa. Braiding-machine. No. 979,502; Dec. 27; Sp. p. 4492; Gaz. vol. 161; p. 793.
Jaques, Fernando O., Jr., Cranston, R. I. Dental-crown shaper. No. 977,633; Dec. 6; Sp. p. 490; Gaz. vol. 161; p. 74.
Jarmin, James B., Spokane, Wash. Actuating mechanism. No. 978,893; Dec. 20; Sp. p. 3157; Gaz. vol. 161; p. 561.
Javins, Harry A., Burlingame, Cal. Combined can container and perforator. No. 979,072; Dec. 20; Sp. p. 3565; Gaz. vol. 161; p. 623.
Jayne, Alice M., Bradford, Pa. Mail-binder. No. 978,591; Dec. 13; Sp. p. 2560; Gaz. vol. 161; p. 436.
Jeffers, Harry I., assignor of one-half to W. F. May, Fort Smith, Ark. Building construction. No. 980,102; Dec. 27; Sp. p. 5806; Gaz. vol. 161; p. 996.
Jeffrey Manufacturing Company, The. (See Teller, Spencer J., assignor.)
Jeffrey Manufacturing Company, The. (See Willson, Freeman R., Jr., assignor.)
Jeffries, John T., and R. L. Lynch, Campbellsburg, Ky. Apparatus for delivering and receiving mail. No. 978,894; Dec. 20; Sp. p. 3159; Gaz. vol. 161; p. 561.
Jenkins, Charles F., Washington, D. C. Bottle-capping machine. No. 979,766; Dec. 27; Sp. p. 5081; Gaz. vol. 161; p. 885.
Jenkins, Merrill L. (See Place and Jenkins.)
Jenkins, Merrill L., Harvey, assignor to Buda Foundry & Manufacturing Company, Chicago, Ill. Lifting-jack. No. 978,453; Dec. 13; Sp. p. 2234; Gaz. vol. 161; p. 387.
Jenness, Charles L., Chicago, Ill. Adjustable bearing-cup. No. 978,756; Dec. 13; Sp. p. 2900; Gaz. vol. 161; p. 490.
Jenney, Robert T., De Pere, Wis. Post-hole auger. No. 977,877; Dec. 6; Sp. p. 995; Gaz. vol. 161; p. 156.
Jensen, Peter, Bremerton, Wash. Clamp. No. 977,802; Dec. 6; Sp. p. 835; Gaz. vol. 161; p. 131.
Jessup, George W., Sr., Moorestown, N. J. Potato-digger. No. 977,803; Dec. 6; Sp. p. 836; Gaz. vol. 161; p. 131.
Jewell, Charles E. (See Westcott, Charles H., assignor.)
Johansson, Karl A., Tidaholm, assignor to Jönköpings och Vulcans Tändsticksfabriksaktiebolag, Jönköping, Sweden. Machine for manufacturing match-boxes. No. 979,308; Dec. 20; Sp. p. 4104; Gaz. vol. 161; p. 707.
John A. Roebling's Sons Co. (See Cooney, Sebern A., assignor.)
John C. Moore Corporation. (See Moore, Gaius C., assignor.)
Johnson, Alexander A., Tacoma, Wash. Sliding camera-front. No. 978,027; Dec. 6; Sp. p. 1301; Gaz. vol. 161; p. 208.
Johnson, Andrew, Jamestown, N. Y. Sheet-metal door and the like. No. 978,300; Dec. 13; Sp. p. 1919; Gaz. vol. 161; p. 335.
Johnson, Aron, New York, N. Y. Vise for drill-presses. No. 977,878; Dec. 6; Sp. p. 996; Gaz. vol. 161; p. 157.
Johnson, Axel T. (See Wikander, Anders J., assignor.)
Johnson, Axle R. (See McKague and Johnson.)
Johnson, Callender L. (See Guthrie and Johnson.)
Johnson, Charles H., Dumbarton, Scotland. Electrical torsiometer. No. 979,503; Dec. 27; Sp. p. 4494; Gaz. vol. 161; p. 794.
Johnson, Gustaf I. D., Malden, assignor of one-half to himself, and one-half to H. Blumenthal, Dorchester, Mass. Sash-fastener. No. 979,504; Dec. 27; Sp. p. 4496; Gaz. vol. 161; p. 794.
Johnson, Henry, Woodford, Wis. Surgical instrument. No. 979,505; Dec. 27; Sp. p. 4498; Gaz. vol. 161; p. 794.
Johnson, James H., Washington, D. C. Hose-supporter. No. 978,592; Dec. 13; Sp. p. 2561; Gaz. vol. 161; p. 437.
Johnson, Jesse B., assignor to S. Lubin, Philadelphia, Pa. Film-winding mechanism for kinetoscopes. No. 978,454; Dec. 13; Sp. p. 2237; Gaz. vol. 161; p. 388.
Johnson, John F., *et al.* (See Kell, Henry, assignor.)
Johnson, Jonathan, Lowell, Mass. Check-valve. No. 978,757; Dec. 13; Sp. p. 2901; Gaz. vol. 161; p. 491.
Johnson, Nels, Batavia, Ill., assignor to Challenge Company, Batavia, Ill. Silo. No. 979,767; Dec. 27; Sp. p. 5082; Gaz. vol. 161; p. 885.
Johnson, Oscar W., Hackensack, N. J., assignor of one-half to J. A. Gregory, New York, N. Y. Double-bladed tool. No. 978,165; Dec. 13; Sp. p. 1625; Gaz. vol. 161; p. 287.
Johnson, Samuel J., assignor of one-half to T. Finn, Fort Worth, Tex. Combined crutch and chair. No. 979,959; Dec. 27; Sp. p. 5491; Gaz. vol. 161; p. 949.
Johnson, William A., Yonkers, N. Y. Racket-press. No. 978,455; Dec. 13; Sp. p. 2238; Gaz. vol. 161; p. 388.
Johnson, William F., Basin, Wyo. Rail-joint. No. 977,652; Dec. 6; Sp. p. 526; Gaz. vol. 161; p. 79.
Johnson, William F., Basin, Wyo. Rail-joint. No. 977,743; Dec. 6; Sp. p. 713; Gaz. vol. 161; p. 111.
Johnson, William R., Little Rock, Ark. Nose-piece for eyeglasses. No. 977,451; Dec. 6; Sp. p. 51; Gaz. vol. 161; p. 11.
Johnston, Horace G., Corsicana, Tex. Liner for steam-pumps. No. 979,960; Dec. 27; Sp. p. 5402; Gaz. vol. 161; p. 949.
Johnston, John I., Graham, Mo. Electric time-signal. No. 978,593; Dec. 13; Sp. p. 2562; Gaz. vol. 161; p. 437.
Johnston, Thomas C., Monticello, Ill. Side-board clamp. No. 979,309; Dec. 20; Sp. p. 4106; Gaz. vol. 161; p. 707.
Jones, Annie O. S., Shreveport, La. Screen-bed. No. 979,506; Dec. 27; Sp. p. 4499; Gaz. vol. 161; p. 795.
Jones, Drury A. (See Frink and Jones.)
Jones, Edward R., Steubenville, Ohio. Article and bag-securer. No. 978,594; Dec. 13; Sp. p. 2563; Gaz. vol. 161; p. 437.
Jones, George C. (See Deschamp and Jones.)
Jones, James M., Buffalo, N. Y. Safety-guard for stamping-presses. No. 977,953; Dec. 6; Sp. p. 1145; Gaz. vol. 161; p. 185.
Jones, Joseph R., Port Arthur, Ontario, Canada. Telegraph sending-machine. No. 977,452; Dec. 6; Sp. p. 52; Gaz. vol. 161; p. 11.
Jones, Laban E., Anaconda, Mont. Electric collector for tura-tables. No. 977,653; Dec. 6; Sp. p. 528; Gaz. vol. 161; p. 80.
Jones, Marion F., Detroit, Mich. Machinist's scale. No. 979,768; Dec. 27; Sp. p. 5083; Gaz. vol. 161; p. 885.
Jones, Robert V., Kansas City, Mo., assignor to Harrison Safety Boiler Works, Philadelphia, Pa. System of hot-water storage. No. 979,507; Dec. 27; Sp. p. 4501; Gaz. vol. 161; p. 795.
Jones, Robert W., Covington, Ky. Veneer-saw liner and jointer. No. 978,895; Dec. 20; Sp. p. 3162; Gaz. vol. 161; p. 562.
Jones, Samuel, Fremont, Ohio. Headlight-screen. No. 979,508; Dec. 27; Sp. p. 4505; Gaz. vol. 161; p. 795.
Jones, Winfred E. (See Savard and Jones.)
Jönköpings och Vulcans Tändsticksfabriksaktiebolag. (See Johansson, Karl A., assignor.)
Jönköpings och Vulcans Tändsticksfabriksaktiebolag. (See Olsson, Johan G., assignor.)
Jönköpings & Vulcans Tändsticksfabriksaktiebolag. (See Olsson, Gustaf, assignor.)
Jonsson, Gustaf E., Norrköping, Sweden. Milking-machine. No. 978,595; Dec. 13; Sp. p. 2565; Gaz. vol. 161; p. 437.
Jordan, William A., assignor of one-half to O. W. Long, New Orleans, La. Sash-lock. No. 979,861; Dec. 27; Sp. p. 5303; Gaz. vol. 161; p. 917.
Jorn, Albert, Jr., Waukegan, Ill. Sand-blast device. No. 977,453; Dec. 6; Sp. p. 54; Gaz. vol. 161; p. 11.
Joslin, William E. (See Joslin and Bennett, assignors.

Joslin, William H., and M. H. Bennett, assignors to W. B. Joslin, Scituate, R. I. Lace-tipping machine. No. 979,168; Dec. 20; Sp. p. 3813; Gaz. vol. 161; p. 660.

Joyce, George A., London, England. Wire-drawing die. No. 978,301; Dec. 13; Sp. p. 1923; Gaz. vol. 161; p. 336.

Joyce, George A., London, England. Die. No. 978,302; Dec. 13; Sp. p. 1925; Gaz. vol. 161; p. 336.

Jurgenson, Louis F., Grand Rapids, Minn. Paper-making machine. No. 977,654; Dec. 6; Sp. p. 531; Gaz. vol. 161; p. 80.

Kachewski, Fredrich. (See Malensheck and Kachewski.)

Kaiser, Charles W., assignor of one-half to J. L. Mandeville, Newark, N. J. Acetylene-gas container. No. 980,158; Dec. 27; Sp. p. 5947; Gaz. vol. 161; p. 1015.

Kajiura, Juzo, Tokyo, Japan. Electric telegraphy. No. 977,879; Dec. 6; Sp. p. 998; Gaz. vol. 161; p. 157.

Kalamazoo Loose Leaf Binder Company. (See Impey, Francis L., assignor.)

Kalamazoo Loose Leaf Binder Company. (See Wigginton and Hodges, assignors.)

Kaldenbach, John W., Seat Pleasant, Md. Wheelwright-machine. No. 978,166; Dec. 13; Sp. p. 1626; Gaz. vol. 161; p. 287.

Kammerer, William C., St. Louis, Mo. Insulation-slab. No. 979,310; Dec. 20; Sp. p. 4107; Gaz. vol. 161; p. 707.

Kampfe Bros. (See Kampfe, Otto, assignor.)

Kampfe, Otto, New York, N. Y., assignor to Kampfe Bros. Safety-razor blade. No. 978,303; Dec. 13; Sp. p. 1926; Gaz. vol. 161; p. 336.

Kapp, John O., Cincinnati, Ohio. Convertible cane and stool. No. 980,159; Dec. 27; Sp. p. 5949; Gaz. vol. 161; p. 1015.

Kapus, Edward F., St. Joseph, Mo. Acetylene-gas machine. No. 979,509; Dec. 27; Sp. p. 4506; Gaz. vol. 161; p. 795.

Karch, Joseph P. (See Guthrie and Karch.)

Karlson, Henry C., Hasbrouck Heights, N. J. Pocket cigarette-making device. No. 977,954; Dec. 6; Sp. p. 1148; Gaz. vol. 161; p. 185.

Karnatz, Henry, Menomonie, Wis. Rubber attachment. No. 978,304; Dec. 13; Sp. p. 1927; Gaz. vol. 161; p. 336.

Karns, John P., assignor to J. P. Karns Tunneling Machine Co., Boulder, Colo. Cutter-head for tunneling-machines. No. 977,955; Dec. 6; Sp. p. 1152; Gaz. vol. 161; p. 185.

Karpen, Henry C., Brooklyn, N. Y. Shoe-heel. No. 978,896; Dec. 20; Sp. p. 3164; Gaz. vol. 161; p. 562.

Kaspar, August, Shiner, Tex. Wire-twisting implement. No. 978,028; Dec. 6; Sp. p. 1303; Gaz. vol. 161; p. 209.

Kaucher, Richard W., assignor to H. D. Taylor, Reading, Pa. Valve-operating gear. No. 977,880; Dec. 6; Sp. p. 1000; Gaz. vol. 161; p. 157.

Kayser, Firm of J. G. (See Kirschke, Otto, assignor.)

Keaton, Robert H., San Francisco, Cal. Non-skid tire. No. 979,961; Dec. 27; Sp. p. 5463; Gaz. vol. 161; p. 950.

Keeler, Herbert E., New York, N. Y., assignor to Curtain Supply Company, Chicago, Ill. Curtain-fixture. No. 978,379; Dec. 13; Sp. p. 2079; Gaz. vol. 161; p. 363.

Keeley, James W., Philadelphia, Pa. Flexible stay-bolt. No. 978,506; Dec. 13; Sp. p. 2566; Gaz. vol. 161; p. 438.

Keiller and Son Lt'd. (See Boyd, William, assignor.)

Keiper, Henry B., Lancaster, Pa. Drilling-machine. No. 979,073; Dec. 20; Sp. p. 3565; Gaz. vol. 161; p. 624.

Keith, Thomas K., deceased; H. C. Hudson, Lynn, Mass., administrator, assignor to United Shoe Machinery Company, Paterson, N. J. Machine for inserting fastenings. No. 978,297; Dec. 13; Sp. p. 1910; Gaz. vol. 161; p. 334.

Kell, Henry, assignor of one-half to J. F. Johnson and one-half to C. W. Piper, Worden, Ill. Threadless hose-coupling. No. 978,029; Dec. 6; Sp. p. 1305; Gaz. vol. 161; p. 209.

Keller, Andreas R., Chicago, Ill. Deflector for mashing-machines. No. 979,510; Dec. 27; Sp. p. 4511; Gaz. vol. 161; p. 796.

Keller, Otto J., Los Angeles, Cal. Pump-plunger. No. 977,881; Dec. 6; Sp. p. 1002; Gaz. vol. 161; p. 158.

Kelley, Edward F., assignor to The Royal Equipment Company, Bridgeport, Conn. Brake. No. 977,744; Dec. 6; Sp. p. 715; Gaz. vol. 161; p. 112.

Kelley, Eugene E., Greensburg, Pa. Trolley-wheel guard. No. 979,311; Dec. 20; Sp. p. 4108; Gaz. vol. 161; p. 708.

Kelley, Lawrence, Concordia, Kans. Current-deflector. No. 978,807; Dec. 20; Sp. p. 3165; Gaz. vol. 161; p. 562.

Kellner, Julius, Calumet, Pa. Bending-machine. No. 979,962; Dec. 27; Sp. p. 5495; Gaz. vol. 161; p. 950.

Kellogg Switchboard and Supply Company. (See Lawver and Bradbury, assignors.)

Kellogg Switchboard and Supply Company. (See Leaver, William, assignor.)

Kelly, James H., Holliston, Mass. Machine for making eyelets and similar articles. No. 978,898; Dec. 20; Sp. p. 3167; Gaz. vol. 161; p. 563.

Kelly, Robert E., Cocoanut Grove, Fla. Telescoping mud-guard. No. 979,074; Dec. 20; Sp. p. 3568; Gaz. vol. 161; p. 624.

Kelly, Wallace C., Hastings, Mich. Hydraulic motor. No. 979,511; Dec. 27; Sp. p. 4513; Gaz. vol. 161; p. 796.

Kelly, William M., New York, N. Y. Type setting and distributing machine. No. 978,456; Dec. 13; Sp. p. 2240; Gaz. vol. 161; p. 388.

Kelsey, Cadwallader W., Philadelphia, Pa. Portable vacuum-cleaner. No. 978,167; Dec. 13; Sp. p. 1629; Gaz. vol. 161; p. 288.

Kemp, Edward. (See Graham, James H., assignor.)

Kempston, Arthur, San Francisco, Cal. Electric signaling-box. No. 979,769; Dec. 27; Sp. p. 5084; Gaz. vol. 161; p. 885.

Kendig, Roscoe B. (See Parish and Kendig.)

Kendrick, George I. (See Carroll, James, assignor.)

Kendrick, George R., Portland, Ind. Filler-machine. No. 980,103; Dec. 27; Sp. p. 5808; Gaz. vol. 161; p. 996.

Kendrick, Matthew B., Newport, Ky. Stovepipe-collar. No. 978,457; Dec. 13; Sp. p. 2243; Gaz. vol. 161; p. 389.

Kennedy, Andrew J., Chicago, Ill. Skate. No. 979,169; Dec. 20; Sp. p. 3820; Gaz. vol. 161; p. 661.

Kennedy, George M. (See Killian and Kennedy.)

Kennedy, Joseph, New York, N. Y. Toggle-bolt. No. 978,380; Dec. 13; Sp. p. 2082; Gaz. vol. 161; p. 363.

Kennedy, Michael A., Toronto, Ontario, Canada. Tire-tread for motor-vehicles. No. 979,008; Dec. 20; Sp. p. 3435; Gaz. vol. 161; p. 603.

Kennedy, Oliver J., San Diego, assignor of one-half to P. W. Sweeney, Los Angeles, Cal. Sprinkling-pipe. No. 978,597; Dec. 13; Sp. p. 2569; Gaz. vol. 161; p. 438.

Kent, Aaron, Pittsburg, Pa. Horseshoe and antislipping attachment. No. 977,882; Dec. 6; Sp. p. 1003; Gaz. vol. 161; p. 158.

Kent, Arthur A., Philadelphia, Pa. Electric contact device. No. 978,030; Dec. 6; Sp. p. 1306; Gaz. vol. 161; p. 209.

Kent, Arthur A., Philadelphia, Pa. Massage-machine. No. 978,031; Dec. 6; Sp. p. 1312; Gaz. vol. 161; p. 210.

Kenworthy, Thomas. (See Shufflebottom and Kenworthy.)

Kenyon, William J. C. (See Stolp, Samuel S., assignor.)

Keppel & Company. (See Keppel, Richard J., assignor.)

Keppel, Richard J., Philadelphia, assignor to Keppel & Company, Chester, Pa. China-closet. No. 978,805; Dec. 13; Sp. p. 1928; Gaz. vol. 161; p. 337.

Keppler, Theodore L., Brookline, assignor to The American Sugar Refining Company, Boston, Mass. Portable scale. No. 978,306; Dec. 13; Sp. p. 1930; Gaz. vol. 161; p. 337.

Kepplinger, George J., Dwight, Ill. Floor-scraper. No. 977,526; Dec. 6; Sp. p. 255; Gaz. vol. 161; p. 37.

Keystone Furnace Construction Company. (See Knox, Luther L., assignor.)

Keystone Watch Case Company, The. (See Mehl, Walter B., assignor.)

Kier, Harry E., Colorado Springs, Colo. Suction-filter. No. 978,381; Dec. 13; Sp. p. 2083; Gaz. vol. 161; p. 363.

Kihlgren, David, assignor to The Confectioners' Machinery & Manufacturing Company, Springfield, Mass. Cream-cooler. No. 978,458; Dec. 13; Sp. p. 2245; Gaz. vol. 161; p. 389.

Kilby Manufacturing Company, The. (See Francis, John H., assignor.)

Killian, James A., and G. M. Kennedy, Hamburg, Ark. Cloth cutting and measuring machine. No. 979,963; Dec. 27; Sp. p. 5497; Gaz. vol. 161; p. 950.

Kilpatrick, William J., assignor to Burroughs Adding Machine Company, Detroit, Mich. Adding-machine. No. 978,168; Dec. 13; Sp. p. 1631; Gaz. vol. 161; p. 288.

Kimball, Charles B., Pine River, Wis. Corn-husking machine. No. 978,169; Dec. 13; Sp. p. 1634; Gaz. vol. 161; p. 289.

Kimball, Earl C. (See Cork, William W., assignor.)

Kimpton, Herbert C. (See King and Kimpton.)

Kindel, Albert S., French township, Adams county, Ind. Harrow. No. 979,312; Dec. 20; Sp. p. 4111; Gaz. vol. 161; p. 708.

Kindel Bed Company. (See Kindel, Charles J., assignor.)

Kindel, Charles J., Chicago, Ill. Ottoman-bed. No. 978,032; Dec. 6; Sp. p. 1314; Gaz. vol. 161; p. 210.

Kindel, Charles J., Chicago, Ill., assignor to Kindel Bed Company, New York, N. Y. Davenport. No. 977,883; Dec. 6; Sp. p. 1005; Gaz. vol. 161; p. 159.

Kindlespire, Peter W., and J. R. Cannan, Wapakoneta, Ohio. Lock. No. 978,899; Dec. 20; Sp. p. 3173; Gaz. vol. 161; p. 563.

King, Adam C. (See Daniel, Paul, assignor.)

King Cork & Seal Company, The. (See Baltsley, John H., Jr., assignor.)

King, Dean W., San Jose, Cal. Rear gun-sight. No. 978,382; Dec. 13; Sp. p. 2089; Gaz. vol. 161; p. 364.

King, James, and H. C. Kimpton, Montclair, N. J. Lifting device. No. 979,313; Dec. 20; Sp. p. 4112; Gaz. vol. 161; p. 708.

King Powder Company, The. (See Peters and Lindsley, assignors.)

King, Thomas F., Jr., Pawtucket, and D. G. Hall, Cranston, R. I.; said Hall assignor to said King. Policy-file. No. 979,314; Dec. 20; Sp. p. 4113; Gaz. vol. 161; p. 709.

King, Thomas J., Richmond, Va. Planter and spreader. No. 977,884; Dec. 6; Sp. p. 1007; Gaz. vol. 161; p. 159.

Kinne, Edmund P., Alliance, Ohio, assignor, by mesne assignments, to American Steel Foundries, New York, N. Y. Transom draft-rigging. No. 980,160; Dec. 27; Sp. p. 5950; Gaz. vol. 161; p. 1016.

Kinsey, Daniel. (See Vuncannon, Eli, assignor.)

Kinsey, Frederick L., Buffalo, assignor of one-half to J. D. Brotherston, Derby, N. Y. Locking hat, coat, and umbrella rack. No. 978,033; Dec. 6; Sp. p. 1316; Gaz. vol. 161; p. 210.

Kinsey, Fredrick L., assignor of one-half to J. E. Thebaud, Buffalo, N. Y. Grinding and disintegrating machine. No. 978,034; Dec. 6; Sp. p. 1320; Gaz. vol. 161; p. 211.

Kirk, Carrol D., Mertens, Tex. Cultivator-tooth adjuster. No. 979,512; Dec. 27; Sp. p. 4514; Gaz. vol. 161; p. 797.

Kirk, Charles J., New Castle, Pa. Mold for forming plastic articles. No. 978,035; Dec. 6; Sp. p. 1324; Gaz. vol. 161; p. 212.

Kirk, Edwin L. (See Feist, Charles M., assignor.)

Kirkpatrick, William A. (See McKeown and Kirkpatrick.)

Kirkpatrick, Willie H., Celina, Tenn. Work-bench screw. No. 978,900; Dec. 20; Sp. p. 3176; Gaz. vol. 161; p. 563.

Kirschke, Otto, assignor to Firm of J. G. Kayser, Nuremberg, Germany. Machine for cutting threads on wood-screws. No. 977,527; Dec. 6; Sp. p. 256; Gaz. vol. 161; p. 37.

Kitselman, Alva L., Muncie, Ind., assignor to Interlocking Fence Company, Morton, Ill. Machine for making wire fabric. No. 980,104; Dec. 27; Sp. p. 5815; Gaz. vol. 161; p. 997.

Kitselman, Alva L., Muncie, Ind., assignor to Interlocking Fence Company, Morton, Ill. Fence-machine. No. 980,105; Dec. 27; Sp. p. 5822; Gaz. vol. 161; p. 997.

Kittle, Charles R., and J. W. Gates; said Gates assignor to R. K. Holmes, Los Angeles, Cal. Spring-fork for wheeled vehicles. No. 979,674; Dec. 27; Sp. p. 4872; Gaz. vol. 161; p. 854.

Kitzsteiner, Frank, Grand Rapids, Mich., assignor to The Quick Work Stove Company, Cleveland, Ohio. Alcohol-lamp. No. 978,901; Dec. 20; Sp. p. 3177; Gaz. vol. 161; p. 564.

Klahn, Emil, Weehawken, N. J., assignor to Barney & Berry, Incorporated, Springfield, Mass. Making rollers or wheels. No. 978,036; Dec. 6; Sp. p. 1326; Gaz. vol. 161; p. 212.

Klasing, Augustus F., Rome, Ga. Car-brake. No. 977,634; Dec. 6; Sp. p. 491; Gaz. vol. 161; p. 74.

Klausman, William A., St. Marys, Pa. Combined foot-rest and shoe-cleaning stand. No. 978,037; Dec. 6; Sp. p. 1327; Gaz. vol. 161; p. 212.

Klaw, Millard J., *et al.* (See Foster, William B., assignor.)

Klein, Arthur B., Covington, Ky. Medicated article. No. 977,635; Dec. 6; Sp. p. 493; Gaz. vol. 161; p. 74.

Klemp, Hermann L. W. F., Berlin, Germany. Carriage-feeding device for typewriters. No. 978,758; Dec. 13; Sp. p. 2902; Gaz. vol. 161; p. 491.

Kline, James F. (See Drenk, Charles F., assignor.)

Knapik, Thomas. (See Stein and Knapik.)

Knaus, Gottfrid, assignor to Sellers Manufacturing Company, Chicago, Ill. Shearing-machine. No. 978,598; Dec. 13; Sp. p. 2570; Gaz. vol. 161; p. 438.

Knecht, Johann J., Chemnitz, Germany. Jacquard for embroidering-machines. No. 979,964; Dec. 27; Sp. p. 5498; Gaz. vol. 161; p. 951.

Knight, Maurice L., Baltimore, Md. Mausoleum. No. 979,965; Dec. 27; Sp. p. 5505; Gaz. vol. 161; p. 951.

Knilans, William A., assignor to Crocker Chair Company, Sheboygan, Wis. Wood-bending machine. No. 977,804; Dec. 6; Sp. p. 838; Gaz. vol. 161; p. 132.

Knoevenagel, Emil, Heidelberg, Germany. Dyeing acetyl-cellulose. No. 979,966; Dec. 27; Sp. p. 5507; Gaz. vol. 161; p. 952.

Knoller, Jakob, Berlin, Germany. Brush. No. 980,161; Dec. 27; Sp. p. 5952; Gaz. vol. 161; p. 1016.

Knopf, Samuel, Vienna, Austria-Hungary. Transforming substances soluble in alcohol into emulsions in water. No. 978,307; Dec. 13; Sp. p. 1933; Gaz. vol. 161; p. 337.

Knowlson, Frederick. (See Irwin, Cullon, and Knowlson.)

Knox, Luther L., Avalon, assignor to Keystone Furnace Construction Company, Pittsburg, Pa. Regenerative reversing-furnace. No. 978,822; Dec. 13; Sp. p. 3008; Gaz. vol. 161; p. 510.

Koch, Adolph H., Los Angeles, Cal. Vending-machine. No. 977,745; Dec. 6; Sp. p. 717; Gaz. vol. 161; p. 112.

Koeberle, Robert J., assignor to Henry Disston & Sons, Incorporated, Philadelphia, Pa. Saw-clamp. No. 979,967; Dec. 27; Sp. p. 5507; Gaz. vol. 161; p. 952.

Koecke, Charles F., Newark, Ohio. Newspaper-holder. No. 977,454; Dec. 6; Sp. p. 56; Gaz. vol. 161; p. 12.

Koenig, Johann, Riga, Russia. Flexible pipe-joint. No. 979,513; Dec. 27; Sp. p. 4515; Gaz. vol. 161; p. 797.

Koerner, John W. (See Seib and Koerner.)

Koesters, Fredrick W., St. Louis, Mo. Folding chicken-coop. No. 978,759; Dec. 13; Sp. p. 2903; Gaz. vol. 161; p. 491.

Kofske, Charles H., Waterloo, Iowa. Brake-beam. No. 979,968; Dec. 27; Sp. p. 5508; Gaz. vol. 161; p. 952.

Koharu, Rokuro, New York, N. Y. Siphon. No. 979,170; Dec. 20; Sp. p. 3823; Gaz. vol. 161; p. 661.

Kohke, John, Atlanta, Ga., assignor to American Can Company, New York, N. Y. Duplex-horn seam-closing mechanism. No. 978,308; Dec. 13; Sp. p. 1933; Gaz. vol. 161; p. 338.

Kohler, Ernest, assignor of one-half to J. Allemann, Alameda, Cal. Amusement apparatus. No. 979,171; Dec. 20; Sp. p. 3825; Gaz. vol. 161; p. 661.

Kohn, George L., Grover Hill, Ohio. Folding carrying case and stand. No. 979,075; Dec. 20; Sp. p. 3570; Gaz. vol. 161; p. 624.

Koken, Ernest E., deceased, St. Louis, Mo.; W. F. Koken, executor. Sanitary head-rest. No. 977,805; Dec. 6; Sp. p. 840; Gaz. vol. 161; p. 132.

Koken, Walter F., executor. (See Koken, Ernest E.)

Kollenberg, Frederick G., Owensboro, Ky. File-cabinet. No. 977,636; Dec. 6; Sp. p. 493; Gaz. vol. 161; p. 74.

Koller, John J., *et al.* (See Haller, Edward, assignor.)

Konold, Matthew J., Pittsburg, Pa. Steam-trap. No. 979,172; Dec. 20; Sp. p. 3827; Gaz. vol. 161; p. 662.

Koschke, Edward E., Chicago, Ill. Putty-knife. No. 980,177; Dec. 27; Sp. p. 6003; Gaz. vol. 161; p. 1022.

Kosters, Clements B., Buffalo, N. Y. Folding last. No. 978,309; Dec. 13; Sp. p. 1935; Gaz. vol. 161; p. 338.

Kothe, Richard. (See Dressel, Kothe, and Hoerlein.)

Kratz, Ferdinand C., Olivet, S. D. Cream-testing device. No. 979,009; Dec. 20; Sp. p. 3436; Gaz. vol. 161; p. 603.

Krauss, James A. (See Reiff and Krauss.)

Kray, John A., Lancaster, Pa. Portable wiring device. No. 979,514; Dec. 27; Sp. p. 4516; Gaz. vol. 161; p. 797.

Kreitter, John W. (See Worthington, Haetz, and Kreitter.)

Krenzler, Gustav, Barmen, Germany. Lace-making machine. No. 979,770; Dec. 27; Sp. p. 5087; Gaz. vol. 161; p. 886.

Kretz, Harold C., Rochester, N. Y. Sign-letter. No. 979,969; Dec. 27; Sp. p. 5509; Gaz. vol. 161; p. 952.

Kretzschmar, Johannes, Torgau, assignor to Herkules Patentverwertungsgesellschaft mit beschränkter Haftung, Berlin, Germany. Kneading apparatus. No. 979,675; Dec. 27; Sp. p. 4874; Gaz. vol. 161; p. 854.

Kriegbaum, John P. (See Chamness and Kriegbaum.)

Krippendorf, Charles H., *et al.* (See Wolentarsky, Charles, assignor.)

Krohn, Julius, assignor of one-half to C. G. Tilleson, Menomonie, Wis. Grain-car door. No. 979,076; Dec. 20; Sp. p. 3672; Gaz. vol. 161; p. 625.

Kronauer, Max, Paterson, N. J., assignor to The Progress Manufacturing Company. Combined cigarette-roller and tobacco-box. No. 978,170; Dec. 13; Sp. p. 1636; Gaz. vol. 161; p. 289.

Kruger, Albert M., Duluth, Minn. Derrick bull-wheel. No. 979,173; Dec. 20; Sp. p. 3828; Gaz. vol. 161; p. 662.

Krüger, Friedrich C., Hanover, Germany, Stuffing-box. No. 978,310; Dec. 13; Sp. p. 1937; Gaz. vol. 161; p. 338.

Kuffel, Joseph J., Manitowoc, Wis. Filing-cabinet. No. 979,010; Dec. 20; Sp. p. 3438; Gaz. vol. 161; p. 604.

Kügelgen, Franz von, Holcombs Rock, Va., and G. C. Seward, East Orange, N. J., assignors to Virginia Laboratory Company, New York, N. Y. Electric furnace. No. 978,171; Dec. 13; Sp. p. 1638; Gaz. vol. 161; p. 289.

Kuhn, Frank, assignor to American Electrical Heater Company, Detroit, Mich. Electrical heater. No. 979,515; Dec. 27; Sp. p. 4517; Gaz. vol. 161; p. 798.

Kunda, Louis, South Oshkosh, Wis. Rolling-mill. No. 977,637; Dec. 6; Sp. p. 495; Gaz. vol. 161; p. 75.

Kunkel, Anton, assignor to Adolph Saurer Maschinenfabrik, Arbon, Switzerland. Ball-bearing lock. No. 977,655; Dec. 6; Sp. p. 534; Gaz. vol. 161; p. 81.

Kunz, Fredrick C. (See Kunz, John and F. C.)

Kunz, John and F. C., Middletown, Ohio. Egg-turning tray for incubators. No. 977,638; Dec. 6; Sp. p. 490; Gaz. vol. 161; p. 75.

Kunzelmann, Carl, Sr., Säckingen, Germany. Multiple-jet pipe mouthpiece. No. 979,771; Dec. 27; Sp. p. 5088; Gaz. vol. 161; p. 886.

Küppers, Charles, Aix-la-Chapelle, Germany. Flow-indicator. No. 979,516; Dec. 27; Sp. p. 5419; Gaz. vol. 161; p. 798.

Kurowski, Alfred G. F., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 978,902; Dec. 20; Sp. p. 3178; Gaz. vol. 161; p. 564.

Kusebauch, Anton. (See Foell, Kusebauch, and Necker-man.)

L'Enfant, Charles, New York, N. Y. Cigar-case. No. 979,176; Dec. 20; Sp. p. 3834; Gaz. vol. 161; p. 663.

La Montague, T. Ephrem. (See Jaccard, Aml, assignor.)

La Rose, William P., Hartford, Conn. Waste-pipe cleaner. No. 977,656; Dec. 6; Sp. p. 535; Gaz. vol. 161; p. 81.

Lachman, Laurence S., New York, N. Y., assignor to Universal Electric Welding Company. Electric welding. No. 979,970; Dec. 27; Sp. p. 5511; Gaz. vol. 161; p. 953.

Lachman, Maurice, assignor to Welded Steel Wheel Company, New York, N. Y. Die. No. 977,639; Dec. 6; Sp. p. 498; Gaz. vol. 161; p. 75.

Lackey, George A., Augusta, Kans. Dumping apparatus. No. 978,599; Dec. 13; Sp. p. 2572; Gaz. vol. 161; p. 439.

Lacombe, Louis N., New York, N. Y. Friction-gearing. No. 979,315; Dec. 20; Sp. p. 4115; Gaz. vol. 161; p. 709.

Lacroix, Joseph D., assignor to E. H. Davis, New York, N. Y. Cigar-machine. No. 977,806; Dec. 6; Sp. p. 843; Gaz. vol. 161; p. 132.

Lademan, Otto T., Milwaukee, Wis. Telephone transmission system. No. 977,657; Dec. 6; Sp. p. 537; Gaz. vol. 161; p. 81.

Lademan, Otto T., Milwaukee, Wis. Switching system. No. 979,676; Dec. 27; Sp. p. 4875; Gaz. vol. 161; p. 854.

Lagonda Manufacturing Company, The. (See Weinland, Henry F., assignor.)

Lagonda Manufacturing Company, The. (See Weinland and Ainge, assignors.)

Lagonda Mfg. Company, The. (See Hauer, Elmer E., assignor.)

Lake, Simon, Milford, Conn. Motor-boat. No. 978,311; Dec. 13; Sp. p. 1939; Gaz. vol. 161; p. 339.

Lambert, Asher, Newark, N. J. Hoisting and conveying apparatus. No. 978,312; Dec. 13; Sp. p. 1946; Gaz. vol. 161; p. 339.

Lambert, George A., Anderson, Ind. Machine for forming heel-irons for vehicle-shafts. No. 979,517; Dec. 27; Sp. p. 4520; Gaz. vol. 161; p. 798.

Lamme, Benjamin G., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. System of operation for dynamo-electric machines. No. 977,640; Dec. 6; Sp. p. 500; Gaz. vol. 161; p. 76.

Lamme, Benjamin G., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. System for the operation of dynamo-electric machines. No. 977,641; Dec. 6; Sp. p. 506; Gaz. vol. 161; p. 76.

Lamme, Benjamin G., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. System of regenerative control for electric motors. No. 978,038; Dec. 6; Sp. p. 1329; Gaz. vol. 161; p. 213.

Lamplough, Frederick, London, England. Two-cycle internal-combustion motor. No. 979,971; Dec. 27; Sp. p. 5513; Gaz. vol. 161; p. 953.

Lampman, Herman W., assignor to W. E. Snyder, Lagrange, Ind. Brick-machine. No. 978,600; Dec. 13; Sp. p. 2574; Gaz. vol. 161; p. 439.

Lamson Consolidated Store Service Company. (See Amsden, George A., assignor.)

Lamson Consolidated Store Service Company. (See Cowley, James T., assignor.)

Lamson Consolidated Store Service Company. (See Libby, Charles R., assignor.)

Lamson Consolidated Store Service Company. (See Pearsall, Albert W., assignor.)

Land, Gordon, assignor to U. S. Flush Tank Company, Inc., Seattle, Wash. Valve. No. 977,807; Dec. 6; Sp. p. 846; Gaz. vol. 161; p. 133.

Landers, Frary and Clark. (See Walker, George, assignor.)

Landis, Israel L., Chicago, Ill. Molding apparatus. No. 978,903; Dec. 20; Sp. p. 3180; Gaz. vol. 161; p. 564.

Landis Machine Company. (See Blair, William R., assignor.)

Landis, William A., and L. A. Costa, Glen Ellen, Cal. Egg transfer and testing device. No. 978,601; Dec. 13; Sp. p. 2576; Gaz. vol. 161; p. 439.

Lane, Frederic A., assignor to D. H. Burrell & Company, Little Falls, N. Y. Milking-machine. No. 979,174; Dec. 20; Sp. p. 3832; Gaz. vol. 161; p. 663.

Lane, Willey B., New York, N. Y., assignor of one-half to J. C. McCarty & Co. Ratchet mechanism for screw-drivers and the like. No. 979,862; Dec. 27; Sp. p. 5305; Gaz. vol. 161; p. 918.

Lang, Edward M., Jr., Portland, Me. Coiling-machine. No. 978,039; Dec. 6; Sp. p. 1331; Gaz. vol. 161; p. 213.

Lang, Edward M., Jr., Portland, Me. Making solder rings. No. 978,040; Dec. 6; Sp. p. 1332; Gaz. vol. 161; p. 213.

Langerfeld, Arthur, Scranton, Pa. Separator for lump material. No. 977,956; Dec. 6; Sp. p. 1155; Gaz. vol. 161; p. 186.

Langlet, Charles. (See Féry and Langlet.)

Langley, Wilmot M., Portland, Oreg. Folding stool. No. 978,904; Dec. 20; Sp. p. 3182; Gaz. vol. 161; p. 565.

Langlois, Frank R. (See Evans, Marcaurele, and Langlois.)

Langum, Conrad, Volga, S. D. Attachment for hay-stackers. No. 979,677; Dec. 27; Sp. p. 4877; Gaz. vol. 161; p. 855.

Langworthy, Solon M., Cedar Rapids, Iowa. Surgical table No. 978,760; Dec. 13; Sp. p. 2905; Gaz. vol. 161; p. 491.

Lannert, Charles H. (See Crosby, Jacob E., assignor.)

Lanning, Charles D. (See Field, Lanning, Hathaway, and Blanchard.)

Lapham, Herbert L., Caledonia, Minn. Seed-tester. No. 979,175; Dec. 20; Sp. p. 3833; Gaz. vol. 161; p. 663.

Larimore, John W., Benton, Ill. Rotary engine. No. 978,602; Dec. 13; Sp. p. 2577; Gaz. vol. 161; p. 440.

Larrabee, William H., assignor to Union Water Meter Company, Worcester, Mass. Water-meter. No. 979,518; Dec. 27; Sp. p. 4523; Gaz. vol. 161; p. 799.

Larson, David, Yonkers, N. Y., assignor to Otis Elevator Company, Jersey City, N. J. Ash-hoist. No. 979,519; Dec. 27; Sp. p. 4530; Gaz. vol. 161; p. 799.

Lasby, Edwin W., St. Louis, Mo. Food compound. No. 977,746; Dec. 6; Sp. p. 719; Gaz. vol. 161; p. 113.

Lash, Horace W., Cleveland, Ohio. Making steel. No. 978,905; Dec. 20; Sp. p. 3183; Gaz. vol. 161; p. 565.

Lash, Horace W., Cleveland, Ohio. Treating cast-iron waste. No. 978,906; Dec. 20; Sp. p. 3184; Gaz. vol. 161; p. 566.

Laskey, Walden L., Brooklyn, assignor to American Can Company, New York, N. Y. Sheet-metal display-can. No. 978,041; Dec. 6; Sp. p. 1334; Gaz. vol. 161; p. 214.

Laughlin, Edward R., deceased, Ardmore, Pa.; M. W. Laughlin, executrix. Safety apparatus for volatile ignitible liquids. No. 978,459; Dec. 13; Sp. p. 2246; Gaz. vol. 161; p. 389.

Laughlin, May W., executrix. (See Laughlin, Edward R.)

Launder, Alvia, Chicago, Ill. Guard for Gordon printing-presses. No. 978,042; Dec. 6; Sp. p. 1337; Gaz. vol. 161; p. 214.

Lauterbach, Max, Omaha, Nebr. Horse-collar. No. 978,907; Dec. 20; Sp. p. 3185; Gaz. vol. 161; p. 566.

Laviolette, Joseph V., assignor to Industrieele Maatschappij Trompenburg, Amsterdam, Netherlands. Internal-combustion engine. No. 977,885; Dec. 6; Sp. p. 1000; Gaz. vol. 161; p. 159.

Lavole, Eugene E. (See Russell and Lavole.)

Law, Alexander H. (See Parsons and Law.)

Lawler, James J., Pelham Heights, N. Y. Vault-light. No. 979,772; Dec. 27; Sp. p. 5089; Gaz. vol. 161; p. 886.

Lawrence, David E., Central, S. C. Combined planter and fertilizer-distributer. No. 977,886; Dec. 6; Sp. p. 1011; Gaz. vol. 161; p. 160.

Lawson, Aaron, *et al.* (See Emmerson, John F., assignor.)

Lawver, Dwight A., and C. C. Bradbury, assignors to Kellogg Switchboard and Supply Company, Chicago, Ill. Testing system for party-lines. No. 978,603; Dec. 13; Sp. p. 2579; Gaz. vol. 161; p. 440.

Layman, William, *et al.* (See Bulley, Albert, assignor.)

Lazell, Bessie, New York, N. Y. Bust and abdominal supporter. No. 977,455; Dec. 6; Sp. p. 57; Gaz. vol. 161; p. 12.

Le Manquais, Ernest R., Economy, Pa. Outlet-box. No. 977,643; Dec. 6; Sp. p. 512; Gaz. vol. 161; p. 77.

Le Roy, Lucy A., Oklahoma, Okla. Washboiler. No. 977,644; Dec. 6; Sp. p. 513; Gaz. vol. 161; p. 77.

Leadbetter, Bertrand. (See Leadbetter, Clayton and B.)

Leadbetter, Clayton and B., Lestershire, N. Y. Feed-bag. No. 978,761; Dec. 13; Sp. p. 2908; Gaz. vol. 161; p. 492.

Leary, William J., New York, N. Y., assignor to W. J. Leary Manufacturing Co., Jersey City, N. J. Excavating apparatus. No. 978,908; Dec. 20; Sp. p. 3186; Gaz. vol. 161; p. 566.

Leaver, William, assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone desk-stand. No. 977,658; Dec. 6; Sp. p. 539; Gaz. vol. 161; p. 82.

Leavitt Machine Company, The. (See Smith and Williams, assignors.)

Leblanc, Maurice, assignor to Societe Anonyme pour l'Exploitation des Procedes Westinghouse-Leblanc, Paris, France. Refrigerating-machine. No. 977,650; Dec. 6; Sp. p. 541; Gaz. vol. 161; p. 82.

Lee, Henry B., Hartford, Conn. Steam-turbine. No. 979,077; Dec. 20; Sp. p. 3573; Gaz. vol. 161; p. 625.

Lee, James A., Belleville, Ohio. Pump for medicating air. No. 978,313; Dec. 13; Sp. p. 1948; Gaz. vol. 161; p. 340.

Leech, Charles M., Lima, Ohio. Combined transmission and differential gear. No. 977,887; Dec. 6; Sp. p. 1015; Gaz. vol. 161; p. 161.

Leeder, Francis T., assignor to Lewis & Leeder, Sioux City, Iowa. Cement-form. No. 979,863; Dec. 27; Sp. p. 5306; Gaz. vol. 161; p. 918.

Lees, Archibald. (See Shaw and Lees.)

Lees, Thomas W. (See Shaw and Lees.)

Lees, Walter. (See Shaw and Lees.)

Lefleur, Barthelemiy, Vancouver, British Columbia, Canada. Milk-can. No. 977,660; Dec. 6; Sp. p. 543; Gaz. vol. 161; p. 82.

Leich, Oscar M., assignor to Cracraft-Leich Electric Co., Genoa, Ill. Composite telephone and telegraph system. No. 978,909; Dec. 20; Sp. p. 3190; Gaz. vol. 161; p. 567.

Leick, Fred H., *et al.* (See Olds, Frederick P., assignor.)

Leiger, George F., South Haven, Mich. Rotary engine. No. 977,888; Dec. 6; Sp. p. 1018; Gaz. vol. 161; p. 161.

Leigh, Abner, Osceola, Ark. Scrubbing-machine. No. 979,773; Dec. 27; Sp. p. 5090; Gaz. vol. 161; p. 887.

Leisner, Gustaf R., Minneapolis, Minn. Rope-buckle. No. 977,642; Dec. 6; Sp. p. 511; Gaz. vol. 161; p. 76.

Leith, William J. (See Whittemore, William C., assignor.)

Leland, Sanford D., Winchester, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., and Boston, Mass. Milling-machine. No. 979,972; Dec. 27; Sp. p. 5514; Gaz. vol. 161; p. 953.

Lemon, Don M., assignor of one-half to E. V. Page, Boston, Mass. Eraser for type-writing machines. No. 979,316; Dec. 20; Sp. p. 4118; Gaz. vol. 161; p. 709.

Lenne, Frank, Montreal, Quebec, Canada. Lantern. No. 978,172; Dec. 13; Sp. p. 1640; Gaz. vol. 161; p. 200.

Lennox, David N., Greenock, Scotland. Machine for inking and reinking type-writer and similar ribbons. No. 977,661; Dec. 6; Sp. p. 545; Gaz. vol. 161; p. 83.

Lentz, Hugo, Mannheim, Germany. Valve arrangement for controlling fluid transmission-gears. No. 980,106; Dec. 27; Sp. p. 5832; Gaz. vol. 161; p. 998.

Leo, Richard L., New York, N. Y. Folding bath-tub. No. 979,973; Dec. 27; Sp. p. 6520; Gaz. vol. 161; p. 953.

Leonard, Arthur G. (See Odell, John B., assignor.)

Leonard, Harry W., Bronxville, N. Y. Resistance device. No. 977,456; Dec. 6; Sp. p. 58; Gaz. vol. 161; p. 12.

Leonard, Harry W., Bronxville, N. Y. Electric-motor-controlling apparatus. No. 978,173; Dec. 13; Sp. p. 1641; Gaz. vol. 161; p. 290.

Leonard, Harry W., Bronxville, N. Y. Electric-motor control. No. 979,078; Dec. 20; Sp. p. 3576; Gaz. vol. 161; p. 625.

Leonard, James E., Walla Walla, Wash. Railway-rail joint. No. 978,314; Dec. 13; Sp. p. 1949; Gaz. vol. 161; p. 340.

Leopold, George O. (See Fegley and Leopold.)

Leopold, George O., assignor to North Bro's M'f'g Co., Philadelphia, Pa. Ratchet mechanism for screw-drivers, &c. No. 977,957; Dec. 6; Sp. p. 1167; Gaz. vol. 161; p. 186.

Leppert, Robert C., Chicago, Ill. Accordion or concertina. No. 978,460; Dec. 13; Sp. p. 2249; Gaz. vol. 161; p. 390.

Letts, Arthur, *et al.* (See Smith, George A., assignor.)

Levey, John, Chicago, Ill. Compressor. No. 977,662; Dec. 6; Sp. p. 547; Gaz. vol. 161; p. 83.

Levinsohn, Eva. (See Levinsohn, Louis N., assignor.)

Levinsohn, Louis N., assignor to E. Levinsohn, New York, N. Y. Safety-razor. No. 977,889; Dec. 6; Sp. p. 1021; Gaz. vol. 161; p. 162.

Levy, Abram D., Cleveland, Ohio. Switch-box structure. No. 979,011; Dec. 20; Sp. p. 3440; Gaz. vol. 161; p. 604.

Lewis, Albert F., Urbana, Ohio. Draft-regulator for furnaces. No. 977,663; Dec. 6; Sp. p. 550; Gaz. vol. 161; p. 83.

Lewis, Fay J. (See Rhodes, George D., assignor.)

Lewis & Leeder. (See Leeder, Francis T., assignor.)

Lewis, Theodore G., assignor to Buffalo Dental Manufacturing Company, Buffalo, N. Y. Mouth-illuminator. No. 978,910; Dec. 20; Sp. p. 3192; Gaz. vol. 161; p. 567.

Lewis, William L., *et al.* (See De Lukacsevics, Charles, assignor.)

Libbey, Frank O. (See Guernsey, Charles C., assignor.)

Libby, Charles R., Lowell, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Carrier for cable-carrier apparatus. No. 978,174; Dec. 13; Sp. p. 1652; Gaz. vol. 161; p. 290.

Libby, Ernest L., and G. B. Davis, Linn Creek, Mo. Nut-lock. No. 979,177; Dec. 20; Sp. p. 3836; Gaz. vol. 161; p. 663.

Lichtwald, Robert C., Decatur, Nebr. End-gate. No. 977,457; Dec. 6; Sp. p. 63; Gaz. vol. 161; p. 18.

Liesner, Frank J. B., assignor of one-half to J. Mathias, Hamilton, Ohio. Garment-clasp. No. 978,762; Dec. 13; Sp. p. 2909; Gaz. vol. 161; p. 492.

Liles, William W., Mineral Wells, Tex. Churn-body. No. 978,763; Dec. 13; Sp. p. 2910; Gaz. vol. 161; p. 492.

Liles, William W., Mineral Wells, Tex. Churn. No. 979,974; Dec. 27; Sp. p. 5521; Gaz. vol. 161; p. 954.

Liles, William W., Mineral Wells, Tex. Churn-dasher. No. 980,107; Dec. 27; Sp. p. 5833; Gaz. vol. 161; p. 998.

Lillie, Samuel M., Philadelphia, Pa. Apparatus for evaporating solutions. No. 980,108; Dec. 27; Sp. p. 5834; Gaz. vol. 161; p. 998.

Lincoln, Joshua A., assignor of one-half to U. J. Virgin, New Orleans, La. Lens-grinding machine. No. 978,764; Dec. 13; Sp. p. 2911; Gaz. vol. 161; p. 493.

Lincoln, Paul M., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. System of distribution. No. 977,645; Dec. 6; Sp. p. 514; Gaz. vol. 161; p. 77.

Lind, Walter W., East Orange, N. J. Sad-iron. No. 979,520; Dec. 27; Sp. p. 4533; Gaz. vol. 161; p. 800.

Lindemeyer, William J., Stapleton, N. Y. Ventilator. No. 978,175; Dec. 13; Sp. p. 1653; Gaz. vol. 161; p. 291.

Lindley, James F., Jr., assignor to The T. B. Laycock Manufacturing Company, Indianapolis, Ind. Metal furniture. No. 977,808; Dec. 6; Sp. p. 847; Gaz. vol. 161; p. 133.

Lindquist, David L., Yonkers, N. Y., assignor to Otis Elevator Company, Jersey City, N. J. Motor control. No. 980,100; Dec. 27; Sp. p. 5837; Gaz. vol. 161; p. 998.

Lindridge, Charles D., Providence, R. I. Telephone-repeater. No. 979,012; Dec. 20; Sp. p. 3442; Gaz. vol. 161; p. 605.

Lindsay, Franklin G., Scottdale, assignor of one-third to I. F. Overholt and one-third to W. F. Morrison, Mount Pleasant, Pa. Music-leaf turner. No. 978,043; Dec. 6; Sp. p. 1338; Gaz. vol. 161; p. 214.

Lindsley, Milton F. (See Peters and Lindsley.)

Linegar, Thomas F., and H. M. Storms, Seattle, Wash. Rotary power-washer. No. 978,461; Dec. 13; Sp. p. 2251; Gaz. vol. 161; p. 300.

Link, Rolls P. (See Hyde and Link.)

Link, Rolls P., and A. C. Morgan, assignors to Uni-Type-bar, Limited, London, England. Type casting and composing machine. No. 979,864; Dec. 27; Sp. p. 5307; Gaz. vol. 161; p. 918.

Linkmeyer, Rudolf, Bremen, Germany. Manufacturing masses for use in making artificial threads and the like. No. 979,013; Dec. 20; Sp. p. 3448; Gaz. vol. 161; p. 605.

Linnell, Lafayette S., Almena, Kans. Hay-stacker. No. 978,315; Dec. 13; Sp. p. 1950; Gaz. vol. 161; p. 340.

Lippincott, Frank T., Newark, Ohio. Sash-cord connector. No. 979,014; Dec. 20; Sp. p. 3449; Gaz. vol. 161; p. 605.

Lippincott, Frank T., Newark, Ohio. Latch. No. 979,178; Dec. 20; Sp. p. 3838; Gaz. vol. 161; p. 664.

Lister, Archie E., Pearl City, Hawaii. Pineapple coring and sizing machine. No. 978,383; Dec. 13; Sp. p. 2092; Gaz. vol. 161; p. 364.

Litchfield, Herbert L., Southbridge, Mass. Hand-threading loom-shuttle. No. 978,462; Dec. 13; Sp. p. 2253; Gaz. vol. 161; p. 390.

Litchfield, Herbert L., Southbridge, Mass. Shuttle-threading means. No. 979,865; Dec. 27; Sp. p. 5312; Gaz. vol. 161; p. 919.

Little, James E., Philadelphia, Pa. Tailor's measure. No. 979,866; Dec. 27; Sp. p. 5314; Gaz. vol. 161; p. 919.

Littlefield, Charles A., Lowell, assignor to Draper Company, Hopedale, Mass. Holding device for loom-temples. No. 979,774; Dec. 27; Sp. p. 5092; Gaz. vol. 161; p. 887.

Livingston, Frank, New Boston, Ill. Clock-setting device. No. 979,402; Dec. 20; Sp. p. 4279; Gaz. vol. 161; p. 736.

Livingston, Thomas P., Augusta, Ga. Rail-chair. No. 978,176; Dec. 13; Sp. p. 1656; Gaz. vol. 161; p. 291.

Ljunggren, Carl J., Providence, R. I. Closure-locking means. No. 977,646; Dec. 6; Sp. p. 516; Gaz. vol. 161; p. 78.

Ljunggren, Carl J., Providence, R. I. Closure-locking means. No. 977,647; Dec. 6; Sp. p. 517; Gaz. vol. 161; p. 78.

Locke Insulator Manufacturing Company. (See Goddard, Walter T., assignor.)

Locke, Louis P., Victor, N. Y. Rail-joint. No. 979,015; Dec. 20; Sp. p. 3451; Gaz. vol. 161; p. 606.

Locke, Nathen A., Fulton, N. Y. Instrument for comparing the relative positions of centers. No. 978,177; Dec. 13; Sp. p. 1657; Gaz. vol. 161; p. 291.

Lockwood, Charles S., Newark, N. J., assignor to Hyatt Roller Bearing Company, Harrison, N. J. Roller-bearing having grooved rolls and tension-band. No. 977,458; Dec. 6; Sp. p. 65; Gaz. vol. 161; p. 13.

Lockwood, Charles S., Newark, assignor to Hyatt Roller Bearing Company, Harrison, N. J. Sleeve to guide the cages in roller-bearings. No. 979,317; Dec. 20; Sp. p. 4120; Gaz. vol. 161; p. 710.

Lockwood, Walter H. (See Spring and Lockwood.)

Loedige, Fred, Chicago, Ill. Valve and valve-operating mechanism. No. 978,463; Dec. 13; Sp. p. 2257; Gaz. vol. 161; p. 391.

Loew Manufacturing Company, The. (See Neff, Peter, assignor.)

Loew Manufacturing Company, The. (See Pinkney, Bryan D., assignor.)

Loff, John A. (See Agersburg and Loff.)

Lofton, Herbert M., Chattanooga, Tenn. Meter-box. No. 978,384; Dec. 13; Sp. p. 2004; Gaz. vol. 161; p. 365.

Lofton, Herbert M., Chattanooga, Tenn. Fire-hydrant. No. 978,385; Dec. 13; Sp. p. 2007; Gaz. vol. 161; p. 365.

Loftus, Charles T., *et al.* (See Loftus, Thomas J., assignor.)

Loftus, Thomas J., assignor of one-half to C. T. Loftus, Castella, and one-half to H. Bell, Oakland, Cal. Turbine-motor and pressure device. No. 978,044; Dec. 6; Sp. p. 1339; Gaz. vol. 161; p. 215.

Lomax, Roger W., Lynchburg, Va. Apparatus for delivering mail to moving cars. No. 978,911; Dec. 20; Sp. p. 3194; Gaz. vol. 161; p. 567.

Lomax, Roger W., Lynchburg, Va. Apparatus for delivering mail from moving cars. No. 979,179; Dec. 20; Sp. p. 3839; Gaz. vol. 161; p. 664.

Long, August, Bayonne, N. J. Automatic chemical air-lift. No. 979,867; Dec. 27; Sp. p. 5315; Gaz. vol. 161; p. 919.

Long, Nim R., Troy, Mo. Calculating device. No. 979,678; Dec. 27; Sp. p. 4878; Gaz. vol. 161; p. 855.

Long, Oregon W. (See Jordan, William A., assignor.)

Lougee, Frederick G. (See Read and Lougee.)

Louis Hanson Company. (See Hanson, Martin, assignor.)

Louvrier, François, Mexico, Mexico. Electrometallurgical furnace. No. 978,464; Dec. 13; Sp. p. 2259; Gaz. vol. 161; p. 391.

Louvrier, François, Mexico, Mexico. Electrometallurgical furnace. No. 978,465; Dec. 13; Sp. p. 2261; Gaz. vol. 161; p. 392.

Love, Edgar, Darlington, Ind. Fence-clamp. No. 977,958; Dec. 6; Sp. p. 1169; Gaz. vol. 161; p. 187.

Loveridge, George S., Fennville, Mich. Electric call and alarm system. No. 977,809; Dec. 6; Sp. p. 848; Gaz. vol. 161; p. 133.

Lovett, Thomas J., Chicago, Ill. Treating ore. No. 979,180; Dec. 20; Sp. p. 3842; Gaz. vol. 161; p. 665.

Low, Abbot A., *et al.*, trustees. (See Hertzberg, Harry, assignor.)

Low, Abbot A., *et al.*, trustees. (See Hertzberg and Wohl assignors.)

Lowe, Arthur L. (See Swagerty and Lowe.)

Lowry, Henry, Belfast, Ireland. Pipe-cleaner. No. 978,316; Dec. 13; Sp. p. 1952; Gaz. vol. 161; p. 340.

Lubin, Siegmund. (See Johnson, Jesse B., assignor.)

Lucas, Arthur C., *et al.* (See Bennett, Joseph S., assignor.)

Lucas, Clyde. (See Andrews and Waldrum, assignors.)

Lucas, Emmett W., *et al.* (See Bennett, Joseph S., assignor.)

Ludington, Eliot K., *et al.*, executors. (See Ludington, Francis H.)

Ludington, Francis H., deceased, (H. N. and E. K. Ludington, executors,) John P. Marshall, and Louis C. Besson, St. Louis, Mo.; said Marshall and Besson assignors to said Ludington. Apparatus for making white lead. No. 978,122; Dec. 6; Sp. p. 1509; Gaz. vol. 161; p. 243.

Ludington, Harriet N., *et al.*, executors. (See Ludington, Francis H.)

Ludwig Hupfeld, Aktiengesellschaft. (See Hennig, Ernst A. P., assignor.)

Ludwig, William H., De Pere, Wis. Door and lock therefor. No. 979,679; Dec. 27; Sp. p. 4880; Gaz. vol. 161; p. 855.

Luedders, Arthur D., assignor to J. F. Walton, Sturgis, Mich. Adjustable chair. No. 978,386; Dec. 13; Sp. p. 2102; Gaz. vol. 161; p. 366.

Lufkin, Elgood C., *et al.* (See Willet, John G., assignor.)

Luscomb, Frederick W., New Bedford, assignor to Atlantic Tack Company, Fairhaven, Mass. Machine for inserting eyelets. No. 978,178; Dec. 13; Sp. p. 1661; Gaz. vol. 161; p. 292.

Lust, Elmer, Reasnor, Iowa. Swingletree. No. 977,456; Dec. 6; Sp. p. 67; Gaz. vol. 161; p. 13.

Luten, Daniel B., Indianapolis, Ind. Reinforced structure. No. 979,776; Dec. 27; Sp. p. 5099; Gaz. vol. 161; p. 888.

Luts, Herbert, assignor of one-fourth to B. Harris and one-fourth to C. R. Ford, Hamilton, Ontario, Canada. Combination watchmaker's tool. No. 978,317; Dec. 13; Sp. p. 1953; Gaz. vol. 161; p. 341.

Lux, Julius K., St. Louis, Mo. Controlling means for electric circuits. No. 977,664; Dec. 6; Sp. p. 551; Gaz. vol. 161; p. 84.

Lux, Julius K., Washington, D. C. Operating means for rotary electric switches. No. 977,810; Dec. 6; Sp. p. 852; Gaz. vol. 161; p. 134.
Luxembourger, Nicholas, Santa Ana, assignor to Bow Shock Absorbing Spring Company, Los Angeles, Cal. Shock-absorbing vehicle-spring. No. 979,016; Dec. 20; Sp. p. 3453; Gaz. vol. 161; p. 606.
Lynch, Robert L. (See Jeffries and Lynch.)
Lyness, Robert C., Sunderland, England. Contact-finger for electrical controllers and switches. No. 977,460; Dec. 6; Sp. p. 68; Gaz. vol. 161; p. 13.
Lyon, Elias A., Yonkers, N. Y. Advertising device. No. 979,399; Dec. 20; Sp. p. 4271; Gaz. vol. 161; p. 734.
Lyon, Fred W., Newark, N. J. Necktie. No. 979,521; Dec. 27; Sp. p. 4536; Gaz. vol. 161; p. 800.
Lyons, Alpheus F. S., Neenah, Wis. Shoe. No. 977,890; Dec. 6; Sp. p. 1023; Gaz. vol. 161; p. 162.
Lysaght, Cornelius J., Newark, N. J., assignor to R. Neumann Hardware Co. Trunk-hasp. No. 979,777; Dec. 27; Sp. p. 5100; Gaz. vol. 161; p. 888.
M. H. Foundry and Manufacturing Company. (See Heeney, Joseph P., assignor.)
MacDonald, James H., New Haven, Conn. Catch-basin cover. No. 979,182; Dec. 20; Sp. p. 3845; Gaz. vol. 161; p. 665.
MacGahan, Paul, Wilkinsburg, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa. Means for protecting electrical circuits. No. 977,648; Dec. 6; Sp. p. 518; Gaz. vol. 161; p. 78.
MacGahan, Paul, Wilkinsburg, assignor, by mesne assignments, to Westinghouse Electric & Manufacturing Company, East Pittsburg, Pa. Protective device for electrical circuits. No. 977,649; Dec. 6; Sp. p. 521; Gaz. vol. 161; p. 79.
Macbeth, George A., Pittsburg, Pa. Lighting device. No. 979,181; Dec. 20; Sp. p. 3844; Gaz. vol. 161; p. 665.
Macdonald, Alfred, Whiteinch, Scotland. Machine for grinding, turning, and finishing shafts, piston-rods, pins, tools, and other machined work. No. 979,975; Dec. 27; Sp. p. 5523; Gaz. vol. 161; p. 954.
Macdonald, Alfred, Whiteinch, Scotland. Machine for grinding, turning, and finishing shafting, &c. No. 979,976; Dec. 27; Sp. p. 5527; Gaz. vol. 161; p. 954.
Macfarlane, Oliver P., *et al.* (See Ross and Schofield, assignors.)
Mack, William H., New York, N. Y. Pipe-hanger. No. 978,912; Dec. 20; Sp. p. 3197; Gaz. vol. 161; p. 568.
Mackenzie, Archibald, and T. M. Norton, Denver, Colo. Illuminated sign. No. 977,665; Dec. 6; Sp. p. 556; Gaz. vol. 161; p. 84.
Macklin, Francis J., assignor to B. Schloss, San Francisco, Cal. Jar-closure. No. 979,183; Dec. 20; Sp. p. 3846; Gaz. vol. 161; p. 665.
Macmanus, Augustus F. W., San Antonio, Tex. Aeroplane. No. 977,528; Dec. 6; Sp. p. 258; Gaz. vol. 161; p. 37.
Macy, Bernard F. (See Bond, Nathan O., assignor.)
Madden, Patrick J., Chicago, Ill. Drinking-fountain and other plumbing-fixture. No. 978,913; Dec. 20; Sp. p. 3198; Gaz. vol. 161; p. 568.
Madden, Patrick J., Chicago, Ill. Flushing attachment for water-closets. No. 978,914; Dec. 20; Sp. p. 3201; Gaz. vol. 161; p. 569.
Mahlen, Martin, Sauk Center, Minn. Heating-drum. No. 977,666; Dec. 6; Sp. p. 557; Gaz. vol. 161; p. 85.
Mahon, Emmett, Fairfield, Iowa. Electric fire-alarm. No. 979,977; Dec. 27; Sp. p. 5530; Gaz. vol. 161; p. 955.
Mahoney, Joseph N., Wilkinsburg, assignor to The Westinghouse Air Brake Company, Pittsburg, Pa. Electric railway-brake. No. 979,868; Dec. 27; Sp. p. 5318; Gaz. vol. 161; p. 920.
Malaurie, Abel, Paris, France. Power-hammer. No. 979,522; Dec. 27; Sp. p. 4537; Gaz. vol. 161; p. 800.
Malensheck, John, and F. Kachewski, West Allis, Wis. Weighing apparatus for portable cars. No. 977,801; Dec. 6; Sp. p. 1024; Gaz. vol. 161; p. 162.
Malloy, Thomas, assignor of one-third to J. J. Gilman, Chicago, Ill. Loading-machine. No. 979,778; Dec. 27; Sp. p. 5103; Gaz. vol. 161; p. 888.
Maloney, James P., Elmhurst, Pa. Lantern-lighting device. No. 977,650; Dec. 6; Sp. p. 524; Gaz. vol. 161; p. 79.
Mancuso, Anthony. (See Harris and Mancuso.)
Mandet, Jacques, Paris, France. Pressure-regulator. No. 977,811; Dec. 6; Sp. p. 854; Gaz. vol. 161; p. 134.
Mandeville, J. Lawrence. (See Kaiser, Charles W., assignor.)
Manns, William H., Waynesboro, Pa. Skimming-regulator for ice-making apparatus. No. 979,523; Dec. 27; Sp. p. 4539; Gaz. vol. 161; p. 801.
Mansor, Massond, Youngstown, Ohio. Cuspidor. No. 978,765; Dec. 13; Sp. p. 2917; Gaz. vol. 161; p. 493.
Manufacturers Equipment Company. (See Grebel and Theis, assignors.)
Marcaurele, Frank. (See Evans, Marcaurele, and Langlois.)
Marcure, James, Pawtucket, R. I., assignor to Draper Company, Hopedale, Mass. Thread-parting mechanism for looms. No. 979,779; Dec. 27; Sp. p. 5104; Gaz. vol. 161; p. 889.
Marien, Charles A., St. Louis, Mo. Cushion-tire wheel. No. 979,869; Dec. 27; Sp. p. 5321; Gaz. vol. 161; p. 920.
Marien, Charles A., St. Louis, Mo. Cushion-tire wheel. No. 979,870; Dec. 27; Sp. p. 5322; Gaz. vol. 161; p. 920.
Marinsky, Davis, New York, N. Y. Type-writing machine. No. 979,680; Dec. 27; Sp. p. 4882; Gaz. vol. 161; p. 855.
Marinsky, Davis, New York, N. Y. Means for creasing the legs of trousers. No. 979,780; Dec. 27; Sp. p. 5106; Gaz. vol. 161; p. 889.
Markel, Charles, Clinton, Iowa. Tire-retainer. No. 978,766; Dec. 13; Sp. p. 2918; Gaz. vol. 161; p. 493.
Markham Air Ride Company. (See Roe, Ernest S., assignor.)
Markle, George W., Cloquet, Minn. Safety device. No. 979,978; Dec. 27; Sp. p. 5531; Gaz. vol. 161; p. 955.
Markle, John F. (See Cafferty and Markle.)
Markowski, Constanti E., Washington, D. C. Horseshoe safety device. No. 977,812; Dec. 6; Sp. p. 856; Gaz. vol. 161; p. 134.
Markwick, John, Scranton, Pa. Spoke-socket. No. 978,045; Dec. 6; Sp. p. 1342; Gaz. vol. 161; p. 215.
Marrder, Charles A., New York, N. Y. Carbureter. No. 977,813; Dec. 6; Sp. p. 857; Gaz. vol. 161; p. 135.
Marriott, Hal, Newark, Ohio. Combined match-box and cigar-cutter. No. 979,318; Dec. 20; Sp. p. 4122; Gaz. vol. 161; p. 710.
Marriott, Robert H., Brooklyn, N. Y., assignor to United Wireless Telegraph Company. Electrical tuning device. No. 978,604; Dec. 13; Sp. p. 2585; Gaz. vol. 161; p. 441.
Marriott, Robert H., Brooklyn, N. Y., assignor to United Wireless Telegraph Company. Electrical tuning device. No. 978,605; Dec. 13; Sp. p. 2592; Gaz. vol. 161; p. 441.
Marriott, Robert H., Brooklyn, N. Y., assignor to United Wireless Telegraph Company. Electrical tuning device. No. 978,606; Dec. 13; Sp. p. 2595; Gaz. vol. 161; p. 442.
Marriott, Robert H., Brooklyn, N. Y., assignor to United Wireless Telegraph Company. Protection apparatus for dynamo-electric machines. No. 978,607; Dec. 13; Sp. p. 2598; Gaz. vol. 161; p. 442.
Marsh, Charles S. (See Bowers, George W., assignor.)
Marsh, Robert T. (See Huntley, John W., assignor.)
Marshall, Albert L., New Orleans, La. Cane-crusher. No. 978,767; Dec. 13; Sp. p. 2919; Gaz. vol. 161; p. 494.
Marshall, Edmund, Indianapolis, Ind. Window. No. 978,768; Dec. 13; Sp. p. 2921; Gaz. vol. 161; p. 494.
Marshall, John P. (See Ludington, Marshall, and Beason.)
Marshall, Joseph H. (See Smith, William H., assignor.)
Marshall, Russell A., Somerset, Pa. Apparatus for producing butter. No. 979,524; Dec. 27; Sp. p. 4540; Gaz. vol. 161; p. 801.
Martel, Gustave J., Chicago, Ill. Tire-patching device. No. 979,525; Dec. 27; Sp. p. 4544; Gaz. vol. 161; p. 802.
Martin, Herbert J. (See Pellett, Ernest, assignor.)
Martin, Herbert J., Abbotsford, Eastbourne, England. Window, door, and the like. No. 977,461; Dec. 6; Sp. p. 60; Gaz. vol. 161; p. 14.
Martin, Joseph E., Kansas City, Mo. Globe-holder. No. 977,892; Dec. 6; Sp. p. 1026; Gaz. vol. 161; p. 163.
Martin, Margaret A., assignor of one-fourth to E. Wappler, Chicago, Ill. Indicator for vehicles. No. 979,526; Dec. 27; Sp. p. 4547; Gaz. vol. 161; p. 802.
Martin, Truman J., New York, N. Y. Copy-holder. No. 980,111; Dec. 27; Sp. p. 5843; Gaz. vol. 161; p. 999.
Martin, William E., Stamford, England. Potato-digger. No. 978,179; Dec. 13; Sp. p. 1665; Gaz. vol. 161; p. 292.
Marx, Arthur M., Frankfort-on-the-Main, Germany. Machine for dressing, stretching, and otherwise treating skins, hides, leather, and the like. No. 978,318; Dec. 13; Sp. p. 1954; Gaz. vol. 161; p. 341.
Mason, Charles O., Attleboro Falls, Mass. Paper receptacle or box. No. 979,871; Dec. 27; Sp. p. 5323; Gaz. vol. 161; p. 920.
Massie Generator and Radiator Co., The. (See Massie, John G., assignor.)
Massie, John G., assignor to The Massie Generator and Radiator Co., East St. Louis, Ill. Generator and superheater. No. 978,769; Dec. 13; Sp. p. 2922; Gaz. vol. 161; p. 494.
Massohn, Johannes, Hamburg, Germany. Airship of the rigid type. No. 979,979; Dec. 27; Sp. p. 5532; Gaz. vol. 161; p. 955.
Mastrud, Casper O., Foley, Minn. Feed-box. No. 978,915; Dec. 20; Sp. p. 3204; Gaz. vol. 161; p. 569.
Matchette, Frank J., Milwaukee, Wis. Pneumatic cleaner. No. 978,816; Dec. 20; Sp. p. 3206; Gaz. vol. 161; p. 569.
Mather, Alonzo C., Chicago, Ill. Railway signaling system. No. 978,180; Dec. 13; Sp. p. 1666; Gaz. vol. 161; p. 292.
Mathews, Charles O., Milford, assignor of one-half to The White Manufacturing Company, Bridgeport, Conn. Electric connections for carriage-lamps. No. 978,608; Dec. 13; Sp. p. 2600; Gaz. vol. 161; p. 442.
Mathews, Fredrick C., assignor to Mathews, Kaye, Mann & Co., Detroit, Mich. Folder. No. 977,814; Dec. 6; Sp. p. 861; Gaz. vol. 161; p. 135.
Mathews Gravity Carrier Co. (See Mathews, Rufus P., assignor.)
Mathews, Kaye, Mann & Co. (See Mathews, Fredrick C., assignor.)
Mathews, Rufus P., assignor to Mathews Gravity Carrier Co., St. Paul, Minn. Gravity-carrier. No. 978,466; Dec. 13; Sp. p. 2263; Gaz. vol. 161; p. 392.
Mathias, John. (See Liesner, Frank J. B., assignor.)
Matney, Sollie. (See Hanson and Matney.)
Matson, Andrew, Los Angeles, Cal. Gas-engine having automatic exhaust-openings therein. No. 977,667; Dec. 6; Sp. p. 558; Gaz. vol. 161; p. 85.

Matthews, Edward. (See Abbs and Matthews.)
Matthews, Harry G., Gloucester, England. Means for effecting telephonic communication without connecting-wires. No. 977,462; Dec. 6; Sp. p. 72; Gaz. vol. 161; p. 14.
Matthews, Thomas, Brooklyn, N. Y. Buoy. No. 977,959; Dec. 6; Sp. p. 1170; Gaz. vol. 161; p. 187.
Mattbey, Charles U., Bromley, Ky. Chisel-protector. No. 978,387; Dec. 13; Sp. p. 2105; Gaz. vol. 161; p. 366.
Matthiessen, Conrad S., assignor of one-fourth to C. J. Hepburn and W. F. Sprenkel, Philadelphia, Pa. Cotton-picker. No. 979,184; Dec. 20; Sp. p. 3847; Gaz. vol. 161; p. 665.
Mattinger, Henry, Los Angeles, Cal. Drafting instrument. No. 979,872; Dec. 27; Sp. p. 5324; Gaz. vol. 161; p. 921.
Mauch, John L., Salt Lake City, Utah. Fluid-jet float. No. 979,681; Dec. 27; Sp. p. 4884; Gaz. vol. 161; p. 856.
Maud, Charles E., Monterey, Cal. Two-cycle internal-combustion engine. No. 980,110; Dec. 27; Sp. p. 5840; Gaz. vol. 161; p. 999.
Maurer, John. (See Boerngen, Max E., assignor.)
Maurice C. Clark Company. (See Clark, Maurice C., assignor.)
Maxwell, Grover C. (See Maxwell and Buckman.)
Maxwell, William B., G. C. Maxwell, and E. Buckman, New York, N. Y. Propeller. No. 977,815; Dec. 6; Sp. p. 862; Gaz. vol. 161; p. 135.
May, George H., Newburgh, N. Y., and W. M. Grosvenor, Grantwood, N. J. Drying apparatus. No. 979,781; Dec. 27; Sp. p. 5107; Gaz. vol. 161; p. 889.
May, Thomas L., assignor of one-half to E. G. Gooderham, Toronto, Ontario, Canada. Vehicle-wheel. No. 977,463; Dec. 6; Sp. p. 74; Gaz. vol. 161; p. 15.
May, William F. (See Jeffers, Harry L., assignor.)
Mayer, George G., and R. Ashton, South Bethlehem, Pa. Mining starter-bit. No. 979,319; Dec. 20; Sp. p. 4125; Gaz. vol. 161; p. 710.
McArdle, William, assignor to The Perfect Simplex Combustion Company, Montreal, Quebec, Canada. Smoke-consumer. No. 978,467; Dec. 13; Sp. p. 2265; Gaz. vol. 161; p. 393.
McArthur, Charles D., assignor to Blaw Collapsible Steel Centering Company, Pittsburg, Pa. Tunnel-form. No. 979,185; Dec. 20; Sp. p. 3849; Gaz. vol. 161; p. 666.
McBride, Charles S., Brooklyn, assignor of one-half to Gould-Mersereau Company and one-half to H. L. Judd Company, New York, N. Y. Curtain-pole carrier. No. 978,609; Dec. 13; Sp. p. 2601; Gaz. vol. 161; p. 443.
McCallum Hosiery Company. (See Smith, Charles F., assignor.)
McCan, David C., Los Angeles, Cal. Bucket. No. 978,181; Dec. 13; Sp. p. 1667; Gaz. vol. 161; p. 293.
McCan, David C., Los Angeles, Cal. Fuel-briquet. No. 978,182; Dec. 13; Sp. p. 1668; Gaz. vol. 161; p. 293.
McCan, David C., Los Angeles, Cal. Arrester. No. 978,183; Dec. 13; Sp. p. 1669; Gaz. vol. 161; p. 293.
McCarson, Earnest G., and C. A. Bedell, Chattanooga, Tenn. Cattle-guard for railways. No. 978,310; Dec. 13; Sp. p. 1956; Gaz. vol. 161; p. 341.
McCarthy, John S., assignor to Ideal Manufacturing Company, Detroit, Mich. Heater. No. 979,527; Dec. 27; Sp. p. 4548; Gaz. vol. 161; p. 803.
McCarty, Richard J., Kansas City, Mo. Multiple piston mechanism. No. 977,816; Dec. 6; Sp. p. 863; Gaz. vol. 161; p. 136.
McCaskey, Perry A., assignor to The McCaskey Register Company, Alliance, Ohio. Filing appliance. No. 977,960; Dec. 6; Sp. p. 1171; Gaz. vol. 161; p. 187.
McCaskey, Perry A., assignor to The McCaskey Register Company, Alliance, Ohio. Filing appliance. No. 977,961; Dec. 6; Sp. p. 1176; Gaz. vol. 161; p. 188.
McCaskey Register Company, The. (See McCaskey, Perry A., assignor.)
McClain, Fred. (See Wolf and McClain.)
McClaskey, Franklin J., Millvale borough, assignor to The Allegheny Cornice and Skylight Company, Pittsburg, Pa. Window-lock. No. 979,017; Dec. 20; Sp. p. 3454; Gaz. vol. 161; p. 606.
McClave-Brooks Company. (See McClave, William, assignor.)
McClave, William, assignor to McClave-Brooks Company, Scranton, Pa. Furnace-arch. No. 978,917; Dec. 20; Sp. p. 3210; Gaz. vol. 161; p. 570.
McCloud, Edward H., Columbus, Ohio. Flexible fire-resisting shutter and slat therefor. No. 978,770; Dec. 13; Sp. p. 2922; Gaz. vol. 161; p. 494.
McCloud, Edward H., Columbus, Ohio. Flexible fire-resisting shutter and slat therefor. No. 978,771; Dec. 13; Sp. p. 2923; Gaz. vol. 161; p. 494.
McConeghy, John W., Philadelphia, Pa. Weighing-scoop. No. 977,668; Dec. 6; Sp. p. 502; Gaz. vol. 161; p. 85.
McConnel, Donald V. (See Yeager, Frederick A., assignor.)
McConnell, James J., Wilmington, Del. Self-locking brake shoe and head. No. 978,772; Dec. 13; Sp. p. 2925; Gaz. vol. 161; p. 495.
McCormack, Harry M., *et al.* (See Bayly, Harry E., assignor.)
McCormick, Stanley M. (See Hogan and McCormick.)
McCormick, Terrill W., Denton, Tex. Bench-dog. No. 979,528; Dec. 27; Sp. p. 4550; Gaz. vol. 161; p. 803.
McCoy, William R., Wayne City, Ill. Bench stop and clamp. No. 978,918; Dec. 20; Sp. p. 3213; Gaz. vol. 161; p. 570.
McCracken, Robert A., Santa Ana, assignor of one-half to Henry A. Reed, Los Angeles, Cal. Coin-detector chute. No. 980,112; Dec. 27; Sp. p. 5845; Gaz. vol. 161; p. 1000.
McCrea, Samuel B. (See Haskell and McCrea.)
McDermott, Charles H. (See Harrison, Frank M., assignor.)
McDonald, Elijah D., Los Angeles, Cal. Reinforced-concrete pile. No. 979,529; Dec. 27; Sp. p. 4551; Gaz. vol. 161; p. 803.
McDonald, Frank V., Los Angeles, Cal. Feed-regulator for concrete-mixers. No. 978,320; Dec. 13; Sp. p. 1958; Gaz. vol. 161; p. 342.
McDonald, John M., assignor to A. Y. McDonald Mfg. Co., Dubuque, Iowa. Basin-cock. No. 978,773; Dec. 13; Sp. p. 2926; Gaz. vol. 161; p. 495.
McDonald Mfg. Co., A. Y. (See McDonald, John M., assignor.)
McDonald, Sterling B., Greenwood, Nebr. Cuspidor. No. 979,980; Dec. 27; Sp. p. 5534; Gaz. vol. 161; p. 955.
McDonald, William, Cameron, Wis. Clothes-drainer. No. 978,184; Dec. 13; Sp. p. 1670; Gaz. vol. 161; p. 293.
McDonner, Charley, Manitowoc, assignor of one-half to C. Simono, Two Rivers, Wis. Curtain-fixture. No. 977,962; Dec. 6; Sp. p. 1182; Gaz. vol. 161; p. 188.
McDowall, Peter, assignor of one-half to C. L. Piper, West Concord, N. H. Apparatus for coaling vessels at sea. No. 977,464; Dec. 6; Sp. p. 75; Gaz. vol. 161; p. 15.
McElroy, James F., Albany, assignor, by mesne assignments, to The United States Light & Heating Company, New York, N. Y. Electric-lighting apparatus. No. 978,388; Dec. 13; Sp. p. 2106; Gaz. vol. 161; p. 367.
McEvoy, James, Toronto, Ontario, Canada. Apparatus for handling mine-cars. No. 978,321; Dec. 13; Sp. p. 1960; Gaz. vol. 161; p. 342.
McGehee, Jennie L. (See McGehee, John W., assignor.)
McGehee, John W., Martin, assignor of two-thirds to J. L. McGehee, Jackson, Tenn. Machine for facilitating the separation of garlic from wheat. No. 979,186; Dec. 20; Sp. p. 3852; Gaz. vol. 161; p. 666.
McGill, Charles, and A. R. Higginbotham, Red House Shoals, W. Va. Switch-lock. No. 978,046; Dec. 6; Sp. p. 1343; Gaz. vol. 161; p. 215.
McIntosh, John, assignor of one-half to E. L. Patrick, Indianapolis, Ind. Cut-off machine. No. 977,669; Dec. 6; Sp. p. 563; Gaz. vol. 161; p. 86.
McKague, Herbert S., and A. R. Johnson, Altoona, Pa. Current-motor. No. 979,320; Dec. 20; Sp. p. 4126; Gaz. vol. 161; p. 711.
McKain, Frank, Cleveland, Ohio. Bag. No. 977,817; Dec. 6; Sp. p. 866; Gaz. vol. 161; p. 136.
McKee, Arthur G., Cleveland, Ohio. Twyer-stock. No. 979,187; Dec. 20; Sp. p. 3854; Gaz. vol. 161; p. 666.
McKee, Charles H., Pittsburg, Pa. Rotary disk plow. No. 980,113; Dec. 27; Sp. p. 5846; Gaz. vol. 161; p. 1000.
McKee, Robert, Philadelphia, Pa. Starting mechanism for explosive-engines. No. 979,530; Dec. 27; Sp. p. 4553; Gaz. vol. 161; p. 803.
McKenney, John, Danbury, Conn. Anvil with vise attachment. No. 979,079; Dec. 20; Sp. p. 3589; Gaz. vol. 161; p. 626.
McKeown, Russell J., and W. A. Kirkpatrick, Abbyville, Kans. Automatic weighing-scale. No. 980,114; Dec. 27; Sp. p. 5849; Gaz. vol. 161; p. 1000.
McKinley, John, Detroit, Mich. Device for delivering and catching mail-bags. No. 978,610; Dec. 13; Sp. p. 2602; Gaz. vol. 161; p. 443.
McKinney, Ansel, Berclair, Tex. Wagon-loader. No. 980,115; Dec. 27; Sp. p. 5852; Gaz. vol. 161; p. 1001.
McKinney, Leo P., assignor of one-half to J. L. Snow, Boston, Mass. Spare-tire holder and trunk-support. No. 979,188; Dec. 20; Sp. p. 3855; Gaz. vol. 161; p. 666.
McKinney, Ralph W. (See Wilson, Henry E., assignor.)
McLain, Walter, Spiritwood, N. D. Piston-rod stuffing-box and lubricator. No. 978,611; Dec. 13; Sp. p. 2603; Gaz. vol. 161; p. 444.
McLane, Michael G., San Francisco, Cal. Fiber-cleaning device. No. 978,389; Dec. 13; Sp. p. 2110; Gaz. vol. 161; p. 367.
McLaughlin, John, and H. D. Beman, assignors to United States Whip Company, Westfield, Mass. Whip-butt. No. 977,670; Dec. 6; Sp. p. 566; Gaz. vol. 161; p. 86.
McLean, John J., Moose Jaw, Saskatchewan, Canada. Disk harrow. No. 979,782; Dec. 27; Sp. p. 5117; Gaz. vol. 161; p. 890.
McLeod, William J. K., Buffalo, N. Y. Carbid-feeder for acetylene-generators. No. 979,682; Dec 27; Sp. p. 4886; Gaz. vol. 161; p. 856.
McManus, Thomas, Detroit, Mich. Flower-pot holder. No. 977,818; Dec. 6; Sp. p. 867; Gaz. vol. 161; p. 136.
McMillan, Hugh P., Baltimore, Md. Wire nail. No. 978,185; Dec. 13; Sp. p. 1672; Gaz. vol. 161; p. 294.
McNally, George M., Wellsburg, W. Va. Bottle. No. 979,018; Dec. 20; Sp. p. 3456; Gaz. vol. 161; p. 606.
McNatton, Adam O., Columbus Junction, Iowa. Coupling or hame fastener. No. 979,821; Dec. 20; Sp. p. 4126; Gaz. vol. 161; p. 711.
McNeel, William P., San Antonio, Tex. Combined swivel socket and plug. No. 978,322; Dec. 13; Sp. p. 1960; Gaz. vol. 161; p. 342.
McPherson, Edward S. (See Hayes, Frank E., assignor.)
Mead, Alfred E. (See Peacock, Albert F., assignor.)
Mead, Henry C., Arlington, S. D. Railway-switch. No. 977,747; Dec. 6; Sp. p. 719; Gaz. vol. 161; p. 113.

Meade, David P., White Post, Va. Coin-operated telephone apparatus. No. 978,774; Dec. 13; Sp. p. 2928; Gaz. vol. 161; p. 495.
Meahl, Philip J., Bayonne, N. J. Cigarette-machine. No. 978,919; Dec. 20; Sp. p. 3215; Gaz. vol. 161; p. 571.
Mechanical Construction Company, The. (See Hanna, William T., assignor.)
Mechlenburg, Hermann, assignor to Nitritfabrik Aktiengesellschaft, Köpenick, near Berlin, Germany. Preparing tanniferous material for extraction. No. 979,080; Dec. 20; Sp. p. 3591; Gaz. vol. 161; p. 626.
Mecklan, Walter N., assignor of one-half to J. P. Rowe, Memphis, Tenn. Pulley. No. 979,873; Dec. 27; Sp. p. 5326; Gaz. vol. 161; p. 921.
Mehl, Walter B., Waltham, Mass., assignor, by mesne assignments, to The Keystone Watch Case Company, Philadelphia, Pa. End-stone cap for watch-movements. No. 978,812; Dec. 13; Sp. p. 2606; Gaz. vol. 161; p. 444.
Mehl, Walter B., Waltham, Mass., assignor to The Keystone Watch Case Company, Philadelphia, Pa. Watch-barrel. No. 978,613; Dec. 13; Sp. p. 2607; Gaz. vol. 161; p. 444.
Mehner, Hermann, Velten, Germany. Making phosphatic slag and iron. No. 977,819; Dec. 6; Sp. p. 868; Gaz. vol. 161; p. 137.
Meisselbach-Catucci Manufacturing Company, The. (See Catucci, Pliny, assignor.)
Melander, Carl F., Minneapolis, Minn. Extensible bedstead. No. 977,671; Dec. 6; Sp. p. 568; Gaz. vol. 161; p. 86.
Mellin, Carl J., Schenectady, N. Y. Articulated locomotive. No. 977,893; Dec. 6; Sp. p. 1028; Gaz. vol. 161; p. 163.
Mellin, Carl J., Schenectady, N. Y. Articulated locomotive. No. 978,186; Dec. 13; Sp. p. 1672; Gaz. vol. 161; p. 294.
Mellin, Carl J., and W. L. Reid, Schenectady, N. Y. Steam-pipes for articulated locomotives. No. 978,323; Dec. 13; Sp. p. 1964; Gaz. vol. 161; p. 343.
Melvill, Edward H. V., Johannesburg, Transvaal. Instrument for surveying and like purposes. No. 979,531; Dec. 27; Sp. p. 4556; Gaz. vol. 161; p. 804.
Melvin, Charles H., assignor to Deere & Company, Moline, Ill. Reversible-disk plow. No. 979,019; Dec. 20; Sp. p. 3457; Gaz. vol. 161; p. 607.
Meno, Frederick J., Detroit, assignor to J. E. Meno, Port Huron, Mich. Message-carrier for boats. No. 980,176; Dec. 27; Sp. p. 6002; Gaz. vol. 161; p. 1021.
Meno, Joseph E. (See Meno, Frederick J., assignor.)
Mensen, John, Remsen, Iowa. Separator. No. 978,920; Dec. 20; Sp. p. 3216; Gaz. vol. 161; p. 571.
Mercer, Charles, assignor to National Fence & Gate Co., Tuscola, Ill. Wire-fence tie. No. 979,683; Dec. 27; Sp. p. 4889; Gaz. vol. 161; p. 857.
Mergenthaler Linotype Company. (See Bertram, William E., assignor.)
Meriden Optical Manufacturing Company, The. (See Cowan, Harry I., assignor.)
Merk, Lawrence A., Wilkinsburg, assignor of one-half to E. Ruud, Pittsburg, Pa. Gas-pressure regulator. No. 977,820; Dec. 6; Sp. p. 870; Gaz. vol. 161; p. 137.
Merrill, Frank A., Malden, and J. S. C. Nicholls, Boston, assignors of one-third to W. G. Merrill, Malden, Mass. Valve. No. 979,532; Dec. 27; Sp. p. 4559; Gaz. vol. 161; p. 804.
Merrill, William G. (See Merrill and Nicholls, assignors.)
Merrimac Mattress Manufacturing Company. (See St. Clair, George H., assignor.)
Merritt & Company. (See Priestman and Moore, assignors.)
Merritt, Warren H., Copper Center, Alaska, assignor to Valdez Creek Consolidated Mining Company. Flush-sluice concentrator. No. 978,468; Dec. 13; Sp. p. 2266; Gaz. vol. 161; p. 393.
Merryweather, James, assignor of one-half to Thomas Brothers, Greencastle, Ind. Crossing-signal. No. 978,921; Dec. 20; Sp. p. 3218; Gaz. vol. 161; p. 571.
Messmer, Ferdinand, Jr., St. Louis, Mo. Valve. No. 979,874; Dec. 27; Sp. p. 5327; Gaz. vol. 161; p. 921.
Metal Sectional Furniture Company. (See Shoemaker and Holland, assignors.)
Metalloids Limited. (See Cowper-Coles, Sherard O., assignor.)
Metz, Herman A. (See Engelman, Julius R., assignor.)
Meyer, Edward L., Seattle, Wash. Hat-hook. No. 980,162; Dec. 27; Sp. p. 5953; Gaz. vol. 161; p. 1016.
Meyer, John, Ellinwood, Kans. Animal-trap. No. 979,020; Dec. 20; Sp. p. 3461; Gaz. vol. 161; p. 607.
Meyer, Karl A., Strassburg, Germany. Device for preventing the displacement of necktie. No. 979,533; Dec. 27; Sp. p. 4560; Gaz. vol. 161; p. 805.
Michal, Joseph, Jr. (See Blackburn and Michal.)
Michael, Edward, *et al.* (See Willet, John G., assignor.)
Michael, Isidore, *et al.* (See Willet, John G., assignor.)
Michaud, Joseph O., Fort Kent, Me. Power-transmission mechanism. No. 979,534; Dec. 27; Sp. p. 4561; Gaz. vol. 161; p. 805.
Micheel, Josef, Kervenheim, Germany. Manufacture of boots and shoes. No. 978,324; Dec. 13; Sp. p. 1966; Gaz. vol. 161; p. 343.
Michel, Isac, assignor to Michelius G. m. b. H., Frankfort-on-the Main, Germany. Envelop-closing machine. No. 979,535; Dec. 27; Sp. p. 4565; Gaz. vol. 161; p. 805.
Michelius G. m. b. H. (See Michel, Isac, assignor.)
Michener, John H., Jr., assignor to Michener Stowage Company, New York, N. Y. Starting and stopping mechanism. No. 978,775; Dec. 13; Sp. p. 2931; Gaz. vol. 161; p. 496.
Michener Stowage Company. (See Michener, John H., Jr., assignor.)
Miehle Printing Press & Manufacturing Company. (See Droitcour, Michael A., assignor.)
Mieth, Otto F., assignor of one-fourth to J. E. Hausfeld and one-fourth to V. E. Tresise, Cincinnati, Ohio. Time-lock. No. 978,325; Dec. 13; Sp. p. 1967; Gaz. vol. 161; p. 345.
Miggett, William L., Ann Arbor, assignor to R. Herman, Detroit, Mich. Boiler-tube cleaner. No. 978,326; Dec. 13; Sp. p. 1972; Gaz. vol. 161; p. 344.
Mikorey, Hans, Schöneberg, near Berlin, assignor to Firm of Minimax Consolidated Limited, Berlin, Germany. Color-sprayer or disperser. No. 978,469; Dec. 13; Sp. p. 2267; Gaz. vol. 161; p. 393.
Milburn, Joseph, Havelock North, New Zealand. Spraying-nozzle. No. 977,748; Dec. 6; Sp. p. 721; Gaz. vol. 161; p. 113.
Milch, Maurice, Schenectady, N. Y., assignor to General Electric Company. Alternating-current dynamo-electric machine. No. 977,821; Dec. 6; Sp. p. 871; Gaz. vol. 161; p. 137.
Milke, Otto R., assignor of one-half to H. S. Berliner, Washington, D. C. Receptacle for bits and drills. No. 979,981; Dec. 27; Sp. p. 5535; Gaz. vol. 161; p. 956.
Millar, James D. (See Ponten, Anders, assignor.)
Miller, David W., Chicago, Ill. Excavating-machine. No. 977,822; Dec. 6; Sp. p. 878; Gaz. vol. 161; p. 138.
Miller, Ernest H., *et al.* (See Minion, George, assignor.)
Miller, Francis S., assignor to Harris Air Pump Company, Indianapolis, Ind. Controlling-valve for pumping systems. No. 977,823; Dec. 6; Sp. p. 880; Gaz. vol. 161; p. 138.
Miller, Harry G., assignor to The Vocalstyle Music Company, Cincinnati, Ohio. Automatic adjustable spool for music-sheets for mechanical piano-players. No. 979,536; Dec. 27; Sp. p. 4560; Gaz. vol. 161; p. 806.
Miller, Henry S., Cleveland, Ohio. Fare-box. No. 978,327; Dec. 13; Sp. p. 1978; Gaz. vol. 161; p. 344.
Miller, James L. (See Huse and Miller.)
Miller, John A., Homewood, Ill. Starting apparatus for pleasure-railways. No. 979,875; Dec. 27; Sp. p. 5328; Gaz. vol. 161; p. 922.
Miller, John A., Homewood, Ill. Railway-car for pleasure-railways. No. 979,982; Dec. 27; Sp. p. 5537; Gaz. vol. 161; p. 956.
Miller, John A., Homewood, Ill. Braking apparatus for pleasure-railways. No. 979,983; Dec. 27; Sp. p. 5538; Gaz. vol. 161; p. 956.
Miller, John A., Homewood, Ill. Safety device for pleasure-railways. No. 979,984; Dec. 27; Sp. p. 5540; Gaz. vol. 161; p. 957.
Miller, John L., Cobb, Fla. Horse-releasing device. No. 979,322; Dec. 20; Sp. p. 4129; Gaz. vol. 161; p. 711.
Miller, Robert, New York, N. Y. Four-cycle internal-combustion engine. No. 979,082; Dec. 20; Sp. p. 3595; Gaz. vol. 161; p. 626.
Miller, Thomas B., Kansas City, Mo. Miter-clamp. No. 978,187; Dec. 13; Sp. p. 1674; Gaz. vol. 161; p. 294.
Miller, Vernon J., New York, N. Y. Railway-tie and fastener. No. 978,470; Dec. 13; Sp. p. 2268; Gaz. vol. 161; p. 393.
Miller, William A. L., San Francisco, Cal. Dispensing-can. No. 978,614; Dec. 13; Sp. p. 2609; Gaz. vol. 161; p. 444.
Miller, Wilson S., St. Louis, Mo. Salting-machine. No. 978,615; Dec. 13; Sp. p. 2610; Gaz. vol. 161; p. 445.
Millert, Edgar B., New York, N. Y. Folding bed-couch. No. 977,529; Dec. 6; Sp. p. 263; Gaz. vol. 161; p. 38.
Mills, Alfred, Superior, Wis. Composition of matter. No. 979,021; Dec. 20; Sp. p. 3463; Gaz. vol. 161; p. 607.
Mills, Herbert S. (See Sandell, Henry K., assignor.)
Miner Engineering Company. (See Miner, Frank J., assignor.)
Miner, Frank J., assignor to Miner Engineering Company, Detroit, Mich. Prime mover. No. 979,323; Dec. 20; Sp. p. 4131; Gaz. vol. 161; p. 711.
Miner, Frank J., assignor to Miner Engineering Company, Detroit, Mich. Blower or pump. No. 979,324; Dec. 20; Sp. p. 4134; Gaz. vol. 161; p. 712.
Miner, William H. (See O'Connor, John F., assignor.)
Minerals Separation Limited, The. (See Hoover, Theodore J., assignor.)
Minimax Consolidated Limited, Firm of. (See Mikorey, Hans, assignor.)
Minion, George, assignor of one-fifth to J. Belle, one-fifth to C. H. Scheuer, one-fifth to E. H. Miller, and one-fifth to J. Robertson, Chicago, Ill. Furnace-grate. No. 979,783; Dec. 27; Sp. p. 5118; Gaz. vol. 161; p. 890.
Minlos, Ludwig, Cologne-Ehrenfeld, Germany. Apparatus for delivering liquids. No. 978,047; Dec. 6; Sp. p. 1345; Gaz. vol. 161; p. 215.
Minns, Earnest H., Rochester, N. Y., assignor to Defiance Lantern & Stamping Co., Limited. Tubular lantern. No. 978,328; Dec. 13; Sp. p. 1981; Gaz. vol. 161; p. 345.
Mitats, Jacinto, New York, N. Y., assignor to Mitats Marble Manufacturing Company. Compound ladle. No. 978,616; Dec. 13; Sp. p. 2611; Gaz. vol. 161; p. 445.

Mitats, Jacinto, New York, N. Y., assignor to Mitats Marble Manufacturing Company. Manufacture of imitation-stone blocks. No. 978,617; Dec. 13; Sp. p. 2612; Gaz. vol. 161; p. 445.
Mitats Marble Manufacturing Company. (See Mitats, Jacinto, assignor.)
Mitchell, Brutus I. H., Onawa, Iowa. Tug attachment. No. 977,530; Dec. 6; Sp. p. 266; Gaz. vol. 161; p. 38.
Mitchell, C. M. (See Pasche, John B., assignor.)
Mitchell, Jonas L., Denver, Colo. Pneumatic drill. No. 977,894; Dec. 6; Sp. p. 1029; Gaz. vol. 161; p. 163.
Mitchell, Ransom Y., Findlay, Ohio. Baling-press. No. 979,022; Dec. 20; Sp. p. 3463; Gaz. vol. 161; p. 607.
Moch, Eugene W., New York, N. Y. Holder for plumes and similar articles. No. 979,876; Dec. 27; Sp. p. 5330; Gaz. vol. 161; p. 922.
Modern, Samuel, New York, N. Y. Collapsible box. No. 979,877; Dec. 27; Sp. p. 5331; Gaz. vol. 161; p. 922.
Modrall, Don A., Robert Lee, Tex. Compound tool. No. 977,672; Dec. 6; Sp. p. 569; Gaz. vol. 161; p. 86.
Moebus, Henry E., Boston, assignor to H. W. Brown, trustee, Brookline, Mass. Tire. No. 979,325; Dec. 20; Sp. p. 4137; Gaz. vol. 161; p. 712.
Molenaar, William. (See Beyer, Bertrand E., assignor.)
Moler, George S., Ithaca, N. Y. Photographic cabinet. No. 979,189; Dec. 20; Sp. p. 3857; Gaz. vol. 161; p. 667.
Mollberg, Theodor, Brooklyn, N. Y. Adjustable sleeve-form. No. 979,023; Dec. 20; Sp. p. 3466; Gaz. vol. 161; p. 608.
Monarch Typewriter Company, The. (See Seib and Koerner, assignors.)
Monarch Typewriter Company, The. (See Steele, Herbert H., assignor.)
Monighan Machine Company. (See Brainard, Charles H., assignor.)
Monoson, Solomon, New York, N. Y. Headwear. No. 978,048; Dec. 6; Sp. p. 1346; Gaz. vol. 161; p. 216.
Montague, Judd W., assignor of one-half to C. H. Noble, Columbus, Ohio. Rabbeting-plane. No. 978,471; Dec. 13; Sp. p. 2269; Gaz. vol. 161; p. 394.
Montellius, Ernst E. L., *et al.* (See Hummel, Theodore, assignor.)
Montgomery, John. (See Perkins, Stanley, Putnam, and Montgomery.)
Montpelier Cup and Metal Works. (See Page, William M., assignor.)
Moody, Rufus E., Nova, Ohio. Mail-catching device. No. 977,963; Dec. 6; Sp. p. 1184; Gaz. vol. 161; p. 189.
Moon-Hopkins Billing Machine Company, The. (See Hopkins, Hubert, assignor.)
Moon-Hopkins Billing Machine Company. (See Hopkins, William W., assignor.)
Moore Architectural and Engineering Company, The. (See Heller, Charles S., assignor.)
Moore, Charles C., Jr., Lexington, Ky., assignor to The Tropical Products Company, Washington, D. C. Treating cassava and producing alcohol therefrom. No. 977,465; Dec. 6; Sp. p. 77; Gaz. vol. 161; p. 15.
Moore, Clarance H., Fairmont, Minn. Stanchion. No. 980,163; Dec. 27; Sp. p. 5955; Gaz. vol. 161; p. 1016.
Moore, Edward C. (See Priestman and Moore.)
Moore, Gaius C., assignor to John C. Moore Corporation, Rochester, N. Y. Loose-leaf binder. No. 979,326; Dec. 20; Sp. p. 4139; Gaz. vol. 161; p. 713.
Moore, James D., Northwilkesboro, N. C. Combination-shoe. No. 978,188; Dec. 13; Sp. p. 1678; Gaz. vol. 161; p. 295.
Moore, John C., New York, N. Y. Sewing-machine. No. 979,537; Dec. 27; Sp. p. 4571; Gaz. vol. 161; p. 806.
Moore, John T., St. Louis, Mo. Tie-holding device. No. 978,618; Dec. 13; Sp. p. 2614; Gaz. vol. 161; p. 446.
Moore, John W., *et al.*, trustees. (See Moore, Otto N., assignor.)
Moore, Otis E., Chisholm, Minn. Nut-lock. No. 979,538; Dec. 27; Sp. p. 4573; Gaz. vol. 161; p. 806.
Moore, Otto N., *et al.*, trustees. (See Moore, Otto N., assignor.)
Moore, Otto N., Indianapolis, assignor to J. W. Moore, Rushville, and O. N. Moore, Indianapolis, Ind., co-trustees. Indicator-operator for fare-registers. No. 979,083; Dec. 20; Sp. p. 3597; Gaz. vol. 161; p. 627.
Moore, Thomas L., Cincinnati, Ohio. Valve mechanism for explosive-engines. No. 979,024; Dec. 20; Sp. p. 3468; Gaz. vol. 161; p. 608.
Moorhead, Samuel C., Cleveland, Ohio. Flexible shaft. No. 979,985; Dec. 27; Sp. p. 5541; Gaz. vol. 161; p. 957.
Morátüszky, Mátyás, New York, N. Y. Fender for vessels. No. 979,539; Dec. 27; Sp. p. 4574; Gaz. vol. 161; p. 806.
Morehouse, Cyrus E., assignor to The Heinn Company, Milwaukee, Wis. Temporary binder or loose-sheet holder. No. 978,922; Dec. 20; Sp. p. 3219; Gaz. vol. 161; p. 571.
Morey, Ellwood P., *et al.* (See Berntson, Thomas, assignor.) (Reissue.)
Morey, John W., *et al.* (See Balcom, William D., assignor.)
Morgan, Arthur C. (See Link and Morgan.)
Morgan, Bernard, Newport, R. I. Hose-coupling. No. 978,619; Dec. 13; Sp. p. 2616; Gaz. vol. 161; p. 446.
Morgan, George W., Jr., *et al.* (See De Lukacsevics, Charles, assignor.)
Morgan, Haze. (See Barrickman, Harry L., assignor.)
Morgan, Howard. Quinter, Kans. Telephone relay or repeater. No. 979,986; Dec. 27; Sp. p. 5542; Gaz. vol. 161; p. 957.
Morgan, Lloyd G., East Orange, N. J. Dental appliance. No. 977,895; Dec. 6; Sp. p. 1031; Gaz. vol. 161; p. 164.
Morgan, Orville D., Burke, Wash. Clutch. No. 978,776; Dec. 13; Sp. p. 2934; Gaz. vol. 161; p. 496.
Morison, Donald B., Hartlepool, England. Apparatus for condensing steam. No. 979,540; Dec. 27; Sp. p. 4576; Gaz. vol. 161; p. 807.
Morrill, Henry A., Strafford, Vt. Wrench. No. 979,327; Dec. 20; Sp. p. 4141; Gaz. vol. 161; p. 713.
Morris, Carrie B. (See Park, Ira L., assignor.)
Morris, Harrison R., Mapleton, Kans. Egg-handler. No. 978,049; Dec. 6; Sp. p. 1347; Gaz. vol. 161; p. 216.
Morris, James W., Oakland, Cal. Twine-holder. No. 978,050; Dec. 6; Sp. p. 1350; Gaz. vol. 161; p. 217.
Morris, Joseph C., Findlay, Ohio. Metallurgical process. No. 979,541; Dec. 27; Sp. p. 4581; Gaz. vol. 161; p. 807.
Morris, Thomas C., Lockport, N. Y. Dust-pan. No. 979,784; Dec. 27; Sp. p. 5121; Gaz. vol. 161; p. 891.
Morris, William H., Copley, Ohio. Railway-tie. No. 979,785; Dec. 27; Sp. p. 5122; Gaz. vol. 161; p. 891.
Morrison, Augustus H., assignor of one-fourth to H. G. Edmonds, one-fourth to C. C. Collette, and one-fourth to H. T. Warnick, Amsterdam, N. Y. Machine for trimming and cutting placket-openings in undergarments. No. 979,684; Dec. 27; Sp. p. 4890; Gaz. vol. 161; p. 857.
Morrison, Gertrude, New York, N. Y. Folding sketch-pad. No. 978,890; Dec. 13; Sp. p. 2111; Gaz. vol. 161; p. 367.
Morrison, William F., *et al.* (See Lindsay, Franklin G., assignor.)
Morrow, Samuel W., Jr., Baltimore, Md. Pilot-burner. No. 977,531; Dec. 6; Sp. p. 268; Gaz. vol. 161; p. 39.
Morse, Charles F., New York, N. Y. Transfer-ink and producing the same. No. 979,542; Dec. 27; Sp. p. 4581; Gaz. vol. 161; p. 807.
Morse, Frank H. G., Cambridge, Mass. Shoe-polishing stand. No. 979,543; Dec. 27; Sp. p. 4583; Gaz. vol. 161; p. 807.
Morse, Orville M., deceased, Jackson, Mich.; S. G. Morse administratrix. Dust-collector. No. 979,987; Dec. 27; Sp. p. 5543; Gaz. vol. 161; p. 958.
Morse, Sarah G., administratrix. (See Morse, Orville M.)
Mortimer, Frederick E., assignor of one-half to J. E. Hutchings, Boston, Mass. Film-cleaning device. No. 977,466; Dec. 6; Sp. p. 80; Gaz. vol. 161; p. 16.
Moss, James A., Fort Leavenworth, Kans. Soap-holder. No. 978,189; Dec. 13; Sp. p. 1679; Gaz. vol. 161; p. 295.
Moxon, George C., *et al.* (See De Lukacsevics, Charles, assignor.)
Muehlhauser, Martin W., assignor to M. S. Towson, Cleveland, Ohio. Emergency-brake. No. 977,824; Dec. 6; Sp. p. 883; Gaz. vol. 161; p. 138.
Muehr, Lawrence J., Duluth, Minn. Folding step-ladder. No. 979,988; Dec. 27; Sp. p. 5546; Gaz. vol. 161; p. 958.
Muehr, Lawrence J., Duluth, Minn. Support for string-cables. No. 979,989; Dec. 27; Sp. p. 5548; Gaz. vol. 161; p. 959.
Mueller, Adolph, *et al.*, executors. (See Mueller, Henry.)
Mueller, Henry, deceased; O. B. and A. Mueller, executors to H. Mueller Manufacturing Company, Decatur, Ill. Pipe-coupling. No. 980,116; Dec. 27; Sp. p. 5854; Gaz. vol. 161; p. 1001.
Mueller, Ora B., *et al.*, executors. (See Mueller, Henry.)
Mulder, Everett, New York, N. Y. Faucet. No. 979,084; Dec. 20; Sp. p. 3599; Gaz. vol. 161; p. 628.
Mulholland, William, Belfast, Ireland. Magneto-ignition device for use in connection with internal-combustion engines. No. 979,328; Dec. 20; Sp. p. 4142; Gaz. vol. 161; p. 714.
Müller, Otto P., New York, N. Y. Appliance for removing corns. No. 979,329; Dec. 20; Sp. p. 4144; Gaz. vol. 161; p. 714.
Mulligan, Thomas F., assignor to S. F. Bowser & Company, Fort Wayne, Ind. Automatic electric-pump control. No. 978,923; Dec. 20; Sp. p. 3223; Gaz. vol. 161; p. 571.
Mumford, Edgar H., Philadelphia, Pa. Riddle. No. 979,688; Dec. 27; Sp. p. 4894; Gaz. vol. 161; p. 857.
Mumford, Samuel C. (See Happe, Arthur H., assignor.)
Munro, Harriet B., Bristol, R. I. Game apparatus. No. 979,392; Dec. 20; Sp. p. 4260; Gaz. vol. 161; p. 733.
Munson, Richard O. (See Fairman and Munson.)
Murk, Charles G., Chicago, Ill. Shoulder-protector. No. 978,620; Dec. 13; Sp. p. 2617; Gaz. vol. 161; p. 446.
Murphy, Barney, Milford, Conn. Combined door check and spring. No. 979,190; Dec. 20; Sp. p. 3859; Gaz. vol. 161; p. 668.
Murphy, George N., Paducah, Ky. Surgical instrument. No. 977,825; Dec. 6; Sp. p. 884; Gaz. vol. 161; p. 139.
Murphy, John C., Chelsea, Mass., assignor to The Coronating Company of America, New York, N. Y. Coronating apparatus. No. 977,467; Dec. 6; Sp. p. 80; Gaz. vol. 161; p. 16.
Murphy, William, Moab, Utah. Garment support and lock. No. 979,990; Dec. 27; Sp. p. 5549; Gaz. vol. 161; p. 959.
Murphy, William J., and A. E. Culley, Butte, Mont. Furnace. No. 978,621; Dec. 13; Sp. p. 2618; Gaz. vol. 161; p. 446.
Murray, Thomas E., New York, N. Y. Shield for circuit-conductors. No. 979,544; Dec. 27; Sp. p. 4585; Gaz. vol. 161; p. 808.
Murray, William D. (See Blackburn and Michal, assignors.)
Muser, Fritz. (See Burby, John M., assignor.)

Musgrove, Arthur S., Pittsfield, Mass., assignor to Scott & Williams, Incorporated, Philadelphia, Pa. Knitted fabric. No. 978,622; Dec. 13; Sp. p. 2621; Gaz. vol. 161; p. 447.

Muzzy, William H., assignor to The National Cash Register Company, Dayton, Ohio. Cash-register. No. 977,532; Dec. 6; Sp. p. 270; Gaz. vol. 161; p. 39.

Myers, Clarence H., Denver, Colo. Bicycle-lock. No. 977,533; Dec. 6; Sp. p. 272; Gaz. vol. 161; p. 39.

Myers, Jacob H., Cleveland, Ohio. Window-locking device. No. 979,025; Dec. 20; Sp. p. 3471; Gaz. vol. 161; p. 609.

Nachod, Carl P., Philadelphia, Pa. Signaling system. No. 979,081; Dec. 20; Sp. p. 3592; Gaz. vol. 161; p. 626.

Nader, Joseph, Waukesha, Wis. Bottle-washing machine. No. 978,623; Dec. 13; Sp. p. 2622; Gaz. vol. 161; p. 447.

Naquin, Joseph A. (See Pledger, Junius L., assignor.)

Narragansett Machine Company. (See Thornley, Albert J., assignor.)

Nash, Frederick J., Somerville, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Machine for roughing shoe-soles, &c. No. 978,777; Dec. 13; Sp. p. 2938; Gaz. vol. 161; p. 497.

Nash, George. (See Brayshaw, Shipley N., assignor.)

National-Acme Manufacturing Company, The. (See Smith, Oscar A., assignor.)

National Cash Register Company, The. (See Carroll, Thomas, assignor.)

National Cash Register Company, The. (See Cleal, Joseph F., assignor.)

National Cash Register Company, The. (See Muzzy, William H., assignor.)

National Fence & Gate Co. (See Mercer, Charles, assignor.)

National Lock Washer Co., The. (See Wilson, James E., assignor.)

National Malleable Castings Company. (See Byers, Jacob J., assignor.)

National Malleable Castings Company, The. (See Pope, Henry F., assignor.)

National Malleable Castings Company, The. (See Stephenson, John W., assignor.)

National Metal Seal Company. (See Chellis, Eugene D., assignor.)

National Spring Bed Company, The. (See Arnold, Harry B., assignor.)

National Tube Company. (See Bark, William, assignor.)

Nazor, Arthur U., assignor of one-half to G. L. Cooper, Shelby, Ohio. Bit for horses. No. 978,051; Dec. 6; Sp. p. 1352; Gaz. vol. 161; p. 217.

Neckerman, Roy. (See Foell, Kusebauch, and Neckerman.)

Neerup, Peter, assignor to Reliable Tool & Specialty Company, Louisiana, Mo. Pipe-reamer. No. 979,786; Dec. 27; Sp. p. 5123; Gaz. vol. 161; p. 891.

Neff, Peter, assignor to The Loew Manufacturing Company, Cleveland, Ohio. Pipe cutting and threading machine. No. 978,190; Dec. 13; Sp. p. 1680; Gaz. vol. 161; p. 295.

Neider, Fred A., Augusta, Ky. Forming double-headed nails. No. 978,924; Dec. 20; Sp. p. 3225; Gaz. vol. 161; p. 572.

Neilly, Daniel, Bradford, Pa. Bottle-washer. No. 979,191; Dec. 20; Sp. p. 3860; Gaz. vol. 161; p. 668.

Neisler, Clydus M., Litchfield, Ill. Vapor-lamp. No. 978,191; Dec. 13; Sp. p. 1682; Gaz. vol. 161; p. 296.

Nelson, Andrew, Grace, Wash. Egg-crate filler. No. 979,192; Dec. 20; Sp. p. 3862; Gaz. vol. 161; p. 668.

Nelson, George F., and J. H. Bean, Washington, D. C. Trocha-cutter. No. 979,686; Dec. 27; Sp. p. 4895; Gaz. vol. 161; p. 858.

Nelson, Julia J. (See Braswell, Richard R., assignor.)

Nelson, Otto, Axtell, Nebr. Music-teaching device. No. 979,193; Dec. 20; Sp. p. 3863; Gaz. vol. 161; p. 668.

Nelson, Reuben C., Healdsburg, Cal. Pressure-regulator. No. 978,925; Dec. 20; Sp. p. 3226; Gaz. vol. 161; p. 573.

Nernst Lamp Company. (See Foell, Kusebauch, and Neckerman, assignors.)

Nero, Allen S., Bottineau, N. D. Spring-hinge. No. 977,468; Dec. 6; Sp. p. 88; Gaz. vol. 161; p. 16.

Neu, Herbert F., Brookfield, Wis. Bicycle-boat. No. 978,891; Dec. 13; Sp. p. 2112; Gaz. vol. 161; p. 368.

Neudeck, Benjamin F., Kansas City, Kans., assignor of one-half to R. H. Weber, Kansas City, Mo. Gate. No. 978,192; Dec. 13; Sp. p. 1683; Gaz. vol. 161; p. 296.

New Haven Clock Co. (See Porter, Wilson E., assignor.)

New York Scaffolding Co. (See Cavanagh, Eugene M. and D. F., assignors.)

Newberry, Spencer B., Sandusky, Ohio, assignor of one-half to G. R. Fishburne, Charleston, S. C. Making fertilizer. No. 978,193; Dec. 13; Sp. p. 1685; Gaz. vol. 161; p. 297.

Newbold, Roger M., Chicago, Ill., assignor to The Adams & Westlake Company. Lamp-bracket. No. 979,878; Dec. 27; Sp. p. 5333; Gaz. vol. 161; p. 923.

Newchurch, Edward, and C. Bernard, Faincourtville, La. Lever stubble-shaver. No. 978,472; Dec. 13; Sp. p. 2271; Gaz. vol. 161; p. 394.

Newman, Erick, Ashland, Wis. Device for switching cables. No. 979,687; Dec. 27; Sp. p. 4897; Gaz. vol. 161; p. 858.

Newman, Samuel C. (See Dwofsky, Bernard, assignor.)

Newman, Sterling P., Edgerton, Mo. Feed-trough. No. 979,026; Dec. 20; Sp. p. 3472; Gaz. vol. 161; p. 609.

Newpher, Alfred H., assignor to The Adams & Westlake Company, Chicago, Ill. Window-screen. No. 978,624; Dec. 13; Sp. p. 2625; Gaz. vol. 161; p. 447.

Newton, Joseph L., Winthrop, Mass. Shipping-crate. No. 979,085; Dec. 20; Sp. p. 3601; Gaz. vol. 161; p. 628.

Newton, William T., New Orleans, La. Antifriction-bearing. No. 978,302; Dec. 13; Sp. p. 2113; Gaz. vol. 161; p. 368.

Ney, Louis, Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 978,926; Dec. 20; Sp. p. 3228; Gaz. vol. 161; p. 573.

Ney, Louis, Hartford, Conn., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 979,991; Dec. 27; Sp. p. 5550; Gaz. vol. 161; p. 959.

Nichol, Thomas, Glen Jean, W. Va. Mining coal. No. 979,086; Dec. 20; Sp. p. 3602; Gaz. vol. 161; p. 628.

Nicholls, Garl, McFall, Mo. Pump. No. 978,626; Dec. 13; Sp. p. 2627; Gaz. vol. 161; p. 448.

Nicholls, John S. C. (See Merrill and Nicholls.)

Nichols, David, Shipley, assignor to G. Hodgson Limited, Bradford, England. Heald and shuttle-box operating mechanism of looms. No. 978,329; Dec. 13; Sp. p 1983; Gaz. vol. 161; p. 345.

Nichols, Henry B., Philadelphia, Pa. Automatic calipering attachment. No. 980,164; Dec. 27; Sp. p. 5957; Gaz. vol. 161; p. 1017.

Nichols, Orson P., Warren, Pa. Bone-black furnace. No. 978,625; Dec. 13; Sp. p. 2625; Gaz. vol. 161; p. 448.

Nicholson, Robert J., Chicago, Ill. Loose-leaf binder. No. 979,087; Dec. 20; Sp. p. 3603; Gaz. vol. 161; p. 628.

Nicholson, Thomas J., Kingston, Ontario, Canada. Pipe-wrench. No. 977,896; Dec. 6; Sp. p. 1032; Gaz. vol. 161; p. 164.

Nielsen, Christian, Chicago, Ill. Elevator-gate. No. 979,027; Dec. 20; Sp. p. 3473; Gaz. vol. 161; p. 609.

Nielsen, Jens, Copenhagen, Denmark. Milking-machine. No. 978,473; Dec. 13; Sp. p. 2273; Gaz. vol. 161; p. 395.

Nielsen, Laurits M., Boston, Mass., assignor to Nielsen Mailing Machinery Company, Erie, Pa. Addressing-machine. No. 978,627; Dec. 13; Sp. p. 2628; Gaz. vol. 161; p. 448.

Nielsen, Laurits M., and H. Weller, Boston, Mass., assignors, by mesne assignments, to Nielsen Mailing Machinery Company, Erie, Pa. Machine for stamping and sealing envelops. No. 978,474; Dec. 13; Sp. p. 2277; Gaz. vol. 161; p. 395.

Nielsen, Laurits M., and H. Weller, Boston, Mass., assignors, by mesne assignments, to Nielsen Mailing Machinery Company, Erie, Pa. Stamp-affixing machine. No. 978,475; Dec. 13; Sp. p. 2287; Gaz. vol. 161; p. 395.

Nielsen Mailing Machinery Company. (See Nielsen, Laurits M., assignor.)

Nielsen Mailing Machinery Company. (See Nielsen and Weller, assignors.)

Nielsen, Paul, *et al.* (See Cottrell, Thomas M., assignor.)

Niemann, Edward F. (See Niemann, William L., assignor.)

Niemann, William L., assignor of one-half to E. F. Niemann, Mount Olive, Ill. Setting and brood coop. No. 979,902; Dec. 27; Sp. p. 5554; Gaz. vol. 161; p. 960.

Nilson, Arvid, assignor to Wahl-Henius Institute of Fermentology, Chicago, Ill. Hop-extraction process. No. 978,476; Dec. 13; Sp. p. 2292; Gaz. vol. 161; p. 396.

Nims, Alvin F., Philadelphia, Pa. Mixing-machine. No. 977,897; Dec. 6; Sp. p. 1033; Gaz. vol. 161; p. 164.

Nitritfabrik Aktiengesellschaft. (See Mechlenburg, Hermann, assignor.)

Nix, Manning L., Oklahoma, Okla. Cotton-cultivator. No. 977,534; Dec. 6; Sp. p. 273; Gaz. vol. 161; p. 40.

Nixon, Thomas, Santa Barbara, Cal. Wave-motor. No. 978,628; Dec. 13; Sp. p. 2636; Gaz. vol. 161; p. 449.

Noad, Arthur C., London, assignor of one-third to T. T. Russell, Liverpool, England. Incandescent gas-lamp. No. 978,477; Dec. 13; Sp. p. 2294; Gaz. vol. 161; p. 396.

Noble, Charles H. (See Montague, Judd W., assignor.)

Noell, Charles H., assignor of one-half to G. M. Arrington, Montvale, Va. Corn planter and hiller. No. 977,535; Dec. 6; Sp. p. 275; Gaz. vol. 161; p. 40.

Nolen, James G., Chicago, Ill. Automatic electrical signaling system. No. 978,629; Dec. 13; Sp. p. 2639; Gaz. vol. 161; p. 449.

Noll, Joseph C., Fort Wayne, Ind. Wrench. No. 979,330; Dec. 20; Sp. p. 4145; Gaz. vol. 161; p. 714.

Nordberg, Bruno V., Milwaukee, Wis. Motor-compressor. No. 978,194; Dec. 13; Sp. p. 1686; Gaz. vol. 161; p. 297.

Norling, Reinhold A., assignor to Aurora Automatic Machinery Company, Aurora, Ill. Pneumatic tool. No. 977,826; Dec. 6; Sp. p. 886; Gaz. vol. 161; p. 139.

Norlund, Olof A., Williamsport, Pa. Nut-lock. No. 979,545; Dec. 27; Sp. p. 4586; Gaz. vol. 161; p. 808.

Norman, Charles A., Latimer, Kans. Clevis. No. 978,330; Dec. 13; Sp. p. 1986; Gaz. vol. 161; p. 346.

Norman, Earl E., Philadelphia, Pa., assignor, by mesne assignments, to Northern Equipment Company, Chicago, Ill. Automatic feed-water device for steam-boilers. No. 979,546; Dec. 27; Sp. p. 4587; Gaz. vol. 161; p. 808.

Norman, Sterling E., Attleboro, Mass. Gardening implement. No. 978,478; Dec. 13; Sp. p. 2295; Gaz. vol. 161; p. 396.

North Bro's M'f'g Co. (See Fegley and Leopold, assignors.)

North Bro's M'f'g Co. (See Leopold, George O., assignor.)

North, Charles H., assignor to The North Electric Company, Cleveland, Ohio. Automatic switch for telephone systems. No. 977,536; Dec. 6; Sp. p. 277; Gaz. vol. 161; p. 40.

North Electric Company, The. (See North, Charles H., assignor.)

Northern Equipment Company. (See Norman, Earl E., assignor.)

Northern Railway Supply Company. (See Drew, Herbert W., assignor.)

Norton, Charles L., Hudson, N. H. Forming fibrous sheets. No. 979,547; Dec. 27; Sp. p. 4591; Gaz. vol. 161; p. 809.

Norton, Charles L., Hudson, N. H. Machine for forming fibrous sheets. No. 979,548; Dec. 27; Sp. p. 4596; Gaz. vol. 161; p. 809.

Norton, Edwin and E. K., New York, N. Y. Sheet-feeding mechanism. No. 979,549; Dec. 27; Sp. p. 4601; Gaz. vol. 161; p. 810.

Norton, Edwin K. (See Norton, Edwin and E. K.)

Norton, Thomas M. (See Mackenzie and Norton.)

Noye Manufacturing Company. (See Wilson, John A., Jr., assignor.)

Noyes, Edward P., Winchester, Mass., assignor, by mesne assignments, to C. P. Power Company, Newark, N. J. Mixer for gases and liquids. No. 979,787; Dec. 27; Sp. p. 5124; Gaz. vol. 161; p. 891.

Noyes, Edward P., Winchester, Mass., assignor, by mesne assignments, to C. P. Power Company, Newark, N. J. Vacuum apparatus. No. 979,788; Dec. 27; Sp. p. 5130; Gaz. vol. 161; p. 892.

Nuñez, Manuel G., Madrid, Spain. Fixed vernier. No. 977,537; Dec. 6; Sp. p. 281; Gaz. vol. 161; p. 41.

Nya Ackumulator Aktiebolaget Jungner. (See Estelle and Evers, assignors.)

O. A. Miller Treeing Machine Company. (See Hansen, John S., assignor.)

O'Byrne, Joseph F., Contact, Nev., and T. A. Flood, Salt Lake City, Utah. Projectile. No. 979,993; Dec. 27; Sp. p. 5555; Gaz. vol. 161; p. 960.

O'Connor, John F., assignor, by mesne assignments, to W. H. Miner, Chicago, Ill. Draft-rigging for railway-cars. No. 977,827; Dec. 6; Sp. p. 887; Gaz. vol. 161; p. 139.

O'Connor, John F., assignor, by mesne assignments, to W. H. Miner, Chicago, Ill. Draft-rigging for railway-cars. No. 977,827; Dec. 6; Sp. p. 887; Gaz. vol. 161; p. 139.

O'Donnell, John P. (See Reid, John, assignor.)

O'Malley-Beare Valve Company. (See O'Malley, Edward, assignor.)

O'Malley, Edward, Jackson, Tenn., assignor to O'Malley-Beare Valve Company, Chicago, Ill. Valve. No. 978,927; Dec. 20; Sp. p. 3230; Gaz. vol. 161; p. 573.

O'Malley, Edward, Jackson, Tenn., assignor to O'Malley-Beare Valve Company, Chicago, Ill. Valve. No. 978,928; Dec. 20; Sp. p. 3234; Gaz. vol. 161; p. 574.

O'Malley, Edward, Jackson, Tenn., assignor to O'Malley-Beare Valve Company, Chicago, Ill. Valve. No. 978,929; Dec. 20; Sp. p. 3236; Gaz. vol. 161; p. 574.

O'Malley, Edward, Jackson, Tenn., assignor to O'Malley-Beare Valve Company, Chicago, Ill. Valve. No. 978,930; Dec. 20; Sp. p. 3239; Gaz. vol. 161; p. 575.

O'Malley, Ira J., Chicago, Ill. Water-heater. No. 978,196; Dec. 13; Sp. p. 1690; Gaz. vol. 161; p. 297.

Oberwetter, Lewis. (See Wilhite and Oberwetter.)

Odell, John B., assignor of one-half to A. G. Leonard, Chicago, Ill. Telegraph apparatus. No. 980,118; Dec. 27; Sp. p. 5859; Gaz. vol. 161; p. 1002.

Odenkirk, Harry C., Cleveland, Ohio. Water-heater. No. 977,538; Dec. 6; Sp. p. 283; Gaz. vol. 161; p. 41.

Odens, Frank S., Chicago, Ill. Key-fastener. No. 979,331; Dec. 20; Sp. p. 4146; Gaz. vol. 161; p. 714.

Oechsle, Theodore F. (See Tucker and Oechsle.)

Oehring, Oscar, Berlin, Germany. Ticket-holder. No. 978,052; Dec. 6; Sp. p. 1353; Gaz. vol. 161; p. 217.

Oehring, Oscar, Berlin, Germany, assignor to American Stamp and Ticket Vending Machine Company, New York, N. Y. Automatic coupling. No. 977,673; Dec. 6; Sp. p. 571; Gaz. vol. 161; p. 87.

Oehring, Oscar, Berlin, Germany, assignor to American Stamp & Ticket Vending Machine Co., New York, N. Y. Releasing device for automatic vending-machines. No. 977,674; Dec. 6; Sp. p. 572; Gaz. vol. 161; p. 87.

Oehring, Oscar, Berlin, Germany, assignor to American Stamp & Ticket Vending Machine Co., New York, N. Y. Inking device for printing-machines. No. 977,675; Dec. 6; Sp. p. 574; Gaz. vol. 161; p. 88.

Oettgen, Frederick W., New York, N. Y. Conductor-splicer. No. 978,630; Dec. 13; Sp. p. 2649; Gaz. vol. 161; p. 450.

Ofenbau-Gesellschaft m. b. H. (See Bröker, Hermann A. R., assignor.)

Ogden, Fredric D., deceased, Bayonne, N. J.; J. E. Ogden, administrator, assignor, by mesne assignments, to The Patent Appliance Company. Coupling-bolt. No. 980,119; Dec. 27; Sp. p. 5867; Gaz. vol. 161; p. 1002.

Ogden, J. Edward, administrator. (See Ogden, Fredric D.)

Ohmstede, John R., Seattle, Wash. Bath-cabinet. No. 977,828; Dec. 6; Sp. p. 888; Gaz. vol. 161; p. 139.

Olds, Frederick P., assignor of one-half to W. F. Wieland, Berea, and one-half to F. H. Leick, Cleveland, Ohio. Blade-sharpening machine. No. 979,879; Dec. 27; Sp. p. 5334; Gaz. vol. 161; p. 923.

Olds, Frederick P., Beauchamp, Saskatchewan, Canada, assignor of one-half to W. F. Wieland, Berea, and one-half to F. H. Leick, Cleveland, Ohio. Tool-rest. No. 979,880; Dec. 27; Sp. p. 5336; Gaz. vol. 161; p. 923.

Olian, Leslie, St. Louis, Mo. Lantern-holder. No. 979,550; Dec. 27; Sp. p. 4605; Gaz. vol. 161; p. 810.

Oligny, Jean D., assignor to Peat Gas and Coal Company, Montreal, Quebec, Canada. Peat-gas-producing process. No. 977,469; Dec. 6; Sp. p. 90; Gaz. vol. 161; p. 17.

Oliver, Doctor F., Fruitvale, Cal. Pencil-sharpener. No. 979,688; Dec. 27; Sp. p. 4898; Gaz. vol. 161; p. 858.

Olmsted, Elmer S., assignor to Cheatham Electric Switching Device Company, Louisville, Ky. Switch-operating mechanism. No. 978,053; Dec. 6; Sp. p. 1357; Gaz. vol. 161; p. 218.

Olson, Charles A., assignor to Crane Company, Chicago, Ill. Pipe-cutting machine. No. 979,551; Dec. 27; Sp. p. 4606; Gaz. vol. 161; p. 810.

Olson, Emil, Rockford, Ill. Curb-shaping tool. No. 978,631; Dec. 13; Sp. p. 2650; Gaz. vol. 161; p. 450.

Olson, Gustav A., Albert Lea, Minn. Litter-carrier. No. 978,331; Dec. 13; Sp. p. 1987; Gaz. vol. 161; p. 346.

Olson, Gustav A., Albert Lea, Minn. Litter-carrier. No. 978,332; Dec. 13; Sp. p. 1989; Gaz. vol. 161; p. 346.

Olson, Gustav A., Albert Lea, Minn. Sectional track. No. 979,028; Dec. 20; Sp. p. 3474; Gaz. vol. 161; p. 609.

Olson, Isak, Bellingham, Wash. Package-binder. No. 978,632; Dec. 13; Sp. p. 2651; Gaz. vol. 161; p. 450.

Olsson, Gustaf, assignor to Jönköpings & Vulcans Tändsticksfabriksaktiebolag, Jönköping, Sweden. Machine for manufacturing match-boxes. No. 980,120; Dec. 27; Sp. p. 5869; Gaz. vol. 161; p. 1003.

Olsson, Johan G., assignor to Jönköpings och Vulcans Tändsticksfabriksaktiebolag, Jönköping, Sweden. Machine for manufacturing drawers for match-boxes and the like. No. 978,195; Dec. 13; Sp. p. 1689; Gaz. vol. 161; p. 297.

Oppenheimer, A. C., *et al.* (See Wolentarsky, Charles, assignor.)

Ormiston, Perley L., Days Creek, Oreg. Gate-opener. No. 979,689; Dec. 27; Sp. p. 4900; Gaz. vol. 161; p. 859.

Osburn, Harry G., Detroit, Mich. Electric ignition apparatus. No. 978,197; Dec. 13; Sp. p. 1696; Gaz. vol. 161; p. 298.

Osmer, John E., assignor to Allis-Chalmers Company, Milwaukee, Wis. Engineer's valve. No. 978,893; Dec. 13; Sp. p. 2114; Gaz. vol. 161; p. 368.

Oster, Herman W., assignor to The Oster Manufacturing Company, Cleveland, Ohio. Die-stock for cutting tapered threads. No. 977,539; Dec. 6; Sp. p. 285; Gaz. vol. 161; p. 42.

Oster, Herman W., assignor to The Oster Manufacturing Company, Cleveland, Ohio. Thread-cutting mechanism. No. 977,540; Dec. 6; Sp. p. 287; Gaz. vol. 161; p. 42.

Oster, Herman W., Cleveland, Ohio, assignor to The Oster Manufacturing Company. Die-stock. No. 977,541; Dec. 6; Sp. p. 290; Gaz. vol. 161; p. 43.

Oster, Herman W., assignor to The Oster Manufacturing Company, Cleveland, Ohio. Die-stock. No. 979,789; Dec. 27; Sp. p. 5132; Gaz. vol. 161; p. 892.

Oster, Herman W., assignor to The Oster Manufacturing Company, Cleveland, Ohio. Die-stock. No. 979,790; Dec. 27; Sp. p. 5134; Gaz. vol. 161; p. 893.

Oster Manufacturing Company, The. (See Oster, Herman W., assignor.)

Osterhom, William, assignor to Acorn Brass Manufacturing Company, Chicago, Ill. Priming-cup. No. 979,194; Dec. 20; Sp. p. 3865; Gaz. vol. 161; p. 669.

Ostrander, William H., assignor of one-third to B. Welsberger, Poughkeepsie, N. Y. Railway-track. No. 978,054; Dec. 6; Sp. p. 1361; Gaz. vol. 161; p. 218.

Otis Elevator Company. (See Hultgren, William H., assignor.)

Otis Elevator Company. (See Larson, David, assignor.)

Otis Elevator Company. (See Lindquist, David L., assignor.)

Otis Elevator Company. (See Sundh, August, assignor.)

Otis Elevator Company. (See Venn, Isaac H., assignor.)

Otto, Gilbert M., Oaklawn, Ill. Hand-lantern. No. 979,994; Dec. 27; Sp. p. 5557; Gaz. vol. 161; p. 960.

Otto, Herbert W., Meriden, Conn. Blind-fastener. No. 978,479; Dec. 13; Sp. p. 2207; Gaz. vol. 161; p. 396.

Ottowitz, John, Joliet, Ill. Bottle-stopper. No. 978,633; Dec. 13; Sp. p. 2652; Gaz. vol. 161; p. 451.

Ourdan, Vincent L., Washington, D. C. Engraving-machine. No. 977,829; Dec. 6; Sp. p. 889; Gaz. vol. 161; p. 140.

Ovenshire, Elijah A., Los Angeles, Cal. Printing-machine. No. 977,830; Dec. 6; Sp. p. 892; Gaz. vol. 161; p. 140.

Overbury, Frederick C., New York, N. Y., assignor to Flintkote Manufacturing Company, Rutherford, N. J. Protective covering for roofs, &c. No. 978,333; Dec. 13; Sp. p. 1991; Gaz. vol. 161; p. 347.

Overbury, Frederick C., New York, N. Y., assignor to Flintkote Manufacturing Company, Rutherford, N. J. Roofing-fastener. No. 978,334; Dec. 13; Sp. p. 1992; Gaz. vol. 161; p. 347.

Overholt, Isaac F., *et al.* (See Lindsay, Franklin G., assignor.)

Overlander, Jacob A., White Plains, N. Y. Wrench. No. 978,748; Dec. 13; Sp. p. 2883; Gaz. vol. 161; p. 488.

Overmyer, Charles G., assignor of one-half to G. F. Collins, Coffeyville, Kans. Glass jar. No. 978,634; Dec. 13; Sp. p. 2653; Gaz. vol. 161; p. 451.

Overton, Jesse C., Omaha, assignor of one-half to J. Schwabland, Fordyce, Nebr. Corn-husker. No. 979,690; Dec. 27; Sp. p. 4901; Gaz. vol. 161; p. 859.

Owen, Joseph, Newark, N. J. Hoisting device. No. 979,691; Dec. 27; Sp. p. 4902; Gaz. vol. 161; p. 859.

Owens, George L., assignor to G. M. Finckel, Columbus, Ohio. Lathe-chuck. No. 978,055; Dec. 6; Sp. p. 1362; Gaz. vol. 161; p. 218.

Owens, Robert C., Pittston, Pa. Chimney-top protector. No. 979,995; Dec. 27; Sp. p. 5560; Gaz. vol. 161; p. 960.

Owens, Walter W., Salt Lake City, Utah. Plastic-block mold. No. 978,056; Dec. 6; Sp. p. 1364; Gaz. vol. 161; p. 219.

Pacific Engineering Company. (See Faget, Arthur, assignor.)

Padden Gas and Electric Company, The. (See Dupee, John C., assignor.)

Page, Charles E., Detroit, Mich. Carbureter. No. 977,831; Dec. 6; Sp. p. 896; Gaz. vol. 161; p. 141.

Page, Crawford W., San Francisco, Cal. Indicating attachment for cash-registers. No. 978,635; Dec. 13; Sp. p. 2654; Gaz. vol. 161; p. 451.

Page, Dolph A., Keene, N. H. Coasting-sled. No. 977,749; Dec. 6; Sp. p. 722; Gaz. vol. 161; p. 113.

Page, Ernest V. (See Lemon and Page.)

Page, William M., assignor to Montpelier Cup and Metal Works, Montpelier, Ind. Gradual-reduction mill. No. 977,642; Dec. 6; Sp. p. 291; Gaz. vol. 161; p. 43.

Paisseau-Feil, Charles J., Paris, France. Composition for use in manufacture of artificial pearls and for similar purposes. No. 978,304; Dec. 13; Sp. p. 2116; Gaz. vol. 161; p. 368.

Palmer, Granville E., Winchester, Mass. Meter-connection block. No. 978,636; Dec. 13; Sp. p. 2656; Gaz. vol. 161; p. 451.

Palmer, Herman H. (See Smith and Palmer.)

Palmer, Isaac E., Middletown, Conn. Bearing. No. 979,881; Dec. 27; Sp. p. 5337; Gaz. vol. 161; p. 924.

Palmer, Isaac E., assignor to The I. E. Palmer Co., Middletown, Conn. Framed hammock. No. 980,165; Dec. 27; Sp. p. 5961; Gaz. vol. 161; p. 1017.

Palmer, Isaac E., assignor to The I. E. Palmer Co., Middletown, Conn. Hanging seat-hammock. No. 980,166; Dec. 27; Sp. p. 5965; Gaz. vol. 161; p. 1018.

Palmer, Isaac E., assignor to The I. E. Palmer Co., Middletown, Conn. Knockdown couch-hammock. No. 980,167; Dec. 27; Sp. p. 5968; Gaz. vol. 161; p. 1018.

Palmer, Isaac E., assignor to The I. E. Palmer Co., Middletown, Conn. Couch-hammock. No. 980,168; Dec. 27; Sp. p. 5975; Gaz. vol. 161; p. 1019.

Palmer, Isaac E., assignor to The I. E. Palmer Co., Middletown, Conn. Couch-hammock. No. 980,169; Dec. 27; Sp. p. 5976; Gaz. vol. 161; p. 1019.

Palmer, Isaac E., assignor to The I. E. Palmer Co., Middletown, Conn. Hammock-suspension means. No. 980,170; Dec. 27; Sp. p. 5980; Gaz. vol. 161; p. 1019.

Palmer, Isaac E., assignor to The I. E. Palmer Co., Middletown, Conn. Suspension means for couch-hammocks. No. 980,171; Dec. 27; Sp. p. 5982; Gaz. vol. 161; p. 1019.

Pancoast, George E., Brooklyn, N. Y., assignor to The American Lithographic Company. Printing-press. No. 979,791; Dec. 27; Sp. p. 5135; Gaz. vol. 161; p. 893.

Pando, Adolfo F., Buenos Ayres, Argentina. Harvester. No. 977,832; Dec. 6; Sp. p. 898; Gaz. vol. 161; p. 141.

Parish, Le Grand, and R. B. Kendig, Cleveland, Ohio. Car construction. No. 979,088; Dec. 20; Sp. p. 3605; Gaz. vol. 161; p. 629.

Park, David M., Erin, assignor of two-thirds to H. A. Tiffany, Syracuse, N. Y. Instrument for computing fractions. No. 978,637; Dec. 13; Sp. p. 2658; Gaz. vol. 161; p. 452.

Park, Frank C., *et al.* (See Berntson, Thomas, assignor.) (Reissue.)

Park, Ira L., Fairfax county, Va., assignor of one-half to C. B. Morris, Washington, D. C. Towel-supply device. No. 979,029; Dec. 20; Sp. p. 3476; Gaz. vol. 161; p. 610.

Parker, John A., Gardiner, Me. Graphoscope. No. 979,552; Dec. 27; Sp. p. 4607; Gaz. vol. 161; p. 811.

Parkhill, John, Rochester, Minn. Pitch-gage attachment for squares. No. 979,996; Dec. 27; Sp. p. 5560; Gaz. vol. 161; p. 961.

Parks, Alfred M., Philadelphia, Pa. Colorimeter. No. 977,964; Dec. 6; Sp. p. 1135; Gaz. vol. 161; p. 189.

Parrish, Charles H., Statesboro, Ga. Fireback and andirons for fireplaces. No. 979,195; Dec. 20; Sp. p. 3866; Gaz. vol. 161; p. 669.

Parsons, Charles A., and A. H. Law, Newcastle-upon-Tyne, England; said Law assignor to said Parsons. Regulation of dynamo-electric machinery. No. 978,638; Dec. 13; Sp. p. 2660; Gaz. vol. 161; p. 452.

Parsons, Fred O., Spirit Lake, Iowa. Photographic-printing machine. No. 977,543; Dec. 6; Sp. p. 299; Gaz. vol. 161; p. 44.

Partida, Rafael L., Torreon, Mexico. Automatic railway-switch device. No. 978,639; Dec. 13; Sp. p. 2662; Gaz. vol. 161; p. 453.

Partington, Charles, assignor to The Cincinnati Frog and Switch Company, Cincinnati, Ohio. Railway-switch stand. No. 977,833; Dec. 6; Sp. p. 900; Gaz. vol. 161; p. 142.

Pasche, John B., assignor to C. M. Mitchell, Snyder, Tex. Stovepipe-drum. No. 949,400; Dec. 20; Sp. p. 4276; Gaz. vol. 161; p. 735.

Patent Appliance Company, The. (See Ogden, Fredric D., assignor.)

Patrick, Edwin L. (See McIntosh, John, assignor.)

Patterson, Warren A., assignor to The Cotton Harvester Company, St. Louis, Mo. Cotton-separator. No. 979,792; Dec. 27; Sp. p. 5151; Gaz. vol. 161; p. 893.

Patton, Clarence C., Cincinnati, Ohio. Device for transmission of power by friction. No. 978,778; Dec. 13; Sp. p. 2942; Gaz. vol. 161; p. 497.

Patton, John B. (See Engberg, Ephraim O., assignor.)

Patton, John J., New York, N. Y. Tire. No. 979,882; Dec. 27; Sp. p. 5340; Gaz. vol. 161; p. 924.

Patton, John J., New York, N. Y. Tire. No. 979,883; Dec. 27; Sp. p. 5341; Gaz. vol. 161; p. 924.

Pattridge, Samuel C., *et al.* (See Gould, Edward, assignor.)

Paul, John B., Pittsburg, Pa. Sewage disposal by filtration and aeration. No. 977,965; Dec. 6; Sp. p. 1186; Gaz. vol. 161; p. 189.

Paulson, John B., *et al.* (See Hummel, Theodore, assignor.)

Pauly, John, Lowell, Mass. Game-counter. No. 979,997; Dec. 27; Sp. p. 5563; Gaz. vol. 161; p. 961.

Payne, Orvin G., Fairbury, Ill. Cutting-board and clamp. No. 977,544; Dec. 6; Sp. p. 302; Gaz. vol. 161; p. 44.

Peacock, Albert F., Buchanan, Mich., assignor of one-half to A. E. Mead, Chicago, Ill. Differential gearing. No. 978,057; Dec. 6; Sp. p. 1365; Gaz. vol. 161; p. 219.

Pearsall, Albert W., Lowell, Mass., assignor to Lamson Consolidated Store Service Company, Newark, N. J. Pneumatic-despatch-tube apparatus. No. 978,198; Dec. 13; Sp. p. 1698; Gaz. vol. 161; p. 298.

Pearson, Charles O., New York, N. Y. Perforating-machine. No. 978,480; Dec. 13; Sp. p. 2297; Gaz. vol. 161; p. 397.

Pearson, John, Chicago, Ill. Door mechanism or the like. No. 977,676; Dec. 6; Sp. p. 576; Gaz. vol. 161; p. 88.

Peat Gas and Coal Company. (See Oligny, Jean D., assignor.)

Peck, Cassius C., Rochester, N. Y. Radiator drain-valve. No. 979,553; Dec. 27; Sp. p. 4608; Gaz. vol. 161; p. 811.

Pedaphone Company. (See Gaynor, Thomas F., assignor.)

Peerless Rubber Manufacturing Company. (See Prosser, Charles S., assignor.)

Pelar, William E., St. Joseph, Mo. Sash or window lock. No. 979,884; Dec. 27; Sp. p. 5342; Gaz. vol. 161; p. 924.

Pelham, Joseph, assignor of one-half to J. D. Hubbard, Versailles, Mo. Tube sewing and turning machine. No. 978,481; Dec. 13; Sp. p. 2302; Gaz. vol. 161; p. 397.

Pelletier, Alfred, Chicago, Ill. Internal-combustion power-generator. No. 979,554; Dec. 27; Sp. p. 4612; Gaz. vol. 161; p. 811.

Pellett, Ernest, assignor of one-half to H. J. Martin, Eastbourne, England. Casement, sash, door, and the like. No. 977,470; Dec. 6; Sp. p. 91; Gaz. vol. 161; p. 17.

Pelz, Martin, New York, N. Y. Non-refillable bottle. No. 979,998; Dec. 27; Sp. p. 5565; Gaz. vol. 161; p. 962.

Pendry, William A., Detroit, Mich. Triple valve. No. 978,640; Dec. 13; Sp. p. 2665; Gaz. vol. 161; p. 453.

Penton, Le Roy R. (See Coleman, Samuel H., assignor.)

Percival, Leonard P., Tacoma, Wash., assignor to Alarm Lock Company. Lock. No. 978,931; Dec. 20; Sp. p. 3241; Gaz. vol. 161; p. 575.

Perfect Simplex Combustion Company, The. (See McArdle, William, assignor.)

Perkins, John L., J. O. Stanley, C. W. Putnam, and J. Montgomery, assignors to Stonebrook Paper Company, Holyoke, Mass. Paper-pulp-refining apparatus. No. 979,885; Dec. 27; Sp. p. 5344; Gaz. vol. 161; p. 924.

Perkins, Walter H., Cheshire, assignor to Waterbury Mfg. Co., Waterbury, Conn. Shade-holder. No. 979,798; Dec. 27; Sp. p. 5154; Gaz. vol. 161; p. 894.

Perrine, Junious M. (See Ferrell and Perrine.)

Perry, George A., Lodi, Wis. Piano-truck. No. 979,089; Dec. 20; Sp. p. 3607; Gaz. vol. 161; p. 629.

Peteler, Adolph, New York, N. Y. Internal-combustion engine. No. 979,794; Dec. 27; Sp. p. 5155; Gaz. vol. 161; p. 894.

Peterman, Harry A. and H. C., Philadelphia, Pa. Bottle-carrying case. No. 978,825; Dec. 13; Sp. p. 3013; Gaz. vol. 161; p. 511.

Peterman, Herbert C. (See Peterman, Harry A. and H. C.)

Peters, Gershom M., Cincinnati, and M. F. Lindsley, Kings Mills, assignors to The King Powder Company, Cincinnati, Ohio. Explosive. No. 977,545; Dec. 6; Sp. p. 303; Gaz. vol. 161; p. 45.

Peters, Robert H., Buffalo, N. Y. Ratchet-wrench. No. 978,395; Dec. 13; Sp. p. 2118; Gaz. vol. 161; p. 368.

Petersen, Jens P., Cape Girardeau, Mo. Pole. No. 978,982; Dec. 20; Sp. p. 3244; Gaz. vol. 161; p. 575.

Peterson, Fay E., *et al.* (See Cottrell, Thomas M., assignor.)

Peterson, Johann G., assignor to The Arrow Electric Company, Hartford, Conn. Snap-switch handle attachment. No. 978,933; Dec. 20; Sp. p. 3245; Gaz. vol. 161; p. 576.

Peterson, Jonathan, Brooklyn, N. Y. Carbureter. No. 979,555; Dec. 27; Sp. p. 4616; Gaz. vol. 161; p. 812.

Peterson, Peter, San Francisco, Cal. Internal-combustion engine. No. 978,058; Dec. 6; Sp. p. 1368; Gaz. vol. 161; p. 220.

Petri, Gunther H., Boston, Mass. Dough-shaping implement. No. 978,482; Dec. 13; Sp. p. 2304; Gaz. vol. 161; p. 397.

Petrie, Percy C., Simons, Cal. Lawn-mower. No. 980,121; Dec. 27; Sp. p. 5872; Gaz. vol. 161; p. 1003.

Pfau, Arnold, assignor to Allis-Chalmers Company, Milwaukee, Wis. Water-wheel. No. 978,335; Dec. 13; Sp. p. 1994; Gaz. vol. 161; p. 347.

Pfautz, Daniel M., assignor to W. H. Tigerman, Philadelphia, Pa. Skate. No. 979,795; Dec. 27; Sp. p. 5163; Gaz. vol. 161; p. 895.

Pfleger, Harry M., St. Louis, Mo. Car construction. No. 979,030; Dec. 20; Sp. p. 3480; Gaz. vol. 161; p. 610.

Pflasterer, George S., Nashville, Tenn. Block-signal system. No. 979,556; Dec. 27; Sp. p. 4620; Gaz. vol. 161; p. 812.

Phelps, James W., Detroit, Mich. Plug for electrical conductors. No. 978,199; Dec. 13; Sp. p. 1700; Gaz. vol. 161; p. 299.

Philipp, Herbert. (See Foersterling and Philipp.)

Phillips, Charles H., Buffalo, N. Y. Spool for perforated music-sheets. No. 979,090; Dec. 20; Sp. p. 3608; Gaz vol. 161; p. 630.

Phillips, Frank J., Chicago, Ill. Casting non-ferric metals. No. 977,546; Dec. 6; Sp. p. 305; Gaz. vol. 161; p. 45.

Phillips, James, Buffalo, N. Y. Barrel-painting machine. No. 977,966; Dec. 6; Sp. p. 1188; Gaz. vol. 161; p. 189.

Phillips, John, Wilkeson, Wash. Steam-engine valve-gear. No. 979,031; Dec. 20; Sp. p. 3481; Gaz. vol. 161; p. 610.

Phillips, Marcus, Chicago, Ill. Catamaran. No. 979,557; Dec. 27; Sp. p. 4626; Gaz. vol. 161; p. 813.

Phoenix Combination Lock Company. (See Bennett, Fred E., assignor.)

Pickart, Emil, assignor to F. S. Betz, Hammond, Ind. Joint for leg-rests. No. 979,091; Dec. 20; Sp. p. 3610; Gaz. vol. 161; p. 630.

Pickering Governor Co., The. (See Hall, Stephen S., assignor.)

Pickering, Percy, Wellington, New Zealand. Flooring-cramp. No. 977,471; Dec. 6; Sp. p. 93; Gaz. vol. 161; p. 18.

Pidgeon, Edward J., Newark, N. J. Grain-separator. No. 977,677; Dec. 6; Sp. p. 579; Gaz. vol. 161; p. 88.

Pierce, Charles F., East Providence, R. I. Cigar-holder. No. 977,834; Dec. 6; Sp. p. 901; Gaz. vol. 161; p. 142.

Pierce, Edward. (See Wallmann, Johann G., assignor.)

Pierce, William J., Los Angeles, Cal. Shock-absorber for vehicles. No. 979,032; Dec. 20; Sp. p. 3490; Gaz. vol. 161; p. 611.

Pierson, William D., Waterbury, assignor to H. P. and E. Day, Incorporated, Seymour, Conn. Grinding-machine. No. 980,122; Dec. 27; Sp. p. 5874; Gaz. vol. 161; p. 1003.

Piestrak, Casimir S., Paris, France. Apparatus for the sterilization of water or other liquids. No. 979,999; Dec. 27; Sp. p. 5567; Gaz. vol. 161; p. 902.

Pietzsch, Albert, Triberg, Germany, and E. Steinbuch, Monthey, Switzerland, assignors to Society of Chemical Industry in Basle, Basel, Switzerland. Continuous electrolysis of aqueous solutions. No. 978,934; Dec. 20; Sp. p. 3246; Gaz. vol. 161; p. 576.

Pike, Edwin B. (See Hayne and Pike.)

Pilkington, Herbert M., Ridgewood, N. J. Hose-coupling. No. 977,472; Dec. 6; Sp. p. 95; Gaz. vol. 161; p. 18.

Pinkney, Bryan D., assignor to The Loew Manufacturing Company, Cleveland, Ohio. Pasteurizer. No. 979,796; Dec. 27; Sp. p. 5165; Gaz. vol. 161; p. 895.

Pinkstone, James A., Clinton, Mich. Fiber-feeding machine. No. 980,000; Dec. 27; Sp. p. 5568; Gaz. vol. 161; p. 962.

Piper, Charles W., *et al.* (See Kell, Henry, assignor.)

Piper, Chester L. (See McDowall, Peter, assignor.)

Piper, Walter E. (See Thompson, William F., assignor.)

Piscator, Charles. (See Piscator, Robert C. and C.)

Piscator, Robert C. and C., Indianapolis, Ind. Fishing-rod holder. No. 977,835; Dec. 6; Sp. p. 903; Gaz. vol. 161; p. 143.

Pitts, James S., Garvin, Okla. Horse-releaser. No. 979,332; Dec. 20; Sp. p. 4147; Gaz. vol. 161; p. 714.

Place, Frederick E., Chicago, and M. L. Jenkins, Harvey, assignors to Buda Foundry & Manufacturing Company, Chicago, Ill. Lifting-jack. No. 979,092; Dec. 20; Sp. p. 3611; Gaz. vol. 161; p. 630.

Place, James F., Glen Ridge, N. J., assignor to American Air Liquefying Co. Mechanism for liquefying air and separating same into oxygen and nitrogen. No. 978,935; Dec. 20; Sp. p. 3248; Gaz. vol. 161; p. 576.

Plaisted, Harold M., Granite City, Ill. Multiple power-rammer. No. 979,196; Dec. 20; Sp. p. 3867; Gaz. vol. 161; p. 669.

Platt, Clarence D., Bridgeport, Conn. Fixed-polarity attachment-plug. No. 977,836; Dec. 6; Sp. p. 904; Gaz. vol. 161; p. 143.

Platt, Clarence D., Bridgeport, Conn. Casing for incandescent-lamp sockets. No. 978,483; Dec. 13; Sp. p. 2306; Gaz. vol. 161; p. 398.

Platt, Clarence D., Bridgeport, Conn. Molding-receptacle. No. 979,197; Dec. 20; Sp. p. 3871; Gaz. vol. 161; p. 670.

Platt, Nathaniel E., Jersey City, N. J. Sad-iron cleaner and polisher. No. 979,198; Dec. 20; Sp. p. 3873; Gaz. vol. 161; p. 670.

Pledger, Junius L., assignor of one-half to J. A. Naquin, Thibodaux, La. Coffee-stirring machine. No. 979,558; Dec. 27; Sp. p. 4630; Gaz. vol. 161; p. 813.

Plesec, Martin, Swissvale, Pa. Burglar apparatus. No. 978,396; Dec. 13; Sp. p. 2120; Gaz. vol. 161; p. 369.

Pletcher, Eugene M., and J. C. Gibbs, Philadelphia, Pa. Collar-button lock. No. 977,837; Dec. 6; Sp. p. 906; Gaz. vol. 161; p. 143.

Plumb, Walter L., Glen Ridge, N. J. Disinfecting lamp or candle. No. 978,200; Dec. 13; Sp. p. 1702; Gaz. vol. 161; p. 299.

Plume and Atwood Manufacturing Company, The. (See Andersen, Lauritz W., assignor.)

Plunkett, Hugh E., assignor to J. Barry, Boston, Mass. Switch-operating device for lamp-sockets. No. 979,693; Dec. 27; Sp. p. 4907; Gaz. vol. 161; p. 860.

Poe, George, South Norfolk, assignor to Poe Invention Corporation, Norfolk, Va. Gas-generator. No. 978,641; Dec. 13; Sp. p. 2670; Gaz. vol. 161; p. 454.

Poe Invention Corporation. (See Poe, George, assignor.)

Poe, James G., assignor of one-half to R. E. L. Saner, Dallas, Tex. Microtome attachment for microscopes. No. 979,333; Dec. 20; Sp. p. 4148; Gaz. vol. 161; p. 715.

Poindexter, Alfred M., Red Bank, N. J., assignor of forty-nine one-hundredths to J. S. Galland, New York, N. Y. Safety-razor. No. 979,559; Dec. 27; Sp. p. 4632; Gaz. vol. 161; p. 813.

Pointer, William J., and J. A. Ramsey, Coweta, Okla. Portable shelf. No. 978,059; Dec. 6; Sp. p. 1371; Gaz. vol. 161; p. 220.

Polleys, Charles G., Malden, assignor of one-half to F. C. Taft, Uxbridge, Mass. Shock-absorber for vehicles. No. 979,694; Dec. 27; Sp. p. 4908; Gaz. vol. 161; p. 861.

Polleys, Charles G., Malden, assignor of one-half to F. C. Taft, Uxbridge, Mass. Resilient apparatus for vehicles. No. 979,695; Dec. 27; Sp. p. 4909; Gaz. vol. 161; p. 861.

Pollock, James R., Jersey City, N. J., and W. Schreiber, New York, N. Y.; said Pollock assignor to said Schreiber. Cigar-cutter. No. 980,123; Dec. 27; Sp. p. 5876; Gaz. vol. 161; p. 1004.

Ponten, Anders, Berkeley, Cal., assignor of forty-five one-hundredths to J. D. Millar, Portland, Oreg. Centrifugal sluicing-machine. No. 980,001; Dec. 27; Sp. p. 5572; Gaz. vol. 161; p. 963.

Pooler, Don C. (See Pooler, Earl and D. C.)

Pooler, Earl and D. C., Seattle, Wash.; said D. C. Pooler assignor, by mesne assignments, of one-half to said Earl Pooler. Phonograph-disk-record cabinet. No. 980,124; Dec. 27; Sp. p. 5878; Gaz. vol. 161; p. 1004.

Pope, Henry F., assignor to The National Malleable Castings Company, Cleveland, Ohio. Radial-draft gear. No. 977,473; Dec. 6; Sp. p. 96; Gaz. vol. 161; p. 18.

Popenhagen, Joseph, Chicago, Ill. Letter-slot attachment. No. 980,125; Dec. 27; Sp. p. 5880; Gaz. vol. 161; p. 1005.

Porteous, James, Fresno, Cal. Adjustable truck. No. 979,093; Dec. 20; Sp. p. 3613; Gaz. vol. 161; p. 631.

Porter, Wilson E., assignor to New Haven Clock Co., New Haven, Conn. Keyless clock. No. 979,797; Dec. 27; Sp. p. 5160; Gaz. vol. 161; p. 895.

Portteus, James G., Marion, Ind., assignor of one-half to E. L. Adreon, Jr., St. Louis, Mo. Rail-anticreeper. No. 977,678; Dec. 6; Sp. p. 580; Gaz. vol. 161; p. 89.

Posselt, Anton, assignor to W. Roeder, Hanover, Germany. Moth-destroying composition, No. 979,704; Dec. 27; Sp. p. 4926; Gaz. vol. 161; p. 864.

Posson, Edward, Chicago, Ill. Equalizer for six-wheel trucks. No. 979,033; Dec. 20; Sp. p. 3492; Gaz. vol. 161; p. 611.

Post, Ernst, Rummelsburg, near Berlin, Germany. Machine for polishing floors. No. 979,798; Dec. 27; Sp. p 5169; Gaz. vol. 161; p. 890.

Potter, Frank H. T., Chicago, Ill. Foundation for signal-poles and the like. No. 978,201; Dec. 13; Sp. p. 1703; Gaz. vol. 161; p. 299.

Powell, George E. (See Gibbs, James M., assignor.)

Powell, George N. (See Haas, Fred W., assignor.)

Powell, Thomas F., Spokane, Wash. Hone-box. No. 977,838; Dec. 6; Sp. p. 907; Gaz. vol. 161; p. 143.

Praeger, Ewald, San Antonio, Tex. Shaving appliance. No. 979,096; Dec. 27; Sp. p. 4910; Gaz. vol. 161; p. 861.

Prankard, Charles J., Jr., Troy, N. Y. Tweezers. No. 979,697; Dec. 27; Sp. p. 4912; Gaz. vol. 161; p. 861.

Pratt, James R., Denison, Tex. Headlight-reflector. No. 979,334; Dec. 20; Sp. p. 4150; Gaz. vol. 161; p. 715.

Prellwitz, William, Easton, Pa., assignor to Ingersoll-Rand Company, New York, N. Y. Fluid-pressure-operated tool. No. 978,484; Dec. 13; Sp. p. 2309; Gaz. vol. 161; p. 398.

Prescott, Arthur T., East Orange, N. J., assignor to George H. Frothingham Co. Bearing. No. 978,202; Dec. 13; Sp. p. 1705; Gaz. vol. 161; p. 300.

Prescott, Arthur T., East Orange, N. J., assignor to George H. Frothingham Co. Counterbalancing mechanism. No. 980,126; Dec. 27; Sp. p. 5882; Gaz. vol. 161; p. 1005.

Priborsky, Julius, Passaic, N. J. Loom. No. 977,898; Dec. 6; Sp. p. 1036; Gaz. vol. 161; p. 165.

Price, Charles P., Malden, assignor to American Tar Company, Boston, Mass. Oil-distributing apparatus. No. 980,002; Dec. 27; Sp. p. 5575; Gaz. vol. 161; p. 963.

Price, Ernest, East Norwalk, Conn. Sprinkler. No. 979,199; Dec. 20; Sp. p. 3874; Gaz. vol. 161; p. 670.

Price, Guy R., Detroit, Mich. Explosion-engine. No. 978,936; Dec. 20; Sp. p. 3253; Gaz. vol. 161; p. 577.

Priebe, Herman C., Chicago, Ill. Vehicle. No. 978,203; Dec. 13; Sp. p. 1707; Gaz. vol. 161; p. 300.

Priem, Paul, Heidenheim-on-the-Brenz, Germany. Paper-making machine. No. 978,779; Dec. 13; Sp. p. 2943; Gaz. vol. 161; p. 498.

Priest, Edward D., Schenectady, N. Y., assignor to General Electric Company. Railway-truck. No. 977,839; Dec. 6; Sp. p. 910; Gaz. vol. 161; p. 144.

Priestman, Albert, and E. C. Moore, Philadelphia, Pa.; said Moore assignor to Merritt & Company. Apparatus for controlling the admission and relief of pressure to tanks and other appliances. No. 979,698; Dec. 27; Sp. p. 4914; Gaz. vol. 161; p. 862.

Prince, Thomas H., Detroit, Mich. Puncture-guard for pneumatic tires. No. 979,699; Dec. 27; Sp. p. 4918; Gaz. vol. 161; p. 862.

Pring, John R., Shawnee, Okla. Oil-burner. No. 978,780; Dec. 13; Sp. p. 2944; Gaz. vol. 161; p. 498.

Pritchard, Albert R., Rochester, N. Y. Oil-pot indicator. No. 979,799; Dec. 27; Sp. p. 5171; Gaz. vol. 161; p. 896.

Procner, Jan, Pabianice, Russia. Turbine. No. 977,899; Dec. 6; Sp. p. 1030; Gaz. vol. 161; p. 165.

Proctor, John C., Seattle, Wash. Wagon-box for hoisting and dumping grain, beets, &c. No. 978,336; Dec. 13; Sp. p. 1995; Gaz. vol. 161; p. 347.

Proctor, Joseph W., Beaumont, Tex. Fastening and releasing device for logging-car chains. No. 980,003; Dec. 27; Sp. p. 5579; Gaz. vol. 161; p. 964.

Proehl, Edward J., New York, N. Y. Carbureter. No. 979,700; Dec. 27; Sp. p. 4919; Gaz. vol. 161; p. 862.

Progress Manufacturing Company, The. (See Kronauer, Max, assignor.)

Prosser, Charles S., assignor to Peerless Rubber Manufacturing Company, New York, N. Y. Conveyer-belt. No. 979,200; Dec. 20; Sp. p. 3875; Gaz. vol. 161; p. 670.

Prouty, Theodore C., assignor to Wilcox Manufacturing Company, Aurora, Ill. Computing-scale. No. 978,204; Dec. 13; Sp. p. 1710; Gaz. vol. 161; p. 301.

Prudential Heating Company. (See Cripps, Alfred G., assignor.)

Putnam, Clesson W. (See Perkins, Stanley, Putnam, and Montgomery.)

Putnam, Israel, Elmira, N. Y. Incubator. No. 978,205; Dec. 13; Sp. p. 1714; Gaz. vol. 161; p. 301.

Putnam, John P., Boston, Mass. Water-seal trap. No. 978,485; Dec. 13; Sp. p. 2311; Gaz. vol. 161; p. 398.

Quick Work Stove Company, The. (See Kitzsteiner, Frank, assignor.)

Quinn, Patrick, Forbes Road, Pa. Air-reservoir for mines. No. 978,642; Dec. 13; Sp. p. 2672; Gaz. vol. 161; p. 454.

Quist, Olof, San Diego, Cal. Appliance for oil preservation of piling in water. No. 978,643; Dec. 13; Sp. p. 2673; Gaz. vol. 161; p. 454.

R. Hoe and Co. (See Read and Lougee, assignors.)

R. Neumann Hardware Co. (See Lysaght, Cornelius J., assignor.)

R. E. Dietz Company. (See Betts, Charles L., assignor.)

Raabe, Rudolph, Tyrone, Pa. Tobacco-moistener. No. 980,127; Dec. 27; Sp. p. 5887; Gaz. vol. 161; p. 1005.

Raabe, Walter, assignor to G. Dietz, Brunswick, Germany. Automatic liquid-testing apparatus. No. 978,644; Dec. 13; Sp. p. 2674; Gaz. vol. 161; p. 455.

Racine-Sattley Company. (See Weaver, Ira A., assignor.)

Radial Power Hammer Company, The. (See Sutherland and Brown, assignors.)

Rae Electric Company. (See Rae, Frank B., assignor.

Rae, Frank B., Detroit, Mich., assignor, by mesne assignments, to Rae Electric Company. Electric motor and controlling system. No. 979,004; Dec. 20; Sp. p. 3614; Gaz. vol. 161; p. 634.

Rae, Gavin. (See Shaw, Robert W., assignor.)

Raetz, Stephen J. (See Worthington, Raetz, and Kreitter.)

Rafferty, Charles, Fall River, Mass. Loom-shuttle. No. 977,840; Dec. 6; Sp. p. 912; Gaz. vol. 161; p. 144.

Ragland, Charles W., Manchester, Va. Step, platform, and door operating mechanism. No. 979,886; Dec. 27; Sp. p. 5346; Gaz. vol. 161; p. 925.

Rahm, Robert C. (See Janssen and Rahm.)

Ramage, William E., and H. D. Shaw, assignors to Berkshire Hills Paper Company, Adams, Mass. Paper-grooving machine. No. 979,201; Dec. 20; Sp. p. 3876; Gaz. vol. 161; p. 671.

Ramsey, James A. (See Pointer and Ramsey.)

Randolph, William J., Sr., and W. J., Jr., Moscow, N. Y. Rail-bond. No. 978,202; Dec. 20; Sp. p. 3880; Gaz. vol. 161; p. 671.

Ranyak, Joseph, Detroit, Mich. Padlock. No. 978,206; Dec. 13; Sp. p. 1716; Gaz. vol. 161; p. 301.

Rappengiueck, Joseph W. (See Rowe and Rappengiueck.)

Rathbun, Henry E., Worcester, Mass. Pneumatic selector for short-weft looms. No. 978,645; Dec. 13; Sp. p. 2676; Gaz. vol. 161; p. 455.

Rawlings Manufacturing Company, The. (See Whitley, William P., assignor.)

Ray Acetylene Company. (See Ray, Francis B., assignor.)

Ray, Francis B., New York, N. Y., assignor to Ray Acetylene Company, Elkhart, Ind. Non-automatic acetylene-generator. No. 978,125; Dec. 6; Sp. p. 1514; Gaz. vol. 161; p. 244.

Ray, Mark G., assignor of one-half to C. K. Bryant, Richmond, Va. Gas-burner attachment. No. 978,207; Dec. 13; Sp. p. 1717; Gaz. vol. 161; p. 302.

Read, George F., and F. G. Lougee, London, England, assignors, by mesne assignments, to R. Hoe and Co., New York, N. Y. Movable work-gage for stereotype-trimming machines, &c. No. 977,474; Dec. 6; Sp. p. 98; Gaz. vol. 161; p. 18.

Read, Joseph O., Ogden, Utah. Halter-hopple. No. 977,547; Dec. 6; Sp. p. 306; Gaz. vol. 161; p. 45.

Ready Tool Company, The. (See Shillitto, Frank W., assignor.)

Reasoner, Miles, Bomar, Okla. Railway-crossing gate. No. 977,548; Dec. 6; Sp. p. 808; Gaz. vol. 161; p. 45.

Reed, Charles E., assignor to Charles E. Reed & Company, Chicago, Ill. Pattern-cutting machine. No. 978,486; Dec. 13; Sp. p. 2313; Gaz. vol. 161; p. 399.

Reed, Charles E., assignor to Charles E. Reed & Company, Chicago, Ill. Pattern-cutting machine. No. 978,487; Dec. 13; Sp. p. 2315; Gaz. vol. 161; p. 399.

Reed, Henry A. (See McCracken, Robert A., assignor.)

Reed, Roy R. (See Crawford; George S., assignor.)

Reeder, Andrew H., Stonega, Va. Coke-drawer. No. 980,004; Dec. 27; Sp. p. 5580; Gaz. vol. 161; p. 964.

Regenold, Frederick, Memphis, Tenn. Automatic saw-trimmer for equalizing lengths of lumber. No. 977,750; Dec. 6; Sp. p. 724; Gaz. vol. 161; p. 114.

Reguin, Ernest L., San Francisco, Cal. Reversible window-sash. No. 980,005; Dec. 27; Sp. p. 5587; Gaz. vol. 161; p. 964.

Rehländer, Paul, Charlottenburg, assignor to Chemische Fabrik auf Actien (vorm. E. Schering), Berlin, Germany. Vanadium acid oxalate and making same. No. 979,887; Dec. 27; Sp. p. 5352; Gaz. vol. 161; p. 925.

Rehmeyer, Roy, Chicago, Ill. Device for cranking gasolene or other engines. No. 980,006; Dec. 27; Sp. p. 5589; Gaz. vol. 161; p. 965.

Reid, John, London, assignor of one-half to J. P. O'Donnell, Westminster, England. Collar-box and the like. No. 979,701; Dec. 27; Sp. p. 4923; Gaz. vol. 161; p. 863.

Reid, William H., Brooklyn, N. Y. Burner for gas-lamps. No. 979,335; Dec. 20; Sp. p. 4151; Gaz. vol. 161; p. 716.

Reid, William L. (See Mellin and Reid.)

Reiff, Wellington N., and J. A. Krauss, East Greenville, Pa. Shuttle. No. 979,203; Dec. 20; Sp. p. 3882; Gaz. vol. 161; p. 671.

Reilly, Matthew A. (See Aldridge, Thomas J., assignor.)

Reilly, Patrick, Philadelphia, Pa. Wrench. No. 978,208; Dec. 13; Sp. p. 1718; Gaz. vol. 161; p. 302.

Reiss, Gustave, Crete, Nebr. Saw-set. No. 978,646; Dec. 13; Sp. p. 2679; Gaz. vol. 161; p. 456.

Reiter, Heinrich M., Asheville, N. C. Safety-brake. No. 979,336; Dec. 20; Sp. p. 4153; Gaz. vol. 161; p. 716.

Reitmeyer, Charles A., Freeport., N. Y. Implement for holding grass-hooks or sickles. No. 980,007; Dec. 27; Sp. p. 5590; Gaz. vol. 161; p. 965.

Reliable Tool & Specialty Company. (See Neerup, Peter, assignor.)

Reliance Glove Company. (See Stein and Knapik, assignors.)

Remington Typewriter Company. (See Roche, William J., assignor.)

Reno, Joseph, assignor to American Optical Company, Southbridge, Mass. Eyeglasses. No. 979,095; Dec. 20; Sp. p. 3618; Gaz. vol. 161; p. 631.

Reynaud, L. L., *et al.* (See Underwood, Charles W., assignor.)

Reynolds, Alleyne, London, England. Manufacture of steel. No. 979,337; Dec. 20; Sp. p. 4155; Gaz. vol. 161; p. 716.

Reynolds, De Elbert A., New York, N. Y. Concrete construction. No. 978,647; Dec. 13; Sp. p. 2680; Gaz. vol. 161; p. 456.

Reynolds, George H., Mansfield Depot, Conn., assignor to The Reynolds Ice Machine Company, New York, N. Y. Ice-making machine. No. 977,475; Dec. 6; Sp. p. 100; Gaz. vol. 161; p. 19.

Reynolds, George H., Mansfield Depot, Conn., assignor to The Reynolds Ice Machine Company, New York, N. Y. Compressor. No. 978,937; Dec. 20; Sp. p. 3256; Gaz. vol. 161; p. 577.

Reynolds Ice Machine Company, The. (See Reynolds, George H., assignor.)

Reynolds, James F., Crete, Nebr., assignor to The American Railway Device Co. Automatic brake-setting mechanism. No. 977,967; Dec. 6; Sp. p. 1189; Gaz. vol. 161; p. 190.

Reynolds, Marcus T. (See Whitman, James N., assignor.)

Reynolds, Timothy, Selma, Cal. Bicycle-crank. No. 977,900; Dec. 6; Sp. p. 1047; Gaz. vol. 161; p. 166.

Rhoades, Alonzo E., assignor to Draper Company, Hopedale, Mass. Spindle-brake for spinning or twisting apparatus. No. 977,751; Dec. 6; Sp. p. 727; Gaz. vol. 161; p. 114.

Rhoads, Edwin A., Goodland, Kans. Siphon feeding mechanism. No. 978,648; Dec. 13; Sp. p. 2681; Gaz. vol. 161; p. 456.

Rhoads, Errett S., Kansas City, Mo. Window-glass-setting gage. No. 978,781; Dec. 13; Sp. p. 2946; Gaz. vol. 161; p. 498.

Rhodes, George D., Groton, N. Y., assignor to F. J. Lewis, Chicago, Ill. Road-scraper. No. 979,338; Dec. 20; Sp. p. 4158; Gaz. vol. 161; p. 717.

Rice, George S., Evanston, Ill. Fan. No. 978,397; Dec. 13; Sp. p. 2124; Gaz. vol. 161; p. 369.

Richardson, Ammon P. (See Taylor, Charles G., assignor.)

Rickman, Robert L., assignor of one-half to S. K. Champion, Vancouver, British Columbia, Canada. Meter. (Reissue.) No. 13,184; Dec. 20; Sp. p. 4284; Gaz. vol. 161; p. 736.

Ridgway Dynamo & Engine Company. (See Hall, Thomas, assignor.)

Riebe, Louis, Summithill, Pa. Siphon. No. 977,968; Dec. 6; Sp. p. 1191; Gaz. vol. 161; p. 190.

Rieder, Richard. (See Wiegand, Wilhelm, assignor.)

Riehl, John B., Philadelphia, Pa., assignor to American Specialty Manufacturing Company, Dover, Del. Notch or runner-head for umbrellas and parasols. No. 979,561; Dec. 27; Sp. p. 4636; Gaz. vol. 161; p. 814.

Rinebolt, Guy S., assignor to Franklin Core Rod and Gagger Co., Franklin, Pa. Gagger or sand-anchor. No. 978,782; Dec. 13; Sp. p. 2947; Gaz. vol. 161; p. 498.

Ripley, James R., Memphis, Tenn. Dry-kiln. No. 978,209; Dec. 13; Sp. p. 1719; Gaz. vol. 161; p. 302.

Rischard, Joseph J., Pasadena, Cal. Hose-clamp. No. 978,398; Dec. 13; Sp. p. 2127; Gaz. vol. 161; p. 370.

Rixford, Oscar A., East Highgate, Vt. Tire-tread attachment. No. 978,210; Dec. 13; Sp. p. 1722; Gaz. vol. 161; p. 303.

Robbins, Albert F., Waltham, Mass. Tool for removing the rollers of balance-wheel staffs in watch-movements. No. 979,562; Dec. 27; Sp. p. 4638; Gaz. vol. 161; p. 814.

Robbins, Frank D., Oakland, Cal. Combined mixer and carrier. No. 977,679; Dec. 6; Sp. p. 585; Gaz. vol. 161; p. 89.

Robert Gair Company. (See Hoyt, Guy L., assignor.)

Roberts, David, A. R. Bellamy, and C. James, Grantham, England. Governor for internal-combustion engines. No. 979,888; Dec. 27; Sp. p. 5352; Gaz. vol. 161; p. 925.

Roberts, John. (See Freak, George R., assignor.)

Roberts, Lyman R., Rutherford, N. J. Vacuum cleaning apparatus. No. 978,649; Dec. 13; Sp. p. 2683; Gaz. vol. 161; p. 456.

Roberts, Solomon P., Rockport, W. Va. Rein-protector. No. 978,650; Dec. 13; Sp. p. 2684; Gaz. vol. 161; p. 457.

Roberts, Tom. (See Christie and Roberts.)

Robertson, Andrew R., Glasgow, Scotland. Bearing for centrifugal machines. No. 978,060; Dec. 6; Sp. p. 1374; Gaz. vol. 161; p. 220.

Robertson, Charles, South Bellingham, Wash. Can-filling apparatus. No. 979,096; Dec. 20; Sp. p. 3619; Gaz. vol. 161; p. 632.

Robertson, James H., New York, N. Y. Extracting metals electrolytically. No. 978,211; Dec. 13; Sp. p. 1723; Gaz. vol. 161; p. 303.

Robertson, John, *et al.* (See Minion, George, assignor.)

Robertson, William J., Newberg, Oreg. Collapsible shipping-crate. No. 977,969; Dec. 6; Sp. p. 1192; Gaz. vol. 161; p. 190.

Robinson, Arthur S. F., Barsham, Beccles, England. Gripping-tool. No. 979,563; Dec. 27; Sp. p. 4640; Gaz. vol. 161; p. 815.

Robinson, Arthur W., Montreal, Quebec, Canada. Cutter for hydraulic dredges. No. 977,901; Dec. 6; Sp. p. 1048; Gaz. vol. 161; p. 166.

Robinson, Ernest R., New Castle, Del. Device for delivering mail from moving trains. No. 978,651; Dec. 13; Sp. p. 2685; Gaz. vol. 161; p. 457.

Robinson, Frank S., Detroit, Mich. Reinforced concrete construction. No. 979,564; Dec. 27; Sp. p. 4643; Gaz. vol. 161; p. 815.

Robison, Merritt D., San Francisco, Cal. Knife-cleaner. No. 977,680; Dec. 6; Sp. p. 586; Gaz. vol. 161; p. 90.

Roche, Francis J., Somerville, Mass. Trolley-catcher. No. 977,476; Dec. 6; Sp. p. 109; Gaz. vol. 161; p. 19.

Roche, William J., Cochranton, Pa., assignor to Remington Typewriter Company, Ilion, N. Y. Type-writing machine. No. 979,800; Dec. 27; Sp. p. 5172; Gaz. vol. 161; p. 896.

Rockey, Walter S., and H. Eldridge, New York, N. Y. Refining copper. No. 978,212; Dec. 13; Sp. p. 1725; Gaz. vol. 161; p. 303.

Rockey, Walter S., and H. Eldridge, New York, N. Y. Expelling gases from metals. No. 979,204; Dec. 20; Sp. p. 3884; Gaz. vol. 161; p. 672.

Rodger, James B., assignor to Whiting Foundry Equipment Company, Harvey, Ill. Making handles for ladles. No. 978,652; Dec. 13; Sp. p. 2688; Gaz. vol. 161; p. 457.

Roe, Ernest S., assignor to Markham Air Rifle Company, Plymouth, Mich. Combined air-rifle, rubber ball, and pop-gun. No. 977,540; Dec. 6; Sp. p. 309; Gaz. vol. 161; p. 45.

Roecker, John, Jr., assignor of one-half to R. A. Bergner, Kansas City, Mo. Finger-guard penholder. No. 979,801; Dec. 27; Sp. p. 5174; Gaz. vol. 161; p. 897.

Roeder, Wilhelm. (See Posselt, Anton, assignor.)

Roesch, Alfred, assignor to Charles J. Tagliabue Manufacturing Co., New York, N. Y. Hypodermic syringe and cartridge therefor. No. 978,488; Dec. 13; Sp. p. 2317; Gaz. vol. 161; p. 399.

Roessler & Hasslacher Chemical Company, The. (See Foersterling and Philipp, assignors.)

Rogers, Frank R. (See Vallone and Rogers.)

Rogers, Henry C., Talladega, Ala. Mail-box support. No. 979,565; Dec. 27; Sp. p. 4644; Gaz. vol. 161; p. 816.

Rokloder, Bedo P., Au Gres, Mich. Animal-trap. No. 977,550; Dec. 6; Sp. p. 310; Gaz. vol. 161; p. 46.

Rokosz, Stanley, Plains, Pa. Curtain-stretcher. No. 979,205; Dec. 20; Sp. p. 3885; Gaz. vol. 161; p. 672.

Rollins, George D., Philadelphia, Pa. Metallic packing for piston-rods and the like. No. 979,206; Dec. 20; Sp. p. 3888; Gaz. vol. 161; p. 672.

Rollins, John E., Chicago, Ill. System of conserving hot water. No. 977,841; Dec. 6; Sp. p. 913; Gaz. vol. 161; p. 144.

Roloff, William, Fond du Lac, Wis. Animal-trap. No. 979,339; Dec. 20; Sp. p. 4160; Gaz. vol. 161; p. 717.

Rombaut, Louis, Philadelphia, Pa. Awning. No. 979,566; Dec. 27; Sp. p. 4645; Gaz. vol. 161; p. 816.

Romines, Leroy, Martinsville, Ill. Self-locking lever. No. 980,008; Dec. 27; Sp. p. 5591; Gaz. vol. 161; p. 966.

Roos, Alphonse, Los Angeles, Cal. Mold. No. 978,938; Dec. 20; Sp. p. 3260; Gaz. vol. 161; p. 577.

Rose, James, Lancaster, Pa. Umbrella and parasol. No. 978,213; Dec. 13; Sp. p. 1727; Gaz. vol. 161; p. 303.

Rose, William, Gainsborough, England. Cam and lever. No. 978,783; Dec. 13; Sp. p. 2948; Gaz. vol. 161; p. 498.

Rosenberg, Bernard. (See Berry, Charles M., assignor.)

Rosenfeld, Rudolph. (See Backer, Charles, assignor.)

Rosenhauer, Charles G., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine. No. 978,214; Dec. 13; Sp. p. 1728; Gaz. vol. 161; p. 304.

Rosenthal, August, West Allis, Wis. Rope-joint. No. 979,567; Dec. 27; Sp. p. 4647; Gaz. vol. 161; p. 816.

Rosenwasser, Morris, New York, N. Y. Legging. No. 979,702; Dec. 27; Sp. p. 4924; Gaz. vol. 161; p. 863.

Ross, Benjamin; assignor to D. S. Ross, East Boston, Mass. Hand-bag. No. 977,902; Dec. 6; Sp. p. 1049; Gaz. vol. 161; p. 166.

Ross, Dorothy S. (See Ross, Benjamin, assignor.)

Ross, Harold B., Etiwanda, Cal. Rake-tooth cleaner. No. 979,340; Dec. 20; Sp. p. 4161; Gaz. vol. 161; p. 717.

Ross, Samuel E., Paris, Ill. Clutch. No. 979,703; Dec. 27; Sp. p. 4925; Gaz. vol. 161; p. 863.

Ross, Sidney J., and H. Schofield, assignors of one-third to O. P. Macfarlane, one-third to S. J. Ross, and one-third to H. Schofield, London, England. Steam-generator. No. 978,061; Dec. 6; Sp. p. 1375; Gaz. vol. 161; p. 221.

Ross, William S., New York, N. Y. Female urinal. No. 977,903; Dec. 6; Sp. p. 1050; Gaz. vol. 161; p. 166.

Rossi, Auguste J., Niagara Falls, assignor to The Titanium Alloy Manufacturing Company, New York, N. Y. Alloy of zinc and titanium and their production. No. 979,393; Dec. 20; Sp. p. 4262; Gaz. vol. 161; p. 733.

Rossi, Auguste J., Niagara Falls, assignor to The Titanium Alloy Manufacturing Company, New York, N. Y. Production of alloys of tin and titanium. No. 979,394; Dec. 20; Sp. p. 4264; Gaz. vol. 161; p. 733.

Rothchild, Joseph, New York, N. Y. Engine-valve. No. 979,097; Dec. 20; Sp. p. 3627; Gaz. vol. 161; p. 632.

Rotherham, James A., Revere, Mass. Show-case. No. 978,215; Dec. 13; Sp. p. 1730; Gaz. vol. 161; p. 304.

Rotter, Max, assignor to Allis-Chalmers Company, Milwaukee, Wis. Packing. No. 978,399; Dec. 13; Sp. p. 2128; Gaz. vol. 161; p. 370.

Rouilliard, Victor A., assignor of one-half to L. P. Clapin, Fall River, Mass. Clothes-line-supporting device. No. 980,128; Dec. 27; Sp. p. 5888; Gaz. vol. 161; p. 1006.

Rouleau, Gaspard. (See Valind, Joseph, assignor.)

Rouse, Wallace T. (See Gronke and Rouse.)

Roush, Charles F. (See Valiquett and Roush.)

Routledge, Simpson J., Ensley, Ala. Safety angle-bar. No. 980,009; Dec. 27; Sp. p. 5593; Gaz. vol. 161; p. 966.

Rowe, Frank, and J. W. Rappenglueck, Port Huron, Mich.; said Rappenglueck assignor to said Rowe. Lathe. No. 979,034; Dec. 20; Sp. p. 3494; Gaz. vol. 161; p. 611.

Rowe, James P. (See Mecklan, Walter N., assignor.)

Rowe, Sidney M., Telford, assignor of one-third to J. W. Bishop and one-third to J. W. Birdwell, Johnson, Tenn. Combined currycomb and brush. No. 977,551; Dec. 6; Sp. p. 311; Gaz. vol. 161; p. 46.

Rowland, Demas P., Cincinnati, Ohio. Shoe-stretcher. No. 979,705; Dec. 27; Sp. p. 4927; Gaz. vol. 161; p. 864.

Rowley, Robert, New York, N. Y. Tire-shoe wrapping and vulcanizing apparatus. No. 979,568; Dec. 27; Sp. p. 4649; Gaz. vol. 161; p. 817.

Rowley, Robert, New York, N. Y. Tire-shoe-vulcanizing apparatus. No. 979,889; Dec. 27; Sp. p. 5354; Gaz. vol. 161; p. 926.

Royal Equipment Company, The. (See Kelley, Edward F., assignor.)

Royer, George F., Wilkes-Barre, Pa. Apparatus for treating granular material. No. 977,478; Dec. 6; Sp. p. 113; Gaz. vol. 161; p. 20.

Royer, George F., and L. F. Zweibel, Wilkes-Barre, Pa. Packing for piston-rods. No. 977,477; Dec. 6; Sp. p. 112; Gaz. vol. 161; p. 20.

Royse, Robert L., Martinsville, Ind. Concentrator and amalgamator. No. 979,706; Dec. 27; Sp. p. 4930; Gaz. vol. 161; p. 864.

Royster, William F. (See Fleming and Royster.)

Rozell, Clarence W., McCook, Nebr. Hat-indicator. No. 979,707; Dec. 27; Sp. p. 4932; Gaz. vol. 161; p. 864.

Ruble, Walter, Culdesac, Idaho. Farm-gate. No. 979,708; Dec. 27; Sp. p. 4933; Gaz. vol. 161; p. 865.

Rucker, Benjamin P., Charlotte, N. C. Automatic feeder-regulator. No. 980,129; Dec. 27; Sp. p. 5890; Gaz. vol. 161; p. 1006.

Rudd, Otto, assignor to The Simmons Manufacturing Company, Kenosha, Wis. Metal-bedstead canopy-frame. No. 977,552; Dec. 6; Sp. p. 313; Gaz. vol. 161; p. 46.

Ruppert, Hans, Zurich, Switzerland. Gas-burner. No. 977,904; Dec. 6; Sp. p. 1052; Gaz. vol. 161; p. 167.

Russell, Edward F., and E. E. Lavole, Lowell, Mass. Automobile-engine-starting device. No. 978,939; Dec. 20; Sp. p. 3261; Gaz. vol. 161; p. 578.

Russell & Erwin Manufacturing Company. (See Voight, Henry G., assignor.)

Russell, Percy, New York, N. Y., and A. W. Schramm, Riverton, N. J., assignors to Electro Dental Manufacturing Company, Philadelphia, Pa. Air-compressing apparatus. No. 978,062; Dec. 6; Sp. p. 1377; Gaz. vol. 161; p. 221.

Russell, Thomas T. (See Noad, Arthur C., assignor.)

Rutherfurd, Robert A., New York, N. Y. Street-sweeping machine. No. 978,784; Dec. 13; Sp. p. 2949; Gaz. vol. 161; p. 499.

Rutherfurd, Robert A., and M. Craven, New York, N. Y. Street-cleaning machine. No. 978,216; Dec. 13; Sp. p. 1731; Gaz. vol. 161; p. 305.

Rutz, John, Beach, N. D. Binder-hitch. No. 979,709; Dec. 27; Sp. p. 4935; Gaz. vol. 161; p. 865.

Ruud, Edwin. (See Merk, Lawrence A., assignor.)
Ryan, Michael E., Fall River, Mass. Cutting-machine. No. 978,217; Dec. 13; Sp. p. 1735; Gaz. vol. 161; p. 305.
S. F. Bowser & Company. (See Mulligan, Thomas F., assignor.)
Safety Car Heating & Lighting Company. (See Dixon, Robert M., assignor.)
Safety Elevator Lock and Signal Company. (See Humphrey, Henry A., assignor.)
Sahlin, Henning G., Malden, Mass. Controller for turbines. No. 979,802; Dec. 27; Sp. p. 5176; Gaz. vol. 161; p. 897.
Sakren, Benjamin. (See Burger and Sakren.)
Saks, David, New York, N. Y. Metallic bed-pan. No. 978,940; Dec. 20; Sp. p. 3264; Gaz. vol. 161; p. 579.
Salmond, Malcolm, Toledo, Ohio. Amusement device. No. 978,489; Dec. 13; Sp. p. 2319; Gaz. vol. 161; p. 400.
Saltzman, Auguste L., East Orange, N. J., assignor to American Planograph Company. Producing letter-press planographic-printing plates. No. 979,890; Dec. 27; Sp. p. 5357; Gaz. vol. 161; p. 926.
Samson, Elmer E. (See Archibald, William H., assignor.)
Samuell, Walter A., assignor of forty-nine one-hundredths to F. E. Fuller, Ringwood, Okla. Windlass. No. 979,710; Dec. 27; Sp. p. 4937; Gaz. vol. 161; p. 865.
Sandell, Henry K., assignor to H. S. Mills, Chicago, Ill. Telephone-call recorder. No. 979,569; Dec. 27; Sp. p. 4651; Gaz. vol. 161; p. 817.
Sandell, Henry K., assignor to H. S. Mills, Chicago, Ill. Telephone-call recorder. No. 979,570; Dec. 27; Sp. p. 4655; Gaz. vol. 161; p. 817.
Sanderson, Edward S., assignor to Scovill Manufacturing Company, Waterbury, Conn. Socket-shell and globe-holder for electric lights. No. 977,553; Dec. 6; Sp. p. 315; Gaz. vol. 161; p. 47.
Sandmyre, Guy C., Bucoda, Wash. Pulley-block. No. 980,010; Dec. 27; Sp. p. 5594; Gaz. vol. 161; p. 966.
Sandoe, Leroy A., Hope, Ark. Churn-dasher. No. 978,653; Dec. 13; Sp. p. 2689; Gaz. vol. 161; p. 458.
Saner, R. E. L. (See Poe, James G., assignor.)
Sanford, Charles L., Washington, Pa. Receptacle. No. 979,803; Dec. 27; Sp. p. 5179; Gaz. vol. 161; p. 898.
Sanford, William A., Dunellen, N. J. Voting apparatus. No. 977,905; Dec. 6; Sp. p. 1053; Gaz. vol. 161; p. 167.
Sarff, Arthur W., Summit, S. D. Lamp. No. 979,571; Dec. 27; Sp. p. 4660; Gaz. vol. 161; p. 818.
Sargeant, Mortimer W., East Orange, N. J. Flying-machine. No. 979,341; Dec. 20; Sp. p. 4162; Gaz. vol. 161; p. 718.
Sargent, Allston, New York, N. Y. Show-case moistener. No. 978,218; Dec. 13; Sp. p. 1737; Gaz. vol. 161; p. 305.
Sarkisian, Dickran M., Malden, Mass. Means for operating curtains. No. 978,219; Dec. 13; Sp. p. 1738; Gaz. vol. 161; p. 306.
Sarkisian, Dickran M., Malden, Mass. Means for operating curtains. No. 978,220; Dec. 13; Sp. p. 1740; Gaz. vol. 161; p. 306.
Sartolou, John B. (See Gibson and Sartolou.)
Sasaman, Frank P., West Pittston, Pa. Eccentric-fastening. No. 979,207; Dec. 20; Sp. p. 3889; Gaz. vol. 161; p. 673.
Sass, Peter, San Francisco, Cal. Floor surfacing and polishing machine. No. 978,654; Dec. 13; Sp. p. 2691; Gaz. vol. 161; p. 458.
Sauerbeck, Louis, Gera, Reuss, Germany. Moisture-proof interior covering or lining for use in buildings. No. 978,655; Dec. 13; Sp. p. 2693; Gaz. vol. 161; p. 458.
Sauerbrei, Richard, assignor to G. Sauerbrey Maschinenfabrik, Aktiengesellschaft, Staasfurt, Germany. Evaporator. No. 978,490; Dec. 13; Sp. p. 2320; Gaz. vol. 161; p. 400.
Saurer Maschinenfabrik, Adolph. (See Kunkel, Anton, assignor.)
Sauveur, Albert, Cambridge, Mass. Magnetic specimen-holder for microscopes. No. 977,842; Dec. 6; Sp. p. 918; Gaz. vol. 161; p. 145.
Savage, Richard J., Chicago, Ill. Tilting mixing-kettle. No. 978,491; Dec. 13; Sp. p. 2321; Gaz. vol. 161; p. 400.
Savard, Edwin E., and W. E. Jones, Rochester, N. Y. Gas-engine. No. 977,752; Dec. 6; Sp. p. 728; Gaz. vol. 161; p. 114.
Sawford, Frank, Sydney, Nova Scotia, Canada. Means for indicating and recording the calorific value of gases. No. 977,970; Dec. 6; Sp. p. 1194; Gaz. vol. 161; p. 191.
Sawyer, Eugene W., assignor of one-half to E. C. Baumann, Milwaukee, Wis. Gate-hinge. No. 978,063; Dec. 6; Sp. p. 1380; Gaz. vol. 161; p. 222.
Sawyer, William, Armstrong, British Columbia, Canada. Sash-balancing device. No. 978,400; Dec. 13; Sp. p. 2129; Gaz. vol. 161; p. 370.
Sayer, Robert C., Bristol, England. Vehicle. No. 979,572; Dec. 27; Sp. p. 4663; Gaz. vol. 161; p. 818.
Sayles, John J., Denver, Colo. Chalk-holder. No. 978,064; Dec. 6; Sp. p. 1381; Gaz. vol. 161; p. 222.
Schaefer, Charles B. A., New York, N. Y. Collar-fastener. No. 979,342; Dec. 20; Sp. p. 4163; Gaz. vol. 161; p. 718.
Schafer, Charles F., Terre Haute, Ind. Refrigerator. No. 978,492; Dec. 13; Sp. p. 2323; Gaz. vol. 161; p. 401.
Schafer, Frank, Philadelphia, Pa. Variable-speed apparatus. No. 978,065; Dec. 6; Sp. p. 1382; Gaz. vol. 161; p. 222.
Schafer, John C. F., Mount Pulaski, Ill. Damper. No. 980,011; Dec. 27; Sp. p. 5595; Gaz. vol. 161; p. 967.
Schairer, Otto S., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Electrical equalizer system. No. 977,554; Dec. 6; Sp. p. 316; Gaz. vol. 161; p. 47.
Schanck, Willard P., Avon, N. Y. Milk-pail. No. 978,401; Dec. 13; Sp. p. 2131; Gaz. vol. 161; p. 371.
Schattner, Ernest, London, England, assignor to General Electric Company. Controller. (Reissue.) No. 13,178; Dec. 6; Sp. p. 1525; Gaz. vol. 161; p. 245.
Schauer, Sherman C., and P. L. Brockardt, assignors, by mesne assignments, to The Cincinnati Bickford Tool Company, Cincinnati, Ohio. Gearing. No. 978,221; Dec. 13; Sp. p. 1741; Gaz. vol. 161; p. 306.
Scheib, Harry, Philadelphia, and W. A. Austin, Wayne, assignors to Baldwin Locomotive Works, Philadelphia, Pa. Locomotive. No. 979,208; Dec. 20; Sp. p. 3890; Gaz. vol. 161; p. 673.
Scherf, Georg, Sonneberg, Germany. Doll-eyes. No. 979,573; Dec. 27; Sp. p. 4664; Gaz. vol. 161; p. 819.
Scherzer, Albert H., Chicago, Ill. Rear-end lock for bascule-bridges. No. 978,493; Dec. 13; Sp. p. 2325; Gaz. vol. 161; p. 401.
Scheubeck, John, Chicago, Ill. Wind-motor. No. 979,098; Dec. 20; Sp. p. 3639; Gaz. vol. 161; p. 633.
Scheuer, Charles H., *et al.* (See Minion, George, assignor.)
Schield, Henry C., Merrill, Wis. Fish-hook. No. 979,891; Dec. 27; Sp. p. 5361; Gaz. vol. 161; p. 927.
Schimpf, Frank, St. Louis, Mo. Combined cleat and rosette. No. 978,941; Dec. 20; Sp. p. 3265; Gaz. vol. 161; p. 579.
Schlachter, Robert H. (See Elliott, Schlachter, and Tolles.)
Schlafly, Julius H., assignor to The Canton Culvert Company, Canton, Ohio. Culvert. No. 978,222; Dec. 13; Sp. p. 1742; Gaz. vol. 161; p. 306.
Schleicher, William A., Cleveland, Ohio. Snap-hook. No. 978,656; Dec. 13; Sp. p. 2694; Gaz. vol. 161; p. 458.
Schile, William, Deerfield, Ill. Hay-rack. No. 978,785; Dec. 13; Sp. p. 2052; Gaz. vol. 161; p. 499.
Schloss, Benjamin. (See Mackin, Francis J., assignor.)
Schloss, Henry W., and H. Hawley, New York, N. Y., assignors to Castle Braid Company. Braid lapping or bolting machine. No. 978,657; Dec. 13; Sp. p. 2696; Gaz. vol. 161; p. 459.
Schlueter, Ferdinand. (See Schlueter, Karl M. and F.)
Schlueter, Karl M. and F., New York, N. Y. Plate-holder for printing-presses. No. 979,035; Dec. 20; Sp. p. 3495; Gaz. vol. 161; p. 612.
Schmeling, William H., Albion, Wis. Milk-can shield. No. 978,337; Dec. 13; Sp. p. 1996; Gaz. vol. 161; p. 348.
Schmidt, Wilhelm. (See Uhl and Schmidt.)
Schmiechen, Reinhold, Ledyard, Iowa. Ocean-airship. No. 977,555; Dec. 6; Sp. p. 320; Gaz. vol. 161; p. 47.
Schmiechen, Reinhold, Ledyard, Iowa. Means for maintaining the equilibrium of airships and other flying-machines. No. 977,556; Dec. 6; Sp. p. 328; Gaz. vol. 161; p. 48.
Schmitz, Joseph A., St. Paul, Minn. Hand-stamp. No. 980,012; Dec. 27; Sp. p. 5598; Gaz. vol. 161; p. 967.
Schmutz, John A., Cumberland, Md. Nut-lock. No. 977,470; Dec. 6; Sp. p. 115; Gaz. vol. 161; p. 20.
Schnapp, Friedrich, Berlin, Germany. Weir and the like. No. 979,574; Dec. 27; Sp. p. 4665; Gaz. vol. 161; p. 819.
Schnauffer, William A. A. (See Alexander, Jesse, assignor.)
Schneider, Eugene, Le Creuzot, France. Projectile for ordnance. No. 979,575; Dec. 27; Sp. p. 4667; Gaz. vol. 161; p. 819.
Schneider, Felix, Gevelsberg, Germany. Window-frame. No. 979,576; Dec. 27; Sp. p. 4669; Gaz. vol. 161; p. 820.
Schneider, Stefan, Chicago, Ill. Ball-bearing and retainer therefor. No. 978,223; Dec. 13; Sp. p. 1744; Gaz. vol. 161; p. 307.
Schnell, Arwin, Manitowoc, Wis. Barn-door latch. No. 978,658; Dec. 13; Sp. p. 2701; Gaz. vol. 161; p. 459.
Schoenhut, Albert, Philadelphia, Pa. Toy. No. 980,013; Dec. 27; Sp. p. 5599; Gaz. vol. 161; p. 967.
Schofield, Harry. (See Ross and Schofield.)
Schofield, John, Paterson, N. J. Attachment for gas-stoves and the like. No. 978,402; Dec. 13; Sp. p. 2133; Gaz. vol. 161; p. 371.
Scholl, Sheridan S., Roanoke, Va. Dynamite-thawer. No. 978,659; Dec. 13; Sp. p. 2702; Gaz. vol. 161; p. 459.
Schott, Henry, New York, N. Y. Knockdown trestle. No. 978,403; Dec. 13; Sp. p. 2135; Gaz. vol. 161; p. 371.
Schrader, Hart, Jr., and Z. P. Forster, New York, N. Y. Forming-machine. No. 978,224; Dec. 13; Sp. p. 1745; Gaz. vol. 161; p. 307.
Schraeger, Otto H., Milwaukee, Wis. Gas-stove. No. 978,338; Dec. 13; Sp. p. 1998; Gaz. vol. 161; p. 348.
Schramm, Adolph W. (See Russell and Schramm.)
Schreiber, Hans, Berlin, Germany. Kneading and mixing machine. No. 979,804; Dec. 27; Sp. p. 5180; Gaz. vol. 161; p. 898.
Schreiber, William. (See Pollock and Schreiber.)
Schroeder, Henry F., Cleveland, Ohio. Faucet. No. 978,660; Dec. 13; Sp. p. 2704; Gaz. vol. 161; p. 460.
Schucker, Alvin B., assignor of one-third to C. Schultz, Reading, Pa. Carpenter's brace. No. 978,066; Dec. 6; Sp. p. 1384; Gaz. vol. 161; p. 222.

Schuette, Edwin, and N. Dedrick, Manitowoc, Wis.; said Dedrick assignor to said Schuette. Recording-compass. No. 978,942; Dec. 20; Sp. p. 3266; Gaz. vol. 161; p. 579.
Schuler, Franz, Charlottenburg, Germany. Holder for cooking vessels. No. 980,130; Dec. 27; Sp. p. 5893; Gaz. vol. 161; p. 1006.
Schulte, William H., Trenton, N. J., and R. C. Wilson, Mount Vernon, N. Y. Floor-flange. No. 978,404; Dec. 13; Sp. p. 2135; Gaz. vol. 161; p. 371.
Schultz, Charles. (See Schucker, Alvin B., assignor.)
Schumacher, Wilhelm, Osnabrück, Germany. Manufacture of artificial stone from slag. No. 977,681; Dec. 6; Sp. p. 587; Gaz. vol. 161; p. 90.
Schumann, August C., Laurel, Iowa. Bonding-tie for concrete-floor construction. No. 977,753; Dec. 6; Sp. p. 730; Gaz. vol. 161; p. 115.
Schut, John, Chicago, Ill. Match-safe. No. 978,225; Dec. 13; Sp. p. 1746; Gaz. vol. 161; p. 307.
Schwab, Martin C., Chicago, Ill., assignor to Gravity Conveyor Company. Gravity-conveyer having spiral blade of varying pitch. No. 979,711; Dec. 27; Sp. p. 4938; Gaz. vol. 161; p. 866.
Schwabland, John. (See Overton, Jesse C., assignor.)
Schwanengel, Charles F., assignor of one-half to W. M. Butz, Dayton, Ohio. Hydraulic vise. No. 978,067; Dec. 6; Sp. p. 1385; Gaz. vol. 161; p. 223.
Schwartz, Herman, Newark, N. J. Novelty device. No. 978,943; Dec. 20; Sp. p. 3273; Gaz. vol. 161; p. 580.
Schwartzman, Edward, Tampa, Kans. Manure-fork. No. 978,661; Dec. 13; Sp. p. 2705; Gaz. vol. 161; p. 460.
Schweitzer, Heinrich, New York, N. Y. Porcelain crown for artificial teeth. No. 977,557; Dec. 6; Sp. p. 333; Gaz. vol. 161; p. 48.
Schweitzer, Heinrich, New York, N. Y. Making dental tooth-posts. No. 977,558; Dec. 6; Sp. p. 333; Gaz. vol. 161; p. 49.
Schweitzer, Herman J., Putney, S. D. Snow-fence. No. 979,036; Dec. 20; Sp. p. 3497; Gaz. vol. 161; p. 612.
Schweitzer, Richard H., Knightstown, Ind. Bulldozer. No. 979,099; Dec. 20; Sp. p. 3642; Gaz. vol. 161; p. 633.
Schwendeman, Eugene G., Oak Park, assignor to The American Asphalt Paving Company, Chicago, Ill. Process of and templet for use in laying pavements. No. 979,577; Dec. 27; Sp. p. 4670; Gaz. vol. 161; p. 820.
Schwenzfeier, Roman, Springfield, Mass. Safety-razor. No. 979,100; Dec. 20; Sp. p. 3644; Gaz. vol. 161; p. 634.
Schwindt, Hugo. (See Damköhler and Schwindt.)
Scott, David J., *et al.*, executors. (See Scott, Walter.)
Scott, Frederick W., London, England. Scene-shifting apparatus. No. 979,209; Dec. 20; Sp. p. 3892; Gaz. vol. 161; p. 673.
Scott, Isabella, *et al.*, executors. (See Scott, Walter.)
Scott, John J., assignor to The Victor Safe & Lock Company, Cincinnati, Ohio. Safe. No. 978,405; Dec. 13; Sp. p. 2138; Gaz. vol. 161; p. 372.
Scott, Montezuma. (See Andrus, Frank, assignor.)
Scott, Paul C., Council Bluffs, Iowa. Advertising device. No. 978,662; Dec. 13; Sp. p. 2706; Gaz. vol. 161; p. 460.
Scott, Walter, deceased; I. and D. J. Scott, Plainfield, N. J., executors. Metal-melting furnace. No. 979,101; Dec. 20; Sp. p. 3647; Gaz. vol. 161; p. 634.
Scott, William A., Jr., assignor to American Car Screen Company, Pittsburg, Pa. Ventilator. (Reissue.) No. 13,170; Dec. 6; Sp. p. 1528; Gaz. vol. 161; p. 246.
Scott & Williams. (See Musgrove, Arthur S., assignor.)
Scovill Manufacturing Company. (See Goss, John H., assignor.)
Scovill Manufacturing Company. (See Sanderson, Edward S., assignor.)
Scruggs, Edward C., Nashville, Tenn. Guard-rail clamp. No. 979,348; Dec. 20; Sp. p. 4164; Gaz. vol. 161; p. 718.
Sealshipt Oyster System. (See Hulbert, Edwin F., assignor.)
Searle, Frank, Ennis, Mont. Shelter or sleeping tent. No. 979,037; Dec. 20; Sp. p. 3490; Gaz. vol. 161; p. 612.
Seattle Car Manufacturing Company. (See Chrlswell, Frederick W., assignor.)
Seawell, James, assignor to H. M. Sneed, Nashville, Tenn. Game device. No. 980,014; Dec. 27; Sp. p. 5600; Gaz. vol. 161; p. 968.
Securo Manufacturing Company. (See Hammond, William P., assignor.)
Seeley, James E., assignor to High Frequency Ignition Coil Company, Los Angeles, Cal. Spark-plug for internal-combustion engines. No. 978,494; Dec. 13; Sp. p. 2328; Gaz. vol. 161; p. 401.
Seib, George A., and J. W. Koerner, assignors to The Monarch Typewriter Company, Syracuse, N. Y. Typewriting machine. No. 978,944; Dec. 20; Sp. p. 3274; Gaz. vol. 161; p. 580.
Seifert, Henry, Weimar, Tex. Saw-filing machine. No. 979,892; Dec. 27; Sp. p. 5362; Gaz. vol. 161; p. 927.
Seiler, Philipp, Guttenberg, N. J., assignor to Strauss Manufacturing Company, New York, N. Y. Sound-producing device. No. 979,038; Dec. 20; Sp. p. 3501; Gaz. vol. 161; p. 613.
Seivert, Thomas C., Limon, Colo. Paper-file. No. 977,682; Dec. 6; Sp. p. 589; Gaz. vol. 161; p. 90.
Self Equalizer Bed Company. (See Beckwith and Bacon, assignors.)
Sellers, Edgar E., *et al.* (See Balcom, William D., assignor.)
Sellers Manufacturing Company. (See Knaus, Gottfrid, assignor.)
Sellew, Ernest B., Pawtucket, R. I. Automatic sawing-machine. No. 979,102; Dec. 20; Sp. p. 3648; Gaz. vol. 161; p. 634.
Semler, Otto, *et al.* (See Spähr, Ernst J., assignor.)
Sencindiver, Judson H., assignor to Cabinet Vending Co. (Inc.), Washington, D. C. Coin-controlled vending-machine. No. 977,683; Dec. 6; Sp. p. 594; Gaz. vol. 161; p. 91.
Sencindiver, Judson H., assignor to Cabinet Vending Co. (Inc.), Washington, D. C. Coin-controlled vending-machine. No. 978,068; Dec. 6; Sp. p. 1387; Gaz. vol. 161; p. 223.
Serrell, Lemuel W., Plainfield, assignor to The Vacuna Company, East Orange, N. J. Vacuum cleaning apparatus. No. 979,210; Dec. 20; Sp. p. 3895; Gaz. vol. 161; p. 674.
Serrell, Lemuel W., Plainfield, assignor to The Vacuna Company, East Orange, N. J. Dust-separating or vacuum cleaning apparatus. No. 979,211; Dec. 20; Sp. p. 3899; Gaz. vol. 161; p. 674.
Seward, George O. (See Kügelgen and Seward.)
Sewell, Charles T., Newnan, Ga. Plow-fender. No. 977,971; Dec. 6; Sp. p. 1196; Gaz. vol. 161; p. 191.
Shafer, Peter H., Ingram, Wis. Whip-rack. No. 978,945; Dec. 20; Sp. p. 3277; Gaz. vol. 161; p. 581.
Shaler, Clarence A., Waupun, Wis. Vulcanizer. No. 977,972; Dec. 6; Sp. p. 1196; Gaz. vol. 161; p. 191.
Shallenberger, Charles S., assignor to C. M. Clark, St. Louis, Mo. Adjustable column-guide for truck side frames. No. 978,946; Dec. 20; Sp. p. 3278; Gaz. vol. 161; p. 581.
Shallow, Edward F., Philadelphia, Pa. Gage-cock. No. 979,344; Dec. 20; Sp. p. 4166; Gaz. vol. 161; p. 718.
Shankwiler, Nathan P., Longbeach, Cal. Back-rest for lathes. No. 978,663; Dec. 13; Sp. p. 2709; Gaz. vol. 161; p. 461.
Shapiro, Michael. (See Wood, George W., assignor.)
Sharp, Frank P., San Francisco, Cal. Inking apparatus for printing-presses. No. 978,495; Dec. 13; Sp. p. 2330; Gaz. vol. 161; p. 402.
Sharpneck, Ellel L., Winthrop, Mass. Roller-bearing. No. 978,496; Dec. 13; Sp. p. 2331; Gaz. vol. 161; p. 402.
Shaw, Austin. (See Shaw and Lees.)
Shaw, Henry D. (See Ramage and Shaw.)
Shaw, Henry F., Boston, Mass. Valve-gear. No. 979,212; Dec. 20; Sp. p. 3903; Gaz. vol. 161; p. 675.
Shaw, Herbert C., Chicago, Ill. Feed-bag. No. 979,345; Dec. 20; Sp. p. 4167; Gaz. vol. 161; p. 719.
Shaw, John E. and A., W., T. W., and A. Lees, Halifax, England. Feed-water regulator for steam-generators and the like. No. 978,664; Dec. 13; Sp. p. 2710; Gaz. vol. 161; p. 461.
Shaw, Robert W., assignor of one-half to G. Rae, New York, N. Y. Carbureter. No. 978,947; Dec. 20; Sp. p. 3280; Gaz. vol. 161; p. 581.
Shawver, Harvey E., Santa Monica, Cal. Detachable vise for carpenters' benches. No. 979,039; Dec. 20; Sp. p. 3502; Gaz. vol. 161; p. 613.
Shea, Michael C., Mishawaka, Ind. Wheel. No. 977,559; Dec. 6; Sp. p. 334; Gaz. vol. 161; p. 49.
Shean, Thomas P., Chicago, Ill. Wall-tie. No. 978,948; Dec. 20; Sp. p. 3281; Gaz. vol. 161; p. 581.
Shean, Thomas P., Chicago, Ill. Shock-absorber for doors. No. 978,949; Dec. 20; Sp. p. 3283; Gaz. vol. 161; p. 582.
Shean, Thomas P., Chicago, Ill. Door-locking mechanism. No. 980,131; Dec. 27; Sp. p. 5894; Gaz. vol. 161; p. 1007.
Shean, Thomas P., Chicago, Ill. Partition-wall tie. No. 980,132; Dec. 27; Sp. p. 5897; Gaz. vol. 161; p. 1007.
Shedd, Hugh E., Minneapolis, Minn. Expansive file. No. 979,213; Dec. 20; Sp. p. 3906; Gaz. vol. 161; p. 675.
Sheer, Henry M., Quincy, Ill. Convertible incubator and brooder. No. 977,973; Dec. 6; Sp. p. 1198; Gaz. vol. 161; p. 191.
Sheesley, Howard M., Osco, assignor of one-half to E. M. Clark, Rock Island, Ill. Hog-trap. No. 980,015; Dec. 27; Sp. p. 5601; Gaz. vol. 161; p. 968.
Shepard, John C., Norway, Me. Arch-supporter. No. 977,684; Dec. 6; Sp. p. 598; Gaz. vol. 161; p. 91.
Shepherd, Joseph S., Vinton, Va. Device for operating coupling-pins. No. 978,406; Dec. 13; Sp. p. 2140; Gaz. vol. 161; p. 372.
Sherard, John H., Sherard, Miss. Attachment for harrows. No. 978,665; Dec. 13; Sp. p. 2712; Gaz. vol. 161; p. 462.
Sherman, Henry R., Hartford, assignor of one-half to G. H. Woodruff, New Haven, Conn. Trolley guard and finder. No. 979,712; Dec. 27; Sp. p. 4940; Gaz. vol. 161; p. 866.
Sherry, James A., Fall River, Mass. Merry-go-round. No. 977,560; Dec. 6; Sp. p. 336; Gaz. vol. 161; p. 49.
Sherwood, Walter, Canon City, Colo. Automatic computing device and cash-drawer. No. 978,950; Dec. 20; Sp. p. 3284; Gaz. vol. 161; p. 582.
Shigon, Nathan A., New York, N. Y. Refractometer. No. 979,578; Dec. 27; Sp. p. 4671; Gaz. vol. 161; p. 820.
Shillitto, Frank W., assignor to The Ready Tool Company, New Haven, Conn. Tool-holder. No. 978,226; Dec. 13; Sp. p. 1748; Gaz. vol. 161; p. 308.
Shimp, William T., Philadelphia, Pa. Railway-tie. No. 980,016; Dec. 27; Sp. p. 5602; Gaz. vol. 161; p. 968.
Shoemaker, George A., and E. C. Holland, Benton Harbor, Mich., assignors to Metal Sectional Furniture Company, Portland, Me. Ball-cap for binder-posts. No. 979,713; Dec. 27; Sp. p. 4941; Gaz. vol. 161; p. 866.

Sholar, Edward H., Chattanooga, Tenn. Fireplace-grate. No. 978,227; Dec. 13; Sp. p. 1749; Gaz. vol. 161; p. 308.
Shopp, Benjamin R., Washington, Conn. Dental spatula. No. 977,906; Dec. 6; Sp. p. 1055; Gaz. vol. 161; p. 168.
Short, Edwin E., Prairie View, Kans. Clothes-line support. No. 980,017; Dec. 27; Sp. p. 5604; Gaz. vol. 161; p. 969.
Showalter, William E., Harrisonburg, Va. Artificial limb. No. 977,974; Dec. 6; Sp. p. 1199; Gaz. vol. 161; p. 192.
Shuffiebottom, William, and T. Kenworthy, Ashton-under-Lyne, England. Means for enabling driving and other ropes to be joined together. No. 979,214; Dec. 20; Sp. p. 3907; Gaz. vol. 161; p. 676.
Shuman, Frank, Philadelphia, Pa. Utilizing waste heat of compressors. No. 979,579; Dec. 27; Sp. p. 4676; Gaz. vol. 161; p. 821.
Shuster, Anson E., North Bend, Oreg. Drawers-supporter. No. 977,754; Dec. 6; Sp. p. 782; Gaz. vol. 161; p. 115.
Sick, Charles S., Dushore, Pa. Pail-holder. No. 978,666; Dec. 13; Sp. p. 2713; Gaz. vol. 161; p. 462.
Sicks, Louis T., assignor to Allis-Chalmers Company, Milwaukee, Wis. Agitator. No. 978,667; Dec. 13; Sp. p. 2715; Gaz. vol. 161; p. 462.
Sidey, Franklin, Bewdley, Ontario, Canada, assignor of one-half to E. E. Ainlay, Columbus, Mont. Single harness. No. 978,069; Dec. 6; Sp. p. 1390; Gaz. vol. 161; p. 223.
Sidney Steel Scraper Company. (See Haslup, William, assignor.)
Sieber & Trussell Manufacturing Co. (See Dawson, James C., assignor.)
Sieber & Trussell Manufacturing Co. (See Heeter, Thomas E., assignor.)
Siemens, Gebrüder & Co. (See Egly, Georg, assignor.)
Sieverkropp, Henry R., Davenport, Iowa. Two-cycle explosion-engine. No. 979,040; Dec. 20; Sp. p. 3504; Gaz. vol. 161; p. 614.
Siewert, Alexander. (See Jaeger and Siewert.)
Silk, John J. (See Apgar and Silk.)
Silkworth-Frosild Machinery Company. (See Frosild, Anton S., assignor.)
Sills, Harry A., assignor of one-half to L. Sills, Robinson, Ill. Oil-well pick-up. No. 980,018; Dec. 27; Sp. p. 5605; Gaz. vol. 161; p. 969.
Sills, Lafe. (See Sills, Harry A., assignor.)
Simmons, Arthur G., assignor to Simmons Manufacturing Company, Boston, Mass. Watering-trough. No. 977,561; Dec. 6; Sp. p. 339; Gaz. vol. 161; p. 49.
Simmons Manufacturing Company, The. (See Rudd, Otto, assignor.)
Simmons Manufacturing Company. (See Simmons, Arthur G., assignor.)
Simmons, Marcus A., Yeager, Okla. Cooler. No. 978,339; Dec. 13; Sp. p. 2000; Gaz. vol. 161; p. 348.
Simon, George, New London, Wis. Sanding-machine. No. 978,497; Dec. 13; Sp. p. 2332; Gaz. vol. 161; p. 402.
Simon, Gregory, Pittsburg, Pa. Swing. No. 979,580; Dec. 27; Sp. p. 4678; Gaz. vol. 161; p. 821.
Simono, Charley. (See McDonner, Charley, assignor.)
Simplex Electric Heating Company. (See Ayer, James I., assignor.)
Simplex Electric Heating Company. (See Ayer and Gale, assignors.)
Simplex Electric Heating Company. (See Chandler, Edwin N., assignor.)
Simplex Piano Player Company. (See Brown, Theodore P., assignor.)
Simpson, John. (See Spencer and Simpson.)
Simpson, Thomas W., Castleford, England. Machine for the manufacture of glass bottles. No. 978,228; Dec. 13; Sp. p. 1752; Gaz. vol. 161; p. 309.
Siner, Charles B., Philadelphia, Pa. Rim for tires of motor-vehicle wheels. No. 977,843; Dec. 6; Sp. p. 919; Gaz. vol. 161; p. 145.
Siner, Charles B., Philadelphia, Pa. Rim for tires of motor-vehicle wheels. No. 977,844; Dec. 6; Sp. p. 920; Gaz. vol. 161; p. 146.
Singer Manufacturing Company, The. (See Berger, Joseph, assignor.)
Singer Manufacturing Company, The. (See De Voe, Albert H., assignor.)
Singer Manufacturing Company, The. (See Eames, George M., assignor.)
Singer Manufacturing Company, The. (See Traub, Emil, assignor.)
Skipp, Herbert J., Newark, N. J. Holding or clamping chuck for machines for boring and niching thread-holes in button-blanks. No. 979,714; Dec. 27; Sp. p. 4943; Gaz. vol. 161; p. 867.
Skjeldrup, Ingvald, Fergus Falls, Minn. Push-rake. No. 979,346; Dec. 20; Sp. p. 4169; Gaz. vol. 161; p. 719.
Skow, Niels K., Newton, Iowa. Road-grader. No. 978,498; Dec. 13; Sp. p. 2335; Gaz. vol. 161; p. 403.
Slater, George W. (See Benham and Slater.)
Slavin, William J., assignor to Winchester Optical Company, Horseheads, N. Y. Lens-grinding machine. No. 980,138; Dec. 27; Sp. p. 5899; Gaz. vol. 161; p. 1007.
Slick, Edwin E., Pittsburg, Pa. Pump. No. 978,668; Dec. 13; Sp. p. 2716; Gaz. vol. 161; p. 462.
Sloan Valve Company. (See Sloan, William E., assignor.)
Sloan, William E., assignor to Sloan Valve Company, Chicago, Ill. Valve. No. 977,562; Dec. 6; Sp. p. 340; Gaz. vol. 161; p. 50.
Slocum, Alfred K., *et al.* (See Hutchinson, Raleigh E., assignor.)
Small, Ralph D., assignor to Standard Electro-Utilities Company, Chicago, Ill. Ozonizer. No. 978,786; Dec. 13; Sp. p. 2953; Gaz. vol. 161; p. 499.
Smethport Glass Company. (See Douchamp, Henry, assignor.)
Smiddy, Jerome J. (See Hustace and Smiddy.)
Smiley, Arthur E., Springfield, Mass. Wrench. No. 979,805; Dec. 27; Sp. p. 5181; Gaz. vol. 161; p. 898.
Smith, Albert E., assignor of one-half to L. A. Young, Detroit, Mich. Front-fastening device for vehicle tops. No. 979,893; Dec. 27; Sp. p. 5365; Gaz. vol. 161; p. 927.
Smith, Arthur W., New York, assignor to Yost Writing Machine Company, Ilion, N. Y. Type-writing machine. No. 977,480; Dec. 6; Sp. p. 116; Gaz. vol. 161; p. 20.
Smith, Bernard O., assignor of one-half to S. C. Irvine, Stanley, Iowa. Carbureter. No. 978,787; Dec. 13; Sp. p. 2955; Gaz. vol. 161; p. 499.
Smith, Bernard O., assignor of one-half to S. C. Irvine, Stanley, Iowa. Igniter for gasolene-engines. No. 978,788; Dec. 13; Sp. p. 2957; Gaz. vol. 161; p. 500.
Smith Cannery Machines Company. (See Smith, Edmund A., assignor.)
Smith, Charles D., Paris, Ill. Safety-hook. No. 979,347; Dec. 20; Sp. p. 4170; Gaz. vol. 161; p. 719.
Smith, Charles E., New York, assignor to Union Typewriter Company, Ilion, N. Y. Type-writing machine. No. 979,215; Dec. 20; Sp. p. 3908; Gaz. vol. 161; p. 676.
Smith, Charles E., New York, assignor to Union Typewriter Company, Ilion, N. Y. Type-writing machine. No. 979,216; Dec. 20; Sp. p. 3914; Gaz. vol. 161; p. 676.
Smith, Charles F., Miami, Fla. Exhaust-muffler. No. 979,041; Dec. 20; Sp. p. 3507; Gaz. vol. 161; p. 614.
Smith, Charles F., Bridgeport, Conn., assignor to McCallum Hosiery Company, Northampton, Mass. Tag-setting machine. No. 979,217; Dec. 20; Sp. p. 3920; Gaz. vol. 161; p. 677.
Smith, Charles S., and H. H. Palmer, New York, N. Y. Globe-holder. No. 977,563; Dec. 6; Sp. p. 343; Gaz. vol. 161; p. 50.
Smith, Edmund A., assignor to Smith Cannery Machines Company, Seattle, Wash. Fish-dressing machine. No. 979,103; Dec. 20; Sp. p. 3653; Gaz. vol. 161; p. 635.
Smith & Egge Manufacturing Co., The. (See Egge, Frederick, assignor.)
Smith, Frank F., Newark, N. J. Lock for windows and the like. No. 979,581; Dec. 27; Sp. p. 4679; Gaz. vol. 161; p. 821.
Smith, Frank F., Newark, N. J. Lock for metal window-sashes. No. 979,582; Dec. 27; Sp. p. 4681; Gaz. vol. 161; p. 822.
Smith, Frank L., Chicago, Ill., and T. B. Williams, assignors to The Leavitt Machine Company, Orange, Mass. Valve-disk-cutting machine. No. 980,019; Dec. 27; Sp. p. 5608; Gaz. vol. 161; p. 969.
Smith, Gary B., Minneapolis, Minn. Bed-spring. No. 979,042; Dec. 20; Sp. p. 3508; Gaz. vol. 161; p. 614.
Smith, George A., assignor of sixteen one-hundred and fourths to J. W. Hennessey, New York, N. Y., forty-six one-hundred and fourths to A. Letts, Los Angeles, Cal., and twenty-one one-hundred and fourths to F. H. Ward, Brooklyn, N. Y. Ribbon-movement for type-writers. No. 979,583; Dec. 27; Sp. p. 4683; Gaz. vol. 161; p. 822.
Smith, Henry D., Brownsboro, Tex. Wrench. No. 979,348; Dec. 20; Sp. p. 4171; Gaz. vol. 161; p. 719.
Smith, Henry J., New York, N. Y. Transfer-ticket. No. 978,407; Dec. 13; Sp. p. 2141; Gaz. vol. 161; p. 373.
Smith, Hugh G. (See Smith, John G., assignor.)
Smith, J. S. (See Allbee, John B., assignor.)
Smith, Jesse R., Benton, Ill. Tie-puller. No. 977,975; Dec. 6; Sp. p. 1202; Gaz. vol. 161; p. 192.
Smith, John G., assignor of one-half to H. G. Smith, Tyrconnell, W. Va. Automatic car-stake. No. 978,124; Dec. 6; Sp. p. 1512; Gaz. vol. 161; p. 243.
Smith, John O., Cleveland, Ohio. Under-water exhaust and muffler. No. 977,976; Dec. 6; Sp. p. 1203; Gaz. vol. 161; p. 192.
Smith, Joseph R., assignor to Waterbury Button Company, Waterbury, Conn. Stocking-supporter grip. No. 977,564; Dec. 6; Sp. p. 345; Gaz. vol. 161; p. 50.
Smith, Lucien A., Detroit, Mich. Window-awning. No. 977,505; Dec. 6; Sp. p. 345; Gaz. vol. 161; p. 50.
Smith, Newton A., assignor of one-half to S. H. Goodall, Marion, Ill. Coal-washer. No. 979,584; Dec. 27; Sp. p. 4686; Gaz. vol. 161; p. 822.
Smith, Oscar A., assignor to The National-Acme Manufacturing Company, Cleveland, Ohio. Overload clutch device. No. 979,104; Dec. 20; Sp. p. 3662; Gaz. vol. 161; p. 636.
Smith, Theodore, assignor to Theo. Smith Manufacturing Company, Chicago, Ill. Heating device. No. 979,043; Dec. 20; Sp. p. 3509; Gaz. vol. 161; p. 614.
Smith, Thomas C., Bardwell, Ky. Baling-press. No. 978,229; Dec. 13; Sp. p. 1761; Gaz. vol. 161; p. 309.
Smith, Thomas G., Bloemfontein, Orange River Colony. Driving mechanism for pumps. No. 978,669; Dec. 13; Sp. p. 2717; Gaz. vol. 161; p. 463.
Smith, William H., Penge, assignor to J. H. Marshall, London, England. Electric piano-player. No. 979,715; Dec. 27; Sp. p. 4951; Gaz. vol. 161; p. 868.

Smith, William J., Seattle, Wash. Saw-feeding device. No. 977,755; Dec. 6; Sp. p. 734; Gaz. vol. 161; p. 116.
Smith, Willis A., New York, N. Y. Safety-razor. No. 978,230; Dec. 13; Sp. p. 1763; Gaz. vol. 161; p. 310.
Sneed, H. M. (See Seawell, James, assignor.)
Snodgrass, Eliga C. (See Thompson and Snodgrass.)
Snow, Claude C., Hinsdale, Ill. Carrier for mail-pouches. No. 977,481; Dec. 6; Sp. p. 123; Gaz. vol. 161; p. 21.
Snow, John L. (See McKinney, Leo P., assignor.)
Snyder, Daniel O., Muncy, Pa. Combined bill-holder and coin-purse. No. 979,806; Dec. 27; Sp. p. 5184; Gaz. vol. 161; p. 899.
Snyder, Roy D., Delta, Pa. Electric switch. No. 979,894; Dec. 27; Sp. p. 5367; Gaz. vol. 161; p. 928.
Snyder, William E. (See Lampman, Herman W., assignor.)
Soans, Cyril A., and A. H. Graves, Chicago, Ill., assignors, by mesne assignments, to Homer Roberts Telephone Co. Party-line telephone. No. 978,951; Dec. 20; Sp. p. 3286; Gaz. vol. 161; p. 582.
Societe Anonyme pour l'Exploitation des Procedes Westinghouse-Leblanc. (See Leblanc, Maurice, assignor.)
Société d'Electro-Chimie. (See Hulin, Paul L., assignor.)
Societe d'Etudes des Brevets Boirault. (See Boirault, Louis, assignor.)
Society of Chemical Industry in Basle. (See Pietzsch and Steinbuch, assignors.)
Sokolov, Jacob. (See Gibbs and Sokolov.)
Sokolov, Jacob, New York, N. Y. Time-recorder. No. 979,585; Dec. 27; Sp. p. 4688; Gaz. vol. 161; p. 823.
Solomon, Harry St. Joseph, Mo. Display-rack for neckwear. No. 978,670; Dec. 13; Sp. p. 2718; Gaz. vol. 161; p. 463.
Soos, George, Newark, N. J. Rail-joint. No. 978,671; Dec. 13; Sp. p. 2719; Gaz. vol. 161; p. 463.
Sorensen, Thorwald, Ringsted, Iowa. Neck-yoke. No. 977,482; Dec. 6; Sp. p. 125; Gaz. vol. 161; p. 21.
Sorey, Arthur M., Oklahoma, Okla. Bed-spring. No. 977,566; Dec. 6; Sp. p. 347; Gaz. vol. 161; p. 51.
Sorg, William A., Minneapolis, Minn. Line unit-case for printing-machines. No. 979,586; Dec. 27; Sp. p. 4689; Gaz. vol. 161; p. 823.
South, George F., London, Ontario, Canada. Load-regulated brake. No. 977,756; Dec. 6; Sp. p. 735; Gaz. vol. 161; p. 116.
Spahr, Ernest J., assignor of one-half to O. Semler and E. Bohrmann, New York, N. Y. Hub-attaching device. No. 979,105; Dec. 20; Sp. p. 3665; Gaz. vol. 161; p. 636.
Sparks, John, Kimberly, Cal. Telephone-transmitter. No. 978,070; Dec. 6; Sp. p. 1391; Gaz. vol. 161; p. 223.
Speck, James F., Hewitt, Okla. Nut-lock. No. 978,499; Dec. 13; Sp. p. 2339; Gaz. vol. 161; p. 404.
Speer, James R., Pittsburg, and G. H. Harvey, Glenfield, assignors to Brownsville Glass Company, Pittsburg, Pa. Manufacture of drawn glass. No. 977,685; Dec. 6; Sp. p. 599; Gaz. vol. 161; p. 91.
Spencer, Charles T., Elmira, N. Y. Mitering-machine. No. 979,895; Dec. 27; Sp. p. 5360; Gaz. vol. 161; p. 928.
Spencer, James H., and J. Simpson, Salina, Kans. Lifting device. No. 980,020; Dec. 27; Sp. p. 5610; Gaz. vol. 161; p. 970.
Spiegel, Herman, New York, N. Y. Producing pictures upon fabrics. No. 978,500; Dec. 13; Sp. p. 2341; Gaz. vol. 161; p. 404.
Spill, Charles J., Springfield, Mass., assignor to United Button Company. Sawing-machine and art of sawing ivory-nuts. No. 978,408; Dec. 13; Sp. p. 2143; Gaz. vol. 161; p. 373.
Spill, Charles J., Springfield, Mass., assignor to United Button Company. Dividing ivory-nuts. No. 978,501; Dec. 13; Sp. p. 2342; Gaz. vol. 161; p. 404.
Spiriet, Xavier de, Brussels, Belgium. Furnace for roasting ores. No. 979,349; Dec. 20; Sp. p. 4172; Gaz. vol. 161; p. 720.
Sprenkel, Ward E., *et al.* (See Matthiessen, Conrad S., assignor.)
Spring, Herbert E., and W. H. Lockwood, Fitchburg, Mass.; said Spring assignor to said Lockwood. Paper-pulp screen. No. 978,672; Dec. 13; Sp. p. 2721; Gaz. vol. 161; p. 464.
Springer, Frank W., Minneapolis, Minn. Explosive-engine. No. 980,134; Dec. 27; Sp. p. 5901; Gaz. vol. 161; p. 1008.
Springer, John, Trenton Junction, N. J. Friction-gearing. No. 977,483; Dec. 6; Sp. p. 126; Gaz. vol. 161; p. 21.
Spurr Addressing Machine Company. (See Spurr, Foster M., assignor.)
Spurr, Foster M., assignor to Spurr Addressing Machine Company, Boston, Mass. Feeding mechanism for cards or sheets. No. 978,231; Dec. 13; Sp. p. 1768; Gaz. vol. 161; p. 310.
Squires, Charles E., Cleveland, Ohio. Demonstrating apparatus for steam-traps. No. 979,716; Dec. 27; Sp. p. 4954; Gaz. vol. 161; p. 868.
Squires, Claude J., Three Rivers, Mich. Funnel. No. 979,807; Dec. 27; Sp. p. 5184; Gaz. vol. 161; p. 899.
St. Clair, George H., Lynn, assignor to Merrimac Mattress Manufacturing Company, Boston, Mass. Spring-mattress frame. No. 978,954; Dec. 20; Sp. p. 3302; Gaz. vol. 161; p. 584.
Stadelmann, Ignatius J., Los Angeles, Cal. Pneumatic spring. No. 979,044; Dec. 20; Sp. p. 3511; Gaz. vol. 161; p. 615.
Stadtmuller, Max F., Pierre, S. D. Door-fastener. No. 979,218; Dec. 20; Sp. p. 3926; Gaz. vol. 161; p. 677.
Staehle, Reinold, Mount Vernon, N. Y. Soldering-tool. No. 979,896; Dec. 27; Sp. p. 5371; Gaz. vol. 161; p. 929.
Standard Car Truck Company. (See Barber, John C., assignor.)
Standard Chain Company. (See Hoff, Carlton L., assignor.)
Standard Computing Scale Company. (See Jaenichen, Louis, assignor.)
Standard Coupler Company. (See Gallagher, Richard D., Jr., assignor.)
Standard Earth Auger Company. (See Chase, Frank H., assignor.)
Standard Electric Fittings Company, The. (See Church, Lewis H., assignor.)
Standard Electro-Utilities Company. (See Small, Ralph D., assignor.)
Standard Optical Company, The. (See Gray, Hobart H., assignor.)
Standard Optical Company, The. (See Howland, Chauncey W., assignor.)
Stanford, Arthur D., Buffalo, N. Y. Locking and signaling device. No. 979,808; Dec. 27; Sp. p. 5186; Gaz. vol. 161; p. 899.
Stanley, David B., Maine Prairie, Minn. Pneumatic coupling. No. 978,071; Dec. 6; Sp. p. 1393; Gaz. vol. 161; p. 224.
Stanley, Frank A., Little Rock, Ark. Stop and drain cock. No. 978,952; Dec. 20; Sp. p. 3298; Gaz. vol. 161; p. 583.
Stanley, John O. (See Perkins, Stanley, Putnam, and Montgomery.)
Stanley, Lucean B., Collinwood, Ohio. Trolley-retractor. No. 978,953; Dec. 20; Sp. p. 3300; Gaz. vol. 161; p. 583.
Steam Power Devices Company, The. (See Winslow, William H., assignor.)
Stearns, Willard W., Holyoke, Mass. Shuttle. No. 978,502; Dec. 13; Sp. p. 2344; Gaz. vol. 161; p. 404.
Stearns, Willard W., Holyoke, Mass. Shuttle. No. 978,503; Dec. 13; Sp. p. 2346; Gaz. vol. 161; p. 405.
Steedman, George F., St. Louis, assignor to Curtis & Company Manufacturing Company, Wellston, Mo. Closed-hopper sand-blast. No. 979,897; Dec. 27; Sp. p. 5372; Gaz. vol. 161; p. 929.
Steel, Leonard R., Milwaukee, Wis. Sanitary milk-can. No. 977,977; Dec. 6; Sp. p. 1204; Gaz. vol. 161; p. 193.
Steel, Leonard R., Milwaukee, Wis. Metal milk-can. No. 977,978; Dec. 6; Sp. p. 1206; Gaz. vol. 161; p. 193.
Steel, Leonard R., Milwaukee, Wis. Milk-can. No. 977,979; Dec. 6; Sp. p. 1208; Gaz. vol. 161; p. 193.
Steele, Clarence M., Statesville, N. C. Brick-car. No. 979,898; Dec. 27; Sp. p. 5376; Gaz. vol. 161; p. 929.
Steele, Edwin G. (See Sutton and Steele.)
Steele, Herbert H., Marcellus, assignor to The Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine. No. 979,717; Dec. 27; Sp. p. 4956; Gaz. vol. 161; p. 868.
Steele, Walter L. (See Sutton and Steele.)
Steelman, Lewis, Alexandria, Va. Glass-machine. No. 979,045; Dec. 20; Sp. p. 3513; Gaz. vol. 161; p. 615.
Steigleder, Frank M., Richmond, Va. Line-threading device. No. 979,899; Dec. 27; Sp. p. 5378; Gaz. vol. 161; p. 930.
Stein, Frank J., and T. Knapik, assignors to Reliance Glove Company, Chicago, Ill. Glove. No. 978,232; Dec. 13; Sp. p. 1770; Gaz. vol. 161; p. 311.
Stein, Peter, Chicago, Ill. Leather-stripping and trimming machine. No. 979,219; Dec. 20; Sp. p. 3928; Gaz. vol. 161; p. 678.
Stein, Sydney. (See Harders, Hartwig M. A., assignor.) (Reissue.)
Steinbuch, Ewald. (See Pietzsch and Steinbuch.)
Stephenson, John W., Toledo, assignor to The National Malleable Castings Company, Cleveland, Ohio. Combined rail-brace and tie-plate. No. 979,350; Dec. 20; Sp. p. 4174; Gaz. vol. 161; p. 720.
Stephenson, John W., Toledo, assignor to The National Malleable Castings Company, Cleveland, Ohio. Combined rail-brace and tie-plate. No. 979,351; Dec. 20; Sp. p. 4175; Gaz. vol. 161; p. 721.
Sterling, Mark H., Bisbee, Ariz. Candle-protector. No. 977,567; Dec. 6; Sp. p. 348; Gaz. vol. 161; p. 51.
Stern Bros. (See Stern, Henry, assignor.)
Stern, Henry, assignor to Stern Bros., New York, N. Y. Safety screw-back for ear-rings and buttons. No. 978,789; Dec. 13; Sp. p. 2958; Gaz. vol. 161; p. 500.
Stetsall, William, Marion, Ind. Apparatus for catching and delivering mail. No. 979,587; Dec. 27; Sp. p. 4691; Gaz. vol. 161; p. 824.
Stetson, Warren, trustee. (See Crawford, Harry M., assignor.)
Stevens, Fred P., assignor of one-half to J. A. Eddy, Denver, Colo. Photographic-printing machine. No. 978,955; Dec. 20; Sp. p. 3304; Gaz. vol. 161; p. 584.
Stevens, John M., *et al.* (See Emmerson, John T., assignor.)
Stewart Hartshorn Company. (See Hartshorn, Edmund F., assignor.)
Stewart, Howard D., assignor of one-half to F. M. Jacobs, Chicago, Ill. Advertising device. No. 978,956; Dec. 20; Sp. p. 3321; Gaz. vol. 161; p. 585.
Stewart, John G., assignor to Stewarts & Lloyds Limited, Glasgow, Scotland. Jointing of pipes and the like. No. 978,504; Dec. 13; Sp. p. 2347; Gaz. vol. 161; p. 405.

Stewart, Lemuel N., Agency, assignor to G. H. Furbeck, St. Joseph, Mo. Anchor. No. 977,757; Dec. 6; Sp. p. 737; Gaz. vol. 161; p. 116.
Stewart, Scott, Rivesville, W. Va. String-clasp. No. 979,588; Dec. 27; Sp. p. 4693; Gaz. vol. 161; p. 824.
Stewart, William G., Kansas City, Kans. Threshing-machine. No. 978,072; Dec. 6; Sp. p. 1395; Gaz. vol. 161; p. 224.
Stewart, William R., Ensley, Ala. Metallic fence-post. No. 978,505; Dec. 13; Sp. p. 2348; Gaz. vol. 161; p. 405.
Stewarts & Lloyds Limited. (See Stewart, John G., assignor.)
Stillwell, Howard A., Woodbury, N. J., assignor to E. I. du Pont de Nemours Powder Company, Wilmington, Del. Mechanism for printing boxes. No. 978,409; Dec. 13; Sp. p. 2145; Gaz. vol. 161; p. 373.
Stimmel, Frederick C. (See Bauer and Stimmel.)
Stimpson, Edwin B., Brooklyn, N. Y., assignor to Edwin B. Stimpson Company. Punching-machine. No. 978,506; Dec. 13; Sp. p. 2350; Gaz. vol. 161; p. 405.
Stirrup, Charles H., *et al.* (See Heissenberger, John, assignor.)
Stirrup, Frank A., *et al.* (See Heissenberger, John, assignor.)
Stites, Watson B., Hiawatha, Kans. Wagon-tongue. No. 977,568; Dec. 6; Sp. p. 349; Gaz. vol. 161; p. 51.
Stockbridge, Radford, assignor of one-half to A. W. Beaman, Worcester, Mass. Variable-speed driving mechanism. No. 979,589; Dec. 27; Sp. p. 4695; Gaz. vol. 161; p. 824.
Stolp, Samuel S., assignor to W. J. C. Kenyon, Chicago, Ill. Telephone system. No. 979,590; Dec. 27; Sp. p. 4696; Gaz. vol. 161; p. 824.
Stone, Melvin L., Lewiston, Me., assignor to Draper Company, Hopedale, Mass. Loom. No. 979,718; Dec. 27; Sp. p. 4959; Gaz. vol. 161; p. 869.
Stoneybrook Paper Company. (See Perkins, Stanley, Putnam, and Montgomery, assignors.)
Storm, Ora G., Longmont, Colo. Steam-cooker. No. 979,591; Dec. 27; Sp. p. 4699; Gaz. vol. 161; p. 825.
Storms, Henry M. (See Linegar and Storms.)
Stowe, Larkin, Pleasant View, Ky. Dispensing-receptacle. No. 979,592; Dec. 27; Sp. p. 4702; Gaz. vol. 161; p. 825.
Stowell, Byron F., assignor of one-third to R. W. Ellingham and one-third to W. Hadley, Springfield, Mass. Slotting-machine. No. 978,073; Dec. 6; Sp. p. 1398; Gaz. vol. 161; p. 225.
Straight, Abraham A., Manchester, Tenn. Poultry-perch. No. 977,980; Dec. 6; Sp. p. 1210; Gaz. vol. 161; p. 194.
Strand, Austin. (See Strand, Fred and A.)
Strand, Fred and A., Dennison, Minn. Litter-carrier. No. 978,340; Dec. 13; Sp. p. 2002; Gaz. vol. 161; p. 340.
Stratton, James M., assignor to The Deming Company, Salem, Ohio. Double-acting horizontal power-pump. No. 978,673; Dec. 13; Sp. p. 2723; Gaz. vol. 161; p. 464.
Straub, Michael, San Francisco, Cal. Pile remedy. No. 979,395; Dec. 20; Sp. p. 4265; Gaz. vol. 161; p. 734.
Strauss Manufacturing Company. (See Seiler, Philipp, assignor.)
Streeter-Amet Weighing & Recording Company. (See Goetz, George, assignor.)
Streibich, John C., assignor of one-half to C. G. Engholdt, Little Rock, Ark. Grass-cutter. No. 977,569; Dec. 6; Sp. p. 350; Gaz. vol. 161; p. 51.
Streich, Frank, assignor to American Baker's Machinery Company, St. Louis, Mo. Dough-molding machine. No. 978,233; Dec. 13; Sp. p. 1771; Gaz. vol. 161; p. 311.
Stromier, Simon, New York, N. Y. Exchangeable heel for shoes. No. 979,593; Dec. 27; Sp. p. 4703; Gaz. vol. 161; p. 826.
Strother, James A. (See Chapman, Thomas A., assignor.)
Stroud, Arthur E., Derby, England. Loom for weaving tapes, ribbons, and similar fabrics. No. 979,594; Dec. 27; Sp. p. 4705; Gaz. vol. 161; p. 826.
Stuart, George W., Newtown, Conn. Sieve. No. 978,674; Dec. 13; Sp. p. 2727; Gaz. vol. 161; p. 464.
Stuart, Harve R. (See Thompson and Stuart.)
Stuart, Harve R., Wheeling, W. Va. Telephone-receiver. No. 977,981; Dec. 6; Sp. p. 1211; Gaz. vol. 161; p. 194.
Stuart, William C., Weatherford, Tex. Fire-escape. No. 979,900; Dec. 27; Sp. p. 5379; Gaz. vol. 161; p. 930.
Stuckenburg, Henry C., assignor to Bridgeford and Company, Louisville, Ky. Grate. No. 979,719; Dec. 27; Sp. p. 4960; Gaz. vol. 161; p. 869.
Studer, Alfred, St. Louis, Mo. Adjustable reamer. No. 979,809; Dec. 27; Sp. p. 5188; Gaz. vol. 161; p. 900.
Stuhldreier, Wilhelm, Krefeld, Germany. Friction-coupling operated by a centrifugal device. No. 979,595; Dec. 27; Sp. p. 4708; Gaz. vol. 161; p. 827.
Stukenborg, Louis C., Birmingham, Ala. Cotton-picker. No. 978,341; Dec. 13; Sp. p. 2003; Gaz. vol. 161; p. 349.
Suhr, Peter, Schleswig, Iowa. Horse-detacher. No. 978,507; Dec. 13; Sp. p. 2354; Gaz. vol. 161; p. 406.
Sullivan, Charles E. (See Sullivan, Josiah and C. E.)
Sullivan, Ernest E., Chicago, Ill. Vending-machine. No. 979,596; Dec. 27; Sp. p. 4710; Gaz. vol. 161; p. 827.
Sullivan, Josiah and C. E., McCook, Nebr. Train-pipe coupling. No. 980,135; Dec. 27; Sp. p. 5904; Gaz. vol. 161; p. 1008.
Sullivan, Patrick P., Rochester, N. Y. Tobacco-pipe. No. 979,352; Dec. 20; Sp. p. 4177; Gaz. vol. 161; p. 721.
Sullivan, Thomas J., New York, N. Y. Electrical announcing attachment for cash-registers. No. 979,353; Dec. 20; Sp. p. 4178; Gaz. vol. 161; p. 721.
Sundh, August, Yonkers, N. Y., assignor to Otis Elevator Company, Jersey City, N. J. Electromechanical compound brake. No. 979,720; Dec. 27; Sp. p. 4962; Gaz. vol. 161; p. 869.
Sunngård, Harald, Christiania, Norway. Magazine for guns. No. 979,721; Dec. 27; Sp. p. 4964; Gaz. vol. 161; p. 870.
Suppes, Max M., Elyria, Ohio. Safety device for metal-mixers. No. 978,675; Dec. 13; Sp. p. 2728; Gaz. vol. 161; p. 465.
Sutherland, Andrew E., Madrid, Iowa, Adjustable wagon-box. No. 979,722; Dec. 27; Sp. p. 4965; Gaz. vol. 161; p. 870.
Sutherland, Fred E., and J. A. Brown, assignors to The Radial Power Hammer Company, Los Angeles, Cal. Die-securing means. No. 978,508; Dec. 13; Sp. p. 2356; Gaz. vol. 161; p. 406.
Sutton, Henry M., W. L. and E. G. Steele, Dallas, Tex. Electrostatic magnetic separation. No. 977,570; Dec. 6; Sp. p. 351; Gaz. vol. 161; p. 52.
Sutton, Henry M., W. L. and E. G. Steele, Dallas, Tex. Concentrating comminuted material. No. 979,046; Dec. 20; Sp. p. 3515; Gaz. vol. 161; p. 615.
Sutton, William S., assignor to Houston Manufacturing Company, Rockford, Ill. Pipe-coupling. No. 978,957; Dec. 20; Sp. p. 3323; Gaz. vol. 161; p. 585.
Swagerty, Thomas L., and A. L. Lowe, Fontana, Kans. Road grader and drag. No. 978,047; Dec. 20; Sp. p. 3522; Gaz. vol. 161; p. 616.
Swan, John C., Marietta, Ohio. Underreamer. No. 979,106; Dec. 20; Sp. p. 3665; Gaz. vol. 161; p. 636.
Swanstrom, John M., Chicago, Ill. Device for raising water. No. 979,107; Dec. 20; Sp. p. 3669; Gaz. vol. 161; p. 637.
Swash Motor Washer Company, The. (See Yassenoff, Isidor, assignor.)
Sweeney, Patrick W. (See Kennedy, Oliver J., assignor.)
Sweet, Burton W., Cleveland, Ohio, assignor, by mesne assignments, to Century Telephone Construction Company, Buffalo, N. Y. Telephone desk-set apparatus and circuit. No. 978,958; Dec. 20; Sp. p. 3324; Gaz. vol. 161; p. 585.
Sweet, Clifford G., Aurora, Ill. Rosin-applicator. No. 978,410; Dec. 13; Sp. p. 2148; Gaz. vol. 161; p. 374.
Sweetser, George, London, England. Electric switch. No. 979,354; Dec. 20; Sp. p. 4182; Gaz. vol. 161; p. 722.
Swenson, Jonas A., St. Charles, S. D. Carpenter's tool. No. 978,509; Dec. 13; Sp. p. 2357; Gaz. vol. 161; p. 407.
Swoveland, William F., Altoona, Pa. Protective safety device for electrical circuits. No. 978,676; Dec. 13; Sp. p. 2730; Gaz. vol. 161; p. 465.
T. B. Laycock Manufacturing Company, The. (See Lindley, James F., Jr., assignor.)
Taber, Charles H., Woodlawn, Pa. Combined papering board and scaffold. No. 979,220; Dec. 20; Sp. p. 3932; Gaz. vol. 161; p. 678.
Taft, F. C. (See Polleys, Charles G., assignor.)
Talmage, John G., Cleveland, Ohio. Discharge-controller for ash-pans. No. 978,074; Dec. 6; Sp. p. 1402; Gaz. vol. 161; p. 226.
Tanihara, Zentaro, Boston, Mass. Shoe-fastening. No. 977,982; Dec. 6; Sp. p. 1213; Gaz. vol. 161; p. 195.
Tanner, Frank J., assignor to International Text Book Company, Scranton, Pa. Type-writing machine. No. 979,355; Dec. 20; Sp. p. 4183; Gaz. vol. 161; p. 722.
Tarr, John P., Jingo, Tenn. Sign. No. 979,221; Dec. 20; Sp. p. 3934; Gaz. vol. 161; p. 679.
Tauss, Berthold. (See Heilmann and Tauss.)
Tauss, Jacob, Bayonne, N. J. Hat-fastener. No. 980,021; Dec. 27; Sp. p. 5611; Gaz. vol. 161; p. 970.
Tawney, Millard M., Harrisburg, Pa. Frog-point. No. 979,048; Dec. 20; Sp. p. 3524; Gaz. vol. 161; p. 616.
Taylor, Arthur S., Nanuet, N. Y. Adjustable hand type-mold. No. 979,222; Dec. 20; Sp. p. 3935; Gaz. vol. 161; p. 679.
Taylor, Benjamin F., Palisades, Colo. Implement-handle. No. 978,510; Dec. 13; Sp. p. 2359; Gaz. vol. 161; p. 407.
Taylor, Calvin C. (See Frank and Taylor.)
Taylor, Charles G., Hartford, Conn., assignor to A. P. Richardson, Andover, Mass. Quick-detaching whiffletree. No. 977,484; Dec. 6; Sp. p. 128; Gaz. vol. 161; p. 22.
Taylor, David W., U. S. Navy. Screw-propeller. No. 978,677; Dec. 13; Sp. p. 2732; Gaz. vol. 161; p. 465.
Taylor, Frank J., Phoenix, Ariz. Treating wood. No. 979,901; Dec. 27; Sp. p. 5381; Gaz. vol. 161; p. 930.
Taylor, George P., Holyoke, Mass. Envelop-machine. No. 977,758; Dec. 6; Sp. p. 738; Gaz. vol. 161; p. 116.
Taylor, George R., San Francisco, Cal. Telephone-mouthpiece. No. 978,075; Dec. 6; Sp. p. 1404; Gaz. vol. 161; p. 226.
Taylor, Howard D. (See Kaucher, Richard W., assignor.)
Taylor, James W., Goldsboro, N. C. Truck. No. 977,759; Dec. 6; Sp. p. 756; Gaz. vol. 161; p. 117.
Taylor, Marshall, Pittsburg, Pa. Tally. No. 977,686; Dec. 6; Sp. p. 602; Gaz. vol. 161; p. 92.
Taylor, Thomas H., assignor to The Charles Boldt Company, Cincinnati, Ohio. Machine for the manufacture of cellular boards. No. 978,234; Dec. 13; Sp. p. 1774; Gaz. vol. 161; p. 311.
Teich, Antone E. (See Handel and Teich.)
Teller, Spencer J., Unadilla, N. Y., assignor to The Jeffrey Manufacturing Company. Mining-machine. No. 979,597; Dec. 27; Sp. p. 4714; Gaz. vol. 161; p. 828.

Temple, Edward, Sydney, New South Wales, Australia. Gas-purifying apparatus. No. 977,907; Dec. 6; Sp. p. 1056; Gaz. vol. 161; p. 168.
Tercy, John R., Kanopolis, Kans. Game apparatus. No. 977,485; Dec. 6; Sp. p. 129; Gaz. vol. 161; p. 22.
Textile Machine Works. (See Dingendahl, Gustav, assignor.)
Textile Machine Works. (See Janssen and Rahm, assignors.)
Textile Specialty Company. (See Van Gorder, Greenleaf S., assignor.)
Thebaud, J. Edward. (See Kinsey, Fredrick L., assignor.)
Theis, William J. (See Grebel and Theis.)
Theo. Smith Manufacturing Company. (See Smith, Theodore, assignor.)
Thimm, Alexius W., Seattle, Wash. Game apparatus. No. 979,598; Dec. 27; Sp. p. 4717; Gaz. vol. 161; p. 828.
Thiry, Oden F. (See Bremer, Thiry, and Hollands.)
Thoeliden, Anton E. H. J., New Haven, Conn. Driving mechanism. No. 979,223; Dec. 20; Sp. p. 3937; Gaz. vol. 161; p. 679.
Thomas, Frederick, London, England. Belt-stretcher. No. 979,599; Dec. 27; Sp. p. 4718; Gaz. vol. 161; p. 828.
Thomas, Henry T., New York, N. Y. Glazed roof structure. No. 979,600; Dec. 27; Sp. p. 4721; Gaz. vol. 161; p. 828.
Thomas, Nancy A., Meyers Falls, Wash. Food-chopper. No. 978,790; Dec. 13; Sp. p. 2961; Gaz. vol. 161; p. 501.
Thomas, Percy H., Montclair, N. J., assignor to Cooper Hewitt Electric Company, New York, N. Y. Lightning-arrester. No. 978,959; Dec. 20; Sp. p. 3327; Gaz. vol. 161; p. 586.
Thomas, Percy H., Pittsburg, Pa., assignor to Cooper Hewitt Electric Company. Three-wire system of electrical distribution. No. 979,396; Dec. 20; Sp. p. 4265; Gaz. vol. 161; p. 734.
Thompson, Alfred, Erie, Pa., assignor to The Erie Wheel Company, Cleveland, Ohio. Making wheels. No. 980,022; Dec. 27; Sp. p. 5612; Gaz. vol. 161; p. 970.
Thompson, Alfred, Erie, Pa., assignor to The Erie Wheel Company, Cleveland, Ohio. Pressed-metal wheel. No. 980,023; Dec. 27; Sp. p. 5614; Gaz. vol. 161; p. 971.
Thompson, Clark R., St. Louis, Mo. Photographic apparatus. No. 979,224; Dec. 20; Sp. p. 3939; Gaz. vol. 161; p. 680.
Thompson, Earnest L. (See Hamilton and Thompson.)
Thompson, Henry E., Wisdom, Mont. Siding-tool. No. 979,225; Dec. 20; Sp. p. 3941; Gaz. vol. 161; p. 680.
Thompson, Herbert L., Elgin, Ill. Steam-generator. No. 979,356; Dec. 20; Sp. p. 4184; Gaz. vol. 161; p. 722.
Thompson, Hugh P., Chicago, Ill. Pressure-responsive device. No. 977,486; Dec. 6; Sp. p. 131; Gaz. vol. 161; p. 22.
Thompson, John T. (See Du Pont and Thompson.)
Thompson, Oswald H., Philadelphia, Pa. Means for loosening the lids of cans. No. 979,226; Dec. 20; Sp. p. 3944; Gaz. vol. 161; p. 681.
Thompson, Robert. (See Thompson, William H. and R.)
Thompson, Robert J., and E. C. Snodgrass, Washburn, Tex. Folding receptacle. No. 977,760; Dec. 6; Sp. p. 757; Gaz. vol. 161; p. 117.
Thompson, Walter N., Tucson, Ariz. Ammonia-leak tester. No. 977,761; Dec. 6; Sp. p. 758; Gaz. vol. 161; p. 117.
Thompson, Wilbur H., Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. System of electric-motor control. No. 977,571; Dec. 6; Sp. p. 359; Gaz. vol. 161; p. 52.
Thompson, Wilbur H., Wheeler, W. Va., and H. R. Stuart, Milwaukee, Wis. Telephone-receiver. No. 980,024; Dec. 27; Sp. p. 5616; Gaz. vol. 161; p. 971.
Thompson, William F., assignor to W. E. Piper, Melrose, Mass. Shipping-case-strapping machine. No. 977,487; Dec. 6; Sp. p. 134; Gaz. vol. 161; p. 23.
Thompson, William H. and R., London, England. Electrically-operated apparatus for discharging liquids for flushing or other purposes. No. 978,678; Dec. 13; Sp. p. 2736; Gaz. vol. 161; p. 466.
Thomson, Maitland, New York, N. Y. Couch. No. 979,049; Dec. 20; Sp. p. 3525; Gaz. vol. 161; p. 617.
Thornburg, Lincoln A., Muncie, Ind., assignor of one-half to American Window Glass Machine Company, Pittsburg, Pa. Glass-drawing process and apparatus. No. 979,601; Dec. 27; Sp. p. 4724; Gaz. vol. 161; p. 829.
Thornley, Albert J., assignor to Narragansett Machine Company, Pawtucket, R. I. Locker construction. No. 979,357; Dec. 20; Sp. p. 4186; Gaz. vol. 161; p. 722.
Thorstenberg, Luther, McMinnville, Tenn. Fruit-picker. No. 978,791; Dec. 13; Sp. p. 2962; Gaz. vol. 161; p. 501.
Thron, Heinrich, assignor to Vereinigte Chininfabriken Zimmer & Co., G. m. b. H., Frankfort-on-the-Main, Germany. Quinin ester. No. 978,792; Dec. 13; Sp. p. 2963; Gaz. vol. 161; p. 501.
Tidmore, Irenaeus P., Malakoff, Tex. Mail-bag catching and delivering apparatus. No. 979,723; Dec. 27; Sp. p. 4968; Gaz. vol. 161; p. 870.
Tiffany, Homer A. (See Park, David M., assignor.)
Tigerman, William H. (See Pfautz, Daniel M., assignor.)
Tilden, David M., Springfield, Mass. Carbureter. No. 978,076; Dec. 6; Sp. p. 1405; Gaz. vol. 161; p. 226.
Tilleson, Carl G. (See Krohn, Julius, assignor.)
Tingley, Katherine. (See Dick, Frederick J., assignor.)
Tinkham, Francis M., Springfield, Mass. Foldable mattress-frame. No. 979,227; Dec. 20; Sp. p. 3945; Gaz. vol. 161; p. 681.
Tipton, David, Glenmont, Ohio. Turn-table. No. 977,983; Dec. 6; Sp. p. 1214; Gaz. vol. 161; p. 195.
Tipton, Reuben L., Safford, Ala. Railway-rail bolt. No. 978,235; Dec. 13; Sp. p. 1776; Gaz. vol. 161; p. 311.
Titanium Alloy Manufacturing Company, The. (See Rossi, Auguste J., assignor.)
Titus, Henry W., New York, N. Y. Dumb-bell. No. 980,025; Dec. 27; Sp. p. 5619; Gaz. vol. 161; p. 972.
Tobelmann, Henry A., Warren, Ariz. Utilizing coke-breeze. No. 978,236; Dec. 13; Sp. p. 1777; Gaz. vol. 161; p. 312.
Tobey, Alfred J. (See Tobey, William W. and A. J.)
Tobey, Fred W., Grand Rapids, Mich. Card-index case. No. 978,960; Dec. 20; Sp. p. 3330; Gaz. vol. 161; p. 586.
Tobey, William and A. J., Iola, Kans. Acetylene-gas generator. No. 978,511; Dec. 13; Sp. p. 2360; Gaz. vol. 161; p. 407.
Tobey, William W. and A. J., Iola, Kans. Acetylene-gas generator. No. 978,512; Dec. 13; Sp. p. 2362; Gaz. vol. 161; p. 408.
Todt, Edward G., Manitowoc, Wis., assignor to J. A. Ferguson, Denver, Col. Molding-machine. No. 977,687; Dec. 6; Sp. p. 603; Gaz. vol. 161; p. 92.
Tolbert, Frank T. (See Edgar, William K., assignor.)
Tolles, Abraham L. (See Elliott, Schlachter, and Tolles.)
Tomlinson, Charles E., Syracuse, N. Y. Feed-bag. No. 980,026; Dec. 27; Sp. p. 5621; Gaz. vol. 161; p. 972.
Tomlinson, Royal D., assignor to Allis-Chalmers Company, Milwaukee, Wis. Condenser. No. 978,411; Dec. 13; Sp. p. 2151; Gaz. vol. 161; p. 374.
Tompkins, Daniel A. (See Asbury, Orla F., assignor.)
Tone, Frank J., Niagara Falls, N. Y. Graphite article and making the same. No. 977,984; Dec. 6; Sp. p. 1216; Gaz. vol. 161; p. 195.
Tone, Frank J., assignor to The Carborundum Company, Niagara Falls, N. Y. Carborundum abrasive article. No. 978,679; Dec. 13; Sp. p. 2738; Gaz. vol. 161; p. 466.
Tonge, James. (See Barnett, Samuel, assignor.)
Torres y Quevedo, Leonardo, Madrid, Spain. Funicular-railway system and car or vehicle therefor. No. 979,228; Dec. 20; Sp. p. 3946; Gaz. vol. 161; p. 681.
Towson, Morris S. (See Muehlhauser, Martin W., assignor.)
Trabue, William H., Montvale, N. J. Overshoe for horses. No. 979,602; Dec. 27; Sp. p. 4726; Gaz. vol. 161; p. 829.
Tracy, Joseph H., Philadelphia, Pa. System of electrical distribution. No. 978,513; Dec. 13; Sp. p. 2364; Gaz. vol. 161; p. 408.
Tracy, Joseph H., Philadelphia, Pa. System of electrical distribution. No. 978,514; Dec. 13; Sp. p. 2366; Gaz. vol. 161; p. 408.
Tran, Frank J., and F. Cais, Cleveland, Ohio. Workman's time-recorder. No. 979,108; Dec. 20; Sp. p. 3677; Gaz. vol. 161; p. 638.
Traub, Emil, Newark, N. J., assignor to The Singer Manufacturing Company. Cam mechanism. No. 977,488; Dec. 6; Sp. p. 136; Gaz. vol. 161; p. 23.
Traut & Hine Manufacturing Company. (See Humphrey, Ernest N., assignor.)
Travis, Norton C., Brooklyn, N. Y. Moving-picture camera. No. 978,077; Dec. 6; Sp. p. 1407; Gaz. vol. 161; p. 227.
Treese, Albert L., Jennings, Okla. Cotton-cleaner. No. 978,237; Dec. 13; Sp. p. 1778; Gaz. vol. 161; p. 312.
Tregoning, Alfred, Los Angeles, Cal. Eraser-tip for pencils. No. 977,762; Dec. 6; Sp. p. 759; Gaz. vol. 161; p. 118.
Trenkamp Stove and Manufacturing Company, The. (See Geurink, Bernard A., assignor.)
Trent, Lamartine C., East Auburn, Cal. Centrifugal separating washing apparatus. No. 978,238; Dec. 13; Sp. p. 1780; Gaz. vol. 161; p. 312.
Trenton Potteries Company, The. (See Whitehead, Edwin J., assignor.)
Tresise, Victor E., *et al.* (See Mieth, Otto F., assignor.)
Trick, Philip, Crestline, Ohio. Baling-press. No. 978,078; Dec. 6; Sp. p. 1408; Gaz. vol. 161; p. 227.
Trinks, Franz, Brunswick, Germany. Calculating-machine. No. 979,358; Dec. 20; Sp. p. 4187; Gaz. vol. 161; p. 723.
Tropical Products Company, The. (See Moore, Charles C., Jr., assignor.)
Troth, Dana S., Oakland, Cal. Keyboard telegraph-transmitter. No. 978,079; Dec. 6; Sp. p. 1410; Gaz. vol. 161; p. 227.
Trout, William H., assignor to Allis-Chalmers Company, Milwaukee, Wis. Band-saw mill. No. 978,412; Dec. 13; Sp. p. 2154; Gaz. vol. 161; p. 374.
Troutman, Percival H., Canon City, Colo. Orchard-beater. No. 978,793; Dec. 13; Sp. p. 2965; Gaz. vol. 161; p. 501.
Troxell, Willoughby H. (See Frantz and Troxell.)
Troy, Daniel W., Montgomery, Ala. Dynamo-electric machinery. No. 979,603; Dec. 27; Sp. p. 4728; Gaz. vol. 161; p. 830.
Troy, John W., Port Huron, Mich. Vehicle-top support. No. 977,845; Dec. 6; Sp. p. 921; Gaz. vol. 161; p. 146.
Truesdale, Eddie F., Camden, S. C. Razor attachment. No. 980,027; Dec. 27; Sp. p. 5623; Gaz. vol. 161; p. 972.
Tucker, Benjamin W., South Orange, N. J. Automatic die-press. No. 980,028; Dec. 27; Sp. p. 5624; Gaz. vol. 161; p. 972.
Tucker, Benjamin W., South Orange, N. J., and T. F. Oechsle, Philadelphia, Pa. Pipe-bending machine. No. 979,724; Dec. 27; Sp. p. 4972; Gaz. vol. 161; p. 871.
Tufts, Robert B., Atlanta, Ga. Concrete-mold. No. 977,763; Dec. 6; Sp. p. 760; Gaz. vol. 161; p. 118.
Turner Baffle-Wall & Boiler Company. (See Turner, Thomas G., assignor.)
Turner, Samuel J., Chicago, Ill. Sled. No. 978,515; Dec. 13; Sp. p. 2369; Gaz. vol. 161; p. 409.
Turner, Samuel J., Chicago, Ill. Wheel. No. 978,516; Dec. 13; Sp. p. 2370; Gaz. vol. 161; p. 409.

Turner, Thomas G., New York, N. Y., assignor to Turner Baffle-Wall & Boiler Company, Brick for flame-walls of water-tube boilers. No. 979,604; Dec. 27; Sp. p. 4731; Gaz. vol. 161; p. 830.
Turnpaugh, Walter S., Fort Worth, Tex. Exhibitor. No. 979,605; Dec. 27; Sp. p. 4733; Gaz. vol. 161; p. 831.
Tyden, Emil, Hastings, Mich. Extension-table. No. 980,029; Dec. 27; Sp. p. 5646; Gaz. vol. 161; p. 973.
Tyler, Cyrus E., *et al.* (See Hammond, Robert O., assignor.)
Tyler, Jesse S., *et al.* (See Hammond, Robert O., assignor.)
U. S. Flush Tank Company. (See Land, Gordon, assignor.)
Uhl, Georg, and W. Schmidt, New York, N. Y. Silver cleaning and polishing paste. No. 978,239; Dec. 13; Sp. p. 1783; Gaz. vol. 161; p. 313.
Ulrich, Jacob, Hoboken, N. J. Stylographic pen. No. 979,606; Dec. 27; Sp. p. 4735; Gaz. vol. 161; p. 831.
Underhill, George H. (See Genella, Alphonse J. K., assignor.)
Underhill, Zoe D., Bedford Hills, N. Y. Toy. No. 977,572; Dec. 6; Sp. p. 361; Gaz. vol. 161; p. 52.
Underhill, Zoe D., Bedford Hills, N. Y. Game apparatus. No. 979,109; Dec. 20; Sp. p. 3682; Gaz. vol. 161; p. 639.
Underpinning Company, The. (See Goldsborough, John B., assignor.)
Underwood, Charles W., assignor of one-fourth to F. S. Button and one-fourth to L. L. Reynaud, Crowley, La. Truck. No. 978,517; Dec. 13; Sp. p. 2371; Gaz. vol. 161; p. 469.
Underwood Typewriter Company. (See Gibbs and Sokolov, assignors.)
Underwood Typewriter Company. (See Kurowski, Alfred G. F., assignor.)
Underwood Typewriter Company. (See Ney, Louis, assignor.)
Underwood Typewriter Company. (See Rosenhauer, Charles G., assignor.)
Ungerer, Karl F., and E. Becker, Pforzheim, Germany. Machine for manufacturing metal cords. No. 979,110; Dec. 20; Sp. p. 3683; Gaz. vol. 161; p. 639.
Uni-Typebar. (See Link and Morgan, assignors.)
Uni-Typebar Limited. (See Hyde and Link, assignors.)
Union Boiler Company. (See Bernhard, John B., assignor.)
Union Special Machine Company. (See Zimmerman and Hughes, assignors.)
Union Typewriter Company. (See Barron, Walter J., assignor.)
Union Typewriter Company. (See Crandall, Charles F., assignor.) (Reissue.)
Union Typewriter Company. (See Smith, Charles E., assignor.)
Union Typewriter Company. (See Waldheim, John, assignor.)
Union Water Meter Company. (See Larrabee, William H., assignor.)
United Button Company. (See Spill, Charles J., assignor.)
United Shoe Machinery Company. (See Alley, Frederick L., assignor.)
United Shoe Machinery Company. (See Bates, Arthur, assignor.)
United Shoe Machinery Company. (See Brock, Mathias, assignor.)
United Shoe Machinery Company. (See Eppler, Andrew, assignor.)
United Shoe Machinery Company. (See Keith, Thomas K., assignor.)
United Shoe Machinery Company. (See Leland, Sanford D., assignor.)
United Shoe Machinery Company. (See Nash, Frederick J., assignor.)
United States Electric Company. (See Gill, Edwin R., assignor.)
United States Light & Heating Company, The. (See McElroy, James F., assignor.)
United States Whip Company. (See McLaughlin and Beman, assignors.)
United Wireless Telegraph Company. (See Marriott, Robert H., assignor.)
Universal Adding Machine Company. (See Wilson, William W., assignor.)
Universal Electric Welding Company. (See Lachman, Laurence S., assignor.)
Unruh, Victor von, New York, N. Y. Speculum. No. 977,489; Dec. 6; Sp. p. 138; Gaz. vol. 161; p. 24.
Upham, Burt F., Boston, Mass., assignor to C. B. Cottrell and Sons Company, Jersey City, N. J., and Westerly, R. I. Printing-surface and producing the same. No. 979,111; Dec. 20; Sp. p. 3687; Gaz. vol. 161; p. 639.
Utsman, Clarence W., Oakfield, N. Y. Elevator-boot. No. 977,908; Dec. 6; Sp. p. 1058; Gaz. vol. 161; p. 168.
Vacuna Company, The. (See Serrell, Lemuel W., assignor.)
Vail, George L., Denver, Colo. Ice-making system. No. 979,112; Dec. 20; Sp. p. 3690; Gaz. vol. 161; p. 640.
Valdez Creek Consolidated Mining Company. (See Merritt, Warren H., assignor.)
Valind, Joseph, assignor of one-half to G. Roulean, Gladstone, Mich. Grab hat-pin. No. 979,229; Dec. 20; Sp. p. 3949; Gaz. vol. 161; p. 682.
Vallquett, Joseph J., and C. F. Roush, Toledo, Ohio. Sand-tempering machine. No. 978,961; Dec. 20; Sp. p. 3331; Gaz. vol. 161; p. 587.
Vallem, Andrew, Ruthton, Minn. Wire-stretcher. No. 978,240; Dec. 13; Sp. p. 1784; Gaz. vol. 161; p. 313.
Vallone, Charles, and F. R. Rogers, assignors to Barcalo Manufacturing Company, Buffalo, N. Y. Dip painting-machine. No. 980,030; Dec. 27; Sp. p. 5649; Gaz. vol. 161; p. 973.
Van Anden, Frank, New York, N. Y. Memorandum device. No. 978,962; Dec. 20; Sp. p. 3334; Gaz. vol. 161; p. 587.
Van Atta, Fred E. (See Choate, Charles N., assignor.)
Van Berkel, Wilhelmus A., Rotterdam, Netherlands. Machine for slicing German sausages, &c. (Reissue.) No. 13,180; Dec. 6; Sp. p. 1530; Gaz. vol. 161; p. 247.
Van Bibber, Oscar J., Oswego, Kans. Rail brace or clamp. No. 979,230; Dec. 20; Sp. p. 3950; Gaz. vol. 161; p. 682.
Van Cleave, Robert A., Philadelphia, Pa. Nursing-bottle. No. 979,607; Dec. 27; Sp. p. 4735; Gaz. vol. 161; p. 831.
Van der Linde, Harold T. G., New York, N. Y. Recovery of rubber. No. 979,902; Dec. 27; Sp. p. 5382; Gaz. vol. 161; p. 930.
Van Gorder, Greenleaf S., assignor to Textile Specialty Company, Pike, N. Y. Bandage. No. 978,794; Dec. 13; Sp. p. 2967; Gaz. vol. 161; p. 502.
Van Hirtum, Leo, Newark, N. J. Photographic-printing frame. No. 977,525; Dec. 6; Sp. p. 240; Gaz. vol. 161; p. 36.
Van Horn, Leland L., Postville, Iowa. Railway-tie. No. 978,413; Dec. 13; Sp. p. 2156; Gaz. vol. 161; p. 375.
Van Norman, Frederick D., Springfield, Mass. Tool-holder for lathes. No. 979,903; Dec. 27; Sp. p. 5388; Gaz. vol. 161; p. 931.
Van Ranst, Samuel B., assignor to Crouse-Hinds Company, Syracuse, N. Y. Incandescent-electric-lamp socket. No. 979,608; Dec. 27; Sp. p. 4736; Gaz. vol. 161; p. 831.
Van Winkle, Walter H., assignor to Water Works Equipment Company, New York, N. Y. Portable pump. No. 978,241; Dec. 13; Sp. p. 1784; Gaz. vol. 161; p. 313.
Vance, Walter N., Waukegan, Ill. Locker. No. 978,963; Dec. 20; Sp. p. 3335; Gaz. vol. 161; p. 587.
Vanderveld, Anthony, assignor to Grand Rapids Show Case Company, Grand Rapids, Mich. Latch for movable garment-supports. No. 977,573; Dec. 6; Sp. p. 362; Gaz. vol. 161; p. 53.
Varley, Thomas W., New York, N. Y., assignor to Westinghouse Electric and Manufacturing Company. Electrical measuring instrument. No. 978,518; Dec. 13; Sp. p. 2374; Gaz. vol. 161; p. 410.
Vauclain, Samuel M., assignor, by mesne assignments, to Baldwin Locomotive Works, Philadelphia, Pa. Deflector for smoke-box superheaters or feed-water heaters. No. 978,795; Dec. 13; Sp. p. 2968; Gaz. vol. 161; p. 502.
Vaughn, Calvin W., Cuyahoga Falls, Ohio. Safety-stop for wire-blocks. No. 977,490; Dec. 6; Sp. p. 139; Gaz. vol. 161; p. 24.
Vaughn, De Will G., Richmond, Va. Chain-repairing tool. No. 979,609; Dec. 27; Sp. p. 4739; Gaz. vol. 161; p. 832.
Vaughn, George M., Chautauqua, Kans. Sinker. No. 978,519; Dec. 13; Sp. p. 2376; Gaz. vol. 161; p. 410.
Velt, Johann, Hanau, Germany. Sound-box for talking-machines. No. 979,231; Dec. 20; Sp. p. 3951; Gaz. vol. 161; p. 682.
Venn, Isaac H., Yonkers, N. Y., assignor to Otis Elevator Company, East Orange, N. J. Valve-controlling device. No. 979,725; Dec. 27; Sp. p. 4985; Gaz. vol. 161; p. 871.
Vereinigte Chininfabriken Zimmer & Co., G. m. b. H. (See Thron, Heinrich, assignor.)
Vetter, Charles L., Philadelphia, Pa. Incubator. No. 978,520; Dec. 13; Sp. p. 2377; Gaz. vol. 161; p. 410.
Viall, Fay, *et al.* (See Gould, Edward, assignor.)
Victor Safe & Lock Company, The. (See Scott, John J., assignor.)
Victor Talking Machine Company. (See Dennison, Wilburn N., assignor.)
Viele, James A., Warren, Pa. Internal-combustion engine. No. 979,359; Dec. 20; Sp. p. 4194; Gaz. vol. 161; p. 723.
Vieser, Frederick A., Camden, N. J. Printing-roll for linoleum and oil-cloth. No. 978,080; Dec. 6; Sp. p. 1413; Gaz. vol. 161; p. 228.
Vigdal, Benjamin, Armstrong, Iowa. Locking can-cover. No. 977,491; Dec. 6; Sp. p. 141; Gaz. vol. 161; p. 25.
Vincer, John R. (See Barnes and Vincer.)
Virgin, Uriah J. (See Lincoln, Joshua A., assignor.)
Virginia Laboratory Company. (See Kügelgen and Seward, assignors.)
Virtue, Dennis E., Owatonna, Minn. Combined churn and butter-worker. No. 979,610; Dec. 27; Sp. p. 4741; Gaz. vol. 161; p. 832.
Vitello, Joseph A., Abbeville, La. Tire. No. 977,492; Dec. 6; Sp. p. 142; Gaz. vol. 161; p. 25.
Vivarttas, William O., Canton, Ohio. Cutter-head for woodworking machinery. No. 978,414; Dec. 13; Sp. p. 2157; Gaz. vol. 161; p. 375.
Vocalstyle Music Company, The. (See Miller, Harry G., assignor.)
Vogelmann, Joseph A., Brooklyn, N. Y. Fountain-pen. No. 979,360; Dec. 20; Sp. p. 4199; Gaz. vol. 161; p. 724.
Voight, Henry G., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Lock. No. 977,688; Dec. 6; Sp. p. 606; Gaz. vol. 161; p. 92.

Voight, Henry G., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Sash-pulley. No. 978,796; Dec. 13; Sp. p. 2970; Gaz. vol. 161; p. 503.
Voight, Henry G., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Cylinder-lock. No. 978,964; Dec. 20; Sp. p. 3337; Gaz. vol. 161; p. 587.
Voight, Henry G., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Key-holder for locks. No. 978,965; Dec. 20; Sp. p. 3339; Gaz. vol. 161; p. 588.
Voight, Henry G., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Sash-cord pulley. No. 980,031; Dec. 27; Sp. p. 5653; Gaz. vol. 161; p. 974.
Völler, Karl, Dusseldorf, Germany. Aiming apparatus for guns. No. 979,232; Dec. 20; Sp. p. 3952; Gaz. vol. 161; p. 682.
Voss, William, Wilmington, Del., assignor to American Car and Foundry Company, St. Louis, Mo. Truck. No. 978,242; Dec. 13; Sp. p. 1786; Gaz. vol. 161; p. 313.
Vulcan Steam Shovel Company, The. (See Frayer, Charles A., assignor.)
Vulpescu, Iov. Detroit, Mich. Means for fastening rubber heels. No. 979,361; Dec. 20; Sp. p. 4200; Gaz. vol. 161; p. 724.
Vuncannon, Eli, assignor of one-half to D. Kinsey, Prague, Okla. Detachable axle-stub. No. 977,985; Dec. 6; Sp. p. 1216; Gaz. vol. 161; p. 195.
W. F. & John Barnes Company. (See Barnes and Vincer, assignors.)
W. J. Leary Manufacturing Co. (See Leary, William J., assignor.)
Waage, Alvin H. and C. P., Chicago, Ill. Electric soldering-iron. No. 979,904; Dec. 27; Sp. p. 5391; Gaz. vol. 161; p. 931.
Waage, Clarence P. (See Waage, Alvin H. and C. P.)
Wachtler, Frank E. (See Davidson, John E., assignor.)
Waddell, Westley, Eagle Grove, Iowa. Claw-bar. No. 977,986; Dec. 6; Sp. p. 1217; Gaz. vol. 161; p. 196.
Wagener, Emil, Dahlhausen-on-the-Ruhr, Germany. Removing tar in recovering ammonia. No. 977,909; Dec. 6; Sp. p. 1060; Gaz. vol. 161; p. 169.
Wahl-Henius Institute of Fermentology. (See Nilson, Arvid, assignor.)
Wahl, Robert, Chicago, Ill. Manufacture of malt beverages. No. 979,810; Dec. 27; Sp. p. 5190; Gaz. vol. 161; p. 900.
Wahlstrom, Verner J., New York, N. Y. Oil-cup. No. 978,521; Dec. 13; Sp. p. 2378; Gaz. vol. 161; p. 411.
Walt, Henry H., Chicago, Ill. Rotor for high-speed electrical machines. No. 980,032; Dec. 27; Sp. p. 5653; Gaz. vol. 161; p. 974.
Walt, William B., New York, N. Y. Device for automatically adjusting plates. No. 978,081; Dec. 6; Sp. p. 1414; Gaz. vol. 161; p. 228.
Wakefield, William O., Schenectady, N. Y., assignor to General Electric Company. Belt-regulator. No. 977,764; Dec. 6; Sp. p. 764; Gaz. vol. 161; p. 118.
Walden, Edward, Ardmore, Okla. Bale or package tie. No. 890,136; Dec. 27; Sp. p. 5906; Gaz. vol. 161; p. 1008.
Waldheim, John, Newark, N. J., assignor to Union Typewriter Company, Ilion, N. Y. Type-writing machine. No. 978,522; Dec. 13; Sp. p. 2381; Gaz. vol. 161; p. 411.
Waldrum, Joseph W. (See Andrews and Waldrum.)
Wales, Emory A., Oklahoma, Okla. Crude-oil burner. No. 978,797; Dec. 13; Sp. p. 2971; Gaz. vol. 161; p. 503.
Wales, Samuel S., Munhall, assignor to Carnegie Steel Company, Pittsburg, Pa. Heat treatment of steel. No. 979,113; Dec. 20; Sp. p. 3692; Gaz. vol. 161; p. 640.
Walker, Arthur F., Herne Hill, and J. Gillies, Brixton, London, England. Tire-armor. No. 978,243; Dec. 13; Sp. p. 1790; Gaz. vol. 161; p. 314.
Walker, George, assignor to Landers, Frary and Clark, New Britain, Conn. Spring-scale. No. 979,611; Dec. 27; Sp. p. 4743; Gaz. vol. 161; p. 833.
Walker, Robert B., Strathcona, Alberta, Canada. Cattle-guard. No. 980,033; Dec. 27; Sp. p. 5656; Gaz. vol. 161; p. 974.
Wallace, Joseph D., Champaign, Ill. Spraying-machine. No. 978,082; Dec. 6; Sp. p. 1416; Gaz. vol. 161; p. 229.
Wallem, Axel B., Moores, assignor to Harrison Safety Boiler Works, Philadelphia, Pa. Feed-water heater and separator. No. 979,612; Dec. 27; Sp. p. 4744; Gaz. vol. 161; p. 833.
Wallem, Axel B., Moores, assignor to Harrison Safety Boiler Works, Philadelphia, Pa. Valve. No. 979,811; Dec. 27; Sp. p. 5191; Gaz. vol. 161; p. 900.
Wallmann, Johann G., assignor of one-half to E. Pierce, Oakland, Cal. Electric sealing device. No. 979,905; Dec. 27; Sp. p. 5393; Gaz. vol. 161; p. 932.
Walmsley, Joseph. (See Wright and Walmsley.)
Walsh, Arthur Q., New York, N. Y. Tobacco-pipe. No. 977,910; Dec. 6; Sp. p. 1061; Gaz. vol. 161; p. 169.
Walsh, Dennis T., Ansonia, Conn. Back-up brake for vehicles. No. 978,966; Dec. 20; Sp. p. 3340; Gaz. vol. 161; p. 588.
Walsh Manufacturing Company. (See Dingman, Charles H., assignor.)
Walsh, William J., Hamilton, Ontario, Canada. Book. No. 978,244; Dec. 13; Sp. p. 1790; Gaz. vol. 161; p. 314.
Walston, John T., Springfield, Mo. Automatically-operated gate. No. 979,613; Dec. 27; Sp. p. 4747; Gaz. vol. 161; p. 833.
Walter, Frederick J., Decatur, Ill. Mausoleum structure. No. 977,493; Dec. 6; Sp. p. 144; Gaz. vol. 161; p. 25.
Walther, Robert, Pittsburg, Pa. Trick drinking-mug. No. 978,681; Dec. 13; Sp. p. 2739; Gaz. vol. 161; p. 466.
Walton, Jerrold F. (See Luedders, Arthur D., assignor.)
Walton, Luther, Norristown, Pa. Closure for bottles. No. 979,233; Dec. 20; Sp. p. 3953; Gaz. vol. 161; p. 682.
Wanta, Ignac, Milwaukee, Wis. Roller-skate. No. 978,523; Dec. 13; Sp. p. 2390; Gaz. vol. 161; p. 412.
Wappler, Edwin. (See Martin, Margaret A., assignor.)
Warburton, John, and A. Gardiner, Paterson, N. J. Loom. No. 979,114; Dec. 20; Sp. p. 3694; Gaz. vol. 161; p. 640.
Ward, Frederick H., *et al.* (See Smith, George A., assignor.)
Ward, John A., Spokane, Wash. Electric switch. No. 979,050; Dec. 20; Sp. p. 3527; Gaz. vol. 161; p. 617.
Ward, John S., Chicago, Ill. Fluid-actuated motor. No. 977,574; Dec. 6; Sp. p. 363; Gaz. vol. 161; p. 53.
Ward, John S., Chicago, Ill. Driving mechanism for pumps. No. 978,682; Dec. 13; Sp. p. 2740; Gaz. vol. 161; p. 467.
Warden, Henry, Fredericksburg, Va. Gate-opening device. No. 978,245; Dec. 13; Sp. p. 1792; Gaz. vol. 161; p. 314.
Warner, Frederick E., Bridgeport, Conn. Tumbling-barrel. No. 978,524; Dec. 13; Sp. p. 2391; Gaz. vol. 161; p. 412.
Warner, William E., Houston, Tex. Floor-surfacing machine. No. 979,614; Dec. 27; Sp. p. 4749; Gaz. vol. 161; p. 834.
Warnick, Harry T., *et al.* (See Morrison, Augustus H., assignor.)
Warren, John J., Brownville, N. Y. Winding-machine. No. 978,967; Dec. 20; Sp. p. 3345; Gaz. vol. 161; p. 588.
Warren, Peter R., Lowell, Mass. Box. No. 979,812; Dec. 27; Sp. p. 5195; Gaz. vol. 161; p. 901.
Warren Webster & Company. (See Comfort, Edward W., assignor.)
Warrick, Joseph S., Kansas City, Mo. Collar for concrete railway-ties. No. 979,615; Dec. 27; Sp. p. 4751; Gaz. vol. 161; p. 834.
Warth, Nathaniel G., Columbus, Ohio. Telephone repeater system. No. 978,083; Dec. 6; Sp. p. 1418; Gaz. vol. 161; p. 229.
Water Works Equipment Company. (See Van Winkle, Walter H., assignor.)
Waterbury Button Company. (See Smith, Joseph R., assignor.)
Waterbury Mfg. Co. (See Perkins, Walter H., assignor.)
Waterloo Gasoline Engine Company. (See Witry, Louis W., assignor.)
Watrous, Lawrence K., Sea Cliff, N. Y. Nut-lock. No. 980,034; Dec. 27; Sp. p. 5657; Gaz. vol. 161; p. 975.
Watson, Joseph L., Riesel, Tex. Dipper-trip for steam-shovels. No. 978,084; Dec. 6; Sp. p. 1426; Gaz. vol. 161; p. 230.
Watt, Hugh, Yarram Yarram, Victoria, Australia. Cultivating-machine for tilling and weeding land. No. 977,911; Dec. 6; Sp. p. 1062; Gaz. vol. 161; p. 169.
Watts, Henry C., Fayetteville, Tenn. Bill and letter file. No. 977,494; Dec. 6; Sp. p. 145; Gaz. vol. 161; p. 25.
Way, Chester F., Elm Creek, Nebr. Stacking device. No. 977,575; Dec. 6; Sp. p. 365; Gaz. vol. 161; p. 53.
Wenner, Cornelius, Toledo, assignor of one-half to G. Henry, Risingsun, Ohio. Fastener for railway-rails. No. 978,708; Dec. 13; Sp. p. 2972; Gaz. vol. 161; p. 503.
Weatherson, Christopher, Chicago, Ill., assignor to The American Bridge Company, Pittsburg, Pa. Pneumatic riveting-tool. No. 979,617; Dec. 27; Sp. p. 4753; Gaz. vol. 161; p. 835.
Weaver, Arvie E. J., Brewton, Ala. Ironing-board. No. 978,342; Dec. 13; Sp. p. 2006; Gaz. vol. 161; p. 349.
Weaver, Ira A., assignor to Racine-Sattley Company, Springfield, Ill. Lister. No. 977,576; Dec. 6; Sp. p. 367; Gaz. vol. 161; p. 54.
Webb, Joseph, assignor to The Bivalve Company, Cincinnati, Ohio. Mussel-dredge and separating apparatus. No. 978,968; Dec. 20; Sp. p. 3348; Gaz. vol. 161; p. 589.
Webber, Arthur H., Boston, Mass. Internal-combustion engine. No. 978,969; Dec. 20; Sp. p. 3352; Gaz. vol. 161; p. 589.
Weber, George J., assignor to L. M. Weber, Kansas City, Mo. Producing gas. No. 978,970; Dec. 20; Sp. p. 3353; Gaz. vol. 161; p. 590.
Weber, George W., assignor to American Can Company, New York, N. Y. Can-flange swaging and soldering machine. No. 977,680; Dec. 6; Sp. p. 608; Gaz. vol. 161; p. 93.
Weber, Josef. (See Goldschmidt and Weber.)
Weber, Louesa M. (See Weber, George J., assignor.)
Weber, R. H. (See Neudeck, Benjamin F., assignor.)
Weiher, Louis F., New York, N. Y. Window-shade support. No. 978,246; Dec. 13; Sp. p. 1796; Gaz. vol. 161; p. 315.
Weiher, Louis F., New York, N. Y. Window-shade support. No. 978,247; Dec. 13; Sp. p. 1798; Gaz. vol. 161; p. 315.
Weiler, Max, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Aurin dye. No. 978,799; Dec. 13; Sp. p. 2974; Gaz. vol. 161; p. 503.
Weiler, Max, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Aurin dyestuff. No. 978,800; Dec. 13; Sp. p. 2975; Gaz. vol. 161; p. 503.
Weiler, Max, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Aurin dye. No. 978,801; Dec. 13; Sp. p. 2975; Gaz. vol. 161; p. 504.

Weller, Max, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Aurin dye. No. 978,802; Dec. 13; Sp. p. 2976; Gaz. vol. 161; p. 504.
Weinberg, Fritz, New York, N. Y., assignor of two-thirds to E. Berliner, Washington, D. C. Electrolytic cell. No. 979,906; Dec. 27; Sp. p. 5395; Gaz. vol. 161; p. 932.
Weinland, Henry F., assignor to The Lagonda Manufacturing Company, Springfield, Ohio. Rotary motor. No. 978,085; Dec. 6; Sp. p. 1427; Gaz. vol. 161; p. 230.
Weinland, Henry F., assignor to The Lagonda Manufacturing Company, Springfield, Ohio. Rotary motor. No. 978,086; Dec. 6; Sp. p. 1430; Gaz. vol. 161; p. 231.
Weinland, Henry F. and H. G., assignors to The Lagonda Manufacturing Company, Springfield, Ohio. Rotary motor for driving boiler-tube cleaners. No. 978,088; Dec. 6; Sp. p. 1433; Gaz. vol. 161; p. 231.
Weinland, Henry F. and H. G., assignors to The Lagonda Manufacturing Company, Springfield, Ohio. Turbine for driving boiler-tube cleaners. No. 978,089; Dec. 6; Sp. p. 1436; Gaz. vol. 161; p. 232.
Weinland, Henry F. and H. G., and G. H. Ainge, assignors to The Lagonda Manufacturing Company, Springfield, Ohio. Lubricating device. No. 978,087; Dec. 6; Sp. p. 1431; Gaz. vol. 161; p. 231.
Weinland, Hermon G. (See Weinland and Ainge.)
Weir, James G., Glasgow, Scotland. Apparatus for heating or cooling oil or other viscous liquids. No. 979,618; Dec. 27; Sp. p. 4755; Gaz. vol. 161; p. 835.
Weisberger, Benjamin. (See Ostrander, William H., assignor.)
Weissenborn, Albert B., Appleton, Wis. Loom. No. 978,248; Dec. 13; Sp. p. 1801; Gaz. vol. 161; p. 316.
Welded Steel Wheel Company. (See Lachman, Maurice, assignor.)
Wellenkamp, Hermann, Kiel, Germany. Ship-model testing. No. 978,090; Dec. 6; Sp. p. 1439; Gaz. vol. 161; p. 232.
Weller, Henry. (See Nielsen and Weller.)
Wells, Alpherd P., East Stone Gap, Va. Fruit-picker. No. 978,683; Dec. 13; Sp. p. 2742; Gaz. vol. 161; p. 467.
Weman, Klas, Buffalo, assignor to Ericsson Manufacturing Company, Tonawanda, N. Y. Telephone-switchboard key. No. 979,616; Dec. 27; Sp. p. 4752; Gaz. vol. 161; p. 884.
Wensley, William, Seattle, Wash. Making solid mastbands. No. 979,403; Dec. 20; Sp. p. 4282; Gaz. vol. 161; p. 736.
Wentworth, Henry A., Newton, assignor to Huff Electrostatic Separator Company, Boston, Mass. Process of separation. No. 980,035; Dec. 27; Sp. p. 5659; Gaz. vol. 161; p. 975.
Werts, David E., Olympia, Wash. Rule. No. 978,525; Dec. 13; Sp. p. 2393; Gaz. vol. 161; p. 412.
Wessel, Louis, assignor to The Cincinnati Ball Crank Company, Cincinnati, Ohio. Ball-and-socket joint. No. 978,091; Dec. 6; Sp. p. 1442; Gaz. vol. 161; p. 233.
Wesson, Joseph H., Springfield, Mass. Safety-stop for automatic pistols. No. 978,092; Dec. 6; Sp. p. 1443; Gaz. vol. 161; p. 233.
Wesson, Joseph H., Springfield, Mass. Firearm. No. 978,415; Dec. 13; Sp. p. 2159; Gaz. vol. 161; p. 375.
West, Glen F., Colby, Kans. Medicated poultry-roost. No. 978,526; Dec. 13; Sp. p. 2395; Gaz. vol. 161; p. 412.
West, John T., Bowling Green, Ky. Railway-track-rail holder and brace. No. 980,036; Dec. 27; Sp. p. 5662; Gaz. vol. 161; p. 975.
Westcott, Charles H., assignor of one-half to C. E. Jewell, Seneca Falls, N. Y. Ruler. No. 979,234; Dec. 20; Sp. p. 3954; Gaz. vol. 161; p. 683.
Westerbeck, Frederick, St. Louis, Mo. Sheet-metal can. No. 979,813; Dec. 27; Sp. p. 5197; Gaz. vol. 161; p. 901.
Westerbeck, Frederick, St. Louis, Mo. Refrigerator. No. 979,814; Dec. 27; Sp. p. 5198; Gaz. vol. 161; p. 901.
Westerbeck, Frederick, St. Louis, Mo. Container. No. 979,815; Dec. 27; Sp. p. 5200; Gaz. vol. 161; p. 901.
Westerman, Thomas J., Olalla, Wash. Turbine. No. 979,619; Dec. 27; Sp. p. 4757; Gaz. vol. 161; p. 835.
Westinghouse Air Brake Company, The. (See Cass, Christopher P., assignor.)
Westinghouse Air Brake Company, The. (See Farmer, Clyde C., assignor.)
Westinghouse Air Brake Company, The. (See Mahoney, Joseph N., assignor.)
Westinghouse Electric and Manufacturing Company. (See Abtmeyer, Theodore, assignor.)
Westinghouse Electric & Manufacturing Company. (See Branson, Walter J., assignor.)
Westinghouse Electric & Manufacturing Company. (See Cooper, William, assignor.)
Westinghouse Electric and Manufacturing Company. (See Hadaway, William S., Jr., assignor.)
Westinghouse Electric & Manufacturing Company. (See Harris, Ford W., assignor.)
Westinghouse Electric & Manufacturing Company. (See Lamme, Benjamin G., assignor.)
Westinghouse Electric & Manufacturing Company. (See Lincoln, Paul M., assignor.)
Westinghouse Electric & Manufacturing Company. (See MacGahan, Paul, assignor.)
Westinghouse Electric & Manufacturing Company. (See Schairer, Otto S., assignor.)
Westinghouse Electric & Manufacturing Company. (See Thompson, Wilbur H., assignor.)
Westinghouse Electric and Manufacturing Company. (See Varley, Thomas W., assignor.)
Westinghouse Electric & Manufacturing Company. (See Wikander, Ragnar, assignor.)
Westinghouse Machine Company, The. (See Dow, Herbert H., assignor.)
Westinghouse Machine Company, The. (See Hodgkinson, Francis, assignor.)
Westlake, Charles T., and C. F. Frede, assignors to Commonwealth Steel Company, St. Louis, Mo. Car-underframe. No. 979,115; Dec. 20; Sp. p. 3695; Gaz. vol. 161; p. 641.
Westphal, Albert, assignor of one-half to W. T. Giles, Baltimore, Md. Vehicle-wheel. No. 978,249; Dec. 13; Sp. p. 1807; Gaz. vol. 161; p. 316.
Westwell, Herbert R., Lawrence, Mass. Automatic stop mechanism for wool-combing machines. No. 979,620; Dec. 27; Sp. p. 4761; Gaz. vol. 161; p. 836.
Wetherill, Richard W., Ambler, Pa., assignor to The J. M. Dodge Company, Naugatuck, Conn. Adjustable chute for car-loaders. No. 978,803; Dec. 13; Sp. p. 2976; Gaz. vol. 161; p. 504.
Weule, Arthur F. H., San Francisco, Cal. Azimuth instrument. No. 978,093; Dec. 6; Sp. p. 1445; Gaz. vol. 161; p. 233.
Wever, Sebern J., Sheller, Ill. Ironing-board. No. 979,621; Dec. 27; Sp. p. 4764; Gaz. vol. 161; p. 836.
Whaley, Charles W., Indianapolis, Ind. Trolley circuit connection. No. 979,116; Dec. 20; Sp. p. 3697; Gaz. vol. 161; p. 641.
Wheeler Condenser and Engineering Company. (See Christie and Roberts, assignors.)
Wheeler, Joel N., Geneva, Ill. Child's sulky. No. 977,495; Dec. 6; Sp. p. 146; Gaz. vol. 161; p. 26.
Wheichel, James F., assignor of one-half to R. I. Holland, Murrayville, Ga. Sweep-shaper. No. 978,410; Dec. 13; Sp. p. 2162; Gaz. vol. 161; p. 375.
White, Alfred S., Chicago, Ill. Gas-pump. No. 977,690; Dec. 6; Sp. p. 613; Gaz. vol. 161; p. 93.
White, Clair, Smethport, Pa. T-square holder. No. 977,765; Dec. 6; Sp. p. 766; Gaz. vol. 161; p. 119.
White, Ezekial F., Atlanta, Ga. Carbureter. No. 979,907; Dec. 27; Sp. p. 5395; Gaz. vol. 161; p. 932.
White, Frank L., assignor of one-half to T. F. Hutchinson, Little Rock, Ark. Wheel. No. 979,816; Dec. 27; Sp. p. 5202; Gaz. vol. 161; p. 902.
White, Harold E., Schenectady, N. Y., assignor to General Electric Company. Motor-control system. No. 977,912; Dec. 6; Sp. p. 1065; Gaz. vol. 161; p. 160.
White, Henderson N., Cleveland, Ohio. Slide-trombone. No. 977,766; Dec. 6; Sp. p. 767; Gaz. vol. 161; p. 119.
White, Henry A. (See Bishop, Columbus H., assignor.)
White Manufacturing Company, The. (See Mathews, Charles O., assignor.)
White, Warren B., North Abington, Mass. Insole-lip-forming machine. No. 977,767; Dec. 6; Sp. p. 768; Gaz. vol. 161; p. 119.
Whitehead & Company. (See Hay, Marley F., assignor.)
Whitehead, Edwin J., assignor to The Trenton Potteries Company, Trenton, N. J. Forming ornamentations on articles of earthenware. No. 979,726; Dec. 27; Sp. p. 4994; Gaz. vol. 161; p. 872.
Whiting Foundry Equipment Company. (See Rodger, James B., assignor.)
Whiting, Richard R., Norwood, Ohio. Card-exhibiting device. No. 979,117; Dec. 20; Sp. p. 3698; Gaz. vol. 161; p. 641.
Whitley, William P., assignor to The Rawlings Manufacturing Company, St. Louis, Mo. Ball. No. 978,250; Dec. 13; Sp. p. 1808; Gaz. vol. 161; p. 316.
Whitman, James N., Philadelphia, Pa., assignor of one-half to M. T. Reynolds, Albany, N. Y. Treating fine ores. No. 978,971; Dec. 20; Sp. p. 3355; Gaz. vol. 161; p. 590.
Whitney, Charles B., Hyde Park, Mass. Ball-cock. No. 979,235; Dec. 20; Sp. p. 3955; Gaz. vol. 161; p. 683.
Whitney, Horace E., assignor to Dover Stamping and Manufacturing Company, Cambridge, Mass. Oil-can or tool box. No. 978,251; Dec. 13; Sp. p. 1809; Gaz. vol. 161; p. 317.
Whitt, Robert D., McNeil, Ark. Harrow. No. 978,804; Dec. 13; Sp. p. 2977; Gaz. vol. 161; p. 504.
Whittaker, Thomas R., Lawrence, Mass. Feed-water regulator. No. 980,037; Dec. 27; Sp. p. 5663; Gaz. vol. 161; p. 975.
Whittemore, William C., Redlands, assignor of one-third to W. J. Leith, San Diego, Cal. Milk-bottle holder. No. 978,972; Dec. 20; Sp. p. 3356; Gaz. vol. 161; p. 590.
Wiard, John B., Lynn, Mass., assignor to General Electric Company. Dynamo-electric machine. No. 977,768; Dec. 6; Sp. p. 772; Gaz. vol. 161; p. 119.
Wickey, Andrew, East Chicago, Ind. Baling-press. No. 977,913; Dec. 6; Sp. p. 1067; Gaz. vol. 161; p. 170.
Wiegand, Wilhelm, Merseburg, assignor to R. Rieder, Frankfort-on-the-Main, Germany. Apparatus for making extracts. No. 979,362; Dec. 20; Sp. p. 4201; Gaz. vol. 161; p. 724.
Wieland, William F., *et al.* (See Olds, Frederick P., assignor.)
Wiemer, Charles D., Los Angeles, Cal. Switch mechanism. No. 978,805; Dec. 13; Sp. p. 2978; Gaz. vol. 161; p. 504.
Wiggington, George P., and F. W. Hodges, assignors to Kalamazoo Loose Leaf Binder Company, Kalamazoo, Mich. Temporary binder or loose-leaf holder. No. 979,622; Dec. 27; Sp. p. 4765; Gaz. vol. 161; p. 837.

Wikander, Anders J., South Windham, Conn., assignor of one-half to Axel T. Johnson, Brooklyn, N. Y. Gearing. No. 978,252; Dec. 13; Sp. p. 1810; Gaz. vol. 161; p. 317.
Wikander, Ragnar, Edgewood Park, Pa., assignor to Westinghouse Electric & Manufacturing Company. Electromagnet. No. 977,577; Dec. 6; Sp. p. 871; Gaz. vol. 161; p. 54.
Wilcox, Frank E., Mechanicsburg, Pa. Vehicle-gear. No. 977,769; Dec. 6; Sp. p. 773; Gaz. vol. 161; p. 120.
Wilcox Manufacturing Company. (See Prouty, Theodore C., assignor.)
Wilcox & White Company, The. (See Gunton, Frank W., assignor.)
Wilhite, Bertnie M., and L. Oberwetter, Gordon, Nebr. Hame and trace connector. No. 977,914; Dec. 6; Sp. p. 1071; Gaz. vol. 161; p. 170.
Wilkins, Albert A., Middleton, assignor of one-half to F. R. and C. E. Campbell, Lynn, Mass. Incandescent electric lamp. No. 978,004; Dec. 6; Sp. p. 1447; Gaz. vol. 161; p. 234.
Wilkinson, Ephraim M., Oswego, N. Y. Boiler. No. 977,915; Dec. 6; Sp. p. 1072; Gaz. vol. 161; p. 170.
Wilkinson, George, Philadelphia, Pa., assignor to Wilkinson Water Purifying Company. System of purifying feed-water. No. 977,578; Dec. 6; Sp. p. 372; Gaz. vol. 161; p. 55.
Wilkinson, Samuel, Osceola Mills, Pa. Car-wheel. No. 979,051; Dec. 20; Sp. p. 3528; Gaz. vol. 161; p. 617.
Wilkinson Water Purifying Company. (See Wilkinson, George, assignor.)
Wilkinson, William A., Minneapolis, Minn., and A. H. Irving, Spokane, Wash. Friction-clutch. No. 978,253; Dec. 13; Sp. p. 1815; Gaz. vol. 161; p. 317.
Willet, John G., assignor of eighteen one-hundredths to I. Michael, eighteen one-hundredths to E. Michael, eighteen one-hundredths to C. L. Ingham, and eighteen one-hundredths to E. C. Lufkin, Buffalo, N. Y. Carbureter. No. 979,908; Dec. 27; Sp. p. 5397; Gaz. vol. 161; p. 933.
Willet, Omer A., Lawrence, Mass. Curtain-hanger. No. 978,095; Dec. 6; Sp. p. 1448; Gaz. vol. 161; p. 234.
William M. Crane Company. (See Brock, John M., assignor.)
Williams, Benjamin F. (See Burdick, Fulton, and Williams.)
Williams, Charles E., assignor to Bay State Tap and Die Company, Mansfield, Mass. Tap-wrench. No. 977,601; Dec. 6; Sp. p. 616; Gaz. vol. 161; p. 94.
Williams, Charles H., Jr., assignor to Chicago Railway Equipment Company, Chicago, Ill. Adjustable brake-head. No. 979,623; Dec. 27; Sp. p. 4767; Gaz. vol. 161; p. 837.
Williams, Charles H., Jr., assignor to Chicago Railway Equipment Company, Chicago, Ill. Brake-beam. No. 979,624; Dec. 27; Sp. p. 4769; Gaz. vol. 161; p. 837.
Williams, Charles I., Utica, N. Y. Asphalt-paving plant. No. 978,073; Dec. 20; Sp. p. 3359; Gaz. vol. 161; p. 590.
Williams, Francis M., Brownsville, Pa. Spike-puller. No. 978,684; Dec. 13; Sp. p. 2744; Gaz. vol. 161; p. 467.
Williams, John T., Reno, Nev. Swinging chair. No. 979,236; Dec. 20; Sp. p. 3957; Gaz. vol. 161; p. 683.
Williams, Samuel R., Oberlin, Ohio. Air-pump. No. 977,916; Dec. 6; Sp. p. 1075; Gaz. vol. 161; p. 171.
Williams, Thomas B. (See Smith and Williams.)
Williams, William R., Punxsutawney, Pa. Vending-machine. No. 979,625; Dec. 27; Sp. p. 4769; Gaz. vol. 161; p. 838.
Williamson, George, Rochdale, England. Apparatus for centering shafts and the like. No. 979,909; Dec. 27; Sp. p. 5400; Gaz. vol. 161; p. 933.
Wills, Harold A., Plainfield, N. J. Cross-tie or sleeper of reinforced concrete or other plastic material. No. 978,343; Dec. 13; Sp. p. 2007; Gaz. vol. 161; p. 349.
Wilson Carbide Works Company of St. Catharines, The. (See Creelman, Frank, assignor.)
Wilson, Freeman R., Jr., Worthington, Ohio, assignor, by mesne assignments, to The Jeffrey Manufacturing Company. Conveyer. No. 977,987; Dec. 6; Sp. p. 1218; Gaz. vol. 161; p. 196.
Wilson, Freeman R., Jr., Worthington, Ohio, assignor, by mesne assignments, to The Jeffrey Manufacturing Company. Conveyer. No. 977,988; Dec. 6; Sp. p. 1219; Gaz. vol. 161; p. 196.
Wilson, Benjamin F., Hastings, Nebr. Shock-loader for grain and hay. No. 980,038; Dec. 27; Sp. p. 5665; Gaz. vol. 161; p. 976.
Wilson, Charles B., Bartow, Fla. Detachable spindle. No. 978,096; Dec. 6; Sp. p. 1449; Gaz. vol. 161; p. 234.
Wilson, David P. (See Broadwell, William C., assignor.)
Wilson, George F., Pfafftown, N. C. Cutter-head. No. 977,989; Dec. 6; Sp. p. 1222; Gaz. vol. 161; p. 196.
Wilson, Henry E., assignor of one-fourth to R. W. McKinney, Chicago, Ill. Automobile engine-starter. No. 978,417; Dec. 13; Sp. p. 2164; Gaz. vol. 161; p. 376.
Wilson, James E., New York, N. Y., assignor to The National Lock Washer Co., Newark, N. J. Making steel spring-washers. No. 978,974; Dec. 20; Sp. p. 3362; Gaz. vol. 161; p. 591.
Wilson, John A., Jr., assignor to Noye Manufacturing Company, Buffalo, N. Y. Radiator. No. 978,975; Dec. 20; Sp. p. 3363; Gaz. vol. 161; p. 591.
Wilson, Rollin C. (See Schulte and Wilson.)
Wilson, William W., Chicago, Ill., assignor to Universal Adding Machine Company, St. Louis, Mo. Adding-machine. No. 978,527; Dec. 13; Sp. p. 2395; Gaz. vol. 161; p. 413.
Wilt, Abram D., Jr., Detroit, Mich. Twist-drill machine. No. 978,097; Dec. 6; Sp. p. 1451; Gaz. vol. 161; p. 234.
Winchester Optical Company. (See Slavin, William J., assignor.)
Winfield Electric Welding Company, The. (See Winfield, William C., assignor.)
Winfield, William C., assignor to The Winfield Electric Welding Company, Warren, Ohio. Electrical spot-welding machine. No. 978,418; Dec. 13; Sp. p. 2166; Gaz. vol. 161; p. 376.
Winkley, Erastus E., Lynn, Mass. Welt grooving and beveling machine. No. 977,496; Dec. 6; Sp. p. 148; Gaz. vol. 161; p. 26.
Winkley, Erastus E., Lynn, Mass. Heel-nailing machine. No. 979,237; Dec. 20; Sp. p. 3958; Gaz. vol. 161; p. 683.
Winslow, Sidney W. (See Holmes, Charles P. and E., assignors.)
Winslow, William H., assignor to The Steam Power Devices Company, Chicago, Ill. Wind-shield for vehicles. No. 978,254; Dec. 13; Sp. p. 1816; Gaz. vol. 161; p. 318.
Wirfs, Edward J., Memphis, Tenn. Door-fastener. No. 978,098; Dec. 6; Sp. p. 1457; Gaz. vol. 161; p. 235.
Wirt, Paul E., Bloomsburg, Pa. Fountain-pen. No. 978,419; Dec. 13; Sp. p. 2169; Gaz. vol. 161; p. 376.
Wirt, Paul E., Bloomsburg, Pa. Fountain-pen. No. 978,420; Dec. 13; Sp. p. 2173; Gaz. vol. 161; p. 377.
Wirt, Reuben D., Philadelphia, Pa. Cart. No. 978,344; Dec. 13; Sp. p. 2011; Gaz. vol. 161; p. 350.
Wise, Burman, Orleans, Nebr. Stock-waterer. No. 977,990; Dec. 6; Sp. p. 1223; Gaz. vol. 161; p. 197.
Witry, Louis W., assignor to Waterloo Gasoline Engine Company, Waterloo, Iowa. Combined charging and feeding device for gasolene-engines. No. 979,238; Dec. 20; Sp. p. 3971; Gaz. vol. 161; p. 684.
Wittmann, Joseph H., Kansas City, Mo. Envelop. No. 978,421; Dec. 13; Sp. p. 2175; Gaz. vol. 161; p. 377.
Witwer, Harvey O., Lethbridge, Alberta, Canada. Trainpipe coupling. No. 977,917; Dec. 6; Sp. p. 1077; Gaz. vol. 161; p. 171.
Wohl, Maurice J. (See Hertzberg and Wohl.)
Wohl, Maurice J., *et al.*, trustees. (See Hertzberg, Harry, assignor.)
Wolcott, Charles H., C. O., Jr., and E. N. Goodwyne, Forsyth, Ga. Fender. No. 977,991; Dec. 6; Sp. p. 1224; Gaz. vol. 161; p. 197.
Wolentarsky, Charles, assignor of one-fourth to C. H. Krippendorf, one-fourth to W. Fowler, and one-fourth to A. C. Oppenheimer, Cincinnati, Ohio. Attachment for sole-sewing machines. No. 978,099; Dec. 6; Sp. p. 1459; Gaz. vol. 161; p. 235.
Wolf, Charles K., and F. McClain, near Xenia, Ohio. Shock-compressor. No. 979,118; Dec. 20; Sp. p. 3702; Gaz. vol. 161; p. 641.
Wolf, Henry L. R., Dayton, Ohio. Paper box. No. 977,770; Dec. 6; Sp. p. 774; Gaz. vol. 161; p. 120.
Wolfe, Thomas G., Oklahoma, Okla. Cotton-seed-meal cooker. No. 980,039; Dec. 27; Sp. p. 5668; Gaz. vol. 161; p. 976.
Wolfenden, Frank, West Point, Miss. Roller crushing-mill. No. 977,918; Dec. 6; Sp. p. 1082; Gaz. vol. 161; p. 172.
Wolff, August, New York, N. Y. Music-stand. No. 979,626; Dec. 27; Sp. p. 4772; Gaz. vol. 161; p. 838.
Wolff, Louis, Jr., Chicago, Ill. Demountable-wheel-rim holder. No. 978,976; Dec. 20; Sp. p. 3365; Gaz. vol. 161; p. 591.
Wolff, Max F., Baltimore, Md. Garment-fastener. No. 977,579; Dec. 6; Sp. p. 374; Gaz. vol. 161; p. 55.
Wollheim, Heinrich, Berlin, Germany, assignor to The American Stamp and Ticket Vending Machine Company, Washington, D. C. Automatic coin-tester for coin-freed apparatus. No. 977,771; Dec. 6; Sp. p. 776; Gaz. vol. 161; p. 120.
Wollheim, Heinrich, Berlin, Germany, assignor to The American Stamp & Ticket Vending Machine Company, New York, N. Y. Automatic coin-tester for coin-freed apparatus. No. 980,040; Dec. 27; Sp. p. 5670; Gaz. vol. 161; p. 976.
Wood, Charles E., assignor of one-half to O. J. Gunnell, Danville, Ill. Bolt-holder and wrench. No. 978,100; Dec. 6; Sp. p. 1460; Gaz. vol. 161; p. 235.
Wood, Franz J., Des Moines, Iowa. Driving-gear for traction-engines. No. 978,977; Dec. 20; Sp. p. 3367; Gaz. vol. 161; p. 592.
Wood, George W., assignor of one-half to M. Shapiro, Camden, N. J. Furnace-tile. No. 979,627; Dec. 27; Sp. p. 4774; Gaz. vol. 161; p. 838.
Woodruff, George H. (See Sherman, Henry R., assignor.)
Woods Air Infuser Co., The. (See Woods, Erastus W., assignor.)
Woods, Charles H. (See Bone and Woods.)
Woods, Edwin S., Chicago, Ill. Side bearing for cars. (Reissue.) No. 13,181; Dec. 6; Sp. p. 1535; Gaz. vol. 161; p. 248.
Woods, Edwin S., Chicago, Ill. Antifriction-bearing for railway-cars. No. 979,119; Dec. 20; Sp. p. 3704; Gaz. vol. 161; p. 642.
Woods, Edwin S., Chicago, Ill. Antifriction-bearing. No. 979,120; Dec. 20; Sp. p. 3706; Gaz. vol. 161; p. 642.
Woods, Edwin S., Chicago, Ill. Antifriction-bearing. No. 979,727; Dec. 27; Sp. p. 4995; Gaz. vol. 161; p. 872.
Woods, Erastus W., assignor to The Woods Air Infuser Co., Chicago, Ill. Ventilator. No. 979,728; Dec. 27; Sp. p. 4997; Gaz. vol. 161; p. 872.

Woodward, Amos W. (See Albertson and Woodward.)
Woodward, Frank M. (See Albertson and Woodward.)
Woodward, Oscar, New York, assignor to Densmore Typewriter Company, Syracuse, N. Y. Type-writing machine. No. 978,255; Dec. 13; Sp. p. 1819; Gaz. vol. 161; p. 318.
Worne, Leonard H., Philadelphia, Pa. Connection for storage batteries and the like. No. 978,978; Dec. 20; Sp. p. 3369; Gaz. vol. 161; p. 592.
Worsley, Otto G., Bangor, Mich. Vehicle-wheel. No. 977,846; Dec. 6; Sp. p. 922; Gaz. vol. 161; p. 146.
Worthington, Alexander M., Duluth, and S. J. Baetz and J. W. Kreitter, Proctor, Minn. Car-door lock. No. 978,528; Dec. 13; Sp. p. 2307; Gaz. vol. 161; p. 413.
Wray Manufacturing Company. (See Falwell, Wray, assignor.)
Wright, Charles, Youngwood, Pa., assignor to The Wright Specialty Mfg. Co. Gage-cock. No. 978,256; Dec. 13; Sp. p. 1824; Gaz. vol. 161; p. 319.
Wright, Frederick, and J. Walmsley, Toronto, Ontario, Canada. Floor-sleeper anchoring and spacing device for concrete. No. 979,628; Dec. 27; Sp. p. 4775; Gaz. vol. 161; p. 839.
Wright, Hebden. (See Wright, James and H.)
Wright, James and H., Ingrow, near Keighley, England. Warp stop mechanism for looms. No. 978,345; Dec. 13; Sp. p. 2013; Gaz. vol. 161; p. 350.
Wright, John B., Greensboro, N. C. Safety attachment for car-brakes. No. 978,979; Dec. 20; Sp. p. 3370; Gaz. vol. 161; p. 592.
Wright, Lysander E., Newark, N. J. Internal-combustion engine. No. 977,847; Dec. 6; Sp. p. 923; Gaz. vol. 161; p. 146.
Wright, Robert E., Dalton, Ga. Pea-thresher. No. 978,529; Dec. 13; Sp. p. 2309; Gaz. vol. 161; p. 413.
Wright, Sigmund W., Philipsburg, Pa. Cup. No. 979,629; Dec. 27; Sp. p. 4776; Gaz. vol. 161; p. 839.
Wright Specialty Mfg. Co., The. (See Wright, Charles, assignor.)
Wroxina, Ignatz, West Haven, Conn. Piano-action. No. 979,729; Dec. 27; Sp. p. 4999; Gaz. vol. 161; p. 872.
Wurtz, Henry, Newark, N. J., assignor to American Chemical Eduction Company. Recovery of the paraffin ingredients from cannel-coals and other similarly-constituted bituminous materials without change in their chemical composition. No. 977,992; Dec. 6; Sp. p. 1225; Gaz. vol. 161; p. 197.
Wyckoff, Seamans & Benedict. (See Yaw, Clio B., assignor.)
Yarrow and Company (Bolton) Limited. (See Yarrow, Matthew, assignor.)
Yarrow, Matthew, Smithills, assignor to Yarrow and Company (Bolton) Limited, Bolton, England. Device for forming joints in pipes or mains. No. 978,346; Dec. 13; Sp. p. 2015; Gaz. vol. 161; p. 351.
Yarrow, Matthew, Smithills, assignor to Yarrow and Company (Bolton) Limited, Bolton, England. Machine for the manufacture of earthenware pipes. No. 978,347; Dec. 13; Sp. p. 2016; Gaz. vol. 161; p. 351.
Yassenoff, Isidor, assignor to The Swash Motor Washer Company, Columbus, Ohio. Washing-machine. No. 977,772; Dec. 6; Sp. p. 779; Gaz. vol. 161; p. 121.
Yaw, Clio B., New York, assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y. Type-writing machine. No. 979,630; Dec. 27; Sp. p. 4778; Gaz. vol. 161; p. 839.
Yeager, Frederick A., Thornburg, assignor of one-fourth to D. V. McConnel, New Brighton, Pa. Weather-strip. No. 979,631; Dec. 27; Sp. p. 4787; Gaz. vol. 161; p. 840.
Yeaton, Samuel C., Jr., New York, N. Y. Razor. No. 977,919; Dec. 6; Sp. p. 1084; Gaz. vol. 161; p. 172.
Yeatts, Edward D., Sanger, Tex. Cultivator-standard. No. 978,348; Dec. 13; Sp. p. 2018; Gaz. vol. 161; p. 351.
Yost Writing Machine Company. (See Smith, Arthur W., assignor.)
Young, Erwin M., *et al.* (See Hutchinson, Raleigh E., assignor.)
Young, Leonard A. (See Smith, Albert E., assignor.)
Younger, Joshua M. (See Younger, Vernon A., assignor.)
Younger, Vernon A., assignor to J. M. Younger, San Jose, Cal. Excavating-machine. No. 977,920; Dec. 6; Sp. p. 1085; Gaz. vol. 161; p. 172.
Zachow, Otto, Clintonville, Wis. Gasolene-supplying attachment for automobiles, &c. No. 980,041; Dec. 27; Sp. p. 5674; Gaz. vol. 161; p. 977.
Zahn, Oswald F., assignor to Zahn Self Righting Roller Bearing Company, Los Angeles, Cal. Roller-bearing. No. 977,692; Dec. 6; Sp. p. 618; Gaz. vol. 161; p. 94.
Zahn Self Righting Roller Bearing Company. (See Zahn, Oswald F., assignor.)
Zart, Arthur. (See Günther, Hesse, and Zart.)
Zeschmar, Ernest, Chicago, Ill. Match-lighter. No. 979,632; Dec. 27; Sp. p. 4788; Gaz. vol. 161; p. 840.
Ziebur, Johann, Cleveland, Ohio. Mop-wringer. No. 978,257; Dec. 13; Sp. p. 1826; Gaz. vol. 161; p. 319.
Zimmer, Ernest L. B., assignor to Zimmer Vacuum Renovator Company, Minneapolis, Minn. Air-pumping apparatus. No. 978,258; Dec. 13; Sp. p. 1827; Gaz. vol. 161; p. 319.
Zimmer Vacuum Renovator Company. (See Zimmer, Ernest L. B., assignor.)
Zimmerman, Bernard H., Stittville, and R. Hughes, Jr., Utica, N. Y., assignors, by mesne assignments, to Union Special Machine Company, Chicago, Ill. Sewing and trimming machine. (Reissue.) No. 13,182; Dec. 6; Sp. p. 1537; Gaz. vol. 161; p. 249.
Zizinia, Paul T., New York, N. Y. Garment-hanger. No. 977,921; Dec. 6; Sp. p. 1088; Gaz. vol. 161; p. 173.
Zizinia, Paul T., New York, N. Y. Garment-hanger. No. 978,422; Dec. 13; Sp. p. 2177; Gaz. vol. 161; p. 377.
Zizinia, Paul T., New York, N. Y. Garment-hanger. No. 978,423; Dec. 13; Sp. p. 2179; Gaz. vol. 161; p. 377.
Zuppa, Theodore. (See Albertoni and Zuppa.)
Zwelbel, Lewis F. (See Royer and Zwelbel.)

ALPHABETICAL LIST OF PATENTEES OF DESIGNS.

Badger Brass Manufacturing Company, The. (See Welles, Richard H., assignor.)
Bigney, Harold O., assignor to S. O. Bigney, Attleboro, Mass. Emblem. No. 41,033; Dec. 13; Gaz. vol. 161; p. 512.
Bigney, Sidney O. (See Bigney, Harold O., assignor.)
Biesch, Charles, Newport, Ky., assignor to The Crane & Breed Manufacturing Company, Cincinnati, Ohio. Burial-casket handle. No. 41,030; Dec. 6; Gaz. vol. 161; p. 253.
Bruguier Chemical Co. (See Thayer, Emma R. L., assignor.)
Crane & Breed Manufacturing Company, The. (See Biesch, Charles, assignor.)
Danver, James H., Beaver, assignor to United States Sanitary Manufacturing Company, Pittsburg, Pa. Pedestal for lavatories. No. 41,037; Dec. 13; Gaz. vol. 161; p. 512.
Diehl, Caroline W., Washington, D. C. Statuette. No. 41,050; Dec. 20; Gaz. vol. 161; p. 737.
Dorey, William A., New York, N. Y. Reflector or similar article. No. 41,029; Dec. 6; Gaz. vol. 161; p. 253.
Doten-Dunton Desk Co. (See Dunton, Kervin R., assignor.)
Dunton, Kervin R., assignor to Doten-Dunton Desk Co., Boston, Mass. Desk. No. 41,058; Dec. 27; Gaz. vol. 161; p. 1029.
Fritchle Automobile & Battery Company. (See Fritchle, Oliver P., assignor.)
Fritchle, Oliver P., assignor to Fritchle Automobile & Battery Company, Denver, Colo. Vehicle-body. No. 41,053; Dec. 20; Gaz. vol. 161; p. 738.
Gaffney, Michael W. (See Lang and Gaffney.)
Gamble, Joseph W., Philadelphia, Pa. Exhaust-steam separator-casing. No. 41,060; Dec. 27; Gaz. vol. 161; p. 1029.
Hacker, Emanuel M., New York, N. Y. Plaiting. Nos. 41,047–8; Dec. 13; Gaz. vol. 161; p. 514.
Haley, Reuben, Beaver, Pa., assignor to Jefferson Glass Company, Follansbee, W. Va. Flower-holder. No. 41,025; Dec. 6; Gaz. vol. 161; p. 252.
Haley, Reuben, Beaver, assignor to Westmoreland Specialty Company, Grapeville, Pa. Sugar-bowl. No. 41,034; Dec. 13; Gaz. vol. 161; p. 512.
Jameson, William A., Niagara Falls, N. Y. Spoon or similar article. Nos. 41,054–7; Dec. 27; Gaz. vol. 161; p. 1028.
Jefferson Glass Company. (See Haley, Reuben, assignor.)
Jefferson Glass Company. (See Schnelbach, Harry A., assignor.)
John Bromley & Sons. (See Petzold, Adolph, assignor.)
Joseph, Nathan, San Francisco, Cal. Emblem. No. 41,023; Dec. 6; Gaz. vol. 161; p. 252.
Keeble, Charles S., and R. B. Wakeley, Philadelphia, Pa. Shade-roller bracket. No. 41,036; Dec. 13; Gaz. vol. 161; pp. 512.
Krebs, William H., New Bedford, Mass. Dish. No. 41,027; Dec. 6; Gaz. vol. 161; p. 252.
Lang, Charles E., and M. W. Gaffney, assignors to The Rauch & Lang Carriage Company, Cleveland, Ohio. Vehicle-body. No. 41,038; Dec. 13; Gaz. vol. 161; p. 513.
Meakin & Ridgway. (See Wadsworth, John W., assignor.)
N. J. Rich & Company. (See Sampliner, Samuel S., assignor.)
Nerney, George E., Attleboro, Mass. Fraternal emblem. No. 41,024; Dec. 6; Gaz. vol. 161; p. 252.
Nerney, George E., Attleboro, Mass. Badge or jewel. No. 41,049; Dec. 20; Gaz. vol. 161; p. 737.
Paige, Willis H., Kansas City, Mo. Pen-rack and paper-clip holder. No. 41,026; Dec. 6; Gaz. vol. 161; p. 252.
Petzold, Adolph, assignor to John Bromley & Sons, Philadelphia, Pa. Rug. Nos. 41,039–46; Dec. 13; Gaz. vol. 161; pp. 513–14.
Rauch & Lang Carriage Company, The. (See Lang and Gaffney, assignors.)
Rowe, John S., Buffalo, N. Y. Lavatory. No. 41,059; Dec. 27; Gaz. vol. 161; p. 1029.
Sampliner, Samuel S., assignor to N. J. Rich & Company, Cleveland, Ohio. Neckscarf or muffler. Nos. 41,031–2; Dec. 6; Gaz. vol. 161; p. 253.
Schnelbach, Harry A., Crafton, Pa., assignor to Jefferson Glass Company, Follansbee, W. Va. Lamp-shade. No. 41,035; Dec. 13; Gaz. vol. 161; p. 512.
Stone, Frank P., Chicago, Ill. Automobile-body. No. 41,061; Dec. 27; Gaz. vol. 161; p. 1029.
Thayer, Emma R. L., Hastings-upon-Hudson, N. Y., assignor to Bruguier Chemical Co., Newark, N. J. Can. No. 41,028; Dec. 6; Gaz. vol. 161; p. 252.
Townsend, Edwin O., New York, N. Y. Monument. No. 41,062; Dec. 27; Gaz. vol. 161; p. 1029.
United States Sanitary Manufacturing Company. (See Danver, James H., assignor.)
Wadsworth, John W., Stoke-upon-Trent, England, assignor to Meakin & Ridgway, New York, N. Y. Plaque or similar article. No. 41,051; Dec. 20; Gaz. vol. 161; p. 737.
Wakeley, Robert B. (See Keeble and Wakeley.)
Welles, Richard H., assignor to The Badger Brass Manufacturing Company, Kenosha, Wis. Headlight. No. 41,052; Dec. 20; Gaz. vol. 161; p. 738.
Westmoreland Specialty Company. (See Haley, Reuben, assignor.)

ALPHABETICAL LIST OF REGISTRANTS OF TRADE-MARKS.

A. Schreiber Brewing Company, Buffalo, N. Y. Bottled beer. No. 80,443; Dec. 20; Gaz. vol. 161; p. 750.
A. Steinhardt & Bro., New York, N. Y. Certain pins and needles. No. 80,389; Dec. 13; Gaz. vol. 161; p. 526.
Adam Budge, New York, N. Y. Monthly magazines. No. 80,343; Dec. 13; Gaz. vol. 161; p. 525.
Aktieselskabet Bryn Tændstikfabrik, Bryn, Norway. Safety-matches. Nos. 80,297–8; Dec. 6; Gaz. vol. 161; p. 263.
Albert, Cyrus J., Chicago, Ill. Expense-books. No. 80,453; Dec. 27; Gaz. vol. 161; p. 1039.
Alicock Manufacturing Company, Ossining and New York, N. Y. Medicinal preparations. No. 80,454; Dec. 27; Gaz. vol. 161; p. 1039.
Alwin Manufacturing Company, Chicago, Ill. Children's carriages, go-carts, &c. No. 80,397; Dec. 20; Gaz. vol. 161; p. 749.
Ambler, Thomas M., St. Louis, Mo. Razor-sharpeners. No. 80,336; Dec. 13; Gaz. vol. 161; p. 525.
American Fabric Belting Co., The, Cleveland, Ohio. Woven belting. No. 80,455; Dec. 27; Gaz. vol. 161; p. 1039.
American Pedal Co., The, New York, N. Y. Automobile pedal-covers. No. 80,398; Dec. 20; Gaz. vol. 161; p. 749.
American Pure Coffee & Spice Company, The, Dayton, Ohio. Spices, flavoring extracts, cocoa, tea, &c. No. 80,337; Dec. 13; Gaz. vol. 161; p. 525.
Atlantic Refining Company, The, Philadelphia, Pa. Refined petroleum. No. 80,399; Dec. 20; Gaz. vol. 161; p. 749.
Ault & Wiborg Co., The, Cincinnati, Ohio. Varnish-paint. No. 80,400; Dec. 20; Gaz. vol. 161; p. 749.
Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany. Certain chemicals. No. 80,338; Dec. 13; Gaz. vol. 161; p. 525.
Barling & Sons, B., London, England. Tobacco-pipes. No. 80,339; Dec. 13; Gaz. vol. 161; p. 525.
Barrett Manufacturing Company, New York, N. Y. Ready felt roofing. Nos. 80,456–7; Dec. 27; Gaz. vol. 161; p. 1039.
Bauman, Lucian K., Holyoke, Mass. Remedy for rheumatism and backache. No. 80,340; Dec. 13; Gaz. vol. 161; p. 525.
Bearman, Samuel, St. Louis, Mo. Leather shoes. No. 80,401; Dec. 20; Gaz. vol. 161; p. 749.
Berger Manufacturing Company, The, Canton, Ohio. Metallic plates to reinforce composition flooring. No. 80,300; Dec. 6; Gaz. vol. 161; p. 263.
Bishop, Frank, St. Louis, Mo. Automobile horn-reed. No. 80,458; Dec. 27; Gaz. vol. 161; p. 1039.
Blair, Henry C., Philadelphia, Pa. Non-alcoholic beverage. No. 80,341; Dec. 13; Gaz. vol. 161; p. 525.
Block, Isaac E., Chicago, Ill. Candles. No. 80,301; Dec. 6; Gaz. vol. 161; p. 263.
Borom, Schuyler C., Minneapolis, Minn. Certain toilet preparations. No. 80,302; Dec. 6; Gaz. vol. 161; p. 263.
"Britelite" Company, The, Wilmington, Del., and New York, N. Y. Mantles and burners. No. 80,459; Dec. 27; Gaz. vol. 161; p. 1039.
Broadway Brewing & Malting Co., The, Buffalo, N. Y. Bottled beer. No. 80,342; Dec. 13; Gaz. vol. 161; p. 525.
Brown & Co., Charles E., Springfield, Mass. Coffee. No. 80,405; Dec. 20; Gaz. vol. 161; p. 749.
Buffalo Lithia Springs Water Co., Buffalo Lithia Springs, Va. Natural mineral water. No. 80,460; Dec. 27; Gaz. vol. 161; p. 1039.
Burckhardt Company, The, Cincinnati, Ohio. Soap. No. 80,303; Dec. 6; Gaz. vol. 161; p. 263.
Bushmeyer, Charles J., Oklahoma, Okla. Lubricating oils and greases. No. 80,344; Dec. 13; Gaz. vol. 161; p. 525.
California Canneries Co., San Francisco, Cal. Canned vegetables. No. 80,304; Dec. 6; Gaz. vol. 161; p. 263.
Carlyle, Daniel A., Alba, Mo. Remedies for piles. No. 80,461; Dec. 27; Gaz. vol. 161; p. 1039.
Carmel Wine Company, New York, N. Y. Wine-brandy. No. 80,406; Dec. 20; Gaz. vol. 161; p. 749.
Cestero, Fermin, Habana, Cuba, and New York, N. Y. Coin-controlled holders and vending-machines. No. 80,407; Dec. 20; Gaz. vol. 161; p. 749.
Charles D. Brown & Company, Boston, Mass. Indurated-fiber articles. No. 80,404; Dec. 20; Gaz. vol. 161; p. 749.
Chicago Distilling Co., Chicago, Ill. Whisky. No. 80,408; Dec. 20; Gaz. vol. 161; p. 749.
Clague, Stanley, Chicago, Ill. Certain non-alcoholic beverages. No. 80,409; Dec. 20; Gaz. vol. 161; p. 749.
Clague, Stanley, Chicago, Ill. Certain clothing. No. 80,410; Dec. 20; Gaz. vol. 161; p. 749.
Columbia Cotton Oil and Provision Corporation, Relee, Va. Compound of cotton-seed oil, beef-fat, and oleo-stearin. No. 80,345; Dec. 13; Gaz. vol. 161; p. 525.
Columbia Cotton Oil and Provision Corporation, Relee, Va. Lard, sugar-cured meats, and cotton-seed oil. Nos. 80,412–13; Dec. 20; Gaz. vol. 161; p. 749.
Columbia Cotton Oil and Provision Corporation, Relee, Va. Compound of cotton-seed oil, beef-fat, and oleo-stearin. No. 80,414; Dec. 20; Gaz. vol. 161; p. 749.
Corn Products Refining Company, Jersey City, N. J., and New York, N. Y. Laundry starch. No. 80,462; Dec. 27; Gaz. vol. 161; p. 1039.
Cramer, Patricius A. M., Amsterdam, Netherlands. Sterilized milk. No. 80,463; Dec. 27; Gaz. vol. 161; p. 1039.
Crown-Columbia Pulp and Paper Co., San Francisco, Cal. Wrapping-paper. No. 80,347; Dec. 13; Gaz. vol. 161; p. 525.
Cusimano & Co., A., New Orleans, La. Ragout of egg-plant. No. 80,415; Dec. 20; Gaz. vol. 161; p. 749.
Daniel Green Felt Shoe Company, New York and Dolgeville, N. Y. Shoes and slippers. No. 80,312; Dec. 6; Gaz. vol. 161; p. 263.
Danville Knitting Mills, Danville, Va. Hosiery. No. 80,464; Dec. 27; Gaz. vol. 161; p. 1039.
De Marco, Antonio, New York, N. Y. Cigars. No. 80,416; Dec. 20; Gaz. vol. 161; p. 749.
Deitsch Brothers, New York, N. Y. Brushes. No. 80,305; Dec. 6; Gaz. vol. 161; p. 263.
Deming, William L., Salem, Ohio. Games. No. 80,417; Dec. 20; Gaz. vol. 161; p. 749.
Detroit-Dearborn Motor Car Co., Detroit, Mich. Automobiles. No. 80,306; Dec. 6; Gaz. vol. 161; p. 263.
Devine, Patrick E., New York, N. Y. Remedy for rheumatism. No. 80,348; Dec. 13; Gaz. vol. 161; p. 525.
Dewsbury & Son, John, Walsall, England. Saddlery and harness hardware. No. 80,418; Dec. 20; Gaz. vol. 161; p. 749.
Diamond Crystal Salt Company, St. Clair, Mich. Salt. No. 80,465; Dec. 27; Gaz. vol. 161; p. 1039.
Dickinson Drug Company, The, New Britain, Conn. Aseptic soap. No. 80,349; Dec. 13; Gaz. vol. 161; p. 525.
District of Columbia Paper Manufacturing Company, Alexandria, Va., and Washington, D. C. Paper. No. 80,466; Dec. 27; Gaz. vol. 161; p. 1039.
Dixie Cotton Felt Mattress Company, Chicago, Ill. Mattresses, box-springs, and pillows. No. 80,307; Dec. 6; Gaz. vol. 161; p. 263.
Dowd & Scally, Fort Dodge, Iowa. Teas, coffees, cocoa and chocolate. No. 80,467; Dec. 27; Gaz. vol. 161; p. 1039.
Dr. A. Herbrand, G. m. b. H., Berlin, Germany. Composition for diminishing the noxious effects of nicotin. No. 80,359; Dec. 13; Gaz. vol. 161; p. 525.
Droescher, Severin R., New York, N. Y. Hones, oil and whet stones. No. 80,308; Dec. 6; Gaz. vol. 161; p. 263.
Duke H. Watson Co., The, Findlay, Ohio. Blemish-eradicator. No. 80,395; Dec. 13; Gaz. vol. 161; p. 526.
Dusenberg, Theodore C., Philadelphia, Pa. Candy. No. 80,468; Dec. 27; Gaz. vol. 161; p. 1039.
Eldred, Willard H., Battle Creek, Mich. Horse equipment and lap-dusters. No. 80,469; Dec. 27; Gaz. vol. 161; p. 1039.
Elmer Manufacturing Company, The, St. Louis, Mo. Ticket printing and delivering machines. No. 80,470; Dec. 27; Gaz. vol. 161; p. 1039.
Ely & Walker Dry Goods Co., St. Louis, Mo. Percale. No. 80,471; Dec. 27; Gaz. vol. 161; p. 1039.
Erwin-Nadal Tobacco Co., Wilson, N. C. Cigarettes. No. 80,309; Dec. 6; Gaz. vol. 161; p. 263.
F. Lozano, Son & Co., New York, N. Y. Cigars. No. 80,432; Dec. 20; Gaz. vol. 161; p. 750.
Fort Scott Sorghum Syrup Co., The, Fort Scott, Kan. Compound of corn-syrup with cane flavor and sorghum. No. 80,472; Dec. 27; Gaz. vol. 161; p. 1039.
Francis H. Leggett & Co., New York, N. Y. Cracket-dust. No. 80,479; Dec. 27; Gaz. vol. 161; p. 1039.
Fuller, Louis E., New York, N. Y. Stencil-paper and stencils. No. 80,310; Dec. 6; Gaz. vol. 161; p. 263.
Gautier, Conrad C., Greencastle, Ind. Tonic beverage and syrup for making same. No. 80,311; Dec. 6; Gaz. vol. 161; p. 263.
Geo. Benz & Sons, St. Paul, Minn. Wine and sherry. No. 80,402; Dec. 20; Gaz. vol. 161; p. 749.
Gillam, Charles E., Lockport, N. Y. Peridentanesthetic. No. 80,352; Dec. 13; Gaz. vol. 161; p. 525.
Globe Soap Company, Cincinnati, Ohio. Soap. No. 80,353; Dec. 13; Gaz. vol. 161; p. 525.
Globe Soap Company, The, Cincinnati, Ohio. Soap. Nos. 80,419–20; Dec. 20; Gaz. vol. 161; p. 749.
Goulds Manufacturing Company, The, Seneca Falls, N. Y. Power and hand pumps. No. 80,354; Dec. 13; Gaz. vol. 161; p. 525.

Grimme, Natalis & Co., Kommanditgesellschaft auf Aktien, Brunswick, Germany. Calculating-machines. No. 80,313; Dec. 6; Gaz. vol. 161; p. 263.
Grippin, William H., Newark, N. Y. Food and preservative for all finished or varnished surfaces. No. 80,355; Dec. 13; Gaz. vol. 161; p. 525.
Hamilton Woolen Company, Boston, Mass. Woolen and cotton piece goods. No. 80,314; Dec. 6; Gaz. vol. 161; p. 263.
Hammer, Robert R., Roslindale, Mass. Signs. No. 80,421; Dec. 20; Gaz. vol. 161; p. 749.
Harris-Lipsitz Company, Dallas, Tex. Ginghams. No. 80,315; Dec. 6; Gaz. vol. 161; p. 263.
Heaton-Peninsular Button Fastener Co., Boston, Mass. Staple-like metallic fasteners. Nos. 80,356–7; Dec. 13; Gaz. vol. 161; p. 526.
Heering, Peter F., Copenhagen, Denmark. Cherry cordial. No. 80,422; Dec. 20; Gaz. vol. 161; p. 749.
Henley, Arthur L., Greensboro, N. C. Veterinary salve. No. 80,358; Dec. 13; Gaz. vol. 161; p. 525.
Hermann, Seymour M., New York, N. Y. Fabric-finishing compound. No. 80,423; Dec. 20; Gaz. vol. 161; p. 749.
Hixson, Lafayette L., Newton, Iowa. Card game. No. 80,360; Dec. 13; Gaz. vol. 161; p. 525.
Hoffman Brothers Company, Fort Wayne, Ind. Lumber, logs, veneer, shingles, and laths. No. 80,316; Dec. 6; Gaz. vol. 161; p. 263.
Hoffmann-La Roche Chemical Works, New York, N. Y. Medicinal tonic. No. 80,361; Dec. 13; Gaz. vol. 161; p. 525.
Hoffmann-La Roche Chemical Works, The, New York, N. Y. Remedy for cutaneous diseases. No. 80,424; Dec. 20; Gaz. vol. 161; p. 749.
Hollingshead, William R., Buffalo, N. Y. Metal and shoe polishes and polishing-mittens. No. 80,425; Dec. 20; Gaz. vol. 161; p. 749.
Hunt Brothers Company, San Francisco, Cal., assignor to Sprague Warner & Company, Chicago, Ill. Canned fruits. No. 80,475; Dec. 27; Gaz. vol. 161; p. 1039.
Hurst & Company, New York, N. Y. Books. No. 80,476; Dec. 27; Gaz. vol. 161; p. 1039.
Iannarone, Frank P., Los Angeles, Cal. Preparation for polishing brass, &c. No. 80,426; Dec. 20; Gaz. vol. 161; p. 749.
Iannarone, Frank P., Los Angeles, Cal. Preparation for cleaning and polishing silver, gold, &c. No. 80,477; Dec. 27; Gaz. vol. 161; p. 1039.
Incinerator Company of America, The, New York, N. Y. Garbage-crematories. No. 80,478; Dec. 27; Gaz. vol. 161; p. 1039.
J. A. & S. W. Granbery, Newark, N. J., and New York, N. Y. Jewelry. No. 80,473; Dec. 27; Gaz. vol. 161; p. 1039.
Jaeger, William C., Philadelphia, Pa. Remedy for whooping-cough. No. 80,362; Dec. 13; Gaz. vol. 161; p. 525.
Jones, Joseph W., New York, N. Y. Disks containing directions for following a given route. No. 80,427; Dec. 20; Gaz. vol. 161; p. 750.
Joseph Lay Company, The, Ridgeville, Ind. Brooms. Nos. 80,430–1; Dec. 20; Gaz. vol. 161; p. 750.
Kahn & Frank, New York, N. Y. Certain clothing. No. 80,363; Dec. 13; Gaz. vol. 161; p. 525.
Kirshbaum & Son, R., Indianapolis, Ind. Certain clothing. No. 80,428; Dec. 20; Gaz. vol. 161; p. 750.
Kothe, Wells & Bauer Company, Indianapolis, Ind. Canned fruits, vegetables, pork and beans, &c. No. 80,317; Dec. 6; Gaz. vol. 161; p. 263.
Kothe, Wells & Bauer Company, Indianapolis, Ind. Certain foods. No. 80,429; Dec. 20; Gaz. vol. 161; p. 750.
Krenger, Fredrik E., London, England. Matches. No. 80,364; Dec. 13; Gaz. vol. 161; p. 525.
Lasher & Lathrop, Inc., New York, N. Y. Writing and printing paper. No. 80,318; Dec. 6; Gaz. vol. 161; p. 263.
Lee Broom & Duster Company, Lincoln, Nebr. Brooms. No. 80,365; Dec. 13; Gaz. vol. 161; p. 526.
Leggett & Platt Spring Bed & Mfg. Co., Carthage, Mo. Spring-beds. No. 80,366; Dec. 13; Gaz. vol. 161; p. 526.
Leon, Leon S., Chicago, Ill. Embroidery-stamping outfits. No. 80,367; Dec. 13; Gaz. vol. 161; p. 526.
Letson, Allan G., Bloomington, Ill. Certain chemical preparations. No. 80,480; Dec. 27; Gaz. vol. 161; p. 1039.
Leurent, Edouard, Tourcoing, France. Certain clothing. No. 80,481; Dec. 27; Gaz. vol. 161; p. 1039.
Levy, Abraham I., Washington, D. C. Certain clothing. No. 80,368; Dec. 13; Gaz. vol. 161; p. 526.
Levy, Benjamin E., New York, N. Y. Powder-puffs. No. 80,369; Dec. 13; Gaz. vol. 161; p. 526.
Longwell, Charles B., Wheeling, W. Va. Medicinal preparations. No. 80,370; Dec. 13; Gaz. vol. 161; p. 526.
Lovell-McConnell Manufacturing Company, Newark, N. J. Mechanically-operated signal horns and alarms. No. 80,319; Dec. 6; Gaz. vol. 161; p. 263.
M. & J. Schnaible Company, The, La Fayette, Ind. Soap. No. 80,325; Dec. 6; Gaz. vol. 161; p. 263.
Magnesite Building Material Company, Limited, Boise, Idaho. Plastic compositions. No. 80,320; Dec. 6; Gaz. vol. 161; p. 263.
Maldonado & Co., Inc., San Francisco, Cal. Wheat-flour. No. 80,321; Dec. 6; Gaz. vol. 161; p. 263.
Maltbie Chemical Company, The, Newark, N. J. Nerve tonic and stimulant. No. 80,371; Dec. 13; Gaz. vol. 161; p. 526.
Markt & Hammacher Company, New York, N. Y. Cigars, cigarettes, and tobacco. No. 80,433; Dec. 20; Gaz. vol. 161; p. 750.
Mayer Fertilizer & Junk Company (by change of name The Mayer Fertilizer Co.), St. Louis, Mo. Fertilizers. No. 80,322; Dec. 6; Gaz. vol. 161; p. 263.
McClure, Harry W., Ann Arbor, Mich. Hobby-horses, carts, and toys. No. 80,482; Dec. 27; Gaz. vol. 161; p. 1039.
Meinhard, Frederick, Peoria, Ill. Cold-cream. No. 80,323; Dec. 6; Gaz. vol. 161; p. 263.
Meissner & Buch, Leipzig, Germany. Lithographic prints. No. 80,484; Dec. 27; Gaz. vol. 161; p. 1040.
Merchant & Evans Company, Philadelphia, Pa. Ventilators. No. 80,485; Dec. 27; Gaz. vol. 161; p. 1040.
Meyer, Martin & Danda, New York, N. Y. Embroidery-flosses. No. 80,486; Dec. 27; Gaz. vol. 161; p. 1040.
Middletown Farms, Inc., Middletown, Del. Buttermilk. No. 80,434; Dec. 20; Gaz. vol. 161; p. 750.
Mitchell & Company of Belfast Limited, Belfast, Ireland. Whisky. No. 80,372; Dec. 13; Gaz. vol. 161; p. 526.
Mlle. Wolfe Co., Philadelphia, Pa. Ruffles. No. 80,335; Dec. 6; Gaz. vol. 161; p. 264.
Molt, Adolph, Newark, N. J. Measuring and scientific instruments and machines. No. 80,435; Dec. 20; Gaz. vol. 161; p. 750.
Mosler Safe Company, The, New York, N. Y. Safes. No. 80,373; Dec. 13; Gaz. vol. 161; p. 526.
Murphy, Samuel A., Columbia, S. C. Remedy for colic. No. 80,324; Dec. 6; Gaz. vol. 161; p. 263.
N. E. Boomhower Co., New York, N. Y. Carpets, matting, rugs, and curtains. No. 80,403; Dec. 20; Gaz. vol. 161; p. 749.
N. K. Fairbank Company, The, Chicago, Ill. Soap. No. 80,350; Dec. 13; Gaz. vol. 161; p. 525.
National Cigarette Company, New York, N. Y. Cigarettes. No. 80,487; Dec. 27; Gaz. vol. 161; p. 1040.
New York Belting & Packing Company Ltd., New York, N. Y., and Passaic, N. J. Hose. No. 80,480; Dec. 27; Gaz. vol. 161; p. 1040.
New York Chemical Company, Dallas, Tex. Antidote for malaria, chills, fever, &c. No. 80,490; Dec. 27; Gaz. vol. 161; p. 1040.
Northwestern Chemical Co., The, Marietta, Ohio. Chemical combination for preventing freezing. No. 80,436; Dec. 20; Gaz. vol. 161; p. 750.
Pacific Plating Polish Co., San Francisco, Cal. Metal-polishes. No. 80,491; Dec. 27; Gaz. vol. 161; p. 1040.
Parker, Bedell, New York, N. Y. Cotton, woolen, linen, and silk piece goods. No. 80,374; Dec. 13; Gaz. vol. 161; p. 526.
Patent Axle Box and Foundry Company Limited, Wednesfield, near Wolverhampton, England. Axle-boxes and fittings therefor. No. 80,375; Dec. 13; Gaz. vol. 161; p. 526.
Peck, Stow & Wilcox Co., The, Southington, Conn. Bit-braces, chucks, and chuck-jaws. No. 80,437; Dec. 20; Gaz. vol. 161; p. 750.
Postum Cereal Co., Limited, Battle Creek, Mich. Wheat and barley breakfast foods. No. 80,492; Dec. 27; Gaz. vol. 161; p. 1040.
Postum Cereal Co., Limited, Battle Creek, Mich. Corn breakfast foods. No. 80,493; Dec. 27; Gaz. vol. 161; p. 1040.
Prairie State Incubator Company, Homer City, Pa. Hovers. No. 80,438; Dec. 20; Gaz. vol. 161; p. 750.
Prentiss Vise Company, New York, N. Y. Vises. No. 80,376; Dec. 13; Gaz. vol. 161; p. 526.
R. F. Conway Company, Chicago, Ill. Asphalt. No. 80,346; Dec. 13; Gaz. vol. 161; p. 525.
Rea-Patterson Milling Company, The, Coffeyville, Kans. Wheat-flour. No. 80,377; Dec. 13; Gaz. vol. 161; p. 526.
Rea-Patterson Milling Company, The, Coffeyville, Kans. Wheat-flour. No. 80,439; Dec. 20; Gaz. vol. 161; p. 750.
Reinhard, Samuel E., Baltimore, Md. Overcoats, coats, vests, and trousers. No. 80,440; Dec. 20; Gaz. vol. 161; p. 750.
Rich. Schubert & Co., Weinböhla, near Dresden, Germany. Ointments. No. 80,496; Dec. 27; Gaz. vol. 161; p. 1040.
Rosenthal, Samuel, Washington, D. C. Hats, overcoats, coats, trousers, &c. No. 80,441; Dec. 20; Gaz. vol. 161; p. 750.
Rothband & Co., W. S., Manchester, England. Waterproof bed-sheeting. No. 80,494; Dec. 27; Gaz. vol. 161; p. 1040.
Rowney & Co., George, London, England. Artists' varnishes. No. 80,495; Dec. 27; Gaz. vol. 161; p. 1040.
Russell Embroidering Co., The, New York, N. Y. Flannels in the piece. No. 80,505; Dec. 27; Gaz. vol. 161; p. 1040.
Russell, Frank C., Newport News, Va. Soap and paste. No. 80,378; Dec. 13; Gaz. vol. 161; p. 526.
S. Galeski Optical Co., The, Richmond, Va. Eyeglass-lenses. No. 80,351; Dec. 13; Gaz. vol. 161; p. 525.
Sampson Grove, Boardman, Fla. Citrus fruits and pecannuts. No. 80,379; Dec. 13; Gaz. vol. 161; p. 526.
Schindler, George W., Washington, D. C. Remedy for corns. No. 80,380; Dec. 13; Gaz. vol. 161; p. 526.
Schleicher, Charles B., Brady, Nebr. Neck-yokes, neck-yoke and pole-strap connections, &c. No. 80,442; Dec. 20; Gaz. vol. 161; p. 750.
Schwarzschild & Sulzberger Company, Kansas City, Kans.; Chicago, Ill., and New York, N. Y. Cured and salted meats. No. 80,444; Dec. 20; Gaz. vol. 161; p. 750.

Scott Paper Company, Philadelphia, Pa. Toilet-paper. No. 80,381; Dec. 13; Gaz. vol. 161; p. 526.
Security Ladder Company, The, Goshen, Ind. Step-ladders. No. 80,382; Dec. 13; Gaz. vol. 161; p. 526.
Selig Polyscope Company, The, Chicago, Ill. Motion-picture films and projecting-machines therefor. No. 80,383; Dec. 13; Gaz. vol. 161; p. 526.
Shattuck-George Iron Co., Wichita, Kans. Vehicle parts and trimmings. No. 80,384; Dec. 13; Gaz. vol. 161; p. 526.
Smith, John H., Detroit, Mich. Certain foods. No. 80,445; Dec. 20; Gaz. vol. 161; p. 750.
Sprague Warner & Co. (See Hunt Brothers Company, assignor.)
Springfield Provision Co., Nashua, N. H., and Springfield, Mass. Lard. No. 80,326; Dec. 6; Gaz. vol. 161; p. 263.
Standard Oil Co. of New York, New York, N. Y. Lubricating-oils. No. 80,385; Dec. 13; Gaz. vol. 161; p. 526.
Standard Oil Co. of New York, New York, N. Y. Refined petroleum. No. 80,386; Dec. 13; Gaz. vol. 161; p. 526.
Stanley Works, New Britain, Conn. Butts or hinges. No. 80,387; Dec. 13; Gaz. vol. 161; p. 526.
Star Expansion Bolt Company, New York, N. Y. Drills and screw-drivers. No. 80,446; Dec. 20; Gaz. vol. 161; p. 750.
Star Rubber Co., The, Akron, Ohio. Rubber nipples. No. 80,327; Dec. 6; Gaz. vol. 161; p. 264.
Stein & Co., S., New York, N. Y. Woolen piece goods. No. 80,388; Dec. 13; Gaz. vol. 161; p. 526.
Stetson-Barret Co., Los Angeles, Cal. Canned pears. No. 80,328; Dec. 6; Gaz. vol. 161; p. 264.
Stirn, L. & E., New York, N. Y. Waterproof tulle nets and chiffon. No. 80,447; Dec. 20; Gaz. vol. 161; p. 750.
Stoll, Ernst, Markneukirchen, Germany. Strings for musical instruments. No. 80,497; Dec. 27; Gaz. vol. 161; p. 1040.
Sulphume Company, Boston, Mass. Hair-tonic, face-powder, and cold-cream. No. 80,498; Dec. 27; Gaz. vol. 161; p. 1040.
Superior Thread & Yarn Co., Wilmington, Del., and New York, N. Y. Threads and yarns. No. 80,448; Dec. 20; Gaz. vol. 161; p. 750.
T. H. Nevin Company, Pittsburg, Pa. Painters' materials. No. 80,488; Dec. 27; Gaz. vol. 161; p. 1040.
Teofani & Co., Limited, London, England. Cigarettes, cigars, and tobacco. No. 80,449; Dec. 20; Gaz. vol. 161; p. 750.
Thompson Ehlers Co., Chicago, Ill. Shoe laces, eyelets, and closure fastenings. No. 80,490; Dec. 27; Gaz. vol. 161; p. 1040.
Tide Water Oil Company, New York, N. Y. Lubricating oils. No. 80,390; Dec. 13; Gaz. vol. 161; p. 526.
Todd, Arthur C., New York, N. Y. Candy. No. 80,391; Dec. 13; Gaz. vol. 161; p. 526.
Tokstad, Trygve V., New York, N. Y. Smoked herrings. No. 80,392; Dec. 13; Gaz. vol. 161; p. 526.
Tredegar Company, The, Richmond, Va. Horse and mule shoes. No. 80,393; Dec. 13; Gaz. vol. 161; p. 526.
Tropical Pharmacal Company, New York, N. Y. Tocological medicine. No. 80,500; Dec. 27; Gaz. vol. 161; p. 1040.
Tydings & Co., Ocala, Fla. Remedy for diseases of the blood. No. 80,501; Dec. 27; Gaz. vol. 161; p. 1040.
Ullman, James A., New York, N. Y. Storage-tanks. No. 80,502; Dec. 27; Gaz. vol. 161; p. 1040.
United States Vacuum Cleaner Company, Bradford, Pa. Vacuum cleaning apparatus. No. 80,450; Dec. 20; Gaz. vol. 161; p. 750.
Vette & Zuncker Packing Company, Chicago, Ill. Canned meats and sausages. No. 80,329; Dec. 6; Gaz. vol. 161; p. 264.
Wagner, Edward H., New York, N. Y. Fireworks. No. 80,394; Dec. 13; Gaz. vol. 161; p. 526.
Wallace Music Co., Marion, Ind. Pianos. No. 80,330; Dec. 6; Gaz. vol. 161; p. 264.
Western Clock Mfg. Co., The, Peru, Ill. Clocks and watches. No. 80,503; Dec. 27; Gaz. vol. 161; p. 1040.
Western Flour Mill Company, Davenport, Iowa. Wheat flour. No. 80,331; Dec. 6; Gaz. vol. 161; p. 264.
White-Warner Co., The, Taunton, Mass. Stoves, ranges, furnaces, &c. No. 80,451; Dec. 20; Gaz. vol. 161; p. 750.
Whittemore-Wright Company, Incorporated, Boston, Mass. Wax for laundry purposes. No. 80,396; Dec. 13; Gaz. vol. 161; p. 526.
Wilkens, Herman, Flushing, N. Y. Wood-refinishing oil and greases. No. 80,452; Dec. 20; Gaz. vol. 161; p. 750.
Willbrandt, Emil, St. Louis, Mo. Certain furniture. No. 80,332; Dec. 6; Gaz. vol. 161; p. 264.
William Cluff Company, San Francisco, Cal. Preparation for making a beverage. No. 80,411; Dec. 20; Gaz. vol. 161; p. 749.
Willis & Co., Grinnell, New York, N. Y. Cotton piece goods. No. 80,474; Dec. 27; Gaz. vol. 161; p. 1039.
Windsor Print Works, The, North Adams, Mass. Percale. Nos. 80,333–4; Dec. 6; Gaz. vol. 161; p. 264.
Windsor Print Works, North Adams, Mass., and New York, N. Y. Cretonne. No. 80,504; Dec. 27; Gaz. vol. 161; p. 1040.

ALPHABETICAL LIST OF REGISTRANTS OF LABELS.

Ameiss, Frederick C., St. Louis, Mo. "Wild Flower Honey." (For Honey.) No. 15,415; Dec. 6; Gaz. vol. 161; p. 265.

Bennett, Burton B., Plymouth, Mich. "The Bugle Call, A Game of U. S. Soldiers." (For a Game.) No. 15,424; Dec. 13; Gaz. vol. 161; p. 527.

Brown Drug Co., Vancouver, Wash. "Let The Little Brownies Do The Work." (For Laxatives.) No. 15,416; Dec. 6; Gaz. vol. 161; p. 265.

Buster Brown Hosiery Mills, Chattanooga, Tenn. "Darn-Less Hosiery." (For Hosiery.) No. 15,417; Dec. 6; Gaz. vol. 161; p. 265.

Darby Candy Company, The, Baltimore, Md. "Pennant Chocolates Made By Darby." (For Chocolates.) No. 15,432; Dec. 27; Gaz. vol. 161; p. 1041.

Davenport, D. F., Americus, Ga. "Creditor's Blue-Ledger." (For Ledgers.) No. 15,418; Dec. 6; Gaz. vol. 161; p. 265.

Dawson Salts & Water Co., Dawson Springs, Ky. "Hamby's High Ball Splits." (For Natural Carbonated Spring-Water.) No. 15,421; Dec. 13; Gaz. vol. 161; p. 527.

Dawson Salts & Water Co., Dawson Springs, Ky. "Hamby's Genuine Dawson Springs Water." (For Natural Spring-Water.) No. 15,422; Dec. 13; Gaz. vol. 161; p. 527.

Day, Walter M., Westboro, Mass. "The Game Of Lobster." (For a Card Game.) No. 15,442; Dec. 27; Gaz. vol. 161; p. 1041.

Dorman Bros., New York, N. Y. "Darling Brand Cream Cheese." (For Cream-Cheese.) No. 15,420; Dec. 13; Gaz. vol. 161; p. 527.

Eisenhut, Otto F., Brooklyn, N. Y. "Cherry-Ko." (For a Carbonated Tonic Beverage.) No. 15,425; Dec. 20; Gaz. vol. 161; p. 751.

Ferguson, Joseph, Chicago, Ill. "Anti-Tan." (For Massage and Face Lotion.) No. 15,427; Dec. 20; Gaz. vol. 161; p. 751.

Ginseng Gum Company, The, Akron, Ohio. "Ginseng Chewing Gum." (For Chewing-Gum.) No. 15,433; Dec. 27; Gaz. vol. 161; p. 1041.

Gutsch, Alfred O., Sheboygan, Wis. "Lifestaff The Long Storage Beer." (For Bottled Beer.) No. 15,431; Dec. 27; Gaz. vol. 161; p. 1041.

Hubbart, James E., Seattle, Wash. "Every Egg A Perfect Bait." (For Salmon-Eggs to be Used as Fish-Baits.) No. 15,439; Dec. 27; Gaz. vol. 161; p. 1041.

Joseph H. Bearns, Jr., & Co., New York, N. Y. "Peerless." (For Stamp-Inking Pads.) No. 15,441; Dec. 27; Gaz. vol. 161; p. 1041.

Klewitz, Arthur A., New York, N. Y. "Bull Dog Gloves." (For Kid Gloves.) No. 15,443; Dec. 27; Gaz. vol. 161; p. 1041.

Newton Gum Co., San Francisco, Cal. "Fruito." (For Chewing-Gum.) No. 15,434; Dec. 27; Gaz. vol. 161; p. 1041.

Newton Gum Co., San Francisco, Cal. "Minto." For Chewing-Gum.) No. 15,435; Dec. 27; Gaz. vol. 161; p. 1041.

Ralston Purina Company, St. Louis, Mo. "Purina Whole Wheat Bread." (For Whole-Wheat Bread.) No. 15,438; Dec. 27; Gaz. vol. 161; p. 1041.

Rizzo & Co., Michael, Boston, Mass. "Rizzo's Dandruff Remedy." (For Hair and Scalp Tonic.) No. 15,423; Dec. 13; Gaz. vol. 161; p. 527.

Ryan, Thomas J., New York, N. Y. "Peptomulsion." (For an Emulsion of Cod-Liver Oil, Containing Hypophosphites of Calcium and Sodium, Pepsin, and Guiacol.) No. 15,436; Dec. 27; Gaz. vol. 161; p. 1041.

Sankey, D. W., Middlburg, Pa. "The Life Of Leather." (For a Preparation for Preserving Leather.) No. 15,440; Dec. 27; Gaz. vol. 161; p. 1041.

Stumpf, Richard, Baltimore, Md. "Iron Wild Cherry And Honey Phosphates." (For a Medicine.) No. 15,437; Dec. 27; Gaz. vol. 161; p. 1041.

Torrence, James S., San Francisco, Cal. "Special Metaloid Process Razor Strops." (For Razor-Strops.) No. 15,428; Dec. 20; Gaz. vol. 161; p. 751.

United States Sugar and Land Company, Garden City, Kans. "Sunflower Brand Extra Fine Granulated Sugar." (For Granulated Sugar.) No. 15,419; Dec. 13; Gaz. vol. 161; p. 527.

Werrbach, Charles F., Philadelphia, Pa. "Werrbach's Samaritan Remedy." (For a Medicine.) No. 15,426; Dec. 20; Gaz. vol. 161; p. 751.

William Prym Gesellschaft mit beschränkter Haftung, Stolberg, Germany. "Prym's See Its Spring." (For Dress-Fasteners.) No. 15,429; Dec. 20; Gaz. vol. 161; p. 751.

William Prym Gesellschaft mit beschränkter Haftung, Stolberg, Germany. "The Comet." (For Invisible Hooks and Loops.) No. 15,430; Dec. 20; Gaz. vol. 161; p. 751.

PRINTS.

Cluett, Peabody & Company, Troy, N. Y. "Cluett Shirts." (For Shirts.) No. 2,672; Dec. 6; Gaz. vol. 161; p. 265.

Cream of Wheat Co., Minneapolis, Minn. "Don't Forget Cream Of Wheat." (For Wheat Breakfast Food.) No. 2,671; Dec. 6; Gaz. vol. 161; p. 265.

New Home Sewing Machine Company, The, Orange, Mass. "New Home." (For Sewing-Machines.) No. 2,673; Dec. 13; Gaz. vol. 161; p. 527.

Newhoff, Lee, New York, N. Y. "(I-Want-A) Boys and Girls Rompers and Union Suits." (For Rompers, Union Suits, Pajamas, Nighties, Blouses, and Play-Suits.) No. 2,674; Dec. 20; Gaz. vol. 161; p. 751.

Pulsometer Steam Pump Co., New York, N. Y. "The Pulsometer Steam Pump." (For Steam-Pumps.) No. 2,675; Dec. 20; Gaz. vol. 161; p. 751.

Shredded Wheat Company, The, Niagara Falls, N. Y. "A Whole Wheat Food." (For Shredded Wheat.) No. 2,676; Dec. 27; Gaz. vol. 161; p. 1041.

DISCLAIMERS.

Crane, Henry M., New York, N. Y.; disclaimer filed by the assignee, Western Electric Company. Electromagnetic signal-controlling device. No. 890,220; disclaimer filed Dec. 6, 1910; Gaz. vol. 161; p. 533.

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED DURING THE MONTH OF DECEMBER, 1910.

[Abbreviations: "Sp."—Monthly Volume of Specifications; "Gaz."—Official Gazette.]

Abrasive article. F. W. Higgins. No. 978,747; Dec. 13; Sp. p. 2883; Gaz. vol. 161; p. 488.

Abrasive article, Carborundum. F. J. Tone. No. 978,679; Dec. 13; Sp. p. 2738; Gaz. vol. 161; p. 466.

Abrasive machine. J. C. Bleyney and J. Hausman. No. 980,054; Dec. 27; Sp. p. 5701; Gaz. vol. 161; p. 981.

Accordion or concertina. R. C. Leppert. No. 978,460; Dec. 13; Sp. p. 2249; Gaz. vol. 161; p. 390.

Accounting device. W. Ellis. No. 978,995; Dec. 20; Sp. p. 3403; Gaz. vol. 161; p. 599.

Acetylene-generator. C. W. Beck. No. 978,266; Dec. 13; Sp. p. 1845; Gaz. vol. 161; p. 323.

Acetylene-generator, Non-automatic. F. B. Ray. No. 978,125; Dec. 6; Sp. p. 1514; Gaz. vol. 161; p. 244.

Acetylene-generators, Carbid-feeder for. W. J. K. McLeod. No. 979,682; Dec. 27; Sp. p. 4886; Gaz. vol. 161; p. 856.

Acid oxalate and making same, Vanadium. P. Rehländer. No. 979,887; Dec. 27; Sp. p. 5352; Gaz. vol. 161; p. 925.

Actuating mechanism. J. B. Jarmin. No. 978,893; Dec. 20; Sp. p. 3157; Gaz. vol. 161; p. 561.

Adding-machine. E. R. Barrett. No. 977,582; Dec. 6; Sp. p. 382; Gaz. vol. 161; p. 56.

Adding-machine. W. H. Callahan. No. 978,111; Dec. 6; Sp. p. 1476; Gaz. vol. 161; p. 238.

Adding-machine. W. J Kilpatrick. No. 978,168; Dec. 13; Sp. p. 1631; Gaz. vol. 161; p. 288.

Adding-machine. W. W. Wilson. No. 978,527; Dec. 13; Sp. p. 2395; Gaz. vol. 161; p. 413.

Addressing-machine. L. M. Nielsen. No. 978,627; Dec. 13; Sp. p. 2628; Gaz. vol. 161; p. 448.

Adjustable bracket for furniture, &c. B. E. Beyer. No. 980,049; Dec. 27; Sp. p. 5687; Gaz. vol. 161; p. 979.

Adjustable chair. A. D. Luedders. No. 978,386; Dec. 13; Sp. p. 2102; Gaz. vol. 161; p. 366.

Advertising device. T. H. Barron. No. 978,130; Dec. 13; Sp. p. 1554; Gaz. vol. 161; p. 276.

Advertising device. W. Heisterman. No. 978,157; Dec. 13; Sp. p. 1603; Gaz. vol. 161; p. 285.

Advertising device. P. C. Scott. No. 978,662; Dec. 13; Sp. p. 2706; Gaz. vol. 161; p. 460.

Advertising device. H. D. Stewart. No. 978,956; Dec. 20; Sp. p. 3321; Gaz. vol. 161; p. 585.

Advertising device. E. A. Lyon. No. 979,399; Dec. 20; Sp. p. 4271; Gaz. vol. 161; p. 734.

Advertising-package, Dummy. G. B. Compton. No. 979,261; Dec. 20; Sp. p. 4021; Gaz. vol. 161; p. 691.

Aerial navigator. R. C. Gore. No. 979,286; Dec. 20; Sp. p. 4068; Gaz. vol. 161; p. 700.

Aeroplane. A. F. W. Macmanus. No. 977,528; Dec. 6; Sp. p. 258; Gaz. vol. 161; p. 37.

Aeroplane controlling means. P. Daniel. No. 980,073; Dec. 27; Sp. p. 5738; Gaz. vol. 161; p. 987.

Agitator. L. T. Sicka. No. 978,667; Dec. 13; Sp. p. 2715; Gaz. vol. 161; p. 462.

Air-brake coupling. H. T. Inghram. No. 978,755; Dec. 13; Sp. p. 2804; Gaz. vol. 161; p. 490.

Air-brake system. J. Dillander. No. 977,856; Dec. 6; Sp. p. 947; Gaz. vol. 161; p. 150.

Air-compressing apparatus. P. Russell and A. W. Schramm. No. 978,062; Dec. 6; Sp. p. 1377; Gaz. vol. 161; p. 221.

Air-cooling apparatus. G. Dramis. No. 978,008; Dec. 6; Sp. p. 1261; Gaz. vol. 161; p. 202.

Air engine, Compound compressed-. C. B. Hodges. No. 979,165; Dec. 20; Sp. p. 3808; Gaz. vol. 161; p. 659.

Air into oxygen and nitrogen, Mechanism for liquefying and separating. J. F. Place. No. 978,935; Dec. 20; Sp. p. 3248; Gaz. vol. 161; p. 576.

Air-lift, Automatic chemical. A. Long. No. 979,867; Dec. 27; Sp. p. 5315; Gaz. vol. 161; p. 910.

Airship, Ocean-. R. Schmiechen. No. 977,555; Dec. 6; Sp. p. 320; Gaz. vol. 161; p. 47.

Airship of the rigid type. J. Massohn. No. 979,979; Dec. 27; Sp. p. 5532; Gaz. vol. 161; p. 955.

Airships and other flying-machines, Means for maintaining the equilibrium of. R. Schmiechen. No. 977,556; Dec. 6; Sp. p. 328; Gaz. vol. 161; p. 48.

Alarm: *See* Burglar-alarm; Fire-alarm; High and low water alarm.

Albumen preparation for albuminoids and salts of guaiacol-sulfonic acids. A. Busch. No. 979,645; Dec. 27; Sp. p. 4812; Gaz. vol. 161; p. 845.

Alfalfa-grinding machine. H. C. Edwards. No. 979,063; Dec. 20; Sp. p. 3549; Gaz. vol. 161; p. 621.

Alloy of zinc and titanium and their production. A. J. Rossi. No. 979,393; Dec. 20; Sp. p. 4262; Gaz. vol. 161; p. 733.

Alloys of tin and titanium, Production of. A. J. Rossi. No. 979,394; Dec. 20; Sp. p. 4264; Gaz. vol. 161; p. 733.

Alum solution for paper-makers' use, Apparatus for providing. S. Hardman. No. 979,482; Dec. 27; Sp. p. 4450; Gaz. vol. 161; p. 786.

Ammonia-leak tester. W. N. Thompson. No. 977,761; Dec. 6; Sp. p. 758; Gaz. vol. 161; p. 117.

Ammonia, Removing tar in recovering. E. Wagener. No. 977,909; Dec. 6; Sp. p. 1060; Gaz. vol. 161; p. 169.

Amusement apparatus. E. Kobler. No. 979,171; Dec. 20; Sp. p. 3825; Gaz. vol. 161; p. 661.

Amusement apparatus. M. J. Doran. No. 979,385; Dec. 20; Sp. p. 4240; Gaz. vol. 161; p. 731.

Amusement apparatus or aviator-instructor. H. B. Anderson and B. B. Brockway. No. 978,263; Dec. 13; Sp. p. 1839; Gaz. vol. 161; p. 321.

Amusement device. M. Salmond. No. 978,489; Dec. 13; Sp. p. 2319; Gaz. vol. 161; p. 400.

Amusement device. H. Hertzberg and M. J. Wohl. No. 978,884; Dec. 20; Sp. p. 3143; Gaz. vol. 161; p. 558.

Anchor. L. N. Stewart. No. 977,757; Dec. 6; Sp. p. 737; Gaz. vol. 161; p. 116.

Anesthetics, Apparatus for the administration of general. C. H. Frink. No. 978,728; Dec. 13; Sp. p. 2840; Gaz. vol. 161; p. 482.

Angle-bar, Safety. S. J. Routledge. No. 980,009; Dec. 27; Sp. p. 5593; Gaz. vol. 161; p. 966.

Animal-trap. B. P. Rokleder. No. 977,550; Dec. 6; Sp. p. 310; Gaz. vol. 161; p. 46.

Animal-trap. B. Hatchell. No. 978,742; Dec. 13; Sp. p. 2872; Gaz. vol. 161; p. 486.

Animal-trap. J. Meyer. No. 979,020; Dec. 20; Sp. p. 3461; Gaz. vol. 161; p. 607.

Animal-trap. W. Roloff. No. 979,339; Dec. 20; Sp. p. 4160; Gaz. vol. 161; p. 717.

Annealing-furnace. J. L. Butler. No. 979,425; Dec. 27; Sp. p. 4327; Gaz. vol. 161; p. 768.

Answer-back signal. E. R. Gill. No. 978,733; Dec. 13; Sp. p. 2951; Gaz. vol. 161; p. 483.

Antiskid device or chain. R. N. Evans. No. 979,139; Dec. 20; Sp. p. 3752; Gaz. vol. 161; p. 650.

Anvil with vise attachment. J. McKenney No. 979,079; Dec. 20; Sp. p. 3589; Gaz. vol. 161; p. 626.

Aprons, Automatic centering device for endless. P. L. Brockardt. No. 977,702; Dec. 6; Sp. p. 643; Gaz. vol. 161; p. 98.

Aqueous solutions, Continuous electrolysis of. A. Pietzsch and E. Steinbuch. No. 978,934; Dec. 20; Sp. p. 3246; Gaz. vol. 161; p. 576.

Arch, bridge, or viaduct, Reinforced. R. A. Cummings. No. 978,361; Dec. 13; Sp. p. 2039; Gaz. vol. 161; p. 356.

Arch-supporter. J. C. Shepard. No. 977,684; Dec. 6; Sp. p. 598; Gaz. vol. 161; p. 91.

Armature-windings, Forming coils for. J. Burke. No. 979,375; Dec. 20; Sp. p. 4224; Gaz. vol. 161; p. 728.

Arrester. D. C. McCan. No. 978,183; Dec. 13; Sp. p. 1669; Gaz. vol. 161; p. 293.

Article and bag securer. E. R. Jones. No. 978,594; Dec. 13; Sp. p. 2563; Gaz. vol. 161; p. 437.

Ash-hoist. D. Larson. No. 979,519; Dec. 27; Sp. p. 4530; Gaz. vol. 161; p. 799.

Ash-pan discharge-controller. J. G. Talmage. No. 978,074; Dec. 6; Sp. p. 1402; Gaz. vol. 161; p. 226.

Asphalt-paving plant. C. L. Williams. No. 978,973; Dec. 20; Sp. p. 3359; Gaz. vol. 161; p. 590.

Auger, Earth-. F. H. Chase. No. 978,559; Dec. 13; Sp. p. 2486; Gaz. vol. 161; p. 424.

Auger, Post-hole. R. T. Jenney. No. 977,877; Dec. 6; Sp. p. 995; Gaz. vol. 161; p. 156.

Automatic and independent brake, Combined. C. P. Cass. No. 979,929; Dec. 27; Sp. p. 5434; Gaz. vol. 161; p. 930.

Automatic carrier. M. H. Cawley. No. 977,929; Dec. 6; Sp. p. 1101; Gaz. vol. 161; p. 175.

Automatic coupling. O. Oebring. No. 977,673; Dec. 6; Sp. p. 571; Gaz. vol. 161; p. 87.
Automatically-operated gate. J. T. Walston. No. 979,613; Dec. 27; Sp. p. 4747; Gaz. vol. 161; p. 833.
Automobile brake mechanism. J. G. Hopper. No. 977,631; Dec. 6; Sp. p. 479; Gaz. vol. 161; p. 73.
Automobile driving and supporting wheel. P. H. Breed. No. 980,055; Dec. 27; Sp. p. 5708; Gaz. vol. 161; p. 982.
Automobile emergency-brake, Automatic. E. Eiselt. No. 979,938; Dec. 27; Sp. p. 5453; Gaz. vol. 161; p. 942.
Automobile engine-starter. H. E. Wilson. No. 978,417; Dec. 13; Sp. p. 2164; Gaz. vol. 161; p. 376.
Automobile-engine-starting device. E. F. Russell and E. E. Lavole. No. 978,939; Dec. 20; Sp. p. 3261; Gaz. vol. 161; p. 578.
Automobile-lamp-operating mechanism, Automatic. J. H. Butterfield. No. 980,062; Dec. 27; Sp. p. 5718; Gaz. vol. 161; p. 984.
Automobile-radiator. G. Enrico. No. 979,137; Dec. 20; Sp. p. 3740; Gaz. vol. 161; p. 649.
Automobile-wheel. J. M. Gilbert. No. 979,468; Dec. 27; Sp. p. 4425; Gaz. vol. 161; p. 782.
Automobiles, &c., Gasolene-supplying attachment for. O. Zachow. No. 980,041; Dec. 27; Sp. p. 5674; Gaz. vol. 161; p. 977.
Automobiles, trolley-cars, and the like, Cleaner for windshields for. C. Gardiner. No. 978,013; Dec. 6; Sp. p. 1272; Gaz. vol. 161; p. 204.
Awning. L. Rombaut. No. 979,566; Dec. 27; Sp. p. 4645; Gaz. vol. 161; p. 816.
Awning, Window-. L. A. Smith. No. 977,565; Dec. 6; Sp. p. 345; Gaz. vol. 161; p. 50.
Axle-skein. A. H. and C. W. Bevil. No. 979,368; Dec. 20; Sp. p. 4210; Gaz. vol. 161; p. 726.
Axle-stub, Detachable. E. Vuncannon. No. 977,985; Dec. 6; Sp. p. 1216; Gaz. vol. 161; p. 195.
Azimuth instrument. A. F. H. Weule. No. 978,093; Dec. 6; Sp. p. 1445; Gaz. vol. 161; p. 233.
Bag: *See* Feed-bag; Hand-bag; Parasol-bag.
Bag. F. McKain. No. 977,817; Dec. 6; Sp. p. 866; Gaz. vol. 161; p. 136.
Bag-feeding mechanism. G. L. Hoyt. No. 978,887; Dec. 20; Sp. p. 3148; Gaz. vol. 161; p. 550.
Bag-filling machine. G. L. Hoyt. No. 977,632; Dec. 6; Sp. p. 481; Gaz. vol. 161; p. 73.
Bag-holder. E. Fairman and R. O. Munson. No. 978,441; Dec. 13; Sp. p. 2212; Gaz. vol. 161; p. 383.
Ball. C. F. Fulford. No. 978,445; Dec. 13; Sp. p. 2217; Gaz. vol. 161; p. 384.
Bait. M. L. Heatly. No. 978,290; Dec. 13; Sp. p. 1896; Gaz. vol. 161; p. 332.
Balancing device, Automatic. V. G. Gustafson. No. 977,523; Dec. 6; Sp. p. 242; Gaz. vol. 161; p. 36.
Bale or package tie. E. Walden. No. 980,136; Dec. 27; Sp. p. 5906; Gaz. vol. 161; p. 1008.
Baling-press. J. W. Brown. No. 977,780; Dec. 6; Sp. p. 793; Gaz. vol. 161; p. 124.
Baling-press. A. Wickey. No. 977,913; Dec. 6; Sp. p. 1067; Gaz. vol. 161; p. 170.
Baling-press. P. Trick. No. 978,078; Dec. 6; Sp. p. 1408; Gaz. vol. 161; p. 227.
Baling-press. J. D. Hendrix. No. 978,158; Dec. 13; Sp. p. 1604; Gaz. vol. 161; p. 285.
Baling-press. T. C. Smith. No. 978,229; Dec. 13; Sp. p. 1761; Gaz. vol. 161; p. 309.
Baling-press. R. Y. Mitchell. No. 979,022; Dec. 20; Sp. p. 3463; Gaz. vol. 161; p. 607.
Baling-press. J. Barens. No. 979,055; Dec. 20; Sp. p. 3534; Gaz. vol. 161; p. 618.
Baling-press. T. H. Diserens. No. 979,659; Dec. 27; Sp. p. 4841; Gaz. vol. 161; p. 849.
Ball. W. P. Whitley. No. 978,250; Dec. 13; Sp. p. 1808; Gaz. vol. 161; p. 316.
Ball-and-socket joint. L. Wessell. No. 978,091; Dec. 6; Sp. p. 1442; Gaz. vol. 161; p. 233.
Ball-bearing lock. A. Kunkel. No. 977,655; Dec. 6; Sp. p. 534; Gaz. vol. 161; p. 81.
Ball-grip. M. A. Boland. No. 977,776; Dec. 6; Sp. p. 785; Gaz. vol. 161; p. 122.
Ballast-dresser. T. S. Cafferty and J. F. Markle. No. 978,691; Dec. 13; Sp. p. 2754; Gaz. vol. 161; p. 460.
Band-brake. G. H. Denton. No. 977,714; Dec. 6; Sp. p. 664; Gaz. vol. 161; p. 101.
Band stretcher and cutter, Wire. C. E. Carrier. No. 978,694; Dec. 13; Sp. p. 2758; Gaz. vol. 161; p. 470.
Bandage. G. S. Van Gorder. No. 978,794; Dec. 13; Sp. p. 2967; Gaz. vol. 161; p. 502.
Bar: *See* Angle-bar; Claw-bar; Tracker-bar.
Bark from wood, Separating. F. W. Ayer. No. 979,914; Dec. 27; Sp. p. 5407; Gaz. vol. 161; p. 935.
Barrel-cover. J. R. Andrews and J. W. Waldrum. No. 977,425; Dec. 6; Sp. p. 1; Gaz. vol. 161; p. 3.
Barrette. E. C. Glines. No. 979,471; Dec. 27; Sp. p. 4432; Gaz. vol. 161; p. 783.
Bat, Base-ball. J. R. Dean. No. 979,266; Dec. 20; Sp. p. 4030; Gaz. vol. 161; p. 693.
Bath-cabinet. J. R. Ohmstede. No. 977,828; Dec. 6; Sp. p. 888; Gaz. vol. 161; p. 139.
Bath-tub, Folding. R. L. Leo. No. 979,973; Dec. 27; Sp. p. 5520; Gaz. vol. 161; p. 953.
Bath-tub head-rest. A. Harrison. No. 977,950; Dec. 6; Sp. p. 1142; Gaz. vol. 161; p. 184.
Batteries, &c., Connection for storage. L. H. Worne. No. 978,978; Dec. 20; Sp. p. 3369; Gaz. vol. 161; p. 502.
Battery: *See* Electric battery.
Battery cell, Electric-. J. H. Gugler. No. 979,153; Dec. 20; Sp. p. 3786; Gaz. vol. 161; p. 655.
Battery plate, Storage-. B. Ford. No. 977,443; Dec. 6; Sp. p. 29; Gaz. vol. 161; p. 8.
Battery system, Combined primary and secondary. J. H. Gugler. No. 979,154; Dec. 20; Sp. p. 3788; Gaz. vol. 161; p. 656.
Battery system, Combined primary and secondary. J. H. Gugler. No. 979,155; Dec. 20; Sp. p. 3789; Gaz. vol. 161; p. 656.
Bearing. O. G. Cosby. No. 978,115; Dec. 6; Sp. p. 1494; Gaz. vol. 161; p. 241.
Bearing. A. T. Prescott. No. 978,202; Dec. 13; Sp. p. 1705; Gaz. vol. 161; p. 300.
Bearing. I. E. Palmer. No. 979,881; Dec. 27; Sp. p. 5337; Gaz. vol. 161; p. 924.
Bearing and retainer therefor, Ball-. S. Schneider. No. 978,223; Dec. 13; Sp. p. 1744; Gaz. vol. 161; p. 307.
Bearing, Antifriction-. W. T. Newton. No. 978,392; Dec. 13; Sp. p. 2113; Gaz. vol. 161; p. 368.
Bearing, Antifriction-. E. S. Woods. No. 979,120; Dec. 20; Sp. p. 3706; Gaz. vol. 161; p. 642.
Bearing, Antifriction-. E. S. Woods. No. 979,727; Dec. 27; Sp. p. 4995; Gaz. vol. 161; p. 872.
Bearing cage, Ball-. H. Eitner. No. 980,082; Dec. 27; Sp. p. 5754; Gaz. vol. 161; p. 989.
Bearing-cup, Adjustable. C. L. Jenness. No. 978,756; Dec. 13; Sp. p. 2900; Gaz. vol. 161; p. 490.
Bearing for centrifugal machines. A. R. Robertson. No. 978,060; Dec. 6; Sp. p. 1374; Gaz. vol. 161; p. 220.
Bearing for railway-cars, Antifriction-. E. S. Woods. No. 979,119; Dec. 20; Sp. p. 3704; Gaz. vol. 161; p. 642.
Bearing having grooved rolls and tension-band, Roller-. C. S. Lockwood. No. 977,458; Dec. 6; Sp. p. 65; Gaz. vol. 161; p. 13.
Bearing, Roller-. O. F. Zahn. No. 977,692; Dec. 6; Sp. p. 618; Gaz. vol. 161; p. 94.
Bearing, Roller-. E. L. Sharpneck. No. 978,496; Dec. 13; Sp. p. 2331; Gaz. vol. 161; p. 402.
Bearing, Roller-. H. Hess. No. 980,101; Dec. 27; Sp. p. 5804; Gaz. vol. 161; p. 996.
Bearings, Sleeve to guide the cages in roller-. C. S. Lockwood. No. 979,317; Dec. 20; Sp. p. 4120; Gaz. vol. 161; p. 710.
Bed and chair, Combined. F. G. Gale. No. 979,461; Dec. 27; Sp. p. 4409; Gaz. vol. 161; p. 780.
Bed and chair, Combined parlor. F. P. Anderson. No. 978,533; Dec. 13; Sp. p. 2400; Gaz. vol. 161; p. 415.
Bed-couch, Folding. E. R. Millert. No. 977,529; Dec. 6; Sp. p. 263; Gaz. vol. 161; p. 38.
Bed, Folding. H. B. Arnold. No. 977,696; Dec. 6; Sp. p. 628; Gaz. vol. 161; p. 95.
Bed, Folding. J. G. Friedel, Jr. No. 979,281; Dec. 20; Sp. p. 4057; Gaz. vol. 161; p. 698.
Bed, Invalid and like. H. S. Collier. No. 979,260; Dec. 20; Sp. p. 4019; Gaz. vol. 161; p. 691.
Bed or hammock, Swinging. A. T. Hallock. No. 979,157; Dec. 20; Sp. p. 3794; Gaz. vol. 161; p. 657.
Bed, Ottoman-. C. J. Kindel. No. 978,032; Dec. 6; Sp. p. 1314; Gaz. vol. 161; p. 210.
Bed-pan, Metallic. D. Saks. No. 978,940; Dec. 20; Sp. p. 3264; Gaz. vol. 161; p. 579.
Bed sheet and sheeting. C. C. Copeland and F. M. Bennet. No. 977,936; Dec. 6; Sp. p. 1115; Gaz. vol. 161; p. 178.
Bed-spring. A. M. Sorey. No. 977,566; Dec. 6; Sp. p. 347; Gaz. vol. 161; p. 51.
Bed-spring. G. B. Smith. No. 979,042; Dec. 20; Sp. p. 3508; Gaz. vol. 161; p. 614.
Bedstead canopy-frame, Metal-. O. Rudd. No. 977,572; Dec. 6; Sp. p. 313; Gaz. vol. 161; p. 46.
Bedstead, Extensible. C. F. Melander. No. 977,671; Dec. 6; Sp. p. 568; Gaz. vol. 161; p. 86.
Bedstead, Sofa-. R. Coopersmith. No. 978,270; Dec. 13; Sp. p. 1856; Gaz. vol. 161; p. 325.
Bell: *See* Dumb-bell.
Belt, Conveyer-. C. S. Prosser. No. 979,200; Dec. 20; Sp. p. 3875; Gaz. vol. 161; p. 670.
Belt-fastener. I. Jackson. No. 978,025; Dec. 6; Sp. p. 1297; Gaz. vol. 161; p. 208.
Belt-loop. J. L. Fredlihp. No. 980,175; Dec. 27; Sp. p. 6000; Gaz. vol. 161; p. 1021.
Belt-regulator. W. O. Wakefield. No. 977,764; Dec. 6; Sp. p. 764; Gaz. vol. 161; p. 118.
Belt-stretcher. F. Thomas. No. 979,599; Dec. 27; Sp. p. 4718; Gaz. vol. 161; p. 828.
Belt, Transmission-. A. H. Gits. No. 979,151; Dec. 20; Sp. p. 3781; Gaz. vol. 161; p. 654.
Bench-clamp. D. A. Anderson. No. 977,695; Dec. 6; Sp. p. 627; Gaz. vol. 161; p. 95.
Bench-dog. T. W. McCormick. No. 979,528; Dec. 27; Sp. p. 4550; Gaz. vol. 161; p. 803.
Bench stop and clamp. W. R. McCoy. No. 978,918; Dec. 20; Sp. p. 3213; Gaz. vol. 161; p. 570.
Bending-machine. J. Kellner. No. 979,962; Dec. 27; Sp. p. 5495; Gaz. vol. 161; p. 950.
Bicycle-crank. T. Reynolds. No. 977,900; Dec. 6; Sp. p. 1047; Gaz. vol. 161; p. 166.
Bicycle-lock. C. H. Myers. No. 977,533; Dec. 6; Sp. p. 272; Gaz. vol. 161; p. 39.
Bicycle-lock. E. E. Eggleston. No. 979,453; Dec. 27; Sp. p. 4392; Gaz. vol. 161; p. 777.
Bifocal testing-frame. H. I. Cowan. No. 980,070; Dec. 27; Sp. p. 5734; Gaz. vol. 161; p. 986.
Bill-board. J. B. Grant. No. 977,862; Dec. 6; Sp. p. 962; Gaz. vol. 161; p. 152.

Bill-holder and coin-purse. D. O. Snyder. No. 979,806; Dec. 27; Sp. p. 5184; Gaz. vol. 161; p. 899.
Billiard or pool balls, Manufacturing. A. Burt. No. 979,397; Dec. 20; Sp. p. 4267; Gaz. vol. 161; p. 734.
Binder-hitch. J. Rutz. No. 979,709; Dec. 27; Sp. p. 4935; Gaz. vol. 161; p. 865.
Binder, Loose-leaf. T. E. Heeter. No. 978,744; Dec. 13; Sp. p. 2879; Gaz. vol. 161; p. 487.
Binder, Loose-leaf. R. J. Nicholson. No. 979,087; Dec. 20; Sp. p. 3603; Gaz. vol. 161; p. 628.
Binder, Loose-leaf. G. C. Moore. No. 979,326; Dec. 20; Sp. p. 4139; Gaz. vol. 161; p. 713.
Binder or loose-leaf holder, Temporary. G. P. Wigginton and F. W. Hodges. No. 979,622; Dec. 27; Sp. p. 4765; Gaz. vol. 161; p. 837.
Binder or loose-sheet holder, Temporary. C. E. Morehouse. No. 978,922; Dec. 20; Sp. p. 3219; Gaz. vol. 161; p. 571.
Binder or loose-sheet holder, Temporary. F. L. Impey. No. 979,673; Dec. 27; Sp. p. 4868; Gaz. vol. 161; p. 853.
Bit: *See* Horse-bit; Mining starter-bit.
Bits and drills, Receptacle for. O. R. Milke. No. 979,981; Dec. 27; Sp. p. 5535; Gaz. vol. 161; p. 956.
Bleaching union cotton and wool goods. J. S. Armstrong. No. 977,848; Dec. 6; Sp. p. 931; Gaz. vol. 161; p. 147.
Blind-fastener. H. W. Otto. No. 978,479; Dec. 13; Sp. p. 2297; Gaz. vol. 161; p. 396.
Blind lock and catch, Combination. W. J. D. Branscom. No. 977,777; Dec. 6; Sp. p. 786; Gaz. vol. 161; p. 122.
Block: *See* Building-block; Meter-connecting block; Pulley-block; Resilient block.
Block mold, Plastic-. W. W. Owens. No. 978,056; Dec. 6; Sp. p. 1364; Gaz. vol. 161; p. 219.
Block-signal system. G. S. Pfansterer. No. 979,556; Dec. 27; Sp. p. 4620; Gaz. vol. 161; p. 812.
Blower or pump. F. J. Miner. No. 979,324; Dec. 20; Sp. p. 4134; Gaz. vol. 161; p. 712.
Board: *See* Bill-board; Cutting-board; Game-board; Ironing-board; Papering-board.
Boards, Machine for the manufacture of cellular. T. H. Taylor. No. 978,234; Dec. 13; Sp. p. 1774; Gaz. vol. 161; p. 341.
Boat, Bicycle-. H. F. Neu. No. 978,391; Dec. 13; Sp. p. 2112; Gaz. vol. 161; p. 368.
Boat, Motor-. S. Lake. No. 978,311; Dec. 13; Sp. p. 1939; Gaz. vol. 161; p. 330.
Boat, Motor-. J. L. Crawford. No. 979,383; Dec. 20; Sp. p. 4237; Gaz. vol. 161; p. 730.
Boats and the like, Device for regulating the submersion of submarine. M. F. Hay. No. 977,051; Dec. 6; Sp. p. 1143; Gaz. vol. 161; p. 184.
Boats, Message-carrier for. F. J. Meno. No. 980,176; Dec. 27; Sp. p. 6002; Gaz. vol. 161; p. 1021.
Bobbins, Machine for applying split rings on the butts of. D. S. Courtney. No. 979,438; Dec. 27; Sp. p. 4355; Gaz. vol. 161; p. 772.
Boiler: *See* Domestic boiler; Heating-boiler; Hot-water boiler; Sectional boiler; Steam-boiler.
Boiler. E. M. Wilkinson. No. 977,915; Dec. 6; Sp. p. 1072; Gaz. vol. 161; p. 170.
Boiler-cleaner. L. J. Bayer. No. 978,830; Dec. 20; Sp. p. 3030; Gaz. vol. 161; p. 530.
Boiler-hanger. J. P. Bauer and F. C. Stimmel. No. 979,732; Dec. 27; Sp. p. 5006; Gaz. vol. 161; p. 874.
Boiler-sections, Clamp for assembling. J. B. Bernhard. No. 979,737; Dec. 27; Sp. p. 5013; Gaz. vol. 161; p. 875.
Boiler superheater, Steam-. F. J. Cole. No. 978,987; Dec. 20; Sp. p. 3387; Gaz. vol. 161; p. 596.
Boiler-tube cleaner. W. L. Miggett. No. 978,326; Dec. 13; Sp. p. 1972; Gaz. vol. 161; p. 344.
Boilers, Brick for flame-walls of water-tube. T. G. Turner. No. 979,604; Dec. 27; Sp. p. 4731; Gaz. vol. 161; p. 830.
Boilers, Tool for spreading tubes of water-tube. P. Hoely. No. 979,162; Dec. 20; Sp. p. 3801; Gaz. vol. 161; p. 659.
Bolt: *See* Coupling-bolt; Railway-rail bolt; Stay-bolt; Toggle-bolt.
Bolt-holder and wrench. C. E. Wood. No. 978,100; Dec. 6; Sp. p. 1460; Gaz. vol. 161; p. 235.
Bolts in bodies of hardened plastic material, Means for securing. D. Craig. No. 977,710; Dec. 6; Sp. p. 650; Gaz. vol. 161; p. 100.
Bone-black furnace. O. P. Nichols. No. 978,625; Dec. 13; Sp. p. 2625; Gaz. vol. 161; p. 448.
Book. W. J. Walsh. No. 978,244; Dec. 13; Sp. p. 1790; Gaz. vol. 161; p. 314.
Book, Duplex account-. K. V. Haymaker. No. 979,487; Dec. 27; Sp. p. 4463; Gaz. vol. 161; p. 789.
Book, Loose-leaf. J. C. Dawson. No. 978,707; Dec. 13; Sp. p. 2790; Gaz. vol. 161; p. 475.
Bookbinder. C. H. Hoyt. No. 977,873; Dec. 6; Sp. p. 988; Gaz. vol. 161; p. 155.
Bookbinding, Tooling-machine for. T. V. Bell. No. 979,367; Dec. 20; Sp. p. 4208; Gaz. vol. 161; p. 725.
Boot and shoe form holder. J. S. Hansen. No. 979,851; Dec. 27; Sp. p. 5279; Gaz. vol. 161; p. 814.
Boot and shoe shanks, Forming. J. E. Davidson. No. 978,278; Dec. 13; Sp. p. 1871; Gaz. vol. 161; p. 328.
Boots and shoes, Machine having a vibrating tool employed in the manufacture of. A. Bates. No. 979,249; Dec. 20; Sp. p. 3995; Gaz. vol. 161; p. 687.
Boots and shoes, Manufacture of. J. Micheel. No. 978,324; Dec. 13; Sp. p. 1966; Gaz. vol. 161; p. 343.
Boring drill, Roller-. H. R. Hughes. No. 979,496; Dec. 27; Sp. p. 4479; Gaz. vol. 161; p. 792.
Boring, reaming, and tapping machine. T. M. Boggs. No. 979,418; Dec. 27; Sp. p. 4315; Gaz. vol. 161; p. 765.
Borneol to camphor, Oxidizing. G. Austerweil. No. 979,247; Dec. 20; Sp. p. 3993; Gaz. vol. 161; p. 687.
Bottle. J. H. Graham. No. 978,736; Dec. 13; Sp. p. 2862; Gaz. vol. 161; p. 484.
Bottle. G. M. McNally. No. 979,018; Dec. 20; Sp. p. 3456; Gaz. vol. 161; p. 606.
Bottle and jar cleansing apparatus. G. E. Gordon. No. 979,842; Dec. 27; Sp. p. 5261; Gaz. vol. 161; p. 911.
Bottle-capping device. C. W. Carey. No. 979,378; Dec. 20; Sp. p. 4227; Gaz. vol. 161; p. 728.
Bottle-capping machine. J. H. Baltzley, Jr. No. 977,581; Dec. 6; Sp. p. 377; Gaz. vol. 161; p. 55.
Bottle-capping machine. C. F. Jenkins. No. 979,766; Dec. 27; Sp. p. 5081; Gaz. vol. 161; p. 885.
Bottle-carrying case. H. A. and H. C. Peterman. No. 978,825; Dec. 13; Sp. p. 3013; Gaz. vol. 161; p. 511.
Bottle-closure. L. Huethwohl. No. 978,164; Dec. 13; Sp. p. 1623; Gaz. vol. 161; p. 287.
Bottle-closure. L. Walton. No. 979,233; Dec. 20; Sp. p. 3953; Gaz. vol. 161; p. 682.
Bottle-cover-fastening device. L. Blumenthal. No. 978,109; Dec. 6; Sp. p. 1474; Gaz. vol. 161; p. 238.
Bottle cover, Nursing-. F. O. Janssen. No. 978,892; Dec. 20; Sp. p. 3157; Gaz. vol. 161; p. 561.
Bottle holder, Milk-. W. C. Whittemore. No. 978,972; Dec. 20; Sp. p. 3356; Gaz. vol. 161; p. 590.
Bottle, Non-refillable. M. Pelz. No. 979,998; Dec. 27; Sp. p. 5565; Gaz. vol. 161; p. 962.
Bottle, Nursing-. R. A. Van Cleave. No. 979,607; Dec. 27; Sp. p. 4735; Gaz. vol. 161; p. 831.
Bottle, Shoe-polish. W. R. Campbell. No. 979,377; Dec. 20; Sp. p. 4226; Gaz. vol. 161; p. 728.
Bottle-stopper. F. M. Harrison. No. 978,449; Dec. 13; Sp. p. 2223; Gaz. vol. 161; p. 385.
Bottle-stopper. J. Ottowitz. No. 978,633; Dec. 13; Sp. p. 2652; Gaz. vol. 161; p. 451.
Bottle-stopper. C. F. Drenk. No. 978,712; Dec. 13; Sp. p. 2807; Gaz. vol. 161; p. 477.
Bottle-stopper fastener. J. A. Albertoni and T. Zuppa. No. 978,262; Dec. 13; Sp. p. 1838; Gaz. vol. 161; p. 324.
Bottle-washer. D. Neilly. No. 979,191; Dec. 20; Sp. p. 3860; Gaz. vol. 161; p. 668.
Bottle-washing machine. J. Nader. No. 978,623; Dec. 13; Sp. p. 2622; Gaz. vol. 161; p. 447.
Bottling-machine. J. H. Champ. No. 979,745; Dec. 27; Sp. p. 5028; Gaz. vol. 161; p. 878.
Box: *See* Collapsible box; Collar-box; Fare-box; Fee-box; Hone-box; Match-box; Meter-box; Miter-box; Oil-can or tool box; Oil-press box; Outlet-box; Paper box; Puff-box; Sewer air-inlet box; Signaling-box; Snuff-box; Sound-box; Stuffing-box; Veneer box; Wagon-box.
Box. P. R. Warren. No. 979,812; Dec. 27; Sp. p. 5193; Gaz. vol. 161; p. 901.
Box-cover fastener. H. W. Drew. No. 978,362; Dec. 13; Sp. p. 2041; Gaz. vol. 161; p. 356.
Box-folding machine. A. B. Cowles. No. 978,702; Dec. 13; Sp. p. 2775; Gaz. vol. 161; p. 473.
Boxes, Machine for manufacturing match-. K. A. Johanson. No. 979,308; Dec. 20; Sp. p. 4104; Gaz. vol. 161; p. 707.
Brace: *See* Carpenter's brace; Cross-brace; Fence-post brace; Rail-brace.
Bracket: *See* Adjustable bracket; Detachable bracket; Ladder-bracket; Lamp-bracket; Pull-out bracket; Pulley-bracket; Shade-bracket.
Braid lapping or bolting machine. H. W. Schloss and Hawley. No. 978,657; Dec. 13; Sp. p. 2690; Gaz. vol. 161; p. 459.
Braiding-machine. G. Dingendahl. No. 979,446; Dec. 20; Sp. p. 4379; Gaz. vol. 161; p. 775.
Braiding-machine. H. Janssen and R. C. Rahm. No. 979,502; Dec. 27; Sp. p. 4492; Gaz. vol. 161; p. 793.
Brake: *See* Automatic and independent brake; Automobile emergency-brake; Brand-brake; Car-brake; Electro-mechanical compound brake; Emergency-brake; Locomotive-regulated brake; Railway-brake; Safety-brake; Vehicle back-up brake; Wagon-brake.
Brake. E. F. Kelley. No. 977,744; Dec. 6; Sp. p. 7; Gaz. vol. 161; p. 112.
Brake apparatus and switch mechanism, Combined. H. Hultgren. No. 979,498; Dec. 27; Sp. p. 4485; Gaz. vol. 161; p. 792.
Brake-beam. C. H. Williams, Jr. No. 979,624; Dec. Sp. p. 4769; Gaz. vol. 161; p. 837.
Brake-beam. B. Haskell. No. 979,668; Dec. 27; Sp. p. 4856; Gaz. vol. 161; p. 851.
Brake-beam. C. H. Kofske. No. 979,968; Dec. 27; Sp. p. 5508; Gaz. vol. 161; p. 952.
Brake-head, Adjustable. C. H. Williams, Jr. No. 979,6 Dec. 27; Sp. p. 4767; Gaz. vol. 161; p. 837.
Brake mechanism, Hand. J. R. Carmer. No. 979, Dec. 20; Sp. p. 4228; Gaz. vol. 161; p. 729.
Brake-rod jaw. L. A. Hoerr. No. 977,629; Dec. 6; S 476; Gaz. vol. 161; p. 72.
Brake-setting mechanism, Automatic. J. F. Reynolds. No. 977,967; Dec. 6; Sp. p. 1189; Gaz. vol. 161; p. 190.
Brake shoe and head, Self-locking. J. J. McConnell. No. 978,772; Dec. 13; Sp. p. 2925; Gaz. vol. 161; p. 49
Brewing beer of low alcoholic contents. H. E. Deckel No. 977,603; Dec. 6; Sp. p. 434; Gaz. vol. 161; p. 6
Brick-handling device. E. J. Fritsch. No. 977,610; Dec. 6; Sp. p. 443; Gaz. vol. 161; p. 65.

Brick-machine. H. W. Lampman. No. 978,600; Dec. 13; Sp. p. 2574; Gaz. vol. 161; p. 430.
Bridge-gate. C. Faust. No. 979,270; Dec. 20; Sp. p. 4035; Gaz. vol. 161; p. 694.
Bridge-gate. C. Faust. No. 979,271; Dec. 20; Sp. p. 4037; Gaz. vol. 161; p. 695.
Bridge, Gutter-. C. C. Fouts. No. 979,754; Dec. 27; Sp. p. 5059; Gaz. vol. 161; p. 881.
Bridge rear-end lock, Bascule-. A. H. Scherzer. No. 978,493; Dec. 13; Sp. p. 2325; Gaz. vol. 161; p. 401.
Bridle attachment. J. J. Horn. No. 978,296; Dec. 13; Sp. p. 1909; Gaz. vol. 161; p. 334.
Briquet and making the same. E. J. Callahan. No. 979,258; Dec. 20; Sp. p. 4017; Gaz. vol. 161; p. 691.
Brooder. W. T. Faust. No. 978,010; Dec. 6; Sp. p. 1264; Gaz. vol. 161; p. 203.
Broom, Shoe-. J. L. Burney. No. 977,432; Dec. 6; Sp. p. 12; Gaz. vol. 161; p. 5.
Brush. J. Knoller. No. 980,161; Dec. 27; Sp. p. 5952; Gaz. vol. 161; p. 1016.
Brush, Rotary. C. L. Friedey. No. 980,091; Dec. 27; Sp. p. 5787; Gaz. vol. 161; p. 992.
Bucket. D. C. McCan. No. 978,181; Dec. 13; Sp. p. 1667; Gaz. vol. 161; p. 293.
Bucket, Telescopic. C. A. Frayer. No. 977,608; Dec. 6; Sp. p. 440; Gaz. vol. 161; p. 65.
Buckle. J. C. Bowers. No. 977,990; Dec. 6; Sp. p. 1247; Gaz. vol. 161; p. 199.
Buckle. I. H. Abell. No. 978,101; Dec. 6; Sp. p. 1461; Gaz. vol. 161; p. 236.
Buckle. A. Burke. No. 979,744; Dec. 27; Sp. p. 5027; Gaz. vol. 161; p. 878.
Buckle, Back-band. J. A. Henson. No. 979,400; Dec. 27; Sp. p. 4470; Gaz. vol. 161; p. 790.
Buckle, Belt-. J. F. Dunn. No. 980,077; Dec. 27; Sp. p. 5747; Gaz. vol. 161; p. 988.
Buckle, Rope-. G. L. Leisner. No. 977,642; Dec. 6; Sp. p. 511; Gaz. vol. 161; p. 76.
Building-block. F. Burcharts. No. 978,002; Dec. 6; Sp. p. 1231; Gaz. vol. 161; p. 200.
Building-block. J. M. Ault. No. 979,913; Dec. 27; Sp. p. 5406; Gaz. vol. 161; p. 935.
Building-block bonding and tie plate. G. M. Griswold and H. C. Beagley. No. 977,794; Dec. 6; Sp. p. 821; Gaz. vol. 161; p. 128.
Building-blocks, Apparatus for making hollow. F. Burchartz. No. 978,003; Dec. 6; Sp. p. 1253; Gaz. vol. 161; p. 201.
Building construction. H. I. Jeffers. No. 980,102; Dec. 27; Sp. p. 5806; Gaz. vol. 161; p. 996.
Buildings and other structures, Apparatus for the construction of supports for. J. B. Goldsborough. No. 979,474; Dec. 27; Sp. p. 4436; Gaz. vol. 161; p. 784.
Buildings, Moisture-proof interior covering or lining for use in. L. Sauerbeck. No. 978,655; Dec. 13; Sp. p. 2698; Gaz. vol. 161; p. 458.
Bull-wheel, Derrick. A. M. Kruger. No. 979,173; Dec. 20; Sp. p. 3828; Gaz. vol. 161; p. 662.
Bulldozer. R. H. Schweitzer. No. 979,009; Dec. 20; Sp. p. 3642; Gaz. vol. 161; p. 633.
Buoy. T. Matthews. No. 977,959; Dec. 6; Sp. p. 1170; Gaz. vol. 161; p. 187.
Burglar-alarm, Automatic. H. B. Collier. No. 978,269; Dec. 13; Sp. p. 1854; Gaz. vol. 161; p. 324.
Burglar apparatus. M. Piesec. No. 978,306; Dec. 13; Sp. p. 2120; Gaz. vol. 161; p. 360.
Burner: *See* Electrically-lighted burner; Gas-burner; Heater-burner; Hydrocarbon-burner; Inverted mantle-burner; Lamp-burner; Oil-burner; Pilot-burner.
Bust and abdominal supporter. B. Lazell. No. 977,455; Dec. 6; Sp. p. 57; Gaz. vol. 161; p. 12.
Butter-producing apparatus. R. A. Marshall. No. 979,524; Dec. 27; Sp. p. 4540; Gaz. vol. 161; p. 801.
Button-blanks, Holding or clamping chuck for machines for boring and niching thread-holes in. H. J. Skipp. No. 979,714; Dec. 27; Sp. p. 4943; Gaz. vol. 161; p. 867.
Button, Collar-. N. Benincasa. No. 977,925; Dec. 6; Sp. p. 1095; Gaz. vol. 161; p. 174.
Button-hook hanger and toy, Combined. C. A. Evans. No. 978,720; Dec. 13; Sp. p. 2827; Gaz. vol. 161; p. 480.
Button lock, Collar-. E. M. Pletcher and J. C. Gibbs. No. 977,837; Dec. 6; Sp. p. 906; Gaz. vol. 161; p. 143.
Button, Whip-. J. McLaughlin and H. D. Beman. No. 977,670; Dec. 6; Sp. p. 566; Gaz. vol. 161; p. 86.
Buttons, Forming cuff-. J. L. Herzog. No. 979,163; Dec. 20; Sp. p. 3803; Gaz. vol. 161; p. 659.
Cabinet, Credit-account. W. K. Edgar. No. 977,942; Dec. 6; Sp. p. 1127; Gaz. vol. 161; p. 181.
Cabinet, Stamp-. F. H. Chase. No. 978,560; Dec. 13; Sp. p. 2487; Gaz. vol. 161; p. 425.
Cable angle-support. W. F. Curran. No. 979,932; Dec. 27; Sp. p. 5441; Gaz. vol. 161; p. 940.
Cable-carrier apparatus. G. A. Amsden. No. 978,826; Dec. 20; Sp. p. 3017; Gaz. vol. 161; p. 537.
Cable-carrier apparatus, Carrier for. C. R. Libby. No. 978,174; Dec. 13; Sp. p. 1652; Gaz. vol. 161; p. 290.
Cable-switching device. E. Newman. No. 979,687; Dec. 27; Sp. p. 4897; Gaz. vol. 161; p. 858.
Cable-track support. W. T. Buck. No. 978,134; Dec. 13; Sp. p. 1562; Gaz. vol. 161; p. 277.
Cables, Support for stringing. L. J. Muehr. No. 979,089; Dec. 27; Sp. p. 5548; Gaz. vol. 161; p. 959.
Calculating device. N. R. Long. No. 979,678; Dec. 27; Sp. p. 4878; Gaz. vol. 161; p. 855.
Calculating-machine. F. Trinks. No. 979,358; Dec. 20; Sp. p. 4187; Gaz. vol. 161; p. 723.
Calculating or computing machine. H. R. Griffen. No. 979,391; Dec. 20; Sp. p. 4250; Gaz. vol. 161; p. 732.
Calendar indicator, Perpetual-. J. M. Crawford. No. 979,655; Dec. 27; Sp. p. 4835; Gaz. vol. 161; p. 848.
Calipering attachment, Automatic. H. B. Nichols. No. 980,164; Dec. 27; Sp. p. 5957; Gaz. vol. 161; p. 1017.
Call and alarm system, Electric. G. S. Loveridge. No. 977,809; Dec. 6; Sp. p. 848; Gaz. vol. 161; p. 133.
Cam and lever. W. Rose. No. 978,783; Dec. 13; Sp. p. 2948; Gaz. vol. 161; p. 498.
Cam mechanism. E. Traub. No. 977,488; Dec. 6; Sp. p. 136; Gaz. vol. 161; p. 23.
Camera-front, Sliding. A. A. Johnson. No. 978,027; Dec. 6; Sp. p. 1301; Gaz. vol. 161; p. 208.
Camera, Moving-picture. N. C. Travis. No. 978,077; Dec. 6; Sp. p. 1407; Gaz. vol. 161; p. 227.
Camera timing attachment. J. H. Dolby. No. 977,440; Dec. 6; Sp. p. 23; Gaz. vol. 161; p. 7.
Can: *See* Dispensing-can; Display-can; Milk-can; Sheet-metal can.
Can container and perforator, Combined. H. A. Javins. No. 979,072; Dec. 20; Sp. p. 3563; Gaz. vol. 161; p. 623.
Can-cover, Locking. B. Vigdal. No. 977,491; Dec. 6; Sp. p. 141; Gaz. vol. 161; p. 25.
Can-filling apparatus. C. Robertson. No. 979,096; Dec. 20; Sp. p. 3619; Gaz. vol. 161; p. 632.
Can-flange swaging and soldering machine. G. W. Weber. No. 977,689; Dec. 6; Sp. p. 608; Gaz. vol. 161; p. 93.
Can-lids, Means for loosening. O. H. Thompson. No. 979,226; Dec. 20; Sp. p. 3944; Gaz. vol. 161; p. 681.
Can shield, Milk-. W. H. Schmeling. No. 978,337; Dec. 13; Sp. p. 1996; Gaz. vol. 161; p. 348.
Can-top fastener and opener. C. Huber. No. 978,585; Dec. 13; Sp. p. 2547; Gaz. vol. 161; p. 434.
Candle-protector. M. H. Sterling. No. 977,567; Dec. 6; Sp. p. 348; Gaz. vol. 161; p. 51.
Candy pipes and other articles, Machine for molding. G. H. Fox. No. 978,726; Dec. 13; Sp. p. 2836; Gaz. vol. 161; p. 481.
Candy-pulling machine. H. S. Brewington. No. 979,125; Dec. 20; Sp. p. 3720; Gaz. vol. 161; p. 645.
Cane and stool, Convertible. J. O. Kapp. No. 980,150; Dec. 27; Sp. p. 5949; Gaz. vol. 161; p. 1015.
Cane-crusher. A. L. Marshall. No. 978,767; Dec. 13; Sp. p. 2910; Gaz. vol. 161; p. 494.
Cannel-coals and other similarly-constituted bituminous materials without change in their chemical composition, Recovery of the paraffin ingredients from. H. Wurtz. No. 977,992; Dec. 6; Sp. p. 1225; Gaz. vol. 161; p. 197.
Car and engine replacer. L. L. Coats. No. 979,131; Dec. 20; Sp. p. 3738; Gaz. vol. 161; p. 647.
Car and the like, Freight-. J. Bryan. No. 977,705; Dec. 6; Sp. p. 649; Gaz. vol. 161; p. 99.
Car antifriction side bearing, Railway-. J. F. O'Connor. No. 980,117; Dec. 27; Sp. p. 5857; Gaz. vol. 161; p. 1001.
Car-bolster. C. H. Anderson. No. 978,424; Dec. 13; Sp. p. 2181; Gaz. vol. 161; p. 378.
Car-brake. A. F. Klasing. No. 977,634; Dec. 6; Sp. p. 491; Gaz. vol. 161; p. 74.
Car-brake equalizer. H. L. Blunck. No. 977,998; Dec. 6; Sp. p. 1246; Gaz. vol. 161; p. 199.
Car-brake safety attachment. J. B. Wright. No. 978,979; Dec. 20; Sp. p. 3370; Gaz. vol. 161; p. 592.
Car, Brick-. C. M. Steele. No. 979,898; Dec. 27; Sp. p. 5376; Gaz. vol. 161; p. 929.
Car buffing mechanism, Railway-. R. D. Gallagher, Jr. No. 979,756; Dec. 27; Sp. p. 5062; Gaz. vol. 161; p. 881.
Car bunk and block, Logging-. F. W. Chriswell. No. 979,650; Dec. 27; Sp. p. 4824; Gaz. vol. 161; p. 846.
Car center-bearing, Railway-. C. H. Anderson. No. 977,694; Dec. 6; Sp. p. 624; Gaz. vol. 161; p. 95.
Car chains, Fastening and releasing device for logging-. J. W. Proctor. No. 980,003; Dec. 27; Sp. p. 5579; Gaz. vol. 161; p. 964.
Car construction. H. M. Pflager. No. 979,030; Dec. 20; Sp. p. 3480; Gaz. vol. 161; p. 610.
Car construction. L. Parish and R. B. Kendig. No. 979,088; Dec. 20; Sp. p. 3605; Gaz. vol. 161; p. 629.
Car-door. W. W. Cork. No. 979,654; Dec. 27; Sp. p. 4833; Gaz. vol. 161; p. 848.
Car door, Grain-. J. Krohn. No. 979,076; Dec. 20; Sp. p. 3572; Gaz. vol. 161; p. 625.
Car-door lock. A. M. Worthington, S. J. Raetz, and J. W. Kreitter. No. 978,528; Dec. 13; Sp. p. 2397; Gaz. vol. 161; p. 413.
Car draft-rigging, Railway-. J. F. O'Connor. No. 977,827; Dec. 6; Sp. p. 887; Gaz. vol. 161; p. 139.
Car, Dump-. A. Campbell. No. 977,433; Dec. 6; Sp. p. 13; Gaz. vol. 161; p. 5.
Car-dumper, Automatic. V. C. Calhoun. No. 978,844; Dec. 20; Sp. p. 3054; Gaz. vol. 161; p. 544.
Car-dumping device. J. H. Berryman. No. 977,699; Dec. 6; Sp. p. 637; Gaz. vol. 161; p. 97.
Car-fender. B. W. Haskell and S. B. McCrea. No. 977,867; Dec. 6; Sp. p. 973; Gaz. vol. 161; p. 153.
Car for pleasure-railways. J. A. Miller. No. 979,982; Dec. 27; Sp. p. 5537; Gaz. vol. 161; p. 956.
Car-handling apparatus, Mine-. J. McEvoy. No. 978,321; Dec. 13; Sp. p. 1960; Gaz. vol. 161; p. 342.
Car side bearing. E. S. Woods. (Reissue.) No. 13,181; Dec. 6; Sp. p. 1535; Gaz. vol. 161; p. 248.

Car-stake, Automatic. J. G. Smith. No. 978,124; Dec. 6; Sp. p. 1512; Gaz. vol. 161; p. 243.
Car-step. R. R. Crane. No. 978,563; Dec. 13; Sp. p. 2404; Gaz. vol. 161; p. 426.
Car step and platform. S. W. Bishop. No. 977,504; Dec. 6; Sp. p. 178; Gaz. vol. 161; p. 29.
Car-underframe. C. T. Westlake and C. F. Frede. No. 979,115; Dec. 20; Sp. p. 3695; Gaz. vol. 161; p. 641.
Car ventilating, refrigerating, and heating system. T. H. Garland. No. 978,284; Dec. 13; Sp. p. 1883; Gaz. vol. 161; p. 330.
Car-wheel. S. Wilkinson. No. 979,051; Dec. 20; Sp. p. 3528; Gaz. vol. 161; p. 617.
Cars and carriages, Automatic coupling for. L. Boirault. No. 977,926; Dec. 6; Sp. p. 1097; Gaz. vol. 161; p. 174.
Cars, System of operating dump-. F. S. Ingoldsby. No. 977,876; Dec. 6; Sp. p. 994; Gaz. vol. 161; p. 156.
Carbon-sheet holder. C. E. Archbald. No. 978,807; Dec. 13; Sp. p. 2982; Gaz. vol. 161; p. 505.
Carbonating apparatus. J. C. Murphy. No. 977,467; Dec. 6; Sp. p. 82; Gaz. vol. 161; p. 16.
Carbonating apparatus. C. L. Bastian. No. 978,103; Dec. 6; Sp. p. 1463; Gaz. vol. 161; p. 236.
Carbureter. C. A. Marrder. No. 977,813; Dec. 6; Sp. p. 857; Gaz. vol. 161; p. 135.
Carbureter. C. E. Page. No. 977,831; Dec. 6; Sp. p. 896; Gaz. vol. 161; p. 141.
Carbureter. D. M. Tilden. No. 978,076; Dec. 6; Sp. p. 1405; Gaz. vol. 161; p. 226.
Carbureter. B. O. Smith. No. 978,787; Dec. 13; Sp. p. 2955; Gaz. vol. 161; p. 499.
Carbureter. R. W. Shaw. No. 978,947; Dec. 20; Sp. p. 3280; Gaz. vol. 161; p. 581.
Carbureter. J. Peterson. No. 979,555; Dec. 27; Sp. p. 4616; Gaz. vol. 161; p. 812.
Carbureter. E. J. Proehl. No. 979,700; Dec. 27; Sp. p. 4919; Gaz. vol. 161; p. 862.
Carbureter. D. H. Haywood. No. 979,761; Dec. 27; Sp. p. 5074; Gaz. vol. 161; p. 883.
Carbureter. E. F. White. No. 979,907; Dec. 27; Sp. p. 5395; Gaz. vol. 161; p. 932.
Carbureter. J. G. Willet. No. 979,908; Dec. 27; Sp. p. 5397; Gaz. vol. 161; p. 933.
Carbureter for internal-combustion engines or motors. A. Barker. No. 979,409; Dec. 27; Sp. p. 4300; Gaz. vol. 161; p. 762.
Carding-machine feeding device. E. V. Bates. No. 977,502; Dec. 6; Sp. p. 175; Gaz. vol. 161; p. 29.
Carding mechanism. G. F. Geb. No. 978,998; Dec. 20; Sp. p. 3407; Gaz. vol. 161; p. 590.
Cards, Machine for the production of jacquard-. R. T. Carbonell. No. 979,128; Dec. 20; Sp. p. 3730; Gaz. vol. 161; p. 646.
Cards or sheets, Feeding mechanism for. F. M. Spurr. No. 978,231; Dec. 13; Sp. p. 1768; Gaz. vol. 161; p. 310.
Cards, Playing-. R. W. Bumstead. No. 979,642; Dec. 27; Sp. p. 4807; Gaz. vol. 161; p. 843.
Carpenter's brace. A. B. Schucker. No. 978,066; Dec. 6; Sp. p. 1384; Gaz. vol. 161; p. 222.
Carpenter's tool. J. A. Swenson. No. 978,509; Dec. 13; Sp. p. 2357; Gaz. vol. 161; p. 407.
Carpet and rug fastener. S. B. Donchian. No. 977,857; Dec. 6; Sp. p. 954; Gaz. vol. 161; p. 150.
Carrier: *See* Automatic carrier; Curtain-pole carrier; Display-carrier; Gravity-carrier; Lantern-carrier; Litter-carrier; Mail-carrier; Mail-pouch carrier.
Carrying case and stand, Folding. G. L. Kohn. No. 979,075; Dec. 20; Sp. p. 3570; Gaz. vol. 161; p. 624.
Cart. R. D. Wirt. No. 978,344; Dec. 13; Sp. p. 2011; Gaz. vol. 161; p. 350.
Cartridge-shells, Manufacturing. C. A. Bailey. No. 977,497; Dec. 6; Sp. p. 152; Gaz. vol. 161; p. 26.
Case: *See* Bottle-carrying case; Carrying-case; Chain-case; Cigar-case; Index-case; Meat-case; Show-case.
Casement, sash, door, &c. E. Pellett. No. 977,470; Dec. 6; Sp. p. 91; Gaz. vol. 161; p. 17.
Cash-register. T. Carroll. No. 977,509; Dec. 6; Sp. p. 186; Gaz. vol. 161; p. 31.
Cash-register. J. P. Cleal. No. 977,511; Dec. 6; Sp. p. 202; Gaz. vol. 161; p. 31.
Cash-register. W. H. Muzzy. No. 977,532; Dec. 6; Sp. p. 270; Gaz. vol. 161; p. 39.
Cash-registers, Electrical announcing attachment for. T. J. Sullivan. No. 979,353; Dec. 20; Sp. p. 4178; Gaz. vol. 161; p. 721.
Cash-registers, Indicating attachment for. C. W. Page. No. 978,635; Dec. 13; Sp. p. 2654; Gaz. vol. 161; p. 451.
Cassava and producing alcohol therefrom, Treating. C. C. Moore, Jr. No. 977,465; Dec. 6; Sp. p. 77; Gaz. vol. 161; p. 15.
Casting non-ferric metals. F. J. Phillips. No. 977,546; Dec. 6; Sp. p. 305; Gaz. vol. 161; p. 45.
Catamaran. M. Phillips. No. 979,557; Dec. 27; Sp. p. 4626; Gaz. vol. 161; p. 813.
Catamenial bandage. I. M. Argo. No. 979,730; Dec. 27; Sp. p. 5000; Gaz. vol. 161; p. 873.
Catch-basin cover. J. H. MacDonald. No. 979,182; Dec. 20; Sp. p. 3845; Gaz. vol. 161; p. 665.
Cattle-guard. R. B. Walker. No. 980,033; Dec. 27; Sp. p. 5656; Gaz. vol. 161; p. 974.
Ceiling. E. Dieckmann. No. 979,658; Dec. 27; Sp. p. 4840; Gaz. vol. 161; p. 849.
Cellulose, Apparatus for nitrating. A. F. Du Pont and J. T. Thompson. No. 979,560; Dec. 27; Sp. p. 4633; Gaz. vol. 161; p. 814.
Cement-block mold. E. P. Frink and D. A. Jones. No. 977,792; Dec. 6; Sp. p. 817; Gaz. vol. 161; p. 127.
Cement-form. F. T. Leeder. No. 979,863; Dec. 27; Sp. p. 5306; Gaz. vol. 161; p. 918.
Cement, Making Portland. J. M. Carrère. No. 978,848; Dec. 20; Sp. p. 3058; Gaz. vol. 161; p. 544.
Cement-mixer loader. W. A. Cook. No. 978,136; Dec. 13; Sp. p. 1565; Gaz. vol. 161; p. 278.
Centers, Instrument for comparing the relative positions of. N. A. Locke. No. 978,177; Dec. 13; Sp. p. 1657; Gaz. vol. 161; p. 291.
Centrifugal switch. W. J. Branson. No. 977,591; Dec. 6; Sp. p. 405; Gaz. vol. 161; p. 59.
Chain, Antiskid-. R. N. Evans. No. 979,141; Dec. 20; Sp. p. 3756; Gaz. vol. 161; p. 650.
Chain case and gearing. P. H. Breed. No. 980,141; Dec. 27; Sp. p. 5913; Gaz. vol. 161; p. 1009.
Chain-repairing tool. D. G. Vaughn. No. 979,609; Dec. 27; Sp. p. 4739; Gaz. vol. 161; p. 832.
Chains, Making cable-. F. Egge. No. 978,717; Dec. 13; Sp. p. 2822; Gaz. vol. 161; p. 479.
Chains, Wire for ornamental. T. F. Carlisle. No. 978,847; Dec. 20; Sp. p. 3057; Gaz. vol. 161; p. 544.
Chair: *See* Adjustable chair; Hydraulic chair; Joint chair; Rail-chair; Swinging chair.
Chalk-holder. J. J. Sayles. No. 978,064; Dec. 6; Sp. p. 1381; Gaz. vol. 161; p. 222.
Change-delivering machine. J. J. Dubbelde. No. 978,718; Dec. 13; Sp. p. 2808; Gaz. vol. 161; p. 477.
Chemical process. W. C. Arsem. No. 979,303; Dec. 20; Sp. p. 4202; Gaz. vol. 161; p. 724.
Chest: *See* Tool-chest.
Chimney-top protector. R. C. Owens. No. 979,995; Dec. 27; Sp. p. 5560; Gaz. vol. 161; p. 960.
China-closet. R. J. Keppel. No. 978,305; Dec. 13; Sp. p. 1928; Gaz. vol. 161; p. 337.
Chisel-protector. C. U. Matthey. No. 978,387; Dec. 13; Sp. p. 2105; Gaz. vol. 161; p. 366.
Chopper: *See* Cotton-chopper; Food-chopper.
Chuck, Lathe-. G. L. Owens. No 978,055; Dec. 6; Sp. p. 1362; Gaz. vol. 161; p. 218.
Churn. C. N. Choate. No. 978,562; Dec. 13; Sp. p. 2493; Gaz. vol. 161; p. 426.
Churn. W. W. Liles. No. 979,974; Dec. 27; Sp. p. 552; Gaz. vol. 161; p. 954.
Churn and butter-worker, Combined. D. E. Virtue. No. 979,610; Dec. 27; Sp. p. 4741; Gaz. vol. 161; p. 832.
Churn-body. W. W. Liles. No. 978,763; Dec. 13; Sp. p. 2910; Gaz. vol. 161; p. 492.
Churn-dasher. L. A. Sandoe. No. 978,653; Dec. 13; p. 2689; Gaz. vol. 161; p. 458.
Churn-dasher. W. W. Liles. No. 980,107; Dec. 27; Sp. p. 5833; Gaz. vol. 161; p. 998.
Churn-dasher. Friction-operated. C. A. Fewell. No. 979,274; Dec. 20; Sp. p. 4043; Gaz. vol. 161; p. 696.
Chute, Coin-detector. R. A. McCracken. No. 980,11[illegible]; Dec. 27; Sp. p. 5845; Gaz. vol. 161; p. 1000.
Chute for car-loaders, Adjustable. R. W. Wetherill. No. 978,803; Dec. 13; Sp. p. 2976; Gaz. vol. 161; p. 504.
Cigar-ash protector. E. Haller. No. 979,944; Dec. 27; Sp. p. 5466; Gaz. vol. 161; p. 944.
Cigar-case. C. L'Enfant. No. 979,176; Dec. 20; Sp. p. 3834; Gaz. vol. 161; p. 663.
Cigar-cutter. J. R. Pollock and W. Schreiber. No. 980,123; Dec. 27; Sp. p. 5876; Gaz. vol. 161; p. 1004.
Cigar-holder. C. F. Pierce. No. 977,834; Dec. 6; Sp. p. 901; Gaz. vol. 161; p. 142.
Cigar-machine. J. D. Lacroix. No. 977,806; Dec. Sp. p. 843; Gaz. vol. 161; p. 132.
Cigarette-machine. P. J. Meahl. No. 978,919; Dec. Sp. p. 3215; Gaz. vol. 161; p. 571.
Cigarette-making device, Pocket. H. C. Karlson. No. 977,954; Dec. 6; Sp. p. 1148; Gaz. vol. 161; p. 185.
Cigarette-roller and tobacco-box, Combined. M. Kronau. No. 978,170; Dec. 13; Sp. p. 1636; Gaz. vol. 161; p. 2[illegible]
Circuit-breaker. F. W. Harris. No. 978,882; Dec. Sp. p. 3139; Gaz. vol. 161; p. 557.
Circuit-closer. H. B. Collier. No. 978,849; Dec. Sp. p. 3061; Gaz. vol. 161; p. 545.
Circuit-conductors, Shield for. T. E. Murray. No. 979,544; Dec. 27; Sp. p. 4585; Gaz. vol. 161; p. 8[illegible]
Cistern-cover. J. E. Hewitt. No. 979,004; Dec. 20; p. 3427; Gaz. vol. 161; p. 602.
Clamp: *See* Bench-clamp; Fence-clamp; Hose-clamp; Miter-clamp; Rail-clamp; Saw-clamp; Side-board clamp.
Clamp. W. L. Herrick. No. 977,738; Dec. 6; Sp. p. 702; Gaz. vol. 161; p. 100.
Clamp. P. Jensen. No. 977,802; Dec. 6; Sp. p. 8[illegible] Gaz. vol. 161; p. 131.
Clasp: *See* Garment-clasp; Garment-supporter clasp; String-clasp.
Claw-bar. W. Waddell. No. 978,986; Dec. 6; Sp. p. 1217; Gaz. vol. 161; p. 196.
Clay-tempering blade. J. H. Bach. No. 978,536; Dec. 13; Sp. p. 2413; Gaz. vol. 161; p. 416.
Cleaner: *See* Boiler-cleaner; Boiler-tube cleaner; Cocoa-cleaner; Cotton-cleaner; Floor-cleaner; Flue-cleaner; Knife-cleaner; Pipe-cleaner; Pneumatic cleaner; Rice-cleaner; Sad-iron cleaner; Tooth cleaner; Vacuum-cleaner.
Cleaning-machine. J. N. Hollis. No. 978,749; Dec. Sp. p. 2885; Gaz. vol. 161; p. 488.
Cleat and rosette, Combined. F. Schimpf. No. 978,[illegible] Dec. 20; Sp. p. 3265; Gaz. vol. 161; p. 579.
Clevis. C. A. Norman. No. 978,330; Dec. 13; Sp. 1986; Gaz. vol. 161; p. 346.

Clip: *See* Spring-clip.
Clock, Keyless. W. E. Porter. No. 979,797; Dec. 27; Sp. p. 5166; Gaz. vol. 161; p. 895.
Clock-setting device. F. Livingston. No. 979,402; Dec. 20; Sp. p. 4279; Gaz. vol. 161; p. 736.
Closet: *See* China-closet.
Closure for containing vessels. E. D. Chellis. No. 978,432; Dec. 13; Sp. p. 2191; Gaz. vol. 161; p. 380.
Cloth cutting and measuring machine. J. A. Kellian and G. M. Kennedy. No. 979,963; Dec. 27; Sp. p. 5497; Gaz. vol. 161; p. 950.
Clothes-drainer. W. McDonald. No. 978,184; Dec. 13; Sp. p. 1670; Gaz. vol. 161; p. 293.
Clothes-line support. E. E. Short. No. 980,017; Dec. 27; Sp. p. 5604; Gaz. vol. 161; p. 960.
Clothes-line-supporting device. V. A. Rouilliard. No. 980,128; Dec. 27; Sp. p. 5888; Gaz. vol. 161; p. 1006.
Clutch. O. D. Morgan. No. 978,776; Dec. 13; Sp. p. 2934; Gaz. vol. 161; p. 496.
Clutch. S. E. Ross. No. 979,703; Dec. 27; Sp. p. 4925; Gaz. vol. 161; p. 863.
Clutch and multiple transmission, Combined. A. F. Feller. No. 979,272; Dec. 20; Sp. p. 4040; Gaz. vol. 161; p. 695.
Clutch device, Overload. O. A. Smith. No. 979,104; Dec. 20; Sp. p. 3662; Gaz. vol. 161; p. 636.
Clutch, Friction-. W. A Wilkinson and A. H. Irving. No. 978,253; Dec. 13; Sp. p. 1815; Gaz. vol. 161; p. 317.
Clutch, Friction-. F. F. Hoehne. No. 979,952; Dec. 27; Sp. p. 5478; Gaz. vol. 161; p. 947.
Clutch mechanism. L. H. Hall. No. 977,864; Dec. 6; Sp. p. 965; Gaz. vol. 161; p. 152.
Clutch mechanisms, Latch-controlling device for. C. O. Bergman. No. 978,351; Dec. 13; Sp. p. 2021; Gaz. vol. 161; p. 352.
Coal-washer. N. A. Smith. No. 979,584; Dec. 27; Sp. p. 4686; Gaz. vol. 161; p. 822.
Coat-collar. N. Harris. No. 977,865; Dec. 6; Sp. p. 969; Gaz. vol. 161; p. 153.
Coat-collar. N. Harris. No. 977,866; Dec. 6; Sp. p. 971; Gaz. vol. 161; p. 153.
Cock, Ball-. C. B. Whitney. No. 979,235; Dec. 20; Sp. p. 3955; Gaz. vol. 161; p. 683.
Cock, Basin-. J. M. McDonald. No. 978,773; Dec. 13; Sp. p. 2926; Gaz. vol. 161; p. 495.
Cock, Gage-. C. Wright. No. 978,256; Dec. 13; Sp. p. 1824; Gaz. vol. 161; p. 319.
Cock, Gage-. E. F. Shallow. No. 979,344; Dec. 20; Sp. p. 4166; Gaz. vol. 161; p. 718.
Cock, Stop and drain. F. A. Stanley. No. 978,952; Dec. 20; Sp. p. 3298; Gaz. vol. 161; p. 583.
Cocoa and chocolate pot attachment. B. C. Inwood. No. 978,298; Dec. 13; Sp. p. 1916; Gaz. vol. 161; p. 335.
Coffee-cleaning apparatus. W. D. Balcom. No. 977,697; Dec. 6; Sp. p. 631; Gaz. vol. 161; p. 96.
Coffee, Eliminating the active toxic agent from. H. Evers. No. 978,866; Dec. 20; Sp. p. 3104; Gaz. vol. 161; p. 551.
Coffee-maker. L. S. Fiatau. No. 980,088; Dec. 27; Sp. p. 5781; Gaz. vol. 161; p. 991.
Coffee-stirring machine. J. L. Pledger. No. 979,558; Dec. 27; Sp. p. 4630; Gaz. vol. 161; p. 813.
Coiling-machine. E. M. Lang, Jr. No. 978,039; Dec. 6; Sp. p. 1331; Gaz. vol. 161; p. 213.
Coin-tester for coin-freed apparatus, Automatic. H. Wollheim. No. 977,771; Dec. 6; Sp. p. 776; Gaz. vol. 161; p. 120.
Coin-tester for coin-freed apparatus, Automatic. H. Wollheim. No. 980,040; Dec. 27; Sp. p. 5670; Gaz. vol. 161; p. 976.
Coke-breeze, Utilizing. H. A. Tobelmann. No. 978,236; Dec. 13; Sp. p. 1777; Gaz. vol. 161; p. 312.
Coke-drawer. A. H. Reeder. No. 980,004; Dec. 27; Sp. p. 5580; Gaz. vol. 161; p. 964.
Coke-drawing machine. H. Greer, Jr. No. 977,522; Dec. 6; Sp. p. 235; Gaz. vol. 161; p. 35.
Collapsible box. S. Modern. No. 979,877; Dec. 27; Sp. p. 5331; Gaz. vol. 161; p. 922.
Collar. J. G. Greter. No. 978,738; Dec. 13; Sp. p. 2865; Gaz. vol. 161; p. 485.
Collar-box and the like. J. Reid. No. 979,761; Dec. 27; Sp. p. 4923; Gaz. vol. 161; p. 863.
Collar-fastener. C. B. A. Schaefer. No. 979,342; Dec. 20; Sp. p. 4163; Gaz. vol. 161; p. 718.
Collar fastener, Horse-. R. J. Cassan. No. 978,006; Dec. 6; Sp. p. 1258; Gaz. vol. 161; p. 202.
Collar, Horse-. M. Lauterbach. No. 978,907; Dec. 20; Sp. p. 3185; Gaz. vol. 161; p. 566.
Collar or hame fastener. A. O. McNatton. No. 979,321; Dec. 20; Sp. p. 4128; Gaz. vol. 161; p. 711.
Colorimeter. A. M. Parks. No. 977,964; Dec. 6; Sp. p. 1185; Gaz. vol. 161; p. 189.
Comb: *See* Currycomb.
Comb-cleaner. O. C. Felder. No. 979,660; Dec. 27; Sp. p. 4844; Gaz. vol. 161; p. 840.
Comb-cleaner. F. X. Cote. No. 979,747; Dec. 27; Sp. p. 5049; Gaz. vol. 161; p. 879.
Combing-machine. A. B. Evans, F. Marcaurele, and F. R. Langlois. No. 979,380; Dec. 20; Sp. p. 4247; Gaz. vol. 161; p. 732.
Combing machines, Automatic stop mechanism for wool-. H. R. Westwell. No. 979,620; Dec. 27; Sp. p. 4761; Gaz. vol. 161; p. 836.
Compass, Marine. H. Hertzberg. No. 980,155; Dec. 27; Sp. p. 5941; Gaz. vol. 161; p. 1014.
Compass, Recording-. E. Schuette and N. Dedrick. No. 978,942; Dec. 20; Sp. p. 3266; Gaz. vol. 161; p. 579.
Composing-machines, Font-selecting mechanism for monoline. W. E. Bertram. No. 978,108; Dec. 6; Sp. p. 1471; Gaz. vol. 161; p. 237.
Composite roller. C. F. Hargrave. No. 979,666; Dec. 27; Sp. p. 4852; Gaz. vol. 161; p. 851.
Composition of matter. A. Mills. No. 979,021; Dec. 20; Sp. p. 3463; Gaz. vol. 161; p. 607.
Compressor. J. Levey. No. 977,662; Dec. 6; Sp. p. 547; Gaz. vol. 161; p. 83.
Compressor. G. H. Reynolds. No. 978,037; Dec. 20; Sp. p. 3256; Gaz. vol. 161; p. 577.
Computing device and cash-drawer, Automatic. W. Sherwood. No. 978,950; Dec. 20; Sp. p. 3284; Gaz. vol. 161; p. 582.
Computing instrument, Fractions-. D. M. Park. No. 978,637; Dec. 13; Sp. p. 2658; Gaz. vol. 161; p. 452.
Concentrating comminuted material. H. M. Sutton, W. L. and E. G. Steele. No. 979,046; Dec. 20; Sp. p. 3515; Gaz. vol. 161; p. 615.
Concentrator and amalgamator. R. L. Royse. No. 979,706; Dec. 27; Sp. p. 4930; Gaz. vol. 161; p. 864.
Concrete construction. D. A. Reynolds. No. 978,647; Dec. 13; Sp. p. 2680; Gaz. vol. 161; p. 456.
Concrete construction, Reinforced. J. Gilligan. No. 979,285; Dec. 20; Sp. p. 4067; Gaz. vol. 161; p. 699.
Concrete construction, Reinforced-. F. S. Robinson. No. 979,564; Dec. 27; Sp. p. 4643; Gaz. vol. 161; p. 815.
Concrete-floor construction, Bonding-tie for. A. C. Schumann. No. 977,753; Dec. 6; Sp. p. 730; Gaz. vol. 161; p. 115.
Concrete, Floor-sleeper anchoring and spacing device for. F. Wright and J. Walmsley. No. 979,628; Dec. 27; Sp. p. 4775; Gaz. vol. 161; p. 839.
Concrete-mixers, Feed-regulator for. F. V. McDonald. No. 978,320; Dec. 13; Sp. p. 1958; Gaz. vol. 161; p. 342.
Concrete-mold. R. B. Tufts. No. 977,763; Dec. 6; Sp. p. 760; Gaz. vol. 161; p. 118.
Concrete-mold. J. Carlen. No. 978,845; Dec. 20; Sp. p. 3055; Gaz. vol. 161; p. 544.
Concrete pile, Reinforced-. E. D. McDonald. No. 979,529; Dec. 27; Sp. p. 4551; Gaz. vol. 161; p. 803.
Concrete tie. W. J. Green. No. 977,728; Dec. 6; Sp. p. 683; Gaz. vol. 161; p. 106.
Condenser. R. D. Tomlinson. No. 978,411; Dec. 13; Sp. p. 2151; Gaz. vol. 161; p. 374.
Condenser. E. W. Christie and T. Roberts. No. 978,697; Dec. 13; Sp. p. 2763; Gaz. vol. 161; p. 471.
Conductor-splicer. F. W. Oettgen. No. 978,630; Dec. 13; Sp. p. 2649; Gaz. vol. 161; p. 450.
Container. F. Westerbeck. No. 979,815; Dec. 27; Sp. p. 5200; Gaz. vol. 161; p. 901.
Controller. E. Schattner. (Reissue.) No. 13,178; Dec. 6; Sp. p. 1525; Gaz. vol. 161; p. 245.
Converter. R. Baggaley. No. 977,922; Dec. 6; Sp. p. 1089; Gaz. vol. 161; p. 173.
Conveyer. F. R. Willson, Jr. No. 977,987; Dec. 6; Sp. p. 1218; Gaz. vol. 161; p. 196.
Conveyer. F. R. Willson, Jr. No. 977,988; Dec. 6; Sp. p. 1219; Gaz. vol. 161; p. 196.
Conveyer-bucket. S. A. Cooney. No. 979,653; Dec. 27; Sp. p. 4830; Gaz. vol. 161; p. 847.
Conveyer having spiral blade of varying pitch, Gravity-. M. C. Schwab. No. 979,711; Dec. 27; Sp. p. 4938; Gaz. vol. 161; p. 866.
Cooker, Cotton-seed-meal. T. G. Wolfe. No. 980,039; Dec. 27; Sp. p. 5668; Gaz. vol. 161; p. 976.
Cooker, Steam-. O. G. Storm. No. 979,591; Dec. 27; Sp. p. 4699; Gaz. vol. 161; p. 825.
Cooking-utensil cold handle. R. O. Hammond. No. 979,847; Dec. 27; Sp. p. 5271; Gaz. vol. 161; p. 912.
Cooking-vessel holder. F. Schuler. No. 980,130; Dec. 27; Sp. p. 5893; Gaz. vol. 161; p. 1006.
Cooler: *See* Cream-cooler; Water-cooler.
Cooler. M. A. Simmons. No. 978,339; Dec. 13; Sp. p. 2000; Gaz. vol. 161; p. 348.
Cooling-tower. E. Burhorn. No. 978,986; Dec. 20; Sp. p. 3384; Gaz. vol. 161; p. 595.
Coop. Folding chicken-. F. W. Koesters. No. 978,759; Dec. 13; Sp. p. 2903; Gaz. vol. 161; p. 491.
Coop, Setting and brood. W. L. Niemann. No. 979,992; Dec. 27; Sp. p. 5554; Gaz. vol. 161; p. 960.
Copper, Refining. W. S. Rockey and H. Eldridge. No. 978,212; Dec. 13; Sp. p. 1725; Gaz. vol. 161; p. 303.
Copy-holder. C. J. Ellis. No. 978,719; Dec. 13; Sp. p. 2824; Gaz. vol. 161; p. 479.
Copy-holder. H. Hopkins. No. 979,670; Dec. 27; Sp. p. 4859; Gaz. vol. 161; p. 852.
Copy-holder. T. J. Martin. No. 980,111; Dec. 27; Sp. p. 5843; Gaz. vol. 161; p. 999.
Copying-frame. E. Albert. No. 978,261; Dec. 13; Sp. p. 1836; Gaz. vol. 161; p. 321.
Coring and sizing machine, Pineapple. A. E. Lister. No. 978,383; Dec. 13; Sp. p. 2092; Gaz. vol. 161; p. 364.
Corn grader or separator, Seed-. J. A. Hafsaas. No. 977,524; Dec. 6; Sp. p. 244; Gaz. vol. 161; p. 36.
Corn-husker. J. C. Overton. No. 979,690; Dec. 27; Sp. p. 4901; Gaz. vol. 161; p. 859.
Corn-husking machine. C. B. Kimball. No. 978,169; Dec. 13; Sp. p. 1634; Gaz. vol. 161; p. 289.
Corn-removing appliance. O. P. Müller. No. 979,329; Dec. 20; Sp. p. 4144; Gaz. vol. 161; p. 714.
Cotton-blocking attachment. J. P. Horner. No. 978,751; Dec. 13; Sp. p. 2889; Gaz. vol. 161; p. 489.
Cotton-chopper. R. L. Darden. No. 979,264; Dec. 20; Sp. p. 4027; Gaz. vol. 161; p. 693.

Cotton-chopper. J. W. Garrett. No. 979,463; Dec. 27; Sp. p. 4414; Gaz. vol. 161; p. 781.
Cotton-cleaner. A. L. Treese. No. 978,237; Dec. 13; Sp. p. 1778; Gaz. vol. 161; p. 312.
Cotton-gin-feeder gear mechanism. T. S. Grimes. No. 978,877; Dec. 20; Sp. p. 3126; Gaz. vol. 161; p. 555.
Cotton-picker. L. C. Stukenborg. No. 978,341; Dec. 13; Sp. p. 2003; Gaz. vol. 161; p. 349.
Cotton-picker. C. S. Matthiessen. No. 979,184; Dec. 20; Sp. p. 3847; Gaz. vol. 161; p. 665.
Cotton-separator. W. A. Patterson. No. 979,792; Dec. 27; Sp. p. 5151; Gaz. vol. 161; p. 893.
Couch. M. Thomson. No. 979,049; Dec. 20; Sp. p. 3525; Gaz. vol. 161; p. 617.
Couch and bed spring equalizer. G. R. Beckwith and J. W. Bacon. No. 978,105; Dec. 6; Sp. p. 1467; Gaz. vol. 161; p. 237.
Counterbalancing mechanism. A. T. Prescott. No. 980,126; Dec. 27; Sp. p. 5882; Gaz. vol. 161; p. 1005.
Coupling: *See* Air-brake coupling; Automatic coupling; Friction-coupling; Hose-coupling; Pipe-coupling; Pneumatic coupling; Trace-coupling; Whiffletree-coupling.
Coupling-bolt. F. D. Ogden. No. 980,119; Dec. 27; Sp. p. 5867; Gaz. vol. 161; p. 1002.
Coupling-pin-operating device. J. S. Shepherd. No. 978,406; Dec. 13; Sp. p. 2140; Gaz. vol. 161; p. 372.
Cowl for ventilating and other purposes. S. Ewart. No. 979,390; Dec. 20; Sp. p. 4249; Gaz. vol. 161; p. 732.
Crate, Collapsible shipping-. W. J. Robertson. No. 977,969; Dec. 6; Sp. p. 1192; Gaz. vol. 161; p. 190.
Crate filler, Egg-. A. Nelson. No. 979,192; Dec. 20; Sp. p. 3862; Gaz. vol. 161; p. 668.
Crate or coop, Folding shipping. C. B. Ferrell and J. M. Perrine. No. 977,791; Dec. 6; Sp. p. 815; Gaz. vol. 161; p. 127.
Crate, Shipping-. J. L. Newton. No. 979,085; Dec. 20; Sp. p. 3601; Gaz. vol. 161; p. 628.
Cream-cooler. D. Kihlgren. No. 978,458; Dec. 13; Sp. p. 2245; Gaz. vol. 161; p. 389.
Cream-testing device. F. C. Kratz. No. 979,009; Dec. 20; Sp. p. 3436; Gaz. vol. 161; p. 603.
Cream used for making fondants, chocolate centers, &c., Heating. W. Boyd. No. 978,131; Dec. 13; Sp. p. 1556; Gaz. vol. 161; p. 276.
Cross-brace for plaster-boards or the like. H. H. Burson. No. 979,644; Dec. 27; Sp. p. 4811; Gaz. vol. 161; p. 844.
Cross-tie or sleeper of reinforced concrete or other plastic material. H. A. Wills. No. 978,343; Dec. 13; Sp. p. 2007; Gaz. vol. 161; p. 349.
Crossing-signal. J. Merrywesther. No. 978,921; Dec. 20; Sp. p. 3218; Gaz. vol. 161; p. 571.
Crusher: *See* Cane-crusher; Harrow and clod-crusher; Sugar-crusher.
Crushing-mill, Roller. F. Wolfenden. No. 977,918; Dec. 6; Sp. p. 1082; Gaz. vol. 161; p. 172.
Crushing or pulverizing machine. J. L. Hiller. No. 977,799; Dec. 6; Sp. p. 829; Gaz. vol. 161; p. 130.
Crutch and chair, Combined. S. J. Johnson. No. 979,959; Dec. 27; Sp. p. 5491; Gaz. vol. 161; p. 949.
Cuff attachment. F. Hustace and J. J. Smiddy. No. 979,306; Dec. 20; Sp. p. 4102; Gaz. vol. 161; p. 706.
Cultivating-machine for tilling and weeding land. H. Watt. No. 977,911; Dec. 6; Sp. p. 1062; Gaz. vol. 161; p. 169.
Cultivator. G. Gilbertson. No. 979,150; Dec. 20; Sp. p. 3779; Gaz. vol. 161; p. 654.
Cultivator. W. A. J. Brown. No. 979,928; Dec. 27; Sp. p. 5432; Gaz. vol. 161; p. 939.
Cultivator, Cotton-. M. L. Nix. No. 977,534; Dec. 6; Sp. p. 273; Gaz. vol. 161; p. 40.
Cultivator-standard. E. D. Yeatts. No. 978,348; Dec. 13; Sp. p. 2018; Gaz. vol. 161; p. 351.
Cultivator-tooth adjuster. C. D. Kirk. No. 979,512; Dec. 27; Sp. p. 4514; Gaz. vol. 161; p. 797.
Cultivators, Fertilizer-distributing attachment to. T. S. Frantz and W. H. Troxell. No. 978,363; Dec. 13; Sp. p. 2043; Gaz. vol. 161; p. 356.
Culvert. J. H. Schlafly. No. 978,222; Dec. 13; Sp. p. 1742; Gaz. vol. 161; p. 306.
Culvert, Corrugated. F. J. Feldt. No. 977,944; Dec. 6; Sp. p. 1131; Gaz. vol. 161; p. 182.
Culvert, Corrugated. F. J. Feldt. No. 977,945; Dec. 6; Sp. p. 1132; Gaz. vol. 161; p. 182.
Culvert, Corrugated sectional nestable. C. A. Foster. No. 979,146; Dec. 20; Sp. p. 3770; Gaz. vol. 161; p. 652.
Cup: *See* Bearing-cup; Grease-cup; Oil-cup; Priming-cup.
Cup. S. W. Wright. No. 979,629; Dec. 27; Sp. p. 4776; Gaz. vol. 161; p. 839.
Curb-shaping tool. E. Olson. No. 978,631; Dec. 13; Sp. p. 2650; Gaz. vol. 161; p. 450.
Curd-cutting machine. J. C. Bischoff. No. 979,835; Dec. 27; Sp. p. 5249; Gaz. vol. 161; p. 908.
Curling-iron heater, Flush. J. L. Ayer and H. B. Gale. No. 978,980; Dec. 20; Sp. p. 3372; Gaz. vol. 161; p. 593.
Current apparatus, Sinusoidal-wave-. F. Cedergren. No. 979,060; Dec. 20; Sp. p. 3542; Gaz. vol. 161; p. 620.
Current-defector. L. Kelley. No. 978,807; Dec. 20; Sp. p. 3165; Gaz. vol. 161; p. 562.
Current generator and motor system, Alternating-. W. Cooper. No. 977,784; Dec. 6; Sp. p. 804; Gaz. vol. 161; p. 125.
Current-motor. H. S. McKague and A. R. Johnson. No. 979,320; Dec. 20; Sp. p. 4126; Gaz. vol. 161; p. 711.
Currycomb and brush, Combined. S. M. Rowe. No. 977,551; Dec. 6; Sp. p. 311; Gaz. vol. 161; p. 46.
Curtain-fixture. C. McDonner. No. 977,962; Dec. 6; Sp. p. 1182; Gaz. vol. 161; p. 188.
Curtain-fixture. H. E. Keeler. No. 978,379; Dec. 13; Sp. p. 2079; Gaz. vol. 161; p. 363.
Curtain-fixture. D. E. Bonner. No. 979,252; Dec. 20; Sp. p. 4004; Gaz. vol. 161; p. 688.
Curtain-hanger. O. A. Willet. No. 978,095; Dec. 6; Sp. p. 1448; Gaz. vol. 161; p. 234.
Curtain-operating means. D. M. Sarkisian. No. 978,219; Dec. 13; Sp. p. 1738; Gaz. vol. 161; p. 306.
Curtain-operating means. D. M. Sarkisian. No. 978,220; Dec. 13; Sp. p. 1740; Gaz. vol. 161; p. 306.
Curtain-pole carrier. C. S. McBride. No. 978,609; Dec. 13; Sp. p. 2601; Gaz. vol. 161; p. 443.
Curtain-stretcher. S. Rokosz. No. 979,205; Dec. 20; Sp. p. 3885; Gaz. vol. 161; p. 672.
Cushion: *See* Vehicle pneumatic cushion.
Cushion-tire wheel. C. A. Marien. No. 979,869; Dec. 27; Sp. p. 5321; Gaz. vol. 161; p. 920.
Cushion-tire wheel. C. A. Marien. No. 979,870; Dec. 27; Sp. p. 5322; Gaz. vol. 161; p. 920.
Cuspidor. M. Mansor. No. 978,765; Dec. 13; Sp. p. 2917; Gaz. vol. 161; p. 493.
Cuspidor. C. E. Bowers. No. 979,024; Dec. 27; Sp. p. 5425; Gaz. vol. 161; p. 938.
Cuspidor. S. B. McDonald. No. 979,980; Dec. 27; Sp. p. 5534; Gaz. vol. 161; p. 955.
Cut-off, Automatic. J. C. Dupee. No. 977,858; Dec. 6; Sp. p. 956; Gaz. vol. 161; p. 150.
Cut-off machine. J. McIntosh. No. 977,669; Dec. 6; Sp. p. 563; Gaz. vol. 161; p. 86.
Cutter: *See* Cigar-cutter; Dredge-cutter; Gear-cutter; Grass-cutter; Trocha-cutter; Vegetable-cutter.
Cutter-head. G. F. Wilson. No. 977,989; Dec. 6; Sp. p. 1222; Gaz. vol. 161; p. 196.
Cutting-board and clamp. O. G. Payne. No. 977,544; Dec. 6; Sp. p. 302; Gaz. vol. 161; p. 44.
Cutting-machine. M. E. Ryan. No. 978,217; Dec. 13; Sp. p. 1735; Gaz. vol. 161; p. 305.
Cutting-machine. G. F. Dickson. No. 980,145; Dec. 27; Sp. p. 5921; Gaz. vol. 161; p. 1011.
Cylinder-drier. E. J. Crowson. No. 979,827; Dec. 27; Sp. p. 5221; Gaz. vol. 161; p. 906.
Cylinder-lock. H. G. Voight. No. 978,964; Dec. 20; Sp. p. 3337; Gaz. vol. 161; p. 587.
Dampener, Clothes-. R. L. Free. No. 978,727; Dec. 13; Sp. p. 2839; Gaz. vol. 161; p. 482.
Damper. J. C. F. Schafer. No. 980,011; Dec. 27; Sp. p. 5595; Gaz. vol. 161; p. 967.
Damper-actuating mechanism, Time-controlled. E. Gardner. No. 979,148; Dec. 20; Sp. p. 3775; Gaz. vol. 161; p. 653.
Davenport. C. J. Kindel. No. 977,883; Dec. 6; Sp. p. 1005; Gaz. vol. 161; p. 159.
Decoy. E. J. Davis. No. 977,787; Dec. 6; Sp. p. 810; Gaz. vol. 161; p. 126.
Dental appliance. L. G. Morgan. No. 977,895; Dec. 6; Sp. p. 1031; Gaz. vol. 161; p. 164.
Dental bracket-table, Sanitary. G. Holtz. No. 979,490; Dec. 27; Sp. p. 4475; Gaz. vol. 161; p. 791.
Dental crown-forming tool. R. R. Braswell. No. 978,438; Dec. 13; Sp. p. 2189; Gaz. vol. 161; p. 379.
Dental-crown shaper. F. O. Jaques, Jr. No. 977,638; Dec. 6; Sp. p. 490; Gaz. vol. 161; p. 74.
Dental instrument for crown or cap holding. J. Ivory. No. 979,501; Dec. 27; Sp. p. 4490; Gaz. vol. 161; p. 793.
Dental spatula. B. R. Shopp. No. 977,906; Dec. 6; Sp. p. 1055; Gaz. vol. 161; p. 168.
Dental tooth-posts, Making. H. Schweitzer. No. 977,553; Dec. 6; Sp. p. 333; Gaz. vol. 161; p. 49.
Dentists' use, Saliva-tube for. H. F. Hamilton. No. 979,290; Dec. 20; Sp. p. 4076; Gaz. vol. 161; p. 701.
Derrick, Hoisting-. F. L. Broberg. No. 978,553; Dec. 13; Sp. p. 2450; Gaz. vol. 161; p. 422.
Detachable bracket, Adjustable. W. F. Freeman. No. 977,609; Dec. 6; Sp. p. 441; Gaz. vol. 161; p. 65.
Detachable spindle. C. B. Wilson. No. 978,096; Dec. 6; Sp. p. 1449; Gaz. vol. 161; p. 234.
Dextrin, British gums, and the like, Production of. Fielding. No. 979,753; Dec. 27; Sp. p. 5058; Gaz. vol. 161; p. 880.
Diameters, Device for determining. J. G. Ayers, Jr. No. 979,248; Dec. 20; Sp. p. 3993; Gaz. vol. 161; p. 687.
Diamond and stone setting tool. J. J. Buser. No. 980,060; Dec. 27; Sp. p. 5715; Gaz. vol. 161; p. 1
Die: *See* Wire-drawing die.
Die. M. Lachman. No. 977,639; Dec. 6; Sp. p. 4 Gaz. vol. 161; p. 75.
Die. G. A. Joyce. No. 978,302; Dec. 13; Sp. p. 19 Gaz. vol. 161; p. 336.
Die-press, Automatic. B. W. Tucker. No. 980,028; 27; Sp. p. 5624; Gaz. vol. 161; p. 972.
Die-securing means. F. E. Sutherland and J. A. Br No. 978,508; Dec. 13; Sp. p. 2356; Gaz. vol. 161; p.
Die-stock. H. W. Oster. No. 977,541; Dec. 6; Sp 290; Gaz. vol. 161; p. 43.
Die-stock. R. Bartholomäus. No. 979,056; Dec. 20; p. 3536; Gaz. vol. 161; p. 618.
Die-stock. H. W. Oster. No. 979,789; Dec. 27; Sp 5132; Gaz. vol. 161; p. 892.
Die-stock. H. W. Oster. No. 979,790; Dec. 27; Sp 5134; Gaz. vol. 161; p. 893.
Die-stock for cutting tapered threads. H. W. Oster. 977,539; Dec. 6; Sp. p. 285; Gaz. vol. 161; p. 42.

Digger: *See* Post-hole digger; Potato-digger.
Dipper, Doughnut-. T. E. Ericson. No. 979,388; Dec. 20; Sp. p. 4245; Gaz. vol. 161; p. 732.
Dish. J. B. Collins. No. 980,066; Dec. 27; Sp. p. 5723; Gaz. vol. 161; p. 985.
Disinfecting compound. W. Dreyfus. No. 978,142; Dec. 13; Sp. p. 1581; Gaz. vol. 161; p. 280.
Disinfector. T. Druxbach. No. 979,386; Dec. 20; Sp. p. 4243; Gaz. vol. 161; p. 731.
Dispensing-can. W. A. L. Miller. No. 978,614; Dec. 13; Sp. p. 2609; Gaz. vol. 161; p. 444.
Dispensing-receptacle. L. Stowe. No. 979,592; Dec. 27; Sp. p. 4702; Gaz. vol. 161; p. 825.
Display-can. Sheet-metal. W. L. Laskey. No. 978,041; Dec. 6; Sp. p. 1334; Gaz. vol. 161; p. 214.
Display-carrier. E. Grant. No. 980,007; Dec. 27; Sp. p. 5798; Gaz. vol. 161; p. 994.
Display-package for garters. G. B. Glidden. No. 978,367; Dec. 13; Sp. p. 2049; Gaz. vol. 161; p. 357.
Display-rack for neckwear. H. Solomon. No. 978,670; Dec. 13; Sp. p. 2718; Gaz. vol. 161; p. 463.
Distribution system. P. M. Lincoln. No. 977,645; Dec. 6; Sp. p. 514; Gaz. vol. 161; p. 77.
Ditching-machine. J. L. Crismon. No. 979,442; Dec. 27; Sp. p. 4368; Gaz. vol. 161; p. 773.
Doll-eyes. G. Scherf. No. 979,573; Dec. 27; Sp. p. 4664; Gaz. vol. 161; p. 819.
Domestic boiler. J. R. Haldeman. No. 978,020; Dec. 6; Sp. p. 1290; Gaz. vol. 161; p. 207.
Door and lock therefor. W. H. Ludwig. No. 979,679; Dec. 27; Sp. p. 4880; Gaz. vol. 161; p. 855.
Door and the like, Sheet-metal. A. Johnson. No. 978,300; Dec. 13; Sp. p. 1919; Gaz. vol. 161; p. 335.
Door-check. H. C. Fleming. No. 978,870; Dec. 20; Sp. p. 3110; Gaz. vol. 161; p. 552.
Door check and spring, Combined. B. Murphy. No. 979,190; Dec. 20; Sp. p. 3859; Gaz. vol. 161; p. 668.
Door-fastener. E. J. Wirfs. No. 978,098; Dec. 6; Sp. p. 1457; Gaz. vol. 161; p. 235.
Door-fastener. M. F. Stadtmuller. No. 979,218; Dec. 20; Sp. p. 3926; Gaz. vol. 161; p. 677.
Door fastener, Sliding. C. Eytalis. No. 979,454; Dec. 27; Sp. p. 4393; Gaz. vol. 161; p. 778.
Door-lock. A. J. Helms. No. 979,948; Dec. 27; Sp. p. 5472; Gaz. vol. 161; p. 946.
Door-locking mechanism. T. P. Shean. No. 980,131; Dec. 27; Sp. p. 5804; Gaz. vol. 161; p. 1007.
Door mechanism or the like. J. Pearson. No. 977,676; Dec. 6; Sp. p. 570; Gaz. vol. 161; p. 88.
Door-securer. R. E. Hutchinson. No. 979,167; Dec. 20; Sp. p. 3812; Gaz. vol. 161; p. 660.
Door shock-absorber. T. P. Shean. No. 978,949; Dec. 20; Sp. p. 3283; Gaz. vol. 161; p. 582.
Door-spring. E. Bommer. No. 978,548; Dec. 13; Sp. p. 2439; Gaz. vol. 161; p. 420.
Door-stay. O. Eaton. No. 978,568; Dec. 13; Sp. p. 2506; Gaz. vol. 161; p. 427.
Dough dividing and rounding machine. A. Eggenhofer. No. 978,440; Dec. 13; Sp. p. 2210; Gaz. vol. 161; p. 383.
Dough mixer, Bread-. L. Hayne and E. B. Pike. No. 978,372; Dec. 13; Sp. p. 2061; Gaz. vol. 161; p. 360.
Dough-molding machine. F. Streich. No. 978,233; Dec. 13; Sp. p. 1771; Gaz. vol. 161; p. 311.
Dough-shaping implement. G. H. Petri. No. 978,482; Dec. 13; Sp. p. 2304; Gaz. vol. 161; p. 397.
Draft-equalizer. W. Elliott, R. H. Schlachter, and A. L. Tolles. No. 979,387; Dec. 20; Sp. p. 4244; Gaz. vol. 161; p. 731.
Draft gear, Radial-. H. F. Pope. No. 977,473; Dec. 6; Sp. p. 96; Gaz. vol. 161; p. 18.
Draft-pocket. C. A. Humphrys. No. 977,875; Dec. 6; Sp. p. 993; Gaz. vol. 161; p. 156.
Draft-regulator. F. M. Heath. No. 979,069; Dec. 20; Sp. p. 3558; Gaz. vol. 161; p. 622.
Draft-rigging, Transom. E. P. Kinne. No. 980,160; Dec. 27; Sp. p. 5950; Gaz. vol. 161; p. 1016.
Drafting instrument. H. Mattinger. No. 979,872; Dec. 27; Sp. p. 5324; Gaz. vol. 161; p. 921.
Draining system, Land-. E. W. Bowslaugh. No. 978,836; Dec. 20; Sp. p. 3039; Gaz. vol. 161; p. 541.
Drawers-supporter. A. E. Shuster. No. 977,754; Dec. 6; Sp. p. 732; Gaz. vol. 161; p. 115.
Drawing-board adjustable support. A. Hoffman. No. 979,070; Dec. 20; Sp. p. 3560; Gaz. vol. 161; p. 623.
Dredge cutter, Hydraulic-. A. W. Robinson. No. 977,901; Dec. 6; Sp. p. 1048; Gaz. vol. 161; p. 166.
Dredger. T. Barnett. No. 978,540; Dec. 13; Sp. p. 2420; Gaz. vol. 161; p. 417.
Drier: *See* Cylinder-drier.
Dry-kiln. J. R. Ripley. No. 978,209; Dec. 13; Sp. p. 1719; Gaz. vol. 161; p. 302.
Dry-kiln. C. H. Dingman. No. 978,991; Dec. 20; Sp. p. 3396; Gaz. vol. 161; p. 597.
Drying apparatus. G. H. May and W. M. Grosvenor. No. 979,781; Dec. 27; Sp. p. 5107; Gaz. vol. 161; p. 889.
Drill: *See* Boring-drill; Pneumatic drill; Radial drill; Rock-drill; Stay-bolt drill.
Drill machine, Twist-. A. D. Wilt, Jr. No. 978,097; Dec. 6; Sp. p. 1451; Gaz. vol. 161; p. 234.
Drill-mounting. C. C. Hansen. No. 977,734; Dec. 6; Sp. p. 693; Gaz. vol. 161; p. 108.
Drills, Adjustable post for ratchet-. C. B. Hastings. No. 980,100; Dec. 27; Sp. p. 5802; Gaz. vol. 161; p. 995.
Drilling-machine. H. B. Keiper. No. 979,073; Dec. 20; Sp. p. 3565; Gaz. vol. 161; p. 624.
Drilling-machine. T. Hargie. No. 979,161; Dec. 20; Sp. p. 3800; Gaz. vol. 161; p. 658.
Drilling-machine gearing. J. S. Barnes and J. R. Vincer. No. 979,918; Dec. 27; Sp. p. 5413; Gaz. vol. 161; p. 936.
Drilling-machine guide. J. A. Ferries. No. 979,273; Dec. 20; Sp. p. 4042; Gaz. vol. 161; p. 695.
Drinking appliance, Sanitary. R. E. Hooper. No. 978,205; Dec. 13; Sp. p. 1908; Gaz. vol. 161; p. 334.
Drinking-fountain and other plumbing-fixture. P. J. Madden. No. 978,913; Dec. 20; Sp. p. 3198; Gaz. vol. 161; p. 568.
Driving mechanism. A. E. H. J. Thoeliden. No. 979,223; Dec. 20; Sp. p. 3937; Gaz. vol. 161; p. 679.
Driving mechanism. C. W. Crawford. No. 979,441; Dec. 27; Sp. p. 4366; Gaz. vol. 161; p. 773.
Driving mechanism, Pattern-drum-actuated. M. F. Field, C. D. Lanning, E. F. Hathaway, and F. C. Blanchard. No. 980,086; Dec. 27; Sp. p. 5772; Gaz. vol. 161; p. 990.
Driving mechanism, Variable-speed. R. Stockbridge. No. 979,589; Dec. 27; Sp. p. 4695; Gaz. vol. 161; p. 824.
Dropper: *See* Medicine-dropper.
Drum, Heating-. M. Mahlen. No. 977,666; Dec. 6; Sp. p. 557; Gaz. vol. 161; p. 85.
Drum, Stovepipe-. J. B. Pasche. No. 979,400; Dec. 20; Sp. p. 4276; Gaz. vol. 161; p. 735.
Drum, Winch-. C. H. Brainard. No. 978,353; Dec. 13; Sp. p. 2025; Gaz. vol. 161; p. 353.
Dumb-bell. H. W. Titus. No. 980,025; Dec. 27; Sp. p. 5619; Gaz. vol. 161; p. 972.
Dumping apparatus. G. A. Lackey. No. 978,599; Dec. 13; Sp. p. 2572; Gaz. vol. 161; p. 439.
Dust-collector. M. O. Griswold and T. Briegel. No. 978,739; Dec. 13; Sp. p. 2866; Gaz. vol. 161; p. 485.
Dust-collector. O. M. Morse. No. 979,987; Dec. 27; Sp. p. 5543; Gaz. vol. 161; p. 958.
Dust-pan. F. M. Folsom and E. E. Higgins. No. 978,724; Dec. 13; Sp. p. 2830; Gaz. vol. 161; p. 480.
Dust-pan. T. C. Morris. No. 979,784; Dec. 27; Sp. p. 5121; Gaz. vol. 161; p. 891.
Dust-separating or vacuum cleaning apparatus. L. W. Serrell. No. 979,211; Dec. 20; Sp. p. 3899; Gaz. vol. 161; p. 674.
Dye. O. Dressel, R. Kothe, and H. Hoerlein. No. 978,438; Dec. 13; Sp. p. 2208; Gaz. vol. 161; p. 382.
Dye. O. Günther, L. Hesse, and A. Zart. No. 978,580; Dec. 13; Sp. p. 2532; Gaz. vol. 161; p. 432.
Dye and making. Monoazo. O. Ernst and H. Eichwede. No. 978,865; Dec. 20; Sp. p. 3103; Gaz. vol. 161; p. 550.
Dye, Aurin. M. Weiler. No. 978,799; Dec. 13; Sp. p. 2974; Gaz. vol. 161; p. 503.
Dye, Aurin. M. Weiler. No. 978,801; Dec. 13; Sp. p. 2975; Gaz. vol. 161; p. 504.
Dye, Aurin. M. Weiler. No. 978,802; Dec. 13; Sp. p. 2976; Gaz. vol. 161; p. 504.
Dye, Blue vat. W. Bauer and A. Herre. No. 980,140; Dec. 27; Sp. p. 5912; Gaz. vol. 161; p. 1009.
Dyeing acetyl-cellulose. E. Knoevenagel. No. 979,966; Dec. 27; Sp. p. 5507; Gaz. vol. 161; p. 952.
Dyestuff. O. Dressel, R. Kothe, and H. Hoerlein. No. 978,439; Dec. 13; Sp. p. 2209; Gaz. vol. 161; p. 383.
Dyestuff, Aurin. M. Weiler. No. 978,800; Dec. 13; Sp. p. 2975; Gaz. vol. 161; p. 503.
Dynamite-thawer. S. S. Scholl. No. 978,659; Dec. 13; Sp. p. 2702; Gaz. vol. 161; p. 459.
Ear-rings and buttons, Safety screw-back for. H. Stern. No. 978,789; Dec. 13; Sp. p. 2958; Gaz. vol. 161; p. 500.
Earthenware articles, Forming ornamentations on. E. J. Whitehead. No. 979,726; Dec. 27; Sp. p. 4994; Gaz. vol. 161; p. 872.
Earthenware pipes, Machine for the manufacture of. M. Yarrow. No. 978,347; Dec. 13; Sp. p. 2016; Gaz. vol. 161; p. 351.
Eccentric-fastening. F. P. Sassaman. No. 979,207; Dec. 20; Sp. p. 3889; Gaz. vol. 161; p. 673.
Edge setter and finisher. E. N. Chandler. No. 977,510; Dec. 6; Sp. p. 201; Gaz. vol. 161; p. 31.
Educational appliance. W. D. Gibbs. No. 977,793; Dec. 6; Sp. p. 819; Gaz. vol. 161; p. 127.
Egg-handler. H. R. Morris. No. 978,049; Dec. 6; Sp. p. 1347; Gaz. vol. 161; p. 216.
Egg transfer and testing device. W. A. Landis and L. A. Costa. No. 978,601; Dec. 13; Sp. p. 2576; Gaz. vol. 161; p. 439.
Elastic fabric, Woven. E. Baumgarten. No. 978,541; Dec. 13; Sp. p. 2422; Gaz. vol. 161; p. 417.
Electric battery. C. J. Everett. No. 977,721; Dec. 6; Sp. p. 672; Gaz. vol. 161; p. 103.
Electric cable. J. H. Cuntz. No. 977,713; Dec. 6; Sp. p. 660; Gaz. vol. 161; p. 101.
Electric-cable connection. L. H. Church. No. 979,651; Dec. 27; Sp. p. 4827; Gaz. vol. 161; p. 847.
Electric-circuit-changing mechanism. F. B. Hall. No. 978,879; Dec. 20; Sp. p. 3130; Gaz. vol. 161; p. 555.
Electric-circuit controlling means. J. K. Lux. No. 977,664; Dec. 6; Sp. p. 551; Gaz. vol. 161; p. 84.
Electric-connection plug and socket and switch, Combined. W. W. Buckton. No. 978,841; Dec. 20; Sp. p. 3048; Gaz. vol. 161; p. 542.
Electric contact device. A. A. Kent. No. 978,030; Dec. 6; Sp. p. 1306; Gaz. vol. 161; p. 209.
Electric furnace. C. Féry and C. Langlet. No. 978,146; Dec. 13; Sp. p. 1586; Gaz. vol. 161; p. 281.
Electric furnace. F. von Kügelgen and G. O. Seward. No. 978,171; Dec. 13; Sp. p. 1638; Gaz. vol. 161; p. 289.

Electric furnace. B. Guthrie and J. P. Karch. No. 979,663; Dec. 27; Sp. p. 4848; Gaz. vol. 161; p. 850.
Electric furnace for metallurgical purposes. P. Girod. (Reissue.) No. 13,186; Dec. 27; Sp. p. 6007; Gaz. vol. 161; p. 1022.
Electric-light receptacle. H. D. Brown and L. W. Blymyer. No. 979,927; Dec. 27; Sp. p. 5430; Gaz. vol. 161; p. 938.
Electric lights, Socket-shell and globe-holder for. E. S. Sanderson. No. 977,553; Dec. 6; Sp. p. 315; Gaz. vol. 161; p. 47.
Electric-lighting apparatus. J. F. McElroy. No. 978,388; Dec. 13; Sp. p. 2106; Gaz. vol. 161; p. 367.
Electric-lighting fixture. L. R. Hopton. No. 978,163; Dec. 13; Sp. p. 1621; Gaz. vol. 161; p. 287.
Electric machine, Alternating-current dynamo-. M. Milch. No. 977,821; Dec. 6; Sp. p. 871; Gaz. vol. 161; p. 137.
Electric machine, Dynamo-. J. B. Wiard. No. 977,768; Dec. 6; Sp. p. 772; Gaz. vol. 161; p. 119.
Electric machines, Protection apparatus for dynamo-. R. H. Marriott. No. 978,607; Dec. 13; Sp. p. 2598; Gaz. vol. 161; p. 442.
Electric machines, System for the operation of dynamo-. B. G. Lamme. No. 977,641; Dec. 6; Sp. p. 506; Gaz. vol. 161; p. 76.
Electric machines, System of operation for dynamo-. B. G. Lamme. No. 977,640; Dec. 6; Sp. p. 500; Gaz. vol. 161; p. 76.
Electric machinery, Dynamo-. D. W. Troy. No. 979,603; Dec. 27; Sp. p. 4728; Gaz. vol. 161; p. 830.
Electric machinery, Regulation of dynamo-. C. A. Parsons and A. H. Law. No. 978,638; Dec. 13; Sp. p. 2660; Gaz. vol. 161; p. 452.
Electric motor. C. Backer. No. 979,637; Dec. 27; Sp. p. 4797; Gaz. vol. 161; p. 842.
Electric motor and controlling system. F. B. Rae. No. 979,094; Dec. 20; Sp. p. 3614; Gaz. vol. 161; p. 631.
Electric street-lighting. C. H. Froelich. No. 979,459; Dec. 27; Sp. p. 4405; Gaz. vol. 161; p. 779.
Electric switch. J. A. Ward. No. 979,050; Dec. 20; Sp. p. 3527; Gaz. vol. 161; p. 617.
Electric switch. G. Sweetser. No. 979,354; Dec. 20; Sp. p. 4182; Gaz. vol. 161; p. 722.
Electric switch. R. D. Snyder. No. 979,894; Dec. 27; Sp. p. 5367; Gaz. vol. 161; p. 928.
Electrical-apparatus controlling device. E. F. G. H. Faure. No. 979,143; Dec. 20; Sp. p. 3763; Gaz. vol. 161; p. 651.
Electrical circuits, Means for protecting. P. MacGahan. No. 977,648; Dec. 6; Sp. p. 518; Gaz. vol. 161; p. 78.
Electrical circuits, Protective device for. P. MacGahan. No. 977,649; Dec. 6; Sp. p. 521; Gaz. vol. 161; p. 79.
Electrical circuits, Protective safety device for. W. F. Swoveland. No. 978,676; Dec. 13; Sp. p. 2730; Gaz. vol. 161; p. 465.
Electrical-conductor plug. J. W. Phelps. No. 978,199; Dec. 13; Sp. p. 1700; Gaz. vol. 161; p. 299.
Electrical controllers and switches, Contact-finger for. R. C. Lyness. No. 977,460; Dec. 6; Sp. p. 68; Gaz. vol. 161; p. 13.
Electrical cut-out. J. L. Burton. No. 978,004; Dec. 6; Sp. p. 1255; Gaz. vol. 161; p. 201.
Electrical-distribution system. J. H. Tracy. No. 978,513; Dec. 13; Sp. p. 2364; Gaz. vol. 161; p. 408.
Electrical-distribution system. J. H. Tracy. No. 978,514; Dec. 13; Sp. p. 2366; Gaz. vol. 161; p. 408.
Electrical distribution, Three-wire system of. P. H. Thomas. No. 979,396; Dec. 20; Sp. p. 4265; Gaz. vol. 161; p. 734.
Electrical element. A. T. K. Estelle and K. W. H. Evers. No. 979,064; Dec. 20; Sp. p. 3550; Gaz. vol. 161; p. 621.
Electrical energy, Transmission and receipt of. R. A. Fessenden. No. 979,144; Dec. 20; Sp. p. 3768; Gaz. vol. 161; p. 651.
Electrical equalizer system. O. S. Schairer. No. 977,554; Dec. 6; Sp. p. 316; Gaz. vol. 161; p. 47.
Electrical equalizer system. W. Cooper. No. 977,598; Dec. 6; Sp. p. 417; Gaz. vol. 161; p. 61.
Electrical heater. F. Kuhn. No. 979,515; Dec. 27; Sp. p. 4517; Gaz. vol. 161; p. 798.
Electrical machines, Rotor for high-speed. H. H. Wait. No. 980,032; Dec. 27; Sp. p. 5653; Gaz. vol. 161; p. 974.
Electrical-oscillation generator, High-frequency. L. De Forest. No. 979,277; Dec. 20; Sp. p. 4050; Gaz. vol. 161; p. 697.
Electrical resistance, contact, and the like. H. S. Hatfield. No. 978,022; Dec. 6; Sp. p. 1293; Gaz. vol. 161; p. 207.
Electrical switch. W. P. Hammond. No. 977,797; Dec. 6; Sp. p. 826; Gaz. vol. 161; p. 129.
Electrically-heated device. W. S. Hadaway, Jr. No. 977,625; Dec. 6; Sp. p. 471; Gaz. vol. 161; p. 71.
Electrically-ignited burner. E. J. Goldblatt. No. 977,521; Dec. 6; Sp. p. 233; Gaz. vol. 161; p. 35.
Electrically-operated switch. F. Chamness and J. P. Kriegbaum. No. 977,505; Dec. 6; Sp. p. 412; Gaz. vol. 161; p. 61.
Electricity-meter. H. Aron. No. 979,635; Dec. 27; Sp. p. 4793; Gaz. vol. 161; p. 841.
Electrode, Arc-lamp. G. Kzly. No. 977,607; Dec. 6; Sp. p. 439; Gaz. vol. 161; p. 65.
Electrodes, Treating carbon. W. Gaston. No. 979,465; Dec. 27; Sp. p. 4418; Gaz. vol. 161; p. 781.
Electrolytic cell. D. S. Hartshorn and A. A. Claflin. No. 979,485; Dec. 27; Sp. p. 4458; Gaz. vol. 161; p. 788.
Electrolytic cell. F. Weinberg. No. 979,906; Dec. 27; Sp. p. 5395; Gaz. vol. 161; p. 932.
Electromagnet. R. Wikander. No. 977,577; Dec. 6; Sp. p. 371; Gaz. vol. 161; p. 54.
Electromagnet. B. G. Dunham. No. 978,992; Dec. 20; Sp. p. 3399; Gaz. vol. 161; p. 598.
Electromechanical compound brake. A. Sundh. No. 979,720; Dec. 27; Sp. p. 4962; Gaz. vol. 161; p. 869.
Electrometallurgical furnace. F. Louvrier. No. 978,464; Dec. 13; Sp. p. 2259; Gaz. vol. 161; p. 391.
Electrometallurgical furnace. F. Louvrier. No. 978,465; Dec. 13; Sp. p. 2261; Gaz. vol. 161; p. 392.
Electrostatic magnetic separation. H. M. Sutton, W. L. and E. G. Steele. No. 977,570; Dec. 6; Sp. p. 351; Gaz. vol. 161; p. 52.
Elevator: *See* Pneumatic elevator.
Elevator. F. J. Feldt. No. 977,518; Dec. 6; Sp. p. 226; Gaz. vol. 161; p. 24.
Elevator. H. A. Humphrey. No. 978,377; Dec. 13; Sp. p. 2072; Gaz. vol. 161; p. 362.
Elevator. J. M. Goodknight. No. 979,001; Dec. 20; Sp. p. 3415; Gaz. vol. 161; p. 600.
Elevator-boot. C. W. Utzman. No. 977,908; Dec. 6; Sp. p. 1058; Gaz. vol. 161; p. 168.
Elevator-gate. C. Nielsen. No. 979,027; Dec. 20; Sp. p. 3473; Gaz. vol. 161; p. 609.
Elevator safety appliance. P. Hinkel. No. 979,491; Dec. 27; Sp. p. 4471; Gaz. vol. 161; p. 790.
Embalming. C. L. Barnes. No. 978,814; Dec. 13; Sp. p. 2993; Gaz. vol. 161; p. 507.
Embroidering-machines, Jacquard for. J. K. Knecht. No. 979,964; Dec. 27; Sp. p. 5498; Gaz. vol. 161; p. 951.
Emergency-brake. M. W. Muehlhauser. No. 977,824; Dec. 6; Sp. p. 883; Gaz. vol. 161; p. 138.
Emulsions in water, Transforming substances soluble in alcohol into. S. Knopf. No. 978,307; Dec. 13; Sp. p. 1933; Gaz. vol. 161; p. 337.
Enameled ware, Porcelain-. H. T. Bush. No. 980,061; Dec. 27; Sp. p. 5717; Gaz. vol. 161; p. 983.
End-gate. R. C. Lichtwald. No. 977,457; Dec. 6; Sp. p. 63; Gaz. vol. 161; p. 13.
Engine: *See* Air-engine; Explosion-engine; Explosive-engine; Gasolene-engine; Internal-combustion engine; Rotary engine; Steam-engine.
Engine cranking device, Gasolene or other. R. Rehmeyer. No. 980,006; Dec. 27; Sp. p. 5589; Gaz. vol. 161; p. 96
Engine cranking device, Internal-combustion-. E. Clinton. No. 977,931; Dec. 6; Sp. p. 1106; Gaz. vol. 161; p. 17
Engine driving-gear, Traction-. F. J. Wood. No. 978,97 Dec. 20; Sp. p. 3367; Gaz. vol. 161; p. 592.
Engine generating and starting apparatus, Combined ga J. A. Heany. No. 979,003; Dec. 20; Sp. p. 3424; G vol. 161; p. 601.
Engine igniter, Gasolene-. B. O. Smith. No. 978,78 Dec. 13; Sp. p. 2957; Gaz. vol. 161; p. 500.
Engine muffler, Explosive-. A. H. Grewe. No. 978,28 Dec. 13; Sp. p. 1891; Gaz. vol. 161; p. 331.
Engine spark-plug, Internal-combustion-. J. E. Secl No. 978,494; Dec. 13; Sp. p. 2328; Gaz. vol. 161; p. 4
Engine-starting device. P. F. Au Buchon. No. 978,26 Dec. 13; Sp. p. 1840; Gaz. vol. 161; p. 322.
Engine starting mechanism, Explosive-. R. McKee. No. 979,530; Dec. 27; Sp. p. 4553; Gaz. vol. 161; p. 803.
Engine vaporizer, Internal-combustion-. W. M. Harpst No. 979,867; Dec. 27; Sp. p. 4853; Gaz. vol. 161; p. 8
Engines, Combined charging and feeding device for ga lene-. L. W. Witry. No. 979,238; Dec. 20; Sp. p. 39 Gaz. vol. 161; p. 684.
Engines, Electric ignition apparatus for internal-comb tion. F. H. Alston. No. 979,912; Dec. 27; Sp. p. 54 Gaz. vol. 161; p. 934.
Engines, Magneto-ignition device for use in connection w internal-combustion. W. Mulholland. No. 979,328; D 20; Sp. p. 4142; Gaz. vol. 161; p. 714.
Engraving-machine. V. L. Ourdan. No. 977,829; Dec. Sp. p. 880; Gaz. vol. 161; p. 140.
Envelop. J. H. Wittmann. No. 978,421; Dec. 13; Sp. 2175; Gaz. vol. 161; p. 377.
Envelop-closing machine. I. Michel. No. 979,535; D 27; Sp. p. 4565; Gaz. vol. 161; p. 805.
Envelop-machine. G. P. Taylor. No. 977,758; Dec. Sp. p. 738; Gaz. vol. 161; p. 116.
Envelop-machine, Rotary. C. De Lukacsevics. 979,775; Dec. 27; Sp. p. 5094; Gaz. vol. 161; p. 887
Envelop, remittance-sheet, and check, Combined. J. Cohen. No. 977,782; Dec. 6; Sp. p. 800; Gaz. vol. 1 p. 124.
Eraser for type-writing machines. D. M. Lemon. 979,316; Dec. 20; Sp. p. 4118; Gaz. vol. 161; p.
Etching apparatus. A. Holmström. No. 979,071; 20; Sp. p. 3562; Gaz. vol. 161; p. 623.
Evaporating apparatus, Brine-. J. Hodgkinson. 979,301; Dec. 20; Sp. p. 4092; Gaz. vol. 161; p. 704.
Evaporating solutions, Apparatus for. S. M. Lillie. 980,108; Dec. 27; Sp. p. 5834; Gaz. vol. 161; p. 99
Evaporator. R. Sauerbrei. No. 978,490; Dec. 13; Sp. 2320; Gaz. vol. 161; p. 400.
Evaporator. J. E. Dunn. No. 978,993; Dec. 20; Sp. 3400; Gaz. vol. 161; p. 598.
Excavating apparatus. W. J. Leary. No. 978,908; 20; Sp. p. 3186; Gaz. vol. 161; p. 566.
Excavating-machine. D. W. Miller. No. 977,822; Dec Sp. p. 878; Gaz. vol. 161; p. 138.
Excavating-machine. V. A. Younger. No. 977,920; 6; Sp. p. 1085; Gaz. vol. 161; p. 172.

Exhaust and muffler, Under-water. J. O. Smith. No. 977,976; Dec. 6; Sp. p. 1203; Gaz. vol. 161; p. 102.
Exhaust-muffler. C. F. Smith. No. 979,041; Dec. 20; Sp. p. 3507; Gaz. vol. 161; p. 614.
Exhibiting carpets and other textile fabrics, Apparatus for. W. Franklin. No. 979,755; Dec. 27; Sp. p. 5060; Gaz. vol. 161; p. 881.
Exhibiting device, Card-. R. R. Whiting. No. 979,117; Dec. 20; Sp. p. 3698; Gaz. vol. 161; p. 641.
Exhibitor. R. Albertson, F. M. and A. W. Woodward. No. 979,239; Dec. 20; Sp. p. 3973; Gaz. vol. 161; p. 684.
Exhibitor. W. S. Turnpaugh. No. 979,605; Dec. 27; Sp. p. 4733; Gaz. vol. 161; p. 831.
Explosion-engine. G. R. Price. No. 978,936; Dec. 20; Sp. p. 3253; Gaz. vol. 161; p. 577.
Explosion-engine, Two-cycle. H. R. Sieverkropp. No. 979,040; Dec. 20; Sp. p. 3504; Gaz. vol. 161; p. 614.
Explosive. G. M. Peters and M. F. Lindsley. No. 977,545; Dec. 6; Sp. p. 303; Gaz. vol. 161; p. 45.
Explosive. C. E. Grifling. No. 979,476; Dec. 27; Sp. p. 4441; Gaz. vol. 161; p. 784.
Explosive-engine. J. B. Brown. No. 977,779; Dec. 6; Sp. p. 790; Gaz. vol. 161; p. 123.
Explosive-engine. F. W. Springer. No. 980,134; Dec. 27; Sp. p. 5901; Gaz. vol. 161; p. 1008.
Explosives, Lining boxes to contain. H. M. Barksdale. No. 977,608; Dec. 6; Sp. p. 633; Gaz. vol. 161; p. 96.
Extension-table. E. Tyden. No. 980,029; Dec. 27; Sp. p. 5646; Gaz. vol. 161; p. 973.
Extract-making apparatus. W. Wiegand. No. 979,362; Dec. 20; Sp. p. 4201; Gaz. vol. 161; p. 724.
Extracts containing tannin, Clarifying. H. Damköhler and H. Schwindt. No. 979,656; Dec. 27; Sp. p. 4837; Gaz. vol. 161; p. 849.
Eye-testing device. A. J. Cross. No. 978,277; Dec. 13; Sp. p. 1869; Gaz. vol. 161; p. 328.
Eyeglass-mounting. G. A. Bader. No. 978,809; Dec. 13; Sp. p. 2987; Gaz. vol. 161; p. 506.
Eyeglass-nosepiece. W. R. Johnson. No. 977,451; Dec. 6; Sp. p. 51; Gaz. vol. 161; p. 11.
Eyeglasses. G. A. Bader. No. 978,810; Dec. 13; Sp. p. 2987; Gaz. vol. 161; p. 506.
Eyeglasses. J. Reno. No. 979,095; Dec. 20; Sp. p. 3618; Gaz. vol. 161; p. 631.
Eyelet-inserting machine. F. W. Luscomb. No. 978,178; Dec. 13; Sp. p. 1661; Gaz. vol. 161; p. 292.
Eyelets, &c., Machine for making. J. H. Kelly. No. 978,898; Dec. 20; Sp. p. 3167; Gaz. vol. 161; p. 563.
Fabric: *See* Elastic fabric; Knitted fabric; Wire fabric.
Fabric-mercerizing apparatus, Textile-. E. Heberlein. No. 978,883; Dec. 20; Sp. p. 3141; Gaz. vol. 161; p. 558.
Fan. G. S. Rice. No. 978,397; Dec. 13; Sp. p. 2124; Gaz. vol. 161; p. 369.
Fan, Oscillating electric. H. J. Finch. No. 978,147; Dec. 13; Sp. p. 1588; Gaz. vol. 161; p. 281.
Fan-support. F. Andrus. No. 979,405; Dec. 27; Sp. p. 4291; Gaz. vol. 161; p. 761.
Fare-box. H. S. Miller. No. 978,327; Dec. 13; Sp. p. 1978; Gaz. vol. 161; p. 344.
Fare-collecting means. J. L. Bone and C. H. Woods. No. 979,419; Dec. 27; Sp. p. 4318; Gaz. vol. 161; p. 766.
Fare-register-indicator operator. O. N. Moore. No. 979,083; Dec. 20; Sp. p. 3597; Gaz. vol. 161; p. 627.
Farm-gate. W. Ruhle. No. 979,708; Dec. 27; Sp. p. 4933; Gaz. vol. 161; p. 865.
Fastener. E. F. Hartshorn. No. 979,853; Dec. 27; Sp. p. 5283; Gaz. vol. 161; p. 914.
Fastening-inserting machine. T. K. Keith. No. 978,297; Dec. 13; Sp. p. 1910; Gaz. vol. 161; p. 334.
Faucet. H. F. Schroeder. No. 978,660; Dec. 13; Sp. p. 2704; Gaz. vol. 161; p. 460.
Faucet. E. Mulder. No. 979,084; Dec. 20; Sp. p. 3599; Gaz. vol. 161; p. 628.
Faucet, Drinking-. J. P. Heeney. No. 979,489; Dec. 27; Sp. p. 4468; Gaz. vol. 161; p. 789.
Feed-bag. C. and B. Leadbetter. No. 978,761; Dec. 13; Sp. p. 2908; Gaz. vol. 161; p. 492.
Feed-bag. H. C. Shaw. No. 979,345; Dec. 20; Sp. p. 4167; Gaz. vol. 161; p. 719.
Feed-bag. C. E. Tomlinson. No. 980,026; Dec. 27; Sp. p. 5621; Gaz. vol. 161; p. 972.
Feed-box. C. O. Mastrud. No. 978,915; Dec. 20; Sp. p. 3204; Gaz. vol. 161; p. 569.
Feed-trough. S. P. Newman. No. 979,026; Dec. 20; Sp. p. 3472; Gaz. vol. 161; p. 609.
Feed-water device for steam-boilers, Automatic. E. E. Norman. No. 979,546; Dec. 27; Sp. p. 4587; Gaz. vol. 161; p. 808.
Feed-water heater and separator. J. W. Gamble. No. 979,462; Dec. 27; Sp. p. 4412; Gaz. vol. 161; p. 780.
Feed-water heater and separator. A. B. Wallem. No. 979,612; Dec. 27; Sp. p. 4744; Gaz. vol. 161; p. 833.
Feed-water-purifying system. G. Wilkinson. No. 977,578; Dec. 6; Sp. p. 372; Gaz. vol. 161; p. 55.
Feed-water regulator. T. R. Whittaker. No. 980,037; Dec. 27; Sp. p. 5663; Gaz. vol. 161; p. 975.
Feed-water regulator for steam-generators and the like. J. E. and A. Shaw, W., T. W., and A. Lees. No. 978,664; Dec. 13; Sp. p. 2710; Gaz. vol. 161; p. 461.
Feeder, Poultry-. H. E. Bryan. No. 979,421; Dec. 27; Sp. p. 4322; Gaz. vol. 161; p. 767.
Feeder-regulator, Automatic. B. P. Rucker. No. 980,129; Dec. 27; Sp. p. 5890; Gaz. vol. 161; p. 1006.
Fence-clamp. E. Love. No. 977,958; Dec. 6; Sp. p. 1160; Gaz. vol. 161; p. 187.
Fence-machine. A. L. Kitselman. No. 980,105; Dec. 27; Sp. p. 5822; Gaz. vol. 161; p. 997.
Fence machine, Wire-. B. L. Elwell, W. Grimm, and W. F. Drexler, Jr. No. 980,083; Dec. 27; Sp. p. 5765; Gaz. vol. 161; p. 980.
Fence-making machine. C. B. Baumgartner. No. 980,046; Dec. 27; Sp. p. 5680; Gaz. vol. 161; p. 978.
Fence-post brace. A. W. Hamilton and E. L. Thompson. No. 978,740; Dec. 13; Sp. p. 2869; Gaz. vol. 161; p. 486.
Fence-post, Metallic. W. R. Stewart. No. 978,505; Dec. 13; Sp. p. 2348; Gaz. vol. 161; p. 405.
Fence, Snow-. H. J. Schweitser. No. 979,036; Dec. 20; Sp. p. 3497; Gaz. vol. 161; p. 612.
Fence tie, Wire-. C. Mercer. No. 979,683; Dec. 27; Sp. p. 4889; Gaz. vol. 161; p. 857.
Fence-tightener. S. R. Austin. No. 977,995; Dec. 6; Sp. p. 1230; Gaz. vol. 161; p. 198.
Fender: *See* Car-fender; Flow-fender; Vessel-fender.
Fender. C. H. Wolcott, C. O., Jr., and E. N. Goodwyne. No. 977,991; Dec. 6; Sp. p. 1224; Gaz. vol. 161; p. 197.
Fertilizer, Making. S. B. Newberry. No. 978,198; Dec. 13; Sp. p. 1685; Gaz. vol. 161; p. 297.
Fiber-cleaning device. M. G. McLane. No. 978,389; Dec. 13; Sp. p. 2110; Gaz. vol. 161; p. 367.
Fiber-feeding machine. J. A. Pinkstone. No. 980,000; Dec. 27; Sp. p. 5568; Gaz. vol. 161; p. 962.
Fibrous sheets, Forming. C. L. Norton. No. 979,547; Dec. 27; Sp. p. 4591; Gaz. vol. 161; p. 809.
Fibrous sheets, Machine for forming. C. L. Norton. No. 979,548; Dec. 27; Sp. p. 4596; Gaz. vol. 161; p. 809.
File, Bill and letter. H. C. Watts. No. 977,494; Dec. 6; Sp. p. 145; Gaz. vol. 161; p. 25.
File-cabinet. F. G. Kollenberg. No. 977,636; Dec. 6; Sp. p. 493; Gaz. vol. 161; p. 74.
File, Expansive. H. E. Shedd. No. 979,213; Dec. 20; Sp. p. 3906; Gaz. vol. 161; p. 675.
File, Paper-. T. C. Seivert. No. 977,682; Dec. 6; Sp. p. 589; Gaz. vol. 161; p. 90.
File, Policy-. T. F. King, Jr., and D. G. Hall. No. 979,314; Dec. 20; Sp. p. 4113; Gaz. vol. 161; p. 709.
Filing appliance. P. A. McCaskey. No. 977,960; Dec. 6; Sp. p. 1171; Gaz. vol. 161; p. 187.
Filing appliance. P. A. McCaskey. No. 977,961; Dec. 6; Sp. p. 1176; Gaz. vol. 161; p. 188.
Filing-cabinet. J. J. Kuffel. No. 979,010; Dec. 20; Sp. p. 3433; Gaz. vol. 161; p. 604.
Filler-machine. G. R. Kendrick. No. 980,103; Dec. 27; Sp. p. 5808; Gaz. vol. 161; p. 996.
Filling-machine. J. F. Haller. No. 978,154; Dec. 13; Sp. p. 1599; Gaz. vol. 161; p. 284.
Film-cleaning device. F. E. Mortimer. No. 977,466; Dec. 6; Sp. p. 80; Gaz. vol. 161; p. 16.
Film-perforating machine. J. R. Engelman. No. 978,121; Dec. 6; Sp. p. 1505; Gaz. vol. 161; p. 242.
Film-perforating machine. A. and L. Chronik. No. 979,429; Dec. 27; Sp. p. 4334; Gaz. vol. 161; p. 769.
Film-winding mechanism for kinetoscopes. J. B. Johnson. No. 978,454; Dec. 13; Sp. p. 2237; Gaz. vol. 161; p. 388.
Filter, Suction-. H. E. Kier. No. 978,381; Dec. 13; Sp. p. 2083; Gaz. vol. 161; p. 363.
Fire-alarm, Automatic. L. Cain. No. 979,376; Dec. 20; Sp. p. 4225; Gaz. vol. 161; p. 728.
Fire-alarm-box keys, Device for holding. F. B. Holbrook. No. 979,856; Dec. 27; Sp. p. 5294; Gaz. vol. 161; p. 916.
Fire-alarm, Electric. E. Mahon. No. 979,977; Dec. 27; Sp. p. 5530; Gaz. vol. 161; p. 955.
Fire-escape. W. C. Stuart. No. 979,000; Dec. 27; Sp. p. 5379; Gaz. vol. 161; p. 930.
Fire-escape, Automatic. A. W. Faeh. No. 978,571; Dec. 13; Sp. p. 2512; Gaz. vol. 161; p. 428.
Fire-escape, Life-saving. K. Glawatzky. No. 978,447; Dec. 13; Sp. p. 2220; Gaz. vol. 161; p. 385.
Fire-hydrant. H. M. Lofton. No. 978,385; Dec. 13; Sp. p. 2097; Gaz. vol. 161; p. 365.
Fire-resisting shutter and slat therefor, Flexible. E. H. McCloud. No. 978,770; Dec. 13; Sp. p. 2922; Gaz. vol. 161; p. 494.
Fire-resisting shutter and slat therefor, Flexible. E. H. McCloud. No. 978,771; Dec. 13; Sp. p. 2923; Gaz. vol. 161; p. 494.
Firearm. J. H. Wesson. No. 978,415; Dec. 13; Sp. p. 2159; Gaz. vol. 161; p. 375.
Firearm, Magazine-. S. D. W. Fix. No. 977,850; Dec. 6; Sp. p. 957; Gaz. vol. 161; p. 151.
Firearm single-trigger mechanism. E. F. Flues. No. 980,174; Dec. 27; Sp. p. 5995; Gaz. vol. 161; p. 1021.
Fireplace fireback and andirons. C. H. Parrish. No. 979,195; Dec. 20; Sp. p. 3866; Gaz. vol. 161; p. 669.
Fish-cage. J. Garrard. No. 980,148; Dec. 27; Sp. p. 5927; Gaz. vol. 161; p. 1012.
Fish-dressing machine. E. A. Smith. No. 979,103; Dec. 20; Sp. p. 3653; Gaz. vol. 161; p. 635.
Fish-driving device. C. K. Freer. No. 978,872; Dec. 20; Sp. p. 3115; Gaz. vol. 161; p. 553.
Fish-hook. H. C. Schield. No. 979,891; Dec. 27; Sp. p. 5361; Gaz. vol. 161; p. 927.
Fish, Packing. O. Andrews. No. 978,685; Dec. 13; Sp. p. 2745; Gaz. vol. 161; p. 468.
Fish-plate, Bonding. C. A. Huse and J. L. Miller. No. 979,860; Dec. 27; Sp. p. 5302; Gaz. vol. 161; p. 917.
Fishing-rod holder. R. C. and C. Piscator. No. 977,835; Dec. 6; Sp. p. 903; Gaz. vol. 161; p. 143.
Fixture. P. Burger. No. 978,556; Dec. 13; Sp. p. 2455; Gaz. vol. 161; p. 423.

Float, Fluid-jet. J. L. Mauch. No. 979,681; Dec. 27; Sp. p. 4884; Gaz. vol. 161; p. 856.
Floor-cleaner. K. T. Broberg. No. 977,701; Dec. 6; Sp. p. 640; Gaz. vol. 161; p. 97.
Floor-flange. W. H. Schulte and R. C. Wilson. No. 978,404; Dec. 13; Sp. p. 2135; Gaz. vol. 161; p. 371.
Floor, Moisture-proof wood. J. W. Brady. No. 978,352; Dec. 13; Sp. p. 2023; Gaz. vol. 161; p. 352.
Floor-polishing machine. E. Post. No. 979,798; Dec. 27; Sp. p. 5169; Gaz. vol. 161; p. 896.
Floor-scraper. G. J. Kepplinger. No. 977,526; Dec. 6; Sp. p. 255; Gaz. vol. 161; p. 37.
Floor surfacing and polishing machine. P. Saas. No. 978,654; Dec. 13; Sp. p. 2691; Gaz. vol. 161; p. 458.
Floor-surfacing machine. W. E. Warner. No. 979,614; Dec. 27; Sp. p. 4749; Gaz. vol. 161; p. 834.
Flooring-cramp. P. Pickering. No. 977,471; Dec. 6; Sp. p. 93; Gaz. vol. 161; p. 18.
Flooring, Parquet. W. A. Hall. No. 977,796; Dec. 6; Sp. p. 824; Gaz. vol. 161; p. 129.
Flooring-tool. J. E. Burns. No. 977,708; Dec. 6; Sp. p. 654; Gaz. vol. 161; p. 100.
Flour-milling. R. Buchanan. No. 977,431; Dec. 6; Sp. p. 10; Gaz. vol. 161; p. 5.
Flow-indicator. C. Küppers. No. 979,516; Dec. 27; Sp. p. 4519; Gaz. vol. 161; p. 798.
Flower-pot holder. T. McManus. No. 977,818; Dec. 6; Sp. p. 867; Gaz. vol. 161; p. 136.
Flue-cleaner, Hammer. W. J. Baker. No. 979,121; Dec. 20; Sp. p. 3713; Gaz. vol. 161; p. 643.
Fluid-actuated motor. J. S. Ward. No. 977,574; Dec. 6; Sp. p. 363; Gaz. vol. 161; p. 53.
Fly-catcher. J. L. Davidson. No. 979,443; Dec. 27; Sp. p. 4374; Gaz. vol. 161; p. 774.
Fly-catcher. M. E. Boerngen. No. 979,640; Dec. 27; Sp. p. 4804; Gaz. vol. 161; p. 843.
Fly-proof and other like screen for windows. F. Davison. No. 978,437; Dec. 13; Sp. p. 2207; Gaz. vol. 161; p. 382.
Flying-machine. R. B., Jr., and J. C. Eubank. No. 977,517; Dec. 6; Sp. p. 224; Gaz. vol. 161; p. 33.
Flying-machine. E. Bertholf. No. 977,997; Dec. 6; Sp. p. 1243; Gaz. vol. 161; p. 199.
Flying-machine. H. G. Hill. No. 978,375; Dec. 13; Sp. p. 2069; Gaz. vol. 161; p. 361.
Flying-machine. W. W. Gibson. No. 978,732; Dec. 13; Sp. p. 2849; Gaz. vol. 161; p. 483.
Flying-machine. M. W. Sargeant. No. 979,341; Dec. 20; Sp. p. 4162; Gaz. vol. 161; p. 718.
Flying-machine. F. Goehner. No. 979,472; Dec. 27; Sp. p. 4433; Gaz. vol. 161; p. 783.
Folder. F. C. Mathews. No. 977,814; Dec. 6; Sp. p. 816; Gaz. vol. 161; p. 135.
Folding and wrapping machine. S. C. Cox. No. 979,439; Dec. 27; Sp. p. 4359; Gaz. vol. 161; p. 772.
Folding, cutting, and delivering mechanism, Variable-size-sheet. H. M. Barber. No. 978,537; Dec. 13; Sp. p. 2416; Gaz. vol. 161; p. 416.
Food-chopper. N. A. Thomas. No. 978,790; Dec. 13; Sp. p. 2961; Gaz. vol. 161; p. 501.
Food compound. E. W. Lasby. No. 977,746; Dec. 6; Sp. p. 710; Gaz. vol. 161; p. 113.
Food-warmer. F. C. Brown. No. 980,057; Dec. 27; Sp. p. 5711; Gaz. vol. 161; p. 982.
Foot-rest and shoe-cleaning stand, Combined. W. A. Klausman. No. 978,037; Dec. 6; Sp. p. 1327; Gaz. vol. 161; p. 212.
Fork: *See* Manure-fork.
Form, Adjustable sleeve-. T. Mollberg. No. 979,023; Dec. 20; Sp. p. 3466; Gaz. vol. 161; p. 608.
Form, Collapsible. M. S. Jackson. No. 979,958; Dec. 27; Sp. p. 5400; Gaz. vol. 161; p. 949.
Forming-machine. H. Schrader, Jr., and Z. P. Forster. No. 978,224; Dec. 13; Sp. p. 1745; Gaz. vol. 161; p. 307.
Fountain: *See* Drinking-fountain; Poultry-fountain.
Frame: *See* Bedstead canopy-frame; Bifocal testing-frame; Copying-frame; Lantern-frame; Mattress-frame; Planter coupling-frame; Vehicle-frame; Window-frame.
Freezing apparatus, Raw-water-. F. W. Haas. No. 980,152; Dec. 27; Sp. p. 5935; Gaz. vol. 161; p. 1013.
Friction-coupling operated by a centrifugal device. W. Stuhldreier. No. 979,595; Dec. 27; Sp. p. 4708; Gaz. vol. 161; p. 827.
Frog-point. M. M. Tawney. No. 979,048; Dec. 20; Sp. p. 3524; Gaz. vol. 161; p. 616.
Frost-preventing apparatus. J. P. Bolton. No. 979,370; Dec. 20; Sp. p. 4213; Gaz. vol. 161; p. 726.
Fruit-picker. A. P. Wells. No. 978,683; Dec. 13; Sp. p. 2742; Gaz. vol. 161; p. 467.
Fruit-picker. L. Thorstenberg. No. 978,791; Dec. 13; Sp. p. 2962; Gaz. vol. 161; p. 501.
Fruit-picker. A. H. Bastian. No. 980,045; Dec. 27; Sp. p. 5679; Gaz. vol. 161; p. 978.
Fruit-picker's receptacle. J. S. Barnett. No. 978,429; Dec. 13; Sp. p. 2188; Gaz. vol. 161; p. 379.
Fuel-briquet. D. C. McCan. No. 978,182; Dec. 13; Sp. p. 1668; Gaz. vol. 161; p. 293.
Fume-producing device. P. H. Cherry. No. 978,561; Dec. 13; Sp. p. 2490; Gaz. vol. 161; p. 425.
Funnel. C. J. Squires. No. 979,807; Dec. 27; Sp. p. 5184; Gaz. vol. 161; p. 899.
Funnel. P. Anderson. No. 979,819; Dec. 27; Sp. p. 5207; Gaz. vol. 161; p. 903.
Fur, Manufacturing imitation. A. Hentschel. No. 979,298; Dec. 20; Sp. p. 4089; Gaz. vol. 161; p. 704.
Furnace: *See* Annealing-furnace; Bone-black furnace; Electric furnace; Electrometallurgical furnace; Gas-producing furnace; Glass-furnace; Melting-furnace; Ore-furnace; Ore-roasting furnace; Regenerative furnace; Regenerative reversing-furnace.
Furnace. W. J. Murphy and A. E. Culley. No. 978,621; Dec. 13; Sp. p. 2618; Gaz. vol. 161; p. 446.
Furnace. J. R. Fortune. No. 979,661; Dec. 27; Sp. p. 4845; Gaz. vol. 161; p. 850.
Furnace-arch. W. McClave. No. 978,917; Dec. 20; Sp. p. 3210; Gaz. vol. 161; p. 570.
Furnace draft-regulator. A. F. Lewis. No. 977,663; Dec. 6; Sp. p. 550; Gaz. vol. 161; p. 83.
Furnace for heating old tinned sheet-iron boxes, &c., to render them suitable to be detinned. K. Goldschmidt and J. Weber. No. 978,018; Dec. 6; Sp. p. 1287; Gaz. vol. 161; p. 206.
Furnace for heating steel cutters, &c. S. N. Brayshaw. No. 977,778; Dec. 6; Sp. p. 788; Gaz. vol. 161; p. 123.
Furnace-grate. G. Minion. No. 979,783; Dec. 27; Sp. p. 5118; Gaz. vol. 161; p. 890.
Furnaces, Dust-preventing ore-dropping apparatus and the like for roasting-. T. Edwards. No. 979,937; Dec. 27; Sp. p. 5450; Gaz. vol. 161; p. 942.
Furniture attachment. E. A. Gay. No. 979,149; Dec. 20; Sp. p. 3777; Gaz. vol. 161; p. 654.
Furniture-joint. P. G. Abrams. No. 978,530; Dec. 13; Sp. p. 2401; Gaz. vol. 161; p. 414.
Furniture, Metal. J. F. Lindley, Jr. No. 977,808; Dec. 6; Sp. p. 847; Gaz. vol. 161; p. 133.
Gage: *See* Skirt-gage; Weather-boarding gage; Window-glass-setting gage.
Gage. F. C. Blanchard. No. 978,833; Dec. 20; Sp. p. 3035; Gaz. vol. 161; p. 540.
Gagger or sand-anchor. G. S. Rinebolt. No. 978,782; Dec. 13; Sp. p. 2947; Gaz. vol. 161; p. 498.
Game apparatus. J. R. Tercy. No. 977,485; Dec. 6; Sp. p. 129; Gaz. vol. 161; p. 22.
Game apparatus. Z. D. Underhill. No. 979,100; Dec. 20; Sp. p. 3682; Gaz. vol. 161; p. 639.
Game apparatus. H. B. Munro. No. 979,392; Dec. 20; Sp. p. 4260; Gaz. vol. 161; p. 733.
Game apparatus. A. W. Thimm. No. 979,598; Dec. 27; Sp. p. 4717; Gaz. vol. 161; p. 828.
Game apparatus. B. A. Boore and J. W. Ferguson. No. 979,923; Dec. 27; Sp. p. 5424; Gaz. vol. 161; p. 937.
Game-board. F. De Rocher. No. 979,445; Dec. 27; Sp. p. 4377; Gaz. vol. 161; p. 775.
Game-counter. J. Pauly. No. 979,997; Dec. 27; Sp. p. 5563; Gaz. vol. 161; p. 961.
Game device. J. Seawell. No. 980,014; Dec. 27; Sp. p. 5600; Gaz. vol. 161; p. 968.
Garden-tool. C. W. Deussen. No. 977,604; Dec. 6; Sp. p. 435; Gaz. vol. 161; p. 64.
Gardening implement. S. E. Norman. No. 978,478; Dec. 13; Sp. p. 2295; Gaz. vol. 161; p. 396.
Garment-clasp. F. J. B. Liesner. No. 978,762; Dec. 13; Sp. p. 2909; Gaz. vol. 161; p. 492.
Garment-fastener. M. F. Wolff. No. 977,579; Dec. 6; Sp. p. 374; Gaz. vol. 161; p. 55.
Garment-hanger. R. W. Giese. No. 977,727; Dec. 6; Sp. p. 682; Gaz. vol. 161; p. 106.
Garment-hanger. P. T. Zizinia. No. 977,921; Dec. 6; Sp. p. 1088; Gaz. vol. 161; p. 173.
Garment-hanger. P. T. Zizinia. No. 978,422; Dec. 13; Sp. p. 2177; Gaz. vol. 161; p. 377.
Garment-hanger. P. T. Zizinia. No. 978,423; Dec. 13; Sp. p. 2179; Gaz. vol. 161; p. 377.
Garment-pressing machine. E. C. Grever. No. 979,844; Dec. 27; Sp. p. 5265; Gaz. vol. 161; p. 911.
Garment support and lock. W. Murphy. No. 979,990; Dec. 27; Sp. p. 5549; Gaz. vol. 161; p. 960.
Garment-supports, Latch for movable. A. Vanderveld. No. 977,573; Dec. 6; Sp. p. 362; Gaz. vol. 161; p. 53.
Garment-supporter clasp. E. N. Humphrey. No. 978,024; Dec. 6; Sp. p. 1296; Gaz. vol. 161; p. 208.
Garter. H. L. Carpenter. No. 979,426; Dec. 27; Sp. p. 4329; Gaz. vol. 161; p. 768.
Gas and electric-light fixtures, Canopy for. L. W. Andersen. No. 978,532; Dec. 13; Sp. p. 2404; Gaz. vol. 161; p. 414.
Gas and liquid mixer. E. P. Noyes. No. 979,787; Dec. 27; Sp. p. 5124; Gaz. vol. 161; p. 891.
Gas, Appliance for controlling the making of water-. H. N. Cheney. No. 978,268; Dec. 13; Sp. p. 1852; Gaz. vol. 161; p. 324.
Gas-burner. H. Ruppert. No. 977,904; Dec. 6; Sp. p. 1052; Gaz. vol. 161; p. 167.
Gas-burner. A. Beler. No. 979,734; Dec. 27; Sp. p. 5008; Gaz. vol. 161; p. 874.
Gas-burner attachment. M. G. Ray. No. 978,207; Dec. 13; Sp. p. 1717; Gaz. vol. 161; p. 302.
Gas connection for outlet-boxes. L. H. Church. No. 979,652; Dec. 27; Sp. p. 4829; Gaz. vol. 161; p. 847.
Gas container, Acetylene-. C. W. Kaiser. No. 980,158; Dec. 27; Sp. p. 5947; Gaz. vol. 161; p. 1015.
Gas-engine. E. E. Savard and W. E. Jones. No. 977,752; Dec. 6; Sp. p. 728; Gaz. vol. 161; p. 114.
Gas-engine having automatic exhaust-openings therein. A. Matson. No. 977,667; Dec. 6; Sp. p. 558; Gaz. vol. 161; p. 85.
Gas-generator. G. Poe. No. 978,641; Dec. 13; Sp. p. 2670; Gaz. vol. 161; p. 454.
Gas generator, Acetylene-. W. and A. J. Tobey. No. 978,511; Dec. 13; Sp. p. 2360; Gaz. vol. 161; p. 407.

Gas generator, Acetylene-. W. W. and A. J. Tobey. No. 978,512; Dec. 13; Sp. p. 2362; Gaz. vol. 161; p. 408.
Gas-holder emergency shut-off. R. M. Dixon. No. 978,861; Dec. 20; Sp. p. 3094; Gaz. vol. 161; p. 549.
Gas machine, Acetylene-. E. F. Kapus. No. 979,509; Dec. 27; Sp. p. 4506; Gaz. vol. 161; p. 795.
Gas, Making producer-. W. O. Amsler. No. 979,818; Dec. 27; Sp. p. 5206; Gaz. vol. 161; p. 903.
Gas, Manufacture of. W. B. Hughes. No. 977,874; Dec. 6; Sp. p. 901; Gaz. vol. 161; p. 156.
Gas, Method of and apparatus for making. W. T. Cutter. No. 978,853; Dec. 20; Sp. p. 3071; Gaz. vol. 161; p. 546.
Gas-pressure regulator. L. A. Merk. No. 977,820; Dec. 6; Sp. p. 870; Gaz. vol. 161; p. 137.
Gas-producer. W. B. Hughes. No. 977,651; Dec. 6; Sp. p. 525; Gaz. vol. 161; p. 79.
Gas, Producing. G. J. Weber. No. 978,970; Dec. 20; Sp. p. 3353; Gaz. vol. 161; p. 590.
Gas-producing furnace. R. Hilprecht. No. 979,951; Dec. 27; Sp. p. 5475; Gaz. vol. 161; p. 946.
Gas-producing oven. H. A. R. Broker. No. 978,354; Dec. 13; Sp. p. 2026; Gaz. vol. 161; p. 353.
Gas-producing process, Peat-. J. D. Ollgay. No. 977,469; Dec. 6; Sp. p. 90; Gaz. vol. 161; p. 17.
Gas-purifying apparatus. E. Temple. No. 977,907; Dec. 6; Sp. p. 1056; Gaz. vol. 161; p. 168.
Gases, Means for indicating and recording the calorific value of. F. Sawford. No. 977,970; Dec. 6; Sp. p. 1194; Gaz. vol. 161; p. 191.
Gasolene-engine. G. C. Fain. No. 978,867; Dec. 20; Sp. p. 3105; Gaz. vol. 161; p. 551.
Gate: *See* Automatically-operated gate; Bridge-gate; Elevator-gate; End-gate; Farm-gate; Railway-crossing gate; Safety-gate.
Gate. B. F. Neudeck. No. 978,192; Dec. 13; Sp. p. 1683; Gaz. vol. 161; p. 296.
Gate. J. Horner. No. 979,302; Dec. 20; Sp. p. 4095; Gaz. vol. 161; p. 705.
Gate. I. Barker. No. 979,410; Dec. 27; Sp. p. 4303; Gaz. vol. 161; p. 763.
Gate-opener. P. L. Ormiston. No. 979,689; Dec. 27; Sp. p. 4900; Gaz. vol. 161; p. 859.
Gate-opening device. H. Warden. No. 978,245; Dec. 13; Sp. p. 1792; Gaz. vol. 161; p. 314.
Gear, Combined transmission and differential. C. M. Leech. No. 977,887; Dec. 6; Sp. p. 1015; Gaz. vol. 161; p. 161.
Gear-cutter, Hobbing. P. Catucci. No. 978,113; Dec. 6; Sp. p. 1483; Gaz. vol. 161; p. 240.
Gearing. S. C. Schauer and P. L. Brockardt. No. 978,221; Dec. 13; Sp. p. 1741; Gaz. vol. 161; p. 306.
Gearing. A. J. Wikander. No. 978,252; Dec. 13; Sp. p. 1810; Gaz. vol. 161; p. 317.
Gearing and spacing mechanism, Chain. F. Darcy. No. 978,007; Dec. 6; Sp. p. 1259; Gaz. vol. 161; p. 202.
Gearing, Differential. A. F. Peacock. No. 978,057; Dec. 6; Sp. p. 1365; Gaz. vol. 161; p. 219.
Gearing, Friction-. J. Springer. No. 977,483; Dec. 6; Sp. p. 126; Gaz. vol. 161; p. 21.
Gearing, Friction-. L. N. Lacombe. No. 979,315; Dec. 20; Sp. p. 4115; Gaz. vol. 161; p. 709.
Gearing, Speed-changing and transmission. D. P. Collins. No. 978,700; Dec. 13; Sp. p. 2771; Gaz. vol. 161; p. 473.
Gearing, Transmission-. C. E. Henriod. No. 978,159; Dec. 13; Sp. p. 1607; Gaz. vol. 161; p. 285.
Gearing, Variable-speed. W. S. Harley. No. 978,880; Dec. 20; Sp. p. 3132; Gaz. vol. 161; p. 556.
Generator: *See* Acetylene-generator; Current-generator; Gas-generator; Magneto-electric generator; Power-generator; Steam-generator.
Generator and superheater. J. G. Massie. No. 978,769; Dec. 13; Sp. p. 2922; Gaz. vol. 161; p. 494.
Glass bottles, Machine for the manufacture of. T. W. Simpson. No. 978,228; Dec. 13; Sp. p. 1752; Gaz. vol. 161; p. 309.
Glass cylinders, Apparatus for severing. R. H. Bolin. No. 979,740; Dec. 27; Sp. p. 5021; Gaz. vol. 161; p. 877.
Glass-drawing process and apparatus. L. A. Thornburg. No. 979,601; Dec. 27; Sp. p. 4724; Gaz. vol. 161; p. 829.
Glass-furnace. H. Douchamp. No. 979,935; Dec. 27; Sp. p. 5446; Gaz. vol. 161; p. 941.
Glass jar. C. G. Overmyer. No. 978,634; Dec. 13; Sp. p. 2653; Gaz. vol. 161; p. 451.
Glass-machine. L. Steelman. No. 979,045; Dec. 20; Sp. p. 3513; Gaz. vol. 161; p. 615.
Glass, Manufacture of drawn. J. R. Speer and G. H. Harvey. No. 977,685; Dec. 6; Sp. p. 599; Gaz. vol. 161; p. 91.
Glass, Manufacturing wire-. W. Buttler. No. 980,063; Dec. 27; Sp. p. 5719; Gaz. vol. 161; p. 984.
Glass sheets, Device for handling. C. H. Farley. No. 980,084; Dec. 27; Sp. p. 5760; Gaz. vol. 161; p. 990.
Globe attachment, Educational-. A. C. Fries. No. 978,997; Dec. 20; Sp. p. 3405; Gaz. vol. 161; p. 599.
Globe-holder. C. S. Smith and H. H. Palmer. No. 977,563; Dec. 6; Sp. p. 343; Gaz. vol. 161; p. 50.
Globe-holder. J. E. Martin. No. 977,892; Dec. 6; Sp. p. 1026; Gaz. vol. 161; p. 163.
Glove. F. J. Stein and T. Knapik. No. 978,232; Dec. 13; Sp. p. 1770; Gaz. vol. 161; p. 311.
Glove. J. W. Fennel. No. 979,065; Dec. 20; Sp. p. 3552; Gaz. vol. 161; p. 621.
Gloves, mittens, and the like, Machine for turning. J. E. Crosby. No. 978,434; Dec. 13; Sp. p. 2194; Gaz. vol. 161; p. 380.
Glycerin, Treating. S. H. Fleming. No. 978,443; Dec. 13; Sp. p. 2215; Gaz. vol. 161; p. 384.
Gouging-tool. J. Q. Adams, Sr. No. 979,911; Dec. 27; Sp. p. 5404; Gaz. vol. 161; p. 934.
Governor for internal-combustion engines. D. Roberts, A. R. Bellamy, and C. James. No. 979,888; Dec. 27; Sp. p. 5352; Gaz. vol. 161; p. 925.
Governors, Self-locking automatic stop for. S. S. Hall. No. 979,289; Dec. 20; Sp. p. 4074; Gaz. vol. 161; p. 700.
Grader and drag, Road. T. I. Swagerty and A. L. Lowe. No. 979,047; Dec. 20; Sp. p. 3522; Gaz. vol. 161; p. 616.
Grader, Road-. N. K. Skow. No. 978,498; Dec. 13; Sp. p. 2335; Gaz. vol. 161; p. 403.
Gradual-reduction mill. W. M. Page. No. 977,542; Dec. 6; Sp. p. 291; Gaz. vol. 161; p. 43.
Grain-separator. E. J. Pidgeon. No. 977,677; Dec. 6; Sp. p. 579; Gaz. vol. 161; p. 88.
Granular material, Apparatus for treating. G. F. Royer. No. 977,478; Dec. 6; Sp. p. 113; Gaz. vol. 161; p. 20.
Graphite article and making the same. F. J. Tone. No. 977,984; Dec. 6; Sp. p. 1216; Gaz. vol. 161; p. 195.
Graphophone, Multiple-record. A. J. K. Genella. No. 979,466; Dec. 27; Sp. p. 4419; Gaz. vol. 161; p. 782.
Graphoscope. J. A. Parker. No. 979,552; Dec. 27; Sp. p. 4607; Gaz. vol. 161; p. 811.
Grass-cutter. J. C. Streibich. No. 977,569; Dec. 6; Sp. p. 350; Gaz. vol. 161; p. 51.
Grass-hooks or sickles, Implement for holding. C. A. Reitmeyer. No. 980,007; Dec. 27; Sp. p. 5590; Gaz. vol. 161; p. 965.
Grate. H. C. Stuckenburg. No. 979,719; Dec. 27; Sp. p. 4960; Gaz. vol. 161; p. 869.
Grate cover, Air-. E. W. Ellington. No. 978,718; Dec. 13; Sp. p. 2823; Gaz. vol. 161; p. 479.
Grate, Fireplace-. E. H. Sholar. No. 978,227; Dec. 13; Sp. p. 1749; Gaz. vol. 161; p. 308.
Grate, Shaking and dumping. C. F. Hutchinson. No. 978,389; Dec. 13; Sp. p. 2556; Gaz. vol. 161; p. 436.
Grater. A. D. Hopkins. No. 977,872; Dec. 6; Sp. p. 986; Gaz. vol. 161; p. 155.
Grave-marker. A. Humble, Jr. No. 979,764; Dec. 27; Sp. p. 5079; Gaz. vol. 161; p. 884.
Gravity-carrier. R. P. Mathews. No. 978,466; Dec. 13; Sp. p. 2263; Gaz. vol. 161; p. 392.
Grease-cup. J. F. Craven. No. 979,826; Dec. 27; Sp. p. 5219; Gaz. vol. 161; p. 905.
Grinding and disintegrating machine. F. L. Kinsey. No. 978,034; Dec. 6; Sp. p. 1320; Gaz. vol. 161; p. 211.
Grinding and polishing machine. J. C. Blevney and J. Hausman. No. 980,052; Dec. 27; Sp. p. 5693; Gaz. vol. 161; p. 980.
Grinding and polishing machine. J. C. Blevney and J. Hausman. No. 980,053; Dec. 27; Sp. p. 5697; Gaz. vol. 161; p. 981.
Grinding gig, Twist-drill-. W. E. Crowther. No. 978,851; Dec. 20; Sp. p. 3068; Gaz. vol. 161; p. 545.
Grinding-machine. W. D. Pierson. No. 980,122; Dec. 27; Sp. p. 5874; Gaz. vol. 161; p. 1003.
Grinding machine, Ball-. B. Eitner. No. 977,717; Dec. 6; Sp. p. 668; Gaz. vol. 161; p. 102.
Grinding machine, Ball-. B. Eitner. No. 977,718; Dec. 6; Sp. p. 669; Gaz. vol. 161; p. 103.
Grinding machine, Ball-. B. Eitner. No. 977,719; Dec. 6; Sp. p. 670; Gaz. vol. 161; p. 103.
Grinding-mill. J. Bercha. No. 980,048; Dec. 27; Sp. p. 5685; Gaz. vol. 161; p. 979.
Grinding, turning, and finishing shafting, &c., Machine for. A. Macdonald. No. 979,976; Dec. 27; Sp. p. 5527; Gaz. vol. 161; p. 954.
Grinding, turning, and finishing shafts, piston-rods, pins, tools, &c., Machine for. A. Macdonald. No. 979,975; Dec. 27; Sp. p. 5523; Gaz. vol. 161; p. 954.
Gripping-tool. A. S. F. Robinson. No. 979,563; Dec. 27; Sp. p. 4640; Gaz. vol. 161; p. 815.
Grubbing machine, Sage-brush-. S. T. Durant and G. Gunderson. No. 978,118; Dec. 6; Sp. p. 1500; Gaz. vol. 161; p. 241.
Guano-distributer. L. J. Akins. No. 977,773; Dec. 6; Sp. p. 781; Gaz. vol. 161; p. 121.
Gun. N. Dunham. No. 978,144; Dec. 13; Sp. p. 1583; Gaz. vol. 161; p. 281.
Gun aiming apparatus. K. Völler. No. 979,232; Dec. 20; Sp. p. 3952; Gaz. vol. 161; p. 682.
Gun-magazine. H. Sundgård. No. 979,721; Dec. 27; Sp. p. 4964; Gaz. vol. 161; p. 870.
Gun-sight, Rear. D. W. King. No. 978,382; Dec. 13; Sp. p. 2089; Gaz. vol. 161; p. 364.
Gunpowder, Nitrocellulose. C. H. H. Claessen. No. 979,431; Dec. 27; Sp. p. 4338; Gaz. vol. 161; p. 770.
Gypsum-block-making machine. W. M. Cowley. No. 980,144; Dec. 27; Sp. p. 5910; Gaz. vol. 161; p. 1010.
Hair-pin. A. Burke. No. 979,422; Dec. 27; Sp. p. 4323; Gaz. vol. 161; p. 767.
Hair-waving machine. R. Bové. No. 979,058; Dec. 20; Sp. p. 3538; Gaz. vol. 161; p. 619.
Hame and trace connector. B. M. Wilhite and L. Oberwetter. No. 977,914; Dec. 6; Sp. p. 1071; Gaz. vol. 161; p. 170.
Hame-ring. B. Hanlon. No. 977,733; Dec. 6; Sp. p. 692; Gaz. vol. 161; p. 108.
Hammer, Power-. A. Malaurie. No. 979,522; Dec. 27; Sp. p. 4537; Gaz. vol. 161; p. 800.
Hammock-bottom. A. T. Hallock. No. 979,158; Dec. 20; Sp. p. 3795; Gaz. vol. 161; p. 657.
Hammock, Couch-. I. E. Palmer. No. 980,168; Dec. 27; Sp. p. 5975; Gaz. vol. 161; p. 1019.

Hammock, Couch-. I. E. Palmer. No. 980,169; Dec. 27; Sp. p. 5976; Gaz. vol. 161; p. 1019.
Hammock, Framed. I. E. Palmer. No. 980,165; Dec. 27; Sp. p. 5961; Gaz. vol. 161; p. 1017.
Hammock, Hanging-seat. I. E. Palmer. No. 980,166; Dec. 27; Sp. p. 5965; Gaz. vol. 161; p. 1018.
Hammock, Knockdown couch-. I. E. Palmer. No. 980,167; Dec. 27; Sp. p. 5968; Gaz. vol. 161; p. 1018.
Hammock suspension means. I. E. Palmer. No. 980,170; Dec. 27; Sp. p. 5980; Gaz. vol. 161; p. 1019.
Hammock suspension means, Couch-. I. E. Palmer. No. 980,171; Dec. 27; Sp. p. 5982; Gaz. vol. 161; p. 1019.
Hand-bag. B. Ross. No. 977,902; Dec. 6; Sp. p. 1049; Gaz. vol. 161; p. 166.
Hand-bag. C. Hollis. No. 979,763; Dec. 27; Sp. p. 5078; Gaz. vol. 161; p. 884.
Handle: *See* Implement-handle; Pan-handle.
Handle. E. C. Blackburn and J. Michal, Jr. No. 978,816; Dec. 13; Sp. p. 2906; Gaz. vol. 161; p. 508.
Hanger: *See* Boiler-hanger; Button-hook hanger; Curtain-hanger; Garment-hanger; Pipe-hanger; Trousers-hanger.
Harness attachment. E. A. Gamble. No. 979,067; Dec. 20; Sp. p. 3555; Gaz. vol. 161; p. 622.
Harness, Single. F. Sidey. No. 978,069; Dec. 6; Sp. p. 1390; Gaz. vol. 161; p. 223.
Harrow. R. D. Whitt. No. 978,804; Dec. 13; Sp. p. 2977; Gaz. vol. 161; p. 504.
Harrow. A. S. Kindel. No. 979,312; Dec. 20; Sp. p. 4111; Gaz. vol. 161; p. 708.
Harrow and clod-crusher. D. Duhl. No. 978,714; Dec. 13; Sp. p. 2816; Gaz. vol. 161; p. 478.
Harrow attachment. J. H. Sherard. No. 978,665; Dec. 13; Sp. p. 2712; Gaz. vol. 161; p. 462.
Harrow, Disk. J. J. McLean. No. 979,782; Dec. 27; Sp. p. 5117; Gaz. vol. 161; p. 890.
Harrow-tooth and tooth-bar fastening. G. E. Blaine. No. 978,687; Dec. 13; Sp. p. 2749; Gaz. vol. 161; p. 468.
Harvester. A. F. Pando. No. 977,832; Dec. 6; Sp. p. 898; Gaz. vol. 161; p. 141.
Harvester, Beet-. J. D. De Celle. No. 978,710; Dec. 13; Sp. p. 2804; Gaz. vol. 161; p. 476.
Harvester, Cotton-. O. C. Houghton. No. 979,859; Dec. 27; Sp. p. 5299; Gaz. vol. 161; p. 917.
Hat, coat, and umbrella rack, Locking. F. L. Kinsey. No. 978,033; Dec. 6; Sp. p. 1316; Gaz. vol. 161; p. 210.
Hat-fastener. J. Tauss. No. 980,021; Dec. 27; Sp. p. 5611; Gaz. vol. 161; p. 970.
Hat-guard. B. A. Garlinghouse. No. 978,364; Dec. 13; Sp. p. 2044; Gaz. vol. 161; p. 357.
Hat-hook. E. L. Meyer. No. 980,162; Dec. 27; Sp. p. 5953; Gaz. vol. 161; p. 1016.
Hat-indicator. C. W. Rozell. No. 979,707; Dec. 27; Sp. p. 4932; Gaz. vol. 161; p. 864.
Hat-pin, Grab. J. Valind. No. 979,229; Dec. 20; Sp. p. 3949; Gaz. vol. 161; p. 682.
Hay-derrick. O. R. Becker. No. 979,057; Dec. 20; Sp. p. 3537; Gaz. vol. 161; p. 619.
Hay-elevators, Rope-supporting device for. C. A. Hanson. No. 979,665; Dec. 27; Sp. p. 4851; Gaz. vol. 161; p. 851.
Hay-loader. J. Hadley. No. 979,846; Dec. 27; Sp. p. 5269; Gaz. vol. 161; p. 912.
Hay-rack. W. Schile. No. 978,785; Dec. 13; Sp. p. 2952; Gaz. vol. 161; p. 499.
Hay rake and shocker, Combined. E. J. Foster and F. H. Grafton. No. 978,725; Dec. 13; Sp. p. 2831; Gaz. vol. 161; p. 481.
Head-rest, Sanitary. E. E. Koken. No. 977,805; Dec. 6; Sp. p. 840; Gaz. vol. 161; p. 132.
Headlight-screen. S. Jones. No. 979,508; Dec. 27; Sp. p. 4505; Gaz. vol. 161; p. 795.
Headwear. S. Monoson. No. 978,048; Dec. 6; Sp. p. 1346; Gaz. vol. 161; p. 216.
Heat of compressors, Utilizing waste. F. Shuman. No. 979,579; Dec. 27; Sp. p. 4676; Gaz. vol. 161; p. 821.
Heater: *See* Curling-iron heater; Electrical heater; Feed-water heater; Incubator and brooder heater; Orchard-heater; Soldering-iron heater; Water-heater.
Heater. J. S. McCarthy. No. 979,527; Dec. 27; Sp. p. 4548; Gaz. vol. 161; p. 803.
Heater burner, Water-. C. Hart. No. 978,123; Dec. 6; Sp. p. 1511; Gaz. vol. 161; p. 243.
Heating-boiler. A. G. Cripps. No. 977,786; Dec. 6; Sp. p. 809; Gaz. vol. 161; p. 125.
Heating device. T. Smith. No. 979,043; Dec. 20; Sp. p. 3509; Gaz. vol. 161; p. 614.
Heating device, Hot-water. M. F. Bishop. No. 979,415; Dec. 27; Sp. p. 4312; Gaz. vol. 161; p. 765.
Heating or cooking apparatus, Electric. T. Abtmeyer. No. 977,580; Dec. 6; Sp. p. 375; Gaz. vol. 161; p. 55.
Heel. F. L. Alley. No. 979,241; Dec. 20; Sp. p. 3975; Gaz. vol. 161; p. 685.
Heel for shoes, Exchangeable. S. Stromer. No. 979,593; Dec. 27; Sp. p. 4703; Gaz. vol. 161; p. 826.
Heel-nailing machine. E. E. Winkley. No. 979,237; Dec. 20; Sp. p. 3958; Gaz. vol. 161; p. 683.
Heel of boots, &c. H. Fenton. No. 980,085; Dec. 27; Sp. p. 5771; Gaz. vol. 161; p. 990.
Heel, Shoe-. H. C. Karpen. No. 978,896; Dec. 20; Sp. p. 3164; Gaz. vol. 161; p. 562.
Hexamethylene-tetramin-digualacol. E. Barell and F. Elger. No. 979,917; Dec. 27; Sp. p. 5412; Gaz. vol. 161; p. 936.
Hexamethylene-tetramin-monogualacol. E. Barell and F. Elger. No. 979,916; Dec. 27; Sp. p. 5411; Gaz. vol. 161; p. 936.
High and low water alarm. C. Brent. No. 978,983; Dec. 20; Sp. p. 3379; Gaz. vol. 161; p. 594.
Hinge, Gate-. E. W. Sawyer. No. 978,063; Dec. 6; Sp. p. 1380; Gaz. vol. 161; p. 222.
Hinge, Spring-. A. S. Nero. No. 977,468; Dec. 6; Sp. p. 88; Gaz. vol. 161; p. 16.
Hoe. B. I. Hermanson. No. 979,299; Dec. 20; Sp. p. 4089; Gaz. vol. 161; p. 704.
Hog-trap. H. M. Sheesley. No. 980,015; Dec. 27; Sp. p. 5601; Gaz. vol. 161; p. 968.
Hoisting and conveying apparatus. A. Lambert. No. 978,312; Dec. 13; Sp. p. 1946; Gaz. vol. 161; p. 330.
Hoisting device. J. Owen. No. 979,691; Dec. 27; Sp. p. 4902; Gaz. vol. 161; p. 859.
Hone-box. T. F. Powell. No. 977,838; Dec. 6; Sp. p. 907; Gaz. vol. 161; p. 143.
Honeycomb foundation. O. M. Husted. No. 979,765; Dec. 27; Sp. p. 5080; Gaz. vol. 161; p. 885.
Hoof-protector. A. J. Gastlin. No. 980,094; Dec. 27; Sp. p. 5793; Gaz. vol. 161; p. 903.
Hook: *See* Fish-hook; Hat-hook; Lantern-hook; Safety-hook; Snap-hook.
Hook. J. Dovo. No. 977,716; Dec. 6; Sp. p. 667; Gaz. vol. 161; p. 102.
Hook. H. C. Brown. No. 979,926; Dec. 27; Sp. p. 5428; Gaz. vol. 161; p. 938.
Hop-extraction process. A. Nilson. No. 978,476; Dec. 13; Sp. p. 2202; Gaz. vol. 161; p. 396.
Hopple, Halter-. J. O. Read. No. 977,547; Dec. 6; Sp. p. 306; Gaz. vol. 161; p. 45.
Horn, Mechanical. O. C. Arlitz. No. 979,245; Dec. 20; Sp. p. 3984; Gaz. vol. 161; p. 686.
Horn, Mechanical. O. C. Arlitz. No. 979,246; Dec. 20; Sp. p. 3989; Gaz. vol. 161; p. 687.
Horn seam-closing mechanism, Duplex-. J. Kohke. No. 978,308; Dec. 13; Sp. p. 1933; Gaz. vol. 161; p. 338.
Horse-bit. A. U. Nazor. No. 978,051; Dec. 6; Sp. p. 1352; Gaz. vol. 161; p. 217.
Horse-detacher. P. Suhr. No. 978,507; Dec. 13; Sp. p. 2354; Gaz. vol. 161; p. 406.
Horse-detacher. P. C. Day. No. 980,074; Dec. 27; Sp. p. 5741; Gaz. vol. 161; p. 987.
Horse-overshoe. W. H. Trabue. No. 979,602; Dec. 27; Sp. p. 4726; Gaz. vol. 161; p. 829.
Horse-releaser. F. Fisher. No. 978,281; Dec. 13; Sp. p. 1879; Gaz. vol. 161; p. 329.
Horse-releaser. J. S. Pitts. No. 979,332; Dec. 20; Sp. p. 4147; Gaz. vol. 161; p. 714.
Horse-releasing device. J. L. Miller. No. 979,322; Dec. 20; Sp. p. 4129; Gaz. vol. 161; p. 711.
Horseshoe. J. Abbs and E. Matthews. No. 977,993; Dec. 6; Sp. p. 1228; Gaz. vol. 161; p. 198.
Horseshoe. R. Barclay. No. 979,365; Dec. 20; Sp. p. 4205; Gaz. vol. 161; p. 725.
Horseshoe. O. E. Dyson. No. 979,450; Dec. 27; Sp. p. 4384; Gaz. vol. 161; p. 776.
Horseshoe and antislipping attachment. A. Kent. No. 977,882; Dec. 6; Sp. p. 1003; Gaz. vol. 161; p. 158.
Horseshoe safety device. C. E. Markowski. No. 977,812; Dec. 6; Sp. p. 856; Gaz. vol. 161; p. 134.
Hose. E. T. Greenfield. No. 979,759; Dec. 27; Sp. p. 5071; Gaz. vol. 161; p. 883.
Hose. E. T. Greenfield. No. 979,760; Dec. 27; Sp. p. 5072; Gaz. vol. 161; p. 883.
Hose-clamp. J. J. Rischard. No. 978,398; Dec. 13; Sp. p. 2127; Gaz. vol. 161; p. 370.
Hose construction. C. M. C. Baird. No. 979,408; Dec. 27; Sp. p. 4299; Gaz. vol. 161; p. 762.
Hose-coupling. H. M. Pilkington. No. 977,472; Dec. 6; Sp. p. 95; Gaz. vol. 161; p. 18.
Hose-coupling. B. Morgan. No. 978,619; Dec. 13; Sp. p. 2016; Gaz. vol. 161; p. 446.
Hose-coupling. E. J. Hannold. No. 979,481; Dec. 27; Sp. p. 4448; Gaz. vol. 161; p. 786.
Hose-coupling, Threadless. H. Kell. No. 978,029; Dec. 6; Sp. p. 1305; Gaz. vol. 161; p. 209.
Hose-couplings, Gasket for. C. M. Clay. No. 979,433; Dec. 27; Sp. p. 4340; Gaz. vol. 161; p. 770.
Hose-supporter. J. H. Johnson. No. 978,592; Dec. 13; Sp. p. 2561; Gaz. vol. 161; p. 437.
Hose-supporter. R. H. and R. J. Brown. No. 979,254; Dec. 20; Sp. p. 4008; Gaz. vol. 161; p. 689.
Hot-water boiler. W. H. Geis. No. 978,365; Dec. 13; Sp. p. 2045; Gaz. vol. 161; p. 357.
Hot-water storage, System of. R. V. Jones. No. 979,507; Dec. 27; Sp. p. 4501; Gaz. vol. 161; p. 795.
Hub-attaching device. E. J. Spahr. No. 979,105; Dec. 20; Sp. p. 3665; Gaz. vol. 161; p. 636.
Humidity-regulator. E. W. Comfort. No. 977,933; Dec. 6; Sp. p. 1109; Gaz. vol. 161; p. 177.
Hydrant. P. E. Apgar and J. J. Silk. No. 977,426; Dec. 6; Sp. p. 2; Gaz. vol. 161; p. 3.
Hydrant and valve therefor. J. L. Fuller. No. 979,941; Dec. 27; Sp. p. 5460; Gaz. vol. 161; p. 943.
Hydraulic chair. M. Hanson. No. 977,736; Dec. 6; Sp. p. 698; Gaz. vol. 161; p. 109.
Hydraulic giant. S. L. Berry. No. 978,107; Dec. 6; Sp. p. 1470; Gaz. vol. 161; p. 237.
Hydraulic motor. W. C. Kelly. No. 979,511; Dec. 27; Sp. p. 4513; Gaz. vol. 161; p. 796.

Hydrocarbon-burner. W. Dietz. No. 978,860; Dec. 20; Sp. p. 3092; Gaz. vol. 161; p. 548.
Hydrogen, Composition of matter for and method of generating. H. Foerstering and H. Philipp. No. 977,442; Dec. 6; Sp. p. 28; Gaz. vol. 161; p. 8.
Ice-cream freezer. W. C. Broadwell. No. 979,823; Dec. 27; Sp. p. 5214; Gaz. vol. 161; p. 904.
Ice-making apparatus. Skimming-regulator for. W. H. Manns. No. 979,523; Dec. 27; Sp. p. 4539; Gaz. vol. 161; p. 801.
Ice-making machine. G. H. Reynolds. No. 977,475; Dec. 6; Sp. p. 100; Gaz. vol. 161; p. 19.
Ice-making system. G. L. Vail. No. 979,112; Dec. 20; Sp. p. 3690; Gaz. vol. 161; p. 640.
Ice plants, Distillation system for. A. Faget. No. 978,279; Dec. 13; Sp. p. 1873; Gaz. vol. 161; p. 328.
Ignitible liquids, Safety apparatus for volatile. E. R. Laughlin. No. 978,459; Dec. 13; Sp. p. 2240; Gaz. vol. 161; p. 389.
Ignition apparatus, Electric. H. G. Osburn. No. 978,197; Dec. 13; Sp. p. 1696; Gaz. vol. 161; p. 298.
Implement-handle. B. F. Taylor. No. 978,510; Dec. 13; Sp. p. 2359; Gaz. vol. 161; p. 407.
Incubator. I. Putnam. No. 978,205; Dec. 13; Sp. p. 1714; Gaz. vol. 161; p. 301.
Incubator. C. L. Vetter. No. 978,520; Dec. 13; Sp. p. 2377; Gaz. vol. 161; p. 410.
Incubator and brooder, Convertible. H. M. Sheer. No. 977,973; Dec. 6; Sp. p. 1198; Gaz. vol. 161; p. 191.
Incubator and brooder heater. C. A. Damon. No. 978,990; Dec. 20; Sp. p. 3394; Gaz. vol. 161; p. 597.
Incubators, Egg-turning tray for. J. and F. C. Kunz. No. 977,638; Dec. 6; Sp. p. 496; Gaz. vol. 161; p. 75.
Index. M. Cornine. No. 979,437; Dec. 27; Sp. p. 4352; Gaz. vol. 161; p. 771.
Index case, Card-. F. W. Tobey. No. 978,960; Dec. 20; Sp. p. 3330; Gaz. vol. 161; p. 586.
Index-tab. W. E. Harrod. No. 979,946; Dec. 27; Sp. p. 5469; Gaz. vol. 161; p. 945.
Indicator: *See* Calendar-indicator; Flow-indicator; Hat-indicator; Oil-pot indicator; Vehicle-indicator.
Induction-coil. J. O. Heinze, Jr. No. 977,870; Dec. 6; Sp. p. 979; Gaz. vol. 161; p. 154.
Injector, Steam-. R. G. Brooke. No. 978,000; Dec. 6; Sp. p. 1248; Gaz. vol. 161; p. 200.
Injector, Steam-. R. G. Brooke. No. 978,001; Dec. 6; Sp. p. 1250; Gaz. vol. 161; p. 200.
Ink and producing the same, Transfer-. C. F. Morse. No. 979,542; Dec. 27; Sp. p. 4581; Gaz. vol. 161; p. 807.
Ink-well holder. B. D. Brown. No. 980,056; Dec. 27; Sp. p. 5710; Gaz. vol. 161; p. 982.
Inking device. W. Chipperfield. No. 979,649; Dec. 27; Sp. p. 4820; Gaz. vol. 161; p. 846.
Inking-rollers. W. W. Hill. No. 979,300; Dec. 20; Sp. p. 4090; Gaz. vol. 161; p. 704.
Inkstand. F. L. Gohl. No. 979,473; Dec. 27; Sp. p. 4435; Gaz. vol. 161; p. 784.
Insole-lip-forming machine. W. B. White. No. 977,767; Dec. 6; Sp. p. 768; Gaz. vol. 161; p. 119.
Insole-reinforcing machine. A. Eppler. No. 979,836; Dec. 27; Sp. p. 5251; Gaz. vol. 161; p. 909.
Instep-support. W. F. Connell. No. 979,930; Dec. 27; Sp. p. 5439; Gaz. vol. 161; p. 939.
Insulation-slab. W. C. Kammerer. No. 979,310; Dec. 20; Sp. p. 4107; Gaz. vol. 161; p. 707.
Insulator-base. W. T. Goddard. No. 979,840; Dec. 27; Sp. p. 5259; Gaz. vol. 161; p. 910.
Internal-combustion engine. L. E. Wright. No. 977,847; Dec. 6; Sp. p. 923; Gaz. vol. 161; p. 146.
Internal-combustion engine. J. V. Laviolette. No. 977,885; Dec. 6; Sp. p. 1009; Gaz. vol. 161; p. 159.
Internal-combustion engine. P. Peterson. No. 978,058; Dec. 6; Sp. p. 1368; Gaz. vol. 161; p. 220.
Internal-combustion engine. A. H. Webber. No. 978,969; Dec. 20; Sp. p. 3352; Gaz. vol. 161; p. 589.
Internal-combustion engine. J. A. Viele. No. 979,359; Dec. 20; Sp. p. 4194; Gaz. vol. 161; p. 723.
Internal-combustion engine. A. Peteler. No. 979,794; Dec. 27; Sp. p. 5155; Gaz. vol. 161; p. 894.
Internal-combustion engine, Four-cycle. R. Miller. No. 979,082; Dec. 20; Sp. p. 3595; Gaz. vol. 161; p. 626.
Internal-combustion engine, Two-cycle. C. E. Maud. No. 980,110; Dec. 27; Sp. p. 5840; Gaz. vol. 161; p. 999.
Internal-combustion motor, Two-cycle. F. Lamplough. No. 979,971; Dec. 27; Sp. p. 5513; Gaz. vol. 161; p. 953.
Inverted mantle-burner. R. E. Bruckner. No. 979,742; Dec. 27; Sp. p. 5025; Gaz. vol. 161; p. 877.
Iron: *See* Sad-iron; Soldering-iron.
Iron waste, Treating cast-. H. W. Lash. No. 978,906; Dec. 20; Sp. p. 3184; Gaz. vol. 161; p. 566.
Ironing-board. A. E. J. Weaver. No. 978,342; Dec. 13; Sp. p. 2006; Gaz. vol. 161; p. 340.
Ironing-board. S. J. Wever. No. 979,621; Dec. 27; Sp. p. 4764; Gaz. vol. 161; p. 836.
Ironing-table. F. G. Homne. No. 978,885; Dec. 20; Sp. p. 3145; Gaz. vol. 161; p. 559.
Ivory-nuts, Dividing. C. J. Spill. No. 978,501; Dec. 13; Sp. p. 2342; Gaz. vol. 161; p. 404.
Ivory-nuts, Sawing-machine and art of sawing. C. J. Spill. No. 978,408; Dec. 13; Sp. p. 2143; Gaz. vol. 161; p. 373.
Jack: *See* Lifting-jack.
Jack. E. I. Chatwell. No. 977,596; Dec. 6; Sp. p. 413; Gaz. vol. 161; p. 61.
Jack. L. C. Berman. No. 978,544; Dec. 13; Sp. p. 2432; Gaz. vol. 161; p. 418.
Jar: *See* Glass jar.
Jar-closure. F. J. Mackin. No. 979,183; Dec. 20; Sp. p. 3846; Gaz. vol. 161; p. 665.
Joint: *See* Ball-and-socket joint; Furniture-joint; Leg-rest joint; Pipe-joint; Rail-joint; Railway-rail joint; Rope-joint.
Joint-chair. W. E. Ewen. No. 978,721; Dec. 13; Sp. p. 2827; Gaz. vol. 161; p. 480.
Kettle, Tilting mixing-. R. J. Savage. No. 978,491; Dec. 13; Sp. p. 2321; Gaz. vol. 161; p. 400.
Key: *See* Telephone-switchboard key.
Key-fastener. F. S. Odenz. No. 979,331; Dec. 20; Sp. p. 4146; Gaz. vol. 161; p. 714.
Key-holder, Lock. H. G. Voight. No. 978,965; Dec. 20; Sp. p. 3330; Gaz. vol. 161; p. 588.
Kiln: *See* Dry-kiln.
Kneading and mixing machine. H. Schreiber. No. 979,804; Dec. 27; Sp. p. 5180; Gaz. vol. 161; p. 898.
Kneading apparatus. J. Kretzschmar. No. 979,675; Dec. 27; Sp. p. 4874; Gaz. vol. 161; p. 854.
Knife: *See* Pruning-knife; Putty-knife; Rope-knife.
Knife and fork cleaning machine. A. Fischer. No. 977,519; Dec. 6; Sp. p. 230; Gaz. vol. 161; p. 34.
Knife-cleaner. M. D. Robison. No. 977,680; Dec. 6; Sp. p. 586; Gaz. vol. 161; p. 90.
Knitted fabric. A. S. Musgrove. No. 978,622; Dec. 13; Sp. p. 2621; Gaz. vol. 161; p. 447.
Knitting-machine pattern device. E. C. Chandler. No. 977,852; Dec. 6; Sp. p. 939; Gaz. vol. 161; p. 148.
Lace-making machine. G. Krenzler. No. 979,770; Dec. 27; Sp. p. 5087; Gaz. vol. 161; p. 886.
Lace-tipping machine. W. H. Joslin and M. H. Bennett. No. 979,168; Dec. 20; Sp. p. 3813; Gaz. vol. 161; p. 660.
Ladder. I. C. Clevenger. No. 977,853; Dec. 6; Sp. p. 944; Gaz. vol. 161; p. 149.
Ladder-bracket. J. W. Boyd. No. 978,550; Dec. 13; Sp. p. 2445; Gaz. vol. 161; p. 420.
Ladder extension. R. M. Brasington. No. 979,821; Dec. 27; Sp. p. 5209; Gaz. vol. 161; p. 903.
Ladder, Folding step-. L. J. Muehr. No. 979,988; Dec. 27; Sp. p. 5546; Gaz. vol. 161; p. 958.
Ladle, Compound. J. Mitats. No. 978,616; Dec. 13; Sp. p. 2611; Gaz. vol. 161; p. 445.
Ladles, Making handles for. J. B. Rodger. No. 978,652; Dec. 13; Sp. p. 2688; Gaz. vol. 161; p. 457.
Lamp. A. W. Sarff. No. 979,571; Dec. 27; Sp. p. 4660; Gaz. vol. 161; p. 818.
Lamp, Alcohol-. F. Kitzsteiner. No. 978,901; Dec. 20; Sp. p. 3177; Gaz. vol. 161; p. 564.
Lamp-bracket. R. M. Newbold. No. 979,878; Dec. 27; Sp. p. 5333; Gaz. vol. 161; p. 923.
Lamp-bracket, Adjustable. C. Boensch. No. 978,547; Dec. 13; Sp. p. 2437; Gaz. vol. 161; p. 419.
Lamp burner, Gas-. W. H. Reid. No. 979,335; Dec. 20; Sp. p. 4151; Gaz. vol. 161; p. 716.
Lamp-controlling device for motor-cars. W. A. Greenlaw. No. 977,729; Dec. 6; Sp. p. 684; Gaz. vol. 161; p. 106.
Lamp, Incandescent electric. A. A. Wilkins. No. 978,094; Dec. 6; Sp. p. 1447; Gaz. vol. 161; p. 234.
Lamp, Incandescent gas-. A. C. Noad. No. 978,477; Dec. 13; Sp. p. 2294; Gaz. vol. 161; p. 396.
Lamp, Inverted incandescent gas-. A. J. Hofmann. No. 979,855; Dec. 27; Sp. p. 5288; Gaz. vol. 161; p. 915.
Lamp, Inverted-mantle. F. M. Brooks. No. 978,133; Dec. 13; Sp. p. 1560; Gaz. vol. 161; p. 277.
Lamp or candle, Disinfecting. W. L. Plumb. No. 978,200; Dec. 13; Sp. p. 1702; Gaz. vol. 161; p. 299.
Lamp safety device, Arc-. O. F. Asbury. No. 977,774; Dec. 6; Sp. p. 782; Gaz. vol. 161; p. 121.
Lamp shock-absorber and adapter, Tungsten-. J. H. Dale. No. 979,933; Dec. 27; Sp. p. 5442; Gaz. vol. 161; p. 940.
Lamp-socket casing, Incandescent-. C. D. Platt. No. 978,483; Dec. 13; Sp. p. 2306; Gaz. vol. 161; p. 398.
Lamp socket, Electric-. H. B. Chandler and J. A. Fleet. No. 979,428; Dec. 27; Sp. p. 4333; Gaz. vol. 161; p. 760.
Lamp socket, Incandescent-electric-. S. B. Van Ranst. No. 979,608; Dec. 27; Sp. p. 4736; Gaz. vol. 161; p. 831.
Lamp-sockets, Switch-operating device for. H. E. Plunkett. No. 979,693; Dec. 27; Sp. p. 4907; Gaz. vol. 161; p. 860.
Lamp supporting and turning mechanism. C. A. Howell. No. 979,495; Dec. 27; Sp. p. 4478; Gaz. vol. 161; p. 791.
Lamp, Vapor-. C. M. Neisler. No. 978,191; Dec. 13; Sp. p. 1682; Gaz. vol. 161; p. 296.
Lamp wire connection, Electrical-. S. Ashdown. No. 979,636; Dec. 27; Sp. p. 4796; Gaz. vol. 161; p. 842.
Lamps, Box for packing electric incandescent. M. I. Cooper. No. 977,935; Dec. 6; Sp. p. 1115; Gaz. vol. 161; p. 178.
Lamps, Electric connections for carriage-. C. O. Mathews. No. 978,608; Dec. 13; Sp. p. 2600; Gaz. vol. 161; p. 442.
Lamps, Heater and glower renewal for second-class-conductor. O. Foell, A. Kusebauch, and R. Neckerman. No. 979,455; Dec. 27; Sp. p. 4397; Gaz. vol. 161; p. 778.
Lamps, Pull-socket for electric. G. W. Goodridge. No. 979,475; Dec. 27; Sp. p. 4440; Gaz. vol. 161; p. 784.
Lantern. C. Bergener. No. 977,775; Dec. 6; Sp. p. 784; Gaz. vol. 161; p. 121.
Lantern. F. Lenne. No. 978,172; Dec. 13; Sp. p. 1640; Gaz. vol. 161; p. 290.
Lantern. J. H. Hill. No. 978,293; Dec. 13; Sp. p. 1904; Gaz. vol. 161; p. 333.

Lantern-carrier. A. J. Aune. No. 977,428; Dec. 6; Sp. p. 5; Gaz. vol. 161; p. 4.
Lantern-frame. A. H. Handlan, Jr. No. 979,848; Dec. 27; Sp. p. 5272; Gaz. vol. 161; p. 913.
Lantern, Hand-. G. M. Otto. No. 979,994; Dec. 27; Sp. p. 5557; Gaz. vol. 161; p. 960.
Lantern-holder. L. Ollan. No. 979,550; Dec. 27; Sp. p. 4605; Gaz. vol. 161; p. 810.
Lantern-hook. S. Gordon. No. 978,734; Dec. 13; Sp. p. 2859; Gaz. vol. 161; p. 484.
Lantern-lighting device. J. P. Maloney. No. 977,650; Dec. 6; Sp. p. 524; Gaz. vol. 161; p. 70.
Lantern, Tubular. J. H. Hill. No. 978,292; Dec. 13; Sp. p. 1902; Gaz. vol. 161; p. 333.
Lantern, Tubular. E. H. Minns. No. 978,328; Dec. 13; Sp. p. 1981; Gaz. vol. 161; p. 345.
Lanterns, Spring-fastening for. C. L. Betts. No. 978,545; Dec. 13; Sp. p. 2435; Gaz. vol. 161; p. 419.
Last, Folding. C. B. Kosters. No. 978,309; Dec. 13; Sp. p. 1935; Gaz. vol. 161; p. 338.
Latch. F. T. Lippincott. No. 979,178; Dec. 20; Sp. p. 3838; Gaz. vol. 161; p. 664.
Latch and lock mechanism, Door. E. A. and C. C. Crewson. No. 978,275; Dec. 13; Sp. p. 1866; Gaz. vol. 161; p. 327.
Latch, Barn-door. A. Schnell. No. 978,658; Dec. 13; Sp. p. 2701; Gaz. vol. 161; p. 459.
Latch, Gate or door. J. Carroll. No. 978,558; Dec. 13; Sp. p. 2483; Gaz. vol. 161; p. 424.
Latch, Pivoted. W. C. Day. No. 978,857; Dec. 20; Sp. p. 3081; Gaz. vol. 161; p. 548.
Lathe. F. Rowe and J. W. Rappengluck. No. 979,034; Dec. 20; Sp. p. 3494; Gaz. vol. 161; p. 611.
Lathe tool-holder. F. D. Van Norman. No. 979,903; Dec. 27; Sp. p. 5388; Gaz. vol. 161; p. 931.
Lathes, Back-rest for. N. P. Shankwiler. No. 978,663; Dec. 13; Sp. p. 2709; Gaz. vol. 161; p. 461.
Lead L's by spinning, Means employed in closing the ends of. F. N. Du Bois. No. 978,883; Dec. 20; Sp. p. 3099; Gaz. vol. 161; p. 550.
Lead-making apparatus. White-. F. H. Ludington, J. P. Marshall, and L. C. Besson. No. 978,122; Dec. 6; Sp. p. 1500; Gaz. vol. 161; p. 243.
Leather stripping and trimming machine. P. Stein. No. 979,219; Dec. 20; Sp. p. 3928; Gaz. vol. 161; p. 678.
Leather-working-machine table. E. Y. B. Engelman. No. 978,120; Dec. 6; Sp. p. 1503; Gaz. vol. 161; p. 242.
Leg-rest joint. E. Pickart. No. 979,091; Dec. 20; Sp. p. 3610; Gaz. vol. 161; p. 630.
Legging. M. Rosenwasser. No. 979,702; Dec. 27; Sp. p. 4924; Gaz. vol. 161; p. 863.
Lens-drilling machine. C. W. Howland. No. 979,007; Dec. 20; Sp. p. 3432; Gaz. vol. 161; p. 603.
Lens-grinding machine. J. A. Lincoln. No. 978,764; Dec. 13; Sp. p. 2911; Gaz. vol. 161; p. 493.
Lens-grinding machine. W. J. Slavin. No. 980,133; Dec. 27; Sp. p. 5899; Gaz. vol. 161; p. 1007.
Letter, Sign-. H. C. Kretz. No. 979,969; Dec. 27; Sp. p. 5509; Gaz. vol. 161; p. 952.
Letter-slot attachment. J. Popenhagen. No. 980,125; Dec. 27; Sp. p. 5880; Gaz. vol. 161; p. 1005.
Level, Plumb-. J. C. Hansen, Jr. No. 977,735; Dec. 6; Sp. p. 694; Gaz. vol. 161; p. 108.
Lever, Self-locking. L. Romines. No. 980,008; Dec. 27; Sp. p. 5591; Gaz. vol. 161; p. 966.
Lid and lifting device, Combined. M. B. Blake. No. 977,430; Dec. 6; Sp. p. 9; Gaz. vol. 161; p. 4.
Life-saving apparatus. T. Ingaramo. No. 978,378; Dec. 13; Sp. p. 2076; Gaz. vol. 161; p. 362.
Lifter: *See* Shock-lifter.
Lifting device. J. King and H. C. Kimpton. No. 979,313; Dec. 20; Sp. p. 4112; Gaz. vol. 161; p. 708.
Lifting device. J. H. Spencer and J. Simpson. No. 980,020; Dec. 27; Sp. p. 5610; Gaz. vol. 161; p. 970.
Lifting-jack. C. E. Hylander. No. 977,450; Dec. 6; Sp. p. 49; Gaz. vol. 161; p. 10.
Lifting-jack. M. L. Jenkins. No. 978,453; Dec. 13; Sp. p. 2234; Gaz. vol. 161; p. 387.
Lifting-jack. F. E. Place and M. L. Jenkins. No. 979,092; Dec. 20; Sp. p. 3611; Gaz. vol. 161; p. 630.
Light: *See* Vault-light.
Lighting device. G. A. Macbeth. No. 979,181; Dec. 20; Sp. p. 3844; Gaz. vol. 161; p. 665.
Lighting system, Hydrocarbon. J. W. Baker. No. 978,811; Dec. 13; Sp. p. 2980; Gaz. vol. 161; p. 506.
Lightning-arrester. P. H. Thomas. No. 978,959; Dec. 20; Sp. p. 3327; Gaz. vol. 161; p. 586.
Lightning-arrester. W. R. Garton. No. 979,464; Dec. 27; Sp. p. 4416; Gaz. vol. 161; p. 781.
Limb, Artificial. W. E. Showalter. No. 977,974; Dec. 6; Sp. p. 1199; Gaz. vol. 161; p. 192.
Line-threading machine. F. N. Steigleder. No. 979,899; Dec. 27; Sp. p. 5378; Gaz. vol. 161; p. 930.
Liquid-actuating apparatus. R. Conrader. No. 979,746; Dec. 27; Sp. p. 5031; Gaz. vol. 161; p. 878.
Liquid-delivering apparatus. L. Minios. No. 978,047; Dec. 6; Sp. p. 1345; Gaz. vol. 161; p. 216.
Liquid-elevating apparatus. G. H. Irwin, J. P. Cullon, and F. Knowlson. No. 979,957; Dec. 27; Sp. p. 5489; Gaz. vol. 161; p. 949.
Liquid-testing apparatus, Automatic. W. Raabe. No. 978,644; Dec. 13; Sp. p. 2674; Gaz. vol. 161; p. 455.
Liquids for flushing or other purposes, Electrically-operated apparatus for discharging. W. H. and R. Thompson. No. 978,678; Dec. 13; Sp. p. 2736; Gaz. vol. 161; p. 466.
Lister. I. A. Weaver. No. 977,576; Dec. 6; Sp. p. 367; Gaz. vol. 161; p. 54.
Litter-carrier. G. A. Olson. No. 978,331; Dec. 13; Sp. p. 1987; Gaz. vol. 161; p. 346.
Litter-carrier. G. A. Olson. No. 978,332; Dec. 13; Sp. p. 1989; Gaz. vol. 161; p. 346.
Litter-carrier. F. and A. Strand. No. 978,340; Dec. 13; Sp. p. 2002; Gaz. vol. 161; p. 349.
Load-regulated brake. G. F. South. No. 977,756; Dec. 6; Sp. p. 735; Gaz. vol. 161; p. 116.
Loading and dumping apparatus. G. W. Boldrey and R. Hussung. No. 978,817; Dec. 13; Sp. p. 2997; Gaz. vol. 161; p. 508.
Loading-machine. T. Malloy. No. 979,778; Dec. 27; Sp. p. 5103; Gaz. vol. 161; p. 888.
Lock: *See* Ball-bearing lock; Bicycle-lock; Blind-lock; Button-lock; Car-door lock; Cylinder-lock; Door-lock; Mortise-lock; Nut-lock; Sash-lock; Sash or window lock; Seal-lock; Switch-lock; Time-lock; Vehicle-seat lock; Whip-lock; Window-lock.
Lock. H. G. Voight. No. 977,688; Dec. 6; Sp. p. 606; Gaz. vol. 161; p. 92.
Lock. N. H. Crane. No. 978,273; Dec. 13; Sp. p. 1862; Gaz. vol. 161; p. 326.
Lock. R. Brohmann. No. 978,554; Dec. 13; Sp. p. 2452; Gaz. vol. 161; p. 422.
Lock. P. W. Kindlespire and J. R. Cannan. No. 978,899; Dec. 20; Sp. p. 3173; Gaz. vol. 161; p. 563.
Lock. L. P. Percival. No. 978,931; Dec. 20; Sp. p. 3241; Gaz. vol. 161; p. 575.
Lock. A. Colosimo. No. 979,825; Dec. 27; Sp. p. 5218; Gaz. vol. 161; p. 905.
Lock. E. Hershey. No. 980,154; Dec. 27; Sp. p. 5939; Gaz. vol. 161; p. 1014.
Lock for windows and the like. F. F. Smith. No. 979,581; Dec. 27; Sp. p. 4679; Gaz. vol. 161; p. 821.
Locker. W. N. Vance. No. 978,963; Dec. 20; Sp. p. 3335; Gaz. vol. 161; p. 587.
Locker construction. A. Thornley. No. 979,357; Dec. 20; Sp. p. 4186; Gaz. vol. 161; p. 722.
Locking and signaling device. A. D. Stanford. No. 979,808; Dec. 27; Sp. p. 5186; Gaz. vol. 161; p. 899.
Locking device. J. W. Blower. No. 977,850; Dec. 6; Sp. p. 934; Gaz. vol. 161; p. 147.
Locking means, Closure-. C. J. Ljunggren. No. 977,646; Dec. 6; Sp. p. 516; Gaz. vol. 161; p. 78.
Locking means, Closure-. C. J. Ljunggren. No. 977,647; Dec. 6; Sp. p. 517; Gaz. vol. 161; p. 78.
Locomotive. H. Scheib and W. A. Austin. No. 979,208; Dec. 20; Sp. p. 3890; Gaz. vol. 161; p. 673.
Locomotive, Articulated. C. J. Mellin. No. 977,893; Dec. 6; Sp. p. 1028; Gaz. vol. 161; p. 163.
Locomotive, Articulated. C. J. Mellin. No. 978,186; Dec. 13; Sp. p. 1672; Gaz. vol. 161; p. 294.
Locomotive-superheater. C. A. Dwinell. No. 980,078; Dec. 27; Sp. p. 5748; Gaz. vol. 161; p. 988.
Locomotives, Draft-exciter for. A. L. Bridgham. No. 978,552; Dec. 13; Sp. p. 2448; Gaz. vol. 161; p. 421.
Locomotives, Steam-pipes for articulated. C. J. Mellin and W. L. Reid. No. 978,323; Dec. 13; Sp. p. 1964; Gaz. vol. 161; p. 343.
Loom. J. Priborsky. No. 977,898; Dec. 6; Sp. p. 1036; Gaz. vol. 161; p. 165.
Loom. A. B. Weissenborn. No. 978,248; Dec. 13; Sp. p. 1801; Gaz. vol. 161; p. 316.
Loom. J. Warburton and A. Gardiner. No. 979,114; Dec. 20; Sp. p. 3694; Gaz. vol. 161; p. 640.
Loom. M. L. Stone. No. 979,718; Dec. 27; Sp. p. 4959; Gaz. vol. 161; p. 869.
Loom for weaving tapes, ribbons, and similar fabrics. A. E. Stroud. No. 979,594; Dec. 27; Sp. p. 4705; Gaz. vol. 161; p. 826.
Loom-shuttle. C. Rafferty. No. 977,849; Dec. 6; Sp. p. 912; Gaz. vol. 161; p. 144.
Loom-shuttle, Hand-threading. H. L. Litchfield. No. 978,462; Dec. 13; Sp. p. 2253; Gaz. vol. 161; p. 390.
Loom temple-holding device. C. A. Littlefield. No. 979,774; Dec. 27; Sp. p. 5002; Gaz. vol. 161; p. 887.
Loom thread-parting mechanism. J. Marcure. No. 979,779; Dec. 27; Sp. p. 5104; Gaz. vol. 161; p. 888.
Loom warp stop mechanism. J. and H. Wright. No. 978,345; Dec. 13; Sp. p. 2013; Gaz. vol. 161; p. 350.
Looms, Heald and shuttle-box operating mechanism of. I. Nichols. No. 978,329; Dec. 13; Sp. p. 1983; Gaz. vol. 161; p. 345.
Looms, Pneumatic selector for short-weft. H. E. Rathbun. No. 978,645; Dec. 13; Sp. p. 2676; Gaz. vol. 161; p. 455.
Lubricating-cups, Locking device for. K. M. Anderson. No. 980,043; Dec. 27; Sp. p. 5677; Gaz. vol. 161; p. 977.
Lubricating device. H. F. and H. G. Weinland and G. F. Ainge. No. 978,087; Dec. 6; Sp. p. 1431; Gaz. vol. 161; p. 231.
Lubricator. C. R. Briggs. No. 978,819; Dec. 13; Sp. p. 3001; Gaz. vol. 161; p. 509.
Lubricator system. W. S. Harley. No. 979,484; Dec. 27; Sp. p. 4454; Gaz. vol. 161; p. 787.
Lumber edger, trimmer, and lath mill. A. S. Froslie. No. 980,147; Dec. 27; Sp. p. 5923; Gaz. vol. 161; p. 1017.
Lumber-piler. P. H. Cazier. No. 977,434; Dec. 6; Sp. p. 14; Gaz. vol. 161; p. 6.
Lumber-piler. H. E. Harper. No. 979,293; Dec. 20; Sp. p. 4080; Gaz. vol. 161; p. 702.
Lumber-stacker. C. A. Denison. No. 978,565; Dec. 13; Sp. p. 2497; Gaz. vol. 161; p. 427.

Magnet, Lifting-. A. C. Eastwood. No. 978,119; Dec. 6; Sp. p. 1502; Gaz. vol. 161; p. 242.
Magnet, Lifting-. A. C. Eastwood. No. 979,750; Dec. 27; Sp. p. 5053; Gaz. vol. 161; p. 880.
Magnetic materials from other materials or from liquids, Apparatus for separating. A. E. Davies. No. 979,934; Dec. 27; Sp. p. 5444; Gaz. vol. 161; p. 940.
Magneto-electric generator. T. S. Hemenway. No. 980,153; Dec. 27; Sp. p. 5938; Gaz. vol. 161; p. 1014.
Mail-bag catching and delivering apparatus. I. P. Tidmore. No. 979,723; Dec. 27; Sp. p. 4968; Gaz. vol. 161; p. 870.
Mail-bag crane. P. Hanson and S. Matney. No. 977,627; Dec. 6; Sp. p. 473; Gaz. vol. 161; p. 72.
Mail-bag delivering and catching device. J. McKinley. No. 978,610; Dec. 13; Sp. p. 2602; Gaz. vol. 161; p. 443.
Mail-binder. A. M. Jayne. No. 978,591; Dec. 13; Sp. p. 2560; Gaz. vol. 161; p. 436.
Mail-box signal. H. P. Davis. No. 977,602; Dec. 6; Sp. p. 433; Gaz. vol. 161; p. 63.
Mail-box support. H. C. Rogers. No. 979,565; Dec. 27; Sp. p. 4644; Gaz. vol. 161; p. 816.
Mail carrier or box. W. T. Buck. No. 977,706; Dec. 6; Sp. p. 651; Gaz. vol. 161; p. 99.
Mail catching and delivering apparatus. W. Stetsall. No. 979,587; Dec. 27; Sp. p. 4691; Gaz. vol. 161; p. 824.
Mail-catching device. R. E. Moody. No. 977,963; Dec. 6; Sp. p. 1184; Gaz. vol. 161; p. 189.
Mail delivering and receiving apparatus. J. T. Jeffries and R. L. Lynch. No. 978,894; Dec. 20; Sp. p. 3159; Gaz. vol. 161; p. 561.
Mail from moving cars, Apparatus for delivering. R. W. Lomax. No. 979,179; Dec. 20; Sp. p. 3839; Gaz. vol. 161; p. 664.
Mail from moving trains, Device for delivering. E. R. Robinson. No. 978,651; Dec. 13; Sp. p. 2685; Gaz. vol. 161; p. 457.
Mail-pouch carrier. C. C. Snow. No. 977,481; Dec. 6; Sp. p. 123; Gaz. vol. 161; p. 21.
Mail to moving cars, Apparatus for delivering. R. W. Lomax. No. 978,911; Dec. 20; Sp. p. 3194; Gaz. vol. 161; p. 567.
Mainspring-barrel. J. Austin. No. 977,994; Dec. 6; Sp. p. 1229; Gaz. vol. 161; p. 198.
Malt beverages, Manufacture of. R. Wahl. No. 979,810; Dec. 27; Sp. p. 5190; Gaz. vol. 161; p. 900.
Mandrel. E. Board. No. 979,922; Dec. 27; Sp. p. 5423; Gaz. vol. 161; p. 937.
Manure-fork. E. Schwartzman. No. 978,661; Dec. 13; Sp. p. 2705; Gaz. vol. 161; p. 460.
Mashing-machine deflector. A. R. Keller. No. 979,510; Dec. 27; Sp. p. 4511; Gaz. vol. 161; p. 796.
Massage-machine. A. A. Kent. No. 978,031; Dec. 6; Sp. p. 1312; Gaz. vol. 161; p. 210.
Mast-bands, Making solid. W. Wensley. No. 979,403; Dec. 20; Sp. p. 4282; Gaz. vol. 161; p. 736.
Mast, Portable, extensible, and retractable. F. Jaeger and A. Siewert. No. 980,157; Dec. 27; Sp. p. 5946; Gaz. vol. 161; p. 1015.
Mat. J. P. Donovan. No. 977,789; Dec. 6; Sp. p. 813; Gaz. vol. 161; p. 126.
Match-box. H. C. Fleming and W. F. Royster. No. 977,441; Dec. 6; Sp. p. 26; Gaz. vol. 161; p. 7.
Match-box. B. J. L. Bolt. No. 979,124; Dec. 20; Sp. p. 3718; Gaz. vol. 161; p. 644.
Match-box and cigar-cutter, Combined. H. Marriott. No. 979,318; Dec. 20; Sp. p. 4122; Gaz. vol. 161; p. 710.
Match-box-manufacturing machine. G. Olsson. No. 980,120; Dec. 27; Sp. p. 5869; Gaz. vol. 161; p. 1003.
Match-boxes and the like, Machine for manufacturing drawers for. J. G. Olsson. No. 978,195; Dec. 13; Sp. p. 1689; Gaz. vol. 161; p. 297.
Match-lighter. E. Zeschmar. No. 979,632; Dec. 27; Sp. p. 4788; Gaz. vol. 161; p. 840.
Match-safe. J. Schut. No. 978,225; Dec. 13; Sp. p. 1746; Gaz. vol. 161; p. 307.
Matrix. M. A. Droitcour. No. 978,824; Dec. 13; Sp. p. 3012; Gaz. vol. 161; p. 511.
Mattress and the like. O. M. Burton. No. 977,508; Dec. 6; Sp. p. 184; Gaz. vol. 161; p. 30.
Mattress-frame, Foldable. F. M. Tinkham. No. 979,227; Dec. 20; Sp. p. 3945; Gaz. vol. 161; p. 681.
Mattress frame, Spring-. G. H. St. Clair. No. 978,954; Dec. 20; Sp. p. 3302; Gaz. vol. 161; p. 584.
Mausoleum. M. L. Knight. No. 979,965; Dec. 27; Sp. p. 5505; Gaz. vol. 161; p. 951.
Mausoleum structure. F. J. Walter. No. 977,403; Dec. 6; Sp. p. 144; Gaz. vol. 161; p. 25.
Measure, Tailor's. J. E. Little. No. 979,866; Dec. 27; Sp. p. 5314; Gaz. vol. 161; p. 910.
Measure, Tape-. C. F. Balch. No. 978,426; Dec. 13; Sp. p. 2184; Gaz. vol. 161; p. 378.
Measuring device, Skirt-. J. W. Hawkins. No. 978,155; Dec. 13; Sp. p. 1600; Gaz. vol. 161; p. 284.
Measuring instrument, Electrical. T. W. Varley. No. 978,518; Dec. 13; Sp. p. 2374; Gaz. vol. 161; p. 410.
Measuring mechanism. F. A. De Lay. No. 977,516; Dec. 6; Sp. p. 220; Gaz. vol. 161; p. 33.
Meat and bacon suspension-clamp. A Harnischfeger. No. 979,945; Dec. 27; Sp. p. 5468; Gaz. vol. 161; p. 945.
Meat-case. F. M. Grant. No. 978,578; Dec. 13; Sp. p. 2529; Gaz. vol. 161; p. 431.
Medicated article. A. B. Klein. No. 977,635; Dec. 6; Sp. p. 493; Gaz. vol. 161; p. 74.
Medicine-dose dropper. M. Cunningham. No. 978,988; Dec. 20; Sp. p. 3390; Gaz. vol. 161; p. 596.
Melting furnace, Metal-. W. Scott. No. 979,101; Dec. 20; Sp. p. 3647; Gaz. vol. 161; p. 634.
Memorandum device. F. Van Anden. No. 978,962; Dec. 20; Sp. p. 3334; Gaz. vol. 161; p. 587.
Mercury compound, Organic. M. Engelmann. No. 978,145; Dec. 13; Sp. p. 1585; Gaz. vol. 161; p. 281.
Merry-go-round. J. A. Sherry. No. 977,560; Dec. 6; Sp. p. 336; Gaz. vol. 161; p. 49.
Metal-bending machine. E. B. Fahnestock. No. 979,142; Dec. 20; Sp. p. 3757; Gaz. vol. 161; p. 651.
Metal cords, Machine for manufacturing. K. F. Ungerer and E. Becker. No. 979,110; Dec. 20; Sp. p. 3683; Gaz. vol. 161; p. 639.
Metal manufacture, Expanded-. N. E. Clark. No. 979,130; Dec. 20; Sp. p. 3736; Gaz. vol. 161; p. 647.
Metal-mixer safety device. M. M. Suppes. No. 978,675; Dec. 13; Sp. p. 2728; Gaz. vol. 161; p. 465.
Metal-treating apparatus. G. A. Goodson. No. 978,448; Dec. 13; Sp. p. 2221; Gaz. vol. 161; p. 385.
Metal wheel, Pressed-. A. Thompson. No. 980,023; Dec. 27; Sp. p. 5614; Gaz. vol. 161; p. 971.
Metals electrolytically, Extracting. J. H. Robertson. No. 978,211; Dec. 13; Sp. p. 1723; Gaz. vol. 161; p. 303.
Metals, Expelling gases from. W. S. Rockey and H. Eldridge. No. 979,204; Dec. 20; Sp. p. 3884; Gaz. vol. 161; p. 672.
Metallic siding. W. F. Bonness. No. 978,834; Dec. 20; Sp. p. 3036; Gaz. vol. 161; p. 540.
Metallurgical process. J. C. Morris. No. 979,541; Dec. 27; Sp. p. 4581; Gaz. vol. 161; p. 807.
Meter: *See* Electricity-meter; Water-meter.
Meter. R. L. Rickman. (Reissue.) No. 13,184; Dec. 20; Sp. p. 4284; Gaz. vol. 161; p. 736.
Meter-box. H. M. Lofton. No. 978,384; Dec. 13; Sp. p. 2094; Gaz. vol. 161; p. 365.
Meter-connection block. G. E. Palmer. No. 978,636; Dec. 13; Sp. p. 2656; Gaz. vol. 161; p. 451.
Microscopes, Magnetic specimen-holder for. A. Sauveur. No. 977,842; Dec. 6; Sp. p. 918; Gaz. vol. 161; p. 145.
Microscopes, Microtome attachment for. J. G. Poe. No. 979,333; Dec. 20; Sp. p. 4148; Gaz. vol. 161; p. 715.
Milk-can. B. Lefleur. No. 977,660; Dec. 6; Sp. p. 543; Gaz. vol. 161; p. 82.
Milk-can. L. R. Steel. No. 977,979; Dec. 6; Sp. p. 1208; Gaz. vol. 161; p. 193.
Milk-can, Metal-. L. R. Steel. No. 977,978; Dec. 6; Sp. p. 1206; Gaz. vol. 161; p. 193.
Milk-can, Sanitary. L. R. Steel. No. 977,977; Dec. 6; Sp. p. 1204; Gaz. vol. 161; p. 193.
Milking-machine. J. Nielsen. No. 978,473; Dec. 13; Sp. p. 2273; Gaz. vol. 161; p. 395.
Milking-machine. G. E. Jonsson. No. 978,595; Dec. 13; Sp. p. 2565; Gaz. vol. 161; p. 437.
Milking-machine. F. A. Lane. No. 979,174; Dec. 20; Sp. p. 3832; Gaz. vol. 161; p. 663.
Mill: *See* Crushing-mill; Gradual-reduction mill; Grinding-mill; Rolling-mill; Sawmill; Windmill.
Milling-machine. S. D. Leland. No. 979,972; Dec. 27; Sp. p. 5514; Gaz. vol. 161; p. 953.
Mines, Air-reservoir for. P. Quinn. No. 978,642; Dec. 13; Sp. p. 2672; Gaz. vol. 161; p. 454.
Mining apparatus, Sulfur-. H. Frasch. No. 977,444; Dec. 6; Sp. p. 30; Gaz. vol. 161; p. 8.
Mining coal. T. Nichol. No. 979,086; Dec. 20; Sp. p. 3602; Gaz. vol. 161; p. 628.
Mining-machine. S. J. Teller. No. 979,597; Dec. 27; Sp. p. 4714; Gaz. vol. 161; p. 828.
Mining starter-bit. G. G. Mayer and R. Ashton. No. 979,319; Dec. 20; Sp. p. 4125; Gaz. vol. 161; p. 710.
Mirror, Adjustable. C. L. Fitchet. No. 978,573; Dec. 13; Sp. p. 2516; Gaz. vol. 161; p. 429.
Miter-box. H. E. Goodell. No. 978,576; Dec. 13; Sp. p. 2524; Gaz. vol. 161; p. 431.
Miter-clamp. T. B. Miller. No. 978,187; Dec. 13; Sp. p. 1674; Gaz. vol. 161; p. 294.
Mitering-machine. C. T. Spencer. No. 978,895; Dec. 13; Sp. p. 5369; Gaz. vol. 161; p. 928.
Mixer: *See* Dough-mixer; Gas and liquid mixer.
Mixer and carrier, Combined. F. D. Robbins. No. 977,879; Dec. 6; Sp. p. 585; Gaz. vol. 161; p. 89.
Mixing-machine. A. F. Nims. No. 977,897; Dec. 6; Sp. p. 1033; Gaz. vol. 161; p. 164.
Mixing-machine. C. E. and C. T. Foote. No. 978,011; Dec. 6; Sp. p. 1266; Gaz. vol. 161; p. 203.
Moistener, Finger-. B. Curtiss. No. 978,703; Dec. 13; Sp. p. 2784; Gaz. vol. 161; p. 474.
Moistener, Show-case. A. Sargent. No. 978,218; Dec. 13; Sp. p. 1737; Gaz. vol. 161; p. 305.
Mold: *See* Block-mold; Cement-block mold; Concrete-mold; Type-mold; Vault-mold.
Mold. A. Roos. No. 978,938; Dec. 20; Sp. p. 3260; Gaz. vol. 161; p. 577.
Mold for forming plastic articles. C. J. Kirk. No. 978,035; Dec. 6; Sp. p. 1324; Gaz. vol. 161; p. 212.
Molding apparatus. I. L. Landis. No. 978,903; Dec. 20; Sp. p. 3180; Gaz. vol. 161; p. 564.
Molding-machine. E. G. Todt. No. 977,687; Dec. 6; Sp. p. 603; Gaz. vol. 161; p. 92.
Molding-receptacle. C. D. Platt. No. 979,197; Dec. 20; Sp. p. 3871; Gaz. vol. 161; p. 670.
Monkey-wrench. C. C. Guernsey. No. 978,151; Dec. 13; Sp. p. 1593; Gaz. vol. 161; p. 283.

Mop-holder. A. J. Ean. No. 979,834; Dec. 27; Sp. p. 5248; Gaz. vol. 161; p. 908.
Mop-wringer. J. Ziebur. No. 978,257; Dec. 13; Sp. p. 1826; Gaz. vol. 161; p. 319.
Mortise-lock. L. A. Coleman. No. 977,783; Dec. 6; Sp. p. 801; Gaz. vol. 161; p. 124.
Moth-destroying composition. A. Posselt. No. 979,704; Dec. 27; Sp. p. 4926; Gaz. vol. 161; p. 864.
Motion, Mechanism for transmitting rotary. W. L. Harrison. No. 978,371; Dec. 13; Sp. p. 2059; Gaz. vol. 161; p. 359.
Motor: *See* Current-motor; Electric motor; Fluid-actuated motor; Hydraulic motor; Internal-combustion motor; Rotary motor; Tide-motor; Turbine-motor; Wave-motor; Wind-motor.
Motor-compressor. B. V. Nordberg. No. 978,194; Dec. 13; Sp. p. 1686; Gaz. vol. 161; p. 297.
Motor control. D. L. Lindquist. No. 980,109; Dec. 27; Sp. p. 5837; Gaz. vol. 161; p. 998.
Motor control, Electric-. H. W. Leonard. No. 979,078; Dec. 20; Sp. p. 3576; Gaz. vol. 161; p. 625.
Motor-control system. H. E. White. No. 977,912; Dec. 6; Sp. p. 1065; Gaz. vol. 161; p. 169.
Motor control, System of electric-. W. H. Thompson. No. 977,571; Dec. 6; Sp. p. 359; Gaz. vol. 161; p. 52.
Motor-controller. G. A. Bauer. No. 979,250; Dec. 20; Sp. p. 4001; Gaz. vol. 161; p. 688.
Motor-controlling apparatus, Electric-. H. W. Leonard. No. 978,173; Dec. 13; Sp. p. 1641; Gaz. vol. 161; p. 290.
Motor-cooling system. J. G. Cooke. No. 980,068; Dec. 27; Sp. p. 5725; Gaz. vol. 161; p. 985.
Motor safety appliance. P. R. Forman. No. 980,090; Dec. 27; Sp. p. 5784; Gaz. vol. 161; p. 991.
Motors and generators, System of operation of alternating-current. W. Cooper. No. 977,597; Dec. 6; Sp. p. 414; Gaz. vol. 161; p. 61.
Motors, System of regenerative control for electric. B. G. Lamme. No. 978,038; Dec. 6; Sp. p. 1329; Gaz. vol. 161; p. 213.
Mounting for bones of a body, Articulated. H. H. Fryette. No. 979,147; Dec. 20; Sp. p. 3773; Gaz. vol. 161; p. 653.
Mouth-illuminator. T. G. Lewis. No. 978,910; Dec. 20; Sp. p. 3192; Gaz. vol. 161; p. 567.
Movement of bodies, Mechanism for yieldingly resisting relative. R. D. Gallagher, Jr. No. 978,873; Dec. 20; Sp. p. 3116; Gaz. vol. 161; p. 553.
Mower, Lawn-. P. C. Petrie. No. 980,121; Dec. 27; Sp. p. 5872; Gaz. vol. 161; p. 1003.
Mower reel, Lawn-. W. H. Cramer. No. 980,072; Dec. 27; Sp. p. 5737; Gaz. vol. 161; p. 986.
Mud-guard. J. Blaszczyk. No. 980,051; Dec. 27; Sp. p. 5691; Gaz. vol. 161; p. 980.
Mud-guard, Telescoping. R. E. Kelly. No. 979,074; Dec. 20; Sp. p. 3568; Gaz. vol. 161; p. 624.
Muffler. J. A. Carrick. No. 980,064; Dec. 27; Sp. p. 5720; Gaz. vol. 161; p. 984.
Mug, Trick drinking-. R. Walther. No. 978,681; Dec. 13; Sp. p. 2739; Gaz. vol. 161; p. 466.
Music-leaf turner. F. G. Lindsay. No. 978,043; Dec. 6; Sp. p. 1338; Gaz. vol. 161; p. 214.
Music-leaf turner. R. A. Gibson and J. B. Sartolou. No. 979,942; Dec. 27; Sp. p. 5463; Gaz. vol. 161; p. 944.
Music-sheet spool, Perforated. C. H. Phillips. No. 979,090; Dec. 20; Sp. p. 3608; Gaz. vol. 161; p. 630.
Music-stand. A. Wolff. No. 979,626; Dec. 27; Sp. p. 4772; Gaz. vol. 161; p. 838.
Music turner, Sheet-. T. M. Cottrell. No. 977,785; Dec. 6; Sp. p. 806; Gaz. vol. 161; p. 125.
Musical instrument, Automatic. F. W. Gunton. No. 980,151; Dec. 27; Sp. p. 5933; Gaz. vol. 161; p. 1013.
Musical instrument, Pedal-keyboard. T. F. Gaynor. No. 980,149; Dec. 27; Sp. p. 5920; Gaz. vol. 161; p. 1012.
Musical instruments, Spool-adjusting device for. T. P. Brown. No. 978,355; Dec. 13; Sp. p. 2028; Gaz. vol. 161; p. 353.
Mussel-dredge and separating apparatus. J. Webb. No. 978,968; Dec. 20; Sp. p. 3348; Gaz. vol. 161; p. 589.
Nail: *See* Wire nail.
Nail-file. A. Dow. No. 979,398; Dec. 20; Sp. p. 4270; Gaz. vol. 161; p. 734.
Nail machine, Wire-. J. H. Francis. No. 979,457; Dec. 27; Sp. p. 4399; Gaz. vol. 161; p. 778.
Nail or tack heading apparatus. M. Brock. No. 977,506; Dec. 6; Sp. p. 181; Gaz. vol. 161; p. 30.
Nails, Forming double-headed. F. A. Neider. No. 978,924; Dec. 20; Sp. p. 3225; Gaz. vol. 161; p. 572.
Nailing or tacking apparatus, Automatic. C. P. and E. Holmes. No. 979,953; Dec. 27; Sp. p. 5480; Gaz. vol. 161; p. 947.
Necktie. F. W. Lyon. No. 979,521; Dec. 27; Sp. p. 4536; Gaz. vol. 161; p. 800.
Necktie, Device for preventing the displacement of. K. A. Meyer. No. 979,533; Dec. 27; Sp. p. 4560; Gaz. vol. 161; p. 805.
Nest or filler, Egg-. L. Brasseur. No. 979,373; Dec. 20; Sp. p. 4221; Gaz. vol. 161; p. 727.
Nest, Safety-. S. J. Harrell. No. 979,294; Dec. 20; Sp. p. 4082; Gaz. vol. 161; p. 702.
Nest, Trap-. P. H. Edwards. No. 977,606; Dec. 6; Sp. p. 437; Gaz. vol. 161; p. 64.
Net-making machine. R. F. Daniels. No. 979,828; Dec. 27; Sp. p. 5224; Gaz. vol. 161; p. 906.
Net, Straw-hoisting. G. Glaser. No. 980,096; Dec. 27; Sp. p. 5796; Gaz. vol. 161; p. 994.
Newspaper-holder. C. F. Koecke. No. 977,454; Dec. 6; Sp. p. 56; Gaz. vol. 161; p. 12.
Nose-guard. H. H. Gray. No. 979,288; Dec. 20; Sp. p. 4072; Gaz. vol. 161; p. 700.
Novelty device. H. Schwartz. No. 978,943; Dec. 20; Sp. p. 3273; Gaz. vol. 161; p. 580.
Nozzle. L. C. Bowers. No. 978,835; Dec. 20; Sp. p. 3038; Gaz. vol. 161; p. 540.
Nozzle. J. H. Hulings. No. 979,955; Dec. 27; Sp. p. 5486; Gaz. vol. 161; p. 948.
Nozzle, Spraying-. J. Milburn. No. 977,748; Dec. 6; Sp. p. 721; Gaz. vol. 161; p. 113.
Nut-lock. J. A. Schmutz. No. 977,479; Dec. 6; Sp. p. 115; Gaz. vol. 161; p. 20.
Nut-lock. J. B. Brown. No. 977,507; Dec. 6; Sp. p. 183; Gaz. vol. 161; p. 30.
Nut-lock. F. Hardy. No. 978,021; Dec. 6; Sp. p. 1292; Gaz. vol. 161; p. 207.
Nut-lock. J. F. Speck. No. 978,409; Dec. 13; Sp. p. 2339; Gaz. vol. 161; p. 404.
Nut-lock. F. Clay. No. 978,698; Dec. 13; Sp. p. 2766; Gaz. vol. 161; p. 472.
Nut-lock. E. L. Libby and G. B. Davis. No. 979,177; Dec. 20; Sp. p. 3836; Gaz. vol. 161; p. 663.
Nut-lock. O. E. Moore. No. 979,538; Dec. 27; Sp. p. 4573; Gaz. vol. 161; p. 806.
Nut-lock. O. A. Norlund. No. 979,545; Dec. 27; Sp. p. 4586; Gaz. vol. 161; p. 808.
Nut-lock. L. K. Watrous. No. 980,034; Dec. 27; Sp. p. 5657; Gaz. vol. 161; p. 975.
Oil-burner. J. R. Pring. No. 978,780; Dec. 13; Sp. p. 2944; Gaz. vol. 161; p. 498.
Oil burner, Crude-. E. A. Wales. No. 978,797; Dec. 13; Sp. p. 2971; Gaz. vol. 161; p. 503.
Oil burner, Crude-. A. Chapman. No. 979,259; Dec. 20; Sp. p. 4018; Gaz. vol. 161; p. 691.
Oil-can or tool box. H. E. Whitney. No. 978,251; Dec. 13; Sp. p. 1809; Gaz. vol. 161; p. 317.
Oil-cup. V. J. Wahlstrom. No. 978,521; Dec. 13; Sp. p. 2378; Gaz. vol. 161; p. 411.
Oil-distributing apparatus. C. P. Price. No. 980,002; Dec. 27; Sp. p. 5575; Gaz. vol. 161; p. 963.
Oil of wintergreen, Menthylated. G. Blieberger. No. 979,416; Dec. 27; Sp. p. 4313; Gaz. vol. 161; p. 765.
Oil or other viscous liquids, Apparatus for heating or cooling. J. G. Weir. No. 979,618; Dec. 27; Sp. p. 4755; Gaz. vol. 161; p. 835.
Oil, Paint-. E. Gossett. No. 979,662; Dec. 27; Sp. p. 4847; Gaz. vol. 161; p. 850.
Oil-pot indicator. A. R. Pritchard. No. 979,799; Dec. 27; Sp. p. 5171; Gaz. vol. 161; p. 896.
Oil-press box. N. W. L. Brown. No. 978,840; Dec. 20; Sp. p. 3046; Gaz. vol. 161; p. 542.
Optical table. M. Jacobs. No. 978,299; Dec. 13; Sp. p. 1917; Gaz. vol. 161; p. 335.
Orchard-heater. P. H. Troutman. No. 978,793; Dec. 13; Sp. p. 2965; Gaz. vol. 161; p. 501.
Ore-concentration apparatus. T. J. Hoover. No. 979,857; Dec. 27; Sp. p. 5295; Gaz. vol. 161; p. 916.
Ore-dressing, Flotation-tank for. S. K. Behrend. No. 979,820; Dec. 27; Sp. p. 5208; Gaz. vol. 161; p. 903.
Ore-furnace. C. J. Best. No. 979,921; Dec. 27; Sp. p. 5422; Gaz. vol. 161; p. 937.
Ore-jig-operating mechanism. W. A. Bradley. No. 979,253; Dec. 20; Sp. p. 4007; Gaz. vol. 161; p. 689.
Ore-roasting furnace. X. de Spirlet. No. 979,349; Dec. 20; Sp. p. 4172; Gaz. vol. 161; p. 720.
Ore, Treating. T. J. Lovett. No. 979,180; Dec. 20; Sp. p. 3842; Gaz. vol. 161; p. 665.
Ores, Treating fine. J. N. Whitman. No. 978,971; Dec. 20; Sp. p. 3355; Gaz. vol. 161; p. 590.
Organ-player, Mechanical. W. E. Gibbs. No. 979,284; Dec. 20; Sp. p. 4062; Gaz. vol. 161; p. 699.
Oscillation-responsive device. L. De Forest. No. 979,275; Dec. 20; Sp. p. 4044; Gaz. vol. 161; p. 696.
Outlet-box. E. R. Le Manquais. No. 977,643; Dec. 6; Sp. p. 512; Gaz. vol. 161; p. 77.
Oven. W. J. Best. No. 979,413; Dec. 27; Sp. p. 4309; Gaz. vol. 161; p. 764.
Oxids, Obtaining solutions or quasi solutions of certain metallic. Z. Cartwright. No. 980,143; Dec. 27; Sp. p. 5916; Gaz. vol. 161; p. 1010.
Ozonizer. R. D. Small. No. 978,786; Dec. 13; Sp. p. 2953; Gaz. vol. 161; p. 499.
Package-binder. I. Olson. No. 978,632; Dec. 13; Sp. p. 2651; Gaz. vol. 161; p. 450.
Packing. M. Rotter. No. 978,309; Dec. 13; Sp. p. 2128; Gaz. vol. 161; p. 370.
Packing for piston-rods, &c., Metallic. G. D. Rollins. No. 979,206; Dec. 20; Sp. p. 3888; Gaz. vol. 161; p. 672.
Packing, Piston-rod. G. F. Royer and L. F. Zweibel. No. 977,477; Dec. 6; Sp. p. 112; Gaz. vol. 161; p. 20.
Pad: *See* Shoulder resistance-pad; Sketch-pad.
Padlock. J. Ranyak. No. 978,206; Dec. 13; Sp. p. 1716; Gaz. vol. 161; p. 301.
Padlock, Permutation-. F. E. Bennett. No. 978,831; Dec. 20; Sp. p. 3032; Gaz. vol. 161; p. 539.
Pail-holder. C. S. Sick. No. 978,666; Dec. 13; Sp. p. 2713; Gaz. vol. 161; p. 462.
Pail, Milk-. W. P. Schanck. No. 978,401; Dec. 13; Sp. p. 2131; Gaz. vol. 161; p. 371.
Paint or varnish remover. C. Ellis. No. 979,136; Dec. 20; Sp. p. 3748; Gaz. vol. 161; p. 649.
Painting machine, Barrel-. J. Phillips. No. 977,960; Dec. 6; Sp. p. 1188; Gaz. vol. 161; p. 189.

Painting-machine, Dip. C. Vallone and F. R. Rogers. No. 980,030; Dec. 27; Sp. p. 5649; Gaz. vol. 161; p. 973.
Pan: *See* Bed-pan; Dust-pan.
Pan-handle. A. Hansen. No. 978,741; Dec. 13; Sp. p. 2870; Gaz. vol. 161; p. 486.
Pantographic pyrograph. W. B. Foster. No. 978,012; Dec. 6; Sp. p. 1270; Gaz. vol. 161; p. 204.
Paper-bag machine. C. Holweg. No. 977,801; Dec. 6; Sp. p. 832; Gaz. vol. 161; p. 130.
Paper box. H. L. R. Wolf. No. 977,770; Dec. 6; Sp. p. 774; Gaz. vol. 161; p. 120.
Paper-grooving machine. W. E. Ramage and H. D. Shaw. No. 979,201; Dec. 20; Sp. p. 3876; Gaz. vol. 161; p. 671.
Paper-holder. C. O. Hiscock. No. 977,800; Dec. 6; Sp. p. 831; Gaz. vol. 161; p. 130.
Paper-making machine. L. F. Jurgenson. No. 977,654; Dec. 6; Sp. p. 531; Gaz. vol. 161; p. 80.
Paper-making machine. P. Priem. No. 978,779; Dec. 13; Sp. p. 2943; Gaz. vol. 161; p. 498.
Paper-pulp-refining apparatus. J. L. Perkins, J. O. Stanley, C. W. Putnam, and J. Montgomery. No. 979,885; Dec. 27; Sp. p. 5344; Gaz. vol. 161; p. 924.
Paper-pulp screen. H. E. Spring and W. H. Lockwood. No. 978,672; Dec. 13; Sp. p. 2721; Gaz. vol. 161; p. 464.
Paper receptacle or box. C. O. Mason. No. 979,871; Dec. 27; Sp. p. 5323; Gaz. vol. 161; p. 920.
Paper-transmitting mechanism. W. T. Bailey. No. 977,501; Dec. 6; Sp. p. 173; Gaz. vol. 161; p. 28.
Papering board and scaffold, Combined. C. H. Taber. No. 979,220; Dec. 20; Sp. p. 3932; Gaz. vol. 161; p. 678.
Parasol-bag. H. K. Hansen. No. 980,098; Dec. 27; Sp. p. 5800; Gaz. vol. 161; p. 995.
Party-line testing system. D. A. Lawver and C. C. Bradbury. No. 978,603; Dec. 13; Sp. p. 2579; Gaz. vol. 161; p. 440.
Pasteurizer. B. D. Pinkney. No. 979,796; Dec. 27; Sp. p. 5165; Gaz. vol. 161; p. 895.
Pasteurizing apparatus. E. Davron. No. 979,830; Dec. 27; Sp. p. 5238; Gaz. vol. 161; p. 907.
Pasteurizing apparatus. H. M. A. Harders. (Reissue.) No. 13,188; Dec. 27; Sp. p. 6014; Gaz. vol. 161; p. 1025.
Pattern-cutting machine. C. E. Reed. No. 978,486; Dec. 13; Sp. p. 2313; Gaz. vol. 161; p. 399.
Pattern-cutting machine. C. E. Reed. No. 978,487; Dec. 13; Sp. p. 2315; Gaz. vol. 161; p. 399.
Pavement. M. E. Dunn. No. 978,904; Dec. 20; Sp. p. 3401; Gaz. vol. 161; p. 508.
Pavements, Process of and templet for use in laying. E. G. Schwendeman. No. 979,577; Dec. 27; Sp. p. 4670; Gaz. vol. 161; p. 820.
Pearls and for similar purposes, Composition for use in manufacture of artificial. C. J. Paisseau-Fell. No. 978,304; Dec. 13; Sp. p. 2116; Gaz. vol. 161; p. 368.
Pedal mechanism. G. P. Brand. No. 978,837; Dec. 20; Sp. p. 3040; Gaz. vol. 161; p. 541.
Pen-beam. C. Burrows. No. 979,126; Dec. 20; Sp. p. 3726; Gaz. vol. 161; p. 645.
Pen, Fountain-. P. E. Wirt. No. 978,419; Dec. 13; Sp. p. 2169; Gaz. vol. 161; p. 376.
Pen, Fountain-. P. E. Wirt. No. 978,420; Dec. 13; Sp. p. 2173; Gaz. vol. 161; p. 377.
Pen, Fountain-. F. M. Ashley. No. 978,829; Dec. 20; Sp. p. 3028; Gaz. vol. 161; p. 539.
Pen, Fountain-. J. A. Vogelmann. No. 979,360; Dec. 20; Sp. p. 4199; Gaz. vol. 161; p. 724.
Pen, Fountain-. G. H. Carter. No. 979,427; Dec. 27; Sp. p. 4331; Gaz. vol. 161; p. 768.
Pen, Fountain-. J. L. Goldsmith. No. 979,757; Dec. 27; Sp. p. 5064; Gaz. vol. 161; p. 882.
Pen, Stylographic. J. Ullrich. No. 979,606; Dec. 27; Sp. p. 4735; Gaz. vol. 161; p. 831.
Pen holder, Finger-guard. J. Roecker, Jr. No. 979,801; Dec. 27; Sp. p. 5174; Gaz. vol. 161; p. 897.
Pencil-sharpener. D. F. Oliver. No. 979,688; Dec. 27; Sp. p. 4898; Gaz. vol. 161; p. 858.
Pencils, Eraser-tip for. A. Tregoning. No. 977,762; Dec 6; Sp. p. 759; Gaz. vol. 161; p. 118.
Pendant-switch. C. D. Gervin. No. 977,446; Dec. 6; Sp. p. 38; Gaz. vol. 161; p. 9.
Perch, Poultry-. A. A. Straight. No. 977,980; Dec. 6; Sp. p. 1210; Gaz. vol. 161; p. 194.
Perforating-machine. C. O. Pearson. No. 978,480; Dec. 13; Sp. p. 2297; Gaz. vol. 161; p. 397.
Phonograph-disk-record cabinet. E. and D. C. Pooler. No. 980,124; Dec. 27; Sp. p. 5878; Gaz. vol. 161; p. 1004.
Phonograph of the wax-cylinder type, Automatic. J. I. Gemmill. No. 978,014; Dec. 6; Sp. p. 1273; Gaz. vol. 161; p. 204.
Phosphatic slag and iron, Making-. H. Mehner. No. 977,819; Dec. 6; Sp. p. 868; Gaz. vol. 161; p. 137.
Photographer's tray. W. Holtze. No. 979,858; Dec. 27; Sp. p. 5297; Gaz. vol. 161; p. 916.
Photographic apparatus. C. R. Thompson. No. 979,224; Dec. 20; Sp. p. 3939; Gaz. vol. 161; p. 680.
Photographic cabinet. G. S. Moler. No. 979,180; Dec. 20; Sp. p. 3857; Gaz. vol. 161; p. 667.
Photographic-film-developing tank. A. C. Hayden. No. 978,156; Dec. 13; Sp. p. 1601; Gaz. vol. 161; p. 284.
Photographic-printing frame. L. Van Hirtum. No. 977,525; Dec. 6; Sp. p. 246; Gaz. vol. 161; p. 36.
Photographic-printing machine. F. O. Parsons. No. 977,543; Dec. 6; Sp. p. 299; Gaz. vol. 161; p. 44.
Photographic-printing machine. F. P. Stevens. No. 978,955; Dec. 20; Sp. p. 3304; Gaz. vol. 161; p. 584.
Photography, Color. C. P. Christensen. No. 979,129; Dec. 20; Sp. p. 3736; Gaz. vol. 161; p. 647.
Photography, Combined dark slide and developing-dish for color. R. B. Hutton. No. 978,500; Dec. 13; Sp. p. 2558; Gaz. vol. 161; p. 436.
Piano-action. I. Wrozina. No. 979,729; Dec. 27; Sp. p. 4999; Gaz. vol. 161; p. 872.
Piano-plates, Process of and apparatus for casting. A. A. Huseby. No. 978,452; Dec. 13; Sp. p. 2231; Gaz. vol. 161; p. 387.
Piano-player, Automatic. C. E. Gittins. No. 979,470; Dec. 27; Sp. p. 4430; Gaz. vol. 161; p. 783.
Piano-player, Electric. W. H. Smith. No. 979,715; Dec. 27; Sp. p. 4951; Gaz. vol. 161; p. 868.
Piano-players, Automatic adjustable spool for music-sheets for mechanical. H. G. Miller. No. 979,536; Dec. 27; Sp. p. 4569; Gaz. vol. 161; p. 806.
Picker: *See* Cotton-picker; Fruit-picker.
Pictures by the movement of vehicles, Apparatus for producing animated. W. Csernlewski. No. 978,854; Dec. 20; Sp. p. 3073; Gaz. vol. 161; p. 546.
Pictures upon fabrics, Producing. H. Spiegel. No. 978,500; Dec. 13; Sp. p. 2341; Gaz. vol. 161; p. 404.
Piling in water, Appliance for oil preservation of. O. Quist. No. 978,643; Dec. 13; Sp. p. 2673; Gaz. vol. 161; 454.
Pillow-sham-holding device. M. F. Frakes. No. 978,148; Dec. 13; Sp. p. 1589; Gaz. vol. 161; p. 282.
Pilot-burner. S. W. Morrow, Jr. No. 977,531; Dec. 6; Sp. p. 268; Gaz. vol. 161; p. 39.
Pin: *See* Hair-pin; Hat-pin.
Pinning-machine. S. E. Greenberg. No. 979,758; Dec. 27; Sp. p. 5065; Gaz. vol. 161; p. 882.
Pipe: *See* Smoking-pipe; Sprinkling-pipe; Tobacco-pipe; Water-pipe.
Pipe-bending machine. B. W. Tucker and T. F. Oechsle. No. 979,724; Dec. 27; Sp. p. 4972; Gaz. vol. 161; p. 871.
Pipe-cleaner. H. Lowry. No. 978,316; Dec. 13; Sp. p. 1952; Gaz. vol. 161; p. 340.
Pipe cleaner, Waste-. W. P. La Rose. No. 977,656; Dec. 6; Sp. p. 535; Gaz. vol. 161; p. 81.
Pipe-coupling. C. P. Higgins. No. 977,740; Dec. 6; Sp. p. 706; Gaz. vol. 161; p. 110.
Pipe-coupling. W. S. Sutton. No. 978,957; Dec. 20; Sp. p. 3323; Gaz. vol. 161; p. 585.
Pipe-coupling. H. Mueller. No. 980,116; Dec. 27; Sp. p. 5854; Gaz. vol. 161; p. 1001.
Pipe coupling, Train-. H. O. Witwer. No. 977,917; Dec. 6; Sp. p. 1077; Gaz. vol. 161; p. 171.
Pipe coupling, Train-. J. and C. E. Sullivan. No. 980,135; Dec. 27; Sp. p. 5904; Gaz. vol. 161; p. 1008.
Pipe cutting and threading machine. P. Neff. No. 978,190; Dec. 13; Sp. p. 1680; Gaz. vol. 161; p. 295.
Pipe-cutting machine. C. A. Olson. No. 979,551; Dec. 27; Sp. p. 4606; Gaz. vol. 161; p. 810.
Pipe-hanger. W. H. Mack. No. 978,912; Dec. 20; Sp. p. 3197; Gaz. vol. 161; p. 568.
Pipe-holder, Wipe-joint. C. D. Hunt. No. 979,305; Dec. 20; Sp. p. 4100; Gaz. vol. 161; p. 706.
Pipe-joint, Flexible. W. A. Greenlaw. No. 978,876; Dec. 20; Sp. p. 3124; Gaz. vol. 161; p. 554.
Pipe-joint, Flexible. J. Koenig. No. 979,513; Dec. 27; Sp. p. 4515; Gaz. vol. 161; p. 797.
Pipe mouthpiece, Multiple-jet-. C. Kunzelmann, Sr. No. 979,771; Dec. 27; Sp. p. 5088; Gaz. vol. 161; p. 886.
Pipe-reamer. P. Neerup. No. 979,786; Dec. 27; Sp. p. 5123; Gaz. vol. 161; p. 891.
Pipe-straightening rolls. W. Bark. No. 978,813; Dec. 13; Sp. p. 2992; Gaz. vol. 161; p. 507.
Pipe-wrench. R. O. Dohm. No. 977,788; Dec. 6; Sp. p. 811; Gaz. vol. 161; p. 126.
Pipe-wrench. T. J. Nicholson. No. 977,896; Dec. 6; Sp. p. 1032; Gaz. vol. 161; p. 164.
Pipe-wrench. R. A. Bowen. No. 978,818; Dec. 13; Sp. p. 2999; Gaz. vol. 161; p. 508.
Pipes, &c., Jointing. J. G. Stewart. No. 978,504; Dec. 13; Sp. p. 2347; Gaz. vol. 161; p. 405.
Pipes or mains, Device for forming joints in. M. Yarrow. No. 978,346; Dec. 13; Sp. p. 2015; Gaz. vol. 161; p. 351.
Piping, Heat-exchange. G. Hildebrandt. No. 979,762; Dec. 27; Sp. p. 5077; Gaz. vol. 161; p. 884.
Pistols, Safety-stop for automatic. J. H. Wesson. No. 978,092; Dec. 6; Sp. p. 1443; Gaz. vol. 161; p. 233.
Piston mechanism, Multiple. R. J. McCarty. No. 977,816; Dec. 6; Sp. p. 863; Gaz. vol. 161; p. 136.
Placket-openings in undergarments, Machine for trimming and cutting. A. H. Morrison. No. 979,684; Dec. 27; Sp. p. 4890; Gaz. vol. 161; p. 857.
Plane, Carpenter's. W. H. Crosby. No. 978,360; Dec. 13; Sp. p. 2038; Gaz. vol. 161; p. 355.
Plane, Rabbeting-. J. W. Montague. No. 978,471; Dec. 13; Sp. p. 2269; Gaz. vol. 161; p. 394.
Planter and disk covering attachment. J. B. Allbee. No. 979,817; Dec. 27; Sp. p. 5203; Gaz. vol. 161; p. 902.
Planter and fertilizer-distributer, Combined. D. E. Lawrence. No. 977,886; Dec. 6; Sp. p. 1011; Gaz. vol. 161; p. 160.
Planter and hiller, Corn. C. H. Noell. No. 977,535; Dec. 6; Sp. p. 275; Gaz. vol. 161; p. 40.
Planter and spreader. T. J. King. No. 977,884; Dec. 6; Sp. p. 1007; Gaz. vol. 161; p. 159.
Planter, Corn-. W. H. Grabe and J. Brant. No. 978,735; Dec. 13; Sp. p. 2860; Gaz. vol. 161; p. 484.
Planter coupling-frame. R. A. Barkley. No. 978,539; Dec. 13; Sp. p. 2419; Gaz. vol. 161; p. 416.
Planter, Potato-. J. Hist. No. 977,742; Dec. 6; Sp. p. 709; Gaz. vol. 161; p. 111.

Plaster. W. Guttmann. No. 977,730; Dec. 6; Sp. p. 686; Gaz. vol. 161; p. 107.
Plates, Device for automatically adjusting. W. B. Walt. No. 978,081; Dec. 6; Sp. p. 1414; Gaz. vol. 161; p. 228.
Pliers and wire-cutter. P. Broadbooks. No. 979,925; Dec. 27; Sp. p. 5426; Gaz. vol. 161; p. 938.
Plow. R. Cunningham and M. Friar. No. 978,564; Dec. 13; Sp. p. 2496; Gaz. vol. 161; p. 426.
Plow. F. M. Beydler. No. 978,815; Dec. 13; Sp. p. 2994; Gaz. vol. 161; p. 507.
Plow attachment. W. Aden. No. 978,259; Dec. 13; Sp. p. 1834; Gaz. vol. 161; p. 320.
Plow attachment. A. Bankhead. No. 978,427; Dec. 13; Sp. p. 2185; Gaz. vol. 161; p. 379.
Plow attachment. H. E. Davis. No. 979,829; Dec. 27; Sp. p. 5236; Gaz. vol. 161; p. 906.
Plow-beam-adjusting mechanism. W. L. Beall. No. 979,366; Dec. 20; Sp. p. 4207; Gaz. vol. 161; p. 725.
Plow draft device. J. Cunningham. No. 977,436; Dec. 6; Sp. p. 17; Gaz. vol. 161; p. 6.
Plow-fender. C. T. Sewell. No. 977,971; Dec. 6; Sp. p. 1196; Gaz. vol. 161; p. 191.
Plow, Reversible-disk. C. H. Melvin. No. 979,019; Dec. 20; Sp. p. 3457; Gaz. vol. 161; p. 607.
Plow, Rotary disk. C. H. McKee. No. 980,113; Dec. 27; Sp. p. 5846; Gaz. vol. 161; p. 1000.
Plug, Fixed-polarity attachment-. C. D. Platt. No. 977,836; Dec. 6; Sp. p. 904; Gaz. vol. 161; p. 143.
Plumes and similar articles, Holder for. E. W. Moch. No. 979,876; Dec. 27; Sp. p. 5330; Gaz. vol. 161; p. 922.
Pneumatic cleaner. F. J. Machette. No. 978,916; Dec. 20; Sp. p. 3206; Gaz. vol. 161; p. 569.
Pneumatic coupling. D. B. Stanley. No. 978,071; Dec. 6; Sp. p. 1393; Gaz. vol. 161; p. 224.
Pneumatic-despatch-tube apparatus. A. W. Pearsall. No. 978,198; Dec. 13; Sp. p. 1698; Gaz. vol. 161; p. 298.
Pneumatic-despatch-tube apparatus. J. T. Cowley. No. 978,271; Dec. 13; Sp. p. 1858; Gaz. vol. 161; p. 325.
Pneumatic-despatch-tube apparatus. J. T. Cowley. No. 978,272; Dec. 13; Sp. p. 1860; Gaz. vol. 161; p. 326.
Pneumatic drill. J. L. Mitchell. No. 977,894; Dec. 6; Sp. p. 1029; Gaz. vol. 161; p. 163.
Pneumatic elevator. G. and J. Bernert. No. 977,849; Dec. 6; Sp. p. 932; Gaz. vol. 161; p. 147.
Pneumatic spring. I. J. Stadelmann. No. 979,044; Dec. 20; Sp. p. 3511; Gaz. vol. 161; p. 615.
Pocket-fastener. R. E. Hall. No. 979,156; Dec. 20; Sp. p. 3792; Gaz. vol. 161; p. 657.
Pocket safety device. I. G. Bergenstrohle. No. 978,106; Dec. 6; Sp. p. 1469; Gaz. vol. 161; p. 237.
Pole. J. P. Petersen. No. 978,932; Dec. 20; Sp. p. 3244; Gaz. vol. 161; p. 575.
Pole or tongue, Draft. H. Anderson. No. 978,806; Dec. 13; Sp. p. 2981; Gaz. vol. 161; p. 505.
Polygon-inscriber. B. Dwofsky. No. 979,449; Dec. 27; Sp. p. 4383; Gaz. vol. 161; p. 776.
Pool and billiard table, Combination. J. Byner. No. 980,142; Dec. 27; Sp. p. 5914; Gaz. vol. 161; p. 1010.
Post: *See* Fence-post; Seat-post.
Post-cards and similar copies, Apparatus for the production of bromid-of-silver. T. Busam. No. 978,126; Dec. 6; Sp. p. 1516; Gaz. vol. 161; p. 244.
Post-hole digger. M. Freemark. No. 978,444; Dec. 13; Sp. p. 2216; Gaz. vol. 161; p. 384.
Posts, Ball-cap for binder-. G. A. Shoemaker and E. C. Holland. No. 979,713; Dec. 27; Sp. p. 4941; Gaz. vol. 161; p. 866.
Potato-digger. G. W. Jessup, Sr. No. 977,803; Dec. 6; Sp. p. 836; Gaz. vol. 161; p. 131.
Potato-digger. W. E. Martin. No. 978,179; Dec. 13; Sp. p. 1665; Gaz. vol. 161; p. 292.
Potato-digging machine. O. H. Claflin. No. 979,432; Dec. 27; Sp. p. 4338; Gaz. vol. 161; p. 770.
Poultry-fountain. H. E. Bryan. No. 979,420; Dec. 27; Sp. p. 4319; Gaz. vol. 161; p. 766.
Power by friction, Device for transmission of. C. C. Patton. No. 978,778; Dec. 13; Sp. p. 2942; Gaz. vol. 161; p. 497.
Power-generating means. C. C. Atkinson. No. 978,425; Dec. 13; Sp. p. 2182; Gaz. vol. 161; p. 378.
Power-generator, Internal-combustion. A. Pelletier. No. 979,554; Dec. 27; Sp. p. 4612; Gaz. vol. 161; p. 811.
Power-press attachment. J. G. and H. L. Benster. No. 980,047; Dec. 27; Sp. p. 5683; Gaz. vol. 161; p. 978.
Power-transmission device. V. G. Apple. No. 980,044; Dec. 27; Sp. p. 5678; Gaz. vol. 161; p. 977.
Power-transmission mechanism. J. O. Michaud. No. 979,534; Dec. 27; Sp. p. 4561; Gaz. vol. 161; p. 805.
Press: *See* Baling-press; Die-press; Printing-press.
Press gripper mechanism, Cylinder-. H. P. Guillo. No. 979,845; Dec. 27; Sp. p. 5267; Gaz. vol. 161; p. 912.
Pressure-reducer. C. G. Armstrong. No. 977,427; Dec. 6; Sp. p. 4; Gaz. vol. 161; p. 3.
Pressure-regulator. J. Mandet. No. 977,811; Dec. 6; Sp. p. 854; Gaz. vol. 161; p. 134.
Pressure-regulator. R. C. Nelson. No. 978,925; Dec. 20; Sp. p. 3226; Gaz. vol. 161; p. 573.
Pressure-responsive device. H. P. Thompson. No. 977,486; Dec. 6; Sp. p. 131; Gaz. vol. 161; p. 22.
Pressure to tanks and other appliances, Apparatus for controlling the admission and relief of. A. Priestman and E. C. Moore. No. 979,698; Dec. 27; Sp. p. 4914; Gaz. vol. 161; p. 862.
Prime mover. F. J. Miner. No. 979,323; Dec. 20; Sp. p. 4131; Gaz. vol. 161; p. 711.
Priming-cup. W. Osterhom. No. 979,194; Dec. 20; Sp. p. 3865; Gaz. vol. 161; p. 669.
Printing device. R. H. Bremer, O. F. Thiry, and S. Hollands. No. 978,839; Dec. 20; Sp. p. 3045; Gaz. vol. 161; p. 542.
Printing-machine. E. A. Ovenshire. No. 977,830; Dec. 6; Sp. p. 892; Gaz. vol. 161; p. 140.
Printing-machine inking device. O. Oehring. No. 977,675; Dec. 6; Sp. p. 574; Gaz. vol. 161; p. 88.
Printing-machine line unit-case. W. A. Sorg. No. 979,586; Dec. 27; Sp. p. 4689; Gaz. vol. 161; p. 823.
Printing mechanism, Box-. H. A. Stillwell. No. 978,409; Dec. 13; Sp. p. 2145; Gaz. vol. 161; p. 373.
Printing-paste. J. Delnet. No. 978,138; Dec. 13; Sp. p. 1572; Gaz. vol. 161; p. 279.
Printing-paste. J. Delnet. No. 978,139; Dec. 13; Sp. p. 1572; Gaz. vol. 161; p. 279.
Printing plates, Producing letterpress planographic-. A. L. Saltzman. No. 979,890; Dec. 27; Sp. p. 5357; Gaz. vol. 161; p. 926.
Printing-press. G. E. Pancoast. No. 979,791; Dec. 27; Sp. p. 5135; Gaz. vol. 161; p. 893.
Printing-press attachment. W. J. Daningburg. No. 978,704; Dec. 13; Sp. p. 2785; Gaz. vol. 161; p. 474.
Printing-press guard, Gordon-. A. Launder. No. 978,042; Dec. 6; Sp. p. 1337; Gaz. vol. 161; p. 214.
Printing-press inking apparatus. F. P. Sharp. No. 978,495; Dec. 13; Sp. p. 2330; Gaz. vol. 161; p. 402.
Printing-press plate-holder. K. M. and F. Schlueter. No. 979,035; Dec. 20; Sp. p. 3495; Gaz. vol. 161; p. 612.
Printing-press, Single-plate rotary. H. F. Bechman. No. 979,919; Dec. 27; Sp. p. 5416; Gaz. vol. 161; p. 936.
Printing-roll for linoleum and oil-cloth. F. A. Vieser. No. 978,080; Dec. 6; Sp. p. 1413; Gaz. vol. 161; p. 228.
Printing-surface and producing the same. B. F. Upham. No. 979,111; Dec. 20; Sp. p. 3687; Gaz. vol. 161; p. 639.
Projectile. J. F. O'Byrne and T. A. Flood. No. 979,993; Dec. 27; Sp. p. 5555; Gaz. vol. 161; p. 960.
Projectile for ordnance. E. Schneider. No. 979,575; Dec. 27; Sp. p. 4667; Gaz. vol. 161; p. 819.
Propeller. W. B. and G. C. Maxwell and E. Buckman. No. 977,815; Dec. 6; Sp. p. 862; Gaz. vol. 161; p. 135.
Propeller. I. A. Hortman. No. 979,672; Dec. 27; Sp. p. 4864; Gaz. vol. 161; p. 853.
Propeller, Screw-. D. W. Taylor. No. 978,677; Dec. 13; Sp. p. 2732; Gaz. vol. 161; p. 465.
Pruning implement. J. A. Allen. No. 978,102; Dec. 6; Sp. p. 1462; Gaz. vol. 161; p. 236.
Pruning-knife. F. A. Frumviller. No. 978,574; Dec. 13; Sp. p. 2520; Gaz. vol. 161; p. 430.
Puff-box. W. G. Burns. No. 978,843; Dec. 20; Sp. p. 3052; Gaz. vol. 161; p. 543.
Pull-out bracket. F. Herkert, Jr. No. 979,949; Dec. 27; Sp. p. 5473; Gaz. vol. 161; p. 946.
Puller: *See* Spike-puller; Tie-puller.
Pulley. W. N. Mecklan. No. 979,873; Dec. 27; Sp. p. 5326; Gaz. vol. 161; p. 921.
Pulley-block. J. E. Gilchrist. No. 977,613; Dec. 6; Sp. p. 448; Gaz. vol. 161; p. 67.
Pulley-block. G. C. Sandmyre. No. 980,010; Dec. 27; Sp. p. 5594; Gaz. vol. 161; p. 966.
Pulley-bracket, Cable-supporting. W. T. Buck. No. 977,593; Dec. 6; Sp. p. 409; Gaz. vol. 161; p. 60.
Pulley, Expansible. H. D. Gault. No. 978,285; Dec. 13; Sp. p. 1887; Gaz. vol. 161; p. 330.
Pulley, Sash-. H. G. Voight. No. 978,796; Dec. 13; Sp. p. 2970; Gaz. vol. 161; p. 503.
Pulley, Sash-cord. H. G. Voight. No. 980,031; Dec. 27; Sp. p. 5653; Gaz. vol. 161; p. 974.
Pulp-press attachment. J. O. Hunt. No. 978,587; Dec. 13; Sp. p. 2552; Gaz. vol. 161; p. 435.
Pump. G. Nicholls. No. 978,626; Dec. 13; Sp. p. 2627; Gaz. vol. 161; p. 448.
Pump. E. E. Slick. No. 978,668; Dec. 13; Sp. p. 2716; Gaz. vol. 161; p. 462.
Pump. B. Black. No. 980,050; Dec. 27; Sp. p. 5688; Gaz. vol. 161; p. 979.
Pump, Air-. S. R. Williams. No. 977,916; Dec. 6; Sp. p. 1075; Gaz. vol. 161; p. 171.
Pump-base. J. F. Barker. No. 978,538; Dec. 13; Sp. p. 2418; Gaz. vol. 161; p. 416.
Pump, Centrifugal. J. Hurst. No. 978,753; Dec. 13; Sp. p. 2891; Gaz. vol. 161; p. 490.
Pump control, Automatic electric-. T. F. Mulligan. No. 978,923; Dec. 20; Sp. p. 3223; Gaz. vol. 161; p. 572.
Pump, Double-acting horizontal power-. J. M. Stratton. No. 978,673; Dec. 13; Sp. p. 2723; Gaz. vol. 161; p. 464.
Pump driving mechanism. T. G. Smith. No. 978,669; Dec. 13; Sp. p. 2717; Gaz. vol. 161; p. 463.
Pump driving mechanism. J. S. Ward. No. 978,682; Dec. 13; Sp. p. 2740; Gaz. vol. 161; p. 467.
Pump for generating pressure, Rotary. C. Dickie. No. 977,439; Dec. 6; Sp. p. 22; Gaz. vol. 161; p. 7.
Pump for medicating air. J. A. Lee. No. 978,313; Dec. 13; Sp. p. 1948; Gaz. vol. 161; p. 340.
Pump, Force-. J. F. Cunningham. No. 978,852; Dec. 20; Sp. p. 3069; Gaz. vol. 161; p. 546.
Pump, Gas-. A. S. White. No. 977,690; Dec. 6; Sp. p. 613; Gaz. vol. 161; p. 93.
Pump, Hand-. S. Barnett. No. 978,265; Dec. 13; Sp. p. 1843; Gaz. vol. 161; p. 322.

Pump liner, Steam-. H. G. Johnston. No. 979,960; Dec. 27; Sp. p. 5492; Gaz. vol. 161; p. 949.
Pump-plunger. O. J. Keller. No. 977,881; Dec. 6; Sp. p. 1002; Gaz. vol. 161; p. 158.
Pump, Portable. W. H. Van Winkle. No. 978,241; Dec. 13; Sp. p. 1784; Gaz. vol. 161; p. 313.
Pump, Rotary. J. Baguley. No. 978,350; Dec. 13; Sp. p. 2020; Gaz. vol. 161; p. 352.
Pump, Rotary. M. E. Durman. No. 978,715; Dec. 13; Sp. p. 2818; Gaz. vol. 161; p. 478.
Pump, Rotary. N. W. Akimoff. No. 979,634; Dec. 27; Sp. p. 4792; Gaz. vol. 161; p. 841.
Pumps, Gravity valve-cage and valve for. J. B. Garber. No. 978,729; Dec. 13; Sp. p. 2845; Gaz. vol. 161; p. 482.
Pumping apparatus. S. E. Aaron. No. 979,633; Dec. 27; Sp. p. 4790; Gaz. vol. 161; p. 840.
Pumping apparatus, Air-. E. L. B. Zimmer. No. 978,258; Dec. 13; Sp. p. 1827; Gaz. vol. 161; p. 319.
Pumping-system controlling-valve. F. S. Miller. No. 977,823; Dec. 6; Sp. p. 880; Gaz. vol. 161; p. 138.
Punching-machine. E. B. Stimpson. No. 978,506; Dec. 13; Sp. p. 2350; Gaz. vol. 161; p. 405.
Purse, Puzzle-. A. Horsfall. No. 979,303; Dec. 20; Sp. p. 4097; Gaz. vol. 161; p. 705.
Push-rake. I. Skjeldrup. No. 979,346; Dec. 20; Sp. p. 4169; Gaz. vol. 161; p. 719.
Putty-knife. E. E. Koschke. No. 980,177; Dec. 27; Sp. p. 6003; Gaz. vol. 161; p. 1022.
Puzzle, Ball-. L. A. Crosier. No. 977,600; Dec. 6; Sp. p. 429; Gaz. vol. 161; p. 63.
Quinin ester. H. Thron. No. 978,702; Dec. 13; Sp. p. 2963; Gaz. vol. 161; p. 501.
Rack: *See* Display-rack; Hat, coat, and umbrella rack; Hay-rack; Whip-rack.
Rack. A. Anderson. No. 977,693; Dec. 6; Sp. p. 623; Gaz. vol. 161; p. 95.
Racket-press. W. A. Johnson. No. 978,455; Dec. 13; Sp. p. 2238; Gaz. vol. 161; p. 388.
Radial drill. J. G. Dornbirer. No. 979,749; Dec. 27; Sp. p. 5051; Gaz. vol. 161; p. 879.
Radiator. J. A. Wilson, Jr. No. 978,975; Dec. 20; Sp. p. 3363; Gaz. vol. 161; p. 591.
Radiator. F. C. Birch. No. 979,414; Dec. 27; Sp. p. 4311; Gaz. vol. 161; p. 765.
Rail-anchor. J. J. Byers. No. 978,110; Dec. 6; Sp. p. 1475; Gaz. vol. 161; p. 238.
Rail-anticreeper. J. G. Portteus. No. 977,678; Dec. 6; Sp. p. 580; Gaz. vol. 161; p. 89.
Rail-bond. W. J. Randolph, Sr. and Jr. No. 979,202; Dec. 20; Sp. p. 3880; Gaz. vol. 161; p. 671.
Rail-bond. R. L. Dunivant. No. 979,448; Dec. 27; Sp. p. 4382; Gaz. vol. 161; p. 776.
Rail-brace and tie-plate, Combined. J. W. Stephenson. No. 979,350; Dec. 20; Sp. p. 4174; Gaz. vol. 161; p. 720.
Rail-brace and tie-plate, Combined. J. W. Stephenson. No. 979,351; Dec. 20; Sp. p. 4175; Gaz. vol. 161; p. 721.
Rail brace or clamp. O. J. Van Bibber. No. 979,230; Dec. 20; Sp. p. 3950; Gaz. vol. 161; p. 682.
Rail-chair. T. P. Livingston. No. 978,176; Dec. 13; Sp. p. 1656; Gaz. vol. 161; p. 291.
Rail chair, Adjustable guard-. B. J. Fallon. No. 978,996; Dec. 20; Sp. p. 3404; Gaz. vol. 161; p. 599.
Rail clamp, Guard-. E. C. Scrugga. No. 979,343; Dec. 20; Sp. p. 4164; Gaz. vol. 161; p. 718.
Rail clamp, Guard-. G. L. Hall. No. 979,477; Dec. 27; Sp. p. 4442; Gaz. vol. 161; p. 784.
Rail-joint. C. C. Collins. No. 977,514; Dec. 6; Sp. p. 210; Gaz. vol. 161; p. 32.
Rail-joint. W. F. Johnson. No. 977,652; Dec. 6; Sp. p. 526; Gaz. vol. 161; p. 79.
Rail-joint. W. F. Johnson. No. 977,743; Dec. 6; Sp. p. 713; Gaz. vol. 161; p. 111.
Rail-joint. J. A. Bodkin. No. 978,546; Dec. 13; Sp. p. 2436; Gaz. vol. 161; p. 419.
Rail-joint. G. Soda. No. 978,671; Dec. 13; Sp. p. 2719; Gaz. vol. 161; p. 463.
Rail-joint. L. Doak. No. 978,711; Dec. 13; Sp. p. 2805; Gaz. vol. 161; p. 477.
Rail-joint. L. P. Locke. No. 979,015; Dec. 20; Sp. p. 3451; Gaz. vol. 161; p. 606.
Rail-joint. G. L. Hall. No. 979,478; Dec. 27; Sp. p. 4443; Gaz. vol. 161; p. 785.
Rail-joint. T. A. Chapman. No. 980,065; Dec. 27; Sp. p. 5722; Gaz. vol. 161; p. 984.
Rail, Transporter-. F. J. Gilman. No. 979,469; Dec. 27; Sp. p. 4428; Gaz. vol. 161; p. 783.
Railway, Aerial or suspended. W. L. Hamilton. No. 978,581; Dec. 13; Sp. p. 2533; Gaz. vol. 161; p. 432.
Railway-brake, Electric. J. N. Mahoney. No. 979,868; Dec. 27; Sp. p. 5318; Gaz. vol. 161; p. 920.
Railway braking apparatus, Pleasure-. J. A. Miller. No. 979,983; Dec. 27; Sp. p. 5538; Gaz. vol. 161; p. 956.
Railway cattle-guard. E. G. McCarson and C. A. Bedell. No. 978,319; Dec. 13; Sp. p. 1956; Gaz. vol. 161; p. 341.
Railway cross-tie. W. H. J. Downey. No. 979,268; Dec. 20; Sp. p. 4033; Gaz. vol. 161; p. 693.
Railway-crossing. H. G. Elfborg. No. 979,479; Dec. 27; Sp. p. 4445; Gaz. vol. 161; p. 785.
Railway-crossing gate. M. Rensoner. No. 977,548; Dec. 6; Sp. p. 308; Gaz. vol. 161; p. 45.
Railway-rail and nut-lock for fish-plate bolts. A. P. Finley. No. 980,146; Dec. 27; Sp. p. 5922; Gaz. vol. 161; p. 1011.
Railway-rail bolt. R. L. Tipton. No. 978,235; Dec. 13; Sp. p. 1776; Gaz. vol. 161; p. 311.
Railway-rail fastener. C. Weaner. No. 978,798; Dec. 13; Sp. p. 2972; Gaz. vol. 161; p. 503.
Railway-rail joint. J. E. Leonard. No. 978,314; Dec. 13; Sp. p. 1949; Gaz. vol. 161; p. 340.
Railway safety device, Pleasure-. J. A. Miller. No. 979,984; Dec. 27; Sp. p. 5540; Gaz. vol. 161; p. 957.
Railway safety-track. C. R. Howard. No. 979,494; Dec. 27; Sp. p. 4477; Gaz. vol. 161; p. 791.
Railway signaling system. A. C. Mather. No. 978,180; Dec. 13; Sp. p. 1666; Gaz. vol. 161; p. 292.
Railway-spike. W. Gronke and W. T. Rouse. No. 977,795; Dec. 6; Sp. p. 823; Gaz. vol. 161; p. 128.
Railway starting apparatus, Pleasure-. J. A. Miller. No. 979,875; Dec. 27; Sp. p. 5328; Gaz. vol. 161; p. 922.
Railway-switch. H. C. Mead. No. 977,747; Dec. 6; Sp. p. 719; Gaz. vol. 161; p. 113.
Railway-switch, Automatic. E. Howard. No. 979,166; Dec. 20; Sp. p. 3810; Gaz. vol. 161; p. 660.
Railway-switch device, Automatic. R. L. Partida. No. 978,639; Dec. 13; Sp. p. 2662; Gaz. vol. 161; p. 453.
Railway-switch stand. C. Partington. No. 977,833; Dec. 6; Sp. p. 900; Gaz. vol. 161; p. 142.
Railway system and car or vehicle therefor, Funicular-. L. Torres y Quevedo. No. 979,228; Dec. 20; Sp. p. 3946; Gaz. vol. 161; p. 681.
Railway-tie. D. Cline. No. 977,512; Dec. 6; Sp. p. 206; Gaz. vol. 161; p. 32.
Railway-tie. L. L. Van Horn. No. 978,413; Dec. 13; Sp. p. 2156; Gaz. vol. 161; p. 375.
Railway-tie. W. H. Morris. No. 979,785; Dec. 27; Sp. p. 5122; Gaz. vol. 161; p. 891.
Railway-tie. W. T. Shimp. No. 980,016; Dec. 27; Sp. p. 5602; Gaz. vol. 161; p. 968.
Railway-tie and fastener. V. J. Miller. No. 978,470; Dec. 13; Sp. p. 2268; Gaz. vol. 161; p. 303.
Railway-tie and fastener. H. S. Isham. No. 978,800; Dec. 20; Sp. p. 3152; Gaz. vol. 161; p. 560.
Railway-tie and fastener, Metallic. C. J. Burch. No. 980,058; Dec. 27; Sp. p. 5712; Gaz. vol. 161; p. 982.
Railway-tie, Metal. J. Heinonen. No. 977,798; Dec. 6; Sp. p. 828; Gaz. vol. 161; p. 129.
Railway-ties, Collar for concrete. J. S. Warrick. No. 979,615; Dec. 27; Sp. p. 4751; Gaz. vol. 161; p. 834.
Railway-track. W. H. Ostrander. No. 978,054; Dec. 6; Sp. p. 1361; Gaz. vol. 161; p. 218.
Railway-track-rail holder and brace. J. T. West. No. 980,036; Dec. 27; Sp. p. 5662; Gaz. vol. 161; p. 975.
Rake: *See* Hay-rake; Push-rake.
Rake-tooth cleaner. H. R. Rose. No. 979,340; Dec. 20; Sp. p. 4161; Gaz. vol. 161; p. 717.
Rammer, Multiple power-. H. M. Plaisted. No. 979,196; Dec. 20; Sp. p. 3867; Gaz. vol. 161; p. 669.
Ramming-machine. J. K. Dimmick. No. 979,832; Dec. 27; Sp. p. 5241; Gaz. vol. 161; p. 907.
Ratchet-wrench. R. H. Peters. No. 978,395; Dec. 13; Sp. p. 2118; Gaz. vol. 161; p. 368.
Razor. S. C. Yeaton, Jr. No. 977,919; Dec. 6; Sp. p. 1084; Gaz. vol. 161; p. 172.
Razor attachment. E. P. Truesdale. No. 980,027; Dec. 27; Sp. p. 5623; Gaz. vol. 161; p. 972.
Razor blade, Safety-. O. Kampfe. No. 978,303; Dec. 13; Sp. p. 1926; Gaz. vol. 161; p. 336.
Razor, Safety-. L. N. Levinsohn. No. 977,889; Dec. 6; Sp. p. 1021; Gaz. vol. 161; p. 162.
Razor, Safety-. W. A. Smith. No. 978,230; Dec. 13; Sp. p. 1763; Gaz. vol. 161; p. 310.
Razor, Safety-. O. A. Dannacher. No. 978,705; Dec. 13; Sp. p. 2787; Gaz. vol. 161; p. 474.
Razor, Safety-. R. Schwenzfeier. No. 979,100; Dec. 20; Sp. p. 3644; Gaz. vol. 161; p. 634.
Razor, Safety-. J. Heiszenberger. No. 979,296; Dec. 20; Sp. p. 4085; Gaz. vol. 161; p. 703.
Razor, Safety-. A. M. Poindexter. No. 979,559; Dec. 27; Sp. p. 4632; Gaz. vol. 161; p. 813.
Razor-stropper. A. C. Hayden. No. 977,868; Dec. 6; Sp. p. 974; Gaz. vol. 161; p. 154.
Reamer, Adjustable. A. Studer. No. 979,809; Dec. 27; Sp. p. 5188; Gaz. vol. 161; p. 900.
Receptacle. J. P. G. Elkin. No. 978,569; Dec. 13; Sp. p. 2507; Gaz. vol. 161; p. 428.
Receptacle. C. L. Sanford. No. 979,803; Dec. 27; Sp. p. 5179; Gaz. vol. 161; p. 898.
Receptacle-closure. G. W. Cole. No. 977,932; Dec. 6; Sp. p. 1107; Gaz. vol. 161; p. 177.
Receptacle, Folding. R. J. Thompson and E. C. Snodgrass. No. 977,760; Dec. 6; Sp. p. 757; Gaz. vol. 161; p. 117.
Receptacle, Sanitary. F. L. Hoffman. No. 979,005; Dec. 20; Sp. p. 3428; Gaz. vol. 161; p. 602.
Record. O. J. Fajen. No. 978,722; Dec. 13; Sp. p. 2828; Gaz. vol. 161; p. 480.
Recorder: *See* Telephone-call recorder; Time-recorder.
Reel: *See* Mower-reel.
Reel. H. Hall. No. 977,732; Dec. 6; Sp. p. 689; Gaz. vol. 161; p. 107.
Reel. C. E. Brinley. No. 978,431; Dec. 13; Sp. p. 2190; Gaz. vol. 161; p. 380.
Reflector attachment, Electric-lamp. H. D'Olier, Jr. No. 977,939; Dec. 6; Sp. p. 1122; Gaz. vol. 161; p. 180.
Reflector, Headlight-. J. R. Pratt. No. 979,334; Dec. 20; Sp. p. 4150; Gaz. vol. 161; p. 715.

Reflector, Headlight-. A. R. Harrison. No. 979,852; Dec. 27; Sp. p. 5282; Gaz. vol. 161; p. 814.
Refractometer. N. A. Shigon. No. 979,578; Dec. 27; Sp. p. 4671; Gaz. vol. 161; p. 820.
Refrigerating-machine. M. Leblanc. No. 977,659; Dec. 6; Sp. p. 541; Gaz. vol. 161; p. 82.
Refrigerating system, Automatic absorption. G. P. Carroll. No. 978,557; Dec. 13; Sp. p. 2456; Gaz. vol. 161; p. 423.
Refrigerator. C. F. Schafer. No. 978,492; Dec. 13; Sp. p. 2323; Gaz. vol. 161; p. 401.
Refrigerator. E. F. Hulbert. No. 979,304; Dec. 20; Sp. p. 4098; Gaz. vol. 161; p. 705.
Refrigerator. F. Westerbeck. No. 979,814; Dec. 27; Sp. p. 5198; Gaz. vol. 161; p. 901.
Refrigerator. W. H. Hill. No. 979,950; Dec. 27; Sp. p. 5474; Gaz. vol. 161; p. 946.
Regenerative furnace. A. W. and C. W. Catton. No. 979,647; Dec. 27; Sp. p. 4817; Gaz. vol. 161; p. 845.
Regenerative reversing-furnace. L. L. Knox. No. 978,822; Dec. 13; Sp. p. 2008; Gaz. vol. 161; p. 510.
Regenerator. H. H. Dow. No. 977,605; Dec. 6; Sp. p. 436; Gaz. vol. 161; p. 64.
Register: *See* Cash-register.
Register or ventilator. J. H. Bailey. No. 978,129; Dec. 13; Sp. p. 1552; Gaz. vol. 161; p. 273.
Regulator: *See* Belt-regulator; Draft-regulator; Feed-water regulator; Feeder regulator; Furnace draft-regulator; Gas-pressure regulator; Humidity-regulator; Pressure-regulator.
Rein-protector. S. P. Roberts. No. 978,650; Dec. 13; Sp. p. 2684; Gaz. vol. 161; p. 457.
Relay. H. Gernsback. No. 978,999; Dec. 20; Sp. p. 3410; Gaz. vol. 161; p. 600.
Remedy for swine fever, plague, &c. L. Bader. No. 979,054; Dec. 20; Sp. p. 3533; Gaz. vol. 161; p. 618.
Remedy, Pile. M. Straub. No. 979,395; Dec. 20; Sp. p. 4265; Gaz. vol. 161; p. 734.
Resilient block. N. J. Busby. No. 978,689; Dec. 13; Sp. p. 2752; Gaz. vol. 161; p. 469.
Resilient wheel. L. L. Daum. No. 979,265; Dec. 20; Sp. p. 4029; Gaz. vol. 161; p. 693.
Resistance device. H. W. Leonard. No. 977,456; Dec. 6; Sp. p. 58; Gaz. vol. 161; p. 12.
Ribbon-holding device. M. L. Ford. No. 979,456; Dec. 27; Sp. p. 4399; Gaz. vol. 161; p. 778.
Riddle. E. H. Mumford. No. 979,685; Dec. 27; Sp. p. 4894; Gaz. vol. 161; p. 857.
Rifle, rubber ball, and pop-gun, Combined air-. E. S. Roe. No. 977,549; Dec. 6; Sp. p. 309; Gaz. vol. 161; p. 45.
Ring: *See* Hame-ring.
Rings, Machine for marking finger-. H. Henrich. No. 979,297; Dec. 20; Sp. p. 4087; Gaz. vol. 161; p. 703.
Riveting-tool, Pneumatic. C. Weatherson. No. 979,617; Dec. 27; Sp. p. 4753; Gaz. vol. 161; p. 835.
Road-scarifier, Rotary. W. A. Gillette. No. 978,016; Dec. 6; Sp. p. 1282; Gaz. vol. 161; p. 205.
Rock-drill. C. A. Hultquist. No. 978,586; Dec. 13; Sp. p. 2549; Gaz. vol. 161; p. 434.
Rock-drill. G. R. Bennett. No. 978,981; Dec. 20; Sp. p. 3375; Gaz. vol. 161; p. 593.
Roller: *See* Composite roller; Inking-roller.
Rollers or wheels, Making. E. Klahn. No. 978,036; Dec. 6; Sp. p. 1326; Gaz. vol. 161; p. 212.
Rolling metal sheets, Apparatus for. C. W. Bray. No. 978,551; Dec. 13; Sp. p. 2446; Gaz. vol. 161; p. 421.
Rolling-mill. L. Kunda. No. 977,637; Dec. 6; Sp. p. 495; Gaz. vol. 161; p. 75.
Rolling-mill. A. Gautschi. No. 977,725; Dec. 6; Sp. p. 679; Gaz. vol. 161; p. 105.
Roof structure, Glazed. H. T. Thomas. No. 979,600; Dec. 27; Sp. p. 4721; Gaz. vol. 161; p. 828.
Roofs, &c., Protective covering for. F. C. Overbury. No. 978,333; Dec. 13; Sp. p. 1991; Gaz. vol. 161; p. 347.
Roofing-fastener. F. C. Overbury. No. 978,334; Dec. 13; Sp. p. 1992; Gaz. vol. 161; p. 347.
Roofing-material fastener. R. S. Ford. No. 980,089; Dec. 27; Sp. p. 5782; Gaz. vol. 161; p. 991.
Roost, Medicated poultry-. G. F. West. No. 978,526; Dec. 13; Sp. p. 2395; Gaz. vol. 161; p. 412.
Rope-joint. A. Rosenthal. No. 979,567; Dec. 27; Sp. p. 4647; Gaz. vol. 161; p. 816.
Rope-knife. A. C. Graham. No. 978,577; Dec. 13; Sp. p. 2528; Gaz. vol. 161; p. 431.
Ropes, Means for joining driving and other. W. Shuttleworth and T. Kenworthy. No. 979,214; Dec. 20; Sp. p. 3907; Gaz. vol. 161; p. 676.
Rosin-applicator. C. G. Sweet. No. 978,410; Dec. 13; Sp. p. 2148; Gaz. vol. 161; p. 374.
Rotary engine. G. F. Leiger. No. 977,888; Dec. 6; Sp. p. 1018; Gaz. vol. 161; p. 161.
Rotary engine. J. W. Larimore. No. 978,602; Dec. 13; Sp. p. 2577; Gaz. vol. 161; p. 440.
Rotary engine. S. Haudenshield. No. 978,743; Dec. 13; Sp. p. 2874; Gaz. vol. 161; p. 487.
Rotary engine. D. E. Cota. No. 979,262; Dec. 20; Sp. p. 4022; Gaz. vol. 161; p. 692.
Rotary engine. G. E. Ball. No. 979,638; Dec. 27; Sp. p. 4800; Gaz. vol. 161; p. 842.
Rotary engine. H. Doke. No. 980,075; Dec. 27; Sp. p. 5742; Gaz. vol. 161; p. 987.
Rotary motor. H. F. Weinland. No. 978,085; Dec. 6; Sp. p. 1427; Gaz. vol. 161; p. 230.
Rotary motor. H. F. Weinland. No. 978,086; Dec. 6; Sp. p. 1430; Gaz. vol. 161; p. 231.
Rotary motor for driving boiler-tube cleaners. H. F. and H. G. Weinland. No. 978,088; Dec. 6; Sp. p. 1433; Gaz. vol. 161; p. 231.
Rotary power-washer. T. F. Linegar and H. M. Storms. No. 978,461; Dec. 13; Sp. p. 2251; Gaz. vol. 161; p. 390.
Rubber attachment. H. Karnatz. No. 978,304; Dec. 13; Sp. p. 1927; Gaz. vol. 161; p. 336.
Rubber footwear. M. C. Clark. No. 980,173; Dec. 27; Sp. p. 5993; Gaz. vol. 161; p. 1020.
Rubber, Hand-. M. Angert. No. 978,534; Dec. 13; Sp. p. 2407; Gaz. vol. 161; p. 415.
Rubber heels, Means for fastening. I. Vulpescu. No. 979,361; Dec. 20; Sp. p. 4200; Gaz. vol. 161; p. 724.
Rubber or rubber-like substances and resin from materials containing the same, Separating. L. H. Chanut. No. 978,696; Dec. 13; Sp. p. 2761; Gaz. vol. 161; p. 471.
Rubber, Recovery of. H. T. G. Van der Linde. No. 979,002; Dec. 27; Sp. p. 5382; Gaz. vol. 161; p. 930.
Rubber waste, Apparatus for use in reclaiming vulcanized-. C. S. Heller. No. 978,583; Dec. 13; Sp. p. 2538; Gaz. vol. 161; p. 433.
Rubber waste, Reclaiming vulcanized-. C. S. Heller. No. 978,584; Dec. 13; Sp. p. 2543; Gaz. vol. 161; p. 433.
Rule. H. Gasstrom. No. 978,446; Dec. 13; Sp. p. 2219; Gaz. vol. 161; p. 385.
Rule. D. E. Werts. No. 978,525; Dec. 13; Sp. p. 2393; Gaz. vol. 161; p. 412.
Ruler. C. H. Westcott. No. 979,234; Dec. 20; Sp. p. 3954; Gaz. vol. 161; p. 683.
Sad-iron. W. W. Lind. No. 979,520; Dec. 27; Sp. p. 4533; Gaz. vol. 161; p. 800.
Sad-iron cleaner and polisher. N. E. Platt. No. 979,198; Dec. 20; Sp. p. 3873; Gaz. vol. 161; p. 670.
Sad-iron, Electric. A. H. Happe. No. 979,291; Dec. 20; Sp. p. 4076; Gaz. vol. 161; p. 701.
Saddle for draft-animals. J. Drucker. No. 977,790; Dec. 6; Sp. p. 814; Gaz. vol. 161; p. 127.
Safe. J. J. Scott. No. 978,405; Dec. 13; Sp. p. 2138; Gaz. vol. 161; p. 372.
Safety-brake. H. M. Reiter. No. 979,336; Dec. 20; Sp. p. 4153; Gaz. vol. 161; p. 716.
Safety device. G. W. Markle. No. 979,978; Dec. 27; Sp. p. 5531; Gaz. vol. 161; p. 955.
Safety-gate. G. R. Freak. No. 979,458; Dec. 27; Sp. p. 4403; Gaz. vol. 161; p. 779.
Safety-hook. C. D. Smith. No. 979,347; Dec. 20; Sp. p. 4170; Gaz. vol. 161; p. 719.
Salt-shaker. S. P. Isbell. No. 979,500; Dec. 27; Sp. p. 4489; Gaz. vol. 161; p. 793.
Salt-shaker, Non-clogging. J. Culy. No. 979,263; Dec. 20; Sp. p. 4027; Gaz. vol. 161; p. 692.
Salting-machine. W. S. Miller. No. 978,615; Dec. 13; Sp. p. 2610; Gaz. vol. 161; p. 445.
Sand and like material, Apparatus for washing. S. A. Capron. No. 978,693; Dec. 13; Sp. p. 2757; Gaz. vol. 161; p. 470.
Sand-blast, Closed-hopper. G. F. Steedman. No. 979,897; Dec. 27; Sp. p. 5372; Gaz. vol. 161; p. 929.
Sand-blast device. A. Jorn, Jr. No. 977,453; Dec. 6; Sp. p. 54; Gaz. vol. 161; p. 11.
Sand-tempering machine. J. J. Valiquett and C. F. Rous. No. 978,961; Dec. 20; Sp. p. 3331; Gaz. vol. 161; p. 58.
Sanding-machine. G. Simon. No. 978,497; Dec. 13; Sp. p. 2332; Gaz. vol. 161; p. 402.
Sandpapering-machine. G. A. Barker. No. 977,923; Dec. 6; Sp. p. 1091; Gaz. vol. 161; p. 173.
Santalol compound. R. Berendes. No. 979,639; Dec. 27; Sp. p. 4804; Gaz. vol. 161; p. 843.
Sash-balancing device. W. Sawyer. No. 978,400; Dec. 13; Sp. p. 2129; Gaz. vol. 161; p. 370.
Sash-cord connector. F. T. Lippincott. No. 979,014; Dec. 20; Sp. p. 3449; Gaz. vol. 161; p. 605.
Sash-fastener. G. I. D. Johnson. No. 979,504; Dec. 27; Sp. p. 4496; Gaz. vol. 161; p. 794.
Sash-lock. W. A. Jordan. No. 979,861; Dec. 27; Sp. p. 5303; Gaz. vol. 161; p. 917.
Sash lock, Metal-window-. F. F. Smith. No. 979,583; Dec. 27; Sp. p. 4681; Gaz. vol. 161; p. 822.
Sash or window lock. W. E. Pelar. No. 979,884; Dec. 27; Sp. p. 5342; Gaz. vol. 161; p. 924.
Sash, Reversible window-. E. L. Reguin. No. 980,005; Dec. 27; Sp. p. 5587; Gaz. vol. 161; p. 964.
Sash, Window-. W. R. Crump. No. 977,712; Dec. 6; Sp. p. 659; Gaz. vol. 161; p. 101.
Sash, Window-. A. P. Burkhart. No. 979,423; Dec. 27; Sp. p. 4324; Gaz. vol. 161; p. 767.
Sash, Window-. P. W. Bowde. No. 979,741; Dec. 27; Sp. p. 5024; Gaz. vol. 161; p. 877.
Saw, Band-. W. B. Heyer. No. 978,374; Dec. 13; Sp. p. 2068; Gaz. vol. 161; p. 361.
Saw-clamp. R. J. Koeberle. No. 979,967; Dec. 27; Sp. p. 5507; Gaz. vol. 161; p. 952.
Saw-feeding device. W. J. Smith. No. 977,755; Dec. 6; Sp. p. 734; Gaz. vol. 161; p. 115.
Saw-filing machine. H. Seifert. No. 979,892; Dec. 27; Sp. p. 5362; Gaz. vol. 161; p. 927.
Saw liner and jointer, Veneer-. R. W. Jones. No. 978,89; Dec. 20; Sp. p. 3162; Gaz. vol. 161; p. 562.
Saw mill, Band-. W. H. Trout. No. 978,412; Dec. 1; Sp. p. 2154; Gaz. vol. 161; p. 374.

Saw, Pruning-. J. S. Bennett. No. 979,920; Dec. 27; Sp. p. 5420; Gaz. vol. 161; p. 937.
Saw-set. D. E. Fabun. No. 977,722; Dec. 6; Sp. p. 674; Gaz. vol. 161; p. 104.
Saw-set. J. B. Gallaher. No. 977,861; Dec. 6; Sp. p. 961; Gaz. vol. 161; p. 151.
Saw-set. G. Reiss. No. 978,646; Dec. 13; Sp. p. 2679; Gaz. vol. 161; p. 456.
Saw-set. C. H. Bishop. No. 978,686; Dec. 13; Sp. p. 2748; Gaz. vol. 161; p. 468.
Saw-set. W. S. Fitzpatrick. No. 978,723; Dec. 13; Sp. p. 2829; Gaz. vol. 161; p. 480.
Saw-trimmer for equalizing lengths of lumber, Automatic. F. Regenold. No. 977,750; Dec. 6; Sp. p. 724; Gaz. vol. 161; p. 114.
Sawing-machine, Automatic. E. B. Sellew. No. 979,102; Dec. 20; Sp. p. 3648; Gaz. vol. 161; p. 634.
Scaffold-support. E. M. and D. F. Cavanagh. No. 978,823; Dec. 13; Sp. p. 3010; Gaz. vol. 161; p. 511.
Scale, Automatic car weighing and recording. G. Goetz. No. 978,874; Dec. 20; Sp. p. 3119; Gaz. vol. 161; p. 553.
Scale, Automatic weighing-. R. J. McKeown and W. A. Kirkpatrick. No. 980,114; Dec. 27; Sp. p. 5849; Gaz. vol. 161; p. 1000.
Scale, Computing-. T. C. Prouty. No. 978,204; Dec. 13; Sp. p. 1710; Gaz. vol. 161; p. 301.
Scale, Machinist's. M. F. Jones. No. 979,768; Dec. 27; Sp. p. 5063; Gaz. vol. 161; p. 885.
Scale, Miner's and assayer's. H. S. Coe. No. 977,513; Dec. 6; Sp. p. 207; Gaz. vol. 161; p. 32.
Scale, Portable. T. L. Keppler. No. 978,306; Dec. 13; Sp. p. 1930; Gaz. vol. 161; p. 337.
Scale, Recording car-. G. Goetz. No. 979,401; Dec. 20; Sp. p. 4277; Gaz. vol. 161; p. 735.
Scale, Spring-. L. Jaenichen. No. 978,026; Dec. 6; Sp. p. 1299; Gaz. vol. 161; p. 208.
Scale, Spring-. G. Walker. No. 979,611; Dec. 27; Sp. p. 4743; Gaz. vol. 161; p. 833.
Scaling, annealing, and coating metals. S. O. Cowper-Cowles. No. 979,031; Dec. 27; Sp. p. 5440; Gaz. vol. 161; p. 940.
Scene-shifting apparatus. F. W. Scott. No. 979,209; Dec. 20; Sp. p. 3892; Gaz. vol. 161; p. 673.
Scenery, Apparatus for handling hanging. S. G. Bailey. No. 977,500; Dec. 6; Sp. p. 167; Gaz. vol. 161; p. 28.
Scenery, &c., Apparatus for raising and lowering hanging. S. G. Bailey. No. 977,499; Dec. 6; Sp. p. 159; Gaz. vol. 161; p. 27.
Scenery, Mechanism for handling hanging. S. G. Bailey. No. 977,498; Dec. 6; Sp. p. 154; Gaz. vol. 161; p. 27.
Scoop, Weighing-. J. W. McConeghy. No. 977,668; Dec. 6; Sp. p. 562; Gaz. vol. 161; p. 85.
Scraper, Earth-. G. W. Garrison. No. 979,283; Dec. 20; Sp. p. 4061; Gaz. vol. 161; p. 698.
Scraper, Road-. G. D. Rhodes. No. 979,338; Dec. 20; Sp. p. 4158; Gaz. vol. 161; p. 717.
Screen: *See* Headlight-screen; Paper-pulp screen; Well-screen; Window-screen.
Screen-bed. A. O. S. Jones. No. 979,506; Dec. 27; Sp. p. 4499; Gaz. vol. 161; p. 795.
Screw-bore. Reinforcement. D. Craig. No. 977,709; Dec. 6; Sp. p. 655; Gaz. vol. 161; p. 100.
Screw-drivers, &c., Ratchet mechanism for. G. O. Leopold. No. 977,957; Dec. 6; Sp. p. 1167; Gaz. vol. 161; p. 186.
Screw-drivers, &c., Ratchet mechanism for. W. B. Lane. No. 979,562; Dec. 27; Sp. p. 5305; Gaz. vol. 161; p. 918.
Screw-finishing machine. C. W. Howland. No. 979,006; Dec. 20; Sp. p. 3430; Gaz. vol. 161; p. 602.
Screw, Jack-. E. M. Burney. No. 979,424; Dec. 27; Sp. p. 4326; Gaz. vol. 161; p. 767.
Screw, Work-bench. W. H. Kirkpatrick. No. 978,900; Dec. 20; Sp. p. 3176; Gaz. vol. 161; p. 563.
Screws, Machine for cutting threads on wood-. O. Kirschke. No. 977,527; Dec. 6; Sp. p. 256; Gaz. vol. 161; p. 37.
Scrubbing-machine. A. Leigh. No. 979,773; Dec. 27; Sp. p. 5090; Gaz. vol. 161; p. 887.
Seal, Freight-car. G. B. Edgar, Sr. No. 979,452; Dec. 27; Sp. p. 4390; Gaz. vol. 161; p. 777.
Seal-lock. F. C. Buschek. No. 978,690; Dec. 13; Sp. p. 2753; Gaz. vol. 161; p. 469.
Sealing device, Electric. J. G. Wallmann. No. 979,905; Dec. 27; Sp. p. 5393; Gaz. vol. 161; p. 932.
Seat post, Spring-. W. S. Harley. No. 979,483; Dec. 27; Sp. p. 4452; Gaz. vol. 161; p. 787.
Sectional boiler. J. B. Bernhard. No. 979,736; Dec. 27; Sp. p. 5011; Gaz. vol. 161; p. 875.
Sectional boiler, Double. J. B. Bernhard. No. 979,738; Dec. 27; Sp. p. 5015; Gaz. vol. 161; p. 876.
Seed delinter, Cotton-. P. A. Fitzhugh. No. 979,066; Dec. 20; Sp. p. 3553; Gaz. vol. 161; p. 621.
Seed-germinator. E. B. and G. P. Balcom. No. 978,812; Dec. 13; Sp. p. 2900; Gaz. vol. 161; p. 507.
Seed-tester. H. L. Lapham. No. 979,175; Dec. 20; Sp. p. 3833; Gaz. vol. 161; p. 663.
Selecting device. F. G. Agrell. No. 979,404; Dec. 27; Sp. p. 4289; Gaz. vol. 161; p. 761.
Separation, Process of. H. A. Wentworth. No. 980,035; Dec. 27; Sp. p. 5659; Gaz. vol. 161; p. 975.
Separator: *See* Cotton-separator; Grain-separator.
Separator. J. Mensen. No. 978,920; Dec. 20; Sp. p. 3216; Gaz. vol. 161; p. 571.
Separator for lump material. A. Langerfeld. No. 977,956; Dec. 6; Sp. p. 1155; Gaz. vol. 161; p. 186.
Serving-table for restaurants. A. C. Fast. No. 978,572; Dec. 13; Sp. p. 2513; Gaz. vol. 161; p. 429.
Sewage disposal by filtration and aeration. J. B. Paul. No. 977,963; Dec. 6; Sp. p. 1186; Gaz. vol. 161; p. 189.
Sewage, Treating. K. Imhoff. No. 978,889; Dec. 20; Sp. p. 3151; Gaz. vol. 161; p. 560.
Sewer air-inlet box. E. Franklin. No. 977,860; Dec. 6; Sp. p. 959; Gaz. vol. 161; p. 151.
Sewing and trimming machine. B. H. Zimmerman and R. Hughes, Jr. (Reissue.) No. 13,182; Dec. 6; Sp. p. 1537; Gaz. vol. 161; p. 249.
Sewing and turning machine, Tube. J. Pelham. No. 978,481; Dec. 13; Sp. p. 2302; Gaz. vol. 161; p. 397.
Sewing-machine. G. M. Eames. No. 979,451; Dec. 27; Sp. p. 4386; Gaz. vol. 161; p. 777.
Sewing-machine. J. C. Moore. No. 979,537; Dec. 27; Sp. p. 4571; Gaz. vol. 161; p. 806.
Sewing-machine attachment, Sole-. C. Wolentarsky. No. 978,099; Dec. 6; Sp. p. 1459; Gaz. vol. 161; p. 235.
Sewing machine, Bag-. C. D. Cromley. No. 978,850; Dec. 20; Sp. p. 3063; Gaz. vol. 161; p. 545.
Sewing-machine, Chain-stitch. A. H. De Voe. No. 978,140; Dec. 13; Sp. p. 1573; Gaz. vol. 161; p. 279.
Sewing-machine table. S. F. Gerdin. No. 977,726; Dec. 6; Sp. p. 681; Gaz. vol. 161; p. 105.
Sewing-machine take-up. R. K. Hohmann. No. 977,630; Dec. 6; Sp. p. 477; Gaz. vol. 161; p. 73.
Sewing-machine, Thong-stitch. E. Gnoeth. No. 978,017; Dec. 6; Sp. p. 1284; Gaz. vol. 161; p. 205.
Sewing-machine thread-controller. J. Berger. No. 978,267; Dec. 13; Sp. p. 1849; Gaz. vol. 161; p. 323.
Sewing-machine thread take-up. W. R. Blair. No. 978,832; Dec. 20; Sp. p. 3034; Gaz. vol. 161; p. 540.
Shade and lace-curtain support, Window-. H. F. Cook. No. 978,114; Dec. 6; Sp. p. 1492; Gaz. vol. 161; p. 240.
Shade-bracket, Vertically-movable. J. E. Hall. No. 977,949; Dec. 6; Sp. p. 1140; Gaz. vol. 161; p. 183.
Shade-fixture, Adjustable. C. T. Agersburg and J. A. Loff. No. 978,260; Dec. 13; Sp. p. 1835; Gaz. vol. 161; p. 320.
Shade-holder. P. J. Handel and A. E. Teich. No. 979,664; Dec. 27; Sp. p. 4850; Gaz. vol. 161; p. 850.
Shade-holder. W. H. Perkins. No. 979,793; Dec. 27; Sp. p. 5154; Gaz. vol. 161; p. 894.
Shade or reflector attachment. H. D'Olier, Jr. No. 977,940; Dec. 6; Sp. p. 1124; Gaz. vol. 161; p. 180.
Shade or reflector attachment. H. D'Olier, Jr. No. 977,941; Dec. 6; Sp. p. 1126; Gaz. vol. 161; p. 180.
Shade-roller support, Window-. E. O. Engberg. No. 979,752; Dec. 27; Sp. p. 5057; Gaz. vol. 161; p. 880.
Shade support, Window-. L. F. Weiher. No. 978,246; Dec. 13; Sp. p. 1796; Gaz. vol. 161; p. 315.
Shade support, Window-. L. F. Weiher. No. 978,247; Dec. 13; Sp. p. 1798; Gaz. vol. 161; p. 315.
Shaft-collar. F. F. Ellis. No. 977,720; Dec. 6; Sp. p. 671; Gaz. vol. 161; p. 103.
Shaft, Flexible. S. C. Moorhead. No. 979,085; Dec. 27; Sp. p. 5541; Gaz. vol. 161; p. 957.
Shaft-shifter. J. T. Emmerson. No. 979,751; Dec. 27; Sp. p. 5056; Gaz. vol. 161; p. 880.
Shafts and the like, Apparatus for centering. G. Williamson. No. 979,009; Dec. 27; Sp. p. 5400; Gaz. vol. 161; p. 933.
Shafts, Machine for forming beel-irons for vehicle-. G. A. Lambert. No. 979,517; Dec. 27; Sp. p. 4520; Gaz. vol. 161; p. 798.
Sharpener, Disk-. J. I. Depew. No. 979,831; Dec. 27; Sp. p. 5239; Gaz. vol. 161; p. 907.
Sharpener, Lawn-mower. L. Challie. No. 978,350; Dec. 13; Sp. p. 2030; Gaz. vol. 161; p. 354.
Sharpening machine, Blade-. F. P. Olds. No. 979,879; Dec. 27; Sp. p. 5334; Gaz. vol. 161; p. 923.
Sharpening machine, Knife-. H. A. H. Guhl. No. 977,624; Dec. 6; Sp. p. 470; Gaz. vol. 161; p. 71.
Shaving appliance. E. Praeger. No. 979,696; Dec. 27; Sp. p. 4910; Gaz. vol. 161; p. 861.
Shearing-machine. G. Knaus. No. 978,598; Dec. 13; Sp. p. 2570; Gaz. vol. 161; p. 438.
Sheet-feeding apparatus. E. J. Brasseur. No. 979,822; Dec. 27; Sp. p. 5210; Gaz. vol. 161; p. 904.
Sheet-feeding mechanism. E. and E. K. Norton. No. 979,549; Dec. 27; Sp. p. 4601; Gaz. vol. 161; p. 810.
Sheet-inserter. B. W. Edgerton. No. 980,081; Dec. 27; Sp. p. 5753; Gaz. vol. 161; p. 989.
Sheet-metal can. F. Westerbeck. No. 979,813; Dec. 27; Sp. p. 5197; Gaz. vol. 161; p. 901.
Sheets or wrappers from strips, Mechanism for cutting. H. Y. Armstrong. No. 978,535; Dec. 13; Sp. p. 2409; Gaz. vol. 161; p. 418.
Shelf, Portable. W. J. Pointer and J. A. Ramsey. No 978,059; Dec. 6; Sp. p. 1371; Gaz. vol. 161; p. 220.
Ship-model testing. H. Wellenkamp. No. 978,090; Dec. 6; Sp. p. 1439; Gaz. vol. 161; p. 232.
Shipping-case-strapping machine. W. F. Thompson. No. 977,487; Dec. 6; Sp. p. 134; Gaz. vol. 161; p. 23.
Shock-compressor. C. K. Wolf and F. McClain. No. 979,118; Dec. 20; Sp. p. 3702; Gaz. vol. 161; p. 641.
Shock-lifter. A. N. Hadley. (Reissue.) No. 13,187; Dec. 27; Sp. p. 6010; Gaz. vol. 161; p. 1023.
Shock-loader for grain and hay. B. F. Wilson. No. 980,038; Dec. 27; Sp. p. 5665; Gaz. vol. 161; p. 976.

Shoe. A. F. S. Lyons. No. 977,890; Dec. 6; Sp. p. 1023; Gaz. vol. 161; p. 162.
Shoe, Combination-. J. D. Moore. No. 978,188; Dec. 13; Sp. p. 1678; Gaz. vol. 161; p. 295.
Shoe-fastening. Z. Tanihara. No. 977,982; Dec. 6; Sp. p. 1213; Gaz. vol. 161; p. 195.
Shoe-polishing stand. F. H. G. Morse. No. 979,543; Dec. 27; Sp. p. 4583; Gaz. vol. 161; p. 807.
Shoe, Soft-sole. T. J. Aldridge. No. 979,240; Dec. 20; Sp. p. 3974; Gaz. vol. 161; p. 684.
Shoe-straightener. A. R. Green. No. 978,286; Dec. 13; Sp. p. 1889; Gaz. vol. 161; p. 331.
Shoe-stretcher. D. P. Rowland. No. 979,705; Dec. 27; Sp. p. 4927; Gaz. vol. 161; p. 864.
Shoulder-protector. C. G. Murk. No. 978,620; Dec. 13; Sp. p. 2617; Gaz. vol. 161; p. 446.
Shoulder resistance-pad. D. F. Brown and W. E. Chenery. No. 978,821; Dec. 13; Sp. p. 3007; Gaz. vol. 161; p. 510.
Shovels, Dipper-trip for steam-. J. L. Watson. No. 978,084; Dec. 6; Sp. p. 1426; Gaz. vol. 161; p. 230.
Shovels, Dipper-trip for steam-. A. H. Geddes. No. 978,575; Dec. 13; Sp. p. 2522; Gaz. vol. 161; p. 430.
Show-case. J. A. Rotherham. No. 978,215; Dec. 13; Sp. p. 1730; Gaz. vol. 161; p. 304.
Shutter manipulator and fastener. J. W. Huntley. No. 978,588; Dec. 13; Sp. p. 2555; Gaz. vol. 161; p. 435.
Shutter operating and fastening device. C. W. Adams. No. 979,910; Dec. 27; Sp. p. 5402; Gaz. vol. 161; p. 934.
Shutter or fire-shield worker. D. Anthony. No. 979,244; Dec. 20; Sp. p. 3982; Gaz. vol. 161; p. 686.
Shuttle. W. W. Stearns. No. 978,502; Dec. 13; Sp. p. 2344; Gaz. vol. 161; p. 404.
Shuttle. W. W. Stearns. No. 978,503; Dec. 13; Sp. p. 2346; Gaz. vol. 161; p. 405.
Shuttle. W. N. Reiff and J. A. Krauss. No. 979,203; Dec. 20; Sp. p. 3882; Gaz. vol. 161; p. 671.
Shuttle. T. J. Garisio. No. 980,093; Dec. 27; Sp. p. 5791; Gaz. vol. 161; p. 993.
Shuttle, Thread-cutting. T. J. Garisio. No. 979,282; Dec. 20; Sp. p. 4058; Gaz. vol. 161; p. 698.
Shuttle-threading means. H. L. Litchfield. No. 979,865; Dec. 27; Sp. p. 5312; Gaz. vol. 161; p. 910.
Side-board clamp. T. C. Johnston. No. 979,309; Dec. 20; Sp. p. 4106; Gaz. vol. 161; p. 707.
Siding-tool. H. E. Thompson. No. 979,225; Dec. 20; Sp. p. 3941; Gaz. vol. 161; p. 680.
Sieve. G. W. Stuart. No. 978,674; Dec. 13; Sp. p. 2727; Gaz. vol. 161; p. 464.
Sighting objects from protected positions, Apparatus for. H. Grubb. No. 978,368; Dec. 13; Sp. p. 2050; Gaz. vol. 161; p. 358.
Sign. J. P. Tarr. No. 979,221; Dec. 20; Sp. p. 3934; Gaz. vol. 161; p. 679.
Sign-controlling appliance. C. G. Huver and H. Dilks. No. 979,956; Dec. 27; Sp. p. 5487; Gaz. vol. 161; p. 948.
Sign, Electrical illuminating-. W. W. Arnold. No. 978,828; Dec. 20; Sp. p. 3020; Gaz. vol. 161; p. 538.
Sign-exhibiting apparatus. L. Hopkins. No. 978,162; Dec. 13; Sp. p. 1615; Gaz. vol. 161; p. 286.
Sign, Illuminated. A. Mackenzie and T. M. Norton. No. 977,665; Dec. 6; Sp. p. 556; Gaz. vol. 161; p. 84.
Signal: *See* Answer-back signal; Crossing-signal; Mail-box signal; Time-signal.
Signal apparatus for mines, &c., Danger-. A. Grohs. No. 977,947; Dec. 6; Sp. p. 1135; Gaz. vol. 161; p. 182.
Signal-horns. Operation of. M. A. Codd. No. 979,061; Dec. 20; Sp. p. 3545; Gaz. vol. 161; p. 620.
Signal-poles and the like, Foundation for. F. H. T. Potter. No. 978,201; Dec. 13; Sp. p. 1703; Gaz. vol. 161; p. 299.
Signaling apparatus. G. H. Caughran. No. 978,695; Dec. 13; Sp. p. 2760; Gaz. vol. 161; p. 470.
Signaling-box, Electric. A. Kempston. No. 979,769; Dec. 27; Sp. p. 5084; Gaz. vol. 161; p. 885.
Signaling, Electrical. R. A. Fessenden. No. 979,145; Dec. 20; Sp. p. 3769; Gaz. vol. 161; p. 652.
Signaling system. C. P. Nachod. No. 979,081; Dec. 20; Sp. p. 3592; Gaz. vol. 161; p. 626.
Signaling system, Automatic electrical. J. G. Nolen. No. 978,629; Dec. 13; Sp. p. 2639; Gaz. vol. 161; p. 449.
Silk, Apparatus for the manufacture of artificial. G. Guadagni. No. 977,863; Dec. 6; Sp. p. 963; Gaz. vol. 161; p. 152.
Silk, Manufacture of artificial. G. Guadagni. No. 978,878; Dec. 20; Sp. p. 3128; Gaz. vol. 161; p. 555.
Silo. A. E. De Armond. No. 979,444; Dec. 27; Sp. p. 4376; Gaz. vol. 161; p. 774.
Silo. N. Johnson. No. 980,767; Dec. 27; Sp. p. 5082; Gaz. vol. 161; p. 885.
Silver cleaning and polishing paste. G. Uhl and W. Schmidt. No. 978,239; Dec. 13; Sp. p. 1783; Gaz. vol. 161; p. 313.
Sinker. G. M. Vaughn. No. 978,519; Dec. 13; Sp. p. 2376; Gaz. vol. 161; p. 410.
Siphon. L. Riebe. No. 977,968; Dec. 6; Sp. p. 1191; Gaz. vol. 161; p. 190.
Siphon. R. Koharu. No. 979,170; Dec. 20; Sp. p. 3823; Gaz. vol. 161; p. 661.
Siphon feeding mechanism. E. A. Rhoads. No. 978,648; Dec. 13; Sp. p. 2681; Gaz. vol. 161; p. 456.
Skate. A. J. Kennedy. No. 979,169; Dec. 20; Sp. p. 3820; Gaz. vol. 161; p. 661.
Skate. D. M. Pfautz. No. 979,795; Dec. 27; Sp. p. 5163; Gaz. vol. 161; p. 895.
Skate, Roller-. I. Wantz. No. 978,523; Dec. 13; Sp. p. 2390; Gaz. vol. 161; p. 412.
Sketch-pad, Folding. G. Morrison. No. 978,390; Dec. 13; Sp. p. 2111; Gaz. vol. 161; p. 367.
Skewer-making machine. R. A. Grover. No. 977,948; Dec. 6; Sp. p. 1137; Gaz. vol. 161; p. 183.
Skiascope. A. J. Cross. No. 978,276; Dec. 13; Sp. p. 1868; Gaz. vol. 161; p. 328.
Skins, hides, leather, and the like, Machine for dressing, stretching, and otherwise treating. A. M. Marx. No. 978,318; Dec. 13; Sp. p. 1954; Gaz. vol. 161; p. 341.
Skirt-gage. C. W. Hogan and S. M. McCormick. No. 979,492; Dec. 27; Sp. p. 4474; Gaz. vol. 161; p. 790.
Sled. S. J. Turner. No. 978,515; Dec. 13; Sp. p. 2360; Gaz. vol. 161; p. 409.
Sled, Bob-. E. Holby. No. 978,376; Dec. 13; Sp. p. 2071; Gaz. vol. 161; p. 361.
Sled, Coasting-. D. A. Page. No. 977,749; Dec. 6; Sp. p. 722; Gaz. vol. 161; p. 113.
Slicing German sausages, &c., Machine for. W. A. Van Berkel. (Reissue.) No. 13,180; Dec. 6; Sp. p. 1530; Gaz. vol. 161; p. 247.
Slotting-machine. B. F. Stowell. No. 978,073; Dec. 6; Sp. p. 1398; Gaz. vol. 161; p. 225.
Sluice concentrator, Flush-. W. H. Merritt. No. 978,468; Dec. 13; Sp. p. 2266; Gaz. vol. 161; p. 393.
Sluicing-machine, Centrifugal. A. Ponfen. No. 980,001; Dec. 27; Sp. p. 5572; Gaz. vol. 161; p. 963.
Smelting and refining copper ores and compounds. R. Baggaley. No. 977,996; Dec. 6; Sp. p. 1231; Gaz. vol. 161; p. 198.
Smelting apparatus, Electric. F. Creelman. No. 978,137; Dec. 13; Sp. p. 1567; Gaz. vol. 161; p. 278.
Smoke-consumer. W. McArdle. No. 978,467; Dec. 13; Sp. p. 2265; Gaz. vol. 161; p. 393.
Smoking implement. J. M. Eder. No. 980,080; Dec. 27; Sp. p. 5751; Gaz. vol. 161; p. 989.
Smoking-pipe. G. W. Clapp. No. 977,781; Dec. 6; Sp. p. 797; Gaz. vol. 161; p. 124.
Snap-hook. W. A. Schleicher. No. 978,656; Dec. 13; Sp. p. 2694; Gaz. vol. 161; p. 458.
Snap-hook. A. W. Brash. No. 979,641; Dec. 27; Sp. p. 4806; Gaz. vol. 161; p. 843.
Snow-melting machine. S. Friedman. No. 977,724; Dec. 6; Sp. p. 678; Gaz. vol. 161; p. 105.
Snow plow and roller. W. C. Brown. No. 979,255; Dec. 20; Sp. p. 4009; Gaz. vol. 161; p. 689.
Snuff-box, Trick. T. Hummel. No. 979,499; Dec. 27; Sp. p. 4489; Gaz. vol. 161; p. 793.
Soap article. A. F. Conery, Jr. No. 979,381; Dec. 20; Sp. p. 4231; Gaz. vol. 161; p. 729.
Soap-holder. J. A. Moss. No. 978,189; Dec. 13; Sp. p. 1679; Gaz. vol. 161; p. 295.
Sodium, Apparatus for the electrolytic production of. P. L. Hulin. No. 978,888; Dec. 20; Sp. p. 3140; Gaz. vol. 161; p. 559.
Sodium, Means for the electrolytic manufacture of. P. L. Hulin. No. 979,497; Dec. 27; Sp. p. 4482; Gaz. vol. 161; p. 792.
Solder rings, Making. E. M. Lang, Jr. No. 978,040; Dec. 6; Sp. p. 1332; Gaz. vol. 161; p. 213.
Soldering-iron, Electric. A. H. and C. P. Wauge. No. 979,904; Dec. 27; Sp. p. 5391; Gaz. vol. 161; p. 931.
Soldering-iron heater. P. Burger and B. Sakren. No. 980,059; Dec. 27; Sp. p. 5714; Gaz. vol. 161; p. 983.
Soldering machine, Chain-. G. H. Benjamin. No. 978,542; Dec. 13; Sp. p. 2423; Gaz. vol. 161; p. 417.
Soldering machine, Chain-. G. H. Benjamin. No. 978,543; Dec. 13; Sp. p. 2428; Gaz. vol. 161; p. 418.
Soldering-tool. R. Staehle. No. 979,896; Dec. 27; Sp. p. 5371; Gaz. vol. 161; p. 929.
Soles, &c., Machine for roughing shoe-. F. J. Nash. No. 978,777; Dec. 13; Sp. p. 2938; Gaz. vol. 161; p. 497.
Sound-box. W. N. Dennison. No. 978,566; Dec. 13; Sp. p. 2501; Gaz. vol. 161; p. 427.
Sound-locater. R. N. Baylis. No. 977,503; Dec. 6; Sp. p. 177; Gaz. vol. 161; p. 29.
Sound-producing device. P. Seiler. No. 979,038; Dec. 20; Sp. p. 3501; Gaz. vol. 161; p. 613.
Sound-reproducing device. F. Gottschalk. No. 977,621; Dec. 6; Sp. p. 463; Gaz. vol. 161; p. 70.
Spark-arrester. E. Brombacher. No. 978,132; Dec. 13; Sp. p. 1557; Gaz. vol. 161; p. 277.
Spark-arrester. C. E. Brook. No. 978,555; Dec. 13; Sp. p. 2453; Gaz. vol. 161; p. 422.
Spark-plug. J. C. Anderson. No. 979,242; Dec. 20; Sp. p. 3977; Gaz. vol. 161; p. 685.
Spark-plug, Removable. W. Falwell. No. 978,280; Dec. 13; Sp. p. 1876; Gaz. vol. 161; p. 329.
Spectacles. G. P. Blanchard. No. 978,982; Dec. 20; Sp. p. 3378; Gaz. vol. 161; p. 594.
Speculum. V. von Unruh. No. 977,489; Dec. 6; Sp. p. 138; Gaz. vol. 161; p. 24.
Speed apparatus, Variable-. F. Schafer. No. 978,065; Dec. 6; Sp. p. 1382; Gaz. vol. 161; p. 222.
Speed control, Automatic. T. Brown. No. 977,703; Dec. 6; Sp. p. 644; Gaz. vol. 161; p. 98.
Speed mechanism, Variable-. G. D. Hayden. No. 977,449; Dec. 6; Sp. p. 47; Gaz. vol. 161; p. 10.
Spike-puller. F. M. Williams. No. 978,684; Dec. 13; Sp. p. 2744; Gaz. vol. 161; p. 467.
Spindle: *See* Detachable spindle.
Spinning or twisting apparatus, Spindle-brake for. A. E. Rhoades. No. 977,751; Dec. 6; Sp. p. 727; Gaz. vol. 161; p. 114.
Spoke-socket. J. Markwick. No. 978,045; Dec. 6; Sp. p. 1342; Gaz. vol. 161; p. 215.

Sprayer or disperser, Color. H. Mikorey. No. 978,469; Dec. 13; Sp. p. 2267; Gaz. vol. 161; p. 393.
Spraying-machine. J. D. Wallace. No. 978,082; Dec. 6; Sp. p. 1416; Gaz. vol. 161; p. 229.
Spring: *See* Bed-spring; Door-spring; Pneumatic spring; Vehicle-spring.
Spring-clip for reinforcing-bars. J. L. Brownlee. No. 977,704; Dec. 6; Sp. p. 646; Gaz. vol. 161; p. 98.
Sprinkler. E. Price. No. 979,190; Dec. 20; Sp. p. 3874; Gaz. vol. 161; p. 670.
Sprinkler. L. I. Coonradt. No. 979,382; Dec. 20; Sp. p. 4234; Gaz. vol. 161; p. 730.
Sprinkling-pipe. O. J. Kennedy. No. 978,597; Dec. 13; Sp. p. 2569; Gaz. vol. 161; p. 438.
Square holder, T-. C. White. No. 977,765; Dec. 6; Sp. p. 766; Gaz. vol. 161; p. 119.
Squares, Pitch-gage attachment for. J. Parkhill. No. 979,996; Dec. 27; Sp. p. 5560; Gaz. vol. 161; p. 961.
Stacker attachment, Hay-. C. Langum. No. 979,677; Dec. 27; Sp. p. 4877; Gaz. vol. 161; p. 855.
Stacker attachment, Pneumatic-. D. Bergsman. No. 979,412; Dec. 27; Sp. p. 4308; Gaz. vol. 161; p. 764.
Stacker, Hay-. L. S. Linnell. No. 978,315; Dec. 13; Sp. p. 1950; Gaz. vol. 161; p. 340.
Stacking device. C. F. Way. No. 977,575; Dec. 6; Sp. p. 365; Gaz. vol. 161; p. 53.
Stamp-affixing machine. L. M. Nielsen and H. Weller. No. 978,475; Dec. 13; Sp. p. 2287; Gaz. vol. 161; p. 395.
Stamp, Hand-. J. A. Schmits. No. 980,012; Dec. 27; Sp. p. 5598; Gaz. vol. 161; p. 967.
Stamping and sealing machine, Envelop. L. M. Nielsen and H. Weller. No. 978,474; Dec. 13; Sp. p. 2277; Gaz. vol. 161; p. 395.
Stamping-presses, Safety-guard for. J. M. Jones. No. 977,953; Dec. 6; Sp. p. 1145; Gaz. vol. 161; p. 185.
Stanchion. C. H. Moore. No. 980,163; Dec. 27; Sp. p. 5955; Gaz. vol. 161; p. 1016.
Stand: *See* Music-stand; Railway-switch stand; Shoe-polishing stand; Telephone desk-stand; Trolley-stand.
Staple for attaching bar-buttons. J. H. Goss. No. 977,615; Dec. 6; Sp. p. 451; Gaz. vol. 161; p. 67.
Starting and stopping mechanism. J. H. Michener, Jr. No. 978,775; Dec. 13; Sp. p. 2931; Gaz. vol. 161; p. 496.
Starting device, Mechanical. J. A. Burns. No. 979,257; Dec. 20; Sp. p. 4015; Gaz. vol. 161; p. 690.
Stay-bolt drill. H. L. Barrickman. No. 980,130; Dec. 27; Sp. p. 5911; Gaz. vol. 161; p. 1009.
Stay-bolt, Flexible. J. W. Keeley. No. 978,596; Dec. 13; Sp. p. 2566; Gaz. vol. 161; p. 438.
Steam-boiler. G. Engel. No. 978,009; Dec. 6; Sp. p. 1262; Gaz. vol. 161; p. 202.
Steam-boiler. J. A. Doarnberger. No. 979,135; Dec. 20; Sp. p. 3746; Gaz. vol. 161; p. 640.
Steam-condensing apparatus. D. B. Morison. No. 979,540; Dec. 27; Sp. p. 4576; Gaz. vol. 161; p. 807.
Steam-engine, Vacuum. C. Comstock. No. 979,435; Dec. 27; Sp. p. 4344; Gaz. vol. 161; p. 771.
Steam-generator. S. J. Ross and H. Schofield. No. 978,061; Dec. 6; Sp. p. 1375; Gaz. vol. 161; p. 221.
Steam-generator. J. J. Bush. No. 978,135; Dec. 13; Sp. p. 1563; Gaz. vol. 161; p. 277.
Steam-generator. H. L. Thompson. No. 979,356; Dec. 20; Sp. p. 4184; Gaz. vol. 161; p. 722.
Steam-generator, Water-tube. A. Bugnon. No. 977,927; Dec. 6; Sp. p. 1098; Gaz. vol. 161; p. 175.
Steam-superheater. J. C. Heron. No. 979,669; Dec. 27; Sp. p. 4857; Gaz. vol. 161; p. 852.
Steam-trap. V. B. Convis. No. 978,701; Dec. 13; Sp. p. 2774; Gaz. vol. 161; p. 473.
Steam-trap. J. M. Burby. No. 978,842; Dec. 20; Sp. p. 3050; Gaz. vol. 161; p. 543.
Steam-trap. M. J. Konold. No. 979,172; Dec. 20; Sp. p. 3827; Gaz. vol. 161; p. 662.
Steam-traps, Demonstrating apparatus for. C. E. Squires. No. 979,716; Dec. 27; Sp. p. 4954; Gaz. vol. 161; p. 868.
Steel, Heat treatment of. S. S. Wales. No. 979,113; Dec. 20; Sp. p. 3692; Gaz. vol. 161; p. 640.
Steel, Making. H. W. Lash. No. 978,905; Dec. 20; Sp. p. 3183; Gaz. vol. 161; p. 565.
Steel, Manufacture of. A. Reynolds. No. 979,337; Dec. 20; Sp. p. 4155; Gaz. vol. 161; p. 716.
Steering device. H. E. Bayly. No. 979,411; Dec. 27; Sp. p. 4306; Gaz. vol. 161; p. 763.
Steering-gear. L. G. Heusted. No. 978,746; Dec. 13; Sp. p. 2882; Gaz. vol. 161; p. 488.
Steering means for vessels. H. Hertzberg and M. J. Wohl. No. 980,156; Dec. 27; Sp. p. 5944; Gaz. vol. 161; p. 1015.
Stencil-cleaning device. C. L. Burdick. No. 978,984; Dec. 20; Sp. p. 3381; Gaz. vol. 161; p. 504.
Step, platform, and door operating mechanism. C. W. Ragland. No. 979,886; Dec. 27; Sp. p. 5346; Gaz. vol. 161; p. 925.
Stereotype-trimming machines, &c., Movable work-gage for. G. F. Read and F. G. Lougee. No. 977,474; Dec. 6; Sp. p. 98; Gaz. vol. 161; p. 18.
Sterilization of water or other liquids, Apparatus for the. C. S. Piestrak. No. 979,990; Dec. 27; Sp. p. 5567; Gaz. vol. 161; p. 962.
Stock-trough. C. O. Anderson. No. 979,052; Dec. 20; Sp. p. 3530; Gaz. vol. 161; p. 617.
Stocking-supporter grip. J. R. Smith. No. 977,564; Dec. 6; Sp. p. 345; Gaz. vol. 161; p. 50.
Stoker, Automatic. W. T. Hanna. No. 979,849; Dec. 27; Sp. p. 5273; Gaz. vol. 161; p. 913.
Stoker, Automatic. W. T. Hanna. No. 979,850; Dec. 27; Sp. p. 5276; Gaz. vol. 161; p. 913.
Stone blocks, Manufacture of imitation-. J. Mitats. No. 978,617; Dec. 13; Sp. p. 2612; Gaz. vol. 161; p. 445.
Stone from slag, Manufacture of artificial. W. Schumacher. No. 977,681; Dec. 6; Sp. p. 587; Gaz. vol. 161; p. 90.
Stool, Folding. W. M. Langley. No. 978,004; Dec. 20; Sp. p. 3182; Gaz. vol. 161; p. 565.
Stopper: *See* Bottle-stopper.
Storm-top. W. A. Hunter. (Reissue.) No. 13,183; Dec. 13; Sp. p. 3014; Gaz. vol. 161; p. 511.
Stove attachment. A. J. Brooks. No. 979,374; Dec. 20; Sp. p. 4222; Gaz. vol. 161; p. 727.
Stove, Blue-flame oil-. C. S. Cannon. No. 979,646; Dec. 27; Sp. p. 4814; Gaz. vol. 161; p. 845.
Stove, Gas-. J. M. Brock. No. 978,127; Dec. 6; Sp. p. 1518; Gaz. vol. 161; p. 245.
Stove, Gas-. O. H. Schraeger. No. 978,338; Dec. 13; Sp. p. 1998; Gaz. vol. 161; p. 348.
Stove, range, &c. E. A. Bolinder. No. 977,505; Dec. 6; Sp. p. 180; Gaz. vol. 161; p. 30.
Stove, Steel. A. E. Bronson, Sr. No. 977,592; Dec. 6; Sp. p. 406; Gaz. vol. 161; p. 59.
Stoves and the like, Attachment for gas-. J. Schofield. No. 978,402; Dec. 13; Sp. p. 2133; Gaz. vol. 161; p. 371.
Stovepipe-collar. M. B. Kendrick. No. 978,457; Dec. 13; Sp. p. 2243; Gaz. vol. 161; p. 389.
Strainer, Well-bucket. W. F. C. Clay. No. 979,380; Dec. 20; Sp. p. 4230; Gaz. vol. 161; p. 720.
Strap-tightener, Detachable. P. D. Christman. No. 978,357; Dec. 13; Sp. p. 2031; Gaz. vol. 161; p. 354.
Street-cleaning machine. R. A. Rutherfurd and M. Craven. No. 978,216; Dec. 13; Sp. p. 1731; Gaz. vol. 161; p. 305.
Street-sweeping machine. R. A. Rutherfurd. No. 978,784; Dec. 13; Sp. p. 2949; Gaz. vol. 161; p. 499.
String-clasp. S. Stewart. No. 979,588; Dec. 27; Sp. p. 4693; Gaz. vol. 161; p. 824.
Structure, Reinforced. D. B. Luten. No. 979,776; Dec. 27; Sp. p. 5099; Gaz. vol. 161; p. 888.
Structure, Trussed. P. B. Harrison. No. 980,099; Dec. 27; Sp. p. 5801; Gaz. vol. 161; p. 995.
Stubble-shaver, Lever. E. Newcburch and C. Bernard. No. 978,472; Dec. 13; Sp. p. 2271; Gaz. vol. 161; p. 394.
Studding for plaster-boards. H. H. Burson. No. 979,643; Dec. 27; Sp. p. 4809; Gaz. vol. 161; p. 844.
Stuffing-box. F. C. Krüger. No. 978,310; Dec. 13; Sp. p. 1937; Gaz. vol. 161; p. 338.
Stuffing-box and lubricator, Piston-rod. W. McLain. No. 978,611; Dec. 13; Sp. p. 2605; Gaz. vol. 161; p. 444.
Sugar-cane or sugar-beet, Extracting juice from. J. J. Homans. No. 978,451; Dec. 13; Sp. p. 2227; Gaz. vol. 161; p. 386.
Sugar crusher and pulverizer. L. Bandement and W. Héring. No. 979,364; Dec. 20; Sp. p. 4204; Gaz. vol. 161; p. 724.
Sugar-juice, Apparatus for separating scum and precipitates from. J. J. Homans. No. 978,450; Dec. 13; Sp. p. 2225; Gaz. vol. 161; p. 386.
Sugar-juice, Separating scum from. J. J. Homans. No. 978,750; Dec. 13; Sp. p. 2887; Gaz. vol. 161; p. 489.
Sulky, Child's. J. N. Wheeler. No. 977,495; Dec. 6; Sp. p. 146; Gaz. vol. 161; p. 26.
Sun-dial gnomon. F. J. Dick. No. 978,859; Dec. 20; Sp. p. 3090; Gaz. vol. 161; p. 548.
Superheaters or feed-water heaters, Deflector for smoke-box. S. M. Vauclain. No. 978,795; Dec. 13; Sp. p. 2968; Gaz. vol. 161; p. 502.
Surfacing-machine. A. Bevan. No. 979,739; Dec. 27; Sp. p. 5018; Gaz. vol. 161; p. 876.
Surgical device for expanding collapsed lungs. J. S. Dean. No. 978,708; Dec. 13; Sp. p. 2791; Gaz. vol. 161; p. 475.
Surgical instrument. G. N. Murphy. No. 977,825; Dec. 6; Sp. p. 884; Gaz. vol. 161; p. 139.
Surgical instrument. H. Johnson. No. 979,505; Dec. 27; Sp. p. 4498; Gaz. vol. 161; p. 794.
Surgical table. S. M. Langworthy. No. 978,760; Dec. 13; Sp. p. 2905; Gaz. vol. 161; p. 491.
Surveying and like purposes, Instrument for. E. H. V. Melvill. No. 979,531; Dec. 27; Sp. p. 4556; Gaz. vol. 161; p. 804.
Suspender attachment. W. D. Flynn. No. 979,838; Dec. 27; Sp. p. 5256; Gaz. vol. 161; p. 910.
Suspenders. E. J. Hayden and J. R. Gordon. No. 979,947; Dec. 27; Sp. p. 5471; Gaz. vol. 161; p. 945.
Swage, Casing-. R. W. Eamee. No. 980,079; Dec. 27; Sp. p. 5750; Gaz. vol. 161; p. 988.
Sweep-shaper. J. F. Whelchel. No. 978,416; Dec. 13; Sp. p. 2162; Gaz. vol. 161; p. 375.
Swing. G. Simon. No. 979,580; Dec. 27; Sp. p. 4678; Gaz. vol. 161; p. 821.
Swinging chair. J. T. Williams. No. 979,236; Dec. 20; Sp. p. 3957; Gaz. vol. 161; p. 683.
Swingletree. E. Lust. No. 977,459; Dec. 6; Sp. p. 67; Gaz. vol. 161; p. 13.
Switch: *See* Centrifugal switch; Electric switch; Electrical switch; Electrically-operated switch; Pendant-switch; Railway-switch.
Switch. A. Gering. No. 980,150; Dec. 27; Sp. p. 5933; Gaz. vol. 161; p. 1013.
Switch-box structure. A. D. Levy. No. 979,011; Dec. 20; Sp. p. 3440; Gaz. vol. 161; p. 604.

Switch handle attachment, Snap-. J. G. Peterson. No. 978,933; Dec. 20; Sp. p. 3245; Gaz. vol. 161; p. 576.
Switch-lock. C. McGill and A. R. Higginbotham. No. 978,046; Dec. 6; Sp. p. 1343; Gaz. vol. 161; p. 215.
Switch mechanism, C. D. Wiemer. No. 978,805; Dec. 13; Sp. p. 2978; Gaz. vol. 161; p. 504.
Switch operating means, Rotary-electric-. J. K. Lux. No. 977,810; Dec. 6; Sp. p. 852; Gaz. vol. 161; p. 134.
Switch-operating mechanism. E. S. Olmsted. No. 978,053; Dec. 6; Sp. p. 1357; Gaz. vol. 161; p. 218.
Switch socket and plug, Combined. W. P. McNeel. No. 978,322; Dec. 13; Sp. p. 1962; Gaz. vol. 161; p. 342.
Switch time-limit device, Electric-. G. A. Burnham. No. 979,256; Dec. 20; Sp. p. 4011; Gaz. vol. 161; p. 690.
Switching system. O. T. Lademan. No. 979,676; Dec. 27; Sp. p. 4875; Gaz. vol. 161; p. 854.
Syringe. J. R. Burdick, R. T. Fulton, and B. F. Williams. No. 978,985; Dec. 20; Sp. p. 3382; Gaz. vol. 161; p. 595.
Syringe and cartridge therefor, Hypodermic. A. Roesch. No. 978,488; Dec. 13; Sp. p. 2317; Gaz. vol. 161; p. 399.
Syringe, Surgical. A. Heilmann and B. Tauss. No. 977,952; Dec. 6; Sp. p. 1145; Gaz. vol. 161; p. 184.
Table: *See* Dental bracket-table; Extension-table; Ironing-table; Leather-working-machine table; Optical table; Pool and billiard table; Sewing-table; Sewing-machine table; Surgical table; Turn-table.
Table-slide. J. E. Gaut. No. 978,730; Dec. 13; Sp. p. 2847; Gaz. vol. 161; p. 482.
Tablet-holder, Physician's. H. C. Beardsley. No. 977,583; Dec. 6; Sp. p. 391; Gaz. vol. 161; p. 56.
Tag and invoice-holder, Combined shipping-. J. D. Fugate. No. 977,445; Dec. 6; Sp. p. 37; Gaz. vol. 161; p. 9.
Tag-setting machine. C. F. Smith. No. 979,217; Dec. 20; Sp. p. 3920; Gaz. vol. 161; p. 677.
Talking-machine. A. Jaccard. No. 978,891; Dec. 20; Sp. p. 3154; Gaz. vol. 161; p. 560.
Talking-machine sound-box. J. Veit. No. 979,231; Dec. 20; Sp. p. 3951; Gaz. vol. 161; p. 682.
Tally. M. Taylor. No. 977,686; Dec. 6; Sp. p. 602; Gaz. vol. 161; p. 92.
Tanniferous material for extraction, Preparing. H. Mechlenburg. No. 979,080; Dec. 20; Sp. p. 3591; Gaz. vol. 161; p. 626.
Tap, Adjustable. A. B. Carll. No. 978,005; Dec. 6; Sp. p. 1257; Gaz. vol. 161; p. 201.
Tap-wrench. C. E. Williams. No. 977,691; Dec. 6; Sp. p. 616; Gaz. vol. 161; p. 94.
Tapping attachment. J. B. Dade. No. 978,855; Dec. 20; Sp. p. 3076; Gaz. vol. 161; p. 547.
Teaching device, Music-. O. Nelson. No. 979,193; Dec. 20; Sp. p. 3863; Gaz. vol. 161; p. 668.
Teeth, Porcelain crown for artificial. H. Schweitzer. No. 977,557; Dec. 6; Sp. p. 333; Gaz. vol. 161; p. 48.
Telautograph. R. W. Armstrong. No. 978,128; Dec. 13; Sp. p. 1547; Gaz. vol. 161; p. 273.
Telegraph apparatus. J. B. Odell. No. 980,118; Dec. 27; Sp. p. 5859; Gaz. vol. 161; p. 1002.
Telegraph sending-machine. J. R. Jones. No. 977,452; Dec. 6; Sp. p. 52; Gaz. vol. 161; p. 11.
Telegraph-transmitter apparatus. H. G. Davis. No. 978,435; Dec. 13; Sp. p. 2201; Gaz. vol. 161; p. 381.
Telegraph-transmitter, Keyboard. D. S. Troth. No. 978,079; Dec. 6; Sp. p. 1410; Gaz. vol. 161; p. 227.
Telegraphy, Electric. J. Kajiura. No. 977,879; Dec. 6; Sp. p. 998; Gaz. vol. 161; p. 157.
Telegraphy, Space. L. De Forest. No. 979,276; Dec. 20; Sp. p. 4048; Gaz. vol. 161; p. 696.
Telephone and alarm or kindred service system, Combined. W. W. Dean. No. 978,709; Dec. 13; Sp. p. 2793; Gaz. vol. 161; p. 476.
Telephone and telegraph system, Composite. O. M. Leich. No. 978,909; Dec. 20; Sp. p. 3190; Gaz. vol. 161; p. 567.
Telephone apparatus, Coin-operated. D. P. Meade. No. 978,774; Dec. 13; Sp. p. 2928; Gaz. vol. 161; p. 495.
Telephone-call recorder. H. K. Sandell. No. 979,569; Dec. 27; Sp. p. 4651; Gaz. vol. 161; p. 817.
Telephone-call recorder. H. K. Sandell. No. 979,570; Dec. 27; Sp. p. 4655; Gaz. vol. 161; p. 817.
Telephone cut-out. P. H. Harner. No. 979,292; Dec. 20; Sp. p. 4078; Gaz. vol. 161; p. 701.
Telephone desk-set apparatus and circuit. B. W. Sweet. No. 978,058; Dec. 20; Sp. p. 3324; Gaz. vol. 161; p. 585.
Telephone desk-stand. W. Leaver. No. 977,658; Dec. 6; Sp. p. 539; Gaz. vol. 161; p. 82.
Telephone-mouthpiece. G. R. Taylor. No. 978,075; Dec. 6; Sp. p. 1404; Gaz. vol. 161; p. 226.
Telephone-mouthpiece. G. W. Gibberd and O. A. Elias. No. 979,467; Dec. 27; Sp. p. 4424; Gaz. vol. 161; p. 782.
Telephone, Party-line. C. A. Soans and A. H. Graves. No. 978,951; Dec. 20; Sp. p. 3286; Gaz. vol. 161; p. 582.
Telephone-receiver. H. R. Stuart. No. 977,981; Dec. 6; Sp. p. 1211; Gaz. vol. 161; p. 194.
Telephone-receiver. W. H. Thompson and H. R. Stuart. No. 980,024; Dec. 27; Sp. p. 5616; Gaz. vol. 161; p. 971.
Telephone-receiver support. J. G. Harris and A. Mancuso. No. 978,370; Dec. 13; Sp. p. 2057; Gaz. vol. 161; p. 359.
Telephone relay or repeater. H. Morgan. No. 979,986; Dec. 27; Sp. p. 5542; Gaz. vol. 161; p. 957.
Telephone-repeater. C. D. Lindridge. No. 979,012; Dec. 20; Sp. p. 3442; Gaz. vol. 161; p. 605.
Telephone repeater system. N. G. Warth. No. 978,083; Dec. 6; Sp. p. 1418; Gaz. vol. 161; p. 229.
Telephone-ringer, Harmonic party-line. C. J. Erickson. No. 978,864; Dec. 20; Sp. p. 3101; Gaz. vol. 161; p. 550.
Telephone-switchboard key. K. Weman. No. 979,616; Dec. 27; Sp. p. 4752; Gaz. vol. 161; p. 834.
Telephone system. S. S. Stolp. No. 979,590; Dec. 27; Sp. p. 4696; Gaz. vol. 161; p. 824.
Telephone system, Cut-out. E. Gould. No. 977,447; Dec. 6; Sp. p. 41; Gaz. vol. 161; p. 9.
Telephone systems, Automatic switch for. C. H. North. No. 977,536; Dec. 6; Sp. p. 277; Gaz. vol. 161; p. 40.
Telephone transmission system. O. T. Lademan. No. 977,657; Dec. 6; Sp. p. 537; Gaz. vol. 161; p. 81.
Telephone-transmitter. F. Gottschalk. No. 977,616; Dec. 6; Sp. p. 453; Gaz. vol. 161; p. 68.
Telephone-transmitter. F. Gottschalk. No. 977,617; Dec. 6; Sp. p. 456; Gaz. vol. 161; p. 68.
Telephone-transmitter. F. Gottschalk. No. 977,618; Dec. 6; Sp. p. 458; Gaz. vol. 161; p. 69.
Telephone-transmitter. F. Gottschalk. No. 977,619; Dec. 6; Sp. p. 459; Gaz. vol. 161; p. 69.
Telephone-transmitter, F. Gottschalk. No. 977,620; Dec. 6; Sp. p. 461; Gaz. vol. 161; p. 69.
Telephone-transmitter. F. Gottschalk. No. 977,622; Dec. 6; Sp. p. 466; Gaz. vol. 161; p. 70.
Telephone-transmitter. F. Gottschalk. No. 977,623; Dec. 6; Sp. p. 468; Gaz. vol. 161; p. 70.
Telephone-transmitter. J. Sparks. No. 978,070; Dec. 6; Sp. p. 1391; Gaz. vol. 161; p. 223.
Telephone-transmitter. C. Adams-Randall. No. 980,042; Dec. 27; Sp. p. 5674; Gaz. vol. 161; p. 977.
Telephonic communication without connecting-wires, Means for effecting. H. G. Matthews. No. 977,462; Dec. 6; Sp. p. 72; Gaz. vol. 161; p. 14.
Temperatures, Generating high. W. C. Finck. No. 980,087; Dec. 27; Sp. p. 5780; Gaz. vol. 161; p. 991.
Tent, Shelter or sleeping. F. Searle. No. 979,037; Dec. 20; Sp. p. 3499; Gaz. vol. 161; p. 612.
Thawing device for drip-pipes. E. H. Gold. No. 978,150; Dec. 13; Sp. p. 1591; Gaz. vol. 161; p. 282.
Thermodynamic machine. J. E. Haennig. No. 977,731; Dec. 6; Sp. p. 687; Gaz. vol. 161; p. 107.
Thermometer. F. S. Dickinson. No. 978,141; Dec. 13; Sp. p. 1678; Gaz. vol. 161; p. 280.
Thread-cutting mechanism. H. W. Oster. No. 977,540; Dec. 6; Sp. p. 287; Gaz. vol. 161; p. 42.
Threads, Apparatus for use in the manufacture of artificial-silk and like. J. Clayton. No. 979,434; Dec. 27; Sp. p. 4341; Gaz. vol. 161; p. 770.
Threads, &c., Manufacturing masses for making artificial. R. Linkmeyer. No. 979,013; Dec. 20; Sp. p. 3448; Gaz. vol. 161; p. 605.
Threading-machine. H. E. Gross. No. 979,152; Dec. 20; Sp. p. 3784; Gaz. vol. 161; p. 655.
Thresher, Pea-. R. E. Wright. No. 978,529; Dec. 13; Sp. p. 2390; Gaz. vol. 161; p. 413.
Threshing cylinders and concaves, Toothed bar for. C. Callan. No. 978,692; Dec. 13; Sp. p. 2755; Gaz. vol. 161; p. 470.
Threshing-machine. W. G. Stewart. No. 978,072; Dec. 6; Sp. p. 1395; Gaz. vol. 161; p. 224.
Threshing-machine. H. Ewoldt. No. 978,570; Dec. 13; Sp. p. 2509; Gaz. vol. 161; p. 428.
Threshing-machine self-feeder and band-cutter. R. and B. Crain. No. 977,599; Dec. 6; Sp. p. 424; Gaz. vol. 161; p. 62.
Ticket-holder. O. Oehring. No. 978,052; Dec. 6; Sp. 1353; Gaz. vol. 161; p. 217.
Ticket, Transfer-. H. J. Smith. No. 978,407; Dec. 1
Sp. p. 2141; Gaz. vol. 161; p. 373.
Tide-motor. G. Degagne. No. 978,117; Dec. 6; Sp. 1498; Gaz. vol. 161; p. 241.
Tie: *See* Bale or package tie; Concrete tie; Cross-ti
Fence-tie; Railway-tie; Railway cross-tie; Wall-tie.
Tie-holding device. J. T. Moore. No. 978,618; Dec. 1
Sp. p. 2614; Gaz. vol. 161; p. 446.
Tie-puller. J. R. Smith. No. 977,975; Dec. 6; Sp. 1202; Gaz. vol. 161; p. 192.
Tile. J. Freund. No. 979,280; Dec. 20; Sp. p. 405
Gaz. vol. 161; p. 698.
Tile, Furnace-. G. W. Wood. No. 979,627; Dec. 27; Sp. 4774; Gaz. vol. 161; p. 838.
Tile, Irrigation-. J. E. Connor. No. 977,435; Dec. 6; S
p. 16; Gaz. vol. 161; p. 6.
Time-lock. O. F. Mieth. No. 978,325; Dec. 13; Sp. 1967; Gaz. vol. 161; p. 343.
Time-recorder. J. Sokolov. No. 979,585; Dec. 27; Sp. 4688; Gaz. vol. 161; p. 823.
Time-recorder, Workman's. F. J. Trap and F. Cais.
979,108; Dec. 20; Sp. p. 3677; Gaz. vol. 161; p. 638.
Time-signal, Electric. J. I. Johnston. No. 978,593; D
13; Sp. p. 2562; Gaz. vol. 161; p. 437.
Tire. J. A. Vitello. No. 977,492; Dec. 6; Sp. p. 14
Gaz. vol. 161; p. 25.
Tire. J. M. Benham and G. W. Slater. No. 977,584; D
6; Sp. p. 393; Gaz. vol. 161; p. 57.
Tire. H. H. Hodgson. No. 977,628; Dec. 6; Sp. p. 47
Gaz. vol. 161; p. 72.
Tire. J. A. Bowden. No. 978,549; Dec. 13; Sp. p. 24
Gaz. vol. 161; p. 420.
Tire. H. E. Moebus. No. 979,325; Dec. 20; Sp. p. 41
Gaz. vol. 161; p. 712.
Tire. J. J. Patton. No. 979,882; Dec. 27; Sp. p. 53
Gaz. vol. 161; p. 924.
Tire. J. J. Patton. No. 979,883; Dec. 27; Sp. p. 53
Gaz. vol. 161; p. 924.
Tire antiskid device. R. N. Evans and P. T. Hamm.
979,140; Dec. 20; Sp. p. 3754; Gaz. vol. 161; p. 650

Tire antiskid device. P. T. Hamm. No. 979,159; Dec. 20; Sp. p. 3796; Gaz. vol. 161; p. 658.
Tire antiskid device. P. T. Hamm. No. 979,160; Dec. 20; Sp. p. 3798; Gaz. vol. 161; p. 658.
Tire-armor. A. F. Walker and J. Gilles. No. 978,243; Dec. 13; Sp. p. 1790; Gaz. vol. 161; p. 314.
Tire-fastening device, Vehicle-. P. B. Bosworth. No. 977,588; Dec. 6; Sp. p. 398; Gaz. vol. 161; p. 58.
Tire-fastening device, Vehicle-. P. B. Bosworth. No. 977,589; Dec. 6; Sp. p. 399; Gaz. vol. 161; p. 58.
Tire-fastening means, Vehicle-. P. B. Bosworth. No. 977,586; Dec. 6; Sp. p. 395; Gaz. vol. 161; p. 57.
Tire for vehicles, Elastic. A. Boerner. No. 979,417; Dec. 27; Sp. p. 4314; Gaz. vol. 161; p. 765.
Tire holder and trunk-support, Spare-. L. P. McKinney. No. 979,188; Dec. 20; Sp. p. 3855; Gaz. vol. 161; p. 667.
Tire, Non-skid. R. H. Keaton. No. 979,961; Dec. 27; Sp. p. 5493; Gaz. vol. 161; p. 950.
Tire-patching device. G. J. Martel. No. 979,525; Dec. 27; Sp. p. 4544; Gaz. vol. 161; p. 802.
Tire-retainer. C. Markel. No. 978,766; Dec. 13; Sp. p. 2918; Gaz. vol. 161; p. 493.
Tire-rim for motor-vehicle wheels. C. B. Siner. No. 977,843; Dec. 6; Sp. p. 919; Gaz. vol. 161; p. 145.
Tire-rim for motor-vehicle wheels. C. B. Siner. No. 977,844; Dec. 6; Sp. p. 920; Gaz. vol. 161; p. 146.
Tire-shoe-vulcanizing apparatus. R. Rowley. No. 979,889; Dec. 27; Sp. p. 5354; Gaz. vol. 161; p. 926.
Tire-shoe wrapping and vulcanizing apparatus. R. Rowley. No. 979,568; Dec. 27; Sp. p. 4649; Gaz. vol. 161; p. 817.
Tire tool, Vehicle-. C. H. Frazier. No. 979,279; Dec. 20; Sp. p. 4055; Gaz. vol. 161; p. 697.
Tire-tread attachment. O. A. Rixford. No. 978,210; Dec. 13; Sp. p. 1722; Gaz. vol. 161; p. 303.
Tire-tread, Motor-vehicle. M. A. Kennedy. No. 979,008; Dec. 20; Sp. p. 3435; Gaz. vol. 161; p. 603.
Tire, Vehicle-. P. B. Bosworth. No. 977,585; Dec. 6; Sp. p. 394; Gaz. vol. 161; p. 57.
Tire, Vehicle-wheel. N. Guthrie and C. L. Johnson. No. 978,019; Dec. 6; Sp. p. 1289; Gaz. vol. 161; p. 206.
Tires, Detachable fastening for pneumatic. P. B. Bosworth. No. 977,587; Dec. 6; Sp. p. 396; Gaz. vol. 161; p. 58.
Tires of motor-cars and other carriages, Metallic fabric suitable for pneumatic. C. M. Gautier. No. 978,731; Dec. 13; Sp. p. 2848; Gaz. vol. 161; p. 483.
Tires, Puncture-guard for pneumatic. T. H. Prince. No. 979,699; Dec. 27; Sp. p. 4918; Gaz. vol. 161; p. 862.
Tires, Puncture-proof guard for pneumatic. G. S. Crawford. No. 978,274; Dec. 13; Sp. p. 1864; Gaz. vol. 161; p. 327.
Toaster, Electric. W. S. Hadaway, Jr. No. 977,626; Dec. 6; Sp. p. 472; Gaz. vol. 161; p. 71.
Tobacco-leaf-stringing machine. O. and A. Graf. No. 979,287; Dec. 20; Sp. p. 4071; Gaz. vol. 161; p. 700.
Tobacco-moistener. R. Raabe. No. 980,127; Dec. 27; Sp. p. 5887; Gaz. vol. 161; p. 1005.
Tobacco-pipe. A. Q. Walsh. No. 977,910; Dec. 6; Sp. p. 1041; Gaz. vol. 161; p. 169.
Tobacco-pipe. P. P. Sullivan. No. 979,352; Dec. 20; Sp. p. 4177; Gaz. vol. 161; p. 721.
Toggle-bolt. J. Kennedy. No. 978,380; Dec. 13; Sp. p. 2082; Gaz. vol. 161; p. 363.
Toggle-bolt. J. E. Goewey. No. 979,841; Dec. 27; Sp. p. 5260; Gaz. vol. 161; p. 911.
Tongue, Wagon-. W. B. Stites. No. 977,568; Dec. 6; Sp. p. 349; Gaz. vol. 161; p. 51.
Tool, Adjustable. P. F. Connelly. No. 980,007; Dec. 27; Sp. p. 5724; Gaz. vol. 161; p. 985.
Tool-chest. W. H. Colby. No. 978,358; Dec. 13; Sp. p. 2033; Gaz. vol. 161; p. 354.
Tool, Compound. D. A. Modrall. No. 977,672; Dec. 6; Sp. p. 569; Gaz. vol. 161; p. 86.
Tool, Convertible. O. Fylling. No. 978,283; Dec. 13; Sp. p. 1882; Gaz. vol. 161; p. 330.
Tool, Double-bladed. O. W. Johnson. No. 978,165; Dec. 13; Sp. p. 1625; Gaz. vol. 161; p. 287.
Tool-driver, Spiral. F. E. Davis. No. 979,132; Dec. 20; Sp. p. 3739; Gaz. vol. 161; p. 647.
Tool-driver, Spiral. T. J. Fegley and G. O. Leopold. No. 979,989; Dec. 27; Sp. p. 5456; Gaz. vol. 161; p. 942.
Tool, Electropneumatic. J. T. Hillhouse. No. 979,164; Dec. 20; Sp. p. 3804; Gaz. vol. 161; p. 659.
Tool, Fluid-pressure-operated. W. Prellwitz. No. 978,484; Dec. 13; Sp. p. 2309; Gaz. vol. 161; p. 398.
Tool-holder. F. W. Shillitto. No. 978,226; Dec. 13; Sp. p. 1748; Gaz. vol. 161; p. 308.
Tool, Pneumatic. R. A. Norling. No. 977,826; Dec. 6; Sp. p. 886; Gaz. vol. 161; p. 139.
Tool-rest. F. P. Olds. No. 979,880; Dec. 27; Sp. p. 5336; Gaz. vol. 161; p. 923.
Torpedo, Automobile. G. C. Davison. No. 977,438; Dec. 6; Sp. p. 21; Gaz. vol. 161; p. 7.
Torpedo, Automobile. W. M. Douglas. No. 978,862; Dec. 20; Sp. p. 3096; Gaz. vol. 161; p. 549.
Torpedo-placer. E. P. S. Andrews. No. 980,137; Dec. 27; Sp. p. 5909; Gaz. vol. 161; p. 1008.
Torsiometer, Electrical. C. H. Johnson. No. 979,503; Dec. 27; Sp. p. 4494; Gaz. vol. 161; p. 794.
Towel-supply device. I. L. Park. No. 979,029; Dec. 20; Sp. p. 3476; Gaz. vol. 161; p. 610.
Toy. Z. D. Underhill. No. 977,572; Dec. 6; Sp. p. 361; Gaz. vol. 161; p. 52.
Toy. F. R. Hayes. No. 979,486; Dec. 27; Sp. p. 4462; Gaz. vol. 161; p. 788.
Toy. A. Schoenhut. No. 980,013; Dec. 27; Sp. p. 5599; Gaz. vol. 161; p. 967.
Toy, Sounding. R. O. Barler. No. 977,924; Dec. 6; Sp. p. 1094; Gaz. vol. 161; p. 174.
Trace-coupling. A. Bulley. No. 979,743; Dec. 27; Sp. p. 5026; Gaz. vol. 161; p. 878.
Trace-fastener. C. F. Bloom. No. 979,369; Dec. 20; Sp. p. 4211; Gaz. vol. 161; p. 726.
Track, Portable. W. H. Harris. No. 978,582; Dec. 13; Sp. p. 2537; Gaz. vol. 161; p. 432.
Track, Sectional. G. A. Olson. No. 979,028; Dec. 20; Sp. p. 3474; Gaz. vol. 161; p. 609.
Track-shifting machine. H. T. Devitt. No. 978,858; Dec. 20; Sp. p. 3083; Gaz. vol. 161; p. 548.
Tracker-bar. G. P. Brand. No. 977,700; Dec. 6; Sp. p. 638; Gaz. vol. 161; p. 97.
Transmission mechanism. R. Herman. No. 977,871; Dec. 6; Sp. p. 981; Gaz. vol. 161; p. 155.
Transom support and fastener. C. J. Ericson. No. 979,138; Dec. 20; Sp. p. 3750; Gaz. vol. 161; p. 649.
Transportation system. W. C. Carr. No. 978,112; Dec. 6; Sp. p. 1482; Gaz. vol. 161; p. 239.
Trap: *See* Animal-trap; Hog-trap; Steam-trap; Water-seal trap.
Trap. W. S. Elliott. No. 977,943; Dec. 6; Sp. p. 1129; Gaz. vol. 161; p. 181.
Tree-tapping implement. G. Glauser. No. 978,366; Dec. 13; Sp. p. 2047; Gaz. vol. 161; p. 357.
Trench-filling apparatus. W. G. Howe. No. 978,886; Dec. 20; Sp. p. 3147; Gaz. vol. 161; p. 559.
Trestle, Knockdown. H. Schott. No. 978,403; Dec. 13; Sp. p. 2135; Gaz. vol. 161; p. 371.
Trimmer: *See* Saw-trimmer.
Trocha-cutter. G. F. Nelson and J. H. Bean. No. 979,686; Dec. 27; Sp. p. 4895; Gaz. vol. 161; p. 858.
Trolley-catcher. F. J. Roche. No. 977,476; Dec. 6; Sp. p. 109; Gaz. vol. 161; p. 19.
Trolley circuit connection. C. W. Whaley. No. 979,116; Dec. 20; Sp. p. 3697; Gaz. vol. 161; p. 641.
Trolley guard and finder. H. R. Sherman. No. 979,712; Dec. 27; Sp. p. 4940; Gaz. vol. 161; p. 866.
Trolley-retractor. L. B. Stanley. No. 978,953; Dec. 20; Sp. p. 3300; Gaz. vol. 161; p. 583.
Trolley-stand. C. M. Feist. No. 979,940; Dec. 27; Sp. p. 5458; Gaz. vol. 161; p. 943.
Trolley-wheel guard. E. E. Kelley. No. 979,311; Dec. 20; Sp. p. 4108; Gaz. vol. 161; p. 708.
Trombone, Slide-. H. N. White. No. 977,766; Dec. 6; Sp. p. 767; Gaz. vol. 161; p. 119.
Trough: *See* Feed-trough; Stock-trough; Watering-trough.
Trousers-hanger. M. H. Cazier and A. P. Dike. No. 977,504; Dec. 6; Sp. p. 410; Gaz. vol. 161; p. 60.
Trousers-legs, Means for creasing. D. Marinsky. No. 979,780; Dec. 27; Sp. p. 5106; Gaz. vol. 161; p. 889.
Truck. J. W. Taylor. No. 977,759; Dec. 6; Sp. p. 756; Gaz. vol. 161; p. 117.
Truck. C. Gentle. No. 978,015; Dec. 6; Sp. p. 1281; Gaz. vol. 161; p. 205.
Truck. W. Voss. No. 978,242; Dec. 13; Sp. p. 1786; Gaz. vol. 161; p. 313.
Truck. C. E. Barba. No. 978,428; Dec. 13; Sp. p. 2186; Gaz. vol. 161; p. 379.
Truck. C. W. Underwood. No. 978,517; Dec. 13; Sp. p. 2371; Gaz. vol. 161; p. 409.
Truck, Adjustable. J. Forteous. No. 979,093; Dec. 20; Sp. p. 3613; Gaz. vol. 161; p. 631.
Truck, Car-. J. C. Barber. No. 977,429; Dec. 6; Sp. p. 7; Gaz. vol. 161; p. 4.
Truck, Car-. H. C. Buboup. No. 977,707; Dec. 6; Sp. p. 652; Gaz. vol. 161; p. 99.
Truck equalizer, Six-wheel-. E. Posson. No. 979,033; Dec. 20; Sp. p. 3492; Gaz. vol. 161; p. 611.
Truck, Hand-. W. H. Archibald. No. 979,053; Dec. 20; Sp. p. 3531; Gaz. vol. 161; p. 617.
Truck, Piano-. G. A. Perry. No. 979,089; Dec. 20; Sp. p. 3607; Gaz. vol. 161; p. 629.
Truck, Railway-. E. D. Priest. No. 977,839; Dec. 6; Sp. p. 910; Gaz. vol. 161; p. 144.
Truck side frames, Adjustable column-guide for. C. S. Shallenberger. No. 978,946; Dec. 20; Sp. p. 3278; Gaz. vol. 161; p. 581.
Trucks, Adjustable journal-box for. S. M. Chase. No. 979,648; Dec. 27; Sp. p. 4819; Gaz. vol. 161; p. 846.
Trunk-hasp. C. J. Lysaght. No. 979,777; Dec. 27; Sp. p. 5100; Gaz. vol. 161; p. 888.
Trunk, Wardrobe-. H. Davis. No. 978,436; Dec. 13; Sp. p. 2205; Gaz. vol. 161; p. 382.
Tub: *See* Bath-tub.
Tube-cleaning apparatus. E. E. Haner. No. 979,205; Dec. 20; Sp. p. 4084; Gaz. vol. 161; p. 703.
Tug attachment. B. I. H. Mitchell. No. 977,530; Dec. 6; Sp. p. 266; Gaz. vol. 161; p. 38.
Tumbling-barrel. F. E. Warner. No. 978,524; Dec. 13; Sp. p. 2391; Gaz. vol. 161; p. 412.
Tuning device, Electrical. R. H. Marriott. No. 978,604; Dec. 13; Sp. p. 2585; Gaz. vol. 161; p. 441.
Tuning device, Electrical. R. H. Marriott. No. 978,605; Dec. 13; Sp. p. 2592; Gaz. vol. 161; p. 441.
Tuning device, Electrical. R. H. Marriott. No. 978,606; Dec. 13; Sp. p. 2595; Gaz. vol. 161; p. 442.

Tunnel-form. C. D. McArthur. No. 979,185; Dec. 20; Sp. p. 3849; Gaz. vol. 161; p. 666.
Tunneling-machines, Cutter-head for. J. P. Karns. No. 977,955; Dec. 6; Sp. p. 1152; Gaz. vol. 161; p. 185.
Turbine. J. Procner. No. 977,890; Dec. 6; Sp. p. 1039; Gaz. vol. 161; p. 165.
Turbine. T. J. Westerman. No. 979,619; Dec. 27; Sp. p. 4757; Gaz. vol. 161; p. 835.
Turbine. A. W. Bennett. No. 979,735; Dec. 27; Sp. p. 5009; Gaz. vol. 161; p. 874.
Turbine-controller. H. G. Sablin. No. 979,802; Dec. 27; Sp. p. 5176; Gaz. vol. 161; p. 897.
Turbine, Elastic-fluid. C. W. Dake. No. 977,601; Dec. 6; Sp. p. 431; Gaz. vol. 161; p. 63.
Turbine for driving boiler-tube cleaners. H. F. and H. G. Weinland. No. 978,089; Dec. 6; Sp. p. 1436; Gaz. vol. 161; p. 232.
Turbine-motor and pressure device. T. J. Loftus. No. 978,044; Dec. 6; Sp. p. 1339; Gaz. vol. 161; p. 215.
Turbine, Steam-. H. B. Lee. No. 979,077; Dec. 20; Sp. p. 3573; Gaz. vol. 161; p. 625.
Turn-table. D. Tipton. No. 977,983; Dec. 6; Sp. p. 1214; Gaz. vol. 161; p. 195.
Turn-tables, Electric collector for. L. E. Jones. No. 977,653; Dec. 6; Sp. p. 528; Gaz. vol. 161; p. 80.
Tweezers. C. J. Prankard, Jr. No. 979,697; Dec. 27; Sp. p. 4912; Gaz. vol. 161; p. 861.
Twine-holder. J. W. Morris. No. 978,050; Dec. 6; Sp. p. 1350; Gaz. vol. 161; p. 217.
Twyer-stock. A. G. McKee. No. 979,187; Dec. 20; Sp. p. 3854; Gaz. vol. 161; p. 666.
Type aligning and supporting means. A. G. Hyde and R. P. Link. No. 978,754; Dec. 13; Sp. p. 2892; Gaz. vol. 161; p. 490.
Type casting and composing machine. R. P. Link and A. C. Morgan. No. 979,864; Dec. 27; Sp. p. 5307; Gaz. vol. 161; p. 918.
Type-mold, Adjustable hand. A. S. Taylor. No. 979,222; Dec. 20; Sp. p. 3935; Gaz. vol. 161; p. 679.
Type setting and distributing machine. W. M. Kelly. No. 978,456; Dec. 13; Sp. p. 2240; Gaz. vol. 161; p. 388.
Type-writer and similar ribbons, Machine for inking and reinking. D. N. Lennox. No. 977,661; Dec. 6; Sp. p. 545; Gaz. vol. 161; p. 83.
Type-writer carriage-feeding device. H. L. W. F. Klemp. No. 978,758; Dec. 13; Sp. p. 2902; Gaz. vol. 161; p. 491.
Type-writer escapement mechanism. W. R. Fox. No. 978,871; Dec. 20; Sp. p. 3111; Gaz. vol. 161; p. 552.
Type-writer feed-roller attachment. C. H. Brown. No. 978,320; Dec. 13; Sp. p. 3005; Gaz. vol. 161; p. 510.
Type-writer key and type-bar mechanism. J. Alexander. No. 978,531; Dec. 13; Sp. p. 2403; Gaz. vol. 161; p. 414.
Type-writer, Oriental. S. A. Harrison. No. 977,448; Dec. 6; Sp. p. 44; Gaz. vol. 161; p. 10.
Type-writer ribbon-movement. G. A. Smith. No. 979,583; Dec. 27; Sp. p. 4683; Gaz. vol. 161; p. 822.
Type-writing machine. A. W. Smith. No. 977,480; Dec. 6; Sp. p. 116; Gaz. vol. 161; p. 20.
Type-writing machine. C. G. Rosenhauer. No. 978,214; Dec. 13; Sp. p. 1728; Gaz. vol. 161; p. 304.
Type-writing machine. O. Woodward. No. 978,255; Dec. 13; Sp. p. 1819; Gaz. vol. 161; p. 318.
Type-writing machine. W. Hainer. No. 978,369; Dec. 13; Sp. p. 2054; Gaz. vol. 161; p. 358.
Type-writing machine. J. Waldheim. No. 978,522; Dec. 13; Sp. p. 2381; Gaz. vol. 161; p. 411.
Type-writing machine. A. G. F. Kurowski. No. 978,902; Dec. 20; Sp. p. 3178; Gaz. vol. 161; p. 564.
Type-writing machine. L. Ney. No. 978,926; Dec. 20; Sp. p. 3228; Gaz. vol. 161; p. 573.
Type-writing machine. G. A. Seib and J. W. Koerner. No. 978,944; Dec. 20; Sp. p. 3274; Gaz. vol. 161; p. 580.
Type-writing machine. C. Gibbs and J. Sokolov. No. 979,000; Dec. 20; Sp. p. 3411; Gaz. vol. 161; p. 600.
Type-writing machine. C. E. Smith. No. 979,215; Dec. 20; Sp. p. 3908; Gaz. vol. 161; p. 676.
Type-writing machine. C. E. Smith. No. 979,216; Dec. 20; Sp. p. 3914; Gaz. vol. 161; p. 676.
Type-writing machine. F. J. Tanner. No. 979,355; Dec. 20; Sp. p. 4183; Gaz. vol. 161; p. 722.
Type-writing machine. H. M. Hamilton. No. 979,480; Dec. 27; Sp. p. 4447; Gaz. vol. 161; p. 786.
Type-writing machine. C. B. Yaw. No. 979,630; Dec. 27; Sp. p. 4778; Gaz. vol. 161; p. 839.
Type-writing machine. W. W. Hopkins. No. 979,671; Dec. 27; Sp. p. 4861; Gaz. vol. 161; p. 852.
Type-writing machine. D. Marinsky. No. 979,680; Dec. 27; Sp. p. 4882; Gaz. vol. 161; p. 855.
Type-writing machine. H. H. Steele. No. 979,717; Dec. 27; Sp. p. 4956; Gaz. vol. 161; p. 869.
Type-writing machine. W. J. Barron. No. 979,731; Dec. 27; Sp. p. 5002; Gaz. vol. 161; p. 873.
Type-writing machine. W. J. Roche. No. 979,800; Dec. 27; Sp. p. 5172; Gaz. vol. 161; p. 896.
Type-writing machine. L. Ney. No. 979,991; Dec. 27; Sp. p. 5550; Gaz. vol. 161; p. 950.
Type-writing machine. C. F. Crandall. (Reissue.) No. 13,185; Dec. 27; Sp. p. 6004; Gaz. vol. 161; p. 1022.
Umbrella and parasol. J. Rose. No. 978,213; Dec. 13; Sp. p. 1727; Gaz. vol. 161; p. 303.
Umbrella, Convertible cane-. M. Bearman. No. 979,122; Dec. 20; Sp. p. 3715; Gaz. vol. 161; p. 643.
Umbrellas and parasols, Notch or runner-head for. J. B. Riehl. No. 979,561; Dec. 27; Sp. p. 4636; Gaz. vol. 161; p. 814.
Umbrellas, canes, and the like, Lock for. P. R. Gilbert. No. 977,612; Dec. 6; Sp. p. 446; Gaz. vol. 161; p. 66.
Underreamer. J. C. Swan. No. 979,106; Dec. 20; Sp. p. 3665; Gaz. vol. 161; p. 636.
Urinal, Female. W. S. Ross. No. 977,903; Dec. 6; Sp. p. 1050; Gaz. vol. 161; p. 166.
Vacuum apparatus. E. P. Noyes. No. 979,788; Dec. 27; Sp. p. 5130; Gaz. vol. 161; p. 892.
Vacuum-cleaner, Portable. C. W. Kelsey. No. 978,167; Dec. 13; Sp. p. 1629; Gaz. vol. 161; p. 288.
Vacuum cleaning apparatus. L. R. Roberts. No. 978,649; Dec. 13; Sp. p. 2683; Gaz. vol. 161; p. 456.
Vacuum cleaning apparatus. L. W. Serrell. No. 979,210; Dec. 20; Sp. p. 3095; Gaz. vol. 161; p. 674.
Vacuum cleaning-tool. H. A. Fergusson. No. 978,869; Dec. 20; Sp. p. 3108; Gaz. vol. 161; p. 551.
Vacuum supporting device. J. E. Corbin. No. 979,436; Dec. 27; Sp. p. 4352; Gaz. vol. 161; p. 771.
Valve. W. E. Sloan. No. 977,562; Dec. 6; Sp. p. 340; Gaz. vol. 161; p. 50.
Valve. W. H. Glenn. No. 977,614; Dec. 6; Sp. p. 450; Gaz. vol. 161; p. 67.
Valve. G. Land. No. 977,807; Dec. 6; Sp. p. 846; Gaz. vol. 161; p. 133.
Valve. J. W. Harkom. No. 978,288; Dec. 13; Sp. p. 1893; Gaz. vol. 161; p. 331.
Valve. J. E. Davidson. No. 978,706; Dec. 13; Sp. p. 2788; Gaz. vol. 161; p. 474.
Valve. J. Huebsch. No. 978,752; Dec. 13; Sp. p. 2890; Gaz. vol. 161; p. 489.
Valve. E. O'Malley. No. 978,927; Dec. 20; Sp. p. 3230; Gaz. vol. 161; p. 573.
Valve. E. O'Malley. No. 978,928; Dec. 20; Sp. p. 3234; Gaz. vol. 161; p. 574.
Valve. E. O'Malley. No. 978,929; Dec. 20; Sp. p. 3236; Gaz. vol. 161; p. 574.
Valve. E. O'Malley. No. 978,930; Dec. 20; Sp. p. 3239; Gaz. vol. 161; p. 575.
Valve. F. A. Merrill and J. S. C. Nicholls. No. 979,532; Dec. 27; Sp. p. 4550; Gaz. vol. 161; p. 804.
Valve. A. B. Wallem. No. 979,811; Dec. 27; Sp. p. 5191; Gaz. vol. 161; p. 900.
Valve. F. Messmer, Jr. No. 979,874; Dec. 27; Sp. p. 5327; Gaz. vol. 161; p. 921.
Valve, Air-. P. J. Grebel and W. J. Theis. No. 978,579; Dec. 13; Sp. p. 2529; Gaz. vol. 161; p. 431.
Valve and valve-operating mechanism. F. Loedige. No. 978,463; Dec. 13; Sp. p. 2257; Gaz. vol. 161; p. 391.
Valve arrangement for controlling fluid transmission-gears. H. Lentz. No. 980,106; Dec. 27; Sp. p. 5832; Gaz. vol. 161; p. 998.
Valve, Automatic cut-off. F. Hodgkinson. No. 978,204; Dec. 13; Sp. p. 1905; Gaz. vol. 161; p. 333.
Valve, Automatically-acting spring flap-. M. F. Gutermuth. No. 978,152; Dec. 13; Sp. p. 1595; Gaz. vol. 161; p. 283.
Valve, Check-. J. Johnson. No. 978,757; Dec. 13; Sp. p. 2901; Gaz. vol. 161; p. 491.
Valve, Combination-. W. B. Davis. No. 979,384; Dec. 20; Sp. p. 4239; Gaz. vol. 161; p. 730.
Valve-controlling device. L. H. Venn. No. 979,725; Dec. 27; Sp. p. 4985; Gaz. vol. 161; p. 871.
Valve-disk-cutting machine. F. L. Smith and T. B. Williams. No. 980,019; Dec. 27; Sp. p. 5608; Gaz. vol. 161; p. 969.
Valve, Engine-. J. Rothchild. No. 979,097; Dec. 20; Sp. p. 3627; Gaz. vol. 161; p. 632.
Valve, Engineer's. J. E. Osmer. No. 978,393; Dec. 13; Sp. p. 2114; Gaz. vol. 161; p. 368.
Valve for fluid-pressure brakes and signals, Conductor's. C. C. Farmer. No. 979,837; Dec. 27; Sp. p. 5255; Gaz. vol. 161; p. 900.
Valve-gear. H. Dubert. No. 978,143; Dec. 13; Sp. p. 1582; Gaz. vol. 161; p. 280.
Valve-gear. H. P. Graves. No. 978,737; Dec. 13; Sp. p. 2863; Gaz. vol. 161; p. 485.
Valve-gear. T. Hall. No. 979,002; Dec. 20; Sp. p. 3421; Gaz. vol. 161; p. 601.
Valve-gear. H. F. Shaw. No. 979,212; Dec. 20; Sp. p. 3903; Gaz. vol. 161; p. 675.
Valve-gear for locomotives, Variable-lead. W. L. Davis. No. 977,038; Dec. 6; Sp. p. 1119; Gaz. vol. 161; p. 179.
Valve-gear, Steam-engine. J. Phillips. No. 979,031; Dec. 20; Sp. p. 3481; Gaz. vol. 161; p. 610.
Valve-grinding device. C. H. Field. No. 978,442; Dec. 13; Sp. p. 2213; Gaz. vol. 161; p. 383.
Valve, Irrigation-. J. M. Eads and A. S. Bent. No. 978,567; Dec. 13; Sp. p. 2505; Gaz. vol. 161; p. 427.
Valve mechanism. F. F. Field. No. 977,723; Dec. 6; Sp. p. 675; Gaz. vol. 161; p. 104.
Valve mechanism, Explosive-engine. T. L. Moore. No. 979,024; Dec. 20; Sp. p. 3468; Gaz. vol. 161; p. 608.
Valve-operating gear. R. W. Kaucher. No. 977,880; Dec. 6; Sp. p. 1000; Gaz. vol. 161; p. 157.
Valve-operating mechanism for use in internal-combustion engines. G. Green. No. 979,943; Dec. 27; Sp. p. 5465; Gaz. vol. 161; p. 944.
Valve, Radiator drain-. C. C. Peck. No. 979,553; Dec. 27; Sp. p. 4608; Gaz. vol. 161; p. 811.
Valve-seating attachment. J. M. Gibbs. No. 979,068; Dec. 20; Sp. p. 3557; Gaz. vol. 161; p. 622.
Valve, Triple. W. A. Pendry. No. 978,640; Dec. 18; Sp. p. 2665; Gaz. vol. 161; p. 453.

Valves, Device for preventing ignition of pressure-reducing. J. H. and A. B. Dräger. No. 979,936; Dec. 27; Sp. p. 5449; Gaz. vol. 161; p. 941.
Vault-light. J. J. Lawler. No. 979,772; Dec. 27; Sp. p. 5089; Gaz. vol. 161; p. 886.
Vault mold, Grave-. W. Dennis. No. 979,062; Dec. 20; Sp. p. 3546; Gaz. vol. 161; p. 621.
Vegetable-cutter. G. Hahn. No. 978,153; Dec. 13; Sp. p. 1598; Gaz. vol. 161; p. 283.
Vehicle. H. C. Priebe. No. 978,203; Dec. 13; Sp. p. 1707; Gaz. vol. 161; p. 300.
Vehicle. R. C. Sayer. No. 979,572; Dec. 27; Sp. p. 4663; Gaz. vol. 161; p. 818.
Vehicle antivibration device. E. Helmus. No. 978,291; Dec. 13; Sp. p. 1807; Gaz. vol. 161; p. 332.
Vehicle back-up brake. D. T. Walsh. No. 978,966; Dec. 20; Sp. p. 3340; Gaz. vol. 161; p. 588.
Vehicle-frame. W. S. Harley. No. 978,881; Dec. 20; Sp. p. 3137; Gaz. vol. 161; p. 557.
Vehicle-frame suspension. G. Fornaca. No. 979,278; Dec. 20; Sp. p. 4054; Gaz. vol. 161; p. 697.
Vehicle-gear. F. E. Wilcox. No. 977,769; Dec. 6; Sp. p. 773; Gaz. vol. 161; p. 120.
Vehicle-indicator. M. A. Martin. No. 979,526; Dec. 27; Sp. p. 4547; Gaz. vol. 161; p. 802.
Vehicle number-plate support. W. B. Hughes. No. 978,023; Dec. 6; Sp. p. 1295; Gaz. vol. 161; p. 207.
Vehicle pneumatic cushion. G. J. Bancroft. No. 980,138; Dec. 27; Sp. p. 5910; Gaz. vol. 161; p. 1009.
Vehicle-seat lock. E. M. Baukneeht. No. 978,104; Dec. 6; Sp. p. 1466; Gaz. vol. 161; p. 236.
Vehicle shock-absorber. W. J. Pierce. No. 979,032; Dec. 20; Sp. p. 3490; Gaz. vol. 161; p. 611.
Vehicle shock-absorber. C. G. Polleys. No. 979,604; Dec. 27; Sp. p. 4908; Gaz. vol. 161; p. 861.
Vehicle-spindles, Babbitting worn. J. L. Cramer. No. 980,071; Dec. 27; Sp. p. 5736; Gaz. vol. 161; p. 986.
Vehicle-spring fastener. W. B. Cook. No. 977,934; Dec. 6; Sp. p. 1113; Gaz. vol. 161; p. 178.
Vehicle-spring, Shock-absorbing. N. Luxembourger. No. 979,016; Dec. 20; Sp. p. 3453; Gaz. vol. 161; p. 606.
Vehicle-supporting means. B. J. Diplock. No. 979,447; Dec. 27; Sp. p. 4380; Gaz. vol. 161; p. 775.
Vehicle-top support. J. W. Troy. No. 977,845; Dec. 6; Sp. p. 921; Gaz. vol. 161; p. 146.
Vehicle-tops, Front fastening device for. A. E. Smith. No. 979,803; Dec. 27; Sp. p. 5365; Gaz. vol. 161; p. 927.
Vehicle-wheel. T. L. May. No. 977,463; Dec. 6; Sp. p. 74; Gaz. vol. 161; p. 15.
Vehicle-wheel. W. Haslup. No. 977,737; Dec. 6; Sp. p. 700; Gaz. vol. 161; p. 109.
Vehicle-wheel. O. G. Worsley. No. 977,846; Dec. 6; Sp. p. 922; Gaz. vol. 161; p. 146.
Vehicle-wheel. A. Westphal. No. 978,249; Dec. 13; Sp. p. 1807; Gaz. vol. 161; p. 316.
Vehicle-wheel. J. H. Harvey. No. 978,289; Dec. 13; Sp. p. 1804; Gaz. vol. 161; p. 332.
Vehicle-wheel. W. H. Fahrney. No. 979,269; Dec. 20; Sp. p. 4034; Gaz. vol. 161; p. 694.
Vehicle-wheel, Resilient. J. Gaynor. No. 977,520; Dec. 6; Sp. p. 232; Gaz. vol. 161; p. 35.
Vehicle wind-shield. W. H. Winslow. No. 978,254; Dec. 13; Sp. p. 1816; Gaz. vol. 161; p. 318.
Vehicles, Resilient apparatus for. C. G. Polleys. No. 979,695; Dec. 27; Sp. p. 4909; Gaz. vol. 161; p. 861.
Vehicles, Spring-fork for wheeled. C. R. Kittle and J. W. Gates. No. 979,674; Dec. 27; Sp. p. 4872; Gaz. vol. 161; p. 854.
Velocipede. F. A. Gagnon. No. 980,092; Dec. 27; Sp. p. 5788; Gaz. vol. 161; p. 902.
Vending apparatus. M. P. Henvis. No. 979,854; Dec. 27; Sp. p. 5285; Gaz. vol. 161; p. 915.
Vending-machine. A. H. Koch. No. 977,745; Dec. 6; Sp. p. 717; Gaz. vol. 161; p. 112.
Vending-machine. E. E. Sullivan. No. 979,596; Dec. 27; Sp. p. 4710; Gaz. vol. 161; p. 827.
Vending-machine. W. R. Williams. No. 979,625; Dec. 27; Sp. p. 4769; Gaz. vol. 161; p. 838.
Vending-machine. R. F. Downey. No. 979,833; Dec. 27; Sp. p. 5245; Gaz. vol. 161; p. 908.
Vending-machine, Automatic. B. M. Davis. No. 977,437; Dec. 6; Sp. p. 18; Gaz. vol. 161; p. 6.
Vending-machine, Coin-controlled. J. H. Sencindiver. No. 977,683; Dec. 6; Sp. p. 594; Gaz. vol. 161; p. 91.
Vending-machine, Coin-controlled. J. H. Sencindiver. No. 978,068; Dec. 6; Sp. p. 1387; Gaz. vol. 161; p. 223.
Vending-machines, Releasing device for automatic. O. Oehring. No. 977,674; Dec. 6; Sp. p. 572; Gaz. vol. 161; p. 87.
Veneer box for berries, &c., Collapsible. O. C. Fenlason. No. 978,868; Dec. 20; Sp. p. 3107; Gaz. vol. 161; p. 551.
Ventilator: *See* Window-ventilator.
Ventilator. W. A. Scott, Jr. (Reissue.) No. 13,179; Dec. 6; Sp. p. 1528; Gaz. vol. 161; p. 246.
Ventilator. W. J. Lindemeyer. No. 978,175; Dec. 13; Sp. p. 1653; Gaz. vol. 161; p. 291.
Ventilator. H. A. Dirkes. No. 979,134; Dec. 20; Sp. p. 3744; Gaz. vol. 161; p. 648.
Ventilator. E. W. Woods. No. 979,728; Dec. 27; Sp. p. 4997; Gaz. vol. 161; p. 872.
Vernier, Fixed. M. G. Nuñez. No. 977,537; Dec. 6; Sp. p. 281; Gaz. vol. 161; p. 41.
Vessel-fender. M. Moráuszky. No. 979,539; Dec. 27; Sp. p. 4574; Gaz. vol. 161; p. 806.
Vessels at sea, Apparatus for coaling. P. McDowall. No. 977,464; Dec. 6; Sp. p. 75; Gaz. vol. 161; p. 15.
Vessels, Flexible corrugated-metal wall for collapsible and expansible. W. M. Fulton. No. 979,460; Dec. 27; Sp. p. 4407; Gaz. vol. 161; p. 780.
Violins, Bow for self-playing. E. A. P. Hennig. No. 978,373; Dec. 13; Sp. p. 2005; Gaz. vol. 161; p. 361.
Vise for carpenters' benches, Detachable H. E. Shawver. No. 979,039; Dec. 20; Sp. p. 3502; Gaz. vol. 161; p. 613.
Vise for drill-presses. A. Johnson. No. 977,878; Dec. 6; Sp. p. 996; Gaz. vol. 161; p. 157.
Vise, Hydraulic. C. F. Schwanengel. No. 978,067; Dec. 6; Sp. p. 1385; Gaz. vol. 161; p. 223.
Voting apparatus. W. A. Sanford. No. 977,905; Dec. 6; Sp. p. 1053; Gaz. vol. 161; p. 167.
Vulcanizer. C. A. Shaler. No. 977,972; Dec. 6; Sp. p. 1196; Gaz. vol. 161; p. 191.
Wagon-box, Adjustable. A. E. Sutherland. No. 979,722; Dec. 27; Sp. p. 4965; Gaz. vol. 161; p. 870.
Wagon-box for hoisting and dumping grain, beets, &c. J. C. Proctor. No. 978,336; Dec. 13; Sp. p. 1995; Gaz. vol. 161; p. 347.
Wagon-brake. E. G. Doland. No. 980,076; Dec. 27; Sp. p. 5744; Gaz. vol. 161; p. 988.
Wagon, Dumping-. J. Heberling. No. 979,488; Dec. 27; Sp. p. 4465; Gaz. vol. 161; p. 789.
Wagon-loader. A. McKinney. No. 980,115; Dec. 27; Sp. p. 5852; Gaz. vol. 161; p. 1001.
Wagon-top. F. Geiger. No. 979,839; Dec. 27; Sp. p. 5258; Gaz. vol. 161; p. 910.
Walking, Apparatus for facilitating. W. W. Anderson. No. 979,243; Dec. 20; Sp. p. 3980; Gaz. vol. 161; p. 685.
Wall-tie. T. P. Shean. No. 978,948; Dec. 20; Sp. p. 3281; Gaz. vol. 161; p. 581.
Wall tie, Partition-. T. P. Shean. No. 980,132; Dec. 27; Sp. p. 5897; Gaz. vol. 161; p. 1007.
Washbasin-supporting device. D. R. Byron. No. 979,127; Dec. 20; Sp. p. 3727; Gaz. vol. 161; p. 645.
Washboard. N. O. Bond. No. 979,371; Dec. 20; Sp. p. 4214; Gaz. vol. 161; p. 726.
Washboiler. L. A. Le Roy. No. 977,644; Dec. 6; Sp. p. 513; Gaz. vol. 161; p. 77.
Washer: *See* Bottle-washer; Coal-washer; Rotary power-washer.
Washers, Making steel spring-. J. E. Wilson. No. 978,974; Dec. 20; Sp. p. 3362; Gaz. vol. 161; p. 591.
Washing apparatus, Centrifugal separating. L. C. Trent. No. 978,238; Dec. 13; Sp. p. 1780; Gaz. vol. 161; p. 312.
Washing-machine. I. Yassenoff. No. 977,772; Dec. 6; Sp. p. 779; Gaz. vol. 161; p. 121.
Washing-machine. S. E. Beelman. No. 979,733; Dec. 27; Sp. p. 5007; Gaz. vol. 161; p. 874.
Washtub-support. R. E. Bohrer. No. 979,123; Dec 20; Sp. p. 3717; Gaz. vol. 161; p. 644.
Watch-barrel. W. B. Mehl. No. 978,613; Dec. 13; Sp. p. 2607; Gaz. vol. 161; p. 444.
Watch-movements, End-stone cap for. W. B. Mehl. No. 978,612; Dec. 13; Sp. p. 2606; Gaz. vol. 161; p. 444.
Watch-movements, Tool for removing the rollers of balance-wheel staffs in. A. F. Robbins. No. 979,562; Dec. 27; Sp. p. 4638; Gaz. vol. 161; p. 814.
Watchmaker's tool, Combination. H. Lutz. No. 978,317; Dec. 13; Sp. p. 1953; Gaz. vol. 161; p. 341.
Water-closet-flushing attachment. P. J. Madden. No. 978,914; Dec. 20; Sp. p. 3201; Gaz. vol. 161; p. 569.
Water-closet tanks, Push-lever for. R. E. Crane. No. 977,937; Dec. 6; Sp. p. 1118; Gaz. vol. 161; p. 179.
Water-conserving system, Hot-. J. E. Rollins. No. 977,841; Dec. 6; Sp. p. 913; Gaz. vol. 161; p. 144.
Water-cooler. A. W. Cram and W. A. Claridge. No. 979,440; Dec. 27; Sp. p. 4364; Gaz. vol. 161; p. 772.
Water-heater. H. C. Odenkirk. No. 977,538; Dec. 6; Sp. p. 283; Gaz. vol. 161; p. 41.
Water-heater. I. J. O'Malley. No. 978,190; Dec. 13; Sp. p. 1690; Gaz. vol. 161; p. 297.
Water-heater. B. A. Geurink. No. 980,095; Dec. 27; Sp. p. 5794; Gaz. vol. 161; p. 993.
Water-heater, Electric circulation. J. I. Ayer. No. 978,808; Dec. 13; Sp. p. 2083; Gaz. vol. 161; p. 505.
Water-meter. W. H. Larrabee. No. 979,518; Dec. 27; Sp. p. 4523; Gaz. vol. 161; p. 799.
Water-pipe. D. Alton. No. 978,349; Dec. 13; Sp. p. 2020; Gaz. vol. 161; p. 352.
Water-raising device. J. M. Swanstrom. No. 979,107; Dec. 20; Sp. p. 3669; Gaz. vol. 161; p. 637.
Water-seal trap. J. P. Putnam. No. 978,485; Dec. 13; Sp. p. 2311; Gaz. vol. 161; p. 398.
Water-tight seam. G. H. Hildreth. No. 977,741; Dec. 6; Sp. p. 707; Gaz. vol. 161; p. 110.
Water-wheel. A. Pfau. No. 978,335; Dec. 13; Sp. p. 1994; Gaz. vol. 161; p. 347.
Waterer, Stock-. B. Wise. No. 977,990; Dec. 6; Sp. p. 1223; Gaz. vol. 161; p. 197.
Watering-trough. A. G. Simmons. No. 977,561; Dec. 6; Sp. p. 339; Gaz. vol. 161; p. 49.
Wave-motor. T. Nixon. No. 978,628; Dec. 13; Sp. p. 2636; Gaz. vol. 161; p. 440.
Weather-boarding gage. J. W. Dougherty. No. 977,715; Dec. 6; Sp. p. 666; Gaz. vol. 161; p. 102.
Weather-strip. F. A. Yeager. No. 979,631; Dec. 27; Sp. p. 4787; Gaz. vol. 161; p. 840.
Weed, stubble, and seed burning machine. L. L. Goheen. No. 978,875; Dec. 20; Sp. p. 3122; Gaz. vol. 161; p. 554.

Weeding-machine. J. H. Atkins. No. 979,407; Dec. 27; Sp. p. 4298; Gaz. vol. 161; p. 762.
Weighing apparatus for portable cars. J. Malensheck and F. Kachewski. No. 977,801; Dec. 6; Sp. p. 1024; Gaz. vol. 161; p. 162.
Weighing-machine, Coin-controlled. G. W. Bowers. No. 979,372; Dec. 20; Sp. p. 4216; Gaz. vol. 161; p. 727.
Weir and the like. F. Schnapp. No. 979,574; Dec. 27; Sp. p. 4665; Gaz. vol. 161; p. 819.
Welding, Electric. J. F. Craven. No. 977,711; Dec. 6; Sp. p. 658; Gaz. vol. 161; p. 101.
Welding, Electric. L. S. Lachman. No. 979,970; Dec. 27; Sp. p. 5511; Gaz. vol. 161; p. 952.
Welding machine, Electric chain-. C. L. Hoff. No. 978,160; Dec. 13; Sp. p. 1609; Gaz. vol. 161; p. 286.
Welding machine, Electrical spot-. W. C. Winfield. No. 978,418; Dec. 13; Sp. p. 2166; Gaz. vol. 161; p. 376.
Well-boring machine. S. H. Coleman. No. 978,699; Dec 13; Sp. p. 2768; Gaz. vol. 161; p. 472.
Well-drilling derrick. W. D. Deschamp and G. C. Jones. No. 979,133; Dec. 20; Sp. p. 3742; Gaz. vol. 161; p. 648.
Well-drilling-machine attachment. G. Hombarg. No. 979,954; Dec. 27; Sp. p. 5484; Gaz. vol. 161; p. 948.
Well pick-up, Oil-. H. A. Sills. No. 980,018; Dec. 27; Sp. p. 5605; Gaz. vol. 161; p. 996.
Well-screen. H. R. Decker. No. 979,748; Dec. 27; Sp. p. 5050; Gaz. vol. 161; p. 879.
Wells, Cementing. A. S. Cooper. No. 978,359; Dec. 13; Sp. p. 2036; Gaz. vol. 161; p. 355.
Welt grooving and beveling machine. E. E. Winkley. No. 977,496; Dec. 6; Sp. p. 148; Gaz. vol. 161; p. 26.
Welt-slitting machine. J. Busfield. No. 977,851; Dec. 6; Sp. p. 935; Gaz. vol. 161; p. 148.
Wheat, Machine for separating garlic from. J. W. McGehee. No. 979,186; Dec. 20; Sp. p. 3852; Gaz. vol. 161; p. 666.
Wheel: *See* Automobile-wheel; Bull-wheel; Car-wheel; Cushion-tire wheel; Metal wheel; Resilient wheel; Vehicle-wheel; Water-wheel.
Wheel. M. C. Shea. No. 977,559; Dec. 6; Sp. p. 334; Gaz. vol. 161; p. 49.
Wheel. T. Berntson. (Reissue.) No. 13,177; Dec. 6; Sp. p. 1522; Gaz. vol. 161; p. 245.
Wheel. J. W. Holmes. No. 978,161; Dec. 13; Sp. p. 1614; Gaz. vol. 161; p. 286.
Wheel. S. J. Turner. No. 978,516; Dec. 13; Sp. p. 2370; Gaz. vol. 161; p. 409.
Wheel. F. L. White. No. 979,816; Dec. 27; Sp. p. 5202; Gaz. vol. 161; p. 902.
Wheel-rim holder, Demountable-. L. Wolff, Jr. No. 978,976; Dec. 20; Sp. p. 3365; Gaz. vol. 161; p. 591.
Wheel rim, Vehicle-. P. B. Bosworth. No. 977,590; Dec. 6; Sp. p. 400; Gaz. vol. 161; p. 58.
Wheels, Making. A. Thompson. No. 980,022; Dec. 27; Sp. p. 5612; Gaz. vol. 161; p. 970.
Wheelwright-machine. J. W. Kaldenbach. No. 978,166; Dec. 13; Sp. p. 1626; Gaz. vol. 161; p. 287.
Whiffletree-coupling. T. J. Bullock. No. 979,059; Dec. 20; Sp. p. 3541; Gaz. vol. 161; p. 619.
Whiffletree, Quick-detaching. C. G. Taylor. No. 977,484; Dec. 6; Sp. p. 128; Gaz. vol. 161; p. 22.
Whip-lock. L. Dietrich. No. 977,855; Dec. 6; Sp. p. 946; Gaz. vol. 161; p. 149.
Whip-rack. P. H. Shafer. No. 978,945; Dec. 20; Sp. p. 3277; Gaz. vol. 161; p. 581.
Wind-motor. J. Scheubeck. No. 979,098; Dec. 20; Sp. p. 3639; Gaz. vol. 161; p. 633.
Windmill. J. W. Coleman. No. 978,433; Dec. 13; Sp. p. 2192; Gaz. vol. 161; p. 380.
Windmill. J. L. Dwight. No. 978,716; Dec. 13; Sp. p. 2820; Gaz. vol. 161; p. 478.
Windmill. W. P. Brett. No. 980,172; Dec. 27; Sp. p. 5985; Gaz. vol. 161; p. 1020.
Winding cones and tubes, Machine for. J. C. Coram. No. 980,060; Dec. 27; Sp. p. 5727; Gaz. vol. 161; p. 985.
Winding-machine. J. J. Warren. No. 978,987; Dec. 20; Sp. p. 3345; Gaz. vol. 161; p. 588.
Windlass. W. A. Samuell. No. 979,710; Dec. 27; Sp. p. 4937; Gaz. vol. 161; p. 865.
Window. E. Marshall. No. 978,768; Dec. 13; Sp. p. 2921; Gaz. vol. 161; p. 494.
Window appliance. C. L. Chester. No. 977,930; Dec. 6; Sp. p. 1104; Gaz. vol. 161; p. 176.
Window attachment. C. B. Dix. No. 979,267; Dec. 20; Sp. p. 4031; Gaz. vol. 161; p. 693.
Window-bead fastener and the like. H. E. Church and W. V. Cowden. No. 979,430; Dec. 27; Sp. p. 4336; Gaz. vol. 161; p. 769.
Window-came. W. Henderson. No. 978,745; Dec. 13; Sp. p. 2881; Gaz. vol. 161; p. 488.
Window, door, and the like. H. J. Martin. No. 977,461; Dec. 6; Sp. p. 69; Gaz. vol. 161; p. 14.
Window-fastener. H. M. Crawford. No. 977,854; Dec. 6; Sp. p. 945; Gaz. vol. 161; p. 149.
Window-fastener. C. M. Berry. No. 979,251; Dec. 20; Sp. p. 4003; Gaz. vol. 161; p. 688.
Window-frame. F. Schneider. No. 979,576; Dec. 27; Sp. p. 4669; Gaz. vol. 161; p. 820.
Window-glass-setting gage. E. S. Rhonds. No. 978,781; Dec. 13; Sp. p. 2946; Gaz. vol. 161; p. 498.
Window-lock. F. J. McCluskey. No. 979,017; Dec. 20; Sp. p. 3454; Gaz. vol. 161; p. 606.
Window-locking device. J. H. Myers. No. 979,025; Dec. 20; Sp. p. 3471; Gaz. vol. 161; p. 609.
Window-screen. A. H. Newpher. No. 978,624; Dec. 13; Sp. p. 2625; Gaz. vol. 161; p. 447.
Window-screen. P. R. Breither. No. 978,838; Dec. 20; Sp. p. 3043; Gaz. vol. 161; p. 541.
Window, Sheet-metal. A. Fromhold. No. 977,611; Dec. 6; Sp. p. 445; Gaz. vol. 161; p. 66.
Window-sill. G. H. Geraerdts. No. 977,946; Dec. 6; Sp. p. 1133; Gaz. vol. 161; p. 182.
Window-ventilator. C. Herrmann. No. 977,739; Dec. 6; Sp. p. 704; Gaz. vol. 161; p. 110.
Wire-bending machine. J. B. Dean. No. 977,515; Dec. 6; Sp. p. 211; Gaz. vol. 161; p. 33.
Wire-blocks, Safety-stop for. C. W. Vaughn. No. 977,490; Dec. 6; Sp. p. 139; Gaz. vol. 161; p. 24.
Wire, Cutting pile-. G. Crossland. No. 978,116; Dec. 6; Sp. p. 1496; Gaz. vol. 161; p. 241.
Wire-drawing die. G. A. Joyce. No. 978,301; Dec. 13; Sp. p. 1923; Gaz. vol. 161; p. 336.
Wire fabric. W. E. Frank and C. C. Taylor. No. 978,149; Dec. 13; Sp. p. 1590; Gaz. vol. 161; p. 282.
Wire-fabric-making machine. A. L. Kitselman. No. 980,104; Dec. 27; Sp. p. 5815; Gaz. vol. 161; p. 997.
Wire, Making seamless. T. F. Carlisle. No. 978,846; Dec. 20; Sp. p. 3050; Gaz. vol. 161; p. 544.
Wire nail. H. P. McMillan. No. 978,185; Dec. 13; Sp. p. 1672; Gaz. vol. 161; p. 294.
Wire-stretcher. A. Vallem. No. 978,240; Dec. 13; Sp. p. 1784; Gaz. vol. 161; p. 313.
Wire-stretcher. A. Curren. No. 978,989; Dec. 20; Sp. p. 3392; Gaz. vol. 161; p. 597.
Wire-stretcher. J. W. Baggett. No. 979,915; Dec. 27; Sp. p. 5410; Gaz. vol. 161; p. 935.
Wire stretcher and splicer. G. D. Hayes. No. 977,869; Dec. 6; Sp. p. 976; Gaz. vol. 161; p. 154.
Wire-twisting implement. A. Kaspar. No. 978,028; Dec 6; Sp. p. 1303; Gaz. vol. 161; p. 209.
Wiring device, Portable. J. A. Kray. No. 979,514; Dec. 27; Sp. p. 4516; Gaz. vol. 161; p. 797.
Wood-bending machine. W. A. Knilans. No. 977,804; Dec. 6; Sp. p. 838; Gaz. vol. 161; p. 132.
Wood, Treating. F. J. Taylor. No. 979,901; Dec. 27; Sp. p. 5381; Gaz. vol. 161; p. 930.
Woodworking-machine. A. D. Catlin. No. 979,824; Dec 27; Sp. p. 5216; Gaz. vol. 161; p. 905.
Woodworking machinery, Cutter-head for. W. O. Vivartas. No. 978,414; Dec. 13; Sp. p. 2157; Gaz vol. 161 p. 375.
Wrapper. G. S. Hutchings. No. 979,307; Dec. 20; Sp. p. 4103; Gaz. vol. 161; p. 706.
Wrappers from strips, Mechanism for cutting. H. Y. Armstrong. No. 979,406; Dec. 27; Sp. p. 4293; Gaz vol. 161; p. 762.
Wrench: *See* Monkey-wrench; Pipe-wrench; Ratchet wrench; Tap-wrench.
Wrench. P. Reilly. No. 978,208; Dec. 13; Sp. p. 1718 Gaz. vol. 161; p. 302.
Wrench. E. L. Brown. No. 978,688; Dec. 13; Sp. p. 2750; Gaz. vol. 161; p. 469.
Wrench. J. A. Overlander. No. 978,748; Dec. 13; Sp. p. 2883; Gaz. vol. 161; p. 488.
Wrench. J. F. Anderson. No. 978,827; Dec. 20; Sp. p. 3019; Gaz. vol. 161; p. 537.
Wrench. J. R. Davis. No. 978,856; Dec. 20; Sp. p. 3080 Gaz. vol. 161; p. 547.
Wrench. H. A. Morrill. No. 979,327; Dec. 20; Sp. p. 4141; Gaz. vol. 161; p. 713.
Wrench. J. C. Noll. No. 979,330; Dec. 20; Sp. p. 4145 Gaz. vol. 161; p. 714.
Wrench. H. D. Smith. No. 979,348; Dec. 20; Sp. p. 4171; Gaz. vol. 161; p. 719.
Wrench. A. E. Smiley. No. 979,805; Dec. 27; Sp. p. 5181; Gaz. vol. 161; p. 898.
Wringer: *See* Mop-wringer.
Writing implement. A. H. Grantham. No. 979,843; Dec 27; Sp. p. 5264; Gaz. vol. 161; p. 911.
Yeast and spirit, Fermentation for use in manufacture of D. Forster and P. Finitzer. No. 978,282; Dec. 13; Sp. p. 1880; Gaz. vol. 161; p. 329.
Yoke, Cattle-. C. T. Carleton. No. 977,928; Dec. 6; Sp. p. 1099; Gaz. vol. 161; p. 175.
Yoke, Neck-. T. Sorensen. No. 977,482; Dec. 6; Sp. p. 125; Gaz. vol. 161; p. 21.

ALPHABETICAL LIST OF DESIGNS.

Automobile-body. F. P. Stone. No. 41,061; Dec. 27; Gaz. vol. 161; p. 1029.
Badge or jewel. G. E. Nerney. No. 41,049; Dec. 20; Gaz. vol. 161; p. 737.
Bowl, Sugar-. R. Haley. No. 41,034; Dec. 13; Gaz. vol. 161; p. 512.
Can. E. R. L. Thayer. No. 41,028; Dec. 6; Gaz. vol. 161; p. 252.
Casket handle, Burial-. C. Blesch. No. 41,030; Dec. 6; Gaz. vol. 161; p. 253.
Desk. K. R. Dunton. No. 41,058; Dec. 27; Gaz. vol. 161; p. 1029.
Dish. W. H. Krebs. No. 41,027; Dec. 6; Gaz. vol. 161; p. 252.
Emblem. N. Joseph. No. 41,023; Dec. 6; Gaz. vol. 161; p. 252.
Emblem. H. O. Bigney. No. 41,033; Dec. 13; Gaz. vol. 161; p. 512.
Emblem, Fraternal. G. E. Nerney. No. 41,024; Dec. 6; Gaz. vol. 161; p. 252.
Flower-holder. R. Haley. No. 41,025; Dec. 6; Gaz. vol. 161; p. 252.
Headlight. R. H. Welles. No. 41,052; Dec. 20; Gaz. vol. 161; p. 738.
Lamp-shade. H. A. Schnelbach. No. 41,035; Dec. 13; Gaz. vol. 161; p. 512.
Lavatory. J. S. Rowe. No. 41,059; Dec. 27; Gaz. vol. 161; p. 1029.
Lavatory-pedestal. J. H. Danver. No. 41,037; Dec. 13; Gaz. vol. 161; p. 512.
Monument. E. O. Townsend. No. 41,062; Dec. 27; Gaz. vol. 161; p. 1029.
Neckscarf or muffler. S. S. Sampliner. Nos. 41,031–2; Dec. 6; Gaz. vol. 161; p. 253.
Pen-rack and paper-clip holder. W. H. Paige. No. 41,026; Dec. 6; Gaz. vol. 161; p. 252.
Plate or similar article. J. W. Wadsworth. No. 41,051; Dec. 20; Gaz. vol. 161; p. 737.
Plaiting. E. M. Hacker. Nos. 41,047–8; Dec. 13; Gaz. vol. 161; p. 514.
Reflector or similar article. W. A. Dorey. No. 41,029; Dec. 6; Gaz. vol. 161; p. 253.
Rug. A. Petzold. Nos. 41,039–46; Dec. 13; Gaz. vol. 161; pp. 513–14.
Shade-roller bracket. C. S. Keeble and R. B. Wakeley. No. 41,036; Dec. 13; Gaz. vol. 161; p. 512.
Spoon or similar article. W. A. Jameson. Nos. 41,054–7; Dec. 27; Gaz. vol. 161; p. 1028.
Statuette. C. W. Diehl. No. 41,050; Dec. 20; Gaz. vol. 161; p. 737.
Steam separator-casing, Exhaust-. J. W. Gamble. No. 41,060; Dec. 27; Gaz. vol. 161; p. 1029.
Vehicle-body. C. E. Lang and M. W. Gaffney. No. 41,038; Dec. 13; Gaz. vol. 161; p. 513.
Vehicle-body. O. P. Fritchle. No. 41,053; Dec. 20; Gaz. vol. 161; p. 738.

ALPHABETICAL LIST OF TRADE-MARKS.

Anesthetic, Peridont. C. E. Gillam. No. 80,352; Dec. 13; Gaz. vol. 161; p. 525.
Antidote for malaria, chills, fever, and dumb ague. New York Chemical Company. No. 80,490; Dec. 27; Gaz. vol. 161; p. 1040.
Artists' colors and artists' varnishes. G. Rowney & Co. No. 80,495; Dec. 27; Gaz. vol. 161; p. 1040.
Asphalt. R. F. Conway Company. No. 80,346; Dec. 13; Gaz. vol. 161; p. 525.
Automobile pedal-covers. The American Pedal Co. No. 80,398; Dec. 20; Gaz. vol. 161; p. 749.
Automobiles. Detroit-Dearborn Motor Car Co. No. 80,306; Dec. 6; Gaz. vol. 161; p. 263.
Axle-boxes and fittings therefor. The Patent Axle Box and Foundry Company. No. 80,375; Dec. 13; Gaz. vol. 161; p. 526.
Beds, Spring-. Leggett & Platt Spring Bed & Mfg. Co. No. 80,366; Dec. 13; Gaz. vol. 161; p. 526.
Beer, Bottled. Broadway Brewing & Malting Co. No. 80,342; Dec. 13; Gaz. vol. 161; p. 525.
Beer, Bottled. A. Schreiber Brewing Company. No. 80,443; Dec. 20; Gaz. vol. 161; p. 750.
Belting, Woven. American Fabric Belting Co. No. 80,455; Dec. 27; Gaz. vol. 161; p. 1039.
Beverage, Non-alcoholic. H. C. Blair. No. 80,341; Dec. 13; Gaz. vol. 161; p. 525.
Beverage, Preparation for making a. William Cluff Company. No. 80,411; Dec. 20; Gaz. vol. 161; p. 749.
Beverages, Certain non-alcoholic. S. Clague. No. 80,409; Dec. 20; Gaz. vol. 161; p. 749.
Bit-braces, chucks, and chuck-jaws. The Peck, Stow & Wilcox Co. No. 80,437; Dec. 20; Gaz. vol. 161; p. 750.
Blemish-eradicator. The Duke H. Watson Co. No. 80,395; Dec. 13; Gaz. vol. 161; p. 526.
Books. Hurst & Company. No. 80,476; Dec. 27; Gaz. vol. 161; p. 1039.
Books, Personal and household monthly-expense. C. J. Albert. No. 80,453; Dec. 27; Gaz. vol. 161; p. 1039.
Brandy, Wine-. Carmel Wine Company. No. 80,406; Dec. 20; Gaz. vol. 161; p. 740.
Brooms. Lee Broom & Duster Company. No. 80,365; Dec. 13; Gaz. vol. 161; p. 526.
Brooms. The Joseph Lay Company. Nos. 80,430–1; Dec. 20; Gaz. vol. 161; p. 750.
Brushes. Deitsch Brothers. No. 80,305; Dec. 6; Gaz. vol. 161; p. 263.
Buttermilk. Middletown Farms. No. 80,434; Dec. 20; Gaz. vol. 161; p. 750.
Butts or hinges, Steel. Stanley Works. No. 80,387; Dec. 13; Gaz. vol. 161; p. 526.
Calculating-machines. Grimme, Natalis & Co., Kommanditgesellschaft auf Aktien. No. 80,313; Dec. 6; Gaz. vol. 161; p. 263.
Candies. I. E. Block. No. 80,301; Dec. 6; Gaz. vol. 161; p. 263.
Candy. A. C. Todd. No. 80,391; Dec. 13; Gaz. vol. 161; p. 526.
Candy. T. C. Dusenberg. No. 80,468; Dec. 27; Gaz. vol. 161; p. 1039.
Canned fruits. Hunt Brothers Company. No. 80,475; Dec. 27; Gaz. vol. 161; p. 1039.
Canned fruits, vegetables, pork and beans, &c. Kothe, Wells & Bauer Company. No. 80,317; Dec. 6; Gaz. vol. 161; p. 263.
Canned meats and sausages. Vette & Zuncker Packing Company. No. 80,329; Dec. 6; Gaz. vol. 161; p. 264.
Canned pears. Stetson-Barret Co. No. 80,328; Dec. 6; Gaz. vol. 161; p. 264.
Canned vegetables. California Canneries Co. No. 80,304; Dec. 6; Gaz. vol. 161; p. 263.
Carpets, matting, rugs, and curtains. N. E. Boomhower Co. No. 80,403; Dec. 20; Gaz. vol. 161; p. 749.
Carriages, go-carts, sleds, &c., Children's. Alwin Manufacturing Company. No. 80,397; Dec. 20; Gaz. vol. 161; p. 749.
Chemical preparations, Certain. A. G. Letson. No. 80,480; Dec. 27; Gaz. vol. 161; p. 1039.
Chemicals, Certain. Badische Anilin & Soda Fabrik. No. 80,338; Dec. 13; Gaz. vol. 161; p. 525.
Cigarettes. Erwin-Nadal Tobacco Co. No. 80,309; Dec. 6; Gaz. vol. 161; p. 263.
Cigarettes. National Cigarette Company. No. 80,487; Dec. 27; Gaz. vol. 161; p. 1040.
Cigarettes, cigars, and tobacco. Teofani & Co. No. 80,449; Dec. 20; Gaz. vol. 161; p. 750.
Cigars. A. De Marco. No. 80,416; Dec. 20; Gaz. vol. 161; p. 749.
Cigars. F. Lozano, Son & Co. No. 80,432; Dec. 20; Gaz. vol. 161; p. 750.
Cigars, cigarettes, and tobacco. Markt & Hammacher Company. No. 80,433; Dec. 20; Gaz. vol. 161; p. 750.
Cleaning and polishing silver, gold, &c., Preparation for. F. P. Iannarone. No. 80,477; Dec. 27; Gaz. vol. 161; p. 1039.
Cleaning apparatus, Vacuum. United States Vacuum Cleaner Company. No. 80,450; Dec. 20; Gaz. vol. 161; p. 750.
Clocks and watches. Western Clock Mfg. Co. No. 80,503; Dec. 27; Gaz. vol. 161; p. 1040.
Clothing, Certain. Kahn & Frank. No. 80,363; Dec. 13; Gaz. vol. 161; p. 525.
Clothing, Certain. A. I. Levy. No. 80,368; Dec. 13; Gaz. vol. 161; p. 526.
Clothing, Certain. S. Clague. No. 80,410; Dec. 20; Gaz. vol. 161; p. 749.
Clothing, Certain. R. Kirshbaum & Son. No. 80,428; Dec. 20; Gaz. vol. 161; p. 750.
Clothing, Certain. E. Leurent. No. 80,481; Dec. 27; Gaz. vol. 161; p. 1039.
Coffee. C. E. Brown & Co. No. 80,405; Dec. 20; Gaz. vol. 161; p. 749.
Coin-controlled holders and vending-machines. F. Cesterc No. 80,407; Dec. 20; Gaz. vol. 161; p. 749.
Cordial, Cherry. P. F. Heering. No. 80,422; Dec. 20; Gaz. vol. 161; p. 749.
Cotton piece goods. G. Willis & Co. No. 80,474; Dec. 27; Gaz. vol. 161; p. 1039.
Cotton, woolen, linen, and silk piece goods. B. Parker No. 80,374; Dec. 13; Gaz. vol. 161; p. 526.
Cracker-dust. Francis H. Leggett & Co. No. 80,470; Dec. 27; Gaz. vol. 161; p. 1039.
Cream, Cold-. F. Meinhard. No. 80,323; Dec. 6; Gaz. vol. 161; p. 263.
Cretonne. Windsor Print Works. No. 80,504; Dec. 27; Gaz. vol. 161; p. 1040.
Disks containing directions for following a given route J. W. Jones. No. 80,427; Dec. 20; Gaz. vol. 161; p. 750.
Drills and screw-drivers. Star Expansion Bolt Company No. 80,446; Dec. 20; Gaz. vol. 161; p. 750.
Embroidery-stamping outfits. L. S. Leon. No. 80,367; Dec. 13; Gaz. vol. 161; p. 526.
Eyeglass-lenses. The S. Galeski Optical Co. No. 80,351; Dec. 13; Gaz. vol. 161; p. 525.
Fabric-finishing compound. S. M. Hermann. No. 80,423; Dec. 20; Gaz. vol. 161; p. 749.
Fasteners, Staple-like metallic. Heaton-Peninsular Button Fastener Co. Nos. 80,356–7; Dec. 13; Gaz., vol. 161; p. 525.
Felt roofing. Barrett Manufacturing Company. No. 80,456–7; Dec. 27; Gaz. vol. 161; p. 1039.
Fertilizer. Mayer Fertilizer & Junk Company, (by change of name now The Mayer Fertilizer Co.) No. 80,322; Dec. 6; Gaz. vol. 161; p. 263.
Fiber articles, Indurated-. Charles D. Brown & Company No. 80,404; Dec. 20; Gaz. vol. 161; p. 749.
Finished or varnished surfaces, Food and preservative for all. W. H. Grippin. No. 80,355; Dec. 13; Gaz. vol. 161; p. 525.
Fireworks. E. H. Wagner. No. 80,304; Dec. 13; Gaz. vol. 161; p. 526.
Flannels in the piece. Russell Embroidery Co. No. 80,505; Dec. 27; Gaz. vol. 161; p. 1040.
Flooring, Metallic plates to reinforce composition. The Berger Manufacturing Company. No. 80,300; Dec. Gaz. vol. 161; p. 263.
Flosses, Embroidery-. Meyer, Martin & Danda. No. 80,486; Dec. 27; Gaz. vol. 161; p. 1040.
Flour, Wheat-. Maldonado & Co. No. 80,321; Dec. Gaz. vol. 161; p. 263.
Flour, Wheat-. Western Flour Mill Company. No. 80,331; Dec. 6; Gaz. vol. 161; p. 264.
Flour, Wheat-. The Rea-Patterson Milling Company. No. 80,377; Dec. 13; Gaz. vol. 161; p. 526.
Flour, Wheat-. The Rea-Patterson Milling Company. No. 80,439; Dec. 20; Gaz. vol. 161; p. 750.
Foods, Certain. Kothe, Wells & Bauer Company. No. 80,429; Dec. 20; Gaz. vol. 161; p. 750.
Foods, Certain. J. H. Smith. No. 80,445; Dec. 20; Gaz. vol. 161; p. 750.
Foods, Corn breakfast. Postum Cereal Co. No. 80,490; Dec. 27; Gaz. vol. 161; p. 1040.
Foods, Wheat and barley breakfast. Postum Cereal Co. No. 80,492; Dec. 27; Gaz. vol. 161; p. 1040.
Freezing, Chemical combination for preventing. The Northwestern Chemical Co. No. 80,436; Dec. 20; Gaz. vol. 161; p. 750.
Fruits and pecan-nuts, Citrus. Sampson Grove. No. 80,379; Dec. 13; Gaz. vol. 161; p. 526.
Furniture, Certain. E. Willbrandt. No. 80,332; Dec. Gaz. vol. 161; p. 264.
Game, Card. L. L. Hixson. No. 80,360; Dec. 13; Gaz. vol. 161; p. 525.

Games. W. L. Deming. No. 80,417; Dec. 20; Gaz. vol. 161; p. 749.
Garbage-crematories. Incinerator Company of America. No. 80,478; Dec. 27; Gaz. vol. 161; p. 1039.
Ginghams. Harris-Lipsitz Company. No. 80,315; Dec. 6; Gaz. vol. 161; p. 263.
Hair-tonic, face-powder, and cold-cream. Sulphume Company. No. 80,498; Dec. 27; Gaz. vol. 161; p. 1040.
Hardware, Saddlery and harness. J. Dewsbury & Son. No. 80,418; Dec. 20; Gaz. vol. 161; p. 749.
Hats, overcoats, coats, &c. S. Rosenthal. No. 80,441; Dec. 20; Gaz. vol. 161; p. 750.
Herrings, Smoked. T. V. Tokatad. No. 80,302; Dec. 13; Gaz. vol. 161; p. 526.
Hobby-horses and carts and toys. H. W. McClure. No. 80,482; Dec. 27; Gaz. vol. 161; p. 1039.
Hones, oil and whet stones. S. R. Droescher. No. 80,308; Dec. 6; Gaz. vol. 161; p. 263.
Horn-reed, Automobile. F. Bishop. No. 80,458; Dec. 27; Gaz. vol. 161; p. 1039.
Horse and mule shoes. The Tredegar Company. No. 80,393; Dec. 13; Gaz. vol. 161; p. 526.
Horse equipments and lap-dusters. W. H. Eldred. No. 80,469; Dec. 27; Gaz. vol. 161; p. 1039.
Hose. New York Belting & Packing Company. No. 80,489; Dec. 27; Gaz. vol. 161; p. 1040.
Hosiery. Danville Knitting Mills. No. 80,464; Dec. 27; Gaz. vol. 161; p. 1039.
Hovers. Prairie State Incubator Company. No. 80,438; Dec. 20; Gaz. vol. 161; p. 750.
Jewelry for personal wear, Gold and silver. J. A. & S. W. Granbery. No. 80,473; Dec. 27; Gaz. vol. 161; p. 1039.
Laces, eyelets, and closure fastenings, Shoe. Thompson Ehlers Co. No. 80,499; Dec. 27; Gaz. vol. 161; p. 1040.
Ladders, Step-. The Security Ladder Company. No. 80,382; Dec. 13; Gaz. vol. 161; p. 526.
Lard. Springfield Provision Co. No. 80,326; Dec. 6; Gaz. vol. 161; p. 263.
Lard, sugar-cured meats, and cotton-seed oil. Columbia Cotton Oil & Provision Corporation. Nos. 80,412–13; Dec. 20; Gaz. vol. 161; p. 749.
Lithographic prints. Meissner & Buch. No. 80,484; Dec. 27; Gaz. vol. 161; p. 1040.
Lumber, logs, veneer, shingles, and laths. Hoffman Brothers Company. No. 80,316; Dec. 6; Gaz. vol. 161; p. 263.
Magazines, Monthly. Adam Budge. No. 80,343; Dec. 13; Gaz. vol. 161; p. 525.
Mantles and burners. "Britelite" Company. No. 80,459; Dec. 27; Gaz. vol. 161; p. 1039.
Matches. F. E. Kreuzer. No. 80,364; Dec. 13; Gaz. vol. 161; p. 525.
Matches, Safety-. Aktieselskabet Bryn Tændstikfabrik. Nos. 80,297–8; Dec. 6; Gaz. vol. 161; p. 263.
Mattresses, box-springs, and pillows. Dixie Cotton Felt Mattress Company. No. 80,307; Dec. 6; Gaz. vol. 161; p. 263.
Measuring and scientific instruments and machines. A. Molt. No. 80,435; Dec. 20; Gaz. vol. 161; p. 750.
Meats, Cured and salted. Schwarzschild & Sulzberger Company. No. 80,444; Dec. 20; Gaz. vol. 161; p. 750.
Medicinal preparations. C. B. Longwell. No. 80,370; Dec. 13; Gaz. vol. 161; p. 526.
Medicinal preparations. Allcock Manufacturing Company. No. 80,454; Dec. 27; Gaz. vol. 161; p. 1039.
Medicinal tonic. The Hoffmann-La Roche Chemical Works. No. 80,361; Dec. 13; Gaz. vol. 161; p. 525.
Medicine, Tocological. Tropical Pharmacal Company. No. 80,500; Dec. 27; Gaz. vol. 161; p. 1040.
Metal and shoe polishes and polishing-mittens. W. R. Hollingshead. No. 80,425; Dec. 20; Gaz. vol. 161; p. 749.
Metal-polishes. Pacific Plating Polish Co. No. 80,491; Dec. 27; Gaz. vol. 161; p. 1040.
Metal-polishing preparation. F. P. Iannarone. No. 80,426; Dec. 20; Gaz. vol. 161; p. 749.
Milk, Sterilized. P. A. M. Cramer. No. 80,463; Dec. 27; Gaz. vol. 161; p. 1039.
Mineral water, Natural. Buffalo Lithia Springs Water Co. No. 80,460; Dec. 27; Gaz. vol. 161; p. 1039.
Musical-instrument strings. E. Stoll. No. 80,497; Dec. 27; Gaz. vol. 161; p. 1040.
Nicotin. Composition for diminishing the noxious effects of. Dr. A. Herbrand, G. m. b. H. No. 80,359; Dec. 13; Gaz. vol. 161; p. 525.
Oil, beef-fat, and oleo-stearin. Compound of cotton-seed. Columbia Cotton Oil and Provision Corporation. No. 80,345; Dec. 13; Gaz. vol. 161; p. 525.
Oil, beef-fat, and oleo-stearin. Compound of cotton-seed. Columbia Cotton Oil and Provision Corporation. No. 80,414; Dec. 20; Gaz. vol. 161; p. 749.
Oils and greases, Lubricating. C. J. Bushmeyer. No. 80,344; Dec. 13; Gaz. vol. 161; p. 525.
Oils and greases, Wood-refinishing. H. Wilkens. No. 80,452; Dec. 20; Gaz. vol. 161; p. 750.
Oils, Lubricating-. Standard Oil Co. of New York. No. 80,385; Dec. 13; Gaz. vol. 161; p. 526.
Oils, Lubricating-. Tide Water Oil Company. No. 80,390; Dec. 13; Gaz. vol. 161; p. 526.
Ointments. Rich. Schubert & Co. No. 80,496; Dec. 27; Gaz. vol. 161; p. 1040.
Overcoats, coats, vests, and trousers. S. E. Reinhard. No. 80,440; Dec. 20; Gaz. vol. 161; p. 750.
Paint, Varnish-. The Ault & Wiborg Co. No. 80,400; Dec. 20; Gaz. vol. 161; p. 749.
Paper. District of Columbia Paper Manufacturing Company. No. 80,466; Dec. 27; Gaz. vol. 161; p. 1039.
Paper and stencils, Stencil-. L. E. Fuller. No. 80,310; Dec. 6; Gaz. vol. 161; p. 263.
Paper, Toilet-. Scott Paper Company. No. 80,381; Dec. 13; Gaz. vol. 161; p. 526.
Paper, Wrapping-. Crown-Columbia Pulp and Paper Co. No. 80,347; Dec. 13; Gaz. vol. 161; p. 525.
Paper, Writing and printing. Lasher & Lathrop. No. 80,318; Dec. 6; Gaz. vol. 161; p. 263.
Percale. The Windsor Print Works. Nos. 80,333–4; Dec. 6; Gaz. vol. 161; p. 264.
Percale. Ely & Walker Dry Goods Co. No. 80,471; Dec. 27; Gaz. vol. 161; p. 1039.
Petroleum, Refined. Standard Oil Co. of New York. No. 80,386; Dec. 13; Gaz. vol. 161; p. 526.
Petroleum, Refined. The Atlantic Refining Company. No. 80,399; Dec. 20; Gaz. vol. 161; p. 749.
Pianos. Wallace Music Co. No. 80,330; Dec. 6; Gaz. vol. 161; p. 264.
Picture films and projecting-machines therefor, Motion-. The Selig Polyscope Company. No. 80,383; Dec. 13; Gaz. vol. 161; p. 526.
Pins and needles, Certain. A. Steinhardt & Bro. No. 80,389; Dec. 13; Gaz. vol. 161; p. 526.
Plastic compositions. Magnesite Building Material Company. No. 80,320; Dec. 6; Gaz. vol. 161; p. 263.
Powder-puffs. B. E. Levy. No. 80,369; Dec. 13; Gaz. vol. 161; p. 526.
Printers' materials. T. H. Nevin Company. No. 80,488; Dec. 27; Gaz. vol. 161; p. 1040.
Printing and delivering machines, Ticket. Elmer Manufacturing Company. No. 80,470; Dec. 27; Gaz. vol. 161; p. 1039.
Pumps, Power and hand. The Goulds Manufacturing Company. No. 80,354; Dec. 13; Gaz. vol. 161; p. 525.
Ragout of egg-plant. A. Cusimano & Co. No. 80,415; Dec. 20; Gaz. vol. 161; p. 749.
Razor-sharpeners. T. M. Ambler. No. 80,336; Dec. 13; Gaz. vol. 161; p. 525.
Remedies for piles. D. A. Carlyle. No. 80,461; Dec. 27; Gaz. vol. 161; p. 1039.
Remedy for colic. S. A. Murphy. No. 80,324; Dec. 6; Gaz. vol. 161; p. 263.
Remedy for corns. G. W. Schindler. No. 80,380; Dec. 13; Gaz. vol. 161; p. 526.
Remedy for cutaneous diseases. The Hoffmann-La Roche Chemical Works. No. 80,424; Dec. 20; Gaz. vol. 161; p. 749.
Remedy for diseases of the blood. Tydings & Co. No. 80,501; Dec. 27; Gaz. vol. 161; p. 1040.
Remedy for rheumatism. P. E. Devine. No. 80,348; Dec. 13; Gaz. vol. 161; p. 525.
Remedy for rheumatism and backache. L. K. Bauman. No. 80,340; Dec. 13; Gaz. vol. 161; p. 525.
Remedy for whooping-cough. W. C. Jaeger. No. 80,362; Dec. 13; Gaz. vol. 161; p. 525.
Rubber nipples. The Star Rubber Co. No. 80,327; Dec. 6; Gaz. vol. 161; p. 264.
Ruffles. Mile. Wolfe Co. No. 80,335; Dec. 6; Gaz. vol. 161; p. 264.
Safes. The Mosler Safe Company. No. 80,373; Dec. 13; Gaz. vol. 161; p. 526.
Salt. Diamond Crystal Salt Company. No. 80,465; Dec. 27; Gaz. vol. 161; p. 1039.
Salve, Veterinary. A. L. Henley. No. 80,358; Dec. 13; Gaz. vol. 161; p. 525.
Sheeting, Waterproof bed-. W. S. Rothband & Co. No. 80,494; Dec. 27; Gaz. vol. 161; p. 1040.
Shoes and slippers. Daniel Green Felt Shoe Company. No. 80,312; Dec. 6; Gaz. vol. 161; p. 263.
Shoes, Leather. S. Bearman. No. 80,401; Dec. 20; Gaz. vol. 161; p. 749.
Signal horns and alarms. Lovell-McConnell Manufacturing Company. No. 80,319; Dec. 6; Gaz. vol. 161; p. 263.
Signs. R. R. Hammer. No. 80,421; Dec. 20; Gaz. vol. 161; p. 749.
Soap. The Burckhardt Company. No. 80,303; Dec. 6; Gaz. vol. 161; p. 263.
Soap. The M. & J. Schaible Company. No. 80,325; Dec. 6; Gaz. vol. 161; p. 263.
Soap. The N. K. Fairbank Company. No. 80,350; Dec. 13; Gaz. vol. 161; p. 525.
Soap. The Globe Soap Company. No. 80,353; Dec. 13; Gaz. vol. 161; p. 525.
Soap. The Globe Soap Company. Nos. 80,419–20; Dec. 20; Gaz. vol. 161; p. 749.
Soap and paste. F. C. Russell. No. 80,378; Dec. 13; Gaz. vol. 161; p. 526.
Soap, Aseptic. Dickinson Drug Company. No. 80,349; Dec. 13; Gaz. vol. 161; p. 525.
Spices, flavoring extracts, cocoa, tea, and coffee. The American Pure Coffee and Spice Company. No. 80,337; Dec. 13; Gaz. vol. 161; p. 525.
Starch, Laundry. Corn Products Refining Company. No. 80,462; Dec. 27; Gaz. vol. 161; p. 1039.
Stoves, ranges, furnaces, &c. The White-Warner Co. No. 80,451; Dec. 20; Gaz. vol. 161; p. 750.
Syrup with cane flavor and sorghum, Compound of corn-. Fort Scott Sorghum Syrup Co. No. 80,472; Dec. 27; Gaz. vol. 161; p. 1039.
Tanks, Storage-. J. A. Ullman. No. 80,502; Dec. 27; Gaz. vol. 161; p. 1040.

Teas, coffees, cocoa, and chocolate. Dowd & Scally. No. 80,467; Dec. 27; Gaz. vol. 161; p. 1039.
Threads and yarns. Superior Thread & Yarn Co. No. 80,448; Dec. 20; Gaz. vol. 161; p. 750.
Tobacco-pipes. B. Barling & Sons. No. 80,339; Dec. 13; Gaz. vol. 161; p. 525.
Toilet preparations, Certain. S. C. Borom. No. 80,302; Dec. 6; Gaz. vol. 161; p. 263.
Tonic and stimulant, Nerve. The Maltbie Chemical Company. No. 80,371; Dec. 13; Gaz. vol. 161; p. 526.
Tonic beverage and syrup for making same. C. C. Gautier. No. 80,311; Dec. 6; Gaz. vol. 161; p. 263.
Tulle nets and chiffon, Waterproof. L. & E. Stirn. No. 80,447; Dec. 20; Gaz. vol. 161; p. 750.
Vehicle parts and trimmings. Shattuck-George Iron Co. No. 80,384; Dec. 13; Gaz. vol. 161; p. 526.
Ventilators. Merchant & Evans Company. No. 80,485; Dec. 27; Gaz. vol. 161; p. 1040.
Vises. Prentiss Vise Company. No. 80,376; Dec. 13; G vol. 161; p. 526.
Wax, Laundry. Whittemore-Wright Company. No. 80,3 Dec. 13; Gaz. vol. 161; p. 526.
Whisky. Mitchell & Company of Belfast. No. 80,37 Dec. 13; Gaz. vol. 161; p. 526.
Whisky. Chicago Distilling Co. No. 80,408; Dec. Gaz. vol. 161; p. 749.
Wine and sherry. Geo. Benz & Sons. No. 80,402; D 20; Gaz. vol. 161; p. 749.
Woolen and cotton piece goods. Hamilton Woolen Co pany. No. 80,314; Dec. 6; Gaz. vol. 161; p. 263.
Woolen piece goods. S. Stein & Co. No. 80,388; Dec. Gaz. vol. 161; p. 526.
Yokes, yoke and pole-strap connections, &c., Neck-. C. Schleicher. No. 80,442; Dec. 20; Gaz. vol. 161; p. 7

ALPHABETICAL LIST OF LABELS.

"Anti-Tan." (For Massage and Face Lotion.) J. Ferguson. No. 15,427; Dec. 20; Gaz. vol. 161; p. 751.
"Bull Dog Gloves." (For Kid Gloves.) A. A. Klewitz. No. 15,443; Dec. 27; Gaz. vol. 161; p. 1041.
"Cherry-Ko." (For a Carbonated Tonic Beverage.) O. F. Eisenhut. No. 15,425; Dec. 20; Gaz. vol. 161; p. 751.
"Creditor's Blue-Ledger." (For Ledgers.) D. F. Davenport. No. 15,418; Dec. 6; Gaz. vol. 161; p. 265.
"Darling Brand Cream Cheese." (For Cream-Cheese.) Dorman Bros. No. 15,420; Dec. 13; Gaz. vol. 161; p. 527.
"Darn-Less Hosiery." (For Hosiery.) Buster Brown Hosiery Mills. No. 15,417; Dec. 6; Gaz. vol. 161; p. 265.
"Every Egg A Perfect Bait." (For Salmon-Eggs to be Used as Fish-Baits.) J. E. Hubbart. No. 15,439; Dec. 27; Gaz. vol. 161; p. 1041.
"Fruito." (For Chewing-Gum.) Newton Gum Co. No. 15,434; Dec. 27; Gaz. vol. 161; p. 1041.
"Ginseng Chewing Gum." (For Chewing-Gum.) The Ginseng Gum Company. No. 15,433; Dec. 27; Gaz. vol. 161; p. 1041.
"Hamby's Genuine Dawson Springs Water." (For Natural Spring-Water.) Dawson Salts & Water Co. No. 15,422; Dec. 13; Gaz. vol. 161; p. 527.
"Hamby's High Ball Splits." (For Natural Carbonated Spring-Water.) Dawson Salts & Water Co. No. 15,421; Dec. 13; Gaz. vol. 161; p. 527.
"Iron Wild Cherry And Honey Phosphates." (For a Medicine.) R. Stumpf. No. 15,437; Dec. 27; Gaz. vol. 161; p. 1041.
"Let The Little Brownies Do The Work." (For Laxatives.) Brown Drug Co. No. 15,416; Dec. 6; Gaz. vol. 161; p. 265.
"Lifestaff The Long Storage Beer." (For Bottled Beer.) A. O. Gutsch. No. 15,431; Dec. 27; Gaz. vol. 161; p. 1041.
"Minto." (For Chewing-Gum.) Newton Gum Co. No. 15,435; Dec. 27; Gaz. vol. 161; p. 1041.
"Peerless." (For Stamp-Inking Pads.) J. H. Bearns, Jr., & Co. No. 15,441; Dec. 27; Gaz. vol. 161; p. 1041.
"Pennant Chocolates Made By Darby." (For Chocolates.) The Darby Candy Company. No. 15,432; Dec. 27; Gaz. vol. 161; p. 1041.
"Peptomulsion." (For an Emulsion of Cod-Liver Oil Containing Hypophosphites of Calcium and Sodium, Pepsin, and Guiacol.) T. J. Ryan. No. 15,436; Dec. 27; Gaz. vol. 161; p. 1041.
"Prym's See Its Spring." (For Dress-Fasteners.) William Prym Gesellschaft mit beschränkter Haftung. No. 15,429; Dec. 20; Gaz. vol. 161; p. 751.
"Purina Whole Wheat Bread." (For Whole-Wheat Bread.) Ralston Purina Company. No. 15,438; Dec. 27; Gaz. vol. 161; p. 1041.
"Rizzo's Dandruff Remedy." (For Hair and Scalp Tonic.) M. Rizzo & Co. No. 15,425; Dec. 13; Gaz. vol. 161; p. 527.
"Special Metaloid Process Razor Strops." (For Razor-Strops.) J. S. Torrence. No. 15,428; Dec. 20; Gaz. vol. 161; p. 751.
"Sunflower Brand Extra Fine Granulated Sugar." (For Granulated Sugar.) United States Sugar and Land Company. No. 15,419; Dec. 13; Gaz. vol. 161; p. 527.
"The Bugle Call, A Game of U. S. Soldiers." (For a Game.) B. B. Bennett. No. 15,424; Dec. 13; Gaz. vol. 161; p. 527.
"The Comet." (For Invisible Hooks and Loops.) William Prym Gesellschaft mit beschränkter Haftung. No. 15,430; Dec. 20; Gaz. vol. 161; p. 751.
"The Game Of Lobster." (For a Card Game.) W. M. Day. No. 15,442; Dec. 27; Gaz. vol. 161; p. 1041.
"The Life Of Leather." (For a Preparation for Preserving Leather.) D. W. Sankey. No. 15,440; Dec. 27; Gaz. vol. 161; p. 1041.
"Werrbach's Samaritan Remedy." (For a Medicine.) C. F. Werrbach. No. 15,426; Dec. 20; Gaz. vol. 161; p. 751.
"Wild Flower Honey." (For Honey.) F. C. Ameiss. No. 15,415; Dec. 6; Gaz. vol. 161; p. 265.

PRINTS.

"A Whole Wheat Food." (For Shredded Wheat.) The Shredded Wheat Company. No. 2,676; Dec. 27; Gaz. vol. 161; p. 1041.
"Cluett Shirts." (For Shirts.) Cluett, Peabody & Company. No. 2,672; Dec. 6; Gaz. vol. 161; p. 265.
"Don't Forget Cream Of Wheat." (For Wheat Breakfast Food.) Cream of Wheat Co. No. 2,671; Dec. 6; Gaz. vol. 161; p. 265.
"(I-Want-A) Boys and Girls Rompers and Union Suits." (For Rompers, Union Suits, Pajamas, Nighties, Blouses, and Play-Suits.) L. Newhoff. No. 2,674; Dec. 20; Gaz. vol. 161; p. 751.
"New Home." (For Sewing-Machines.) The New Home Sewing Machine Company. No. 2,673; Dec. 13; Gaz. vol. 161; p. 527.
"The Pulsometer Steam Pump." (For Steam-Pumps.) Pulsometer Steam Pump Co. No. 2,675; Dec. 20; Gaz. vol. 161; p. 751.

DISCLAIMERS.

Electromagnetic signal-controlling device. H. M. Crane. No. 890,220; date of patent June 9, 1908; disclaimer filed Dec. 6, 1910; Gaz. vol. 161; p. 533.